GTR

GEAR MOTOR

Since 1974

Power Transmission

Select most suitable product for easy operation.

Includes the F3 Series

MIDI SERIES

0.1 kW-2.2kW

(F-50W)

2008-2009 *Ver.1.0*

The CAD data can be downloaded for the homepage:
http://www.nissei-gtr.co.jp/

NISSEI CORPORATION

* The specifications of the products in this catalogue are subject to change by modification or other reasons without notice, therefore, we recommend you to contact us for confirmation, before start designing.
* In case the end-user of products is military organization or the purpose of products is for manufacturing weapons, or the country you export products is the restricted country stipulated in the "Foreign Exchange and Foreign Trade Law", execute prior investigations and take proper measures for export.

NISSEI CORPORATION

http://www.nissei-gtr.co.jp

For orders and/or inquiries about products in this catalogue,
please contact the dealer mentioned below:

Printed in December, 2008
(2008.12.2/2-1)

Precautions for Safety

General

■ Be sure to observe the safety regulations for the installation location and the equipments to be used with.
(Ordinance on Labor Safety and hygiene, Electrical Equipment Technical Standard, Internal Line Regulations, Factory's Guide for Protecting Explosion, Building Standard Law, etc.)

■ Carefully read the Instruction Manual before actual operation of products and operate properly as instructed. When the Instruction Manual is not available in your place, ask your dealer or our nearest sales office. The Instruction Manual should be reached to the end-user who actually operates the product.

Particular user

■ Select the most adequate products for your using conditions and/or purposes. (For selection of products, be sure to carefully read the " Technical Information " and " Precautions for Use ")

■ If the product is applied as a hoist or elevator for human transport, be sure to furnish it with a protective device such as safeguard.

■ Be sure to use explosion-proof motor in the circumstances where explosive gases or flammable gases exist. The explosion-proof motor should have specifications most adequate for the facing danger.

■ If a inverter is employed for driving an explosion-proof motor, the approved combination is 1:1 between motor and inverter. Be sure to operate motor with the designated inverter. The inverter itself is not explosion-proof specifications, therefore, be sure to install it in the location where no explosive gases exist.

■ If a 400V class inverter is employed for driving motor, be sure to attach a control filter or a reactor to the inverter, or use insulation enhanced motor.

■ In the equipment such as food machines, especially machines which do not accept oil or grease, be sure to furnished with protective devices such as oil pan, etc., to protect from the oil leakage due to failure or life.

●Note:

The specifications of the products in this catalogue are subject to change by modification or other reasons without notice, therefore, we recommend you to contact us for confirmation, before start designing.

MIDI SERIES
0.1 kW-2.2kW
(F-50W)

2008-2009

Page Layout of the catalogue for the Medium Type

Performance Table/ Dimension

Gearmotor
Gearmotor with Brake
G3 Series 3-Phase 0.1kW

The values in parentheses in the Performance Table/Dimension Diagram indicate the values of gearmotors with brake.

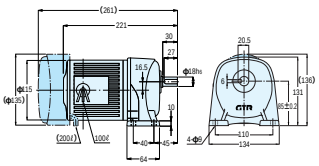
Motor Specs. Standard Voltage (Continuous Rated 4 Poles)	Capacity	Motor Capacity Designation	Frequency (Hz)	Voltage (V)	Rated Current (A)	Rated Rotation Speed (rpm)	Insulation Classification	Protective Cooling system
	0.1kW	T010	50/60/60	200/200/220	0.61/0.54/0.54	1420/1700/1720	B	Totally-Enclosed non-ventilated / Totally-Enclosed fan-cooled

Motor Capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio (Fraction)	Output Shaft Rotation Speed (rpm)		Output Shaft Allowable Torque N•m		Output Shaft Allowable Torque kgf•m		Output Shaft Allowable O.H.L		Page, Diagram No. of the Outer Dimension Diagram, Round Weight Gearmotor (Gearmotor with Brake)		
				50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	N	kgf	G3LM (G3LB)	G3FM (G3FB)	G3KM (G3KB)
3-phase 0.1kW	18	1/ 5	33/ 164	300	360	3	2.5	0.31	0.26	588	60			
		1/ 10	77/ 779	150	180	6.1	5	0.62	0.51	882	90			
		1/ 15	119/ 1804	100	120	9.1	7.5	0.93	0.77	980	100	P.A12 Fig.A-1 6kg (7.5kg)	P.A13 Fig.A-5 6.5kg (8kg)	P.A14 Fig.A-9 6.5kg (8kg)
		1/ 20	49/ 984	75	90	12	9.8	1.2	1	1180	120			
		1/ 25	28/ 697	60	72	15	12.7	1.5	1.3	1270	130			
		1/ 30	35/ 1066	50	60	19	14.7	1.9	1.5	1370	140			
		1/ 40	35/ 1404	37.5	45	24	19.6	2.4	2	1470	150			
		1/ 50	7/ 351	30	36	29	24.5	3	2.5	1570	160			
	22	1/ 60	11/ 684	25	30	35	29.4	3.6	3	2160	220			
		1/ 80	21/ 1634	18.8	22.5	47	39.2	4.8	4	2450	250			
		1/ 100	7/ 684	15	18	59	49	6	5	2450	250	P.A12 Fig.A-2 7kg (8.5kg)	P.A13 Fig.A-6 7.5kg (9kg)	P.A14 Fig.A-10 7.5kg (9kg)
		1/ 120	147/17974	12.5	15	71	58.8	7.2	6	2450	250			
		1/ 160	21/ 3268	9.4	11.2	94	78.4	9.6	8	2450	250			
		1/ 200	21/ 4085	7.5	9	117	98	11.9	10	2450	250			
	28	1/ 300	221/65190	5	6	157	130	16	13.3	3430	350	P.A13 Fig.A-3 10kg (11.5kg)	P.A13 Fig.A-7 10.5kg (12kg)	P.A14 Fig.A-11 10.5kg (12kg)
		1/ 375	187/68370	4	4.8	196	163	20	16.6	3430	350			
		1/ 450	181/79793	3.3	4	235	196	24	20	3430	350			
	32	1/ 600	147/88192	2.5	3	313	261	31.9	26.6	5880	600	P.A13 Fig.A-4 13kg (14.5kg)	P.A13 Fig.A-8 13.5kg (15kg)	P.A14 Fig.A-12 13.5kg (15kg)
		∗1/ 900	62/57063	1.7	2	431	391	44	39.9	5880	600			
		∗1/1200	46/55195	1.3	1.5	431	431	44	44	5880	600			

Note) The allowable O.H.L indicated are the values in the central position of the output shaft.
The models marked with ∗ are limited torque type. Be sure to refer to the allowable torque in the Performance Table.

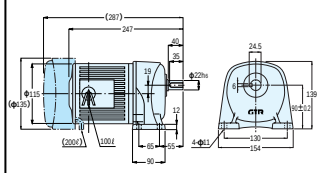
Foot Mount Type

Fig.A-1 G3LM-18-5〜50-T010
CAD Data: G3LM-18-T010
(G3LB-18-5〜50-T010)
(CAD Data: G3LB-18-T010)



Round Weight 6kg (7.5kg)

Fig.A-2 G3LM-22-60〜200-T010
CAD Data: G3LM-22-T010
(G3LB-22-60〜200-T010)
(CAD Data: G3LB-22-T010)



Round Weight 7kg (8.5kg)

Model Code P.A8 | Multipurpose Inverter P.E86〜E92 | Option P.E78〜E93

Standard Motors | Cautions for Safety | Option | GT-STEP Index Gearmotor | KOMPASS Gearbox | Selection Service | Catalogue Request Form

The specifications of the motor are shown in the Performance Table.

the actual reduction ratios are indicated by fraction for easy understanding.

The product dimensions are described by 3-angle diagram and easy-to-find file numbers are now realized.

Easy findings of the index for product type designation, price list, option, etc., are also realized.

Data for the outer dimension diagram of products:

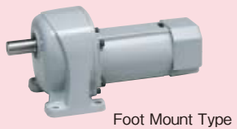
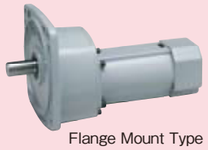
Nessei Corp. Home Page.

All the data for the outer dimension diagram can be downloaded from the CAD Data
3D data is also available (excluding some models).

http://www.nissei-gtr.co.jp/english/

GTR®

Introduction of the Product Series
(Products shown in this catalogue)

	Gearmotor Gearmotor with Brake	Gearmotor Gearmotor with Brake Water-Resistant (IP65)	Gearmotor with Clutch and Brake	Reducer (Double Shaft Type)	S-Type Reducer (Designated motor attachable type)
G3 Series Parallel Shaft ●Capacity 3-Phase 0.1kW～2.2kW, 1-Phase 100W～400W ●Reduction Ratio 1/5～1/1500	P.A7	P.A51	P.A79	P.A101	P.A129
H2 Series Right Angle Shaft ●Capacity 3-Phase 0.1kW～2.2kW, 1-Phase 100W～400W ●Reduction Ratio 1/5～1/1200	P.B7	P.B31	P.B47	P.B57	P.B71
F Series FS Type Hollow Shaft ●Capacity 3-Phase 50W～2.2kW, 1-Phase 100W～400W ●Reduction Ratio 1/5～1/1800	P.C9	P.C47		P.C63	P.C75
FF Type Solid Shaft ●Capacity 3-Phase 50W～0.75kW ●Reduction Ratio 1/5～1/240	P.C39				
F3 Series F3S Type Concentric Hollow Shaft ●Capacity 3-Phase 0.1kW～2.2kW ●Reduction Ratio 1/5～1/1500	P.D3	P.D47		P.D67	P.D85
F3F Type Concentric Solid Shaft ●Capacity 3-Phase 0.1kW～2.2kW ●Reduction Ratio 1/5～1/240	P.D33				
GT-STEP Index Gearmotor ●Capacity 3-Phase 25W～0.2kW, 1-Phase 25W～90W	 Foot Mount Type  Flange Mount Type P.F1	■Motor capacity 25W～0.2kW ■Number of Stop and Normal Cycle Time Number of Stop: 4～12 / Normal Cycle Time: 1～24s	■Model Lineup ● With Motor ● With Brake Motor		
KOMPASS Gear Boxes KOMPASS® Gear Box ●Output Shaft Diameter ϕ4～40 ●Reduction Ratio 1/1・1/2	K-Type (Lightweight) P.G8	K-Type P.G10	KN-Type P.G13		

GTR Gearmotor

CONTENTS

E1

Selection E1
- ●Process of selection and example of selection E2
- ●Service Factor(correction of load torque) E4
- ●Allowable inertia moment(GD²) and correction coefficient E4
- ●Calculation Method for inertia moment(GD²) E5
- ●Calculation of O.H.L. E6

Braking time and lifetime frequency of Gearmotor with Brake and with Clutch/Brake E8
Construction Drawings E10
How to read the nameplate E11
Motor characteristics E12
Inertia moment (product itself) E13

E16

Gearmotor(Indoor) E16
- ●Motor Wiring E16
- ●Terminal Box E17

Gearmotor with Brake (Indoor) E18
- ●Brake specifications E18
- ●Brake Structure E18
- ●Brake Wiring E20
- ●Rectifier E22
- ●Terminal Box E23
- ●Terminal Box with a built in rectifier E24
- ●Manual Release Device E27

Water-Resistant Gearmotor E28
- ●Motor Wiring E28
- ●Terminal Box E28

Water-Resistant Gearmotor with Brake E29
- ●Brake Specifications E29
- ●Brake Structure E29
- ●Terminal Box E30
- ●Brake Wiring E30
- ●Built-in Rectifier E31
- ●Rectifier E32

Necessary Space for taking off the Motor Fan Cover E33

E34

Terminal Box E34
- ●Installed Dimension and Position Changing of G3 Series and H2 Series E35
- ●Installed Dimension and Position Changing of F Series E37
- ●Installed Dimension and Position Changing of F2 Series E39

E40

Gearmotor with Clutch/Brake(Indoor) E40
- ●Clutch/Brake Specifications E40
- ●Clutch/Brake Structure E41
- ●Clutch/Brake Wiring E41
- ●Terminal Box E42
- ●Installed Dimension and Position Changing of Terminal Box E43

E44
Combination of Gearmotor and Inverter E44
Lead Wire Specifications E45

E46
Reducer (Double Shaft Type) Remarks E46
S-Type Reducer (Designated Motor Attachable Type) Remarks E47
Detailed Dimension Diagram of Input Shaft (Double Shfat Type・S-Type) E48
●G3 Series E48
●H2 Series E49
●F/F2 Series E50
Detailed Dimension Diagram of Output Shaft E52
●Solid Shaft(G Series・H2 Series・FF Type・F2f Type) E52
●Hollow Shaft(FS Type) E53
●Hollow Shaft (F2S Type) E53
Dimensions around Output Shaft E54
●G3 Series E54
●H2 Series E55

E56
Attachment of Hollow Shaft Type E56
●Attachment and Detachment E56
●Attaching Torque Arm (option) E60
●Designing of Torque Arm E63
●Attaching R-Flange (option) E64
●Detailed Dimension of Hollow Shaft Safety Cover E66
Dimension of protruded part of Fan Cover when changing the position of Terminal Box ... E67

E68
Differences between F3 Series and F2 Series E68
The "Frame Number " of the F3 Series E69

E70
Standard Motor E70
●UL Standard, CE Marking, China CCC Certificate

E76
Caution for Safe Operation E76
Option E78
●Tapped hole in Output Shaft E78
●Brake Manual Release Device E78
●Surge Suppressor for Brake Wiring E79
●R-Flange E80
●Torque Arm E82
●Specifications of Custom-made Hollow Output Shaft(Bore Diameter Change) E84
●Multipurpose Inverter E86

INDEX

A

Attachment to Hollow Shaft ····· E56
- Attaching and Detaching ····· E56
- Attachment of Torque Arm Option ····· E60
- Designing of Torque Arm ····· E62
- Detailed Dimension for Hollow Shaft Safety Cover ····· E63
- Attachment of R Flange Option ····· E64
- Output Hollow Shaft Special Order Specification(Modification of Bore)Option ····· E84

B

Brake Specification/Gearmotor with Brake (Indoor) ····· E18
Brake Structure/Gearmotor with Brake (indoor) ····· E18
Brake Wiring/Gearmotor with Brake (indoor) ····· E20
Built-in Rectifier Gearmotor with Terminal Box Brake (Indoor) ····· E24
Brake Specification/Water-resistant, Outdoor Gearmotor with Brake ····· E29
Brake Structure/Water-resistant, Outdoor Gearmotor with Brake ····· E29
Brake Wiring/Water-resistant, Outdoor Gearmotor with Brake ····· E30
Built-in Rectifier Water-Resistant, Outdoor Gearmotor with Brake ····· E31
Brake Manual Release Device Option ····· E78

C

Cooling Method ····· A7
Clutch/Brake Specification Gearmotor with Clutch/Brake (Indoor) ····· E40
Clutch/Brake Structure Gearmotor with Clutch/Brake (Indoor) ····· E41
Clutch/Brake Wiring Gearmotor with Clutch/Brake (Indoor) ····· E41
Cautions for Safety ····· E76

D

Detailed Dimension Diagram for Input Shaft (Double Shaft• S Type) ····· E48
- G3 Series ····· E48
- H2 Series ····· E49
- F/F2 Series ····· E50

Detailed Dimension Diagrams for Output Shaft ····· E52
- Solid Shaft (G Series•H2 Series•FF Type•F2F Type) ····· E52
- Hollow Shaft (FS Type) ····· E53
- Hollow Shaft (F2S Type) ····· E53

Dimension Diagrams Around Output Shaft ····· E54
- G3 Series ····· E54
- H2 Series ····· E55
- Tapped hole in Output Shaft (Option) ····· E78

H

How to read Nameplate ····· E11

I

Insulation Classification ····· A7
Inertia Moment (for product) ····· E4
Installation Location ····· E76
Installation Direction ····· E76

L

Lead Wire Specification ····· E45
Lubrication ····· E76

M

Materials ····· A7
Motor Characteristics ····· E12
Gearmotor/Wiring Terminal Box ····· E16
Motor Wiring Water-resistant Outdoor Gearmotor ····· E28
Manual Release Device Gearmotor with Brake (Indoor) ····· E27•E78
Multipurpose Inverter Option ····· E86

N

Necessary Dimension for Detaching Motor Fan Cover ····· E33

O

On combination of Gearmotor and Inverter ····· E44

R

Rated Current ····· E12
Rated Rotation Speed ····· E12
Relay for Brake ····· E20
Rectifier with Brake Gearmotor(Indoor) ····· E22
Rectifier Water-Resistant Outdoor Gearmotor with Brake ····· E32
Reducer(Double Shaft) Cautions ····· E46
R Flange Option ····· E80

S

Starting Method ····· A7
Specification for Coating ····· A7
Selection ····· E1
- Process/Example of Selection ····· E2
- Service Factor ····· E4
- Allowable Inertia Moment(GD^2) and Correction Coefficient ····· E4
- Calculation for Inertia Moment(GD^2) ····· E5
- Calculation for O.H.L. ····· E6
- Braking Time and Life of Brake and Clutch/Brake ····· E8

Structure Diagram ····· E10
Starting Current ····· E12
Starting Torque ····· E12
S-Type Reducer(Designated motor attachable type) Cautions ····· E47
Standard Motor ····· E70
Surge Suppressor for Brake Wiring Option ····· E79

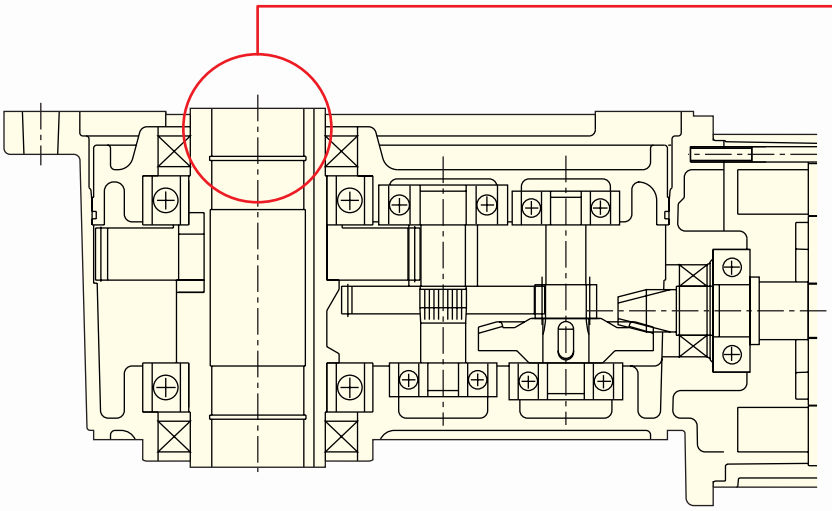
T

Thrust Load ····· E6
Terminal Box Gearmotor(Indoors) ····· E17
Terminal Box Gearmotor with Brake(Indoors) ····· E23
Terminal Box Water-resistant, Outdoor Gearmotor ····· E28
Terminal Box Water-resistant, Outdoor Gearmotor with Brake ····· E30
Terminal Box ····· E34
- Attachment and Position Changing for G3/H2 Series ····· E35
- Attachment and Position Changing for F Series ····· E37
- Attachment and Position Changing for F2 Series ····· E39

Terminal Box Gearmotor with Clutch/Brake (Indoors) ····· E42
Terminal Box Attachment and Position Changing
Gearmotor with Clutch/Brake (Indoors) ····· E43
Terminal Box Fan Cover Extruded Dimension at Position Changing ····· E67
Torque Arm Option ····· E82

With the high percentage in-house production, we correspond to various needs of our customers.

Gear-head



Output Shaft Custom-made Specifications

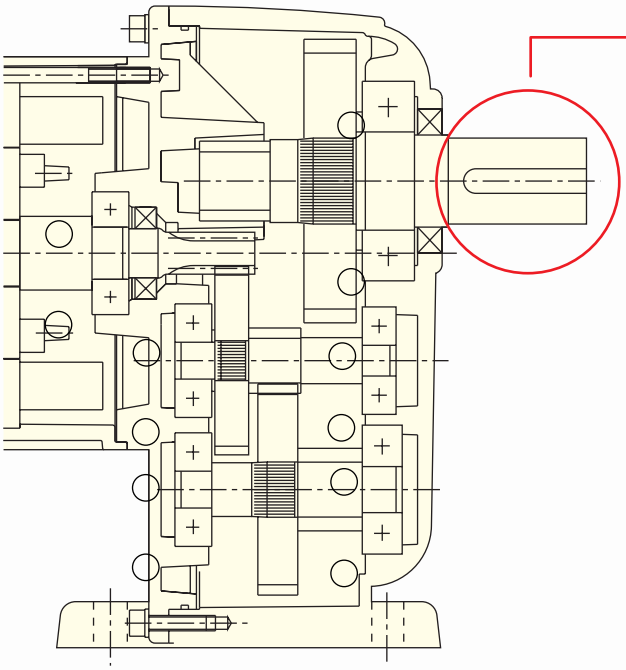
Ship out : Only 3 days after confirming order

Available only the dimension corresponds to our options(F/F3 Series).

Please refer to page E84.

Following requests are also welcome:

- ●Products of special reduction ratio
- ●Cutting of the casing



Tapped hole in the output shaft

Ship out : Only 3 days after confirming order

however in case of Nissei's standard tap dimesions as below.

G3 Series…
H2 Series…L-shaft•R-shaft
F Series…L-shaft
F3 Series…L-shaft

Please refer to page E78.

Following requests are also welcome:

- ●Output Shaft extension and cutting
- ●Output Shaft special shaping

Motor

Accessible as for High voltage (class 400V)

● 3 phase 380V/50Hz
400V/50•60Hz
440V/60Hz

Ship out : Only 3 days after confirming order

Accessible as for irregular voltage

● 3 phase Other than standard voltage frequency 200V and those irregular

Ship out : Only 5 days after confirming order

●But 480V and above is

Ship out : Only 10 days after confirming order

Standard gearmotor

● UL-standard
● CE-marking
● CCC-certification

Ship out : Only 5 days after confirming order

●But irregular voltage is

Ship out : Only 10 days after confirming order

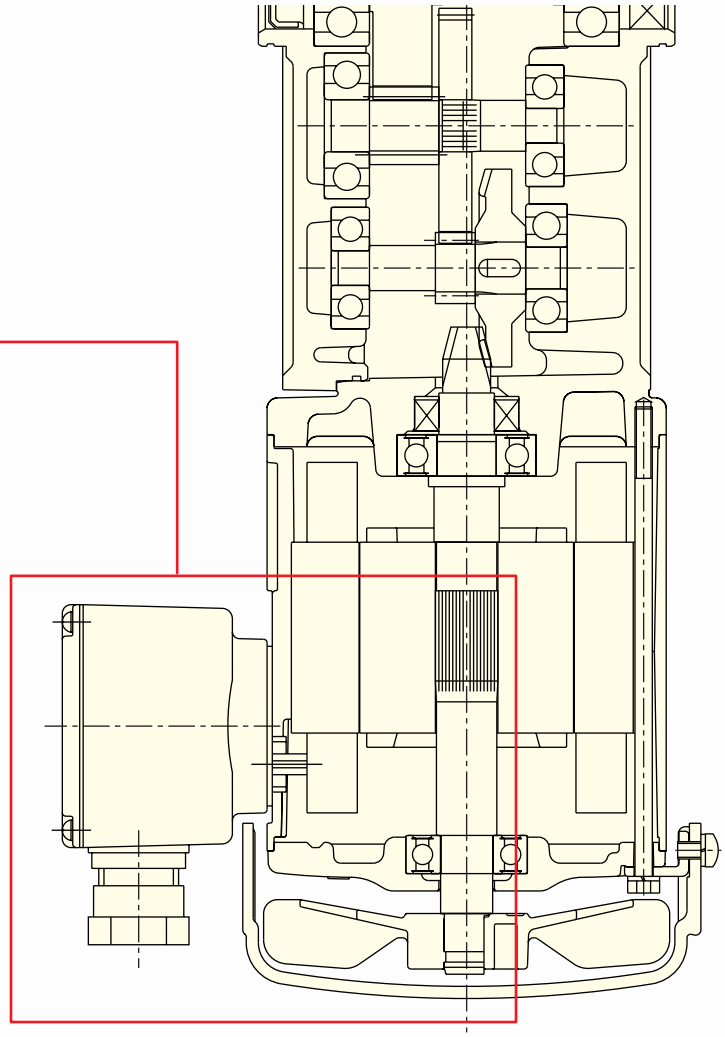
Class F motor • tropical treatment

●3 phase motor, class F
(0.1kW~2.2kW)

Ship out : Only 10 days after confirming order

●Toropical Treetment

Ship out : Only 5 days after confirming order



Perfect Custom-made Specifications

Original Gearmotor can also be designed and manufactured by us.

●Casing originally designed for reducer
●Originally designed motor

Evolved as a Succeeding

F3 SERIES

Concentric Hollow Shaft
Concentric Solid Shaft

Motor Capacity

3-Phase 0.1kW～2.2kW
1-Phase 100W～400W

Reduction Ratio

1/5～1/1500

Type

Gearmotor
Brake Gearmotor
Water-Resistant Gearmotor (IP65)
Water-Resistant Brake Gearmotor (IP65)
Reducer(Input/Output Shaft)
S-Type Reducer (For Designated Motor)
Combination of Gearmotor & Inverter

Mounting Free with Concentric Hollow Shaft

Face Mount
●Tapped Holes on both sides

Wide Variation
●Extended Reduction Ratio up to 1/1500

FULL LINE UP

We, Leader of the Industry, offer quick products of more than 140,000 models receiving order.

Ship out of standard within 3 days after

Product Value

- Pursuing integrated value and affinity
- Conform to International Standards
- Improvement of painting quality
- RoHS Support

Anjo Minami Plant Expansion

No. 2 Plant: New Facilities

"From one piece" is Nissei's motto, caring customer satisfaction.

Quality

- Obtain ISO 9001
- Obtain ISO 14001
- Awards for '99TPM
- Certified as "2005 Aichi Quality Company "

Obtain ISO 9001

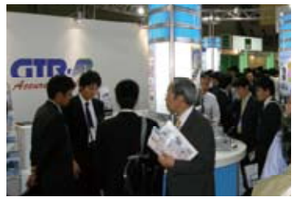
Obtain ISO 14001

Certified as "2005 Aichi Quality Company "

Awards for '99TPM

Providing Information

- Factory Tour･Lecture about Products



Factory tour/informational sessions

In-house Production

- Over 90% of the products are in-house production(Reducer products).
- Providing reducers and gear products to OEM
- Integrated Production from mold designing/manufacturing, die-casting,

mold designing/manufacturing

Motor production line

die-cast products

heat treatment (gas carburizing equipment)

OEM gear products

Product Development Capability

- Gear designing and manufacturing technology cultivated more than half Century, represented by HRH (High Ratio Hypoid Gear).
- Development of new transmission equipments, corresponding to the market needs.

CBN Bevel Gear Grinder (self-developed product)

Gleason PHOENIX II 275HC

HRH(High Ratio Hypoid)Gear

Spiral Bevel Gear

Helical Gear

Corporate Profile

Company Name: Nissei Corporation
Capital: 3,475 Million Yen
Employees: 743
Headquarters: Anjo-shi, Aichi
Manufacturing Plant:
Main Plant, Anjo Minami Manufacturing Plant
Stock Exchange:
Listed on the Second Section of the Tokyo Stock Exchange
Listed on the Second Section of the Nagoya Stock Exchange
Main Products:
Reducers, Variable-Speed Reducers, Direct Drive Equipments (Electric Slide-Base, Cylinder, etc.)…550,000units/year
Various Small gears
(Standard gears, Make-to-order gears)…18 Million units/year

Company History

March	1942	Established company JAPAN SEWING MACHINE NEEDLE MANUFACTURING LTD in Nagoya.
June	**1955**	**Started production of small fine pitch gears in a make-to-order base in domestic Japanese market.**
May	1964	Anjo Manufacturing Plant newly opened in 1-1, Inoue, Izumi-cho, Anjo-shi, Aichi and started operation. (Headquarters and Main Manufacturing Plant at present)
July	1965	Changed company name to NISSEI INDUSTRY CO.LTD
May	1969	Started production and sales of power transmissions such as reducers, gear boxes, clutches, brake units, etc.
Oct.	1974	Started production of spur gear reducers "GTR Gearmotor".
May	**1980**	**Started production and sales of "GTR" H-Type orthogonal shaft reducers (Hypoid Gearmotor)**
Nov.	1984	Started production and sales of "GTR Mini Gearmotors" (15W～90W)
July	1985	Listed on the Second Section of the Nagoya Stock Exchange. Capital became 3,475 Million Yen
Sept.	1985	Opened Anjo Minami Manufacturing Plant, as a plant exclusively produce power transmissions.
	1989	Started sales of Stock Bevel Gear and HRH (High Ratio Hypoid Gearmotor).
May	1992	Added "Helical Gear" and "Straight Bevel Gear" to our standard production line and started sales with the name of "My Set".
May	1992	Started production and sales of GTR-V Series (Variable-speed gearmotor).
March	1995	Started production and sales of GTR IIS Series (Power Slide Base) and C-Series(Power Cylinder).
April	1998	Started production and sales of GTR-F2 Series (Concentric hollow and solid shaft).
Nov.	1998	Agreed sales cooperation with SEW-EURODRIVE, JAPAN, Inc.
Oct.	1999	Awarded '99TPM.
March	2000	Obtained "ISO 9001" Certification.
Oct.	**2000**	**Changed company name to "Nissei Corporation".**
Dec.	2000	Obtained "ISO 14001" Certification.
Sept.	2001	Started sales of "Small multipurpose inverters" (0.1kW～3.7kW).
Oct.	2001	Expanded Anjo Minami Manufacturing Plant. (CEL Line assembly started.)
April	2002	Started production and sales of "GTR A-Series" (Low Backlash Reducers).
April	2002	Agreed sales cooperation with KOHARA GEAR INDUSTRY CO.LTD
Sept.	2002	Started production and sales of GTRII V-Series, battery power type.
March	**2003**	**Listed on the Second Section of the Tokyo Stock Exchange.**
Aug.	2003	Agreed sales cooperation with DAIKIN INDUSTRIES. LTD
Oct.	2003	Started production and sales of "GTR Medium Type, Water-resistant Gearmotor with Brake".
Dec.	2003	Shipping system for urgent requests "Scramble Shipment Service" started.
Dec.	2003	Started production and sales of "GTR A-Series IPM servomotor attached".
Jan.	2004	Started production and sales of "GTR A-Series Parallel Shaft(AG3)".
Feb.	2004	Started production and sales of "GTR Medium Type Explosion-proof Gearmotors".
April	2004	Agreed sales cooperation with SEW-EURODRIVE(TIANJIN) CO.,LTD.
June	2004	Started production and sales of GTRII V-Series Battery Power Type with the specifications of 400W/48V).
Dec.	2004	Started production and sales of Bevel Gearbox "KOMPASS"
Jan.	2006	Certificated to Aichi Quality brand.
July	2006	Started production and sale of concentric hollow shaft and concentric solid shaft in GTR-F3 Series.
Jan.	2007	Started production and sale of concentric hollow shaft and concentric solid shaft in GTR-A Series, AF3 type. Started production and sale of IS gearmotor.
April	2007	Established manufacturing Plant No.2 for reducers.
Sept.	2007	Started production and sales of GTR-AR APQ type brushless DC gearmotor.
Jan.	2008	Started production and sales of GTR-AR Accurate Reducer AGC/AFC type.

Parallel Shaft

G3 Series Gearmotor • Reducer

Model • Type Designation Standard Model Lineup

G3 Series

■Gearmotor/Gearmotor with Brake
Model and Type Designation/Standard Model Lineup ..... P. A7
3-phase Performance Table/Dimension Diagram ..... P. A11
1-phase Performance Table/Dimension Diagram ..... P. A37
■Water-Resistant (IP65) Gearmotor/Gearmotor with Brake
Model and Type Designation/Standard Model Lineup ..... P. A51
Performance List/Dimension Diagram ..... P. A55
■Gearmotor with Clutch and Brake (Standard Type/Heavy duty)
Model and Type Designation/Standard Model Lineup ..... P. A79
Standard Type Performance Table/Dimension Diagram ..... P. A83
Heavy duty Performance Table/Dimension Diagram ..... P. A93
■Reducer (Double Shaft Type)
Model and Type Designation/Standard Model Lineup ..... P. A101
Performance List/Dimension Diagram ..... P. A105
■S-Type Reducer (Designated Motor Attachable Type)
Model and Type Designation/Standard Model Lineup ..... P. A129
Performance List/Dimension Diagram ..... P. A133

Model and Type Designation G3 Series (Parallel Shaft)

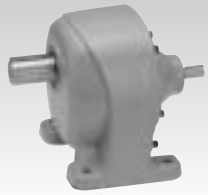
G3 series gearmotors and reducers are classified by codes as shown below.
Specify these codes in your inquiry and order.

Type			Frame Number	Reduction Ratio	Motor Capacity	Option		Auxiliary Mark	Spec. Designation
G3	L	M	– 22	– 50	– T020	W	A		
G3	F	B	– 40	– 200	– 075			X	T9HZ
①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩

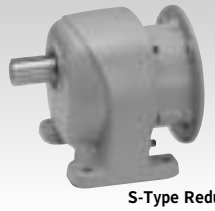
①Series Name	G3 : G3 Series(Parallel Shaft)
②Classification by Mount Form	L : Foot Mount
	F : Flange Mount
	K : Small Flange Mount (Frame No.18～32)
③Classification by Motor Type	M : With Motor
	B : With Brake Motor
	J : With Brake Manual Release Device(Option)
	W : With Water-resistant Motor(Output Shaft material:SUS420J2)
	V : With Water-resistant Brake Motor(Output Shaft material:SUS420J2)
	G : With Outdoor Motor(Output Shaft material: S43C)
	H : With Outdoor Brake Motor(Output Shaft material: S43C)
	E : With Clutch/Brake
	Blank : Without Motor(Double Shaft Type)
	S : Designated Motor Attachable Type(S Type)
④Frame No. and Diameter of Output shaft	Output Shaft Diameter
⑤Reduction Ratio	5 : 1／5 ～ 1200 : 1／1200
⑥Motor Designation and Capacity	T010 : 3-phase 0.1kW 010:0.1kW or equiv. (Parallel Shaft・S-Type)
	T020 : 3-phase 0.2kW 020:0.2kW or equiv. (Parallel Shaft・S-Type)
	T040 : 3-phase 0.4kW 040:0.4kW or equiv. (Parallel Shaft・S-Type)
	075 : 3-phase 0.75kW 0.75kW or equiv. (Parallel Shaft・S-Type)
	150 : 3-phase 1.5kW 1.5kW or equiv. (Parallel Shaft・S-Type)
	220 : 3-phase 2.2kW 2.2kW or equiv. (Parallel Shaft・S-Type)
	100 : 1-phase 100W
	200 : 1-phase 200W
	400 : 1-phase 400W
⑦⑧Option Note 1: For orders of gearmotors with the capacity of less than 0.4Kw and with terminal box, specify A or Z at the end of the capacity designation. In the standard specs. of gearmotors of the capacity of 0.4Kw with clutch and brake, the terminal box is originally equipped with , therefore, for orders, specify A at the end of the capacity designation accordingly. (Example:G3LE-22-10-T040A) All the products of the capacity of 0.75～2.2KW are equipped with terminal box and have no additional mark at the end of capacity designation. For the products equipped with rectifier, refer to P. E26. Note 2: Standard 1-phase products are not equipped with terminal box. Terminal box should be ordered additionally. Note 3: The E-Type terminal box is equipped as a standard, to the Water-Protect, Outdoor Type products. Therefore, for orders, specify E at the end of the capacity designation. Note 4: 1. The position of the terminal box hole is downward direction. 2. Without capcon. 3. Separate Rectifier 4. Insert brake leard wires in the terminal box. 5. With Screw-tap process.	Blank : Standard Specifications 3-phase: 200V／50Hz, 200V／60Hz, 220V／60Hz 0.1kW～0.4kW Without Terminal Box (Note 1) 0.75kW～2.2kW With Terminal Box 1-phase : 100V／50Hz, 100V／60Hz Without Terminal Box (Note 2)
	W : High Voltage 3-phase: 380V／50Hz, 400V／50Hz, 400V／60Hz, 440V／60Hz 0.1kW～0.4kW Without Terminal Box (Note 1) 0.75kW～2.2kW With Terminal Box 1-phase : 200V／50Hz, 200V／60Hz (Custom design Specs.) Without Terminal Box (Note 2)
	A : Terminal Box(Option)
	Z : For 3-phase Brake Motor,Terminal Box with a built-in rectifier(Option)
	E : Terminal Box for Water-resistant outdoor motor(Standard Specs.) (Note 3)
	A1 : (Note 4)
⑨Auxiliary Mark	Blank : Standard Specs.
	X : Mark for Additional Specs.
⑩Spec. Designation Note: Spec. Designation does not appear on the product type designation in the nameplate. It is specified on the additional numbers in the nameplate.	Indication of Terminal Box lead wire position Refer to the indication mark list in P. E35 for details.

Gearmotor
Gearmotor with Brake

Gearmotor with Clutch and Brake



Reducer (Double Shaft Type)



S-Type Reducer

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

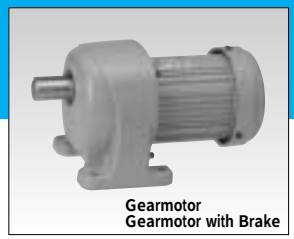
Standard Model Lineup G3 Series (Parallel Shaft)

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

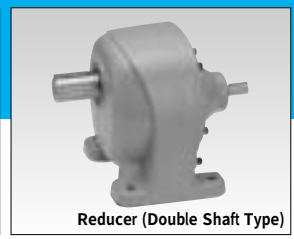
Type	4P Motor Capacity	Frame Number	Reduction Ratio
Gearmotor G3LM•G3FM G3KM	3-Phase 0.1kW / 1-Phase 100W	18	1/5 1/10 1/15 1/20 1/25 1/30 1/40 1/50
		22	1/60 1/80 1/100 1/120 1/160 1/200
		28	1/300 1/375 1/450
		32	1/600 1/750 1/900 1/1200
	3-Phase 0.2kW / 1-Phase 200W	18	1/5 1/10 1/15 1/20 1/25
		22	1/30 1/40 1/50 1/60 1/80 1/100
		28	1/100 1/120 1/160 1/200
		32	1/300 1/375 1/450
		40	1/600 1/750 1/900 1/1200
Gearmotor with Brake G3LB•G3FB G3KB	3-Phase 0.4kW / 1-Phase 400W	22	1/5 1/10 1/15 1/20 1/25
		28	1/30 1/40 1/50 1/60 1/80 1/100
		32	1/100 1/120 1/160 1/200
		40	1/300 1/375 1/450
		50	1/600 1/750 1/900 1/1200
Gearmotor equipped with brake manual release device G3LJ•G3FJ G3KJ (Optional Spec.)	3-Phase 0.75kW	28	1/5 1/10 1/15 1/20 1/25
		32	1/30 1/40 1/50 1/60 1/80 1/100
		40	1/100 1/120 1/160 1/200
		50	1/300 1/375 1/450
Reducer (Double Shaft Type) G3L•G3F G3K	3-Phase 1.5kW	32	1/5 1/10 1/15 1/20 1/25
		40	1/30 1/40 1/50 1/60 1/80 1/100
		50	1/100 1/120 1/160 1/200
S-Type Reducer G3LS•G3FS G3KS	3-Phase 2.2kW	40	1/5 1/10 1/15 1/20 1/25
		50	1/30 1/40 1/50 1/60 1/80 1/100

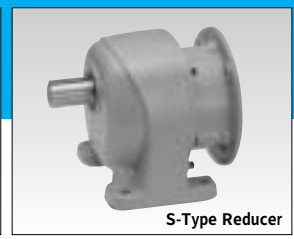
Note 1) In the G3 Series, 3 kinds are available, namely Foot Mount, Flange Mount and Small Flange Mount. Please note that the Small Flange Mount is available only for the frame No.18～32.

2) The models enclosed with orange color bold line are low torque type. Special care should be given to the allowable torque in the performance table.


Gearmotor
Gearmotor with Brake

Gearmotor with Clutch and Brake


Reducer (Double Shaft Type)


S-Type Reducer

Type	4P Motor Capacity	Frame Number	Reduction Ratio
Standard Type 〈GT-PACK〉 Gearmotor with Clutch and Brake G3LE・G3FE G3KE	3-Phase 0.1kW	18	1/5 1/10 1/15 1/20 1/25 1/30 1/40 1/50
		22	1/60 1/80 1/100 1/120 1/160 1/200
	3-Phase 0.2kW	18	1/5 1/10 1/15 1/20 1/25
		22	1/30 1/40 1/50 1/60 1/80 **1/100**
		28	1/100 1/120 1/160 1/200
	3-Phase 0.4kW	22	1/5 1/10 1/15 1/20 1/25
		28	1/30 1/40 1/50 1/60 1/80 **1/100**
		32	1/100 1/120 1/160 1/200
	3-Phase 0.75kW	28	1/5 1/10 1/15 1/20 1/25
		32	1/30 1/40 1/50 1/60 1/80 **1/100**
		40	1/100 1/120 1/160 1/200
Reinforced Type 〈GT-PACK〉 Gearmotor with Clutch and Brake G3LE・G3FE G3KE	3-Phase 0.2kW	22	1/5 1/10 1/15 1/20 1/25
		28	1/30 1/40 1/50 1/60 1/80
		32	1/100 1/120 1/160 1/200
	3-Phase 0.4kW	28	1/5 1/10 1/15 1/20 1/25
		32	1/30 1/40 1/50 1/60 1/80
		40	1/100 1/120 1/160 1/200
	3-Phase 0.75kW	32	1/5 1/10 1/15 1/20 1/25
		40	1/30 1/40 1/50 1/60 1/80
		50	1/100 1/120 1/160 1/200

Note 1) In the G3 Series, 3 kinds are available, namely Foot Mount, Flange Mount and Small Flange Mount. Please note that the Small Flange Mount is available only for the frame No.18～32.

2) ▭ The models enclosed with orange color bold line are low torque type. Special care should be given to the allowable torque in the performance table.

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Parallel Shaft

Gearmotor
Gearmotor with Brake

Model • Type Designation
Standard Model Lineup

GTR Gearmotor

G3 Series

Standard Specifications G3 Series

Motor Part	Number of phase	3-Phase	1-Phase
	Capacity	0.1kW～2.2kW	100W～400W
	Power Source	3 Rated Power Source 200V 50/60Hz, 220V/60Hz	100V 50/60Hz
	Insulation Classification	Class B	Class B
	Starting Method	Direct start	Capacitor Start
	Protective cooling Method	Totally Enclosed fan-cooled (Totally Enclosed only for 0.1kW without brake)	Totally Enclosed fan-cooled
	Number of Pole	4	
	Rating	Continuous Rating	
Speed Reduction Part	Reduction Method	Helical gear	
	Lubrication	Grease Lubrication(Maintenance Free)	
	Output Shaft	New JIS Key(JIS 1301-1976 class)	
	Output Shaft Material	S43C	
	Case Material	Aluminium die-cast(Frame No.50: Cast iron)	
Ambient Conditions	Ambient Temperature	−10°C～40°C	
	Ambient Humidity	85% max.(without any dew condensation)	
	Altitude	1,000m max.	
	Environment	Well ventilated place free from corrosive gas, explosive gas vapor and/or dust.	
	Installation Location	Indoors	
Painting	Painting Method	Anion painting, Acrylic paint	
	Painting Color	Grey(Mansel code: 9B6/0.5)	
Mounting Direction		No restriction in the mounting angle.(horizontally, vertically or heeling angle)	

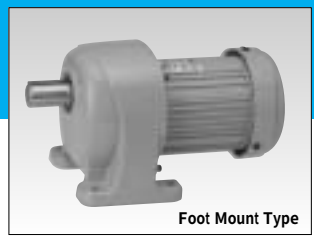
Model and Type Designation G3 Series (Parallel Shaft)

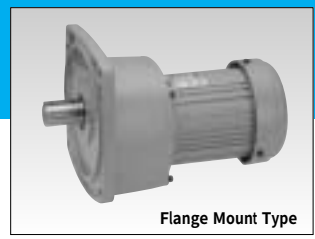
G3 series gearmotors and gearmotor with brake are classified by codes as shown below. Specify these codes in your inquiry and order.

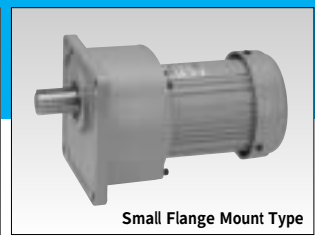
Type			Frame Number	Reduction Ratio	Motor Capacity	Option		Auxiliary Mark	Spec. Designation
G3	L	M	22	50	T020	W	A		
G3	F	B	40	200	075			X	T9HZ
①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩

①Series Name	G3	: G3 Series(Parallel Shaft)
②Classification by Mount Form	L	: Foot Mount
	F	: Flange Mount
	K	: Small Flange Mount (Frame No.18～32)
③Classification by Motor Type	M	: With Motor
	B	: With Brake Motor
	J	: With Brake Manual Release Device(Option)
④Frame No. and Diameter of Output shaft	Output Shaft Diameter	
⑤Reduction Ratio	5 : 1／5 ～ 1200 : 1／1200	
⑥Motor Designation and Capacity	T010	: 3-phase 0.1 kW
	T020	: 3-phase 0.2 kW
	T040	: 3-phase 0.4 kW
	075	: 3-phase 0.75kW
	150	: 3-phase 1.5 kW
	220	: 3-phase 2.2 kW
	100	: 1-phase 100W
	200	: 1-phase 200W
	400	: 1-phase 400W
⑦⑧Option Note 1: When terminal box is necessary for 0.1kW to 0.4kW, please indicate "A" or "Z" at the of the capacity. Capacity of 0.75kW to 2.2kW are terminal box equipped as Standard and have no additional code. For rectifier built-in, please refer to page E26. Note 2: Standard single-phase products are not equipped with terminal box. Terminal box should be ordered additionally. Note 3: 1. The position of the terminal box hole is downward direction. 2. Without capcon. 3. Separate Rectifier 4. Insert brake wires in the terminal box. 5. with screw-tap process.	Blank	: Standard Specifications 3-phase : 200V／50Hz, 200V／60Hz, 220V／60Hz 0.1kW～0.4kW Without Terminal Box (Note 1) 0.75kW～2.2kW With Terminal Box 1-phase : 100V／50Hz, 100V／60Hz Without Terminal Box (Note 2)
	W	: High Voltage 3-phase : 380V／50Hz, 400V／50Hz, 400V／60Hz, 440V／60Hz 0.1kW～0.4kW Without Terminal Box (note 1) 0.75kW～2.2kW With Terminal Box 1-phase : 200V／50Hz, 200V／60Hz (Custom design Specs.) Without Terminal Box (Note 2)
	A	: Terminal Box(Option)
	Z	: For 3-phase Brake Motor,Terminal Box with a built-in rectifier(Option)
	A1	: (Note 3)
⑨Auxiliary Mark	Blank	: Standard Specs.
	X	: Mark for Additional Specs
⑩Spec. Designation Note: Spec. Designation does not appear on the product type designation in the nameplate. It is specified on the additional numbers in the nameplate.	Indication of Terminal Box lead wire position Refer to the indication mark list in P. E35 for details.	

Standard Model Lineup


Foot Mount Type


Flange Mount Type


Small Flange Mount Type

Type	4P Motor Capacity	Frame Number	Reduction Ratio
Gearmotor G3LM•G3FM G3KM Gearmotor with Brake G3LB•G3FB G3KB Gearmotor equipped with brake manual release device G3LJ•G3FJ G3KJ (Optional Spec.)	3-Phase 0.1kW 1-Phase 100W	18	1/5 1/10 1/15 1/20 1/25 1/30 1/40 1/50
		22	1/60 1/80 1/100 1/120 1/160 1/200
		28	1/300 1/375 1/450
		32	1/600 1/750 **1/900** **1/1200**
	3-Phase 0.2kW 1-Phase 200W	18	1/5 1/10 1/15 1/20 1/25
		22	1/30 1/40 1/50 1/60 1/80 **1/100**
		28	1/100 1/120 1/160 1/200
		32	1/300 1/375 1/450
		40	1/600 1/750 **1/900** **1/1200**
	3-Phase 0.4kW 1-Phase 400W	22	1/5 1/10 1/15 1/20 1/25
		28	1/30 1/40 1/50 1/60 1/80 **1/100**
		32	1/100 1/120 1/160 1/200
		40	1/300 1/375 **1/450**
		50	1/600 **1/750** **1/900** **1/1200**
	3-Phase 0.75kW	28	1/5 1/10 1/15 1/20 1/25
		32	1/30 1/40 1/50 1/60 1/80 **1/100**
		40	1/100 1/120 1/160 1/200
		50	1/300 1/375 **1/450**
	3-Phase 1.5kW	32	1/5 1/10 1/15 1/20 1/25
		40	1/30 1/40 1/50 1/60 1/80 **1/100**
		50	1/100 1/120 1/160 **1/200**
	3-Phase 2.2kW	40	1/5 1/10 1/15 1/20 1/25
		50	1/30 1/40 1/50 1/60 1/80 1/100

Note 1) In the G3 Series, 3 kinds are available, namely Foot Mount, Flange Mount and Small Flange Mount. Please note that the Small Flange Mount is available only for the frame No.18～32.

2) **1/900** **1/1200** The models enclosed with orange color bold line are low torque type. Special care should be given to the allowable torque in the performance table.

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

GTR Gearmotor

Parallel Shaft

Gearmotor
Gearmotor with Brake

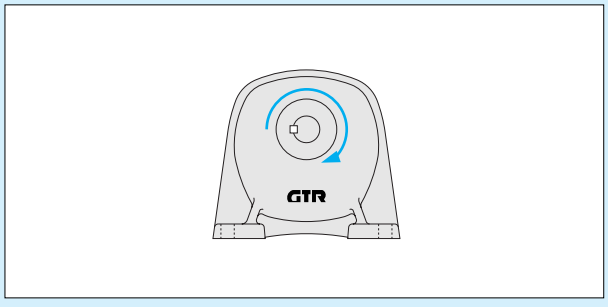
Performance Table
Dimension diagram

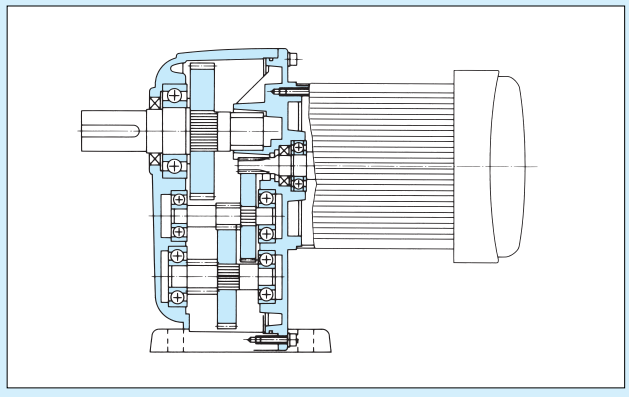
G3 Series

3-Phase

【Remarks】

- Values in the parenthesis in the performance table/dimension diagram are the values of gearmotor with brake.
- The output rotation speed is the value corresponds to the motor synchronous speed and the nominal reduction ratio.
- The Shaded areas ▭ in the performance table shows that in case gearmotors are wired according to the diagram shown on page E16, the shaft rotates clock wise when viewing from output side. (Reter to the diagram shown below.)





Gearmotor
Gearmotor with Brake
G3 Series 3-Phase 0.1kW

The values in parentheses in the Performance Table/Dimension Diagram indicate the values of gearmotors with brake.

Motor Specs. Standard Voltage (Continuous Rated 4 Poles)	Capacity	Motor Capacity Designation	Frequency (Hz)	Voltage (V)	Rated Current (A)	Rated Rotation Speed (rpm)	Insulation Classification	Protective Cooling system
	0.1kW	T010	50/60/60	200/200/220	0.61/0.54/0.54	1420/1700/1720	B	Totally Enclosed non-ventilated (Totally Enclosed fan-cooled)

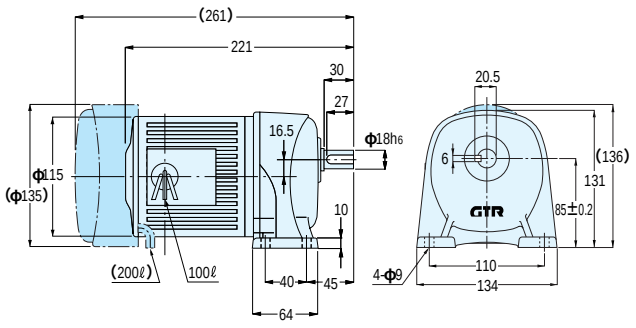
Motor Capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio (Fraction)	Output Shaft Rotation Speed (rpm)		Output Shaft Allowable Torque				Output Shaft Allowable O.H.L		Page, Diagram No. of the Outer Dimension Diagram, Round Weight Gearmotor (Gearmotor with Brake)		
						N•m		kgf•m				G3LM (G3LB)	G3FM (G3FB)	G3KM (G3KB)
				50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	N	kgf			
3-phase 0.1kW	18	1/ 5	33/ 164	300	360	3	2.5	0.31	0.26	588	60	P.A12 Fig.A-1 6kg (7.5kg)	P.A13 Fig.A-5 6.5kg (8kg)	P.A14 Fig.A-9 6.5kg (8kg)
		1/ 10	77/ 779	150	180	6.1	5	0.62	0.51	882	90			
		1/ 15	119/ 1804	100	120	9.1	7.5	0.93	0.77	980	100			
		1/ 20	49/ 984	75	90	12	9.8	1.2	1	1180	120			
		1/ 25	28/ 697	60	72	15	12.7	1.5	1.3	1270	130			
		1/ 30	35/ 1066	50	60	19	14.7	1.9	1.5	1370	140			
		1/ 40	35/ 1404	37.5	45	24	19.6	2.4	2	1470	150			
		1/ 50	7/ 351	30	36	29	24.5	3	2.5	1570	160			
	22	1/ 60	11/ 684	25	30	35	29.4	3.6	3	2160	220	P.A12 Fig.A-2 7kg (8.5kg)	P.A13 Fig.A-6 7.5kg (9kg)	P.A14 Fig.A-10 7.5kg (9kg)
		1/ 80	21/ 1634	18.8	22.5	47	39.2	4.8	4	2450	250			
		1/ 100	7/ 684	15	18	59	49	6	5	2450	250			
		1/ 120	147/ 17974	12.5	15	71	58.8	7.2	6	2450	250			
		1/ 160	21/ 3268	9.4	11.2	94	78.4	9.6	8	2450	250			
		1/ 200	21/ 4085	7.5	9	117	98	11.9	10	2450	250			
	28	1/ 300	221/ 65190	5	6	157	130	16	13.3	3430	350	P.A13 Fig.A-3 10kg (11.5kg)	P.A13 Fig.A-7 10.5kg (12kg)	P.A14 Fig.A-11 10.5kg (12kg)
		1/ 375	187/ 68370	4	4.8	196	163	20	16.6	3430	350			
		1/ 450	181/ 79793	3.3	4	235	196	24	20	3430	350			
	32	1/ 600	147/ 88192	2.5	3	313	261	31.9	26.6	5880	600	P.A13 Fig.A-4 13kg (14.5kg)	P.A13 Fig.A-8 13.5kg (15kg)	P.A14 Fig.A-12 13.5kg (15kg)
		1/ 750	49/ 36464	2	2.4	391	326	39.9	33.3	5880	600			
		∗1/ 900	62/ 57063	1.7	2	431	391	44	39.9	5880	600			
		∗1/1200	46/ 55195	1.3	1.5	431	431	44	44	5880	600			

Note) The allowable O.H.L indicated are the values in the central position of the output shaft.
The models marked with ∗ are limited torque type. Be sure to refer to the allowable torque in the Performance Table.

Foot Mount Type

Fig.A-1

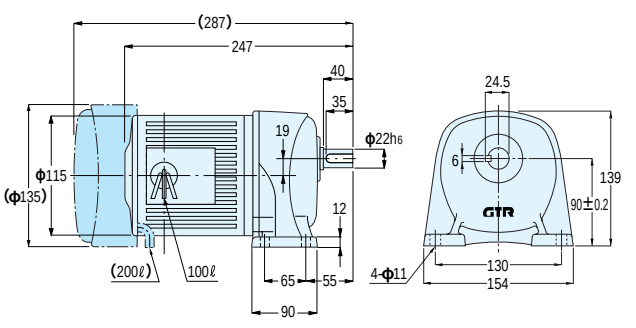
G3LM-18-5〜50-T010
CAD Data: G3LM-18-T010
(G3LB-18-5〜50-T010)
(CAD Data: G3LB-18-T010)



Round Weight 6kg (7.5kg)

Fig.A-2

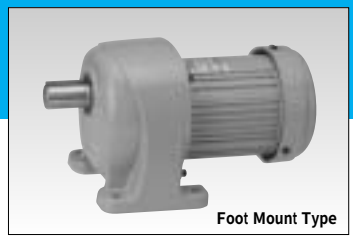
G3LM-22-60〜200-T010
CAD Data: G3LM-22-T010
(G3LB-22-60〜200-T010)
(CAD Data: G3LB-22-T010)

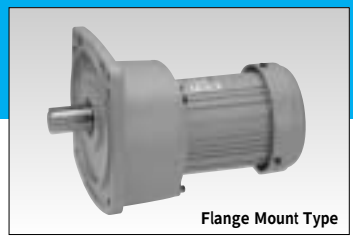


Round Weight 7kg (8.5kg)

Model Code P.A8
Multipurpose Inverter P.E86〜E92
Option P.E78〜E93

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox


Foot Mount Type


Flange Mount Type

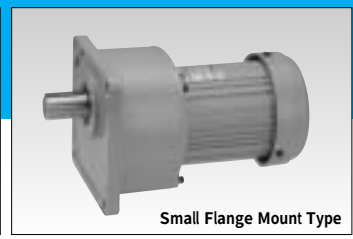
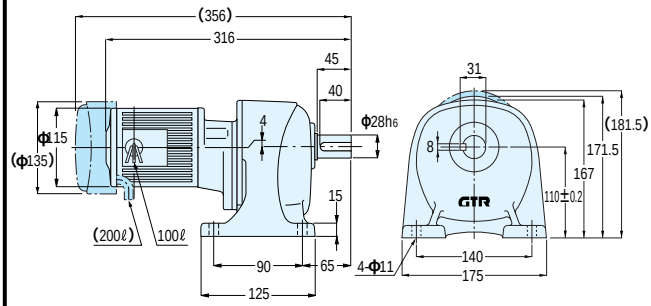

Small Flange Mount Type

Fig.A-3

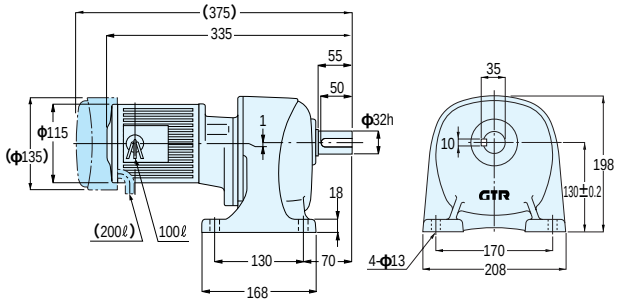
G3LM-28-300～450-T010
CAD Data: G3LM-28-T010
(G3LB-28-300～450-T010)
(CAD Data: G3LB-28-T010)



Round Weight 10kg (11.5kg)

Fig.A-4

G3LM-32-600～1200-T010
CAD Data: G3LM-32-T010
(G3LB-32-600～1200-T010)
(CAD Data: G3LB-32-T010)

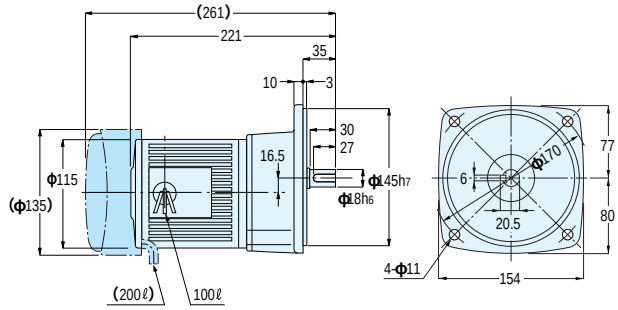


Round Weight 13kg (14.5kg)

Flange Mount Type

Fig.A-5

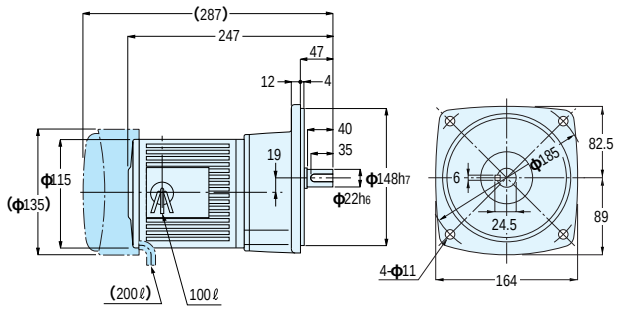
G3FM-18-5～50-T010
CAD Data: G3FM-18-T010
(G3FB-18-5～50-T010)
(CAD Data: G3FB-18-T010)



Round Weight 6.5kg (8kg)

Fig.A-6

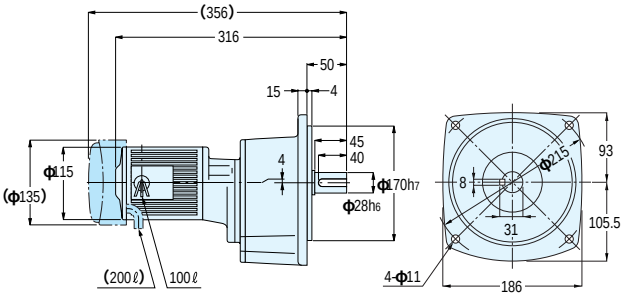
G3FM-22-60～200-T010
CAD Data: G3FM-22-T010
(G3FB-22-60～200-T010)
(CAD Data: G3FB-22-T010)



Round Weight 7.5kg (9kg)

Fig.A-7

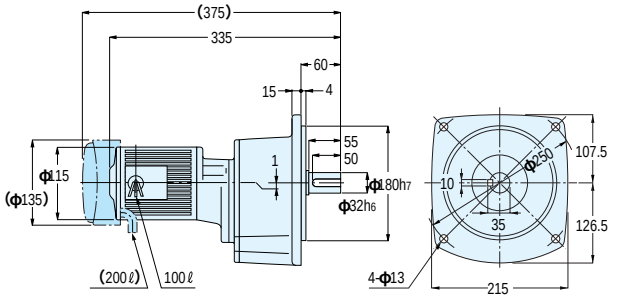
G3FM-28-300～450-T010
CAD Data: G3FM-28-T010
(G3FB-28-300～450-T010)
(CAD Data: G3FB-28-T010)



Round Weight 10.5kg (12kg)

Fig.A-8

G3FM-32-600～1200-T010
CAD Data: G3FM-32-T010
(G3FB-32-600～1200-T010)
(CAD Data: G3FB-32-T010)



Round Weight 13.5kg (15kg)

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Gearmotor
Gearmotor with Brake
G3 Series 3-Phase 0.1kW

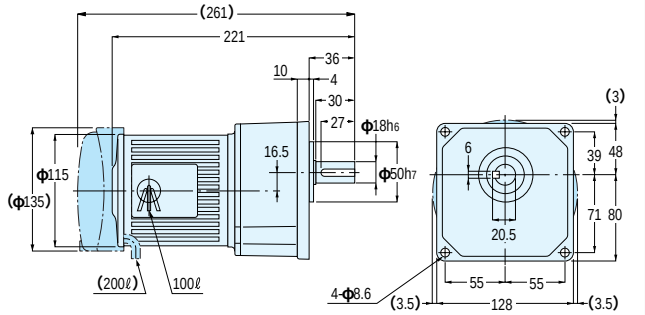
Small Flange Mount Type

The values in parentheses in the Dimension Diagram indicate the values of gearmotors with brake.

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Fig.A-9

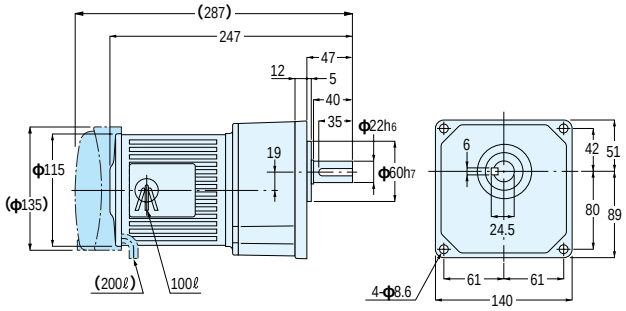
G3KM-18-5～50-T010
CAD Data: G3KM-18-T010
(G3KB-18-5～50-T010)
(CAD Data: G3KB-18-T010)



Round Weight 6.5kg (8kg)

Fig.A-10

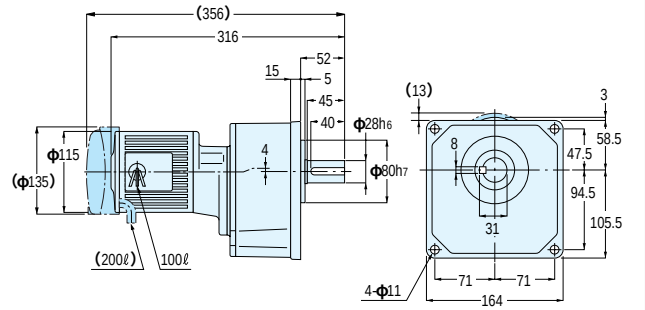
G3KM-22-60～200-T010
CAD Data: G3KM-22-T010
(G3KB-22-60～200-T010)
(CAD Data: G3KB-22-T010)



Round Weight 7.5kg (9kg)

Fig.A-11

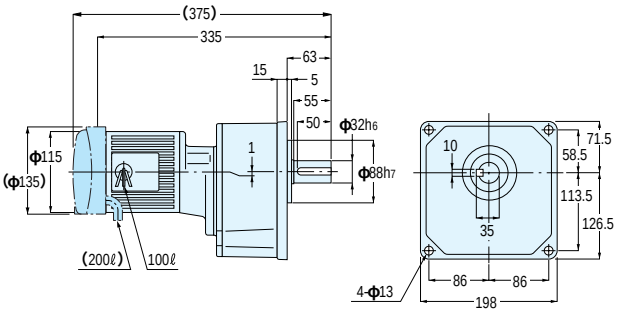
G3KM-28-300～450-T010
CAD Data: G3KM-28-T010
(G3KB-28-300～450-T010)
(CAD Data: G3KB-28-T010)



Round Weight 10.5kg (12kg)

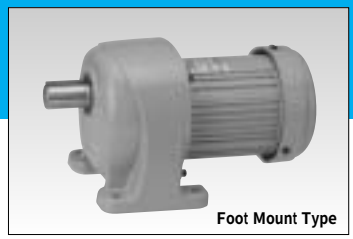
Fig.A-12

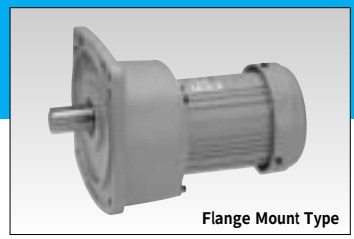
G3KM-32-600～1200-T010
CAD Data: G3KM-32-T010
(G3KB-32-600～1200-T010)
(CAD Data: G3KB-32-T010)

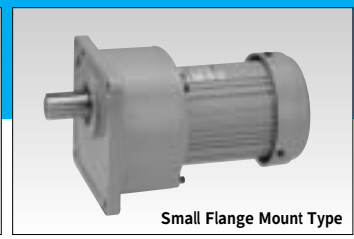


Round Weight 13.5kg (15kg)

Model Code P.A8
Multipurpose Inverter P.E86～E92
Option P.E78～E93


Foot Mount Type


Flange Mount Type


Small Flange Mount Type

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Gearmotor
Gearmotor with Brake
G3 Series 3-Phase 0.2kW

The values in parentheses in the Performance Table/Dimension Diagram indicate the values of gearmotors with brake.

Motor Specs. Standard Voltage (Continuous Rated 4 Poles)	Capacity	Motor Capacity Designation	Frequency (Hz)	Voltage (V)	Rated Current (A)	Rated Rotation Speed (rpm)	Insulation Classification	Protective Cooling system
	0.2kW	T020	50/60/60	200/200/220	1.1/1.0/1.0	1420/1710/1720	B	Totally Enclosed Fan-cooled

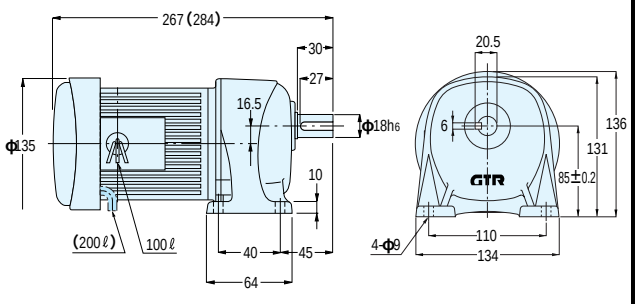
Motor Capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio (Fraction)	Output Shaft Rotation Speed (rpm)		Output Shaft Allowable Torque				Output Shaft Allowable O.H.L		Page, Diagram No. of the Outer Dimension Diagram, Round Weight Gearmotor (Gearmotor with Brake)		
						N•m		kgf•m				G3LM (G3LB)	G3FM (G3FB)	G3KM (G3KB)
				50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	N	kgf			
3-phase 0.2kW	18	1/ 5	33/ 164	300	360	6.1	5	0.62	0.51	588	60	P.A16 Fig.A-13 6.5kg (8kg)	P.A18 Fig.A-18 7kg (8.5kg)	P.A19 Fig.A-23 7kg (8.5kg)
		1/ 10	77/ 779	150	180	11.8	9.8	1.2	1	882	90			
		1/ 15	119/ 1804	100	120	18.6	14.7	1.9	1.5	980	100			
		1/ 20	49/ 984	75	90	24.5	20.6	2.5	2.1	1180	120			
		1/ 25	28/ 697	60	72	30.4	25.5	3.1	2.6	1270	130			
	22	1/ 30	7/ 216	50	60	36.3	30.4	3.7	3.1	1760	180	P.A16 Fig.A-14 7.5kg (9kg)	P.A18 Fig.A-19 8kg (9.5kg)	P.A19 Fig.A-24 8kg (9.5kg)
		1/ 40	91/ 3600	37.5	45	47	39.2	4.8	4	1860	190			
		1/ 50	11/ 540	30	36	58.8	49	6	5	1960	200			
		1/ 60	637/ 39600	25	30	70.6	58.8	7.2	6	2160	220			
		1/ 80	91/ 7200	18.8	22.5	94.1	78.4	9.6	8	2450	250			
		1/ 100	11/ 1080	15	18	97	80.4	9.9	8.2	2450	250			
	28	1/ 100	13/ 1353	15	18	117	98	11.9	10	2840	290	P.A17 Fig.A-15 9.5kg (11kg)	P.A18 Fig.A-20 10kg (11.5kg)	P.A19 Fig.A-25 10kg (11.5kg)
		1/ 120	91/ 11000	12.5	15	140	117	14.3	11.9	3330	340			
		1/ 160	1/ 165	9.4	11.2	187	156	19.1	15.9	3430	350			
		1/ 200	7/ 1375	7.5	9	234	195	23.9	19.9	3430	350			
	32	1/ 300	91/ 27348	5	6	313	261	31.9	26.6	5880	600	P.A17 Fig.A-16 13.5kg (15kg)	P.A18 Fig.A-21 14kg (15.5kg)	P.A19 Fig.A-26 14kg (15.5kg)
		1/ 375	77/ 28620	4	4.8	391	326	39.9	33.3	5880	600			
		1/ 450	91/ 41022	3.3	4	431	391	44	39.9	5880	600			
	40	1/ 600	9/ 5300	2.5	3	626	521	63.9	53.2	7060	720	P.A17 Fig.A-17 20kg (21.5kg)	P.A18 Fig.A-22 21.5kg (23kg)	
		1/ 750	62/ 46427	2	2.4	764	653	78	66.6	7060	720			
		∗1/ 900	23/ 21259	1.7	2	764	764	78	78	7060	720			
		∗1/1200	9/ 10600	1.3	1.5	764	764	78	78	7060	720			

Note) The allowable O.H.L indicated are the values in the central position of the output shaft.
The models marked with ∗ are limited torque type. Be sure to refer to the allowable torque in the Performance Table.

Foot Mount Type

Fig.A-13

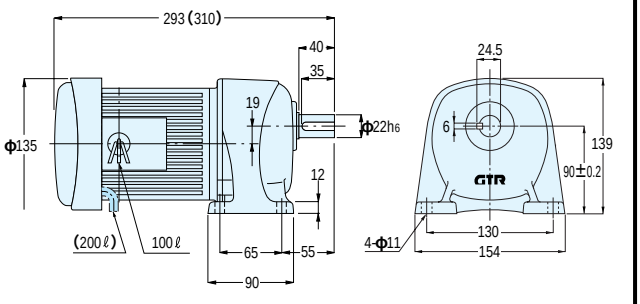
G3LM-18-5〜25-T020
CAD Data: G3LM-18-T020
(G3LB-18-5〜25-T020)
(CAD Data: G3LB-18-T020)



Round Weight 6.5kg (8kg)

Fig.A-14

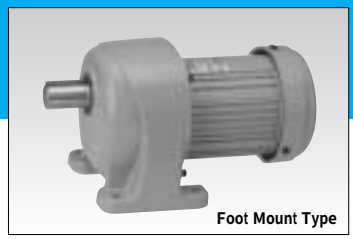
G3LM-22-30〜100-T020
CAD Data: G3LM-22-T020
(G3LB-22-30〜100-T020)
(CAD Data: G3LB-22-T020)

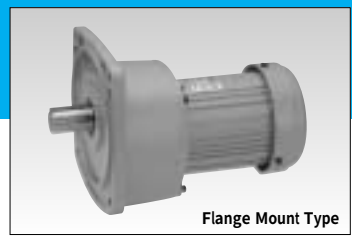


Round Weight 7.5kg (9kg)

Model Code P.A8
Multipurpose Inverter P.E86〜E92
Option P.E78〜E93

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox


Foot Mount Type


Flange Mount Type

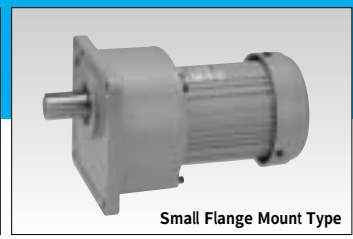
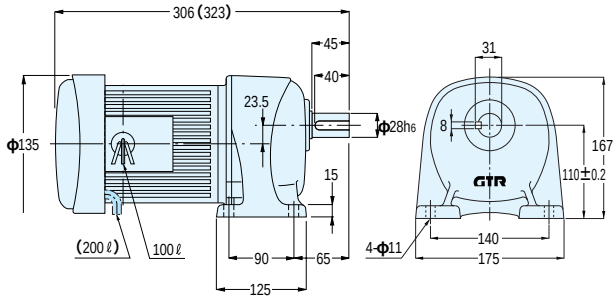

Small Flange Mount Type

Fig.A-15

G3LM-28-100～200-T020
CAD Data: G3LM-28-T020

(G3LB-28-100～200-T020)
(CAD Data: G3LB-28-T020)

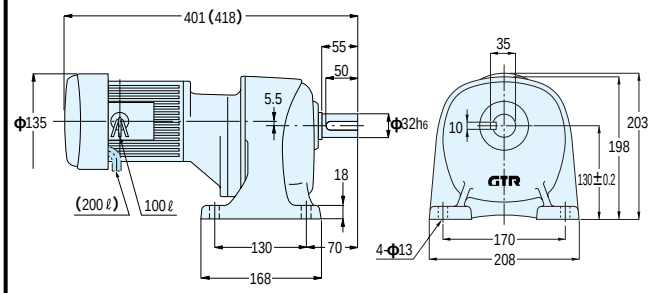


Round Weight 9.5kg (11kg)

Fig.A-16

G3LM-32-300～450-T020
CAD Data: G3LM-32-T020

(G3LB-32-300～450-T020)
(CAD Data: G3LB-32-T020)

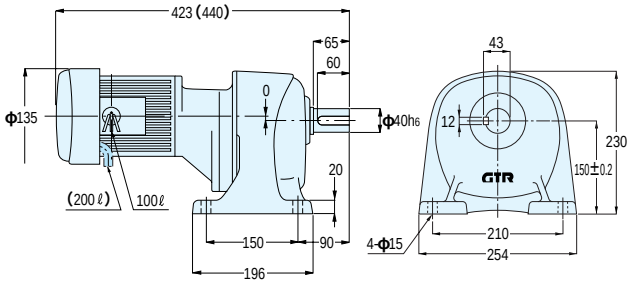


Round Weight 13.5kg (15kg)

Fig.A-17

G3LM-40-600～1200-T020
CAD Data: G3LM-40-T020

(G3LB-40-600～1200-T020)
(CAD Data: G3LB-40-T020)



Round Weight 20kg (21.5kg)

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

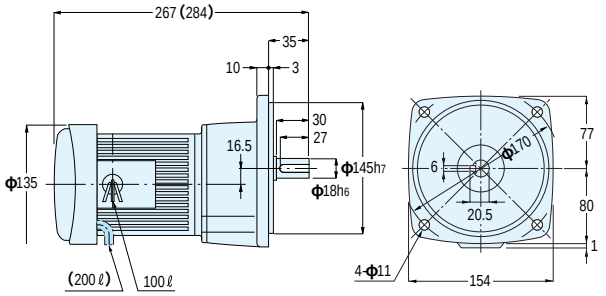
Gearmotor
Gearmotor with Brake
G3 Series 3-Phase 0.2kW

Flange Mount Type

The values in parentheses in the Dimension Diagram indicate the values of gearmotors with brake.

Fig.A-18

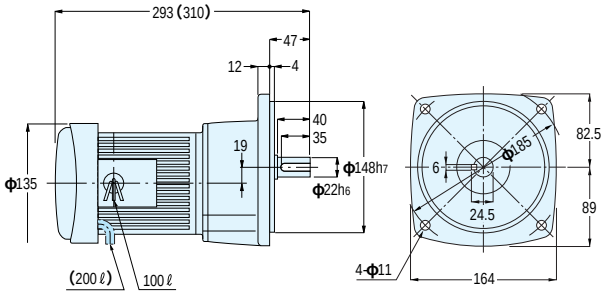
G3FM-18-5～25-T020
CAD Data: G3FM-18-T020
(G3FB-18-5～25-T020)
(CAD Data: G3FB-18-T020)



Round Weight 7kg (8.5kg)

Fig.A-19

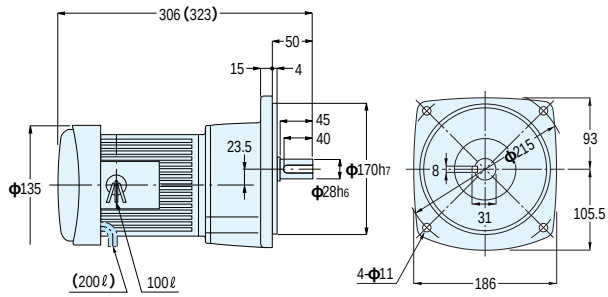
G3FM-22-30～100-T020
CAD Data: G3FM-22-T020
(G3FB-22-30～100-T020)
(CAD Data: G3FB-22-T020)



Round Weight 8kg (9.5kg)

Fig.A-20

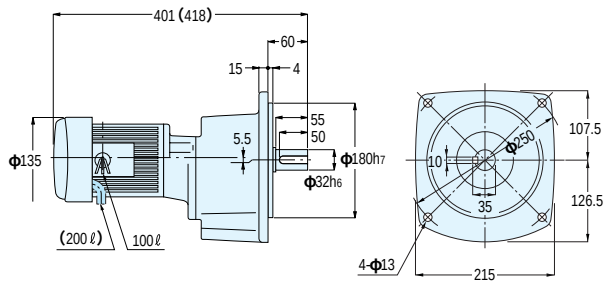
G3FM-28-100～200-T020
CAD Data: G3FM-28-T020
(G3FB-28-100～200-T020)
(CAD Data: G3FB-28-T020)



Round Weight 10kg (11.5kg)

Fig.A-21

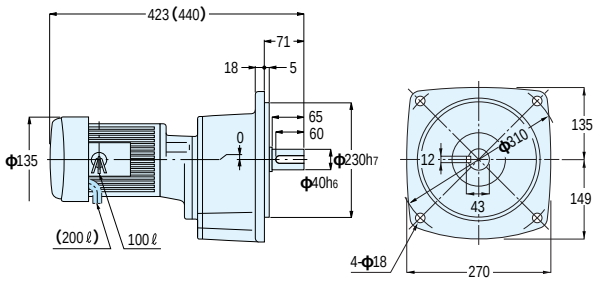
G3FM-32-300～450-T020
CAD Data: G3FM-32-T020
(G3FB-32-300～450-T020)
(CAD Data: G3FB-32-T020)



Round Weight 14kg (15.5kg)

Fig.A-22

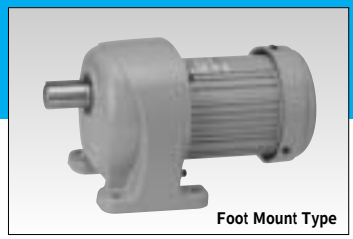
G3FM-40-600～1200-T020
CAD Data: G3FM-40-T020
(G3FB-40-600～1200-T020)
(CAD Data: G3FB-40-T020)

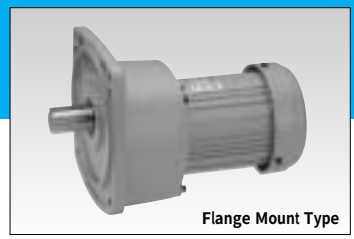


Round Weight 21.5kg (23kg)

Model Code P.A8
Multipurpose Inverter P.E86～E92
Option P.E78～E93

Small Flange Mount Type


Foot Mount Type


Flange Mount Type

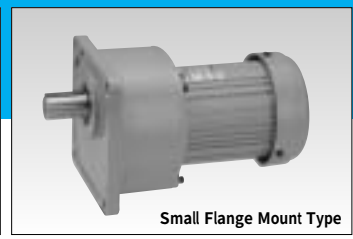
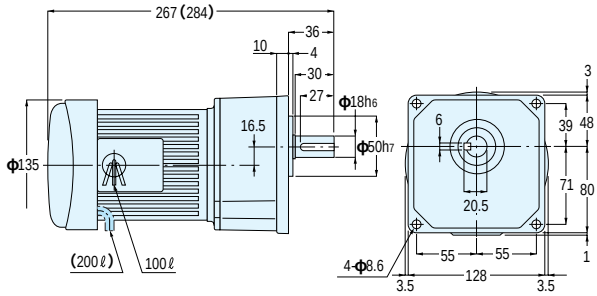

Small Flange Mount Type

Fig.A-23

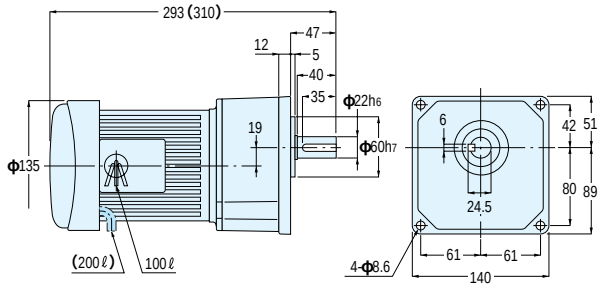
G3KM-18-5～25-T020
CAD Data: G3KM-18-T020
(G3KB-18-5～25-T020)
(CAD Data: G3KB-18-T020)



Round Weight 7kg (8.5kg)

Fig.A-24

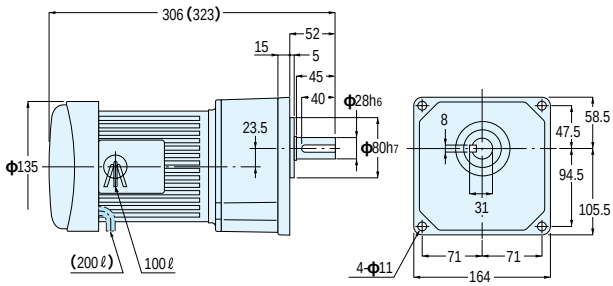
G3KM-22-30～100-T020
CAD Data: G3KM-22-T020
(G3KB-22-30～100-T020)
(CAD Data: G3KB-22-T020)



Round Weight 8kg (9.5kg)

Fig.A-25

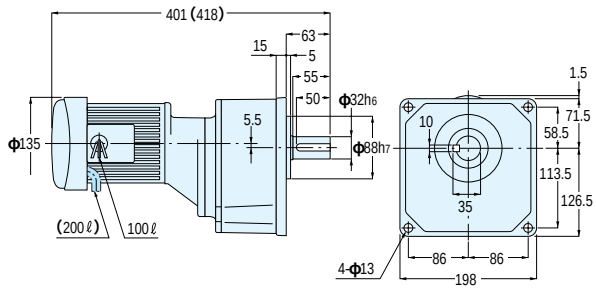
G3KM-28-100～200-T020
CAD Data: G3KM-28-T020
(G3KB-28-100～200-T020)
(CAD Data: G3KB-28-T020)



Round Weight 10kg (11.5kg)

Fig.A-26

G3KM-32-300～450-T020
CAD Data: G3KM-32-T020
(G3KB-32-300～450-T020)
(CAD Data: G3KB-32-T020)



Round Weight 14kg (15.5kg)

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Gearmotor
Gearmotor with Brake
G3 Series 3-Phase 0.4kW

The values in parentheses in the Performance Table/Dimension Diagram indicate the values of gearmotors with brake.

Motor Specs. Standard Voltage (Continuous Rated 4 Poles)	Capacity	Motor Capacity Designation	Frequency (Hz)	Voltage (V)	Rated Current (A)	Rated Rotation Speed (rpm)	Insulation Classification	Protective Cooling system
	0.4kW	T040	50/60/60	200/200/220	2.1/1.8/1.8	1410/1690/1710	B	Totally Enclosed Fan-cooled

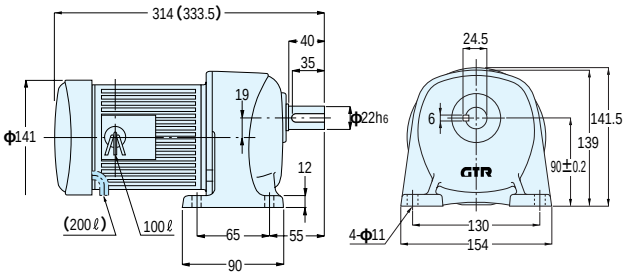
Motor Capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio (Fraction)	Output Shaft Rotation Speed (rpm)		Output Shaft Allowable Torque				Output Shaft Allowable O.H.L		Page, Diagram No. of the Outer Dimension Diagram, Round Weight Gearmotor (Gearmotor with Brake)		
						N•m		kgf•m				G3LM (G3LB)	G3FM (G3FB)	G3KM (G3KB)
				50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	N	kgf			
3-phase 0.4kW	22	1/ 5	7/ 34	300	360	12	10	1.2	1	882	90	P.A20 Fig.A-27 9.5kg (11kg)	P.A22 Fig.A-32 10kg (11.5kg)	P.A23 Fig.A-37 10kg (11.5kg)
		1/ 10	7/ 68	150	180	25	21	2.5	2.1	1180	120			
		1/ 15	49/ 748	100	120	36	30	3.7	3.1	1370	140			
		1/ 20	7/ 136	75	90	48	40	4.9	4.1	1470	150			
		1/ 25	7/ 170	60	72	61	50	6.2	5.1	1670	170			
	28	1/ 30	1/ 30	50	60	73	61	7.4	6.2	2550	260	P.A20 Fig.A-28 11.5kg (13kg)	P.A22 Fig.A-33 12kg (13.5kg)	P.A23 Fig.A-38 12kg (13.5kg)
		1/ 40	221/ 8610	37.5	45	94	78	9.6	8	2840	290			
		1/ 50	187/ 9030	30	36	117	98	11.9	10	3140	320			
		1/ 60	169/ 9840	25	30	140	117	14.3	11.9	3430	350			
		1/ 80	65/ 5166	18.8	22.5	187	156	19.1	15.9	3430	350			
		∗1/ 100	55/ 5418	15	18	193	161	19.7	16.4	3430	350			
	32	1/ 100	7/ 688	15	18	234	195	23.9	19.9	4900	500	P.A21 Fig.A-29 14.5kg (16kg)	P.A22 Fig.A-34 15kg (16.5kg)	P.A23 Fig.A-39 15kg (16.5kg)
		1/ 120	77/ 9360	12.5	15	281	234	28.7	23.9	5880	600			
		1/ 160	21/ 3328	9.4	11.2	374	313	38.2	31.9	5880	600			
		1/ 200	189/38272	7.5	9	431	390	44	39.8	5880	600			
	40	1/ 300	7/ 2160	5	6	626	521	63.9	53.2	7060	720	P.A21 Fig.A-30 23kg (24.5kg)	P.A22 Fig.A-35 24.5kg (26kg)	
		1/ 375	77/29328	4	4.8	764	653	78	66.6	7060	720			
		∗1/ 450	49/21600	3.3	4	764	764	78	78	7060	720			
	50	1/ 600	57/35360	2.5	3	1225	1044	125	106.5	9800	1000	P.A21 Fig.A-31 52.5kg (54kg)	P.A22 Fig.A-36 57.5kg (59kg)	
		∗1/ 750	25/19448	2	2.4	1225	1225	125	125	9800	1000			
		∗1/ 900	5/ 4338	1.7	2	1225	1225	125	125	9800	1000			
		∗1/1200	33/40664	1.3	1.5	1225	1225	125	125	9800	1000			

Note) The allowable O.H.L indicated are the values in the central position of the output shaft.
The models marked with ∗ are limited torque type. Be sure to refer to the allowable torque in the Performance Table.

Foot Mount Type

Fig.A-27

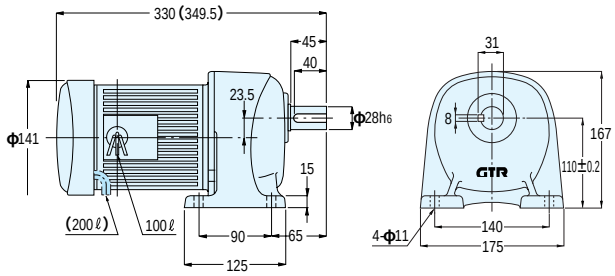
G3LM-22-5～25-T040
CAD Data: G3LM-22-T040
(G3LB-22-5～25-T040)
(CAD Data: G3LB-22-T040)



Round Weight 9.5kg (11kg)

Fig.A-28

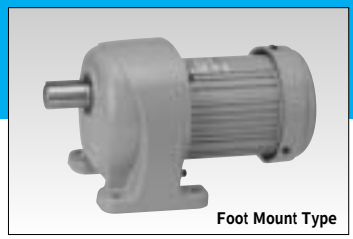
G3LM-28-30～100-T040
CAD Data: G3LM-28-T040
(G3LB-28-30～100-T040)
(CAD Data: G3LB-28-T040)

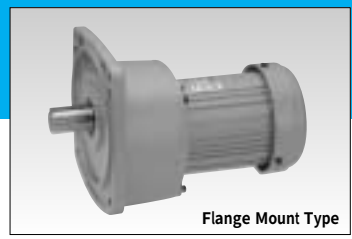


Round Weight 11.5kg (13kg)

Model Code P.A8
Multipurpose Inverter P.E86～E92
Option P.E78～E93

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox


Foot Mount Type


Flange Mount Type

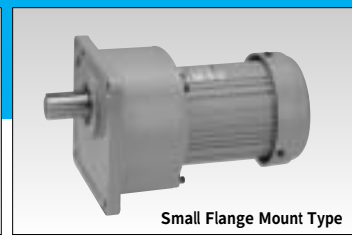
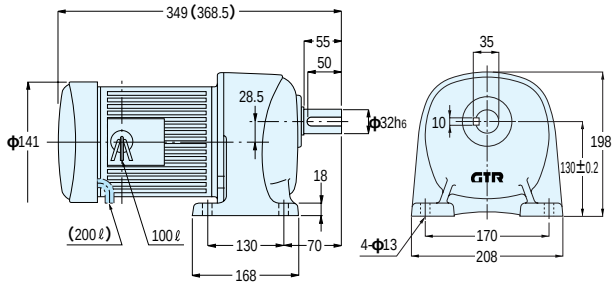

Small Flange Mount Type

Fig.A-29

G3LM-32-100～200-T040
CAD Data: G3LM-32-T040

(G3LB-32-100～200-T040)
(CAD Data: G3LB-32-T040)

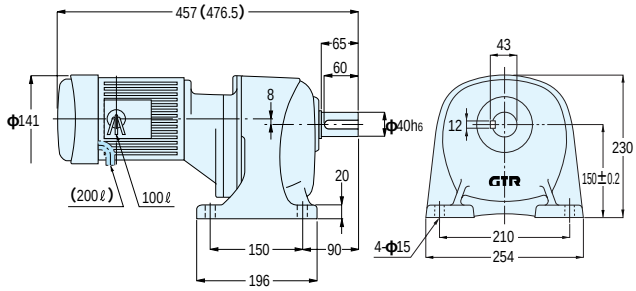


Round Weight 14.5kg (16kg)

Fig.A-30

G3LM-40-300～450-T040
CAD Data: G3LM-40-T040

(G3LB-40-300～450-T040)
(CAD Data: G3LB-40-T040)

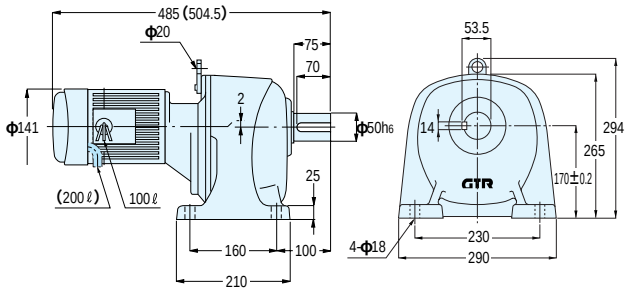


Round Weight 23kg (24.5kg)

Fig.A-31

G3LM-50-600～1200-T040
CAD Data: G3LM-50-T040

(G3LB-50-600～1200-T040)
(CAD Data: G3LB-50-T040)



Round Weight 52.5kg (54kg)

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Gearmotor
Gearmotor with Brake
G3 Series 3-Phase 0.4kW

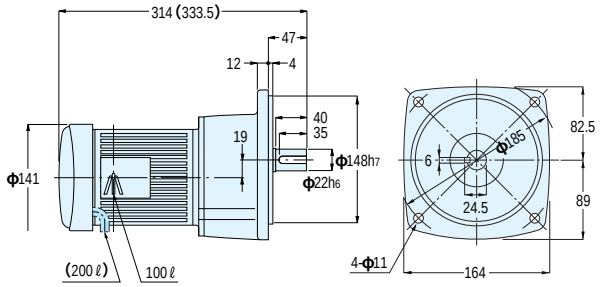
Flange Mount Type

The values in parentheses in the Dimension Diagram indicate the values of gearmotors with brake.

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Fig.A-32

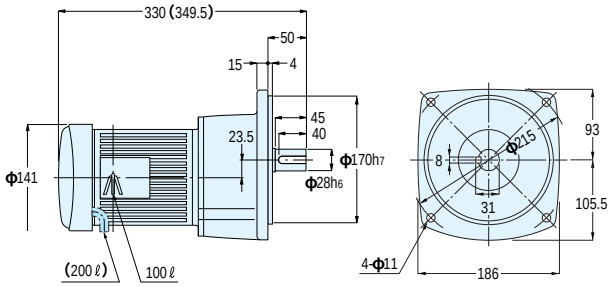
G3FM-22-5～25-T040
CAD Data: G3FM-22-T040
(G3FB-22-5～25-T040)
(CAD Data: G3FB-22-T040)



Round Weight 10kg (11.5kg)

Fig.A-33

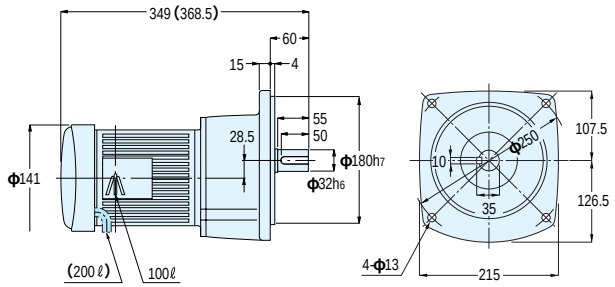
G3FM-28-30～100-T040
CAD Data: G3FM-28-T040
(G3FB-28-30～100-T040)
(CAD Data: G3FB-28-T040)



Round Weight 12kg (13.5kg)

Fig.A-34

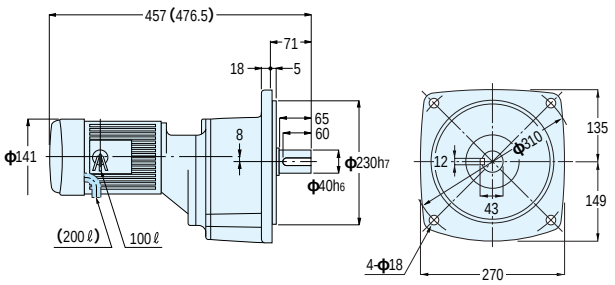
G3FM-32-100～200-T040
CAD Data: G3FM-32-T040
(G3FB-32-100～200-T040)
(CAD Data: G3FB-32-T040)



Round Weight 15kg (16.5kg)

Fig.A-35

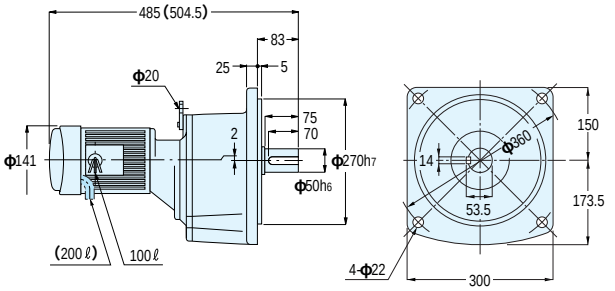
G3FM-40-300～450-T040
CAD Data: G3FM-40-T040
(G3FB-40-300～450-T040)
(CAD Data: G3FB-40-T040)



Round Weight 24.5kg (26kg)

Fig.A-36

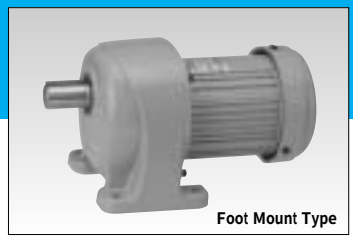
G3FM-50-600～1200-T040
CAD Data: G3FM-50-T040
(G3FB-50-600～1200-T040)
(CAD Data: G3FB-50-T040)

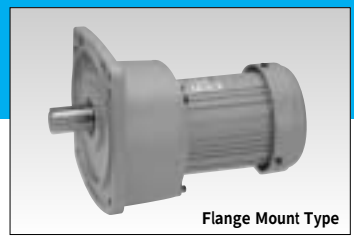


Round Weight 57.5kg (59kg)

Model Code P.A8
Multipurpose Inverter P.E86～E92
Option P.E78～E93

Small Flange Mount Type


Foot Mount Type


Flange Mount Type

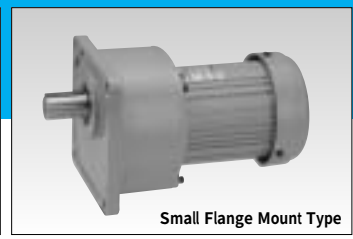
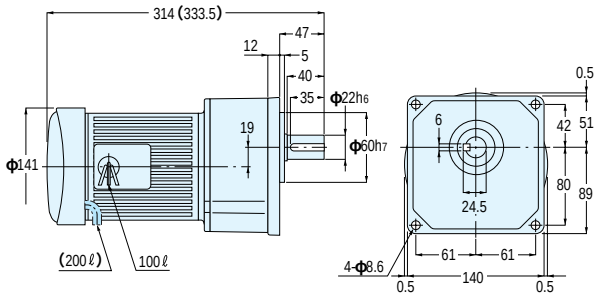

Small Flange Mount Type

Fig.A-37

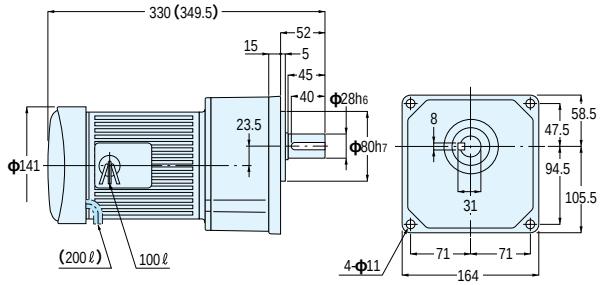
G3KM-22-5～25-T040
CAD Data: G3KM-22-T040
(G3KB-22-5～25-T040)
(CAD Data: G3KB-22-T040)



Round Weight 10kg (11.5kg)

Fig.A-38

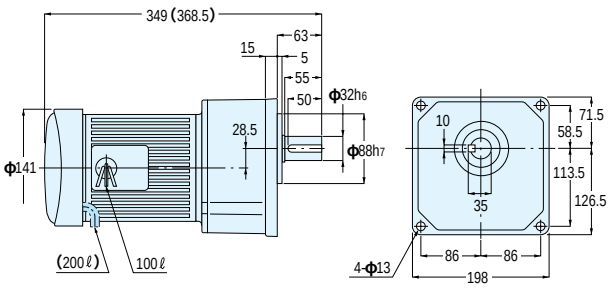
G3KM-28-30～100-T040
CAD Data: G3KM-28-T040
(G3KB-28-30～100-T040)
(CAD Data: G3KB-28-T040)



Round Weight 12kg (13.5kg)

Fig.A-39

G3KM-32-100～200-T040
CAD Data: G3KM-32-T040
(G3KB-32-100～200-T040)
(CAD Data: G3KB-32-T040)



Round Weight 15kg (16.5kg)

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Gearmotor
Gearmotor with Brake
G3 Series 3-Phase 0.75kW

The values in parentheses in the Performance Table/Dimension Diagram indicate the values of gearmotors with brake.

Motor Specs. Standard Voltage (Continuous Rated 4 Poles)	Capacity	Motor Capacity Designation	Frequency (Hz)	Voltage (V)	Rated Current (A)	Rated Rotation Speed (rpm)	Insulation Classification	Protective Cooling system
	0.75kW	075	50/60/60	200/200/220	3.7/3.3/3.2	1430/1720/1730	B	Totally Enclosed Fan-cooled

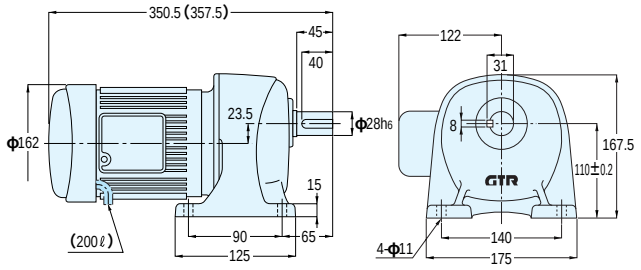
Motor Capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio (Fraction)	Output Shaft Rotation Speed (rpm)		Output Shaft Allowable Torque N•m		Output Shaft Allowable Torque kgf•m		Output Shaft Allowable O.H.L		Page, Diagram No. of the Outer Dimension Diagram, Round Weight Gearmotor (Gearmotor with Brake)		
				50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	N	kgf	G3LM (G3LB)	G3FM (G3FB)	G3KM (G3KB)
3-phase 0.75kW	28	1/ 5	91/ 459	300	360	23	19	2.3	1.9	1270	130	P.A24 Fig.A-40 15kg (17.5kg)	P.A26 Fig.A-45 15.5kg (18kg)	P.A27 Fig.A-50 15.5kg (18kg)
		1/ 10	1/ 10	150	180	45	38	4.6	3.9	1760	180			
		1/ 15	91/ 1360	100	120	68	57	6.9	5.8	2160	220			
		1/ 20	5/ 102	75	90	91	75	9.3	7.7	2350	240			
		1/ 25	7/ 170	60	72	114	94	11.6	9.6	2450	250			
	32	1/ 30	3/ 92	50	60	136	114	13.9	11.6	4020	410	P.A24 Fig.A-41 18.5kg (21kg)	P.A26 Fig.A-46 19kg (21.5kg)	P.A27 Fig.A-51 19kg (21.5kg)
		1/ 40	13/ 516	37.5	45	175	146	17.9	14.9	4210	430			
		1/ 50	11/ 540	30	36	220	183	22.4	18.7	4610	470			
		1/ 60	13/ 774	25	30	264	220	26.9	22.4	5490	560			
		1/ 80	13/ 1032	18.8	22.5	351	293	35.8	29.9	5880	600			
		∗1/ 100	11/ 1080	15	18	362	302	36.9	30.8	5880	600			
	40	1/ 100	91/ 9000	15	18	439	366	44.8	37.3	7060	720	P.A25 Fig.A-42 25kg (27.5kg)	P.A26 Fig.A-47 26.5kg (29kg)	
		1/ 120	77/ 9400	12.5	15	527	439	53.8	44.8	7060	720			
		1/ 160	9/ 1400	9.4	11.2	703	585	71.7	59.7	7060	720			
		1/ 200	9/ 1750	7.5	9	764	732	78	74.7	7060	720			
	50	1/ 300	211/62013	5	6	1176	978	120	99.8	9800	1000	P.A25 Fig.A-43 56.5kg (59kg)	P.A26 Fig.A-48 61.5kg (64kg)	
		1/ 375	94/36103	4	4.8	1225	1225	125	125	9800	1000			
		∗1/ 450	65/29167	3.3	4	1225	1225	125	125	9800	1000			

Note) The allowable O.H.L indicated are the values in the central position of the output shaft.
The models marked with ∗ are limited torque type. Be sure to refer to the allowable torque in the Performance Table.

Foot Mount Type

Fig.A-40

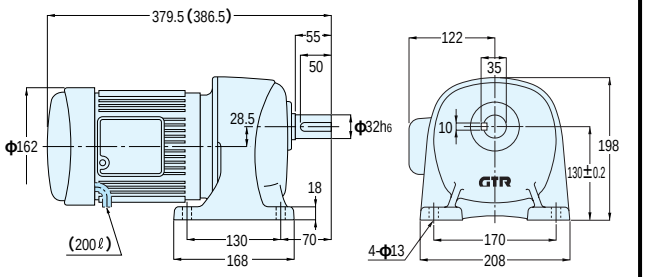
G3LM-28-5～25-075
CAD Data: G3LM-28-075
(G3LB-28-5～25-075)
(CAD Data: G3LB-28-075)



Round Weight 15kg (17.5kg)

Fig.A-41

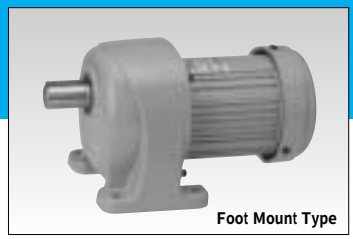
G3LM-32-30～100-075
CAD Data: G3LM-32-075
(G3LB-32-30～100-075)
(CAD Data: G3LB-32-075)

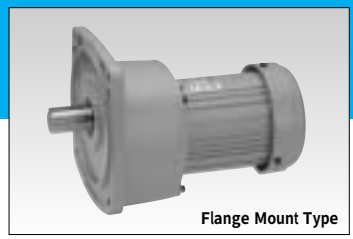


Round Weight 18.5kg (21kg)

Model Code P.A8
Multipurpose Inverter P.E86～E92
Option P.E78～E93

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox


Foot Mount Type


Flange Mount Type

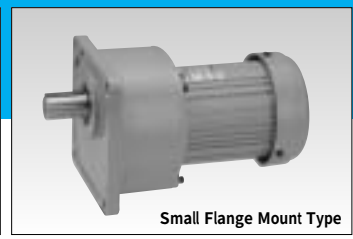
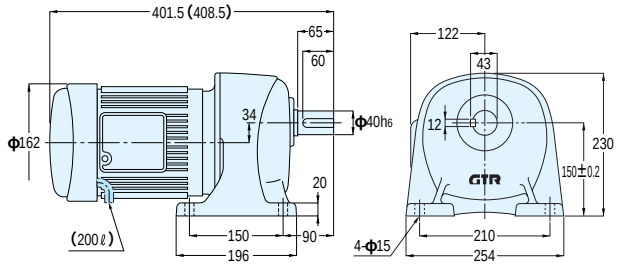

Small Flange Mount Type

Fig.A-42

G3LM-40-100～200-075
CAD Data: G3LM-40-075

(G3LB-40-100～200-075)
(CAD Data: G3LB-40-075)

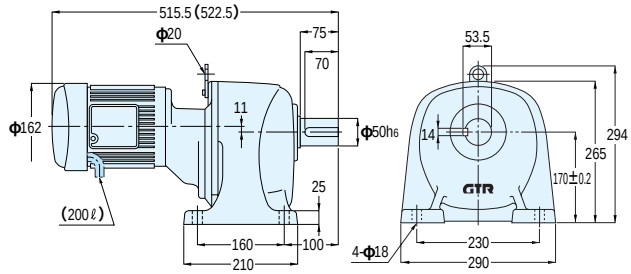


Round Weight 25kg (27.5kg)

Fig.A-43

G3LM-50-300～450-075
CAD Data: G3LM-50-075

(G3LB-50-300～450-075)
(CAD Data: G3LB-50-075)



Round Weight 56.5kg (59kg)

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Gearmotor
Gearmotor with Brake
G3 Series 3-Phase 0.75kW

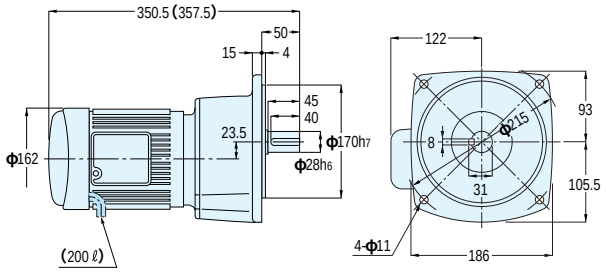
Flange Mount Type

The values in parentheses in the Dimension Diagram indicate the values of gearmotors with brake.

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Fig.A-45

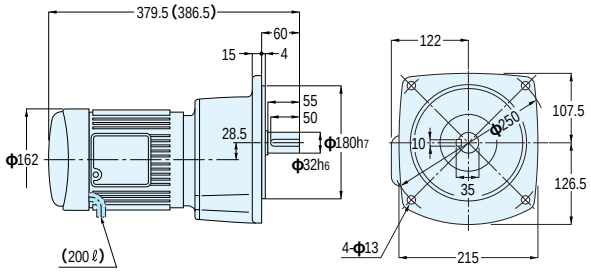
G3FM-28-5～25-075
CAD Data: G3FM-28-075
(G3FB-28-5～25-075)
(CAD Data: G3FB-28-075)



Round Weight 15.5kg (18kg)

Fig.A-46

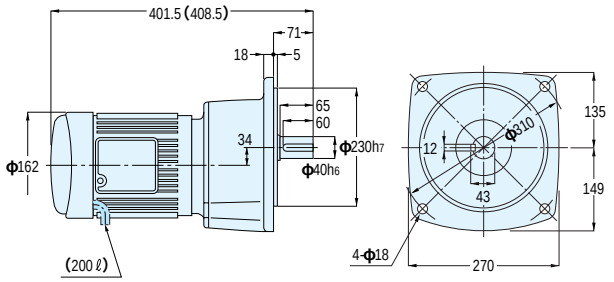
G3FM-32-30～100-075
CAD Data: G3FM-32-075
(G3FB-32-30～100-075)
(CAD Data: G3FB-32-075)



Round Weight 19kg (21.5kg)

Fig.A-47

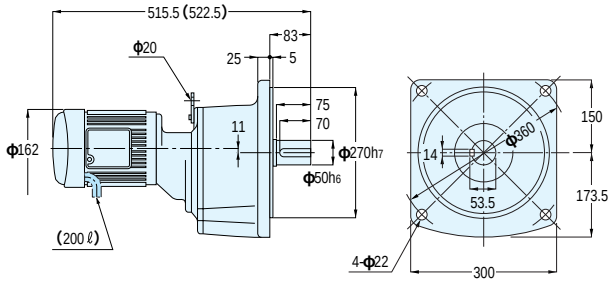
G3FM-40-100～200-075
CAD Data: G3FM-40-075
(G3FB-40-100～200-075)
(CAD Data: G3FB-40-075)



Round Weight 26.5kg (29kg)

Fig.A-48

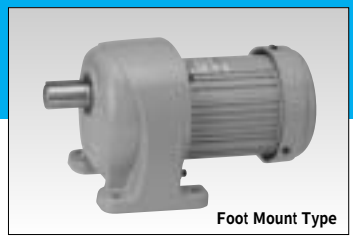
G3FM-50-300～450-075
CAD Data: G3FM-50-075
(G3FB-50-300～450-075)
(CAD Data: G3FB-50-075)

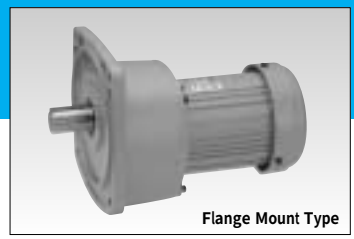


Round Weight 61.5kg (64kg)

Model Code P.A8
Multipurpose Inverter P.E86～E92
Option P.E78～E93

Small Flange Mount Type


Foot Mount Type


Flange Mount Type

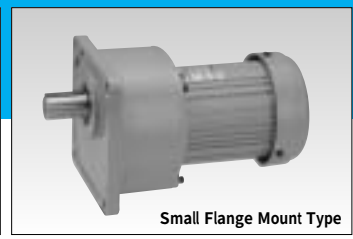
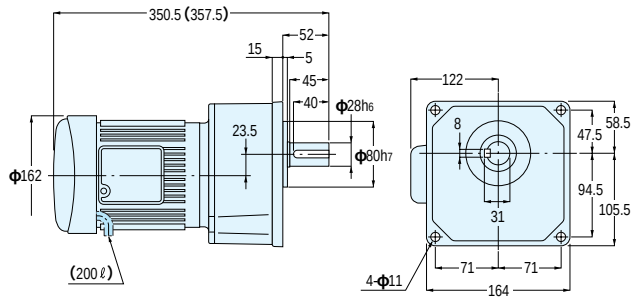

Small Flange Mount Type

Fig.A-50

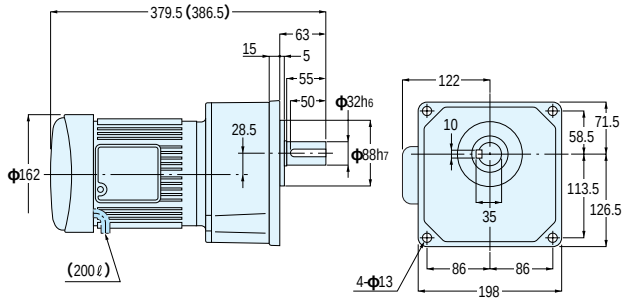
G3KM-28-5〜25-075
CAD Data: G3KM-28-075
(G3KB-28-5〜25-075)
(CAD Data: G3KB-28-075)



Round Weight 15.5kg (18kg)

Fig.A-51

G3KM-32-30〜100-075
CAD Data: G3KM-32-075
(G3KB-32-30〜100-075)
(CAD Data: G3KB-32-075)



Round Weight 19kg (21.5kg)

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Gearmotor
Gearmotor with Brake
G3 Series 3-Phase 1.5kW

The values in parentheses in the Performance Table/Dimension Diagram indicate the values of gearmotors with brake.

Motor Specs. Standard Voltage (Continuous Rated 4 Poles)	Capacity	Motor Capacity Designation	Frequency (Hz)	Voltage (V)	Rated Current (A)	Rated Rotation Speed (rpm)	Insulation Classification	Protective Cooling system
	1.5kW	150	50/60/60	200/200/220	6.6/6.1/5.8	1430/1720/1730	B	Totally Enclosed Fan-cooled

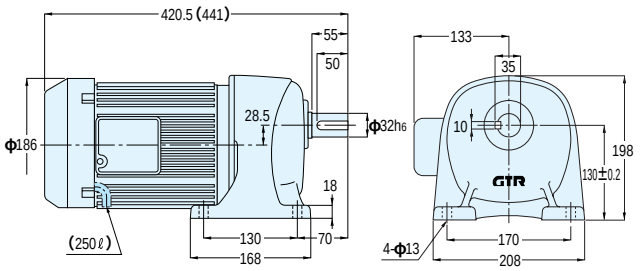
Motor Capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio (Fraction)	Output Shaft Rotation Speed (rpm)		Output Shaft Allowable Torque N•m		Output Shaft Allowable Torque kgf•m		Output Shaft Allowable O.H.L		Page, Diagram No. of the Outer Dimension Diagram, Round Weight Gearmotor (Gearmotor with Brake)		
				50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	N	kgf	G3LM (G3LB)	G3FM (G3FB)	G3KM (G3KB)
3-phase 1.5kW	32	1/ 5	1/ 5	300	360	45	38	4.6	3.9	1760	180	P.A28 Fig.A-52 24.5kg (28kg)	P.A29 Fig.A-56 25kg (28.5kg)	P.A30 Fig.A-60 25kg (28.5kg)
		1/ 10	1/ 10	150	180	91	75	9.3	7.7	2450	250			
		1/ 15	1/ 15	100	120	136	114	13.9	11.6	2840	290			
		1/ 20	1/ 20	75	90	181	151	18.5	15.4	3230	330			
		1/ 25	9/ 230	60	72	226	189	23.1	19.3	3820	390			
	40	1/ 30	1/ 30	50	60	272	226	27.8	23.1	5100	520	P.A28 Fig.A-53 31.5kg (35kg)	P.A29 Fig.A-57 33kg (36.5kg)	
		1/ 40	13/ 540	37.5	45	351	293	35.8	29.9	5880	600			
		1/ 50	11/ 564	30	36	439	366	44.8	37.3	7060	720			
		1/ 60	91/ 5400	25	30	527	439	53.8	44.8	7060	720			
		1/ 80	13/ 1080	18.8	22.5	703	585	71.7	59.7	7060	720			
		∗1/ 100	11/ 1128	15	18	724	603	73.9	61.5	7060	720			
	50	1/ 100	25/ 2618	15	18	878	732	89.6	74.7	9800	1000	P.A29 Fig.A-54 61kg (64.5kg)	P.A29 Fig.A-58 66kg (69.5kg)	
		1/ 120	77/ 8993	12.5	15	1060	878	108	89.6	9800	1000			
		1/ 160	33/ 5474	9.4	11.2	1230	1170	125	119	9800	1000			
		∗1/ 200	30/ 5831	7.5	9	1230	1230	125	125	9800	1000			

Note) The allowable O.H.L indicated are the values in the central position of the output shaft.
The models marked with ∗ are limited torque type. Be sure to refer to the allowable torque in the Performance Table.

Foot Mount Type

Fig.A-52

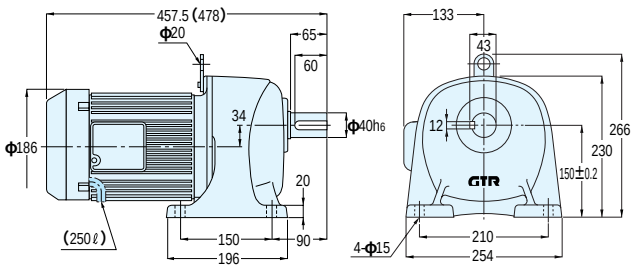
G3LM-32-5〜25-150
CAD Data: G3LM-32-150
(G3LB-32-5〜25-150)
(CAD Data: G3LB-32-150)



Round Weight 24.5kg (28kg)

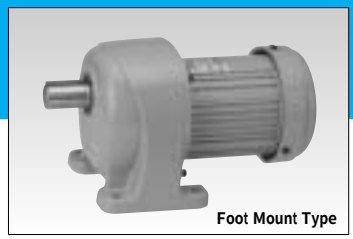
Fig.A-53

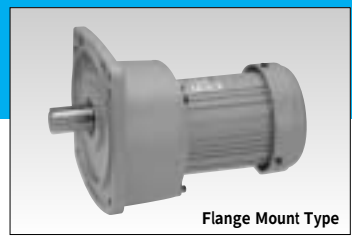
G3LM-40-30〜100-150
CAD Data: G3LM-40-150
(G3LB-40-30〜100-150)
(CAD Data: G3LB-40-150)



Round Weight 31.5kg (35kg)

Model Code P.A8
Multipurpose Inverter P.E86〜E92
Option P.E78〜E93


Foot Mount Type


Flange Mount Type

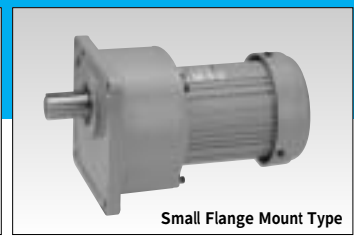
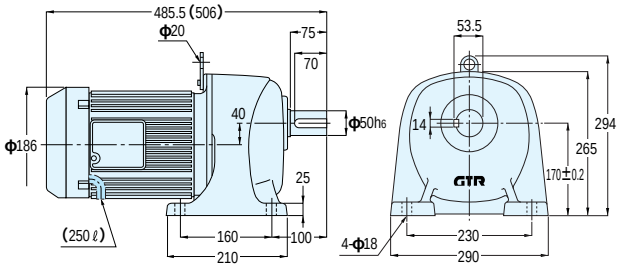

Small Flange Mount Type

Fig.A-54

G3LM-50-100～200-150
CAD Data: G3LM-50-150

(G3LB-50-100～200-150)
(CAD Data: G3LB-50-150)



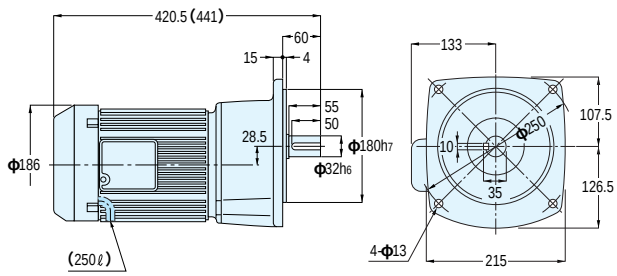
Round Weight 61kg (64.5kg)

Flange Mount Type

Fig.A-56

G3FM-32-5～25-150
CAD Data: G3FM-32-150

(G3FB-32-5～25-150)
(CAD Data: G3FB-32-150)

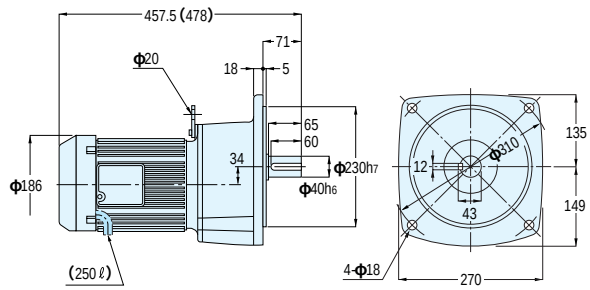


Round Weight 25kg (28.5kg)

Fig.A-57

G3FM-40-30～100-150
CAD Data: G3FM-40-150

(G3FB-40-30～100-150)
(CAD Data: G3FB-40-150)

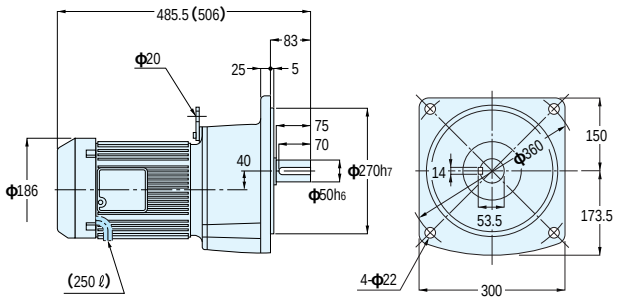


Round Weight 33kg (36.5kg)

Fig.A-58

G3FM-50-100～200-150
CAD Data: G3FM-50-150

(G3FB-50-100～200-150)
(CAD Data: G3FB-50-150)



Round Weight 66kg (69.5kg)

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Gearmotor
Gearmotor with Brake
G3 Series 3-Phase 1.5kW

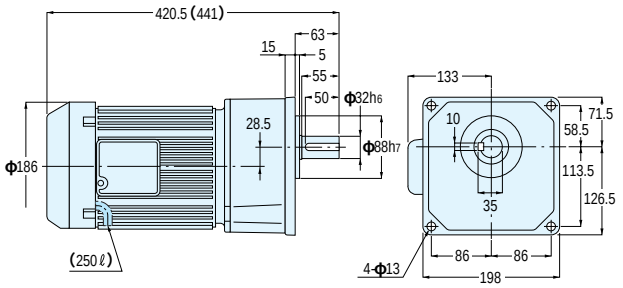
The values in parentheses in the Dimension Diagram indicate the values of gearmotors with brake.

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Small Flange Mount Type

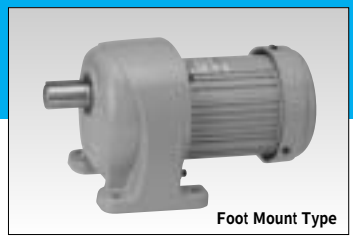
Fig.A-60

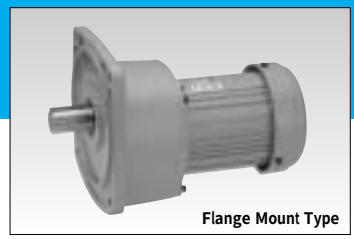
G3KM-32-5～25-150
CAD Data: G3KM-32-150
(G3KB-32-5～25-150)
(CAD Data: G3KB-32-150)

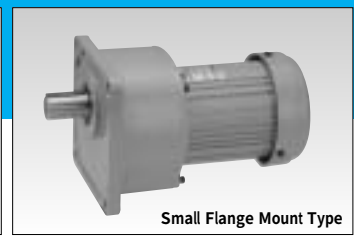


Round Weight 25kg (28.5kg)

Model Code P.A8
Multipurpose Inverter P.E86～E92
Option P.E78～E93


Foot Mount Type


Flange Mount Type


Small Flange Mount Type

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Gearmotor
Gearmotor with Brake
G3 Series 3-Phase 2.2kW

The values in parentheses in the Performance Table/Dimension Diagram indicate the values of gearmotors with brake.

Motor Specs. Standard Voltage (Continuous Rated 4 Poles)	Capacity	Motor Capacity Designation	Frequency (Hz)	Voltage (V)	Rated Current (A)	Rated Rotation Speed (rpm)	Insulation Classification	Protective Cooling system
	2.2kW	220	50/60/60	200/200/220	9.0/8.6/8.0	1410/1690/1710	B	Totally Enclosed Fan-cooled

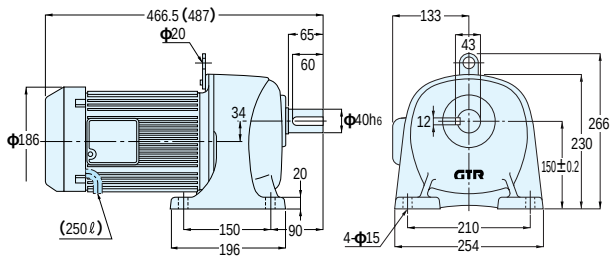
Motor Capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio (Fraction)	Output Shaft Rotation Speed (rpm)		Output Shaft Allowable Torque				Output Shaft Allowable O.H.L		Page, Diagram No. of the Outer Dimension Diagram, Round Weight Gearmotor (Gearmotor with Brake)	
						N•m		kgf•m				G3LM (G3LB)	G3FM (G3FB)
				50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	N	kgf		
3-phase 2.2kW	40	1/ 5	7/ 36	300	360	67	56	6.8	5.7	2160	220	P.A32 Fig.A-61 34.5kg (38kg)	P.A33 Fig.A-64 36kg (39.5kg)
		1/ 10	7/ 72	150	180	133	111	13.6	11.3	3140	320		
		1/ 15	49/ 720	100	120	200	167	20.4	17	3530	360		
		1/ 20	7/ 144	75	90	266	221	27.1	22.6	4020	410		
		1/ 25	7/ 180	60	72	332	277	33.9	28.3	4700	480		
	50	1/ 30	5/ 154	50	60	399	332	40.7	33.9	6960	710	P.A32 Fig.A-62 64.5kg (68kg)	P.A33 Fig.A-65 69.5kg (73kg)
		1/ 40	399/15488	37.5	45	515	429	52.6	43.8	7250	740		
		1/ 50	399/20240	30	36	644	537	65.7	54.8	8620	880		
		1/ 60	49/ 2904	25	30	773	644	78.9	65.7	9800	1000		
		1/ 80	49/ 3795	18.8	22.5	1029	858	105	87.6	9800	1000		
		1/ 100	21/ 2116	15	18	1230	1080	125	110	9800	1000		

Note) The allowable O.H.L indicated are the values in the central position of the output shaft.

Foot Mount Type

Fig.A-61

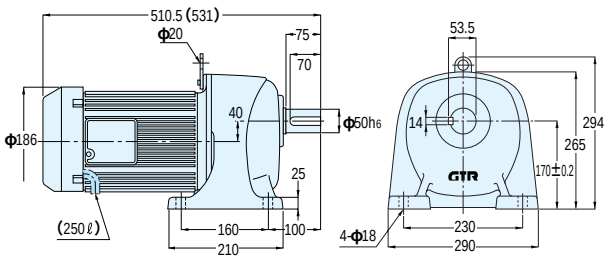
G3LM-40-5～25-220
CAD Data: G3LM-40-220
(G3LB-40-5～25-220)
(CAD Data: G3LB-40-220)



Round Weight 34.5kg (38kg)

Fig.A-62

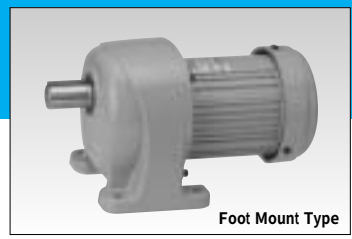
G3LM-50-30～100-220
CAD Data: G3LM-50-220
(G3LB-50-30～100-220)
(CAD Data: G3LB-50-220)

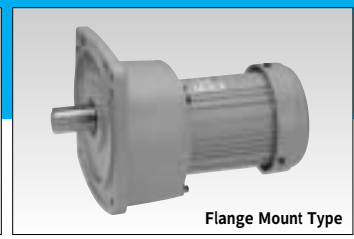


Round Weight 64.5kg (68kg)

Model Code P.A8
Multipurpose Inverter P.E86～E92
Option P.E78～E93

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

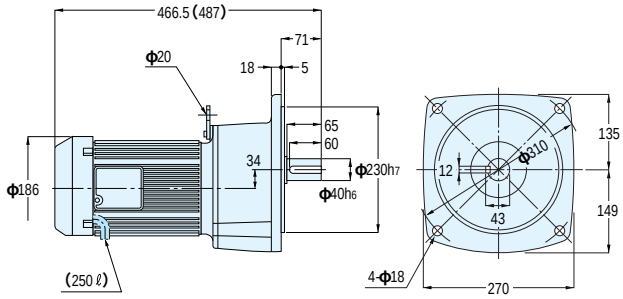

Foot Mount Type


Flange Mount Type

Flange Mount Type

Fig.A-64

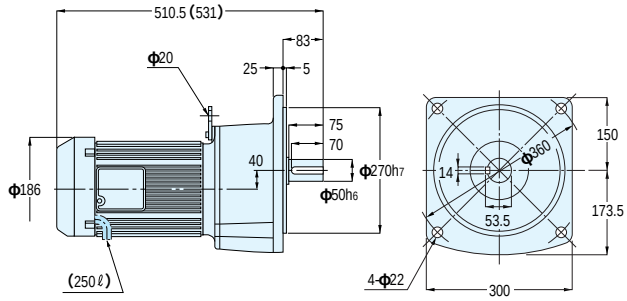
G3FM-40-5〜25-220
CAD Data: G3FM-40-220
(G3FB-40-5〜25-220)
(CAD Data: G3FB-40-220)



Round Weight 36kg (39.5kg)

Fig.A-65

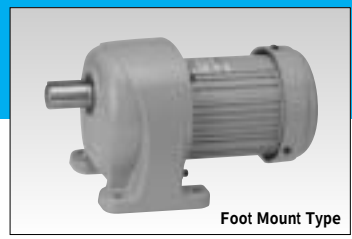
G3FM-50-30〜100-220
CAD Data: G3FM-50-220
(G3FB-50-30〜100-220)
(CAD Data: G3FB-50-220)

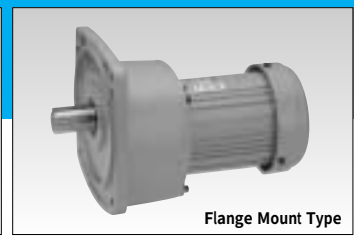


Round Weight 69.5kg (73kg)

Gearmotor
Gearmotor with Brake

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox


Foot Mount Type


Flange Mount Type

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

GTR Gearmotor

Parallel Shaft

Gearmotor
Gearmotor with Brake

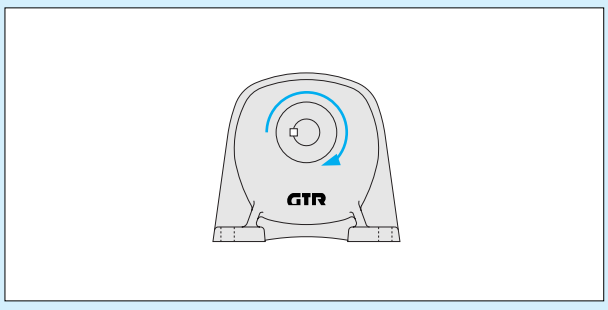
Performance Table
Dimension diagram

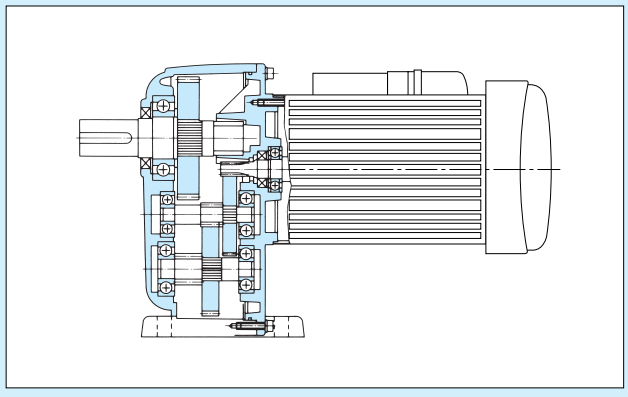
G3 Series

1-Phase

【Remarks】

- Values in the parenthesis in the performance table/dimension diagram are the values of gearmotor with brake.
- The output rotation speed is the value corresponds to the motor synchronous speed and the nominal reduction ratio.
- The Shaded areas ▭ in the performance table shows that in case gearmotors are wired according to the diagram shown on page E16, the shaft rotates clock wise when viewing from output side. (Reter to the diagram shown below.)





Gearmotor
Gearmotor with Brake
G3 Series 1-Phase 100W

The values in parentheses in the Performance Table/Dimension Diagram indicate the values of gearmotors with brake.

Motor Specs. Standard Voltage (Continuous Rated 4 Poles)	Capacity	Motor Capacity Designation	Frequency (Hz)	Voltage (V)	Rated Current (A)	Rated Rotation Speed (rpm)	Insulation Classification	Protective Cooling system	Start System
	100W	100	50/60	100/100	2.7/2.4	1420/1710	B	Totally Enclosed (Totally Enclosed Fan-cooled)	Capacitor Start

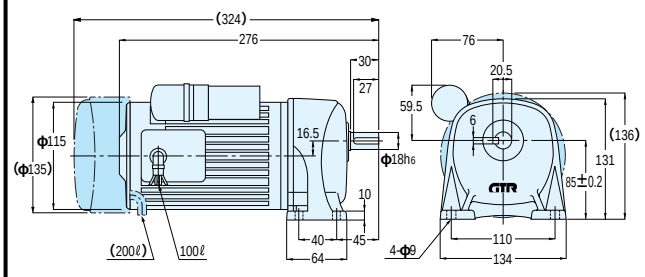
Motor Capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio (Fraction)	Output Shaft Rotation Speed (rpm)		Output Shaft Allowable Torque				Output Shaft Allowable O.H.L		Page, Diagram No. of the Outer Dimension Diagram, Round Weight Gearmotor (Gearmotor with Brake)		
						N•m		kgf•m				G3LM (G3LB)	G3FM (G3FB)	G3KM (G3KB)
				50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	N	kgf			
1-phase 100W	18	1/ 5	33/ 164	300	360	3	2.5	0.31	0.26	588	60	P.A38 Fig.A-71 7.5kg (9kg)	P.A39 Fig.A-75 8kg (9.5kg)	P.A40 Fig.A-79 8kg (9.5kg)
		1/ 10	77/ 779	150	180	6.1	5	0.62	0.51	882	90			
		1/ 15	119/ 1804	100	120	9.1	7.5	0.93	0.77	980	100			
		1/ 20	49/ 984	75	90	12	9.8	1.2	1	1180	120			
		1/ 25	28/ 697	60	72	15	12.7	1.5	1.3	1270	130			
		1/ 30	35/ 1066	50	60	19	14.7	1.9	1.5	1370	140			
		1/ 40	35/ 1404	37.5	45	24	19.6	2.4	2	1470	150			
		1/ 50	7/ 351	30	36	29	24.5	3	2.5	1570	160			
	22	1/ 60	11/ 684	25	30	35	29.4	3.6	3	2160	220	P.A38 Fig.A-72 8.5kg (10kg)	P.A39 Fig.A-76 9kg (10.5kg)	P.A40 Fig.A-80 9kg (10.5kg)
		1/ 80	21/ 1634	18.8	22.5	47	39.2	4.8	4	2450	250			
		1/ 100	7/ 684	15	18	59	49	6	5	2450	250			
		1/ 120	147/ 17974	12.5	15	71	58.8	7.2	6	2450	250			
		1/ 160	21/ 3268	9.4	11.2	94	78.4	9.6	8	2450	250			
		1/ 200	21/ 4085	7.5	9	117	98	11.9	10	2450	250			
	28	1/ 300	221/ 65190	5	6	157	130	16	13.3	3430	350	P.A39 Fig.A-73 11.5kg (13kg)	P.A39 Fig.A-77 12kg (13.5kg)	P.A40 Fig.A-81 12kg (13.5kg)
		1/ 375	187/ 68370	4	4.8	196	163	20	16.6	3430	350			
		1/ 450	181/ 79793	3.3	4	235	196	24	20	3430	350			
	32	1/ 600	147/ 88192	2.5	3	313	261	31.9	26.6	5880	600	P.A39 Fig.A-74 14.5kg (16kg)	P.A39 Fig.A-78 15kg (16.5kg)	P.A40 Fig.A-82 15kg (16.5kg)
		1/ 750	49/ 36464	2	2.4	391	326	39.9	33.3	5880	600			
		＊1/ 900	62/ 57063	1.7	2	431	391	44	39.9	5880	600			
		＊1/1200	46/ 55195	1.3	1.5	431	431	44	44	5880	600			

Note) The allowable O.H.L indicated are the values in the central position of the output shaft.
The models marked with ＊ are limited torque type. Be sure to refer to the allowable torque in the Performance Table.

Foot Mount Type

Fig.A-71

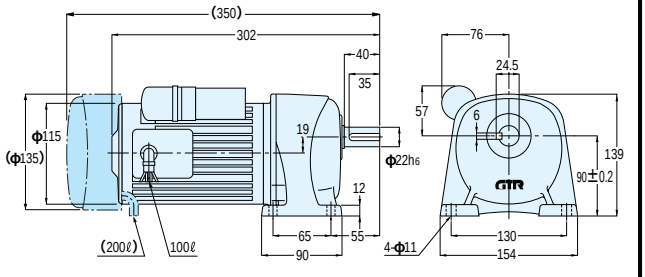
G3LM-18-5〜50-100
CAD Data: G3LM-18-100
(G3LB-18-5〜50-100)
(CAD Data: G3LB-18-100)



Round Weight 7.5kg (9kg)

Fig.A-72

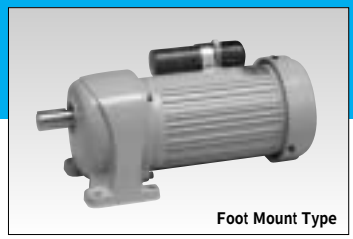
G3LM-22-60〜200-100
CAD Data: G3LM-22-100
(G3LB-22-60〜200-100)
(CAD Data: G3LB-22-100)

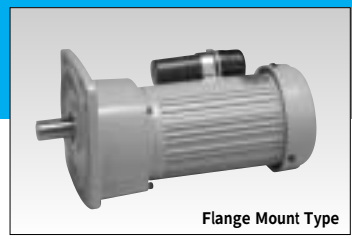


Round Weight 8.5kg (10kg)

Model Code P.A8
Option P.E78〜E85

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox


Foot Mount Type


Flange Mount Type

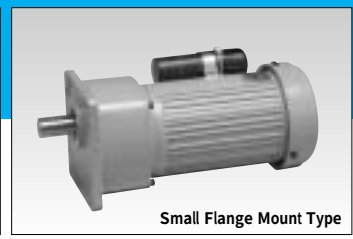
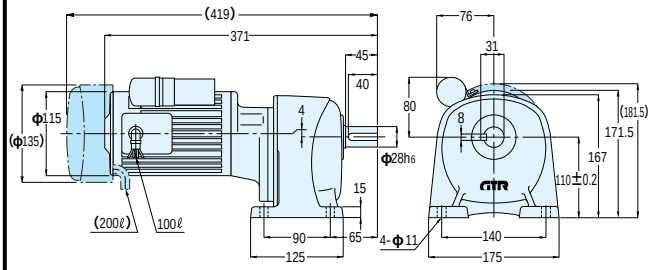
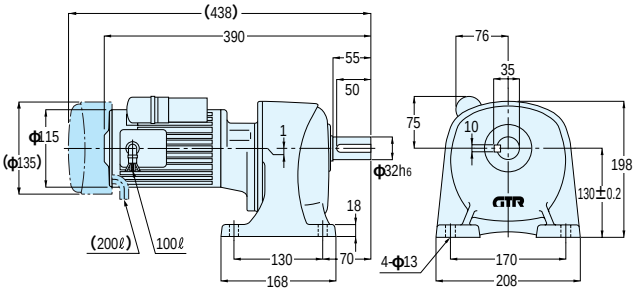

Small Flange Mount Type

Fig.A-73 G3LM-28-300～450-100
CAD Data: G3LM-28-100
(G3LB-28-300～450-100)
(CAD Data: G3LB-28-100)



Round Weight 11.5kg (13kg)

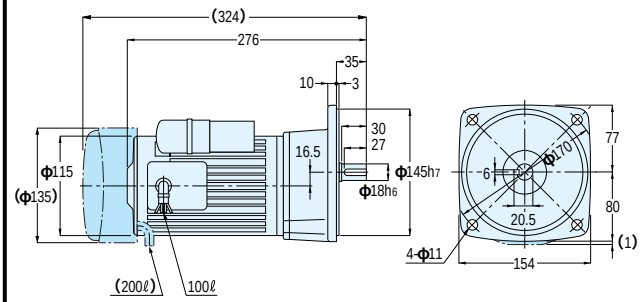
Fig.A-74 G3LM-32-600～1200-100
CAD Data: G3LM-32-100
(G3LB-32-600～1200-100)
(CAD Data: G3LB-32-100)



Round Weight 14.5kg (16kg)

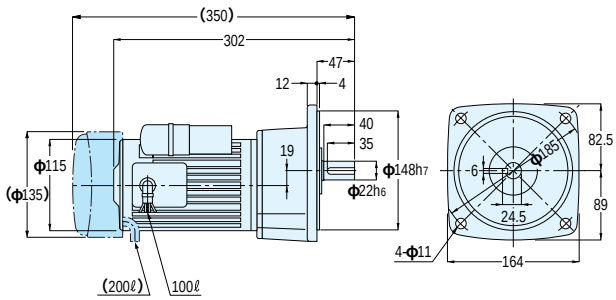
Flange Mount Type

Fig.A-75 G3FM-18-5～50-100
CAD Data: G3FM-18-100
(G3FB-18-5～50-100)
(CAD Data: G3FB-18-100)



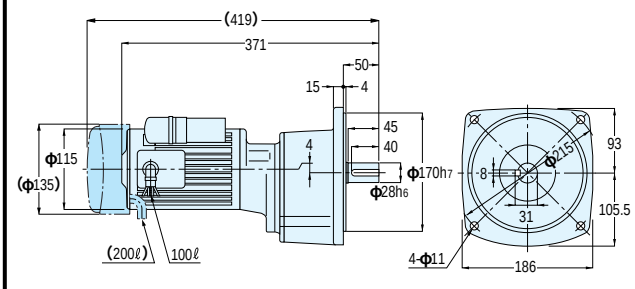
Round Weight 8kg (9.5kg)

Fig.A-76 G3FM-22-60～200-100
CAD Data: G3FM-22-100
(G3FB-22-60～200-100)
(CAD Data: G3FB-22-100)



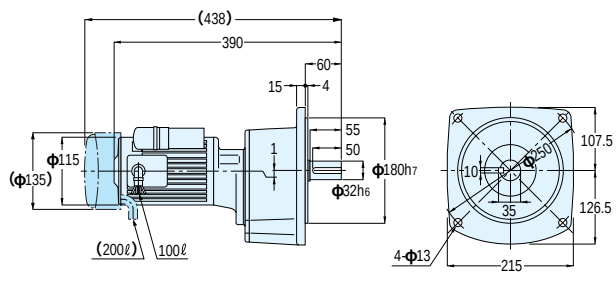
Round Weight 9kg (10.5kg)

Fig.A-77 G3FM-28-300～450-100
CAD Data: G3FM-28-100
(G3FB-28-300～450-100)
(CAD Data: G3FB-28-100)



Round Weight 12kg (13.5kg)

Fig.A-78 G3FM-32-600～1200-100
CAD Data: G3FM-32-100
(G3FB-32-600～1200-100)
(CAD Data: G3FB-32-100)



Round Weight 15kg (16.5kg)

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Gearmotor
Gearmotor with Brake
G3 Series 1-Phase 100W

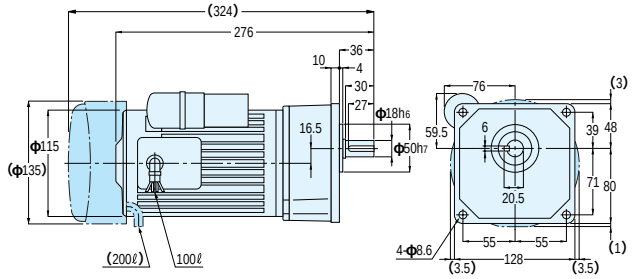
Small Flange Mount Type

The values in parentheses in the Dimension Diagram indicate the values of gearmotors with brake.

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Fig.A-79

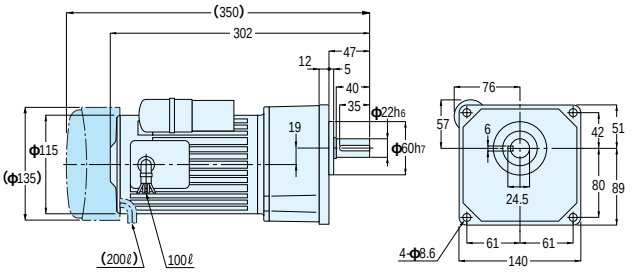
G3KM-18-5～50-100
CAD Data: G3KM-18-100
(G3KB-18-5～50-100)
(CAD Data: G3KB-18-100)



Round Weight 8kg (9.5kg)

Fig.A-80

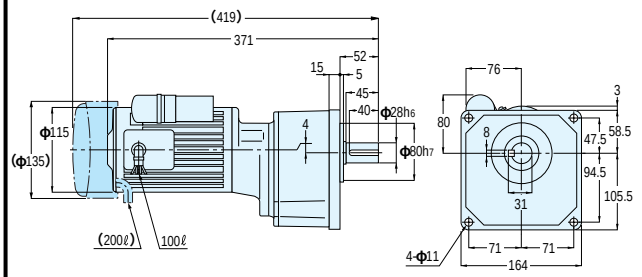
G3KM-22-60～200-100
CAD Data: G3KM-22-100
(G3KB-22-60～200-100)
(CAD Data: G3KB-22-100)



Round Weight 9kg (10.5kg)

Fig.A-81

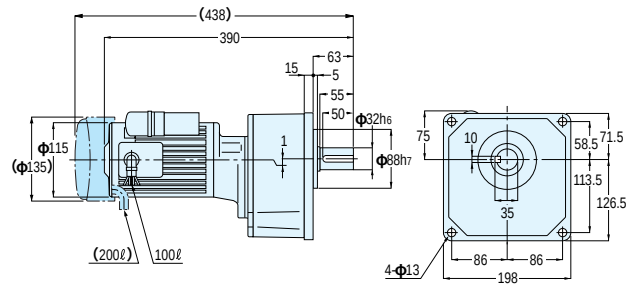
G3KM-28-300～450-100
CAD Data: G3KM-28-100
(G3KB-28-300～450-100)
(CAD Data: G3KB-28-100)



Round Weight 12kg (13.5kg)

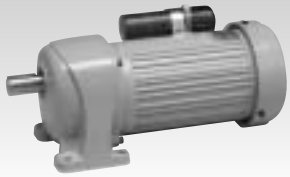
Fig.A-82

G3KM-32-600～1200-100
CAD Data: G3KM-32-100
(G3KB-32-600～1200-100)
(CAD Data: G3KB-32-100)

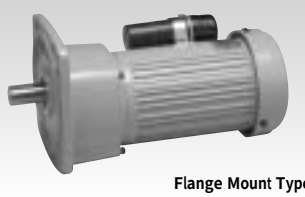


Round Weight 15kg (16.5kg)

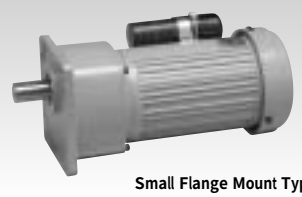
Model Code P.A8
Option P.E78～E85



Foot Mount Type



Flange Mount Type



Small Flange Mount Type

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Gearmotor
Gearmotor with Brake
G3 Series 1-Phase 200W

The values in parentheses in the Performance Table/Dimension Diagram indicate the values of gearmotors with brake.

Motor Specs. Standard Voltage (Continuous Rated 4 Poles)	Capacity	Motor Capacity Designation	Frequency (Hz)	Voltage (V)	Rated Current (A)	Rated Rotation Speed (rpm)	Insulation Classification	Protective Cooling system	Start System
	200W	200	50/60	100/100	5.1/4.5	1420/1700	B	Totally Enclosed Fan-cooled	Capacitor Start

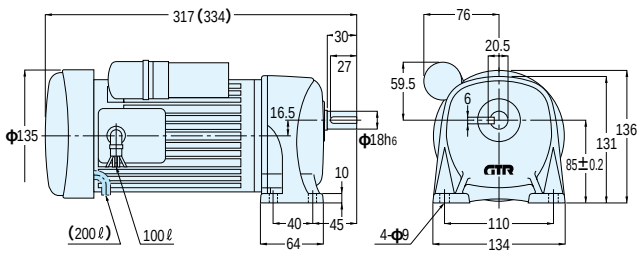
Motor Capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio (Fraction)	Output Shaft Rotation Speed (rpm)		Output Shaft Allowable Torque N•m		Output Shaft Allowable Torque kgf•m		Output Shaft Allowable O.H.L		Page, Diagram No. of the Outer Dimension Diagram, Round Weight Gearmotor (Gearmotor with Brake)		
				50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	N	kgf	G3LM (G3LB)	G3FM (G3FB)	G3KM (G3KB)
1-phase 200W	18	1/ 5	33/ 164	300	360	6.1	5	0.62	0.51	588	60	P.A42 Fig.A-83 8.5kg (10kg)	P.A44 Fig.A-88 9kg (10.5kg)	P.A45 Fig.A-93 9kg (10.5kg)
		1/ 10	77/ 779	150	180	11.8	9.8	1.2	1	882	90			
		1/ 15	119/ 1804	100	120	18.6	14.7	1.9	1.5	980	100			
		1/ 20	49/ 984	75	90	24.5	20.6	2.5	2.1	1180	120			
		1/ 25	28/ 697	60	72	30.4	25.5	3.1	2.6	1270	130			
	22	1/ 30	7/ 216	50	60	36.3	30.4	3.7	3.1	1760	180	P.A42 Fig.A-84 9.5kg (11kg)	P.A44 Fig.A-89 10kg (11.5kg)	P.A45 Fig.A-94 10kg (11.5kg)
		1/ 40	91/ 3600	37.5	45	47	39.2	4.8	4	1860	190			
		1/ 50	11/ 540	30	36	58.8	49	6	5	1960	200			
		1/ 60	637/ 39600	25	30	70.6	58.8	7.2	6	2160	220			
		1/ 80	91/ 7200	18.8	22.5	94.1	78.4	9.6	8	2450	250			
		∗1/ 100	11/ 1080	15	18	97	80.4	9.9	8.2	2450	250			
	28	1/ 100	13/ 1353	15	18	117	98	11.9	10	2840	290	P.A43 Fig.A-85 11.5kg (13kg)	P.A44 Fig.A-90 12kg (13.5kg)	P.A45 Fig.A-95 12kg (13.5kg)
		1/ 120	91/ 11000	12.5	15	140	117	14.3	11.9	3330	340			
		1/ 160	1/ 165	9.4	11.2	187	156	19.1	15.9	3430	350			
		1/ 200	7/ 1375	7.5	9	234	195	23.9	19.9	3430	350			
	32	1/ 300	91/ 27348	5	6	313	261	31.9	26.6	5880	600	P.A43 Fig.A-86 15.5kg (17kg)	P.A44 Fig.A-91 16kg (17.5kg)	P.A45 Fig.A-96 16kg (17.5kg)
		1/ 375	77/ 28620	4	4.8	391	326	39.9	33.3	5880	600			
		1/ 450	91/ 41022	3.3	4	431	391	44	39.9	5880	600			
	40	1/ 600	9/ 5300	2.5	3	626	521	63.9	53.2	7060	720	P.A43 Fig.A-87 22kg (23.5kg)	P.A44 Fig.A-92 23.5kg (25kg)	
		1/ 750	62/ 46427	2	2.4	764	653	78	66.6	7060	720			
		∗1/ 900	23/ 21259	1.7	2	764	764	78	78	7060	720			
		∗1/1200	9/ 10600	1.3	1.5	764	764	78	78	7060	720			

Note) The allowable O.H.L indicated are the values in the central position of the output shaft.
The models marked with ∗ are limited torque type. Be sure to refer to the allowable torque in the Performance Table.

Foot Mount Type

Fig.A-83

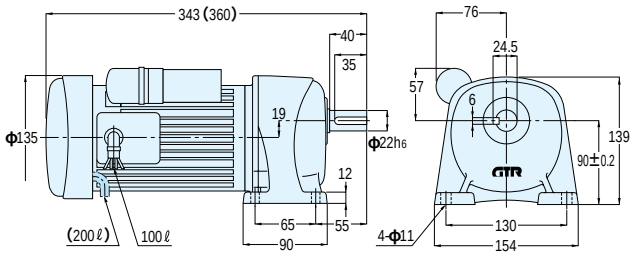
G3LM-18-5〜25-200
CAD Data: G3LM-18-200
(G3LB-18-5〜25-200)
(CAD Data: G3LB-18-200)



Round Weight 8.5kg (10kg)

Fig.A-84

G3LM-22-30〜100-200
CAD Data: G3LM-22-200
(G3LB-22-30〜100-200)
(CAD Data: G3LB-22-200)

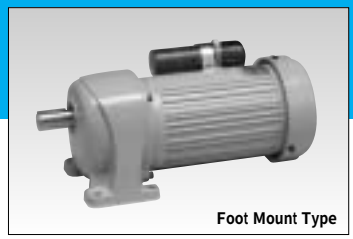


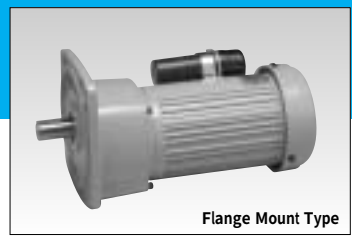
Round Weight 9.5kg (11kg)

Model Code P.A8

Option P.E78〜E85

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox


Foot Mount Type


Flange Mount Type

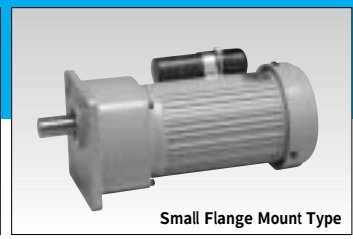
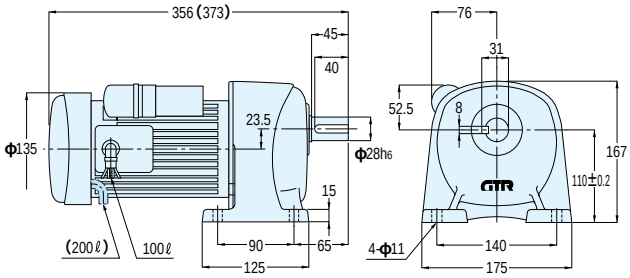

Small Flange Mount Type

Fig.A-85

G3LM-28-100～200-200
CAD Data: G3LM-28-200

(G3LB-28-100～200-200)
(CAD Data: G3LB-28-200)

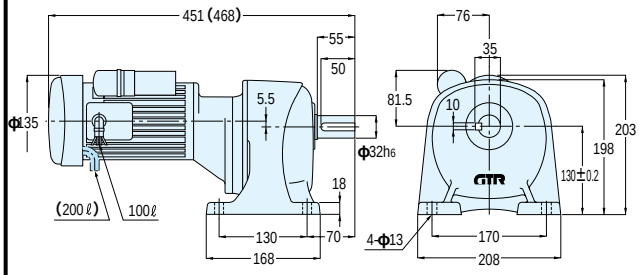


Round Weight 11.5kg (13kg)

Fig.A-86

G3LM-32-300～450-200
CAD Data: G3LM-32-200

(G3LB-32-300～450-200)
(CAD Data: G3LB-32-200)

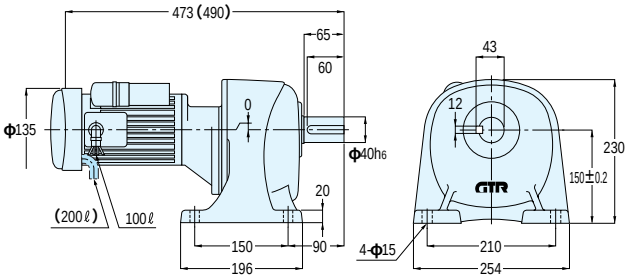


Round Weight 15.5kg (17kg)

Fig.A-87

G3LM-40-600～1200-200
CAD Data: G3LM-40-200

(G3LB-40-600～1200-200)
(CAD Data: G3LB-40-200)



Round Weight 22kg (23.5kg)

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

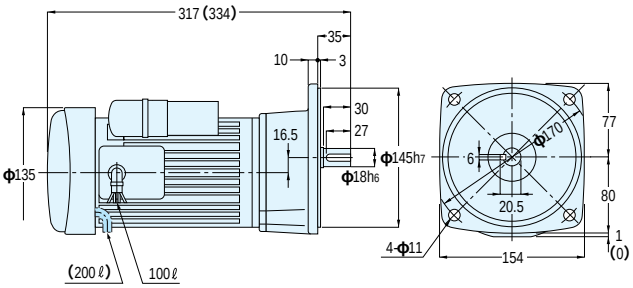
Gearmotor
Gearmotor with Brake
G3 Series 1-Phase 200W

Flange Mount Type

The values in parentheses in the Dimension Diagram indicate the values of gearmotors with brake.

Fig.A-88

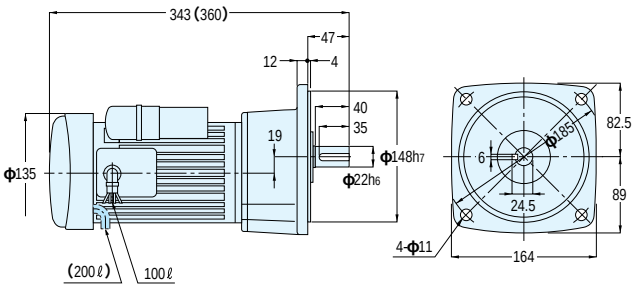
G3FM-18-5～25-200
CAD Data: G3FM-18-200
(G3FB-18-5～25-200)
(CAD Data: G3FB-18-200)



Round Weight 9kg (10.5kg)

Fig.A-89

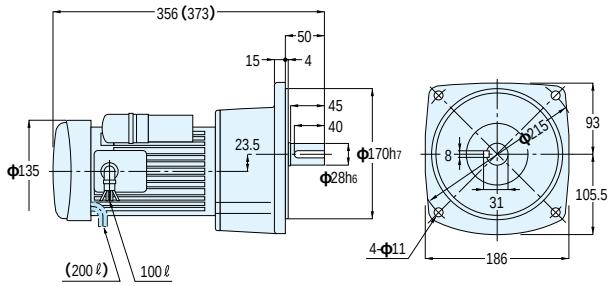
G3FM-22-30～100-200
CAD Data: G3FM-22-200
(G3FB-22-30～100-200)
(CAD Data: G3FB-22-200)



Round Weight 10kg (11.5kg)

Fig.A-90

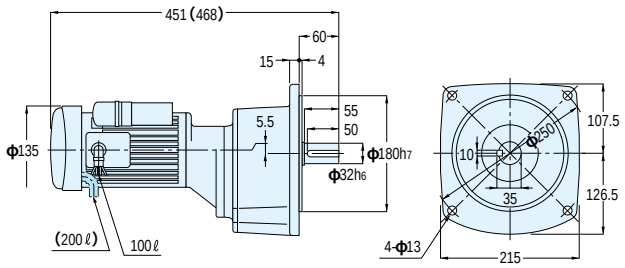
G3FM-28-100～200-200
CAD Data: G3FM-28-200
(G3FB-28-100～200-200)
(CAD Data: G3FB-28-200)



Round Weight 12kg (13.5kg)

Fig.A-91

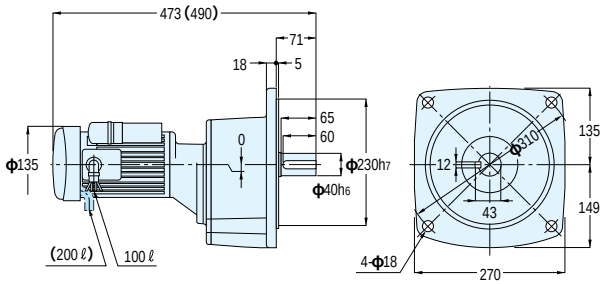
G3FM-32-300～450-200
CAD Data: G3FM-32-200
(G3FB-32-300～450-200)
(CAD Data: G3FB-32-200)



Round Weight 16kg (17.5kg)

Fig.A-92

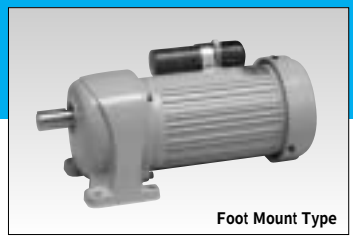
G3FM-40-600～1200-200
CAD Data: G3FM-40-200
(G3FB-40-600～1200-200)
(CAD Data: G3FB-40-200)

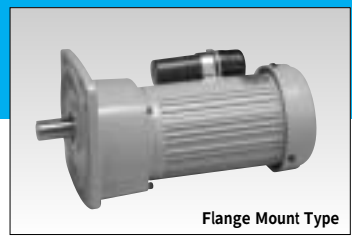


Round Weight 23.5kg (25kg)

Model Code P.A8
Option P.E78～E85

Small Flange Mount Type


Foot Mount Type


Flange Mount Type

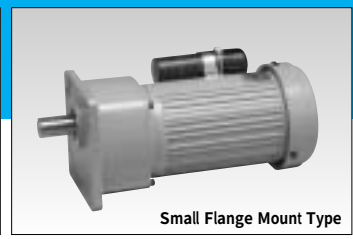
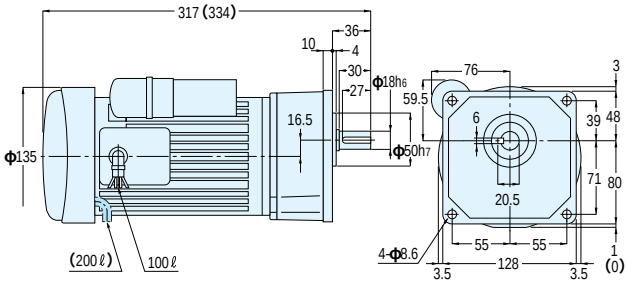

Small Flange Mount Type

Fig.A-93

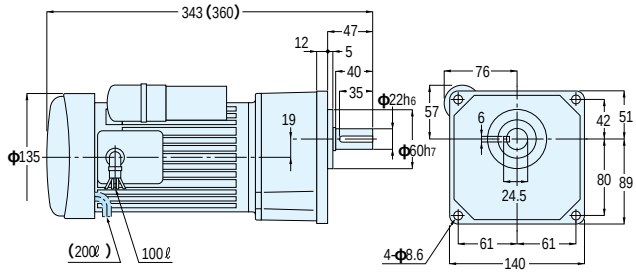
G3KM-18-5～25-200
CAD Data: G3KM-18-200
(G3KB-18-5～25-200)
(CAD Data: G3KB-18-200)



Round Weight 9kg (10.5kg)

Fig.A-94

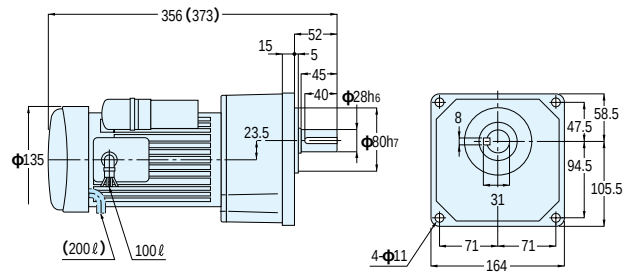
G3KM-22-30～100-200
CAD Data: G3KM-22-200
(G3KB-22-30～100-200)
(CAD Data: G3KB-22-200)



Round Weight 10kg (11.5kg)

Fig.A-95

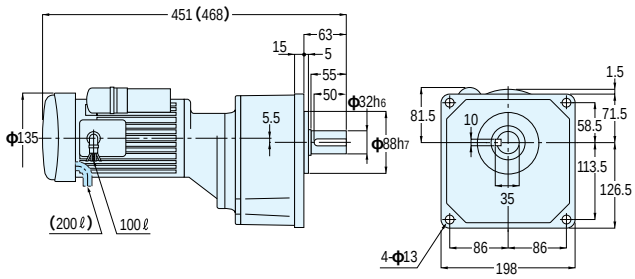
G3KM-28-100～200-200
CAD Data: G3KM-28-200
(G3KB-28-100～200-200)
(CAD Data: G3KB-28-200)



Round Weight 12kg (13.5kg)

Fig.A-96

G3KM-32-300～450-200
CAD Data: G3KM-32-200
(G3KB-32-300～450-200)
(CAD Data: G3KB-32-200)



Round Weight 16kg (17.5kg)

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Gearmotor
Gearmotor with Brake
G3 Series 1-Phase 400W

The values in parentheses in the Performance Table/Dimension Diagram indicate the values of gearmotors with brake.

Motor Specs. Standard Voltage (Continuous Rated 4 Poles)	Capacity	Motor Capacity Designation	Frequency (Hz)	Voltage (V)	Rated Current (A)	Rated Rotation Speed (rpm)	Insulation Classification	Protective Cooling system	Start System
	400W	400	50/60	100/100	8.7/7.9	1440/1730	B	Totally Enclosed Fan-cooled	Capacitor Start

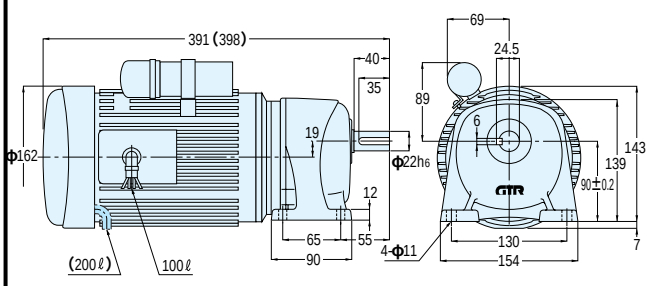
Motor Capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio (Fraction)	Output Shaft Rotation Speed (rpm)		Output Shaft Allowable Torque				Output Shaft Allowable O.H.L		Page, Diagram No. of the Outer Dimension Diagram, Round Weight Gearmotor (Gearmotor with Brake)		
						N•m		kgf•m						
				50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	N	kgf	G3LM (G3LB)	G3FM (G3FB)	G3KM (G3KB)
1-phase 400W	22	1/ 5	7/ 34	300	360	12	10	1.2	1	882	90	P.A46 Fig.A-97 15kg (17.5kg)	P.A48 Fig.A-102 15.5kg (18kg)	P.A49 Fig.A-107 15.5kg (18kg)
		1/ 10	7/ 68	150	180	25	21	2.5	2.1	1180	120			
		1/ 15	49/ 748	100	120	36	30	3.7	3.1	1370	140			
		1/ 20	7/ 136	75	90	48	40	4.9	4.1	1470	150			
		1/ 25	7/ 170	60	72	61	50	6.2	5.1	1670	170			
	28	1/ 30	1/ 30	50	60	73	61	7.4	6.2	2550	260	P.A46 Fig.A-98 17kg (19.5kg)	P.A48 Fig.A-103 17.5kg (20kg)	P.A49 Fig.A-108 17.5kg (20kg)
		1/ 40	221/ 8610	37.5	45	94	78	9.6	8	2840	290			
		1/ 50	187/ 9030	30	36	117	98	11.9	10	3140	320			
		1/ 60	169/ 9840	25	30	140	117	14.3	11.9	3430	350			
		1/ 80	65/ 5166	18.8	22.5	187	156	19.1	15.9	3430	350			
		∗1/ 100	55/ 5418	15	18	193	161	19.7	16.4	3430	350			
	32	1/ 100	7/ 688	15	18	234	195	23.9	19.9	4900	500	P.A47 Fig.A-99 20kg (22.5kg)	P.A48 Fig.A-104 20.5kg (23kg)	P.A49 Fig.A-109 20.5kg (23kg)
		1/ 120	77/ 9360	12.5	15	281	234	28.7	23.9	5880	600			
		1/ 160	21/ 3328	9.4	11.2	374	313	38.2	31.9	5880	600			
		1/ 200	189/38272	7.5	9	431	390	44	39.8	5880	600			
	40	1/ 300	7/ 2160	5	6	626	521	63.9	53.2	7060	720	P.A47 Fig.A-100 28.5kg (31kg)	P.A48 Fig.A-105 30kg (32.5kg)	
		1/ 375	77/29328	4	4.8	764	653	78	66.6	7060	720			
		∗1/ 450	49/21600	3.3	4	764	764	78	78	7060	720			
	50	1/ 600	57/35360	2.5	3	1225	1044	125	106.5	9800	1000	P.A47 Fig.A-101 58kg (60.5kg)	P.A48 Fig.A-106 63kg (65.5kg)	
		∗1/ 750	25/19448	2	2.4	1225	1225	125	125	9800	1000			
		∗1/ 900	5/ 4338	1.7	2	1225	1225	125	125	9800	1000			
		∗1/1200	33/40664	1.3	1.5	1225	1225	125	125	9800	1000			

Note) The allowable O.H.L indicated are the values in the central position of the output shaft.
The models marked with ∗ are limited torque type. Be sure to refer to the allowable torque in the Performance Table.

Foot Mount Type

Fig.A-97

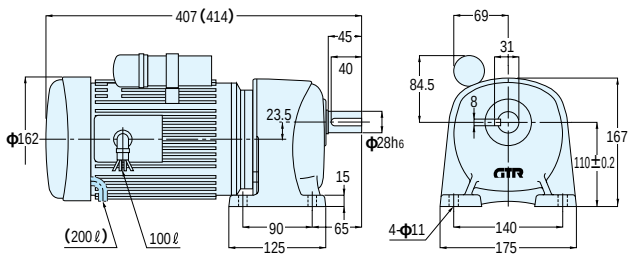
G3LM-22-5〜25-400
CAD Data: G3LM-22-400
(G3LB-22-5〜25-400)
(CAD Data: G3LB-22-400)



Round Weight 15kg (17.5kg)

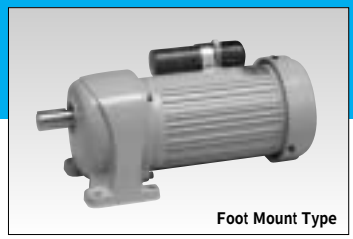
Fig.A-98

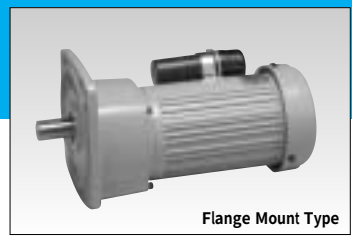
G3LM-28-30〜100-400
CAD Data: G3LM-28-400
(G3LB-28-30〜100-400)
(CAD Data: G3LB-28-400)



Round Weight 17kg (19.5kg)

Model Code P.A8
Option P.E78〜E85


Foot Mount Type


Flange Mount Type

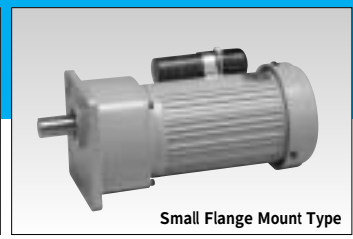
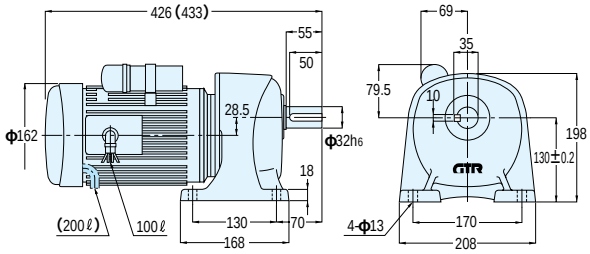

Small Flange Mount Type

Fig.A-99

G3LM-32-100～200-400
CAD Data: G3LM-32-400

(G3LB-32-100～200-400)
(CAD Data: G3LB-32-400)

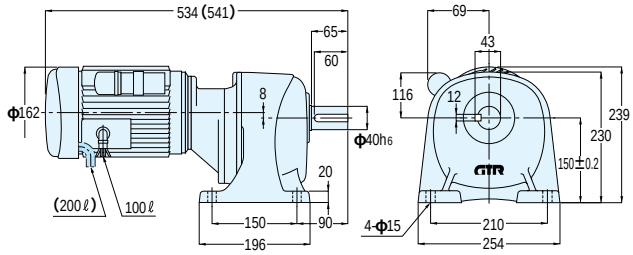


Round Weight 20kg (22.5kg)

Fig.A-100

G3LM-40-300～450-400
CAD Data: G3LM-40-400

(G3LB-40-300～450-400)
(CAD Data: G3LB-40-400)

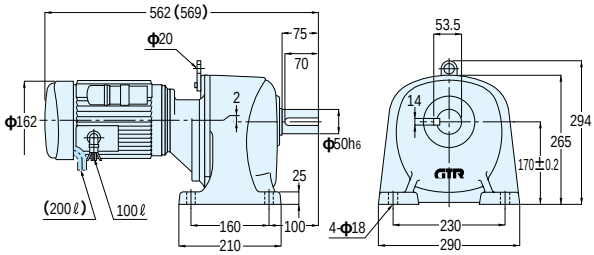


Round Weight 28.5kg (31kg)

Fig.A-101

G3LM-50-600～1200-400
CAD Data: G3LM-50-400

(G3LB-50-600～1200-400)
(CAD Data: G3LB-50-400)



Round Weight 58kg (60.5kg)

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

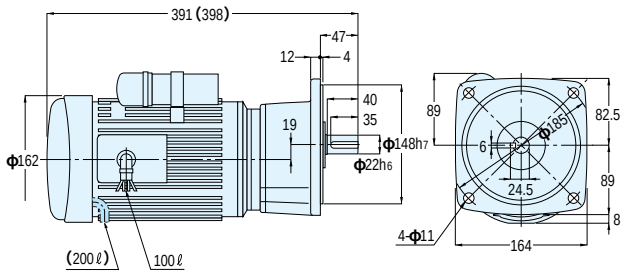
Gearmotor
Gearmotor with Brake
G3 Series 1-Phase 400W

Flange Mount Type

The values in parentheses in the Dimension Diagram indicate the values of gearmotors with brake.

Fig.A-102

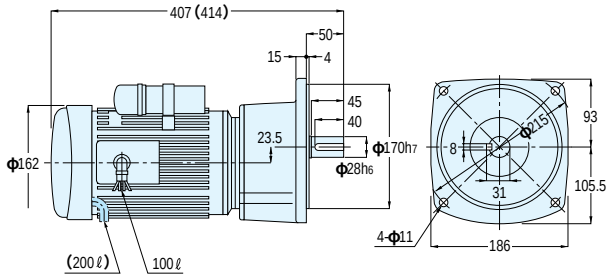
G3FM-22-5〜25-400
CADデータ: G3FM-22-400
(G3FB-22-5〜25-400)
(CADデータ: G3FB-22-400)



Round Weight 15.5kg (18kg)

Fig.A-103

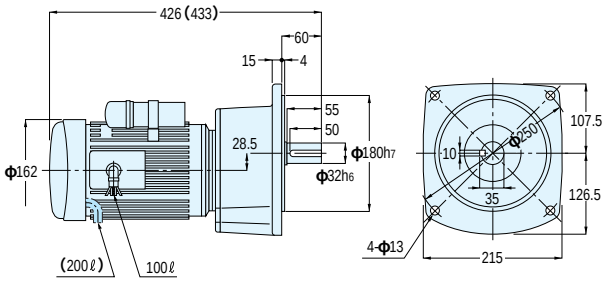
G3FM-28-30〜100-400
CAD Data: G3FM-28-400
(G3FB-28-30〜100-400)
(CAD Data: G3FB-28-400)



Round Weight 17.5kg (20kg)

Fig.A-104

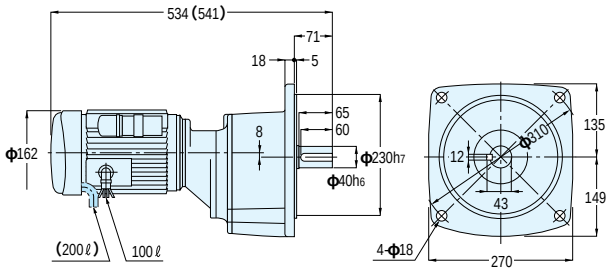
G3FM-32-100〜200-400
CAD Data: G3FM-32-400
(G3FB-32-100〜200-400)
(CAD Data: G3FB-32-400)



Round Weight 20.5kg (23kg)

Fig.A-105

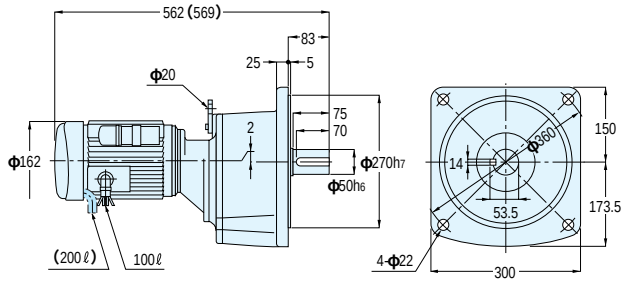
G3FM-40-300〜450-400
CAD Data: G3FM-40-400
(G3FB-40-300〜450-400)
(CAD Data: G3FB-40-400)



Round Weight 30kg (32.5kg)

Fig.A-106

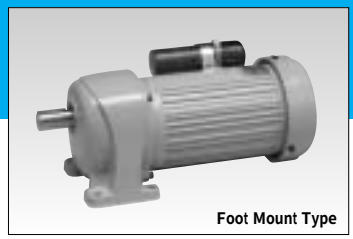
G3FM-50-600〜1200-400
CAD Data: G3FM-50-400
(G3FB-50-600〜1200-400)
(CAD Data: G3FB-50-400)

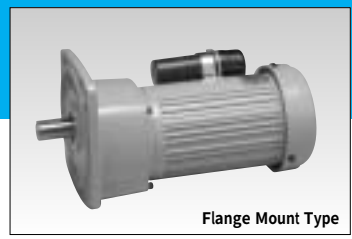


Round Weight 63kg (65.5kg)

Model Code P.A8
Option P.E78〜E85

Small Flange Mount Type


Foot Mount Type


Flange Mount Type

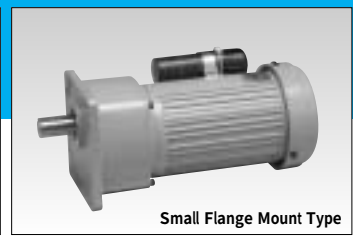
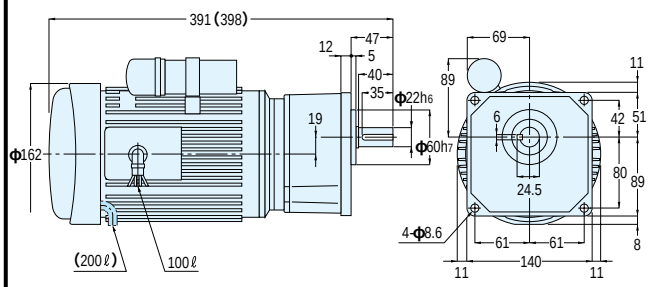

Small Flange Mount Type

Fig.A-107

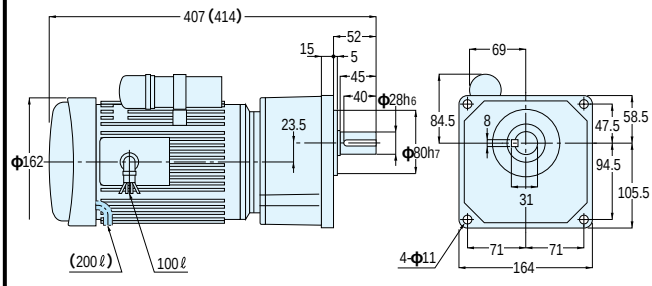
G3KM-22-5～25-400
CAD Data: G3KM-22-400
(G3KB-22-5～25-400)
(CAD Data: G3KB-22-400)



Round Weight 15.5kg (18kg)

Fig.A-108

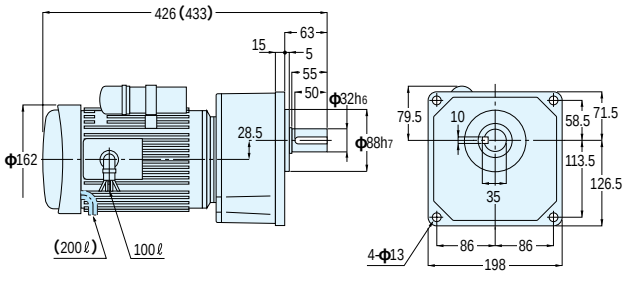
G3KM-28-30～100-400
CAD Data: G3KM-28-400
(G3KB-28-30～100-400)
(CAD Data: G3KB-28-400)



Round Weight 17.5kg (20kg)

Fig.A-109

G3KM-32-100～200-400
CAD Data: G3KM-32-400
(G3KB-32-100～200-400)
(CAD Data: G3KB-32-400)



Round Weight 20.5kg (23kg)

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Parallel Shaft IP-65

Water-Resistant Gearmotor Gearmotor with Brake

Model • Type Designation Standard Model Lineup

G3 Series

■Standard Specifications G3 Series (Water-Resistant-Outdoor)

Motor Part	Number of phase	3-Phase
	Capacity	0.1kW～2.2kW
	Power Source	3 Rated Power Source 200V 50/60Hz, 220V/60Hz
	Insulation Classification	Class B
	Starting Method	Direct start
	Protective cooling Method	Totally Enclosed fan-cooled (Totally Enclosed non-ventilated for 0.1kW)
	Number of Pole	4
	Rating	Continuous Rating
Speed Reduction Part	Reduction Method	Helical gear
	Lubrication	Grease Lubrication(Maintenance Free)
	Output Shaft	New JIS Key(JIS 1301-1976 class)
	Output Shaft Material	SUS420J2 (Water-Resistant W/Carbon Steel Shaft is S43C)
	Case Material	Aluminium die-cast(Frame No.50: Cast iron)
Ambient Conditions	Ambient Temperature	−10℃～40℃
	Ambient Humidity	100% max.(without any dew condensation)
	Altitude	1,000m max.
	Environment	Well ventilated place free from corrosive gas, Should not be used in water and the place where high-hydrostatic pressure receives.
	Installation Location	Indoors
Painting	Painting Method	Anion painting, Acrylic paint
	Painting Color	Grey(Mansel code: 9B6/0.5)
Mounting Direction		No restriction in the mounting angle.(horizontally, vertically or heeling angle)

Model and Type Designation G3 Series (Parallel Shaft)

G3 series Water-Resistant-Outdoor gearmotor are classified by codes as shown below.
Specify these codes in your inquiry and order.

Type			Frame Number	Reduction Ratio	Motor Capacity	Option	Terminal box	Auxiliary Mark	Spec. Designation
G3	L	W	– 22	– 50	– T020		E		
G3	F	V	– 40	– 200	– 075	W	E	X	AA
①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩

①Series Name	G3	: G3 Series (Parallel Shaft)
②Classification by Mount Form	L	: Foot Mount
	F	: Flange Mount
	K	: Small Flange Mount (Frame No.18～32)
③Classification by Motor Type	W	: With Water-resistant Motor W/SUS Shaft (JIS:SUS420J2)
	V	: With Water-resistant Brake Motor (Output Shaft material:SUS420J2)
	G	: With Water-resistant moter W/Carbon Steel Shaft (JIS:S43C)
	H	: With Outdoor Brake Motor (Output Shaft material:S43C)
④Frame No. and Diameter of Output shaft	Output Shaft Diameter	
⑤Reduction Ratio	5 : 1／5 ～ 1200 : 1／1200	
⑥Motor Designation and Capacity	T010	: 3-phase 0.1 kW
	T020	: 3-phase 0.2 kW
	T040	: 3-phase 0.4 kW
	075	: 3-phase 0.75kW
	150	: 3-phase 1.5 kW
	220	: 3-phase 2.2 kW
⑦Option	Blank	: Standard Specifications 3-phase: 200V／50Hz, 200V／60Hz, 220V／60Hz
	W	: High Voltage 3-phase: 380V／50Hz, 400V／50Hz, 400V／60Hz, 440V／60Hz
⑧Terminal box	E	: Terminal Box for Water-resistant type (Standard Specs.)
⑨Auxiliary Mark	Blank	: Standard Specs.
	X	: Mark for Additional Specs.
⑩Spec. Designation Note: Spec. Designation does not appear on the product type designation in the nameplate. It is specified on the additional numbers in the nameplate.	●Specification Code for Rectifier built-in Wiring For details, refer to the Specification Code Table on page E31. ●Indication of Terminal Box lead wire position Refer to the indication mark list in P. E35 for details.	

Separated rectifier type is the standard specification of the terminal box in gearmotors with brake.
When you need the rectifier built-in type, contact us with the following manner.
We will do the wiring accordingly.For details, refer to page E31.

Type	Type Code when ordering(Example) (Indicate this type cord in your order.)
Standard (rectifier separated)	G3LV-32-200-T040E
AC Switching A	G3LV-32-200-T040EX-AA
AC Switching B	G3LV-32-200-T040EX-AB
DC Switching	G3LV-32-200-T040EX-DC

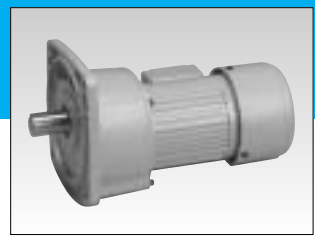
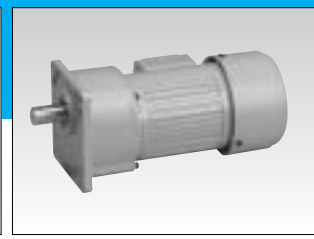
(Note) The wiring method indication code does not appear on the product-type name. It appears in the supplemental number column on the nameplate.

■Model・Type Code (Option)

Capacity・Option				
T040	E	X	–	AA
	⑧	⑨		⑩

⑧Terminal box	Refer to the above table.
⑨Auxiliary Code	Refer to the above table.
⑩Wiring Method Indication Code(Note)	Refer to the table on the left.

Standard Model Lineup

Type	4P Motor Capacity	Frame Number	Reduction Ratio
Water-Resistant Gearmotor W/SUS Shaft G3LW•G3FW G3KW	3-Phase 0.1kW	18	1/5 1/10 1/15 1/20 1/25 1/30 1/40 1/50
		22	1/60 1/80 1/100 1/120 1/160 1/200
		28	1/300 1/375 1/450
		32	1/600 1/750 **1/900** **1/1200**
Water-Resistant Brake Gearmotor W/SUS Shaft G3LV•G3FV G3KV	3-Phase 0.2kW	18	1/5 1/10 1/15 1/20 1/25
		22	1/30 1/40 1/50 1/60 1/80 **1/100**
		28	1/100 1/120 1/160 1/200
		32	1/300 1/375 1/450
		40	1/600 1/750 **1/900** **1/1200**
Water-Resistant Gearmotor W/Carbon Steel Shaft G3LG•G3FG G3KG	3-Phase 0.4kW	22	1/5 1/10 1/15 1/20 1/25
		28	1/30 1/40 1/50 1/60 1/80 **1/100**
		32	1/100 1/120 1/160 1/200
		40	1/300 1/375 **1/450**
		50	1/600 **1/750** **1/900** **1/1200**
Water-Resistant Brake Gearmotor W/Carbon Steel Shaft G3LH•G3FH G3KH	3-Phase 0.75kW	28	1/5 1/10 1/15 1/20 1/25
		32	1/30 1/40 1/50 1/60 1/80 **1/100**
		40	1/100 1/120 1/160 1/200
		50	1/300 1/375 **1/450**
Water-Resistant Gearmotor W/SUS Shaft G3LW•G3FW G3KW	3-Phase 1.5kW	32	1/5 1/10 1/15 1/20 1/25
		40	1/30 1/40 1/50 1/60 1/80 **1/100**
		50	1/100 1/120 1/160 **1/200**
Water-Resistant Gearmotor W/Carbon Steel Shaft G3LG•G3FG G3KG	3-Phase 2.2kW	40	1/5 1/10 1/15 1/20 1/25
		50	1/30 1/40 1/50 1/60 1/80 1/100

Note 1) In the G3 Series, 3 kinds are available, namely Foot Mount, Flange Mount and Small Flange Mount. Please note that the Small Flange Mount is available only for the frame No.18～32.

2) ▭ The models enclosed with orange color bold line are low torque type. Special care should be given to the allowable torque in the performance table.

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

GTR Gearmotor

Parallel Shaft **IP-65**

Water-Resistant W/SUS Shaft
Water-Resistant W/Carbon Steel Shaft
Gearmotor
Gearmotor with Brake

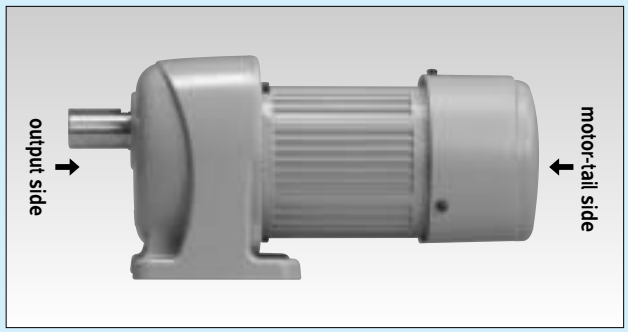
Performance Table
Dimension diagram

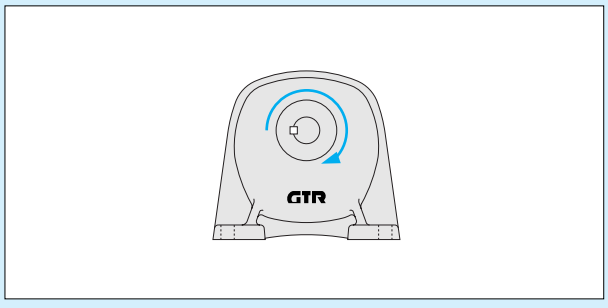
G3 Series

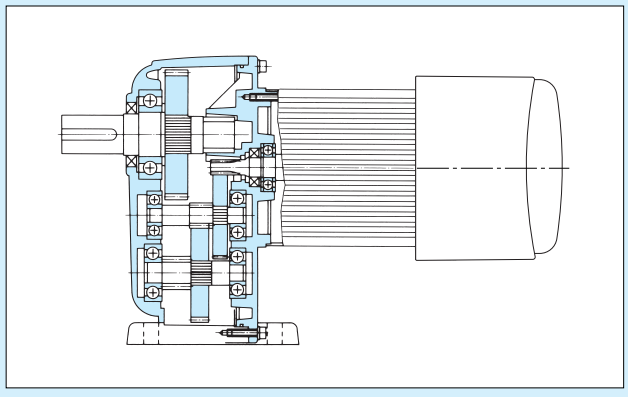
3-Phase

【Remarks】

- Values in the parenthesis in the performance table/dimension diagram are the values of gearmotor with brake.
- The output rotation speed is the value corresponds to the motor synchronous speed and the nominal reduction ratio.
- The Shaded areas ▭ in the performance table shows that in case gearmotors are wired according to the diagram shown on page E28, the shaft rotates clock wise when viewing from output side. (Reter to the diagram shown below.)







Water-Resistant Gearmotor
Water-Resistant Gearmotor with Brake

G3 Series 3-Phase 0.1kW

The values in parentheses in the Performance Table/Dimension Diagram indicate the values of gearmotors with brake.

Motor Specs. Standard Voltage (Continuous Rated 4 Poles)	Capacity	Motor Capacity Designation	Frequency (Hz)	Voltage (V)	Rated Current (A)	Rated Rotation Speed (rpm)	Insulation Classification	Protective Cooling system
	0.1kW	T010	50/60/60	200/200/220	0.61/0.54/0.54	1420/1700/1720	B	Totally Enclosed

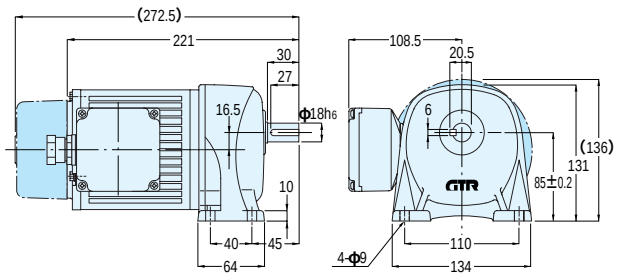
Motor Capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio (Fraction)	Output Shaft Rotation Speed (rpm)		Output Shaft Allowable Torque				Output Shaft Allowable O.H.L		Page, Diagram No. of the Outer Dimension Diagram, Round Weight Gearmotor (Gearmotor with Brake)		
						N•m		kgf•m						
				50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	N	kgf	G3L$^{W}_{G}$ (G3L$^{V}_{H}$)	G3F$^{W}_{G}$ (G3F$^{V}_{H}$)	G3K$^{W}_{G}$ (G3K$^{V}_{H}$)
3-phase 0.1kW	18	1/ 5	33/ 164	300	360	3	2.5	0.31	0.26	588	60	P.A56 Fig.A-110 6kg (7.5kg)	P.A57 Fig.A-114 6.5kg (8kg)	P.A58 Fig.A-118 6.5kg (8kg)
		1/ 10	77/ 779	150	180	6.1	5	0.62	0.51	882	90			
		1/ 15	119/ 1804	100	120	9.1	7.5	0.93	0.77	980	100			
		1/ 20	49/ 984	75	90	12	9.8	1.2	1	1180	120			
		1/ 25	28/ 697	60	72	15	12.7	1.5	1.3	1270	130			
		1/ 30	35/ 1066	50	60	19	14.7	1.9	1.5	1370	140			
		1/ 40	35/ 1404	37.5	45	24	19.6	2.4	2	1470	150			
		1/ 50	7/ 351	30	36	29	24.5	3	2.5	1570	160			
	22	1/ 60	11/ 684	25	30	35	29.4	3.6	3	2160	220	P.A56 Fig.A-111 7kg (8.5kg)	P.A57 Fig.A-115 7.5kg (9kg)	P.A58 Fig.A-119 7.5kg (9kg)
		1/ 80	21/ 1634	18.8	22.5	47	39.2	4.8	4	2450	250			
		1/ 100	7/ 684	15	18	59	49	6	5	2450	250			
		1/ 120	147/ 17974	12.5	15	71	58.8	7.2	6	2450	250			
		1/ 160	21/ 3268	9.4	11.2	94	78.4	9.6	8	2450	250			
		1/ 200	21/ 4085	7.5	9	117	98	11.9	10	2450	250			
	28	1/ 300	221/ 65190	5	6	157	130	16	13.3	3430	350	P.A57 Fig.A-112 10kg (11.5kg)	P.A57 Fig.A-116 10.5kg (12kg)	P.A58 Fig.A-120 10.5kg (12kg)
		1/ 375	187/ 68370	4	4.8	196	163	20	16.6	3430	350			
		1/ 450	181/ 79793	3.3	4	235	196	24	20	3430	350			
	32	1/ 600	147/ 88192	2.5	3	313	261	31.9	26.6	5880	600	P.A57 Fig.A-113 13kg (14.5kg)	P.A57 Fig.A-117 13.5kg (15kg)	P.A58 Fig.A-121 13.5kg (15kg)
		1/ 750	49/ 36464	2	2.4	391	326	39.9	33.3	5880	600			
		∗1/ 900	62/ 57063	1.7	2	431	391	44	39.9	5880	600			
		∗1/1200	46/ 55195	1.3	1.5	431	431	44	44	5880	600			

Note) The allowable O.H.L indicated are the values in the central position of the output shaft.
The models marked with ∗ are limited torque type. Be sure to refer to the allowable torque in the Performance Table.

Foot Mount Type

Fig.A-110

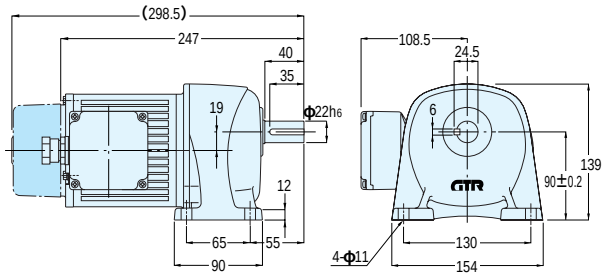
G3L$^{W}_{G}$-18-5〜50-T010E
CAD Data: G3L$^{W}_{G}$-18-T010E
(G3L$^{V}_{H}$-18-5〜50-T010E)
(CAD Data: G3L$^{V}_{H}$-18-T010E)



Round Weight 6kg (7.5kg)

Fig.A-111

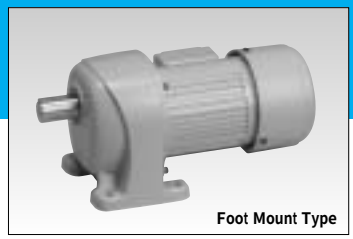
G3L$^{W}_{G}$-22-60〜200-T010E
CAD Data: G3L$^{W}_{G}$-22-T010E
(G3L$^{V}_{H}$-22-60〜200-T010E)
(CAD Data: G3L$^{V}_{H}$-22-T010E)

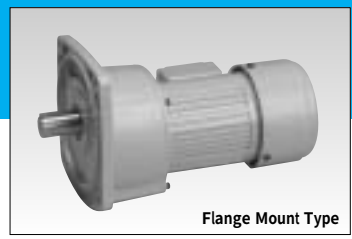


Round Weight 7kg (8.5kg)

Note) For the dimension of the key for the output shaft, refer to the detailed dimensions common to output shafts on page E52.

Model Code P.A52
Multipurpose Inverter P.E86〜E92
Option P.E78〜E92


Foot Mount Type


Flange Mount Type

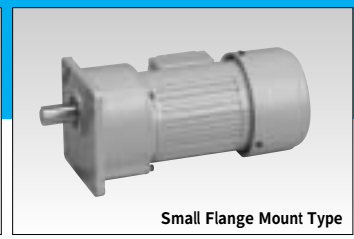
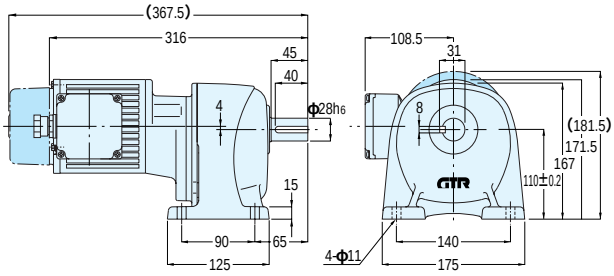

Small Flange Mount Type

Fig.A-112

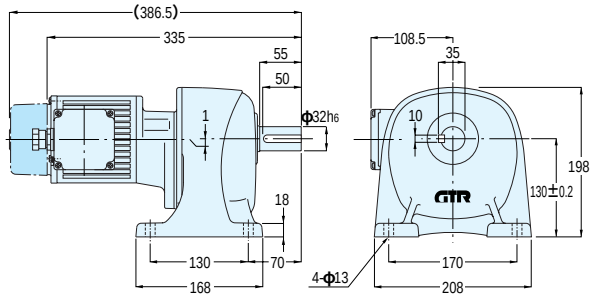
G3L$^{W}_{G}$-28-300～450-T010E
CAD Data: G3L$^{W}_{G}$-28-T010E
(G3L$^{V}_{H}$-28-300～450-T010E)
(CAD Data: G3L$^{V}_{H}$-28-T010E)



Round Weight 10kg (11.5kg)

Fig.A-113

G3L$^{W}_{G}$-32-600～1200-T010E
CAD Data: G3L$^{W}_{G}$-32-T010E
(G3L$^{V}_{H}$-32-600～1200-T010E)
(CAD Data: G3L$^{V}_{H}$-32-T010E)

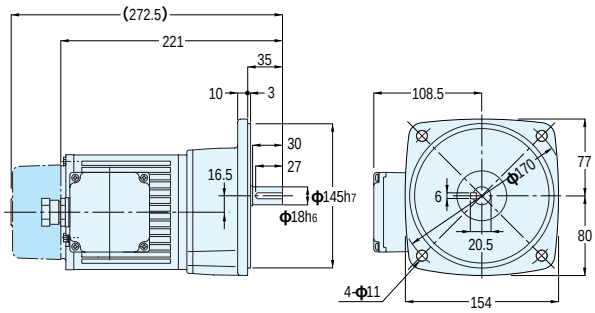


Round Weight 13kg (14.5kg)

Flange Mount Type

Fig.A-114

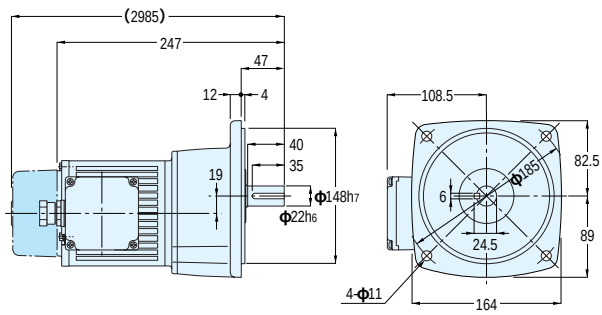
G3F$^{W}_{G}$-18-5～50-T010E
CAD Data: G3F$^{W}_{G}$-18-T010E
(G3F$^{V}_{H}$-18-5～50-T010E)
(CAD Data: G3F$^{V}_{H}$-18-T010E)



Round Weight 6.5kg (8kg)

Fig.A-115

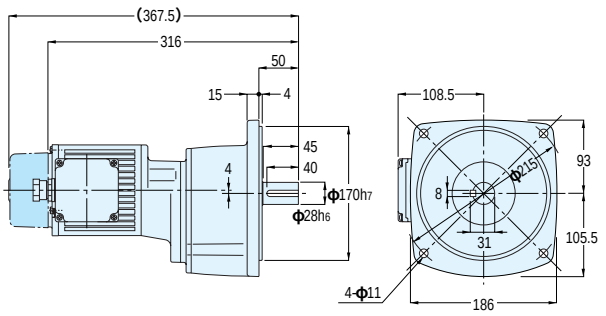
G3F$^{W}_{G}$-22-60～200-T010E
CAD Data: G3F$^{W}_{G}$-22-T010E
(G3F$^{V}_{H}$-22-60～200-T010E)
(CAD Data: G3F$^{V}_{H}$-22-T010E)



Round Weight 7.5kg (9kg)

Fig.A-116

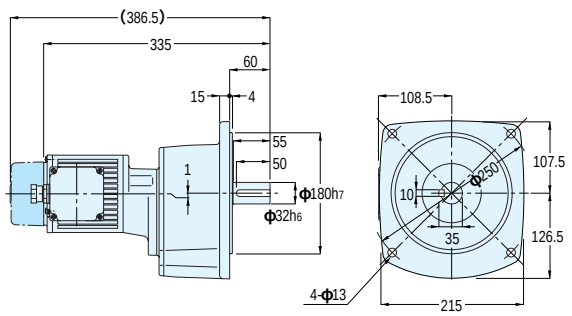
G3F$^{W}_{G}$-28-300～450-T010E
CAD Data: G3F$^{W}_{G}$-28-T010E
(G3F$^{V}_{H}$-28-300～450-T010E)
(CAD Data: G3F$^{V}_{H}$-28-T010E)



Round Weight 10.5kg (12kg)

Fig.A-117

G3F$^{W}_{G}$-32-600～1200-T010E
CAD Data: G3F$^{W}_{G}$-32-T010E
(G3F$^{V}_{H}$-32-600～1200-T010E)
(CAD Data: G3F$^{V}_{H}$-32-T010E)



Round Weight 13.5kg (15kg)

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Water-Resistant Gearmotor
Water-Resistant Gearmotor with Brake

G3 Series 3-Phase 0.1kW

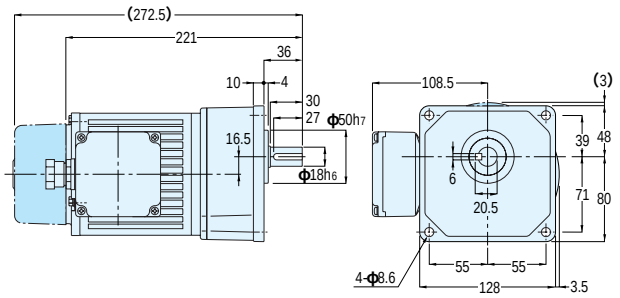
Small Flange Mount Type

The values in parentheses in the Dimension Diagram indicate the values of gearmotors with brake.

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Fig.A-118

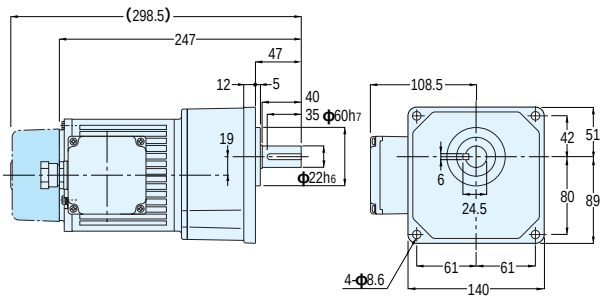
G3K$^{W}_{G}$-18-5～50-T010E
CAD Data: G3K$^{W}_{G}$-18-T010E
(G3K$^{V}_{H}$-18-5～50-T010E)
(CAD Data: G3K$^{V}_{H}$-18-T010E)



Round Weight 6.5kg (8kg)

Fig.A-119

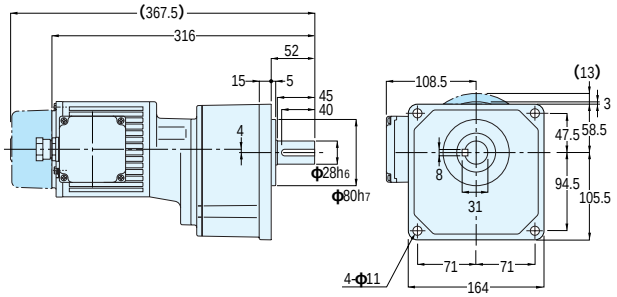
G3K$^{W}_{G}$-22-60～200-T010E
CAD Data: G3K$^{W}_{G}$-22-T010E
(G3K$^{V}_{H}$-22-60～200-T010E)
(CAD Data: G3K$^{V}_{H}$-22-T010E)



Round Weight 7.5kg (9kg)

Fig.A-120

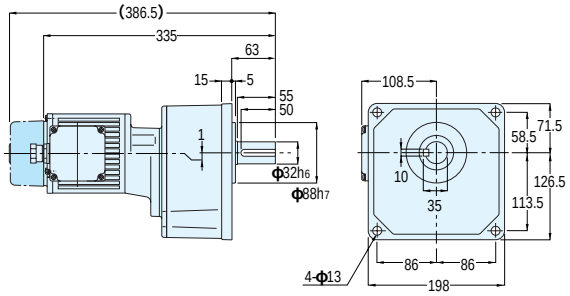
G3K$^{W}_{G}$-28-300～450-T010E
CAD Data: G3K$^{W}_{G}$-28-T010E
(G3K$^{V}_{H}$-28-300～450-T010E)
(CAD Data: G3K$^{V}_{H}$-28-T010E)



Round Weight 10.5kg (12kg)

Fig.A-121

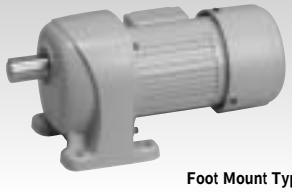
G3K$^{W}_{G}$-32-600～1200-T010E
CAD Data: G3K$^{W}_{G}$-32-T010E
(G3K$^{V}_{H}$-32-600～1200-T010E)
(CAD Data: G3K$^{V}_{H}$-32-T010E)



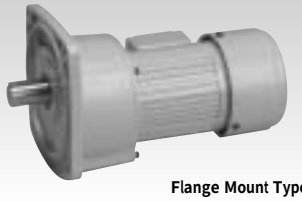
Round Weight 13.5kg (15kg)

Note) For the dimension of the key for the output shaft, refer to the detailed dimensions common to output shafts on page E52.

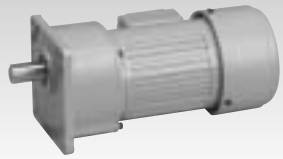
Model Code P.A52
Multipurpose Inverter P.E86～E92
Option P.E78～E92



Foot Mount Type



Flange Mount Type



Small Flange Mount Type

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Water-Resistant Gearmotor
Water-Resistant Gearmotor with Brake

G3 Series 3-Phase 0.2kW

The values in parentheses in the Performance Table/Dimension Diagram indicate the values of gearmotors with brake.

Motor Specs. Standard Voltage (Continuous Rated 4 Poles)	Capacity	Motor Capacity Designation	Frequency (Hz)	Voltage (V)	Rated Current (A)	Rated Rotation Speed (rpm)	Insulation Classification	Protective Cooling system
	0.2kW	T020	50/60/60	200/200/220	1.1/1.0/1.0	1420/1710/1720	B	Totally Enclosed Fan-cooled

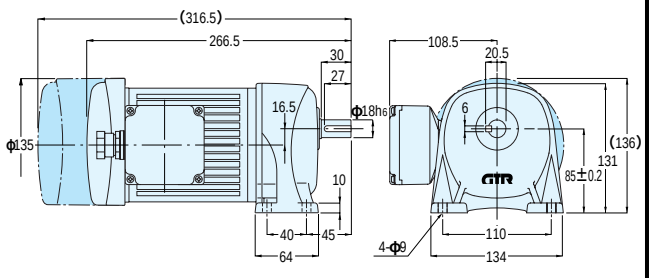
Motor Capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio (Fraction)	Output Shaft Rotation Speed (rpm)		Output Shaft Allowable Torque				Output Shaft Allowable O.H.L		Page, Diagram No. of the Outer Dimension Diagram, Round Weight Gearmotor (Gearmotor with Brake)		
						N•m		kgf•m						
				50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	N	kgf	G3LW (G3LX)	G3FW (G3FX)	G3KW (G3KX)
3-phase 0.2kW	18	1/ 5	33/ 164	300	360	6.1	5	0.62	0.51	588	60	P.A60 Fig.A-122 6.5kg (8kg)	P.A62 Fig.A-127 7kg (8.5kg)	P.A63 Fig.A-132 7kg (8.5kg)
		1/ 10	77/ 779	150	180	11.8	9.8	1.2	1	882	90			
		1/ 15	119/ 1804	100	120	18.6	14.7	1.9	1.5	980	100			
		1/ 20	49/ 984	75	90	24.5	20.6	2.5	2.1	1180	120			
		1/ 25	28/ 697	60	72	30.4	25.5	3.1	2.6	1270	130			
	22	1/ 30	7/ 216	50	60	36.3	30.4	3.7	3.1	1760	180	P.A60 Fig.A-123 7.5kg (9kg)	P.A62 Fig.A-128 8kg (9.5kg)	P.A63 Fig.A-133 8kg (9.5kg)
		1/ 40	91/ 3600	37.5	45	47	39.2	4.8	4	1860	190			
		1/ 50	11/ 540	30	36	58.8	49	6	5	1960	200			
		1/ 60	637/ 39600	25	30	70.6	58.8	7.2	6	2160	220			
		1/ 80	91/ 7200	18.8	22.5	94.1	78.4	9.6	8	2450	250			
		＊1/ 100	11/ 1080	15	18	97	80.4	9.9	8.2	2450	250			
	28	1/ 100	13/ 1353	15	18	117	98	11.9	10	2840	290	P.A61 Fig.A-124 9.5kg (11kg)	P.A62 Fig.A-129 10kg (11.5kg)	P.A63 Fig.A-134 10kg (11.5kg)
		1/ 120	91/ 11000	12.5	15	140	117	14.3	11.9	3330	340			
		1/ 160	1/ 165	9.4	11.2	187	156	19.1	15.9	3430	350			
		1/ 200	7/ 1375	7.5	9	234	195	23.9	19.9	3430	350			
	32	1/ 300	91/ 27348	5	6	313	261	31.9	26.6	5880	600	P.A61 Fig.A-125 13.5kg (15kg)	P.A62 Fig.A-130 14kg (15.5kg)	P.A63 Fig.A-135 14kg (15.5kg)
		1/ 375	77/ 28620	4	4.8	391	326	39.9	33.3	5880	600			
		1/ 450	91/ 41022	3.3	4	431	391	44	39.9	5880	600			
	40	1/ 600	9/ 5300	2.5	3	626	521	63.9	53.2	7060	720	P.A61 Fig.A-126 20kg (21.5kg)	P.A62 Fig.A-131 21.5kg (23kg)	
		1/ 750	62/ 46427	2	2.4	764	653	78	66.6	7060	720			
		＊1/ 900	23/ 21259	1.7	2	764	764	78	78	7060	720			
		＊1/1200	9/ 10600	1.3	1.5	764	764	78	78	7060	720			

Note) The allowable O.H.L indicated are the values in the central position of the output shaft.
The models marked with ＊ are limited torque type. Be sure to refer to the allowable torque in the Performance Table.

Foot Mount Type

Fig.A-122

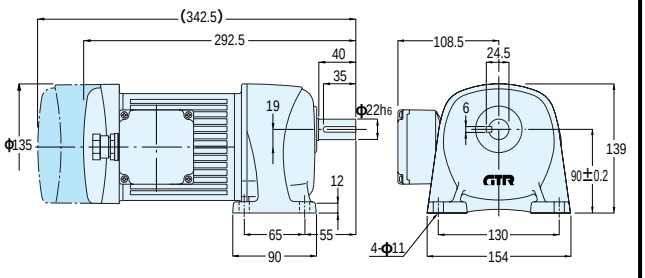
G3LW -18-5～25-T020E
CAD Data：G3LW-18-T020E
(G3LV -18-5～25-T020E)
(CAD Data：G3LV-18-T020E)



Round Weight 6.5kg (8kg)

Fig.A-123

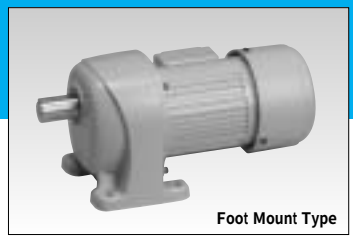
G3LW -22-30～100-T020E
CAD Data：G3LW-22-T020E
(G3LV -22-30～100-T020E)
(CAD Data：G3LV-22-T020E)

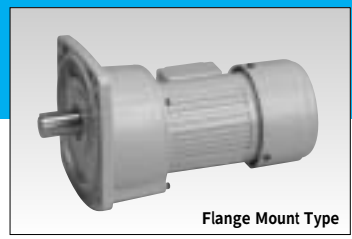


Round Weight 7.5kg (9kg)

Note) For the dimension of the key for the output shaft, refer to the detailed dimensions common to output shafts on page E52.

Model Code P.A52
Multipurpose Inverter P.E86～E92
Option P.E78～E92


Foot Mount Type


Flange Mount Type

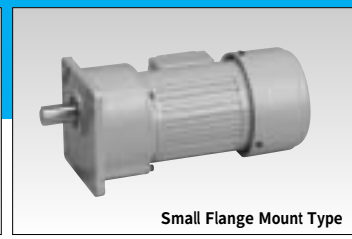
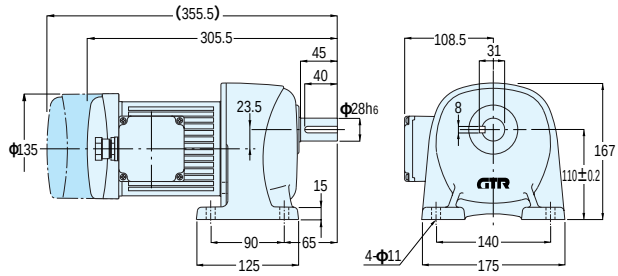

Small Flange Mount Type

Fig.A-124

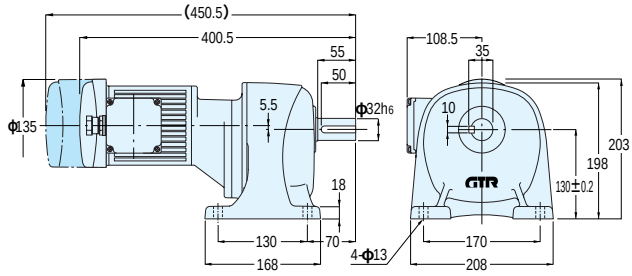
G3L^{WG}-28-100～200-T020E
CAD Data：G3L^{WG}-28-T020E
(G3L^{VH}-28-100～200-T020E)
(CAD Data：G3L^{VH}-28-T020E)



Round Weight 9.5kg (11kg)

Fig.A-125

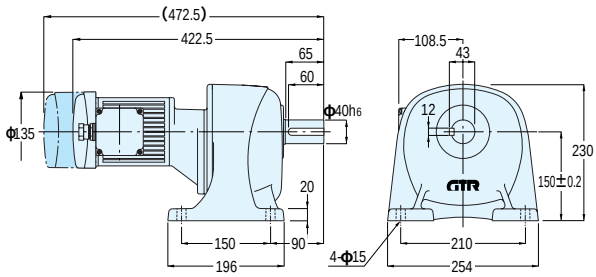
G3L^{WG}-32-300～450-T020E
CAD Data：G3L^{WG}-32-T020E
(G3L^{VH}-32-300～450-T020E)
(CAD Data：G3L^{VH}-32-T020E)



Round Weight 13.5kg (15kg)

Fig.A-126

G3L^{WG}-40-600～1200-T020E
CAD Data：G3L^{WG}-40-T020E
(G3L^{VH}-40-600～1200-T020E)
(CAD Data：G3L^{VH}-40-T020E)



Round Weight 20kg (21.5kg)

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Water-Resistant Gearmotor
Water-Resistant Gearmotor with Brake

G3 Series 3-Phase 0.2kW

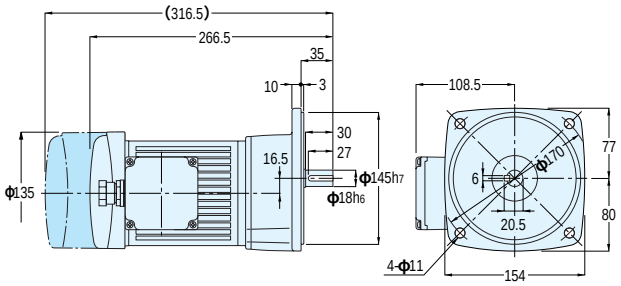
Flange Mount Type

The values in parentheses in the Dimension Diagram indicate the values of gearmotors with brake.

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Fig.A-127

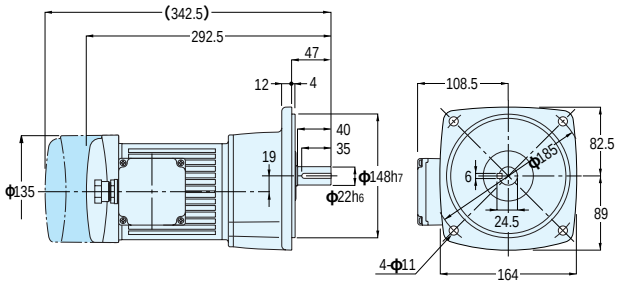
G3F$^{W}_{G}$-18-5～25-T020E
CAD Data：G3F$^{W}_{G}$-18-T020E
(G3F$^{V}_{H}$-18-5～25-T020E)
(CAD Data：G3F$^{V}_{H}$-18-T020E)



Round Weight 7kg (8.5kg)

Fig.A-128

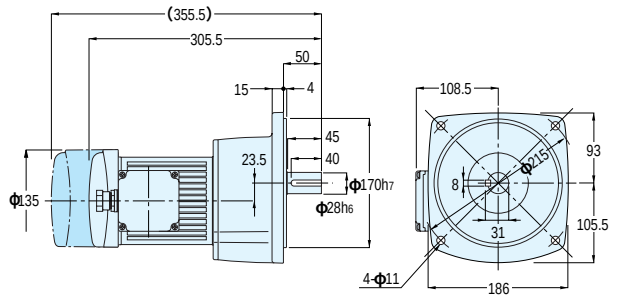
G3F$^{W}_{G}$-22-30～100-T020E
CAD Data：G3F$^{W}_{G}$-22-T020E
(G3F$^{V}_{H}$-22-30～100-T020E)
(CAD Data：G3F$^{V}_{H}$-22-T020E)



Round Weight 8kg (9.5kg)

Fig.A-129

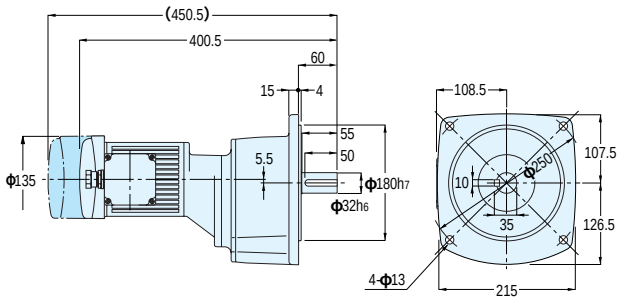
G3F$^{W}_{G}$-28-100～200-T020E
CAD Data：G3F$^{W}_{G}$-28-T020E
(G3F$^{V}_{H}$-28-100～200-T020E)
(CAD Data：G3F$^{V}_{H}$-28-T020E)



Round Weight 10kg (11.5kg)

Fig.A-130

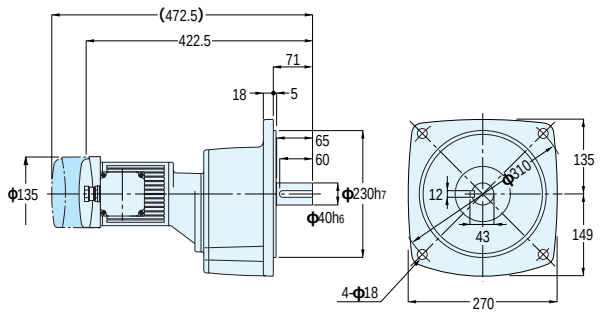
G3F$^{W}_{G}$-32-300～450-T020E
CAD Data：G3F$^{W}_{G}$-32-T020E
(G3F$^{V}_{H}$-32-300～450-T020E)
(CAD Data：G3F$^{V}_{H}$-32-T020E)



Round Weight 14kg (15.5kg)

Fig.A-131

G3F$^{W}_{G}$-40-600～1200-T020E
CAD Data：G3F$^{W}_{G}$-40-T020E
(G3F$^{V}_{H}$-40-600～1200-T020E)
(CAD Data：G3F$^{V}_{H}$-40-T020E)

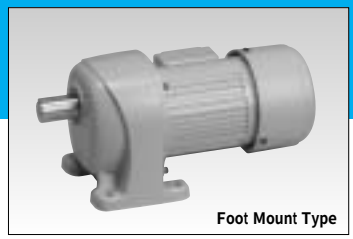


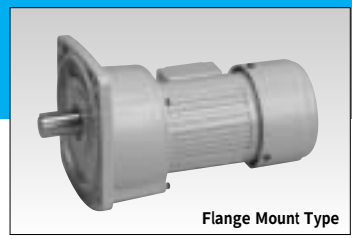
Round Weight 21.5kg (23kg)

Note) For the dimension of the key for the output shaft, refer to the detailed dimensions common to output shafts on page E52.

Model Code P.A52
Multipurpose Inverter P.E86～E92
Option P.E78～E92

Small Flange Mount Type


Foot Mount Type


Flange Mount Type

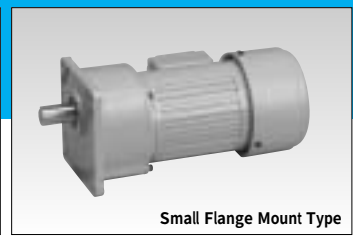
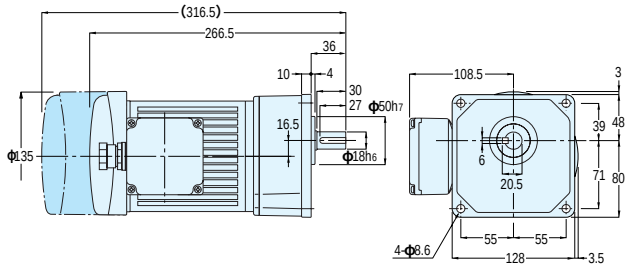

Small Flange Mount Type

Fig.A-132

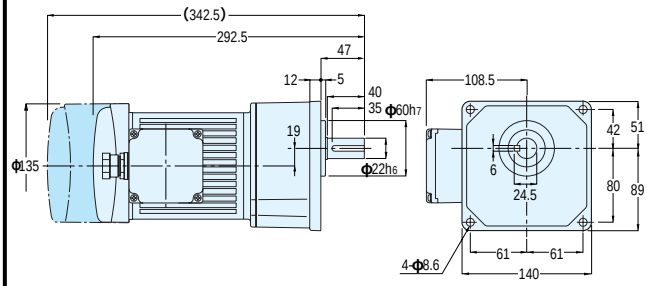
G3K$^{W}_{G}$-18-5～25-T020E
CAD Data：G3K$^{W}_{G}$-18-T020E
(G3K$^{V}_{H}$-18-5～25-T020E)
(CAD Data：G3K$^{V}_{H}$-18-T020E)



Round Weight 7kg (8.5kg)

Fig.A-133

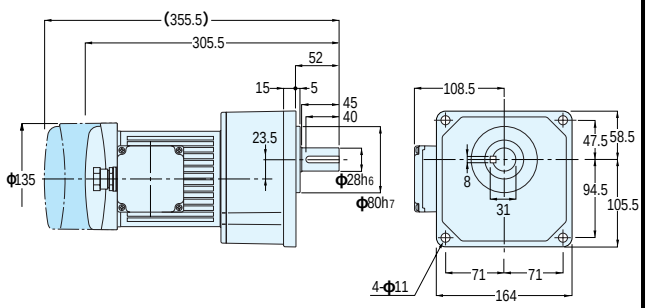
G3K$^{W}_{G}$-22-30～100-T020E
CAD Data：G3K$^{W}_{G}$-22-T020E
(G3K$^{V}_{H}$-22-30～100-T020E)
(CAD Data：G3K$^{V}_{H}$-22-T020E)



Round Weight 8kg (9.5kg)

Fig.A-134

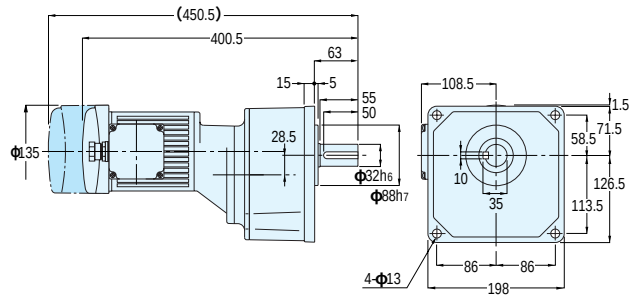
G3K$^{W}_{G}$-28-100～200-T020E
CAD Data：G3K$^{W}_{G}$-28-T020E
(G3K$^{V}_{H}$-28-100～200-T020E)
(CAD Data：G3K$^{V}_{H}$-28-T020E)



Round Weight 10kg (11.5kg)

Fig.A-135

G3K$^{W}_{G}$-32-300～450-T020E
CAD Data：G3K$^{W}_{G}$-32-T020E
(G3K$^{V}_{H}$-32-300～450-T020E)
(CAD Data：G3K$^{V}_{H}$-32-T020E)



Round Weight 14kg (15.5kg)

Water-Resistant Gearmotor
Water-Resistant Gearmotor with Brake

G3 Series 3-Phase 0.4kW

The values in parentheses in the Performance Table/Dimension Diagram indicate the values of gearmotors with brake.

Motor Specs. Standard Voltage (Continuous Rated 4 Poles)	Capacity	Motor Capacity Designation	Frequency (Hz)	Voltage (V)	Rated Current (A)	Rated Rotation Speed (rpm)	Insulation Classification	Protective Cooling system
	0.4kW	T040	50/60/60	200/200/220	2.1/1.8/1.8	1410/1690/1710	B	Totally Enclosed Fan-cooled

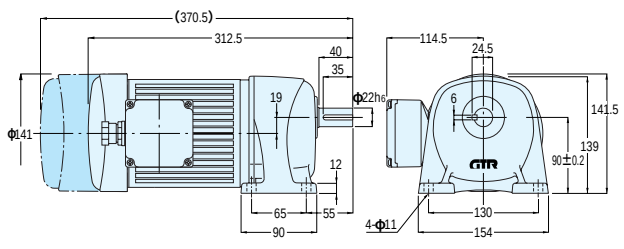
Motor Capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio (Fraction)	Output Shaft Rotation Speed (rpm)		Output Shaft Allowable Torque				Output Shaft Allowable O.H.L		Page, Diagram No. of the Outer Dimension Diagram, Round Weight Gearmotor (Gearmotor with Brake)		
						N•m		kgf•m						
				50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	N	kgf	G3LW (G3LV)	G3FW (G3FV)	G3KW (G3KV)
3-phase 0.4kW	22	1/ 5	7/ 34	300	360	12	10	1.2	1	882	90	P.A64 Fig.A-136 9.5kg (11kg)	P.A66 Fig.A-141 10kg (11.5kg)	P.A67 Fig.A-146 10kg (11.5kg)
		1/ 10	7/ 68	150	180	25	21	2.5	2.1	1180	120			
		1/ 15	49/ 748	100	120	36	30	3.7	3.1	1370	140			
		1/ 20	7/ 136	75	90	48	40	4.9	4.1	1470	150			
		1/ 25	7/ 170	60	72	61	50	6.2	5.1	1670	170			
	28	1/ 30	1/ 30	50	60	73	61	7.4	6.2	2550	260	P.A64 Fig.A-137 11.5kg (13kg)	P.A66 Fig.A-142 12kg (13.5kg)	P.A67 Fig.A-147 12kg (13.5kg)
		1/ 40	221/ 8610	37.5	45	94	78	9.6	8	2840	290			
		1/ 50	187/ 9030	30	36	117	98	11.9	10	3140	320			
		1/ 60	169/ 9840	25	30	140	117	14.3	11.9	3430	350			
		1/ 80	65/ 5166	18.8	22.5	187	156	19.1	15.9	3430	350			
		∗1/ 100	55/ 5418	15	18	193	161	19.7	16.4	3430	350			
	32	1/ 100	7/ 688	15	18	234	195	23.9	19.9	4900	500	P.A65 Fig.A-138 14.5kg (16kg)	P.A66 Fig.A-143 15kg (16.5kg)	P.A67 Fig.A-148 15kg (16.5kg)
		1/ 120	77/ 9360	12.5	15	281	234	28.7	23.9	5880	600			
		1/ 160	21/ 3328	9.4	11.2	374	313	38.2	31.9	5880	600			
		1/ 200	189/38272	7.5	9	431	390	44	39.8	5880	600			
	40	1/ 300	7/ 2160	5	6	626	521	63.9	53.2	7060	720	P.A65 Fig.A-139 23kg (24.5kg)	P.A66 Fig.A-144 24.5kg (26kg)	
		1/ 375	77/29328	4	4.8	764	653	78	66.6	7060	720			
		∗1/ 450	49/21600	3.3	4	764	764	78	78	7060	720			
	50	1/ 600	57/35360	2.5	3	1225	1044	125	106.5	9800	1000	P.A65 Fig.A-140 52.5kg (54kg)	P.A66 Fig.A-145 57.5kg (59kg)	
		∗1/ 750	25/19448	2	2.4	1225	1225	125	125	9800	1000			
		∗1/ 900	5/ 4338	1.7	2	1225	1225	125	125	9800	1000			
		∗1/1200	33/40664	1.3	1.5	1225	1225	125	125	9800	1000			

Note) The allowable O.H.L indicated are the values in the central position of the output shaft.
The models marked with ∗ are limited torque type. Be sure to refer to the allowable torque in the Performance Table.

Foot Mount Type

Fig.A-136

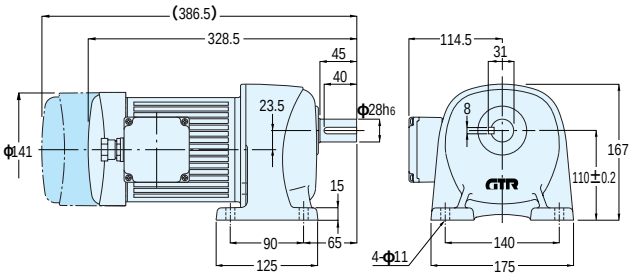
G3LW -22-5～25-T040E
CAD Data: G3LW-22-T040E
(G3LV -22-5～25-T040E)
(CAD Data: G3LV-22-T040E)



Round Weight 9.5kg (11kg)

Fig.A-137

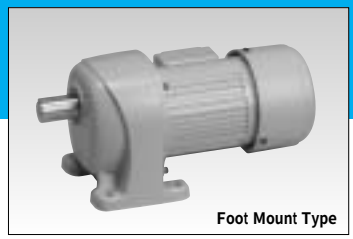
G3LW -28-30～100-T040E
CAD Data: G3LW-28-T040E
(G3LV -28-30～100-T040E)
(CAD Data: G3LV-28-T040E)

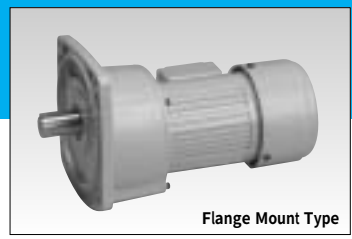


Round Weight 11.5kg (13kg)

Note) For the dimension of the key for the output shaft, refer to the detailed dimensions common to output shafts on page E52.

Model Code P.A52
Multipurpose Inverter P.E86～E92
Option P.E78～E92


Foot Mount Type


Flange Mount Type

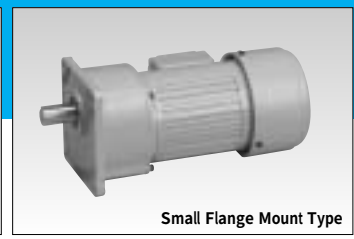
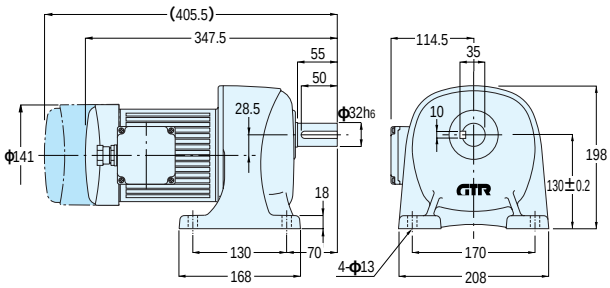

Small Flange Mount Type

Fig.A-138

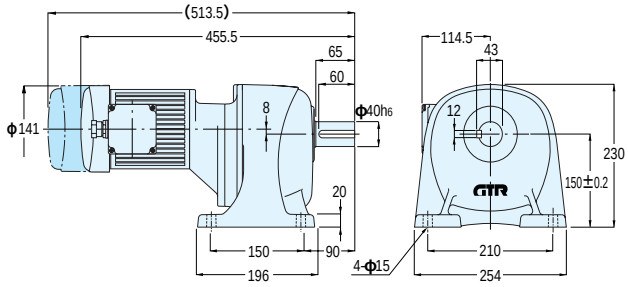
G3L$^{W}_{G}$-32-100～200-T040E
CAD Data：G3L$^{W}_{G}$-32-T040E
(G3L$^{V}_{H}$-32-100～200-T040E)
(CAD Data：G3L$^{V}_{H}$-32-T040E)



Round Weight 14.5kg (16kg)

Fig.A-139

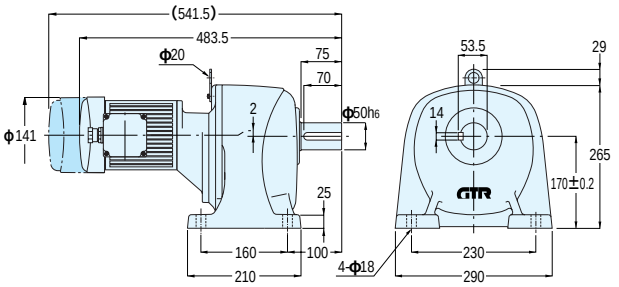
G3L$^{W}_{G}$-40-300～450-T040E
CAD Data：G3L$^{W}_{G}$-40-T040E
(G3L$^{V}_{H}$-40-300～450-T040E)
(CAD Data：G3L$^{V}_{H}$-40-T040E)



Round Weight 23kg (24.5kg)

Fig.A-140

G3L$^{W}_{G}$-50-600～1200-T040E
CAD Data：G3L$^{W}_{G}$-50-T040E
(G3L$^{V}_{H}$-50-600～1200-T040E)
(CAD Data：G3L$^{V}_{H}$-50-T040E)



Round Weight 52.5kg (54kg)

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Water-Resistant Gearmotor
Water-Resistant Gearmotor with Brake

G3 Series 3-Phase 0.4kW

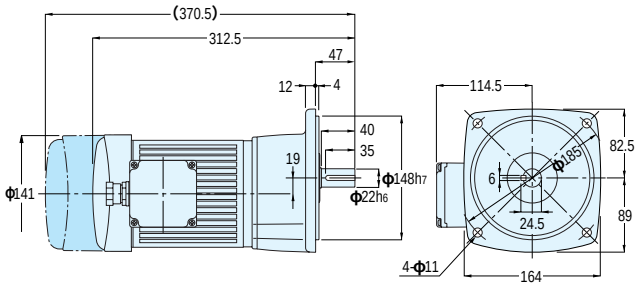
Flange Mount Type

The values in parentheses in the Dimension Diagram indicate the values of gearmotors with brake.

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Fig.A-141

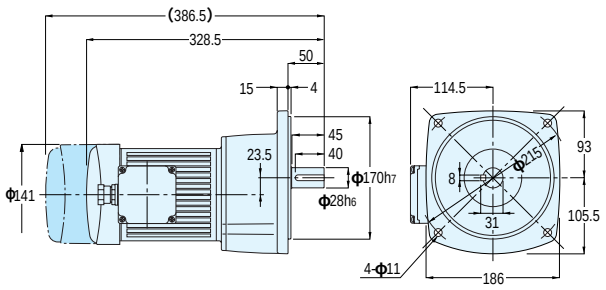
G3F$^{W}_{G}$-22-5～25-T040E
CAD Data: G3F$^{W}_{G}$-22-T040E
(G3F$^{V}_{H}$-22-5～25-T040E)
(CAD Data: G3F$^{V}_{H}$-22-T040E)



Round Weight 10kg (11.5kg)

Fig.A-142

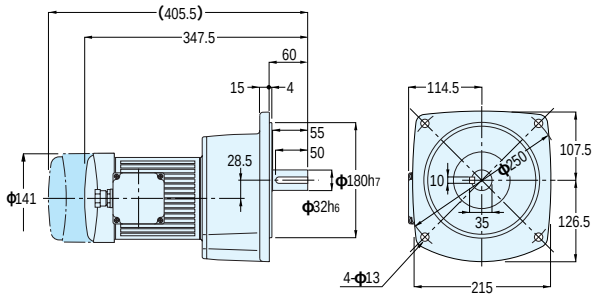
G3F$^{W}_{G}$-28-30～100-T040E
CAD Data: G3F$^{W}_{G}$-28-T040E
(G3F$^{V}_{H}$-28-30～100-T040E)
(CAD Data: G3F$^{V}_{H}$-28-T040E)



Round Weight 12kg (13.5kg)

Fig.A-143

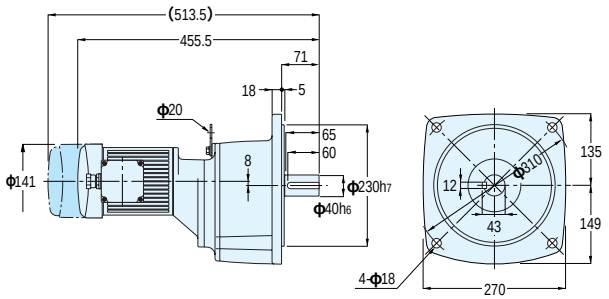
G3F$^{W}_{G}$-32-100～200-T040E
CAD Data: G3F$^{W}_{G}$-32-T040E
(G3F$^{V}_{H}$-32-100～200-T040E)
(CAD Data: G3F$^{V}_{H}$-32-T040E)



Round Weight 15kg (16.5kg)

Fig.A-144

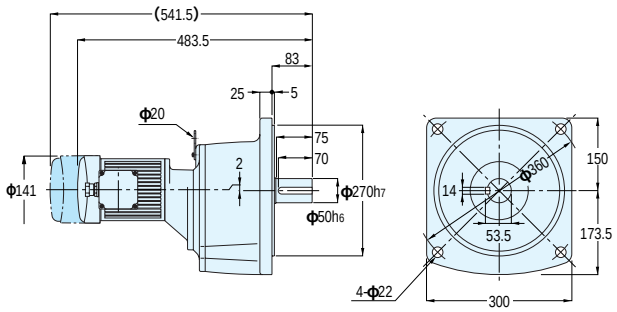
G3F$^{W}_{G}$-40-300～450-T040E
CAD Data: G3F$^{W}_{G}$-40-T040E
(G3F$^{V}_{H}$-40-300～450-T040E)
(CAD Data: G3F$^{V}_{H}$-40-T040E)



Round Weight 24.5kg (26kg)

Fig.A-145

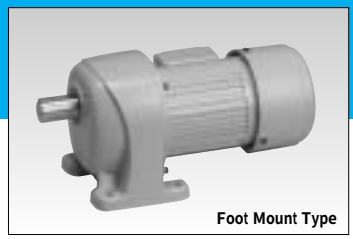
G3F$^{W}_{G}$-50-600～1200-T040E
CAD Data: G3F$^{W}_{G}$-50-T040E
(G3F$^{V}_{H}$-50-600～1200-T040E)
(CAD Data: G3F$^{V}_{H}$-50-T040E)

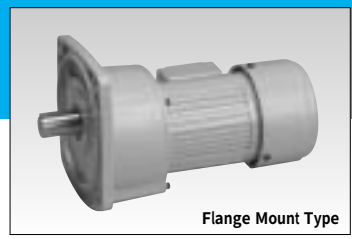


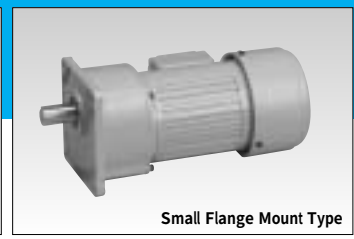
Round Weight 57.5kg (59kg)

Note) For the dimension of the key for the output shaft, refer to the detailed dimensions common to output shafts on page E52.

Model Code P.A52
Multipurpose Inverter P.E86～E92
Option P.E78～E92


Foot Mount Type

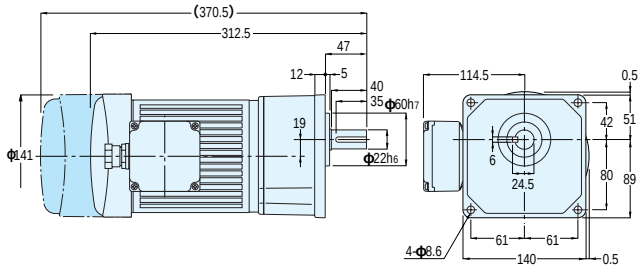

Flange Mount Type


Small Flange Mount Type

Small Flange Mount Type

Fig.A-146

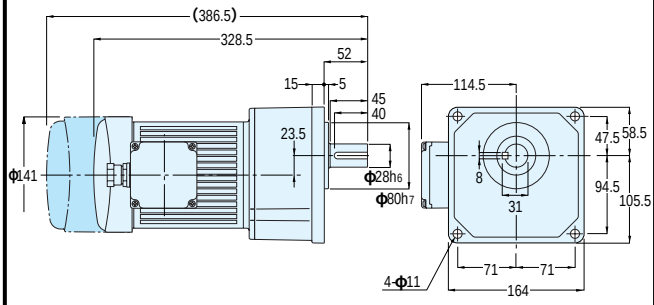
G3KW-22-5～25-T040E
CAD Data: G3KW-22-T040E
(G3KV-22-5～25-T040E)
(CAD Data: G3KV-22-T040E)



Round Weight 10kg (11.5kg)

Fig.A-147

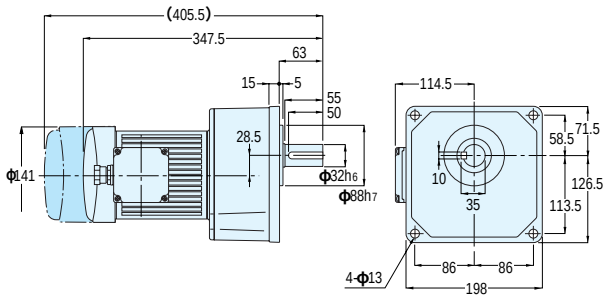
G3KW-28-30～100-T040E
CAD Data: G3KW-28-T040E
(G3KV-28-30～100-T040E)
(CAD Data: G3KV-28-T040E)



Round Weight 12kg (13.5kg)

Fig.A-148

G3KW-32-100～200-T040E
CAD Data: G3KW-32-T040E
(G3KV-32-100～200-T040E)
(CAD Data: G3KV-32-T040E)



Round Weight 15kg (16.5kg)

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Water-Resistant Gearmotor
Water-Resistant Gearmotor with Brake

G3 Series 3-Phase 0.75kW

The values in parentheses in the Performance Table/Dimension Diagram indicate the values of gearmotors with brake.

Motor Specs. Standard Voltage (Continuous Rated 4 Poles)	Capacity	Motor Capacity Designation	Frequency (Hz)	Voltage (V)	Rated Current (A)	Rated Rotation Speed (rpm)	Insulation Classification	Protective Cooling system
	0.75kW	075	50/60/60	200/200/220	3.7/3.3/3.2	1430/1720/1730	B	Totally Enclosed Fan-cooled

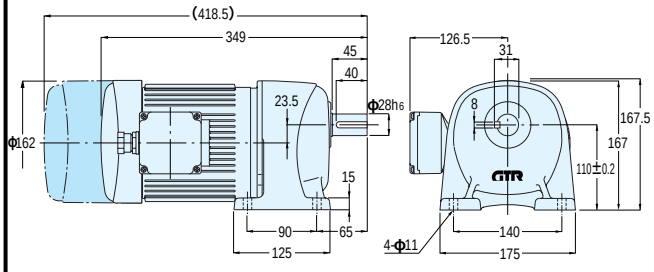
Motor Capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio (Fraction)	Output Shaft Rotation Speed (rpm)		Output Shaft Allowable Torque N•m		Output Shaft Allowable Torque kgf•m		Output Shaft Allowable O.H.L		Page, Diagram No. of the Outer Dimension Diagram, Round Weight Gearmotor (Gearmotor with Brake)		
				50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	N	kgf	G3LW G (G3LW H)	G3FW G (G3FW H)	G3KW G (G3KW H)
3-phase 0.75kW	28	1/ 5	91/ 459	300	360	23	19	2.3	1.9	1270	130	P.A68 Fig.A-149 15kg (17.5kg)	P.A69 Fig.A-153 15.5kg (18kg)	P.A70 Fig.A-157 15.5kg (18kg)
		1/ 10	1/ 10	150	180	45	38	4.6	3.9	1760	180			
		1/ 15	91/ 1360	100	120	68	57	6.9	5.8	2160	220			
		1/ 20	5/ 102	75	90	91	75	9.3	7.7	2350	240			
		1/ 25	7/ 170	60	72	114	94	11.6	9.6	2450	250			
	32	1/ 30	3/ 92	50	60	136	114	13.9	11.6	4020	410	P.A68 Fig.A-150 18.5kg (21kg)	P.A69 Fig.A-154 19kg (21.5kg)	P.A70 Fig.A-158 19kg (21.5kg)
		1/ 40	13/ 516	37.5	45	175	146	17.9	14.9	4210	430			
		1/ 50	11/ 540	30	36	220	183	22.4	18.7	4610	470			
		1/ 60	13/ 774	25	30	264	220	26.9	22.4	5490	560			
		1/ 80	13/ 1032	18.8	22.5	351	293	35.8	29.9	5880	600			
		∗1/ 100	11/ 1080	15	18	362	302	36.9	30.8	5880	600			
	40	1/ 100	91/ 9000	15	18	439	366	44.8	37.3	7060	720	P.A69 Fig.A-151 25kg (27.5kg)	P.A69 Fig.A-155 26.5kg (29kg)	
		1/ 120	77/ 9400	12.5	15	527	439	53.8	44.8	7060	720			
		1/ 160	9/ 1400	9.4	11.2	703	585	71.7	59.7	7060	720			
		1/ 200	9/ 1750	7.5	9	764	732	78	74.7	7060	720			
	50	1/ 300	211/62013	5	6	1176	978	120	99.8	9800	1000	P.A69 Fig.A-152 56.5kg (59kg)	P.A69 Fig.A-156 61.5kg (64kg)	
		1/ 375	94/36103	4	4.8	1225	1225	125	125	9800	1000			
		∗1/ 450	65/29167	3.3	4	1225	1225	125	125	9800	1000			

Note) The allowable O.H.L indicated are the values in the central position of the output shaft.
The models marked with ∗ are limited torque type. Be sure to refer to the allowable torque in the Performance Table.

Foot Mount Type

Fig.A-149

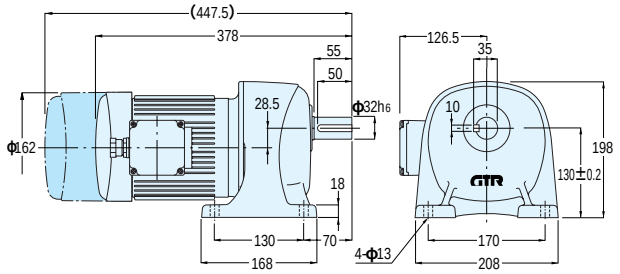
G3LW G-28-5～25-075E
CAD Data: G3LW G-28-075E
(G3LV H-28-5～25-075E)
(CAD Data: G3LV H-28-075E)



Round Weight 15kg (17.5kg)

Fig.A-150

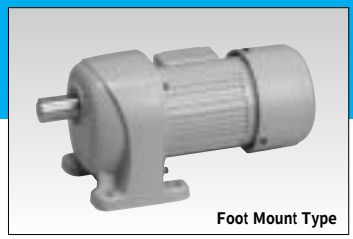
G3LW G-32-30～100-075E
CAD Data: G3LW G-32-075E
(G3LV H-32-30～100-075E)
(CAD Data: G3LV H-32-075E)

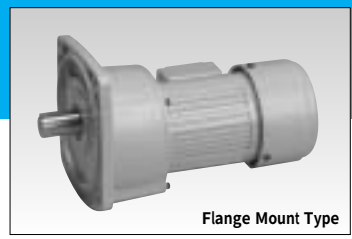


Round Weight 18.5kg (21kg)

Note) For the dimension of the key for the output shaft, refer to the detailed dimensions common to output shafts on page E52.

Model Code P.A52 | Multipurpose Inverter P.E86～E92 | Option P.E78～E92


Foot Mount Type


Flange Mount Type

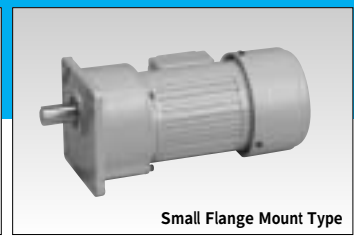
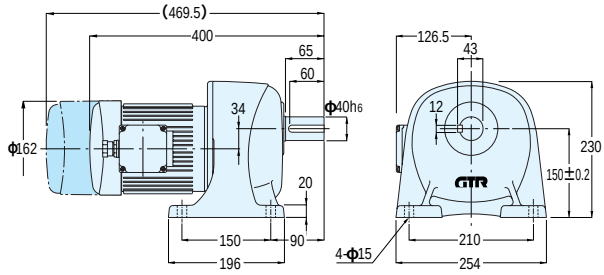

Small Flange Mount Type

Fig.A-151

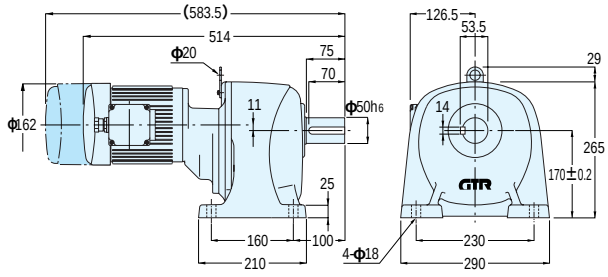
G3L$^{W}_{G}$-40-100～200-075E
CAD Data: G3L$^{W}_{G}$-40-075E
(G3L$^{V}_{H}$-40-100～200-075E)
(CAD Data: G3L$^{V}_{H}$-40-075E)



Round Weight 25kg (27.5kg)

Fig.A-152

G3L$^{W}_{G}$-50-300～450-075E
CAD Data: G3L$^{W}_{G}$-50-075E
(G3L$^{V}_{H}$-50-300～450-075E)
(CAD Data: G3L$^{V}_{H}$-50-075E)

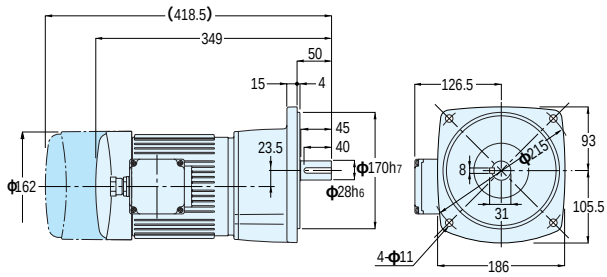


Round Weight 56.5kg (59kg)

Flange Mount Type

Fig.A-153

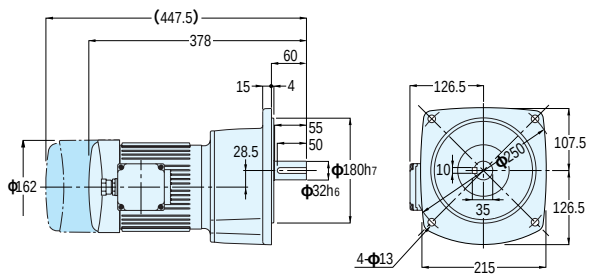
G3F$^{W}_{G}$-28-5～25-075E
CAD Data: G3F$^{W}_{G}$-28-075E
(G3F$^{V}_{H}$-28-5～25-075E)
(CAD Data: G3F$^{V}_{H}$-28-075E)



Round Weight 15.5kg (18kg)

Fig.A-154

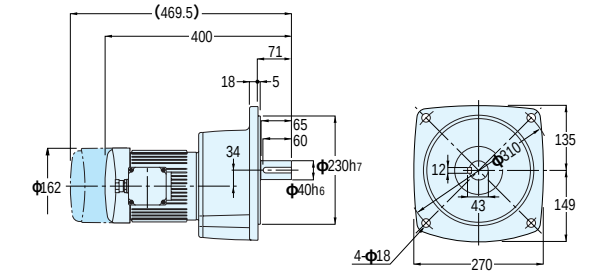
G3F$^{W}_{G}$-32-30～100-075E
CAD Data: G3F$^{W}_{G}$-32-075E
(G3F$^{V}_{H}$-32-30～100-075E)
(CAD Data: G3F$^{V}_{H}$-32-075E)



Round Weight 19kg (21.5kg)

Fig.A-155

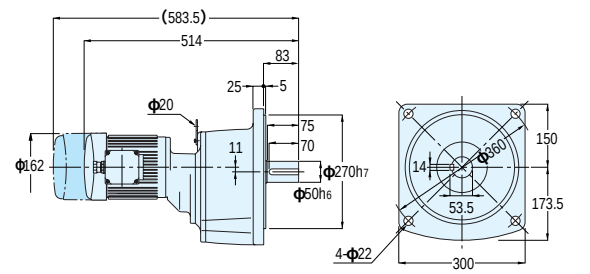
G3F$^{W}_{G}$-40-100～200-075E
CAD Data: G3F$^{W}_{G}$-40-075E
(G3F$^{V}_{H}$-40-100～200-075E)
(CAD Data: G3F$^{V}_{H}$-40-075E)



Round Weight 26.5kg (29kg)

Fig.A-156

G3F$^{W}_{G}$-50-300～450-075E
CAD Data: G3F$^{W}_{G}$-50-075E
(G3F$^{V}_{H}$-50-300～450-075E)
(CAD Data: G3F$^{V}_{H}$-50-075E)



Round Weight 61.5kg (64kg)

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Water-Resistant Gearmotor
Water-Resistant Gearmotor with Brake

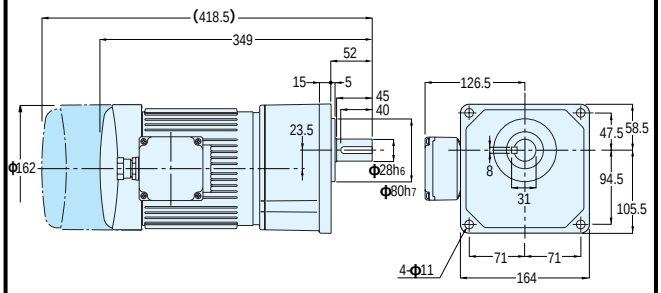
G3 Series 3-Phase 0.75kW

Small Flange Mount Type

The values in parentheses in the Dimension Diagram indicate the values of gearmotors with brake.

Fig.A-157

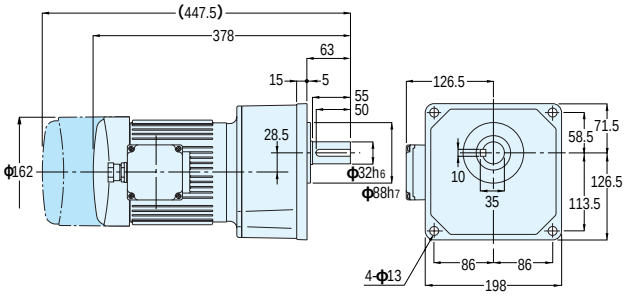
G3K$^{W}_{G}$-28-5～25-075E
CAD Data: G3K$^{W}_{G}$-28-075E
(G3K$^{V}_{H}$-28-5～25-075E)
(CAD Data: G3K$^{V}_{H}$-28-075E)



Round Weight 15.5kg (18kg)

Fig.A-158

G3K$^{W}_{G}$-32-30～100-075E
CAD Data: G3K$^{W}_{G}$-32-075E
(G3K$^{V}_{H}$-32-30～100-075E)
(CAD Data: G3K$^{V}_{H}$-32-075E)

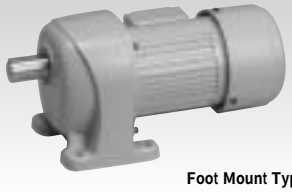


Round Weight 19kg (21.5kg)

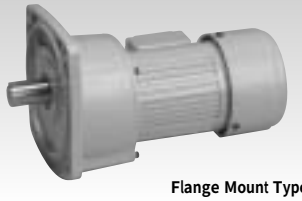
Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Note) For the dimension of the key for the output shaft, refer to the detailed dimensions common to output shafts on page E52.

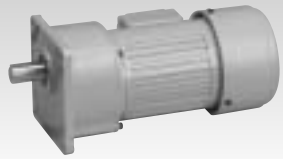
Model Code P.A52
Multipurpose Inverter P.E86～E92
Option P.E78～E92



Foot Mount Type



Flange Mount Type



Small Flange Mount Type

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Water-Resistant Gearmotor

G3 Series 3-Phase 1.5kW

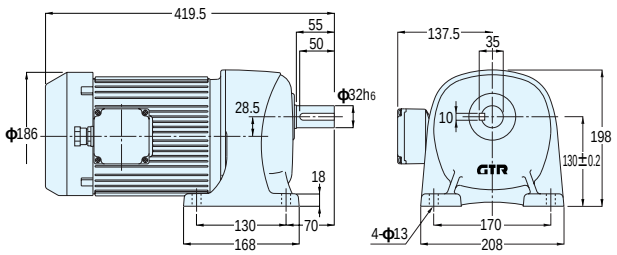
Motor Specs. Standard Voltage (Continuous Rated 4 Poles)	Capacity	Motor Capacity Designation	Frequency (Hz)	Voltage (V)	Rated Current (A)	Rated Rotation Speed (rpm)	Insulation Classification	Protective Cooling system
	1.5kW	150	50/60/60	200/200/220	6.6/6.1/5.8	1430/1720/1730	B	Totally Enclosed Fan-cooled

Motor Capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio (Fraction)	Output Shaft Rotation Speed (rpm)		Output Shaft Allowable Torque				Output Shaft Allowable O.H.L		Page, Diagram No. of the Outer Dimension Diagram, Round Weight		
						N•m		kgf•m				Gearmotor		
				50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	N	kgf	G3LW G	G3FW G	G3KW G
3-phase 1.5kW	32	1/ 5	1/ 5	300	360	45	38	4.6	3.9	1760	180	P.A72 Fig.A-159 24.5kg	P.A73 Fig.A-162 25kg	P.A74 Fig.A-165 25kg
		1/ 10	1/ 10	150	180	91	75	9.3	7.7	2450	250			
		1/ 15	1/ 15	100	120	136	114	13.9	11.6	2840	290			
		1/ 20	1/ 20	75	90	181	151	18.5	15.4	3230	330			
		1/ 25	9/ 230	60	72	226	189	23.1	19.3	3820	390			
	40	1/ 30	1/ 30	50	60	272	226	27.8	23.1	5100	520	P.A72 Fig.A-160 31.5kg	P.A73 Fig.A-163 33kg	
		1/ 40	13/ 540	37.5	45	351	293	35.8	29.9	5880	600			
		1/ 50	11/ 564	30	36	439	366	44.8	37.3	7060	720			
		1/ 60	91/5400	25	30	527	439	53.8	44.8	7060	720			
		1/ 80	13/1080	18.8	22.5	703	585	71.7	59.7	7060	720			
		∗1/ 100	11/1128	15	18	724	603	73.9	61.5	7060	720			
	50	1/ 100	25/2618	15	18	878	732	89.6	74.7	9800	1000	P.A72 Fig.A-161 61kg	P.A73 Fig.A-164 66kg	
		1/ 120	77/8993	12.5	15	1060	878	108	89.6	9800	1000			
		1/ 160	33/5474	9.4	11.2	1230	1170	125	119	9800	1000			
		∗1/ 200	30/5831	7.5	9	1230	1230	125	125	9800	1000			

Note) The allowable O.H.L indicated are the values in the central position of the output shaft.
The models marked with ∗ are limited torque type. Be sure to refer to the allowable torque in the Performance Table.

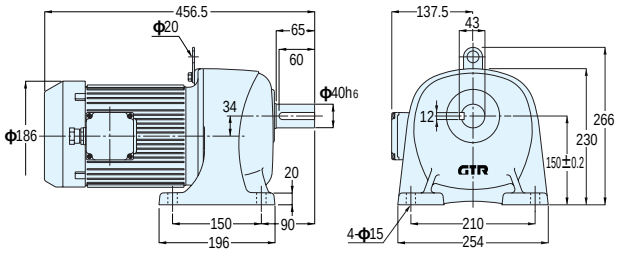
Foot Mount Type

Fig.A-159 G3LW G-32-5〜25-150E
CAD Data: G3LW G-32-150E



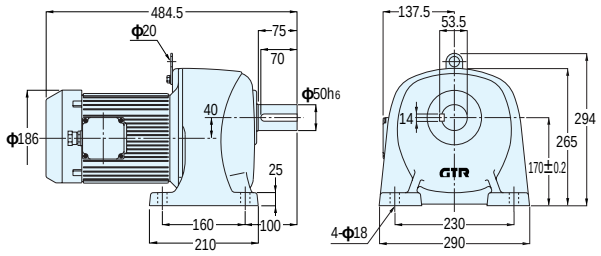
Round Weight 24.5kg

Fig.A-160 G3LW G-40-30〜100-150E
CAD Data: G3LW G-40-150E



Round Weight 31.5kg

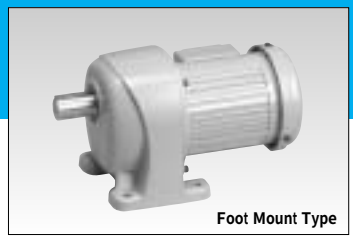
Fig.A-161 G3LW G-50-100〜200-150E
CAD Data: G3LW G-50-150E

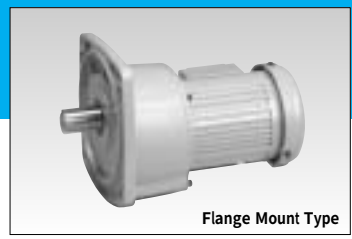


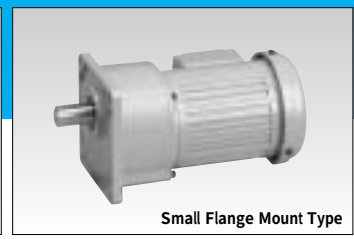
Round Weight 61kg

Note) For the dimension of the key for the output shaft, refer to the detailed dimensions common to output shafts on page E52.

Model Code P.A52 | Multipurpose Inverter P.E86〜E92 | Option P.E78〜E92


Foot Mount Type

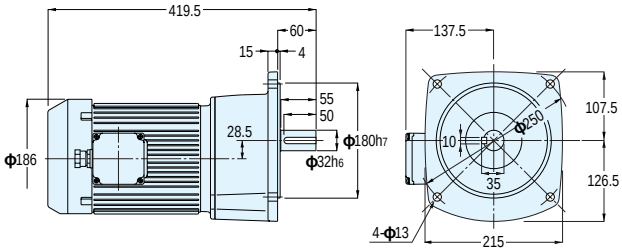

Flange Mount Type


Small Flange Mount Type

Flange Mount Type

Fig.A-162

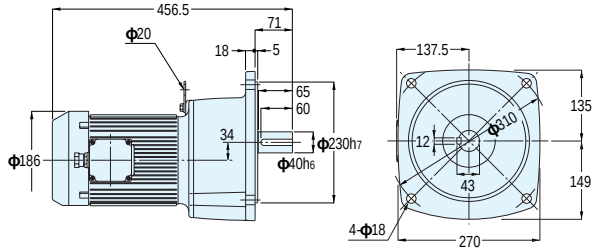
G3F$^{W}_{G}$-32-5〜25-150E
CAD Data: G3F$^{W}_{G}$-32-150E



Round Weight 25kg

Fig.A-163

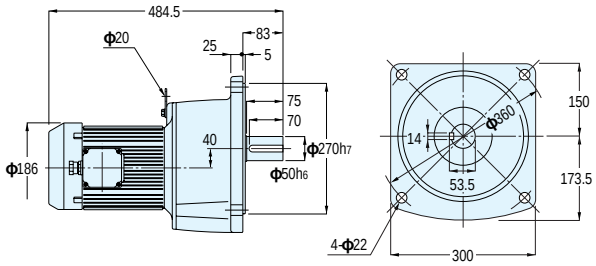
G3F$^{W}_{G}$-40-30〜100-150E
CAD Data: G3F$^{W}_{G}$-40-150E



Round Weight 33kg

Fig.A-164

G3F$^{W}_{G}$-50-100〜200-150E
CAD Data: G3F$^{W}_{G}$-50-150E



Round Weight 66kg

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

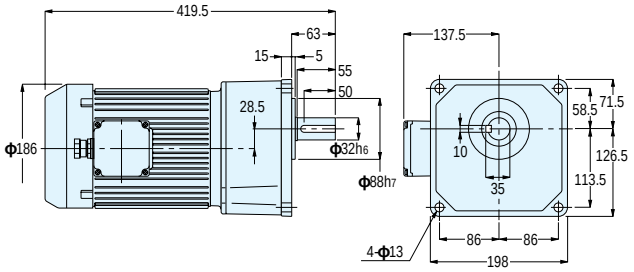
Water-Resistant Gearmotor

G3 Series 3-Phase 1.5kW

Small Flange Mount Type

Fig.A-165 G3K$^{W}_{G}$-32-5～25-150E

CAD Data: G3K$^{W}_{G}$-32-150E

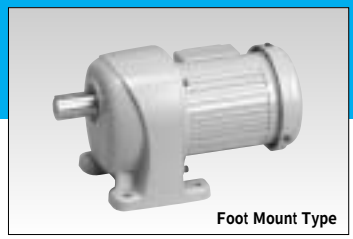


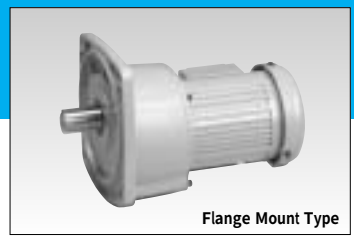
Round Weight 25kg

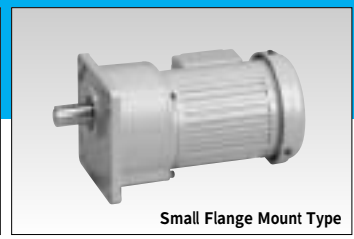
Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Note) For the dimension of the key for the output shaft, refer to the detailed dimensions common to output shafts on page E52.

Model Code P.A52 | Multipurpose Inverter P.E86～E92 | Option P.E78～E92


Foot Mount Type


Flange Mount Type


Small Flange Mount Type

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Water-Resistant Gearmotor

G3 Series 3-Phase 2.2kW

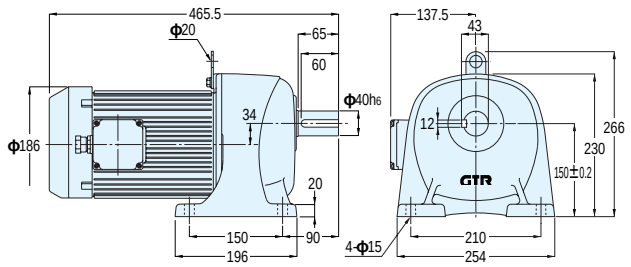
Motor Specs. Standard Voltage (Continuous Rated 4 Poles)	Capacity	Motor Capacity Designation	Frequency (Hz)	Voltage (V)	Rated Current (A)	Rated Rotation Speed (rpm)	Insulation Classification	Protective Cooling system
	2.2kW	220	50/60/60	200/200/220	9.0/8.6/8.0	1410/1690/1710	B	Totally Enclosed Fan-cooled

Motor Capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio (Fraction)	Output Shaft Rotation Speed (rpm)		Output Shaft Allowable Torque N•m		Output Shaft Allowable Torque kgf•m		Output Shaft Allowable O.H.L		Page, Diagram No. of the Outer Dimension Diagram, Round Weight Gearmotor	
				50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	N	kgf	G3LW	G3FW
3-phase 2.2kW	40	1/ 5	7/ 36	300	360	67	56	6.8	5.7	2160	220	P.A76 Fig.A-166 34.5kg	P.A77 Fig.A-168 36kg
		1/ 10	7/ 72	150	180	133	111	13.6	11.3	3140	320		
		1/ 15	49/ 720	100	120	200	167	20.4	17	3530	360		
		1/ 20	7/ 144	75	90	266	221	27.1	22.6	4020	410		
		1/ 25	7/ 180	60	72	332	277	33.9	28.3	4700	480		
	50	1/ 30	5/ 154	50	60	399	332	40.7	33.9	6960	710	P.A76 Fig.A-167 64.5kg	P.A77 Fig.A-169 69.5kg
		1/ 40	399/15488	37.5	45	515	429	52.6	43.8	7250	740		
		1/ 50	399/20240	30	36	644	537	65.7	54.8	8620	880		
		1/ 60	49/ 2904	25	30	773	644	78.9	65.7	9800	1000		
		1/ 80	49/ 3795	18.8	22.5	1029	858	105	87.6	9800	1000		
		1/ 100	21/ 2116	15	18	1230	1080	125	110	9800	1000		

Note) The allowable O.H.L indicated are the values in the central position of the output shaft.

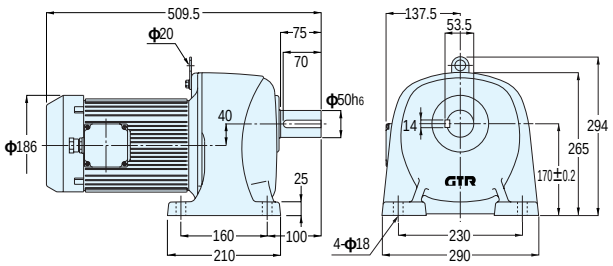
Foot Mount Type

Fig.A-166 G3LW-40-5～25-220E
CAD Data: G3LW-40-220E



Round Weight 34.5kg

Fig.A-167 G3LW-50-30～100-220E
CAD Data: G3LW-50-220E

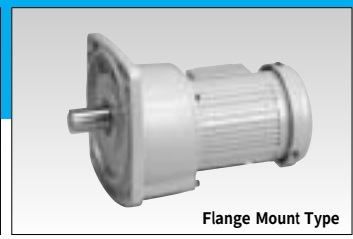


Round Weight 64.5kg

Note) For the dimension of the key for the output shaft, refer to the detailed dimensions common to output shafts on page E52.

Model Code P.A52 | Multipurpose Inverter P.E86～E92 | Option P.E78～E92

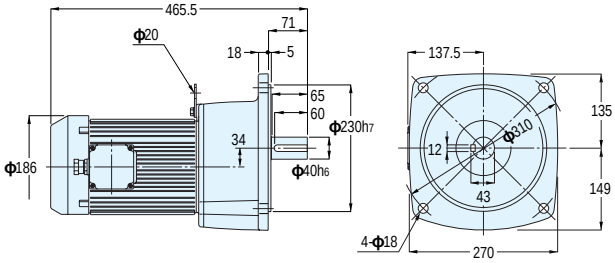
Foot Mount Type


Flange Mount Type

Flange Mount Type

Fig.A-168 G3F$^{W}_{G}$-40-5〜25-220E

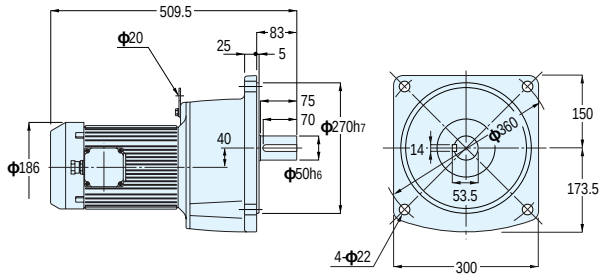
CAD Data: G3F$^{W}_{G}$-40-220E



Round Weight 36kg

Fig.A-169 G3F$^{W}_{G}$-50-30〜100-220E

CAD Data: G3F$^{W}_{G}$-50-220E



Round Weight 69.5kg

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Parallel Shaft

Gearmotor with Clutch and Brake

(Standard Type/Heavy Duty Type)

Model • Type Designation

Standard Model Lineup

GTR Gearmotor

G3 Series

■Standard Specifications G3 Series (With glutch and Brake)

Motor Part	Number of phase	3-Phase
	Capacity	0.1kW～0.75kW (Heavy Duty 0.2kW～0.75kW)
	Power Source	3 Rated Power Source 200V 50/60Hz, 220V/60Hz
	Insulation Classification	Class B
	Starting Method	Direct start
	Protective cooling Method	Totally Enclosed Fan-cooled (Totally Enclosed non-Lentilated for 0.1kW)
	Number of Pole	4
	Rating	Continuous Rating
Speed Reduction Part	Reduction Method	Helical gear
	Lubrication	Grease Lubrication(Maintenance Free)
	Output Shaft	New JIS Key(JIS 1301-1976 class)
	Output Shaft Material	S43C
	Case Material	Aluminium die-cast
Ambient Conditions	Ambient Temperature	−10°C～40°C
	Ambient Humidity	85%max.(without any dew condensation)
	Altitude	1,000m max.
	Environment	Well ventilated place free from corrosive gas, explosive gas vapor and/or dust.
	Installation Location	Indoors
Painting	Painting Method	Anion painting, Acrylic paint
	Painting Color	Grey(Mansel code: 9B6/0.5)
Mounting Direction		No restriction in the mounting angle.(horizontally, vertically or heeling angle)

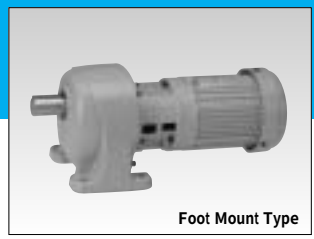
Model and Type Designation G3 Series (Parallel Shaft)

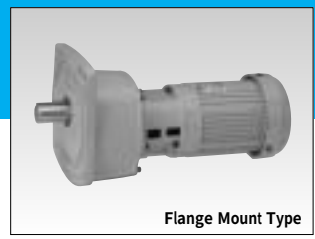
G3 series gearmotors with Clutch and Brake are classified by codes as shown below. Specify these codes in your inquiry and order.

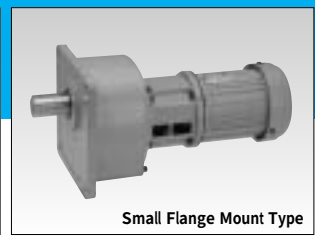
Type			Frame Number	Reduction Ratio	Motor Capacity	Option		Auxiliary Mark	Spec. Designation
G3	L	E	– 28	– 50	– T040	A			
G3	F	E	– 40	– 200	– 075	W		X	
①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩

①Series Name	G3 : G3 Series (Parallel Shaft)
②Classification by Mount Form	L : Foot Mount
	F : Flange Mount
	K : Small Flange Mount (Frame No.18～32)
③Classification by Motor Type	E : With Clutch/Brake
④Frame Number and Diameter of Output Shaft Diameter of Output Shaft	Output Shaft Diameter
⑤Reduction Ratio	5:1／5～200:1／200
⑥Motor Type and Capacity	T010 : 3-phase 0.1 kW
	T020 : 3-phase 0.2 kW
	T040 : 3-phase 0.4 kW
	075 : 3-phase 0.75kW
⑦⑧Option Note 1: When terminal box is required, please indicate "A" at the end of motor capacity.for 0.1kW and 0.2kW type. For 0.4kW type, with "A" box is the standard, so please indecate "A" at the end of motor capacity. (For example, G3LE-22-10-T040A, A is required) 0.75kW type automatically leads to come with terminal box, so there is not "A" for 0.75kW as option.	Blank : 3-phase : 200V／50Hz, 200V／60Hz, 220V／60Hz 0.1kW～0.2kW Without Terminal Box (note 1) 0.4kW～0.75kW With Terminal Box
	W : 3-phase : 380V／50Hz, 400V／50Hz, 400V／60Hz, 440V／60Hz 0.1kW～0.2kW Without Terminal Box (note 1) 0.4kW～0.75kW With Terminal Box
	A : Terminal Box (For 0.1kW and 0.2kW)
⑨Auxiliary Mark	Blank : Standard Specifications
	X : Mark for Additional Specs.
⑩Specification Code Note: Spec. Designation does not appear on the product type designation in the nameplate. It is specified on the additional numbers in the nameplate.	Blank : Standard Specifications

Standard Model Lineup


Foot Mount Type


Flange Mount Type


Small Flange Mount Type

Type	4P Motor Capacity	Frame Number	Reduction Ratio
Standard Type 〈GT-PACK〉 Gearmotor with Clutch and Brake G3LE・G3FE G3KE	3-Phase 0.1kW	18	1/5 1/10 1/15 1/20 1/25 1/30 1/40 1/50
		22	1/60 1/80 1/100 1/120 1/160 1/200
	3-Phase 0.2kW	18	1/5 1/10 1/15 1/20 1/25
		22	1/30 1/40 1/50 1/60 1/80 **1/100**
		28	1/100 1/120 1/160 1/200
	3-Phase 0.4kW	22	1/5 1/10 1/15 1/20 1/25
		28	1/30 1/40 1/50 1/60 1/80 **1/100**
		32	1/100 1/120 1/160 1/200
	3-Phase 0.75kW	28	1/5 1/10 1/15 1/20 1/25
		32	1/30 1/40 1/50 1/60 1/80 **1/100**
		40	1/100 1/120 1/160 1/200
Heavy Duty Type 〈GT-PACK〉 Gearmotor with Clutch and Brake G3LE・G3FE G3KE	3-Phase 0.2kW	22	1/5 1/10 1/15 1/20 1/25
		28	1/30 1/40 1/50 1/60 1/80
		32	1/100 1/120 1/160 1/200
	3-Phase 0.4kW	28	1/5 1/10 1/15 1/20 1/25
		32	1/30 1/40 1/50 1/60 1/80
		40	1/100 1/120 1/160 1/200
	3-Phase 0.75kW	32	1/5 1/10 1/15 1/20 1/25
		40	1/30 1/40 1/50 1/60 1/80
		50	1/100 1/120 1/160 1/200

Note 1) In the G3 Series, 3 kinds are available, namely Foot Mount, Flange Mount and Small Flange Mount. Please note that the Small Flange Mount is available only for the frame No.18～32.

2) **1/100** The models enclosed with orange color bold line are low torque type. Special care should be given to the allowable torque in the performance table.

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Parallel Shaft

Gearmotor with Clutch and Brake (Standard Type)

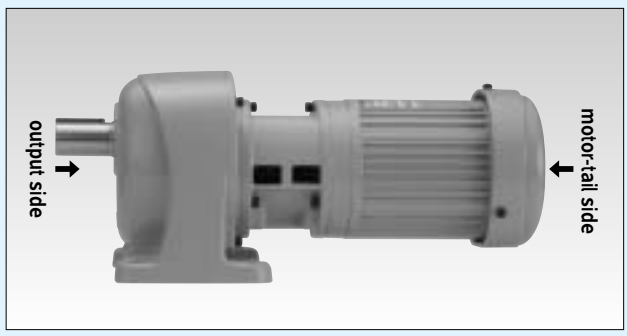
Performance Table
Dimension diagram

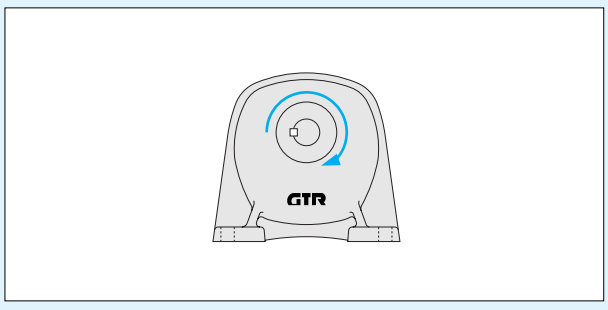
G3 Series

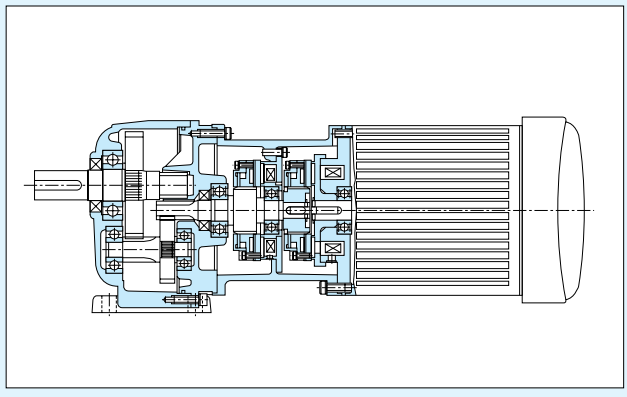
3-Phase

【Remarks】

- The output rotation speed is the value corresponds to the motor synchronous speed and the nominal reduction ratio.
- The Shaded areas ▭ in the performance table shows that in case gearmotors are wired according to the diagram shown on page E41, the shaft rotates clock wise when viewing from output side. (Reter to the diagram shown below.)







Gearmotor with Clutch and Brake

G3 Series 3-Phase 0.1kW Standard Type

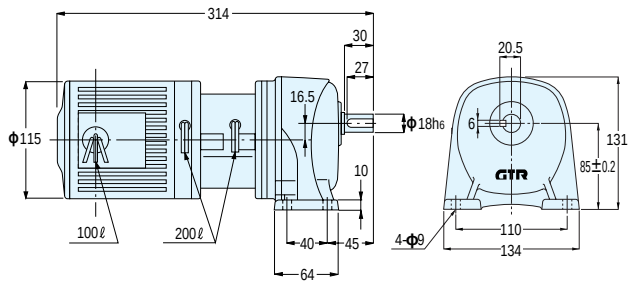
Motor Specs. Standard Voltage (Continuous Rated 4 Poles)	Capacity	Motor Capacity Designation	Frequency (Hz)	Voltage (V)	Rated Current (A)	Rated Rotation Speed (rpm)	Insulation Classification	Protective Cooling system
	0.1kW	T010	50/60/60	200/200/220	0.61/0.54/0.54	1420/1700/1720	B	Totally Enclosed

Motor Capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio (Fraction)	Output Shaft Rotation Speed (rpm)		Output Shaft Allowable Torque N•m		Output Shaft Allowable Torque kgf•m		Output Shaft Allowable O.H.L		Page, Diagram No. of the Outer Dimension Diagram, Round Weight 3-Phase		
				50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	N	kgf	G3LE	G3FE	G3KE
3-phase 0.1kW	18	1/ 5	33/ 164	300	360	3	2.5	0.31	0.26	588	60	P.A84 Fig.A-170 7kg	P.A85 Fig.A-172 7.5kg	P.A85 Fig.A-174 7.5kg
		1/ 10	77/ 779	150	180	6.1	5	0.62	0.51	882	90			
		1/ 15	119/ 1804	100	120	9.1	7.5	0.93	0.77	980	100			
		1/ 20	49/ 984	75	90	12	9.8	1.2	1	1180	120			
		1/ 25	28/ 697	60	72	15	12.7	1.5	1.3	1270	130			
		1/ 30	35/ 1066	50	60	19	14.7	1.9	1.5	1370	140			
		1/ 40	35/ 1404	37.5	45	24	19.6	2.4	2	1470	150			
		1/ 50	7/ 351	30	36	29	24.5	3	2.5	1570	160			
	22	1/ 60	11/ 684	25	30	35	29.4	3.6	3	2160	220	P.A84 Fig.A-171 8.5kg	P.A85 Fig.A-173 9kg	P.A85 Fig.A-175 9kg
		1/ 80	21/ 1634	18.8	22.5	47	39.2	4.8	4	2450	250			
		1/ 100	7/ 684	15	18	59	49	6	5	2450	250			
		1/ 120	147/ 17974	12.5	15	71	58.8	7.2	6	2450	250			
		1/ 160	21/ 3268	9.4	11.2	94	78.4	9.6	8	2450	250			
		1/ 200	21/ 4085	7.5	9	117	98	11.9	10	2450	250			

Note) The allowable O.H.L indicated are the values in the central position of the output shaft.

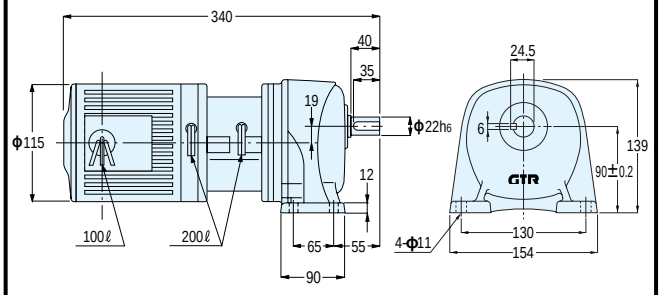
Foot Mount Type

Fig.A-170 G3LE-18-5～50-T010
CAD Data: G3LE-18-T010



Round Weight 7kg

Fig.A-171 G3LE-22-60～200-T010
CAD Data: G3LE-22-T010

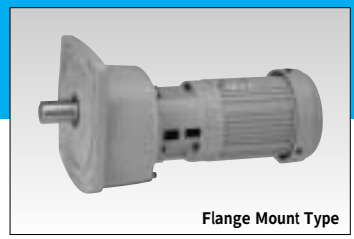


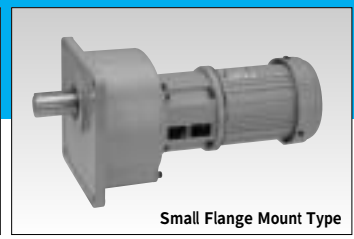
Round Weight 8.5kg

Model Code P.A80

Option P.E78～E79

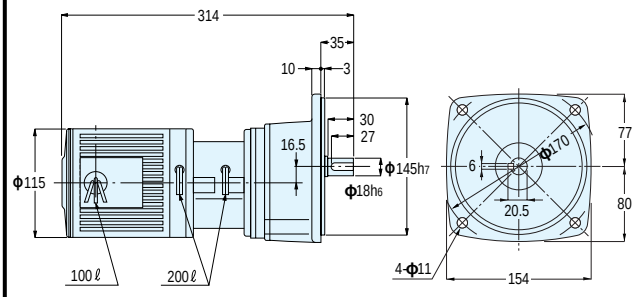
Foot Mount Type


Flange Mount Type


Small Flange Mount Type

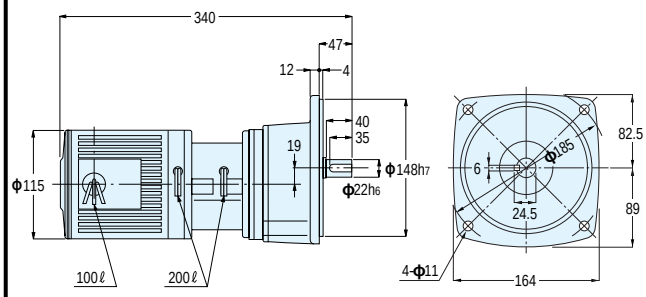
Flange Mount Type

Fig.A-172 G3FE-18-5～50-T010
CAD Data: G3FE-18-T010



Round Weight 7.5kg

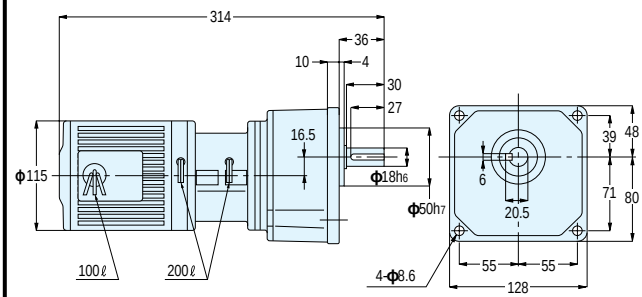
Fig.A-173 G3FE-22-60～200-T010
CAD Data: G3FE-22-T010



Round Weight 9kg

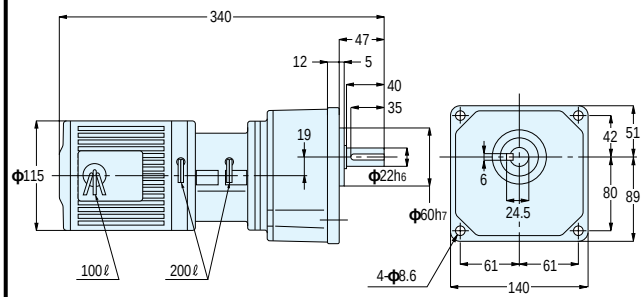
Small Flange Mount Type

Fig.A-174 G3KE-18-5～50-T010
CAD Data: G3KE-18-T010



Round Weight 7.5kg

Fig.A-175 G3KE-22-60～200-T010
CAD Data: G3KE-22-T010



Round Weight 9kg

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Gearmotor with Clutch and Brake

G3 Series 3-Phase 0.2kW Standard Type

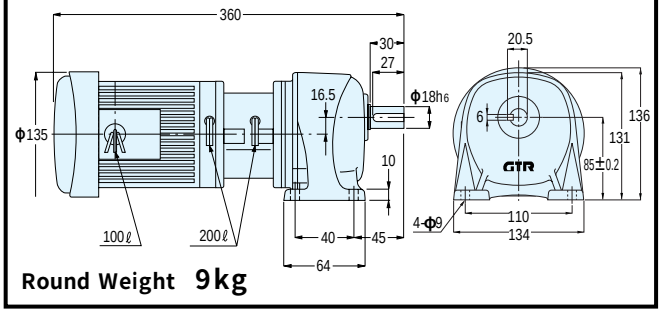
Motor Specs. Standard Voltage (Continuous Rated 4 Poles)	Capacity	Motor Capacity Designation	Frequency (Hz)	Voltage (V)	Rated Current (A)	Rated Rotation Speed (rpm)	Insulation Classification	Protective Cooling system
	0.2kW	T020	50/60/60	200/200/220	1.1/1.0/1.0	1420/1710/1720	B	Totally Enclosed fan-cooled

Motor Capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio (Fraction)	Output Shaft Rotation Speed (rpm)		Output Shaft Allowable Torque N•m		Output Shaft Allowable Torque kgf•m		Output Shaft Allowable O.H.L		Page, Diagram No. of the Outer Dimension Diagram, Round Weight 3-Phase		
				50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	N	kgf	G3LE	G3FE	G3KE
3-phase 0.2kW	18	1/ 5	33/ 164	300	360	6.1	5	0.62	0.51	588	60	P.A86 Fig.A-176 9kg	P.A87 Fig.A-179 9.5kg	P.A87 Fig.A-182 9.5kg
		1/ 10	77/ 779	150	180	11.8	9.8	1.2	1	882	90			
		1/ 15	119/ 1804	100	120	18.6	14.7	1.9	1.5	980	100			
		1/ 20	49/ 984	75	90	24.5	20.6	2.5	2.1	1180	120			
		1/ 25	28/ 697	60	72	30.4	25.5	3.1	2.6	1270	130			
	22	1/ 30	7/ 216	50	60	36.3	30.4	3.7	3.1	1760	180	P.A86 Fig.A-177 10kg	P.A87 Fig.A-180 10.5kg	P.A87 Fig.A-183 10.5kg
		1/ 40	91/ 3600	37.5	45	47	39.2	4.8	4	1860	190			
		1/ 50	11/ 540	30	36	58.8	49	6	5	1960	200			
		1/ 60	637/ 39600	25	30	70.6	58.8	7.2	6	2160	220			
		1/ 80	91/ 7200	18.8	22.5	94.1	78.4	9.6	8	2450	250			
		∗1/ 100	11/ 1080	15	18	97	80.4	9.9	8.2	2450	250			
	28	1/ 100	13/ 1353	15	18	117	98	11.9	10	2840	290	P.A86 Fig.A-178 12kg	P.A87 Fig.A-181 12.5kg	P.A87 Fig.A-184 12.5kg
		1/ 120	91/ 11000	12.5	15	140	117	14.3	11.9	3330	340			
		1/ 160	1/ 165	9.4	11.2	187	156	19.1	15.9	3430	350			
		1/ 200	7/ 1375	7.5	9	234	195	23.9	19.9	3430	350			

Note) The allowable O.H.L indicated are the values in the central position of the output shaft.
The models marked with ∗ are limited torque type. Be sure to refer to the allowable torque in the Performance Table.

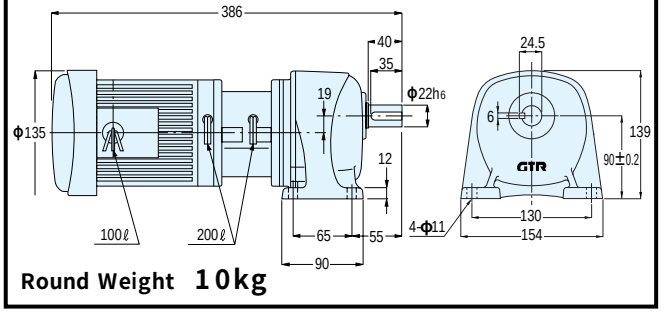
Foot Mount Type

Fig.A-176 G3LE-18-5～25-T020
CAD Data: G3LE-18-T020



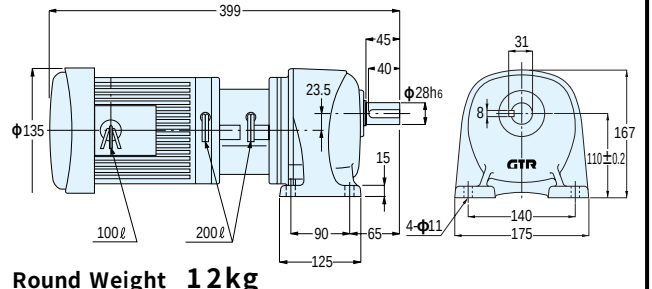
Round Weight 9kg

Fig.A-177 G3LE-22-30～100-T020
CAD Data: G3LE-22-T020



Round Weight 10kg

Fig.A-178 G3LE-28-100～200-T020
CAD Data: G3LE-28-T020

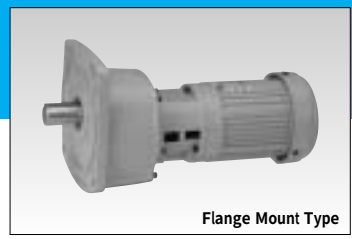


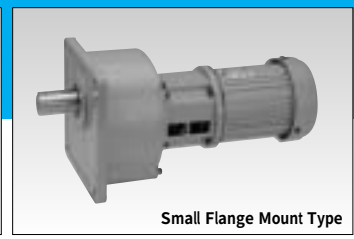
Round Weight 12kg

Model Code P.A80

Option P.E78～E79

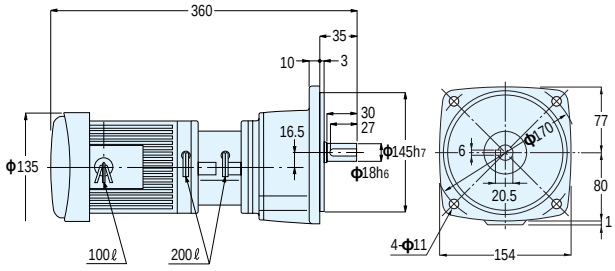
Foot Mount Type


Flange Mount Type


Small Flange Mount Type

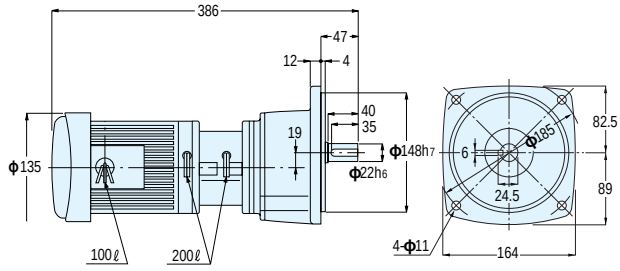
Flange Mount Type

Fig.A-179 G3FE-18-5～25-T020
CAD Data: G3FE-18-T020



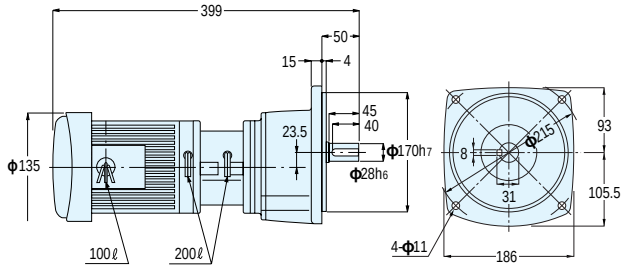
Round Weight 9.5kg

Fig.A-180 G3FE-22-30～100-T020
CAD Data: G3FE-22-T020



Round Weight 10.5kg

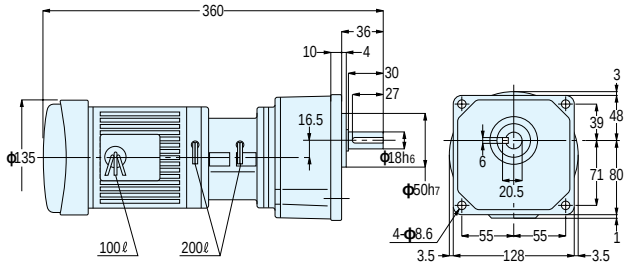
Fig.A-181 G3FE-28-100～200-T020
CAD Data: G3FE-28-T020



Round Weight 12.5kg

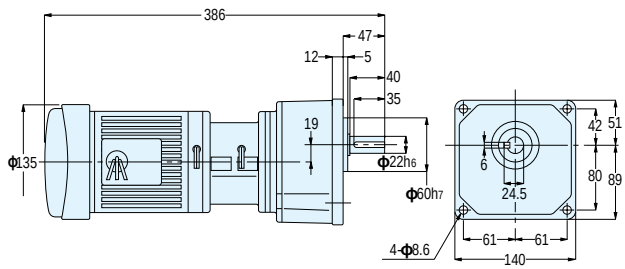
Small Flange Mount Type

Fig.A-182 G3KE-18-5～25-T020
CAD Data: G3KE-18-T020



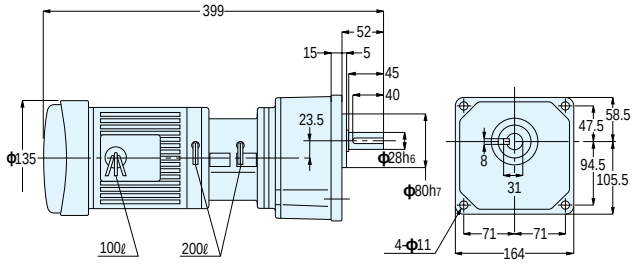
Round Weight 9.5kg

Fig.A-183 G3KE-22-30～100-T020
CAD Data: G3KE-22-T020



Round Weight 10.5kg

Fig.A-184 G3KE-28-100～200-T020
CAD Data: G3KE-28-T020



Round Weight 12.5kg

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Gearmotor with Clutch and Brake

G3 Series 3-Phase 0.4kW Standard Type

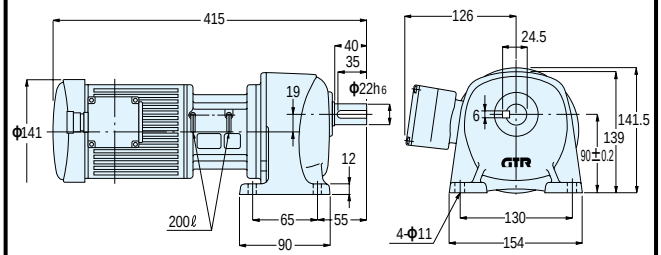
Motor Specs. Standard Voltage (Continuous Rated 4 Poles)	Capacity	Motor Capacity Designation	Frequency (Hz)	Voltage (V)	Rated Current (A)	Rated Rotation Speed (rpm)	Insulation Classification	Protective Cooling system
	0.4kW	T040	50/60/60	200/200/220	2.1/1.8/1.8	1410/1690/1710	B	Totally Enclosed fan-cooled

Motor Capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio (Fraction)	Output Shaft Rotation Speed (rpm)		Output Shaft Allowable Torque N•m		Output Shaft Allowable Torque kgf•m		Output Shaft Allowable O.H.L		Page, Diagram No. of the Outer Dimension Diagram, Round Weight 3-Phase		
				50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	N	kgf	G3LE	G3FE	G3KE
3-phase 0.4kW	22	1/ 5	7/ 34	300	360	12	10	1.2	1	882	90	P.A88 Fig.A-185 12.5kg	P.A89 Fig.A-188 13kg	P.A89 Fig.A-191 13kg
		1/ 10	7/ 68	150	180	25	21	2.5	2.1	1180	120			
		1/ 15	49/ 748	100	120	36	30	3.7	3.1	1370	140			
		1/ 20	7/ 136	75	90	48	40	4.9	4.1	1470	150			
		1/ 25	7/ 170	60	72	61	50	6.2	5.1	1670	170			
	28	1/ 30	1/ 30	50	60	73	61	7.4	6.2	2550	260	P.A88 Fig.A-186 14.5kg	P.A89 Fig.A-189 15kg	P.A89 Fig.A-192 15kg
		1/ 40	221/ 8610	37.5	45	94	78	9.6	8	2840	290			
		1/ 50	187/ 9030	30	36	117	98	11.9	10	3140	320			
		1/ 60	169/ 9840	25	30	140	117	14.3	11.9	3430	350			
		1/ 80	65/ 5166	18.8	22.5	187	156	19.1	15.9	3430	350			
		∗1/ 100	55/ 5418	15	18	193	161	19.7	16.4	3430	350			
	32	1/ 100	7/ 688	15	18	234	195	23.9	19.9	4900	500	P.A88 Fig.A-187 17.5kg	P.A89 Fig.A-190 18kg	P.A89 Fig.A-193 18kg
		1/ 120	77/ 9360	12.5	15	281	234	28.7	23.9	5880	600			
		1/ 160	21/ 3328	9.4	11.2	374	313	38.2	31.9	5880	600			
		1/ 200	189/ 38272	7.5	9	431	390	44	39.8	5880	600			

Note) The allowable O.H.L indicated are the values in the central position of the output shaft.
The models marked with ∗ are limited torque type. Be sure to refer to the allowable torque in the Performance Table.

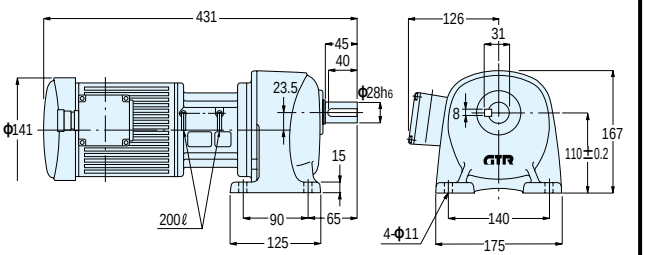
Foot Mount Type

Fig.A-185 G3LE-22-5〜25-T040A
CAD Data: G3LE-22-T040A



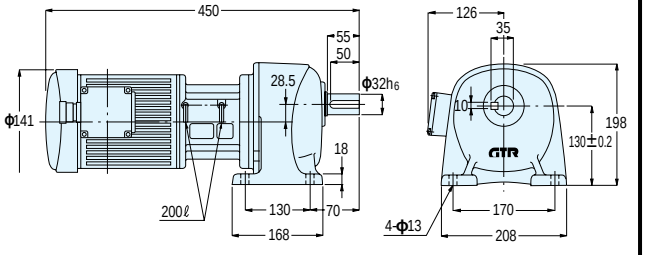
Round Weight 12.5kg

Fig.A-186 G3LE-28-30〜100-T040A
CAD Data: G3LE-28-T040A



Round Weight 14.5kg

Fig.A-187 G3LE-32-100〜200-T040A
CAD Data: G3LE-32-T040A

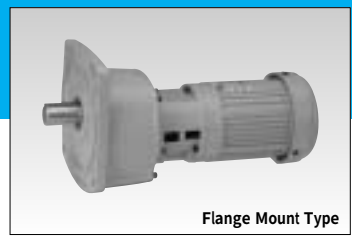


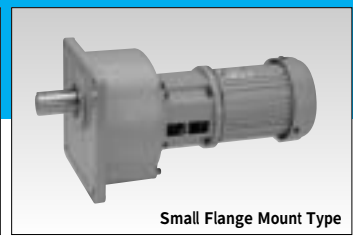
Round Weight 17.5kg

Model Code P.A80
Option P.E78〜E79

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

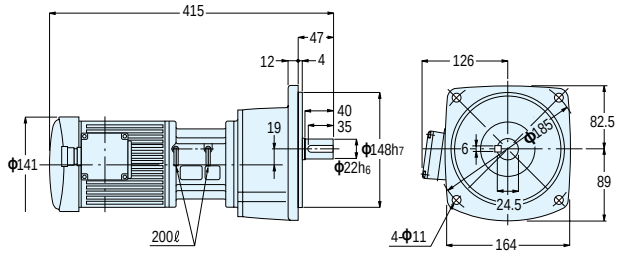
Foot Mount Type


Flange Mount Type


Small Flange Mount Type

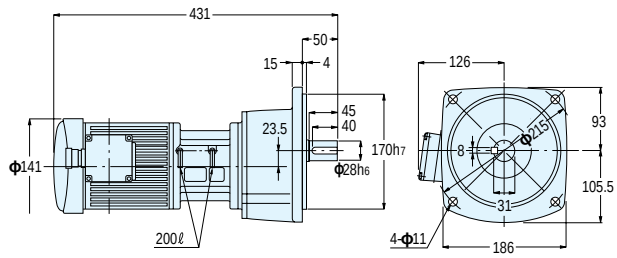
Flange Mount Type

Fig.A-188 G3FE-22-5～25-T040A
CAD Data: G3FE-22-T040A



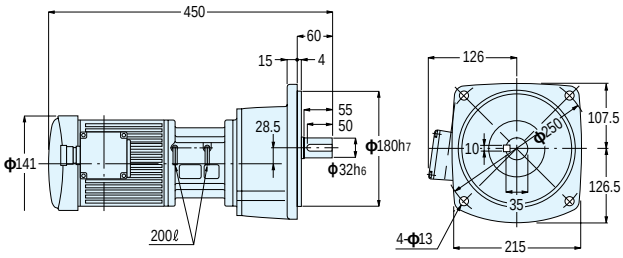
Round Weight 13kg

Fig.A-189 G3FE-28-30～100-T040A
CAD Data: G3FE-28-T040A



Round Weight 15kg

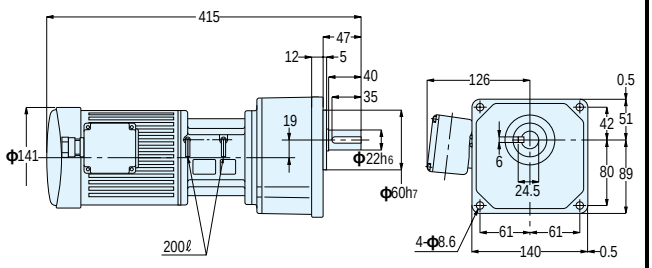
Fig.A-190 G3FE-32-100～200-T040A
CAD Data: G3FE-32-T040A



Round Weight 18kg

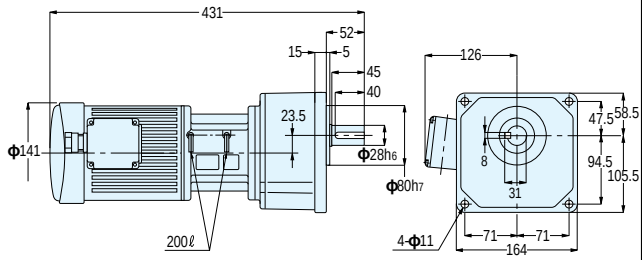
Small Flange Mount Type

Fig.A-191 G3KE-22-5～25-T040A
CAD Data: G3KE-22-T040A



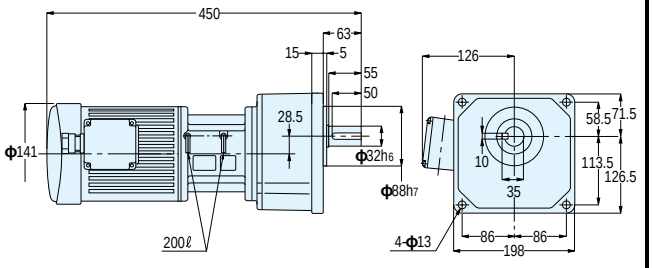
Round Weight 13kg

Fig.A-192 G3KE-28-30～100-T040A
CAD Data: G3KE-28-T040A



Round Weight 15kg

Fig.A-193 G3KE-32-100～200-T040A
CAD Data: G3KE-32-T040A



Round Weight 18kg

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Gearmotor with Clutch and Brake

G3 Series 3-Phase 0.75kW Standard Type

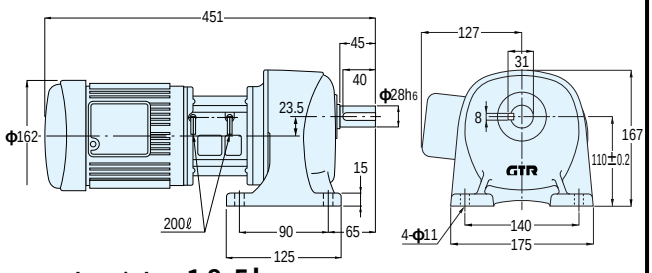
Motor Specs. Standard Voltage (Continuous Rated 4 Poles)	Capacity	Motor Capacity Designation	Frequency (Hz)	Voltage (V)	Rated Current (A)	Rated Rotation Speed (rpm)	Insulation Classification	Protective Cooling system
	0.75kW	075	50/60/60	200/200/220	3.7/3.3/3.2	1430/1720/1730	B	Totally Enclosed fan-cooled

Motor Capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio (Fraction)	Output Shaft Rotation Speed (rpm)		Output Shaft Allowable Torque N•m		Output Shaft Allowable Torque kgf•m		Output Shaft Allowable O.H.L		Page, Diagram No. of the Outer Dimension Diagram, Round Weight 3-Phase		
				50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	N	kgf	G3LE	G3FE	G3KE
3-phase 0.75kW	28	1/ 5	91/ 459	300	360	23	19	2.3	1.9	1270	130	P.A90 Fig.A-194 18.5kg	P.A91 Fig.A-197 19kg	P.A91 Fig.A-200 19kg
		1/ 10	1/ 10	150	180	45	38	4.6	3.9	1760	180			
		1/ 15	91/ 1360	100	120	68	57	6.9	5.8	2160	220			
		1/ 20	5/ 102	75	90	91	75	9.3	7.7	2350	240			
		1/ 25	7/ 170	60	72	114	94	11.6	9.6	2450	250			
	32	1/ 30	3/ 92	50	60	136	114	13.9	11.6	4020	410	P.A90 Fig.A-195 22kg	P.A91 Fig.A-198 22.5kg	P.A91 Fig.A-201 22.5kg
		1/ 40	13/ 516	37.5	45	175	146	17.9	14.9	4210	430			
		1/ 50	11/ 540	30	36	220	183	22.4	18.7	4610	470			
		1/ 60	13/ 774	25	30	264	220	26.9	22.4	5490	560			
		1/ 80	13/ 1032	18.8	22.5	351	293	35.8	29.9	5880	600			
		＊1/ 100	11/ 1080	15	18	362	302	36.9	30.8	5880	600			
	40	1/ 100	91/ 9000	15	18	439	366	44.8	37.3	7060	720	P.A90 Fig.A-196 28.5kg	P.A91 Fig.A-199 30kg	
		1/ 120	77/ 9400	12.5	15	527	439	53.8	44.8	7060	720			
		1/ 160	9/ 1400	9.4	11.2	703	585	71.7	59.7	7060	720			
		1/ 200	9/ 1750	7.5	9	764	732	78	74.7	7060	720			

Note) The allowable O.H.L indicated are the values in the central position of the output shaft.
The models marked with ＊ are limited torque type. Be sure to refer to the allowable torque in the Performance Table.

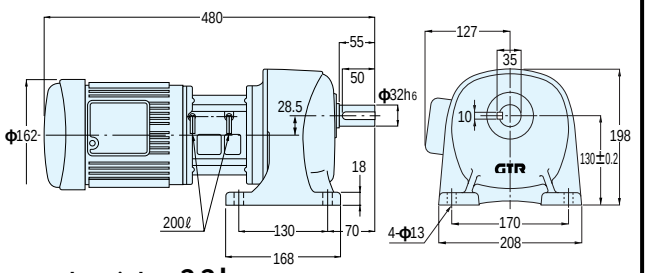
Foot Mount Type

Fig.A-194 G3LE-28-5〜25-075
CAD Data: G3LE-28-075



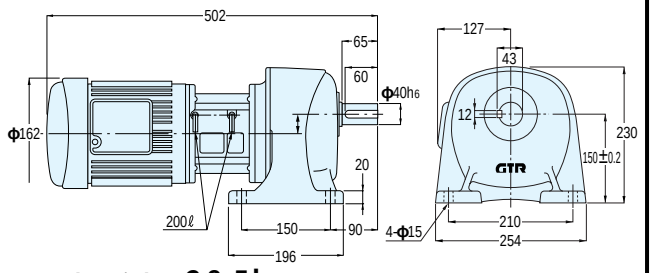
Round Weight 18.5kg

Fig.A-195 G3LE-32-30〜100-075
CAD Data: G3LE-32-075



Round Weight 22kg

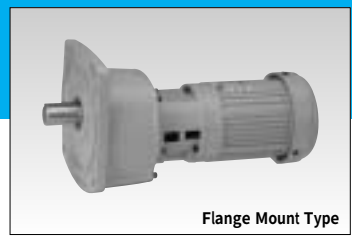
Fig.A-196 G3LE-40-100〜200-075
CAD Data: G3LE-40-075

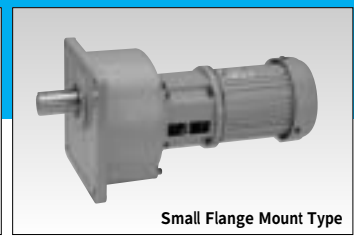


Round Weight 28.5kg

Model Code P.A80
Option P.E78〜E79

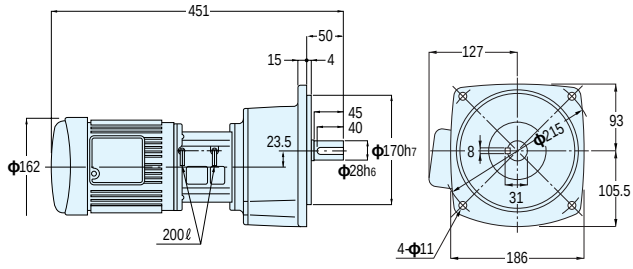
Foot Mount Type


Flange Mount Type


Small Flange Mount Type

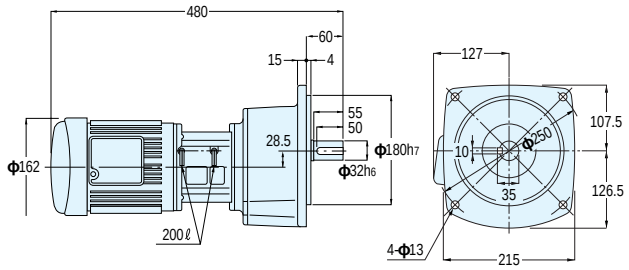
Flange Mount Type

Fig.A-197 G3FE-28-5～25-075
CAD Data: G3FE-28-075



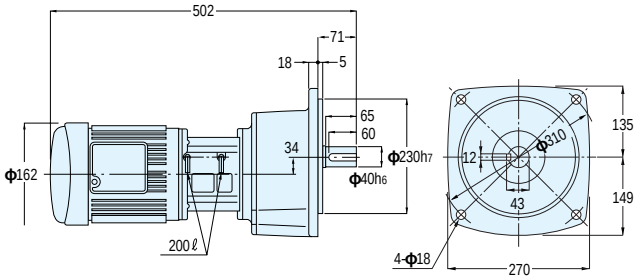
Round Weight 19kg

Fig.A-198 G3FE-32-30～100-075
CAD Data: G3FE-32-075



Round Weight 22.5kg

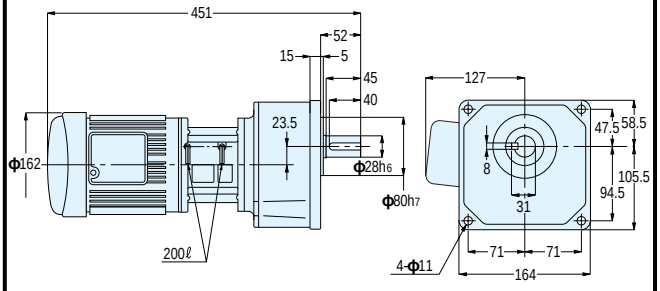
Fig.A-199 G3FE-40-100～200-075
CAD Data: G3FE-40-075



Round Weight 30kg

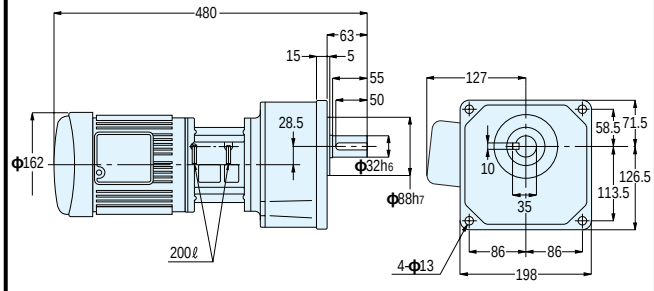
Small Flange Mount Type

Fig.A-200 G3KE-28-5～25-075
CAD Data: G3KE-28-075



Round Weight 19kg

Fig.A-201 G3KE-32-30～100-075
CAD Data: G3KE-32-075



Round Weight 22.5kg

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Parallel Shaft

Gearmotor with Clutch and Brake (Heavy duty Type)

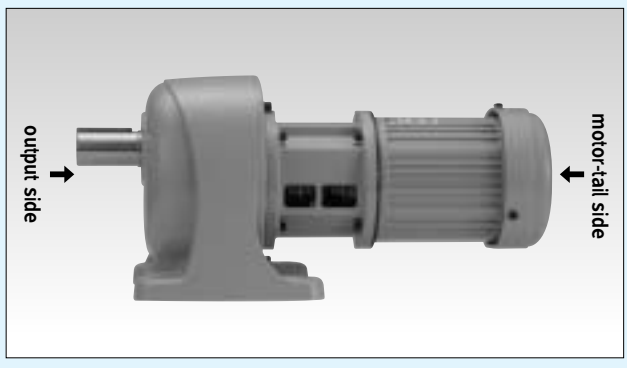
Performance Table
Dimension diagram

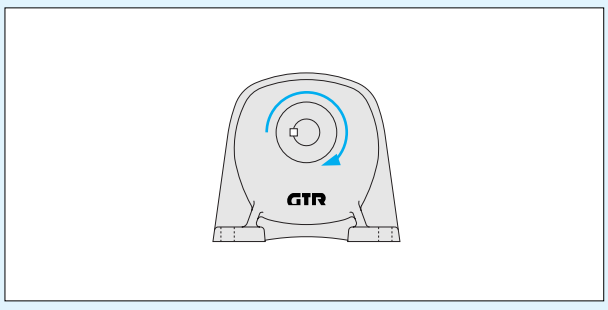
G3 Series

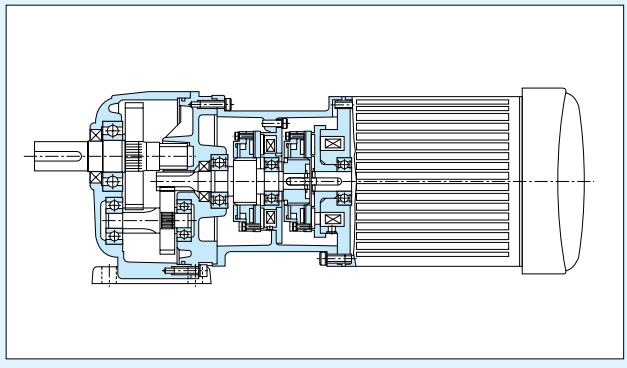
3-Phase

【Remarks】

- The output rotation speed is the value corresponds to the motor synchronous speed and the nominal reduction ratio.
- The Shaded areas ▭ in the performance table shows that in case gearmotors are wired according to the diagram shown on page E41, the shaft rotates clock wise when viewing from output side. (Reter to the diagram shown below.)







Gearmotor with Clutch and Brake

G3 Series 3-Phase 0.2kW Heavy duty type

Motor Specs. Standard Voltage (Continuous Rated 4 Poles)	Capacity	Motor Capacity Designation	Frequency (Hz)	Voltage (V)	Rated Current (A)	Rated Rotation Speed (rpm)	Insulation Classification	Protective Cooling system
	0.2kW	T020	50/60/60	200/200/220	1.1/1.0/1.0	1420/1710/1720	B	Totally Enclosed fan-cooled

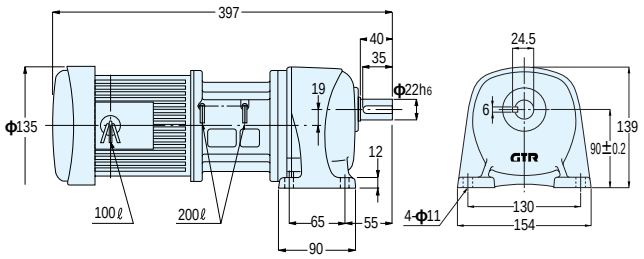
Motor Capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio (Fraction)	Output Shaft Rotation Speed (rpm)		Output Shaft Allowable Torque N•m		Output Shaft Allowable Torque kgf•m		Output Shaft Allowable O.H.L		Page, Diagram No. of the Outer Dimension Diagram, Round Weight 3-Phase		
				50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	N	kgf	G3LE	G3FE	G3KE
3-phase 0.2kW	22	1/ 5	7/ 34	300	360	6.1	5	0.62	0.51	882	90	P.A94 Fig.A-202 10.5kg	P.A95 Fig.A-205 11kg	P.A95 Fig.A-208 11kg
		1/ 10	7/ 68	150	180	11.8	9.8	1.2	1	1180	120			
		1/ 15	49/ 748	100	120	18.6	14.7	1.9	1.5	1370	140			
		1/ 20	7/ 136	75	90	24.5	20.6	2.5	2.1	1470	150			
		1/ 25	7/ 170	60	72	30.4	25.5	3.1	2.6	1670	170			
	28	1/ 30	1/ 30	50	60	36.3	30.4	3.7	3.1	2550	260	P.A94 Fig.A-203 12.5kg	P.A95 Fig.A-206 13kg	P.A95 Fig.A-209 13kg
		1/ 40	221/ 8610	37.5	45	47	39.2	4.8	4	2840	290			
		1/ 50	187/ 9030	30	36	58.8	49	6	5	3140	320			
		1/ 60	169/ 9840	25	30	70.6	58.8	7.2	6	3430	350			
		1/ 80	65/ 5166	18.8	22.5	94.1	78.4	9.6	8	3430	350			
	32	1/ 100	7/ 688	15	18	117	98	11.9	10	4900	500	P.A94 Fig.A-204 16.5kg	P.A95 Fig.A-207 17kg	P.A95 Fig.A-210 17kg
		1/ 120	77/ 9360	12.5	15	140	117	14.3	11.9	5880	600			
		1/ 160	21/ 3328	9.4	11.2	187	156	19.1	15.9	5880	600			
		1/ 200	189/38272	7.5	9	234	195	23.9	19.9	5880	600			

Note) The allowable O.H.L indicated are the values in the central position of the output shaft.

Foot Mount Type

Fig.A-202 G3LE-22-5～25-T020

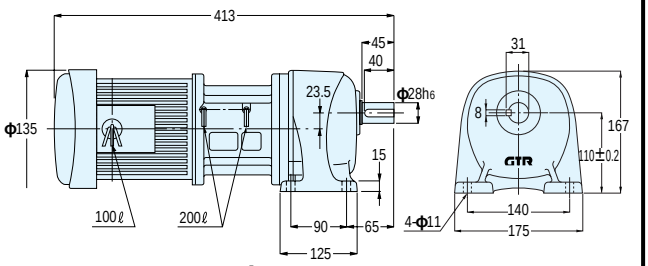
CAD Data: G3LE-22-T020K



Round Weight 10.5kg

Fig.A-203 G3LE-28-30～80-T020

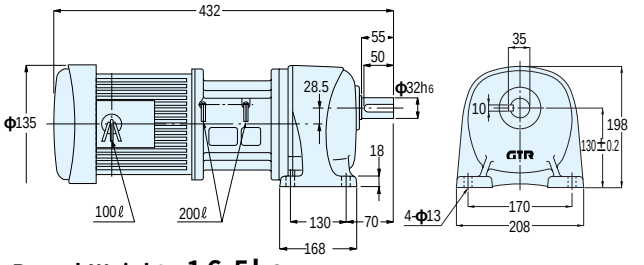
CAD Data: G3LE-28-T020K



Round Weight 12.5kg

Fig.A-204 G3LE-32-100～200-T020

CAD Data: G3LE-32-T020K

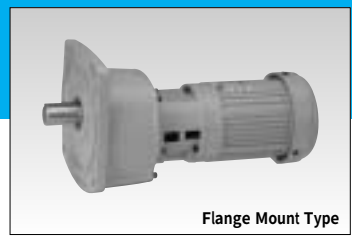


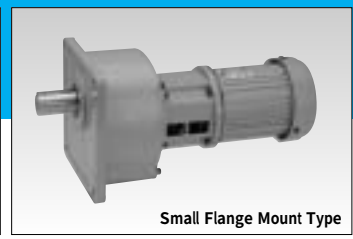
Round Weight 16.5kg

Model Code P.A80

Option P.E78～E79

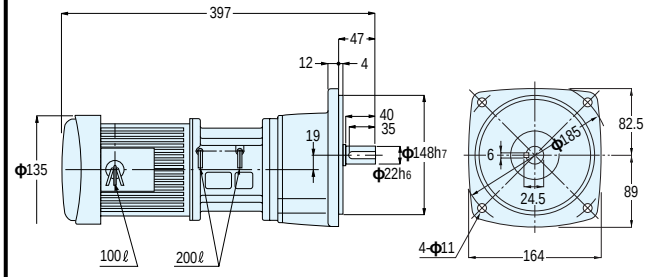
Foot Mount Type


Flange Mount Type


Small Flange Mount Type

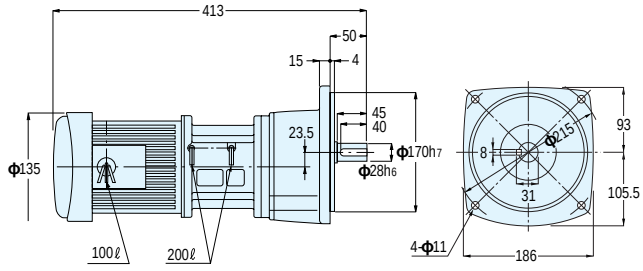
Flange Mount Type

Fig.A-205 G3FE-22-5～25-T020
CAD Data: G3FE-22-T020K



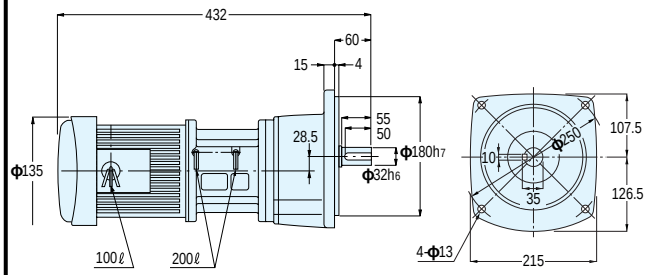
Round Weight 11kg

Fig.A-206 G3FE-28-30～80-T020
CAD Data: G3FE-28-T020K



Round Weight 13kg

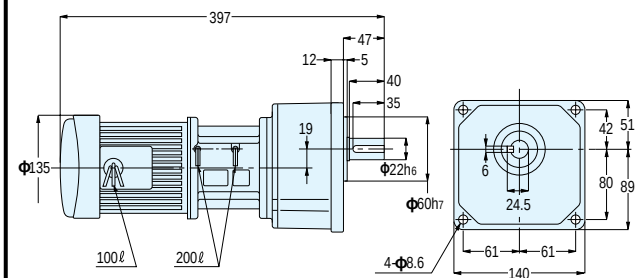
Fig.A-207 G3FE-32-100～200-T020
CAD Data: G3FE-32-T020K



Round Weight 17kg

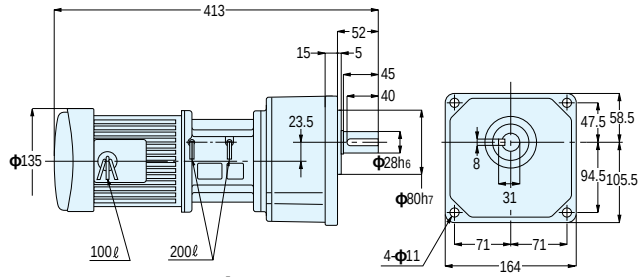
Small Flange Mount Type

Fig.A-208 G3KE-22-5～25-T020
CAD Data: G3KE-22-T020K



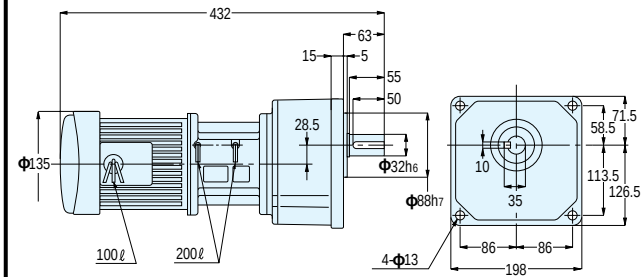
Round Weight 11kg

Fig.A-209 G3KE-28-30～80-T020
CAD Data: G3KE-28-T020K



Round Weight 13kg

Fig.A-210 G3KE-32-100～200-T020
CAD Data: G3KE-32-T020K



Round Weight 17kg

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Gearmotor with Clutch and Brake

G3 Series 3-Phase 0.4kW Heavy duty type

Motor Specs. Standard Voltage (Continuous Rated 4 Poles)	Capacity	Motor Capacity Designation	Frequency (Hz)	Voltage (V)	Rated Current (A)	Rated Rotation Speed (rpm)	Insulation Classification	Protective Cooling system
	0.4kW	T040	50/60/60	200/200/220	2.1/1.8/1.8	1410/1690/1710	B	Totally Enclosed fan-cooled

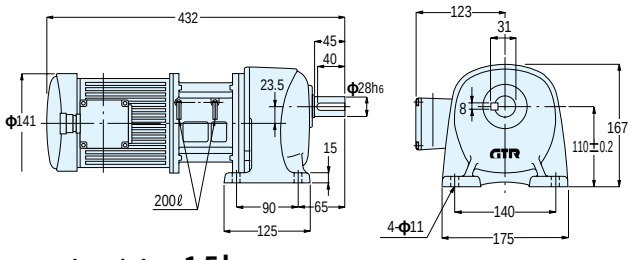
Motor Capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio (Fraction)	Output Shaft Rotation Speed (rpm)		Output Shaft Allowable Torque N•m		Output Shaft Allowable Torque kgf•m		Output Shaft Allowable O.H.L		Page, Diagram No. of the Outer Dimension Diagram, Round Weight 3-Phase		
				50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	N	kgf	G3LE	G3FE	G3KE
3-phase 0.4kW	28	1/ 5	91/ 459	300	360	12	10	1.2	1	1270	130	P.A96 Fig.A-211 15kg	P.A97 Fig.A-214 15.5kg	P.A97 Fig.A-217 15.5kg
		1/ 10	1/ 10	150	180	25	21	2.5	2.1	1760	180			
		1/ 15	91/1360	100	120	36	30	3.7	3.1	2160	220			
		1/ 20	5/ 102	75	90	48	40	4.9	4.1	2350	240			
		1/ 25	7/ 170	60	72	61	50	6.2	5.1	2450	250			
	32	1/ 30	3/ 92	50	60	73	61	7.4	6.2	4020	410	P.A96 Fig.A-212 18kg	P.A97 Fig.A-215 18.5kg	P.A97 Fig.A-218 18.5kg
		1/ 40	13/ 516	37.5	45	94	78	9.6	8	4210	430			
		1/ 50	11/ 540	30	36	117	98	11.9	10	4610	470			
		1/ 60	13/ 774	25	30	140	117	14.3	11.9	5490	560			
		1/ 80	13/1032	18.8	22.5	187	156	19.1	15.9	5880	600			
	40	1/ 100	91/9000	15	18	234	195	23.9	19.9	7060	720	P.A96 Fig.A-213 26.5kg	P.A97 Fig.A-216 28kg	
		1/ 120	77/9400	12.5	15	281	234	28.7	23.9	7060	720			
		1/ 160	9/1400	9.4	11.2	374	313	38.2	31.9	7060	720			
		1/ 200	9/1750	7.5	9	468	390	47.8	39.8	7060	720			

Note) The allowable O.H.L indicated are the values in the central position of the output shaft.

Foot Mount Type

Fig.A-211 G3LE-28-5～25-T040A

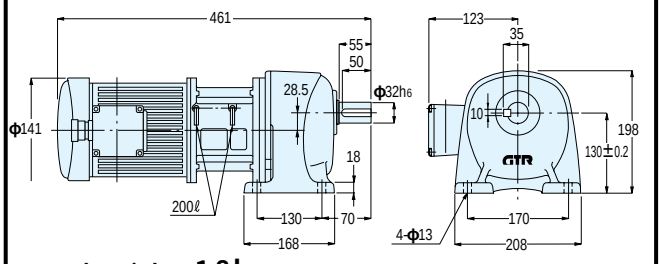
CAD Data: G3LE-28-T040AK



Round Weight 15kg

Fig.A-212 G3LE-32-30～80-T040A

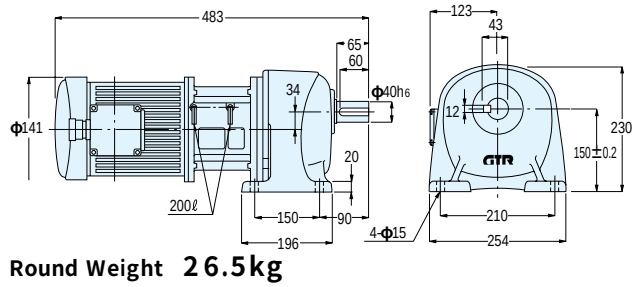
CAD Data: G3LE-32-T040AK



Round Weight 18kg

Fig.A-213 G3LE-40-100～200-T040A

CAD Data: G3LE-40-T040AK

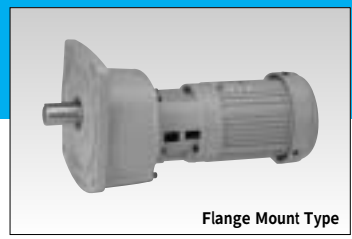


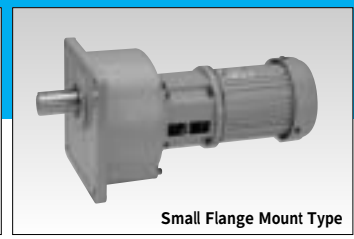
Round Weight 26.5kg

Model Code P.A80

Option P.E78～E79

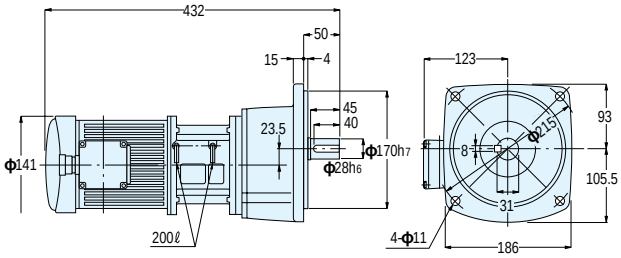
Foot Mount Type


Flange Mount Type


Small Flange Mount Type

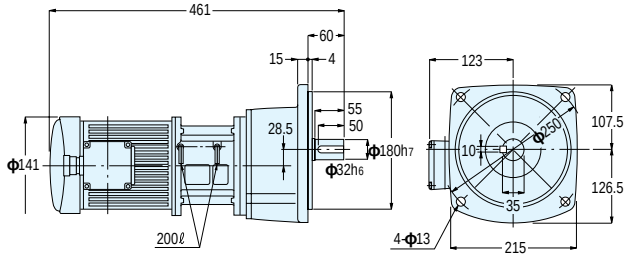
Flange Mount Type

Fig.A-214 G3FE-28-5～25-T040A
CAD Data: G3FE-28-T040AK



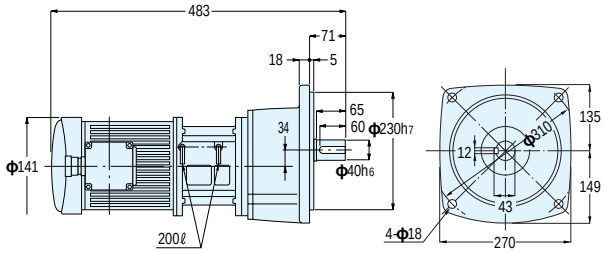
Round Weight 15.5kg

Fig.A-215 G3FE-32-30～80-T040A
CAD Data: G3FE-32-T040AK



Round Weight 18.5kg

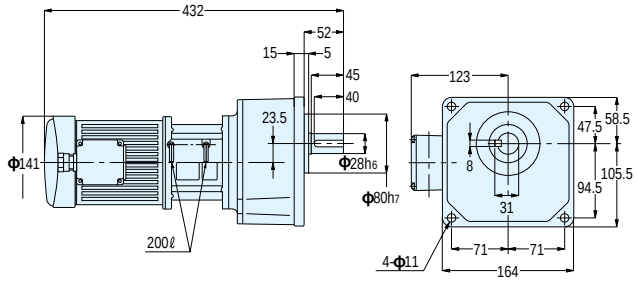
Fig.A-216 G3FE-40-100～200-T040A
CAD Data: G3FE-40-T040AK



Round Weight 28kg

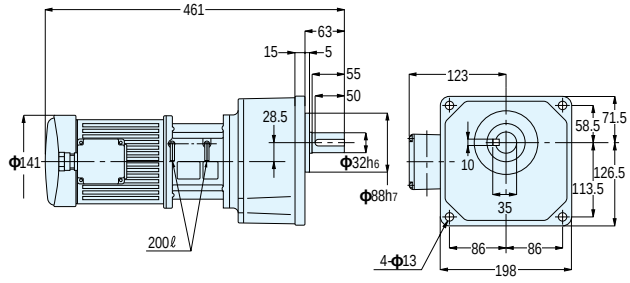
Small Flange Mount Type

Fig.A-217 G3KE-28-5～25-T040A
CAD Data: G3KE-28-T040AK



Round Weight 15.5kg

Fig.A-218 G3KE-32-30～80-T040A
CAD Data: G3KE-32-T040AK



Round Weight 18.5kg

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Gearmotor with Clutch and Brake

G3 Series 3-Phase 0.75kW Heavy duty type

Motor Specs. Standard Voltage (Continuous Rated 4 Poles)	Capacity	Motor Capacity Designation	Frequency (Hz)	Voltage (V)	Rated Current (A)	Rated Rotation Speed (rpm)	Insulation Classification	Protective Cooling system
	0.75kW	075	50/60/60	200/200/220	3.7/3.3/3.2	1430/1720/1730	B	Totally Enclosed fan-cooled

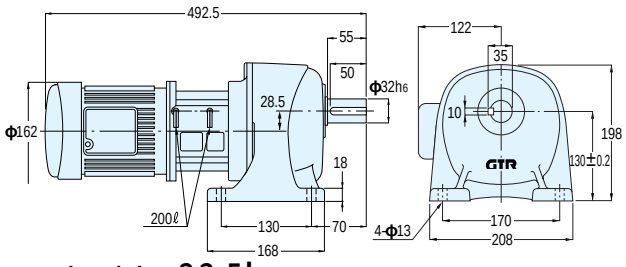
Motor Capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio (Fraction)	Output Shaft Rotation Speed (rpm)		Output Shaft Allowable Torque N•m		Output Shaft Allowable Torque kgf•m		Output Shaft Allowable O.H.L		Page, Diagram No. of the Outer Dimension Diagram, Round Weight 3-Phase		
				50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	N	kgf	G3LE	G3FE	G3KE
3-phase 0.75kW	32	1/ 5	1/ 5	300	360	23	19	2.3	1.9	1760	180	P.A98 Fig.A-219 22.5kg	P.A99 Fig.A-222 23kg	P.A99 Fig.A-225 23kg
		1/ 10	1/ 10	150	180	45	38	4.6	3.9	2450	250			
		1/ 15	1/ 15	100	120	68	57	6.9	5.8	2840	290			
		1/ 20	1/ 20	75	90	91	75	9.3	7.7	3230	330			
		1/ 25	9/ 230	60	72	114	94	11.6	9.6	3820	390			
	40	1/ 30	1/ 30	50	60	136	114	13.9	11.6	5100	520	P.A98 Fig.A-220 29kg	P.A99 Fig.A-223 30.5kg	
		1/ 40	13/ 540	37.5	45	175	146	17.9	14.9	5880	600			
		1/ 50	11/ 564	30	36	220	183	22.4	18.7	7060	720			
		1/ 60	91/5400	25	30	264	220	26.9	22.4	7060	720			
		1/ 80	13/1080	18.8	22.5	351	293	35.8	29.9	7060	720			
	50	1/ 100	25/2618	15	18	439	366	44.8	37.3	9800	1000	P.A98 Fig.A-221 60.5kg	P.A99 Fig.A-224 65.5kg	
		1/ 120	77/8993	12.5	15	527	439	53.8	44.8	9800	1000			
		1/ 160	33/5474	9.4	11.2	703	585	71.7	59.7	9800	1000			
		1/ 200	30/5831	7.5	9	878	732	89.6	74.7	9800	1000			

Note) The allowable O.H.L indicated are the values in the central position of the output shaft.

Foot Mount Type

Fig.A-219 G3LE-32-5～25-075

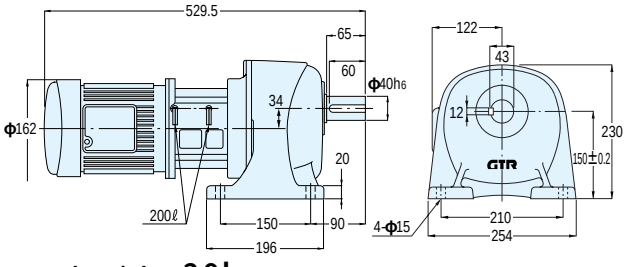
CAD Data: G3LE-32-075K



Round Weight 22.5kg

Fig.A-220 G3LE-40-30～80-075

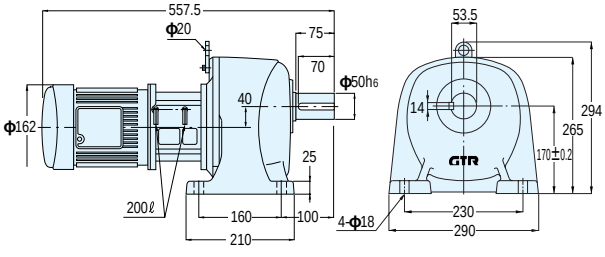
CAD Data: G3LE-40-075K



Round Weight 29kg

Fig.A-221 G3LE-50-100～200-075

CAD Data: G3LE-50-075K

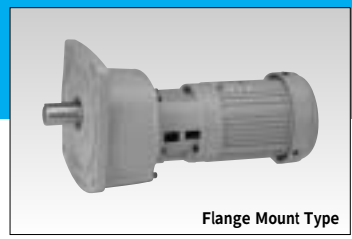


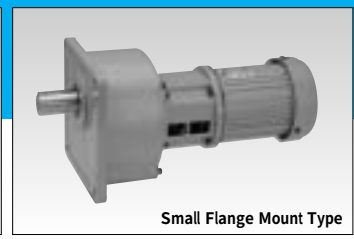
Round Weight 60.5kg

Model Code P.A80

Option P.E78～E79

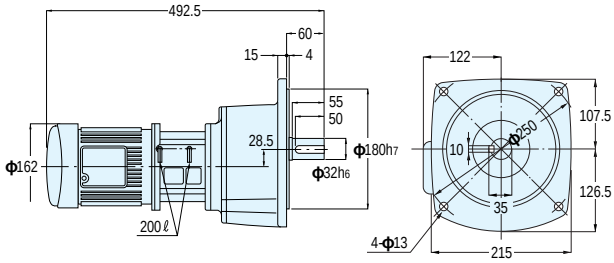
Foot Mount Type


Flange Mount Type


Small Flange Mount Type

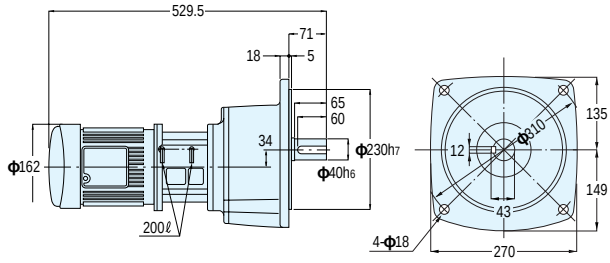
Flange Mount Type

Fig.A-222 G3FE-32-5～25-075
CAD Data: G3FE-32-075K



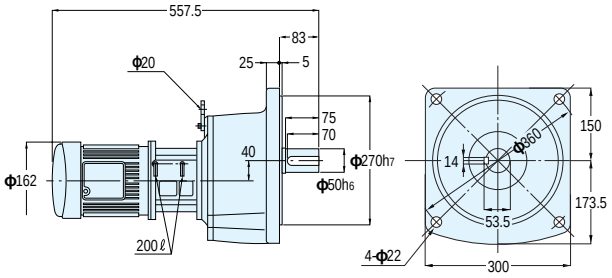
Round Weight 23kg

Fig.A-223 G3FE-40-30～80-075
CAD Data: G3FE-40-075K



Round Weight 30.5kg

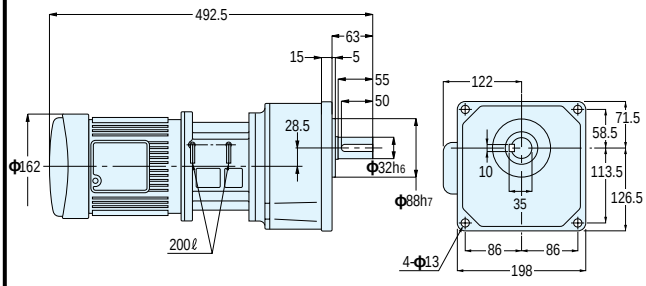
Fig.A-224 G3FE-50-100～200-075
CAD Data: G3FE-50-075K



Round Weight 65.5kg

Small Flange Mount Type

Fig.A-225 G3KE-32-5～25-075
CAD Data: G3KE-32-075K



Round Weight 23kg

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Parallel Shaft

Reducer (Double Shaft Type)

Model・Type Designation
Standard Model Lineup

GTR Gearmotor

G3 Series

■Standard Specifications G3 Series (Reducer)

The capacity of 4P equivalent motor		Equivalent of 0.1kW～2.2kW
Speed Reduction Part	Reduction Method	Helical gear
	Lubrication	Grease Lubrication(Maintenance Free)
	Output Shaft	New JIS Key(JIS 1301-1976 class)
	Output Shaft Material	S43C
	Case Material	Aluminium die-cast(Frame No.50: Cast iron)
Ambient Conditions	Ambient Temperature	−10℃～40℃
	Ambient Humidity	85%max.(without any dew condensation)
	Altitude	1,000m max.
	Environment	Well ventilated place free from corrosive gas, explosive gas vapor and/or dust.
	Installation Location	Indoors
Painting	Painting Method	Anion painting, Acrylic paint
	Painting Color	Grey(Mansel code: 9B6/0.5)
Mounting Direction		No restriction in the mounting angle.(horizontally, vertically or heeling angle)

Model and Type Designation G3 Series (Parallel Shaft)

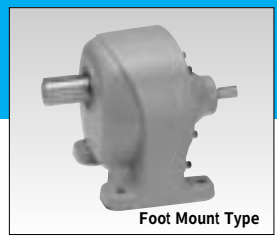
G3 series Reducer(Double Shaft Type) are classified by codes as shown below. Specify these codes in your inquiry and order.

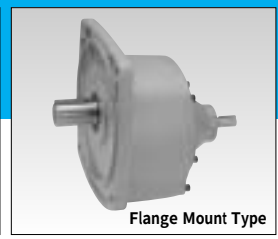
Type			Frame Number	Reduction Ratio	Motor Capacity	Option		Auxiliary Mark	Spec. Designation
G3	L		22	50	020				
G3	F		40	200	075			X	
①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩

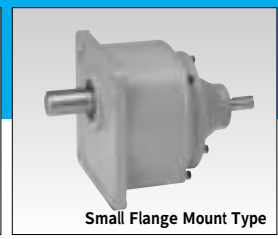
①Series Name	G3 : G3 Series(Parallel Shaft)
②Classification by Mount Form	L : Foot Mount
	F : Flange Mount
	K : Small Flange Mount (Frame No.18～32)
③Classification by Motor Type	Blank : Without Motor(Double Shaft Type)
④Frame No. and Diameter of Output shaft	Output Shaft Diameter
⑤Reduction Ratio	5 : 1／5 ～ 1200 : 1／1200
⑥Equivalent capacity	010 : 0.1 kW or equiv.
	020 : 0.2 kW or equiv.
	040 : 0.4 kW or equiv.
	075 : 0.75kW or equiv.
	150 : 1.5 kW or equiv.
	220 : 2.2 kW or equiv.
⑦⑧Option	Blank : Standard Specifications
⑨Auxiliary Mark	Blank : Standard Specifications
	X : Mark for Additional Specs
⑩Spec. Designation Note: Spec. Designation does not appear on the product type designation in the nameplate. It is specified on the additional numbers in the nameplate.	Blank : Standard Specifications

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Standard Model Lineup


Foot Mount Type


Flange Mount Type


Small Flange Mount Type

Type	Equivalent of 4P motor capacity	Frame Number	Reduction Ratio
Reducer (Double Shaft Type) G3L・G3F G3K	0.1kW	18	1/5 1/10 1/15 1/20 1/25 1/30 1/40 1/50
		22	1/60 1/80 1/100 1/120 1/160 1/200
		28	1/300 1/375 1/450
		32	1/600 1/750 **1/900** **1/1200**
	0.2kW	18	1/5 1/10 1/15 1/20 1/25
		22	1/30 1/40 1/50 1/60 1/80 **1/100**
		28	1/100 1/120 1/160 1/200
		32	1/300 1/375 1/450
		40	1/600 1/750 **1/900** **1/1200**
	0.4kW	22	1/5 1/10 1/15 1/20 1/25
		28	1/30 1/40 1/50 1/60 1/80 **1/100**
		32	1/100 1/120 1/160 1/200
		40	1/300 1/375 **1/450**
		50	1/600 1/750 **1/900** **1/1200**
	0.75kW	28	1/5 1/10 1/15 1/20 1/25
		32	1/30 1/40 1/50 1/60 1/80 **1/100**
		40	1/100 1/120 1/160 1/200
		50	1/300 1/375 **1/450**
	1.5kW	32	1/5 1/10 1/15 1/20 1/25
		40	1/30 1/40 1/50 1/60 1/80 **1/100**
		50	1/100 1/120 1/160 **1/200**
	2.2kW	40	1/5 1/10 1/15 1/20 1/25
		50	1/30 1/40 1/50 1/60 1/80 1/100

Note 1) In the G3 Series, 3 kinds are available, namely Foot Mount, Flange Mount and Small Flange Mount. Please note that the Small Flange Mount is available only for the frame No.18～32.

2) The models enclosed with orange color bold line are low torque type. Special care should be given to the allowable torque in the performance table.

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

GTR Gearmotor

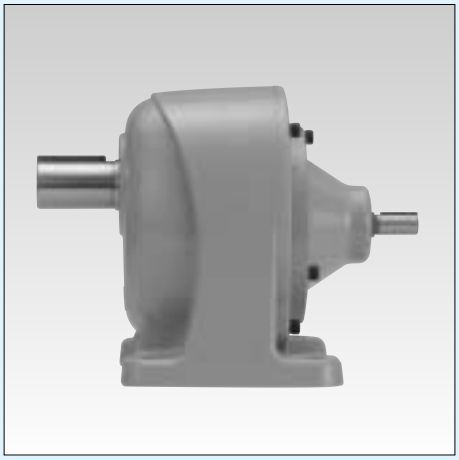
Parallel Shaft

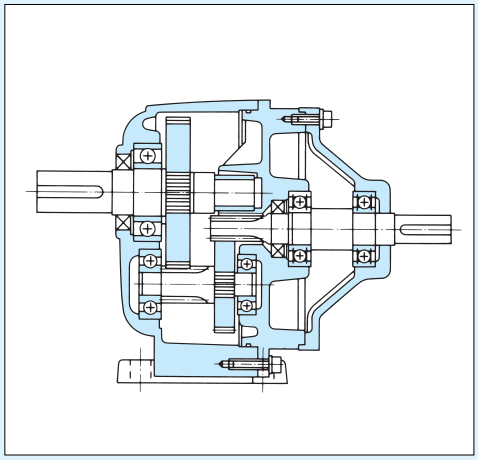
Reducer (Double Shaft Type)

Performance Table
Dimension diagram

G3 Series

【Remarks】
- ●The corresponding motor capacities are the values when using 4-pole motor.
- ●The direction of rotation of the output shaft against the same of the output/input shaft are shown in the diagram below.

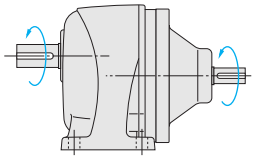




Relation between shaft arrangement and rotation direction

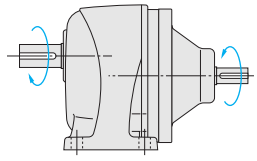
The rotation directions shown by arrow just show the rotation in input/output shaft, and do not limit the rotation direction.

Capacity	Reduction Ratio
0.1kW	1/5～1/50 and 1/300～1/1200
0.2kW、0.4kW	1/5～1/30 and 1/300～1/1200
0.75kW	1/5～1/30 and 1/300～1/450
1.5kW、2.2kW	1/5～1/3



Input and output shafts rotate in the same direction.

Capacity	Reduction Ratio
0.1kW	1/60～1/200
0.2kW、0.4kW	1/40～1/200
0.75kW、1.5kW	1/40～1/200
2.2kW	1/40～1/100



Input and output shafts rotate in the opposite direction.

Reducer (Double Shaft Type)

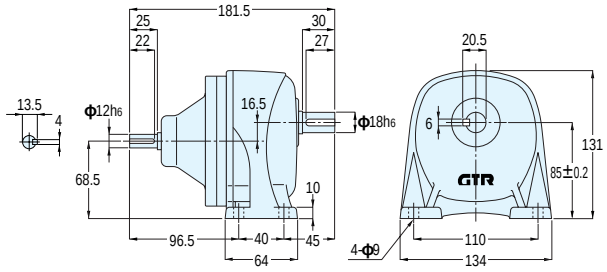
G3 Series equiv 0.1kW

Equivalent 4P motor capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio	Output Shaft Allowable Torque (1500rpm)		Allowable O.H.L N		Allowable O.H.L kgf		Page, Diagram No. of the Outer Dimension Diagram, Round Weight		
				N•m	kgf•m	Input Shaft	Output Shaft	Input Shaft	Output Shaft	G3L	G3F	G3K
0.1kW	18	1/ 5	33/ 164	3	0.31	176	588	18	60	P.A106 Fig.A-226 2.5kg	P.A107 Fig.A-230 3kg	P.A108 Fig.A-234 3kg
		1/ 10	77/ 779	6.1	0.62		882		90			
		1/ 15	119/ 1804	9.1	0.93		980		100			
		1/ 20	49/ 984	12	1.2		1180		120			
		1/ 25	28/ 697	15	1.5		1270		130			
		1/ 30	35/ 1066	19	1.9		1370		140			
		1/ 40	35/ 1404	24	2.4		1470		150			
		1/ 50	7/ 351	29	3		1570		160			
	22	1/ 60	11/ 684	35	3.6	176	2160	18	220	P.A106 Fig.A-227 3.5kg	P.A107 Fig.A-231 4kg	P.A108 Fig.A-235 4kg
		1/ 80	21/ 1634	47	4.8		2450		250			
		1/ 100	7/ 684	59	6		2450		250			
		1/ 120	147/17974	71	7.2		2450		250			
		1/ 160	21/ 3268	94	9.6		2450		250			
		1/ 200	21/ 4085	117	11.9		2450		250			
	28	1/ 300	221/65190	157	16	176	3430	18	350	P.A107 Fig.A-228 6.5kg	P.A107 Fig.A-232 7kg	P.A108 Fig.A-236 7kg
		1/ 375	187/68370	196	20		3430		350			
		1/ 450	181/79793	235	24		3430		350			
	32	1/ 600	147/88192	313	31.9	176	5880	18	600	P.A107 Fig.A-229 9.5kg	P.A107 Fig.A-233 10kg	P.A108 Fig.A-237 10kg
		1/ 750	49/36464	391	39.9		5880		600			
		＊1/ 900	62/57063	431	44		5880		600			
		＊1/1200	46/55195	431	44		5880		600			

Note) The allowable O.H.L indicated are the values in the central position of the output shaft.
The models marked with＊are limited torque type. Be sure to refer to the allowable torque in the Performance Table.

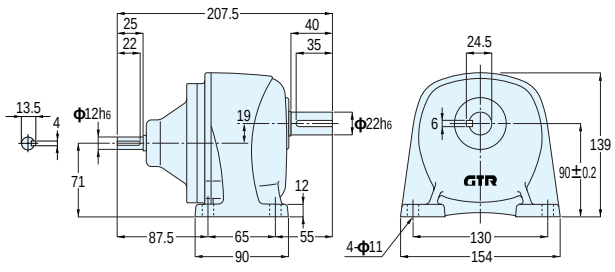
Foot Mount Type

Fig.A-226 G3L-18-5〜50-（010）
CAD Data: G3L-18-010



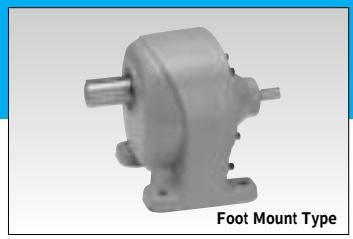
Round Weight 2.5kg

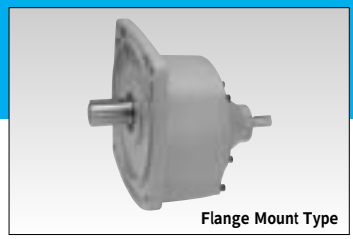
Fig.A-227 G3L-22-60〜200-（010）
CAD Data: G3L-22-010



Round Weight 3.5kg

Model Code P.A102
Detailed Dimension Diagram of Input Shaft P.E48
Option P.E78


Foot Mount Type


Flange Mount Type

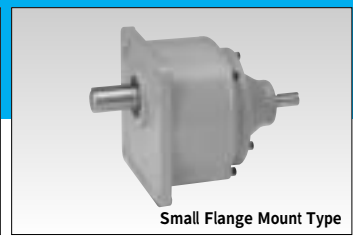
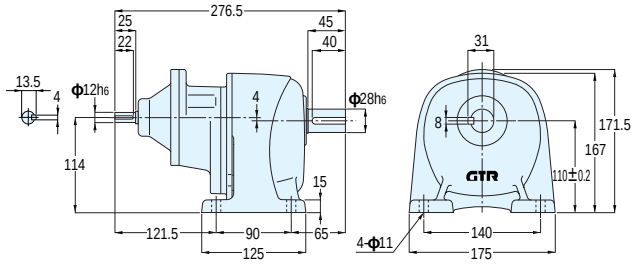

Small Flange Mount Type

Fig.A-228 G3L-28-300～450-（010）

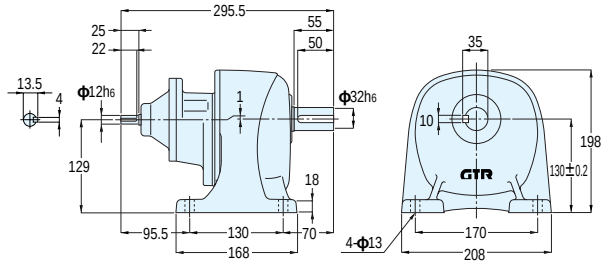
CAD Data: G3L-28-010



Round Weight 6.5kg

Fig.A-229 G3L-32-600～1200-（010）

CAD Data: G3L-32-010

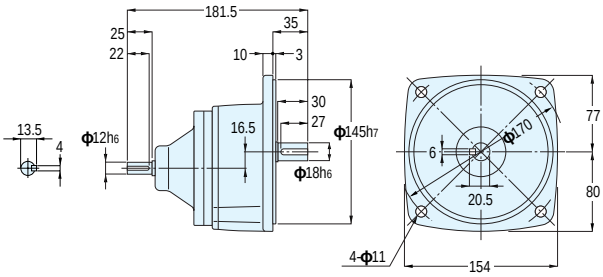


Round Weight 9.5kg

Flange Mount Type

Fig.A-230 G3F-18-5～50-（010）

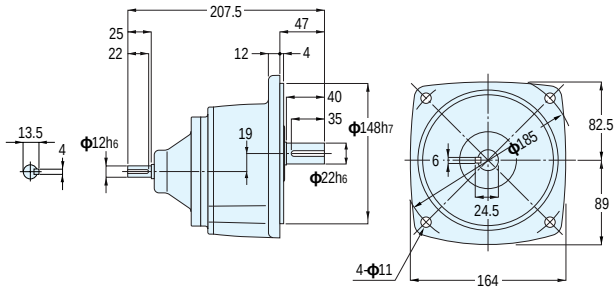
CAD Data: G3F-18-010



Round Weight 3kg

Fig.A-231 G3F-22-60～200-（010）

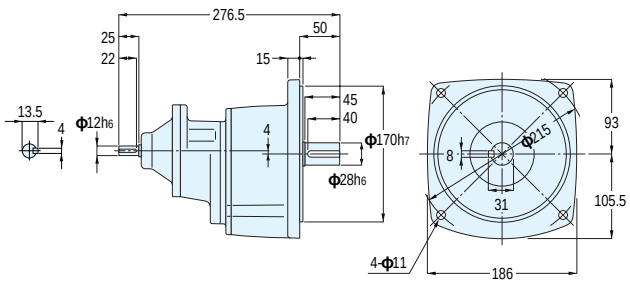
CAD Data: G3F-22-010



Round Weight 4kg

Fig.A-232 G3F-28-300～450-（010）

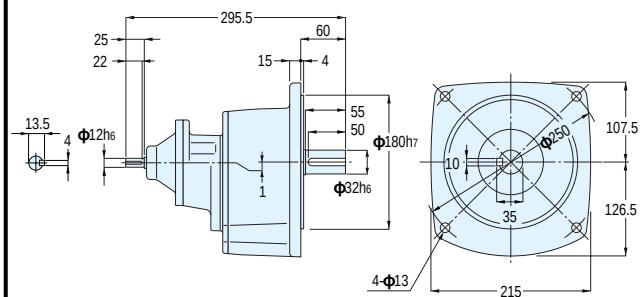
CAD Data: G3F-28-010



Round Weight 7kg

Fig.A-233 G3F-32-600～1200-（010）

CAD Data: G3F-32-010



Round Weight 10kg

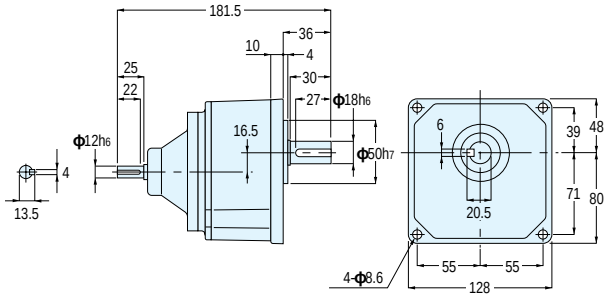
Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Reducer (Double Shaft Type)

G3 Series equiv 0.1kW

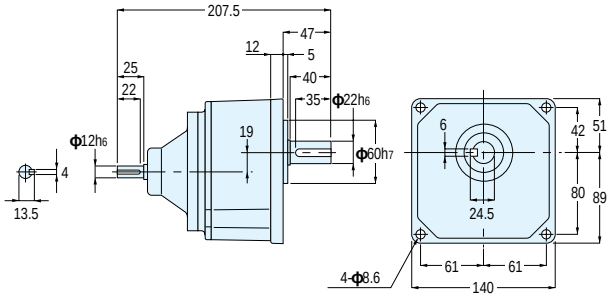
Small Flange Mount Type

Fig.A-234 G3K-18-5～50-（010）
CAD Data: G3K-18-010



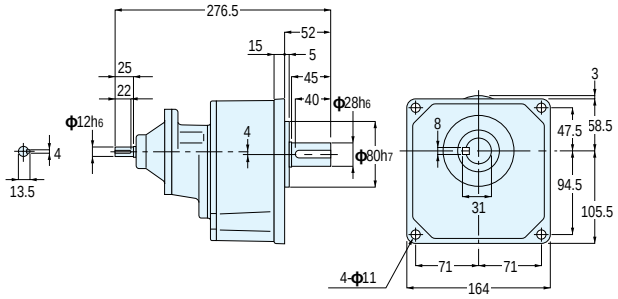
Round Weight 3kg

Fig.A-235 G3K-22-60～200-（010）
CAD Data: G3K-22-010



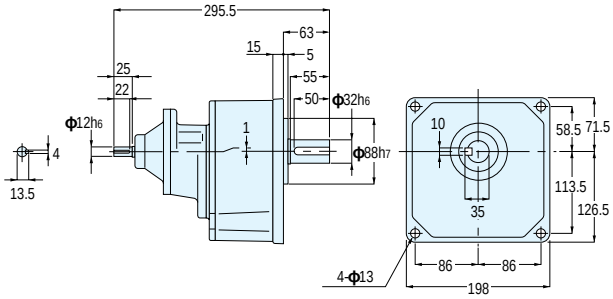
Round Weight 4kg

Fig.A-236 G3K-28-300～450-（010）
CAD Data: G3K-28-010



Round Weight 7kg

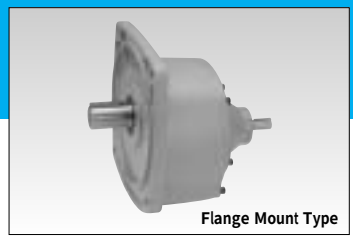
Fig.A-237 G3K-32-600～1200-（010）
CAD Data: G3K-32-010

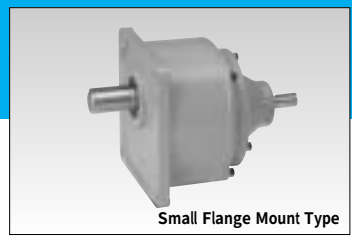


Round Weight 10kg

Model Code P.A102
Detailed Dimension Diagram of Input Shaft P.E48
Option P.E78

Foot Mount Type


Flange Mount Type


Small Flange Mount Type

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Reducer (Double Shaft Type)

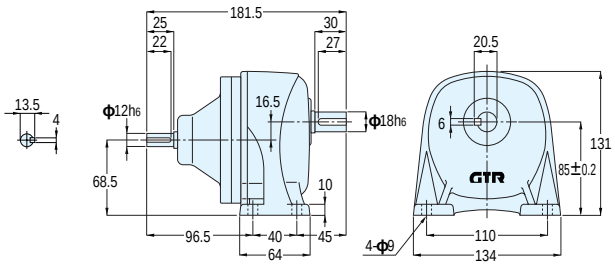
G3 Series equiv 0.2kW

Equivalent 4P motor capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio	Output Shaft Allowable Torque (1500rpm)		Allowable O.H.L N		Allowable O.H.L kgf		Page, Diagram No. of the Outer Dimension Diagram, Round Weight		
				N•m	kgf•m	Input Shaft	Output Shaft	Input Shaft	Output Shaft	G3L	G3F	G3K
0.2kW	18	1/ 5	33/ 164	6.1	0.62	196	588	20	60	P.A110 Fig.A-238 2.5kg	P.A112 Fig.A-243 3kg	P.113 Fig.A-248 3kg
		1/ 10	77/ 779	11.8	1.2		882		90			
		1/ 15	119/ 1804	18.6	1.9		980		100			
		1/ 20	49/ 984	24.5	2.5		1180		120			
		1/ 25	28/ 697	30.4	3.1		1270		130			
	22	1/ 30	7/ 216	36.3	3.7	196	1760	20	180	P.A110 Fig.A-239 3.5kg	P.A112 Fig.A-244 4kg	P.A113 Fig.A-249 4kg
		1/ 40	91/ 3600	47	4.8		1860		190			
		1/ 50	11/ 540	58.8	6		1960		200			
		1/ 60	637/39600	70.6	7.2		2160		220			
		1/ 80	91/ 7200	94.1	9.6		2450		250			
		∗ 1/ 100	11/ 1080	97	9.9		2450		250			
	28	1/ 100	13/ 1353	117	11.9	196	2840	20	290	P.A111 Fig.A-240 5.5kg	P.A112 Fig.A-245 6kg	P.A113 Fig.A-250 6kg
		1/ 120	91/11000	140	14.3		3330		340			
		1/ 160	1/ 165	187	19.1		3430		350			
		1/ 200	7/ 1375	234	23.9		3430		350			
	32	1/ 300	91/27348	313	31.9	196	5880	20	600	P.A111 Fig.A-241 9.5kg	P.A112 Fig.A-246 10kg	P.A113 Fig.A-251 10kg
		1/ 375	77/28620	391	39.9		5880		600			
		1/ 450	91/41022	431	44		5880		600			
	40	1/ 600	9/ 5300	626	63.9	196	7060	20	720	P.A111 Fig.A-242 16kg	P.A112 Fig.A-247 17.5kg	
		1/ 750	62/46427	764	78		7060		720			
		∗ 1/ 900	23/21259	764	78		7060		720			
		∗ 1/1200	9/10600	764	78		7060		720			

Note) The allowable O.H.L indicated are the values in the central position of the output shaft.
The models marked with ∗ are limited torque type. Be sure to refer to the allowable torque in the Performance Table.

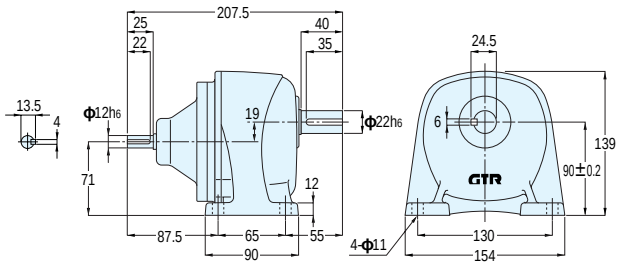
Foot Mount Type

Fig.A-238 G3L-18-5〜25-（020）
CAD Data: G3L-18-020



Round Weight 2.5kg

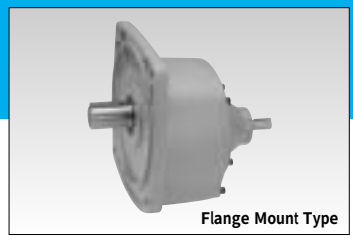
Fig.A-239 G3L-22-30〜100-（020）
CAD Data: G3L-22-020



Round Weight 3.5kg

Model Code P.A102
Detailed Dimension Diagram of Input Shaft P.E48
Option P.E78

Foot Mount Type


Flange Mount Type

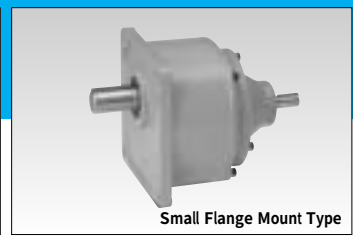
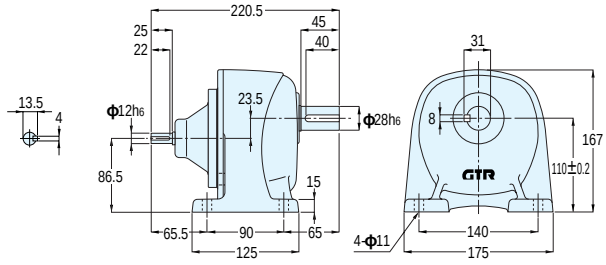

Small Flange Mount Type

Fig.A-240 G3L-28-100～200-（020）

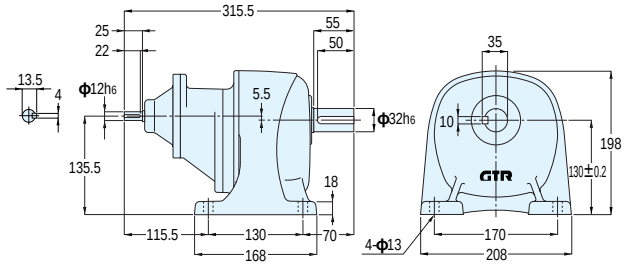
CAD Data: G3L-28-020



Round Weight 5.5kg

Fig.A-241 G3L-32-300～450-（020）

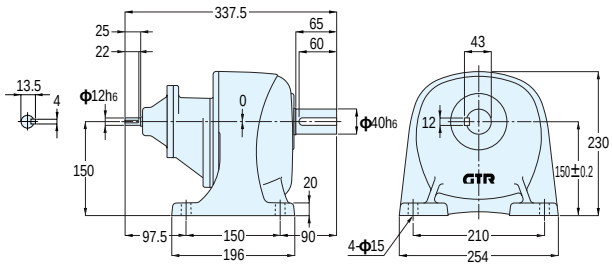
CAD Data: G3L-32-020



Round Weight 9.5kg

Fig.A-242 G3L-40-600～1200-（020）

CAD Data: G3L-40-020



Round Weight 16kg

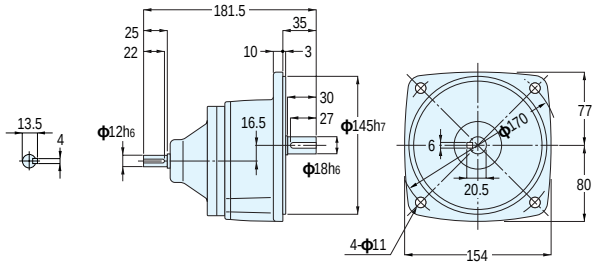
Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Reducer (Double Shaft Type)

G3 Series equiv 0.2kW

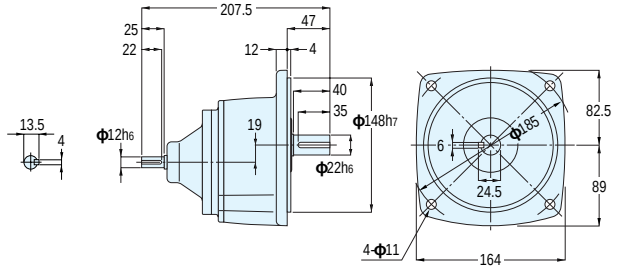
Flange Mount Type

Fig.A-243 G3F-18-5～25-（020）
CAD Data: G3F-18-020



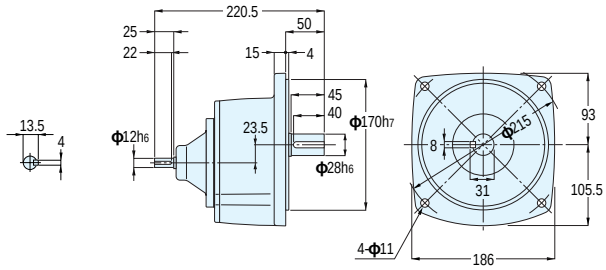
Round Weight 3kg

Fig.A-244 G3F-22-30～100-（020）
CAD Data: G3F-22-020



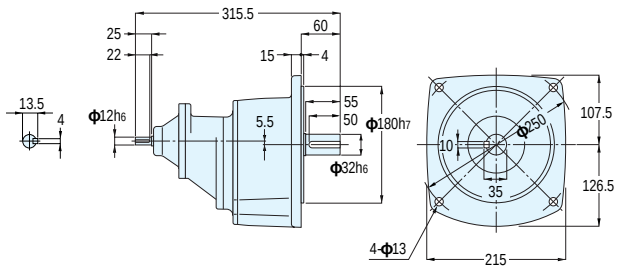
Round Weight 4kg

Fig.A-245 G3F-28-100～200-（020）
CAD Data: G3F-28-020



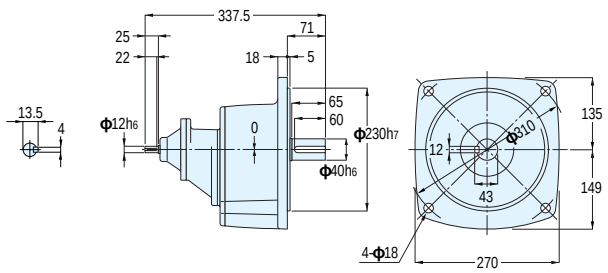
Round Weight 6kg

Fig.A-246 G3F-32-300～450-（020）
CAD Data: G3F-32-020



Round Weight 10kg

Fig.A-247 G3F-40-600～1200-（020）
CAD Data: G3F-40-020

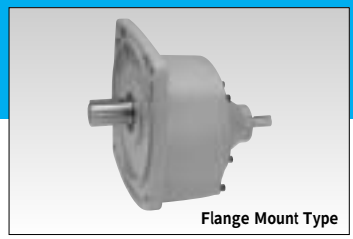


Round Weight 17.5kg

Model Code P.A102
Detailed Dimension Diagram of Input Shaft P.E48
Option P.E78

Small Flange Mount Type

Foot Mount Type


Flange Mount Type

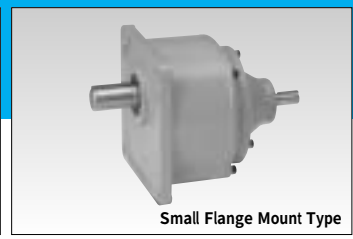
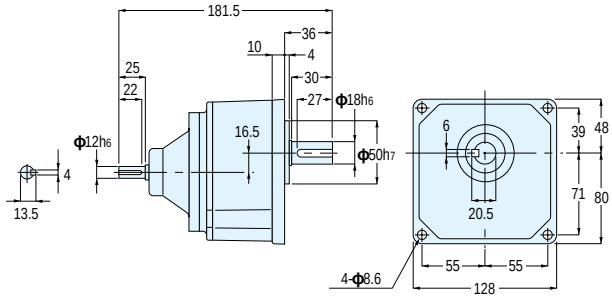

Small Flange Mount Type

Fig.A-248 G3K-18-5～25-（020）

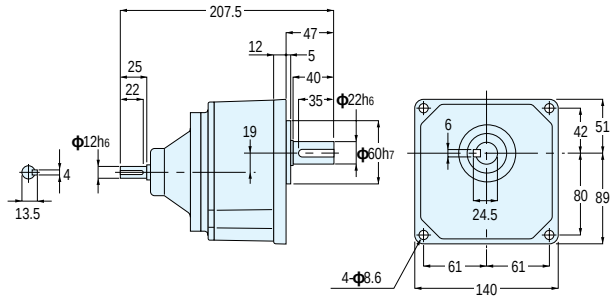
CAD Data: G3K-18-020



Round Weight 3kg

Fig.A-249 G3K-22-30～100-（020）

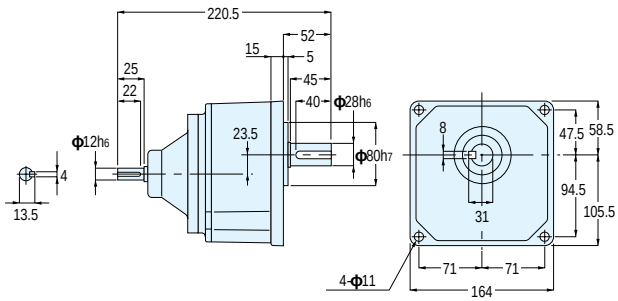
CAD Data: G3K-22-020



Round Weight 4kg

Fig.A-250 G3K-28-100～200-（020）

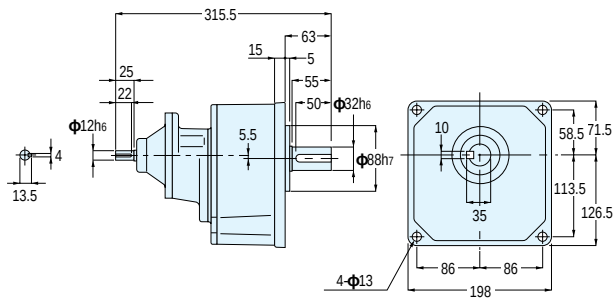
CAD Data: G3K-28-020



Round Weight 6kg

Fig.A-251 G3K-32-300～450-（020）

CAD Data: G3K-32-020



Round Weight 10kg

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Reducer (Double Shaft Type)

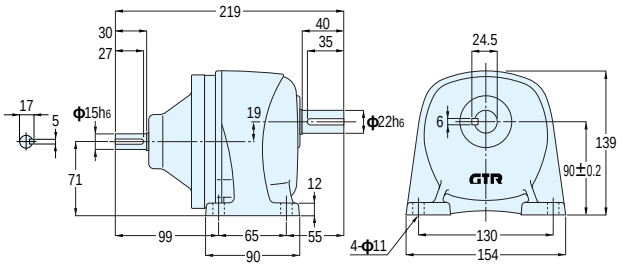
G3 Series equiv 0.4kW

Equivalent 4P motor capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio	Output Shaft Allowable Torque (1500rpm)		Allowable O.H.L				Page, Diagram No. of the Outer Dimension Diagram, Round Weight		
						N		kgf				
				N•m	kgf•m	Input Shaft	Output Shaft	Input Shaft	Output Shaft	G3L	G3F	G3K
0.4kW	22	1/ 5	7/ 34	12	1.2	245	882	25	90	P.A114 Fig.A-252 4kg	P.A116 Fig.A-257 4.5kg	P.117 Fig.A-262 4.5kg
		1/ 10	7/ 68	25	2.5		1180		120			
		1/ 15	49/ 748	36	3.7		1370		140			
		1/ 20	7/ 136	48	4.9		1470		150			
		1/ 25	7/ 170	61	6.2		1670		170			
	28	1/ 30	1/ 30	73	7.4	245	2550	25	260	P.A114 Fig.A-253 6kg	P.A116 Fig.A-258 6.5kg	P.A117 Fig.A-263 6.5kg
		1/ 40	221/ 8610	94	9.6		2840		290			
		1/ 50	187/ 9030	117	11.9		3140		320			
		1/ 60	169/ 9840	140	14.3		3430		350			
		1/ 80	65/ 5166	187	19.1		3430		350			
		∗ 1/ 100	55/ 5418	193	19.7		3430		350			
	32	1/ 100	7/ 688	234	23.9	245	4900	25	500	P.A115 Fig.A-254 9kg	P.A116 Fig.A-259 9.5kg	P.A117 Fig.A-264 9.5kg
		1/ 120	77/ 9360	281	28.7		5880		600			
		1/ 160	21/ 3328	374	38.2		5880		600			
		1/ 200	189/38272	431	44		5880		600			
	40	1/ 300	7/ 2160	626	63.9	245	7060	25	720	P.A115 Fig.A-255 17.5kg	P.A116 Fig.A-260 19kg	
		1/ 375	77/29328	764	78		7060		720			
		∗ 1/ 450	49/21600	764	78		7060		720			
	50	1/ 600	57/35360	1225	125	245	9800	25	1000	P.A115 Fig.A-256 47kg	P.A116 Fig.A-261 52kg	
		∗ 1/ 750	25/19448	1225	125		9800		1000			
		∗ 1/ 900	5/ 4338	1225	125		9800		1000			
		∗ 1/1200	33/40664	1225	125		9800		1000			

Note) The allowable O.H.L indicated are the values in the central position of the output shaft.
The models marked with ∗ are limited torque type. Be sure to refer to the allowable torque in the Performance Table.

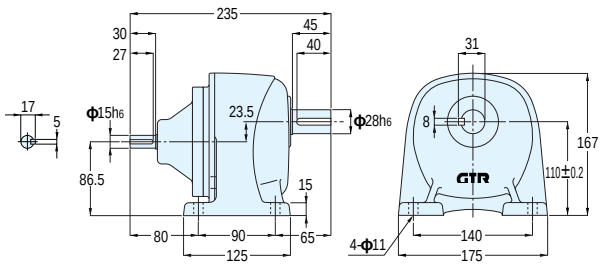
Foot Mount Type

Fig.A-252 G3L-22-5～25-（040）
CAD Data: G3L-22-040



Round Weight 4kg

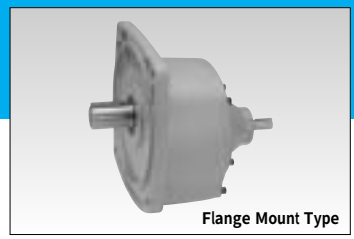
Fig.A-253 G3L-28-30～100-（040）
CAD Data: G3L-28-040



Round Weight 6kg

Model Code P.A102
Detailed Dimension Diagram of Input Shaft P.E48
Option P.E78

Foot Mount Type


Flange Mount Type

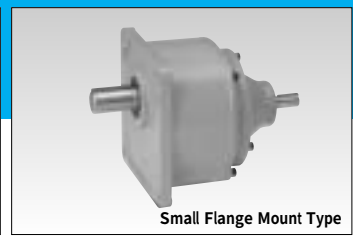
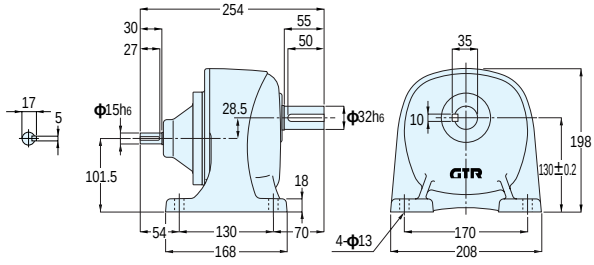

Small Flange Mount Type

Fig.A-254 G3L-32-100～200-（040）

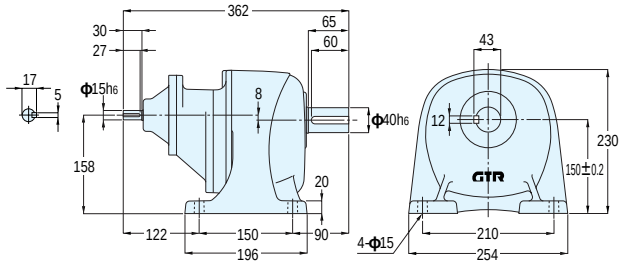
CAD Data: G3L-32-040



Round Weight 9kg

Fig.A-255 G3L-40-300～450-（040）

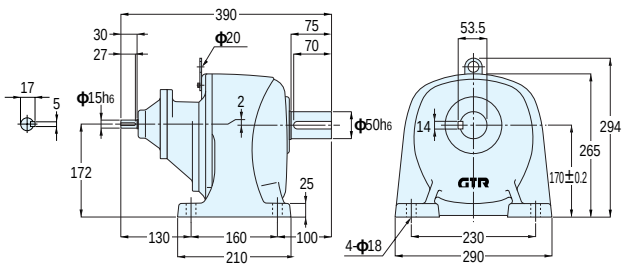
CAD Data: G3L-40-040



Round Weight 17.5kg

Fig.A-256 G3L-50-600～1200-（040）

CAD Data: G3L-50-040



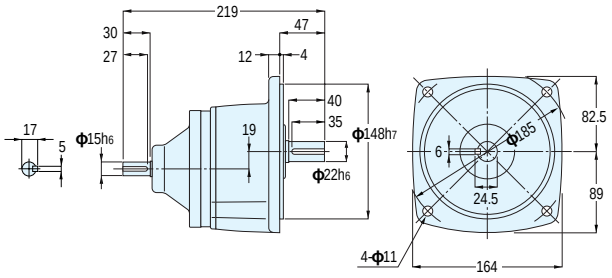
Round Weight 47kg

Reducer (Double Shaft Type)

G3 Series equiv 0.4kW

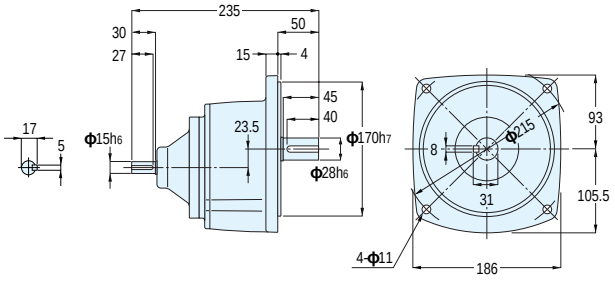
Flange Mount Type

Fig.A-257 G3F-22-5～25-（040）
CAD Data: G3F-22-040



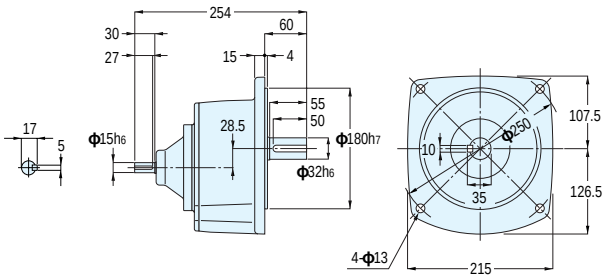
Round Weight 4.5kg

Fig.A-258 G3F-28-30～100-（040）
CAD Data: G3F-28-040



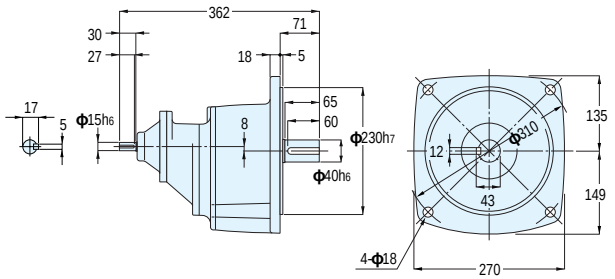
Round Weight 6.5kg

Fig.A-259 G3F-32-100～200-（040）
CAD Data: G3F-32-040



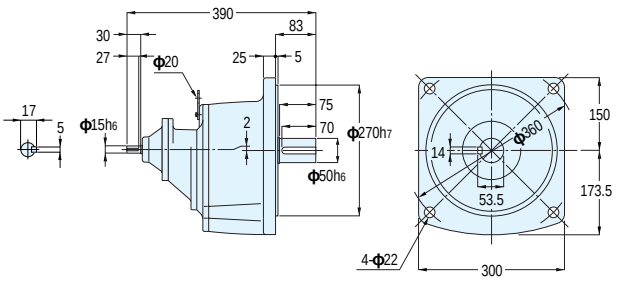
Round Weight 9.5kg

Fig.A-260 G3F-40-300～450-（040）
CAD Data: G3F-40-040



Round Weight 19kg

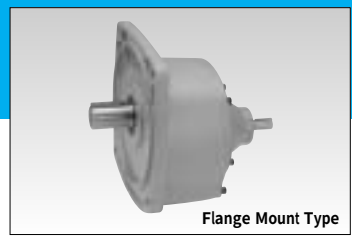
Fig.A-261 G3F-50-600～1200-（040）
CAD Data: G3F-50-040

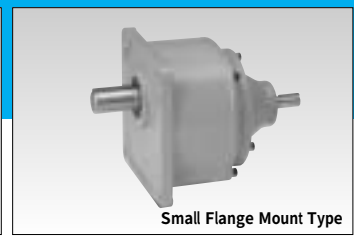


Round Weight 52kg

Model Code P.A102
Detailed Dimension Diagram of Input Shaft P.E48
Option P.E78

Foot Mount Type

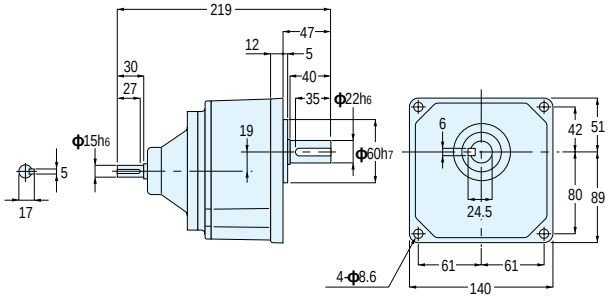

Flange Mount Type


Small Flange Mount Type

Small Flange Mount Type

Fig.A-262 G3K-22-5～25-（040）

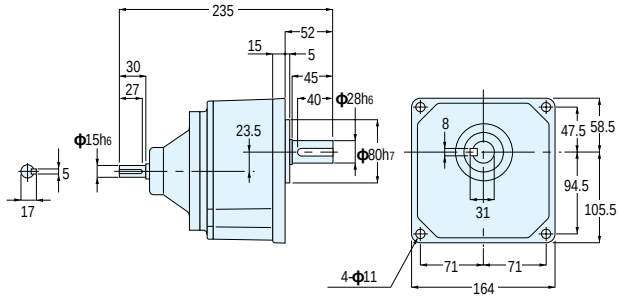
CAD Data: G3K-22-040



Round Weight 4.5kg

Fig.A-263 G3K-28-30～100-（040）

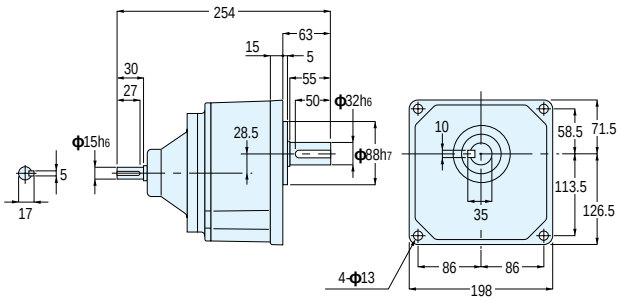
CAD Data: G3K-28-040



Round Weight 6.5kg

Fig.A-264 G3K-32-100～200-（040）

CAD Data: G3K-32-040



Round Weight 9.5kg

Reducer (Double Shaft Type)

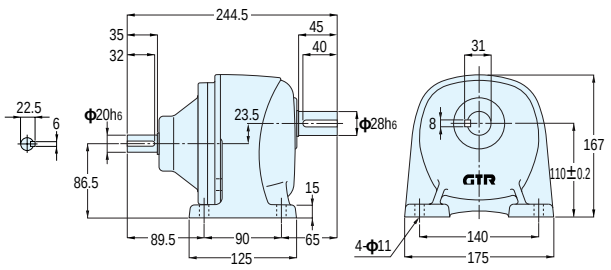
G3 Series equiv 0.75kW

Equivalent 4P motor capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio	Output Shaft Allowable Torque (1500rpm)		Allowable O.H.L N		Allowable O.H.L kgf		Page, Diagram No. of the Outer Dimension Diagram, Round Weight		
				N•m	kgf•m	Input Shaft	Output Shaft	Input Shaft	Output Shaft	G3L	G3F	G3K
0.75kW	28	1/ 5	91/459	23	2.3	294	1270	30	130	P.A118 Fig.A-265 6kg	P.A119 Fig.A-269 6.5kg	P.A120 Fig.A-273 6.5kg
		1/ 10	1/10	45	4.6		1760		180			
		1/ 15	91/1360	68	6.9		2160		220			
		1/ 20	5/102	91	9.3		2350		240			
		1/ 25	7/170	114	11.6		2450		250			
	32	1/ 30	3/92	136	13.9	294	4020	30	410	P.A118 Fig.A-266 9.5kg	P.A119 Fig.A-270 10kg	P.A120 Fig.A-274 10kg
		1/ 40	13/516	175	17.9		4210		430			
		1/ 50	11/540	220	22.4		4610		470			
		1/ 60	13/774	264	26.9		5490		560			
		1/ 80	13/1032	351	35.8		5880		600			
		∗ 1/ 100	11/1080	362	36.9		5880		600			
	40	1/ 100	91/9000	439	44.8	294	7060	30	720	P.A119 Fig.A-267 16kf	P.A119 Fig.A-271 17.5kg	
		1/ 120	77/9400	527	53.8		7060		720			
		1/ 160	9/1400	703	71.7		7060		720			
		1/ 200	9/1750	764	78		7060		720			
	50	1/ 300	211/62013	1176	120	294	9800	30	1000	P.A119 Fig.A-268 47.5kg	P.A119 Fig.A-272 52.5kg	
		1/ 375	94/36103	1225	125		9800		1000			
		∗ 1/ 450	65/29167	1225	125		9800		1000			

Note) The allowable O.H.L indicated are the values in the central position of the output shaft.
The models marked with ∗ are limited torque type. Be sure to refer to the allowable torque in the Performance Table.

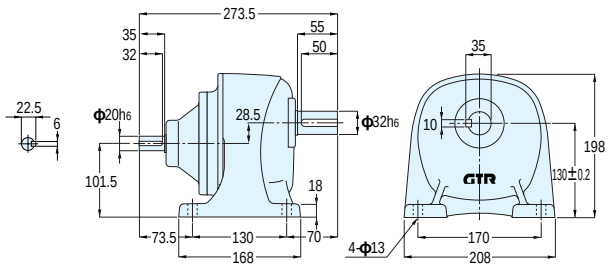
Foot Mount Type

Fig.A-265 G3L-28-5〜25- (075)
CAD Data: G3L-28-075



Round Weight 6kg

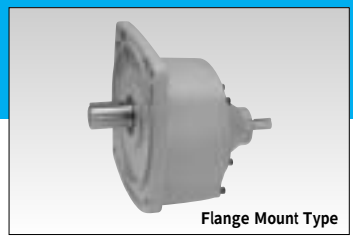
Fig.A-266 G3L-32-30〜100- (075)
CAD Data: G3L-32-075



Round Weight 9.5kg

Model Code P.A102
Detailed Dimension Diagram of Input Shaft P.E48
Option P.E78

Foot Mount Type


Flange Mount Type

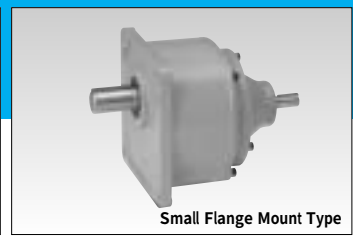
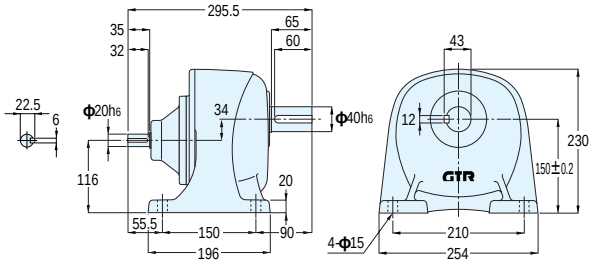

Small Flange Mount Type

Fig.A-267 G3L-40-100～200-（075）

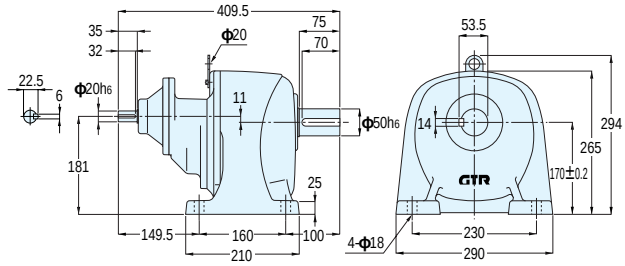
CAD Data: G3L-40-075



Round Weight 16kg

Fig.A-268 G3L-50-300～450-（075）

CAD Data: G3L-50-075

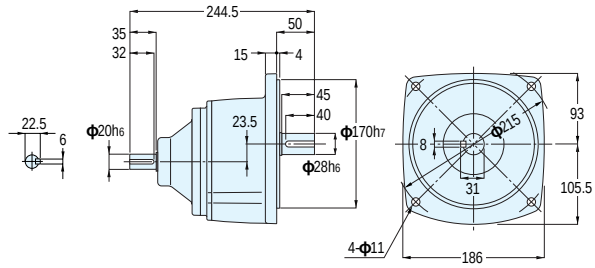


Round Weight 47.5kg

Flange Mount Type

Fig.A-269 G3F-28-5～25-（075）

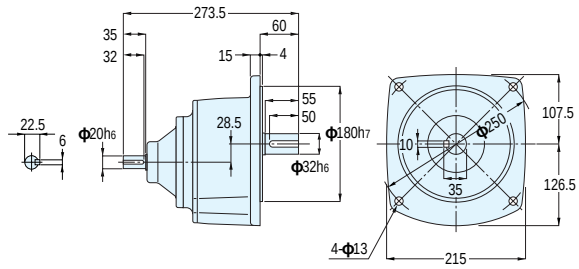
CAD Data: G3F-28-075



Round Weight 6.5kg

Fig.A-270 G3F-32-30～100-（075）

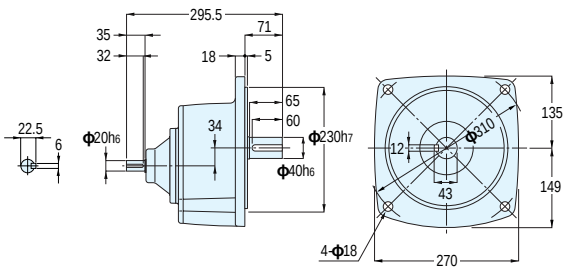
CAD Data: G3F-32-075



Round Weight 10kg

Fig.A-271 G3F-40-100～200-（075）

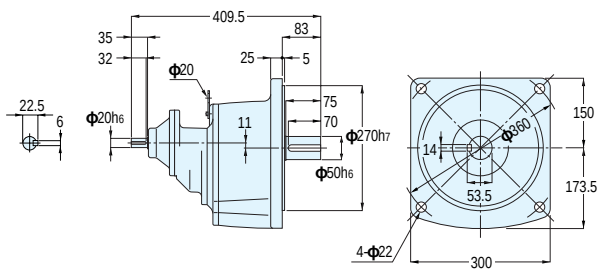
CAD Data: G3F-40-075



Round Weight 17.5kg

Fig.A-272 G3F-50-300～450-（075）

CAD Data: G3F-50-075



Round Weight 52.5kg

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Reducer (Double Shaft Type)

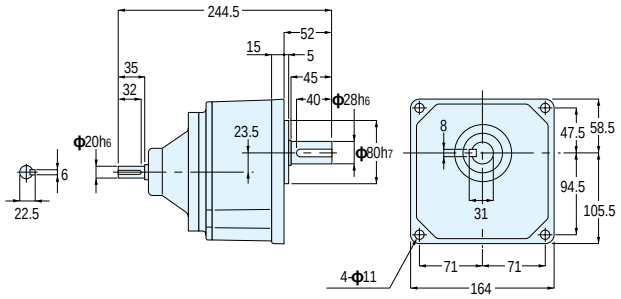
G3 Series equiv 0.75kW

Small Flange Mount Type

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Fig.A-273 G3K-28-5～25-（075）

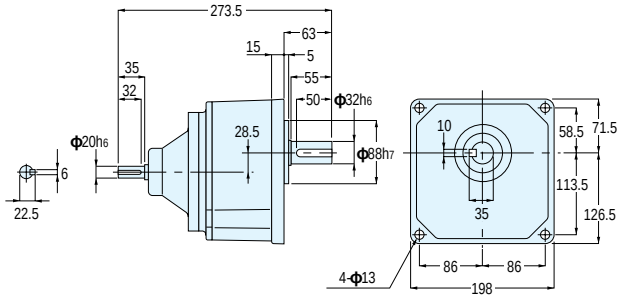
CAD Data: G3K-28-075



Round Weight 6.5kg

Fig.A-274 G3K-32-30～100-（075）

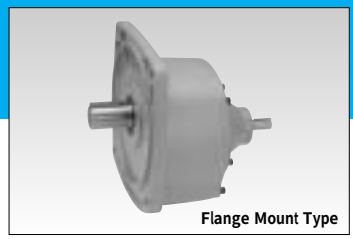
CAD Data: G3K-32-075

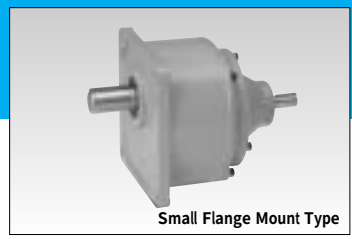


Round Weight 10kg

Model Code P.A102
Detailed Dimension Diagram of Input Shaft P.E48
Option P.E78

Foot Mount Type


Flange Mount Type


Small Flange Mount Type

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Reducer (Double Shaft Type)

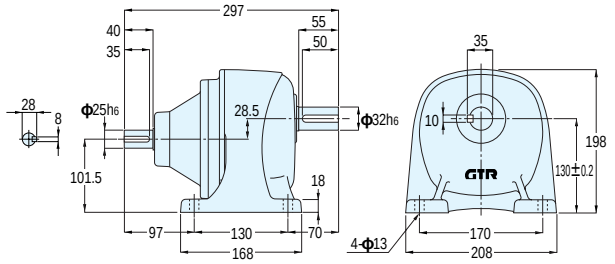
G3 Series equiv 1.5kW

Equivalent 4P motor capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio	Output Shaft Allowable Torque (1500rpm)		Allowable O.H.L				Page, Diagram No. of the Outer Dimension Diagram, Round Weight		
						N		kgf				
				N•m	kgf•m	Input Shaft	Output Shaft	Input Shaft	Output Shaft	G3L	G3F	G3K
1.5kW	32	1/ 5	1/ 5	45	4.6	343	1760	35	180	P.A122 Fig.A-275 10kg	P.A123 Fig.A-278 10.5kg	P.124 Fig.A-281 10.5kg
		1/ 10	1/ 10	91	9.3		2450		250			
		1/ 15	1/ 15	136	13.9		2840		290			
		1/ 20	1/ 20	181	18.5		3230		330			
		1/ 25	9/ 230	226	23.1		3820		390			
	40	1/ 30	1/ 30	272	27.8	343	5100	35	520	P.A122 Fig.A-276 17kg	P.A123 Fig.A-279 18.5kg	
		1/ 40	13/ 540	351	35.8		5880		600			
		1/ 50	11/ 564	439	44.8		7060		720			
		1/ 60	91/ 5400	527	53.8		7060		720			
		1/ 80	13/ 1080	703	71.7		7060		720			
		＊1/ 100	11/ 1128	724	73.9		7060		720			
	50	1/ 100	25/ 2618	878	89.6	343	9800	35	1000	P.A122 Fig.A-277 46.5kg	P.A123 Fig.A-280 51.5kg	
		1/ 120	77/ 8993	1060	108		9800		1000			
		1/ 160	33/ 5474	1230	125		9800		1000			
		＊1/ 200	30/ 5831	1230	125		9800		1000			

Note) The allowable O.H.L indicated are the values in the central position of the output shaft.
The models marked with ＊ are limited torque type. Be sure to refer to the allowable torque in the Performance Table.

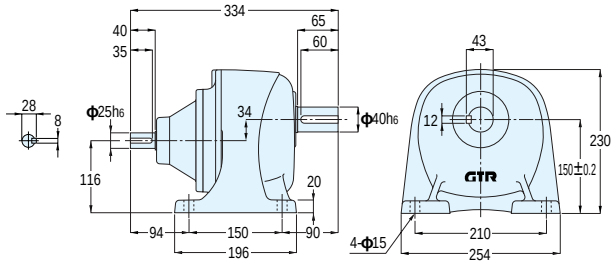
Foot Mount Type

Fig.A-275 G3L-32-5～25-（150）
CAD Data: G3L-32-150



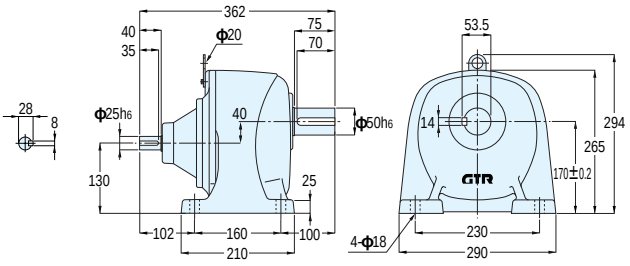
Round Weight 10kg

Fig.A-276 G3L-40-30～100-（150）
CAD Data: G3L-40-150



Round Weight 17kg

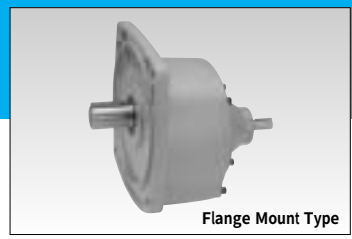
Fig.A-277 G3L-50-100～200-（150）
CAD Data: G3L-50-150

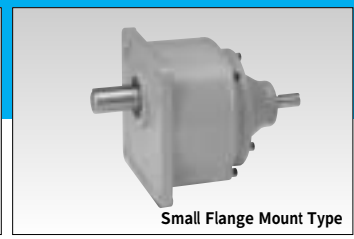


Round Weight 46.5kg

Model Code P.A102
Detailed Dimension Diagram of Input Shaft P.E48
Option P.E78

Foot Mount Type

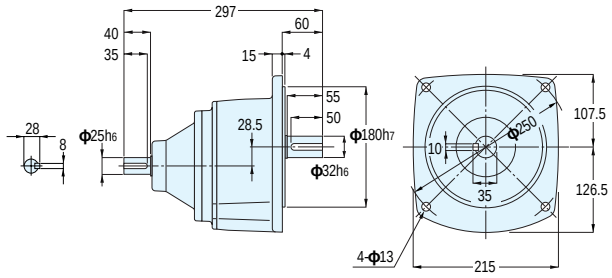

Flange Mount Type


Small Flange Mount Type

Flange Mount Type

Fig.A-278 G3F-32-5～25-（150）

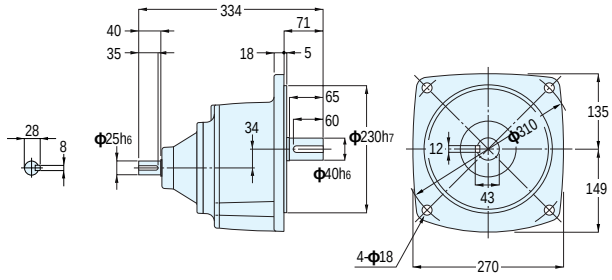
CAD Data: G3F-32-150



Round Weight 10.5kg

Fig.A-279 G3F-40-30～100-（150）

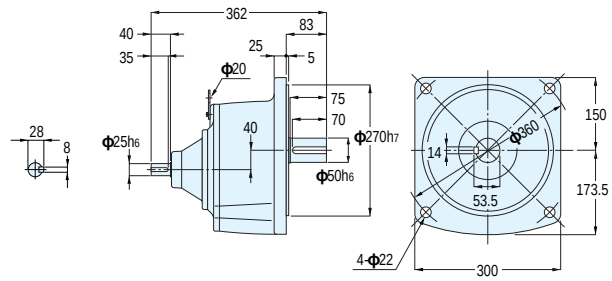
CAD Data: G3F-40-150



Round Weight 18.5kg

Fig.A-280 G3F-50-100～200-（150）

CAD Data: G3F-50-150



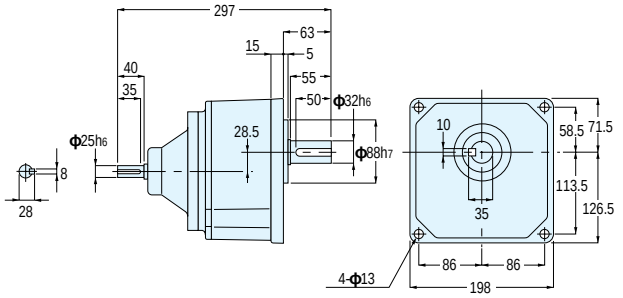
Round Weight 51.5kg

Reducer (Double Shaft Type)

G3 Series equiv 1.5kW

Small Flange Mount Type

Fig.A-281 G3K-32-5〜25-(150)
CAD Data: G3K-32-150

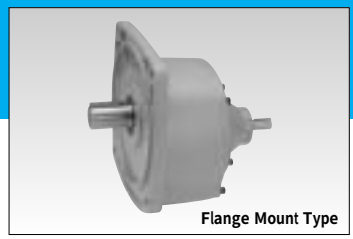


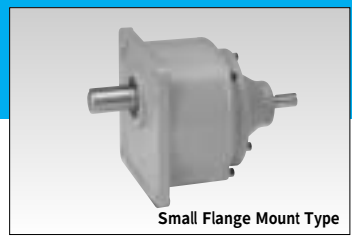
Round Weight 10.5kg

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Model Code P.A102
Detailed Dimension Diagram of Input Shaft P.E48
Option P.E78

Foot Mount Type


Flange Mount Type


Small Flange Mount Type

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Reducer (Double Shaft Type)

G3 Series equiv 2.2kW

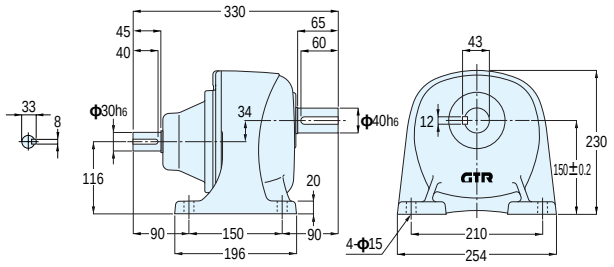
Equivalent 4P motor capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio	Output Shaft Allowable Torque (1500rpm)		Allowable O.H.L				Page, Diagram No. of the Outer Dimension Diagram, Round Weight	
						N		kgf			
				N•m	kgf•m	Input Shaft	Output Shaft	Input Shaft	Output Shaft	G3L	G3F
2.2kW	40	1/ 5	7/ 36	66	6.7	392	2160	40	220	P.A126 Fig.A-282 16.5kg	P.A127 Fig.A-284 18kg
		1/ 10	7/ 72	131	13.4		3140		320		
		1/ 15	49/ 720	197	20.1		3530		360		
		1/ 20	7/ 144	264	26.9		4020		410		
		1/ 25	7/ 180	329	33.6		4700		480		
	50	1/ 30	5/ 154	395	40.3	392	6960	40	710	P.A126 Fig.A-283 46.5kg	P.A127 Fig.A-285 51.5kg
		1/ 40	399/15488	499	50.9		7250		740		
		1/ 50	399/20240	623	63.6		8620		880		
		1/ 60	49/ 2904	748	76.3		9800		1000		
		1/ 80	49/ 3795	1000	102		9800		1000		
		1/ 100	21/ 2116	1230	125		9800		1000		

Note) The allowable O.H.L indicated are the values in the central position of the output shaft.

Foot Mount Type

Fig.A-282 G3L-40-5～25-（220）

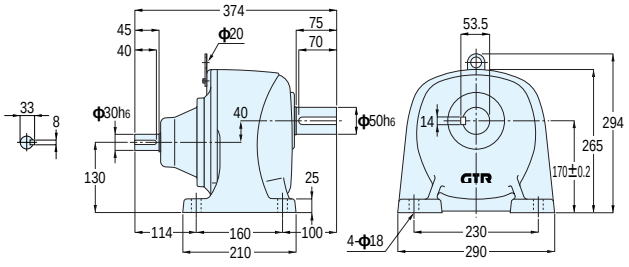
CAD Data: G3L-40-220



Round Weight 16.5kg

Fig.A-283 G3L-50-30～100-（220）

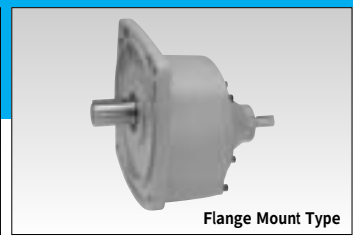
CAD Data: G3L-50-220



Round Weight 46.5kg

Model Code P.A102
Detailed Dimension Diagram of Input Shaft P.E48
Option P.E78

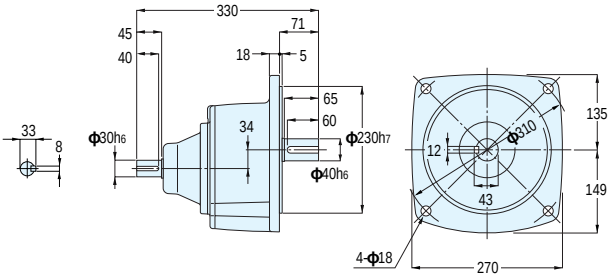
Foot Mount Type


Flange Mount Type

Flange Mount Type

Fig.A-284 G3F-40-5～25-（220）

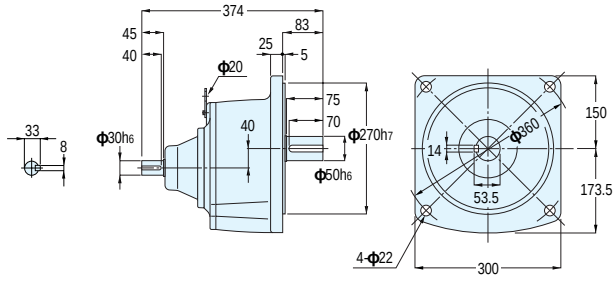
CAD Data: G3F-40-220



Round Weight 18kg

Fig.A-285 G3F-50-30～100-（220）

CAD Data: G3F-50-220



Round Weight 51.5kg

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Parallel Shaft

S-Type Reducer
(Designated Motor Attachable Type)

Model・Type Designation
Standard Model Lineup

GTR Gearmotor

G3 Series

■Standard Specifications G3 Series (S-Type Reducer)

The capacity of 4P equivalent motor		Equivalent of 0.1kW～2.2kW
Speed Reduction Part	Reduction Method	Helical gear
	Lubrication	Grease Lubrication(Maintenance Free)
	Output Shaft	New JIS Key(JIS 1301-1976 class)
	Output Shaft Material	S43C
	Case Material	Aluminium die-cast(Frame No.50: Cast iron)
Ambient Conditions	Ambient Temperature	−10℃～40℃
	Ambient Humidity	85%max.(without any dew condensation)
	Altitude	1,000m max.
	Environment	Well ventilated place free from corrosive gas, explosive gas vapor and/or dust.
	Installation Location	Indoors
Painting	Painting Method	Anion painting, Acrylic paint
	Painting Color	Grey(Mansel code: 9B6/0.5)
Mounting Direction		No restriction in the mounting angle.(horizontally, vertically or heeling angle)

Model and Type Designation G3 Series (Parallel Shaft)

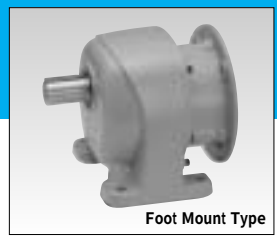
G3 series S-Type Reducer are classified by codes as shown below.
Specify these codes in your inquiry and order.

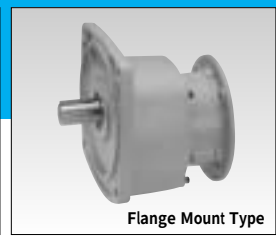
Type			Frame Number	Reduction Ratio	Motor Capacity	Option		Auxiliary Mark
G3	L	S	– 22	– 50	– 020			
G3	F	S	– 40	– 200	– 075			X
①	②	③	④	⑤	⑥	⑦	⑧	⑨

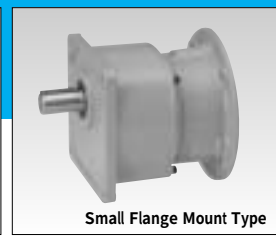
①Series Name	G3	:: G3 Series(Parallel Shaft)
②Classification by Mount Form	L	: Foot Mount
	F	: Flange Mount
	K	: Small Flange Mount (Frame No.18～32)
③Classification by Motor Type	S	: Designated Motor Attachable Type (S Type)
④Frame No. and Diameter of Output shaft	Output Shaft Diameter	
⑤Reduction Ratio	5 : 1／5 ～ 1200 : 1／1200	
⑥Equivalent capacity	010	: 0.1 kW or equiv.
	020	: 0.2 kW or equiv.
	040	: 0.4 kW or equiv.
	075	: 0.75kW or equiv.
	150	: 1.5 kW or equiv.
	220	: 2.2 kW or equiv.
⑦⑧Option	Blank : Standard Specifications	
⑨Auxiliary Mark	Blank : Standard Specifications	
	X	: Mark for Additional Specs

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Standard Model Lineup


Foot Mount Type


Flange Mount Type


Small Flange Mount Type

Type	Equivalent of 4P motor capacity	Frame Number	Reduction Ratio
S-Type Reducer G3LS•G3FS G3KS	0.1kW	18	1/5 1/10 1/15 1/20 1/25 1/30 1/40 1/50
		22	1/60 1/80 1/100 1/120 1/160 1/200
		28	1/300 1/375 1/450
		32	1/600 1/750 **1/900** **1/1200**
	0.2kW	18	1/5 1/10 1/15 1/20 1/25
		22	1/30 1/40 1/50 1/60 1/80 **1/100**
		28	1/100 1/120 1/160 1/200
		32	1/300 1/375 1/450
		40	1/600 1/750 **1/900** **1/1200**
	0.4kW	22	1/5 1/10 1/15 1/20 1/25
		28	1/30 1/40 1/50 1/60 1/80 **1/100**
		32	1/100 1/120 1/160 1/200
		40	1/300 1/375 **1/450**
		50	1/600 **1/750** **1/900** **1/1200**
	0.75kW	28	1/5 1/10 1/15 1/20 1/25
		32	1/30 1/40 1/50 1/60 1/80 **1/100**
		40	1/100 1/120 1/160 1/200
		50	1/300 1/375 **1/450**
	1.5kW	32	1/5 1/10 1/15 1/20 1/25
		40	1/30 1/40 1/50 1/60 1/80 **1/100**
		50	1/100 1/120 1/160 **1/200**
	2.2kW	40	1/5 1/10 1/15 1/20 1/25
		50	1/30 1/40 1/50 1/60 1/80 1/100

Note 1) In the G3 Series, 3 kinds are available, namely Foot Mount, Flange Mount and Small Flange Mount. Please note that the Small Flange Mount is available only for the frame No.18～32.

2) **Bold** The models enclosed with orange color bold line are low torque type. Special care should be given to the allowable torque in the performance table.

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

GTR Gearmotor

Parallel Shaft

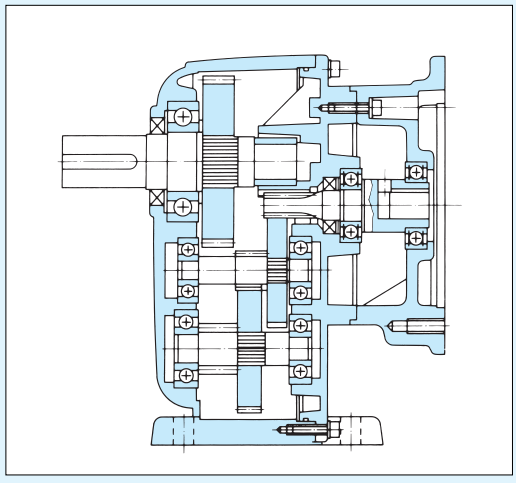
S-Type Reducer
(Designated Motor Attachable Type)

Performance Table
Dimension diagram

G3 Series

【Remarks】

- The rotation direction of the output shaft against the same of the input/output shaft can be referred to on page A105.
- The values of allowable torque in the output shaft indicate the values at operation by 4 pole motor.
- In case of using with motors other than 4-pole motor, the output allowable torque can be obtained by multiplying the torque correction coefficient indicated in page E46, to the written value.



Designated Motor Attachable Type

S-Type Reducer

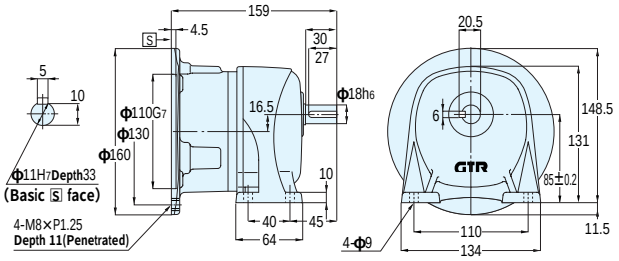
G3 Series equiv 0.1kW

Equivalent 4P motor capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio	Output Shaft Allowable Torque N•m 50Hz	Output Shaft Allowable Torque N•m 60Hz	Output Shaft Allowable Torque kgf•m 50Hz	Output Shaft Allowable Torque kgf•m 60Hz	Output Shaft Allowable O.H.L N	Output Shaft Allowable O.H.L kgf	Page, Diagram No. of the Outer Dimension Diagram, Round Weight G3LS	G3FS	G3KS
0.1kW	18	1/ 5	33/ 164	3	2.5	0.31	0.26	588	60	P.A134 Fig.A-286 3.5kg	P.A135 Fig.A-290 4kg	P.A136 Fig.A-294 4kg
		1/ 10	77/ 779	6.1	5	0.62	0.51	882	90			
		1/ 15	119/ 1804	9.1	7.5	0.93	0.77	980	100			
		1/ 20	49/ 984	12	9.8	1.2	1	1180	120			
		1/ 25	28/ 697	15	12.7	1.5	1.3	1270	130			
		1/ 30	35/ 1066	19	14.7	1.9	1.5	1370	140			
		1/ 40	35/ 1404	24	19.6	2.4	2	1470	150			
		1/ 50	7/ 351	29	24.5	3	2.5	1570	160			
	22	1/ 60	11/ 684	35	29.4	3.6	3	2160	220	P.A134 Fig.A-287 4.5kg	P.A135 Fig.A-291 5kg	P.A136 Fig.A-295 5kg
		1/ 80	21/ 1634	47	39.2	4.8	4	2450	250			
		1/ 100	7/ 684	59	49	6	5	2450	250			
		1/ 120	147/17974	71	58.8	7.2	6	2450	250			
		1/ 160	21/ 3268	94	78.4	9.6	8	2450	250			
		1/ 200	21/ 4085	117	98	11.9	10	2450	250			
	28	1/ 300	221/65190	157	130	16	13.3	3430	350	P.A135 Fig.A-288 7.5kg	P.A135 Fig.A-292 8kg	P.A136 Fig.A-296 8kg
		1/ 375	187/68370	196	163	20	16.6	3430	350			
		1/ 450	181/79793	235	196	24	20	3430	350			
	32	1/ 600	147/88192	313	261	31.9	26.6	5880	600	P.A135 Fig.A-289 10.5kg	P.A135 Fig.A-293 11kg	P.A136 Fig.A-297 11kg
		1/ 750	49/36464	391	326	39.9	33.3	5880	600			
		＊ 1/ 900	62/57063	431	391	44	39.9	5880	600			
		＊ 1/1200	46/55195	431	431	44	44	5880	600			

Note) The allowable O.H.L indicated are the values in the central position of the output shaft.
The models marked with ＊ are limited torque type. Be sure to refer to the allowable torque in the Performance Table.

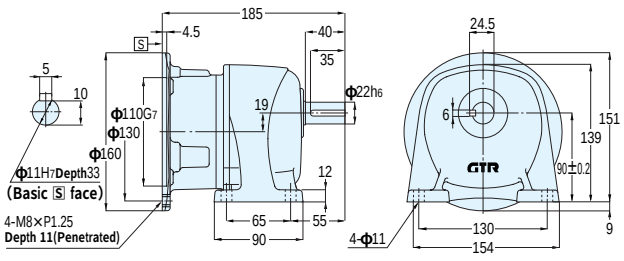
Foot Mount Type

Fig.A-286 G3LS-18-5〜50-（010）
CAD Data: G3LS-18-010



Round Weight 3.5kg

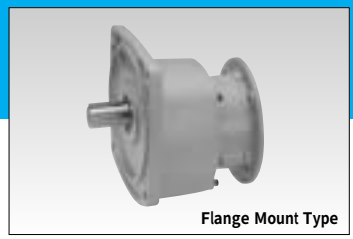
Fig.A-287 G3LS-22-60〜200-（010）
CAD Data: G3LS-22-010



Round Weight 4.5kg

Model Code P.A130
Detailed Dimension Diagram of Input Shaft P.E48
Option P.E78

Foot Mount Type


Flange Mount Type

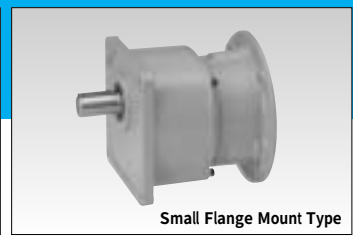
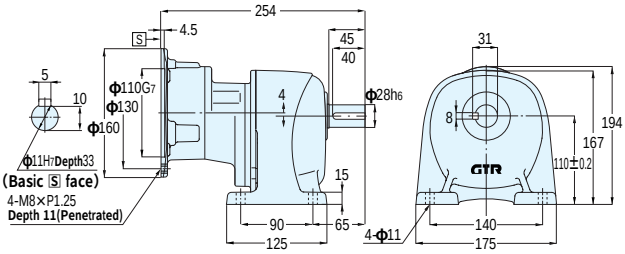

Small Flange Mount Type

Fig.A-288 G3LS-28-300～450-（010）

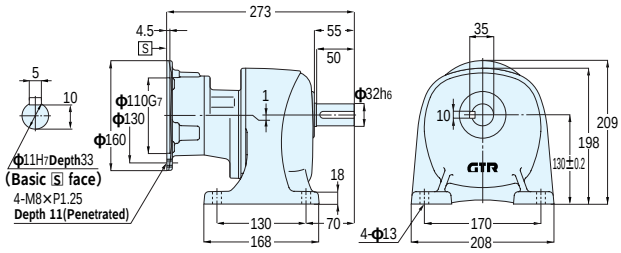
CAD Data：G3LS-28-010



Round Weight 7.5kg

Fig.A-289 G3LS-32-600～1200-（010）

CAD Data：G3LS-32-010

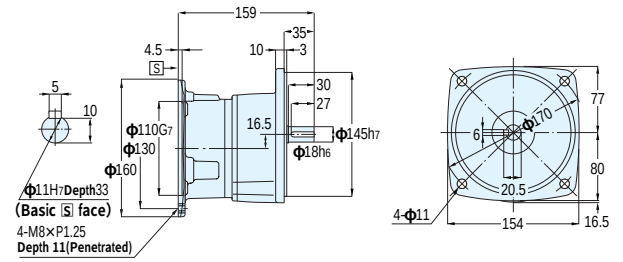


Round Weight 10.5kg

Flange Mount Type

Fig.A-290 G3FS-18-5～50-（010）

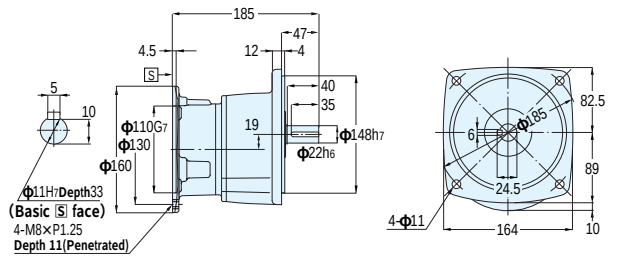
CAD Data：G3FS-18-010



Round Weight 4kg

Fig.A-291 G3FS-22-60～200-（010）

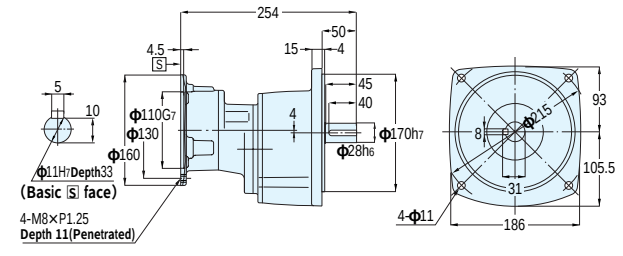
CAD Data：G3FS-22-010



Round Weight 5kg

Fig.A-292 G3FS-28-300～450-（010）

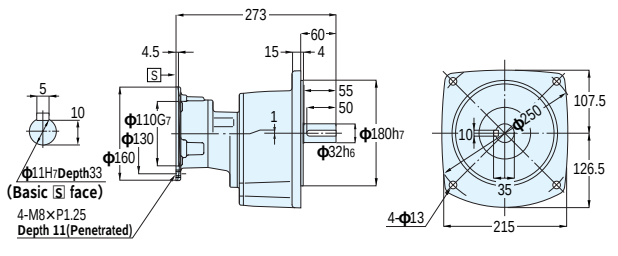
CAD Data：G3FS-28-010



Round Weight 8kg

Fig.A-293 G3FS-32-600～1200-（010）

CAD Data：G3FS-32-010



Round Weight 11kg

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Designated Motor Attachable Type

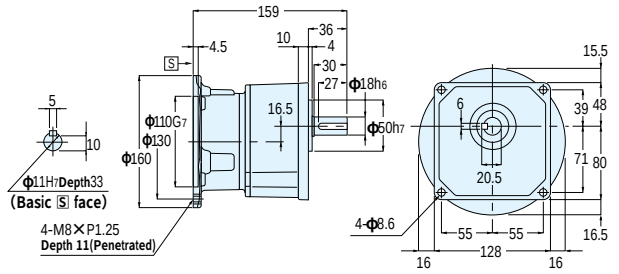
S-Type Reducer

G3 Series equiv 0.1kW

Small Flange Mount Type

Fig.A-294 G3KS-18-5～50-（010）

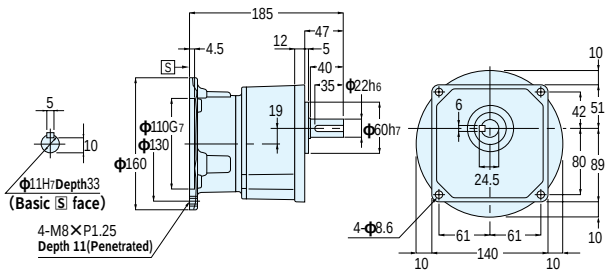
CAD Data: G3KS-18-010



Round Weight 4kg

Fig.A-295 G3KS-22-60～200-（010）

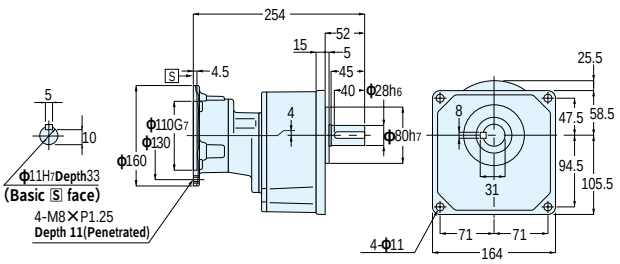
CAD Data: G3KS-22-010



Round Weight 5kg

Fig.A-296 G3KS-28-300～450-（010）

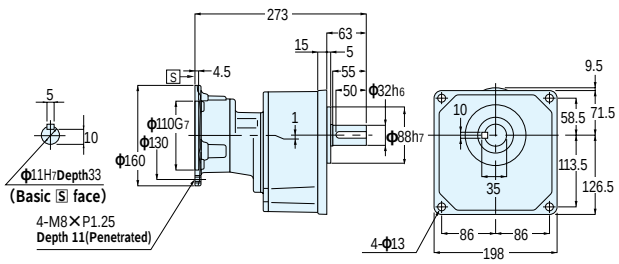
CAD Data: G3KS-28-010



Round Weight 8kg

Fig.A-297 G3KS-32-600～1200-（010）

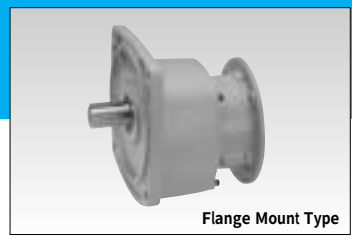
CAD Data: G3KS-32-010

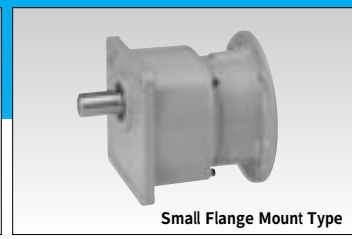


Round Weight 11kg

Model Code P.A130
Detailed Dimension Diagram of Input Shaft P.E48
Option P.E78

Foot Mount Type


Flange Mount Type


Small Flange Mount Type

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Designated Motor Attachable Type

S-Type Reducer

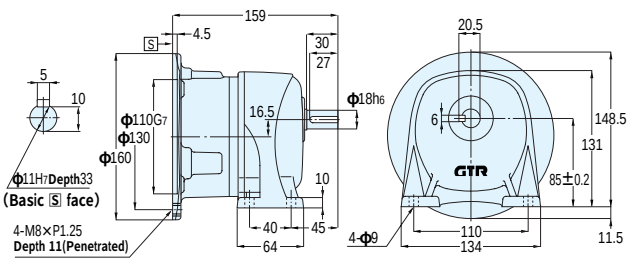
G3 Series equiv 0.2kW

Equivalent 4P motor capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio	Output Shaft Allowable Torque N•m 50Hz	Output Shaft Allowable Torque N•m 60Hz	Output Shaft Allowable Torque kgf•m 50Hz	Output Shaft Allowable Torque kgf•m 60Hz	Output Shaft Allowable O.H.L N	Output Shaft Allowable O.H.L kgf	Page, Diagram No. of the Outer Dimension Diagram, Round Weight G3LS	G3FS	G3KS
0.2kW	18	1/ 5	33/ 164	6.1	5	0.62	0.51	588	60	P.A138 Fig.A-298 3.5kg	P.A140 Fig.A-303 4kg	P.A141 Fig.A-308 4kg
		1/ 10	77/ 779	11.8	9.8	1.2	1	882	90			
		1/ 15	119/ 1804	18.6	14.7	1.9	1.5	980	100			
		1/ 20	49/ 984	24.5	20.6	2.5	2.1	1180	120			
		1/ 25	28/ 697	30.4	25.5	3.1	2.6	1270	130			
	22	1/ 30	7/ 216	36.3	30.4	3.7	3.1	1760	180	P.A138 Fig.A-299 4.5kg	P.A140 Fig.A-304 5kg	P.A141 Fig.A-309 5k
		1/ 40	91/ 3600	47	39.2	4.8	4	1860	190			
		1/ 50	11/ 540	58.8	49	6	5	1960	200			
		1/ 60	637/39600	70.6	58.8	7.2	6	2160	220			
		1/ 80	91/ 7200	94.1	78.4	9.6	8	2450	250			
		＊1/ 100	11/ 1080	97	80.4	9.9	8.2	2450	250			
	28	1/ 100	13/ 1353	117	98	11.9	10	2840	290	P.A139 Fig.A-300 6.5k	P.A140 Fig.A-305 7k	P.A141 Fig.A-310 7k
		1/ 120	91/11000	140	117	14.3	11.9	3330	340			
		1/ 160	1/ 165	187	156	19.1	15.9	3430	350			
		1/ 200	7/ 1375	234	195	23.9	19.9	3430	350			
	32	1/ 300	91/27348	313	261	31.9	26.6	5880	600	P.A139 Fig.A-301 10.5k	P.A140 Fig.A-306 11k	P.A141 Fig.A-311 11k
		1/ 375	77/28620	391	326	39.9	33.3	5880	600			
		1/ 450	91/41022	431	391	44	39.9	5880	600			
	40	1/ 600	9/ 5300	626	521	63.9	53.2	7060	720	P.A139 Fig.A-302 17k	P.A140 Fig.A-307 18.5k	
		1/ 750	62/46427	764	653	78	66.6	7060	720			
		＊1/ 900	23/21259	764	764	78	78	7060	720			
		＊1/1200	9/10600	764	764	78	78	7060	720			

Note) The allowable O.H.L indicated are the values in the central position of the output shaft.
The models marked with ＊ are limited torque type. Be sure to refer to the allowable torque in the Performance Table.

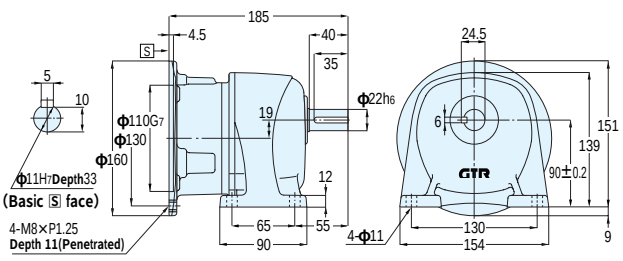
Foot Mount Type

Fig.A-298 G3LS-18-5～25-（020）
CAD Data: G3LS-18-020



Round Weight 3.5kg

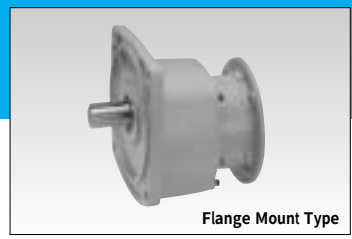
Fig.A-299 G3LS-22-30～100-（020）
CAD Data: G3LS-22-020



Round Weight 4.5kg

Model Code P.A130
Detailed Dimension Diagram of Input Shaft P.E48
Option P.E78

Foot Mount Type


Flange Mount Type

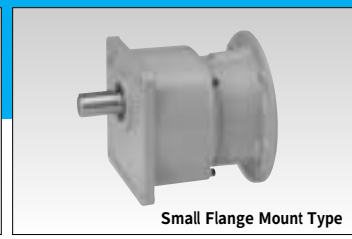
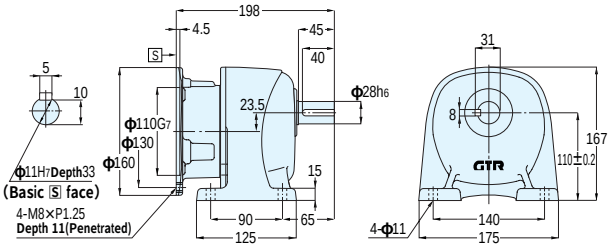

Small Flange Mount Type

Fig.A-300 G3LS-28-100～200-（020）

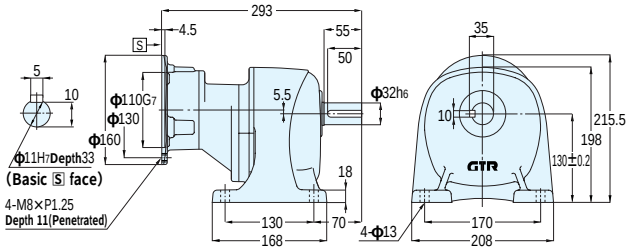
CAD Data: G3LS-28-020



Round Weight 6.5kg

Fig.A-301 G3LS-32-300～450-（020）

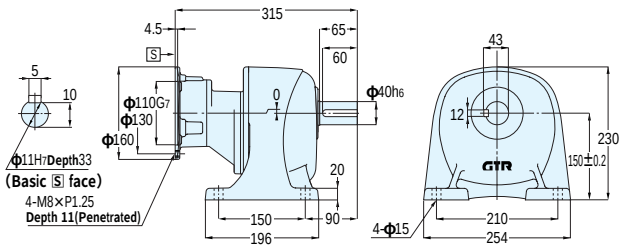
CAD Data: G3LS-32-020



Round Weight 10.5kg

Fig.A-302 G3LS-40-600～1200-（020）

CAD Data: G3LS-40-020



Round Weight 17kg

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Designated Motor Attachable Type

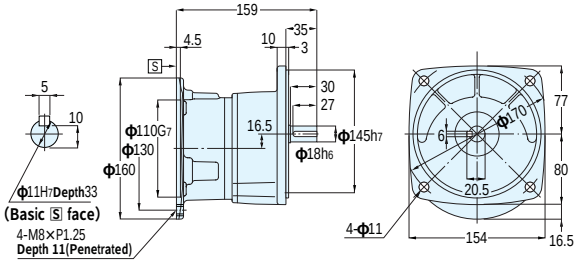
S-Type Reducer

G3 Series equiv 0.2kW

Flange Mount Type

Fig.A-303 G3FS-18-5～25-（020）

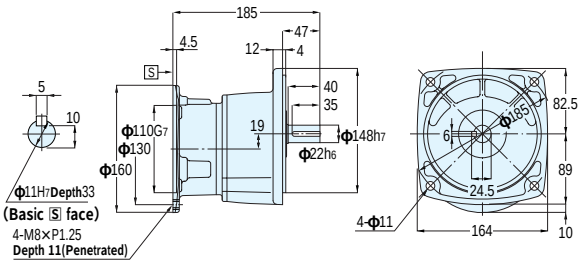
CAD Data: G3FS-18-020



Round Weight 4kg

Fig.A-304 G3FS-22-30～100-（020）

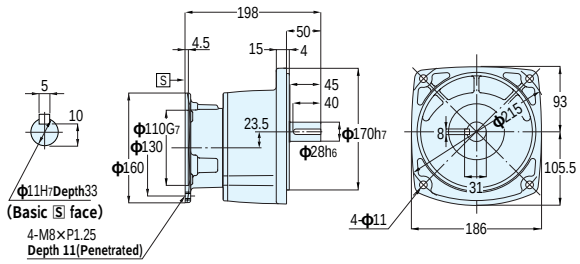
CAD Data: G3FS-22-020



Round Weight 5kg

Fig.A-305 G3FS-28-100～200-（020）

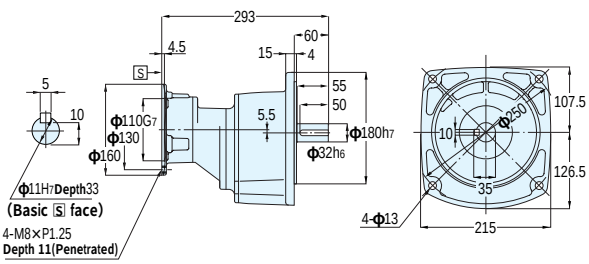
CAD Data: G3FS-28-020



Round Weight 7kg

Fig.A-306 G3FS-32-300～450-（020）

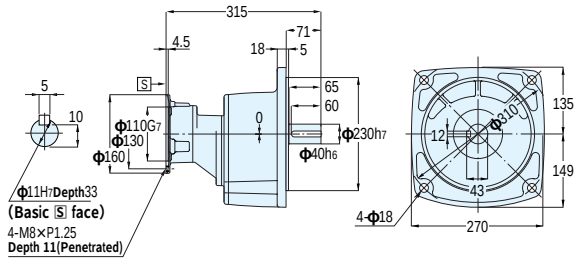
CAD Data: G3FS-32-020



Round Weight 11kg

Fig.A-307 G3FS-40-600～1200-（020）

CAD Data: G3FS-40-020

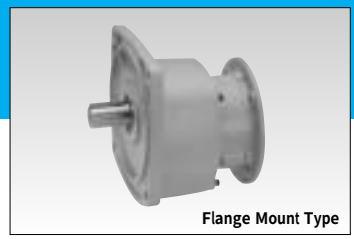


Round Weight 18.5kg

Model Code P.A130
Detailed Dimension Diagram of Input Shaft P.E48
Option P.E78

Small Flange Mount Type

Foot Mount Type


Flange Mount Type

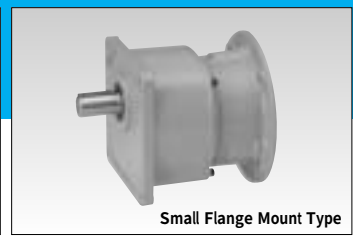
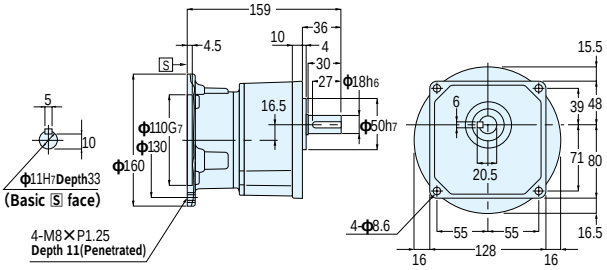

Small Flange Mount Type

Fig.A-308 G3KS-18-5～25-（020）

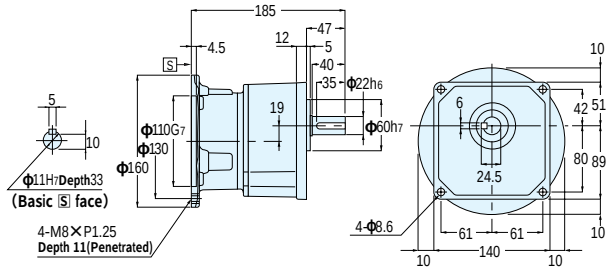
CAD Data: G3KS-18-020



Round Weight 4kg

Fig.A-309 G3KS-22-30～100-（020）

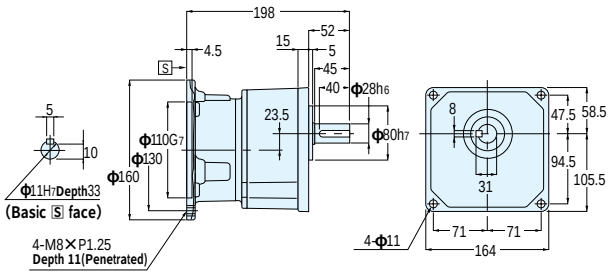
CAD Data: G3KS-22-020



Round Weight 5kg

Fig.A-310 G3KS-28-100～200-（020）

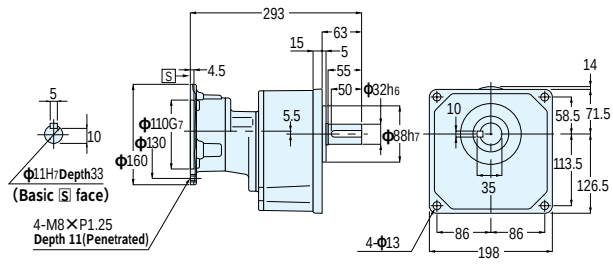
CAD Data: G3KS-28-020



Round Weight 7kg

Fig.A-311 G3KS-32-300～450-（020）

CAD Data: G3KS-32-020



Round Weight 11kg

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Designated Motor Attachable Type

S-Type Reducer

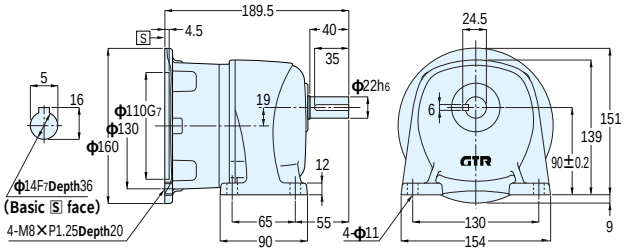
G3 Series equiv 0.4kW

Equivalent 4P motor capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio	Output Shaft Allowable Torque N•m 50Hz	Output Shaft Allowable Torque N•m 60Hz	Output Shaft Allowable Torque kgf•m 50Hz	Output Shaft Allowable Torque kgf•m 60Hz	Output Shaft Allowable O.H.L N	Output Shaft Allowable O.H.L kgf	Page, Diagram No. of the Outer Dimension Diagram, Round Weight G3LS	G3FS	G3KS
0.4kW	22	1/ 5	7/ 34	12	10	1.2	1	882	90	P.A142 Fig.A-312 5kg	P.A144 Fig.A-317 5.5kg	P.A145 Fig.A-322 5.5kg
		1/ 10	7/ 68	25	21	2.5	2.1	1180	120			
		1/ 15	49/ 748	36	30	3.7	3.1	1370	140			
		1/ 20	7/ 136	48	40	4.9	4.1	1470	150			
		1/ 25	7/ 170	61	50	6.2	5.1	1670	170			
	28	1/ 30	1/ 30	73	61	7.4	6.2	2550	260	P.A142 Fig.A-313 7kg	P.A144 Fig.A-318 7.5kg	P.A145 Fig.A-323 7.5kg
		1/ 40	221/ 8610	94	78	9.6	8	2840	290			
		1/ 50	187/ 9030	117	98	11.9	10	3140	320			
		1/ 60	169/ 9840	140	117	14.3	11.9	3430	350			
		1/ 80	65/ 5166	187	156	19.1	15.9	3430	350			
		∗ 1/ 100	55/ 5418	193	161	19.7	16.4	3430	350			
	32	1/ 100	7/ 688	234	195	23.9	19.9	4900	500	P.A143 Fig.A-314 10kg	P.A144 Fig.A-319 10.5kg	P.A145 Fig.A-324 10.5kg
		1/ 120	77/ 9360	281	234	28.7	23.9	5880	600			
		1/ 160	21/ 3328	374	313	38.2	31.9	5880	600			
		1/ 200	189/38272	431	390	44	39.8	5880	600			
	40	1/ 300	7/ 2160	626	521	63.9	53.2	7060	720	P.A143 Fig.A-315 18.5kg	P.A144 Fig.A-320 20kg	
		1/ 375	77/29328	764	653	78	66.6	7060	720			
		∗ 1/ 450	49/21600	764	764	78	78	7060	720			
	50	1/ 600	57/35360	1225	1044	125	106.5	9800	1000	P.A143 Fig.A-316 48kg	P.A144 Fig.A-321 53kg	
		∗ 1/ 750	25/19448	1225	1225	125	125	9800	1000			
		∗ 1/ 900	5/ 4338	1225	1225	125	125	9800	1000			
		∗ 1/1200	33/40664	1225	1225	125	125	9800	1000			

Note) The allowable O.H.L indicated are the values in the central position of the output shaft.
The models marked with ∗ are limited torque type. Be sure to refer to the allowable torque in the Performance Table.

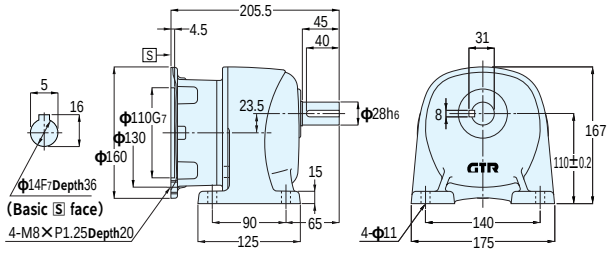
Foot Mount Type

Fig.A-312 G3LS-22-5～25-（040）
CAD Data: G3LS-22-040



Round Weight 5kg

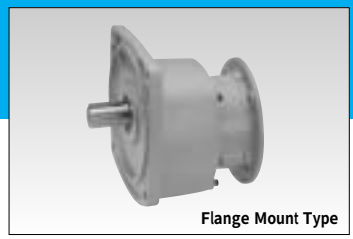
Fig.A-313 G3LS-28-30～100-（040）
CAD Data: G3LS-28-040



Round Weight 7kg

Model Code P.A130
Detailed Dimension Diagram of Input Shaft P.E48
Option P.E78

Foot Mount Type


Flange Mount Type

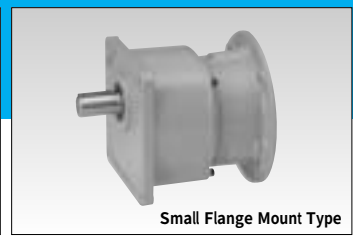
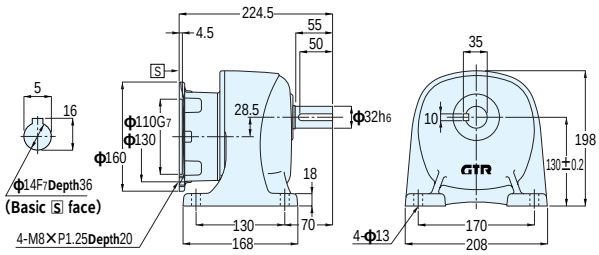

Small Flange Mount Type

Fig.A-314 G3LS-32-100～200-（040）

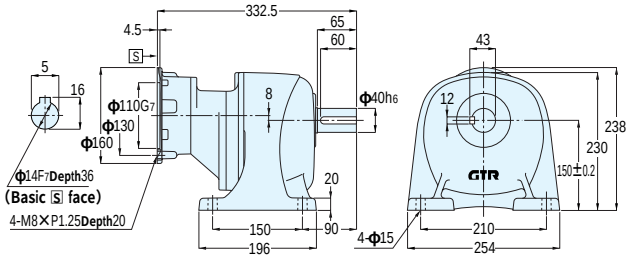
CAD Data: G3LS-32-040



Round Weight 10kg

Fig.A-315 G3LS-40-300～450-（040）

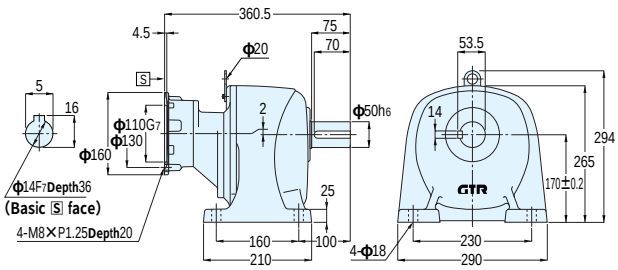
CAD Data: G3LS-40-040



Round Weight 18.5kg

Fig.A-316 G3LS-50-600～1200-（040）

CAD Data: G3LS-50-040



Round Weight 48kg

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Designated Motor Attachable Type

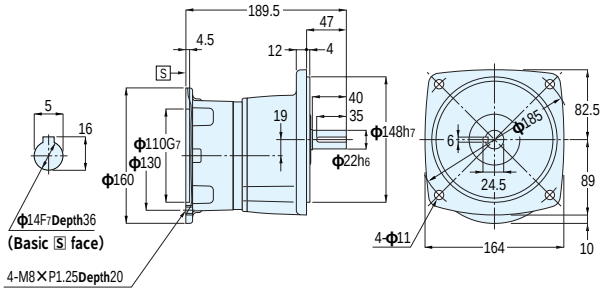
S-Type Reducer

G3 Series equiv 0.4kW

Flange Mount Type

Fig.A-317 G3FS-22-5～25-(040)

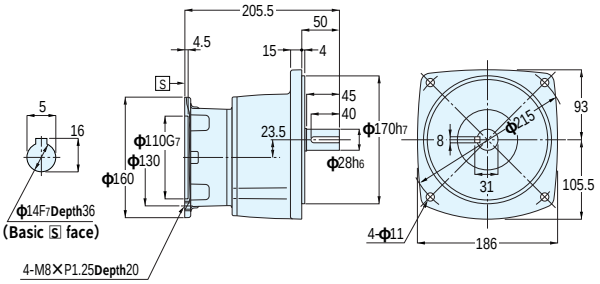
CAD Data: G3FS-22-040



Round Weight 5.5kg

Fig.A-318 G3FS-28-30～100-(040)

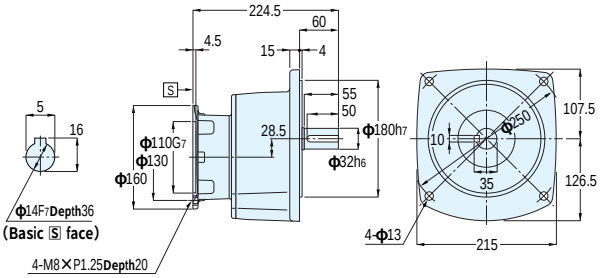
CAD Data: G3FS-28-040



Round Weight 7.5kg

Fig.A-319 G3FS-32-100～200-(040)

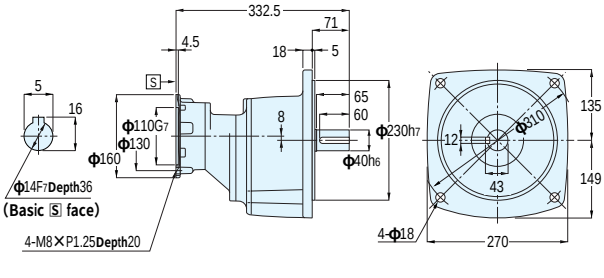
CAD Data: G3FS-32-040



Round Weight 10.5kg

Fig.A-320 G3FS-40-300～450-(040)

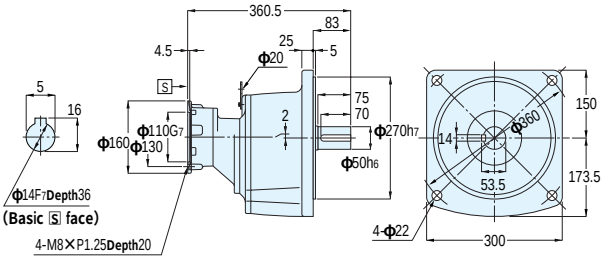
CAD Data: G3FS-40-040



Round Weight 20kg

Fig.A-321 G3FS-50-600～1200-(040)

CAD Data: G3FS-50-040

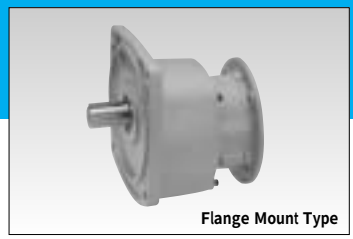


Round Weight 53kg

Model Code P.A130
Detailed Dimension Diagram of Input Shaft P.E48
Option P.E78

Small Flange Mount Type

Foot Mount Type


Flange Mount Type

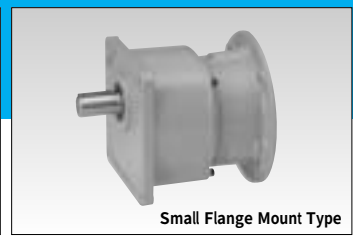
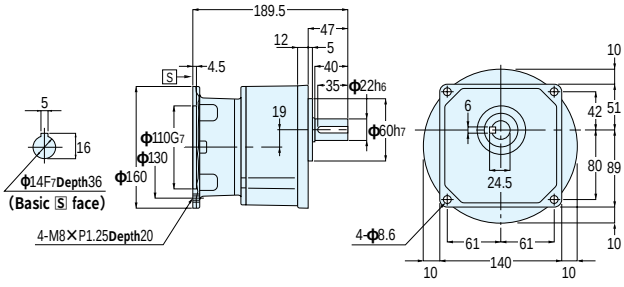

Small Flange Mount Type

Fig.A-322 G3KS-22-5～25-（040）

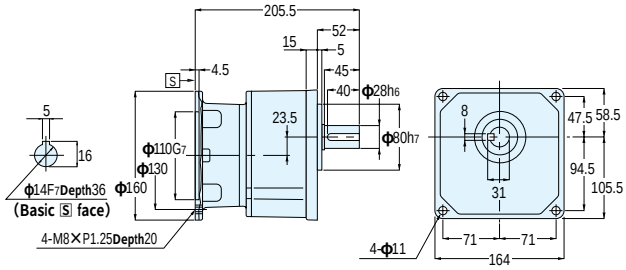
CAD Data: G3KS-22-040



Round Weight 5.5kg

Fig.A-323 G3KS-28-30～100-（040）

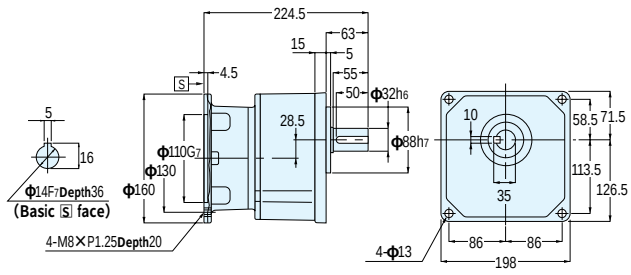
CAD Data: G3KS-28-040



Round Weight 7.5kg

Fig.A-324 G3KS-32-100～200-（040）

CAD Data: G3KS-32-040



Round Weight 10.5kg

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Designated Motor Attachable Type

S-Type Reducer

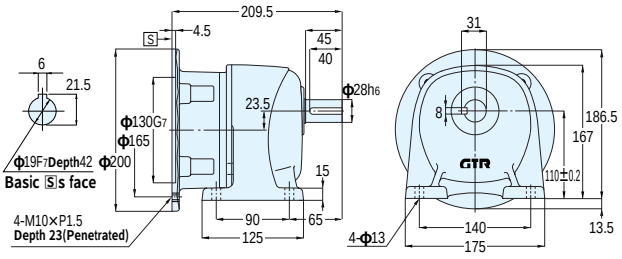
G3 Series equiv 0.75kW

Equivalent 4P motor capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio	Output Shaft Allowable Torque N•m 50Hz	Output Shaft Allowable Torque N•m 60Hz	Output Shaft Allowable Torque kgf•m 50Hz	Output Shaft Allowable Torque kgf•m 60Hz	Output Shaft Allowable O.H.L N	Output Shaft Allowable O.H.L kgf	Page, Diagram No. of the Outer Dimension Diagram, Round Weight G3LS	G3FS	G3KS
0.75kW	28	1/ 5	91/ 459	23	19	2.3	1.9	1270	130	P.A146 Fig.A-325 6.5kg	P.A147 Fig.A-329 7kg	P.A148 Fig.A-333 7kg
		1/ 10	1/ 10	45	38	4.6	3.9	1760	180			
		1/ 15	91/ 1360	68	57	6.9	5.8	2160	220			
		1/ 20	5/ 102	91	75	9.3	7.7	2350	240			
		1/ 25	7/ 170	114	94	11.6	9.6	2450	250			
	32	1/ 30	3/ 92	136	114	13.9	11.6	4020	410	P.A146 Fig.A-326 10kg	P.A147 Fig.A-330 10.5kg	P.A148 Fig.A-334 10.5kg
		1/ 40	13/ 516	175	146	17.9	14.9	4210	430			
		1/ 50	11/ 540	220	183	22.4	18.7	4610	470			
		1/ 60	13/ 774	264	220	26.9	22.4	5490	560			
		1/ 80	13/ 1032	351	293	35.8	29.9	5880	600			
		＊1/ 100	11/ 1080	362	302	36.9	30.8	5880	600			
	40	1/ 100	91/ 9000	439	366	44.8	37.3	7060	720	P.A147 Fig.A-327 16.5kg	P.A147 Fig.A-331 18kg	
		1/ 120	77/ 9400	527	439	53.8	44.8	7060	720			
		1/ 160	9/ 1400	703	585	71.7	59.7	7060	720			
		1/ 200	9/ 1750	764	732	78	74.7	7060	720			
	50	1/ 300	211/62013	1176	978	120	99.8	9800	1000	P.A147 Fig.A-328 48kg	P.A147 Fig.A-332 53kg	
		1/ 375	94/36103	1225	1225	125	125	9800	1000			
		＊1/ 450	65/29167	1225	1225	125	125	9800	1000			

Note) The allowable O.H.L indicated are the values in the central position of the output shaft.
The models marked with ＊ are limited torque type. Be sure to refer to the allowable torque in the Performance Table.

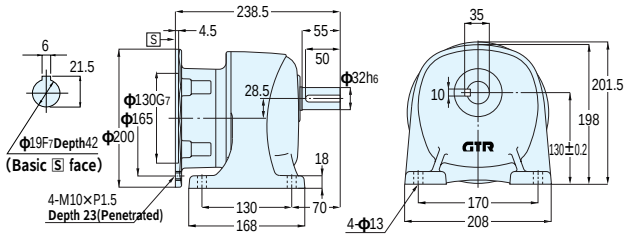
Foot Mount Type

Fig.A-325 G3LS-28-5～25-（075）
CAD Data: G3LS-28-075



Round Weight 6.5kg

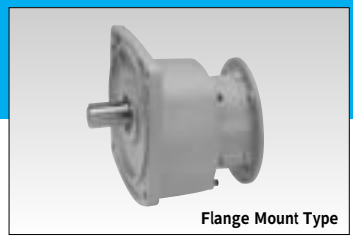
Fig.A-326 G3LS-32-30～100-（075）
CAD Data: G3LS-32-075



Round Weight 10kg

Model Code P.A130
Detailed Dimension Diagram of Input Shaft P.E48
Option P.E78

Foot Mount Type


Flange Mount Type

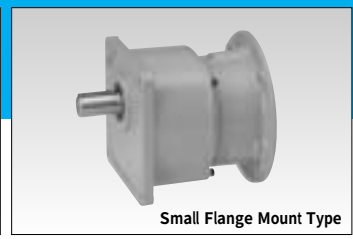
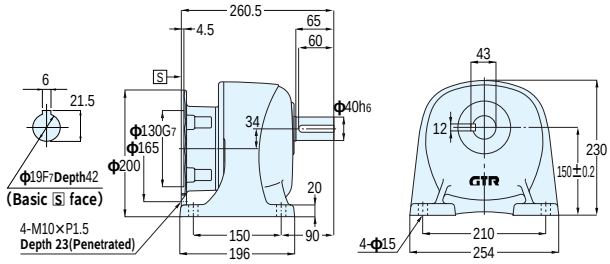

Small Flange Mount Type

Fig.A-327 G3LS-40-100～200-（075）

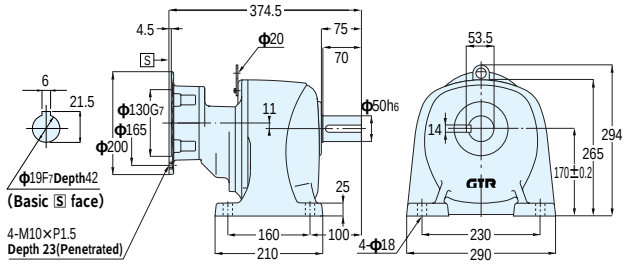
CAD Data: G3LS-40-075



Round Weight 16.5kg

Fig.A-328 G3LS-50-300～450-（075）

CAD Data: G3LS-50-075

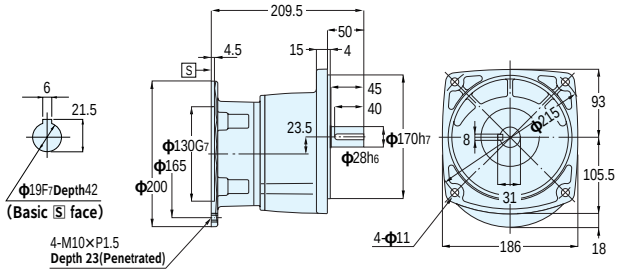


Round Weight 48kg

Flange Mount Type

Fig.A-329 G3FS-28-5～25-（075）

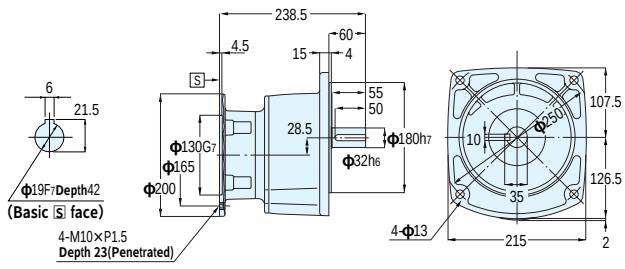
CAD Data: G3FS-28-075



Round Weight 7kg

Fig.A-330 G3FS-32-30～100-（075）

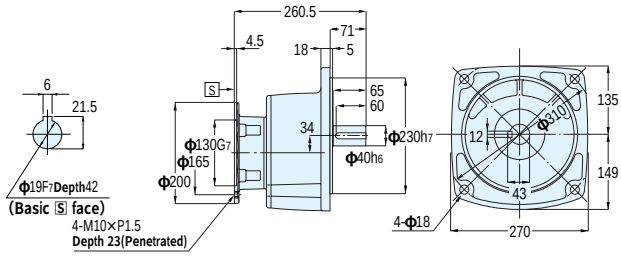
CAD Data: G3FS-32-075



Round Weight 10.5kg

Fig.A-331 G3FS-40-100～200-（075）

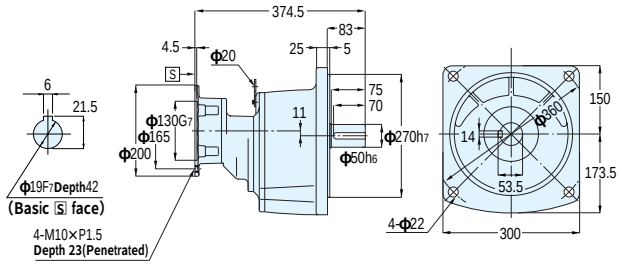
CAD Data: G3FS-40-075



Round Weight 18kg

Fig.A-332 G3FS-50-300～450-（075）

CAD Data: G3FS-50-075



Round Weight 53kg

Designated Motor Attachable Type

S-Type Reducer

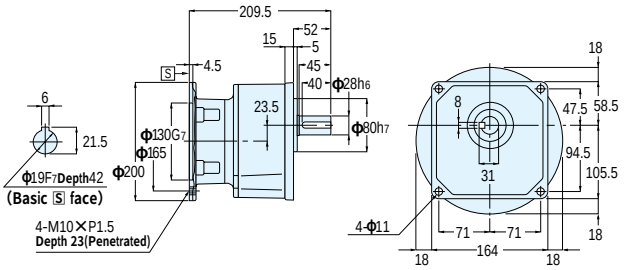
G3 Series equiv 0.75kW

Small Flange Mount Type

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Fig.A-333 G3KS-28-5～25-（075）

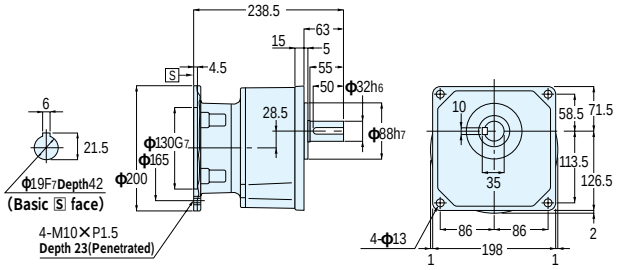
CAD Data: G3KS-28-075



Round Weight 7kg

Fig.A-334 G3KS-32-30～100-（075）

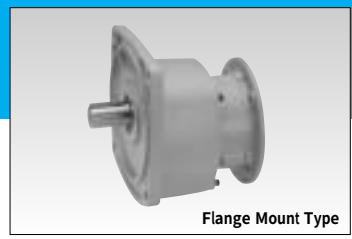
CAD Data: G3KS-32-075

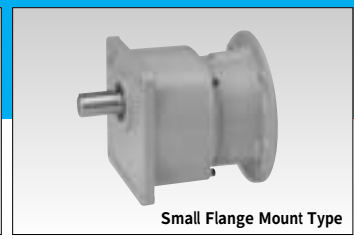


Round Weight 10.5kg

Model Code P.A130
Detailed Dimension Diagram of Input Shaft P.E48
Option P.E78

Foot Mount Type


Flange Mount Type


Small Flange Mount Type

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Designated Motor Attachable Type

S-Type Reducer

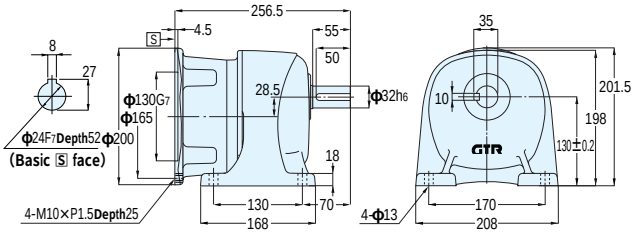
G3 Series equiv 1.5kW

Equivalent 4P motor capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio	Output Shaft Allowable Torque N•m 50Hz	Output Shaft Allowable Torque N•m 60Hz	Output Shaft Allowable Torque kgf•m 50Hz	Output Shaft Allowable Torque kgf•m 60Hz	Output Shaft Allowable O.H.L N	Output Shaft Allowable O.H.L kgf	Page, Diagram No. of the Outer Dimension Diagram, Round Weight G3LS	G3FS	G3KS
1.5kW	32	1/ 5	1/ 5	45	38	4.6	3.9	1760	180	P.A150 Fig.A-335 11.5kg	P.A151 Fig.A-338 12kg	P.A151 Fig.A-341 12kg
		1/ 10	1/ 10	91	75	9.3	7.7	2450	250			
		1/ 15	1/ 15	136	114	13.9	11.6	2840	290			
		1/ 20	1/ 20	181	151	18.5	15.4	3230	330			
		1/ 25	9/ 230	226	189	23.1	19.3	3820	390			
	40	1/ 30	1/ 30	272	226	27.8	23.1	5100	520	P.A150 Fig.A-336 18.5kg	P.A151 Fig.A-339 20kg	
		1/ 40	13/ 540	351	293	35.8	29.9	5880	600			
		1/ 50	11/ 564	439	366	44.8	37.3	7060	720			
		1/ 60	91/ 5400	527	439	53.8	44.8	7060	720			
		1/ 80	13/ 1080	703	585	71.7	59.7	7060	720			
		＊1/ 100	11/ 1128	724	603	73.9	61.5	7060	720			
	50	1/ 100	25/ 2618	878	732	89.6	74.7	9800	1000	P.A150 Fig.A-337 48kg	P.A151 Fig.A-340 53kg	
		1/ 120	77/ 8993	1060	878	108	89.6	9800	1000			
		1/ 160	33/ 5474	1230	1170	125	119	9800	1000			
		＊1/ 200	30/ 5831	1230	1230	125	125	9800	1000			

Note) The allowable O.H.L indicated are the values in the central position of the output shaft.
The models marked with ＊ are limited torque type. Be sure to refer to the allowable torque in the Performance Table.

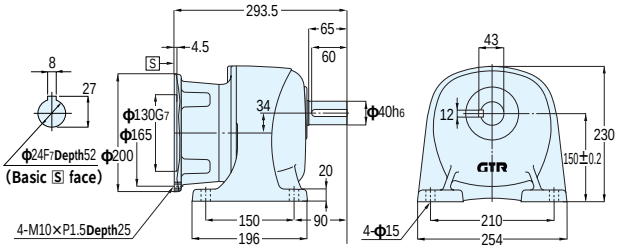
Foot Mount Type

Fig.A-335 G3LS-32-5～25-（150）
CAD Data: G3LS-32-150



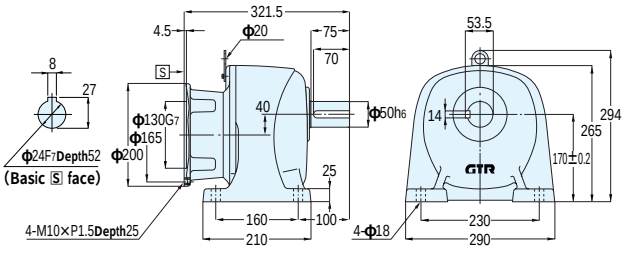
Round Weight 11.5kg

Fig.A-336 G3LS-40-30～100-（150）
CAD Data: G3LS-40-150



Round Weight 18.5kg

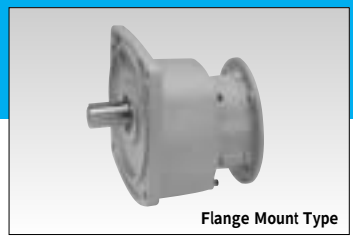
Fig.A-337 G3LS-50-100～200-（150）
CAD Data: G3LS-50-150

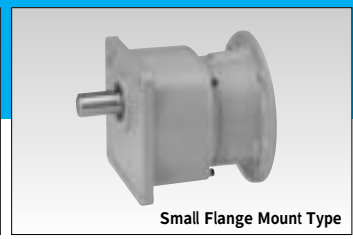


Round Weight 48kg

Model Code P.A130
Detailed Dimension Diagram of Input Shaft P.E48
Option P.E78

Foot Mount Type

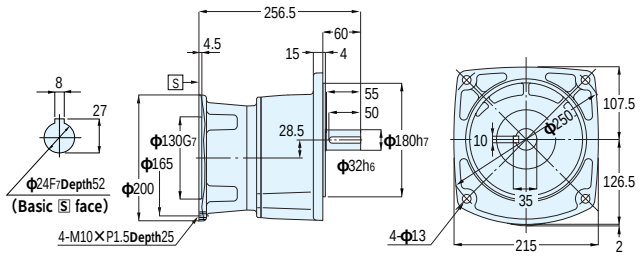

Flange Mount Type


Small Flange Mount Type

Flange Mount Type

Fig.A-338 G3FS-32-5～25-（150）

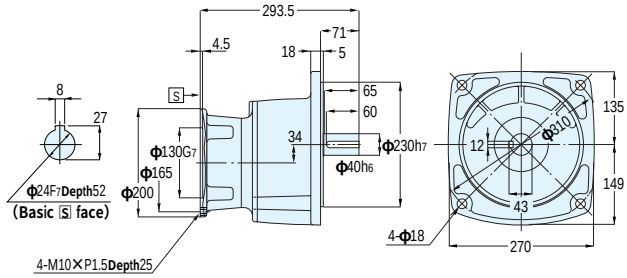
CAD Data: G3FS-32-150



Round Weight 12kg

Fig.A-339 G3FS-40-30～100-（150）

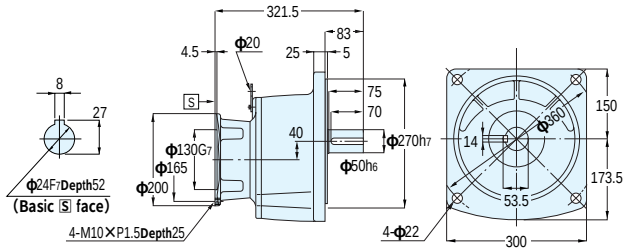
CAD Data: G3FS-40-150



Round Weight 20kg

Fig.A-340 G3FS-50-100～200-（150）

CAD Data: G3FS-50-150

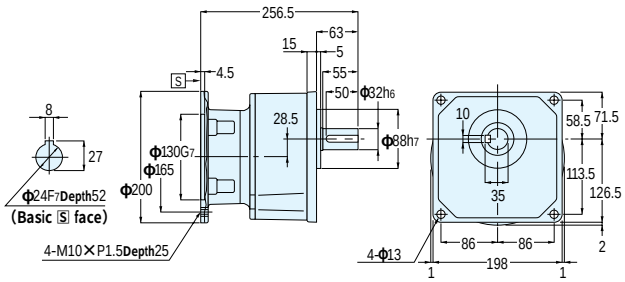


Round Weight 53kg

Small Flange Mount Type

Fig.A-341 G3KS-32-5～25-（150）

CAD Data: G3KS-32-150



Round Weight 12kg

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Designated Motor Attachable Type

S-Type Reducer

G3 Series equiv 2.2kW

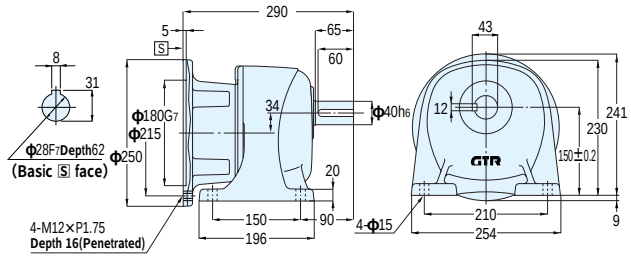
Equivalent 4P motor capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio	Output Shaft Allowable Torque N•m 50Hz	Output Shaft Allowable Torque N•m 60Hz	Output Shaft Allowable Torque kgf•m 50Hz	Output Shaft Allowable Torque kgf•m 60Hz	Output Shaft Allowable O.H.L N	Output Shaft Allowable O.H.L kgf	Page, Diagram No. of the Outer Dimension Diagram, Round Weight G3LS	Page, Diagram No. of the Outer Dimension Diagram, Round Weight G3FS
2.2kW	40	1/ 5	7/ 36	67	56	6.8	5.7	2160	220	P.A152 Fig.A-342 18kg	P.A152 Fig.A-344 19.5kg
		1/ 10	7/ 72	133	111	13.6	11.3	3140	320		
		1/ 15	49/ 720	200	167	20.4	17	3530	360		
		1/ 20	7/ 144	266	221	27.1	22.6	4020	410		
		1/ 25	7/ 180	332	277	33.9	28.3	4700	480		
	50	1/ 30	5/ 154	399	332	40.7	33.9	6960	710	P.A152 Fig.A-343 48kg	P.A152 Fig.A-345 53kg
		1/ 40	399/15488	515	429	52.6	43.8	7250	740		
		1/ 50	399/20240	644	537	65.7	54.8	8620	880		
		1/ 60	49/ 2904	773	644	78.9	65.7	9800	1000		
		1/ 80	49/ 3795	1029	858	105	87.6	9800	1000		
		1/ 100	21/ 2116	1230	1080	125	110	9800	1000		

Note) The allowable O.H.L indicated are the values in the central position of the output shaft.

Foot Mount Type

Fig.A-342 G3LS-40-5～25-（220）

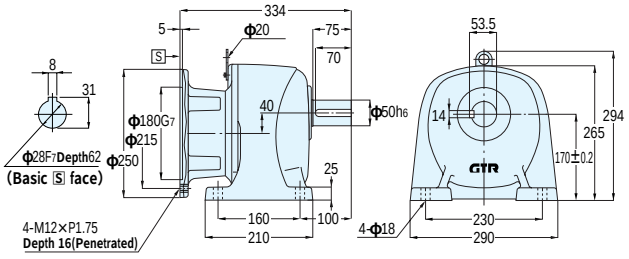
CAD Data: G3LS-40-220



Round Weight 18kg

Fig.A-343 G3LS-50-30～100-（220）

CAD Data: G3LS-50-220

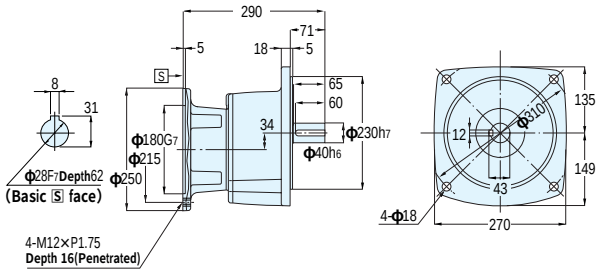


Round Weight 48kg

Flange Mount Type

Fig.A-344 G3FS-40-5～25-（220）

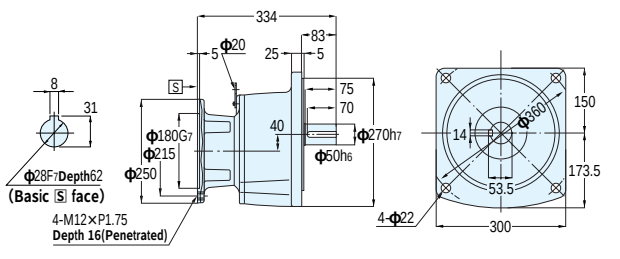
CAD Data: G3FS-40-220



Round Weight 19.5kg

Fig.A-345 G3FS-50-30～100-（220）

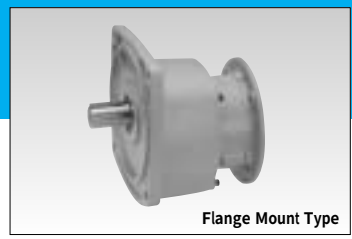
CAD Data: G3FS-50-220

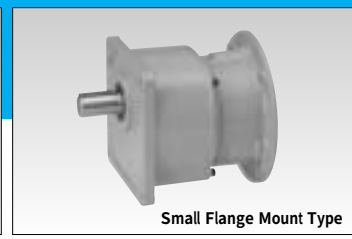


Round Weight 53kg

Model Code P.A130
Detailed Dimension Diagram of Input Shaft P.E48
Option P.E78

Foot Mount Type


Flange Mount Type


Small Flange Mount Type

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

GTR Gearmotor

Right Angle Shaft

H2 Series Gearmotor • Reducer

Model • Type Designation Standard Model Lineup

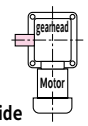
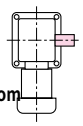
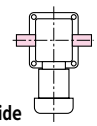
H2 Series

■Gearmotor/Gearmotor with Brake
Model and Type Designation/Standard Model Lineup ..... P. B7
3-phase Performance Table/Dimension Diagram ..... P. B11
Single-phase Performance Table/Dimension Diagram ..... P. B23
■Water-Resistant W/SUS Shaft•
Water-Resistant W/Carbon Steel Shaft (IP65)Gearmotor/
Gearmotor with Brake
Model and Type Designation/Standard Model Lineup ..... P. B31
Performance List/Dimension Diagram ..... P. B35
■Gearmotor with Clutch and Brake
(Standard Type/Heavy duty Type)
Model and Type Designation/Standard Model Lineup ..... P. B47
Performance Table/Dimension Diagram ..... P. B51
■Reducer (Double Shaft Type)
Model and Type Designation/Standard Model Lineup ..... P. B57
Performance List/Dimension Diagram ..... P. B61
■S-Type Reducer (Designated Motor Attachable Type)
Model and Type Designation/Standard Model Lineup ..... P. B71
Performance List/Dimension Diagram ..... P. B75

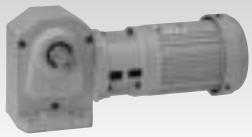
Model and Type Designation H2 Series (Right Angle Shaft)

H2 Series gearmotors and reducers are classified by codes as shown below.
Specify these codes in your inquiry and order.

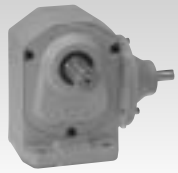
Type			Frame Number	Shaft Arrangement	Reduction Ratio	Motor Capacity	Option		Auxiliary Code	Spec. Code
H2	L	M	– 32	L	– 200	– T040	W	A		
H2	F	B	– 22	T	– 50	– S100			X	T9
①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪

①Series Name	H2 : H2 Series (Right Angle Shaft)
②Classification by Mount Form	L : Leg Mount
	F : Foot Mount (Frame No. 22 only)
③Classification by Motor Type	M : Motor only
	B : Brake-motor
	J : Brake Manual Release Device(Option)
	W : Water-Resistant Motor W/SUS Shaft (JIS:SUS420J2)
	V : Water-Resistant Brake Motor W/SUS Shaft (JIS:SUS420J2)
	G : Water-Rresistant Motor W/Carbon Steel Shaft (JIS:S43C)
	H : Water-Resistant Brake Motor W/Carbon Steel Shaft (JIS:S43C)
	E : Clutch/Brake Motor
	Blank : Without motor (Double Shaft)
	S : Designated Motor Attachable (S Type)
④Frame Number and Diameter of Output Shaft Diameter of Output Shaft	Diameter of Output Shaft
⑤Shaft Arrangement	L: Output shaft on the left viewing from Input shaft side  R: Output shaft on the right viewing from Input shaft side  T: Output shaft on both side viewing from Input shaft side 
⑥Reduction Ratio	5 : 1／5 ～ 1500 : 1／1500
⑦Motor Type and Capacity	T010 : 3-phase 0.1kW 010 : equiv 0.1kW(Double S-Type)
	T020 : 3-phase 0.2kW 020 : equiv 0.2kW(Double S-Type)
	T040 : 3-phase 0.4kW 040 : equiv 0.4kW(Double S-Type)
	075 : 3-phase 0.75kW equiv 0.75kW(Double S-Type)
	150 : 3-phase 1.5kW equiv 1.5kW(Double S-Type)
	220 : 3-phase 2.2kW equiv 2.2kW(Double S-Type)
	S100 : 1-phase 100W
	200 : 1-phase 200W
	400 : 1-phase 400W
⑧⑨Option Note 1: For orders of gearmotors equipped with terminal box with the capacity of less than 0.4kW, specify " A " or " Z " at the end of the capacity code. However, since terminal box equipped is the standard specs. of the gearmotor with clutch/brake 0.4kW, be sure to specify " A " at the end of the capacity code. (Example: H2LE-32L-200-T40A) All the gearmotors with the capacity of 0.75～2.2kW are terminal box equipped and have no additional code. For rectifier built-in gearmotors, refer to page E26. Note 2: Standard 1-phase gearmotors are not equipped with terminal box. Terminal box should be ordered additionally. Note 3: Water-resistant outdoor gearmotors are equipped with E-Type terminal box as standard specs., therefore, for orders, specify " E " at the end of the capacity code.	Blank : Standard voltage 3-phase : 200V／50Hz、200V／60Hz、220V／60Hz 0.1kW～0.4kW without terminal box (Note 1) 0.75kW～2.2kW terminal box attached 1-phase : 100V／50Hz、100V／60Hz without terminal box (Note 2)
	W : High voltage 3-phase : 380V／50Hz、400V／50Hz、400V／60Hz、440V／60Hz 0.1kW～0.4kW without terminal box (Note 1) 0.75kW～2.2kW terminal box attached 1-phase : 200V／50Hz、200V／60Hz (custom specs.) without terminal box (Note 2)
	A : Terminal box (option)
	Z : Rectifier built-in terminal box for 3ph brake motor (option)
	E : Terminal box for water-resistant, type (standard specs.) (Note 3)
⑩Auxiliary Code	Blank : Standard specs.
	X : Code to identify additional special specs.
⑪Specification Code Note: Spec. code does not appear on the product type designation in the nameplate. It is indicated on the additional number column in the nameplate.	Instruction for terminal box lead wire position. Refer to the specification code list on page E35 for details.

Gearmotor
Gearmotor with Brake



Gearmotor with Clutch and Brake



Reducer (Double Shaft Type)

S-Type Reducer

Parallel Shaft (Performance Table/Dimension)
- Gearmotor with Brake
- Water-resistant, Outdoor Gearmotor with Brake
- Gearmotor with Clutch/Brake
- Reducer (Double Shaft)
- S-Type Reducer

Right Angle Shaft (Performance Table/Dimension)
- Gearmotor with Brake
- Water-resistant, Outdoor Gearmotor with Brake
- Gearmotor with Clutch /Brake
- Reduce (Double Shaft)
- S-Type Reducer

Hollow Shaft Solid Shaft Performance Table/Dimension
- Gearmotor with Brake
- Water-Resistant, Outdoor Gearmotor with Brake
- Reduce (Double Shaft)
- S-Type Reducer

Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
- Gearmotor with Brake
- Water-Resistant, Outdoor Gearmotor with Brake
- Reducer (Parallel Shaft)
- S-Type Reducer

Technical Information

Standard Motors

Cautions for Safety

Option

GT-STEP Index Gearmotor

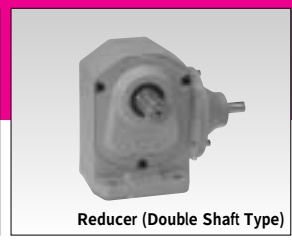
KOMPASS Gearbox

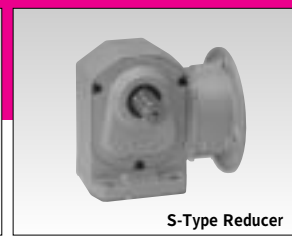
Standard Model Lineup G3 Series (Right Angle Shaft)

Type	4P Motor Capacity and Equiv. Capacity	Frame Number	Output Shaft Arrangement	Reduction Ratio
Gearmotor H2LM / Gearmotor with Brake H2LB / Gearmotor equipped with brake manual release device H2LJ (Optional Spec.)	3-Phase 0.1kW / 1-Phase 100W (Note 2)	22 (Note 1)	L R T	1/5 1/10 1/15 1/20 1/25 1/30 1/40 1/50 1/60 1/80 1/100 1/120 1/160 1/200 1/240
		28	L R T	1/300 1/375 1/450
		32	L R T	1/600 1/750 1/900 1/1200 1/1500
	3-Phase 0.2kW / 1-Phase 200W	22 (Note 1)	L R T	1/5 1/10 1/15 1/20 1/25 1/30 1/40 1/50 1/60
		28	L R T	1/80 1/100 1/120 1/160 1/200 1/240
		32	L R T	1/300 1/375 1/450
		40	L R T	1/600 1/750 1/900 1/1200 1/1500
Gearmotor H2LM / Gearmotor with Brake H2LB / Gearmotor equipped with brake manual release device H2LJ (Optional Spec.) / Reducer (Double Shaft Type) H2L / S-Type Reducer H2LS	3-Phase 0.4kW / 1-Phase 400W	28	L R T	1/5 1/10 1/15 1/20 1/25 1/30 1/40 1/50 1/60
		32	L R T	1/80 1/100 1/120 1/160 1/200 1/240
		40	L R T	1/300 1/375 1/450
		50	L R T	1/600 1/750 1/900 1/1200 1/1500
	3-Phase 0.75kW	32	L R T	1/5 1/10 1/15 1/20 1/25 1/30 1/40 1/50 1/60
		40	L R T	1/80 1/100 1/120 1/160 1/200 1/240
		50	L R T	1/300 1/375 1/450
	3-Phase 1.5kW	40	L R T	1/5 1/10 1/15 1/20 1/25 1/30 1/40 1/50 1/60
		50	L R T	1/80 1/100 1/120 1/160 1/200 1/240
	3-Phase 2.2kW	50	L R T	1/5 1/10 1/15 1/20 1/25 1/30 1/40 1/50 1/60 1/80 1/100 1/120

Gearmotor
Gearmotor with Brake

Gearmotor with Clutch and Brake


Reducer (Double Shaft Type)


S-Type Reducer

Type	4P Motor Capacity	Frame Number	Output Shaft Arrangement	Reduction Ratio
〈GT-PACK〉 Gearmotor with Clutch/Brake H2LE	3-Phase 0.2kW	22 (Note 1)	L R T	1/5 1/10 1/15 1/20 1/25 1/30 1/40 1/50 1/60
		28	L R T	1/80 1/100 1/120 1/160 1/200 1/240
	3-Phase 0.4kW	28	L R T	1/5 1/10 1/15 1/20 1/25 1/30 1/40 1/50 1/60
		32	L R T	1/80 1/100 1/120 1/160 1/200 1/240
	3-Phase 0.75kW	32	L R T	1/5 1/10 1/15 1/20 1/25 1/30 1/40 1/50 1/60
		40	L R T	1/80 1/100 1/120 1/160 1/200 1/240

Note 1) Flange mounted type (H2F) is also available only in the Frame Number 22.
2) High reduction ratio (greater than 1/300) is not available in single phase 100V motor.
3) The models enclosed with ▭ are limited torque type.
Be sure to check allowable torque in the performance table.

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

GTR Gearmotor

Right Angle Shaft

Gearmotor
Gearmotor with Brake

Model • Type Designation
Standard Model Lineup

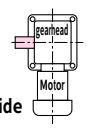
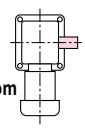
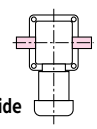
H2 Series

Motor Part	Number of phase	3-Phase	1-Phase
	Capacity	0.1kW～2.2kW	100W～400W
	Power Source	3 Rated Power Source 200V 50/60Hz, 220V/60Hz	100V 50/60Hz
	Insulation Classification	Class B	Class B(Class E for 100W)
	Starting Method	Direct start	Capacitor Start(100V:capacitor operation)
	Protective cooling Method	Totally Enclosed fan-cooled (Totally Enclosed only for 0.1kW without brake)	Totally Enclosed fan-cooled
	Number of Pole	4	
	Rating	Continuous Rating	
Speed Reduction Part	Reduction Method	Hypoid gear and Helical gear	
	Lubrication	Grease Lubrication(Maintenance Free)	
	Output Shaft	New JIS Key(JIS 1301-1976 class)	
	Output Shaft Material	S43C	
	Case Material	Aluminium die-cast(Frame No.50: Cast iron, 1.5kW Frame No.40: Cast aluminium)	
Ambient Conditions	Ambient Temperature	−10°C～40°C	
	Ambient Humidity	85% max.(without any dew condensation)	
	Altitude	1,000m max.	
	Environment	Well ventilated place free from corrosive gas, explosive gas vapor and/or dust.	
	Installation Location	Indoors	
Painting	Painting Method	Anion painting, Acrylic paint	
	Painting Color	Grey(Mansel code: 9B6/0.5)	
Mounting Direction		No restriction in the mounting angle.(horizontally, vertically or heeling angle)	

Model and Type Designation G3 Series (Right Angle Shaft)

H2 series gearmotors and gearmotor with brake are classified by codes as shown below. Specify these codes in your inquiry and order.

Type			Frame Number	Shaft Arrangement	Reduction Ratio	Motor Capacity	Option		Auxiliary Code	Spec. Code
H2	L	M	– 32	L	– 200	– T040	W	A		
H2	F	B	– 22	T	– 50	– S100			X	T9
①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪

①Series Name	H2 : H2 Series (Right Angle Shaft)
②Classification by Mount Form	L : Leg Mount
	F : Foot Mount (Frame No. 22 only)
③Classification by Motor Type	M : Motor only
	B : Brake-motor
	J : Brake Manual Release Device(Option)
④Frame Number and Diameter of Output Shaft	Diameter of Output Shaft
⑤Shaft Arrangement	L: Output shaft on the left viewing from Input shaft side  R: Output shaft on the right viewing from Input shaft side  T: Output shaft on both side viewing from Input shaft side 
⑥Reduction Ratio	5 : 1/5 ～ 1500 : 1/1500
⑦Motor Type and Capacity	T010 : 3-phase 0.1 kW
	T020 : 3-phase 0.2 kW
	T040 : 3-phase 0.4 kW
	075 : 3-phase 0.75kW
	150 : 3-phase 1.5 kW
	220 : 3-phase 2.2 kW
	S100 : 1-phase 100W
	200 : 1-phase 200W
	400 : 1-phase 400W
⑧⑨Option Note 1: For orders of gearmotors equipped with terminal box with the capacity of less than 0.4kW, specify " A " or " Z " at the end of the capacity code. However, since terminal box equipped is the standard specs. All the gearmotors with the capacity of 0.75～2.2kW are terminal box equipped and have no additional code. For rectifier built-in gearmotors, refer to page E26. Note 2: Standard 1-phase gearmotors are not equipped with terminal box. Terminal box should be ordered additionally.	Blank : Standard voltage 3-phase : 200V/50Hz、200V/60Hz、220V/60Hz 0.1kW～0.4kW without terminal box (Note 1) 0.75kW～2.2kW terminal box attached 1-phase : 100V/50Hz、100V/60Hz without terminal box (Note 2)
	W : High voltage 3-phase : 380V/50Hz、400V/50Hz、400V/60Hz、440V/60Hz 0.1kW～0.4kW without terminal box (Note 1) 0.75kW～2.2kW terminal box attached 1-phase : 200V/50Hz、200V/60Hz (custom specs.) without terminal box (Note 2)
	A : Terminal box (option)
	Z : Rectifier built-in terminal box for 3ph brake motor (option)
⑩Auxiliary Code	Blank : Standard voltage
	X : Code to identify additional special specs.
⑪Specification Code Note: Spec. code does not appear on the product type designation in the nameplate. It is indicated on the additional number column in the nameplate.	Instruction for terminal box lead wire position. Refer to the specification code list on page E35 for details.

Standard Model Lineup

Foot Mount Type

Flange Mount Type (Frame No. 22 only)

Type	4P Motor Capacity and Equiv. Capacity	Frame Number	Output Shaft Arrangement	Reduction Ratio
Gearmotor H2LM / Gearmotor with Brake H2LB / Gearmotor equipped with brake manual release device H2LJ (Optional Spec.)	3-Phase 0.1kW / 1-Phase 100W (Note 2)	22 (Note 1)	L R T	1/5 1/10 1/15 1/20 1/25 1/30 1/40 1/50 1/60 1/80 1/100 1/120 1/160 1/200 **1/240**
		28	L R T	1/300 1/375 1/450
		32	L R T	1/600 1/750 1/900 **1/1200** **1/1500**
	3-Phase 0.2kW / 1-Phase 200W	22 (Note 1)	L R T	1/5 1/10 1/15 1/20 1/25 1/30 1/40 1/50 1/60
		28	L R T	1/80 1/100 1/120 1/160 1/200 1/240
		32	L R T	1/300 1/375 1/450
		40	L R T	1/600 1/750 **1/900** **1/1200** **1/1500**
	3-Phase 0.4kW / 1-Phase 400W	28	L R T	1/5 1/10 1/15 1/20 1/25 1/30 1/40 1/50 1/60
		32	L R T	1/80 1/100 1/120 1/160 1/200 **1/240**
		40	L R T	1/300 1/375 **1/450**
		50	L R T	1/600 **1/750** **1/900** **1/1200** **1/1500**
	3-Phase 0.75kW	32	L R T	1/5 1/10 1/15 1/20 1/25 1/30 1/40 1/50 1/60
		40	L R T	1/80 1/100 1/120 1/160 1/200 **1/240**
		50	L R T	1/300 **1/375** **1/450**
	3-Phase 1.5kW	40	L R T	1/5 1/10 1/15 1/20 1/25 1/30 1/40 1/50 1/60
		50	L R T	1/80 1/100 1/120 1/160 **1/200** **1/240**
	3-Phase 2.2kW	50	L R T	1/5 1/10 1/15 1/20 1/25 1/30 1/40 1/50 1/60 1/80 1/100 1/120

Note 1) Flange mounted type (H2F) is also available only in the Frame Number 22.
2) High reduction ratio (greater than 1/300) is not available in single phase 100V motor.
3) The models enclosed with ▭ are limited torque type.
Be sure to check allowable torque in the performance table.

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

GTR Gearmotor

Right Angle Shaft

Gearmotor
Gearmotor with Brake

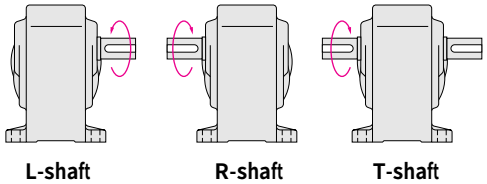
Performance Table
Dimension diagram

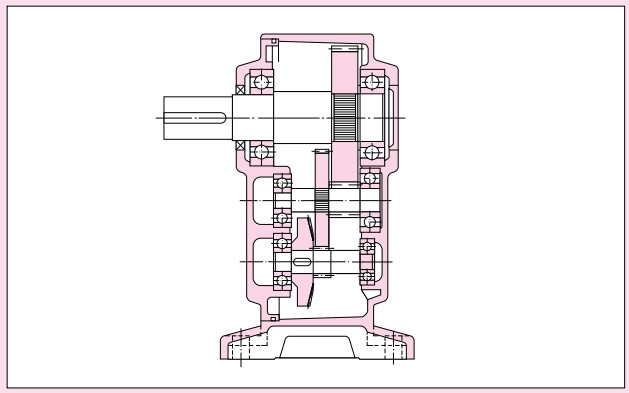
H2 Series

3-Phase

【Remarks】

- Values in the parenthesis in the performance table/dimension diagram are the values of gearmotor with brake.
- The output rotation speed is the value corresponds to the motor synchronous speed and the nominal reduction ratio.
- The shaded areas ▭ in the performance table shows that in case gearmotors are wired according to the diagram shown on page E16, L-shaft rotates clockwise while R and T-shafts rotate counterclockwise when viewing from output shaft side. (Refer to the diagram shown below.)





Gearmotor
Gearmotor with Brake
H2 Series 3-Phase 0.1kW

The values in parentheses in the Performance Table/Dimension Diagram indicate the values of gearmotors with brake.

Motor Specs. Standard Voltage (Continuous Rated 4 Poles)	Capacity	Motor Capacity Designation	Frequency (Hz)	Voltage (V)	Rated Current (A)	Rated Rotation Speed (rpm)	Insulation Classification	Protective Cooling system
	0.1kW	T010	50/60/60	200/200/220	0.61/0.54/0.54	1420/1700/1720	B	Totally Enclosed non-ventilated (Totally Enclosed fan-cooled)

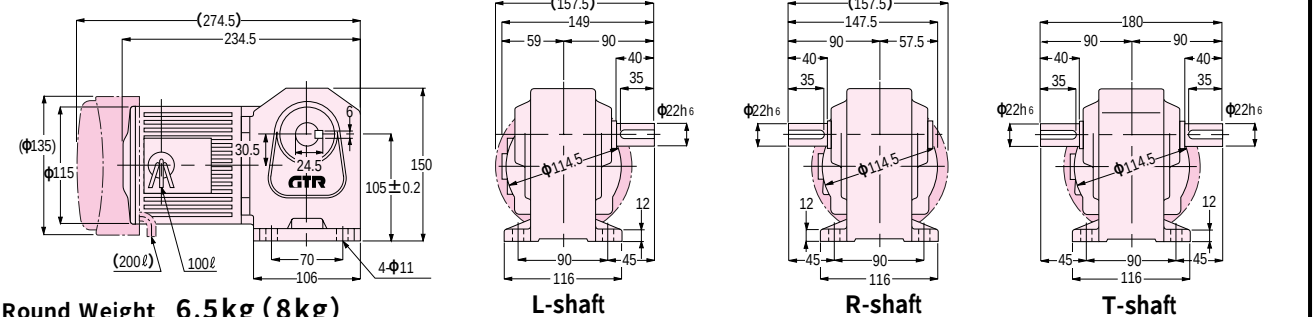
Motor Capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio (Fraction)	Output Shaft Rotation Speed (rpm)		Output Shaft Allowable Torque N•m		Output Shaft Allowable Torque kgf•m		Output Shaft Allowable O.H.L		Page, Diagram No. of the Outer Dimension Diagram, Round Weight Gearmotor(Gearmotor with Brake)	
				50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	N	kgf	H2LM (H2LB)	H2FM (H2FB)
3-Phase 0.1kW	22	1/ 5	1/ 5	300	360	2.8	2.4	0.29	0.24	588	60	P.B12 Fig.B-1 6.5kg (8kg)	P.B13 Fig.B-4 6.5kg (8kg)
		1/ 10	1/ 10	150	180	5.7	4.8	0.58	0.49	931	95		
		1/ 15	1/ 15	100	120	8.6	7.2	0.88	0.73	1030	105		
		1/ 20	1/ 20	75	90	12	9.5	1.2	0.97	1180	120		
		1/ 25	1/ 25	60	72	15	12	1.5	1.2	1270	130		
		1/ 30	1/ 30	50	60	18	15	1.8	1.5	1370	140		
		1/ 40	1/ 40	37.5	45	23	19	2.3	1.9	1570	160		
		1/ 50	1/ 50	30	36	28	24	2.9	2.4	1720	175		
		1/ 60	1/ 59	25	30	34	28	3.5	2.9	1760	180		
		1/ 80	1/ 80	18.8	22.5	44	37	4.5	3.8	1760	180		
		1/ 100	1/ 100	15	18	55	46	5.6	4.7	1760	180		
		1/ 120	1/ 120	12.5	15	67	55	6.8	5.6	1760	180		
		1/ 160	1/ 160	9.4	11.2	88	74	9	7.5	1760	180		
		1/ 200	1/ 200	7.5	9	111	92	11.3	9.4	1760	180		
		∗1/ 240	1/ 236	6.3	7.5	118	111	12	11.3	1760	180		
	28	1/ 300	7/ 2120	5	6	145	121	14.8	12.3	2840	290	P.B13 Fig.B-2 10kg (11.5kg)	
		1/ 375	7/ 2650	4	4.8	181	151	18.5	15.4	2840	290		
		1/ 450	7/ 3127	3.3	4	218	181	22.2	18.5	2840	290		
	32	1/ 600	7/ 4240	2.5	3	286	238	29.2	24.3	4120	420	P.B13 Fig.B-3 13kg (14.5kg)	
		1/ 750	7/ 5300	2	2.4	358	298	36.5	30.4	4120	420		
		1/ 900	7/ 6360	1.7	2	429	358	43.8	36.5	4120	420		
		∗1/1200	7/ 8480	1.3	1.5	431	431	44	44	4120	420		
		∗1/1500	7/10600	1	1.2	431	431	44	44	4120	420		

Note) The allowable O.H.L indicated are the values in the central position of the output shaft.
The models marked with ∗ are limited torque type. Be sure to refer to the allowable torque in the Performance Table.

Foot Mount Type

Fig.B-1

H2LM-22$^{L}_{R}$-5～240-T010 CAD Data: H2LM-22(LRT)-T010
(H2LB-22$^{L}_{R}$-5～240-T010) (CAD Data: H2LB-22(LRT)-T010)



Round Weight 6.5kg (8kg)

L-shaft R-shaft T-shaft

Model Code P.B8
Multipurpose Inverter P.E86～E92
Option P.E78～E93

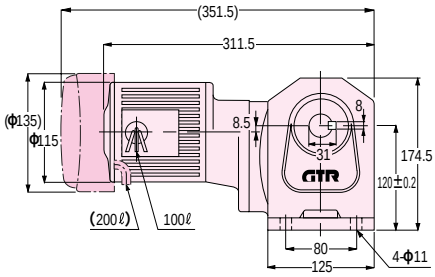
Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

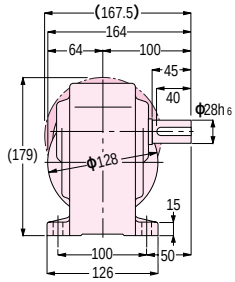
Foot Mount Type

Flange Mount Type (Frame No. 22 only)

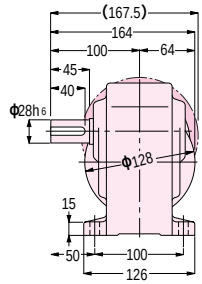
Fig.B-2

H2LM-28□-300～450-T010 CAD Data: H2LM-28(LRT)-T010
(H2LB-28□-300～450-T010) (CAD Data: H2LB-28(LRT)-T010)

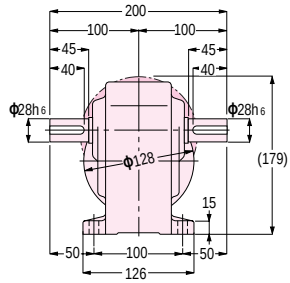




L-shaft



R-shaft

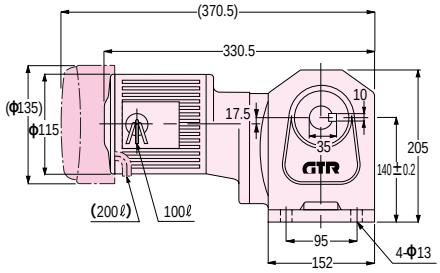


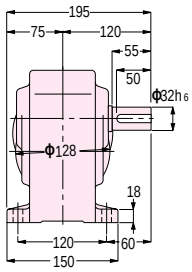
T-shaft

Round Weight 10kg (11.5kg)

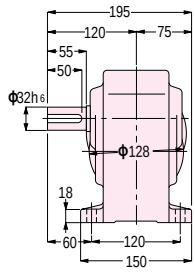
Fig.B-3

H2LM-32□-600～1500-T010 CAD Data: H2LM-32(LRT)-T010
(H2LB-32□-600～1500-T010) (CAD Data: H2LB-32(LRT)-T010)

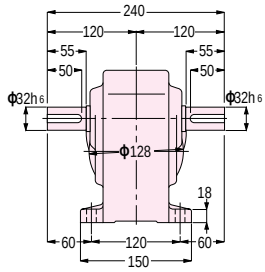




L-shaft



R-shaft



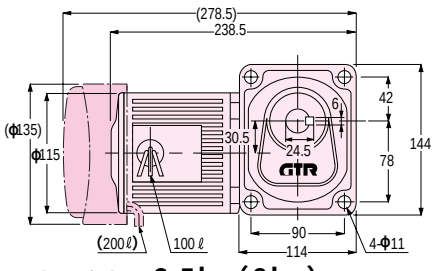
T-shaft

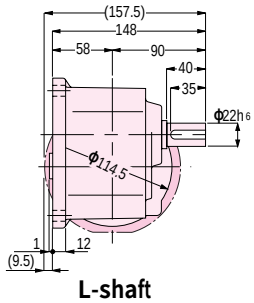
Round Weight 13kg (14.5kg)

Flange Mount Type

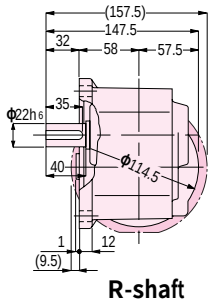
Fig.B-4

H2FM-22□-5～240-T010 CAD Data: H2FM-22(LRT)-T010
(H2FB-22□-5～240-T010) (CAD Data: H2FB-22(LRT)-T010)

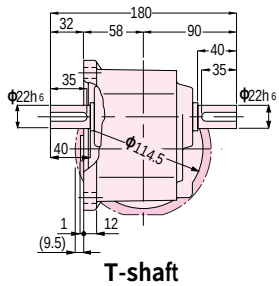




L-shaft



R-shaft



T-shaft

Round Weight 6.5kg (8kg)

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Gearmotor
Gearmotor with Brake

H2 Series 3-Phase 0.2kW

The values in parentheses in the Performance Table/Dimension Diagram indicate the values of gearmotors with brake.

Motor Specs. Standard Voltage (Continuous Rated 4 Poles)	Capacity	Motor Capacity Designation	Frequency (Hz)	Voltage (V)	Rated Current (A)	Rated Rotation Speed (rpm)	Insulation Classification	Protective Cooling system
	0.2kW	T020	50/60/60	200/200/220	1.1/1.0/1.0	1420/1710/1720	B	Totally Enclosed fan-cooled

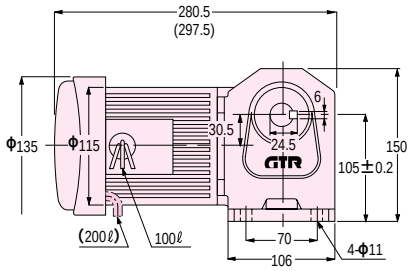
Motor Capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio (Fraction)	Output Shaft Rotation Speed (rpm)		Output Shaft Allowable Torque N•m		Output Shaft Allowable Torque kgf•m		Output Shaft Allowable O.H.L		Page, Diagram No. of the Outer Dimension Diagram, Round Weight Gearmotor(Gearmotor with Brake)	
				50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	N	kgf	H2LM (H2LB)	H2FM (H2FB)
3-phase 0.2kW	22	1/ 5	1/ 5	300	360	5.7	4.8	0.58	0.49	588	60	P.B14 Fig.B-5 7.5kg (9kg)	P.B15 Fig.B-9 7.5kg (9kg)
		1/ 10	1/ 10	150	180	12	9.5	1.2	0.97	931	95		
		1/ 15	1/ 15	100	120	18	15	1.8	1.5	1030	105		
		1/ 20	1/ 20	75	90	23	19	2.3	1.9	1180	120		
		1/ 25	1/ 25	60	72	28	24	2.9	2.4	1270	130		
		1/ 30	1/ 30	50	60	34	28	3.5	2.9	1370	140		
		1/ 40	1/ 40	37.5	45	46	38	4.7	3.9	1570	160		
		1/ 50	1/ 50	30	36	57	48	5.8	4.9	1720	175		
		1/ 60	1/ 59	25	30	69	57	7	5.8	1810	185		
	28	1/ 80	1/ 80	18.8	22.5	88	74	9	7.5	2450	250	P.B15 Fig.B-6 9.5kg (11kg)	
		1/ 100	1/ 100	15	18	111	92	11.3	9.4	2650	270		
		1/ 120	1/ 120	12.5	15	133	111	13.6	11.3	2740	280		
		1/ 160	1/ 160	9.4	11.2	177	148	18.1	15.1	2840	290		
		1/ 200	1/ 200	7.5	9	221	184	22.6	18.8	2840	290		
		1/ 240	1/ 236	6.3	7.5	245	221	25	22.6	2840	290		
	32	1/ 300	7/ 2120	5	6	294	245	30	25	3820	390	P.B15 Fig.B-7 13.5kg (15kg)	
		1/ 375	7/ 2650	4	4.8	368	306	37.5	31.2	4120	420		
		1/ 450	7/ 3127	3.3	4	431	368	44	37.5	4120	420		
	40	1/ 600	7/ 4240	2.5	3	588	490	60	50	6760	690	P.B15 Fig.B-8 22kg (23.5kg)	
		1/ 750	7/ 5300	2	2.4	735	613	75	62.5	6760	690		
		∗1/ 900	7/ 6360	1.7	2	764	735	78	75	6760	690		
		∗1/1200	7/ 8480	1.3	1.5	764	764	78	78	6760	690		
		∗1/1500	7/10600	1	1.2	764	764	78	78	6760	690		

Note) The allowable O.H.L indicated are the values in the central position of the output shaft.
The models marked with ∗ are limited torque type. Be sure to refer to the allowable torque in the Performance Table.

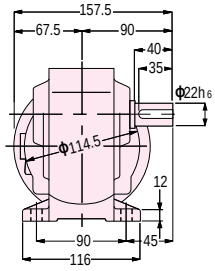
Foot Mount Type

Fig.B-5

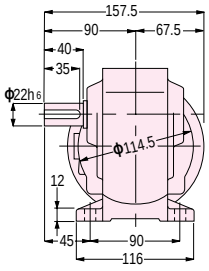
H2LM-22$^{L}_{R}$-5～60-T020 CAD Data: H2LM-22(LRT)-T020
(H2LB-22$^{L}_{R}$-5～60-T020) (CAD Data: H2LB-22(LRT)-T020)



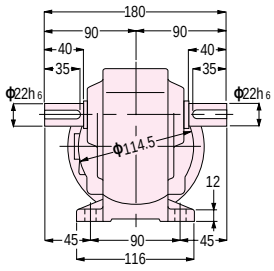
Round Weight 7.5kg (9kg)



L-shaft



R-shaft



T-shaft

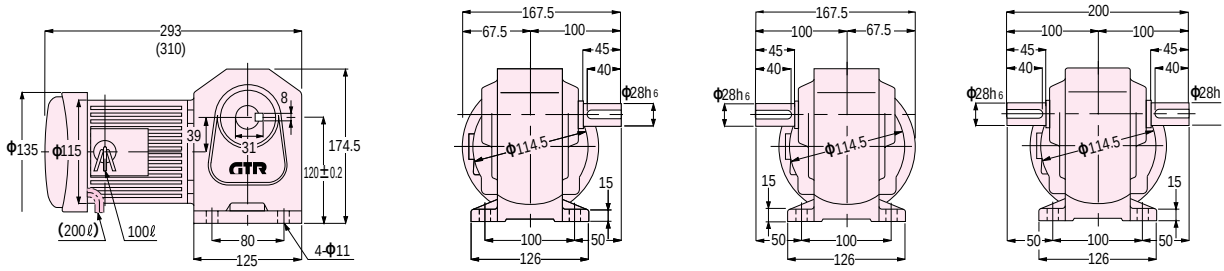
Model Code P.B8
Multipurpose Inverter P.E86～E92
Option P.E78～E93

Foot Mount Type

Flange Mount Type (Frame No. 22 only)

Fig.B-6

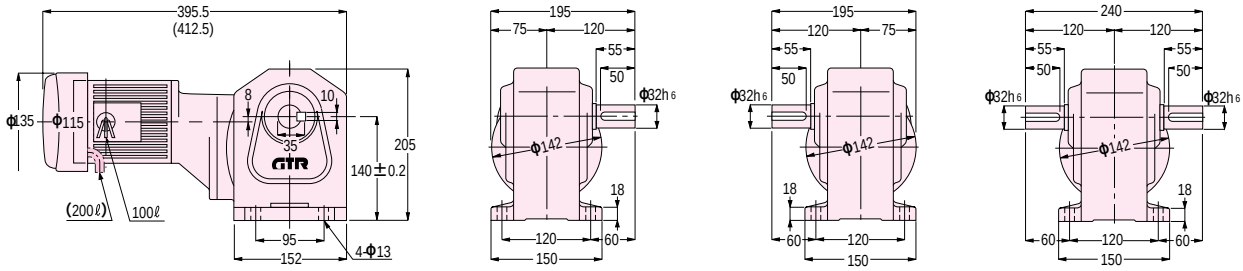
H2LM-28$^{L}_{R}$-80～240-T020 CAD Data: H2LM-28(LRT)-T020
(H2LB-28$^{L}_{R}$-80～240-T020) (CAD Data: H2LB-28(LRT)-T020)



Round Weight 9.5kg(11kg)

Fig.B-7

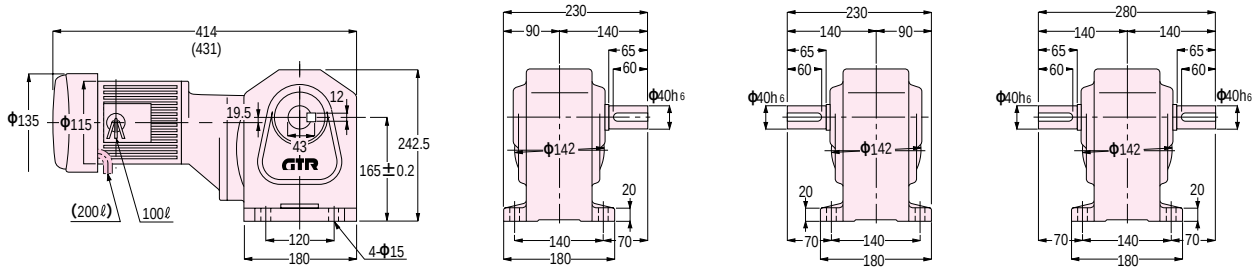
H2LM-32$^{L}_{R}$-300～450-T020 CAD Data: H2LM-32(LRT)-T020
(H2LB-32$^{L}_{R}$-300～450-T020) (CAD Data: H2LB-32(LRT)-T020)



Round Weight 13.5kg(15kg)

Fig.B-8

H2LM-40$^{L}_{R}$-600～1500-T020 CAD Data: H2LM-40(LRT)-T020
(H2LB-40$^{L}_{R}$-600～1500-T020) (CAD Data: H2LB-40(LRT)-T020)

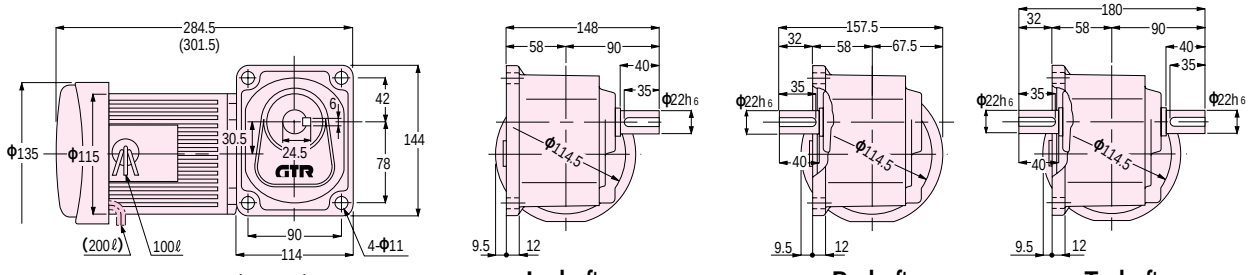


Round Weight 22kg(23.5kg)

Flange Mount Type

Fig.B-9

H2FM-22$^{L}_{R}$-5～60-T020 CAD Data: H2FM-22(LRT)-T020
(H2FB-22$^{L}_{R}$-5～60-T020) (CAD Data: H2FB-22(LRT)-T020)



Round Weight 7.5kg(9kg)

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Gearmotor
Gearmotor with Brake

H2 Series 3-Phase 0.4kW

The values in parentheses in the Performance Table/Dimension Diagram indicate the values of gearmotors with brake.

Motor Specs. Standard Voltage (Continuous Rated 4 Poles)	Capacity	Motor Capacity Designation	Frequency (Hz)	Voltage (V)	Rated Current (A)	Rated Rotation Speed (rpm)	Insulation Classification	Protective Cooling system
	0.4kW	T040	50/60/60	200/200/220	2.1/1.8/1.8	1410/1690/1710	B	Totally Enclosed fan-cooled

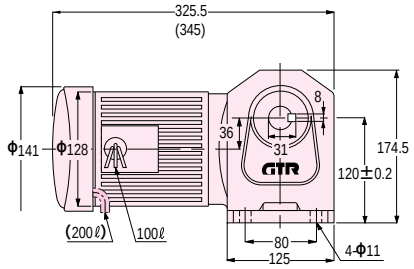
Motor Capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio (Fraction)	Output Shaft Rotation Speed (rpm)		Output Shaft Allowable Torque N•m		Output Shaft Allowable Torque kgf•m		Output Shaft Allowable O.H.L		Page, Diagram No. of the Outer Dimension Diagram, Round Weight Gearmotor(Gearmotor with Brake) H2LM (H2LB)
				50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	N	kgf	
3-phase 0.4kW	28	1/ 5	1/ 5	300	360	12	9.5	1.2	0.97	931	95	P.B16 Fig.B-10 11kg (12.5kg)
		1/ 10	1/ 10	150	180	23	19	2.3	1.9	1470	150	
		1/ 15	1/ 15	100	120	34	28	3.5	2.9	1670	170	
		1/ 20	1/ 20	75	90	46	38	4.7	3.9	1860	190	
		1/ 25	1/ 25	60	72	57	48	5.8	4.9	2010	205	
		1/ 30	1/ 30	50	60	69	57	7	5.8	2210	225	
		1/ 40	1/ 40	37.5	45	92	76	9.4	7.8	2450	250	
		1/ 50	1/ 50	30	36	115	95	11.7	9.7	2650	270	
		1/ 60	1/ 59	25	30	137	115	14	11.7	2740	280	
	32	1/ 80	1/ 80	18.8	22.5	177	148	18.1	15.1	3430	350	P.B17 Fig.B-11 14kg (15.5kg)
		1/ 100	1/ 100	15	18	221	184	22.6	18.8	3820	390	
		1/ 120	1/ 120	12.5	15	266	221	27.1	22.6	4120	420	
		1/ 160	1/ 160	9.4	11.2	355	295	36.2	30.1	4120	420	
		1/ 200	1/ 200	7.5	9	431	369	44	37.7	4120	420	
		∗1/ 240	1/ 236	6.3	7.5	431	431	44	44	4120	420	
	40	1/ 300	7/ 2080	5	6	572	477	58.4	48.7	6760	690	P.B17 Fig.B-12 24.5kg (26kg)
		1/ 375	7/ 2600	4	4.8	715	597	73	60.9	6760	690	
		∗1/ 450	7/ 3120	3.3	4	764	715	78	73	6760	690	
	50	1/ 600	21/12220	2.5	3	1150	955	116.9	97.4	9510	970	P.B17 Fig.B-13 54.5kg (56kg)
		∗1/ 750	1/ 728	2	2.4	1230	1190	125	121.7	9510	970	
		∗1/ 900	7/ 6240	1.7	2	1230	1230	125	125	9510	970	
		∗1/1200	21/24440	1.3	1.5	1230	1230	125	125	9510	970	
		∗1/1500	1/ 1456	1	1.2	1230	1230	125	125	9510	970	

Note) The allowable O.H.L indicated are the values in the central position of the output shaft.
The models marked with ∗ are limited torque type. Be sure to refer to the allowable torque in the Performance Table.

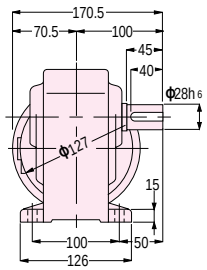
Foot Mount Type

Fig.B-10

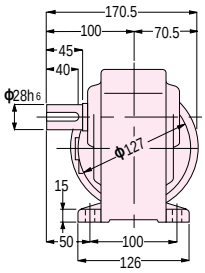
H2LM-28$^{L}_{R}$-5～60-T040 CAD Data: H2LM-28(LRT)-T040
(H2LB-28$^{L}_{R}$-5～60-T040) (CAD Data: H2LB-28(LRT)-T040)



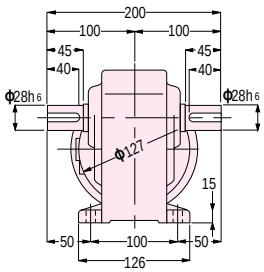
Round Weight 11kg (12.5kg)



L-shaft



R-shaft



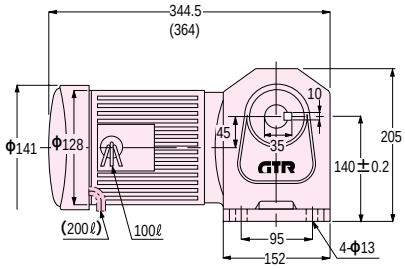
T-shaft

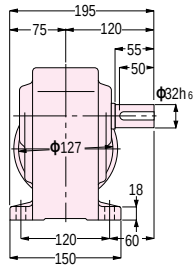
Model Code P.B8
Multipurpose Inverter P.E86～E92
Option P.E78～E93

Foot Mount Type

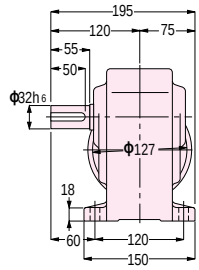
Fig.B-11

H2LM-32$^{L}_{R}$-80～240-T040 CAD Data: H2LM-32(LRT)-T040
(H2LB-32$^{L}_{R}$-80～240-T040) (CAD Data: H2LB-32(LRT)-T040)

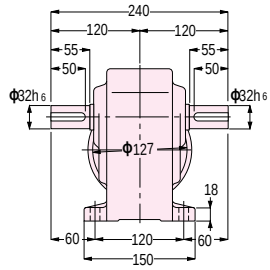




L-shaft



R-shaft

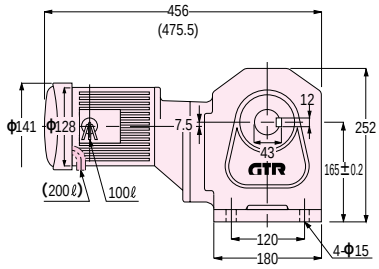


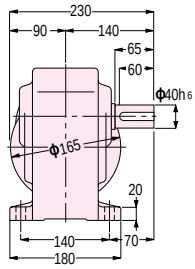
T-shaft

Round Weight 14kg (15.5kg)

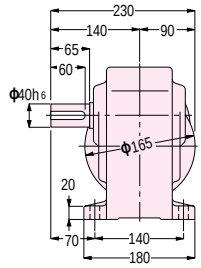
Fig.B-12

H2LM-40$^{L}_{R}$-300～450-T040 CAD Data: H2LM-40(LRT)-T040
(H2LB-40$^{L}_{R}$-300～450-T040) (CAD Data: H2LB-40(LRT)-T040)

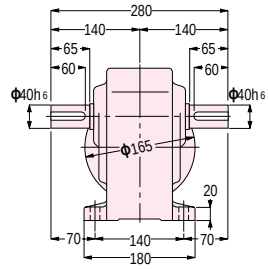




L-shaft



R-shaft

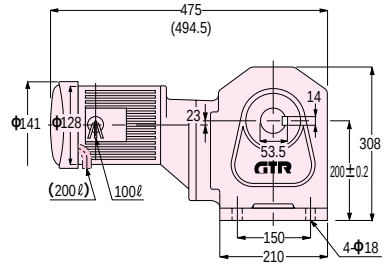


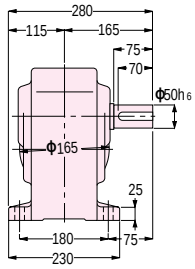
T-shaft

Round Weight 24.5kg (26kg)

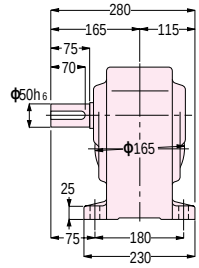
Fig.B-13

H2LM-50$^{L}_{R}$-600～1500-T040 CAD Data: H2LM-50(LRT)-T040
(H2LB-50$^{L}_{R}$-600～1500-T040) (CAD Data: H2LB-50(LRT)-T040)

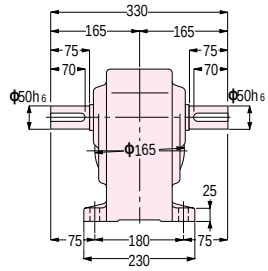




L-shaft



R-shaft



T-shaft

Round Weight 54.5kg (56kg)

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Gearmotor
Gearmotor with Brake
H2 Series 3-Phase 0.75kW

The values in parentheses in the Performance Table/Dimension Diagram indicate the values of gearmotors with brake.

Motor Specs. Standard Voltage (Continuous Rated 4 Poles)	Capacity	Motor Capacity Designation	Frequency (Hz)	Voltage (V)	Rated Current (A)	Rated Rotation Speed (rpm)	Insulation Classification	Protective Cooling system
	0.75kW	075	50/60/60	200/200/220	3.7/3.3/3.2	1430/1720/1730	B	Totally Enclosed fan-cooled

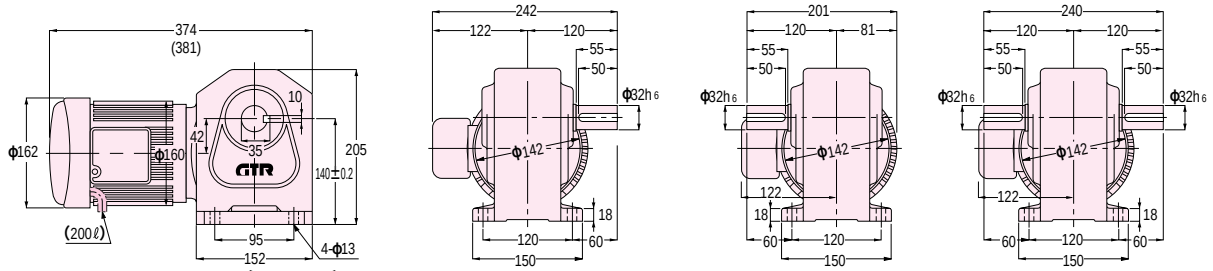
Motor Capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio (Fraction)	Output Shaft Rotation Speed (rpm)		Output Shaft Allowable Torque N•m		Output Shaft Allowable Torque kgf•m		Output Shaft Allowable O.H.L		Page, Diagram No. of the Outer Dimension Diagram, Round Weight Gearmotor(Gearmotor with Brake) H2LM (H2LB)
				50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	N	kgf	
3-phase 0.75kW	32	1/ 5	1/ 5	300	360	22	18	2.2	1.8	1520	155	P.B18 Fig.B-14 17.5kg (20kg)
		1/ 10	1/ 10	150	180	43	36	4.4	3.7	2010	205	
		1/ 15	1/ 15	100	120	65	54	6.6	5.5	2210	225	
		1/ 20	1/ 20	75	90	86	72	8.8	7.3	2450	250	
		1/ 25	1/ 25	60	72	108	89	11	9.1	2740	280	
		1/ 30	1/ 30	50	60	128	107	13.1	11	2940	300	
		1/ 40	1/ 40	37.5	45	172	143	17.5	14.6	3430	350	
		1/ 50	1/ 50	30	36	215	179	21.9	18.3	3820	390	
		1/ 60	1/ 59	25	30	258	215	26.3	21.9	4120	420	
	40	1/ 80	1/ 80	18.8	22.5	332	277	33.9	28.3	5780	590	P.B18 Fig.B-15 26kg (28.5kg)
		1/100	1/ 100	15	18	416	346	42.4	35.3	6080	620	
		1/120	1/ 120	12.5	15	498	415	50.8	42.4	6270	640	
		1/160	1/ 160	9.4	11.2	664	554	67.8	56.5	6470	660	
		1/200	1/ 200	7.5	9	764	692	78	70.6	6660	680	
		∗1/240	1/ 240	6.3	7.5	764	764	78	78	6660	680	
	50	1/300	7/2120	5	6	1070	895	109.6	91.3	7740	790	P.B19 Fig.B-16 58.5kg (61kg)
		∗1/375	7/2650	4	4.8	1230	1120	125	114.1	8040	820	
		∗1/450	7/3180	3.3	4	1230	1230	125	125	8530	870	

Note) The allowable O.H.L indicated are the values in the central position of the output shaft.
The models marked with ∗ are limited torque type. Be sure to refer to the allowable torque in the Performance Table.

Foot Mount Type

Fig.B-14

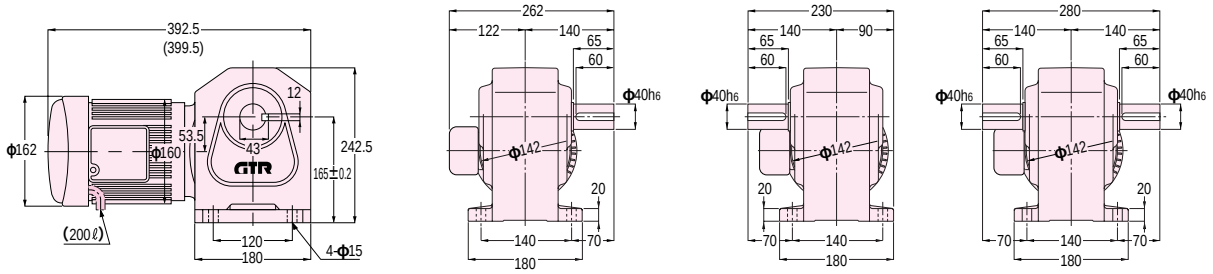
H2LM-32□-5～60-075 CAD Data: H2LM-32(LRT)-075
(H2LB-32□-5～60-075) (CAD Data: H2LB-32(LRT)-075)



Round Weight 17.5kg (20kg) L-shaft R-shaft T-shaft

Fig.B-15

H2LM-40□-80～240-075 CAD Data: H2LM-40(LRT)-075
(H2LB-40□-80～240-075) (CAD Data: H2LB-40(LRT)-075)



Round Weight 26kg (28.5kg) L-shaft R-shaft T-shaft

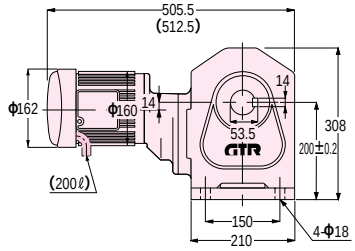
Model Code P.B8
Multipurpose Inverter P.E86～E92
Option P.E78～E93

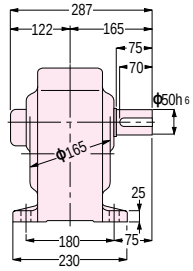
Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Foot Mount Type

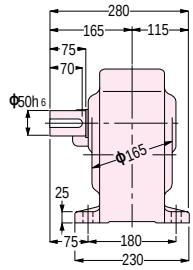
Fig.B-16

H2LM-50$^{L}_{R}$T-300～450-075 CAD Data: H2LM-50(LRT)-075
(H2LB-50$^{L}_{R}$T-300～450-075) (CAD Data: H2LB-50(LRT)-075)

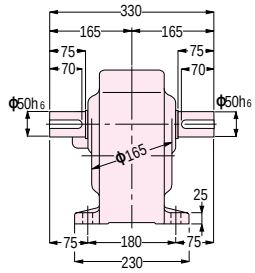




L-shaft



R-shaft



T-shaft

Round Weight 58.5kg(61kg)

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Gearmotor
Gearmotor with Brake
H2 Series 3-Phase 1.5kW

The values in parentheses in the Performance Table/Dimension Diagram indicate the values of gearmotors with brake.

Motor Specs. Standard Voltage (Continuous Rated 4 Poles)	Capacity	Motor Capacity Designation	Frequency (Hz)	Voltage (V)	Rated Current (A)	Rated Rotation Speed (rpm)	Insulation Classification	Protective Cooling system
	1.5kW	150	50/60/60	200/200/220	6.6/6.1/5.8	1430/1720/1730	B	Totally Enclosed fan-cooled

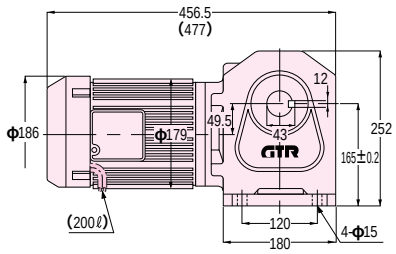
Motor Capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio (Fraction)	Output Shaft Rotation Speed (rpm)		Output Shaft Allowable Torque N·m		Output Shaft Allowable Torque kgf·m		Output Shaft Allowable O.H.L		Page, Diagram No. of the Outer Dimension Diagram, Round Weight Gearmotor(Gearmotor with Brake) H2LM (H2LB)
				50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	N	kgf	
3-phase 1.5kW	40	1/ 5	1/ 5	300	360	43	36	4.4	3.7	2650	270	P.B20 Fig.B-17 33kg (36.5kg)
		1/ 10	1/ 10	150	180	86	72	8.8	7.3	3530	360	
		1/ 15	1/ 15	100	120	128	107	13.1	11	4410	450	
		1/ 20	1/ 20	75	90	172	143	17.5	14.6	4700	480	
		1/ 25	1/ 25	60	72	215	179	21.9	18.3	5100	520	
		1/ 30	1/ 30	50	60	258	215	26.3	21.9	5290	540	
		1/ 40	1/ 40	37.5	45	344	277	35.1	28.3	5590	570	
		1/ 50	1/ 50	30	36	429	346	43.8	35.3	5880	600	
		1/ 60	1/ 60	25	30	515	415	52.6	42.4	6080	620	
	50	1/ 80	3/235	18.8	22.5	664	554	67.8	56.5	8530	870	P.B20 Fig.B-18 62kg (65.5kg)
		1/100	1/ 98	15	18	830	692	84.7	70.6	8820	900	
		1/120	1/120	12.5	15	1000	830	102	84.7	9020	920	
		1/160	3/470	9.4	11.2	1230	1110	125	113	9310	950	
		∗1/200	1/196	7.5	9	1230	1230	125	125	9510	970	
		∗1/240	1/240	6.3	7.5	1230	1230	125	125	9510	970	

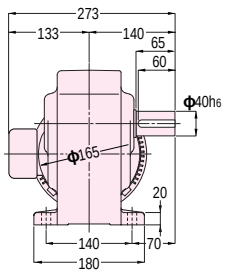
Note) The allowable O.H.L indicated are the values in the central position of the output shaft.
The models marked with ∗ are limited torque type. Be sure to refer to the allowable torque in the Performance Table.

Foot Mount Type

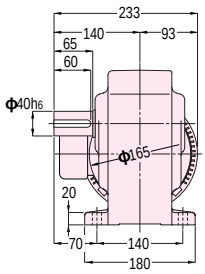
Fig.B-17

H2LM-40$^{L}_{R}$-5～60-150 CAD Data: H2LM-40(LRT)-150
(H2LB-40$^{L}_{R}$-5～60-150) (CAD Data: H2LB-40(LRT)-150)

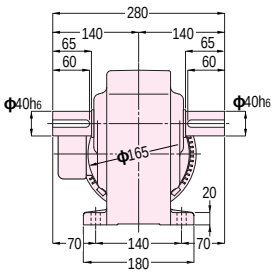




L-shaft



R-shaft

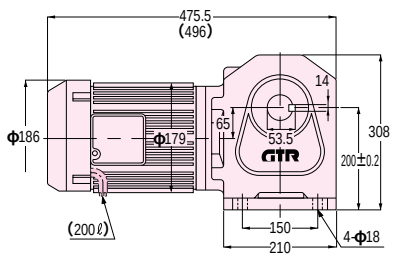


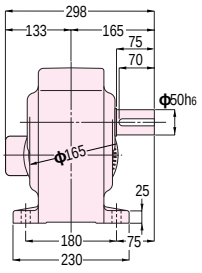
T-shaft

Round Weight 33kg (36.5kg)

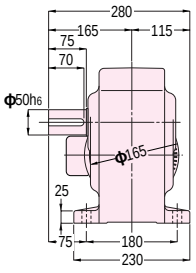
Fig.B-18

H2LM-50$^{L}_{R}$-80～240-150 CAD Data: H2LM-50(LRT)-150
(H2LB-50$^{L}_{R}$-80～240-150) (CAD Data: H2LB-50(LRT)-150)

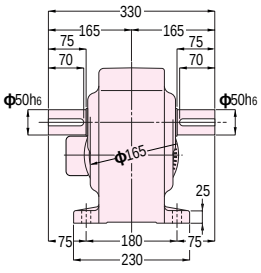




L-shaft



R-shaft



T-shaft

Round Weight 62kg (65.5kg)

Model Code P.B8
Multipurpose Inverter P.E86～E92
Option P.E78～E93

H2 Series 3-Phase 2.2kW

Foot Mount Type

The values in parentheses in the Performance Table/Dimension Diagram indicate the values of gearmotors with brake.

Motor Specs. Standard Voltage (Continuous Rated 4 Poles)	Capacity	Motor Capacity Designation	Frequency (Hz)	Voltage (V)	Rated Current (A)	Rated Rotation Speed (rpm)	Insulation Classification	Protective Cooling system
	2.2kW	220	50/60/60	200/200/220	9.0/8.6/8.0	1410/1690/1710	B	Totally Enclosed Fan-cooled

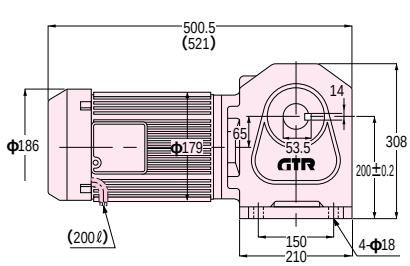
Motor Capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio (Fraction)	Output Shaft Rotation Speed (rpm)		Output Shaft Allowable Torque				Output Shaft Allowable O.H.L		Page, Diagram No. of the Outer Dimension Diagram, Round Weight Gearmotor(Gearmotor with Brake)
						N•m		kgf•m				H2LM (H2LB)
				50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	N	kgf	
3-phase 2.2kW	50	1/ 5	1/ 5	300	360	63	53	6.4	5.4	3920	400	P.B21 Fig.B-19 65.5kg (69kg)
		1/ 10	1/ 10	150	180	126	105	12.9	10.7	4410	450	
		1/ 15	1/ 15	100	120	189	157	19.3	16.1	4900	500	
		1/ 20	12/235	75	90	252	210	25.7	21.4	5490	560	
		1/ 25	2/ 49	60	72	315	263	32.1	26.8	6080	620	
		1/ 30	1/ 30	50	60	378	315	38.6	32.1	6570	670	
		1/ 40	1/ 40	37.5	45	487	406	49.7	41.1	7060	720	
		1/ 50	1/ 50	30	36	609	507	62.1	51.8	7550	770	
		1/ 60	1/ 60	25	30	731	609	74.6	62.1	8130	830	
		1/ 80	3/235	18.8	22.5	974	812	99.4	82.9	8430	860	
		1/100	1/ 98	15	18	1220	1010	124	104	8820	900	
		1/120	1/120	12.5	15	1230	1220	125	124	8820	900	

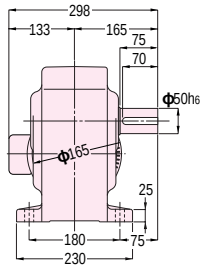
Note) The allowable O.H.L indicated are the values in the central position of the output shaft.

Foot Mount Type

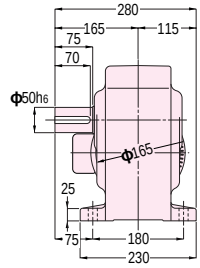
Fig.B-19

H2LM-50ᴸᴿᵀ-5～120-220 CAD Data: H2LM-50(LRT)-220
(H2LB-50ᴸᴿᵀ-5～120-220) (CAD Data: H2LB-50(LRT)-220)

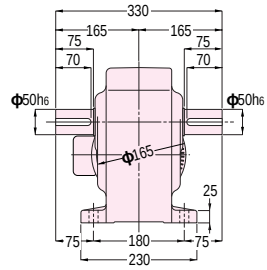




L-shaft



R-shaft



T-shaft

Round Weight 65.5kg (69kg)

Model Code P.B8
Multipurpose Inverter P.E86～E92
Option P.E78～E93

GTR Gearmotor

Right Angle Shaft

Gearmotor
Gearmotor with Brake

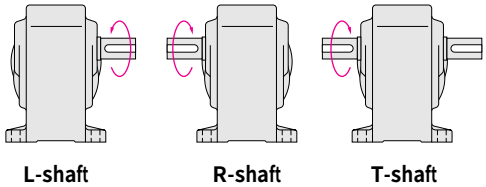
Performance Table
Dimension diagram

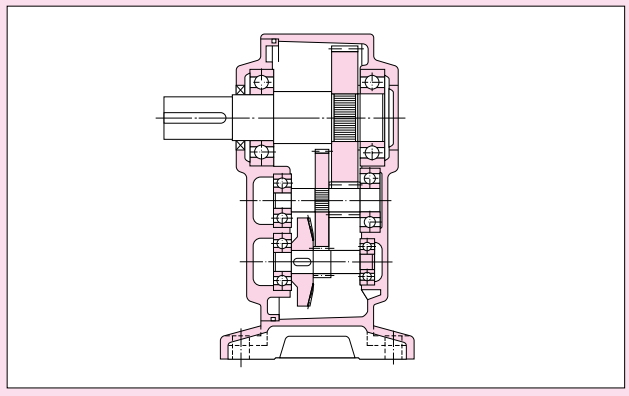
H2 Series

1-Phase

【Remarks】

- Values in the parenthesis in the performance table/dimension diagram are the values of gearmotor with brake.
- The output rotation speed is the value corresponds to the motor synchronous speed and the nominal reduction ratio.
- The shaded areas ▭ in the performance table shows that in case gearmotors are wired according to the diagram shown on page E16, L-shaft rotates clockwise while R and T-shafts rotate counterclockwise when viewing from output shaft side. (Refer to the diagram shown below.)
- The starting torque of the single-phase 100W motor will be 60～80%, since it employs capacitor-operate motor.





Gearmotor
Gearmotor with Brake

H2 Series 1-Phase 100W

The values in parentheses in the Performance Table/Dimension Diagram indicate the values of gearmotors with brake.

Motor Specs. Standard Voltage (Continuous Rated 4 Poles)	Capacity	Motor Capacity Designation	Frequency (Hz)	Voltage (V)	Rated Current (A)	Rated Rotation Speed (rpm)	Insulation Classification	Protective Cooling system	Start System
	100W	S100	50/60	100/100	1.7/1.9	1400/1700	E	Totally Enclosed fan-cooled	Capacitor Start

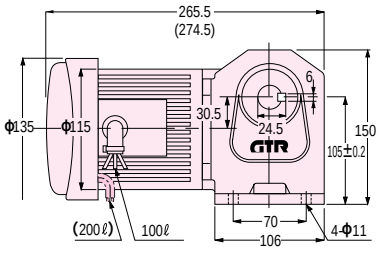
Motor Capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio (Fraction)	Output Shaft Rotation Speed (rpm)		Output Shaft Allowable Torque N•m		Output Shaft Allowable Torque kgf•m		Output Shaft Allowable O.H.L		Page, Diagram No. of the Outer Dimension Diagram, Round Weight Gearmotor(Gearmotor with Brake)	
				50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	N	kgf	H2LM (H2LB)	H2FM (H2FB)
1-phase 100W	22	1/ 5	1/ 5	300	360	2.8	2.4	0.29	0.24	588	60	P.B24 Fig.B-20 7kg (8kg)	P.B25 Fig.B-21 7kg (8kg)
		1/ 10	1/ 10	150	180	5.7	4.8	0.58	0.49	931	95		
		1/ 15	1/ 15	100	120	8.6	7.2	0.88	0.73	1030	105		
		1/ 20	1/ 20	75	90	12	9.5	1.2	0.97	1180	120		
		1/ 25	1/ 25	60	72	15	12	1.5	1.2	1270	130		
		1/ 30	1/ 30	50	60	18	15	1.8	1.5	1370	140		
		1/ 40	1/ 40	37.5	45	23	19	2.3	1.9	1570	160		
		1/ 50	1/ 50	30	36	28	24	2.9	2.4	1720	175		
		1/ 60	1/ 59	25	30	34	28	3.5	2.9	1760	180		
		1/ 80	1/ 80	18.8	22.5	44	37	4.5	3.8	1760	180		
		1/100	1/100	15	18	55	46	5.6	4.7	1760	180		
		1/120	1/120	12.5	15	67	55	6.8	5.6	1760	180		
		1/160	1/160	9.4	11.2	88	74	9	7.5	1760	180		
		1/200	1/200	7.5	9	111	92	11.3	9.4	1760	180		
		∗1/240	1/236	6.3	7.5	118	111	12	11.3	1760	180		

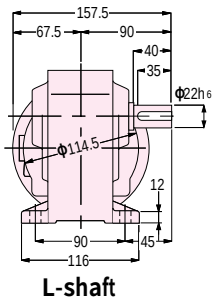
Note) The allowable O.H.L indicated are the values in the central position of the output shaft.
The models marked with ∗ are limited torque type. Be sure to refer to the allowable torque in the Performance Table.

Foot Mount Type

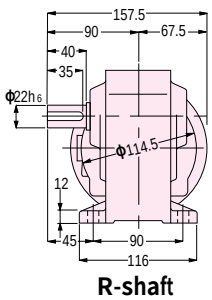
Fig.B-20

H2LM-22□-5～240-S100 CAD Data: H2LM-22(LRT)-S100
(H2LB-22□-5～240-S100) (CAD Data: H2LB-22(LRT)-S100)

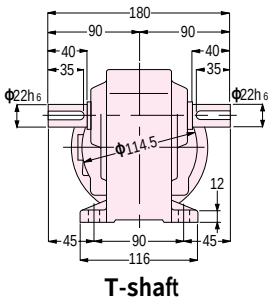




L-shaft



R-shaft



T-shaft

Round Weight 7kg (8kg)

Model Code P.B8
Option P.E78～E85

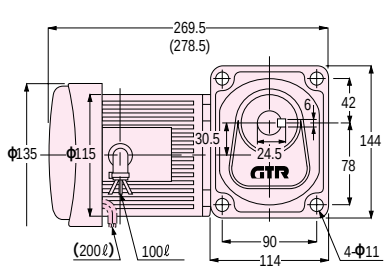
Foot Mount Type

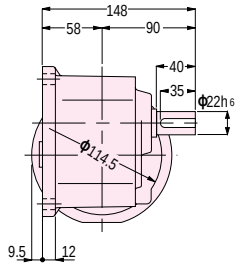
Flange Mount Type (Frame No. 22 only)

Flange Mount Type

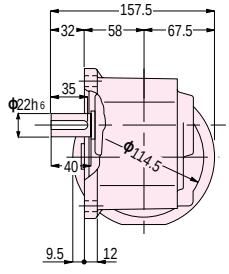
Fig.B-21

H2FM-22[LRT]-5～240-S100 CAD Data: H2FM-22(LRT)-S100
(H2FB-22[LRT]-5～240-S100) (CAD Data: H2FB-22(LRT)-S100)

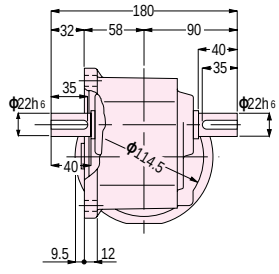




L-shaft



R-shaft



T-shaft

Round Weight 7kg (8kg)

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Gearmotor
Gearmotor with Brake

H2 Series 1-Phase 200W

The values in parentheses in the Performance Table/Dimension Diagram indicate the values of gearmotors with brake.

Motor Specs. Standard Voltage (Continuous Rated 4 Poles)	Capacity	Motor Capacity Designation	Frequency (Hz)	Voltage (V)	Rated Current (A)	Rated Rotation Speed (rpm)	Insulation Classification	Protective Cooling system	Start System
	200W	200	50/60	100/100	5.1/4.5	1420/1700	B	Totally Enclosed fan-cooled	Capacitor Start

Motor Capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio (Fraction)	Output Shaft Rotation Speed (rpm)		Output Shaft Allowable Torque N·m		Output Shaft Allowable Torque kgf·m		Output Shaft Allowable O.H.L		Page, Diagram No. of the Outer Dimension Diagram, Round Weight Gearmotor(Gearmotor with Brake)	
				50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	N	kgf	H2LM (H2LB)	H2FM (H2FB)
1-phase 200W	22	1/ 5	1/ 5	300	360	5.7	4.8	0.58	0.49	588	60	P.B26 Fig.B-22 9.5kg (11kg)	P.B27 Fig.B-26 9.5kg (11kg)
		1/ 10	1/ 10	150	180	12	9.5	1.2	0.97	931	95		
		1/ 15	1/ 15	100	120	18	15	1.8	1.5	1030	105		
		1/ 20	1/ 20	75	90	23	19	2.3	1.9	1180	120		
		1/ 25	1/ 25	60	72	28	24	2.9	2.4	1270	130		
		1/ 30	1/ 30	50	60	34	28	3.5	2.9	1370	140		
		1/ 40	1/ 40	37.5	45	46	38	4.7	3.9	1570	160		
		1/ 50	1/ 50	30	36	57	48	5.8	4.9	1720	175		
		1/ 60	1/ 59	25	30	69	57	7	5.8	1810	185		
	28	1/ 80	1/ 80	18.8	22.5	88	74	9	7.5	2450	250	P.B27 Fig.B-23 11.5kg (13kg)	
		1/ 100	1/ 100	15	18	111	92	11.3	9.4	2650	270		
		1/ 120	1/ 120	12.5	15	133	111	13.6	11.3	2740	280		
		1/ 160	1/ 160	9.4	11.2	177	148	18.1	15.1	2840	290		
		1/ 200	1/ 200	7.5	9	221	184	22.6	18.8	2840	290		
		1/ 240	1/ 236	6.3	7.5	245	221	25	22.6	2840	290		
	32	1/ 300	7/ 2120	5	6	294	245	30	25	3820	390	P.B27 Fig.B-24 15.5kg (17kg)	
		1/ 375	7/ 2650	4	4.8	368	306	37.5	31.2	4120	420		
		1/ 450	7/ 3127	3.3	4	431	368	44	37.5	4120	420		
	40	1/ 600	7/ 4240	2.5	3	588	490	60	50	6760	690	P.B27 Fig.B-25 24kg (25.5kg)	
		1/ 750	7/ 5300	2	2.4	735	613	75	62.5	6760	690		
		∗1/ 900	7/ 6360	1.7	2	764	735	78	75	6760	690		
		∗1/1200	7/ 8480	1.3	1.5	764	764	78	78	6760	690		
		∗1/1500	7/10600	1	1.2	764	764	78	78	6760	690		

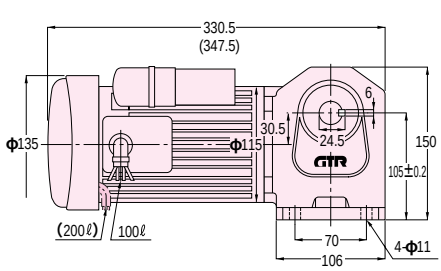
Note) The allowable O.H.L indicated are the values in the central position of the output shaft.
The models marked with ∗ are limited torque type. Be sure to refer to the allowable torque in the Performance Table.

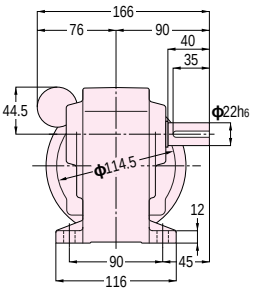
Foot Mount Type

Fig.B-22

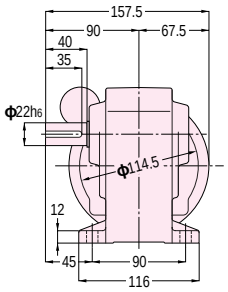
H2LM-22$^{L}_{R}$-5～60-200
(H2LB-22$^{L}_{R}$-5～60-200)

CAD Data: H2LM-22(LRT)-200
(CAD Data: H2LB-22(LRT)-200)

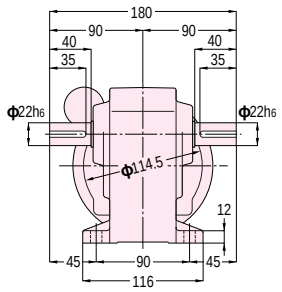




L-shaft



R-shaft



T-shaft

Round Weight 9.5kg (11kg)

Model Code P.B8

Option P.E78～E85

Foot Mount Type

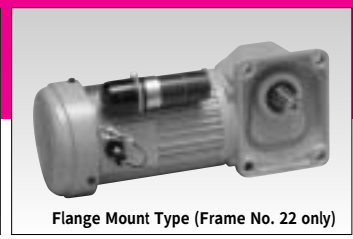
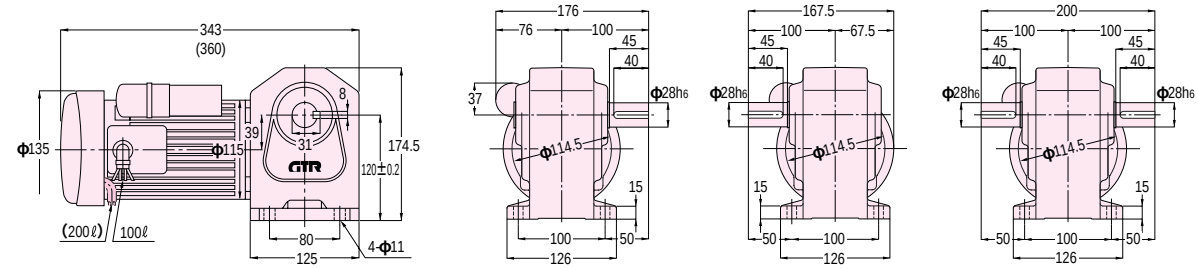

Flange Mount Type (Frame No. 22 only)

Fig.B-23

H2LM-28□-80～240-200 CAD Data: H2LM-28 (LRT) -200
(H2LB-28□-80～240-200) (CAD Data: H2LB-28 (LRT) -200)

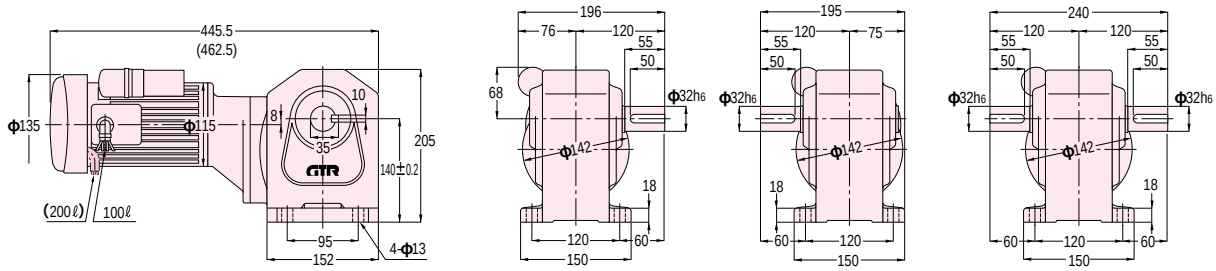


Round Weight 11.5kg (13kg)

L-shaft R-shaft T-shaft

Fig.B-24

H2LM-32□-300～450-200 CAD Data: H2LM-32 (LRT) -200
(H2LB-32□-300～450-200) (CAD Data: H2LB-32 (LRT) -200)

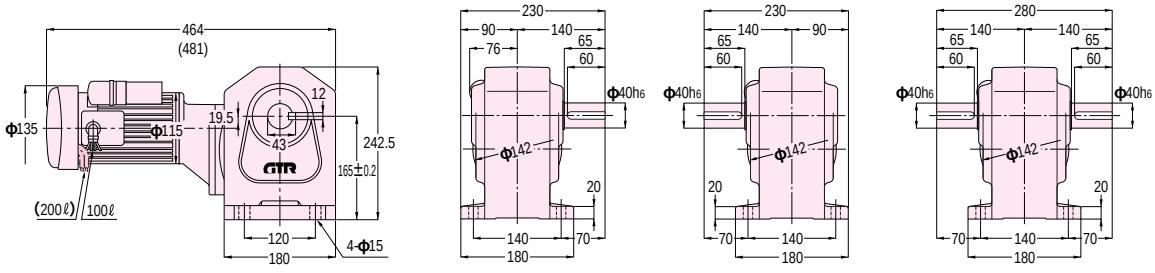


Round Weight 15.5kg (17kg)

L-shaft R-shaft T-shaft

Fig.B-25

H2LM-40□-600～1500-200 CAD Data: H2LM-40 (LRT) -200
(H2LB-40□-600～1500-200) (CAD Data: H2LB-40 (LRT) -200)



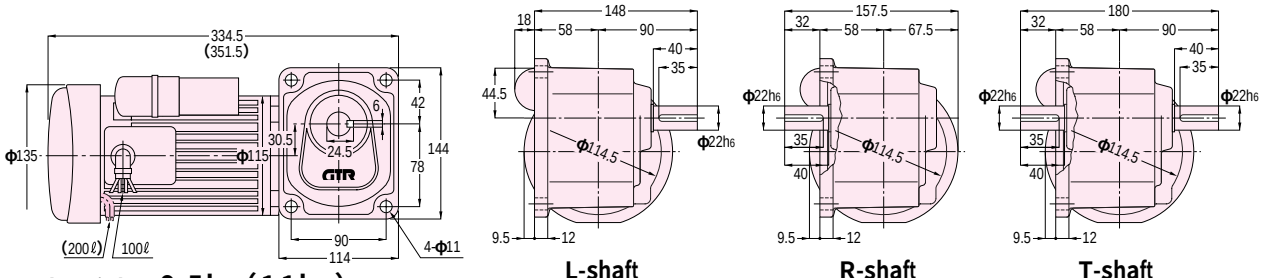
Round Weight 24kg (25.5kg)

L-shaft R-shaft T-shaft

Flange Mount Type

Fig.B-26

H2FM-22□-5～60-200 CAD Data: H2FM-22 (LRT) -200
(H2FB-22□-5～60-200) (CAD Data: H2FB-22 (LRT) -200)



Round Weight 9.5kg (11kg)

L-shaft R-shaft T-shaft

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Gearmotor
Gearmotor with Brake

H2 Series 1-Phase 400W

The values in parentheses in the Performance Table/Dimension Diagram indicate the values of gearmotors with brake.

Motor Specs. Standard Voltage (Continuous Rated 4 Poles)	Capacity	Motor Capacity Designation	Frequency (Hz)	Voltage (V)	Rated Current (A)	Rated Rotation Speed (rpm)	Insulation Classification	Protective Cooling system	Start System
	400W	400	50/60	100/100	8.7/7.9	1440/1730	B	Totally Enclosed fan-cooled	Capacitor Start

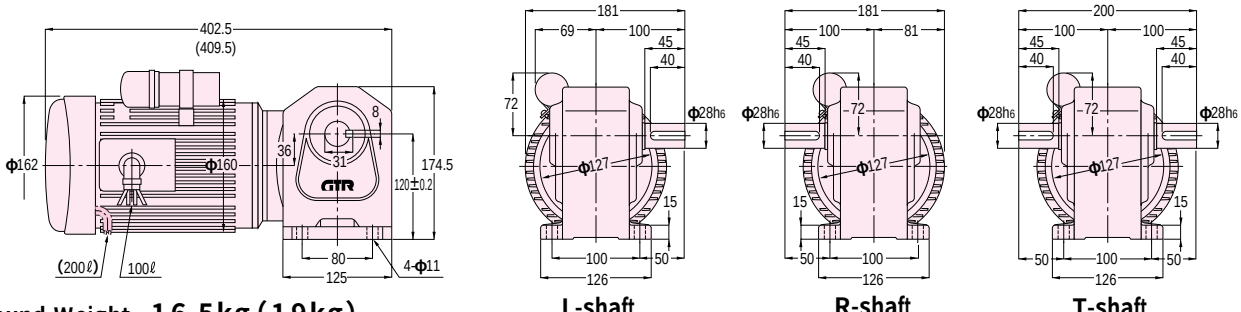
Motor Capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio (Fraction)	Output Shaft Rotation Speed (rpm)		Output Shaft Allowable Torque N•m		Output Shaft Allowable Torque kgf•m		Output Shaft Allowable O.H.L		Page, Diagram No. of the Outer Dimension Diagram, Round Weight Gearmotor(Gearmotor with Brake) H2LM (H2LB)
				50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	N	kgf	
1-phase 400W	28	1/ 5	1/ 5	300	360	12	9.5	1.2	0.97	931	95	P.B28 Fig.B-27 16.5kg (19kg)
		1/ 10	1/ 10	150	180	23	19	2.3	1.9	1470	150	
		1/ 15	1/ 15	100	120	34	28	3.5	2.9	1670	170	
		1/ 20	1/ 20	75	90	46	38	4.7	3.9	1860	190	
		1/ 25	1/ 25	60	72	57	48	5.8	4.9	2010	205	
		1/ 30	1/ 30	50	60	69	57	7	5.8	2210	225	
		1/ 40	1/ 40	37.5	45	92	76	9.4	7.8	2450	250	
		1/ 50	1/ 50	30	36	115	95	11.7	9.7	2650	270	
		1/ 60	1/ 59	25	30	137	115	14	11.7	2740	280	
	32	1/ 80	1/ 80	18.8	22.5	177	148	18.1	15.1	3430	350	P.B29 Fig.B-28 19.5kg (22kg)
		1/ 100	1/ 100	15	18	221	184	22.6	18.8	3820	390	
		1/ 120	1/ 120	12.5	15	266	221	27.1	22.6	4120	420	
		1/ 160	1/ 160	9.4	11.2	355	295	36.2	30.1	4120	420	
		1/ 200	1/ 200	7.5	9	431	369	44	37.7	4120	420	
		∗1/ 240	1/ 236	6.3	7.5	431	431	44	44	4120	420	
	40	1/ 300	7/ 2080	5	6	572	477	58.4	48.7	6760	690	P.B29 Fig.B-29 30kg (32.5kg)
		1/ 375	7/ 2600	4	4.8	715	597	73	60.9	6760	690	
		∗1/ 450	7/ 3120	3.3	4	764	715	78	73	6760	690	
	50	1/ 600	21/12220	2.5	3	1150	955	116.9	97.4	9510	970	P.B29 Fig.B-30 60kg (62.5kg)
		∗1/ 750	1/ 728	2	2.4	1230	1190	125	121.7	9510	970	
		∗1/ 900	7/ 6240	1.7	2	1230	1230	125	125	9510	970	
		∗1/1200	21/24440	1.3	1.5	1230	1230	125	125	9510	970	
		∗1/1500	1/ 1456	1	1.2	1230	1230	125	125	9510	970	

Note) The allowable O.H.L indicated are the values in the central position of the output shaft.
The models marked with ∗ are limited torque type. Be sure to refer to the allowable torque in the Performance Table.

Foot Mount Type

Fig.B-27

H2LM-28$^{L}_{R}$-5〜60-400 CAD Data: H2LM-28(LRT)-400
(H2LB-28$^{L}_{R}$-5〜60-400) (CAD Data: H2LB-28(LRT)-400)



Round Weight 16.5kg (19kg)

L-shaft R-shaft T-shaft

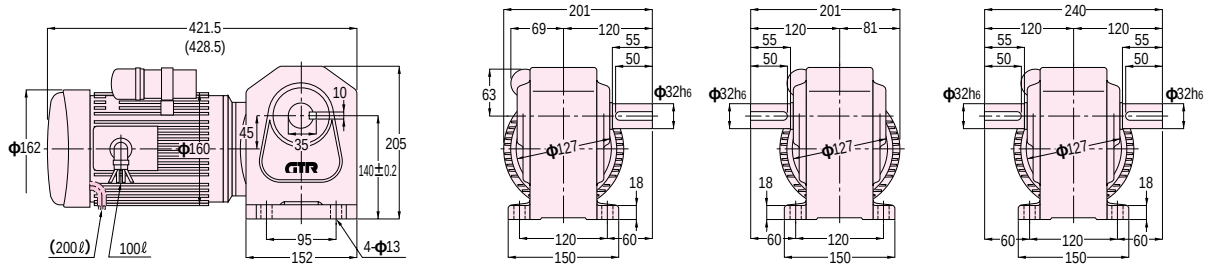
Model Code P.B8
Option P.E78〜E85

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Foot Mount Type

Fig.B-28

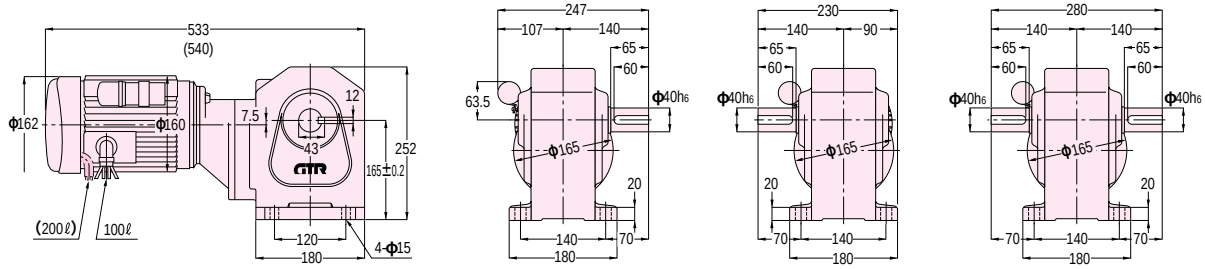
H2LM-32□-80～240-400 CAD Data: H2LM-32(LRT)-400
(H2LB-32□-80～240-400) (CAD Data: H2LB-32(LRT)-400)



Round Weight 19.5kg(22kg)

Fig.B-29

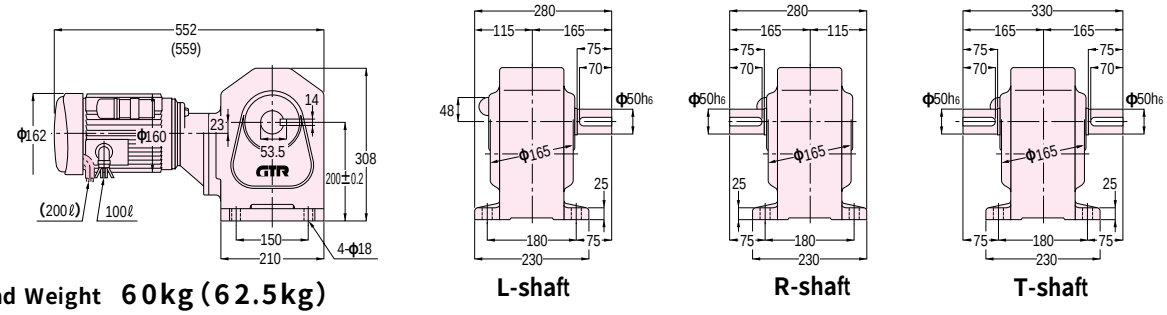
H2LM-40□-300～450-400 CAD Data: H2LM-40(LRT)-400
(H2LB-40□-300～450-400) (CAD Data: H2LB-40(LRT)-400)



Round Weight 30kg(32.5kg)

Fig.B-30

H2LM-50□-600～1500-400 CAD Data: H2LM-50(LRT)-400
(H2LB-50□-600～1500-400) (CAD Data: H2LB-50(LRT)-400)



Round Weight 60kg(62.5kg)

Right Angle Shaft IP-65

Water-Resistant Gearmotor Gearmotor with Brake

Model • Type Designation Standard Model Lineup

GTR Gearmotor

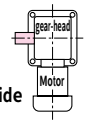
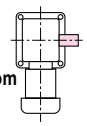
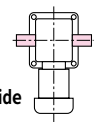
H2 Series

Motor Part	Number of phase	3-Phase
	Capacity	0.1kW～2.2kW
	Power Source	3 Rated Power Source 200V 50/60Hz, 220V/60Hz
	Insulation Classification	Class B
	Starting Method	Direct start
	Protective cooling Method	Totally Enclosed fan-cooled (Totally Enclosed non-ventilated for 0.1kW)
	Number of Pole	4
	Rating	Continuous Rating
Speed Reduction Part	Reduction Method	Hypoid gear and Helical gear
	Lubrication	Grease Lubrication(Maintenance Free)
	Output Shaft	New JIS Key(JIS 1301-1976 class)
	Output Shaft Material	SUS420J2 (Water-Resistant W/Carbon Steel Shaft is S43C)
	Case Material	Aluminium die-cast(Frame No.50: Cast iron, 1.5kW Frame No.40: Cast aluminium)
Ambient Conditions	Ambient Temperature	−10°C～40°C
	Ambient Humidity	100% max.(without any dew condensation)
	Altitude	1,000m max.
	Environment	Well ventilated place free from corrosive gas, Should not be used in water and the place where high-hydrostatic pressure receives.
	Installation Location	Indoors
Painting	Painting Method	Anion painting, Acrylic paint
	Painting Color	Grey(Mansel code: 9B6/0.5)
Mounting Direction		No restriction in the mounting angle.(horizontally, vertically or heeling angle)

Model and Type Designation G3 Series (Right Angle Shaft)

H2 series Water-Resistant-Outdoor gearmotor are classified by codes as shown below.
Specify these codes in your inquiry and order.

Type			Frame Number	Shaft Arrangement	Reduction Ratio	Motor Capacity	Option	Terminal box	Auxiliary Mark	Spec. Designation
H2	L	W	– 32	L	– 200	– T040	W	E		
H2	F	V	– 22	T	– 50	– T010		E	X	AA
①	②	③	④		⑤	⑥	⑦	⑧	⑨	⑩

①Series Name	H2	: H2 Series (Right Angle Shaft)
②Classification by Mount Form	L	: Leg Mount
	F	: Foot Mount (Frame No. 22 only)
③Classification by Motor Type	W	: With Water-resistant Motor W/SUS Shaft (JIS:SUS420J2)
	V	: With Water-resistant Brake Motor W/SUS Shaft material (JIS:SUS420J2)
	G	: With Water-resistant W/Carbon Steel Shaft (JIS:S43C)
	H	: With Water-resistant Brake W/Carbon Steel Shaft (JIS:S43C)
④Frame Number and Diameter of Output Shaft Diameter of Output Shaft	Diameter of Output Shaft	
⑤Shaft Arrangement	L: Output shaft on the left viewing from Input shaft side 	R: Output shaft on the right viewing from Input shaft side  T: Output shaft on both side viewing from Input shaft side 
⑥Reduction Ratio	5 : 1／5 ～ 1500 : 1／1500	
⑦Motor Type and Capacity	T010	: 3-phase 0.1kW
	T020	: 3-phase 0.2kW
	T040	: 3-phase 0.4kW
	075	: 3-phase 0.75kW
	150	: 3-phase 1.5kW
	220	: 3-phase 2.2kW
⑧Option	Blank	: Standard voltage 3-phase : 200V／50Hz, 200V／60Hz, 220V／60Hz
	W	: High voltage 3-phase : 380V／50Hz, 400V／50Hz, 400V／60Hz, 440V／60Hz
⑨Terminal box	E	: Terminal box for water-resistant, outdoor motors (standard specs.)
⑩Auxiliary Code	Blank	: Standard voltage
	X	: Code to identify additional special specs.
⑪Specification Code Note: Spec. code does not appear on the product type designation in the nameplate. It is indicated on the additional number column in the nameplate.	●Specification Code for Rectifier built-in Wiring For details, refer to the Specification Code Table on page E31. ●Indication of Terminal Box lead wire position Refer to the indication mark list in P. E35 for details.	

Separated rectifier type is the standard specification of the terminal box in gearmotors with brake.
When you need the rectifier built-in type, contact us with the following manner.
We will do the wiring accordingly.For details, refer to page E31.

Type	Type Code when ordering(Example) (Indicate this type cord in your order.)
Standard (rectifier separated)	H2LV-32L-80-T040E
AC Switching A	H2LV-32L-80-T040EX-AA
AC Switching B	H2LV-32L-80-T040EX-AB
DC Switching	H2LV-32L-80-T040EX-DC

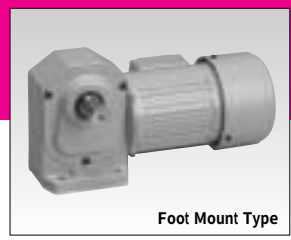
Note) The wiring method indication code does not appear on the product-type name. It appears in the supplemental number column on the nameplate.

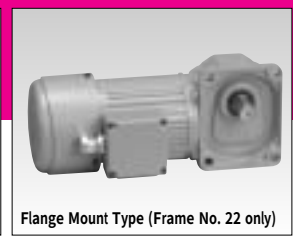
■Model and Type Designation (Option)

Capacity•Option			
T040	E	X	– AA
	⑧	⑨	⑩

⑧Terminal box	Refer to the above table.
⑨Auxiliary Code	Refer to the above table.
⑩Wiring Method Indication Code(Note)	Refer to the table on the left.

Standard Model Lineup


Foot Mount Type


Flange Mount Type (Frame No. 22 only)

Type	4P Motor Capacity	Frame Number	Output Shaft Arrangement	Reduction Ratio
Water-Resistant Gearmotor W/SUS Shaft H2LW Water-Resistant Brake Gearmotor W/SUS Shaft H2LV Water-Resistant Gearmotor W/Carbon Steel Shaft H2LG Water-Resistant Brake Gearmotor W/Carbon Steel Shaft H2LH	3-Phase 0.1kW	22 (Note 1)	L R T	1/5 1/10 1/15 1/20 1/25 1/30 1/40 1/50 1/60 1/80 1/100 1/120 1/160 1/200 **1/240**
		28	L R T	1/300 1/375 1/450
		32 (Note 1)	L R T	1/600 1/750 1/900 **1/1200** **1/1500**
	3-Phase 0.2kW	22	L R T	1/5 1/10 1/15 1/20 1/25 1/30 1/40 1/50 1/60
		28	L R T	1/80 1/100 1/120 1/160 1/200 1/240
		32	L R T	1/300 1/375 1/450
		40	L R T	1/600 1/750 **1/900** **1/1200** **1/1500**
	3-Phase 0.4kW	28	L R T	1/5 1/10 1/15 1/20 1/25 1/30 1/40 1/50 1/60
		32	L R T	1/80 1/100 1/120 1/160 1/200 **1/240**
		40	L R T	1/300 1/375 **1/450**
		50	L R T	1/600 **1/750** **1/900** **1/1200** **1/1500**
	3-Phase 0.75kW	32	L R T	1/5 1/10 1/15 1/20 1/25 1/30 1/40 1/50 1/60
		40	L R T	1/80 1/100 1/120 1/160 1/200 **1/240**
		50	L R T	1/300 **1/375** **1/450**
Water-Resistant Gearmotor W/SUS Shaft H2LW Water-Resistant Gearmotor W/Carbon Steel Shaft H2LG	3-Phase 1.5kW (Note 2)	40	L R T	1/5 1/10 1/15 1/20 1/25 1/30 1/40 1/50 1/60
		50	L R T	1/80 1/100 1/120 1/160 **1/200** **1/240**
	3-Phase 2.2kW (Note 2)	50	L R T	1/5 1/10 1/15 1/20 1/25 1/30 1/40 1/50 1/60 1/80 1/100 1/120

Note 1) Flange mounted type (H2F) is also available only in the Frame Number 22.
2) Brake type is N/A for 1.5kW and 2.2kW.
3) The models enclosed with ▭ are limited torque type.
Be sure to check allowable torque in the performance table.

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

GTR Gearmotor

Right Angle Shaft IP-65

Water-Resistant Gearmotor Gearmotor with Brake

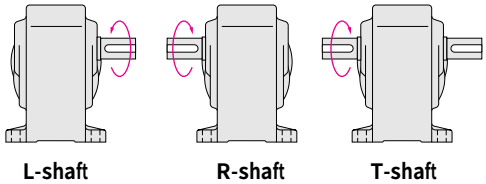
Performance Table Dimension diagram

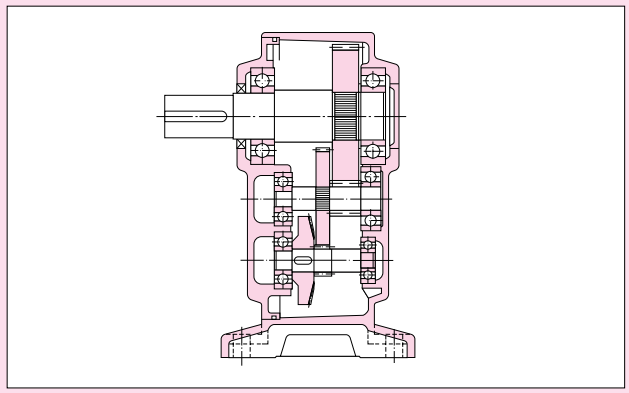
H2 Series

3-Phase

【Remarks】

- Values in the parenthesis in the performance table/dimension diagram are the values of gearmotor with brake.
- The output rotation speed is the value corresponds to the motor synchronous speed and the nominal reduction ratio.
- The shaded areas ▭ in the performance table shows that in case gearmotors are wired according to the diagram shown on page E16, L-shaft rotates clockwise while R and T-shafts rotate counterclockwise when viewing from output shaft side. (Refer to the diagram shown below.)





Water-Resistant-Gearmotor
Water-Resistant-Gearmotor with Brake

H2 Series 3-Phase 0.1kW

The values in parentheses in the Performance Table/Dimension Diagram indicate the values of gearmotors with brake.

Motor Specs. Standard Voltage (Continuous Rated 4 Poles)	Capacity	Motor Capacity Designation	Frequency (Hz)	Voltage (V)	Rated Current (A)	Rated Rotation Speed (rpm)	Insulation Classification	Protective Cooling system
	0.1kW	T010	50/60/60	200/200/220	0.61/0.54/0.54	1420/1700/1720	B	Totally Enclosed

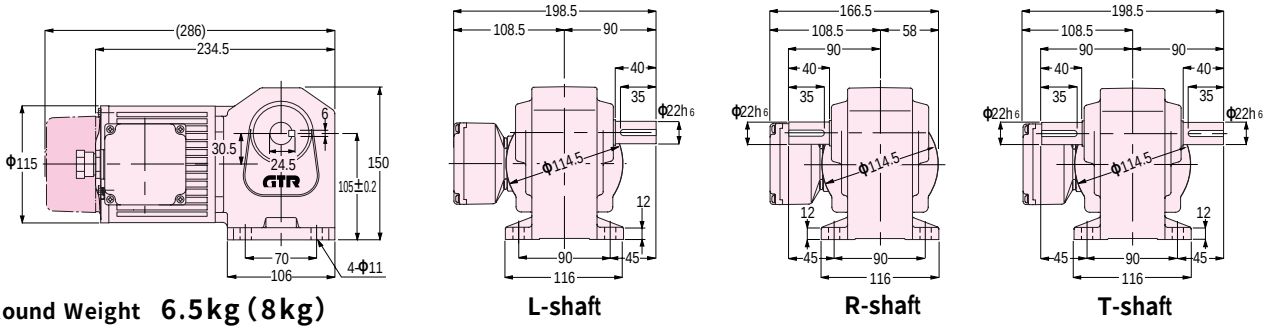
Motor Capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio (Fraction)	Output Shaft Rotation Speed (rpm)		Output Shaft Allowable Torque N•m		Output Shaft Allowable Torque kgf•m		Output Shaft Allowable O.H.L		Page, Diagram No. of the Outer Dimension Diagram, Round Weight Gearmotor(Gearmotor with Brake)	
				50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	N	kgf	H2LW (H2LX)	H2FW (H2FX)
3-phase 0.1kW	22	1/ 5	1/ 5	300	360	2.8	2.4	0.29	0.24	588	60	P.B36 Fig.B-31 6.5kg (8kg)	P.B37 Fig.B-34 6.5kg (8kg)
		1/ 10	1/ 10	150	180	5.7	4.8	0.58	0.49	931	95		
		1/ 15	1/ 15	100	120	8.6	7.2	0.88	0.73	1030	105		
		1/ 20	1/ 20	75	90	12	9.5	1.2	0.97	1180	120		
		1/ 25	1/ 25	60	72	15	12	1.5	1.2	1270	130		
		1/ 30	1/ 30	50	60	18	15	1.8	1.5	1370	140		
		1/ 40	1/ 40	37.5	45	23	19	2.3	1.9	1570	160		
		1/ 50	1/ 50	30	36	28	24	2.9	2.4	1720	175		
		1/ 60	1/ 59	25	30	34	28	3.5	2.9	1760	180		
		1/ 80	1/ 80	18.8	22.5	44	37	4.5	3.8	1760	180		
		1/ 100	1/ 100	15	18	55	46	5.6	4.7	1760	180		
		1/ 120	1/ 120	12.5	15	67	55	6.8	5.6	1760	180		
		1/ 160	1/ 160	9.4	11.2	88	74	9	7.5	1760	180		
		1/ 200	1/ 200	7.5	9	111	92	11.3	9.4	1760	180		
		∗1/ 240	1/ 236	6.3	7.5	118	111	12	11.3	1760	180		
	28	1/ 300	7/ 2120	5	6	145	121	14.8	12.3	2840	290	P.B37 Fig.B-32 10kg (11.5kg)	
		1/ 375	7/ 2650	4	4.8	181	151	18.5	15.4	2840	290		
		1/ 450	7/ 3127	3.3	4	218	181	22.2	18.5	2840	290		
	32	1/ 600	7/ 4240	2.5	3	286	238	29.2	24.3	4120	420	P.B37 Fig.B-33 13kg (14.5kg)	
		1/ 750	7/ 5300	2	2.4	358	298	36.5	30.4	4120	420		
		1/ 900	7/ 6360	1.7	2	429	358	43.8	36.5	4120	420		
		∗1/1200	7/ 8480	1.3	1.5	431	431	44	44	4120	420		
		∗1/1500	7/10600	1	1.2	431	431	44	44	4120	420		

Note) The allowable O.H.L indicated are the values in the central position of the output shaft.
The models marked with ∗ are limited torque type. Be sure to refer to the allowable torque in the Performance Table.

Foot Mount Type

Fig.B-31

H2LW-22LR-5～240-T010E CAD Data: H2LW-22(LRT)-T010E
(H2LV-22LR-5～240-T010E) (CAD Data: H2LV-22(LRT)-T010E)

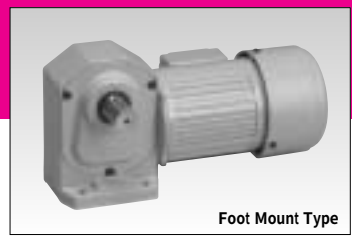


Round Weight 6.5kg (8kg)

Note) For the dimension of the key for the output shaft, refer to the detailed dimensions common to output shafts on page E52.

Model Code P.B32
Multipurpose Inverter P.E86～E92
Option P.E78～E92

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox


Foot Mount Type

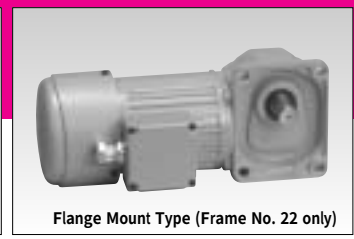
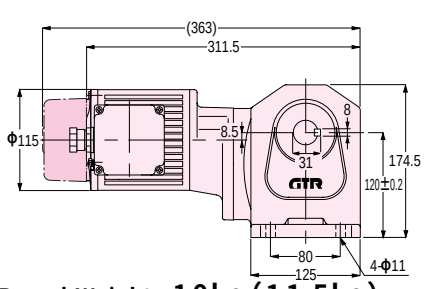
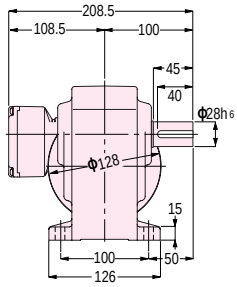

Flange Mount Type (Frame No. 22 only)

Fig.B-32

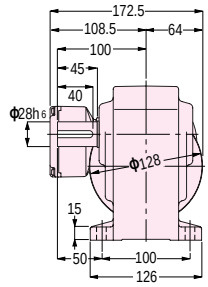
H2L$^{W}_{G}$-28$^{L}_{R}$-300～450-T010E CAD Data: H2L$^{W}_{G}$-28(LRT)-T010E
(H2L$^{V}_{H}$-28$^{L}_{R}$-300～450-T010E) (CAD Data: H2L$^{V}_{H}$-28(LRT)-T010E)



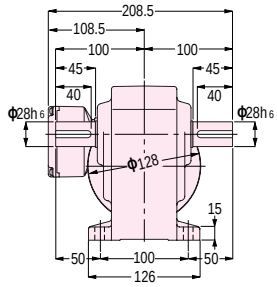
Round Weight 10kg (11.5kg)



L-shaft



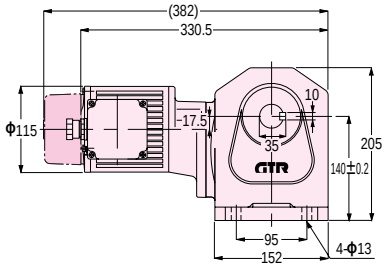
R-shaft



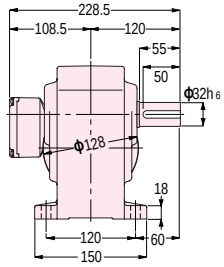
T-shaft

Fig.B-33

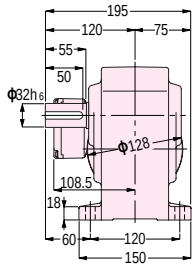
H2L$^{W}_{G}$-32$^{L}_{R}$-600～1500-T010E CAD Data: H2L$^{W}_{G}$-32(LRT)-T010E
(H2L$^{V}_{H}$-32$^{L}_{R}$-600～1500-T010E) (CAD Data: H2L$^{V}_{H}$-32(LRT)-T010E)



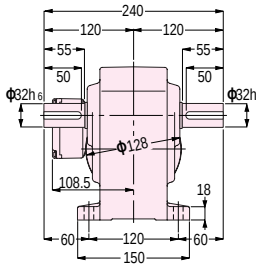
Round Weight 13kg (14.5kg)



L-shaft



R-shaft

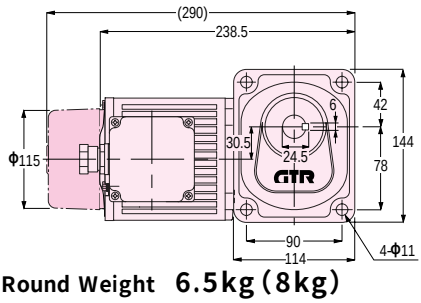


T-shaft

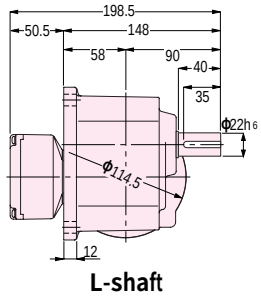
Flange Mount Type

Fig.B-34

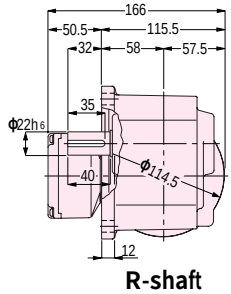
H2F$^{W}_{G}$-22$^{L}_{R}$-5～240-T010E CAD Data: H2F$^{W}_{G}$-22(LRT)-T010E
(H2F$^{V}_{H}$-22$^{L}_{R}$-5～240-T010E) (CAD Data: H2F$^{V}_{H}$-22(LRT)-T010E)



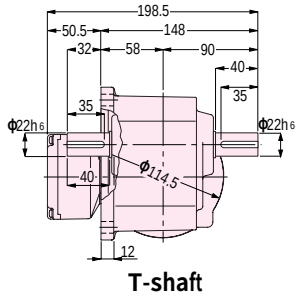
Round Weight 6.5kg (8kg)



L-shaft



R-shaft



T-shaft

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Water-Resistant Gearmotor
Water-Resistant Gearmotor with Brake

H2 Series 3-Phase 0.2kW

The values in parentheses in the Performance Table/Dimension Diagram indicate the values of gearmotors with brake.

Motor Specs. Standard Voltage (Continuous Rated 4 Poles)	Capacity	Motor Capacity Designation	Frequency (Hz)	Voltage (V)	Rated Current (A)	Rated Rotation Speed (rpm)	Insulation Classification	Protective Cooling system
	0.2kW	T020	50/60/60	200/200/220	1.1/1.0/1.0	1420/1710/1720	B	Totally Enclosed fan-cooled

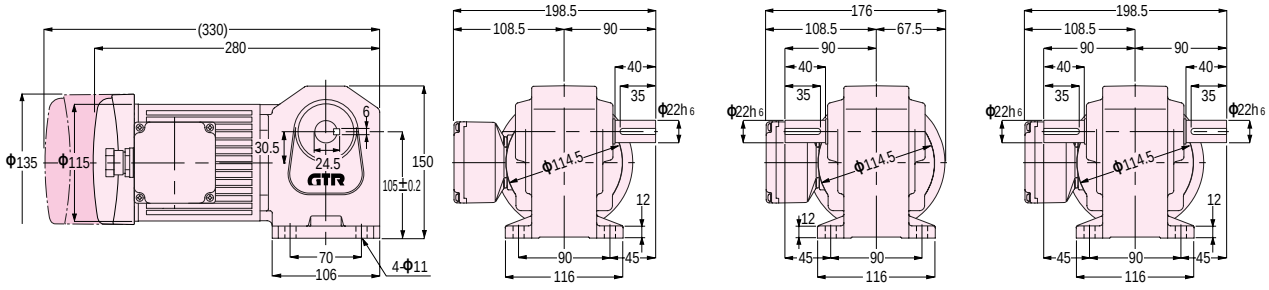
Motor Capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio (Fraction)	Output Shaft Rotation Speed (rpm)		Output Shaft Allowable Torque N•m		Output Shaft Allowable Torque kgf•m		Output Shaft Allowable O.H.L		Page, Diagram No. of the Outer Dimension Diagram, Round Weight Gearmotor(Gearmotor with Brake)	
				50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	N	kgf	H2L□ (H2L□)	H2F□ (H2F□)
3-phase 0.2kW	22	1/ 5	1/ 5	300	360	5.7	4.8	0.58	0.49	588	60	P.B38 Fig.B-35 7.5kg (9kg)	P.B39 Fig.B-39 7.5kg (9kg)
		1/ 10	1/ 10	150	180	12	9.5	1.2	0.97	931	95		
		1/ 15	1/ 15	100	120	18	15	1.8	1.5	1030	105		
		1/ 20	1/ 20	75	90	23	19	2.3	1.9	1180	120		
		1/ 25	1/ 25	60	72	28	24	2.9	2.4	1270	130		
		1/ 30	1/ 30	50	60	34	28	3.5	2.9	1370	140		
		1/ 40	1/ 40	37.5	45	46	38	4.7	3.9	1570	160		
		1/ 50	1/ 50	30	36	57	48	5.8	4.9	1720	175		
		1/ 60	1/ 59	25	30	69	57	7	5.8	1810	185		
	28	1/ 80	1/ 80	18.8	22.5	88	74	9	7.5	2450	250	P.B39 Fig.B-36 9.5kg (11kg)	
		1/ 100	1/ 100	15	18	111	92	11.3	9.4	2650	270		
		1/ 120	1/ 120	12.5	15	133	111	13.6	11.3	2740	280		
		1/ 160	1/ 160	9.4	11.2	177	148	18.1	15.1	2840	290		
		1/ 200	1/ 200	7.5	9	221	184	22.6	18.8	2840	290		
		1/ 240	1/ 236	6.3	7.5	245	221	25	22.6	2840	290		
	32	1/ 300	7/ 2120	5	6	294	245	30	25	3820	390	P.B39 Fig.B-37 13.5kg (15kg)	
		1/ 375	7/ 2650	4	4.8	368	306	37.5	31.2	4120	420		
		1/ 450	7/ 3127	3.3	4	431	368	44	37.5	4120	420		
	40	1/ 600	7/ 4240	2.5	3	588	490	60	50	6760	690	P.B39 Fig.B-38 22kg (23.5kg)	
		1/ 750	7/ 5300	2	2.4	735	613	75	62.5	6760	690		
		∗1/ 900	7/ 6360	1.7	2	764	735	78	75	6760	690		
		∗1/1200	7/ 8480	1.3	1.5	764	764	78	78	6760	690		
		∗1/1500	7/10600	1	1.2	764	764	78	78	6760	690		

Note) The allowable O.H.L indicated are the values in the central position of the output shaft.
The models marked with ∗ are limited torque type. Be sure to refer to the allowable torque in the Performance Table.

Foot Mount Type

Fig.B-35

H2L□-22□-5～60-T020E CAD Data: H2L□-22(LRT)-T020E
(H2L□-22□-5～60-T020E) (CAD Data: H2L□-22(LRT)-T020E)

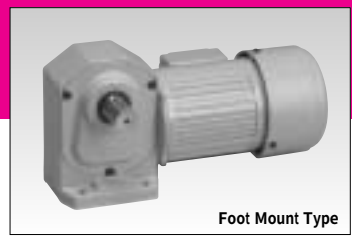


Round Weight 7.5kg (9kg)

Note) For the dimension of the key for the output shaft, refer to the detailed dimensions common to output shafts on page E52.

Model Code P.B32 | Multipurpose Inverter P.E86～E92 | Option P.E78～E92

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox


Foot Mount Type

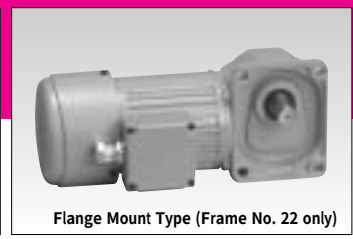
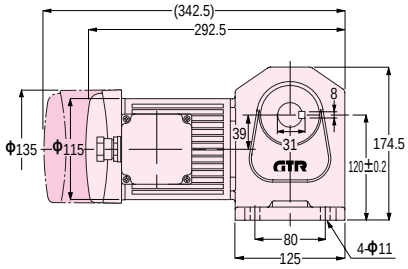
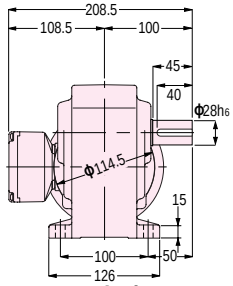

Flange Mount Type (Frame No. 22 only)

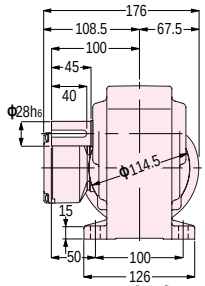
Fig.B-36

H2L$^{W}_{G}$-28$^{L}_{R}$-80～240-T020E CAD Data: H2L$^{W}_{G}$-28(LRT)-T020E
(H2L$^{V}_{H}$-28$^{L}_{R}$-80～240-T020E) (CAD Data: H2L$^{V}_{H}$-28(LRT)-T020E)

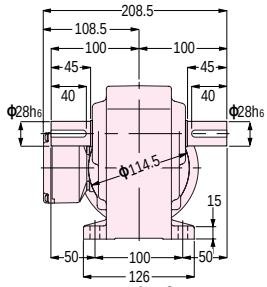




L-shaft



R-shaft

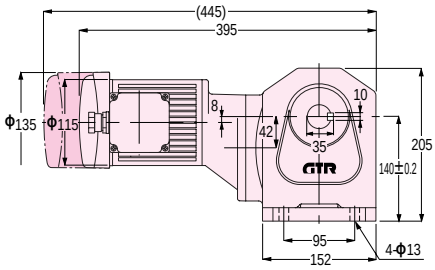


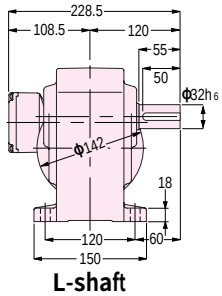
T-shaft

Round Weight 9.5kg(11kg)

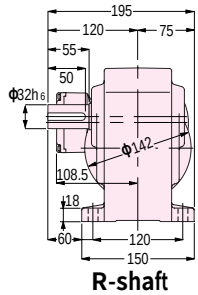
Fig.B-37

H2L$^{W}_{G}$-32$^{L}_{R}$-300～450-T020E CAD Data: H2L$^{W}_{G}$-32(LRT)-T020E
(H2L$^{V}_{H}$-32$^{L}_{R}$-300～450-T020E) (CAD Data: H2L$^{V}_{H}$-32(LRT)-T020E)

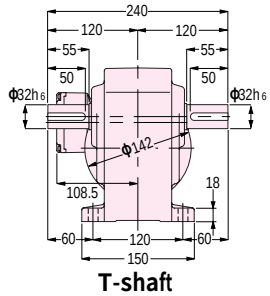




L-shaft



R-shaft

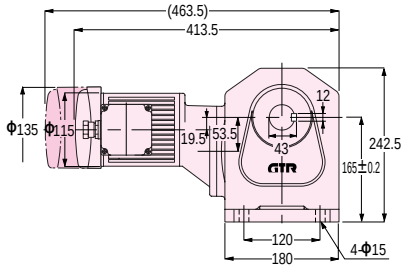


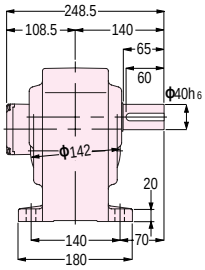
T-shaft

Round Weight 13.5kg(15kg)

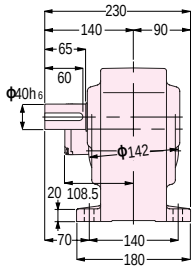
Fig.B-38

H2L$^{W}_{G}$-40$^{L}_{R}$-600～1500-T020E CAD Data: H2L$^{W}_{G}$-40(LRT)-T020E
(H2L$^{V}_{H}$-40$^{L}_{R}$-600～1500-T020E) (CAD Data: H2L$^{V}_{H}$-40(LRT)-T020E)

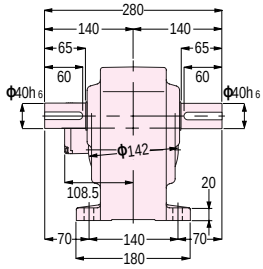




L-shaft



R-shaft



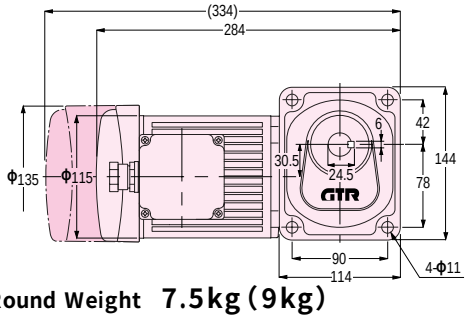
T-shaft

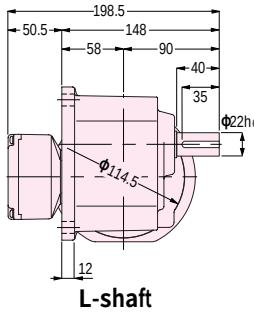
Round Weight 22kg(23.5kg)

Flange Mount Type

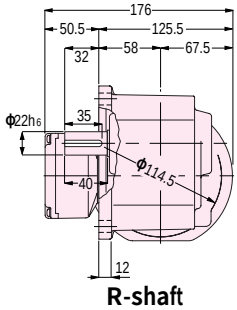
Fig.B-39

H2F$^{W}_{G}$-22$^{L}_{R}$-5～60-T020E CAD Data: H2F$^{W}_{G}$-22(LRT)-T020E
(H2F$^{V}_{H}$-22$^{L}_{R}$-5～60-T020E) (CAD Data: H2F$^{V}_{H}$-22(LRT)-T020E)

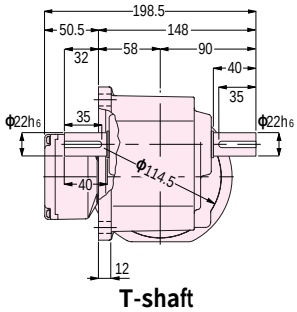




L-shaft



R-shaft



T-shaft

Round Weight 7.5kg(9kg)

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Water-Resistant Gearmotor
Water-Resistant Gearmotor with Brake

H2 Series 3-Phase 0.4kW

The values in parentheses in the Performance Table/Dimension Diagram indicate the values of gearmotors with brake.

Motor Specs. Standard Voltage (Continuous Rated 4 Poles)	Capacity	Motor Capacity Designation	Frequency (Hz)	Voltage (V)	Rated Current (A)	Rated Rotation Speed (rpm)	Insulation Classification	Protective Cooling system
	0.4kW	T040	50/60/60	200/200/220	2.1/1.8/1.8	1410/1690/1710	B	Totally Enclosed fan-cooled

Motor Capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio (Fraction)	Output Shaft Rotation Speed (rpm)		Output Shaft Allowable Torque N•m		Output Shaft Allowable Torque kgf•m		Output Shaft Allowable O.H.L		Page, Diagram No. of the Outer Dimension Diagram, Round Weight Gearmotor(Gearmotor with Brake) H2L$^{W}_{G}$ (H2L$^{V}_{H}$)
				50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	N	kgf	
3-phase 0.4kW	28	1/ 5	1/ 5	300	360	12	9.5	1.2	0.97	931	95	P.B40 Fig.B-40 11kg (12.5kg)
		1/ 10	1/ 10	150	180	23	19	2.3	1.9	1470	150	
		1/ 15	1/ 15	100	120	34	28	3.5	2.9	1670	170	
		1/ 20	1/ 20	75	90	46	38	4.7	3.9	1860	190	
		1/ 25	1/ 25	60	72	57	48	5.8	4.9	2010	205	
		1/ 30	1/ 30	50	60	69	57	7	5.8	2210	225	
		1/ 40	1/ 40	37.5	45	92	76	9.4	7.8	2450	250	
		1/ 50	1/ 50	30	36	115	95	11.7	9.7	2650	270	
		1/ 60	1/ 59	25	30	137	115	14	11.7	2740	280	
	32	1/ 80	1/ 80	18.8	22.5	177	148	18.1	15.1	3430	350	P.B41 Fig.B-41 14kg (15.5kg)
		1/ 100	1/ 100	15	18	221	184	22.6	18.8	3820	390	
		1/ 120	1/ 120	12.5	15	266	221	27.1	22.6	4120	420	
		1/ 160	1/ 160	9.4	11.2	355	295	36.2	30.1	4120	420	
		1/ 200	1/ 200	7.5	9	431	369	44	37.7	4120	420	
		∗1/ 240	1/ 236	6.3	7.5	431	431	44	44	4120	420	
	40	1/ 300	7/ 2080	5	6	572	477	58.4	48.7	6760	690	P.B41 Fig.B-42 24.5kg (26kg)
		1/ 375	7/ 2600	4	4.8	715	597	73	60.9	6760	690	
		∗1/ 450	7/ 3120	3.3	4	764	715	78	73	6760	690	
	50	1/ 600	21/12220	2.5	3	1150	955	116.9	97.4	9510	970	P.B41 Fig.B-43 54.5kg (56kg)
		∗1/ 750	1/ 728	2	2.4	1230	1190	125	121.7	9510	970	
		∗1/ 900	7/ 6240	1.7	2	1230	1230	125	125	9510	970	
		∗1/1200	21/24440	1.3	1.5	1230	1230	125	125	9510	970	
		∗1/1500	1/ 1456	1	1.2	1230	1230	125	125	9510	970	

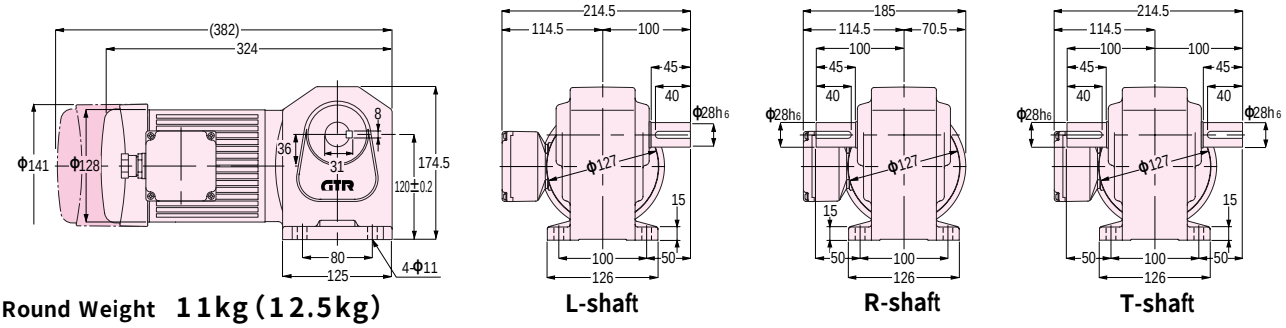
Note) The allowable O.H.L indicated are the values in the central position of the output shaft.
The models marked with ∗ are limited torque type. Be sure to refer to the allowable torque in the Performance Table.

Foot Mount Type

Fig.B-40

H2L$^{W}_{G}$-28^{LRT}-5～60-T040E (H2L$^{V}_{H}$-28^{LRT}-5～60-T040E)

CAD Data: H2L$^{W}_{G}$-28(LRT)-T040E (CAD Data: H2L$^{V}_{H}$-28(LRT)-T040E)

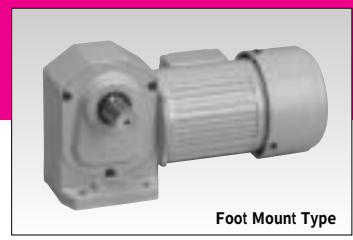


Round Weight 11kg (12.5kg)

L-shaft R-shaft T-shaft

Note) For the dimension of the key for the output shaft, refer to the detailed dimensions common to output shafts on page E52.

Model Code P.B32 | Multipurpose Inverter P.E86～E92 | Option P.E78～E92

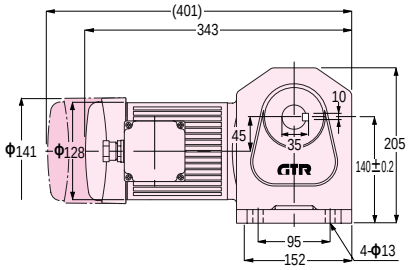


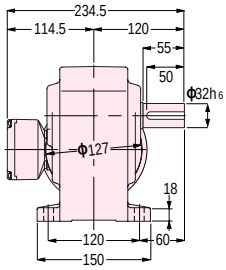
Foot Mount Type

Fig.B-41

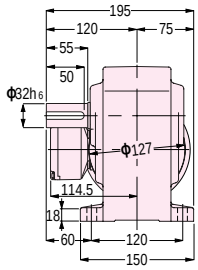
H2L$^{W}_{G}$-32$^{L}_{R}$-80～240-T040E CAD Data: H2L$^{W}_{G}$-32(LRT)-T040E

(H2L$^{V}_{H}$-32$^{L}_{R}$-80～240-T040E) (CAD Data: H2L$^{V}_{H}$-32(LRT)-T040E)

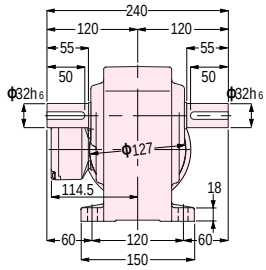




L-shaft



R-shaft



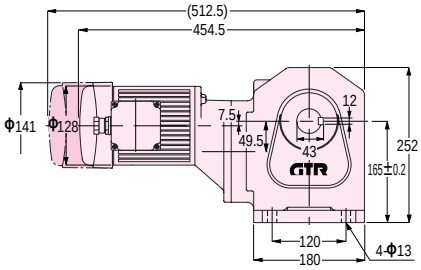
T-shaft

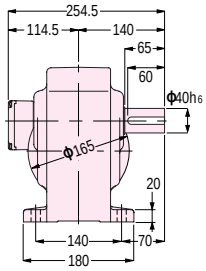
Round Weight 14kg (15.5kg)

Fig.B-42

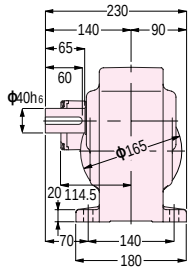
H2L$^{W}_{G}$-40$^{L}_{R}$-300～450-T040 CAD Data: H2L$^{W}_{G}$-40(LRT)-T040E

(H2L$^{V}_{H}$-40$^{L}_{R}$-300～450-T040) (CAD Data: H2L$^{V}_{H}$-40(LRT)-T040E)

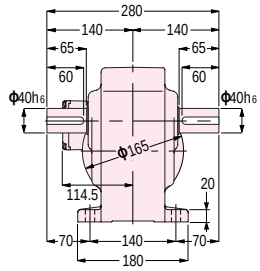




L-shaft



R-shaft



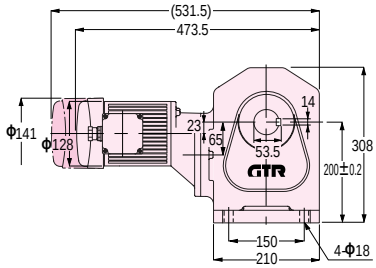
T-shaft

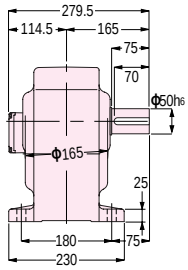
Round Weight 24.5kg (26kg)

Fig.B-43

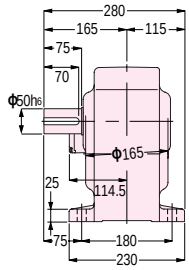
H2L$^{W}_{G}$-50$^{L}_{R}$-600～1500-T040E CAD Data: H2L$^{W}_{G}$-50(LRT)-T040E

(H2L$^{V}_{H}$-50$^{L}_{R}$-600～1500-T040E) (CAD Data: H2L$^{V}_{H}$-50(LRT)-T040E)

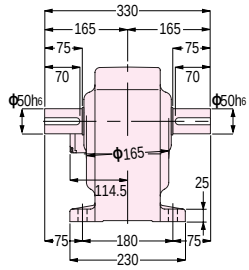




L-shaft



R-shaft



T-shaft

Round Weight 54.5kg (56kg)

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Water-Resistant Gearmotor
Water-Resistant Gearmotor with Brake

H2 Series 3-Phase 0.75kW

The values in parentheses in the Performance Table/Dimension Diagram indicate the values of gearmotors with brake.

Motor Specs. Standard Voltage (Continuous Rated 4 Poles)	Capacity	Motor Capacity Designation	Frequency (Hz)	Voltage (V)	Rated Current (A)	Rated Rotation Speed (rpm)	Insulation Classification	Protective Cooling system
	0.75kW	075	50/60/60	200/200/220	3.7/3.3/3.2	1430/1720/1730	B	Totally Enclosed fan-cooled

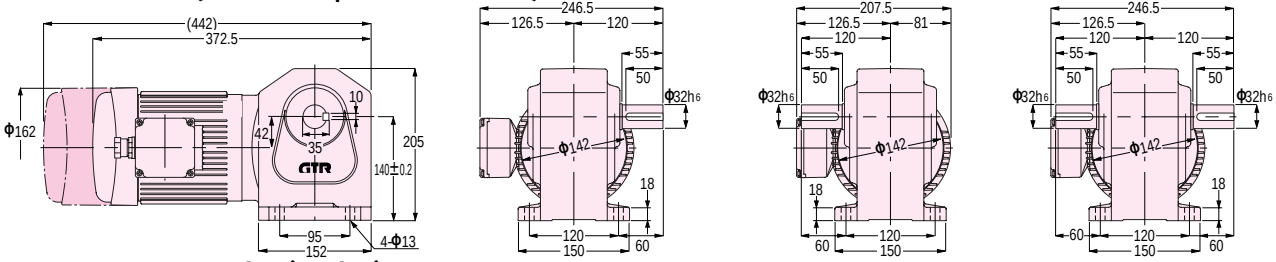
Motor Capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio (Fraction)	Output Shaft Rotation Speed (rpm)		Output Shaft Allowable Torque N•m		Output Shaft Allowable Torque kgf•m		Output Shaft Allowable O.H.L		Page, Diagram No. of the Outer Dimension Diagram, Round Weight Gearmotor(Gearmotor with Brake) H2LW (H2LV)
				50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	N	kgf	
3-phase 0.75kW	32	1/ 5	1/ 5	300	360	22	18	2.2	1.8	1520	155	P.B42 Fig.B-44 17.5kg (20kg)
		1/ 10	1/ 10	150	180	43	36	4.4	3.7	2010	205	
		1/ 15	1/ 15	100	120	65	54	6.6	5.5	2210	225	
		1/ 20	1/ 20	75	90	86	72	8.8	7.3	2450	250	
		1/ 25	1/ 25	60	72	108	89	11	9.1	2740	280	
		1/ 30	1/ 30	50	60	128	107	13.1	11	2940	300	
		1/ 40	1/ 40	37.5	45	172	143	17.5	14.6	3430	350	
		1/ 50	1/ 50	30	36	215	179	21.9	18.3	3820	390	
		1/ 60	1/ 59	25	30	258	215	26.3	21.9	4120	420	
	40	1/ 80	1/ 80	18.8	22.5	332	277	33.9	28.3	5780	590	P.B42 Fig.B-45 26kg (28.5kg)
		1/ 100	1/ 100	15	18	416	346	42.4	35.3	6080	620	
		1/ 120	1/ 120	12.5	15	498	415	50.8	42.4	6270	640	
		1/ 160	1/ 160	9.4	11.2	664	554	67.8	56.5	6470	660	
		1/ 200	1/ 200	7.5	9	764	692	78	70.6	6660	680	
		∗1/ 240	1/ 240	6.3	7.5	764	764	78	78	6660	680	
	50	1/ 300	7/ 2120	5	6	1070	895	109.6	91.3	7740	790	P.B43 Fig.B-46 58.5kg (61kg)
		∗1/ 375	7/ 2650	4	4.8	1230	1120	125	114.1	8040	820	
		∗1/ 450	7/ 3180	3.3	4	1230	1230	125	125	8530	870	

Note) The allowable O.H.L indicated are the values in the central position of the output shaft.
The models marked with ∗ are limited torque type. Be sure to refer to the allowable torque in the Performance Table.

Foot Mount Type

Fig.B-44

H2LW-32LR-5～60-075E CAD Data: H2LW-32(LRT)-075E
(H2LV-32LR-5～60-075E) (CAD Data: H2LV-32(LRT)-075E)

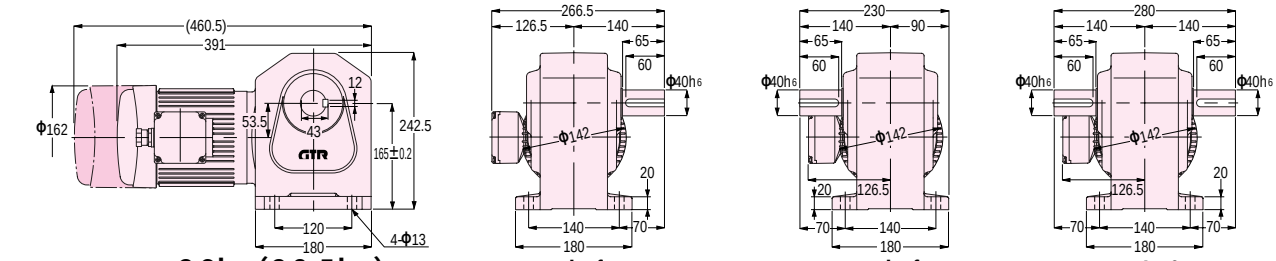


Round Weight 17.5kg (20kg)

L-shaft R-shaft T-shaft

Fig.B-45

H2LW-40LR-80～240-075E CAD Data: H2LW-40(LRT)-075E
(H2LV-40LR-80～240-075E) (CAD Data: H2LV-40(LRT)-075E)



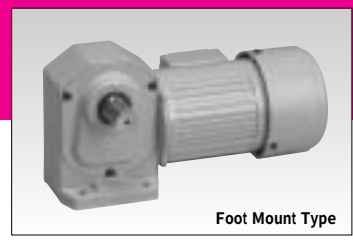
Round Weight 26kg (28.5kg)

L-shaft R-shaft T-shaft

Note) For the dimension of the key for the output shaft, refer to the detailed dimensions common to output shafts on page E52.

Model Code P.B32 | Multipurpose Inverter P.E86～E92 | Option P.E78～E92

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

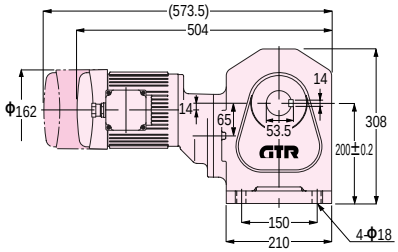


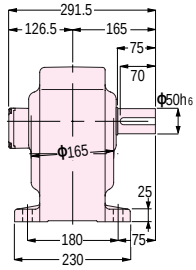
Foot Mount Type

Fig.B-46

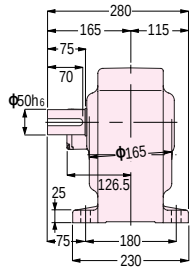
H2L$^{W}_{G}$-50$^{L}_{R}$^{T}-300～450-075E CAD Data: H2L$^{W}_{G}$-50(LRT)-075E

(H2L$^{V}_{H}$-50$^{L}_{R}$^{T}-300～450-075E) (CAD Data: H2L$^{V}_{H}$-50(LRT)-075E)

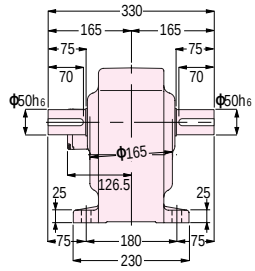




L-shaft



R-shaft



T-shaft

Round Weight 58.5kg(61kg)

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Water-Resistant Gearmotor

H2 Series 3-Phase 1.5kW

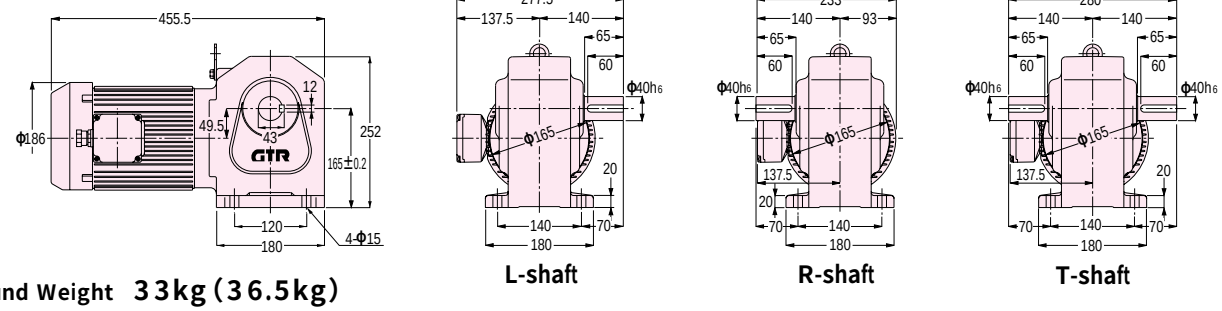
Motor Specs. Standard Voltage (Continuous Rated 4 Poles)	Capacity	Motor Capacity Designation	Frequency (Hz)	Voltage (V)	Rated Current (A)	Rated Rotation Speed (rpm)	Insulation Classification	Protective Cooling system
	1.5kW	150	50/60/60	200/200/220	6.6/6.1/5.8	1430/1720/1730	B	Totally Enclosed fan-cooled

Motor Capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio (Fraction)	Output Shaft Rotation Speed (rpm)		Output Shaft Allowable Torque N•m		Output Shaft Allowable Torque kgf•m		Output Shaft Allowable O.H.L		Page, Diagram No. of the Outer Dimension Diagram, Round Weight Gearmotor
				50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	N	kgf	H2LW
3-phase 1.5kW	40	1/ 5	1/ 5	300	360	43	36	4.4	3.7	2650	270	P.B44 Fig.B-47 33kg (36.5kg)
		1/ 10	1/ 10	150	180	86	72	8.8	7.3	3530	360	
		1/ 15	1/ 15	100	120	128	107	13.1	11	4410	450	
		1/ 20	1/ 20	75	90	172	143	17.5	14.6	4700	480	
		1/ 25	1/ 25	60	72	215	179	21.9	18.3	5100	520	
		1/ 30	1/ 30	50	60	258	215	26.3	21.9	5290	540	
		1/ 40	1/ 40	37.5	45	344	277	35.1	28.3	5590	570	
		1/ 50	1/ 50	30	36	429	346	43.8	35.3	5880	600	
		1/ 60	1/ 60	25	30	515	415	52.6	42.4	6080	620	
	50	1/ 80	3/ 235	18.8	22.5	664	554	67.8	56.5	8530	870	P.B44 Fig.B-48 62kg (65.5kg)
		1/ 100	1/ 98	15	18	830	692	84.7	70.6	8820	900	
		1/ 120	1/ 120	12.5	15	1000	830	102	84.7	9020	920	
		1/ 160	3/ 470	9.4	11.2	1230	1110	125	113	9310	950	
		∗1/ 200	1/ 196	7.5	9	1230	1230	125	125	9510	970	
		∗1/ 240	1/ 240	6.3	7.5	1230	1230	125	125	9510	970	

Note) The allowable O.H.L indicated are the values in the central position of the output shaft.
The models marked with ∗ are limited torque type. Be sure to refer to the allowable torque in the Performance Table.

Foot Mount Type

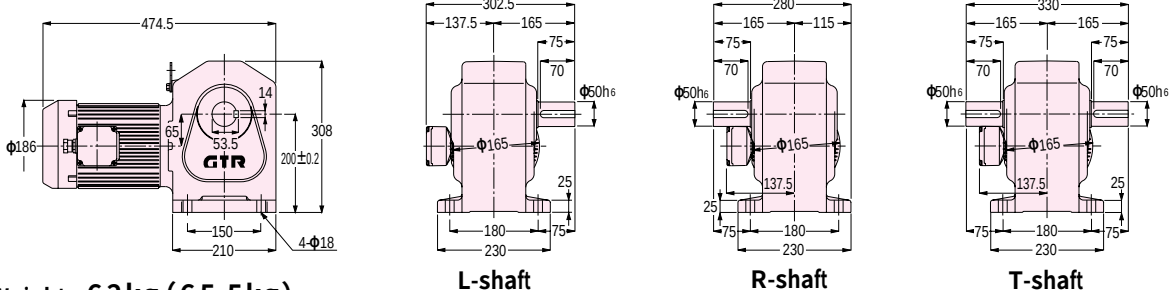
Fig.B-47 H2LW-40LRT-5～60-150E CAD Data: H2LW-40(LRT)-150E



L-shaft R-shaft T-shaft

Round Weight 33kg (36.5kg)

Fig.B-48 H2LW-50LRT-80～240-150E CAD Data: H2LW-50(LRT)-150E



L-shaft R-shaft T-shaft

Round Weight 62kg (65.5kg)

Note) For the dimension of the key for the output shaft, refer to the detailed dimensions common to output shafts on page E52.

Model Code P.B32
Multipurpose Inverter P.E86～E92
Option P.E78～E92

H2 Series 3-Phase 2.2kW

Foot Mount Type

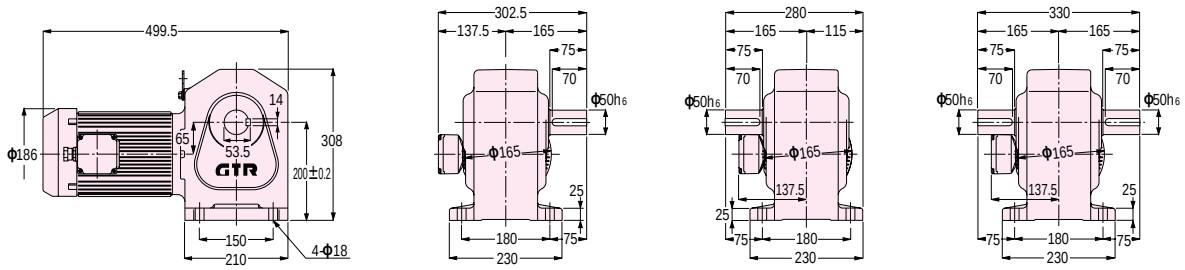
Motor Specs. Standard Voltage (Continuous Rated 4 Poles)	Capacity	Motor Capacity Designation	Frequency (Hz)	Voltage (V)	Rated Current (A)	Rated Rotation Speed (rpm)	Insulation Classification	Protective Cooling system
	2.2kW	220	50/60/60	200/200/220	9.0/8.6/8.0	1410/1690/1710	B	Totally Enclosed fan-cooled

Motor Capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio (Fraction)	Output Shaft Rotation Speed (rpm)		Output Shaft Allowable Torque N•m		Output Shaft Allowable Torque kgf•m		Output Shaft Allowable O.H.L		Page, Diagram No. of the Outer Dimension Diagram, Round Weight Gearmotor
				50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	N	kgf	H2LW
3-phase 2.2kW	50	1/ 5	1/ 5	300	360	63	53	6.4	5.4	3920	400	P.B45 Fig.B-49 65.5kg (69kg)
		1/ 10	1/ 10	150	180	126	105	12.9	10.7	4410	450	
		1/ 15	1/ 15	100	120	189	157	19.3	16.1	4900	500	
		1/ 20	12/ 235	75	90	252	210	25.7	21.4	5490	560	
		1/ 25	2/ 49	60	72	315	263	32.1	26.8	6080	620	
		1/ 30	1/ 30	50	60	378	315	38.6	32.1	6570	670	
		1/ 40	1/ 40	37.5	45	487	406	49.7	41.1	7060	720	
		1/ 50	1/ 50	30	36	609	507	62.1	51.8	7550	770	
		1/ 60	1/ 60	25	30	731	609	74.6	62.1	8130	830	
		1/ 80	3/ 235	18.8	22.5	974	812	99.4	82.9	8430	860	
		1/ 100	1/ 98	15	18	1220	1010	124	104	8820	900	
		1/ 120	1/ 120	12.5	15	1230	1220	125	124	8820	900	

Note) The allowable O.H.L indicated are the values in the central position of the output shaft.

Foot Mount Type

Fig.B-49 H2LW-50LR-5～120-220E CAD Data: H2LW-50(LRT)-220E



L-shaft R-shaft T-shaft

Round Weight 65.5kg (69kg)

Note) For the dimension of the key for the output shaft, refer to the detailed dimensions common to output shafts on page E52.

Model Code P.B32 | Multipurpose Inverter P.E86～E92 | Option P.E78～E92

Right Angle Shaft

Gearmotor with Clutch and Brake

Model • Type Designation
Standard Model Lineup

GTR Gearmotor

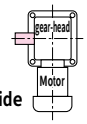
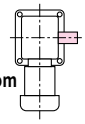
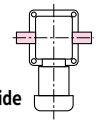
H2 Series

Motor Part	Number of phase	3-Phase
	Capacity	0.2kW～0.75kW
	Power Source	3 Rated Power Source 200V 50/60Hz, 220V/60Hz
	Insulation Classification	Class B
	Starting Method	Direct start
	Protective cooling Method	Totally Enclosed Outer Fan
	Number of Pole	4
	Rating	Continuous Rating
Speed Reduction Part	Reduction Method	Hypoid gear and Helical gear
	Lubrication	Grease Lubrication(Maintenance Free)
	Output Shaft	New JIS Key(JIS 1301-1976 class)
	Output Shaft Material	S43C
	Case Material	Aluminium die-cast
Ambient Conditions	Ambient Temperature	−10℃～40℃
	Ambient Humidity	85% max.(without any dew condensation)
	Altitude	1,000m max.
	Environment	Well ventilated place free from corrosive gas, explosive gas vapor and/or dust.
	Installation Location	Indoors
Painting	Painting Method	Anion painting, Acrylic paint
	Painting Color	Grey(Mansel code: 9B6/0.5)
Mounting Direction		No restriction in the mounting angle.(horizontally, vertically or heeling angle)

Model and Type Designation G3 Series (Right Angle Shaft)

H2 series gearmotors with Clutch and Brake are classified by codes as shown below. Specify these codes in your inquiry and order.

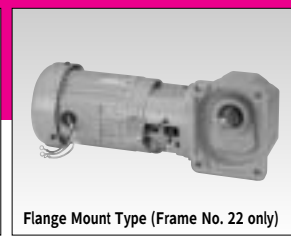
Type			Frame Number	Shaft Arrangement	Reduction Ratio	Motor Capacity	Option		Auxiliary Code	Spec. Code
H2	L	E	32	L	200	T040	A			
H2	L	E	40	T	80	075	W		X	
①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪

①Series Name	H2 : H2 Series (Right Angle Shaft)
②Classification by Mount Form	L : Leg Mount
	F : Foot Mount (Frame No. 22 only)
③Classification by Motor Type	E : Clutch/Brake Motor
④Frame Number and Diameter of Output Shaft Diameter of Output Shaft	Diameter of Output Shaft
⑤Shaft Arrangement	L: Output shaft on the left viewing from Input shaft side  R: Output shaft on the right viewing from Input shaft side  T: Output shaft on both side viewing from Input shaft side 
⑥Reduction Ratio	5 : 1／5 ～ 240 : 1／240
⑦Motor Type and Capacity	T020 : 3ph, 0.2 kW
	T040 : 3ph, 0.4 kW
	075 : 3ph, 0.75kW
⑧⑨Option Note 1: When terminal box is required, please indicate "A" at the end of motor capacity. For 0.4kW type, with "A" box is the standard, so please indicate "A" at the end of motor capacity. (For example, H2LE-32L-200-T040A) Capacity of 0.75kW～2.2kW are terminal box equipped as standard and no additional code.	Blank : 3-phase : 200V／50Hz、200V／60Hz、220V／60Hz 0.2kW without terminal box (Note 1) 0.4kW～0.75kW terminal box attached
	W : 3-phase : 380V／50Hz、400V／50Hz、400V／60Hz、440V／60Hz 0.2kW without terminal box (Note 1) 0.4kW～0.75kW terminal box attached
	A : Terminal box (option)
⑩Auxiliary Code	Blank : Standard Specifications
	X : Mark for Additional Specs.
⑪Specification Code Note: Spec. code does not appear on the product type designation in the nameplate. It is indicated on the additional number column in the nameplate.	Blank : Standard Specifications

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Standard Model Lineup

Foot Mount Type



Flange Mount Type (Frame No. 22 only)

Type	4P Motor Capacity	Frame Number	Output Shaft Arrangement	Reduction Ratio
〈GT-PACK〉 Gearmotor with Clutch/Brake H2LE	3-Phase 0.2kW	22 (Note 1)	L, R, T	1/5, 1/10, 1/15, 1/20, 1/25, 1/30, 1/40, 1/50, 1/60
		28	L, R, T	1/80, 1/100, 1/120, 1/160, 1/200, 1/240
	3-Phase 0.4kW	28	L, R, T	1/5, 1/10, 1/15, 1/20, 1/25, 1/30, 1/40, 1/50, 1/60
		32	L, R, T	1/80, 1/100, 1/120, 1/160, 1/200, 1/240
	3-Phase 0.75kW	32	L, R, T	1/5, 1/10, 1/15, 1/20, 1/25, 1/30, 1/40, 1/50, 1/60
		40	L, R, T	1/80, 1/100, 1/120, 1/160, 1/200, 1/240

Note 1) Flange mounted type (H2F) is also available only in the Frame Number 22.
2) The models enclosed with ▭ are limited torque type.
Be sure to check allowable torque in the performance table.

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

GTR Gearmotor

Right Angle Shaft

Gearmotor with Clutch and Brake

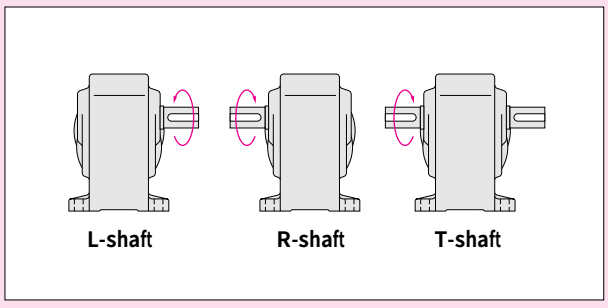
Performance Table
Dimension diagram

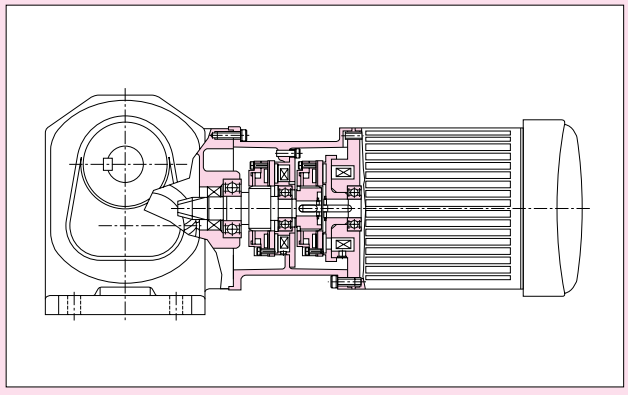
H2 Series

3-Phase

【Remarks】

- The output rotation speed is the value corresponds to the motor synchronous speed and the nominal reduction ratio.
- The shaded areas ▭ in the performance table shows that in case gearmotors are wired according to the diagram shown on page E41, L-shaft rotates clockwise while R and T-shafts rotate counterclockwise when viewing from output shaft side. (Refer to the diagram shown below.)





Gearmotor with Clutch and Brake

H2 Series 3-Phase 0.2kW

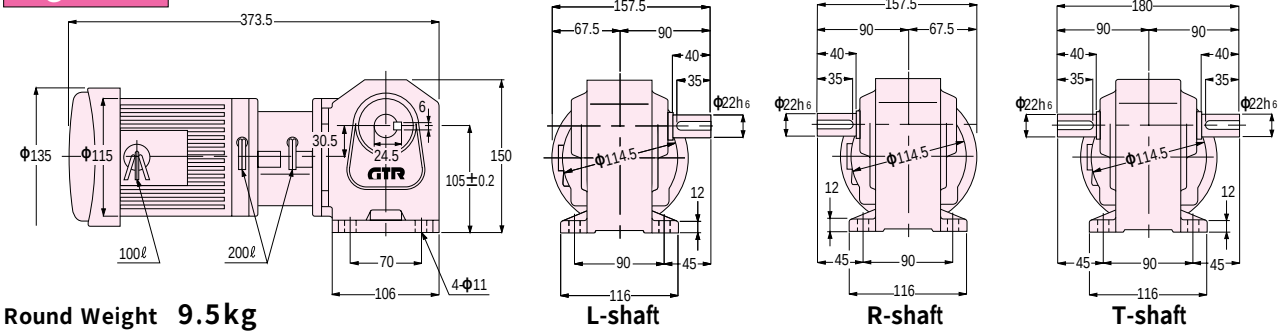
Motor Specs. Standard Voltage (Continuous Rated 4 Poles)	Capacity	Motor Capacity Designation	Frequency (Hz)	Voltage (V)	Rated Current (A)	Rated Rotation Speed (rpm)	Insulation Classification	Protective Cooling system
	0.2kW	T020	50/60/60	200/200/220	1.1/1.0/1.0	1420/1710/1720	B	Totally Enclosed fan-cooled

Motor Capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio (Fraction)	Output Shaft Rotation Speed (rpm)		Output Shaft Allowable Torque N•m		Output Shaft Allowable Torque kgf•m		Output Shaft Allowable O.H.L		Page, Diagram No. of the Outer Dimension Diagram, Round Weight 3-Phase	
				50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	N	kgf	H2LE	H2FE
3-phase 0.2kW	22	1/ 5	1/ 5	300	360	5.7	4.8	0.58	0.49	588	60	P.B52 Fig.B-50 9.5kg	P.B53 Fig.B-52 9.5kg
		1/ 10	1/ 10	150	180	12	9.5	1.2	0.97	931	95		
		1/ 15	1/ 15	100	120	18	15	1.8	1.5	1030	105		
		1/ 20	1/ 20	75	90	23	19	2.3	1.9	1180	120		
		1/ 25	1/ 25	60	72	28	24	2.9	2.4	1270	130		
		1/ 30	1/ 30	50	60	34	28	3.5	2.9	1370	140		
		1/ 40	1/ 40	37.5	45	46	38	4.7	3.9	1570	160		
		1/ 50	1/ 50	30	36	57	48	5.8	4.9	1720	175		
		1/ 60	1/ 59	25	30	69	57	7	5.8	1810	185		
	28	1/ 80	1/ 80	18.8	22.5	88	74	9	7.5	2450	250	P.B52 Fig.B-51 11.5kg	
		1/100	1/100	15	18	111	92	11.3	9.4	2650	270		
		1/120	1/120	12.5	15	133	111	13.6	11.3	2740	280		
		1/160	1/160	9.4	11.2	177	148	18.1	15.1	2840	290		
		1/200	1/200	7.5	9	221	184	22.6	18.8	2840	290		
		1/240	1/236	6.3	7.5	245	221	25	22.6	2840	290		

Note) The allowable O.H.L indicated are the values in the central position of the output shaft.

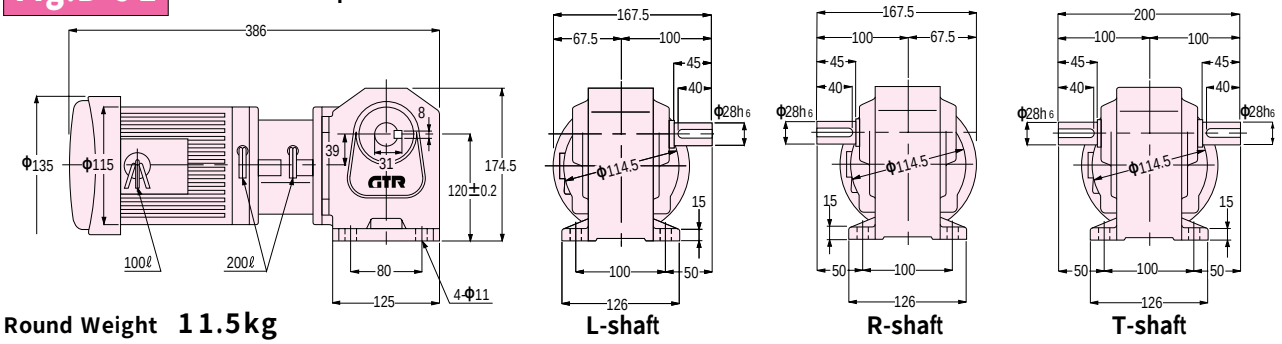
Foot Mount Type

Fig.B-50 H2LE-22□-5～60-T020 CAD Data: H2LE-22(LRT)-T020



Round Weight 9.5kg

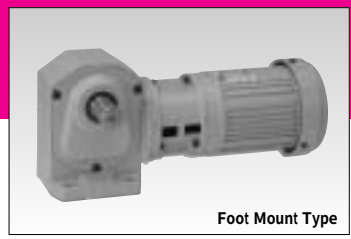
Fig.B-51 H2LE-28□-80～240-T020 CAD Data: H2LE-28(LRT)-T020

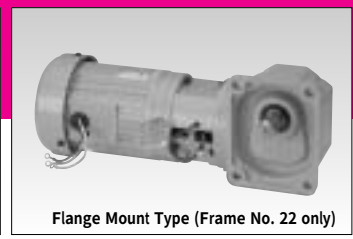


Round Weight 11.5kg

Model Code P.B48
Option P.E78～E79

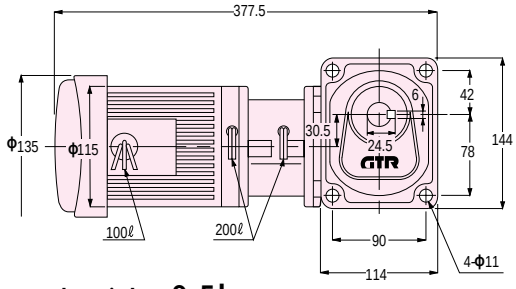
Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

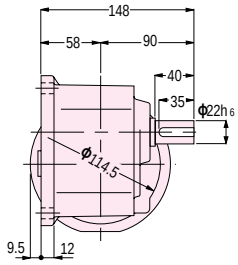

Foot Mount Type


Flange Mount Type (Frame No. 22 only)

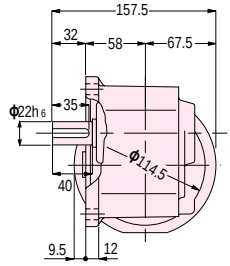
Flange Mount Type

Fig.B-52 **H2FE-22ᴷ-5〜60-T020** CAD Data: H2FE-22(LRT)-T020

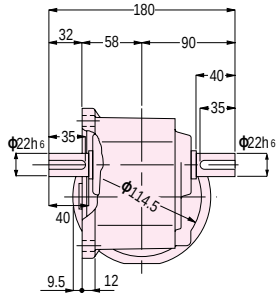




L-shaft



R-shaft



T-shaft

Round Weight 9.5kg

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Gearmotor with Clutch and Brake

H2 Series 3-Phase 0.4kW

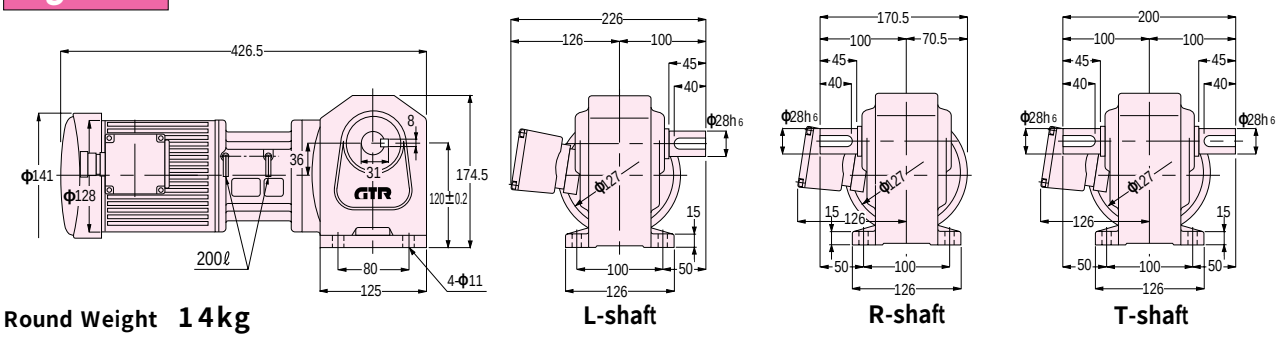
Motor Specs. Standard Voltage (Continuous Rated 4 Poles)	Capacity	Motor Capacity Designation	Frequency (Hz)	Voltage (V)	Rated Current (A)	Rated Rotation Speed (rpm)	Insulation Classification	Protective Cooling system
	0.4kW	T040	50/60/60	200/200/220	2.1/1.8/1.8	1410/1690/1710	B	Totally Enclosed fan-cooled

Motor Capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio (Fraction)	Output Shaft Rotation Speed (rpm)		Output Shaft Allowable Torque N•m		Output Shaft Allowable Torque kgf•m		Output Shaft Allowable O.H.L		Page, Diagram No. of the Outer Dimension Diagram, Round Weight 3-Phase
				50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	N	kgf	H2LE
3-phase 0.4kW	28	1/ 5	1/ 5	300	360	12	9.5	1.2	0.97	931	95	P.B54 Fig.B-53 14kg
		1/ 10	1/ 10	150	180	23	19	2.3	1.9	1470	150	
		1/ 15	1/ 15	100	120	34	28	3.5	2.9	1670	170	
		1/ 20	1/ 20	75	90	46	38	4.7	3.9	1860	190	
		1/ 25	1/ 25	60	72	57	48	5.8	4.9	2010	205	
		1/ 30	1/ 30	50	60	69	57	7	5.8	2210	225	
		1/ 40	1/ 40	37.5	45	92	76	9.4	7.8	2450	250	
		1/ 50	1/ 50	30	36	115	95	11.7	9.7	2650	270	
		1/ 60	1/ 59	25	30	137	115	14	11.7	2740	280	
	32	1/ 80	1/ 80	18.8	22.5	177	148	18.1	15.1	3430	350	P.B54 Fig.B-54 17kg
		1/100	1/100	15	18	221	184	22.6	18.8	3820	390	
		1/120	1/120	12.5	15	266	221	27.1	22.6	4120	420	
		1/160	1/160	9.4	11.2	355	295	36.2	30.1	4120	420	
		1/200	1/200	7.5	9	431	369	44	37.7	4120	420	
		∗1/240	1/236	6.3	7.5	431	431	44	44	4120	420	

Note) The allowable O.H.L indicated are the values in the central position of the output shaft.
The models marked with ∗ are limited torque type. Be sure to refer to the allowable torque in the Performance Table.

Foot Mount Type

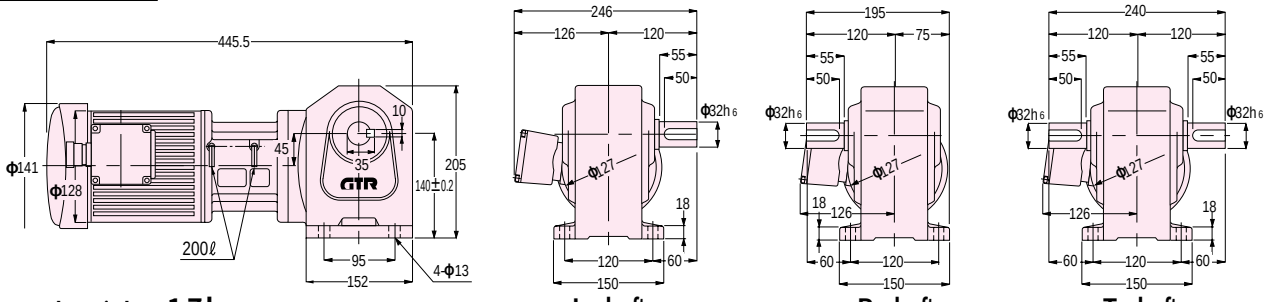
Fig.B-53 H2LE-28□-5～60-T040A CAD Data: H2LE-28(LRT)-T040A



Round Weight 14kg

L-shaft R-shaft T-shaft

Fig.B-54 H2LE-32□-80～240-T040A CAD Data: H2LE-32(LRT)-T040A



Round Weight 17kg

L-shaft R-shaft T-shaft

Model Code P.B48 | Option P.E78～E79

H2 Series 3-Phase 0.75kW

Foot Mount Type

Motor Specs. Standard Voltage (Continuous Rated 4 Poles)	Capacity	Motor Capacity Designation	Frequency (Hz)	Voltage (V)	Rated Current (A)	Rated Rotation Speed (rpm)	Insulation Classification	Protective Cooling system
	0.75kW	075	50/60/60	200/200/220	3.7/3.3/3.2	1430/1720/1730	B	Totally Enclosed fan-cooled

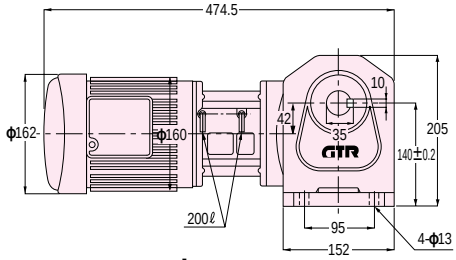
Motor Capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio (Fraction)	Output Shaft Rotation Speed (rpm)		Output Shaft Allowable Torque N•m		Output Shaft Allowable Torque kgf•m		Output Shaft Allowable O.H.L		Page, Diagram No. of the Outer Dimension Diagram, Round Weight 3-Phase
				50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	N	kgf	H2LE
3-phase 0.75kW	32	1/ 5	1/ 5	300	360	22	18	2.2	1.8	1520	155	P.B55 Fig.B-55 21kg
		1/ 10	1/ 10	150	180	43	36	4.4	3.7	2010	205	
		1/ 15	1/ 15	100	120	65	54	6.6	5.5	2210	225	
		1/ 20	1/ 20	75	90	86	72	8.8	7.3	2450	250	
		1/ 25	1/ 25	60	72	108	89	11	9.1	2740	280	
		1/ 30	1/ 30	50	60	128	107	13.1	11	2940	300	
		1/ 40	1/ 40	37.5	45	172	143	17.5	14.6	3430	350	
		1/ 50	1/ 50	30	36	215	179	21.9	18.3	3820	390	
		1/ 60	1/ 59	25	30	258	215	26.3	21.9	4120	420	
	40	1/ 80	1/ 80	18.8	22.5	332	277	33.9	28.3	5780	590	P.B55 Fig.B-56 29.5kg
		1/100	1/100	15	18	416	346	42.4	35.3	6080	620	
		1/120	1/120	12.5	15	498	415	50.8	42.4	6270	640	
		1/160	1/160	9.4	11.2	664	554	67.8	56.5	6470	660	
		1/200	1/200	7.5	9	764	692	78	70.6	6660	680	
		※1/240	1/240	6.3	7.5	764	764	78	78	6660	680	

Note) The allowable O.H.L indicated are the values in the central position of the output shaft.
The models marked with ＊are limited torque type. Be sure to refer to the allowable torque in the Performance Table.

Foot Mount Type

Fig.B-55 H2LE-32[L/R]-5～60-075

CAD Data: H2LE-32(LRT)-075



Round Weight 21kg

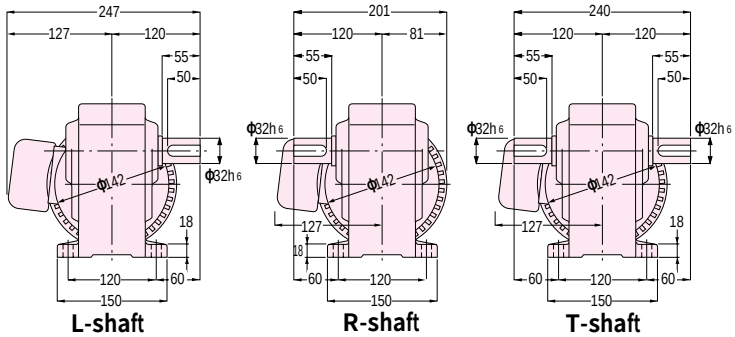
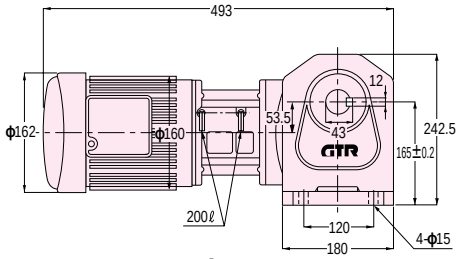
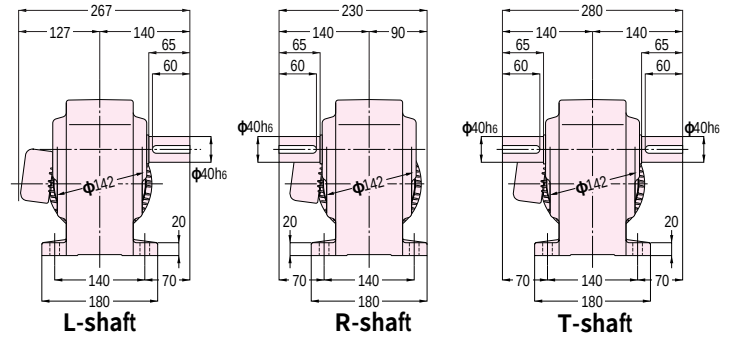


Fig.B-56 H2LE-40[L/R]-80～240-075

CAD Data: H2LE-40(LRT)-075



Round Weight 29.5kg



Model Code P.B48
Option P.E78～E79

GTR Gearmotor

Right Angle Shaft

Reducer (Double Shaft Type)

Model • Type Designation Standard Model Lineup

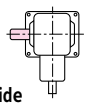
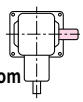
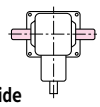
H2 Series

The capacity of 4P equivalent motor		Equivalent of 0.2kW～2.2kW
Speed Reduction Part	Reduction Method	Hypoid gear and Helical gear
	Lubrication	Grease Lubrication(Maintenance Free)
	Output Shaft	New JIS Key(JIS 1301-1976 class)
	Output Shaft Material	S43C
	Case Material	Aluminium die-cast(Frame No.50: Cast iron, 1.5kW Frame No.40: Cast aluminium)
Ambient Conditions	Ambient Temperature	−10°C～40°C
	Ambient Humidity	85%max.(without any dew condensation)
	Altitude	1,000m max.
	Environment	Well ventilated place free from corrosive gas, explosive gas vapor and/or dust.
	Installation Location	Indoors
Painting	Painting Method	Anion painting, Acrylic paint
	Painting Color	Grey(Mansel code: 9B6/0.5)
Mounting Direction		No restriction in the mounting angle.(horizontally, vertically or heeling angle)

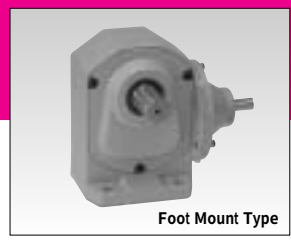
Model and Type Designation G3 Series (Right Angle Shaft)

H2 series Reducer(Double Shaft Type) are classified by codes as shown below.
Specify these codes in your inquiry and order.

Type			Frame Number	Shaft Arrangement	Reduction Ratio	Motor Capacity	Option		Auxiliary Code	Spec. Code
H2	L		32	L	200	040				
H2	F		22	T	50	020			X	
①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪

①Series Name	H2 : H2 Series (Right Angle Shaft)		
②Classification by Mount Form	L : Leg Mount		
	F : Foot Mount (Frame No. 22 only)		
③Classification by Motor Type	S : Without motor (Double Shaft)		
④Frame Number and Diameter of Output Shaft Diameter of Output Shaft	Diameter of Output Shaft		
⑤Shaft Arrangement	L: Output shaft on the left viewing from Input shaft side 	R: Output shaft on the right viewing from Input shaft side 	T: Output shaft on both side viewing from Input shaft side 
⑥Reduction Ratio	5 : 1／5 ～ 1500 : 1／1500		
⑦Motor Type and Capacity	020 : equiv 0.2kW		
	040 : equiv 0.4kW		
	075 : equiv 0.75kW		
	150 : equiv 1.5kW		
	220 : equiv 2.2kW		
⑧⑨Option	N/A		
⑩Auxiliary Code	Blank : Standard voltage		
	X : Code to identify additional special specs.		
⑪Specification Code Note: Spec. code does not appear on the product type designation in the nameplate. It is indicated on the additional number column in the nameplate.	Blank : Standard voltage		

Standard Model Lineup


Foot Mount Type

Flange Mount Type (Frame No. 22 only)

Type	Equivalent of 4P motor capacity	Frame Number	Output Shaft Arrangement	Reduction Ratio
Reducer (Double Shaft Type) H2L	3-Phase 0.2kW / 1-Phase 200W	22 (Note 1)	L R T	1/5 1/10 1/15 1/20 1/25 1/30 1/40 1/50 1/60
		28	L R T	1/80 1/100 1/120 1/160 1/200 1/240
		32	L R T	1/300 1/375 1/450
		40	L R T	1/600 1/750 1/900 1/1200 1/1500
	3-Phase 0.4kW / 1-Phase 400W	28	L R T	1/5 1/10 1/15 1/20 1/25 1/30 1/40 1/50 1/60
		32	L R T	1/80 1/100 1/120 1/160 1/200 1/240
		40	L R T	1/300 1/375 1/450
		50	L R T	1/600 1/750 1/900 1/1200 1/1500
	3-Phase 0.75kW	32	L R T	1/5 1/10 1/15 1/20 1/25 1/30 1/40 1/50 1/60
		40	L R T	1/80 1/100 1/120 1/160 1/200 1/240
		50	L R T	1/300 1/375 1/450
	3-Phase 1.5kW	40	L R T	1/5 1/10 1/15 1/20 1/25 1/30 1/40 1/50 1/60
		50	L R T	1/80 1/100 1/120 1/160 1/200 1/240
	3-Phase 2.2kW	50	L R T	1/5 1/10 1/15 1/20 1/25 1/30 1/40 1/50 1/60 1/80 1/100 1/120

Note 1) Flange mounted type (H2F) is also available only in the Frame Number 22.
2) The models enclosed with ▭ are limited torque type.
Be sure to check allowable torque in the performance table.

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

GTR Gearmotor

Right Angle Shaft

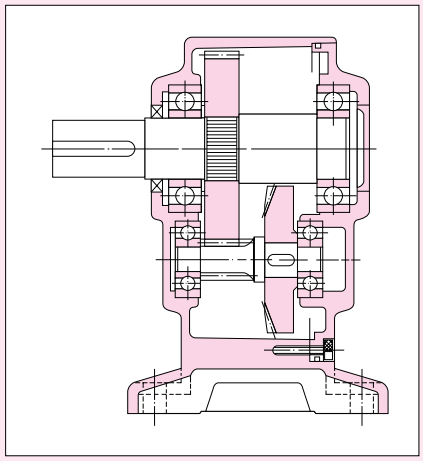
Reducer (Double Shaft Type)

Performance Table
Dimension diagram

H2 Series

【Remarks】

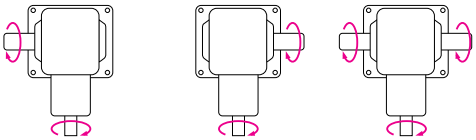
- The corresponding motor capacities are the values when using 4-pole motor.
- The direction of rotation of the output shaft against the same of the output/input shaft are shown in the diagram below.



Relation between shaft arrangement and rotation direction

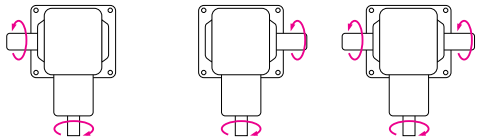
The rotation directions shown by arrow just show the rotation in input/output shaft, and do not limit the rotation direction.

Capacity	Reduction Ratio
0.2 kW	1/5～1/60 and 1/600～1/1500
0.4・0.75kW	1/5～1/60 and 1/300～1/1500
1.5・2.2 kW	1/5～1/30 and 1/300～1/450



L-shaft R-shaft T-shaft

Capacity	Reduction Ratio
0.2 kW	1/80～1/450
0.4・0.75kW	1/80～1/240
1.5・2.2 kW	1/40～1/240



L-shaft R-shaft T-shaft

Reducer (Double Shaft Type)

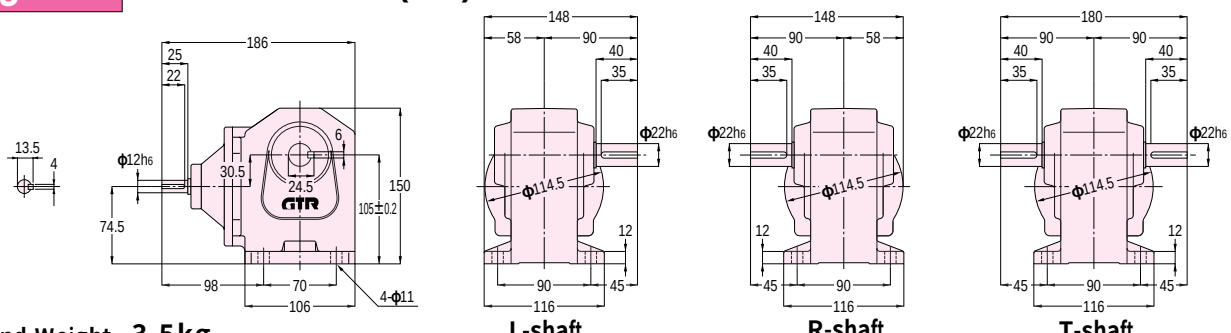
H2 Series equiv 0.2kW

Equivalent 4P motor capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio	Output Shaft Allowable Torque (1500rpm)		Allowable O.H.L				Page, Diagram No. of the Outer Dimension Diagram, Round Weight	
						N		kgf			
				N·m	kgf·m	Input Shaft	Output Shaft	Input Shaft	Output Shaft	H2L	H2F
0.2kW	22	1/ 5	1/ 5	5.7	0.58	245	588	25	60	P.B62 Fig.B-57 3.5kg	P.B63 Fig.B-61 3.5kg
		1/ 10	1/ 10	12	1.2		931		95		
		1/ 15	1/ 15	18	1.8		1030		105		
		1/ 20	1/ 20	23	2.3		1180		120		
		1/ 25	1/ 25	28	2.9		1270		130		
		1/ 30	1/ 30	34	3.5		1370		140		
		1/ 40	1/ 40	46	4.7		1570		160		
		1/ 50	1/ 50	57	5.8		1720		175		
		1/ 60	1/ 59	69	7		1810		185		
	28	1/ 80	1/ 80	88	9	245	2450	25	250	P.B63 Fig.B-58 5.5kg	
		1/ 100	1/ 100	111	11.3		2650		270		
		1/ 120	1/ 120	133	13.6		2740		280		
		1/ 160	1/ 160	177	18.1		2840		290		
		1/ 200	1/ 200	221	22.6		2840		290		
		1/ 240	1/ 236	245	25		2840		290		
	32	1/ 300	7/ 2120	294	30	245	3820	25	390	P.B63 Fig.B-59 9.5kg	
		1/ 375	7/ 2650	368	37.5		4120		420		
		1/ 450	7/ 3127	431	44		4120		420		
	40	1/ 600	7/ 4240	588	60	245	6760	25	690	P.B63 Fig.B-60 18kg	
		1/ 750	7/ 5300	735	75		6760		690		
		1/ 900	7/ 6360	764	78		6760		690		
		＊1/1200	7/ 8480	764	78		6760		690		
		＊1/1500	7/10600	764	78		6760		690		

Note) The allowable O.H.L indicated are the values in the central position of the output shaft.
The models marked with ＊ are limited torque type. Be sure to refer to the allowable torque in the Performance Table.

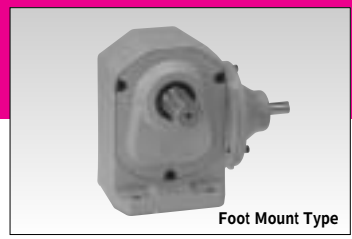
Foot Mount Type

Fig.B-57 H2L-22[L/R]-5～60- (020) CAD Data: H2L-22(LRT)-020



Round Weight 3.5kg

Model Code P.B58
Detailed Dimension Diagram of Input Shaft P.E49
Option P.E78


Foot Mount Type

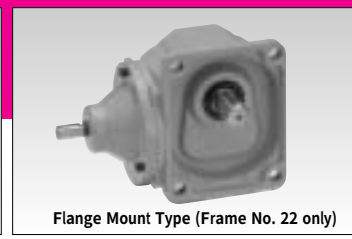
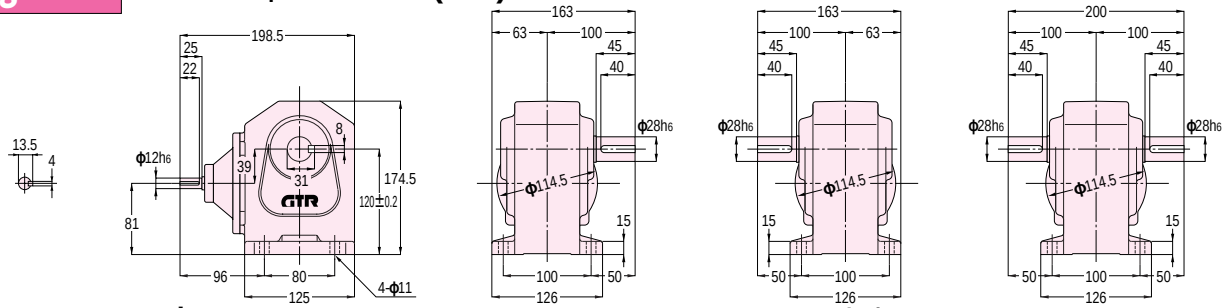

Flange Mount Type (Frame No. 22 only)

Fig.B-58 H2L-28[L/R]-80～240- (020)

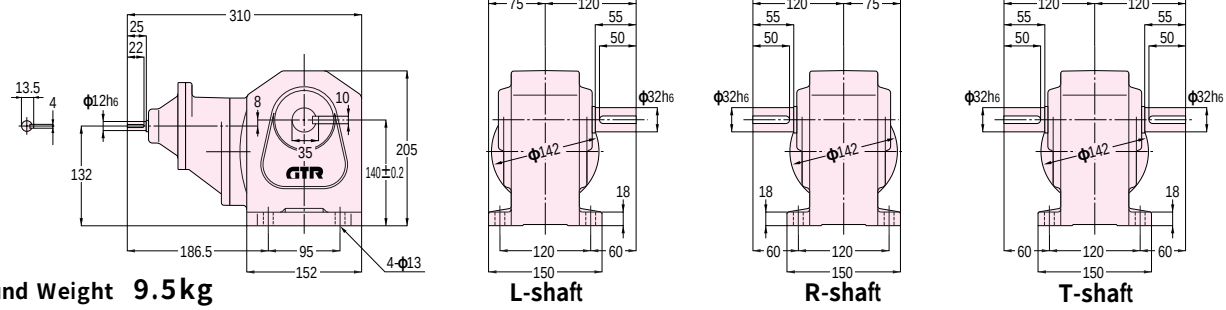
CAD Data: H2L-28(LRT)-020



Round Weight 5.5kg

Fig.B-59 H2L-32[L/R]-300～450- (020)

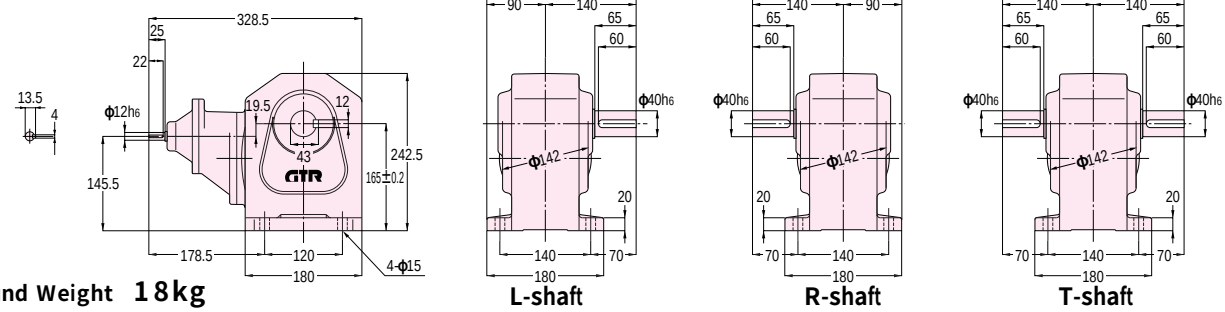
CAD Data: H2L-32(LRT)-020



Round Weight 9.5kg

Fig.B-60 H2L-40[L/R]-600～1500- (020)

CAD Data: H2L-40(LRT)-020

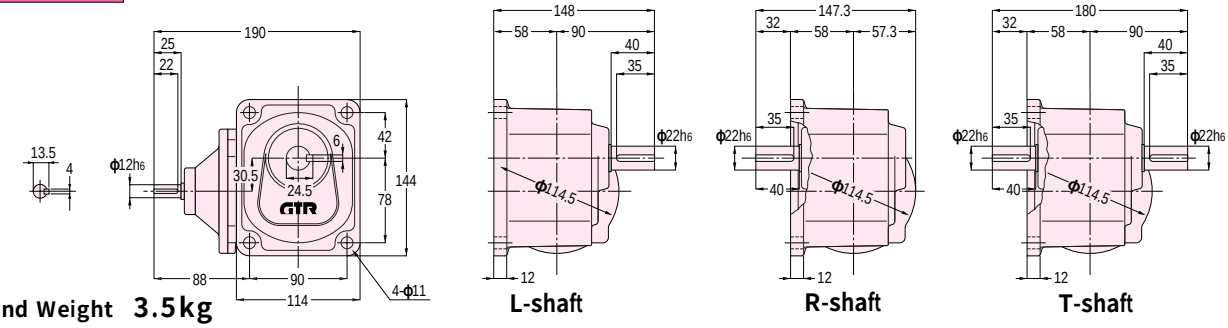


Round Weight 18kg

Flange Mount Type

Fig.B-61 H2F-22[L/R]-5～60- (020)

CAD Data: H2F-22(LRT)-020



Round Weight 3.5kg

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Reducer (Double Shaft Type)

H2 Series equiv 0.4kW

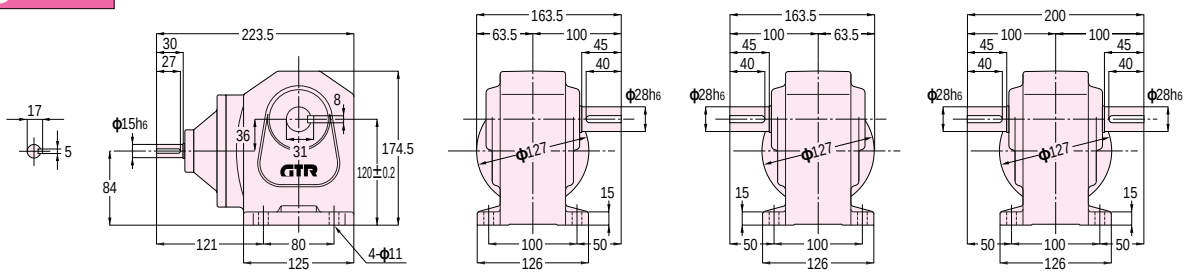
Equivalent 4P motor capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio	Output Shaft Allowable Torque (1500rpm)		Allowable O.H.L				Page, Diagram No. of the Outer Dimension Diagram, Round Weight
						N		kgf		
				N•m	kgf•m	Input Shaft	Output Shaft	Input Shaft	Output Shaft	H2L
0.4kW	28	1/ 5	1/ 5	12	1.2	294	931	30	95	P.B64 Fig.B-62 5.5kg
		1/ 10	1/ 10	23	2.3		1470		150	
		1/ 15	1/ 15	34	3.5		1670		170	
		1/ 20	1/ 20	46	4.7		1860		190	
		1/ 25	1/ 25	57	5.8		2010		205	
		1/ 30	1/ 30	69	7		2210		225	
		1/ 40	1/ 40	92	9.4		2450		250	
		1/ 50	1/ 50	115	11.7		2650		270	
		1/ 60	1/ 59	137	14		2740		280	
	32	1/ 80	1/ 80	177	18.1	294	3430	30	350	P.B65 Fig.B-63 8.5kg
		1/ 100	1/ 100	221	22.6		3820		390	
		1/ 120	1/ 120	266	27.1		4120		420	
		1/ 160	1/ 160	355	36.2		4120		420	
		1/ 200	1/ 200	431	44		4120		420	
		＊1/ 240	1/ 236	431	44		4120		420	
	40	1/ 300	7/ 2080	572	58.4	294	6760	30	690	P.B65 Fig.B-64 19kg
		1/ 375	7/ 2600	715	73		6760		690	
		＊1/ 450	7/ 3120	764	78		6760		690	
	50	1/ 600	21/12220	1150	116.9	294	9510	30	970	P.B65 Fig.B-65 48.5kg
		＊1/ 750	1/ 728	1230	125		9510		970	
		＊1/ 900	7/ 6240	1230	125		9510		970	
		＊1/1200	21/24440	1230	125		9510		970	
		＊1/1500	1/ 1456	1230	125		9510		970	

Note) The allowable O.H.L indicated are the values in the central position of the output shaft.
The models marked with ＊ are limited torque type. Be sure to refer to the allowable torque in the Performance Table.

Foot Mount Type

Fig.B-62

H2L-28$^{L}_{R}$-5～60- (040) CAD Data: H2L-28 (LRT) -040

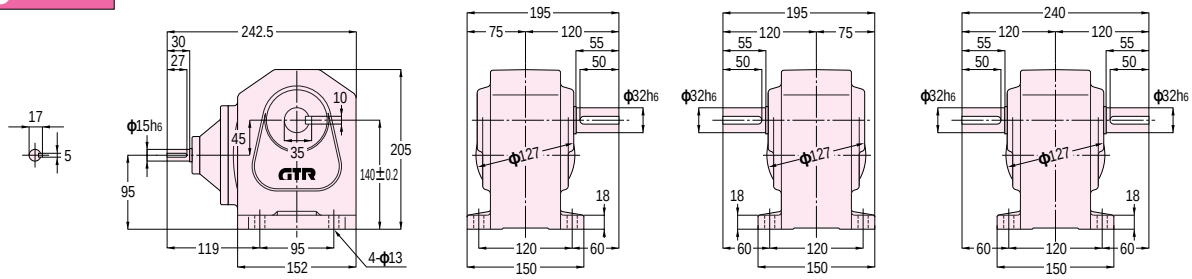


Round Weight 5.5kg

L-shaft R-shaft T-shaft

Fig.B-63

H2L-32$^{L}_{R}$-80～240- (040) CAD Data: H2L-32 (LRT) -040



Round Weight 8.5kg

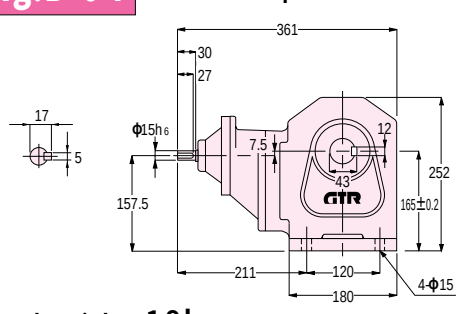
L-shaft R-shaft T-shaft

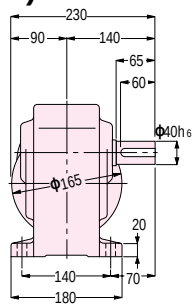
Model Code P.B58
Detailed Dimension Diagram of Input Shaft P.E49
Option P.E78

Foot Mount Type

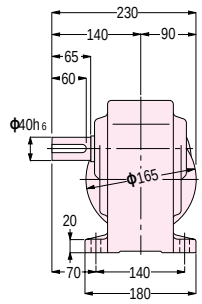
Fig.B-64 H2L-40[LRT]-300～450- (040)

CAD Data: H2L-40 (LRT) -040

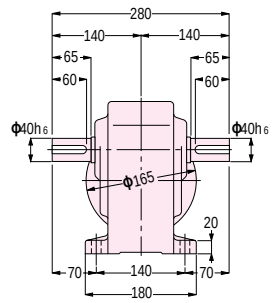




L-shaft



R-shaft

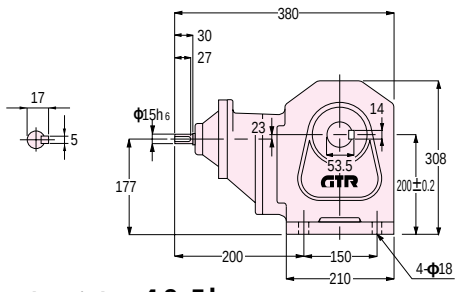


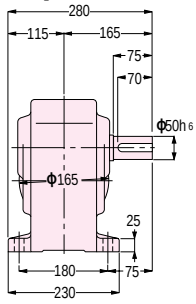
T-shaft

Round Weight 19kg

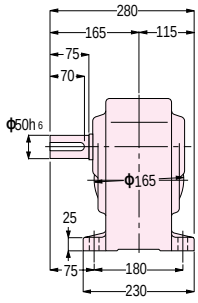
Fig.B-65 H2L-50[LRT]-600～1500- (040)

CAD Data: H2L-50 (LRT) -040

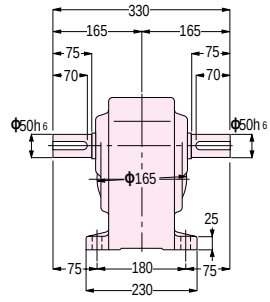




L-shaft



R-shaft



T-shaft

Round Weight 48.5kg

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Reducer (Double Shaft Type)

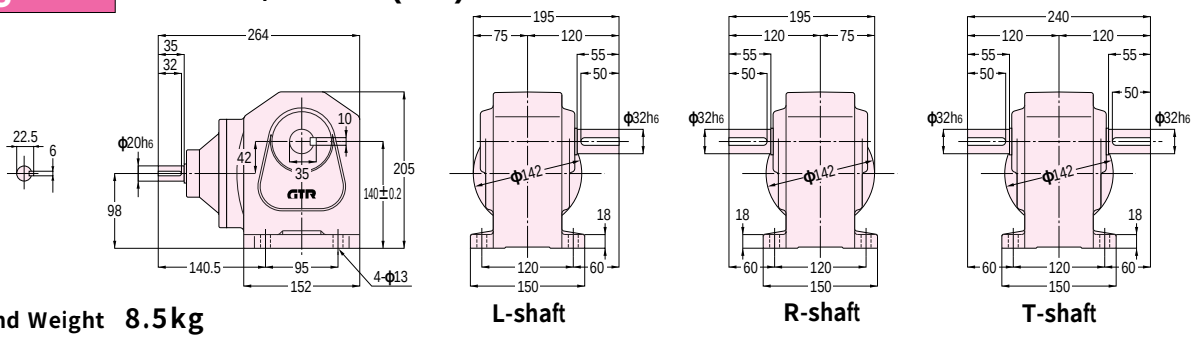
H2 Series equiv 0.75kW

Equivalent 4P motor capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio	Output Shaft Allowable Torque (1500rpm)		Allowable O.H.L				Page, Diagram No. of the Outer Dimension Diagram, Round Weight
						N		kgf		
				N·m	kgf·m	Input Shaft	Output Shaft	Input Shaft	Output Shaft	H2L
0.75kW	32	1/ 5	1/ 5	22	2.2	392	1520	40	155	P.B66 Fig.B-66 8.5kg
		1/ 10	1/ 10	43	4.4		2010		205	
		1/ 15	1/ 15	65	6.6		2210		225	
		1/ 20	1/ 20	86	8.8		2450		250	
		1/ 25	1/ 25	108	11		2740		280	
		1/ 30	1/ 30	128	13.1		2940		300	
		1/ 40	1/ 40	172	17.5		3430		350	
		1/ 50	1/ 50	215	21.9		3820		390	
		1/ 60	1/ 59	258	26.3		4120		420	
	40	1/ 80	1/ 80	332	33.9	392	5780	40	590	P.B66 Fig.B-67 17kg
		1/100	1/ 100	416	42.4		6080		620	
		1/120	1/ 120	498	50.8		6270		640	
		1/160	1/ 160	664	67.8		6470		660	
		1/200	1/ 200	764	78		6660		680	
		∗1/240	1/ 240	764	78		6660		680	
	50	1/300	7/2120	1070	109.6	392	7740	40	790	P.B67 Fig.B-68 49.5kg
		∗1/375	7/2650	1230	125		8040		820	
		∗1/450	7/3180	1230	125		8530		820	

Note) The allowable O.H.L indicated are the values in the central position of the output shaft.
The models marked with ∗ are limited torque type. Be sure to refer to the allowable torque in the Performance Table.

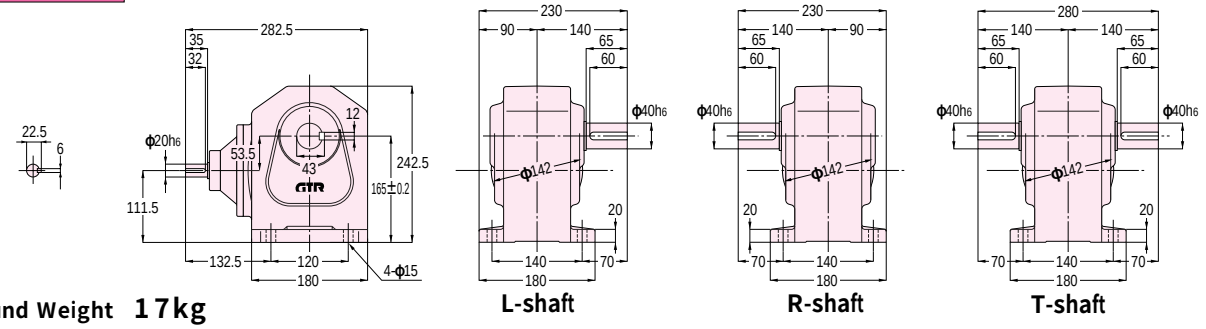
Foot Mount Type

Fig.B-66 H2L-32[L/R/T]-5～60- (075) CAD Data: H2L-32 (LRT) -075



Round Weight 8.5kg

Fig.B-67 H2L-40[L/R/T]-80～240- (075) CAD Data: H2L-40 (LRT) -075



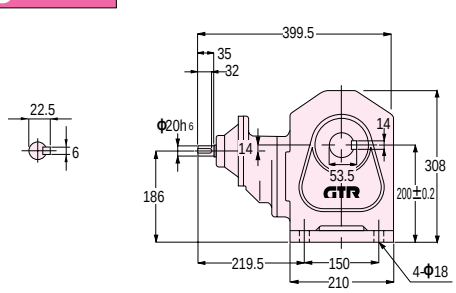
Round Weight 17kg

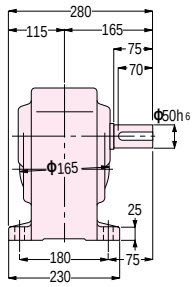
Model Code P.B58
Detailed Dimension Diagram of Input Shaft P.E49
Option P.E78

Foot Mount Type

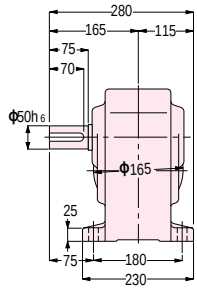
Fig.B-68 H2L-50[L/R]-300～450- (075)

CAD Data: H2L-50(LRT)-075

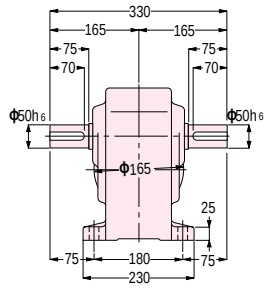




L-shaft



R-shaft



T-shaft

Round Weight 49.5kg

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Reducer (Double Shaft Type)

H2 Series equiv 1.5kW

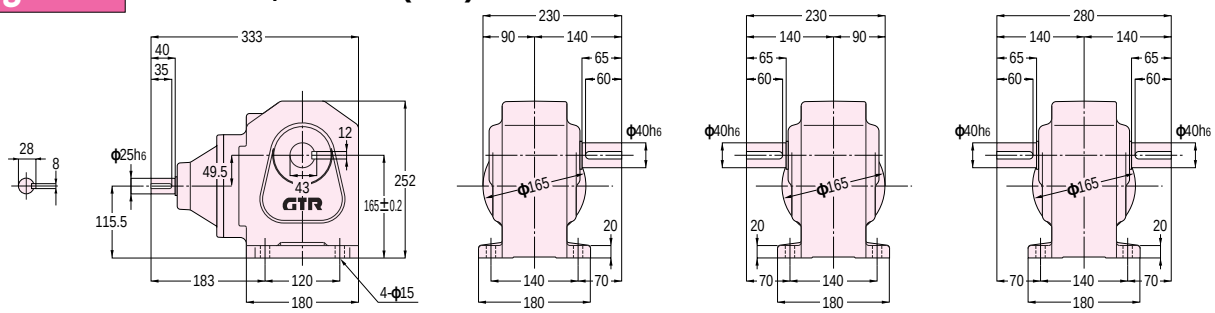
Equivalent 4P motor capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio	Output Shaft Allowable Torque (1500rpm)		Allowable O.H.L				Page, Diagram No. of the Outer Dimension Diagram, Round Weight
						N		kgf		
				N•m	kgf•m	Input Shaft	Output Shaft	Input Shaft	Output Shaft	H2L
1.5kW	40	1/ 5	1/ 5	43	4.4	392	2650	40	270	P.B68 Fig.B-69 17.5kg
		1/ 10	1/ 10	86	8.8		3530		360	
		1/ 15	1/ 15	128	13.1		4410		450	
		1/ 20	1/ 20	172	17.5		4700		480	
		1/ 25	1/ 25	215	21.9		5100		520	
		1/ 30	1/ 30	258	26.3		5290		540	
		1/ 40	1/ 40	344	35.1		5590		570	
		1/ 50	1/ 50	429	43.8		5880		600	
		1/ 60	1/ 60	515	52.6		6080		620	
	50	1/ 80	3/235	664	67.8	392	8530	40	870	P.B68 Fig.B-70 47kg
		1/100	1/ 98	830	84.7		8820		900	
		1/120	1/120	1000	102		9020		920	
		1/160	3/470	1230	125		9310		950	
		∗1/200	1/196	1230	125		9510		970	
		∗1/240	1/240	1230	125		9510		970	

Note) The allowable O.H.L indicated are the values in the central position of the output shaft.
The models marked with ∗ are limited torque type. Be sure to refer to the allowable torque in the Performance Table.

Foot Mount Type

Fig.B-69

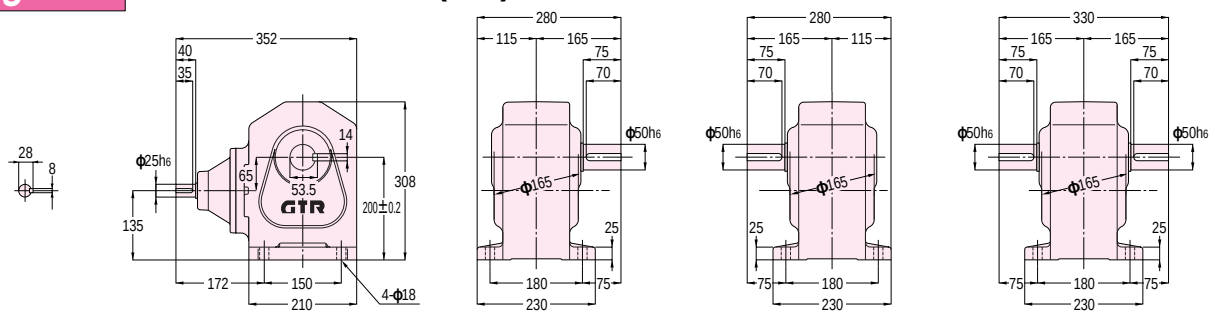
H2L-40$^{L}_{R}$-5〜60- (150) CAD Data: H2L-40 (LRT) -150



Round Weight 17.5kg

Fig.B-70

H2L-50$^{L}_{R}$-80〜240- (150) CAD Data: H2L-50 (LRT) -150



Round Weight 47kg

Model Code P.B58
Detailed Dimension Diagram of Input Shaft P.E49
Option P.E78

H2 Series equiv 2.2kW

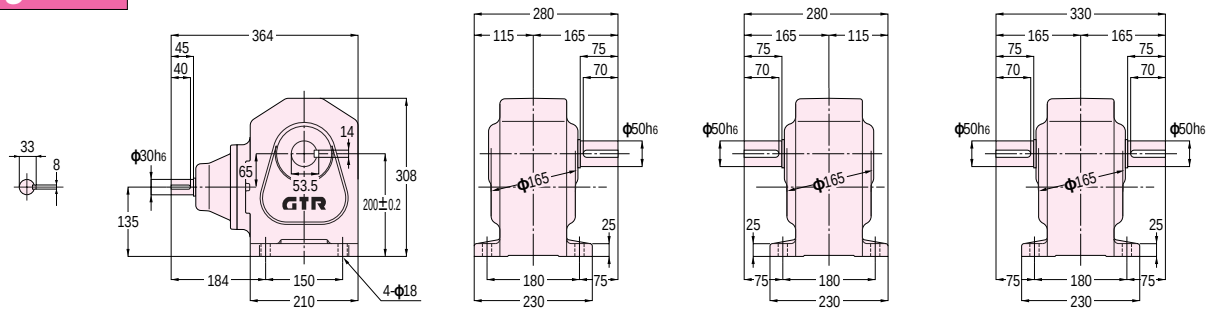
Foot Mount Type

Equivalent 4P motor capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio	Output Shaft Allowable Torque (1500rpm)		Allowable O.H.L				Page, Diagram No. of the Outer Dimension Diagram, Round Weight
						N		kgf		
				N•m	kgf•m	Input Shaft	Output Shaft	Input Shaft	Output Shaft	H2L
2.2kW	50	1/ 5	1/ 5	63	6.4	392	3920	40	400	P.B69 Fig.B-71 47.5kg
		1/ 10	1/ 10	126	12.9		4410		450	
		1/ 15	1/ 15	189	19.3		4900		500	
		1/ 20	12/235	252	25.7		5490		560	
		1/ 25	2/ 49	315	32.1		6080		620	
		1/ 30	1/ 30	378	38.6		6570		670	
		1/ 40	1/ 40	487	49.7		7060		720	
		1/ 50	1/ 50	609	62.1		7550		770	
		1/ 60	1/ 60	731	74.6		8130		830	
		1/ 80	3/235	974	99.4		8430		860	
		1/100	1/ 98	1220	124		8820		900	
		1/120	1/120	1230	125		8820		900	

Note) The allowable O.H.L indicated are the values in the central position of the output shaft.

Foot Mount Type

Fig.B-71 H2L-50[LRT]-5～120- (220) CAD Data: H2L-50(LRT)-220



Round Weight 47.5kg

L-shaft R-shaft T-shaft

Model Code P.B58
Detailed Dimension Diagram of Input Shaft P.E49
Option P.E78

Right Angle Shaft

S-Type Reducer
(Designated Motor Attachable Type)

Model • Type Designation
Standard Model Lineup

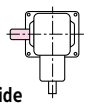
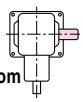
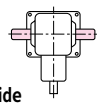
H2 Series

The capacity of 4P equivalent motor		Equivalent of 0.2kW～2.2kW
Speed Reduction Part	Reduction Method	Hypoid gear and Helical gear
	Lubrication	Grease Lubrication(Maintenance Free)
	Output Shaft	New JIS Key(JIS 1301-1976 class)
	Output Shaft Material	S43C
	Case Material	Aluminium die-cast(Frame No.50: Cast iron, 1.5kW Frame No.40: Cast aluminium)
Ambient Conditions	Ambient Temperature	−10℃～40℃
	Ambient Humidity	85%max.(without any dew condensation)
	Altitude	1,000m max.
	Environment	Well ventilated place free from corrosive gas, explosive gas vapor and/or dust.
	Installation Location	Indoors
Painting	Painting Method	Anion painting, Acrylic paint
	Painting Color	Grey(Mansel code: 9B6/0.5)
Mounting Direction		No restriction in the mounting angle.(horizontally, vertically or heeling angle)

Model and Type Designation G3 Series (Right Angle Shaft)

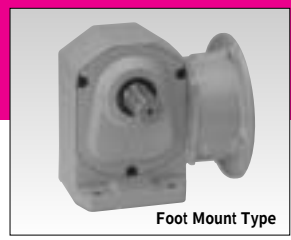
H2 Series S-Type Reducer are classified by codes as shown below.
Specify these codes in your inquiry and order.

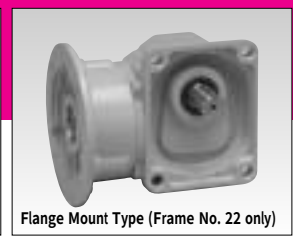
Type			Frame Number	Shaft Arrangement	Reduction Ratio	Motor Capacity	Auxiliary Code
H2	L	S	32	L	200	040	
H2	F	S	22	T	50	020	X
①	②	③	④	⑤	⑥	⑦	⑧

①Series Name	H2 : H2 Series (Right Angle Shaft)	
②Classification by Mount Form	L : Leg Mount	
	F : Foot Mount (Frame No. 22 only)	
③Classification by Motor Type	S : Designated motor attachable type (S-Type)	
④Frame Number and Diameter of Output Shaft Diameter of Output Shaft	Diameter of Output Shaft	
⑤Shaft Arrangement	L: Output shaft on the left viewing from Input shaft side 	R: Output shaft on the right viewing from Input shaft side 
	T: Output shaft on both side viewing from Input shaft side 	
⑥Reduction Ratio	5 : 1／5 ～ 1500 : 1／1500	
⑦Motor Type and Capacity	020 : equiv 0.2kW	
	040 : equiv 0.4kW	
	075 : equiv 0.75kW	
	150 : equiv 1.5kW	
	220 : equiv 2.2kW	
⑧Auxiliary Code	Blank : Standard voltage	
	X : Code to identify additional special specs.	

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Standard Model Lineup


Foot Mount Type


Flange Mount Type (Frame No. 22 only)

Type	Equivalent of 4P motor capacity	Frame Number	Output Shaft Arrangement	Reduction Ratio
S-Type Reducer H2LS	0.2kW	22 (Note 1)	L R T	1/5 1/10 1/15 1/20 1/25 1/30 1/40 1/50 1/60
		28	L R T	1/80 1/100 1/120 1/160 1/200 1/240
		32	L R T	1/300 1/375 1/450
		40	L R T	1/600 1/750 1/900 1/1200 1/1500
	0.4kW	28	L R T	1/5 1/10 1/15 1/20 1/25 1/30 1/40 1/50 1/60
		32	L R T	1/80 1/100 1/120 1/160 1/200 1/240
		40	L R T	1/300 1/375 1/450
		50	L R T	1/600 1/750 1/900 1/1200 1/1500
	0.75kW	32	L R T	1/5 1/10 1/15 1/20 1/25 1/30 1/40 1/50 1/60
		40	L R T	1/80 1/100 1/120 1/160 1/200 1/240
		50	L R T	1/300 1/375 1/450
	1.5kW	40	L R T	1/5 1/10 1/15 1/20 1/25 1/30 1/40 1/50 1/60
		50	L R T	1/80 1/100 1/120 1/160 1/200 1/240
	2.2kW	50	L R T	1/5 1/10 1/15 1/20 1/25 1/30 1/40 1/50 1/60 1/80 1/100 1/120

Note 1) Flange mounted type (H2F) is also available only in the Frame Number 22.
2) The models enclosed with ▭ are limited torque type.
Be sure to check allowable torque in the performance table.

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

GTR Gearmotor

Right Angle Shaft

S-Type Reducer

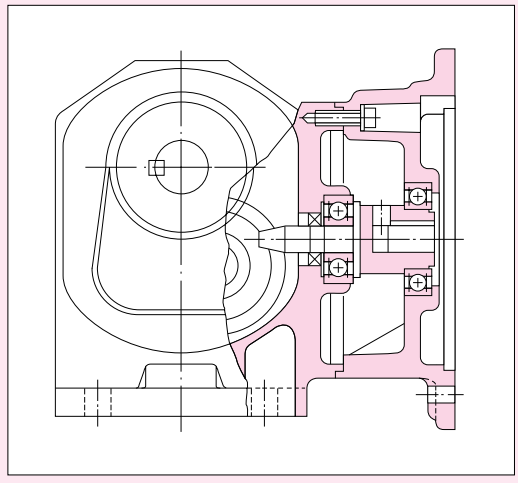
(Designated Motor Attachable Type)

Performance Table
Dimension diagram

H2 Series

【Remarks】

- Output Shaft allowable torques are the values when using 4-pole motor.
- In case of using with motors other than 4-pole motor, the output allowable torque can be obtained by multiplying the torque correction coefficient indicated in page E46, to the written value.
- The rotation direction of the output shaft against the same of the input /output shaft can be referred to on page B61.



Designated Motor Attachable Type

S-Type Reducer

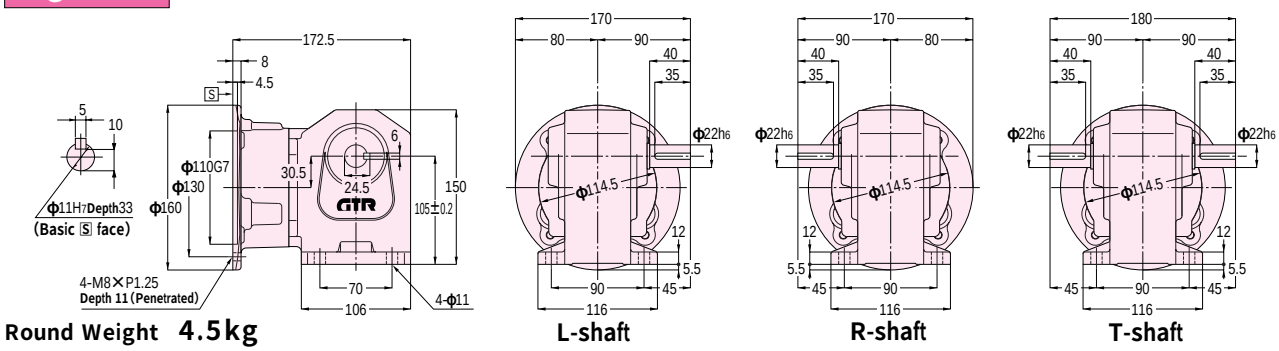
H2 Series equiv 0.2kW

Equivalent 4P motor capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio	Output Shaft Allowable Torque N•m 50Hz	Output Shaft Allowable Torque N•m 60Hz	Output Shaft Allowable Torque kgf•m 50Hz	Output Shaft Allowable Torque kgf•m 60Hz	Output Shaft Allowable O.H.L N	Output Shaft Allowable O.H.L kgf	Page, Diagram No. of the Outer Dimension Diagram, Round Weight H2LS	Page, Diagram No. of the Outer Dimension Diagram, Round Weight H2FS
0.2kW	22	1/ 5	1/ 5	5.7	4.8	0.58	0.49	588	60	P.B76 Fig.B-72 4.5kg	P.B77 Fig.B-76 4.5kg
		1/ 10	1/ 10	12	9.5	1.2	0.97	931	95		
		1/ 15	1/ 15	18	15	1.8	1.5	1030	105		
		1/ 20	1/ 20	23	19	2.3	1.9	1180	120		
		1/ 25	1/ 25	28	24	2.9	2.4	1270	130		
		1/ 30	1/ 30	34	28	3.5	2.9	1370	140		
		1/ 40	1/ 40	46	38	4.7	3.9	1570	160		
		1/ 50	1/ 50	57	48	5.8	4.9	1720	175		
		1/ 60	1/ 59	69	57	7	5.8	1810	185		
	28	1/ 80	1/ 80	88	74	9	7.5	2450	250	P.B77 Fig.B-73 6.5kg	
		1/ 100	1/ 100	111	92	11.3	9.4	2650	270		
		1/ 120	1/ 120	133	111	13.6	11.3	2740	280		
		1/ 160	1/ 160	177	148	18.1	15.1	2840	290		
		1/ 200	1/ 200	221	184	22.6	18.8	2840	290		
		1/ 240	1/ 236	245	221	25	22.6	2840	290		
	32	1/ 300	7/ 2120	294	245	30	25	3820	390	P.B77 Fig.B-74 10.5kg	
		1/ 375	7/ 2650	368	306	37.5	31.2	4120	420		
		1/ 450	7/ 3127	431	368	44	37.5	4120	420		
	40	1/ 600	7/ 4240	588	490	60	50	6760	690	P.B77 Fig.B-75 19kg	
		1/ 750	7/ 5300	735	613	75	62.5	6760	690		
		1/ 900	7/ 6360	764	735	78	75	6760	690		
		∗1/1200	7/ 8480	764	764	78	78	6760	690		
		∗1/1500	7/10600	764	764	78	78	6760	690		

Note) The allowable O.H.L indicated are the values in the central position of the output shaft.
The models marked with ∗ are limited torque type. Be sure to refer to the allowable torque in the Performance Table.

Foot Mount Type

Fig.B-72 H2LS-22[L/R]-5〜60- (020) CAD Data: H2LS-22(LRT)-020



Round Weight 4.5kg

Model Code P.B72
Detailed Dimension Diagram of Input Shaft P.E49
Option P.E78

Foot Mount Type

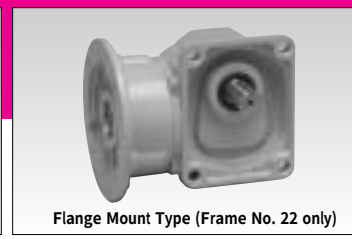
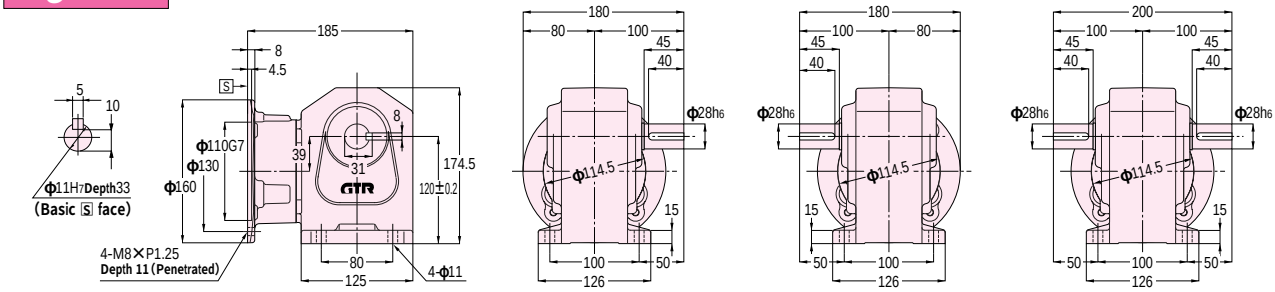
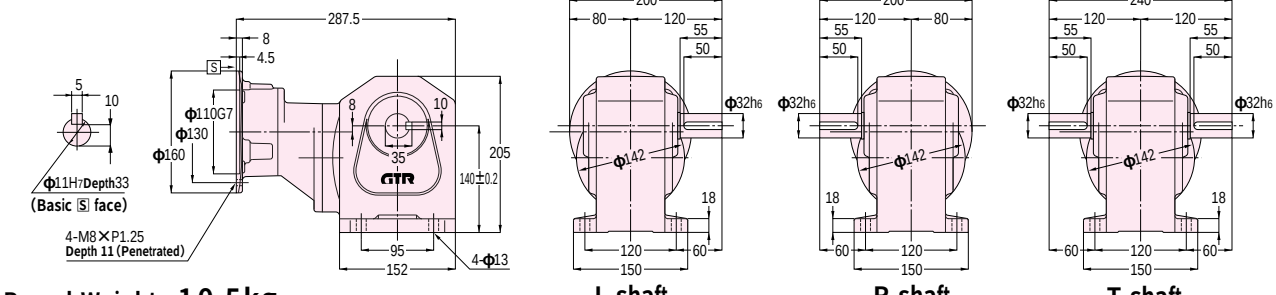

Flange Mount Type (Frame No. 22 only)

Fig.B-73 H2LS-28□-80～240- (020) CAD Data: H2LS-28 (LRT) -020



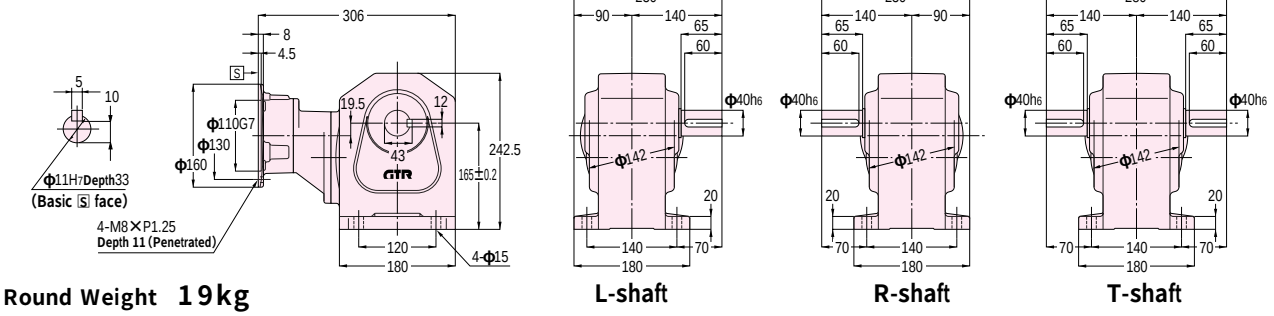
Round Weight 6.5kg

Fig.B-74 H2LS-32□-300～450- (020) CAD Data: H2LS-32 (LRT) -020



Round Weight 10.5kg

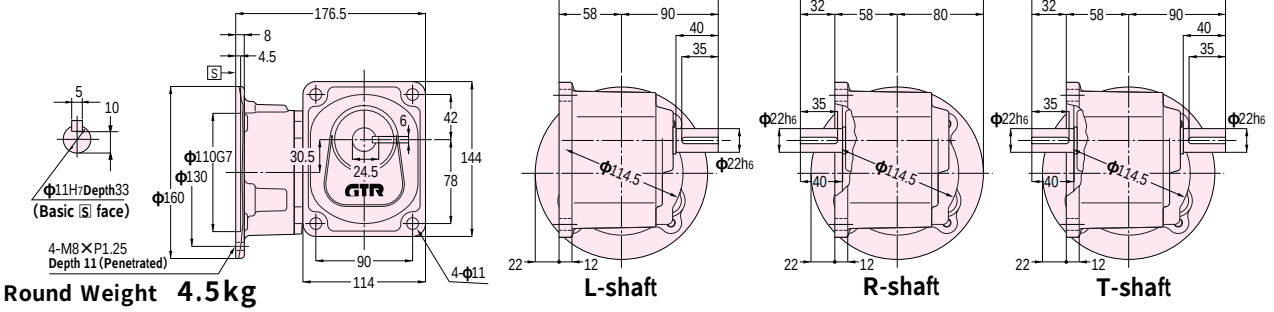
Fig.B-75 H2LS-40□-600～1500- (020) CAD Data: H2LS-40 (LRT) -020



Round Weight 19kg

Flange Mount Type

Fig.B-76 H2FS-22□-5～60- (020) CAD Data: H2FS-22 (LRT) -020



Round Weight 4.5kg

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Designated Motor Attachable Type

S-Type Reducer

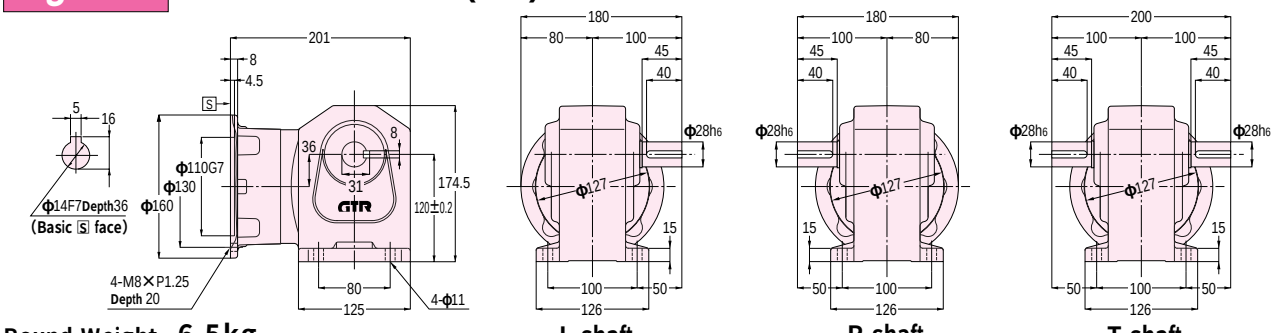
H2 Series equiv 0.4kW

Equivalent 4P motor capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio	Output Shaft Allowable Torque N•m 50Hz	Output Shaft Allowable Torque N•m 60Hz	Output Shaft Allowable Torque kgf•m 50Hz	Output Shaft Allowable Torque kgf•m 60Hz	Output Shaft Allowable O.H.L N	Output Shaft Allowable O.H.L kgf	Page, Diagram No. of the Outer Dimension Diagram, Round Weight H2LS
0.4kW	28	1/ 5	1/ 5	12	9.5	1.2	0.97	931	95	P.B78 Fig.B-77 6.5kg
		1/ 10	1/ 10	23	19	2.3	1.9	1470	150	
		1/ 15	1/ 15	34	28	3.5	2.9	1670	170	
		1/ 20	1/ 20	46	38	4.7	3.9	1860	190	
		1/ 25	1/ 25	57	48	5.8	4.9	2010	205	
		1/ 30	1/ 30	69	57	7	5.8	2210	225	
		1/ 40	1/ 40	92	76	9.4	7.8	2450	250	
		1/ 50	1/ 50	115	95	11.7	9.7	2650	270	
		1/ 60	1/ 59	137	115	14	11.7	2740	280	
	32	1/ 80	1/ 80	177	148	18.1	15.1	3430	350	P.B79 Fig.B-78 9.5kg
		1/ 100	1/ 100	221	184	22.6	18.8	3820	390	
		1/ 120	1/ 120	266	221	27.1	22.6	4120	420	
		1/ 160	1/ 160	355	295	36.2	30.1	4120	420	
		1/ 200	1/ 200	431	369	44	37.7	4120	420	
		∗1/ 240	1/ 236	431	431	44	44	4120	420	
	40	1/ 300	7/ 2080	572	477	58.4	48.7	6760	690	P.B79 Fig.B-79 20kg
		1/ 375	7/ 2600	715	597	73	60.9	6760	690	
		∗1/ 450	7/ 3120	764	715	78	73	6760	690	
	50	1/ 600	21/12220	1150	955	116.9	97.4	9510	970	P.B79 Fig.B-80 49.5kg
		∗1/ 750	1/ 728	1230	1190	125	121.7	9510	970	
		∗1/ 900	7/ 6240	1230	1230	125	125	9510	970	
		∗1/1200	21/24440	1230	1230	125	125	9510	970	
		∗1/1500	1/ 1456	1230	1230	125	125	9510	970	

Note) The allowable O.H.L indicated are the values in the central position of the output shaft.
The models marked with ∗ are limited torque type. Be sure to refer to the allowable torque in the Performance Table.

Foot Mount Type

Fig.B-77 H2LS-28[L/R]-5〜60- (040) CAD Data: H2LS-28(LRT)-040



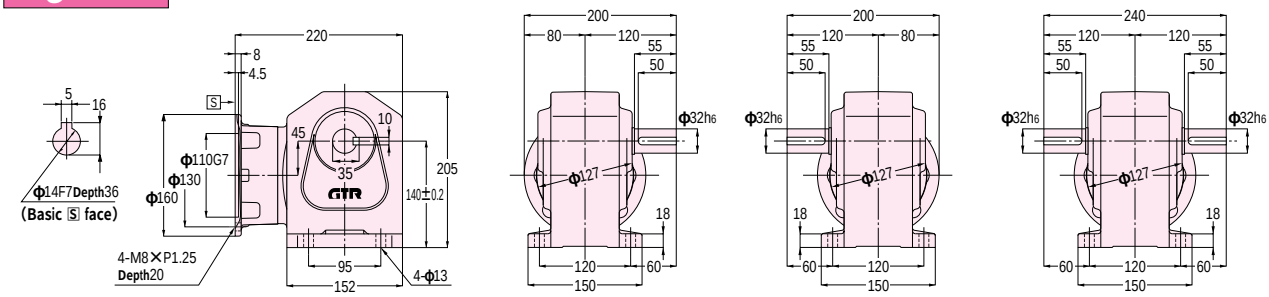
Round Weight 6.5kg

L-shaft R-shaft T-shaft

Model Code P.B72
Detailed Dimension Diagram of Input Shaft P.E49
Option P.E78

Foot Mount Type

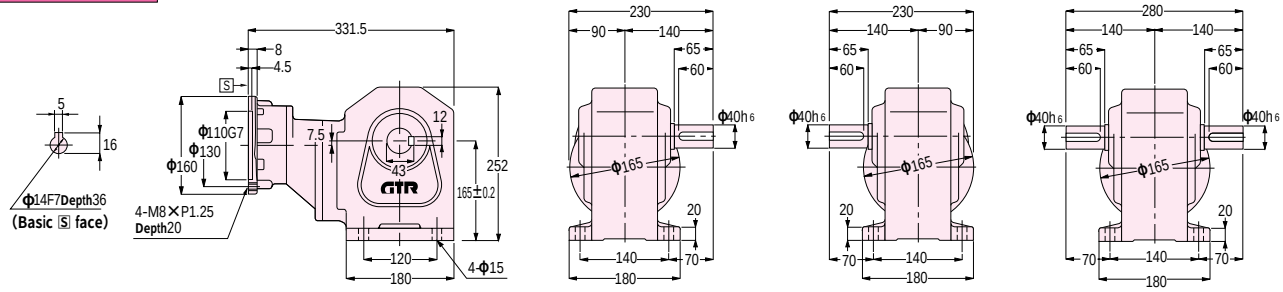
Fig.B-78 H2LS-32[L/R]-80～240- (040) CAD Data: H2LS-32(LRT)-040



Round Weight 9.5kg

L-shaft R-shaft T-shaft

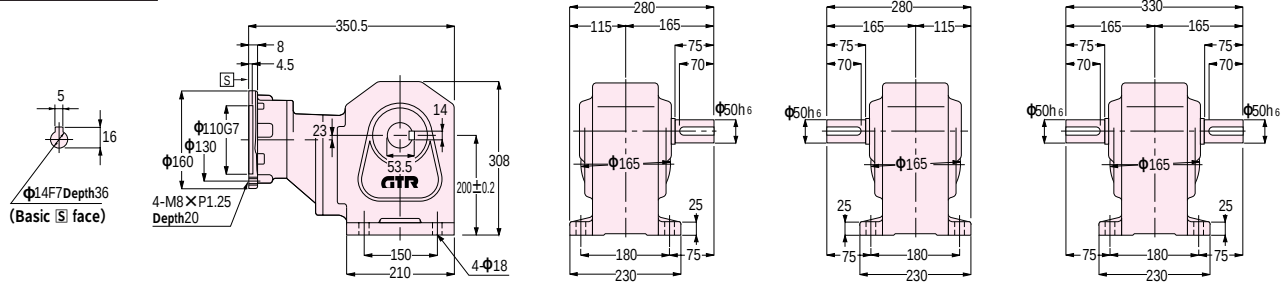
Fig.B-79 H2LS-40[L/R]-300～450- (040) CAD Data: H2LS-40(LRT)-040



Round Weight 20kg

L-shaft R-shaft T-shaft

Fig.B-80 H2LS-50[L/R]-600～1500- (040) CAD Data: H2LS-50(LRT)-040



Round Weight 49.5kg

L-shaft R-shaft T-shaft

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Designated Motor Attachable Type

S-Type Reducer

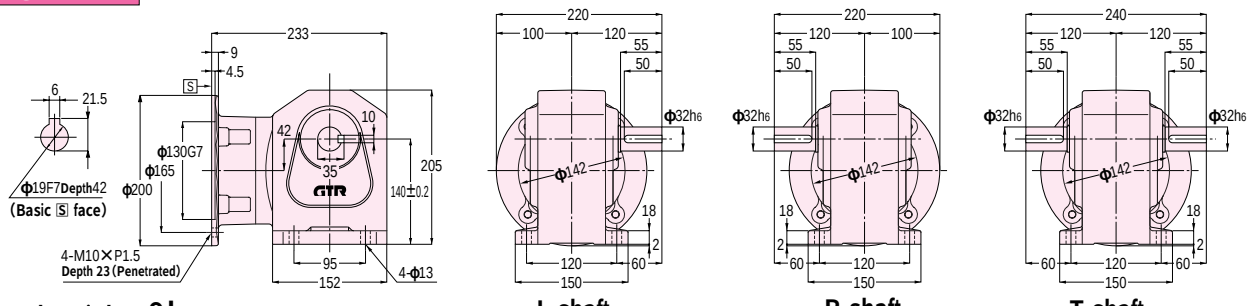
H2 Series equiv 0.75kW

Equivalent 4P motor capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio	Output Shaft Allowable Torque N•m 50Hz	Output Shaft Allowable Torque N•m 60Hz	Output Shaft Allowable Torque kgf•m 50Hz	Output Shaft Allowable Torque kgf•m 60Hz	Output Shaft Allowable O.H.L N	Output Shaft Allowable O.H.L kgf	Page, Diagram No. of the Outer Dimension Diagram, Round Weight H2LS
0.75kW	32	1/ 5	1/ 5	22	18	2.2	1.8	1520	155	P.B80 Fig.B-81 9kg
		1/ 10	1/ 10	43	36	4.4	3.7	2010	205	
		1/ 15	1/ 15	65	54	6.6	5.5	2210	225	
		1/ 20	1/ 20	86	72	8.8	7.3	2450	250	
		1/ 25	1/ 25	108	89	11	9.1	2740	280	
		1/ 30	1/ 30	128	107	13.1	11	2940	300	
		1/ 40	1/ 40	172	143	17.5	14.6	3430	350	
		1/ 50	1/ 50	215	179	21.9	18.3	3820	390	
		1/ 60	1/ 59	258	215	26.3	21.9	4120	420	
	40	1/ 80	1/ 80	332	277	33.9	28.3	5780	590	P.B80 Fig.B-82 17.5kg
		1/100	1/ 100	416	346	42.4	35.3	6080	620	
		1/120	1/ 120	498	415	50.8	42.4	6270	640	
		1/160	1/ 160	664	554	67.8	56.5	6470	660	
		1/200	1/ 200	764	692	78	70.6	6660	680	
		∗1/240	1/ 240	764	764	78	78	6660	680	
	50	1/300	7/2120	1070	895	109.6	91.3	7740	790	P.B81 Fig.B-83 50.5kg
		∗1/375	7/2650	1230	1120	125	114.1	8040	820	
		∗1/450	7/3180	1230	1230	125	125	8530	870	

Note) The allowable O.H.L indicated are the values in the central position of the output shaft.
The models marked with ∗ are limited torque type. Be sure to refer to the allowable torque in the Performance Table.

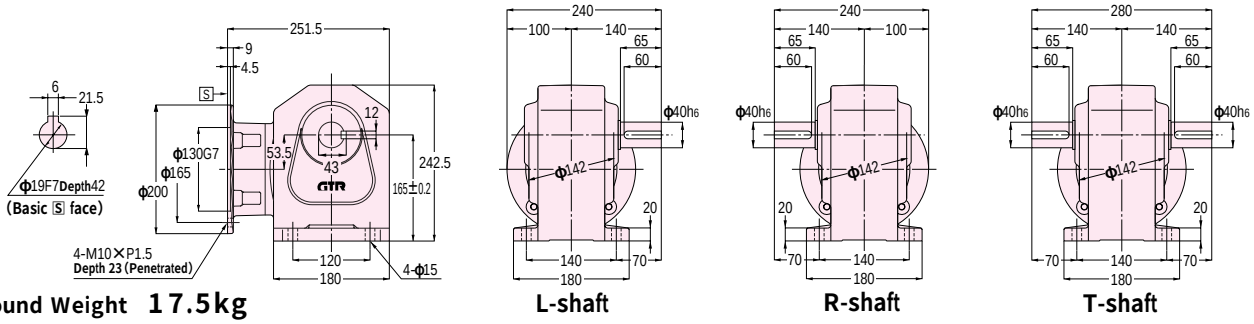
Foot Mount Type

Fig.B-81 H2LS-32□-5～60- (075) CAD Data: H2LS-32(LRT)-075



Round Weight 9kg

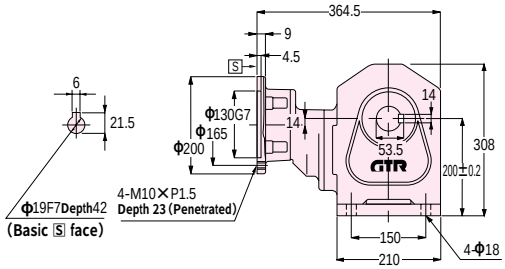
Fig.B-82 H2LS-40□-80～240- (075) CAD Data: H2LS-40(LRT)-075



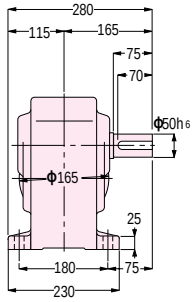
Round Weight 17.5kg

Model Code P.B72
Detailed Dimension Diagram of Input Shaft P.E49
Option P.E78

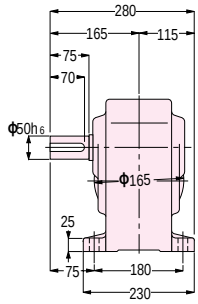
Fig.B-83 H2LS-50L/R-300～450- (075) CAD Data: H2LS-50(LRT)-075



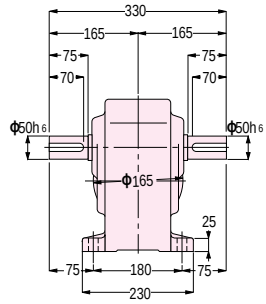
Round Weight 50.5kg



L-shaft



R-shaft



T-shaft

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Designated Motor Attachable Type

S-Type Reducer

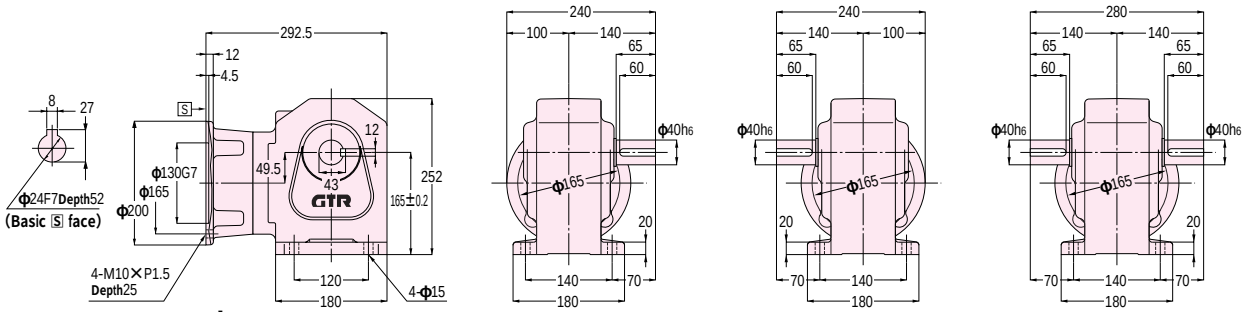
H2 Series equiv 1.5kW

Equivalent 4P motor capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio	Output Shaft Allowable Torque N•m 50Hz	Output Shaft Allowable Torque N•m 60Hz	Output Shaft Allowable Torque kgf•m 50Hz	Output Shaft Allowable Torque kgf•m 60Hz	Output Shaft Allowable O.H.L N	Output Shaft Allowable O.H.L kgf	Page, Diagram No. of the Outer Dimension Diagram, Round Weight H2LS
1.5kW	40	1/ 5	1/ 5	43	36	4.4	3.7	2650	270	P.B82 Fig.B-84 19.5kg
		1/ 10	1/ 10	86	72	8.8	7.3	3530	360	
		1/ 15	1/ 15	128	107	13.1	11	4410	450	
		1/ 20	1/ 20	172	143	17.5	14.6	4700	480	
		1/ 25	1/ 25	215	179	21.9	18.3	5100	520	
		1/ 30	1/ 30	258	215	26.3	21.9	5290	540	
		1/ 40	1/ 40	344	277	35.1	28.3	5590	570	
		1/ 50	1/ 50	429	346	43.8	35.3	5880	600	
		1/ 60	1/ 60	515	415	52.6	42.4	6080	620	
	50	1/ 80	3/235	664	554	67.8	56.5	8530	870	P.B82 Fig.B-85 49kg
		1/100	1/ 98	830	692	84.7	70.6	8820	900	
		1/120	1/120	1000	830	102	84.7	9020	920	
		1/160	3/470	1230	1110	125	113	9310	950	
		∗1/200	1/196	1230	1230	125	125	9510	970	
		∗1/240	1/240	1230	1230	125	125	9510	970	

Note) The allowable O.H.L indicated are the values in the central position of the output shaft.
The models marked with ∗ are limited torque type. Be sure to refer to the allowable torque in the Performance Table.

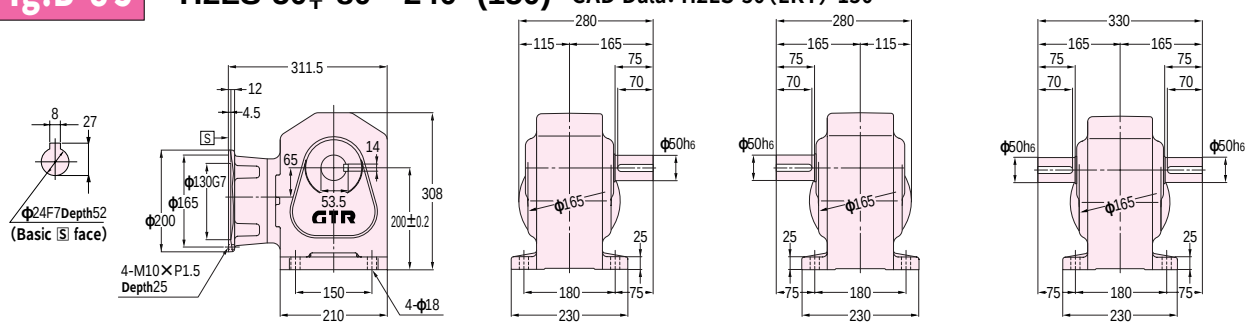
Foot Mount Type

Fig.B-84 H2LS-40[LRT]-5～60- (150) CAD Data: H2LS-40(LRT)-150



Round Weight 19.5kg

Fig.B-85 H2LS-50[LRT]-80～240- (150) CAD Data: H2LS-50(LRT)-150



Round Weight 49kg

Model Code P.B72
Detailed Dimension Diagram of Input Shaft P.E49
Option P.E78

H2 Series equiv 2.2kW

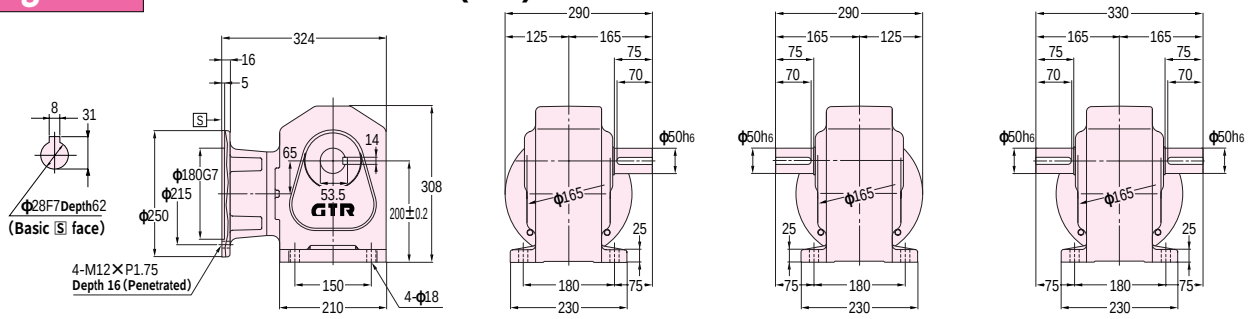
Foot Mount Type

Equivalent 4P motor capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio	Output Shaft Allowable Torque N•m		Output Shaft Allowable Torque kgf•m		Output Shaft Allowable O.H.L		Page, Diagram No. of the Outer Dimension Diagram, Round Weight
				50Hz	60Hz	50Hz	60Hz	N	kgf	H2LS
2.2kW	50	1/ 5	1/ 5	63	53	6.4	5.4	3920	400	P.B83 Fig.B-86 49.5kg
		1/ 10	1/ 10	126	105	12.9	10.7	4410	450	
		1/ 15	1/ 15	189	157	19.3	16.1	4900	500	
		1/ 20	12/235	252	210	25.7	21.4	5490	560	
		1/ 25	2/ 49	315	263	32.1	26.8	6080	620	
		1/ 30	1/ 30	378	315	38.6	32.1	6570	670	
		1/ 40	1/ 40	487	406	49.7	41.4	7060	720	
		1/ 50	1/ 50	609	507	62.1	51.8	7550	770	
		1/ 60	1/ 60	731	609	74.6	62.1	8130	830	
		1/ 80	3/235	974	812	99.4	82.9	8430	860	
		1/100	1/ 98	1220	1010	124	104	8820	900	
		1/120	1/120	1230	1220	125	124	8820	900	

Note) The allowable O.H.L indicated are the values in the central position of the output shaft.

Foot Mount Type

Fig.B-86 H2LS-50[L/R]-5～120- (220) CAD Data: H2LS-50 (LRT) -220



Round Weight 49.5kg

Model Code P.B72
Detailed Dimension Diagram of Input Shaft P.E49
Option P.E78

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Hollow Shaft • Solid Shaft

F Series
Gearmotor • Reducer

Model • Type Designation
Standard Model Lineup

F Series

■ Gearmotor/Gearmotor with Brake
Model•Type Designation/Standard Model Lineup ····· P. C9
Hollow Shaft 3-Phase Performance Table/Dimension Diagram ····· P. C15
Hollow Shaft 1-Phase Performance Table/Dimension Diagram ····· P. C31
Solid Shaft 1-Phase Performance Table/Dimension Diagram ····· P. C39

■ Water-Resistant W/SUS Shaft•
Water-Resistant W/Carbon Steel Shaft (IP65)Gearmotor/
Gearmotor with Brake
Model•Type Designation/Standard Model Lineup ····· P. C47
Performance Table/Dimension Diagram ····· P. C51

■ Reducer(Double Shaft)
Model•Type Designation/Standard Model Lineup ····· P. C63
Performance Table/Dimension Diagram ····· P. C67

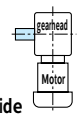
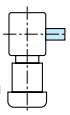
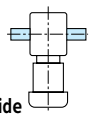
■ S-Type Reducer(Designated Motor Attachable)
Model•Type Designation/Standard Model Lineup ····· P. C75
Performance Table/Dimension diagram ····· P. C79

Model and Type Designation F Series

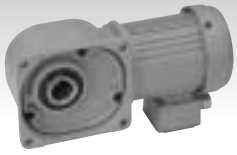
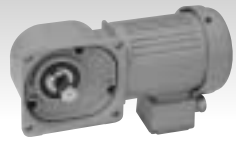
FS Type(Hollow Shaft)
FF Type(Solid Shaft)

F Series gearmotors and reducers are classified by codes as shown below.
Specify these codes in your inquiry and order.

Type			Frame Number	Shaft Arrangement	Reduction Ratio	Motor Capacity	Option		Auxiliary Mark	Spec. Designation
F	S	MN	– 35		– 50	– T040	W	A		
F	F	M	– 22	T	– 100	– T010	A		X	TZH3
①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪

①Series Name	F	: F Series(Hollow Shaft•Solid Shaft)
②Classification by Mount Form	S	: Hollow Shaft Type
	F	: Solid Shaft Type
③Classification by Motor Type	M	: With Motor
	MN	: With Brake-motor
	J	: With Brake Manual Release Device(Option)
	W	: With Water-resistant Motor W/SUS Shaft (JIS:SUS420J2) Only Hollow Shaft Type
	V	: With Water-resistant Brake Motor W/SUS Shaft (JIS:SUS420J2) Only Hollow Shaft Type
	G	: With Water-resistant Motor W/Carbon Steel Shaft(JIS:S43C) Only Hollow Shaft Type
	H	: With Water-resistant Brake Motor (JIS:S43C) Only Hollow Shaft Type
	Blank	: Without Motor(Double Shaft Type) Only Hollow Shaft Type
	S	: Designated Motor Attachable Type(S Type) Only Hollow Shaft Type
④Frame Number and Diameter of Output Shaft	Output Shaft Diameter (Hollow Shaft type is the bore and Solid Shaft type is the outside diameter.)	
⑤Shaft Arrangement for Solid Shaft	L: Output shaft on the left viewing from Input shaft side 	R: Output shaft on the right viewing from Input shaft side  T: Output shaft on both side viewing from Input shaft side 
⑥Reduction Ratio	5 : 1／5 ～ 1800 : 1／1800	
⑦Motor Type and Capacity	T50	: 3-phase 50 W
	T010	: 3-phase 0.1 kW 010:0.1 kW or equiv. (Double S-Type)
	T020	: 3-phase 0.2 kW 020:0.2 kW or equiv. (Double S-Type)
	T040	: 3-phase 0.4 kW 040:0.4 kW or equiv. (Double S-Type)
	075	: 3-phase 0.75kW 0.75kW or equiv. (Double S-Type)
	150	: 3-phase 1.5 kW 1.5 kW or equiv. (Double S-Type)
	220	: 3-phase 2.2 kW 2.2 kW or equiv. (Double S-Type)
	S100	: 1-phase 100W Only Hollow Shaft Type
	200	: 1-phase 200W Only Hollow Shaft Type
	400	: 1-phase 400W Only Hollow Shaft Type
⑧⑨Option Note 1: For the capacity of 50W～0.4kW, with "A" box is the Standard for all voltage, so please indicate "A" at the end of motor capacity. Blank means without terminal box(fly lead). For rectifier insert type Terminal box, please indicate "Z" at the end of the motor capacity. All the gearmotors with the capacity of 0.75～2.2kW are terminal box equipped and have no additional code. For rectifier built-in gearmotors, refer to page E26. Note 2: Standard single-phase gearmotors are not equipped with terminal box. Terminal box should be ordered additionally. Note 3: Water-resistant outdoor gearmotors are equipped with E-Type terminal box as standard specs., therefore, for orders, specify " E " at the end of the capacity code.	Blank	: Standard Voltage 3-phase : 200V／50Hz, 200V／60Hz, 220V／60Hz (Note 1) 1-phase : 100V／50Hz, 100V／60Hz without terminal box (Note 2)
	W	: High Voltage 3-phase : 380V／50Hz, 400V／50Hz, 400V／60Hz, 440V／60Hz 1-phase : 200V／50Hz, 200V／60Hz (Custom design Specs.)
	A	: Terminal box(50W～0.4kW standard specs.) (Note 1)
	Z	: For 3-phase Brake Motor,Terminal Box with a built-in rectifier(option for 50W～0.4kW) (Note 1)
	E	: Terminal box for water-resistant, type (Standard Specs.) (Note 3)
⑩Auxiliary Code	Blank	: Standard Specs.
	X	: Code to identify additional special specs.
⑪Spec. Designation Note: Spec. Designation does not appear on the product type designation in the nameplate. It is specified on the additional numbers in the nameplate.	Instruction for terminal box position. Refer to the specification code list on page E37 for details.	

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

	Gearmotor Gearmotor with Brake	Reducer (Double Shaft Type)	S-Type Reducer		Gearmotor Gearmotor with Brake
FS Type				FF Type	

Parallel Shaft (Performance Table/Dimension)
- Gearmotor with Brake
- Water-resistant, Outdoor Gearmotor with Brake
- Gearmotor with Clutch/Brake
- Reducer (Double Shaft)
- S-Type Reducer

Right Angle Shaft (Performance Table/Dimension)
- Gearmotor with Brake
- Water-resistant, Outdoor Gearmotor with Brake
- Gearmotor with Clutch /Brake
- Reduce (Double Shaft)
- S-Type Reducer

Hollow Shaft Solid Shaft Performance Table/Dimension
- Gearmotor with Brake
- Water-Resistant, Outdoor Gearmotor with Brake
- Reduce (Double Shaft)
- S-Type Reducer

Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
- Gearmotor with Brake
- Water-Resistant, Outdoor Gearmotor with Brake
- Reducer (Parallel Shaft)
- S-Type Reducer

Technical Information

Standard Motors

Cautions for Safety

Option

GT-STEP Index Gearmotor

KOMPASS Gearbox

Standard Model Lineup F Series FS Type (Hollow Shaft)

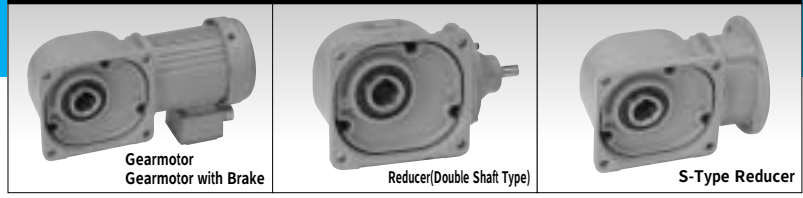
Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

FS Type (Hollow Shaft) Model Lineup

Type	4P Motor Capacity	Frame Number	Reduction Ratio
Gearmotor FSM / Gearmotor with Brake FSMN / Gearmotor equipped with brake manual release device FSJ (Note 1) (Optional Spec.)	3-phase 50W	20	1/10, 1/12.5, 1/15, 1/20, 1/25, 1/30, 1/40, 1/50, 1/60, 1/80, 1/100, 1/120, 1/160, 1/200, 1/240
		25	1/300, 1/375, 1/450
		30	1/600, 1/750, 1/900
		35	1/1200, 1/1500, 1/1800
	3-phase 0.1kW / 1-phase 100W (Note 2)	25	1/10, 1/12.5, 1/15, 1/20, 1/25, 1/30, 1/40, 1/50, 1/60, 1/80, 1/100, 1/120, 1/160, 1/200, 1/240
		30	1/300, 1/375, 1/450
		35	1/600, 1/750, 1/900, 1/1200, 1/1500
	3-phase 0.2kW / 1-phase 200W	30	1/5, 1/7.5, 1/10, 1/12.5, 1/15, 1/20, 1/25, 1/30, 1/40, 1/50, 1/60, 1/80, 1/100, 1/120, 1/160, 1/200, 1/240
		35	1/300, 1/375, 1/450
		45	1/600, 1/750, 1/900, 1/1200, 1/1500
	3-phase 0.4kW / 1-phase 400W	35	1/5, 1/7.5, 1/10, 1/12.5, 1/15, 1/20, 1/25, 1/30, 1/40, 1/50, 1/60, 1/80, 1/100, 1/120, 1/160, 1/200, 1/240
		45	1/300, 1/375, 1/450
		55	1/600, 1/750, 1/900, 1/1200, 1/1500
	3-phase 0.75kW	45	1/5, 1/7.5, 1/10, 1/12.5, 1/15, 1/20, 1/25, 1/30, 1/40, 1/50, 1/60, 1/80, 1/100, 1/120, 1/160, 1/200, 1/240
		55	1/300, 1/375, 1/450
	3-phase 1.5kW	55	1/5, 1/7.5, 1/10, 1/12.5, 1/15, 1/20, 1/25, 1/30, 1/40, 1/50, 1/60, 1/80, 1/100, 1/120, 1/160, 1/200, 1/240
	3-phase 2.2kW	55	1/5, 1/7.5, 1/10, 1/12.5, 1/15, 1/20, 1/25, 1/30, 1/40, 1/50, 1/60, 1/80, 1/100, 1/120

Note 1) Brake Manual Release type is not available in three phase 50W motor.
2) High reduction ratio (greater than 1/300) is not available in single phase 100V motor.
3) The models enclosed with ▭ are limited torque type.
Be sure to check allowable torque in the performance table.

F Series FS Type



FS (Hollow Shaft) Model Lineup

Type	Equivalent of 4P Motor Capacity	Frame Number	Reduction Ratio
Reducer (Double Shaft Type) FS	0.1kW	25	1/10 1/12.5 1/15 1/20 1/25 1/30 1/40 1/50 1/60 1/80 1/100 1/120 1/160 1/200 1/240
	0.2kW	30	1/5 1/7.5 1/10 1/12.5 1/15 1/20 1/25 1/30 1/40 1/50 1/60 1/80 1/100 1/120 1/160 1/200 1/240
	0.4kW	35	1/5 1/7.5 1/10 1/12.5 1/15 1/20 1/25 1/30 1/40 1/50 1/60 1/80 1/100 1/120 1/160 1/200 1/240
S-Type Reducer FSS	0.75kW	45	1/5 1/7.5 1/10 1/12.5 1/15 1/20 1/25 1/30 1/40 1/50 1/60 1/80 1/100 1/120 1/160 1/200 1/240
	1.5kW	55	1/5 1/7.5 1/10 1/12.5 1/15 1/20 1/25 1/30 1/40 1/50 1/60 1/80 1/100 1/120 1/160 1/200 1/240
	2.2kW	55	1/5 1/7.5 1/10 1/12.5 1/15 1/20 1/25 1/30 1/40 1/50 1/60 1/80 1/100 1/120

Note 1) The models enclosed with ▭ are limited torque type.
Be sure to check allowable torque in the performance table.

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Standard Model Lineup F Series FF Type (Solid Shaft)

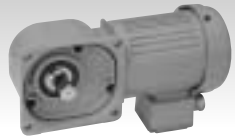
Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

FF Type(Solid Shaft)Model Lineup

Type	4P Motor Capacity	Frame Number	Output Shaft Arrangement	Reduction Ratio
Gearmotor FFM	3-phase 50W	18	L R T	1/10 1/12.5 1/15 1/20 1/25 1/30 1/40 1/50 1/60 1/80 1/100 1/120 1/160 1/200 1/240
	3-phase 0.1kW	22	L R T	1/10 1/12.5 1/15 1/20 1/25 1/30 1/40 1/50 1/60 1/80 1/100 1/120 1/160 1/200 1/240
Gearmotor with Brake FFMN	3-phase 0.2kW	28	L R T	1/5 1/7.5 1/10 1/12.5 1/15 1/20 1/25 1/30 1/40 1/50 1/60 1/80 1/100 1/120 1/160 1/200 1/240
Gearmotor equipped with brake manual release device FFJ (Note 1) (Optional Spec.)	3-phase 0.4kW	32	L R T	1/5 1/7.5 1/10 1/12.5 1/15 1/20 1/25 1/30 1/40 1/50 1/60 1/80 1/100 1/120 1/160 1/200 1/240
	3-phase 0.75kW	40	L R T	1/5 1/7.5 1/10 1/12.5 1/15 1/20 1/25 1/30 1/40 1/50 1/60 1/80 1/100 1/120 1/160 1/200 1/240

Note 1) Manual release type is not available in three phase 50W motor.
2) The models enclosed with ▭ are limited torque type.
Be sure to check allowable torque in the performance table.

F Series FF Type



Gearmotor
Gearmotor with Brake

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Hollow Shaft • Solid Shaft

Gearmotor
Gearmotor with Brake

Model • Type Designation
Standard Model Lineup

GTR Gearmotor

F Series

Motor Part	Number of phase	3-phase	1-phase
	Capacity	50W, 0.1kW～2.2kW	100W～400W
	Power Source	3 Rated Power Source 200V 50/60Hz, 220V/60Hz	100V 50/60Hz
	Insulation Classification	Class B(Class E for 50W)	Class B(Class E for 100W)
	Starting Method	Direct start	Capacitor Start(100V:capacitor operation)
	Protective cooling Method	Totally Enclosed fan-cooled (Note)	Totally Enclosed fan-cooled
	Number of Pole	4	
	Rating	Continuous Rating	
Speed Reduction Part	Reduction Method	Hypoid gear and Helical gear	
	Lubrication	Grease Lubrication(Maintenance Free)	
	Output Shaft	New JIS Key(JIS 1301-1976 class)	
	Output Shaft Material	S43C	
	Case Material	Aluminium die-cast(Frame No.55: Cast iron)	
Ambient Conditions	Ambient Temperature	−10°C～40°C	
	Ambient Humidity	85% max.(without any dew condensation)	
	Altitude	1,000m max.	
	Environment	Well ventilated place free from corrosive gas, explosive gas vapor and/or dust.	
	Installation Location	Indoors	
Painting	Painting Method	Anion painting, Acrylic paint	
	Painting Color	Grey(Mansel code: 9B6/0.5)	
Mounting Direction		No restriction in the mounting angle.(horizontally, vertically or heeling angle)	

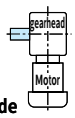
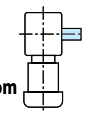
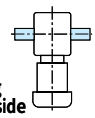
Note) The models shown below are of " Totally Enclosed ".
- ●Gearmotors of 50W without brake, with the reduction ratio of less than 1/240 and the one of more than 1/1200.
- ●Gearmotors of 0.1kW without brake (3-phase)

Model and Type Designation F Series

FS Type(Hollow Shaft)
FF Type(Solid Shaft)

F Series gearmotors and Gearmotor with Brake are classified by codes as shown below. Specify these codes in your inquiry and order.

Type				Frame Number	Shaft Arrangement	Reduction Ratio	Motor Capacity	Option		Auxiliary Mark	Spec. Designation
F	S	MN	–	35		50	T040	W	A		
F	F	M	–	22	T	100	T010	A		X	TZH3
①	②	③		④	⑤	⑥	⑦	⑧	⑨	⑩	⑪

①Series Name	F : F Series(Hollow Shaft•Solid Shaft)
②Classification by Mount Form	S : Hollow Shaft Type F : Solid Shaft Type
③Classification by Motor Type	M : With Motor MN : With Brake-motor J : With Brake Manual Release Device(Option)
④Frame Number and Diameter of Output Shaft	Output Shaft Diameter (Hollow Shaft type is the bore and Solid Shaft type is the outside diameter.)
⑤Shaft Arrangement for Solid Shaft	L: Output shaft on the left viewing from Input shaft side  R: Output shaft on the right viewing from Input shaft side  T: Output shaft on both side viewing from Input shaft side 
⑥Reduction Ratio	5 : 1／5 ～ 1800 : 1／1800
⑦Motor Type and Capacity	T50 : 3-phase 50W T010 : 3-phase 0.1 kW T020 : 3-phase 0.2 kW T040 : 3-phase 0.4 kW 075 : 3-phase 0.75kW 150 : 3-phase 1.5 kW 220 : 3-phase 2.2 kW S100 : 1-phase 100W Only Hollow Shaft Type 200 : 1-phase 200W Only Hollow Shaft Type 400 : 1-phase 400W Only Hollow Shaft Type
⑧⑨Option Note 1: For the capacity of 50W～0.4kW, with "A" box is the standard for all voltage, so please indicate "A" at the end of motor capacity. Blank means without terminal box (fly lead). For rectifer insert type terminal box, please indicate "Z" at the end of the capacity. For the capacity 0.75kW～2.2kW are terminal box equipped and have no additional code, For rectifier built-in type, please refer to page E26. Note 2: Standard 1-phase gearmotors are not equipped with terminal box. Terminal box should be ordered additionally.	Blank : Standard Voltage 3-phase: 200V／50Hz, 200V／60Hz, 220V／60Hz (Note 1) 1-phase: 100V／50Hz, 100V／60Hz without terminal box (Note 2)
	W : High Voltage 3-phase: 380V／50Hz, 400V／50Hz, 400V／60Hz、440V／60Hz (Note 1) 1-phase: 200V／50Hz, 200V／60Hz(Custom design Specs.) without terminal box (Note 2)
	A : Terminal box(50W～0.4kW standard specs.) (Note 1)
	Z : For 3-phase Brake Motor,Terminal Box with a built-in rectifier(option for 50W～0.4kW) (Note 1)
⑩Auxiliary Code	Blank : Standard Specs. X : Code to identify additional special specs.
⑪Spec. Designation Note: Spec. Designation does not appear on the product type designation in the nameplate. It is specified on the additional numbers in the nameplate.	Instruction for terminal box position. Refer to the specification code list on page E37 for details.

Gearmotor•Gearmotor with Brake

FS Type

FF Type

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Standard Model Lineup F Series FS Type (Solid Shaft)

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

FS Type (Hollow Shaft) Model Lineup

Type	4P Motor Capacity	Frame Number	Reduction Ratio
Gearmotor FSM / Gearmotor with Brake FSMN / Gearmotor equipped with brake manual release device FSJ (Note 1) (Optional Spec.)	3-phase 50W	20	1/10, 1/12.5, 1/15, 1/20, 1/25, 1/30, 1/40, 1/50, 1/60, 1/80, 1/100, 1/120, 1/160, 1/200, 1/240
		25	1/300, 1/375, 1/450
		30	1/600, 1/750, 1/900
		35	1/1200, 1/1500, 1/1800
	3-phase 0.1kW / 1-phase 100W (Note 2)	25	1/10, 1/12.5, 1/15, 1/20, 1/25, 1/30, 1/40, 1/50, 1/60, 1/80, 1/100, 1/120, 1/160, 1/200, 1/240
		30	1/300, 1/375, 1/450
		35	1/600, 1/750, 1/900, 1/1200, 1/1500
	3-phase 0.2kW / 1-phase 200W	30	1/5, 1/7.5, 1/10, 1/12.5, 1/15, 1/20, 1/25, 1/30, 1/40, 1/50, 1/60, 1/80, 1/100, 1/120, 1/160, 1/200, 1/240
		35	1/300, 1/375, 1/450
		45	1/600, 1/750, 1/900, 1/1200, 1/1500
	3-phase 0.4kW / 1-phase 400W	35	1/5, 1/7.5, 1/10, 1/12.5, 1/15, 1/20, 1/25, 1/30, 1/40, 1/50, 1/60, 1/80, 1/100, 1/120, 1/160, 1/200, 1/240
		45	1/300, 1/375, 1/450
		55	1/600, 1/750, 1/900, 1/1200, 1/1500
	3-phase 0.75kW	45	1/5, 1/7.5, 1/10, 1/12.5, 1/15, 1/20, 1/25, 1/30, 1/40, 1/50, 1/60, 1/80, 1/100, 1/120, 1/160, 1/200, 1/240
		55	1/300, 1/375, 1/450
	3-phase 1.5kW	55	1/5, 1/7.5, 1/10, 1/12.5, 1/15, 1/20, 1/25, 1/30, 1/40, 1/50, 1/60, 1/80, 1/100, 1/120, 1/160, 1/200, 1/240
	3-phase 2.2kW	55	1/5, 1/7.5, 1/10, 1/12.5, 1/15, 1/20, 1/25, 1/30, 1/40, 1/50, 1/60, 1/80, 1/100, 1/120

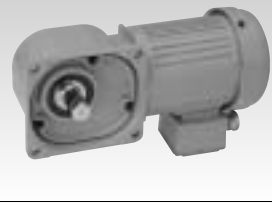
Note 1) Brake Manual Release type is not available in three phase 50W motor.
2) High reduction ratio (greater than 1/300) is not available in single phase 100V motor.
3) The models enclosed with ▭ are limited torque type.
Be sure to check allowable torque in the performance table.

F Series
FF Type (Solid Shaft)

Gearmotor・Gearmotor with Brake

FS Type

FF Type



FF Type (Solid Shaft) Model Lineup

Type	4P Motor Capacity	Frame Number	Output Shaft Arrangement	Reduction Ratio
Gearmotor FFM Gearmotor with Brake FFMN Gearmotor equipped with brake manual release device FFJ (Note 1) (Optional Spec.)	3-phase 50W	18	L R T	1/10 1/12.5 1/15 1/20 1/25 1/30 1/40 1/50 1/60 1/80 1/100 1/120 1/160 1/200 1/240
	3-phase 0.1kW	22	L R T	1/10 1/12.5 1/15 1/20 1/25 1/30 1/40 1/50 1/60 1/80 1/100 1/120 1/160 1/200 1/240
	3-phase 0.2kW	28	L R T	1/5 1/7.5 1/10 1/12.5 1/15 1/20 1/25 1/30 1/40 1/50 1/60 1/80 1/100 1/120 1/160 1/200 1/240
	3-phase 0.4kW	32	L R T	1/5 1/7.5 1/10 1/12.5 1/15 1/20 1/25 1/30 1/40 1/50 1/60 1/80 1/100 1/120 1/160 1/200 1/240
	3-phase 0.75kW	40	L R T	1/5 1/7.5 1/10 1/12.5 1/15 1/20 1/25 1/30 1/40 1/50 1/60 1/80 1/100 1/120 1/160 1/200 1/240

Note 1) Brake Manual Release type is not available in three phase 50W motor.
2) The models enclosed with ▭ are limited torque type.
Be sure to check allowable torque in the performance table.

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

GTR Gearmotor

Hollow Shaft

Gearmotor
Gearmotor with Brake

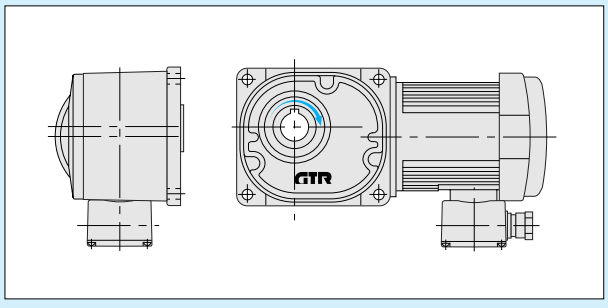
Performance Table
Dimension diagram

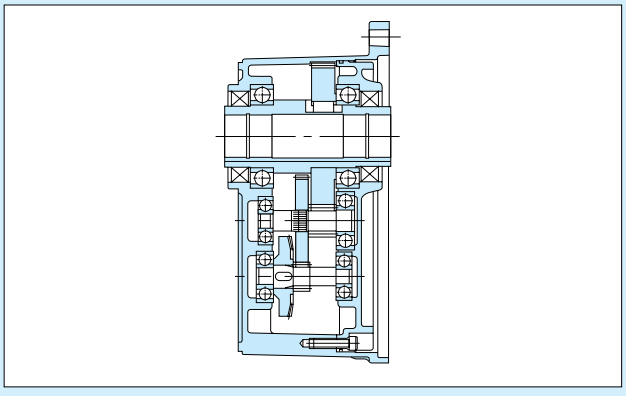
F Series
FS Type

3-Phase

【Remarks】

- Values in the parenthesis in the performance table/dimension diagram are the values of gearmotor with brake.
- The output rotation speed is the value corresponds to the motor synchronous speed and the nominal reduction ratio.
- The shade areas ▭ in the peformance table shows that in case gearmotors are wired according to the diagram shown on page E16, the shaft rotates clockwise when viewing from flange side. (Refer to the diagram shown below.)





Gearmotor
Gearmotor with Brake FS Type(Hollow Shaft)
F Series 3-Phase 50W

The values in parentheses in the Performance Table/Dimension Diagram indicate the values of gearmotors with brake.

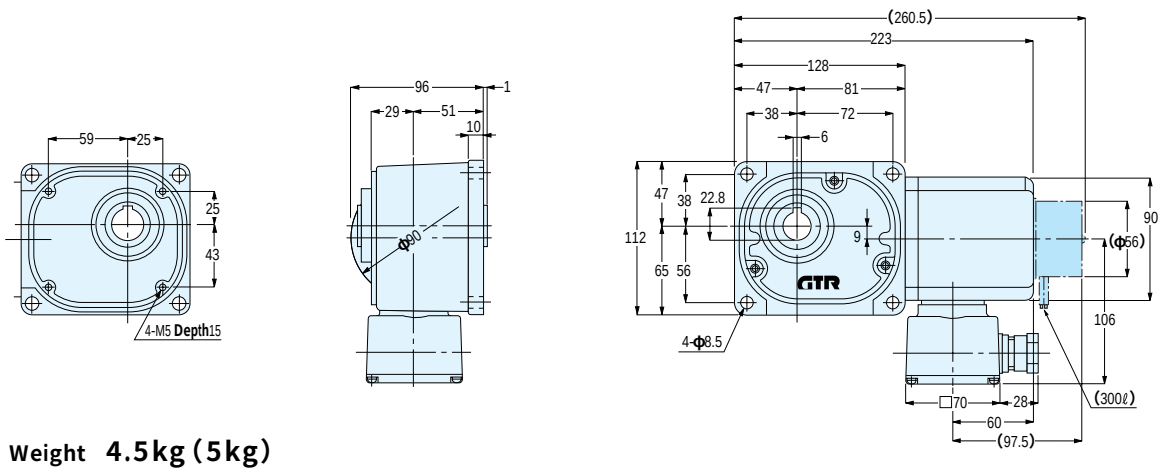
Motor Specs. Standard Voltage (Continuous Rated 4 Poles)	Capacity	Motor Capacity Designation	Frequency (Hz)	Voltage (V)	Rated Current (A)	Rated Rotation Sped (rpm)	Insulation Classification	Protective Cooling system	Reduction Ratio
	50W	T50	50/60/60	200/200/220	0.40/0.36/0.36	1350/1550/1600	E	Totally Enclosed non-ventilated	1/240以下
		T50	50/60/60	200/200/220	0.42/0.39/0.39	1350/1550/1550	E	Totally Enclosed fan-cooled	1/300～1/900
		T50	50/60/60	200/200/220	0.40/0.36/0.36	1350/1550/1600	E	Totally Enclosed non-ventilated (Totally Enclosed fan-cooled)	1/1200以上

Motor Capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio (Fraction)	Output Shaft Rotation Speed (rpm)		Output Shaft Allowable Torque N•m		Output Shaft Allowable Torque kgf•m		Output Shaft Allowable O.H.L.		Output shaft Allowable Thrust Load		Page of Dimension Diagram shown, Fig. No. and Round Weight Gearmotor(Gearmotor with Brake)
				50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	N	kgf	N	kgf	FSM (FSMN)
3-phase 50W	20	1/ 10	4/ 41	150	180	2.5	2.2	0.26	0.22	1180	120	294	30	P.C16 Fig.C-1 4.5kg (5kg)
		1/ 12.5	100/ 1271	120	144	3.2	2.6	0.33	0.27	1270	130	324	33	
		1/ 15	8/ 123	100	120	3.8	3.2	0.39	0.33	1320	135	333	34	
		1/ 20	2/ 41	75	90	5.2	4.3	0.53	0.44	1470	150	373	38	
		1/ 25	8/ 205	60	72	6.5	5.4	0.66	0.55	1570	160	392	40	
		1/ 30	4/ 123	50	60	7.7	6.5	0.79	0.66	1670	170	422	43	
		1/ 40	1/ 41	37.5	45	11	8.6	1.1	0.88	1810	185	451	46	
		1/ 50	4/ 205	30	36	13	11	1.3	1.1	1860	190	471	48	
		1/ 60	40/ 2419	25	30	16	13	1.6	1.3	1860	190	471	48	
		1/ 80	1/ 82	18.8	22.5	20	17	2	1.7	1860	190	471	48	
		1/ 100	2/ 205	15	18	25	21	2.5	2.1	1860	190	471	48	
		1/ 120	1/ 123	12.5	15	29	25	3	2.5	1860	190	471	48	
		1/ 160	1/ 164	9.4	11.3	39	32	4	3.3	1860	190	471	48	
		1/ 200	1/ 205	7.5	9	49	41	5	4.2	1860	190	471	48	
		∗1/ 240	10/ 2419	6.3	7.5	54	49	5.5	5	1860	190	471	48	
	25	1/ 300	1/ 300	5	6	66	55	6.7	5.6	2550	260	637	65	P.C17 Fig.C-2 7kg (7.5kg)
		1/ 375	1/ 375	4	4.8	82	69	8.4	7	2550	260	637	65	
		1/ 450	1/ 450	3.3	4	99	82	10.1	8.4	2550	260	637	65	
	30	1/ 600	1/ 600	2.5	3	124	104	12.7	10.6	3140	320	785	80	P.C17 Fig.C-3 9kg (9.5kg)
		1/ 750	19/14100	2	2.4	155	129	15.8	13.2	3140	320	785	80	
		1/ 900	1/ 900	1.7	2	186	155	19	15.8	3140	320	785	80	
	35	1/1200	1/ 1200	1.3	1.5	248	207	25.3	21.1	3630	370	912	93	P.C17 Fig.C-4 12kg (12.5kg)
		1/1500	19/28200	1	1.2	311	259	31.7	26.4	3630	370	912	93	
		1/1800	1/ 1800	0.8	1	372	311	38	31.7	3630	370	912	93	

Note) The allowable O.H.L. are the values measured at the position of 20mm from the edge of output shaft.
The models marked with ∗ are limited torque type. Be sure to refer to the allowable torque in the Performance Table.

Fig.C-1

FSM-20-10～240-T50A CAD Data: FSM-20-T50A
(FSMN-20-10～240-T50A) (CAD Data: FSMN-20-T50A)



Round Weight 4.5kg (5kg)

Model Code P.C10 | Option P.E78～E85

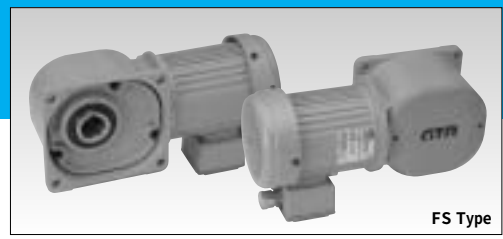
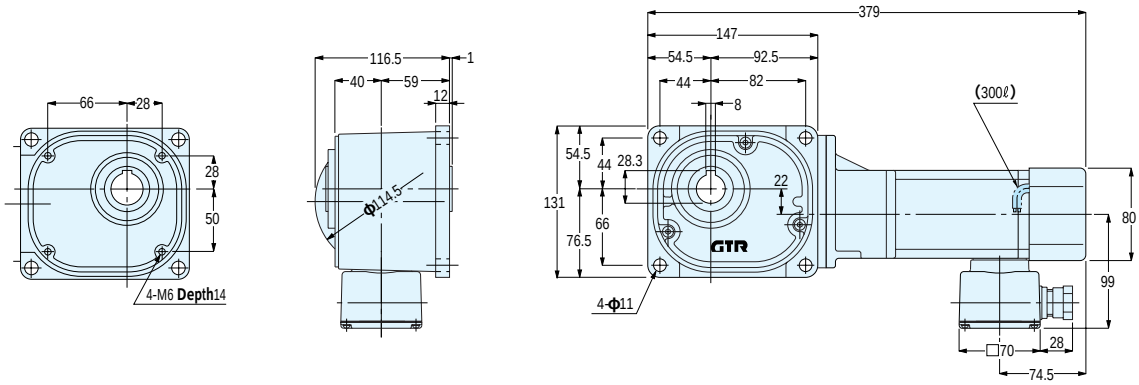


Fig.C-2

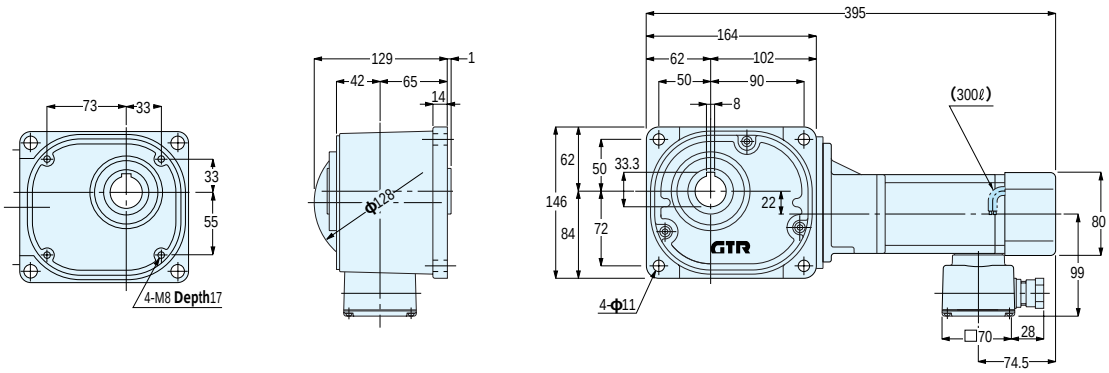
FSM-25-300～450-T50A CAD Data: FSM-25-T50A
(FSMN-25-300～450-T50A) (CAD Data: FSMN-25-T50A)



Round Weight 7kg (7.5kg)

Fig.C-3

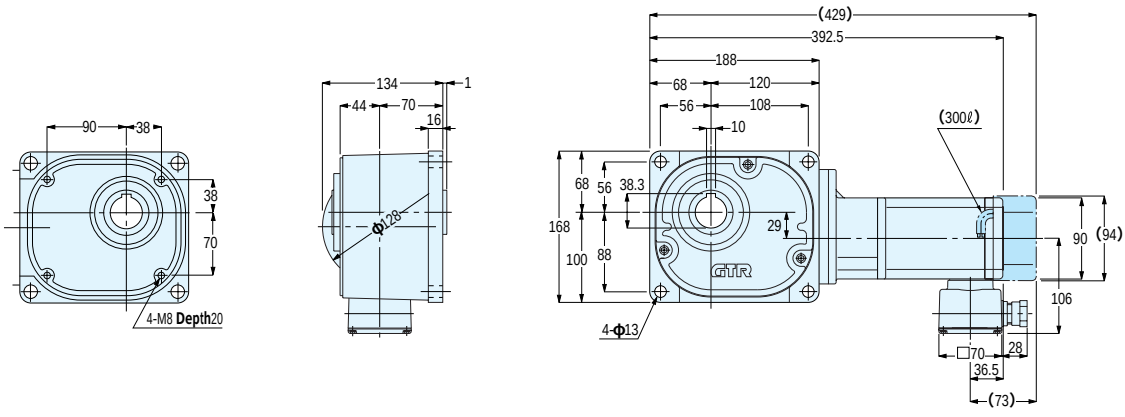
FSM-30-600～900-T50A CAD Data: FSM-30-T50A
(FSMN-30-600～900-T50A) (CAD Data: FSMN-30-T50A)



Round Weight 9kg (9.5kg)

Fig.C-4

FSM-35-1200～1800-T50A CAD Data: FSM-35-T50A
(FSMN-35-1200～1800-T50A) (CAD Data: FSMN-35-T50A)

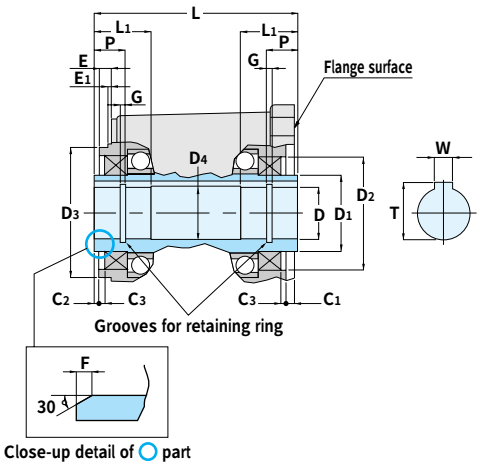


Round Weight 12kg (12.5kg)

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

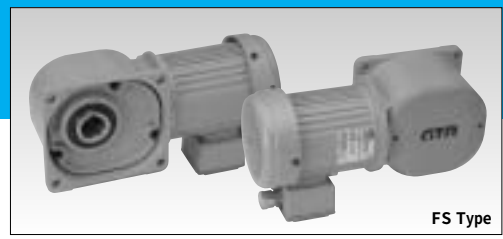
Gearmotor
Gearmotor with Brake FS Type(Hollow Shaft)
F Series 3-Phase 50W

Detailed dimension diagram for FS-Type output shaft



Frame Number	D (H8)	D1	D2 (H8)	D3 (h8)	D4	W	T	L	L1	P	C1	C2	C3	E	E1	F	G
20	ϕ20	ϕ29	ϕ46	ϕ53	ϕ21	6	22.8	91	24	13	1	2	3	8	0	2	1.15
25	ϕ25	ϕ39	ϕ58	ϕ66	ϕ26	8	28.3	108	27	14	6	2	3	6	0	2	1.35
30	ϕ30	ϕ44	ϕ65	ϕ75	ϕ31	8	33.3	117	33	17	5	2	3	7	0	2	1.35
35	ϕ35	ϕ49	ϕ72	ϕ85	ϕ36	10	38.3	124	38	20	3	2	3	7	0	2	1.75

Note) New JIS Size Key applied: JIS B1301-1976(Standard)
Note) The key for the output shaft is not attached to this model.
Note) C-Type retaining ring conform to JIS B2804-1978.
Note) C-Type retaining ring is not attached to this model.



FS Type

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Gearmotor
Gearmotor with Brake FS Type(Hollow Shaft)
F Series 3-Phase 0.1kW

The values in parentheses in the Performance Table/Dimension Diagram indicate the values of gearmotors with brake.

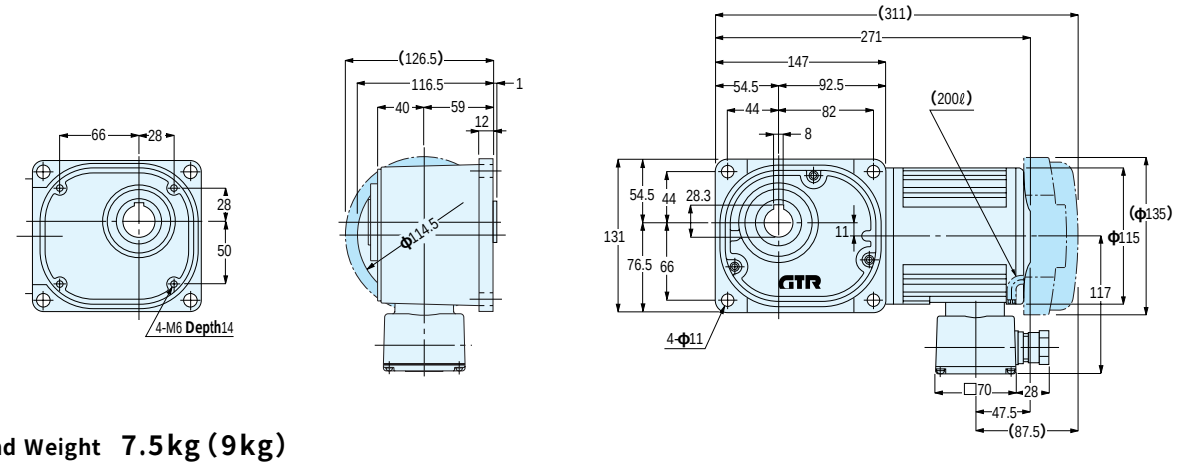
Motor Specs. Standard Voltage (Continuous Rated 4 Poles)	Capacity	Motor Capacity Designation	Frequency (Hz)	Voltage (V)	Rated Current, (A)	Rated Rotation Speed (rpm)	Insulation Classification	Protective Cooling system
	0.1kW	T010	50/60/60	200/200/220	0.61/0.54/0.54	1420/1700/1720	B	Totally Enclosed non-ventilated (Totally Enclosed fan-cooled)

Motor Capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio (Fraction)	Output Shaft Rotation Speed (rpm)		Output Shaft Allowable Torque N•m		Output Shaft Allowable Torque kgf•m		Output Shaft Allowable O.H.L.		Output shaft Allowable Thrust Load		Page of Dimension Diagram shown, Fig. No. and Round Weight Gearmotor (Gearmotor with Brake)
				50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	N	kgf	N	kgf	FSM (FSMN)
3-phase 0.1kW	25	1/ 10	1/ 10	150	180	5.2	4.3	0.53	0.44	1520	155	382	39	P.C20 Fig.C-5 7.5kg (9kg)
		1/ 12.5	2/ 25	120	144	6.5	5.4	0.66	0.55	1620	165	402	41	
		1/ 15	1/ 15	100	120	7.7	6.5	0.79	0.66	1720	175	431	44	
		1/ 20	1/ 20	75	90	11	8.6	1.1	0.88	1860	190	471	48	
		1/ 25	19/ 470	60	72	13	11	1.3	1.1	2010	205	500	51	
		1/ 30	1/ 30	50	60	16	13	1.6	1.3	2110	215	530	54	
		1/ 40	1/ 40	37.5	45	21	18	2.1	1.8	2300	235	579	59	
		1/ 50	1/ 50	30	36	25	22	2.6	2.2	2450	250	618	63	
		1/ 60	1/ 60	25	30	31	25	3.2	2.6	2550	260	637	65	
		1/ 80	1/ 80	18.8	22.5	39	32	4	3.3	2550	260	637	65	
		1/ 100	19/ 1880	15	18	49	41	5	4.2	2550	260	637	65	
		1/ 120	1/ 120	12.5	15	59	49	6	5	2550	260	637	65	
		1/ 160	1/ 160	9.4	11.3	78	66	8	6.7	2550	260	637	65	
		1/ 200	1/ 200	7.5	9	98	81	10	8.3	2550	260	637	65	
		∗1/ 240	1/ 240	6.3	7.5	101	98	10.3	10	2550	260	637	65	
	30	1/ 300	7/ 2040	5	6	131	110	13.4	11.2	3140	320	785	80	P.C21 Fig.C-6 11.5kg (13kg)
		1/ 375	133/47940	4	4.8	165	137	16.8	14	3140	320	785	80	
		1/ 450	7/ 3060	3.3	4	198	165	20.2	16.8	3140	320	785	80	
	35	1/ 600	7/ 4240	2.5	3	248	207	25.3	21.1	3630	370	912	93	P.C21 Fig.C-7 13.5kg (15kg)
		1/ 750	133/99640	2	2.4	311	259	31.7	26.4	3630	370	912	93	
		1/ 900	7/ 6360	1.7	2	372	311	38	31.7	3630	370	912	93	
		∗1/1200	7/ 8480	1.3	1.5	372	372	38	38	3630	370	912	93	
		∗1/1500	7/10600	1	1.2	372	372	38	38	3630	370	912	93	

Note) The allowable O.H.L. are the values measured at the position of 20mm from the edge of output shaft.
The models marked with ∗ are limited torque type. Be sure to refer to the allowable torque in the Performance Table.

Fig.C-5

FSM-25-10～240-T010A CAD Data: FSM-25-T010A
(FSMN-25-10～240-T010A) (CAD Data: FSMN-25-T010A)



Round Weight 7.5kg (9kg)

Model Code P.C10
Multipurpose Inverter P.E86～E92
Option P.E78～E93

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

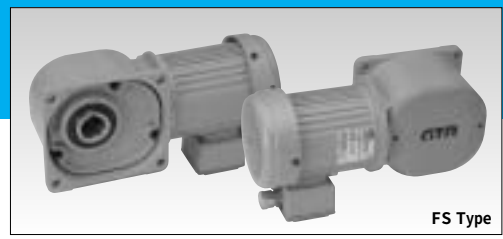
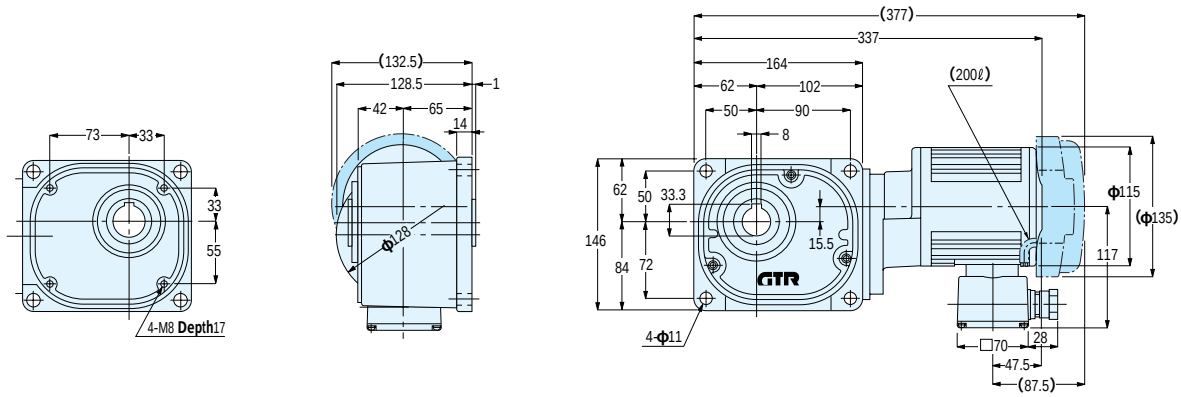


Fig.C-6 FSM-30-300～450-T010A (FSMN-30-300～450-T010A)

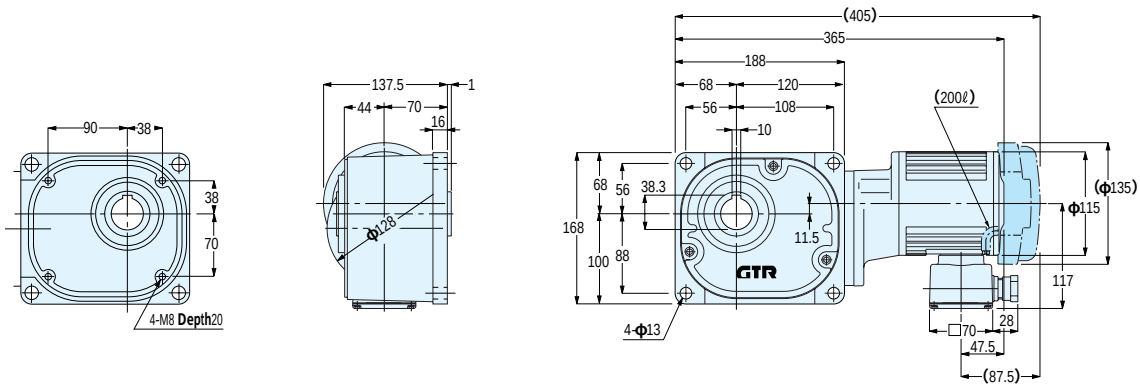
CAD Data: FSM-30-T010A (CAD Data: FSMN-30-T010A)



Round Weight 11.5kg (13kg)

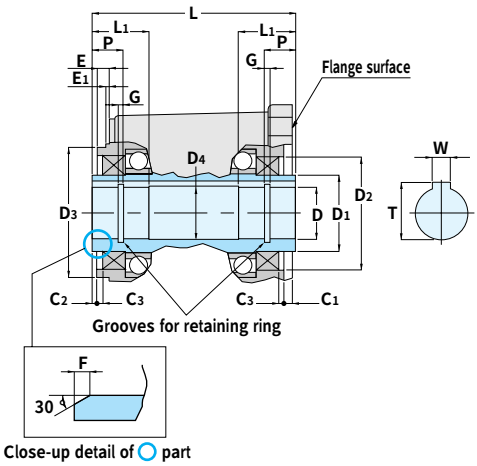
Fig.C-7 FSM-35-600～1500-T010A (FSMN-35-600～1500-T010A)

CAD Data: FSM-35-T010A (CAD Data: FSMN-35-T010A)



Round Weight 13.5kg (15kg)

Detailed dimension diagram for FS-Type output shaft



Frame Number	D (H8)	D1	D2 (H8)	D3 (h8)	D4	W	T	L	L1	P	C1	C2	C3	E	E1	F	G
25	ϕ25	ϕ39	ϕ58	ϕ66	ϕ26	8	28.3	108	27	14	6	2	3	6	0	2	1.35
30	ϕ30	ϕ44	ϕ65	ϕ75	ϕ31	8	33.3	117	33	17	5	2	3	7	0	2	1.35
35	ϕ35	ϕ49	ϕ72	ϕ85	ϕ36	10	38.3	124	38	20	3	2	3	7	0	2	1.75

Note) New JIS Size Key applied: JIS B1301-1976(Standard)
Note) The key for the output shaft is not attached to this model.
Note) C-Type retaining ring conform to JIS B2804-1978.
Note) C-Type retaining ring is not attached to this model.

Gearmotor
Gearmotor with Brake FS Type(Hollow Shaft)
F Series 3-Phase 0.2kW

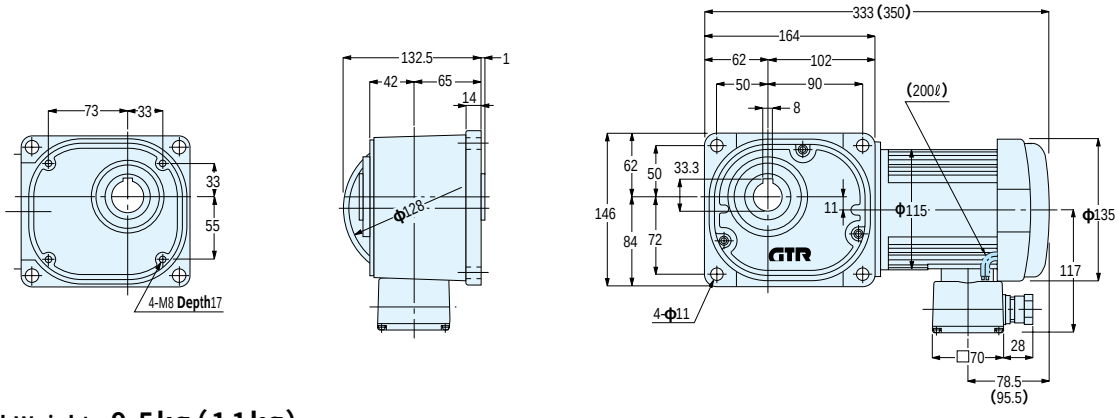
The values in parentheses in the Performance Table/Dimension Diagram indicate the values of gearmotors with brake.

Motor Specs. Standard Voltage (Continuous Rated 4 Poles)	Capacity	Motor Capacity Designation	Frequency (Hz)	Voltage (V)	Rated Current, (A)	Rated Rotation Speed (rpm)	Insulation Classification	Protective Cooling system
	0.2kW	T020	50/60/60	200/200/220	1.1/1.0/1.0	1420/1710/1720	B	Totally Enclosed fan-cooled

Motor Capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio (Fraction)	Output Shaft Rotation Speed (rpm)		Output Shaft Allowable Torque N•m		Output Shaft Allowable Torque kgf•m		Output Shaft Allowable O.H.L.		Output shaft Allowable Thrust Load		Page of Dimension Diagram shown, Fig. No. and Round Weight Gearmotor(Gearmotor with Brake)
				50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	N	kgf	N	kgf	FSM (FSMN)
3-phase 0.2kW	30	1/ 5	1/ 5	300	360	5.5	4.6	0.56	0.47	1520	155	382	39	P.C22 Fig.C-8 9.5kg (11kg)
		1/ 7.5	2/ 15	200	240	8.3	7	0.85	0.71	1760	180	441	45	
		1/ 10	1/ 10	150	180	11	9.2	1.1	0.94	1910	195	481	49	
		1/ 12.5	19/ 235	120	144	14	12	1.4	1.2	2060	210	520	53	
		1/ 15	1/ 15	100	120	17	14	1.7	1.4	2160	220	539	55	
		1/ 20	1/ 20	75	90	23	19	2.3	1.9	2400	245	598	61	
		1/ 25	1/ 25	60	72	27	24	2.8	2.4	2550	260	637	65	
		1/ 30	1/ 30	50	60	33	27	3.4	2.8	2650	270	667	68	
		1/ 40	1/ 40	37.5	45	44	37	4.5	3.8	2840	290	716	73	
		1/ 50	1/ 50	30	36	55	46	5.6	4.7	2990	305	745	76	
		1/ 60	1/ 60	25	30	67	55	6.8	5.6	3090	315	775	79	
		1/ 80	1/ 80	18.8	22.5	84	71	8.6	7.2	3090	315	775	79	
		1/ 100	19/ 1880	15	18	105	87	10.7	8.9	3140	320	785	80	
		1/ 120	1/ 120	12.5	15	126	105	12.9	10.7	3140	320	785	80	
		1/ 160	1/ 160	9.4	11.3	169	140	17.2	14.3	3140	320	785	80	
		＊1/ 200	1/ 200	7.5	9	184	175	18.8	17.9	3140	320	785	80	
		＊1/ 240	1/ 240	6.3	7.5	184	184	18.8	18.8	3140	320	785	80	
	35	1/ 300	7/ 2120	5	6	282	235	28.8	24	3630	370	912	93	P.C23 Fig.C-9 14.5kg (16kg)
		1/ 375	133/49820	4	4.8	353	294	36	30	3630	370	912	93	
		＊1/ 450	7/ 3180	3.3	4	372	353	38	36	3630	370	912	93	
	45	1/ 600	7/ 4240	2.5	3	534	446	54.5	45.5	5190	530	1275	130	P.C23 Fig.C-10 20kg (21.5kg)
		1/ 750	133/99640	2	2.4	668	557	68.2	56.8	5190	530	1275	130	
		＊1/ 900	7/ 6360	1.7	2	713	668	72.8	68.2	5190	530	1275	130	
		＊1/1200	7/ 8480	1.3	1.5	713	713	72.8	72.8	5190	530	1275	130	
		＊1/1500	7/10600	1	1.2	713	713	72.8	72.8	5190	530	1275	130	

Note) The allowable O.H.L. are the values measured at the position of 20mm from the edge of output shaft.
The models marked with ＊ are limited torque type. Be sure to refer to the allowable torque in the Performance Table.

Fig.C-8 FSM-30-5～240-T020A (FSMN-30-5～240-T020A) CAD Data: FSM-30-T020A (CAD Data: FSMN-30-T020A)



Round Weight 9.5kg (11kg)

Model Code P.C10
Multipurpose Inverter P.E86～E92
Option P.E78～E93

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

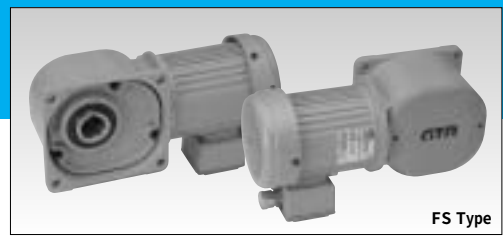
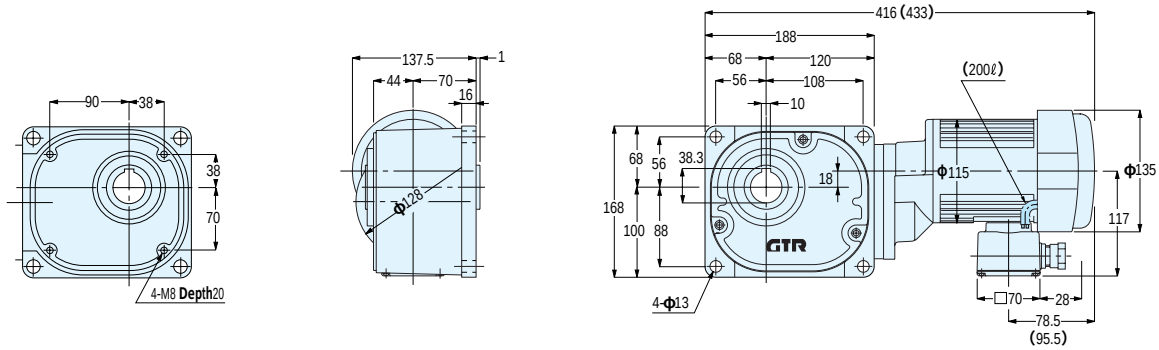


Fig.C-9 FSM-35-300～450-T020A (FSMN-35-300～450-T020A)

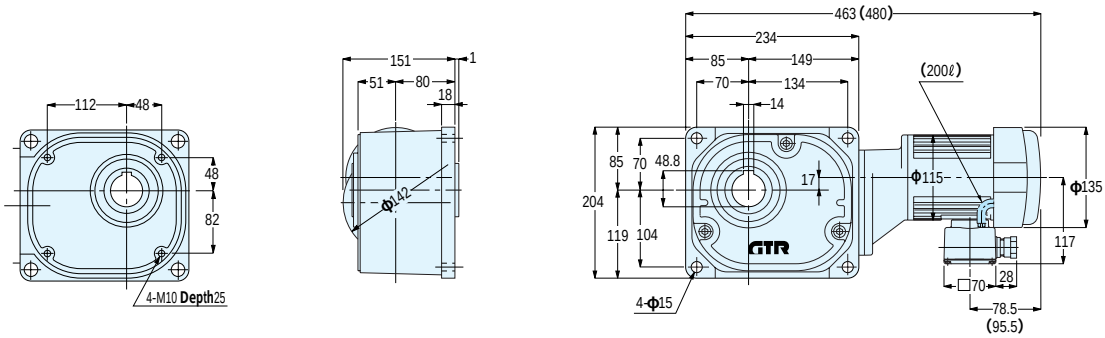
CAD Data: FSM-35-T020A (CAD Data: FSMN-35-T020A)



Round Weight 14.5kg (16kg)

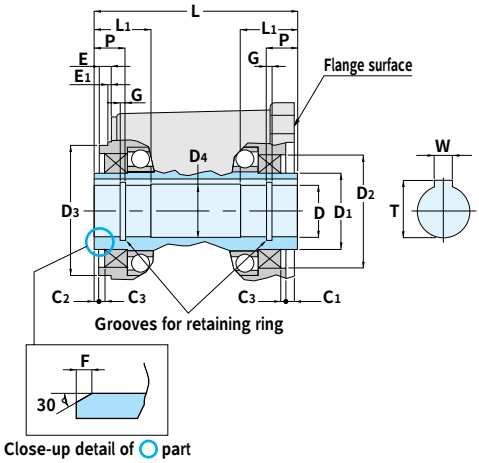
Fig.C-10 FSM-45-600～1500-T020A (FSMN-45-600～1500-T020A)

CAD Data: FSM-45-T020A (CAD Data: FSMN-45-T020A)



Round Weight 20kg (21.5kg)

Detailed dimension diagram for FS-Type output shaft



Frame Number	D (H8)	D1	D2 (H8)	D3 (h8)	D4	W	T	L	L1	P	C1	C2	C3	E	E1	F	G
30	φ30	φ44	φ65	φ75	φ31	8	33.3	117	33	17	5	2	3	7	0	2	1.35
35	φ35	φ49	φ72	φ85	φ36	10	38.3	124	38	20	3	2	3	7	0	2	1.75
45	φ45	φ64	φ85	φ100	φ46	14	48.8	140	50	26	3	2	3	6	0	2	1.95

Note) New JIS Size Key applied: JIS B1301-1976(Standard)
Note) The key for the output shaft is not attached to this model.
Note) C-Type retaining ring conform to JIS B2804-1978.
Note) C-Type retaining ring is not attached to this model.

Gearmotor
Gearmotor with Brake FS Type(Hollow Shaft)
F Series 3-Phase 0.4kW

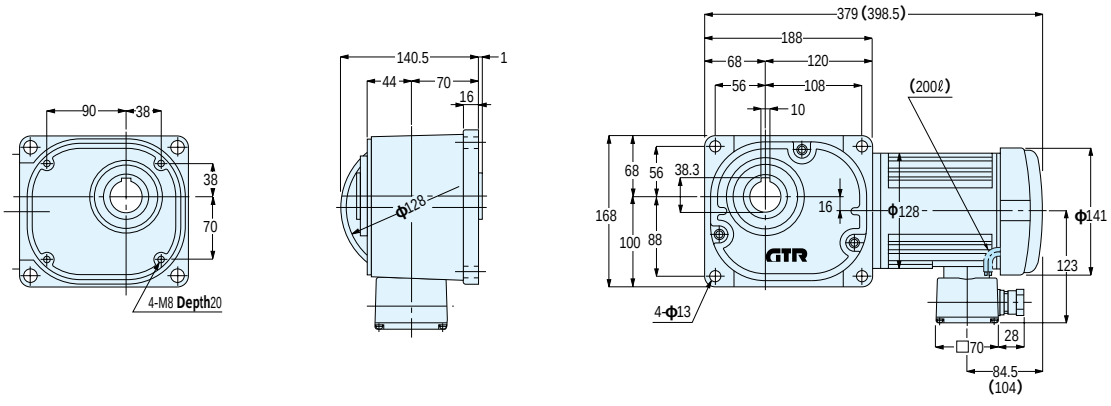
The values in parentheses in the Performance Table/Dimension Diagram indicate the values of gearmotors with brake.

Motor Specs. Standard Voltage (Continuous Rated 4 Poles)	Capacity	Motor Capacity Designation	Frequency (Hz)	Voltage (V)	Rated Current, (A)	Rated Rotation Speed (rpm)	Insulation Classification	Protective Cooling system
	0.4kW	T040	50/60/60	200/200/220	2.1/1.8/1.8	1410/1690/1710	B	Totally Enclosed fan-cooled

Motor Capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio (Fraction)	Output Shaft Rotation Speed (rpm)		Output Shaft Allowable Torque N•m		Output Shaft Allowable Torque kgf•m		Output Shaft Allowable O.H.L.		Output shaft Allowable Thrust Load		Page of Dimension Diagram shown, Fig. No. and Round Weight Gearmotor(Gearmotor with Brake)
				50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	N	kgf	N	kgf	FSM (FSMN)
3-phase 0.4kW	35	1/ 5	1/ 5	300	360	11	9.2	1.1	0.94	1960	200	490	50	P.C24 Fig.C-11 14kg (16kg)
		1/ 7.5	2/ 15	200	240	17	14	1.7	1.4	2250	230	569	58	
		1/ 10	1/ 10	150	180	23	19	2.3	1.9	2450	250	618	63	
		1/ 12.5	19/ 235	120	144	27	24	2.8	2.4	2600	265	647	66	
		1/ 15	1/ 15	100	120	33	27	3.4	2.8	2740	280	686	70	
		1/ 20	1/ 20	75	90	44	37	4.5	3.8	2990	305	745	76	
		1/ 25	1/ 25	60	72	55	46	5.6	4.7	3190	325	794	81	
		1/ 30	1/ 30	50	60	67	55	6.8	5.6	3280	335	824	84	
		1/ 40	1/ 40	37.5	45	88	74	9	7.5	3480	355	873	89	
		1/ 50	1/ 50	30	36	111	92	11.3	9.4	3480	355	873	89	
		1/ 60	1/ 60	25	30	133	111	13.6	11.3	3480	355	873	89	
		1/ 80	1/ 80	18.8	22.5	169	140	17.2	14.3	3480	355	873	89	
		1/ 100	19/ 1880	15	18	211	175	21.5	17.9	3530	360	883	90	
		1/ 120	1/ 120	12.5	15	253	211	25.8	21.5	3530	360	883	90	
		＊1/ 160	1/ 160	9.4	11.3	270	270	27.6	27.6	3630	370	912	93	
		＊1/ 200	1/ 200	7.5	9	270	270	27.6	27.6	3630	370	912	93	
		＊1/ 240	1/ 240	6.3	7.5	270	270	27.6	27.6	3630	370	912	93	
	45	1/ 300	7/ 2080	5	6	565	471	57.7	48.1	5190	530	1275	130	P.C25 Fig.C-12 22.5k (24kg)
		1/ 375	133/48880	4	4.8	707	589	72.1	60.1	5190	530	1275	130	
		＊1/ 450	7/ 3120	3.3	4	713	707	72.8	72.1	5190	530	1275	130	
	55	＊1/ 600	49/28600	2.5	3	1030	891	105	90.9	9800	1000	2452	250	P.C25 Fig.C-13 60.5kg (62kg)
		＊1/ 750	11/ 8320	2	2.4	1030	1030	105	105	9800	1000	2452	250	
		＊1/ 900	7/ 6136	1.7	2	1030	1030	105	105	9800	1000	2452	250	
		＊1/1200	49/57200	1.3	1.5	1030	1030	105	105	9800	1000	2452	250	
		＊1/1500	11/16640	1	1.2	1030	1030	105	105	9800	1000	2452	250	

Note) The allowable O.H.L. are the values measured at the position of 20mm from the edge of output shaft.
The models marked with ＊ are limited torque type. Be sure to refer to the allowable torque in the Performance Table.

Fig.C-11 FSM-35-5～240-T040A (FSMN-35-5～240-T040A) CAD Data: FSM-35-T040A (CAD Data: FSMN-35-T040A)



Round Weight 14kg (16kg)

Model Code P.C10 | Multipurpose Inverter P.E86～E92 | Option P.E78～E93

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

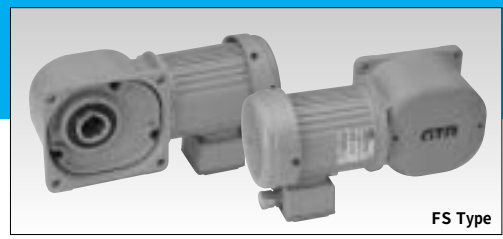
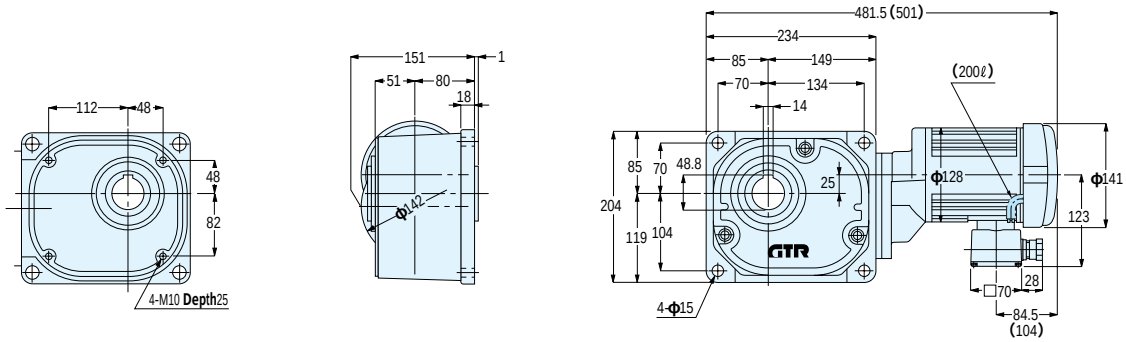


Fig.C-12 FSM-45-300～450-T040A (FSMN-45-300～450-T040A)

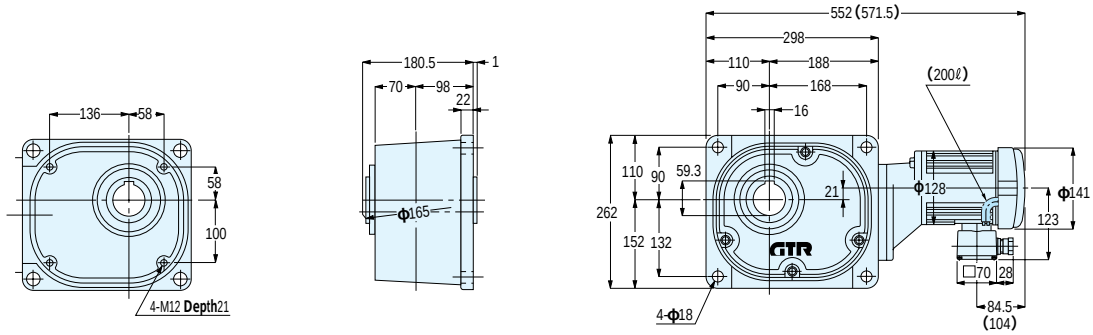
CAD Data: FSM-45-T040A (CAD Data: FSMN-45-T040A)



Round Weight 22.5kg (24kg)

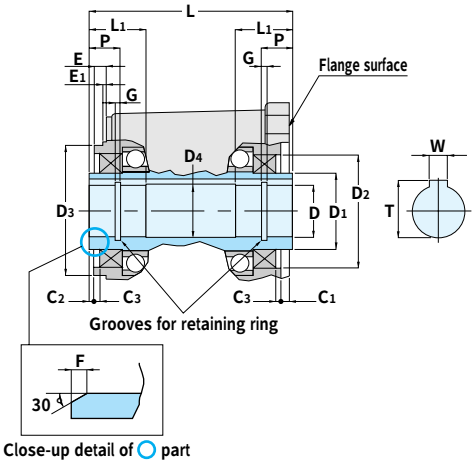
Fig.C-13 FSM-55-600～1500-T040A (FSMN-55-600～1500-T040A)

CAD Data: FSM-55-T040A (CAD Data: FSMN-55-T040A)



Round Weight 60.5kg (62kg)

Detailed dimension diagram for FS-Type output shaft



Close-up detail of ○ part

Frame Number	D (H8)	D1	D2 (H8)	D3 (h8)	D4	W	T	L	L1	P	C1	C2	C3	E	E1	F	G
35	ϕ35	ϕ49	ϕ72	ϕ85	ϕ36	10	38.3	124	38	20	3	2	3	7	0	2	1.75
45	ϕ45	ϕ64	ϕ85	ϕ100	ϕ46	14	48.8	140	50	26	3	2	3	6	0	2	1.95
55	ϕ55	ϕ79	ϕ100	ϕ120	ϕ56	16	59.3	181	61	32	5	2	5	10	2	2	2.20

Note) New JIS Size Key applied: JIS B1301-1976(Standard)
Note) The key for the output shaft is not attached to this model.
Note) C-Type retaining ring conform to JIS B2804-1978.
Note) C-Type retaining ring is not attached to this model.

Gearmotor
Gearmotor with Brake FS Type(Hollow Shaft)
F Series 3-Phase 0.75kW

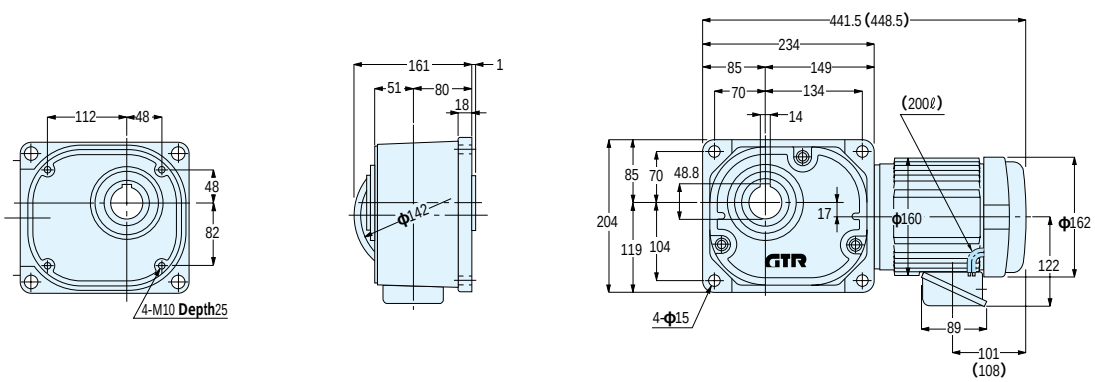
The values in parentheses in the Performance Table/Dimension Diagram indicate the values of gearmotors with brake.

Motor Specs. Standard Voltage (Continuous Rated 4 Poles)	Capacity	Motor Capacity Designation	Frequency (Hz)	Voltage (V)	Rated Current, (A)	Rated Rotation Speed (rpm)	Insulation Classification	Protective Cooling system
	0.75kW	075	50/60/60	200/200/220	3.7/3.3/3.2	1430/1720/1730	B	Totally Enclosed fan-cooled

Motor Capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio (Fraction)	Output Shaft Rotation Speed (rpm)		Output Shaft Allowable Torque N•m		Output Shaft Allowable Torque kgf•m		Output Shaft Allowable O.H.L.		Output shaft Allowable Thrust Load		Page of Dimension Diagram shown, Fig. No. and Round Weight Gearmotor(Gearmotor with Brake)
				50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	N	kgf	N	kgf	FSM (FSMN)
3-phase 0.75kW	45	1/ 5	1/ 5	300	360	21	18	2.1	1.8	2940	300	735	75	P.C26 C-14 24kg (27kg)
		1/ 7.5	2/ 15	200	240	31	25	3.2	2.6	3330	340	834	85	
		1/ 10	1/ 10	150	180	41	34	4.2	3.5	3630	370	912	93	
		1/ 12.5	19/ 235	120	144	52	43	5.3	4.4	3920	400	980	100	
		1/ 15	1/ 15	100	120	63	52	6.4	5.3	4070	415	1030	105	
		1/ 20	1/ 20	75	90	83	70	8.5	7.1	4460	455	1079	110	
		1/ 25	1/ 25	60	72	104	86	10.6	8.8	4700	480	1177	120	
		1/ 30	1/ 30	50	60	124	104	12.7	10.6	4750	485	1177	120	
		1/ 40	1/ 40	37.5	45	166	138	16.9	14.1	4750	485	1177	120	
		1/ 50	1/ 50	30	36	208	173	21.2	17.7	4750	485	1177	120	
		1/ 60	1/ 60	25	30	249	208	25.4	21.2	4750	485	1177	120	
		1/ 80	1/ 80	18.8	22.5	316	263	32.2	26.8	4750	485	1177	120	
		1/ 100	19/1880	15	18	395	328	40.3	33.5	4750	485	1177	120	
		1/ 120	1/ 120	12.5	15	473	395	48.3	40.3	4750	485	1177	120	
		∗1/ 160	1/ 160	9.4	11.3	554	526	56.5	53.7	5190	530	1275	130	
		∗1/ 200	1/ 200	7.5	9	554	554	56.5	56.5	5190	530	1275	130	
		∗1/ 240	1/ 240	6.3	7.5	554	554	56.5	56.5	5190	530	1275	130	
	55	∗1/ 300	7/2120	5	6	1030	883	105	90.1	9800	1000	2452	250	P.C27 Fig.C-15 65kg (67.5kg)
		∗1/ 375	1/ 371	4	4.8	1030	1030	105	105	9800	1000	2452	250	
		∗1/ 450	7/3180	3.3	4	1030	1030	105	105	9800	1000	2452	250	

Note) The allowable O.H.L. are the values measured at the position of 20mm from the edge of output shaft.
The models marked with ∗ are limited torque type. Be sure to refer to the allowable torque in the Performance Table.

Fig.C-14 FSM-45-5〜240-075 CAD Data: FSM-45-075
(FSMN-45-5〜240-075) (CAD Data: FSMN-45-075)



Round Weight 24kg (27kg)

Model Code P.C10
Multipurpose Inverter P.E86〜E92
Option P.E78〜E93

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

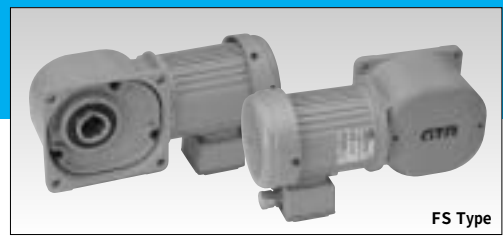
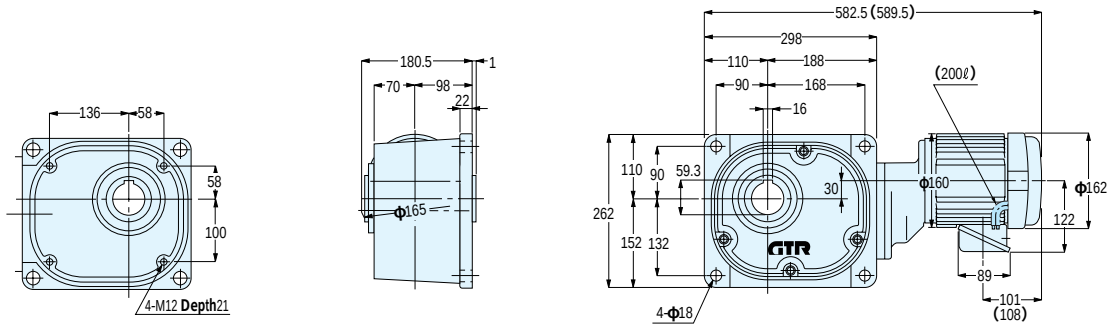


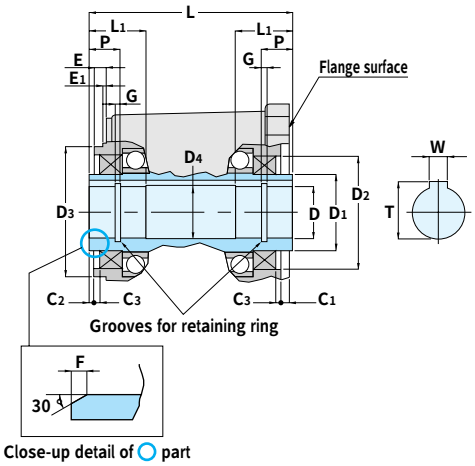
Fig.C-15 FSM-55-300～450-075 (FSMN-55-300～450-075)

CAD Data: FSM-55-075 (CAD Data: FSMN-55-075)



Round Weight 65kg (67.5kg)

■Detailed dimension diagram for FS-Type output shaft



Close-up detail of ○ part

Frame Number	D (H8)	D1	D2 (H8)	D3 (h8)	D4	W	T	L	L1	P	C1	C2	C3	E	E1	F	G
45	φ45	φ64	φ85	φ100	φ46	14	48.8	140	50	26	3	2	3	6	0	2	1.95
55	φ55	φ79	φ100	φ120	φ56	16	59.3	181	61	32	5	2	5	10	2	2	2.20

Note) New JIS Size Key applied: JIS B1301-1976(Standard)
Note) The key for the output shaft is not attached to this model.
Note) C-Type retaining ring conform to JIS B2804-1978.
Note) C-Type retaining ring is not attached to this model.

Gearmotor
Gearmotor with Brake FS Type(Hollow Shaft)
F Series 3-Phase 1.5kW

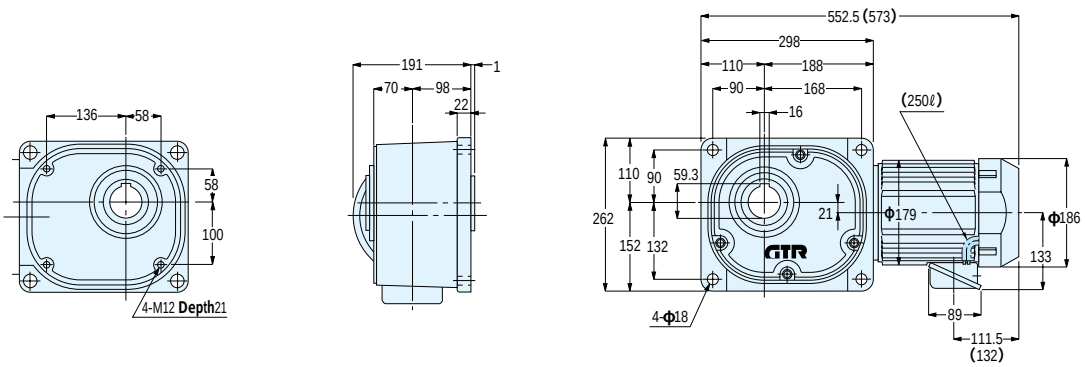
The values in parentheses in the Performance Table/Dimension Diagram indicate the values of gearmotors with brake.

Motor Specs. Standard Voltage (Continuous Rated 4 Poles)	Capacity	Motor Capacity Designation	Frequency (Hz)	Voltage (V)	Rated Current, (A)	Rated Rotation Speed (rpm)	Insulation Classification	Protective Cooling system
	1.5kW	150	50/60/60	200/200/220	6.6/6.1/5.8	1430/1720/1730	B	Totally Enclosed fan-cooled

Motor Capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio (Fraction)	Output Shaft Rotation Speed (rpm)		Output Shaft Allowable Torque N•m		Output Shaft Allowable Torque kgf•m		Output Shaft Allowable O.H.L.		Output shaft Allowable Thrust Load		Page of Dimension Diagram shown, Fig. No. and Round Weight Gearmotor(Gearmotor with Brake)
				50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	N	kgf	N	kgf	FSM (FSMN)
3-phase 1.5kW	55	1/ 5	1/ 5	300	360	41	34	4.2	3.5	4700	480	1177	120	P.C28 Fig.C-16 71kg (74kg)
		1/ 7.5	2/ 15	200	240	63	52	6.4	5.3	5340	545	1324	135	
		1/ 10	1/ 10	150	180	83	70	8.5	7.1	5780	590	1422	145	
		1/ 12.5	4/ 49	120	144	104	86	10.6	8.8	6130	625	1520	155	
		1/ 15	1/ 15	100	120	124	104	12.7	10.6	6320	645	1569	160	
		1/ 20	14/ 275	75	90	166	138	16.9	14.1	6320	645	1569	160	
		1/ 25	11/ 280	60	72	208	173	21.2	17.7	6320	645	1569	160	
		1/ 30	2/ 59	50	60	249	208	25.4	21.2	6320	645	1569	160	
		1/ 40	1/ 40	37.5	45	332	276	33.9	28.2	6320	645	1569	160	
		1/ 50	1/ 49	30	36	416	345	42.4	35.2	6320	645	1569	160	
		1/ 60	1/ 60	25	30	498	416	50.8	42.4	6320	645	1569	160	
		1/ 80	7/ 550	18.8	22.5	631	526	64.4	53.7	6420	655	1618	165	
		1/ 100	11/1120	15	18	789	658	80.5	67.1	6420	655	1618	165	
		1/ 120	1/ 118	12.5	15	947	789	96.6	80.5	7500	765	1863	190	
		＊1/ 160	7/1100	9.4	11.3	1030	1030	105	105	8330	850	2059	210	
		＊1/ 200	11/2240	7.5	9	1030	1030	105	105	9020	920	2256	230	
		＊1/ 240	1/ 236	6.3	7.5	1030	1030	105	105	9800	1000	2452	250	

Note) The allowable O.H.L. are the values measured at the position of 20mm from the edge of output shaft.
The models marked with ＊ are limited torque type. Be sure to refer to the allowable torque in the Performance Table.

Fig.C-16 FSM-55-5〜240-150 CAD Data: FSM-55-150
(FSMN-55-5〜240-150) (CAD Data: FSMN-55-150)

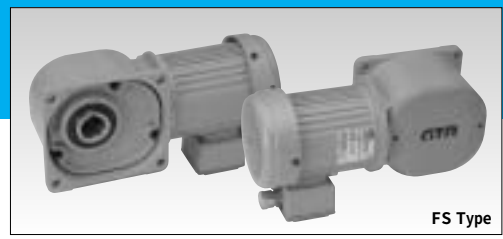


Round Weight 71kg (74kg)

Please refer to page C29 for the detail spec of output shaft.

Model Code P.C10
Multipurpose Inverter P.E86〜E92
Option P.E78〜E93

F Series 3-Phase 2.2kW


FS Type

The values in parentheses in the Performance Table/Dimension Diagram indicate the values of gearmotors with brake.

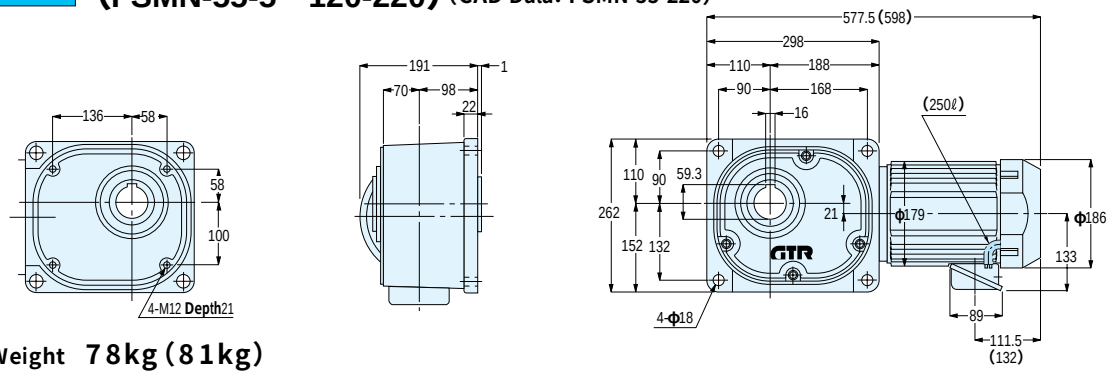
Motor Specs. Standard Voltage (Continuous Rated 4 Poles)	Capacity	Motor Capacity Designation	Frequency (Hz)	Voltage (V)	Rated Current, (A)	Rated Rotation Speed (rpm)	Insulation Classification	Protective Cooling system
	2.2kW	220	50/60/60	200/200/220	9.0/8.6/8.0	1410/1690/1710	B	Totally Enclosed fan-cooled

Motor Capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio (Fraction)	Output Shaft Rotation Speed (rpm)		Output Shaft Allowable Torque N·m		Output Shaft Allowable Torque kgf·m		Output Shaft Allowable O.H.L.		Output shaft Allowable Thrust Load		Page of Dimension Diagram shown, Fig. No. and Round Weight Gearmotor(Gearmotor with Brake)
				50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	N	kgf	N	kgf	FSM (FSMN)
3-phase 2.2kW	55	1/ 5	1/ 5	300	360	61	51	6.2	5.2	4700	480	1177	120	P.C29 Fig.C-17 78kg (81kg)
		1/ 7.5	2/ 15	200	240	91	76	9.3	7.8	5340	545	1324	135	
		1/ 10	1/ 10	150	180	122	102	12.4	10.4	5780	590	1422	145	
		1/ 12.5	4/ 49	120	144	152	126	15.5	12.9	6130	625	1520	155	
		1/ 15	1/ 15	100	120	182	152	18.6	15.5	6320	645	1569	160	
		1/ 20	14/ 275	75	90	244	203	24.9	20.7	6320	645	1569	160	
		1/ 25	11/ 280	60	72	305	254	31.1	25.9	6320	645	1569	160	
		1/ 30	2/ 59	50	60	366	305	37.3	31.1	6320	645	1569	160	
		1/ 40	1/ 40	37.5	45	487	406	49.7	41.4	6320	645	1569	160	
		1/ 50	1/ 49	30	36	609	508	62.1	51.8	6320	645	1569	160	
		1/ 60	1/ 60	25	30	731	609	74.6	62.1	6320	645	1569	160	
		1/ 80	7/ 550	18.8	22.5	926	771	94.5	78.7	6420	655	1618	165	
		＊1/ 100	11/1120	15	18	1030	964	105	98.4	6420	655	1618	165	
		＊1/ 120	1/ 118	12.5	15	1030	1030	105	105	7500	765	1863	190	

Note) The allowable O.H.L. are the values measured at the position of 20mm from the edge of output shaft.
The models marked with ＊ are limited torque type. Be sure to refer to the allowable torque in the Performance Table.

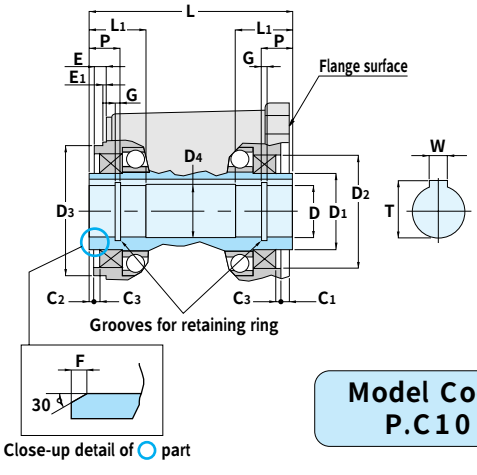
Fig.C-17

FSM-55-5～120-220 (FSMN-55-5～120-220) CAD Data: FSM-55-220 (CAD Data: FSMN-55-220)



Round Weight 78kg (81kg)

Detailed dimension diagram for FS-Type output shaft



Frame Number	D (H8)	D1	D2 (H8)	D3 (h8)	D4	W	T	L	L1	P	C1	C2	C3	E	E1	F	G
55	ϕ55	ϕ79	ϕ100	ϕ120	ϕ56	16	59.3	181	61	32	5	2	5	10	2	2	2.20

Note) New JIS Size Key applied: JIS B1301-1976(Standard)
Note) The key for the output shaft is not attached to this model.
Note) C-Type retaining ring conform to JIS B2804-1978.
Note) C-Type retaining ring is not attached to this model.

Model Code P.C10
Multipurpose Inverter P.E86～E92
Option P.E78～E93

GTR Gearmotor

Hollow Shaft

Gearmotor
Gearmotor with Brake

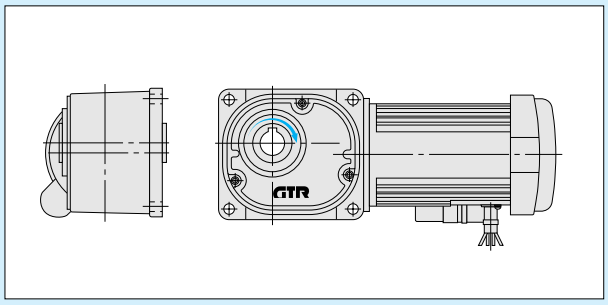
Performance Table
Dimension diagram

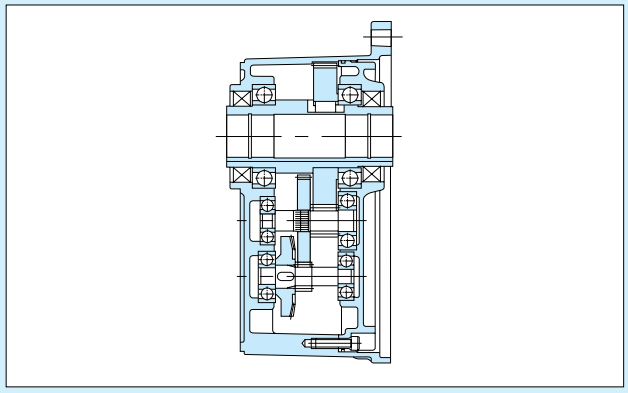
F Series
FS Type

1-Phase

【Remarks】

- The output rotation speed is the value corresponds to the motor synchronous speed and the nominal reduction ratio.
- The shade areas ▭ in the peformance table shows that in case gearmotors are wired according to the diagram shown on page E16, the shaft rotates clockwise when viewing from flange side. (Refer to the diagram shown below.)
- The starting torque of the single-phase 100W motor will be 60～80%, since it employs capacitor-operate motor.





Gearmotor
Gearmotor with Brake FS Type(Hollow Shaft)
F Series 1-phase 100W

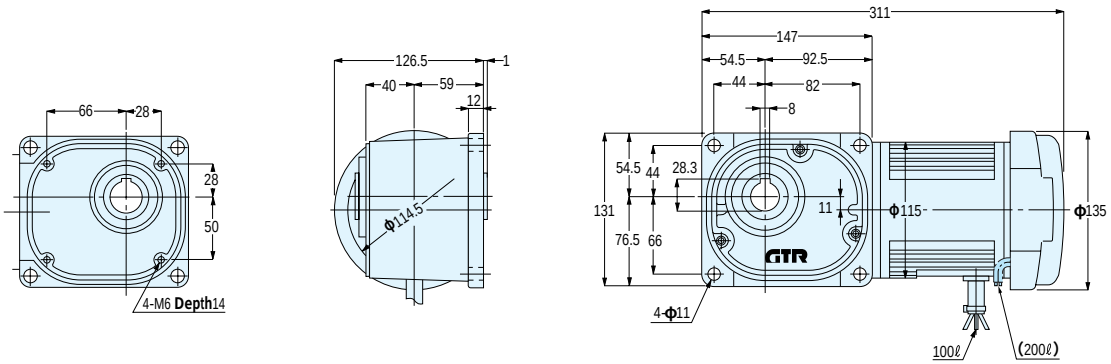
The values in parentheses in the Performance Table/Dimension Diagram indicate the values of gearmotors with brake.

Motor Specs. Standard Voltage (Continuous Rated 4 Poles)	Capacity	Motor Capacity Designation	Frequency (Hz)	Voltage (V)	Rated Current, (A)	Rated Rotation Speed (rpm)	Insulation Classification	Protective Cooling system	Start System
	100W	S100	50/60	100/100	1.7/1.9	1400/1700	E	Totally Enclosed fan-cooled	Capacitor Start

Motor Capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio (Fraction)	Output Shaft Rotation Speed (rpm)		Output Shaft Allowable Torque N•m		Output Shaft Allowable Torque kgf•m		Output Shaft Allowable O.H.L.		Output shaft Allowable Thrust Load		Page of Dimension Diagram shown, Fig. No. and Round Weight Gearmotor(Gearmotor with Brake)
				50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	N	kgf	N	kgf	FSM (FSMN)
1-phase 100W	25	1/ 10	1/ 10	150	180	5.2	4.3	0.53	0.44	1520	155	382	39	P.C32 Fig.C-18 8kg (9kg)
		1/ 12.5	2/ 25	120	144	6.5	5.4	0.66	0.55	1620	165	402	41	
		1/ 15	1/ 15	100	120	7.7	6.5	0.79	0.66	1720	175	431	44	
		1/ 20	1/ 20	75	90	11	8.6	1.1	0.88	1860	190	471	48	
		1/ 25	19/ 470	60	72	13	11	1.3	1.1	2010	205	500	51	
		1/ 30	1/ 30	50	60	16	13	1.6	1.3	2110	215	530	54	
		1/ 40	1/ 40	37.5	45	21	18	2.1	1.8	2300	235	579	59	
		1/ 50	1/ 50	30	36	25	22	2.6	2.2	2450	250	618	63	
		1/ 60	1/ 60	25	30	31	25	3.2	2.6	2550	260	637	65	
		1/ 80	1/ 80	18.8	22.5	39	32	4	3.3	2550	260	637	65	
		1/ 100	19/1880	15	18	49	41	5	4.2	2550	260	637	65	
		1/ 120	1/ 120	12.5	15	59	49	6	5	2550	260	637	65	
		1/ 160	1/ 160	9.4	11.3	78	66	8	6.7	2550	260	637	65	
		1/ 200	1/ 200	7.5	9	98	81	10	8.3	2550	260	637	65	
		∗1/ 240	1/ 240	6.3	7.5	101	98	10.3	10	2550	260	637	65	

Note) The allowable O.H.L. are the values measured at the position of 20mm from the edge of output shaft.
The models marked with ∗ are limited torque type. Be sure to refer to the allowable torque in the Performance Table.

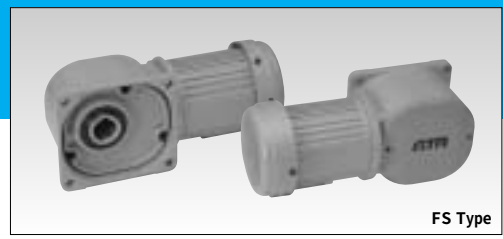
Fig.C-18 FSM-25-10～240-S100 CAD Data: FSM-25-S100
(FSMN-25-10～240-S100) (CAD Data: FSMN-25-S100)



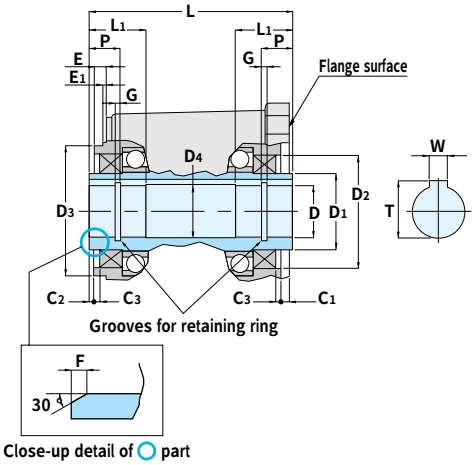
Round Weight 8kg (9kg)

Model Code P.C10
Option P.E78～E85

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox


FS Type

Detailed dimension diagram for FS-Type output shaft



Close-up detail of ○ part

Frame Number	D (H8)	D1	D2 (H8)	D3 (h8)	D4	W	T	L	L1	P	C1	C2	C3	E	E1	F	G
25	ϕ25	ϕ39	ϕ58	ϕ66	ϕ26	8	28.3	108	27	14	6	2	3	6	0	2	1.35

Note) New JIS Size Key applied: JIS B1301-1976(Standard)
Note) The key for the output shaft is not attached to this model.
Note) C-Type retaining ring conform to JIS B2804-1978.
Note) C-Type retaining ring is not attached to this model.

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Gearmotor
Gearmotor with Brake FS Type(Hollow Shaft)
F Series 1-phase 200W

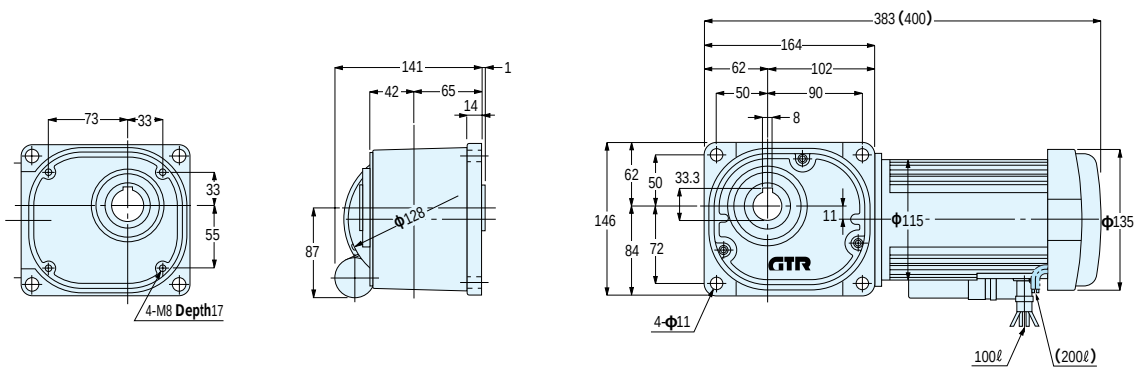
The values in parentheses in the Performance Table/Dimension Diagram indicate the values of gearmotors with brake.

Motor Specs. Standard Voltage (Continuous Rated 4 Poles)	Capacity	Motor Capacity Designation	Frequency (Hz)	Voltage (V)	Rated Current, (A)	Rated Rotation Speed (rpm)	Insulation Classification	Protective Cooling system	Start System
	200W	200	50/60	100/100	5.1/4.5	1420/1700	B	Totally Enclosed fan-cooled	Capacitor Start

Motor Capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio (Fraction)	Output Shaft Rotation Speed (rpm)		Output Shaft Allowable Torque N•m		Output Shaft Allowable Torque kgf•m		Output Shaft Allowable O.H.L.		Output shaft Allowable Thrust Load		Page of Dimension Diagram shown, Fig. No. and Round Weight Gearmotor(Gearmotor with Brake)
				50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	N	kgf	N	kgf	FSM (FSMN)
1-phase 200W	30	1/ 5	1/ 5	300	360	5.5	4.6	0.56	0.47	1520	155	382	39	P.C34 Fig.C-19 12.5kg (14kg)
		1/ 7.5	2/ 15	200	240	8.3	7	0.85	0.71	1760	180	441	45	
		1/ 10	1/ 10	150	180	11	9.2	1.1	0.94	1910	195	481	49	
		1/ 12.5	19/ 235	120	144	14	12	1.4	1.2	2060	210	520	53	
		1/ 15	1/ 15	100	120	17	14	1.7	1.4	2160	220	539	55	
		1/ 20	1/ 20	75	90	23	19	2.3	1.9	2400	245	598	61	
		1/ 25	1/ 25	60	72	27	24	2.8	2.4	2550	260	637	65	
		1/ 30	1/ 30	50	60	33	27	3.4	2.8	2650	270	667	68	
		1/ 40	1/ 40	37.5	45	44	37	4.5	3.8	2840	290	716	73	
		1/ 50	1/ 50	30	36	55	46	5.6	4.7	2990	305	745	76	
		1/ 60	1/ 60	25	30	67	55	6.8	5.6	3090	315	775	79	
		1/ 80	1/ 80	18.8	22.5	84	71	8.6	7.2	3090	315	775	79	
		1/ 100	19/ 1880	15	18	105	87	10.7	8.9	3140	320	785	80	
		1/ 120	1/ 120	12.5	15	126	105	12.9	10.7	3140	320	785	80	
		1/ 160	1/ 160	9.4	11.3	169	140	17.2	14.3	3140	320	785	80	
		∗1/ 200	1/ 200	7.5	9	184	175	18.8	17.9	3140	320	785	80	
		∗1/ 240	1/ 240	6.3	7.5	184	184	18.8	18.8	3140	320	785	80	
	35	1/ 300	7/ 2120	5	6	282	235	28.8	24	3630	370	912	93	P.C35 Fig.C-20 16.5kg (18kg)
		1/ 375	133/49820	4	4.8	353	294	36	30	3630	370	912	93	
		∗1/ 450	7/ 3180	3.3	4	372	353	38	36	3630	370	912	93	
	45	1/ 600	7/ 4240	2.5	3	534	446	54.5	45.5	5190	530	1275	130	P.C35 Fig.C-21 22kg (23.5kg)
		1/ 750	133/99640	2	2.4	668	557	68.2	56.8	5190	530	1275	130	
		∗1/ 900	7/ 6360	1.7	2	713	668	72.8	68.2	5190	530	1275	130	
		∗1/1200	7/ 8480	1.3	1.5	713	713	72.8	72.8	5190	530	1275	130	
		∗1/1500	7/10600	1	1.2	713	713	72.8	72.8	5190	530	1275	130	

Note) The allowable O.H.L. are the values measured at the position of 20mm from the edge of output shaft.
The models marked with ∗ are limited torque type. Be sure to refer to the allowable torque in the Performance Table.

Fig.C-19 FSM-30-5～240-200 (FSMN-30-5～240-200) CAD Data: FSM-30-200 (CAD Data: FSMN-30-200)



Round Weight 12.5kg (14kg)

Model Code P.C10 | Option P.E78～E85

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

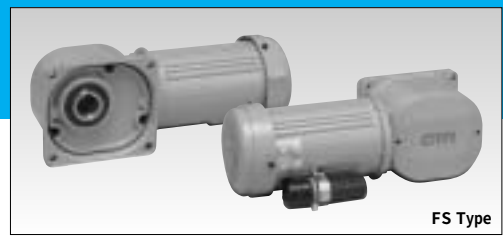
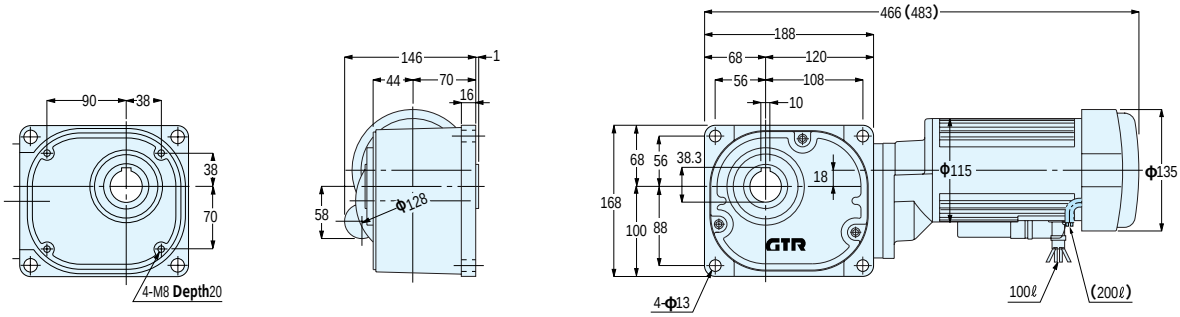


Fig.C-20 FSM-35-300～450-200 (FSMN-35-300～450-200)

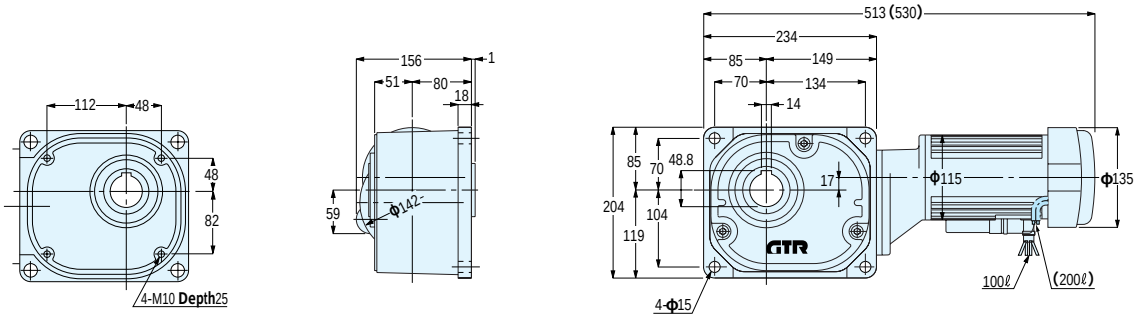
CAD Data: FSM-35-200 (CAD Data: FSMN-35-200)



Round Weight 16.5kg (18kg)

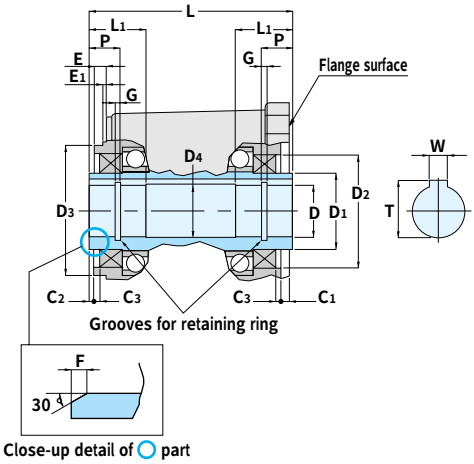
Fig.C-21 FSM-45-600～1500-200 (FSMN-45-600～1500-200)

CAD Data: FSM-45-200 (CAD Data: FSMN-45-200)



Round Weight 22kg (23.5kg)

■Detailed dimension diagram for FS-Type output shaft



Frame Number	D (H8)	D1	D2 (H8)	D3 (h8)	D4	W	T	L	L1	P	C1	C2	C3	E	E1	F	G
30	ϕ30	ϕ44	ϕ65	ϕ75	ϕ31	8	33.3	117	33	17	5	2	3	7	0	2	1.35
35	ϕ35	ϕ49	ϕ72	ϕ85	ϕ36	10	38.3	124	38	20	3	2	3	7	0	2	1.75
45	ϕ45	ϕ64	ϕ85	ϕ100	ϕ46	14	48.8	140	50	26	3	2	3	6	0	2	1.95

Note) New JIS Size Key applied: JIS B1301-1976(Standard)
Note) The key for the output shaft is not attached to this model.
Note) C-Type retaining ring conform to JIS B2804-1978.
Note) C-Type retaining ring is not attached to this model.

Gearmotor
Gearmotor with Brake FS Type(Hollow Shaft)
F Series 1-phase 400W

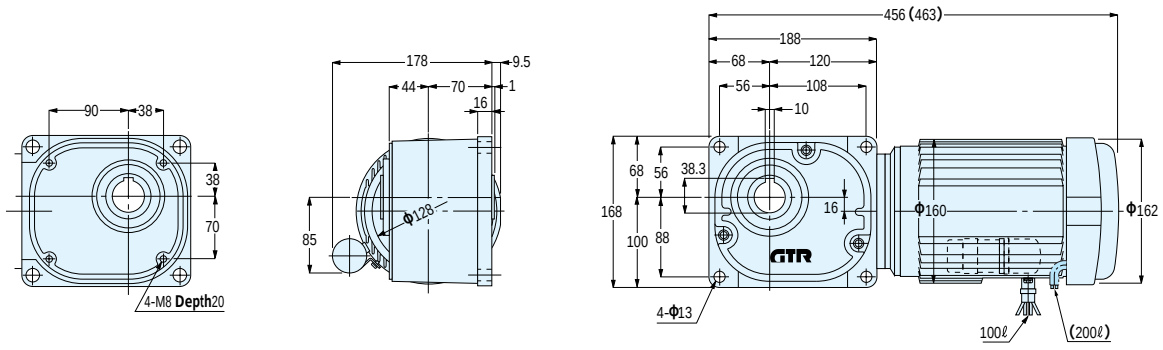
The values in parentheses in the Performance Table/Dimension Diagram indicate the values of gearmotors with brake.

Motor Specs. Standard Voltage (Continuous Rated 4 Poles)	Capacity	Motor Capacity Designation	Frequency (Hz)	Voltage (V)	Rated Current, (A)	Rated Rotation Speed (rpm)	Insulation Classification	Protective Cooling system	Start System
	400W	400	50/60	100/100	8.7/7.9	1440/1730	B	Totally Enclosed fan-cooled	Capacitor Start

Motor Capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio (Fraction)	Output Shaft Rotation Speed (rpm)		Output Shaft Allowable Torque N•m		Output Shaft Allowable Torque kgf•m		Output Shaft Allowable O.H.L.		Output shaft Allowable Thrust Load		Page of Dimension Diagram shown, Fig. No. and Round Weight Gearmotor(Gearmotor with Brake)
				50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	N	kgf	N	kgf	FSM (FSMN)
1-phase 400W	35	1/ 5	1/ 5	300	360	11	9.2	1.1	0.94	1960	200	490	50	P.C36 Fig.C-22 20kg (22.5kg)
		1/ 7.5	2/ 15	200	240	17	14	1.7	1.4	2250	230	569	58	
		1/ 10	1/ 10	150	180	23	19	2.3	1.9	2450	250	618	63	
		1/ 12.5	19/ 235	120	144	27	24	2.8	2.4	2600	265	647	66	
		1/ 15	1/ 15	100	120	33	27	3.4	2.8	2740	280	686	70	
		1/ 20	1/ 20	75	90	44	37	4.5	3.8	2990	305	745	76	
		1/ 25	1/ 25	60	72	55	46	5.6	4.7	3190	325	794	81	
		1/ 30	1/ 30	50	60	67	55	6.8	5.6	3280	335	824	84	
		1/ 40	1/ 40	37.5	45	88	74	9	7.5	3480	355	873	89	
		1/ 50	1/ 50	30	36	111	92	11.3	9.4	3480	355	873	89	
		1/ 60	1/ 60	25	30	133	111	13.6	11.3	3480	355	873	89	
		1/ 80	1/ 80	18.8	22.5	169	140	17.2	14.3	3480	355	873	89	
		1/ 100	19/ 1880	15	18	211	175	21.5	17.9	3530	360	883	90	
		1/ 120	1/ 120	12.5	15	253	211	25.8	21.5	3530	360	883	90	
		＊1/ 160	1/ 160	9.4	11.3	270	270	27.6	27.6	3630	370	912	93	
		＊1/ 200	1/ 200	7.5	9	270	270	27.6	27.6	3630	370	912	93	
		＊1/ 240	1/ 240	6.3	7.5	270	270	27.6	27.6	3630	370	912	93	
	45	1/ 300	7/ 2080	5	6	565	471	57.7	48.1	5190	530	1275	130	P.C37 Fig.C-23 28kg (30.5kg)
		1/ 375	133/48880	4	4.8	707	589	72.1	60.1	5190	530	1275	130	
		＊1/ 450	7/ 3120	3.3	4	713	707	72.8	72.1	5190	530	1275	130	
	55	＊1/ 600	49/28600	2.5	3	1030	891	105	90.9	9800	1000	2452	250	P.C37 Fig.C-24 66kg (68.5kg)
		＊1/ 750	11/ 8320	2	2.4	1030	1030	105	105	9800	1000	2452	250	
		＊1/ 900	7/ 6136	1.7	2	1030	1030	105	105	9800	1000	2452	250	
		＊1/1200	49/57200	1.3	1.5	1030	1030	105	105	9800	1000	2452	250	
		＊1/1500	11/16640	1	1.2	1030	1030	105	105	9800	1000	2452	250	

Note) The allowable O.H.L. are the values measured at the position of 20mm from the edge of output shaft.
The models marked with ＊ are limited torque type. Be sure to refer to the allowable torque in the Performance Table.

Fig.C-22 FSM-35-5～240-400 (FSMN-35-5～240-400) CAD Data: FSM-35-400 (CAD Data: FSMN-35-400)



Round Weight 20kg (22.5kg)

Model Code P.C10 | Option P.E78～E85

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

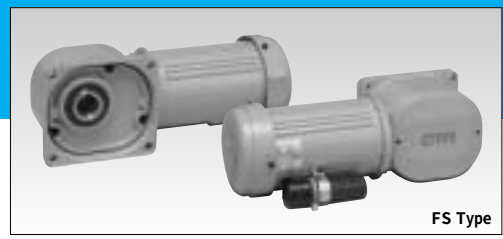
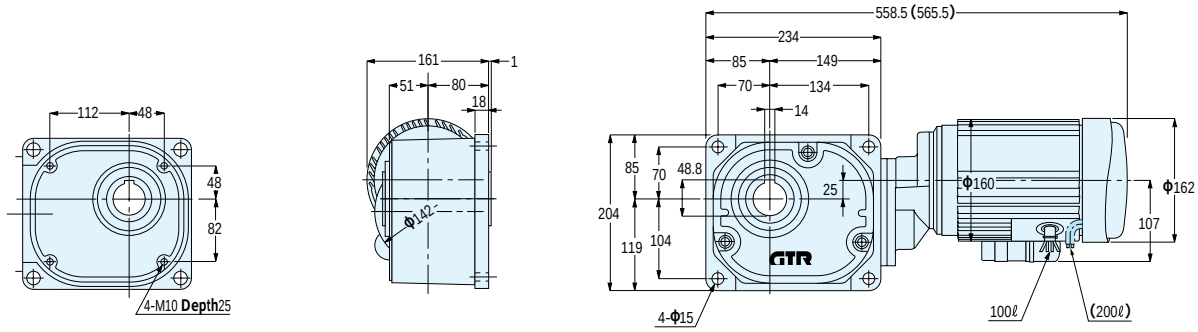


Fig.C-23 FSM-45-300～450-400 (FSMN-45-300～450-400)

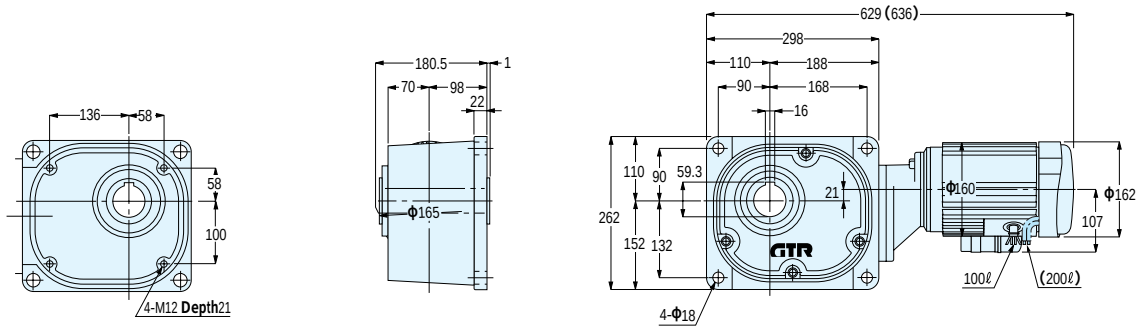
CAD Data: FSM-45-400 (CAD Data: FSMN-45-400)



Round Weight 28kg (30.5kg)

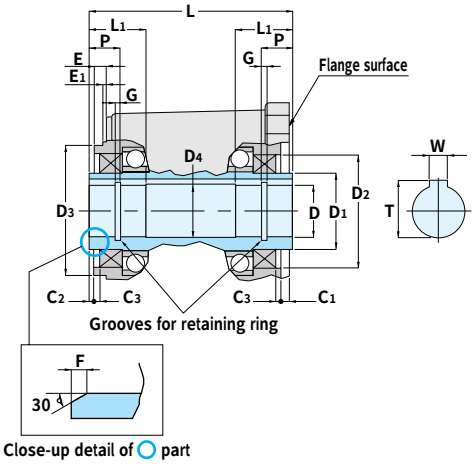
Fig.C-24 FSM-55-600～1500-400 (FSMN-55-600～1500-400)

CAD Data: FSM-55-400 (CAD Data: FSMN-55-400)



Round Weight 66kg (68.5kg)

Detailed dimension diagram for FS-Type output shaft



Frame Number	D (H8)	D1	D2 (H8)	D3 (h8)	D4	W	T	L	L1	P	C1	C2	C3	E	E1	F	G
35	φ35	φ49	φ72	φ85	φ36	10	38.3	124	38	20	3	2	3	7	0	2	1.75
45	φ45	φ64	φ85	φ100	φ46	14	48.8	140	50	26	3	2	3	6	0	2	1.95
55	φ55	φ79	φ100	φ120	φ56	16	59.3	181	61	32	5	2	5	10	2	2	2.20

Note) New JIS Size Key applied: JIS B1301-1976(Standard)
Note) The key for the output shaft is not attached to this model.
Note) C-Type retaining ring conform to JIS B2804-1978.
Note) C-Type retaining ring is not attached to this model.

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

GTR Gearmotor

Solid Shaft

Gearmotor
Gearmotor with Brake

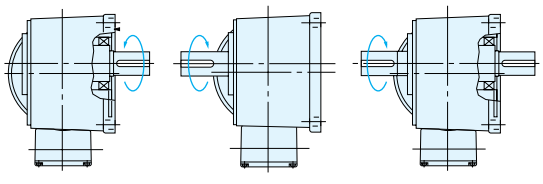
Performance Table
Dimension diagram

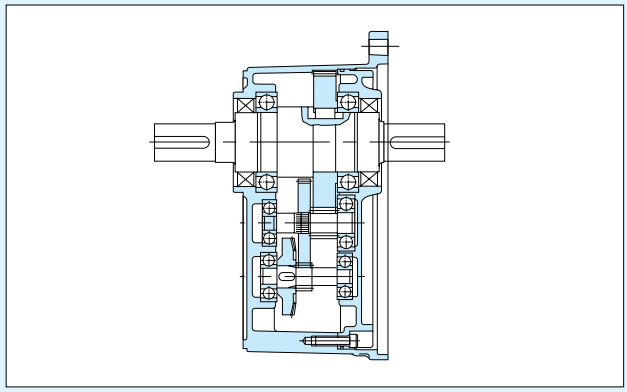
F Series
FF Type

3-Phase

【Remarks】

- The output rotation speed is the value corresponds to the motor synchronous speed and the nominal reduction ratio.
- The shaded areas ▭ in the performance table shows that in case gearmotors are wired according to the diagram shown on page E16, L-shaft rotates clockwise while R and T-shafts rotate counterclockwise when viewing from output shaft side. (Refer to the diagram shown below.)





Gearmotor
Gearmotor with Brake FF Type(Solid Shaft)
F Series 50W

The values in parentheses in the Performance Table/Dimension Diagram indicate the values of gearmotors with brake.

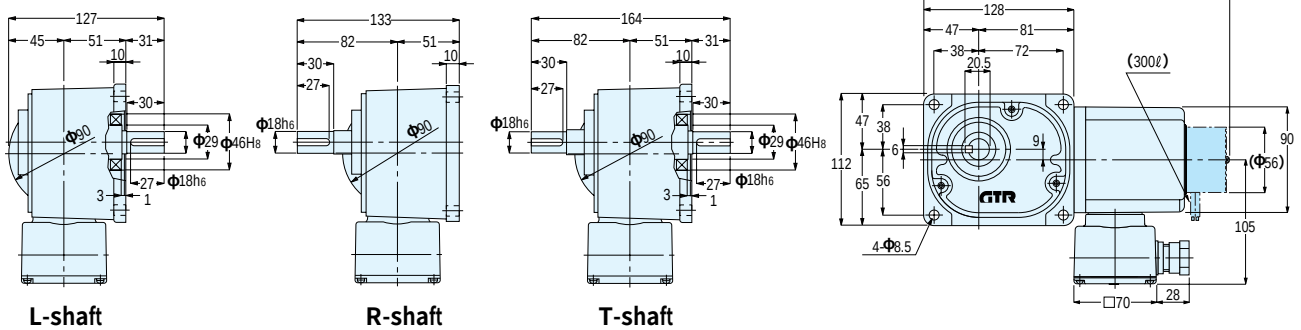
Motor Specs. Standard Voltage (Continuous Rated 4 Poles)	Capacity	Motor Capacity Designation,	Frequency, (Hz)	Voltage, (V)	Rated Current, (A)	Rated Rotation Speed (rpm)	Insulation Classification	Protective Cooling System
	50W	T50	50/60/60	200/200/220	0.40/0.36/0.36	1350/1550/1600	E	Totally Enclosed non-ventilated

Motor Capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio (Fraction)	Output Shaft Rotation Speed (rpm)		Output Shaft Allowable Torque N·m		Output Shaft Allowable Torque kgf·m		Output Shaft Allowable O.H.L.		Page of Dimension Diagram shown, Fig. No. and Round Weight Gearmotor(Gearmotor with Brake)
				50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	N	kgf	FFM (FFMN)
50W	18	1/ 10	4/ 41	150	180	2.5	2.2	0.26	0.22	1080	110	P.C40 Fig.C-51 5kg (5.5kg)
		1/ 12.5	100/ 1271	120	144	3.2	2.6	0.33	0.27	1180	120	
		1/ 15	8/ 123	100	120	3.8	3.2	0.39	0.33	1230	125	
		1/ 20	2/ 41	75	90	5.2	4.3	0.53	0.44	1370	140	
		1/ 25	8/ 205	60	72	6.5	5.4	0.66	0.55	1470	150	
		1/ 30	4/ 123	50	60	7.7	6.5	0.79	0.66	1570	160	
		1/ 40	1/ 41	37.5	45	11	8.6	1.1	0.88	1720	175	
		1/ 50	4/ 205	30	36	13	11	1.3	1.1	1860	190	
		1/ 60	40/ 2419	25	30	16	13	1.6	1.3	1860	190	
		1/ 80	1/ 82	18.8	22.5	20	17	2	1.7	1860	190	
		1/ 100	2/ 205	15	18	25	21	2.5	2.1	1860	190	
		1/ 120	1/ 123	12.5	15	29	25	3	2.5	1860	190	
		1/ 160	1/ 164	9.4	11.3	39	32	4	3.3	1860	190	
		1/ 200	1/ 205	7.5	9	49	41	5	4.2	1860	190	
		∗1/ 240	10/ 2419	6.3	7.5	54	49	5.5	5	1860	190	

Note) The allowable O.H.L. are the values measured at the position of 20mm from the edge of output shaft.
The models marked with ∗ are limited torque type. Be sure to refer to the allowable torque in the Performance Table.

Fig.C-51

FFM-18[L/R/T]-10～240-T50A CAD Data: FFM-18(LRT)-T50A
(FFMN-18[L/R/T]-10～240-T50A) (CAD Data: FFMN-18(LRT)-T50A)

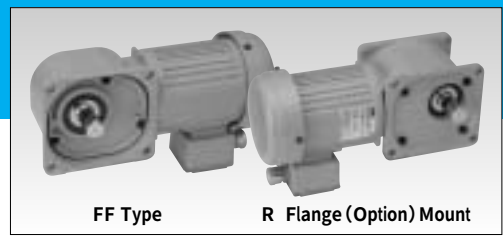


L-shaft R-shaft T-shaft

Round Weight 5kg (5.5kg)

Model Code P.C10
Option P.E78～E85

F Series 0.1kW



FF Type　　R Flange (Option) Mount

The values in parentheses in the Performance Table/Dimension Diagram indicate the values of gearmotors with brake.

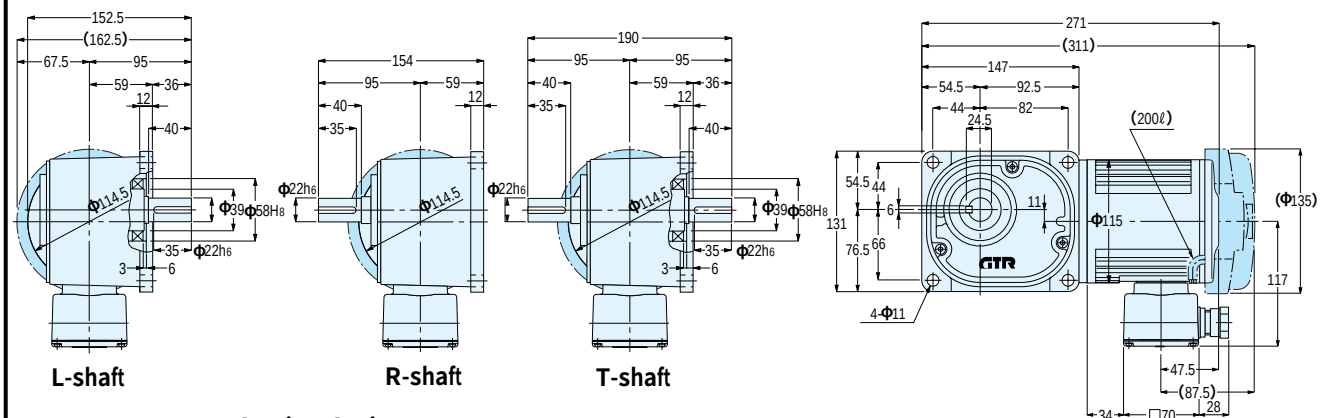
Motor Specs. Standard Voltage (Continuous Rated 4 Poles)	Capacity	Motor Capacity Designation,	Frequency, (Hz)	Voltage, (V)	Rated Current, (A)	Rated Rotation Speed (rpm)	Insulation Classification	Protective Cooling System
	0.1kW	T010	50/60/60	200/200/220	0.61/0.54/0.54	1420/1700/1720	B	Totally Enclosed non-ventilated (Totally Enclosed fan-cooled)

Motor Capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio (Fraction)	Output Shaft Rotation Speed (rpm)		Output Shaft Allowable Torque N·m		Output Shaft Allowable Torque kgf·m		Output Shaft Allowable O.H.L.		Page of Dimension Diagram shown, Fig. No. and Round Weight Gearmotor(Gearmotor with Brake)
				50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	N	kgf	FFM (FFMN)
0.1kW	22	1/ 10	1/ 10	150	180	5.2	4.3	0.53	0.44	1520	155	P.C41 Fig.C-52 8.5kg (10kg)
		1/ 12.5	2/ 25	120	144	6.5	5.4	0.66	0.55	1620	165	
		1/ 15	1/ 15	100	120	7.7	6.5	0.79	0.66	1720	175	
		1/ 20	1/ 20	75	90	11	8.6	1.1	0.88	1910	195	
		1/ 25	19/ 470	60	72	13	11	1.3	1.1	2060	210	
		1/ 30	1/ 30	50	60	16	13	1.6	1.3	2160	220	
		1/ 40	1/ 40	37.5	45	21	18	2.1	1.8	2400	245	
		1/ 50	1/ 50	30	36	25	22	2.6	2.2	2550	260	
		1/ 60	1/ 60	25	30	31	25	3.2	2.6	2550	260	
		1/ 80	1/ 80	18.8	22.5	39	32	4	3.3	2550	260	
		1/ 100	19/ 1880	15	18	49	41	5	4.2	2550	260	
		1/ 120	1/ 120	12.5	15	59	49	6	5	2550	260	
		1/ 160	1/ 160	9.4	11.3	78	66	8	6.7	2550	260	
		1/ 200	1/ 200	7.5	9	98	81	10	8.3	2550	260	
		＊1/ 240	1/ 240	6.3	7.5	101	98	10.3	10	2550	260	

Note) The allowable O.H.L. are the values measured at the position of 20mm from the edge of output shaft.
The models marked with ＊ are limited torque type. Be sure to refer to the allowable torque in the Performance Table.

Fig.C-52

FFM-22RT-10～240-T010A　CAD Data: FFM-22(LRT)-T010A
(FFMN-22RT-10～240-T010A)　(CAD Data: FFMN-22(LRT)-T010A)



L-shaft　　R-shaft　　T-shaft

Round Weight　8.5kg (10kg)

Model Code P.C10
Multipurpose Inverter P.E86～E92
Option P.E78～E92

Gearmotor
Gearmotor with Brake FF Type(Solid Shaft)
F Series 0.2kW

The values in parentheses in the Performance Table/Dimension Diagram indicate the values of gearmotors with brake.

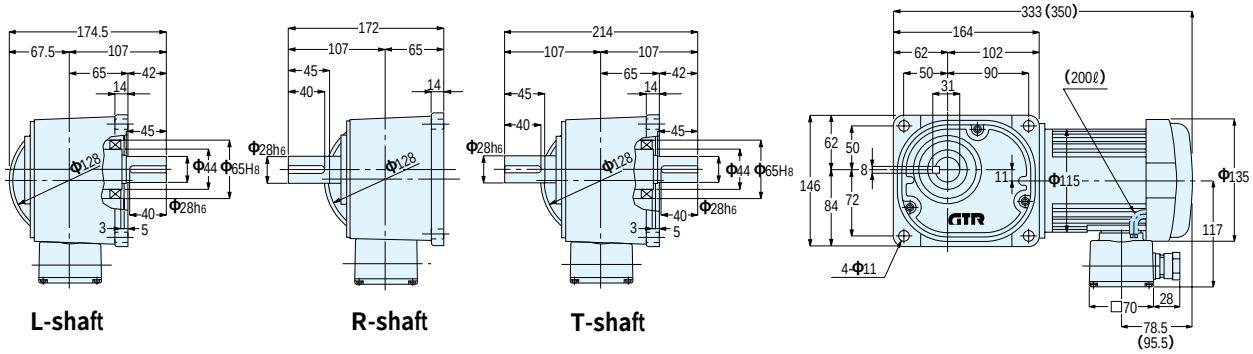
Motor Specs. Standard Voltage (Continuous Rated 4 Poles)	Capacity	Motor Capacity Designation,	Frequency, (Hz)	Voltage, (V)	Rated Current, (A)	Rated Rotation Speed (rpm)	Insulation Classification	Protective Cooling System
	0.2kW	T020	50/60/60	200/200/220	1.1/1.0/1.0	1420/1710/1720	B	Totally Enclosed fan-cooled

Motor Capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio (Fraction)	Output Shaft Rotation Speed (rpm)		Output Shaft Allowable Torque N·m		Output Shaft Allowable Torque kgf·m		Output Shaft Allowable O.H.L.		Page of Dimension Diagram shown, Fig. No. and Round Weight Gearmotor(Gearmotor with Brake)
				50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	N	kgf	FFM (FFMN)
0.2kW	28	1/ 5	1/ 5	300	360	5.5	4.6	0.56	0.47	1470	150	P.C42 Fig.C-53 10.5kg (12kg)
		1/ 7.5	2/ 15	200	240	8.3	7.0	0.85	0.71	1670	170	
		1/ 10	1/ 10	150	180	11	9.2	1.1	0.94	1810	185	
		1/ 12.5	19/ 235	120	144	14	12	1.4	1.2	1960	200	
		1/ 15	1/ 15	100	120	17	14	1.7	1.4	2060	210	
		1/ 20	1/ 20	75	90	23	19	2.3	1.9	2300	235	
		1/ 25	1/ 25	60	72	27	24	2.8	2.4	2450	250	
		1/ 30	1/ 30	50	60	33	27	3.4	2.8	2600	265	
		1/ 40	1/ 40	37.5	45	44	37	4.5	3.8	2790	285	
		1/ 50	1/ 50	30	36	55	46	5.6	4.7	2990	305	
		1/ 60	1/ 60	25	30	67	55	6.8	5.6	3090	315	
		1/ 80	1/ 80	18.8	22.5	84	71	8.6	7.2	3090	315	
		1/ 100	19/ 1880	15	18	105	87	10.7	8.9	3140	320	
		1/ 120	1/ 120	12.5	15	126	105	12.9	10.7	3140	320	
		1/ 160	1/ 160	9.4	11.3	169	140	17.2	14.3	3140	320	
		＊1/ 200	1/ 200	7.5	9	184	175	18.8	17.9	3140	320	
		＊1/ 240	1/ 240	6.3	7.5	184	184	18.8	18.8	3140	320	

Note) The allowable O.H.L. are the values measured at the position of 20mm from the edge of output shaft.
The models marked with ＊ are limited torque type. Be sure to refer to the allowable torque in the Performance Table.

Fig.C-53

FFM-28$^{RT}_{LT}$-5～240-T020A (CAD Data: FFM-28(LRT)-T020A)
(FFMN-28$^{RT}_{LT}$-5～240-T020A) (CAD Data: FFMN-28(LRT)-T020A)

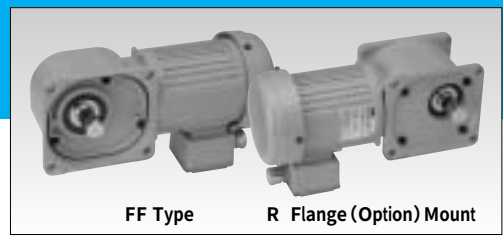


L-shaft R-shaft T-shaft

Round Weight 10.5kg (12kg)

Model Code P.C10
Multipurpose Inverter P.E86～E92
Option P.E78～E92

F Series 0.4kW



FF Type R Flange (Option) Mount

The values in parentheses in the Performance Table/Dimension Diagram indicate the values of gearmotors with brake.

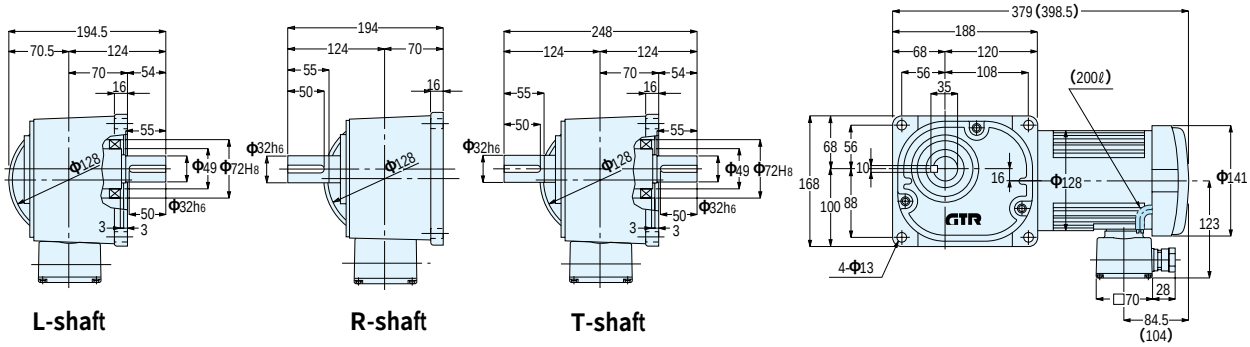
Motor Specs. Standard Voltage (Continuous Rated 4 Poles)	Capacity	Motor Capacity Designation,	Frequency, (Hz)	Voltage, (V)	Rated Current, (A)	Rated Rotation Speed (rpm)	Insulation Classification	Protective Cooling System
	0.4kW	T040	50/60/60	200/200/220	2.1/1.8/1.8	1410/1690/1710	B	Totally Enclosed fan-cooled

Motor Capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio (Fraction)	Output Shaft Rotation Speed (rpm)		Output Shaft Allowable Torque N·m		Output Shaft Allowable Torque kgf·m		Output Shaft Allowable O.H.L.		Page of Dimension Diagram shown, Fig. No. and Round Weight Gearmotor(Gearmotor with Brake)
				50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	N	kgf	FFM (FFMN)
0.4kW	32	1/ 5	1/ 5	300	360	11	9.2	1.1	0.94	1760	180	P.C43 Fig.C-54 16kg (18kg)
		1/ 7.5	2/ 15	200	240	17	14	1.7	1.4	2010	205	
		1/ 10	1/ 10	150	180	23	19	2.3	1.9	2210	225	
		1/ 12.5	19/ 235	120	144	27	24	2.8	2.4	2350	240	
		1/ 15	1/ 15	100	120	33	27	3.4	2.8	2500	255	
		1/ 20	1/ 20	75	90	44	37	4.5	3.8	2700	275	
		1/ 25	1/ 25	60	72	55	46	5.6	4.7	2890	295	
		1/ 30	1/ 30	50	60	67	55	6.8	5.6	3040	310	
		1/ 40	1/ 40	37.5	45	88	74	9	7.5	3280	335	
		1/ 50	1/ 50	30	36	111	92	11.3	9.4	3330	340	
		1/ 60	1/ 60	25	30	133	111	13.6	11.3	3330	340	
		1/ 80	1/ 80	18.8	22.5	169	140	17.2	14.3	3330	340	
		1/ 100	19/ 1880	15	18	211	175	21.5	17.9	3380	345	
		1/ 120	1/ 120	12.5	15	253	211	25.8	21.5	3380	345	
		＊1/ 160	1/ 160	9.4	11.3	270	270	27.6	27.6	3580	365	
		＊1/ 200	1/ 200	7.5	9	270	270	27.6	27.6	3630	370	
		＊1/ 240	1/ 240	6.3	7.5	270	270	27.6	27.6	3630	370	

Note) The allowable O.H.L. are the values measured at the position of 20mm from the edge of output shaft.
The models marked with ＊ are limited torque type. Be sure to refer to the allowable torque in the Performance Table.

Fig.C-54

FFM-32$^{K}_{T}$-5～240-T040A CAD Data: FFM-32 (LRT) -T040A
(FFMN-32$^{K}_{T}$-5～240-T040A) (CAD Data: FFMN-32 (LRT) -T040A)



L-shaft R-shaft T-shaft

Round Weight 16kg (18kg)

Model Code P.C10
Multipurpose Inverter P.E86～E92
Option P.E78～E92

Gearmotor
Gearmotor with Brake FS Type(Solid Shaft)
F Series 0.75kW

The values in parentheses in the Performance Table/Dimension Diagram indicate the values of gearmotors with brake.

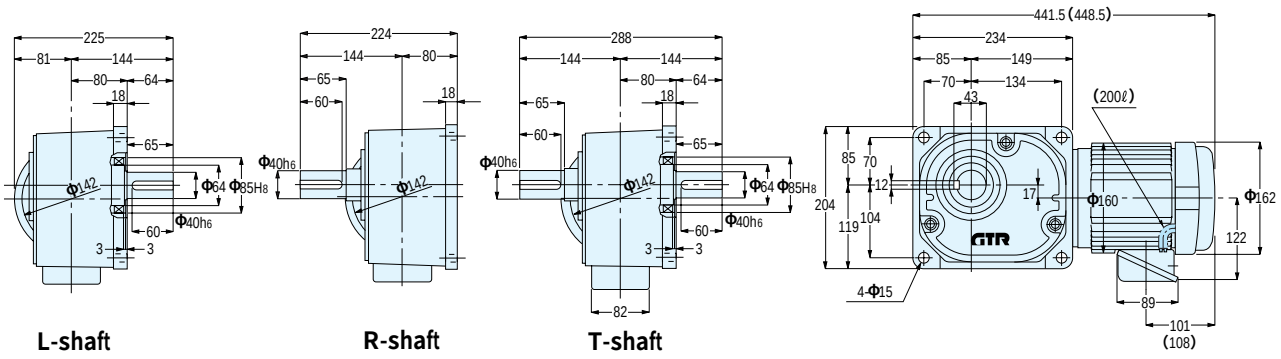
Motor Specs. Standard Voltage (Continuous Rated 4 Poles)	Capacity	Motor Capacity Designation,	Frequency, (Hz)	Voltage, (V)	Rated Current, (A)	Rated Rotation Speed (rpm)	Insulation Classification	Protective Cooling System
	0.75kW	075	50/60/60	200/200/220	3.7/3.3/3.2	1430/1720/1730	B	Totally Enclosed fan-cooled

Motor Capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio (Fraction)	Output Shaft Rotation Speed (rpm)		Output Shaft Allowable Torque N•m		Output Shaft Allowable Torque kgf•m		Output Shaft Allowable O.H.L.		Page of Dimension Diagram shown, Fig. No. and Round Weight Gearmotor(Gearmotor with Brake)
				50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	N	kgf	FFM (FFMN)
0.75kW	40	1/ 5	1/ 5	300	360	21	18	2.1	1.8	2500	255	P.C44 Fig.C-55 28kg (31kg)
		1/ 7.5	2/ 15	200	240	31	25	3.2	2.6	2840	290	
		1/ 10	1/ 10	150	180	41	34	4.2	3.5	3140	320	
		1/ 12.5	19/ 235	120	144	52	43	5.3	4.4	3380	345	
		1/ 15	1/ 15	100	120	63	52	6.4	5.3	3530	360	
		1/ 20	1/ 20	75	90	83	70	8.5	7.1	3870	395	
		1/ 25	1/ 25	60	72	104	86	10.6	8.8	4170	425	
		1/ 30	1/ 30	50	60	124	104	12.7	10.6	4310	440	
		1/ 40	1/ 40	37.5	45	166	138	16.9	14.1	4460	455	
		1/ 50	1/ 50	30	36	208	173	21.2	17.7	4460	455	
		1/ 60	1/ 60	25	30	249	208	25.4	21.2	4460	455	
		1/ 80	1/ 80	18.8	22.5	316	263	32.2	26.8	4460	455	
		1/ 100	19/ 1880	15	18	395	328	40.3	33.5	4460	455	
		1/ 120	1/ 120	12.5	15	473	395	48.3	40.3	4460	455	
		∗1/ 160	1/ 160	9.4	11.3	554	526	56.5	53.7	4850	495	
		∗1/ 200	1/ 200	7.5	9	554	554	56.5	56.5	5190	530	
		∗1/ 240	1/ 240	6.3	7.5	554	554	56.5	56.5	5190	530	

Note) The allowable O.H.L. are the values measured at the position of 20mm from the edge of output shaft.
The models marked with ∗ are limited torque type. Be sure to refer to the allowable torque in the Performance Table.

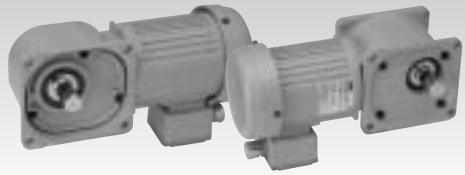
Fig.C-55

FFM-40$^{L}_{R}$-5～240-075 CAD Data: FFM-40(LRT)-075
(FFMN-40$^{L}_{R}$-5～240-075) (CAD Data: FFMN-40(LRT)-075)



Round Weight 28kg (31kg)

Model Code P.C10
Multipurpose Inverter P.E86～E92
Option P.E78～E92



FF Type R Flange (Option) Mount

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Hollow Shaft IP-65

Water-Resistant Gearmotor Gearmotor with Brake

Model • Type Designation Standard Model Lineup

GTR Gearmotor

F Series FS Type

Motor Part	Number of phase	3-phase
	Capacity	0.1kW～2.2kW
	Power Source	3 Rated Power Source 200V 50/60Hz, 220V/60Hz
	Insulation Classification	Class B
	Starting Method	Direct start
	Protective cooling Method	Totally Enclosed fan-cooled (Totally Enclosed non-ventilated for 0.1kW)
	Number of Pole	4
	Rating	Continuous Rating
Speed Reduction Part	Reduction Method	Hypoid gear and Helical gear
	Lubrication	Grease Lubrication(Maintenance Free)
	Output Shaft	New JIS Key(JIS 1301-1976 class)
	Output Shaft Material	SUS420J2 (Water-Resistant W/Carbon Steel Shaft is S43C)
	Case Material	Aluminium die-cast(Frame No.55: Cast iron)
Ambient Conditions	Ambient Temperature	−10°C～40°C
	Ambient Humidity	100% max.(without any dew condensation)
	Altitude	1,000m max.
	Environment	Well ventilated place free from corrosive gas, Should not be used in water and the place where high-hydrostatic pressure receives.
	Installation Location	Indoors
Painting	Painting Method	Anion painting, Acrylic paint
	Painting Color	Grey(Mansel code: 9B6/0.5)
Mounting Direction		No restriction in the mounting angle.(horizontally, vertically or heeling angle)

Model and Type Designation F Series FS Type (Hollow Shaft)

F Series Water-resistant-Outdoor gearmotor are classified by codes as shown below.
Specify these codes in your inquiry and order.

Type			Frame Number	Reduction Ratio	Motor Capacity	Option	Terminal box	Auxiliary Mark	Spec. Designation
F	S	W	– 35	– 50	– T040	W	E		
F	S	V	– 45	– 100	– T010		E	X	AA
①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩

①Series Name	F	: F Series(Hollow Shaft)
②Classification by Mount Form	S	: Hollow Shaft Type (Note 1)
③Classification by Motor Type	W	: With Water-resistant Motor W/SUS Shaft(JIS SUS420J2)
	V	: With Water-resistant Brake Motor W/SUS Shaft (JIS SUS420J2)
	G	: With Water-resistant Motor W/Carbon Steel Shaft(JIS:S43C)
	H	: With Water-resistant Brake Motor W/Carbon Steel Shaft (JIS:S43C)
④Frame No. and Diameter of Output shaft	Output Shaft Diameter (bore)	
⑤Reduction Ratio	5 : 1/5 ~ 1500 : 1/1500	
⑥Motor Designation and Capacity	T010	: 3-phase 0.1 kW
	T020	: 3-phase 0.2 kW
	T040	: 3-phase 0.4 kW
	075	: 3-phase 0.75kW
	150	: 3-phase 1.5 kW
	220	: 3-phase 2.2 kW
⑦Option	Blank	: Standard Voltage 3-phase : 200V/50Hz, 200V/60Hz, 220V/60Hz
	W	: High Voltage 3-phase : 380V/50Hz, 400V/50Hz, 400V/60Hz, 440V/60Hz
⑧Terminal box	E	: Terminal Box for with Water-resistant, type only. (Standard Specs.)
⑨Auxiliary Mark	Blank	: Standard Specs.
	X	: Code to identify additional special specs.
⑩Spec. Designation Note: Spec. Designation does not appear on the product type designation in the nameplate. It is specified on the additional numbers in the nameplate.	●Specification Code for Rectifier built-in Wiring For details, refer to the Specification Code Table on page E31. ●Instruction for terminal box position. Refer to the specification code list on page E37 for details.	

Note 1) Please note that only FS Type(hollow shaft) is available and FF Type(solid shaft) is not available in the F-Series water-resistant•outdoor type.

Separated rectifier type is the standard specification of the terminal box in gearmotors with brake.
When you need the rectifier built-in type, contact us with the following manner. We will do the wiring accordingly.
For details, refer to page E31.

Type	Type Code when ordering(Example) (Indicate this type cord in your order.)
Standard (rectifier separated)	FSV-35-50-T040E
AC Switching A	FSV-35-50-T040EX-AA
AC Switching B	FSV-35-50-T040EX-AB
DC Switching	FSV-35-50-T040EX-DC

(Note) ⑩The wiring method indication code does not appear on the product-type name. It appears in the supplemental number column on the nameplate.

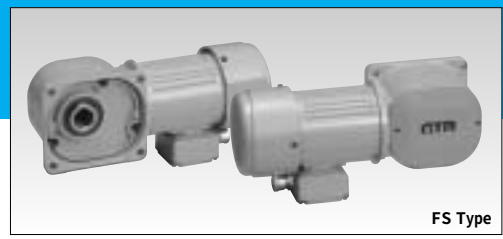
■Model•Type Code (Option)

Capacity•Option				
T040	E	X	–	AA
	⑧	⑨		⑩

⑧Terminal box	Refer to the above table.
⑨Auxiliary Code	Refer to the above table.
⑩Wiring Method Indication Code (Note)	Refer to the table on the left.

When ordering gearmotors with brake, indicate the wiring method too as stated above.

Standard Model Lineup


FS Type

FS Type (Hollow Shaft) Model Lineup

Type	4P Motor Capacity	Frame Number	Reduction Ratio
Water-Resistant W/SUS Shaft Gearmotor FSW	3-phase 0.1kW	25	1/10 1/12.5 1/15 1/20 1/25 1/30 1/40 1/50 1/60 / 1/80 1/100 1/120 1/160 1/200 1/240
		30	1/300 1/375 1/450
		35	1/600 1/750 1/900 1/1200 1/1500
	3-phase 0.2kW	30	1/5 1/7.5 1/10 1/12.5 1/15 1/20 1/25 1/30 1/40 / 1/50 1/60 1/80 1/100 1/120 1/160 1/200 1/240
		35	1/300 1/375 1/450
		45	1/600 1/750 1/900 1/1200 1/1500
Water-Resistant W/SUS Shaft Brake Gearmotor FSV			
Water-Resistant W/Carbon Steel Shaft Gearmotor FSG	3-phase 0.4kW	35	1/5 1/7.5 1/10 1/12.5 1/15 1/20 1/25 1/30 1/40 / 1/50 1/60 1/80 1/100 1/120 1/160 1/200 1/240
		45	1/300 1/375 1/450
		55	1/600 1/750 1/900 1/1200 1/1500
Water-Resistant W/Carbon Steel Shaft Brake Gearmotor FSH			
	3-phase 0.75kW	45	1/5 1/7.5 1/10 1/12.5 1/15 1/20 1/25 1/30 1/40 / 1/50 1/60 1/80 1/100 1/120 1/160 1/200 1/240
		55	1/300 1/375 1/450
Water-Resistant W/SUS Shaft Gearmotor FSW	3-phase 1.5kW	55	1/5 1/7.5 1/10 1/12.5 1/15 1/20 1/25 1/30 1/40 / 1/50 1/60 1/80 1/100 1/120 1/160 1/200 1/240
Water-Resistant W/Carbon Steel Shaft Gearmotor FSG	3-phase 2.2kW	55	1/5 1/7.5 1/10 1/12.5 1/15 1/20 1/25 1/30 1/40 / 1/50 1/60 1/80 1/100 1/120

Note 1) The models enclosed with ▭ are limited torque type.
Be sure to check allowable torque in the performance table.

Hollow Shaft IP-65

Water-Resistant Gearmotor
Gearmotor with Brake

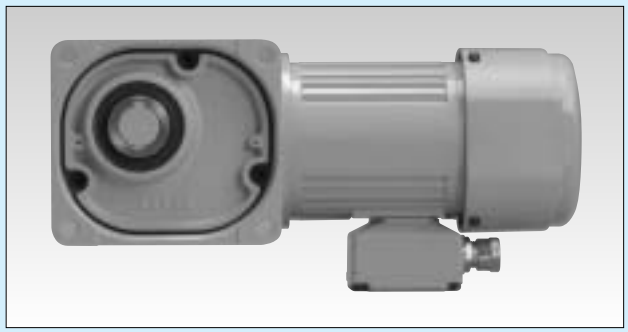
Performance Table
Dimension diagram

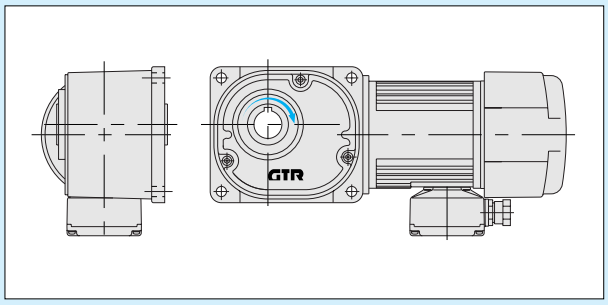
F Series
FS Type

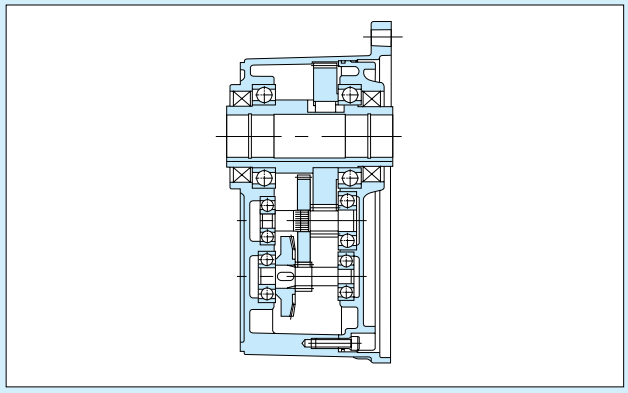
3-Phase

【Remarks】

- The output rotation speed is the value corresponds to the motor synchronous speed and the nominal reduction ratio.
- The shade areas ▭ in the peformance table shows that in case gearmotors are wired according to the diagram shown on page E28, the shaft rotates clockwise when viewing from flange side. (Refer to the diagram shown below.)







Gearmotor
Gearmotor with Brake

Water-Resistant IP65
FS Type(Hollow Shaft)

F Series 3-phase 0.1kW

The values in parentheses in the Performance Table/Dimension Diagram indicate the values of gearmotors with brake.

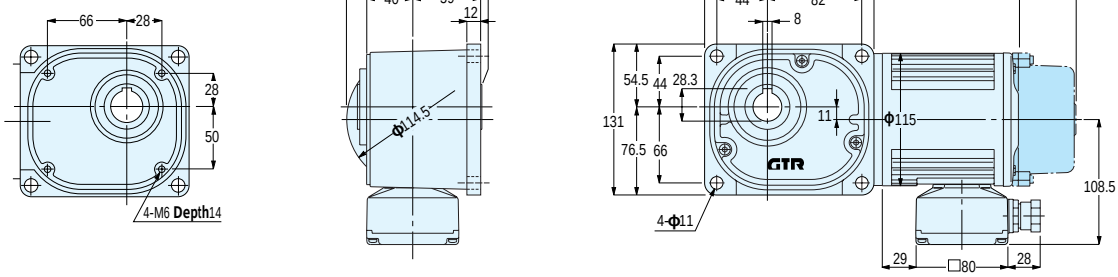
Motor Specs. Standard Voltage (Continuous Rated 4 Poles)	Capacity	Motor Capacity Designation	Frequency (Hz)	Voltage (V)	Rated Current, (A)	Rated Rotation Speed (rpm)	Insulation Classification	Protective Cooling system
	0.1kW	T010	50/60/60	200/200/220	0.61/0.54/0.54	1420/1700/1720	B	Totally Enclosed non-ventilated

Motor Capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio (Fraction)	Output Shaft Rotation Speed (rpm)		Output Shaft Allowable Torque				Output Shaft Allowable O.H.L.		Output shaft Allowable Thrust Load		Page of Dimension Diagram shown, Fig. No. and Round Weight Gearmotor(Gearmotor with Brake)	
						N•m		kgf•m						FSW (FSV)	FSG (FSH)
				50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	N	kgf	N	kgf		
3-phase 0.1kW	25	1/ 10	1/ 10	150	180	5.2	4.3	0.53	0.44	1520	155	382	39	P.C52 Fig.C-25 7.5kg (9kg)	
		1/ 12.5	2/ 25	120	144	6.5	5.4	0.66	0.55	1620	165	402	41		
		1/ 15	1/ 15	100	120	7.7	6.5	0.79	0.66	1720	175	431	44		
		1/ 20	1/ 20	75	90	11	8.6	1.1	0.88	1860	190	471	48		
		1/ 25	19/ 470	60	72	13	11	1.3	1.1	2010	205	500	51		
		1/ 30	1/ 30	50	60	16	13	1.6	1.3	2110	215	530	54		
		1/ 40	1/ 40	37.5	45	21	18	2.1	1.8	2300	235	579	59		
		1/ 50	1/ 50	30	36	25	22	2.6	2.2	2450	250	618	63		
		1/ 60	1/ 60	25	30	31	25	3.2	2.6	2550	260	637	65		
		1/ 80	1/ 80	18.8	22.5	39	32	4	3.3	2550	260	637	65		
		1/ 100	19/ 1880	15	18	49	41	5	4.2	2550	260	637	65		
		1/ 120	1/ 120	12.5	15	59	49	6	5	2550	260	637	65		
		1/ 160	1/ 160	9.4	11.3	78	66	8	6.7	2550	260	637	65		
		1/ 200	1/ 200	7.5	9	98	81	10	8.3	2550	260	637	65		
		＊1/ 240	1/ 240	6.3	7.5	101	98	10.3	10	2550	260	637	65		
	30	1/ 300	7/ 2040	5	6	131	110	13.4	11.2	3140	320	785	80	P.C53 Fig.C-26 11.5kg (13kg)	
		1/ 375	133/47940	4	4.8	165	137	16.8	14	3140	320	785	80		
		1/ 450	7/ 3060	3.3	4	198	165	20.2	16.8	3140	320	785	80		
	35	1/ 600	7/ 4240	2.5	3	248	207	25.3	21.1	3630	370	912	93	P.C53 Fig.C-27 13.5kg (15kg)	
		1/ 750	133/99640	2	2.4	311	259	31.7	26.4	3630	370	912	93		
		1/ 900	7/ 6360	1.7	2	372	311	38	31.7	3630	370	912	93		
		＊1/1200	7/ 8480	1.3	1.5	372	372	38	38	3630	370	912	93		
		＊1/1500	7/10600	1	1.2	372	372	38	38	3630	370	912	93		

Note) The allowable O.H.L. are the values measured at the position of 20mm from the edge of output shaft.
The models marked with ＊ are limited torque type. Be sure to refer to the allowable torque in the Performance Table.

Fig.C-25

FS$^{W}_{G}$-25-10～240-T010E CAD Data: FS$^{W}_{G}$-25-T010E
(FS$^{V}_{H}$-25-10～240-T010E) (CAD Data: FS$^{V}_{H}$-25-T010E)



Round Weight 7.5kg (9kg)

Model Code P.C48
Multipurpose Inverter P.E86～E92
Option P.E78～E92

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

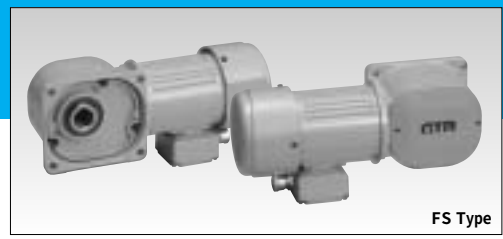
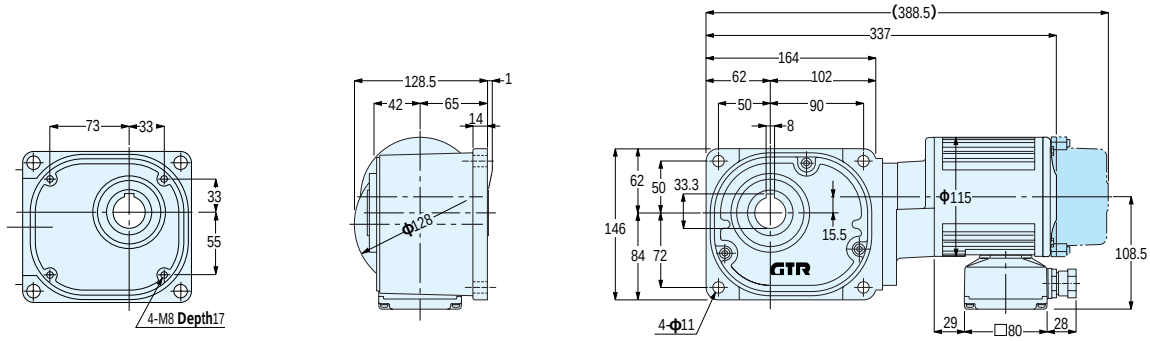

FS Type

Fig.C-26

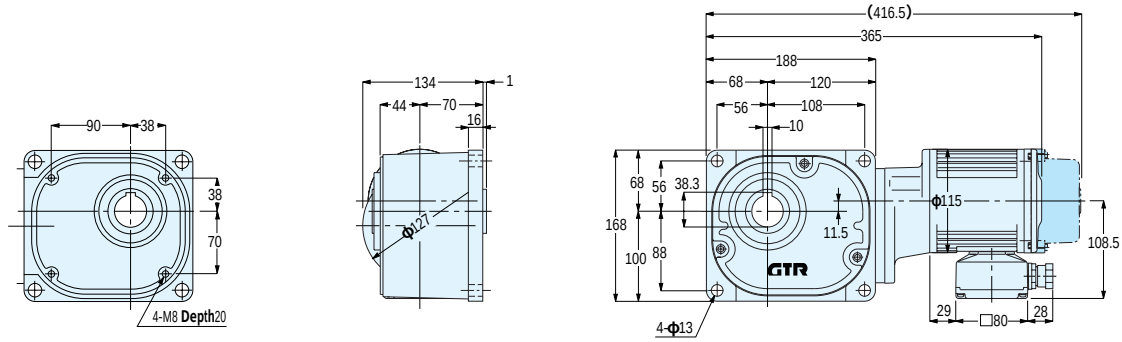
FS$^{W}_{G}$-30-300～450-T010E (FS$^{V}_{H}$-30-300～450-T010E) CAD Data: FS$^{W}_{G}$-30-T010E (CAD Data: FS$^{V}_{H}$-30-T010E)



Round Weight 11.5kg (13kg)

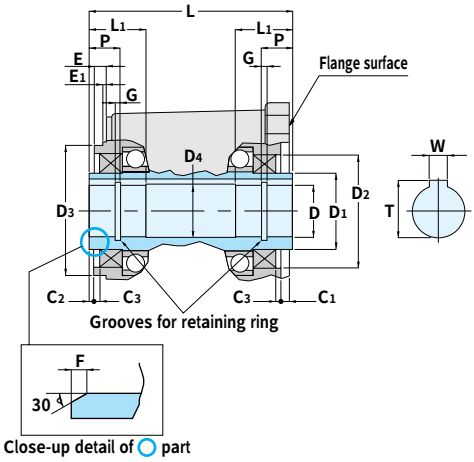
Fig.C-27

FS$^{W}_{G}$-35-600～1500-T010E (FS$^{V}_{H}$-35-600～1500-T010E) CAD Data: FS$^{W}_{G}$-35-T010E (CAD Data: FS$^{V}_{H}$-35-T010E)



Round Weight 13.5kg (15kg)

■Detailed dimension diagram for FS-Type output shaft



Frame Number	D (H8)	D1	D2 (H8)	D3 (h8)	D4	W	T	L	L1	P	C1	C2	C3	E	E1	F	G
25	φ25	φ39	φ58	φ66	φ26	8	28.3	108	27	14	6	2	3	6	0	2	1.35
30	φ30	φ44	φ65	φ75	φ31	8	33.3	117	33	17	5	2	3	7	0	2	1.35
35	φ35	φ49	φ72	φ85	φ36	10	38.3	124	38	20	3	2	3	7	0	2	1.75

Note) New JIS Size Key applied: JIS B1301-1976(Standard)
Note) The key for the output shaft is not attached to this model.
Note) C-Type retaining ring conform to JIS B2804-1978.
Note) C-Type retaining ring is not attached to this model.

Gearmotor
Gearmotor with Brake

Water-Resistant IP65 FS Type(Hollow Shaft)

F Series 3-phase 0.2kW

The values in parentheses in the Performance Table/Dimension Diagram indicate the values of gearmotors with brake.

Motor Specs. Standard Voltage (Continuous Rated 4 Poles)	Capacity	Motor Capacity Designation	Frequency (Hz)	Voltage (V)	Rated Current, (A)	Rated Rotation Speed (rpm)	Insulation Classification	Protective Cooling system
	0.2kW	T020	50/60/60	200/200/220	1.1/1.0/1.0	1420/1710/1720	B	Totally Enclosed fan-cooled

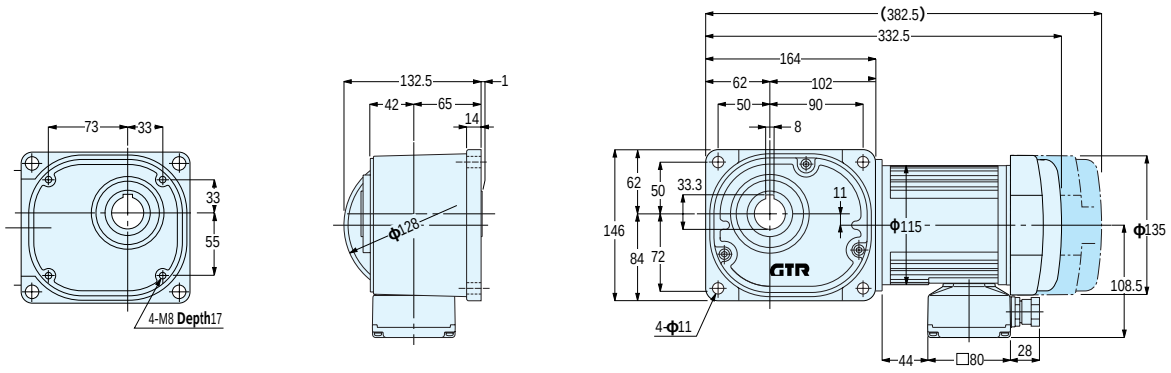
Motor Capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio (Fraction)	Output Shaft Rotation Speed (rpm)		Output Shaft Allowable Torque N•m		Output Shaft Allowable Torque kgf•m		Output Shaft Allowable O.H.L.		Output shaft Allowable Thrust Load		Page of Dimension Diagram shown, Fig. No. and Round Weight Gearmotor(Gearmotor with Brake)	
				50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	N	kgf	N	kgf	FSW (FSV)	FSG (FSH)
3-phase 0.2kW	30	1/ 5	1/ 5	300	360	5.5	4.6	0.56	0.47	1520	155	382	39	P.C54 Fig.C-28 9.5kg (11kg)	
		1/ 7.5	2/ 15	200	240	8.3	7	0.85	0.71	1760	180	441	45		
		1/ 10	1/ 10	150	180	11	9.2	1.1	0.94	1910	195	481	49		
		1/ 12.5	19/ 235	120	144	14	12	1.4	1.2	2060	210	520	53		
		1/ 15	1/ 15	100	120	17	14	1.7	1.4	2160	220	539	55		
		1/ 20	1/ 20	75	90	23	19	2.3	1.9	2400	245	598	61		
		1/ 25	1/ 25	60	72	27	24	2.8	2.4	2550	260	637	65		
		1/ 30	1/ 30	50	60	33	27	3.4	2.8	2650	270	667	68		
		1/ 40	1/ 40	37.5	45	44	37	4.5	3.8	2840	290	716	73		
		1/ 50	1/ 50	30	36	55	46	5.6	4.7	2990	305	745	76		
		1/ 60	1/ 60	25	30	67	55	6.8	5.6	3090	315	775	79		
		1/ 80	1/ 80	18.8	22.5	84	71	8.6	7.2	3090	315	775	79		
		1/ 100	19/ 1880	15	18	105	87	10.7	8.9	3140	320	785	80		
		1/ 120	1/ 120	12.5	15	126	105	12.9	10.7	3140	320	785	80		
		1/ 160	1/ 160	9.4	11.3	169	140	17.2	14.3	3140	320	785	80		
		＊1/ 200	1/ 200	7.5	9	184	175	18.8	17.9	3140	320	785	80		
		＊1/ 240	1/ 240	6.3	7.5	184	184	18.8	18.8	3140	320	785	80		
	35	1/ 300	7/ 2120	5	6	282	235	28.8	24	3630	370	912	93	P.C55 Fig.C-29 14.5kg (16kg)	
		1/ 375	133/49820	4	4.8	353	294	36	30	3630	370	912	93		
		＊1/ 450	7/ 3180	3.3	4	372	353	38	36	3630	370	912	93		
	45	1/ 600	7/ 4240	2.5	3	534	446	54.5	45.5	5190	530	1275	130	P.C55 Fig.C-30 20kg (21.5kg)	
		1/ 750	133/99640	2	2.4	668	557	68.2	56.8	5190	530	1275	130		
		＊1/ 900	7/ 6360	1.7	2	713	668	72.8	68.2	5190	530	1275	130		
		＊1/1200	7/ 8480	1.3	1.5	713	713	72.8	72.8	5190	530	1275	130		
		＊1/1500	7/10600	1	1.2	713	713	72.8	72.8	5190	530	1275	130		

Note) The allowable O.H.L. are the values measured at the position of 20mm from the edge of output shaft.
The models marked with ＊ are limited torque type. Be sure to refer to the allowable torque in the Performance Table.

Fig.C-28

FS$^{W}_{G}$-30-5～240-T020E (FS$^{V}_{H}$-30-5～240-T020E)

CAD Data: FS$^{W}_{G}$-30-T020E (CAD Data: FS$^{V}_{H}$-30-T020E)



Round Weight 9.5kg (11kg)

Model Code P.C48
Multipurpose Inverter P.E86～E92
Option P.E78～E92

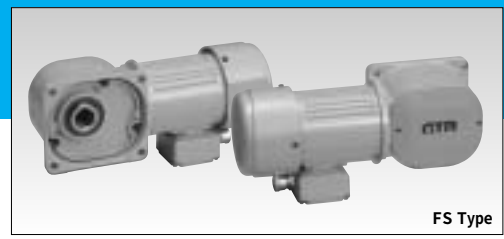
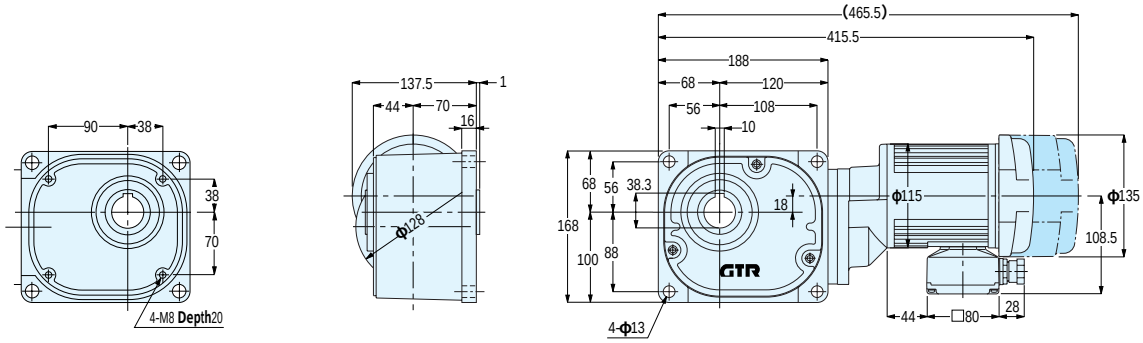


Fig.C-29

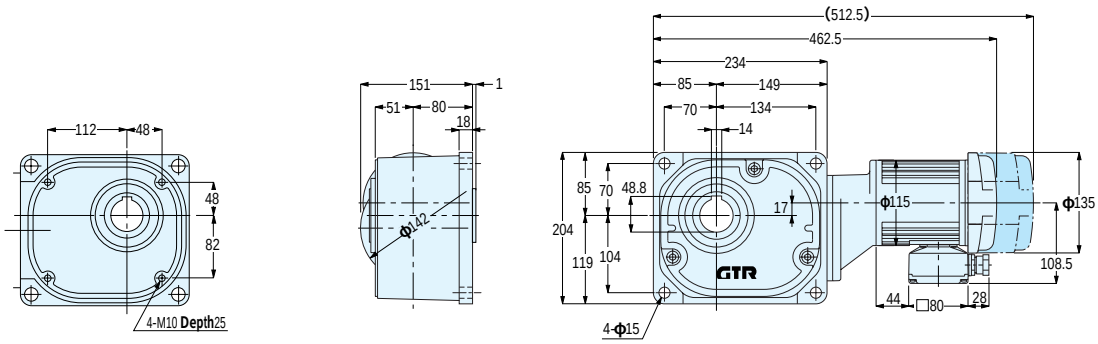
FS$^{W}_{G}$-35-300～450-T020E (FS$^{V}_{H}$-35-300～450-T020E) CAD Data: FS$^{W}_{G}$-35-T020E (CAD Data: FS$^{V}_{H}$-35-T020E)



Round Weight 14.5kg (16kg)

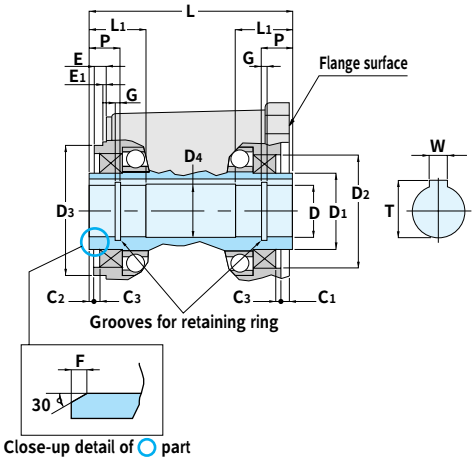
Fig.C-30

FS$^{W}_{G}$-45-600～1500-T020E (FS$^{V}_{H}$-45-600～1500-T020E) CAD Data: FS$^{W}_{G}$-45-T020E (CAD Data: FS$^{V}_{H}$-45-T020E)



Round Weight 20kg (21.5kg)

■Detailed dimension diagram for FS-Type output shaft



Frame Number	D (H8)	D1	D2 (H8)	D3 (h8)	D4	W	T	L	L1	P	C1	C2	C3	E	E1	F	G
30	ϕ30	ϕ44	ϕ65	ϕ75	ϕ31	8	33.3	117	33	17	5	2	3	7	0	2	1.35
35	ϕ35	ϕ49	ϕ72	ϕ85	ϕ36	10	38.3	124	38	20	3	2	3	7	0	2	1.75
45	ϕ45	ϕ64	ϕ85	ϕ100	ϕ46	14	48.8	140	50	26	3	2	3	6	0	2	1.95

Note) New JIS Size Key applied: JIS B1301-1976(Standard)
Note) The key for the output shaft is not attached to this model.
Note) C-Type retaining ring conform to JIS B2804-1978.
Note) C-Type retaining ring is not attached to this model.

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Gearmotor
Gearmotor with Brake

Water-Resistant IP65
FS Type(Hollow Shaft)

F Series 3-phase 0.4kW

The values in parentheses in the Performance Table/Dimension Diagram indicate the values of gearmotors with brake.

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Motor Specs. Standard Voltage (Continuous Rated 4 Poles)	Capacity	Motor Capacity Designation	Frequency (Hz)	Voltage (V)	Rated Current, (A)	Rated Rotation Speed (rpm)	Insulation Classification	Protective Cooling system
	0.4kW	T040	50/60/60	200/200/220	2.1/1.8/1.8	1410/1690/1710	B	Totally Enclosed fan-cooled

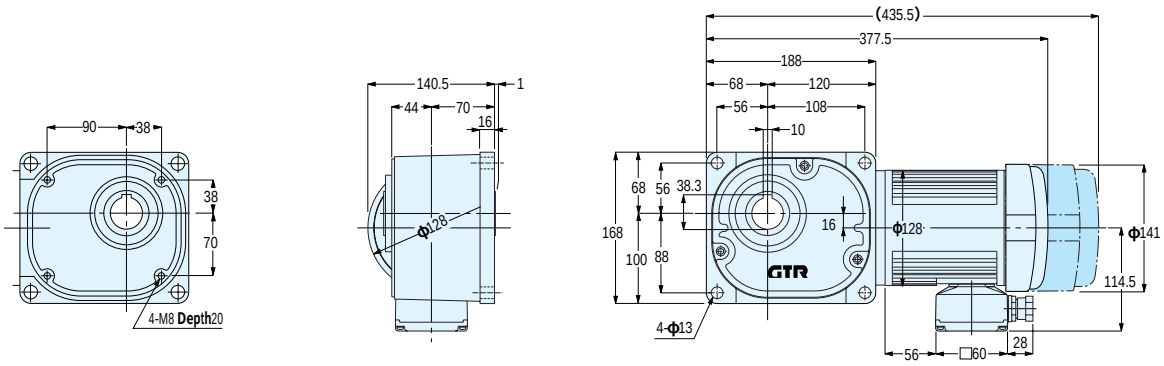
Motor Capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio (Fraction)	Output Shaft Rotation Speed (rpm)		Output Shaft Allowable Torque N•m		Output Shaft Allowable Torque kgf•m		Output Shaft Allowable O.H.L.		Output shaft Allowable Thrust Load		Page of Dimension Diagram shown, Fig. No. and Round Weight Gearmotor(Gearmotor with Brake)	
				50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	N	kgf	N	kgf	FSW (FSV)	FSG (FSH)
3-phase 0.4kW	35	1/ 5	1/ 5	300	360	11	9.2	1.1	0.94	1960	200	490	50	P.C56 Fig.C-31 14kg (16kg)	
		1/ 7.5	2/ 15	200	240	17	14	1.7	1.4	2250	230	569	58		
		1/ 10	1/ 10	150	180	23	19	2.3	1.9	2450	250	618	63		
		1/ 12.5	19/ 235	120	144	27	24	2.8	2.4	2600	265	647	66		
		1/ 15	1/ 15	100	120	33	27	3.4	2.8	2740	280	686	70		
		1/ 20	1/ 20	75	90	44	37	4.5	3.8	2990	305	745	76		
		1/ 25	1/ 25	60	72	55	46	5.6	4.7	3190	325	794	81		
		1/ 30	1/ 30	50	60	67	55	6.8	5.6	3280	335	824	84		
		1/ 40	1/ 40	37.5	45	88	74	9	7.5	3480	355	873	89		
		1/ 50	1/ 50	30	36	111	92	11.3	9.4	3480	355	873	89		
		1/ 60	1/ 60	25	30	133	111	13.6	11.3	3480	355	873	89		
		1/ 80	1/ 80	18.8	22.5	169	140	17.2	14.3	3480	355	873	89		
		1/ 100	19/ 1880	15	18	211	175	21.5	17.9	3530	360	883	90		
		1/ 120	1/ 120	12.5	15	253	211	25.8	21.5	3530	360	883	90		
		＊1/ 160	1/ 160	9.4	11.3	270	270	27.6	27.6	3630	370	912	93		
		＊1/ 200	1/ 200	7.5	9	270	270	27.6	27.6	3630	370	912	93		
		＊1/ 240	1/ 240	6.3	7.5	270	270	27.6	27.6	3630	370	912	93		
	45	1/ 300	7/ 2080	5	6	565	471	57.7	48.1	5190	530	1275	130	P.C57 Fig.C-32 22.5kg (24kg)	
		1/ 375	133/ 48880	4	4.8	707	589	72.1	60.1	5190	530	1275	130		
		＊1/ 450	7/ 3120	3.3	4	713	707	72.8	72.1	5190	530	1275	130		
	55	＊1/ 600	49/ 28600	2.5	3	1030	891	105	90.9	9800	1000	2452	250	P.C57 Fig.C-33 60.5kg (62kg)	
		＊1/ 750	11/ 8320	2	2.4	1030	1030	105	105	9800	1000	2452	250		
		＊1/ 900	7/ 6136	1.7	2	1030	1030	105	105	9800	1000	2452	250		
		＊1/1200	49/ 57200	1.3	1.5	1030	1030	105	105	9800	1000	2452	250		
		＊1/1500	11/ 16640	1	1.2	1030	1030	105	105	9800	1000	2452	250		

Note) The allowable O.H.L. are the values measured at the position of 20mm from the edge of output shaft.
The models marked with ＊ are limited torque type. Be sure to refer to the allowable torque in the Performance Table.

Fig.C-31

FS$^{W}_{G}$-35-5～240-T040E (FS$^{V}_{H}$-35-5～240-T040E)

CAD Data: FS$^{W}_{G}$-35-T040E (CAD Data: FS$^{V}_{H}$-35-T040E)



Round Weight 14kg (16kg)

Model Code P.C48
Multipurpose Inverter P.E86～E92
Option P.E78～E92

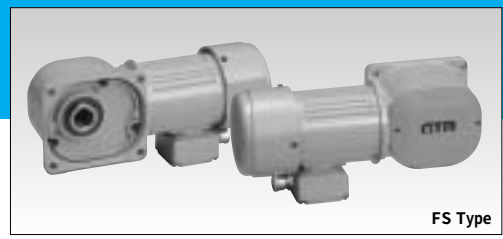
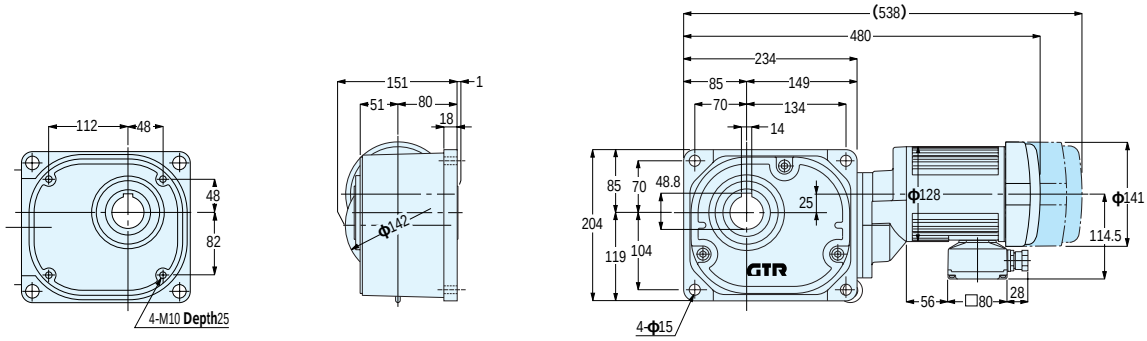


Fig.C-32

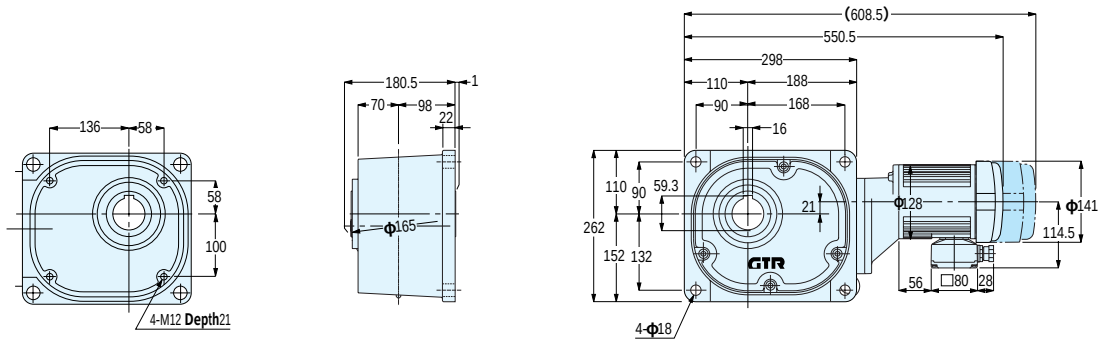
FS$^{W}_{G}$-45-300～450-T040E CAD Data: FS$^{W}_{G}$-45-T040E
(FS$^{V}_{H}$-45-300～450-T040E) (CAD Data: FS$^{V}_{H}$-45-T040E)



Round Weight 22.5kg (24kg)

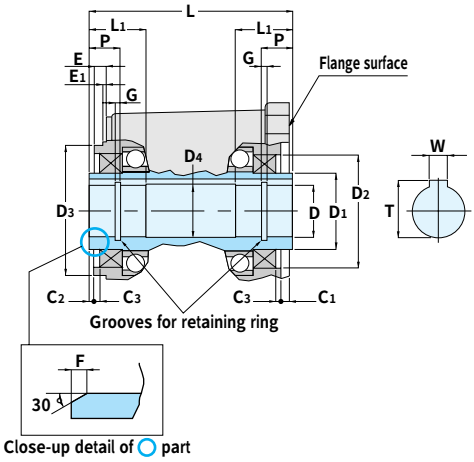
Fig.C-33

FS$^{W}_{G}$-55-600～1500-T040E CAD Data: FS$^{W}_{G}$-55-T040E
(FS$^{V}_{H}$-55-600～1500-T040E) (CAD Data: FS$^{V}_{H}$-55-T040E)



Round Weight 60.5kg (62kg)

■Detailed dimension diagram for FS-Type output shaft



Frame Number	D (H8)	D1	D2 (H8)	D3 (h8)	D4	W	T	L	L1	P	C1	C2	C3	E	E1	F	G
35	ϕ35	ϕ49	ϕ72	ϕ85	ϕ36	10	38.3	124	38	20	3	2	3	7	0	2	1.75
45	ϕ45	ϕ64	ϕ85	ϕ100	ϕ46	14	48.8	140	50	26	3	2	3	6	0	2	1.95
55	ϕ55	ϕ79	ϕ100	ϕ120	ϕ56	16	59.3	181	61	32	5	2	5	10	2	2	2.20

Note) New JIS Size Key applied: JIS B1301-1976(Standard)
Note) The key for the output shaft is not attached to this model.
Note) C-Type retaining ring conform to JIS B2804-1978.
Note) C-Type retaining ring is not attached to this model.

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Gearmotor
Gearmotor with Brake

Water-Resistant IP65 FS Type(Hollow Shaft)

F Series 3-phase 0.75kW

The values in parentheses in the Performance Table/Dimension Diagram indicate the values of gearmotors with brake.

Motor Specs. Standard Voltage (Continuous Rated 4 Poles)	Capacity	Motor Capacity Designation	Frequency (Hz)	Voltage (V)	Rated Current, (A)	Rated Rotation Speed (rpm)	Insulation Classification	Protective Cooling system
	0.75kW	075	50/60/60	200/200/220	3.7/3.3/3.2	1430/1720/1730	B	Totally Enclosed fan-cooled

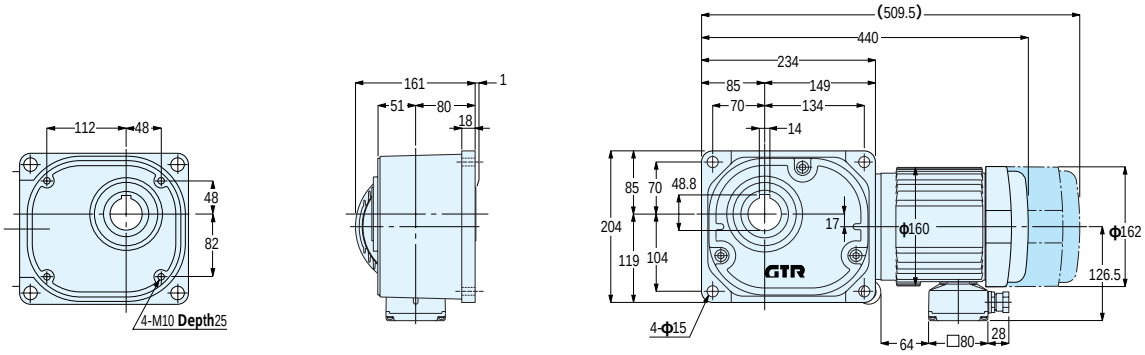
Motor Capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio (Fraction)	Output Shaft Rotation Speed (rpm)		Output Shaft Allowable Torque N•m		Output Shaft Allowable Torque kgf•m		Output Shaft Allowable O.H.L.		Output shaft Allowable Thrust Load		Page of Dimension Diagram shown, Fig. No. and Round Weight Gearmotor(Gearmotor with Brake)	
				50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	N	kgf	N	kgf	FSW (FSV)	FSG (FSH)
3-phase 0.75kW	45	1/ 5	1/ 5	300	360	21	18	2.1	1.8	2940	300	735	75	P.C58 Fig.C-34 24kg (27kg)	
		1/ 7.5	2/ 15	200	240	31	25	3.2	2.6	3330	340	834	85		
		1/ 10	1/ 10	150	180	41	34	4.2	3.5	3630	370	912	93		
		1/ 12.5	19/ 235	120	144	52	43	5.3	4.4	3920	400	980	100		
		1/ 15	1/ 15	100	120	63	52	6.4	5.3	4070	415	1030	105		
		1/ 20	1/ 20	75	90	83	70	8.5	7.1	4460	455	1079	110		
		1/ 25	1/ 25	60	72	104	86	10.6	8.8	4700	480	1177	120		
		1/ 30	1/ 30	50	60	124	104	12.7	10.6	4750	485	1177	120		
		1/ 40	1/ 40	37.5	45	166	138	16.9	14.1	4750	485	1177	120		
		1/ 50	1/ 50	30	36	208	173	21.2	17.7	4750	485	1177	120		
		1/ 60	1/ 60	25	30	249	208	25.4	21.2	4750	485	1177	120		
		1/ 80	1/ 80	18.8	22.5	316	263	32.2	26.8	4750	485	1177	120		
		1/ 100	19/1880	15	18	395	328	40.3	33.5	4750	485	1177	120		
		1/ 120	1/ 120	12.5	15	473	395	48.3	40.3	4750	485	1177	120		
		∗1/ 160	1/ 160	9.4	11.3	554	526	56.5	53.7	5190	530	1275	130		
		∗1/ 200	1/ 200	7.5	9	554	554	56.5	56.5	5190	530	1275	130		
		∗1/ 240	1/ 240	6.3	7.5	554	554	56.5	56.5	5190	530	1275	130		
	55	∗1/ 300	7/2120	5	6	1030	883	105	90.1	9800	1000	2452	250	P.C59 Fig.C-35 65kg (67.5kg)	
		∗1/ 375	1/ 371	4	4.8	1030	1030	105	105	9800	1000	2452	250		
		∗1/ 450	7/3180	3.3	4	1030	1030	105	105	9800	1000	2452	250		

Note) The allowable O.H.L. are the values measured at the position of 20mm from the edge of output shaft.
The models marked with ∗ are limited torque type. Be sure to refer to the allowable torque in the Performance Table.

Fig.C-34

FS$^{W}_{G}$-45-5～240-075E (FS$^{V}_{H}$-45-5～240-075E)

CAD Data: FS$^{W}_{G}$-45-075E (CAD Data: FS$^{V}_{H}$-45-075E)



Round Weight 24kg (27kg)

Model Code P.C48
Multipurpose Inverter P.E86～E92
Option P.E78～E92

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

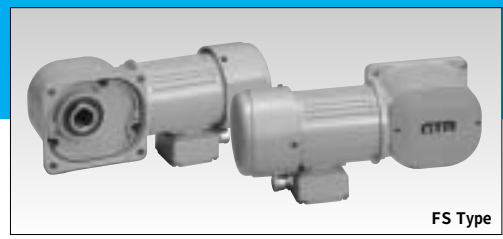
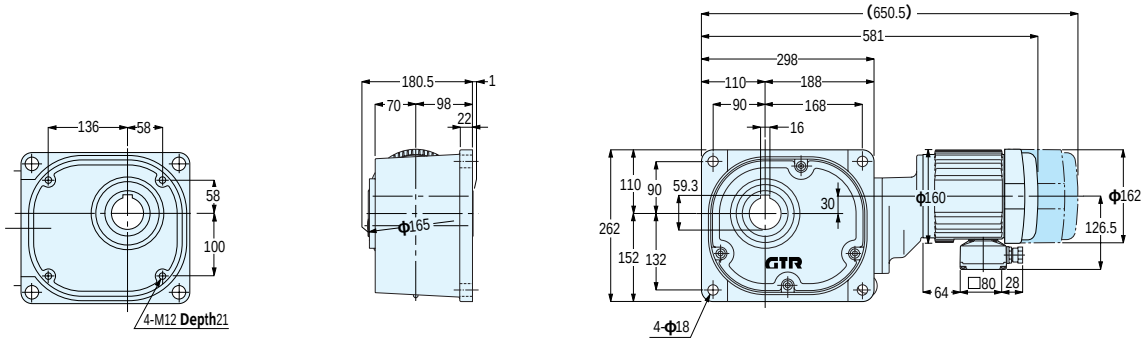


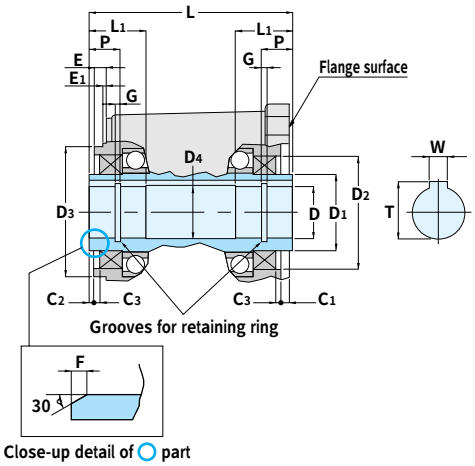
Fig.C-35 FS$^{W}_{G}$-55-300～450-075E (FS$^{V}_{H}$-55-300～450-075E)

CAD Data: FS$^{W}_{G}$-55-075E (CAD Data: FS$^{V}_{H}$-55-075E)



Round Weight 65kg (67.5kg)

■Detailed dimension diagram for FS-Type output shaft



Frame Number	D (H8)	D1	D2 (H8)	D3 (h8)	D4	W	T	L	L1	P	C1	C2	C3	E	E1	F	G
45	φ45	φ64	φ85	φ100	φ46	14	48.8	140	50	26	3	2	3	6	0	2	1.95
55	φ55	φ79	φ100	φ120	φ56	16	59.3	181	61	32	5	2	5	10	2	2	2.20

Note) New JIS Size Key applied: JIS B1301-1976(Standard)
Note) The key for the output shaft is not attached to this model.
Note) C-Type retaining ring conform to JIS B2804-1978.
Note) C-Type retaining ring is not attached to this model.

Gearmotor Water-Resistant IP65 FS Type(Hollow Shaft)

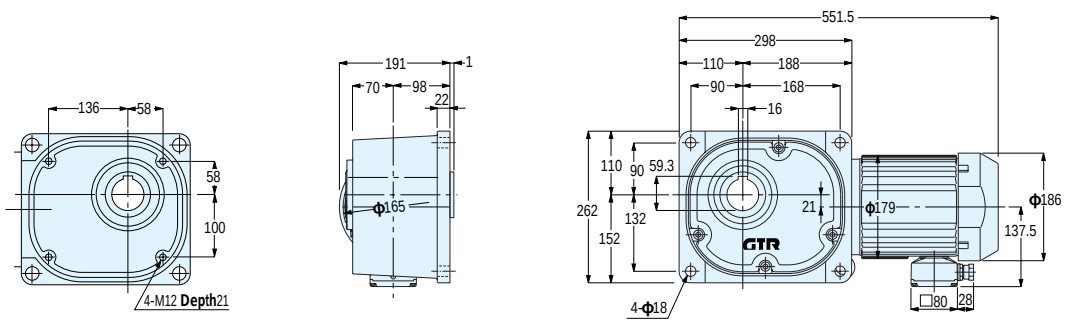
F Series 3-phase 1.5kW

Motor Specs. Standard Voltage (Continuous Rated 4 Poles)	Capacity	Motor Capacity Designation	Frequency (Hz)	Voltage (V)	Rated Current, (A)	Rated Rotation Speed (rpm)	Insulation Classification	Protective Cooling system
	1.5kW	150	50/60/60	200/200/220	6.6/6.1/5.8	1430/1720/1730	B	Totally Enclosed fan-cooled

Motor Capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio (Fraction)	Output Shaft Rotation Speed (rpm)		Output Shaft Allowable Torque N•m		Output Shaft Allowable Torque kgf•m		Output Shaft Allowable O.H.L.		Output shaft Allowable Thrust Load		Page of Dimension Diagram shown, Fig. No. and Round Weight Gearmotor
				50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	N	kgf	N	kgf	FS$^{W}_{G}$
3-phase 1.5kW	55	1/ 5	1/ 5	300	360	41	34	4.2	3.5	4700	480	1177	120	P.C60 Fig.C-36 71kg
		1/ 7.5	2/ 15	200	240	63	52	6.4	5.3	5340	545	1324	135	
		1/ 10	1/ 10	150	180	83	70	8.5	7.1	5780	590	1422	145	
		1/ 12.5	4/ 49	120	144	104	86	10.6	8.8	6130	625	1520	155	
		1/ 15	1/ 15	100	120	124	104	12.7	10.6	6320	645	1569	160	
		1/ 20	14/ 275	75	90	166	138	16.9	14.1	6320	645	1569	160	
		1/ 25	11/ 280	60	72	208	173	21.2	17.7	6320	645	1569	160	
		1/ 30	2/ 59	50	60	249	208	25.4	21.2	6320	645	1569	160	
		1/ 40	1/ 40	37.5	45	332	276	33.9	28.2	6320	645	1569	160	
		1/ 50	1/ 49	30	36	416	345	42.4	35.2	6320	645	1569	160	
		1/ 60	1/ 60	25	30	498	416	50.8	42.4	6320	645	1569	160	
		1/ 80	7/ 550	18.8	22.5	631	526	64.4	53.7	6420	655	1618	165	
		1/ 100	11/ 1120	15	18	789	658	80.5	67.1	6420	655	1618	165	
		1/ 120	1/ 118	12.5	15	947	789	96.6	80.5	7500	765	1863	190	
		＊1/ 160	7/ 1100	9.4	11.3	1030	1030	105	105	8330	850	2059	210	
		＊1/ 200	11/ 2240	7.5	9	1030	1030	105	105	9020	920	2256	230	
		＊1/ 240	1/ 236	6.3	7.5	1030	1030	105	105	9800	1000	2452	250	

Note) The allowable O.H.L. are the values measured at the position of 20mm from the edge of output shaft.
The models marked with ＊ are limited torque type. Be sure to refer to the allowable torque in the Performance Table.

Fig.C-36 FS$^{W}_{G}$-55-5～240-150E CAD Data: FS$^{W}_{G}$-55-150E

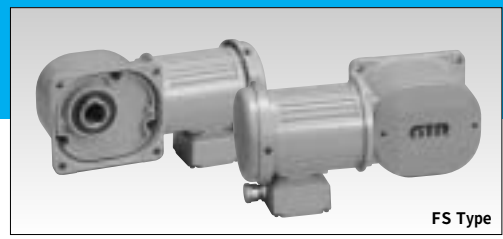


Round Weight 71kg

Please refer to page C61 for the detail spec of output shaft.

Model Code P.C48
Multipurpose Inverter P.E86～E92
Option P.E78～E92

F Series 3-phase 2.2kW

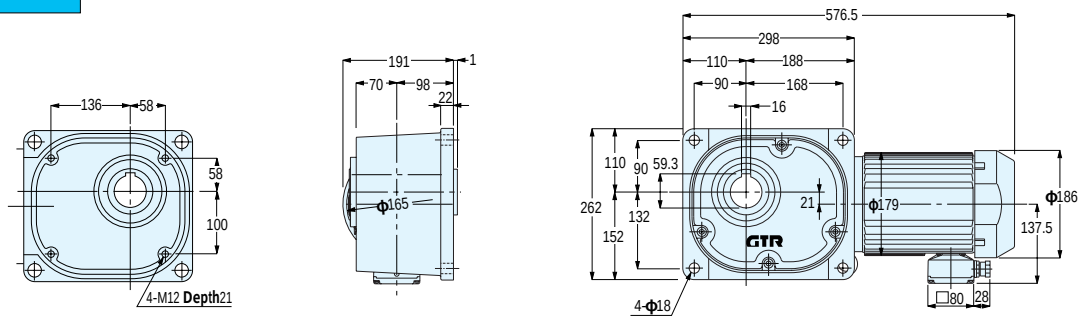


Motor Specs. Standard Voltage (Continuous Rated 4 Poles)	Capacity	Motor Capacity Designation	Frequency (Hz)	Voltage (V)	Rated Current, (A)	Rated Rotation Speed (rpm)	Insulation Classification	Protective Cooling system
	2.2kW	220	50/60/60	200/200/220	9.0/8.6/8.0	1410/1690/1710	B	Totally Enclosed fan-cooled

Motor Capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio (Fraction)	Output Shaft Rotation Speed (rpm)		Output Shaft Allowable Torque N•m		Output Shaft Allowable Torque kgf•m		Output Shaft Allowable O.H.L.		Output shaft Allowable Thrust Load		Page of Dimension Diagram shown, Fig. No. and Round Weight Gearmotor
				50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	N	kgf	N	kgf	FS$^{W}_{G}$
3-phase 2.2kW	55	1/ 5	1/ 5	300	360	61	51	6.2	5.2	4700	480	1177	120	P.C61 Fig.C-37 78kg
		1/ 7.5	2/ 15	200	240	91	76	9.3	7.8	5340	545	1324	135	
		1/ 10	1/ 10	150	180	122	102	12.4	10.4	5780	590	1422	145	
		1/ 12.5	4/ 49	120	144	152	126	15.5	12.9	6130	625	1520	155	
		1/ 15	1/ 15	100	120	182	152	18.6	15.5	6320	645	1569	160	
		1/ 20	14/ 275	75	90	244	203	24.9	20.7	6320	645	1569	160	
		1/ 25	11/ 280	60	72	305	254	31.1	25.9	6320	645	1569	160	
		1/ 30	2/ 59	50	60	366	305	37.3	31.1	6320	645	1569	160	
		1/ 40	1/ 40	37.5	45	487	406	49.7	41.4	6320	645	1569	160	
		1/ 50	1/ 49	30	36	609	508	62.1	51.8	6320	645	1569	160	
		1/ 60	1/ 60	25	30	731	609	74.6	62.1	6320	645	1569	160	
		1/ 80	7/ 550	18.8	22.5	926	771	94.5	78.7	6420	655	1618	165	
		＊1/ 100	11/1120	15	18	1030	964	105	98.4	6420	655	1618	165	
		＊1/ 120	1/ 118	12.5	15	1030	1030	105	105	7500	765	1863	190	

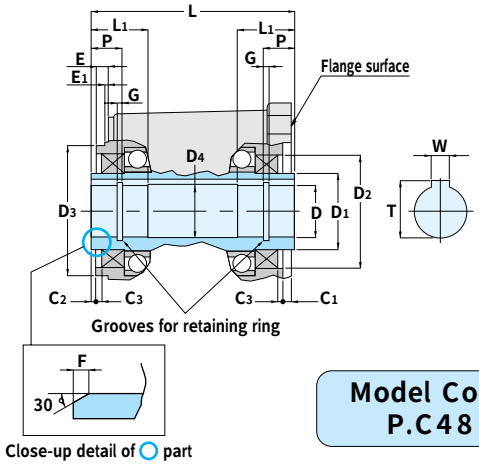
Note) The allowable O.H.L. are the values measured at the position of 20mm from the edge of output shaft.
The models marked with ＊ are limited torque type. Be sure to refer to the allowable torque in the Performance Table.

Fig.C-37 FS$^{W}_{G}$-55-5～120-220E CAD Data: FS$^{W}_{G}$-55-220E



Round Weight 78kg

Detailed dimension diagram for FS-Type output shaft



Frame Number	D (H8)	D1	D2 (H8)	D3 (h8)	D4	W	T	L	L1	P	C1	C2	C3	E	E1	F	G
55	ϕ55	ϕ79	ϕ100	ϕ120	ϕ56	16	59.3	181	61	32	5	2	5	10	2	2	2.20

Note) New JIS Size Key applied: JIS B1301-1976(Standard)
Note) The key for the output shaft is not attached to this model.
Note) C-Type retaining ring conform to JIS B2804-1978.
Note) C-Type retaining ring is not attached to this model.

Model Code P.C48
Multipurpose Inverter P.E86～E92
Option P.E78～E92

GTR Gearmotor

Hollow Shaft

Reducer (Double Shaft Type)

Model・Type Designation
Standard Model Lineup

F Series
FS Type

Equivalent 4P motor capacity		Equiv 0.1kW～Equiv2.2kW
Speed Reduction Part	Reduction Method	Hypoid gear and Helical gear
	Lubrication	Grease Lubrication(Maintenance Free)
	Output Shaft	New JIS Key(JIS 1301-1976 class)
	Output Shaft Material	S43C
	Case Material	Aluminium die-cast(Frame No.55: Cast iron)
Ambient Conditions	Ambient Temperature	−10℃～40℃
	Ambient Humidity	85% max.(without any dew condensation)
	Altitude	1,000m max.
	Environment	Well ventilated place free from corrosive gas, explosive gas vapor and/or dust.
	Installation Location	Indoors
Painting	Painting Method	Anion painting, Acrylic paint
	Painting Color	Grey(Mansel code: 9B6/0.5)
Mounting Direction		No restriction in the mounting angle.(horizontally, vertically or heeling angle)

Model and Type Designation F Series FS Type (Hollow Shaft)

F Series Double Shaft type reducers are classified by codes as shown below.
Specify these codes in your inquiry and order.

Type			Frame Number	Reduction Ratio	Motor Capacity	Auxiliary Mark	Spec. Designation
F	S		35	50	040		
F	S		25	100	010	X	
①	②	③	④	⑤	⑥	⑦	⑧

①Series Name	F : F Series (Concentric Hollow Shaft・Concentric Solid Shaft)
②Classification by Mount Form	S : Hollow Shaft Type (Note 1)
③Classification by Motor Type	Blank : Without Motor(Double Shaft Type)
④Frame No. and Diameter of Output shaft	Diameter of Output shaft (bore)
⑤Reduction Ratio	5 : 1／5 ～ 240 : 1／240
⑥Motor Designation and Capacity	010 : Equiv 0.1 kW
	020 : Equiv 0.2 kW
	040 : Equiv 0.4 kW
	075 : Equiv 0.75kW
	150 : Equiv 1.5 kW
	220 : Equiv 2.2 kW
⑦Auxiliary Mark	Blank : Standard Specs.
	X : Code to identify additional special specs.
⑧Spec. Designation Note: Spec. Designation does not appear on the product type designation in the nameplate. It is specified on the additional numbers in the nameplate.	Blank : Standard Specs.

Note 1) F Series Double Shaft type reducer is FS type (hollow shaft) only, FF type (solid shaft) is not appllciable.

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Standard Model Lineup F Series FF Type (Hollow Shaft)

FS Type

FS Type (Hollow Shaft) Model Lineup

Type	Equivalent of 4P Motor Capacity	Frame Number	Reduction Ratio
Reducer (Double Shaft Type) FS	0.1kW	25	1/10 1/12.5 1/15 1/20 1/25 1/30 1/40 1/50 1/60 / 1/80 1/100 1/120 1/160 1/200 1/240
	0.2kW	30	1/5 1/7.5 1/10 1/12.5 1/15 1/20 1/25 1/30 1/40 / 1/50 1/60 1/80 1/100 1/120 1/160 1/200 1/240
	0.4kW	35	1/5 1/7.5 1/10 1/12.5 1/15 1/20 1/25 1/30 1/40 / 1/50 1/60 1/80 1/100 1/120 1/160 1/200 1/240
	0.75kW	45	1/5 1/7.5 1/10 1/12.5 1/15 1/20 1/25 1/30 1/40 / 1/50 1/60 1/80 1/100 1/120 1/160 1/200 1/240
	1.5kW	55	1/5 1/7.5 1/10 1/12.5 1/15 1/20 1/25 1/30 1/40 / 1/50 1/60 1/80 1/100 1/120 1/160 1/200 1/240
	2.2kW	55	1/5 1/7.5 1/10 1/12.5 1/15 1/20 1/25 1/30 1/40 / 1/50 1/60 1/80 1/100 1/120

Note 1) The models enclosed with ▭ are limited torque type.
Be sure to check allowable torque in the performance table.

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

GTR Gearmotor

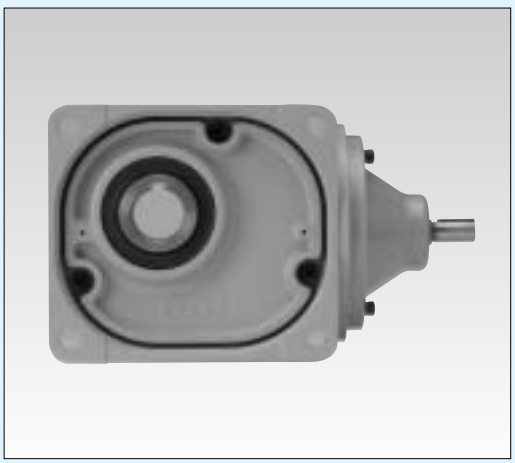
Hollow Shaft

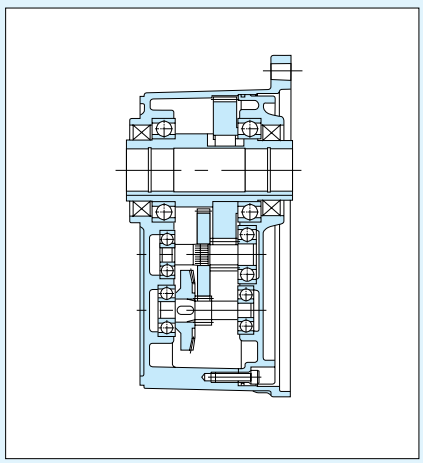
Reducer (Double Shaft Type)

Performance Table
Dimension diagram

F Series
FS Type

【Remark】
●The motor capacities are the values when 4 pole motor is applied.

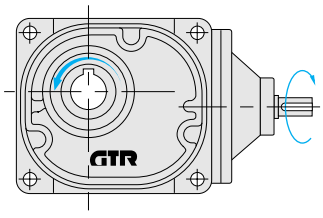




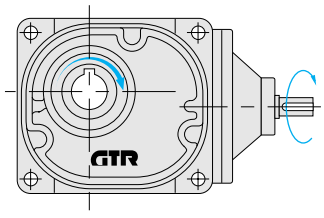
Relation for Rotating Direction (Viewed from Flange Surface)

The rotation directions shown by arrow just show the rotation in input/output shaft, and do not limit the rotation direction.

	Motor Capacity	Reduction ratio
FS Type	0.1～0.75kW	1/5～1/60
	1.5～2.2 kW	1/5～1/30



	Motor Capacity	Reduction ratio
FS Type	0.1～0.75kW	1/80～1/240
	1.5～2.2 kW	1/40～1/240



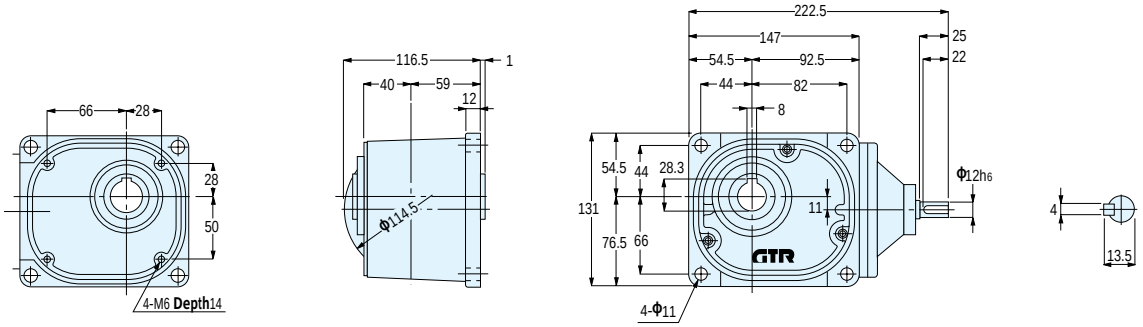
Reducer (Double Shaft Type) FS Type(Hollow Shaft)

F Series equiv 0.1kW

Equivalent 4P motor capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio (Fraction)	Output Shaft Allowable Torque Input (1500rpm)		Allowable O.H.L.				Output shaft Allowable Thrust Load		Page of Dimension Diagram shown, Fig. No. and Round Weight
						N		kgf				
				N·m	kgf·m	input shaft	output shaft	input shaft	output shaft	N	kgf	FS
0.1kW	25	1/ 10	1/ 10	5.2	0.53	196	1520	20	155	382	39	P.C68 Fig.C-38 5kg
		1/ 12.5	2/ 25	6.5	0.66		1620		165	402	41	
		1/ 15	1/ 15	7.7	0.79		1720		175	431	44	
		1/ 20	1/ 20	11	1.1		1860		190	471	48	
		1/ 25	19/ 470	13	1.3		2010		205	500	51	
		1/ 30	1/ 30	16	1.6		2110		215	530	54	
		1/ 40	1/ 40	21	2.1		2300		235	579	59	
		1/ 50	1/ 50	25	2.6		2450		250	618	63	
		1/ 60	1/ 60	31	3.2		2550		260	637	65	
		1/ 80	1/ 80	39	4		2550		260	637	65	
		1/ 100	19/1880	49	5		2550		260	637	65	
		1/ 120	1/ 120	59	6		2550		260	637	65	
		1/ 160	1/ 160	78	8		2550		260	637	65	
		1/ 200	1/ 200	98	10		2550		260	637	65	
		∗1/ 240	1/ 240	101	10.3		2550		260	637	65	

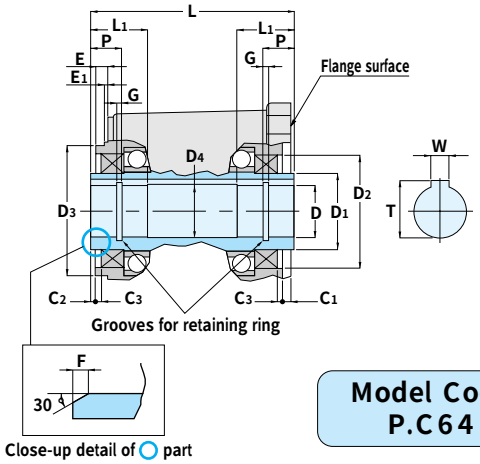
Note) The allowable O.H.L. are the values measured at the position of 20mm from the edge of output shaft.
The models marked with ∗ are limited torque type. Be sure to refer to the allowable torque in the Performance Table.

Fig.C-38 FS-25-10～240-（010） CAD Data: FS-25-010



Round Weight 5kg

Detailed dimension diagram for FS-Type output shaft

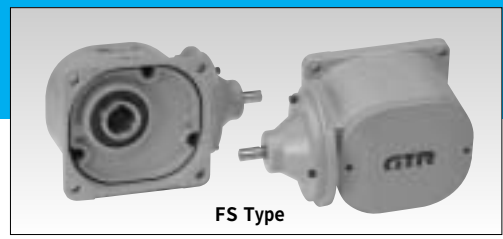


Frame Number	D (H8)	D1	D2 (H8)	D3 (h8)	D4	W	T	L	L1	P	C1	C2	C3	E	E1	F	G
25	ϕ25	ϕ39	ϕ58	ϕ66	ϕ26	8	28.3	108	27	14	6	2	3	6	0	2	1.35

Note) New JIS Size Key applied: JIS B1301-1976(Standard)
Note) The key for the output shaft is not attached to this model.
Note) C-Type retaining ring conform to JIS B2804-1978.
Note) C-Type retaining ring is not attached to this model.

Model Code P.C64
Detailed Dimension Diagram of Input Shaft P.E50
Option P.E78～E85

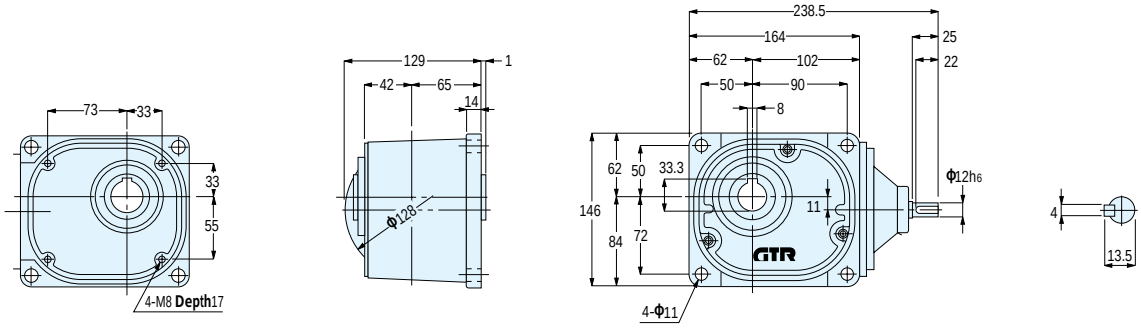
F Series equiv 0.2kW


FS Type

Equivalent 4P motor capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio (Fraction)	Output Shaft Allowable Torque Input (1500rpm)		Allowable O.H.L. N		Allowable O.H.L. kgf		Output shaft Allowable Thrust Load		Page of Dimension Diagram shown, Fig. No. and Round Weight
				N•m	kgf•m	input shaft	output shaft	input shaft	output shaft	N	kgf	FS
0.2kW	30	1/ 5	1/ 5	5.5	0.56	245	1520	25	155	382	39	P.C69 Fig.C-39 7kg
		1/ 7.5	2/ 15	8.3	0.85		1760		180	441	45	
		1/ 10	1/ 10	11	1.1		1910		195	481	49	
		1/ 12.5	19/ 235	14	1.4		2060		210	520	53	
		1/ 15	1/ 15	17	1.7		2160		220	539	55	
		1/ 20	1/ 20	23	2.3		2400		245	598	61	
		1/ 25	1/ 25	27	2.8		2550		260	637	65	
		1/ 30	1/ 30	33	3.4		2650		270	667	68	
		1/ 40	1/ 40	44	4.5		2840		290	716	73	
		1/ 50	1/ 50	55	5.6		2990		305	745	76	
		1/ 60	1/ 60	67	6.8		3090		315	775	79	
		1/ 80	1/ 80	84	8.6		3090		315	775	79	
		1/ 100	19/1880	105	10.7		3140		320	785	80	
		1/ 120	1/ 120	126	12.9		3140		320	785	80	
		1/ 160	1/ 160	169	17.2		3140		320	785	80	
		∗1/ 200	1/ 200	184	18.8		3140		320	785	80	
		∗1/ 240	1/ 240	184	18.8		3140		320	785	80	

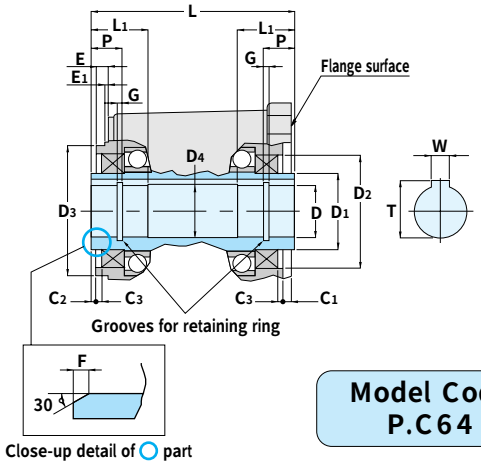
Note) The allowable O.H.L. are the values measured at the position of 20mm from the edge of output shaft.
The models marked with ∗ are limited torque type. Be sure to refer to the allowable torque in the Performance Table.

Fig.C-39 FS-30-5〜240-（020） CAD Data: FS-30-020



Round Weight 7kg

Detailed dimension diagram for FS-Type output shaft



Frame Number	D (H8)	D1	D2 (H8)	D3 (h8)	D4	W	T	L	L1	P	C1	C2	C3	E	E1	F	G
30	φ30	φ44	φ65	φ75	φ31	8	33.3	117	33	17	5	2	3	7	0	2	1.35

Note) New JIS Size Key applied: JIS B1301-1976(Standard)
Note) The key for the output shaft is not attached to this model.
Note) C-Type retaining ring conform to JIS B2804-1978.
Note) C-Type retaining ring is not attached to this model.

Model Code P.C64
Detailed Dimension Diagram of Input Shaft P.E50
Option P.E78〜E85

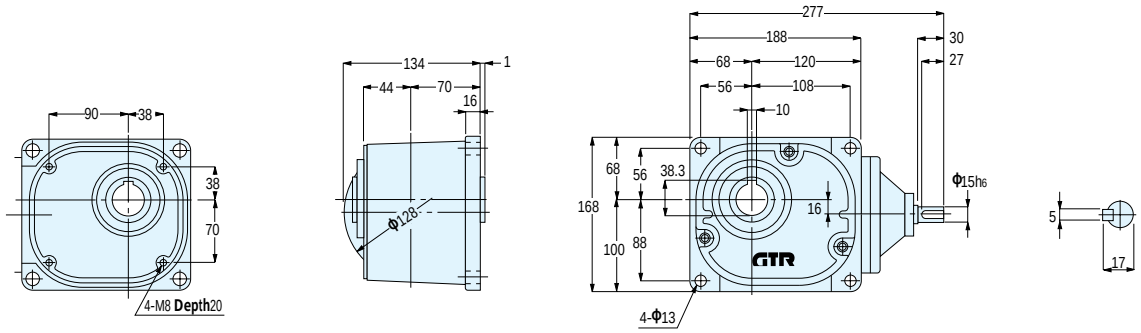
Reducer (Double Shaft Type) FS Type(Hollow Shaft)

F Series equiv 0.4kW

Equivalent 4P motor capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio (Fraction)	Output Shaft Allowable Torque Input (1500rpm)		Allowable O.H.L.				Output shaft Allowable Thrust Load		Page of Dimension Diagram shown, Fig. No. and Round Weight
						N		kgf				
				N·m	kgf·m	input shaft	output shaft	input shaft	output shaft	N	kgf	FS
0.4kW	35	1/ 5	1/ 5	11	1.1	294	1960	30	200	490	50	P.C70 Fig.C-40 9kg
		1/ 7.5	2/ 15	17	1.7		2250		230	569	58	
		1/ 10	1/ 10	23	2.3		2450		250	618	63	
		1/ 12.5	19/ 235	27	2.8		2600		265	647	66	
		1/ 15	1/ 15	33	3.4		2740		280	686	70	
		1/ 20	1/ 20	44	4.5		2990		305	745	76	
		1/ 25	1/ 25	55	5.6		3190		325	794	81	
		1/ 30	1/ 30	67	6.8		3280		335	824	84	
		1/ 40	1/ 40	88	9		3480		355	873	89	
		1/ 50	1/ 50	111	11.3		3480		355	873	89	
		1/ 60	1/ 60	133	13.6		3480		355	873	89	
		1/ 80	1/ 80	169	17.2		3480		355	873	89	
		1/ 100	19/1880	211	21.5		3530		360	883	90	
		1/ 120	1/ 120	253	25.8		3530		360	883	90	
		∗1/ 160	1/ 160	270	27.6		3630		370	912	93	
		∗1/ 200	1/ 200	270	27.6		3630		370	912	93	
		∗1/ 240	1/ 240	270	27.6		3630		370	912	93	

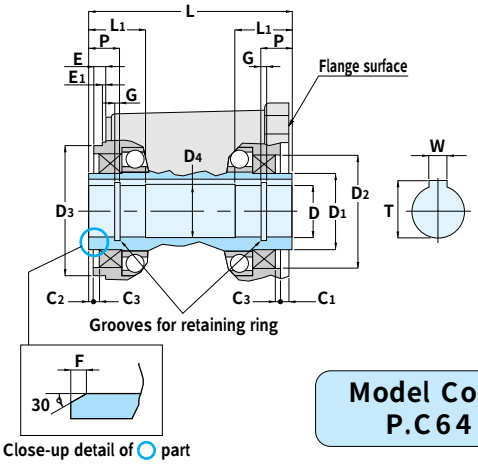
Note) The allowable O.H.L. are the values measured at the position of 20mm from the edge of output shaft.
The models marked with ∗ are limited torque type. Be sure to refer to the allowable torque in the Performance Table.

Fig.C-40 FS-35-10～240-（040） CAD Data: FS-35-040



Round Weight 9kg

Detailed dimension diagram for FS-Type output shaft

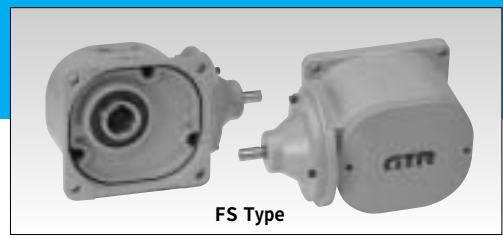


Frame Number	D (H8)	D1	D2 (H8)	D3 (h8)	D4	W	T	L	L1	P	C1	C2	C3	E	E1	F	G
35	φ35	φ49	φ72	φ85	φ36	10	38.3	124	38	20	3	2	3	7	0	2	1.75

Note) New JIS Size Key applied: JIS B1301-1976(Standard)
Note) The key for the output shaft is not attached to this model.
Note) C-Type retaining ring conform to JIS B2804-1978.
Note) C-Type retaining ring is not attached to this model.

Model Code P.C64
Detailed Dimension Diagram of Input Shaft P.E50
Option P.E78～E85

F Series equiv 0.75kW

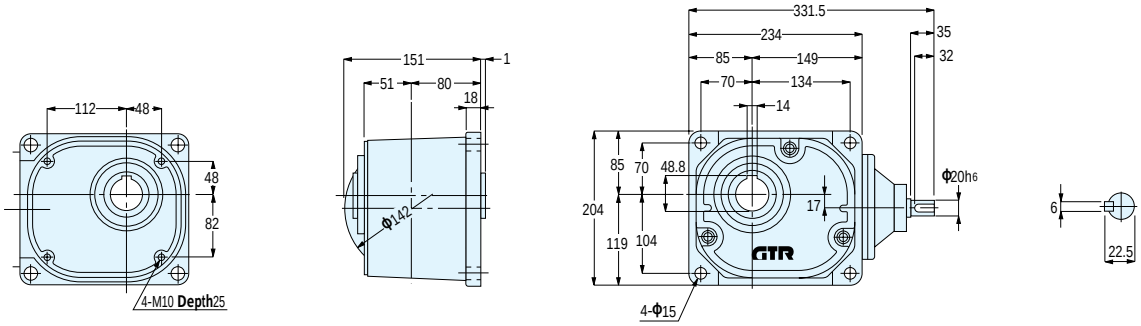


FS Type

Equivalent 4P motor capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio (Fraction)	Output Shaft Allowable Torque Input (1500rpm)		Allowable O.H.L. N		Allowable O.H.L. kgf		Output shaft Allowable Thrust Load		Page of Dimension Diagram shown, Fig. No. and Round Weight
				N•m	kgf•m	input shaft	output shaft	input shaft	output shaft	N	kgf	FS
0.75kW	45	1/ 5	1/ 5	21	2.1	392	2940	40	300	735	75	P.C71 Fig.C-41 15kg
		1/ 7.5	2/ 15	31	3.2		3330		340	834	85	
		1/ 10	1/ 10	41	4.2		3630		370	912	93	
		1/ 12.5	19/ 235	52	5.3		3920		400	980	100	
		1/ 15	1/ 15	63	6.4		4070		415	1030	105	
		1/ 20	1/ 20	83	8.5		4460		455	1079	110	
		1/ 25	1/ 25	104	10.6		4700		480	1177	120	
		1/ 30	1/ 30	124	12.7		4750		485	1177	120	
		1/ 40	1/ 40	166	16.9		4750		485	1177	120	
		1/ 50	1/ 50	208	21.2		4750		485	1177	120	
		1/ 60	1/ 60	249	25.4		4750		485	1177	120	
		1/ 80	1/ 80	316	32.2		4750		485	1177	120	
		1/ 100	19/1880	395	40.3		4750		485	1177	120	
		1/ 120	1/ 120	473	48.3		4750		485	1177	120	
		＊1/ 160	1/ 160	554	56.5		5190		530	1275	130	
		＊1/ 200	1/ 200	554	56.5		5190		530	1275	130	
		＊1/ 240	1/ 240	554	56.5		5190		530	1275	130	

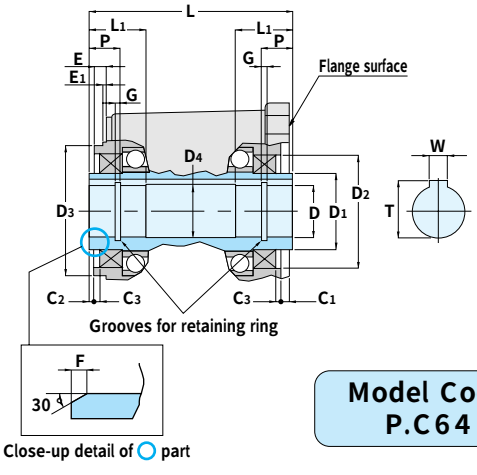
Note) The allowable O.H.L. are the values measured at the position of 20mm from the edge of output shaft.
The models marked with ＊ are limited torque type. Be sure to refer to the allowable torque in the Performance Table.

Fig.C-41 FS-45-5〜240-（075） CAD Data: FS-45-075



Round Weight 15kg

Detailed dimension diagram for FS-Type output shaft



Frame Number	D (H8)	D1	D2 (H8)	D3 (h8)	D4	W	T	L	L1	P	C1	C2	C3	E	E1	F	G
45	φ45	φ64	φ85	φ100	φ46	14	48.8	140	50	26	3	2	3	6	0	2	1.95

Note) New JIS Size Key applied: JIS B1301-1976(Standard)
Note) The key for the output shaft is not attached to this model.
Note) C-Type retaining ring conform to JIS B2804-1978.
Note) C-Type retaining ring is not attached to this model.

Model Code P.C64
Detailed Dimension Diagram of Input Shaft P.E50
Option P.E78〜E85

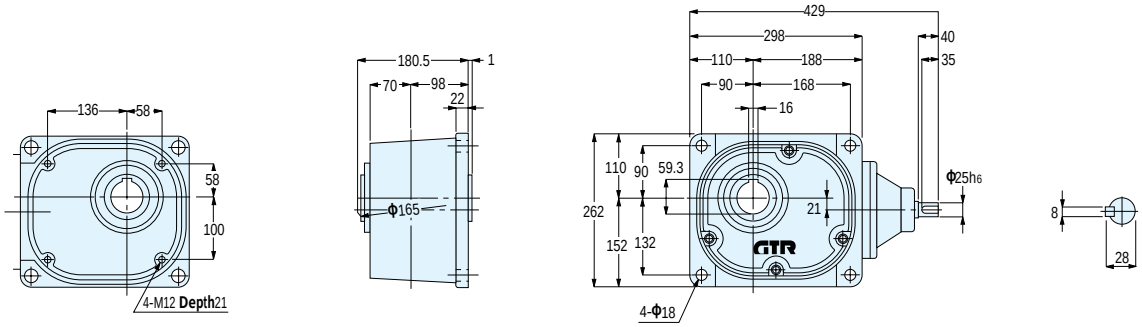
Reducer (Double Shaft Type) FS Type(Hollow Shaft)

F Series equiv 1.5kW

Equivalent 4P motor capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio (Fraction)	Output Shaft Allowable Torque Input (1500rpm)		Allowable O.H.L.				Output shaft Allowable Thrust Load		Page of Dimension Diagram shown, Fig. No. and Round Weight
						N		kgf				
				N·m	kgf·m	input shaft	output shaft	input shaft	output shaft	N	kgf	FS
1.5kW	55	1/ 5	1/ 5	41	4.2	392	4700	40	480	1177	120	P.C72 Fig.C-42 54kg
		1/ 7.5	2/ 15	63	6.4		5340		545	1324	135	
		1/ 10	1/ 10	83	8.5		5780		590	1422	145	
		1/ 12.5	4/ 49	104	10.6		6130		625	1520	155	
		1/ 15	1/ 15	124	12.7		6320		645	1569	160	
		1/ 20	14/ 275	166	16.9		6320		645	1569	160	
		1/ 25	11/ 280	208	21.2		6320		645	1569	160	
		1/ 30	2/ 59	249	25.4		6320		645	1569	160	
		1/ 40	1/ 40	332	33.9		6320		645	1569	160	
		1/ 50	1/ 49	416	42.4		6320		645	1569	160	
		1/ 60	1/ 60	498	50.8		6320		645	1569	160	
		1/ 80	7/ 550	631	64.4		6420		655	1618	165	
		1/ 100	11/1120	789	80.5		6420		655	1618	165	
		1/ 120	1/ 118	947	96.6		7500		765	1863	190	
		∗1/ 160	7/1100	1030	105		8330		850	2059	210	
		∗1/ 200	11/2240	1030	105		9020		920	2256	230	
		∗1/ 240	1/ 236	1030	105		9800		1000	2452	250	

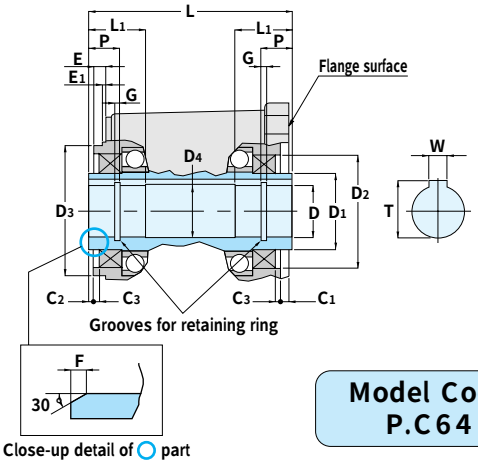
Note) The allowable O.H.L. are the values measured at the position of 20mm from the edge of output shaft.
The models marked with ∗ are limited torque type. Be sure to refer to the allowable torque in the Performance Table.

Fig.C-42 FS-55-5～240-（150） CAD Data: FS-55-150



Round Weight 54kg

Detailed dimension diagram for FS-Type output shaft

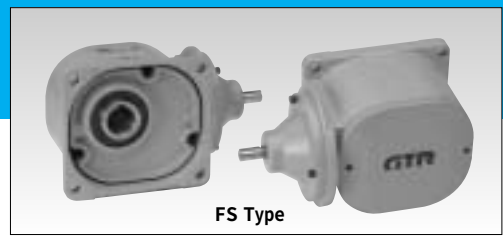


Frame Number	D (H8)	D1	D2 (H8)	D3 (h8)	D4	W	T	L	L1	P	C1	C2	C3	E	E1	F	G
55	ϕ55	ϕ79	ϕ100	ϕ120	ϕ56	16	59.3	181	61	32	5	2	5	10	2	2	2.20

Note) New JIS Size Key applied: JIS B1301-1976(Standard)
Note) The key for the output shaft is not attached to this model.
Note) C-Type retaining ring conform to JIS B2804-1978.
Note) C-Type retaining ring is not attached to this model.

Model Code P.C64
Detailed Dimension Diagram of Input Shaft P.E50
Option P.E78～E85

F Series equiv 2.2kW

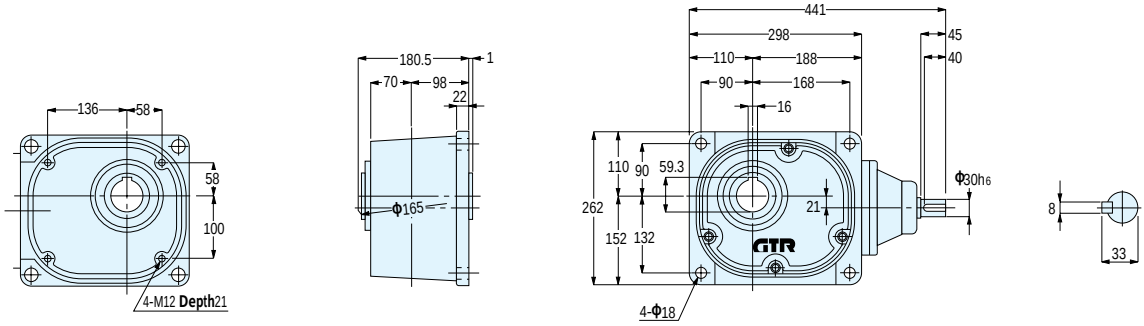


FS Type

Equivalent 4P motor capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio (Fraction)	Output Shaft Allowable Torque Input (1500rpm)		Allowable O.H.L.				Output shaft Allowable Thrust Load		Page of Dimension Diagram shown, Fig. No. and Round Weight
						N		kgf				
				N•m	kgf•m	input shaft	output shaft	input shaft	output shaft	N	kgf	FS
2.2kW	55	1/ 5	1/ 5	61	6.2	392	4700	40	480	1177	120	P.C73 Fig.C-43 55kg
		1/ 7.5	2/ 15	91	9.3		5340		545	1324	135	
		1/ 10	1/ 10	122	12.4		5780		590	1422	145	
		1/ 12.5	4/ 49	152	15.5		6130		625	1520	155	
		1/ 15	1/ 15	182	18.6		6320		645	1569	160	
		1/ 20	14/ 275	244	24.9		6320		645	1569	160	
		1/ 25	11/ 280	305	31.1		6320		645	1569	160	
		1/ 30	2/ 59	366	37.3		6320		645	1569	160	
		1/ 40	1/ 40	487	49.7		6320		645	1569	160	
		1/ 50	1/ 49	609	62.1		6320		645	1569	160	
		1/ 60	1/ 60	731	74.6		6320		645	1569	160	
		1/ 80	7/ 550	926	94.5		6420		655	1618	165	
		∗1/ 100	11/1120	1030	105		6420		655	1618	165	
		∗1/ 120	1/ 118	1030	105		7500		765	1863	190	

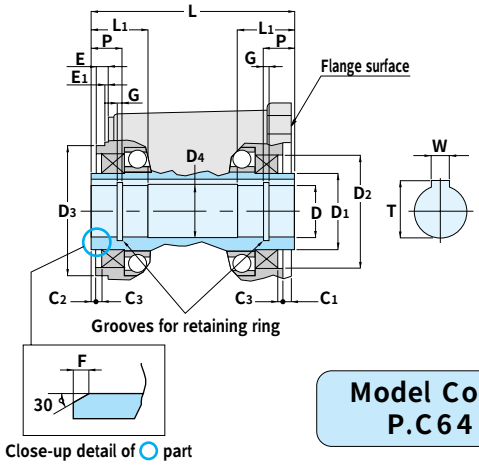
Note) The allowable O.H.L. are the values measured at the position of 20mm from the edge of output shaft.
The models marked with ∗ are limited torque type. Be sure to refer to the allowable torque in the Performance Table.

Fig.C-43 FS-55-5〜120-（220） CAD Data: FS-55-220



Round Weight 55kg

■Detailed dimension diagram for FS-Type output shaft



Frame Number	D (H8)	D1	D2 (H8)	D3 (h8)	D4	W	T	L	L1	P	C1	C2	C3	E	E1	F	G
55	ϕ55	ϕ79	ϕ100	ϕ120	ϕ56	16	59.3	181	61	32	5	2	5	10	2	2	2.20

Note) New JIS Size Key applied: JIS B1301-1976(Standard)
Note) The key for the output shaft is not attached to this model.
Note) C-Type retaining ring conform to JIS B2804-1978.
Note) C-Type retaining ring is not attached to this model.

Model Code P.C64
Detailed Dimension Diagram of Input Shaft P.E50
Option P.E78〜E85

GTR Gearmotor

Hollow Shaft

S-Type Reducer
(Designated Motor Attachable)

Model・Type Designation
Standard Model Lineup

F Series
FS Type

Equivalent 4P motor capacity		Equiv 0.1kW～Equiv2.2kW
Speed Reduction Part	Reduction Method	Hypoid gear and Helical gear
	Lubrication	Grease Lubrication(Maintenance Free)
	Output Shaft	New JIS Key(JIS 1301-1976 class)
	Output Shaft Material	S43C
	Case Material	Aluminium die-cast(Frame No.55: Cast iron)
Ambient Conditions	Ambient Temperature	−10℃～40℃
	Ambient Humidity	85% max.(without any dew condensation)
	Altitude	1,000m max.
	Environment	Well ventilated place free from corrosive gas, explosive gas vapor and/or dust.
	Installation Location	Indoors
Painting	Painting Method	Anion painting, Acrylic paint
	Painting Color	Grey(Mansel code: 9B6/0.5)
Mounting Direction		No restriction in the mounting angle.(horizontally, vertically or heeling angle)

Model and Type Designation F Series FS Type (Hollow Shaft)

F Series S-Type Reducer are classified by codes as shown below.
Specify these codes in your inquiry and order.

Type			Frame Number	Reduction Ratio	Motor Capacity	Auxiliary Mark
F	S	S	35	50	040	
F	S	S	25	100	010	X
①	②	③	④	⑤	⑥	⑦

①Series Name	F	: F Series (Concentric Hollow Shaft・Concentric Solid Shaft)
②Classification by Mount Form	S	: Hollow Shaft Type (Note 1)
③Classification by Motor Type	S	: Designated Motor Attachable (S-Type)
④Frame No. and Diameter of Output shaft	Diameter of Output shaft (bore)	
⑤Reduction Ratio	5 : 1／5 ～ 240 : 1／240	
⑥Motor Designation and Capacity	010	: Equiv 0.1 kW
	020	: Equiv 0.2 kW
	040	: Equiv 0.4 kW
	075	: Equiv 0.75 kW
	150	: Equiv 1.5 kW
	220	: Equiv 2.2 kW
⑦Auxiliary Mark	Blank	: Standard Specs.
	X	: Code to identify additional special specs.

Note 1) F Series Double Shaft type reducer is FS type (hollow shaft) only, FF type (solid shaft) is not appllciable.

Model and Type Designation
Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Standard Model Lineup F Series FS Type (Hollow Shaft)

FS Type

FS Type (Hollow Shaft) Model Lineup

Type	Equivalent of 4P Motor Capacity	Frame Number	Reduction Ratio
S-Type Reducer FSS	0.1kW	25	1/10 1/12.5 1/15 1/20 1/25 1/30 1/40 1/50 1/60 / 1/80 1/100 1/120 1/160 1/200 1/240
	0.2kW	30	1/5 1/7.5 1/10 1/12.5 1/15 1/20 1/25 1/30 1/40 / 1/50 1/60 1/80 1/100 1/120 1/160 1/200 1/240
	0.4kW	35	1/5 1/7.5 1/10 1/12.5 1/15 1/20 1/25 1/30 1/40 / 1/50 1/60 1/80 1/100 1/120 1/160 1/200 1/240
	0.75kW	45	1/5 1/7.5 1/10 1/12.5 1/15 1/20 1/25 1/30 1/40 / 1/50 1/60 1/80 1/100 1/120 1/160 1/200 1/240
	1.5kW	55	1/5 1/7.5 1/10 1/12.5 1/15 1/20 1/25 1/30 1/40 / 1/50 1/60 1/80 1/100 1/120 1/160 1/200 1/240
	2.2kW	55	1/5 1/7.5 1/10 1/12.5 1/15 1/20 1/25 1/30 1/40 / 1/50 1/60 1/80 1/100 1/120

Note 1) The models enclosed with ▭ are limited torque type.
Be sure to check allowable torque in the performance table.

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

GTR Gearmotor

Hollow Shaft

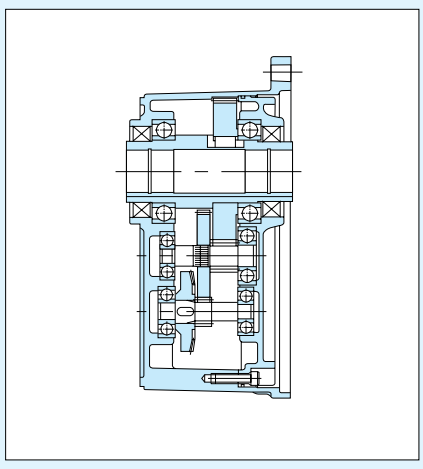
S-Type Reducer
(Designated Motor Attachable)

Performance Table
Dimension diagram

F Series
FS Type

【Remarks】

- Output Shaft allowable torques are the values when using 4-pole motor.
- In case of using with motors other than 4-pole motor, the output allowable torque can be obtained by multiplying the torque correction coefficient indicated in page E46, to the written value.
- The direction of rotation of the output shaft against the same of the output/input shaft are shown in the page C67.



Designated Motor Attachable

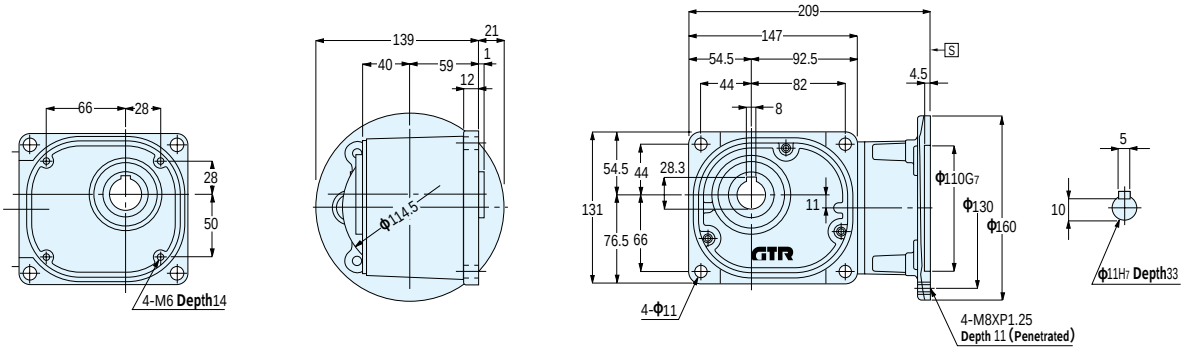
S-Type Reducer FS Type (Hollow Shaft)

F Series equiv 0.1kW

Equivalent 4P motor capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio (Fraction)	Output Shaft Allowable Torque N•m 50Hz	Output Shaft Allowable Torque N•m 60Hz	Output Shaft Allowable Torque kgf•m 50Hz	Output Shaft Allowable Torque kgf•m 60Hz	Output Shaft Allowable O.H.L. N	Output Shaft Allowable O.H.L. kgf	Output shaft Allowable Thrust Load N	Output shaft Allowable Thrust Load kgf	Page of Dimension Diagram shown, Fig. No. and Round Weight FSS
0.1kW	25	1/ 10	1/ 10	5.2	4.3	0.53	0.44	1520	155	382	39	P.C80 Fig.C-44 5.5kg
		1/ 12.5	2/ 25	6.5	5.4	0.66	0.55	1620	165	402	41	
		1/ 15	1/ 15	7.7	6.5	0.79	0.66	1720	175	431	44	
		1/ 20	1/ 20	11	8.6	1.1	0.88	1860	190	471	48	
		1/ 25	19/ 470	13	11	1.3	1.1	2010	205	500	51	
		1/ 30	1/ 30	16	13	1.6	1.3	2110	215	530	54	
		1/ 40	1/ 40	21	18	2.1	1.8	2300	235	579	59	
		1/ 50	1/ 50	25	22	2.6	2.2	2450	250	618	63	
		1/ 60	1/ 60	31	25	3.2	2.6	2550	260	637	65	
		1/ 80	1/ 80	39	32	4	3.3	2550	260	637	65	
		1/ 100	19/1880	49	41	5	4.2	2550	260	637	65	
		1/ 120	1/ 120	59	49	6	5	2550	260	637	65	
		1/ 160	1/ 160	78	66	8	6.7	2550	260	637	65	
		1/ 200	1/ 200	98	81	10	8.3	2550	260	637	65	
		∗1/ 240	1/ 240	101	98	10.3	10	2550	260	637	65	

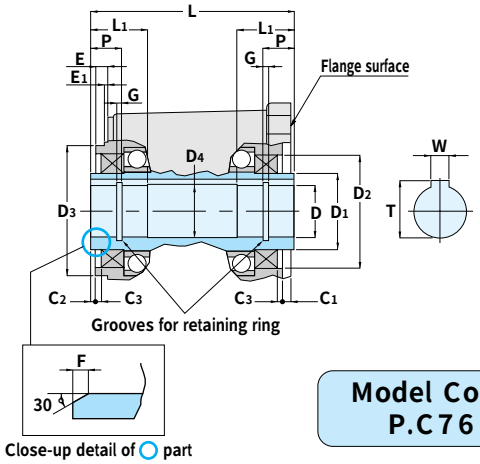
Note) The allowable O.H.L. are the values measured at the position of 20mm from the edge of output shaft.
The models marked with ∗ are limited torque type. Be sure to refer to the allowable torque in the Performance Table.

Fig.C-44 FSS-25-10～240-（010） CAD Data: FSS-25-010



Round Weight 5.5kg

Detailed dimension diagram for FS-Type output shaft

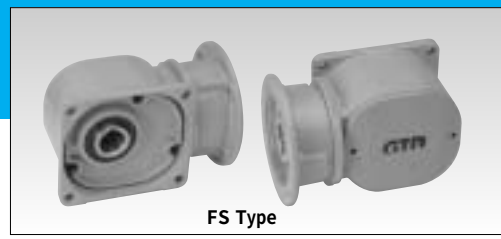


Frame Number	D (H8)	D1	D2 (H8)	D3 (h8)	D4	W	T	L	L1	P	C1	C2	C3	E	E1	F	G
25	φ25	φ39	φ58	φ66	φ26	8	28.3	108	27	14	6	2	3	6	0	2	1.35

Note) New JIS Size Key applied: JIS B1301-1976(Standard)
Note) The key for the output shaft is not attached to this model.
Note) C-Type retaining ring conform to JIS B2804-1978.
Note) C-Type retaining ring is not attached to this model.

Model Code P.C76
Detailed Dimension Diagram of Input Shaft P.E50
Option P.E78～E93

F Series equiv 0.2kW

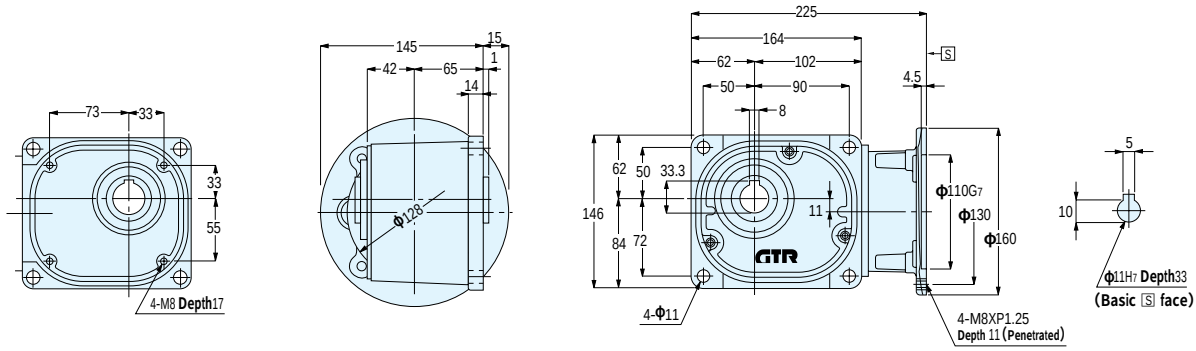


FS Type

Equivalent 4P motor capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio (Fraction)	Output Shaft Allowable Torque N•m 50Hz	Output Shaft Allowable Torque N•m 60Hz	Output Shaft Allowable Torque kgf•m 50Hz	Output Shaft Allowable Torque kgf•m 60Hz	Output Shaft Allowable O.H.L. N	Output Shaft Allowable O.H.L. kgf	Output shaft Allowable Thrust Load N	Output shaft Allowable Thrust Load kgf	Page of Dimension Diagram shown, Fig. No. and Round Weight FSS
0.2kW	30	1/ 5	1/ 5	5.5	4.6	0.56	0.47	1520	155	382	39	P.C81 Fig.C-45 7.5kg
		1/ 7.5	2/ 15	8.3	7	0.85	0.71	1760	180	441	45	
		1/ 10	1/ 10	11	9.2	1.1	0.94	1910	195	481	49	
		1/ 12.5	19/ 235	14	12	1.4	1.2	2060	210	520	53	
		1/ 15	1/ 15	17	14	1.7	1.4	2160	220	539	55	
		1/ 20	1/ 20	23	19	2.3	1.9	2400	245	598	61	
		1/ 25	1/ 25	27	24	2.8	2.4	2550	260	637	65	
		1/ 30	1/ 30	33	27	3.4	2.8	2650	270	667	68	
		1/ 40	1/ 40	44	37	4.5	3.8	2840	290	716	73	
		1/ 50	1/ 50	55	46	5.6	4.7	2990	305	745	76	
		1/ 60	1/ 60	67	55	6.8	5.6	3090	315	775	79	
		1/ 80	1/ 80	84	71	8.6	7.2	3090	315	775	79	
		1/ 100	19/1880	105	87	10.7	8.9	3140	320	785	80	
		1/ 120	1/ 120	126	105	12.9	10.7	3140	320	785	80	
		1/ 160	1/ 160	169	140	17.2	14.3	3140	320	785	80	
		∗1/ 200	1/ 200	184	175	18.8	17.9	3140	320	785	80	
		∗1/ 240	1/ 240	184	184	18.8	18.8	3140	320	785	80	

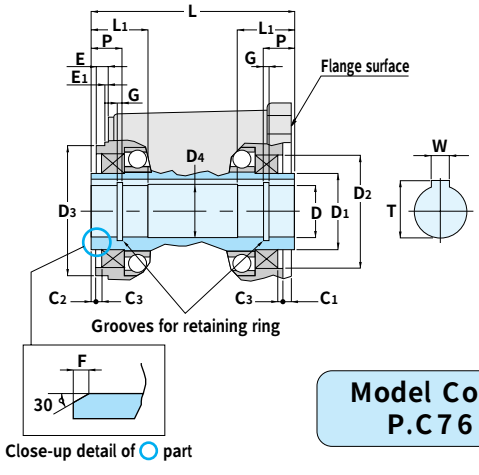
Note) The allowable O.H.L. are the values measured at the position of 20mm from the edge of output shaft.
The models marked with ∗ are limited torque type. Be sure to refer to the allowable torque in the Performance Table.

Fig.C-45 FSS-30-5～240-（020） CAD Data: FSS-30-020



Round Weight 7.5kg

■Detailed dimension diagram for FS-Type output shaft



Frame Number	D (H8)	D1	D2 (H8)	D3 (h8)	D4	W	T	L	L1	P	C1	C2	C3	E	E1	F	G
30	φ30	φ44	φ65	φ75	φ31	8	33.3	117	33	17	5	2	3	7	0	2	1.35

Note) New JIS Size Key applied: JIS B1301-1976(Standard)
Note) The key for the output shaft is not attached to this model.
Note) C-Type retaining ring conform to JIS B2804-1978.
Note) C-Type retaining ring is not attached to this model.

Model Code P.C76
Detailed Dimension Diagram of Input Shaft P.E50
Option P.E78～E93

Designated Motor Attachable

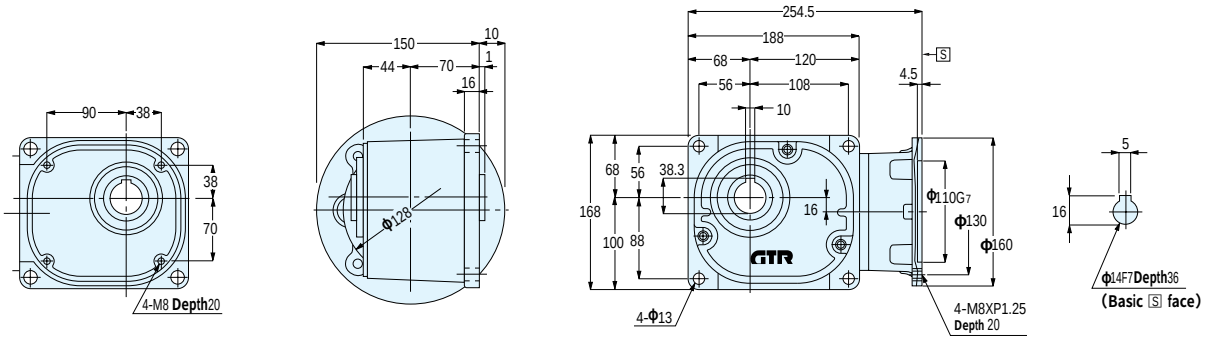
S-Type Reducer FS Type (Hollow Shaft)

F Series equiv 0.4kW

Equivalent 4P motor capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio (Fraction)	Output Shaft Allowable Torque N•m 50Hz	Output Shaft Allowable Torque N•m 60Hz	Output Shaft Allowable Torque kgf•m 50Hz	Output Shaft Allowable Torque kgf•m 60Hz	Output Shaft Allowable O.H.L. N	Output Shaft Allowable O.H.L. kgf	Output shaft Allowable Thrust Load N	Output shaft Allowable Thrust Load kgf	Page of Dimension Diagram shown, Fig. No. and Round Weight FSS
0.4kW	35	1/ 5	1/ 5	11	9.2	1.1	0.94	1960	200	490	50	P.C82 Fig.C-46 10kg
		1/ 7.5	2/ 15	17	14	1.7	1.4	2250	230	569	58	
		1/ 10	1/ 10	23	19	2.3	1.9	2450	250	618	63	
		1/ 12.5	19/ 235	27	24	2.8	2.4	2600	265	647	66	
		1/ 15	1/ 15	33	27	3.4	2.8	2740	280	686	70	
		1/ 20	1/ 20	44	37	4.5	3.8	2990	305	745	76	
		1/ 25	1/ 25	55	46	5.6	4.7	3190	325	794	81	
		1/ 30	1/ 30	67	55	6.8	5.6	3280	335	824	84	
		1/ 40	1/ 40	88	74	9	7.5	3480	355	873	89	
		1/ 50	1/ 50	111	92	11.3	9.4	3480	355	873	89	
		1/ 60	1/ 60	133	111	13.6	11.3	3480	355	873	89	
		1/ 80	1/ 80	169	140	17.2	14.3	3480	355	873	89	
		1/ 100	19/1880	211	175	21.5	17.9	3530	360	883	90	
		1/ 120	1/ 120	253	211	25.8	21.5	3530	360	883	90	
		∗1/ 160	1/ 160	270	270	27.6	27.6	3630	370	912	93	
		1/ 200	1/ 200	270	270	27.6	27.6	3630	370	912	93	
		1/ 240	1/ 240	270	270	27.6	27.6	3630	370	912	93	

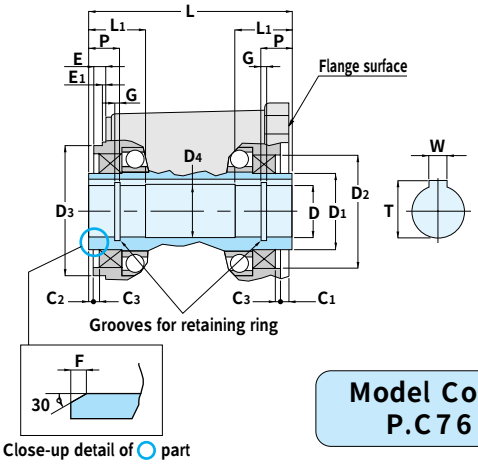
Note) The allowable O.H.L. are the values measured at the position of 20mm from the edge of output shaft.
The models marked with ∗ are limited torque type. Be sure to refer to the allowable torque in the Performance Table.

Fig.C-46 FSS-35-5～240-（040） CAD Data: FSS-35-040



Round Weight 10kg

Detailed dimension diagram for FS-Type output shaft

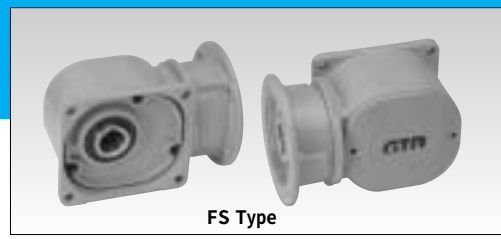


Frame Number	D (H8)	D1	D2 (H8)	D3 (h8)	D4	W	T	L	L1	P	C1	C2	C3	E	E1	F	G
35	ϕ35	ϕ49	ϕ72	ϕ85	ϕ36	10	38.3	124	38	20	3	2	3	7	0	2	1.75

Note) New JIS Size Key applied: JIS B1301-1976(Standard)
Note) The key for the output shaft is not attached to this model.
Note) C-Type retaining ring conform to JIS B2804-1978.
Note) C-Type retaining ring is not attached to this model.

Model Code P.C76
Detailed Dimension Diagram of Input Shaft P.E50
Option P.E78～E93

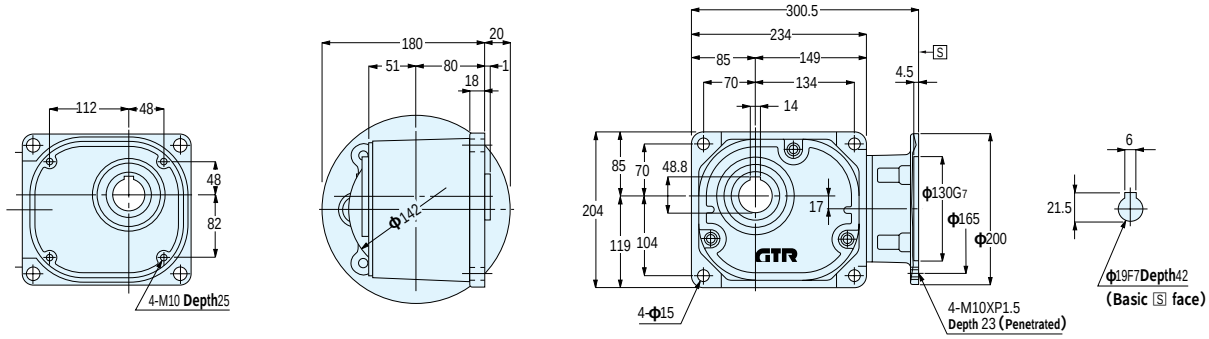
F Series equiv 0.75kW


FS Type

Equivalent 4P motor capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio (Fraction)	Output Shaft Allowable Torque N•m 50Hz	Output Shaft Allowable Torque N•m 60Hz	Output Shaft Allowable Torque kgf•m 50Hz	Output Shaft Allowable Torque kgf•m 60Hz	Output Shaft Allowable O.H.L. N	Output Shaft Allowable O.H.L. kgf	Output shaft Allowable Thrust Load N	Output shaft Allowable Thrust Load kgf	Page of Dimension Diagram shown, Fig. No. and Round Weight FSS
0.75kW	45	1/ 5	1/ 5	21	18	2.1	1.8	2940	300	735	75	P.C83 Fig.C-47 16kg
		1/ 7.5	2/ 15	31	25	3.2	2.6	3330	340	834	85	
		1/ 10	1/ 10	41	34	4.2	3.5	3630	370	912	93	
		1/ 12.5	19/ 235	52	43	5.3	4.4	3920	400	980	100	
		1/ 15	1/ 15	63	52	6.4	5.3	4070	415	1030	105	
		1/ 20	1/ 20	83	70	8.5	7.1	4460	455	1079	110	
		1/ 25	1/ 25	104	86	10.6	8.8	4700	480	1177	120	
		1/ 30	1/ 30	124	104	12.7	10.6	4750	485	1177	120	
		1/ 40	1/ 40	166	138	16.9	14.1	4750	485	1177	120	
		1/ 50	1/ 50	208	173	21.2	17.7	4750	485	1177	120	
		1/ 60	1/ 60	249	208	25.4	21.2	4750	485	1177	120	
		1/ 80	1/ 80	316	263	32.2	26.8	4750	485	1177	120	
		1/ 100	19/1880	395	328	40.3	33.5	4750	485	1177	120	
		1/ 120	1/ 120	473	395	48.3	40.3	4750	485	1177	120	
		＊1/ 160	1/ 160	554	526	56.5	53.7	5190	530	1275	130	
		＊1/ 200	1/ 200	554	554	56.5	56.5	5190	530	1275	130	
		＊1/ 240	1/ 240	554	554	56.5	56.5	5190	530	1275	130	

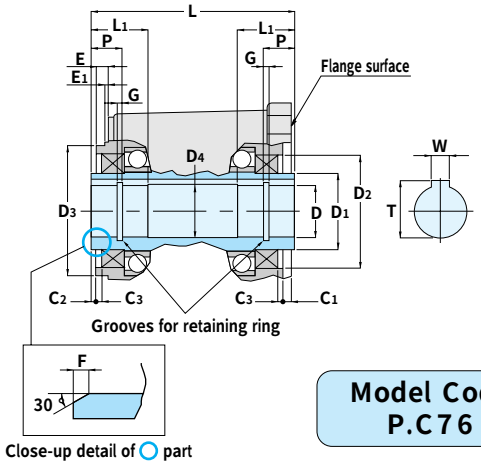
Note) The allowable O.H.L. are the values measured at the position of 20mm from the edge of output shaft.
The models marked with ＊ are limited torque type. Be sure to refer to the allowable torque in the Performance Table.

Fig.C-47 FSS-45-5～240-（075） CAD Data: FSS-45-075



Round Weight 16kg

Detailed dimension diagram for FS-Type output shaft



Frame Number	D (H8)	D1	D2 (H8)	D3 (h8)	D4	W	T	L	L1	P	C1	C2	C3	E	E1	F	G
45	Φ45	Φ64	Φ85	Φ100	Φ46	14	48.8	140	50	26	3	2	3	6	0	2	1.95

Note) New JIS Size Key applied: JIS B1301-1976(Standard)
Note) The key for the output shaft is not attached to this model.
Note) C-Type retaining ring conform to JIS B2804-1978.
Note) C-Type retaining ring is not attached to this model.

Model Code P.C76
Detailed Dimension Diagram of Input Shaft P.E50
Option P.E78～E93

Designated Motor Attachable

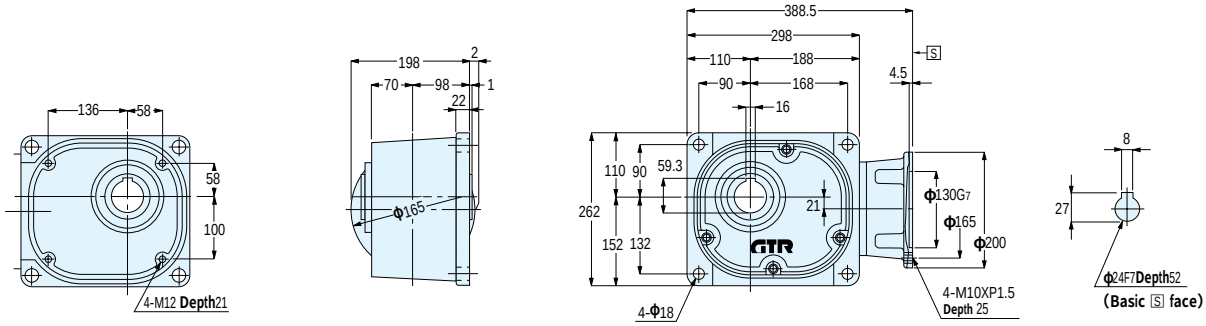
S-Type Reducer FS Type (Hollow Shaft)

F Series equiv 1.5kW

Equivalent 4P motor capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio (Fraction)	Output Shaft Allowable Torque N•m 50Hz	Output Shaft Allowable Torque N•m 60Hz	Output Shaft Allowable Torque kgf•m 50Hz	Output Shaft Allowable Torque kgf•m 60Hz	Output Shaft Allowable O.H.L. N	Output Shaft Allowable O.H.L. kgf	Output shaft Allowable Thrust Load N	Output shaft Allowable Thrust Load kgf	Page of Dimension Diagram shown, Fig. No. and Round Weight FSS
1.5kW	55	1/ 5	1/ 5	41	34	4.2	3.5	4700	480	1177	120	P.C84 Fig.C-48 55.5kg
		1/ 7.5	2/ 15	63	52	6.4	5.3	5340	545	1324	135	
		1/ 10	1/ 10	83	70	8.5	7.1	5780	590	1422	145	
		1/ 12.5	4/ 49	104	86	10.6	8.8	6130	625	1520	155	
		1/ 15	1/ 15	124	104	12.7	10.6	6320	645	1569	160	
		1/ 20	14/ 275	166	138	16.9	14.1	6320	645	1569	160	
		1/ 25	11/ 280	208	173	21.2	17.7	6320	645	1569	160	
		1/ 30	2/ 59	249	208	25.4	21.2	6320	645	1569	160	
		1/ 40	1/ 40	332	276	33.9	28.2	6320	645	1569	160	
		1/ 50	1/ 49	416	345	42.4	35.2	6320	645	1569	160	
		1/ 60	1/ 60	498	416	50.8	42.4	6320	645	1569	160	
		1/ 80	7/ 550	631	526	64.4	53.7	6420	655	1618	165	
		1/ 100	11/1120	789	658	80.5	67.1	6420	655	1618	165	
		1/ 120	1/ 118	947	789	96.6	80.5	7500	765	1863	190	
		∗1/ 160	7/1100	1030	1030	105	105	8330	850	2059	210	
		∗1/ 200	11/2240	1030	1030	105	105	9020	920	2256	230	
		∗1/ 240	1/ 236	1030	1030	105	105	9800	1000	2452	250	

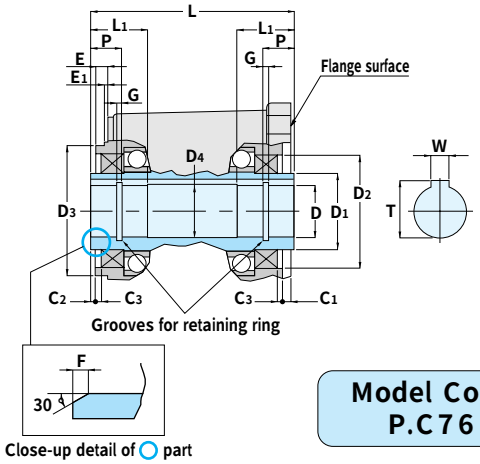
Note) The allowable O.H.L. are the values measured at the position of 20mm from the edge of output shaft.
The models marked with ∗ are limited torque type. Be sure to refer to the allowable torque in the Performance Table.

Fig.C-48 FSS-55-5～240-（150） CAD Data: FSS-55-150



Round Weight 55.5kg

Detailed dimension diagram for FS-Type output shaft

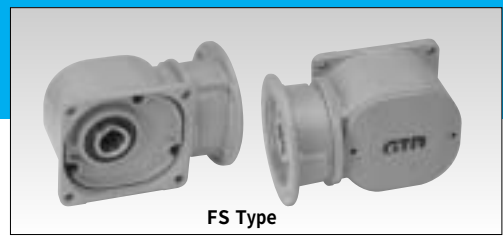


Frame Number	D (H8)	D1	D2 (H8)	D3 (h8)	D4	W	T	L	L1	P	C1	C2	C3	E	E1	F	G
55	ϕ55	ϕ79	ϕ100	ϕ120	ϕ56	16	59.3	181	61	32	5	2	5	10	2	2	2.20

Note) New JIS Size Key applied: JIS B1301-1976(Standard)
Note) The key for the output shaft is not attached to this model.
Note) C-Type retaining ring conform to JIS B2804-1978.
Note) C-Type retaining ring is not attached to this model.

Model Code P.C76
Detailed Dimension Diagram of Input Shaft P.E50
Option P.E78～E93

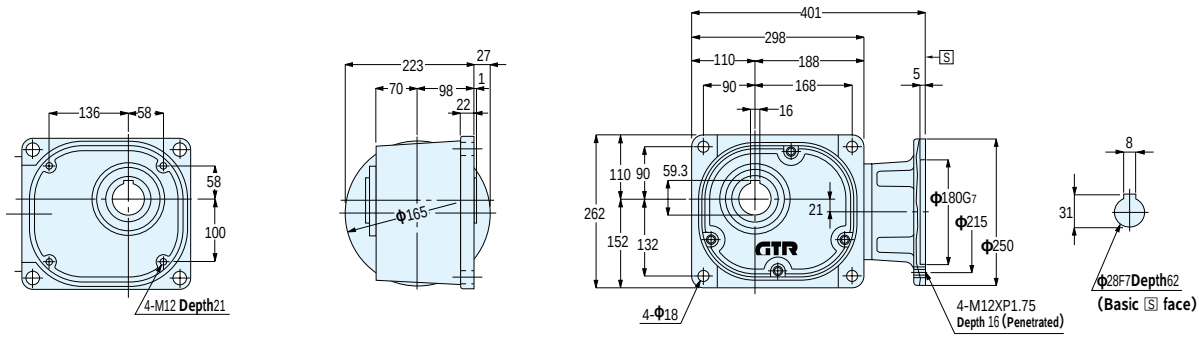
F Series equiv 2.2kW


FS Type

Equivalent 4P motor capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio (Fraction)	Output Shaft Allowable Torque N•m 50Hz	Output Shaft Allowable Torque N•m 60Hz	Output Shaft Allowable Torque kgf•m 50Hz	Output Shaft Allowable Torque kgf•m 60Hz	Output Shaft Allowable O.H.L. N	Output Shaft Allowable O.H.L. kgf	Output shaft Allowable Thrust Load N	Output shaft Allowable Thrust Load kgf	Page of Dimension Diagram shown, Fig. No. and Round Weight FSS
2.2kW	55	1/ 5	1/ 5	61	51	6.2	5.2	4700	480	1177	120	P.C85 Fig.C-49 56.5kg
		1/ 7.5	2/ 15	91	76	9.3	7.8	5340	545	1324	135	
		1/ 10	1/ 10	122	102	12.4	10.4	5780	590	1422	145	
		1/ 12.5	4/ 49	152	126	15.5	12.9	6130	625	1520	155	
		1/ 15	1/ 15	182	152	18.6	15.5	6320	645	1569	160	
		1/ 20	14/ 275	244	203	24.9	20.7	6320	645	1569	160	
		1/ 25	11/ 280	305	254	31.1	25.9	6320	645	1569	160	
		1/ 30	2/ 59	366	305	37.3	31.1	6320	645	1569	160	
		1/ 40	1/ 40	487	406	49.7	41.4	6320	645	1569	160	
		1/ 50	1/ 49	609	508	62.1	51.8	6320	645	1569	160	
		1/ 60	1/ 60	731	609	74.6	62.1	6320	645	1569	160	
		1/ 80	7/ 550	926	771	94.5	78.7	6420	655	1618	165	
		＊1/ 100	11/1120	1030	964	105	98.4	6420	655	1618	165	
		＊1/ 120	1/ 118	1030	1030	105	105	7500	765	1863	190	

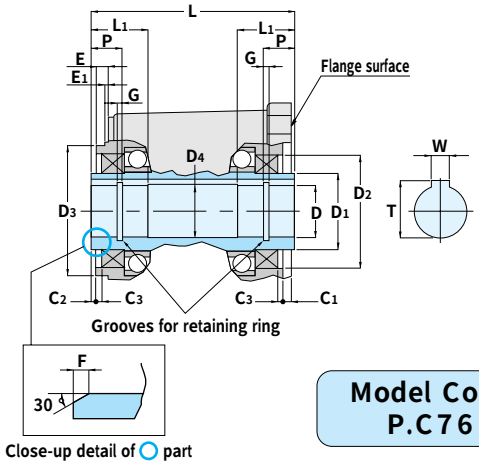
Note) The allowable O.H.L. are the values measured at the position of 20mm from the edge of output shaft.
The models marked with ＊ are limited torque type. Be sure to refer to the allowable torque in the Performance Table.

Fig.C-49 FSS-55-5〜120-（220） CAD Data: FSS-55-220



Round Weight 56.5kg

Detailed dimension diagram for FS-Type output shaft



Frame Number	D (H8)	D1	D2 (H8)	D3 (h8)	D4	W	T	L	L1	P	C1	C2	C3	E	E1	F	G
55	ϕ55	ϕ79	ϕ100	ϕ120	ϕ56	16	59.3	181	61	32	5	2	5	10	2	2	2.20

Note) New JIS Size Key applied: JIS B1301-1976(Standard)
Note) The key for the output shaft is not attached to this model.
Note) C-Type retaining ring conform to JIS B2804-1978.
Note) C-Type retaining ring is not attached to this model.

Model Code P.C76
Detailed Dimension Diagram of Input Shaft P.E50
Option P.E78〜E93

Concentric Hollow Shaft • Concentric Solid Shaft

F3 Series Gearmotor • Reducer

Model • Type Designation Standard Model Lineup

F3 Series

■ Gearmotor/Brake Gearmotor ..... P. D3
Model and Type Designation/Standard Model Lineup ..... P. D4
Concentric Hollow Shaft 3-Phase Performance Table/Dimensions P. D9
Concentric Hollow Shaft 1-Phase Performance Table/Dimensions P. D25
Concentric Solid Shaft 3-Phase Performance Table/Dimensions .... P. D33
■ Water-Resistant Gearmotor (IP65) /Brake Gearmotor (IP65) .... P. D47
Model and Type Designation/Standard Model Lineup ..... P. D48
Concentric Hollow Shaft 3-Phase Performance Table/Dimensions P. D51
■ Reducer(Input/Output Shaft) ..... P. D67
Model and Type Designation/Standard Model Lineup ..... P. D68
Concentric Hollow Shaft Performance Table/Dimensions ..... P. D71
■ S-Type Reducer (For Designated Motor) ..... P. D85
Model and Type Designation/Standard Model Lineup ..... P. D86
Concentric Hollow Shaft Performance Table/Dimensions ..... P. D89

Concentric Hollow Shaft • Concentric Solid Shaft

Gearmotor
Brake Gearmotor

Model • Type Designation
Standard Model Lineup

GTR Gearmotor

F3 Series

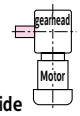
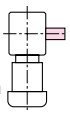
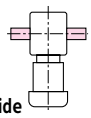
Motor Part	Number of phase	3-Phase	1-Phase
	Capacity	0.1kW～2.2kW	100W～400W
	Power Source	200V 50/60Hz, 220V/60Hz	100V 50/60Hz
	Insulation Classification	Class B	Class B (Class E for 100W)
	Starting Method	Direct start	Capacitor Start (100V:capacitor operation)
	Protective cooling Method	Totally Enclosed Fan-Cooled (Totally enclosed type for 0.1kW gearmotor without brake)	Totally Enclosed Fan-Cooled
	Number of Pole	4	
	Rating	Continuous Rating	
Speed Reduction Part	Reduction Method	Hypoid gear and Helical gear	
	Lubrication	Grease Lubrication(Maintenance Free)	
	Output Shaft	New JIS Key(JIS 1301-1976 class)	
	Output Shaft Material	S43C	
	Case Material	Aluminium die-cast (Frame No.50:Cast aluminium/Frame No.55:Cast iron)	
Ambient Conditions	Ambient Temperature	−10°C～40°C	
	Ambient Humidity	85% max.(without any dew condensation)	
	Altitude	1,000m max.	
	Environment	Well ventilated place free from corrosive gas, explosive gas vapor and/or dust.	
	Installation Location	Indoors	
Painting	Painting Method	Anion painting, Acrylic paint	
	Painting Color	Gray(Mansel code: 9B6/0.5)	
Mounting Direction		No restriction in the mounting angle.(horizontally, vertically or heeling angle)	

Model and Type Designation F3 Series

F3S Type(Concentric Hollow Shaft)
F3F Type(Concentric Solid Shaft)

F3 Series gearmotors and Brake Gearmotor are classified by codes as shown below. Specify these codes in your inquiry and order.

Type			Frame Number	Shaft Arrangement	Reduction Ratio	Motor Capacity	Option		Auxiliary Mark	Spec. Designation
F3	S	B	30		50	T040	W	A	X	T3H6
F3	F	M	40	T	240	075				
①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪

①Series Name	F3 : F3 Series(Concentric Hollow Shaft•Concentric Solid Shaft)
②Classification by Mount Form	S : Hollow Shaft Type F : Solid Shaft Type
③Classification by Motor Type	M : With Motor B : With Brake-Motor J : With Brake Manual Release Device (Option)
④Frame Number and Diameter of Output Shaft	Output Shaft Diameter (Hollow Shaft type is the bore and Solid Shaft type is the outside diameter.)
⑤Shaft Arrangement for Solid Shaft	L: Output shaft on the left viewing from Input shaft side  R: Output shaft on the right viewing from Input shaft side  T: Output shaft on both side viewing from Input shaft side 
⑥Reduction Ratio	5 : 1／5　240 : 1／240　1500 : 1／1500
⑦Motor Type and Capacity	T010 : 3-phase 0.1 kW T020 : 3-phase 0.2 kW T040 : 3-phase 0.4 kW 075 : 3-phase 0.75kW 150 : 3-phase 1.5 kW 220 : 3-phase 2.2 kW S100 : 1-phase 100W　Only Hollow Shaft Type 200 : 1-phase 200W　Only Hollow Shaft Type 400 : 1-phase 400W　Only Hollow Shaft Type
⑧⑨Option Note 1: For the capacity of 0.1kW～0.4kW, with "A" box is the standard for all voltage, so please indicate "A" at the end of motor capacity. Blank means without terminal box (fly lead). For rectifier insert type terminal box, please indicate "Z" at the end of the capacity. For the capacity 0.75kW～2.2kW are terminal box equipped and have no additional code, For rectifier built-in type, please refer to page E26. Note 2: Standard 1-phase gearmotors are not equipped with terminal box. Terminal box should be ordered additionally.	Blank : Standard Voltage 3-phase: 200V／50Hz, 200V／60Hz、220V／60Hz (Note 1) 1-phase: 100V／50Hz, 100V／60Hz (Note 2) W : High Voltage 3-phase: 380V／50Hz, 400V／50Hz, 400V／60Hz, 440V／60Hz (Note 1) 1-phase: 200V／50Hz, 200V／60Hz (Custom design Specs.) (Note 2) A : Terminal box (3-phase 0.1kW～0.4kW standard specs.) Z : For 3-phase Brake Motor,Terminal Box with a built-in rectifier (option for 0.1kW～0.4kW) (Note 1)
⑩Auxiliary Code	Blank : Standard Specs. X : Code to identify additional special specs.
⑪Spec. Designation Note: Spec. Designation does not appear on the product type designation in the nameplate. It is specified on the additional numbers in the nameplate.	Instruction for terminal box position. Refer to the specification code list on page E39 for details.

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

	Gearmotor Gearmotor with Brake	
F3S Type		F3F Type

Parallel Shaft (Performance Table/Dimension)
- Gearmotor with Brake
- Water-resistant, Outdoor Gearmotor with Brake
- Gearmotor with Clutch/Brake
- Reducer (Double Shaft)
- S-Type Reducer

Right Angle Shaft (Performance Table/Dimension)
- Gearmotor with Brake
- Water-resistant, Outdoor Gearmotor with Brake
- Gearmotor with Clutch /Brake
- Reduce (Double Shaft)
- S-Type Reducer

Hollow Shaft Solid Shaft Performance Table/Dimension
- Gearmotor with Brake
- Water-Resistant, Outdoor Gearmotor with Brake
- Reduce (Double Shaft)
- S-Type Reducer

Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
- Gearmotor with Brake
- Water-Resistant, Outdoor Gearmotor with Brake
- Reducer (Parallel Shaft)
- S-Type Reducer

Technical Information

Standard Motors

Cautions for Safety

Option

GT-STEP Index Gearmotor

KOMPASS Gearbox

Standard Model Lineup
F3 Series F3S Type(Concentric Hollow Shaft)

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

F3S Type (Concentric Hollow Shaft) Model Lineup

Type	4P Motor Capacity	Frame Number	Reduction Ratio
Gearmotor F3SM / Brake Gearmotor F3SB / Brake Gearmotor with Brake Manual Release F3SJ (Optional Spec.)	3-phase 0.1kW / 1-phase 100W (Note 1)	20	1/5, 1/7.5, 1/10, 1/12.5, 1/15, 1/20, 1/25, 1/30, 1/40, 1/50, 1/60
		25	1/80, 1/100, 1/120, 1/160, 1/200, 1/240
		30	1/300, 1/375
		35	1/450, 1/600, 1/750
		45	1/900, 1/1200
		55	1/1500
	3-phase 0.2kW / 1-phase 200W	25	1/5, 1/7.5, 1/10, 1/12.5, 1/15, 1/20, 1/25, 1/30, 1/40, 1/50, 1/60
		30	1/80, 1/100, 1/120, 1/160, 1/200, 1/240
		35	1/300, 1/375
		45	1/450, 1/600, 1/750
		55	1/900, 1/1200
	3-phase 0.4kW / 1-phase 400W	30	1/5, 1/7.5, 1/10, 1/12.5, 1/15, 1/20, 1/25, 1/30, 1/40, 1/50, 1/60
		35	1/80, 1/100, 1/120, 1/160, 1/200, 1/240
		45	1/300, 1/375
		55	1/450, 1/600
	3-phase 0.75kW	35	1/5, 1/7.5, 1/10, 1/12.5, 1/15, 1/20, 1/25, 1/30, 1/40, 1/50, 1/60
		45	1/80, 1/100, 1/120, 1/160, 1/200, 1/240
		55	1/300
	3-phase 1.5kW	45	1/5, 1/7.5, 1/10, 1/12.5, 1/15, 1/20, 1/25, 1/30, 1/40, 1/50, 1/60
		55	1/80, 1/100, 1/120, 1/160, 1/200, 1/240
	3-phase 2.2kW	45	1/5, 1/7.5, 1/10, 1/12.5, 1/15, 1/20, 1/25, 1/30
		50	1/40, 1/50, 1/60
		55	1/80, 1/100, 1/120

Note 1) High accuracy reduction (1/300 and above) is not available with 1-phase 100W models.
2) The models enclosed with ▭ are limited torque type.

Standard Model Lineup
F3 Series F3F Type (Concentric Solid Shaft)

F3 Series F3F Type

F3F Type (Concentric Solid Shaft) Model Lineup

Type	4P Motor Capacity	Frame Number	Output Shaft Arrangement	Reduction Ratio
Gearmotor F3FM Brake Gearmotor F3FB Brake Gearmotor with Brake Manual Release F3FJ (Optional Spec.)	3-phase 0.1KW	18	L R T	1/5 1/7.5 1/10 1/12.5 1/15 1/20 1/25 1/30 1/40 1/50 1/60
		22	L R T	1/80 1/100 1/120 1/160 1/200 1/240
	3-phase 0.2KW	22	L R T	1/5 1/7.5 1/10 1/12.5 1/15 1/20 1/25 1/30 1/40 1/50 1/60
		28	L R T	1/80 1/100 1/120 1/160 1/200 1/240
	3-phase 0.4KW	28	L R T	1/5 1/7.5 1/10 1/12.5 1/15 1/20 1/25 1/30 1/40 1/50 1/60
		32	L R T	1/80 1/100 1/120 1/160 1/200 1/240
	3-phase 0.75KW	32	L R T	1/5 1/7.5 1/10 1/12.5 1/15 1/20 1/25 1/30 1/40 1/50 1/60
		40	L R T	1/80 1/100 1/120 1/160 1/200 1/240
	3-phase 1.5KW	40	L R T	1/5 1/7.5 1/10 1/12.5 1/15 1/20 1/25 1/30 1/40 1/50 1/60
	3-phase 2.2KW	40	L R T	1/5 1/7.5 1/10 1/12.5 1/15 1/20 1/25 1/30

Note 1) As for 1.5kW, maximum reduction ratio is 1/60.
2) As for 2.2kW, maximum reduction ratio is 1/30.
3) The models enclosed with ▭ are limited torque type.

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

GTR Gearmotor

Concentric Hollow Shaft

Gearmotor
Brake Gearmotor

Performance Table
Dimension diagram

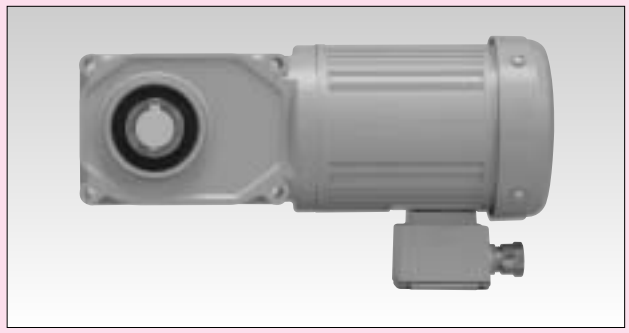
F3 Series

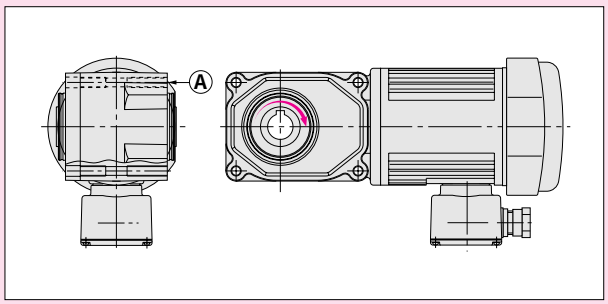
F3S Type

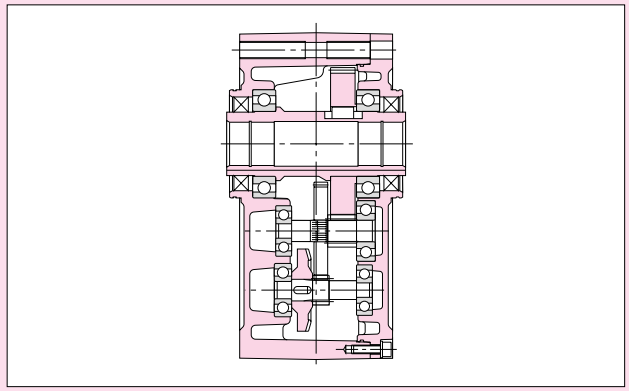
3-Phase

【Remarks】

- The output rotation speed is the value corresponds to the motor synchronous speed and the nominal reduction ratio.
- New JIS Size Key: JIS B1301-1976(Normal Class)
- The key for the output shaft is not attached to this model.
- ▭ The shaded area in the Performance Table indicates that in the case that gearmotors are wired according to the diagram on page E16, the shaft **rotates clockwise** when viewing from side Ⓐ, as in the direction of the arrow shown in the following Dimension Diagrams.







Gearmotor Brake Gearmotor F3S Type (Concentric Hollow Shaft)

F3 Series 3-phase 0.1kW

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

The values in parentheses in the Performance Table/Dimension Diagram indicate the values of brake gearmotors.

Motor Specs. Standard Voltage (Continuous Rated 4 Poles)	Capacity	Motor Capacity Designation	Voltage (V)	Frequency (Hz)	Rated Current (A)	Rated Rotation Speed (rpm)	Insulation Classification	Protective Cooling system
	0.1kW	T010	200/200/220	50/60/60	0.61/0.54/0.54	1420/1700/1720	B	Totally Enclosed non-ventilated (Totally Enclosed fan-cooled)

Motor Capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio (Fraction)	Output Shaft Rotation Speed (rpm)		Output Shaft Allowable Torque N•m		Output Shaft Allowable Torque kgf•m		Output Shaft Allowable O.H.L		Output shaft Allowable Thrust Load		Page of Dimension Diagram shown, Fig. No. and Round Weight Gearmotor (Brake Gearmotor)
				50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	N	kgf	N	kgf	F3SM (F3SB)
3-phase 0.1kW	20	1/ 5	1/ 5	300	360	2.5	2.2	0.26	0.22	980	100	244	25	P.D11 Fig.D-1 6.5kg (8kg)
		1/ 7.5	2/ 15	200	240	3.8	3.2	0.39	0.33	1080	110	270	28	
		1/ 10	1/ 10	150	180	5.2	4.3	0.53	0.44	1180	120	294	30	
		1/ 12.5	2/ 25	120	144	6.5	5.4	0.66	0.55	1270	130	316	32	
		1/ 15	1/ 15	100	120	7.7	6.5	0.79	0.66	1320	135	333	34	
		1/ 20	1/ 20	75	90	11	8.6	1.1	0.88	1470	150	373	38	
		1/ 25	1/ 25	60	72	13	11	1.3	1.1	1570	160	392	40	
		1/ 30	2/ 59	50	60	16	13	1.6	1.3	1670	170	422	43	
		1/ 40	1/ 40	37.5	45	21	18	2.1	1.8	1810	185	451	46	
		1/ 50	1/ 50	30	36	25	22	2.6	2.2	1860	190	471	48	
		1/ 60	1/ 59	25	30	31	25	3.2	2.6	1860	190	471	48	
	25	1/ 80	1/ 80	18.8	22.5	39	32	4	3.3	2550	260	637	65	P.D11 Fig.D-2 8kg (9.5kg)
		1/ 100	19/ 1880	15	18	49	41	5	4.2	2550	260	637	65	
		1/ 120	1/ 120	12.5	15	59	49	6	5	2550	260	637	65	
		1/ 160	1/ 160	9.4	11.3	78	66	8	6.7	2550	260	637	65	
		1/ 200	1/ 200	7.5	9	98	81	10	8.3	2550	260	637	65	
		∗1/ 240	1/ 240	6.3	7.5	101	98	10.3	10	2550	260	637	65	
	30	1/ 300	77/23400	5	6	131	110	13.4	11.2	3140	320	785	80	P.D11 Fig.D-3 10.5kg (12kg)
		1/ 375	11/ 4095	4	4.8	165	137	16.8	14	3140	320	785	80	
	35	1/ 450	8/ 3655	3.3	4	198	165	20.2	16.8	3630	370	912	93	P.D12 Fig.D-4 14kg (15.5kg)
		1/ 600	133/80410	2.5	3	248	207	25.3	21.1	3630	370	912	93	
		1/ 750	14/10105	2	2.4	311	259	31.7	26.4	3630	370	912	93	
	45	1/ 900	7/ 6360	1.7	2	401	334	40.9	34.1	5190	530	1275	130	P.D12 Fig.D-5 21kg (22.5kg)
		1/1200	7/ 8480	1.3	1.5	534	445	54.5	45.4	5190	530	1275	130	
	55	1/1500	7/10600	1	1.2	707	589	72.1	60.1	9800	1000	2452	250	P.D12 Fig.D-6 76kg (77.5kg)

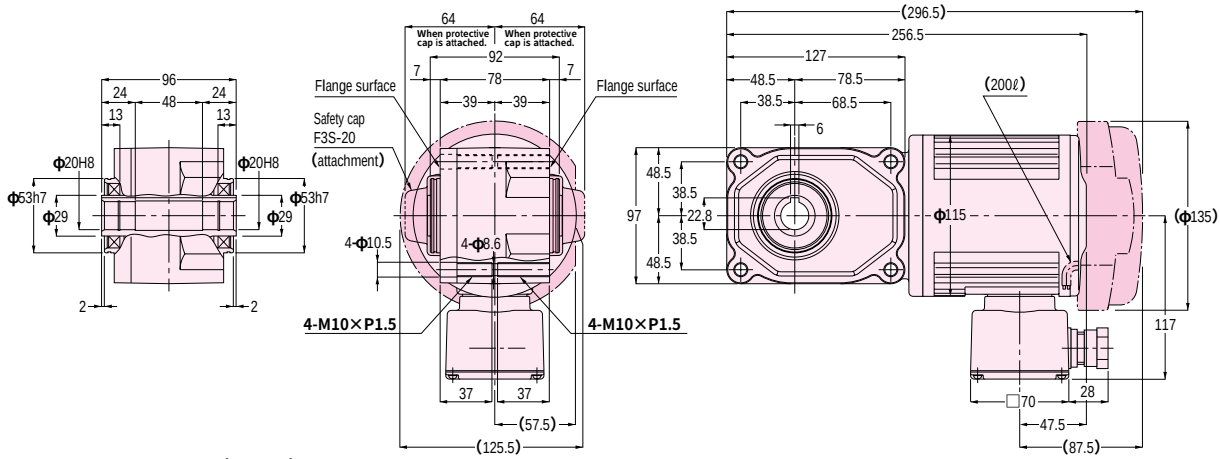
Note 1) The allowable O.H.L. are the values measured at the position of 20mm from the edge of output shaft.
2) Please be sure to read cautions stated on page D9 regarding rotation direction of output shaft.
3) The models marked with ∗ are limited torque type. Be sure to refer to the allowable torque in the Performance Table.

Model Code P.D4
Detailed Dimension Diagram of Output Shaft P.E53
Comparison of dimensions (F3 Series) P.E68

F3S Type

Fig.D-1

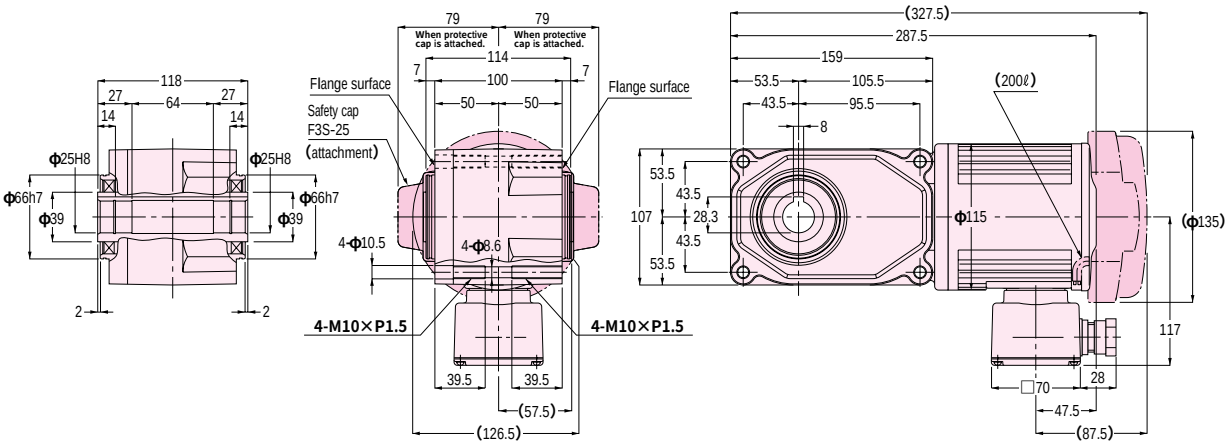
F3SM-20-5～60-T010A CAD Data: F3SM-20-T010A
(F3SB-20-5～60-T010A) (CAD Data: F3SB-20-T010A)



Round Weight 6.5kg (8kg)

Fig.D-2

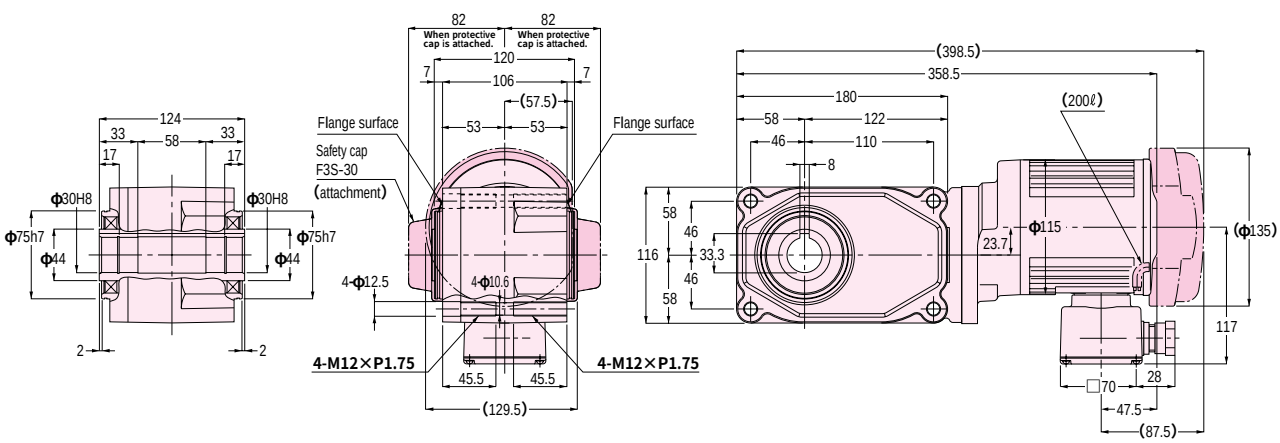
F3SM-25-80～240-T010A CAD Data: F3SM-25-T010A
(F3SB-25-80～240-T010A) (CAD Data: F3SB-25-T010A)



Round Weight 8kg (9.5kg)

Fig.D-3

F3SM-30-300～375-T010A CAD Data: F3SM-30-T010A
(F3SB-30-300～375-T010A) (CAD Data: F3SB-30-T010A)



Round Weight 10.5kg (12kg)

＊For detailed drawing for the tapped hole for Face Mount (Standard Specification), refer to Page E53

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Gearmotor Brake Gearmotor F3S Type (Concentric Hollow Shaft)

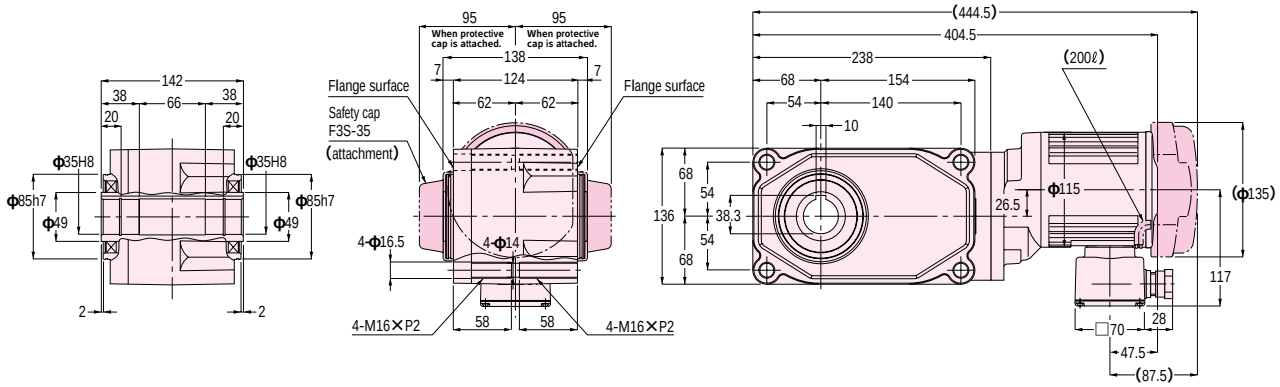
F3 Series 3-phase 0.1kW

The values in parentheses in the Performance Table/Dimension Diagram indicate the values of brake gearmotors.

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Fig.D-4

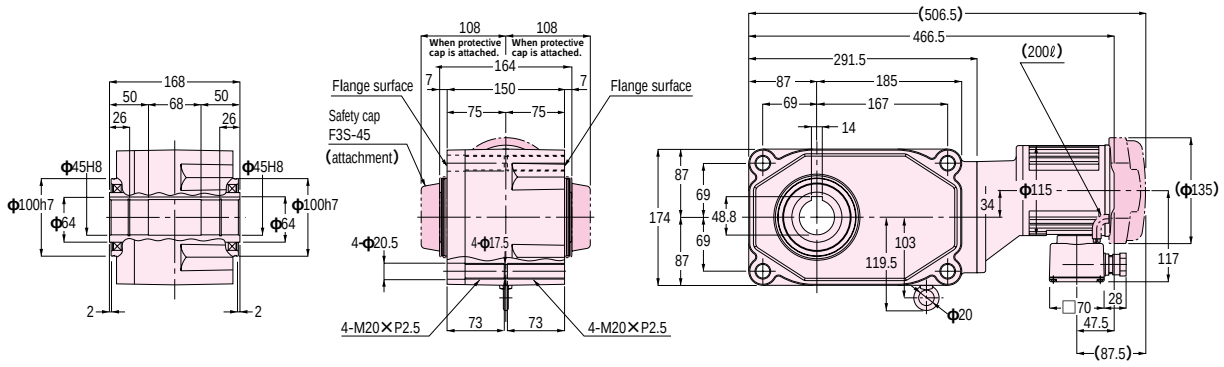
F3SM-35-450～750-T010A CAD Data: F3SM-35-T010A
(F3SB-35-450～750-T010A) (CAD Data: F3SB-35-T010A)



Round Weight 14kg (15.5kg)

Fig.D-5

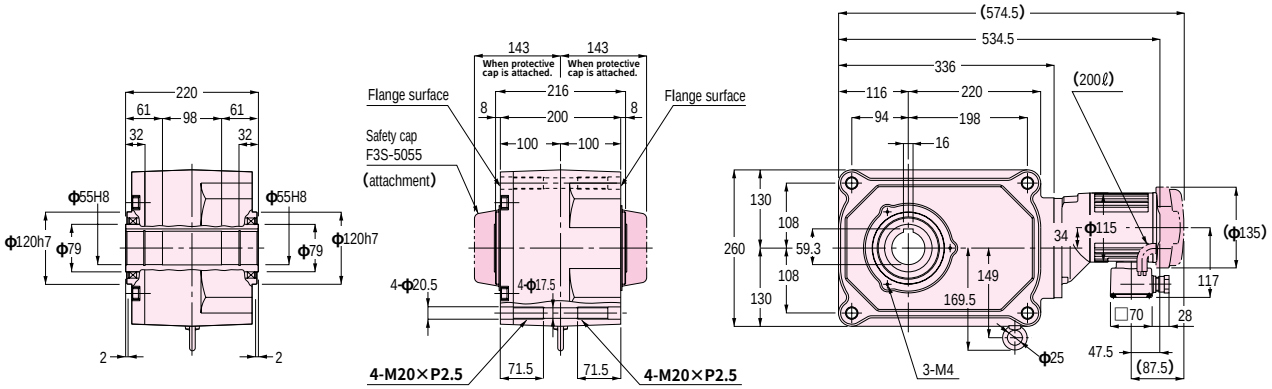
F3SM-45-900～1200-T010A CAD Data: F3SM-45-T010A
(F3SB-45-900～1200-T010A) (CAD Data: F3SB-45-T010A)



Round Weight 21kg (22.5kg)

Fig.D-6

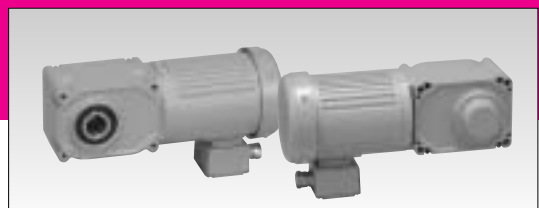
F3SM-55-1500-T010A CAD Data: F3SM-55-T010A
(F3SB-55-1500-T010A) (CAD Data: F3SB-55-T010A)



Round Weight 76kg (77.5kg)

∗ For detailed drawing for the tapped hole for Face Mount (Standard Specification), refer to Page E53

Model Code P.D4
Detailed Dimension Diagram of Output Shaft P.E53
Comparison of dimensions (F3 Series) P.E68



F3S Type

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Gearmotor Brake Gearmotor F3S Type (Concentric Hollow Shaft)

F3 Series 3-phase 0.2kW

The values in parentheses in the Performance Table/Dimension Diagram indicate the values of brake gearmotors.

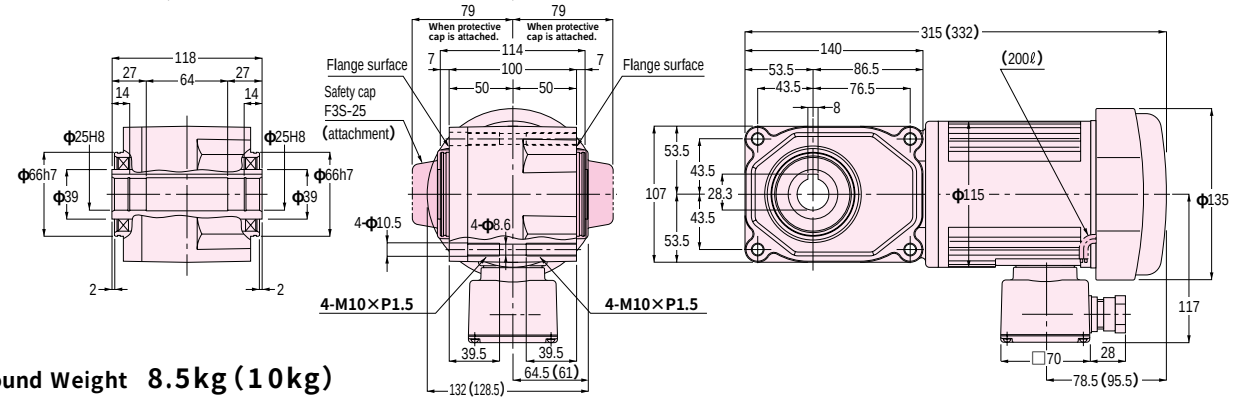
Motor Specs. Standard Voltage (Continuous Rated 4 Poles)	Capacity	Motor Capacity Designation	Voltage (V)	Frequency (Hz)	Rated Current (A)	Rated Rotation Speed (rpm)	Insulation Classification	Protective Cooling system
	0.2kW	T020	200/200/220	50/60/60	1.1/1.0/1.0	1420/1710/1720	B	Totally Enclosed fan-cooled

Motor Capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio (Fraction)	Output Shaft Rotation Speed (rpm)		Output Shaft Allowable Torque N•m		Output Shaft Allowable Torque kgf•m		Output Shaft Allowable O.H.L		Output shaft Allowable Thrust Load		Page of Dimension Diagram shown, Fig. No. and Round Weight Gearmotor (Brake Gearmotor)
				50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	N	kgf	N	kgf	F3SM (F3SB)
3-phase 0.2kW	25	1/ 5	1/ 5	300	360	5.5	4.6	0.56	0.47	1230	125	307	31	P.D14 Fig.D-7 8.5kg (10kg)
		1/ 7.5	2/ 15	200	240	8.3	7	0.85	0.71	1370	140	342	35	
		1/ 10	1/ 10	150	180	11	9.2	1.1	0.94	1520	155	380	39	
		1/ 12.5	19/ 235	120	144	14	12	1.4	1.2	1620	165	405	41	
		1/ 15	1/ 15	100	120	17	14	1.7	1.4	1720	175	429	44	
		1/ 20	1/ 20	75	90	23	19	2.3	1.9	1860	190	466	48	
		1/ 25	1/ 25	60	72	27	24	2.8	2.4	2010	205	502	51	
		1/ 30	1/ 30	50	60	33	27	3.4	2.8	2110	215	527	54	
		1/ 40	1/ 40	37.5	45	44	37	4.5	3.8	2300	235	576	59	
		1/ 50	1/ 50	30	36	55	46	5.6	4.7	2450	250	613	63	
		1/ 60	1/ 60	25	30	67	55	6.8	5.6	2550	260	637	65	
	30	1/ 80	1/ 80	18.8	22.5	84	71	8.6	7.2	3090	315	775	79	P.D15 Fig.D-8 10kg (11.5kg)
		1/ 100	19/ 1880	15	18	105	87	10.7	8.9	3140	320	785	80	
		1/ 120	1/ 120	12.5	15	126	105	12.9	10.7	3140	320	785	80	
		1/ 160	1/ 160	9.4	11.3	169	140	17.9	14.3	3140	320	785	80	
		∗1/ 200	1/ 200	7.5	9	184	175	18.8	17.9	3140	320	785	80	
		∗1/ 240	1/ 240	6.3	7.5	184	184	18.8	18.8	3140	320	785	80	
	35	1/ 300	34/ 10105	5	6	282	235	28.8	24	3630	370	912	93	P.D15 Fig.D-9 15kg (16.5kg)
		1/ 375	7/ 2580	4	4.8	353	294	36	30	3630	370	912	93	
	45	1/ 450	13/ 5740	3.3	4	423	353	43.2	36	5190	530	1275	130	P.D15 Fig.D-10 22kg (23.5kg)
		1/ 600	221/137760	2.5	3	534	446	54.5	45.5	5190	530	1275	130	
		1/ 750	13/ 10045	2	2.4	668	557	68.2	56.8	5190	530	1275	130	
	55	1/ 900	7/ 6360	1.7	2	849	707	86.6	72.1	9800	1000	2452	250	P.D15 Fig.D-11 77kg (78.5kg)
		1/1200	7/ 8480	1.3	1.5	1127	943	115	96.2	9800	1000	2452	250	

Note 1) The allowable O.H.L. are the values measured at the position of 20mm from the edge of output shaft.
2) Please be sure to read cautions stated on page D9 regarding rotation direction of output shaft.
3) The models marked with ∗ are limited torque type. Be sure to refer to the allowable torque in the Performance Table.

Fig.D-7

F3SM-25-5〜60-T020A CAD Data: F3SM-25-T020A
(F3SB-25-5〜60-T020A) (CAD Data: F3SB -25-T020A)



Round Weight 8.5kg (10kg)

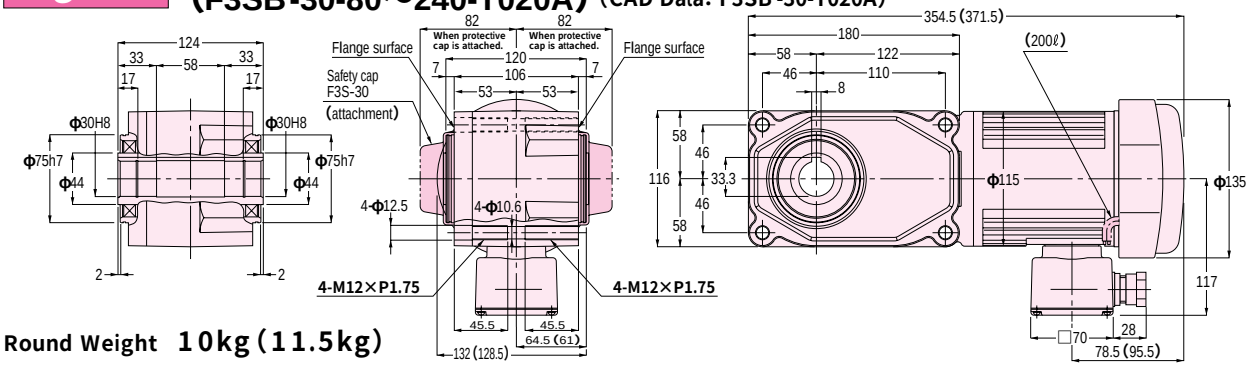
∗ For detailed drawing for the tapped hole for Face Mount (Standard Specification), refer to Page 153

Model Code P.D4
Detailed Dimension Diagram of Output Shaft P.E53
Comparison of dimensions (F3 Series) P.E68

F3S Type

Fig.D-8

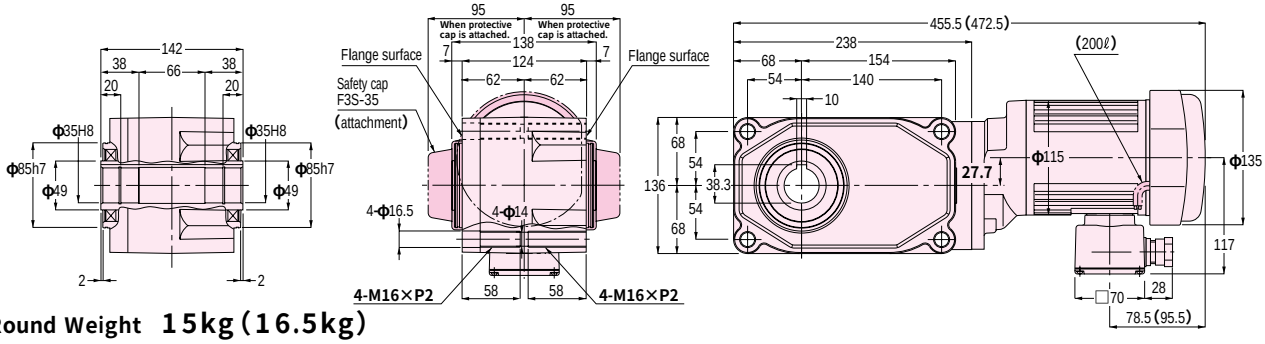
F3SM-30-80～240-T020A CAD Data: F3SM-30-T020A
(F3SB-30-80～240-T020A) (CAD Data: F3SB-30-T020A)



Round Weight 10kg (11.5kg)

Fig.D-9

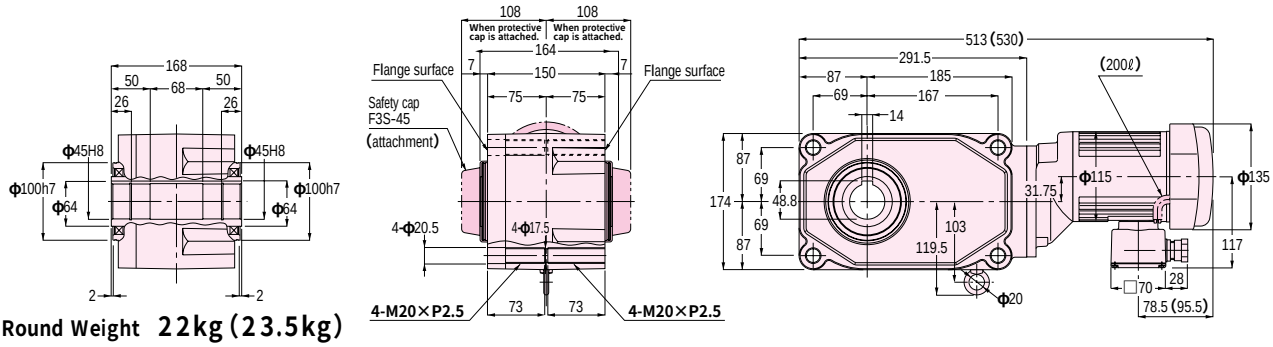
F3SM-35-300～375-T020A CAD Data: F3SM-35-T020A
(F3SB-35-300～375-T020A) (CAD Data: F3SB-35-T020A)



Round Weight 15kg (16.5kg)

Fig.D-10

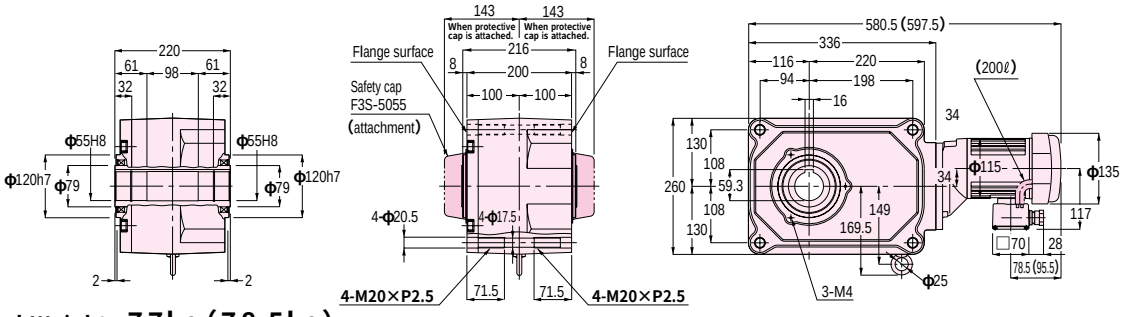
F3SM-45-450～750-T020A CAD Data: F3SM-45-T020A
(F3SB-45-450～750-T020A) (CAD Data: F3SB-45-T020A)



Round Weight 22kg (23.5kg)

Fig.D-11

F3SM-55-900～1200-T020A CAD Data: F3SM-55-T020A
(F3SB-55-900～1200-T020A) (CAD Data: F3SB-55-T020A)



Round Weight 77kg (78.5kg)

＊For detailed drawing for the tapped hole for Face Mount (Standard Specification), refer to Page E53

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Gearmotor Brake Gearmotor F3S Type (Concentric Hollow Shaft)

F3 Series 3-phase 0.4kW

The values in parentheses in the Performance Table/Dimension Diagram indicate the values of brake gearmotors.

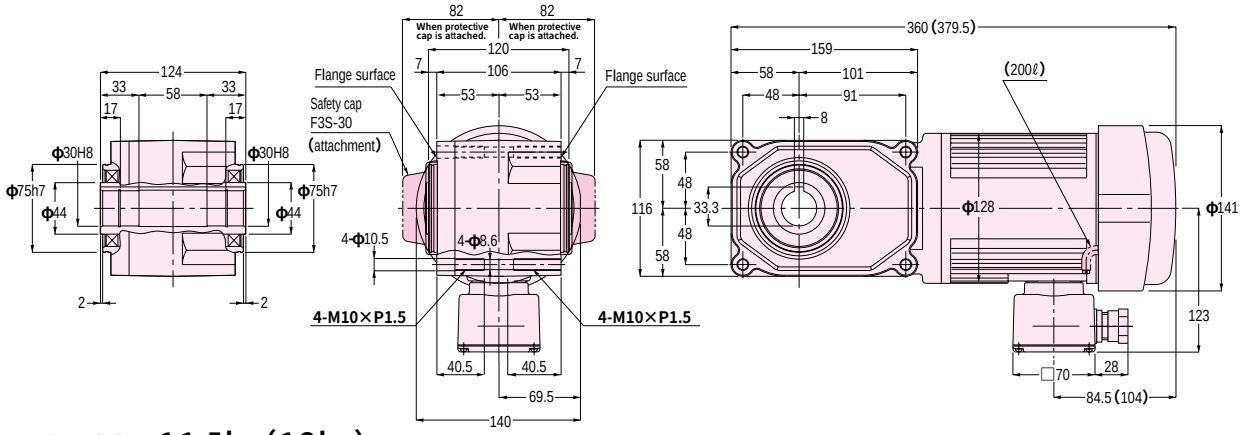
Motor Specs. Standard Voltage (Continuous Rated 4 Poles)	Capacity	Motor Capacity Designation	Voltage (V)	Frequency (Hz)	Rated Current (A)	Rated Rotation Speed (rpm)	Insulation Classification	Protective Cooling system
	0.4kW	T040	200/200/220	50/60/60	2.1/1.8/1.8	1410/1690/1710	B	Totally Enclosed fan-cooled

Motor Capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio (Fraction)	Output Shaft Rotation Speed (rpm)		Output Shaft Allowable Torque N•m		Output Shaft Allowable Torque kgf•m		Output Shaft Allowable O.H.L		Output shaft Allowable Thrust Load		Page of Dimension Diagram shown, Fig. No. and Round Weight Gearmotor (Brake Gearmotor)
				50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	N	kgf	N	kgf	F3SM (F3SB)
3-phase 0.4kW	30	1/ 5	1/ 5	300	360	11	9.2	1.1	0.94	1520	155	375	38	P.D16 Fig.D-12 11.5kg (13kg)
		1/ 7.5	2/ 15	200	240	17	14	1.7	1.4	1760	180	438	45	
		1/ 10	1/ 10	150	180	23	19	2.3	1.9	1910	195	475	48	
		1/ 12.5	19/ 235	120	144	27	24	2.8	2.4	2060	210	506	52	
		1/ 15	1/ 15	100	120	33	27	3.4	2.8	2160	220	539	55	
		1/ 20	1/ 20	75	90	44	37	4.5	3.8	2400	245	600	61	
		1/ 25	1/ 25	60	72	55	46	5.6	4.7	2550	260	637	65	
		1/ 30	1/ 30	50	60	67	55	6.8	5.6	2650	270	662	68	
		1/ 40	1/ 40	37.5	45	88	74	9	7.5	2840	290	711	73	
		1/ 50	1/ 50	30	36	111	92	11.3	9.4	2990	305	747	76	
		1/ 60	1/ 60	25	30	133	111	13.6	11.3	3090	315	767	78	
	35	1/ 80	1/ 80	18.8	22.5	169	140	17.2	14.3	3480	355	873	89	P.D17 Fig.D-13 15kg (17kg)
		1/100	19/ 1880	15	18	211	175	21.5	17.9	3530	360	883	90	
		1/120	1/ 120	12.5	15	253	211	25.8	21.5	3530	360	883	90	
		∗1/160	1/ 160	9.4	11.3	270	270	27.6	27.6	3630	370	912	93	
		∗1/200	1/ 200	7.5	9	270	270	27.6	27.6	3630	370	912	93	
		∗1/240	1/ 240	6.3	7.5	270	270	27.6	27.6	3630	370	912	93	
	45	1/300	1547/452640	5	6	565	471	57.7	48.1	5190	530	1275	130	P.D17 Fig.D-14 24kg (26kg)
		1/375	13/ 4715	4	4.8	707	589	72.1	60.1	5190	530	1275	130	
	55	1/450	7/ 3120	3.3	4	849	707	86.6	72.1	9800	1000	2452	250	P.D17 Fig.D-15 79kg (81kg)
		1/600	7/ 4160	2.5	3	1127	943	115	96.2	9800	1000	2452	250	

Note 1) The allowable O.H.L. are the values measured at the position of 20mm from the edge of output shaft.
2) Please be sure to read cautions stated on page D9 regarding rotation direction of output shaft.
3) The models marked with ∗ are limited torque type. Be sure to refer to the allowable torque in the Performance Table.

Fig.D-12

F3SM-30-5〜60-T040A CAD Data: F3SM-30-T040A
(F3SB-30-5〜60-T040A) (CAD Data: F3SB-30-T040A)



Round Weight **11.5kg (13kg)**

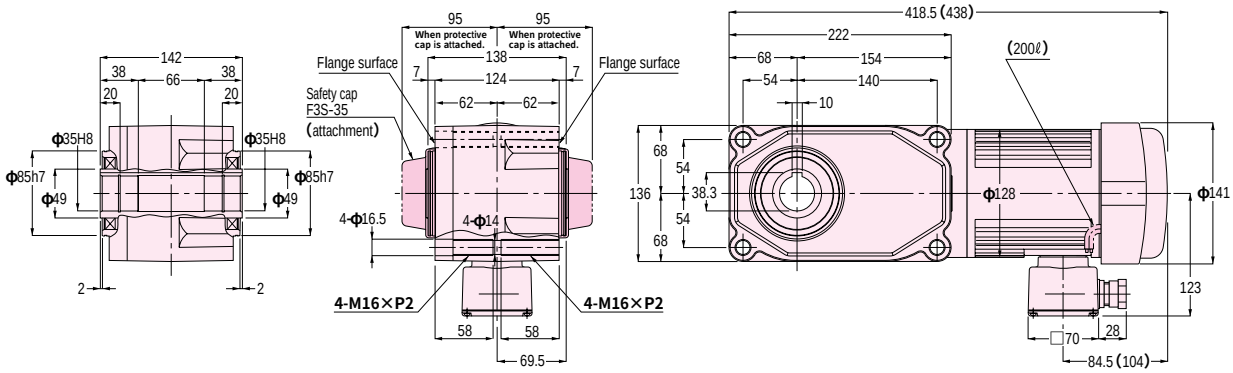
∗ For detailed drawing for the tapped hole for Face Mount (Standard Specification), refer to Page E53

Model Code P.D4
Detailed Dimension Diagram of Output Shaft P.E53
Comparison of dimensions (F3 Series) P.E68

F3S Type

Fig.D-13 F3SM-35-80～240-T040A (F3SB-35-80～240-T040A)

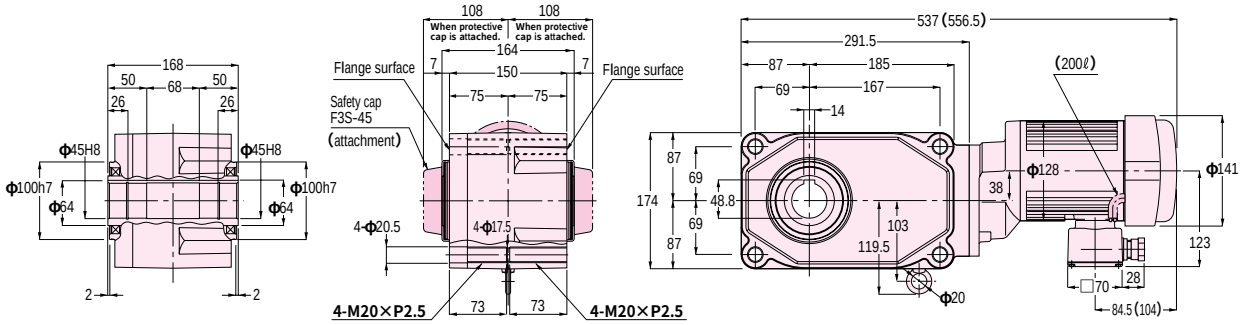
CAD Data: F3SM-35-T040A (CAD Data: F3SB-35-T040A)



Round Weight 15kg (17kg)

Fig.D-14 F3SM-45-300～375-T040A (F3SB-45-300～375-T040A)

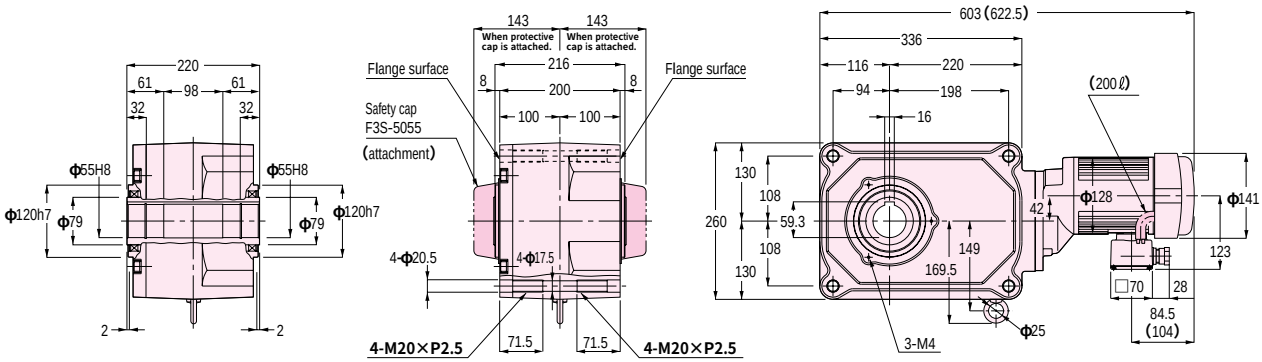
CAD Data: F3SM-45-T040A (CAD Data: F3SB-45-T040A)



Round Weight 24kg (26kg)

Fig.D-15 F3SM-55-450～600-T040A (F3SB-55-450～600-T040A)

CAD Data: F3SM-55-T040A (CAD Data: F3SB-55-T040A)



Round Weight 79kg (81kg)

＊For detailed drawing for the tapped hole for Face Mount (Standard Specification), refer to Page E53

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Gearmotor Brake Gearmotor F3S Type (Concentric Hollow Shaft)

F3 Series 3-phase 0.75kW

The values in parentheses in the Performance Table/Dimension Diagram indicate the values of brake gearmotors.

Motor Specs. Standard Voltage (Continuous Rated 4 Poles)	Capacity	Motor Capacity Designation	Voltage (V)	Frequency (Hz)	Rated Current (A)	Rated Rotation Speed (rpm)	Insulation Classification	Protective Cooling system
	0.75kW	075	200/200/220	50/60/60	3.7/3.3/3.2	1430/1720/1730	B	Totally Enclosed fan-cooled

Motor Capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio (Fraction)	Output Shaft Rotation Speed (rpm)		Output Shaft Allowable Torque N•m		Output Shaft Allowable Torque kgf•m		Output Shaft Allowable O.H.L		Output shaft Allowable Thrust Load		Page of Dimension Diagram shown, Fig. No. and Round Weight Gearmotor (Brake Gearmotor)
				50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	N	kgf	N	kgf	F3SM (F3SB)
3-phase 0.75kW	35	1/ 5	1/ 5	300	360	21	18	2.1	1.8	1960	200	500	51	P.D19 Fig.D-16 17.5kg (19.5kg)
		1/ 7.5	2/ 15	200	240	31	25	3.2	2.6	2250	230	567	58	
		1/ 10	1/ 10	150	180	41	34	4.2	3.5	2450	250	613	63	
		1/ 12.5	19/ 235	120	144	52	43	5.3	4.4	2600	265	669	68	
		1/ 15	1/ 15	100	120	63	52	6.4	5.3	2740	280	686	70	
		1/ 20	1/ 20	75	90	83	70	8.5	7.1	2990	305	747	76	
		1/ 25	1/ 25	60	72	104	86	10.6	8.8	3190	325	796	81	
		1/ 30	1/ 30	50	60	124	104	12.7	10.6	3280	335	821	84	
		1/ 40	1/ 40	37.5	45	166	138	16.9	14.1	3480	355	870	89	
		1/ 50	1/ 50	30	36	208	173	21.2	17.7	3480	355	870	89	
		1/ 60	1/ 60	25	30	249	208	25.4	21.2	3480	355	870	89	
	45	1/ 80	1/ 80	18.8	22.5	316	263	32.2	26.8	4750	485	1177	120	P.D19 Fig.D-17 25kg (27kg)
		1/100	19/1880	15	18	395	328	40.3	33.5	4750	485	1177	120	
		1/120	1/ 120	12.5	15	473	395	48.3	40.3	4750	485	1177	120	
		∗1/160	1/ 160	9.4	11.3	554	526	56.5	53.7	5190	530	1275	130	
		∗1/200	1/ 200	7.5	9	554	554	56.5	56.5	5190	530	1275	130	
		∗1/240	1/ 240	6.3	7.5	554	554	56.5	56.5	5190	530	1275	130	
	55	1/300	7/2120	5	6	1058	884	108	90.2	9800	1000	2452	250	P.D19 Fig.D-18 82kg (85kg)

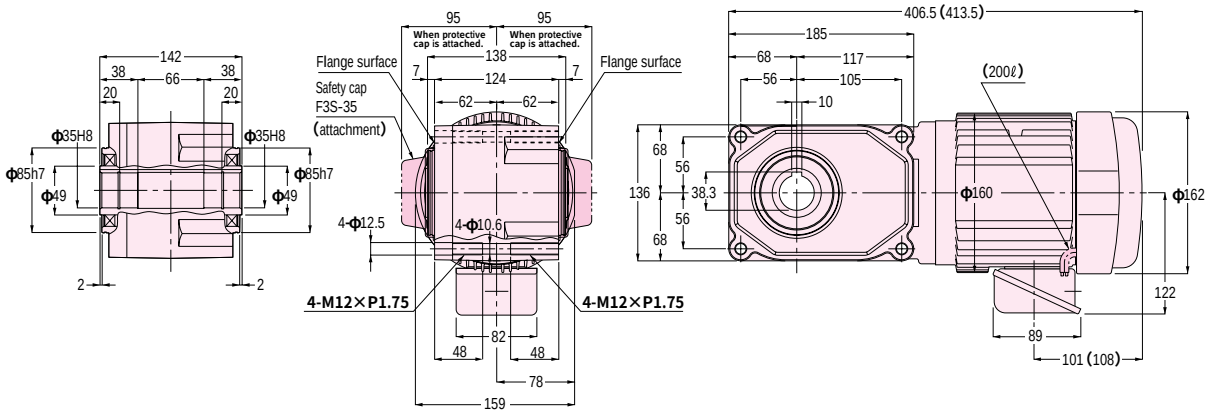
Note 1) The allowable O.H.L. are the values measured at the position of 20mm from the edge of output shaft.
2) Please be sure to read cautions stated on page D9 regarding rotation direction of output shaft.
3) The models marked with ∗ are limited torque type. Be sure to refer to the allowable torque in the Performance Table.

Model Code P.D4
Detailed Dimension Diagram of Output Shaft P.E53
Comparison of dimensions (F3 Series) P.E68

F3S Type

Fig.D-16 F3SM-35-5～60-075 (F3SB-35-5～60-075)

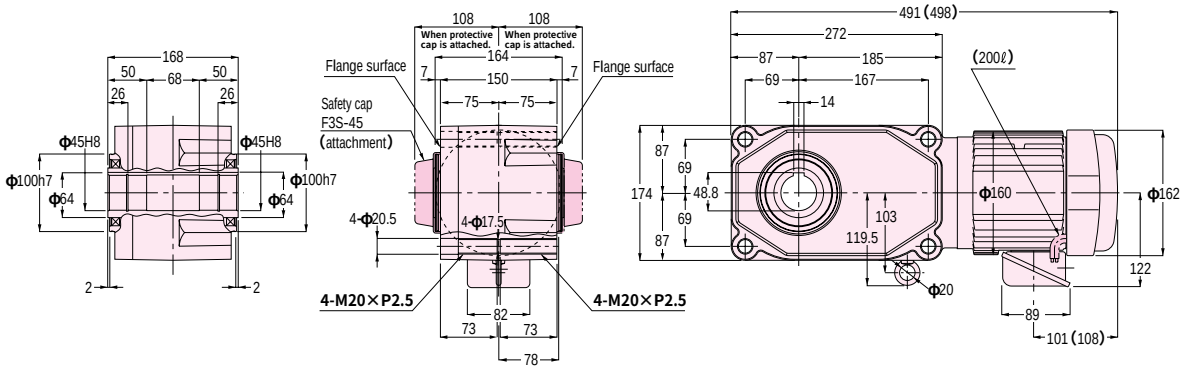
CAD Data: F3SM-35-075 (CAD Data: F3SB-35-075)



Round Weight 17.5kg (19.5kg)

Fig.D-17 F3SM-45-80～240-075 (F3SB-45-80～240-075)

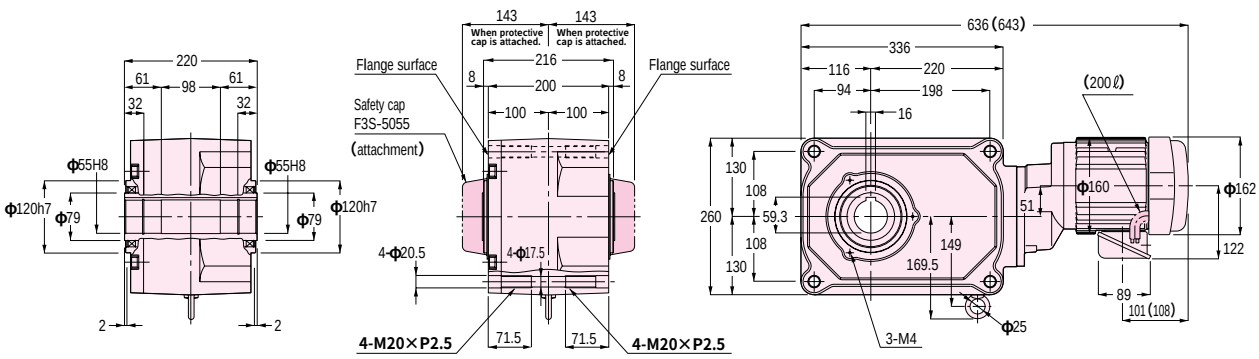
CAD Data: F3SM-45-075 (CAD Data: F3SB-45-075)



Round Weight 25kg (27kg)

Fig.D-18 F3SM-55-300-075 (F3SB-55-300-075)

CAD Data: F3SM-55-075 (CAD Data: F3SB-55-075)



Round Weight 82kg (85kg)

＊For detailed drawing for the tapped hole for Face Mount (Standard Specification), refer to Page E53

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Gearmotor Brake Gearmotor F3S Type (Concentric Hollow Shaft)

F3 Series 3-phase 1.5kW

The values in parentheses in the Performance Table/Dimension Diagram indicate the values of brake gearmotors.

Motor Specs. Standard Voltage (Continuous Rated 4 Poles)	Capacity	Motor Capacity Designation	Voltage (V)	Frequency (Hz)	Rated Current (A)	Rated Rotation Speed (rpm)	Insulation Classification	Protective Cooling system
	1.5kW	150	200/200/220	50/60/60	6.6/6.1/5.8	1430/1720/1730	B	Totally Enclosed fan-cooled

Motor Capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio (Fraction)	Output Shaft Rotation Speed (rpm)		Output Shaft Allowable Torque N•m		Output Shaft Allowable Torque kgf•m		Output Shaft Allowable O.H.L		Output shaft Allowable Thrust Load		Page of Dimension Diagram shown, Fig. No. and Round Weight Gearmotor (Brake Gearmotor)
				50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	N	kgf	N	kgf	F3SM (F3SB)
3-phase 1.5kW	45	1/ 5	1/ 5	300	360	41	34	4.2	3.5	2940	300	800	82	P.D21 Fig.D-19 32kg (35kg)
		1/ 7.5	2/ 15	200	240	63	52	6.4	5.3	3330	340	900	92	
		1/ 10	1/ 10	150	180	83	70	8.5	7.1	3630	370	967	99	
		1/ 12.5	19/235	120	144	104	86	10.6	8.8	3920	400	1040	106	
		1/ 15	1/ 15	100	120	124	104	12.7	10.6	4070	415	1067	109	
		1/ 20	1/ 20	75	90	166	138	16.9	14.1	4460	455	1067	109	
		1/ 25	1/ 25	60	72	208	173	21.2	17.7	4700	480	1067	109	
		1/ 30	1/ 30	50	60	249	208	25.4	21.2	4750	485	1067	109	
		1/ 40	1/ 40	37.5	45	332	276	33.9	28.2	4750	485	1067	109	
		1/ 50	1/ 50	30	36	416	345	42.4	35.2	4750	485	1067	109	
		1/ 60	1/ 60	25	30	498	416	50.8	42.4	4750	485	1067	109	
	55	1/ 80	1/ 80	18.8	22.5	631	526	64.4	53.7	6420	655	1618	165	P.D21 Fig.D-20 86kg (89kg)
		1/100	1/100	15	18	789	658	80.5	67.1	6420	655	1618	165	
		1/120	1/120	12.5	15	947	789	96.6	80.5	7500	765	1863	190	
		1/160	1/160	9.4	11.3	1264	1049	129	107	8330	850	2059	210	
		∗1/200	1/200	7.5	9	1264	1264	129	129	9020	920	2256	230	
		∗1/240	1/240	6.3	7.5	1264	1264	129	129	9800	1000	2452	250	

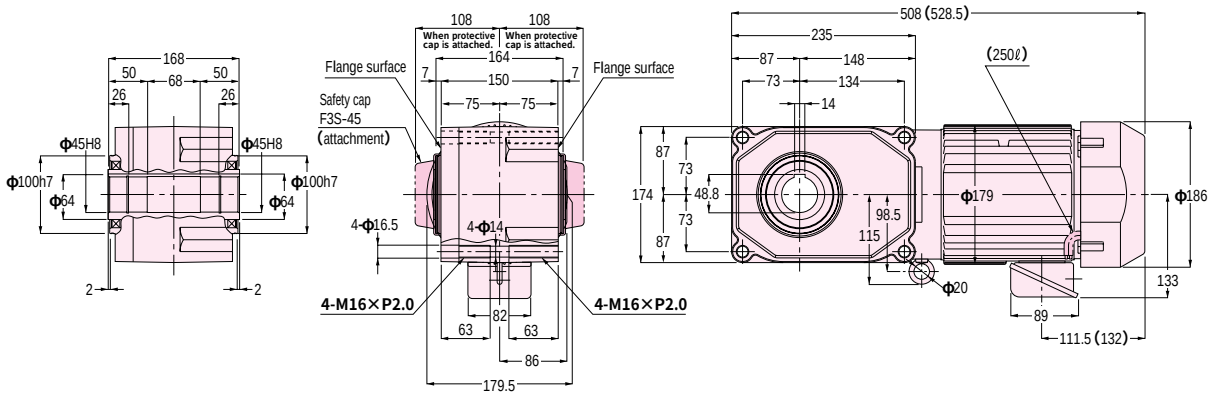
Note 1) The allowable O.H.L. are the values measured at the position of 20mm from the edge of output shaft.
2) Please be sure to read cautions stated on page D9 regarding rotation direction of output shaft.
3) The models marked with ∗ are limited torque type. Be sure to refer to the allowable torque in the Performance Table.

Model Code P.D4
Detailed Dimension Diagram of Output Shaft P.E53
Comparison of dimensions (F3 Series) P.E68

F3S Type

Fig.D-19 F3SM-45-5～60-150 (F3SB-45-5～60-150)

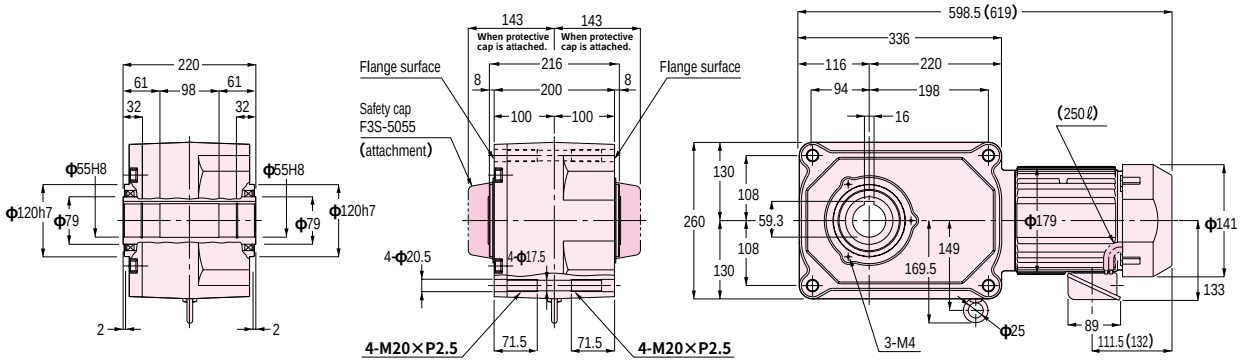
CAD Data: F3SM-45-150 (CAD Data: F3SB-45-150)



Round Weight 32kg (35kg)

Fig.D-20 F3SM-55-80～240-150 (F3SB-55-80～240-150)

CAD Data: F3SM-55-150 (CAD Data: F3SB-55-150)



Round Weight 86kg (89kg)

∗ For detailed drawing for the tapped hole for Face Mount (Standard Specification), refer to Page E53

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Gearmotor Brake Gearmotor F3S Type (Concentric Hollow Shaft)

F3 Series 3-phase 2.2kW

The values in parentheses in the Performance Table/Dimension Diagram indicate the values of brake gearmotors.

Motor Specs. Standard Voltage (Continuous Rated 4 Poles)	Capacity	Motor Capacity Designation	Voltage (V)	Frequency (Hz)	Rated Current (A)	Rated Rotation Speed (rpm)	Insulation Classification	Protective Cooling system
	2.2kW	220	50/60/60	200/200/220	9.0/8.6/8.0	1410/1690/1710	B	Totally Enclosed fan-cooled

Motor Capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio (Fraction)	Output Shaft Rotation Speed (rpm)		Output Shaft Allowable Torque N•m		Output Shaft Allowable Torque kgf•m		Output Shaft Allowable O.H.L		Output shaft Allowable Thrust Load		Page of Dimension Diagram shown, Fig. No. and Round Weight Gearmotor (Brake Gearmotor)
				50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	N	kgf	N	kgf	F3SM (F3SB)
3-phase 2.2kW	45	1/ 5	1/ 5	300	360	61	51	6.2	5.2	3140	320	800	82	P.D23 Fig.D-21 35kg (38kg)
		1/ 7.5	2/ 15	200	240	91	76	9.3	7.8	3530	360	900	92	
		1/ 10	1/ 10	150	180	122	102	12.4	10.4	3920	400	967	99	
		1/ 12.5	19/235	120	144	152	126	15.5	12.9	4120	420	1040	106	
		1/ 15	1/ 15	100	120	182	152	18.6	15.5	4410	450	1067	109	
		1/ 20	1/ 20	75	90	244	203	24.9	20.7	4750	485	1067	109	
		1/ 25	1/ 25	60	72	305	254	31.1	25.9	4750	485	1067	109	
		1/ 30	1/ 30	50	60	366	305	37.3	31.1	4750	485	1067	109	
	50	1/ 40	1/ 40	37.5	45	487	406	49.7	41.4	5240	535	1275	130	P.D23 Fig.D-22 44kg (47kg)
		1/ 50	1/ 50	30	36	609	508	62.1	51.8	5240	535	1275	130	
		1/ 60	1/ 60	25	30	731	609	74.6	62.1	5240	535	1275	130	
	55	1/ 80	1/ 80	18.8	22.5	926	771	94.5	78.7	6420	655	1618	165	P.D23 Fig.D-23 91kg (94kg)
		1/100	1/100	15	18	1156	964	118	98.4	6420	655	1618	165	
		∗1/120	1/120	12.5	15	1264	1156	129	118	7500	765	1863	190	

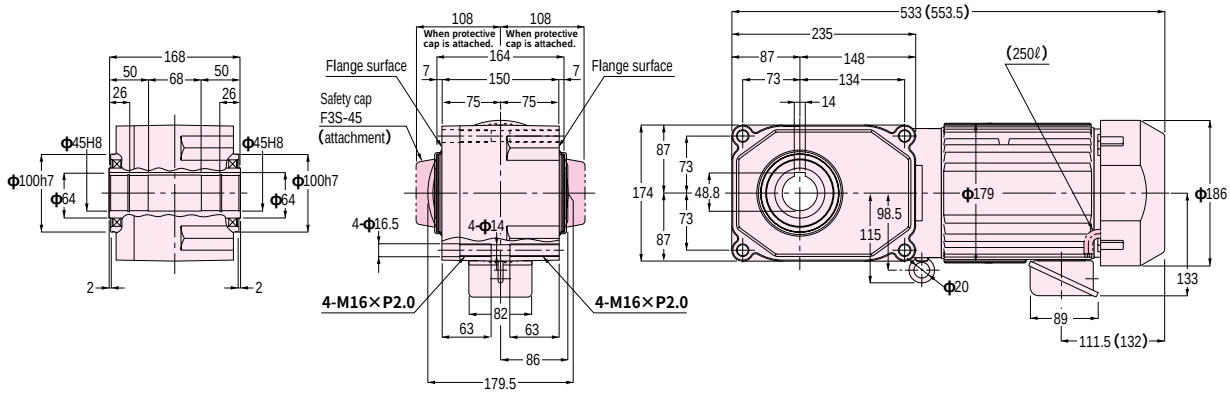
Note 1) The allowable O.H.L. are the values measured at the position of 20mm from the edge of output shaft.
2) Please be sure to read cautions stated on page D9 regarding rotation direction of output shaft.
3) The models marked with ∗ are limited torque type. Be sure to refer to the allowable torque in the Performance Table.

Model Code P.D4
Detailed Dimension Diagram of Output Shaft P.E53
Comparison of dimensions (F3 Series) P.E68

F3S Type

Fig.D-21 F3SM-45-5～30-220 (F3SB-45-5～30-220)

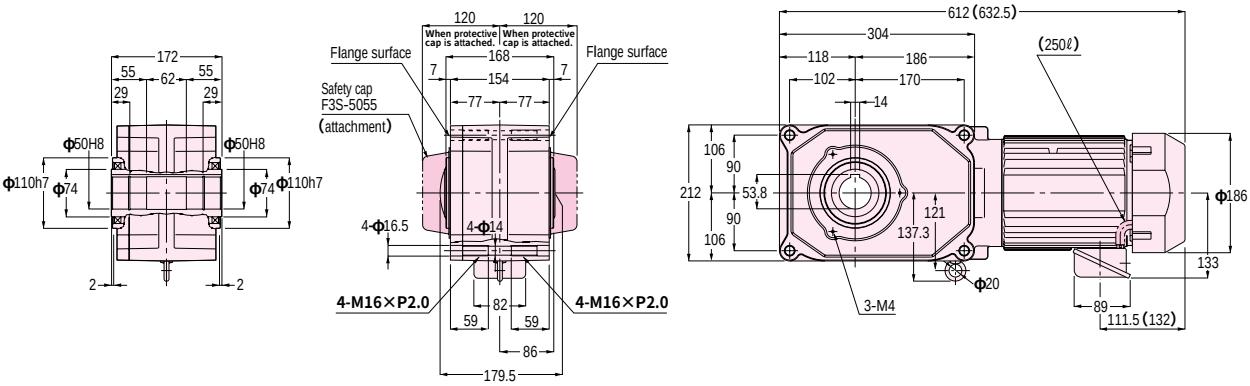
CAD Data: F3SM-45-220 (CAD Data: F3SB-45-220)



Round Weight 35kg (38kg)

Fig.D-22 F3SM-50-40～60-220 (F3SB-50-40～60-220)

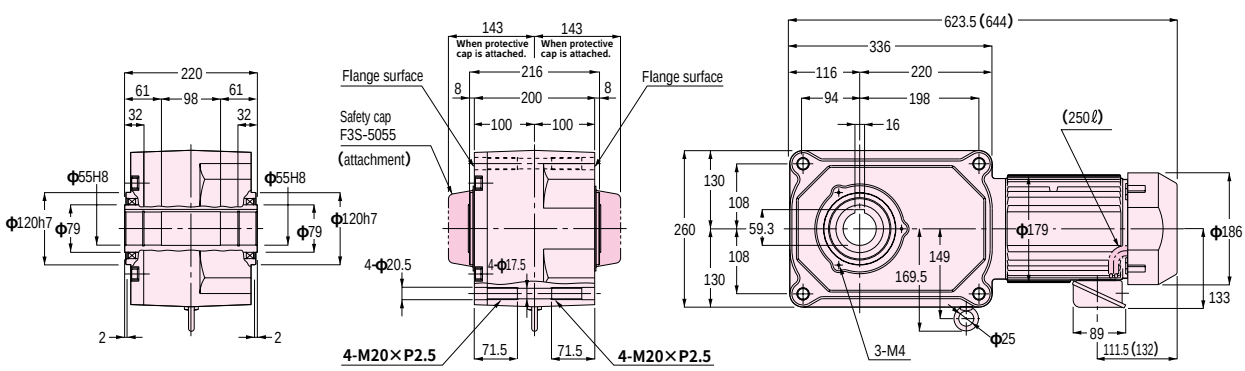
CAD Data: F3SM-50-220 (CAD Data: F3SB-50-220)



Round Weight 44kg (47kg)

Fig.D-23 F3SM-55-80～120-220 (F3SB-55-80～120-220)

CAD Data: F3SM-55-220 (CAD Data: F3SB-55-220)



Round Weight 91kg (94kg)

∗ For detailed drawing for the tapped hole for Face Mount (Standard Specification), refer to Page E53

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

GTR Gearmotor

Concentric Hollow Shaft

Gearmotor
Brake Gearmotor

Performance Table
Dimension diagram

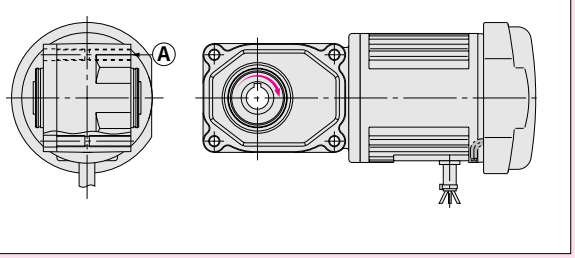
F3 Series

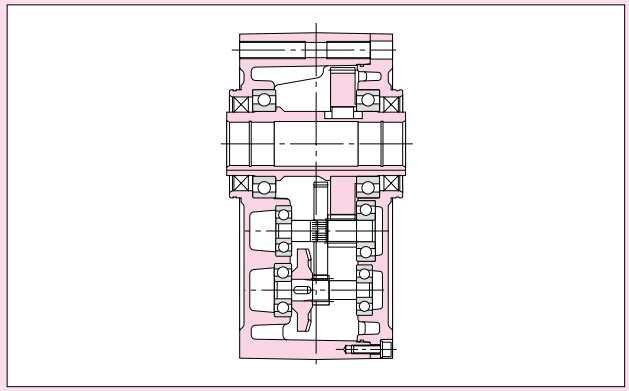
F3S Type

1-Phase

【Remarks】

- The output rotation speed is the value corresponds to the motor synchronous speed and the nominal reduction ratio.
- New JIS Size Key: JIS B1301-1976 (Normal Class)
- The key for the output shaft is not attached to this model.
- ▭ The shaded area in the Performance Table indicates that in the case that gearmotors are wired according to the diagram on page E16, the shaft **rotates clockwise** when viewing from side Ⓐ, as in the direction of the arrow shown in the following Dimension Diagrams.
- The starting torque of the single-phase 100W motor will be 60～80%, since it employs capacitor-operate motor.





Gearmotor Brake Gearmotor F3S Type (Concentric Hollow Shaft)

F3 Series 1-phase 100W

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

The values in parentheses in the Performance Table/Dimension Diagram indicate the values of brake gearmotors.

Motor Specs. Standard Voltage (Continuous Rated 4 Poles)	Capacity	Motor Capacity Designation	Voltage (V)	Frequency (Hz)	Rated Current (A)	Rated Rotation Speed (rpm)	Insulation Classification	Protective Cooling system	Start System
	100W	S100	100/100	50/60	1.7/1.9	1400/1700	E	Totally Enclosed fan-cooled	Capacitor Operation

Motor Capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio (Fraction)	Output Shaft Rotation Speed (rpm)		Output Shaft Allowable Torque N•m		Output Shaft Allowable Torque kgf•m		Output Shaft Allowable O.H.L		Output shaft Allowable Thrust Load		Page of Dimension Diagram shown, Fig. No. and Round Weight Gearmotor (Brake Gearmotor)
				50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	N	kgf	N	kgf	F3SM (F3SB)
1-phase 100W	20	1/ 5	1/ 5	300	360	2.5	2.2	0.26	0.22	980	100	244	25	P.D27 Fig.D-24 7kg (8kg)
		1/ 7.5	2/ 15	200	240	3.8	3.2	0.39	0.33	1080	110	270	28	
		1/ 10	1/ 10	150	180	5.2	4.3	0.53	0.44	1180	120	294	30	
		1/ 12.5	2/ 25	120	144	6.5	5.4	0.66	0.55	1270	130	316	32	
		1/ 15	1/ 15	100	120	7.7	6.5	0.79	0.66	1320	135	333	34	
		1/ 20	1/ 20	75	90	11	8.6	1.1	0.88	1470	150	373	38	
		1/ 25	1/ 25	60	72	13	11	1.3	1.1	1570	160	392	40	
		1/ 30	2/ 59	50	60	16	13	1.6	1.3	1670	170	422	43	
		1/ 40	1/ 40	37.5	45	21	18	2.1	1.8	1810	185	451	46	
		1/ 50	1/ 50	30	36	25	22	2.6	2.2	1860	190	471	48	
		1/ 60	1/ 59	25	30	31	25	3.2	2.6	1860	190	471	48	
	25	1/ 80	1/ 80	18.8	22.5	39	32	4	3.3	2550	260	637	65	P.D27 Fig.D-25 9kg (10kg)
		1/100	19/1880	15	18	49	41	5	4.2	2550	260	637	65	
		1/120	1/ 120	12.5	15	59	49	6	5	2550	260	637	65	
		1/160	1/ 160	9.4	11.3	78	66	8	6.7	2550	260	637	65	
		1/200	1/ 200	7.5	9	98	81	10	8.3	2550	260	637	65	
		∗1/240	1/ 240	6.3	7.5	101	98	10.3	10	2550	260	637	65	

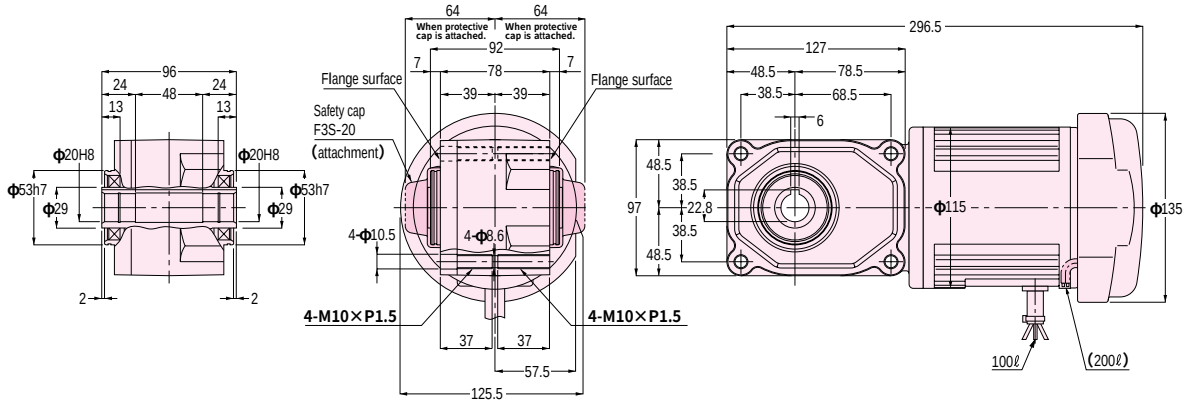
Note 1) The allowable O.H.L. are the values measured at the position of 20mm from the edge of output shaft.
2) Please be sure to read cautions stated on page D25 regarding rotation direction of output shaft.
3) The models marked with ∗ are limited torque type. Be sure to refer to the allowable torque in the Performance Table.

Model Code P.D4
Detailed Dimension Diagram of Output Shaft P.E53
Comparison of dimensions (F3 Series) P.E68

F3S Type

Fig.D-24 F3SM-20-5～60-S100 (F3SB-20-5～60-S100)

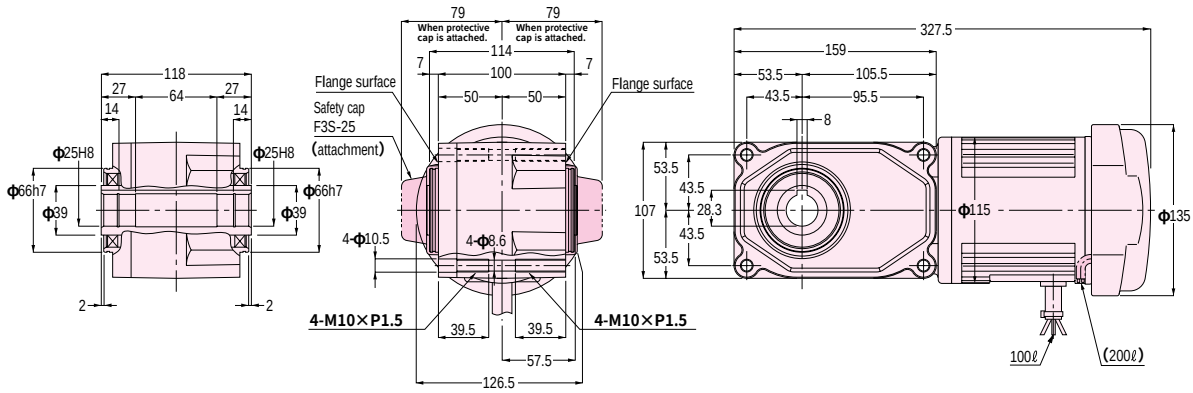
CAD Data: F3SM-20-S100 (CAD Data: F3SB-20-S100)



Round Weight 7kg (8kg)

Fig.D-25 F3SM-25-80～240-S100 (F3SB-25-80～240-S100)

CAD Data: F3SM-25-S100 (CAD Data: F3SB-25-S100)



Round Weight 9kg (10kg)

＊For detailed drawing for the tapped hole for Face Mount (Standard Specification), refer to Page E53

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Gearmotor Brake Gearmotor F3S Type (Concentric Hollow Shaft)

F3 Series 1-phase 200W

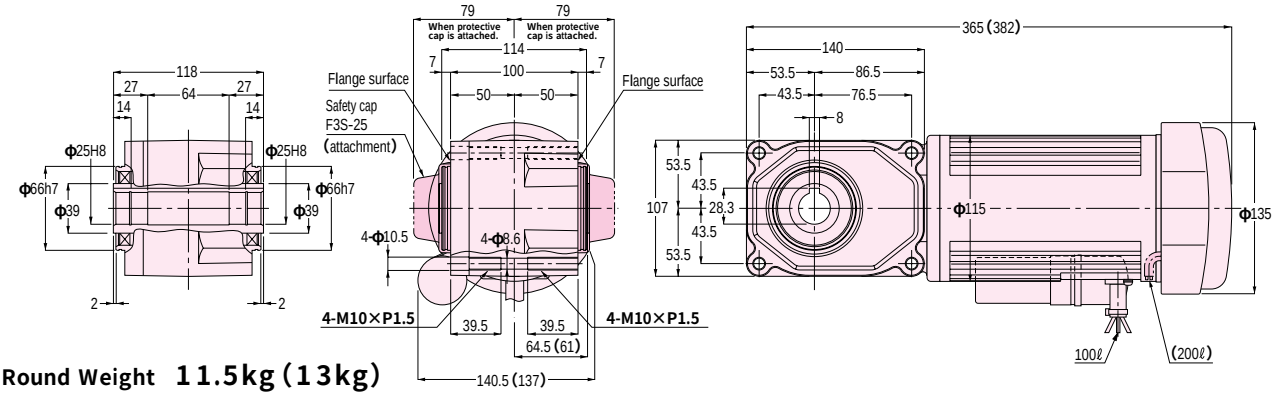
The values in parentheses in the Performance Table/Dimension Diagram indicate the values of brake gearmotors.

Motor Specs. Standard Voltage (Continuous Rated 4 Poles)	Capacity	Motor Capacity Designation	Voltage (V)	Frequency (Hz)	Rated Current (A)	Rated Rotation Speed (rpm)	Insulation Classification	Protective Cooling system	Start System
	200W	200	100/100	50/60	5.1/4.5	1420/1700	B	Totally Enclosed fan-cooled	Capacitor Start

Motor Capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio (Fraction)	Output Shaft Rotation Speed (rpm)		Output Shaft Allowable Torque N·m		Output Shaft Allowable Torque kgf·m		Output Shaft Allowable O.H.L		Output shaft Allowable Thrust Load		Page of Dimension Diagram shown, Fig. No. and Round Weight Gearmotor (Brake Gearmotor)
				50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	N	kgf	N	kgf	F3SM (F3SB)
1-phase 200W	25	1/ 5	1/ 5	300	360	5.5	4.6	0.56	0.47	1230	125	307	31	P.D28 Fig.D-26 11.5kg (13kg)
		1/ 7.5	2/ 15	200	240	8.3	7	0.85	0.71	1370	140	342	35	
		1/ 10	1/ 10	150	180	11	9.2	1.1	0.94	1520	155	380	39	
		1/ 12.5	19/ 235	120	144	14	12	1.4	1.2	1620	165	405	41	
		1/ 15	1/ 15	100	120	17	14	1.7	1.4	1720	175	429	44	
		1/ 20	1/ 20	75	90	23	19	2.3	1.9	1860	190	466	48	
		1/ 25	1/ 25	60	72	27	24	2.8	2.4	2010	205	502	51	
		1/ 30	1/ 30	50	60	33	27	3.4	2.8	2110	215	527	54	
		1/ 40	1/ 40	37.5	45	44	37	4.5	3.8	2300	235	576	59	
		1/ 50	1/ 50	30	36	55	46	5.6	4.7	2450	250	613	63	
		1/ 60	1/ 60	25	30	67	55	6.8	5.6	2550	260	637	65	
	30	1/ 80	1/ 80	18.8	22.5	84	71	8.6	7.2	3090	315	775	79	P.D29 Fig.D-27 13kg (14.5kg)
		1/ 100	19/ 1880	15	18	105	87	10.7	8.9	3140	320	785	80	
		1/ 120	1/ 120	12.5	15	126	105	12.9	10.7	3140	320	785	80	
		1/ 160	1/ 160	9.4	11.3	169	140	17.9	14.3	3140	320	785	80	
		∗1/ 200	1/ 200	7.5	9	184	175	18.8	17.9	3140	320	785	80	
		∗1/ 240	1/ 240	6.3	7.5	184	184	18.8	18.8	3140	320	785	80	
	35	1/ 300	34/ 10105	5	6	282	235	28.8	24	3630	370	912	93	P.D29 Fig.D-28 17kg (18.5kg)
		1/ 375	7/ 2580	4	4.8	353	294	36	30	3630	370	912	93	
	45	1/ 450	13/ 5740	3.3	4	423	353	43.2	36	5190	530	1275	130	P.D29 Fig.D-29 24kg (25.5kg)
		1/ 600	221/137760	2.5	3	534	446	54.5	45.5	5190	530	1275	130	
		1/ 750	13/ 10045	2	2.4	668	557	68.2	56.8	5190	530	1275	130	
	55	1/ 900	7/ 6360	1.7	2	849	707	86.6	72.1	9800	1000	2452	250	P.D29 Fig.D-30 79kg (80.5kg)
		1/1200	7/ 8480	1.3	1.5	1127	943	115	96.2	9800	1000	2452	250	

Note 1) The allowable O.H.L. are the values measured at the position of 20mm from the edge of output shaft.
2) Please be sure to read cautions stated on page D25 regarding rotation direction of output shaft.
3) The models marked with ∗ are limited torque type. Be sure to refer to the allowable torque in the Performance Table.

Fig.D-26 F3SM-25-5〜60-200 CAD Data: F3SM-25-200
(F3SB-25-5〜60-200) (CAD Data: F3SB -25-200)



Round Weight 11.5kg (13kg)

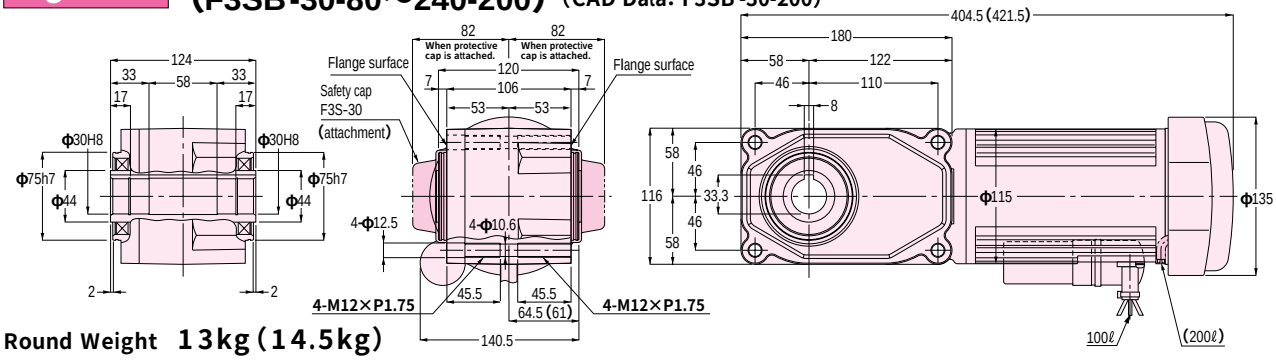
∗ For detailed drawing for the tapped hole for Face Mount (Standard Specification), refer to Page E53

Model Code P.D4
Detailed Dimension Diagram of Output Shaft P.E53
Comparison of dimensions (F3 Series) P.E68

F3S Type

Fig.D-27 F3SM-30-80～240-200 (F3SB-30-80～240-200)

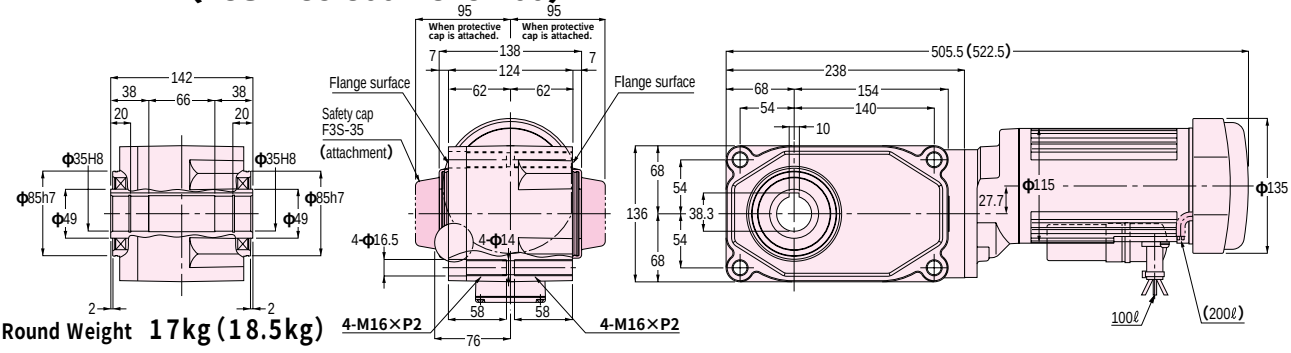
CAD Data: F3SM-30-200 (CAD Data: F3SB-30-200)



Round Weight 13kg (14.5kg)

Fig.D-28 F3SM-35-300～375-200 (F3SB-35-300～375-200)

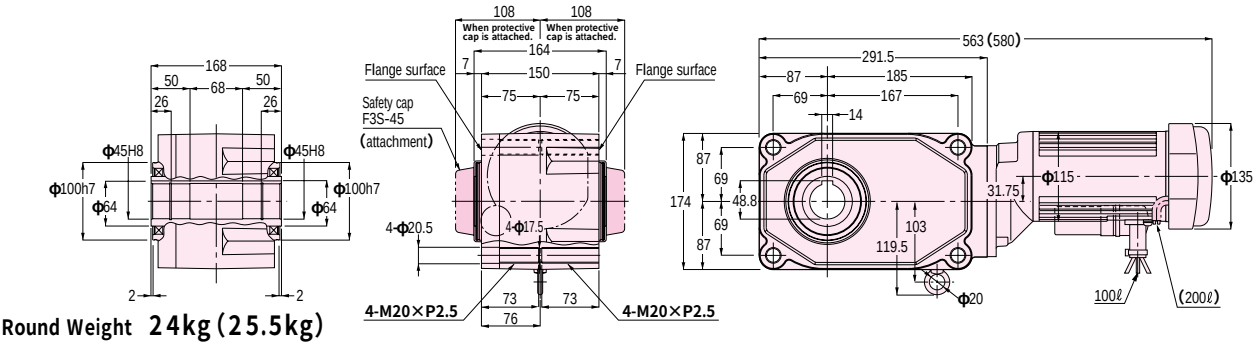
CAD Data: F3SM-35-200 (CAD Data: F3SB-35-200)



Round Weight 17kg (18.5kg)

Fig.D-29 F3SM-45-450～750-200 (F3SB-45-450～750-200)

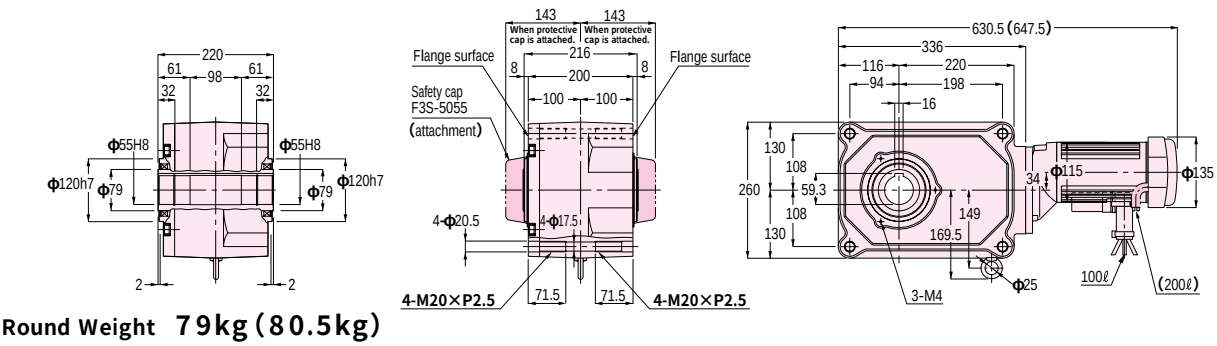
CAD Data: F3SM-45-200 (CAD Data: F3SB-45-200)



Round Weight 24kg (25.5kg)

Fig.D-30 F3SM-55-900～1200-200 (F3SB-55-900～1200-200)

CAD Data: F3SM-55-200 (CAD Data: F3SB-55-200)



Round Weight 79kg (80.5kg)

＊For detailed drawing for the tapped hole for Face Mount (Standard Specification), refer to Page E53

Gearmotor Brake Gearmotor F3S Type (Concentric Hollow Shaft)

F3 Series 1-phase 400W

The values in parentheses in the Performance Table/Dimension Diagram indicate the values of brake gearmotors.

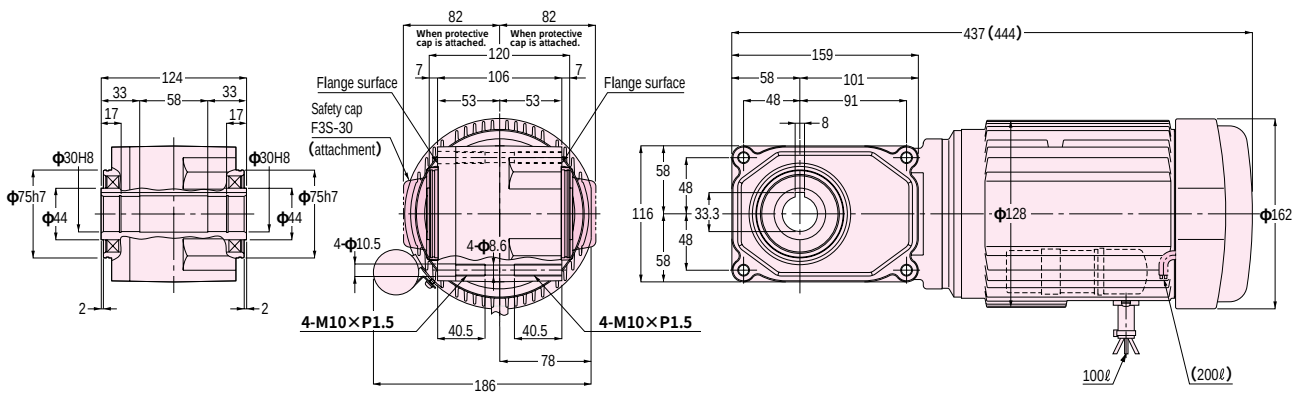
Motor Specs. Standard Voltage (Continuous Rated 4 Poles)	Capacity	Motor Capacity Designation	Voltage (V)	Frequency (Hz)	Rated Current (A)	Rated Rotation Speed (rpm)	Insulation Classification	Protective Cooling system	Start System
	400W	400	100/100	50/60	8.7/7.9	1440/1730	B	Totally Enclosed fan-cooled	Capacitor Start

Motor Capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio (Fraction)	Output Shaft Rotation Speed (rpm)		Output Shaft Allowable Torque N·m		Output Shaft Allowable Torque kgf·m		Output Shaft Allowable O.H.L		Output shaft Allowable Thrust Load		Page of Dimension Diagram shown, Fig. No. and Round Weight Gearmotor (Brake Gearmotor)
				50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	N	kgf	N	kgf	F3SM (F3SB)
1-phase 400W	30	1/ 5	1/ 5	300	360	11	9.2	1.1	0.94	1520	155	375	38	P.D30 Fig.D-31 17.5kg (20kg)
		1/ 7.5	2/ 15	200	240	17	14	1.7	1.4	1760	180	438	45	
		1/ 10	1/ 10	150	180	23	19	2.3	1.9	1910	195	475	48	
		1/ 12.5	19/ 235	120	144	27	24	2.8	2.4	2060	210	506	52	
		1/ 15	1/ 15	100	120	33	27	3.4	2.8	2160	220	539	55	
		1/ 20	1/ 20	75	90	44	37	4.5	3.8	2400	245	600	61	
		1/ 25	1/ 25	60	72	55	46	5.6	4.7	2550	260	637	65	
		1/ 30	1/ 30	50	60	67	55	6.8	5.6	2650	270	662	68	
		1/ 40	1/ 40	37.5	45	88	74	9	7.5	2840	290	711	73	
		1/ 50	1/ 50	30	36	111	92	11.3	9.4	2990	305	747	76	
		1/ 60	1/ 60	25	30	133	111	13.6	11.3	3090	315	767	78	
	35	1/ 80	1/ 80	18.8	22.5	169	140	17.2	14.3	3480	355	873	89	P.D31 Fig.D-32 21kg (23.5kg)
		1/100	19/ 1880	15	18	211	175	21.5	17.9	3530	360	883	90	
		1/120	1/ 120	12.5	15	253	211	25.8	21.5	3530	360	883	90	
		∗1/160	1/ 160	9.4	11.3	270	270	27.6	27.6	3630	370	912	93	
		∗1/200	1/ 200	7.5	9	270	270	27.6	27.6	3630	370	912	93	
		∗1/240	1/ 240	6.3	7.5	270	270	27.6	27.6	3630	370	912	93	
	45	1/300	1547/452640	5	6	565	471	57.7	48.1	5190	530	1275	130	P.D31 Fig.D-33 30kg (32.5kg)
		1/375	13/ 4715	4	4.8	707	589	72.1	60.1	5190	530	1275	130	
	55	1/450	7/ 3120	3.3	4	849	707	86.6	72.1	9800	1000	2452	250	P.D31 Fig.D-34 85kg (87.5kg)
		1/600	7/ 4160	2.5	3	1127	943	115	96.2	9800	1000	2452	250	

Note 1) The allowable O.H.L. are the values measured at the position of 20mm from the edge of output shaft.
2) Please be sure to read cautions stated on page D25 regarding rotation direction of output shaft.
3) The models marked with ∗ are limited torque type. Be sure to refer to the allowable torque in the Performance Table.

Fig.D-31

F3SM-30-5〜60-400 CAD Data: F3SM-30-400
(F3SB-30-5〜60-400) (CAD Data: F3SB-30-400)



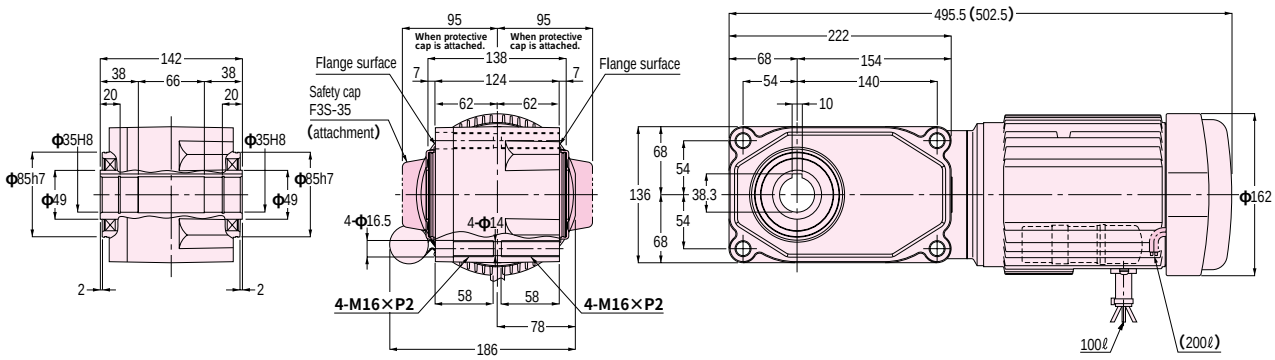
Round Weight 17.5kg (20kg)

∗ For detailed drawing for the tapped hole for Face Mount (Standard Specification), refer to Page E53

Model Code P.D4
Detailed Dimension Diagram of Output Shaft P.E53
Comparison of dimensions (F3 Series) P.E68

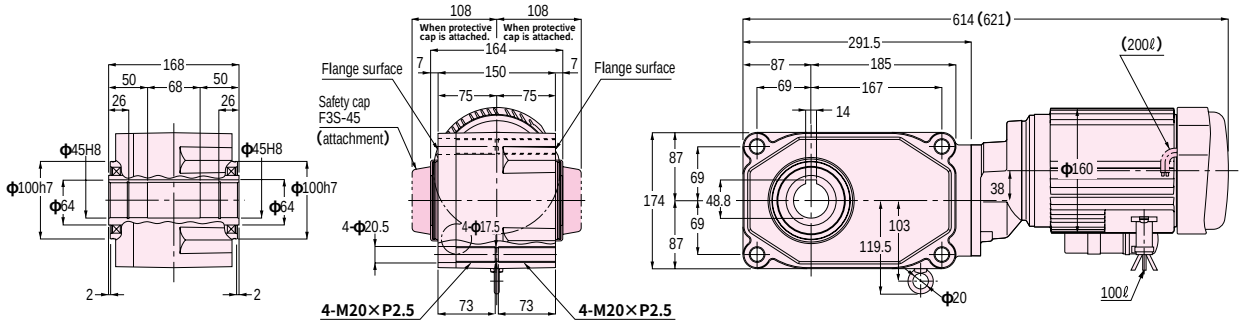
F3S Type

Fig.D-32 F3SM-35-80～240-400 CAD Data: F3SM-35-400
(F3SB-35-80～240-400) (CAD Data: F3SB-35-400)



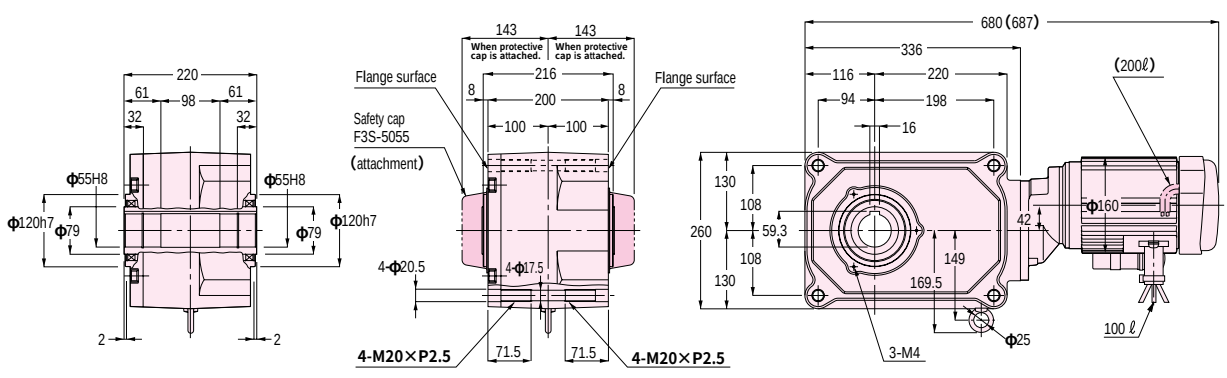
Round Weight 21kg (23.5kg)

Fig.D-33 F3SM-45-300～375-400 CAD Data: F3SM-45-400
(F3SB-45-300～375-400) (CAD Data: F3SB-45-400)



Round Weight 30kg (32.5kg)

Fig.D-34 F3SM-55-450～600-400 CAD Data: F3SM-55-400
(F3SB-55-450～600-400) (CAD Data: F3SB-55-400)



Round Weight 85kg (87.5kg)

＊For detailed drawing for the tapped hole for Face Mount (Standard Specification), refer to Page E53

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

GTR Gearmotor

Concentric Solid Shaft

Gearmotor
Brake Gearmotor

Performance Table
Dimension diagram

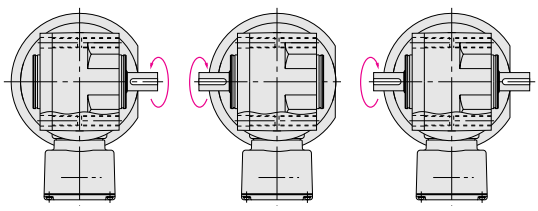
F3 Series

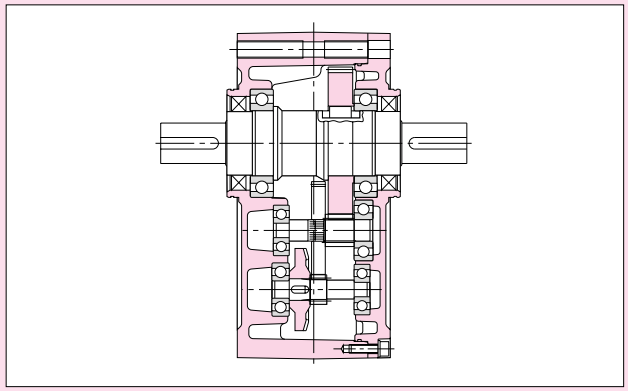
F3F Type

3-Phase

【Remarks】

- The output rotation speed is the value corresponds to the motor synchronous speed and the nominal reduction ratio.
- The shaded areas ▭ in the performance table shows that in case gearmotors are wired according to the diagram shown on page E16, L-shaft rotates clockwise while R and T-shafts rotate counterclockwise when viewing from output shaft side. (Refer to the diagram shown below.)





Gearmotor Brake Gearmotor F3F Type (Concentric Solid Shaft)

F3 Series 3-phase 0.1kW

The values in parentheses in the Performance Table/Dimension Diagram indicate the values of brake gearmotors.

Motor Specs. Standard Voltage (Continuous Rated 4 Poles)	Capacity	Motor Capacity Designation	Voltage (V)	Frequency (Hz)	Rated Current (A)	Rated Rotation Speed (rpm)	Insulation Classification	Protective Cooling system
	0.1kW	T010	200/200/220	50/60/60	0.61/0.54/0.54	1420/1700/1720	B	Totally Enclosed non-ventilated (Totally Enclosed fan-cooled)

Motor Capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio (Fraction)	Output Shaft Rotation Speed (rpm)		Output Shaft Allowable Torque N•m		Output Shaft Allowable Torque kgf•m		Output Shaft Allowable O.H.L		Page of Dimension Diagram shown, Fig. No. and Round Weight Gearmotor (Brake Gearmotor)
				50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	N	kgf	F3FM (F3FB)
3-phase 0.1kW	18	1/ 5	1/ 5	300	360	2.5	2.2	0.26	0.22	880	90	P.D35 Fig.D-35 6.5kg (8kg)
		1/ 7.5	2/ 15	200	240	3.8	3.2	0.39	0.33	980	100	
		1/ 10	1/ 10	150	180	5.2	4.3	0.53	0.44	1080	110	
		1/ 12.5	2/ 25	120	144	6.5	5.4	0.66	0.55	1180	120	
		1/ 15	1/ 15	100	120	7.7	6.5	0.79	0.66	1230	125	
		1/ 20	1/ 20	75	90	11	8.6	1.1	0.88	1370	140	
		1/ 25	1/ 25	60	72	13	11	1.3	1.1	1470	150	
		1/ 30	2/ 59	50	60	16	13	1.6	1.3	1570	160	
		1/ 40	1/ 40	37.5	45	21	18	2.1	1.8	1720	175	
		1/ 50	1/ 50	30	36	25	22	2.6	2.2	1860	190	
		1/ 60	1/ 59	25	30	31	25	3.2	2.6	1860	190	
	22	1/ 80	1/ 80	18.8	22.5	39	32	4	3.3	2550	260	P.D35 Fig.D-36 8.5kg (10kg)
		1/100	19/1880	15	18	49	41	5	4.2	2550	260	
		1/120	1/ 120	12.5	15	59	49	6	5	2550	260	
		1/160	1/ 160	9.4	11.3	78	66	8	6.7	2550	260	
		1/200	1/ 200	7.5	9	98	81	10	8.3	2550	260	
		∗ 1/240	1/ 240	6.3	7.5	101	98	10.3	10	2550	260	

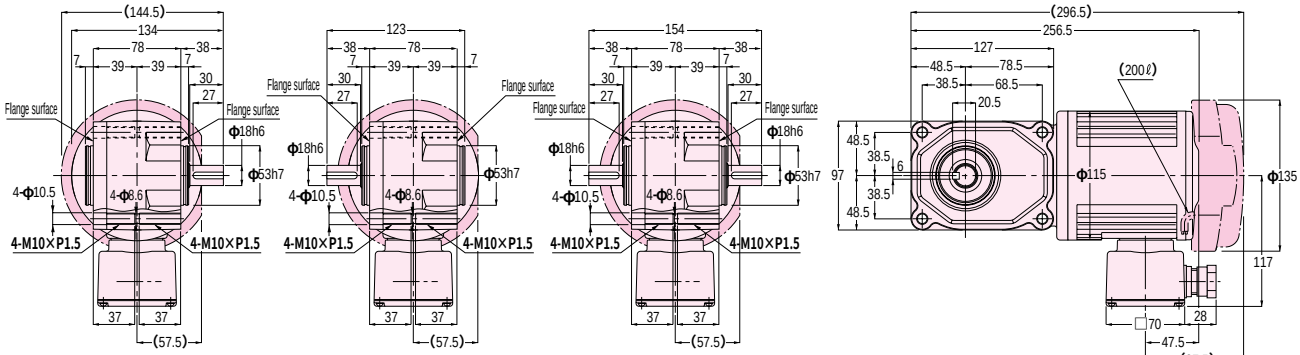
Note 1) The allowable O.H.L. values shown are the ones measured at the center of the output shaft.
2) Please be sure to read cautions stated on page D33 regarding rotation direction of output shaft.
3) The models marked with ∗ are limited torque type. Be sure to refer to the allowable torque in the Performance Table.

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Model Code P.D4
Detailed Dimension Diagram of Output Shaft P.E53
Comparison of dimensions (F3 Series) P.E68

Fig.D-35

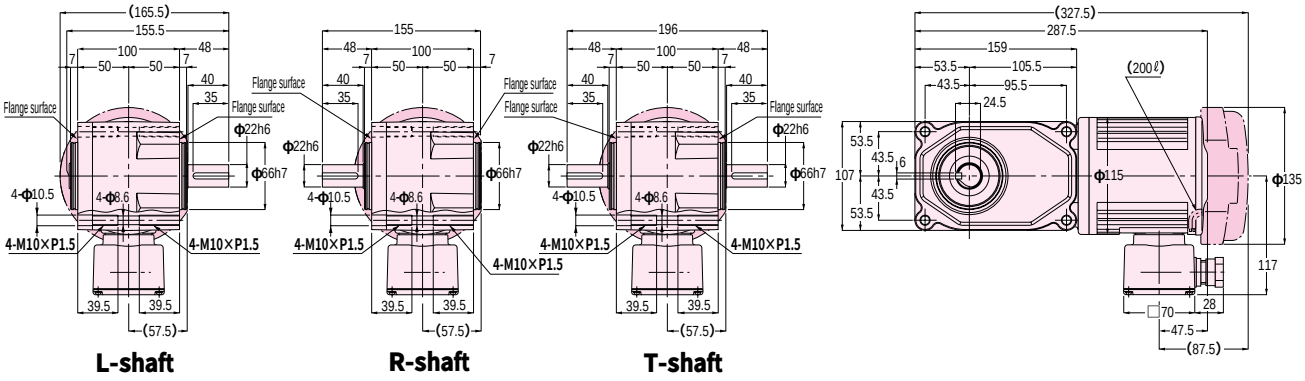
F3FM-18ﾗﾝｸ-5～60-T010A CAD Data: F3FM-18(LRT)-T010A
(F3FB-18ﾗﾝｸ-5～60-T010A) (CAD Data: F3FB-18(LRT)-T010A)



Round Weight 6.5kg (8kg)

Fig.D-36

F3FM-22ﾗﾝｸ-80～240-T010A CAD Data: F3FM-22(LRT)-T010A
(F3FB-22ﾗﾝｸ-80～240-T010A) (CAD Data: F3FB-22(LRT)-T010A)



Round Weight 8.5kg (10kg)

＊For detailed drawing for the tapped hole for Face Mount (Standard Specification), refer to Page E53

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Gearmotor Brake Gearmotor F3F Type (Concentric Solid Shaft)

F3 Series 3-phase 0.2kW

The values in parentheses in the Performance Table/Dimension Diagram indicate the values of brake gearmotors.

Motor Specs. Standard Voltage (Continuous Rated 4 Poles)	Capacity	Motor Capacity Designation	Voltage (V)	Frequency (Hz)	Rated Current (A)	Rated Rotation Speed (rpm)	Insulation Classification	Protective Cooling system
	0.2kW	T020	200/200/220	50/60/60	1.1/1.0/1.0	1420/1710/1720	B	Totally Enclosed fan-cooled

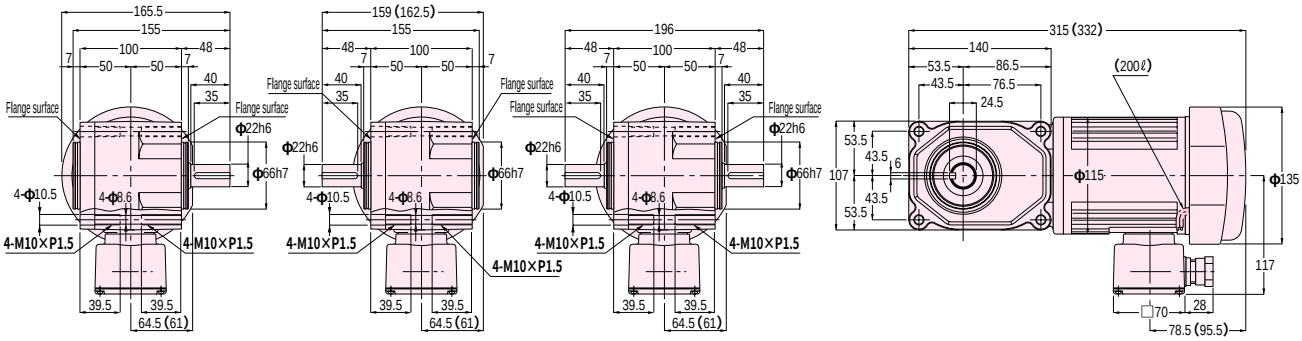
Motor Capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio (Fraction)	Output Shaft Rotation Speed (rpm)		Output Shaft Allowable Torque N•m		Output Shaft Allowable Torque kgf•m		Output Shaft Allowable O.H.L		Page of Dimension Diagram shown, Fig. No. and Round Weight Gearmotor (Brake Gearmotor)
				50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	N	kgf	F3FM (F3FB)
3-phase 0.2kW	22	1/ 5	1/ 5	300	360	5.5	4.6	0.56	0.47	1270	130	P.D37 Fig.D-37 9.5kg (11kg)
		1/ 7.5	2/ 15	200	240	8.3	7.0	0.85	0.71	1420	145	
		1/ 10	1/ 10	150	180	11	9.2	1.1	0.94	1520	155	
		1/ 12.5	19/ 235	120	144	14	12	1.4	1.2	1620	165	
		1/ 15	1/ 15	100	120	17	14	1.7	1.4	1720	175	
		1/ 20	1/ 20	75	90	23	19	2.3	1.9	1910	195	
		1/ 25	1/ 25	60	72	27	24	2.8	2.4	2060	210	
		1/ 30	1/ 30	50	60	33	27	3.4	2.8	2160	220	
		1/ 40	1/ 40	37.5	45	44	37	4.5	3.8	2400	245	
		1/ 50	1/ 50	30	36	55	46	5.6	4.7	2550	260	
		1/ 60	1/ 60	25	30	67	55	6.8	5.6	2550	260	
	28	1/ 80	1/ 80	18.8	22.5	84	71	8.6	7.2	3090	315	P.D37 Fig.D-38 11kg (12.5kg)
		1/100	19/1880	15	18	105	87	10.7	8.9	3140	320	
		1/120	1/ 120	12.5	15	126	105	12.9	10.7	3140	320	
		1/160	1/ 160	9.4	11.3	169	140	17.2	14.3	3140	320	
		＊1/200	1/ 200	7.5	9	184	175	18.8	17.9	3140	320	
		＊1/240	1/ 240	6.3	7.5	184	184	18.8	18.8	3140	320	

Note 1) The allowable O.H.L. values shown are the ones measured at the center of the output shaft.
2) Please be sure to read cautions stated on page D33 regarding rotation direction of output shaft.
3) The models marked with ＊ are limited torque type. Be sure to refer to the allowable torque in the Performance Table.

Model Code P.D4
Detailed Dimension Diagram of Output Shaft P.E53
Comparison of dimensions (F3 Series) P.E68

Fig.D-37

F3FM-22[ｋｒｔ]-5～60-T020A CAD Data: F3FM-22(LRT)-T020A
(F3FB-22[ｋｒｔ]-5～60-T020A) (CAD Data: F3FB-22(LRT)-T020A)

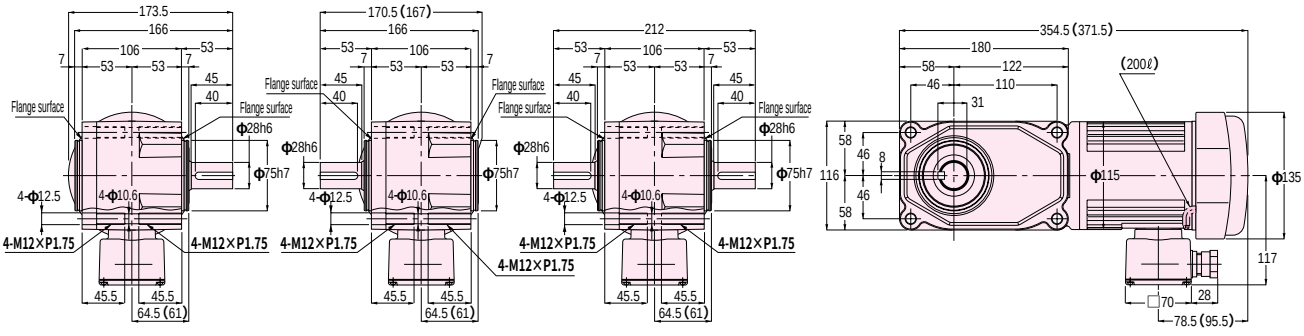


L-shaft R-shaft T-shaft

Round Weight 9.5kg (11kg)

Fig.D-38

F3FM-28[ｋｒｔ]-80～240-T020A CAD Data: F3FM-28(LRT)-T020A
(F3FB-28[ｋｒｔ]-80～240-T020A) (CAD Data: F3FB-28(LRT)-T020A)



L-shaft R-shaft T-shaft

Round Weight 11kg (12.5kg)

＊For detailed drawing for the tapped hole for Face Mount (Standard Specification), refer to Page E53

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Gearmotor Brake Gearmotor F3F Type (Concentric Solid Shaft)

F3 Series 3-phase 0.4kW

The values in parentheses in the Performance Table/Dimension Diagram indicate the values of brake gearmotors.

Motor Specs. Standard Voltage (Continuous Rated 4 Poles)	Capacity	Motor Capacity Designation	Voltage (V)	Frequency (Hz)	Rated Current (A)	Rated Rotation Speed (rpm)	Insulation Classification	Protective Cooling system
	0.4kW	T040	200/200/220	50/60/60	2.1/1.8/1.8	1410/1690/1710	B	Totally Enclosed fan-cooled

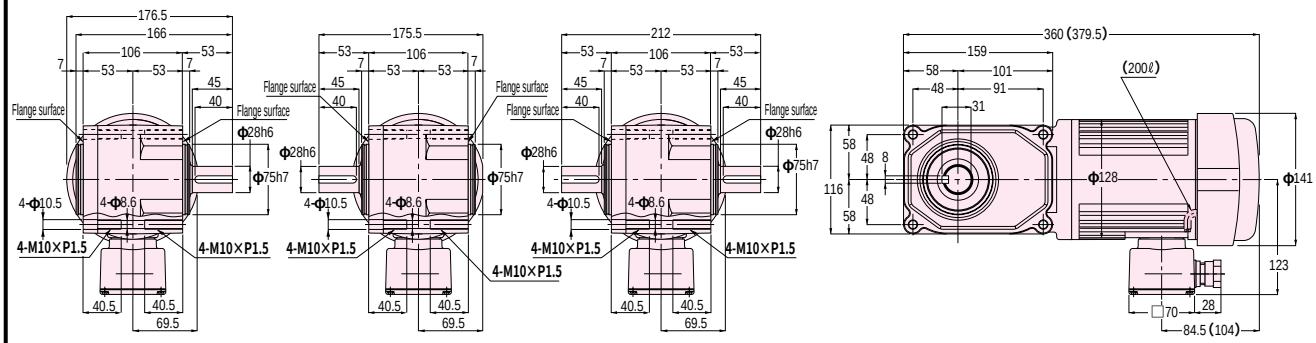
Motor Capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio (Fraction)	Output Shaft Rotation Speed (rpm)		Output Shaft Allowable Torque N•m		Output Shaft Allowable Torque kgf•m		Output Shaft Allowable O.H.L		Page of Dimension Diagram shown, Fig. No. and Round Weight Gearmotor (Brake Gearmotor)
				50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	N	kgf	F3FM (F3FB)
3-phase 0.4kW	28	1/ 5	1/ 5	300	360	11	9.2	1.1	0.94	1470	150	P.D39 Fig.D-39 13kg (14.5kg)
		1/ 7.5	2/ 15	200	240	17	14	1.7	1.4	1670	170	
		1/ 10	1/ 10	150	180	23	19	2.3	1.9	1810	185	
		1/ 12.5	19/ 235	120	144	27	24	2.8	2.4	1960	200	
		1/ 15	1/ 15	100	120	33	27	3.4	2.8	2060	210	
		1/ 20	1/ 20	75	90	44	37	4.5	3.8	2300	235	
		1/ 25	1/ 25	60	72	55	46	5.6	4.7	2450	250	
		1/ 30	1/ 30	50	60	67	55	6.8	5.6	2600	265	
		1/ 40	1/ 40	37.5	45	88	74	9	7.5	2790	285	
		1/ 50	1/ 50	30	36	111	92	11.3	9.4	2990	305	
		1/ 60	1/ 60	25	30	133	111	13.6	11.3	3090	315	
	32	1/ 80	1/ 80	18.8	22.5	169	140	17.2	14.3	3330	340	P.D39 Fig.D-40 17kg (19kg)
		1/100	19/1880	15	18	211	175	21.5	17.9	3380	345	
		1/120	1/ 120	12.5	15	253	211	25.8	21.5	3380	345	
		∗1/160	1/ 160	9.4	11.3	270	270	27.6	27.6	3580	365	
		∗1/200	1/ 200	7.5	9	270	270	27.6	27.6	3630	370	
		∗1/240	1/ 240	6.3	7.5	270	270	27.6	27.6	3630	370	

(Note) 1. The allowable O.H.L. values shown are the ones measured at the center of the output shaft.
2. Please be sure to read cautions stated on page D33 regarding rotation direction of output shaft.
3. The models marked with ∗ are limited torque type. Be sure to refer to the allowable torque in the Performance Table.

Model Code P.D4
Detailed Dimension Diagram of Output Shaft P.E53
Comparison of dimensions (F3 Series) P.E68

Fig.D-39

F3FM-28□-5～60-T040A CAD Data: F3FM-28(LRT)-T040A
(F3FB-28□-5～60-T040A) (CAD Data: F3FB-28(LRT)-T040A)

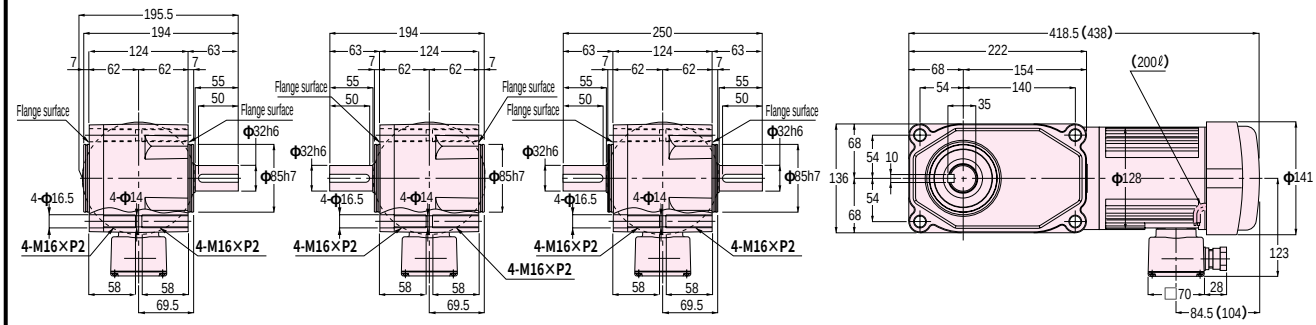


L-shaft R-shaft T-shaft

Round Weight 13kg (14.5kg)

Fig.D-40

F3FM-32□-80～240-T040A CAD Data: F3FM-32(LRT)-T040A
(F3FB-32□-80～240-T040A) (CAD Data: F3FB-32(LRT)-T040A)



L-shaft R-shaft T-shaft

Round Weight 17kg (19kg)

＊For detailed drawing for the tapped hole for Face Mount (Standard Specification), refer to Page E53

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Gearmotor Brake Gearmotor F3F Type (Concentric Solid Shaft)

F3 Series 3-phase 0.75kW

The values in parentheses in the Performance Table/Dimension Diagram indicate the values of brake gearmotors.

Motor Specs. Standard Voltage (Continuous Rated 4 Poles)	Capacity	Motor Capacity Designation	Voltage (V)	Frequency (Hz)	Rated Current (A)	Rated Rotation Speed (rpm)	Insulation Classification	Protective Cooling system
	0.75kW	075	200/200/220	50/60/60	3.7/3.3/3.2	1430/1720/1730	B	Totally Enclosed fan-cooled

Motor Capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio (Fraction)	Output Shaft Rotation Speed (rpm)		Output Shaft Allowable Torque N•m		Output Shaft Allowable Torque kgf•m		Output Shaft Allowable O.H.L		Page of Dimension Diagram shown, Fig. No. and Round Weight Gearmotor (Brake Gearmotor)
				50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	N	kgf	F3FM (F3FB)
3-phase 0.75kW	32	1/ 5	1/ 5	300	360	21	18	2.1	1.8	1760	180	P.D41 Fig.D-41 19kg (21kg)
		1/ 7.5	2/ 15	200	240	31	25	3.2	2.6	2010	205	
		1/ 10	1/ 10	150	180	41	34	4.2	3.5	2210	225	
		1/ 12.5	19/ 235	120	144	52	43	5.3	4.4	2350	240	
		1/ 15	1/ 15	100	120	63	52	6.4	5.3	2500	255	
		1/ 20	1/ 20	75	90	83	70	8.5	7.1	2700	275	
		1/ 25	1/ 25	60	72	104	86	10.6	8.8	2890	295	
		1/ 30	1/ 30	50	60	124	104	12.7	10.6	3040	310	
		1/ 40	1/ 40	37.5	45	166	138	16.9	14.1	3280	335	
		1/ 50	1/ 50	30	36	208	173	21.2	17.7	3330	340	
		1/ 60	1/ 60	25	30	249	208	25.4	21.2	3330	340	
	40	1/ 80	1/ 80	18.8	22.5	316	263	32.2	26.8	4460	455	P.D41 Fig.D-42 27kg (29kg)
		1/100	19/1880	15	18	395	328	40.3	33.5	4460	455	
		1/120	1/ 120	12.5	15	473	395	48.3	40.3	4460	455	
		＊1/160	1/ 160	9.4	11.3	554	526	56.5	53.7	4850	495	
		＊1/200	1/ 200	7.5	9	554	554	56.5	56.5	5190	530	
		＊1/240	1/ 240	6.3	7.5	554	554	56.5	56.5	5190	530	

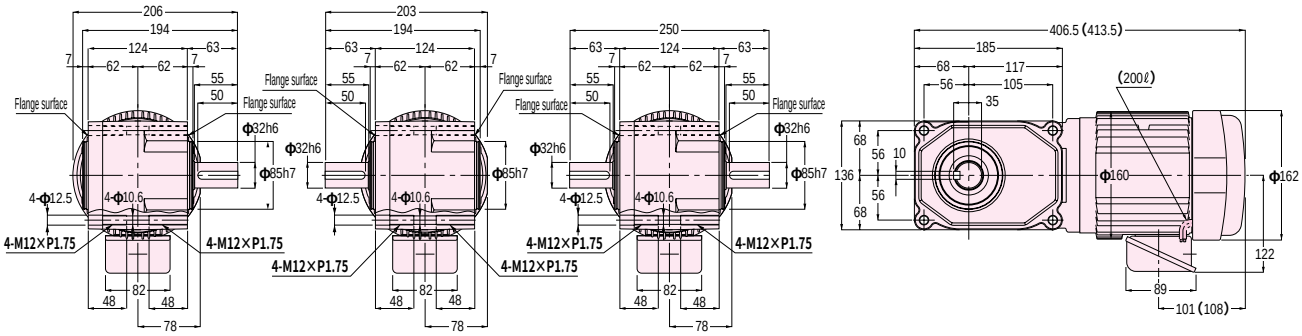
Note 1) The allowable O.H.L. values shown are the ones measured at the center of the output shaft.
2) Please be sure to read cautions stated on page D33 regarding rotation direction of output shaft.
3) The models marked with ＊ are limited torque type. Be sure to refer to the allowable torque in the Performance Table.

Model Code P.D4
Detailed Dimension Diagram of Output Shaft P.E53
Comparison of dimensions (F3 Series) P.E68

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Fig.D-41

F3FM-32[L,R,T]-5～60-075 CAD Data: F3FM-32(LRT)-075
(F3FB-32[L,R,T]-5～60-075) (CAD Data: F3FB-32(LRT)-075)

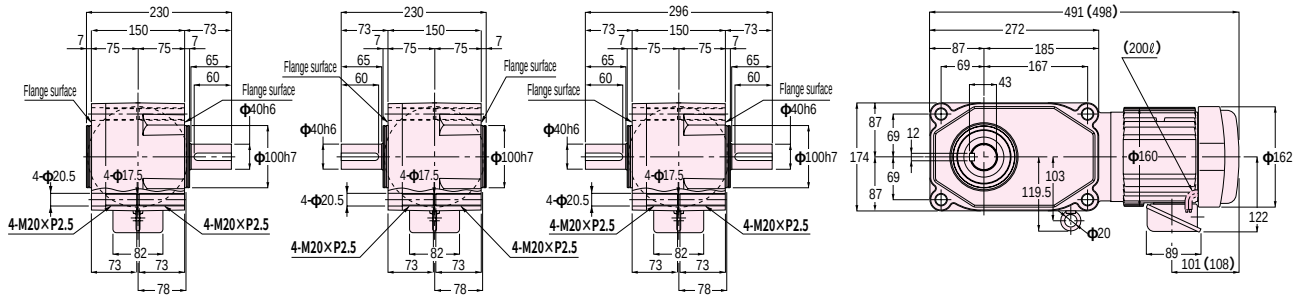


L-shaft R-shaft T-shaft

Round Weight 19kg (21kg)

Fig.D-42

F3FM-40[L,R,T]-80～240-075 CAD Data: F3FM-40(LRT)-075
(F3FB-40[L,R,T]-80～240-075) (CAD Data: F3FB-40(LRT)-075)



L-shaft R-shaft T-shaft

Round Weight 27kg (29kg)

∗ For detailed drawing for the tapped hole for Face Mount (Standard Specification), refer to Page E53

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Gearmotor Brake Gearmotor F3F Type (Concentric Solid Shaft)

F3 Series 3-phase 1.5kW

The values in parentheses in the Performance Table/Dimension Diagram indicate the values of brake gearmotors.

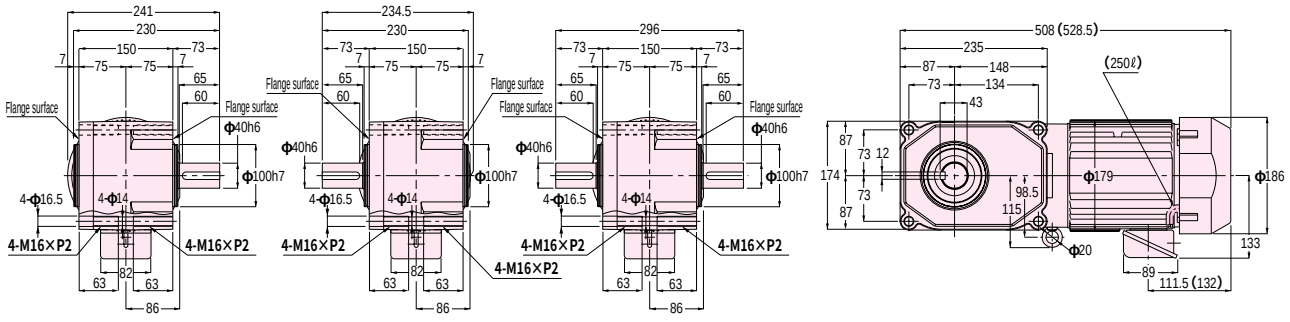
Motor Specs. Standard Voltage (Continuous Rated 4 Poles)	Capacity	Motor Capacity Designation	Voltage (V)	Frequency (Hz)	Rated Current (A)	Rated Rotation Speed (rpm)	Insulation Classification	Protective Cooling system
	1.5kW	150	200/200/220	50/60/60	6.6/6.1/5.8	1430/1720/1730	B	Totally Enclosed fan-cooled

Motor Capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio (Fraction)	Output Shaft Rotation Speed (rpm)		Output Shaft Allowable Torque				Output Shaft Allowable O.H.L		Page of Dimension Diagram shown, Fig. No. and Round Weight
						N•m		kgf•m				Gearmotor (Brake Gearmotor)
				50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	N	kgf	F3FM (F3FB)
3-phase 1.5kW	40	1/ 5	1/ 5	300	360	41	34	4.2	3.5	2500	255	P.D42 Fig.D-43 35kg (38kg)
		1/ 7.5	2/ 15	200	240	63	52	6.4	5.3	2840	290	
		1/10	1/ 10	150	180	83	70	8.5	7.1	3140	320	
		1/12.5	19/235	120	144	104	86	10.6	8.8	3380	345	
		1/15	1/ 15	100	120	124	104	12.7	10.6	3530	360	
		1/20	1/ 20	75	90	166	138	16.9	14.1	3870	395	
		1/25	1/ 25	60	72	208	173	21.2	17.7	4170	425	
		1/30	1/ 30	50	60	249	208	25.4	21.2	4310	440	
		1/40	1/ 40	37.5	45	332	276	33.9	28.2	4460	455	
		1/50	1/ 50	30	36	416	346	42.4	35.3	4460	455	
		1/60	1/ 60	25	30	498	416	50.8	42.4	4460	455	

Note 1) The allowable O.H.L. values shown are the ones measured at the center of the output shaft.
2) Please be sure to read cautions stated on page D33 regarding rotation direction of output shaft.

Fig.D-43

F3FM-40□-5～60-150 CAD Data: F3FM-40(LRT)-150
(F3FB-40□-5～60-150) (CAD Data: F3FB-40(LRT)-150)



Round Weight 35kg (38kg)

∗ For detailed drawing for the tapped hole for Face Mount (Standard Specification), refer to Page E53

Model Code P.D4
Detailed Dimension Diagram of Output Shaft P.E53
Comparison of dimensions (F3 Series) P.E68

F3F Type

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Gearmotor Brake Gearmotor F3F Type (Concentric Solid Shaft)

F3 Series 3-phase 2.2kW

The values in parentheses in the Performance Table/Dimension Diagram indicate the values of brake gearmotors.

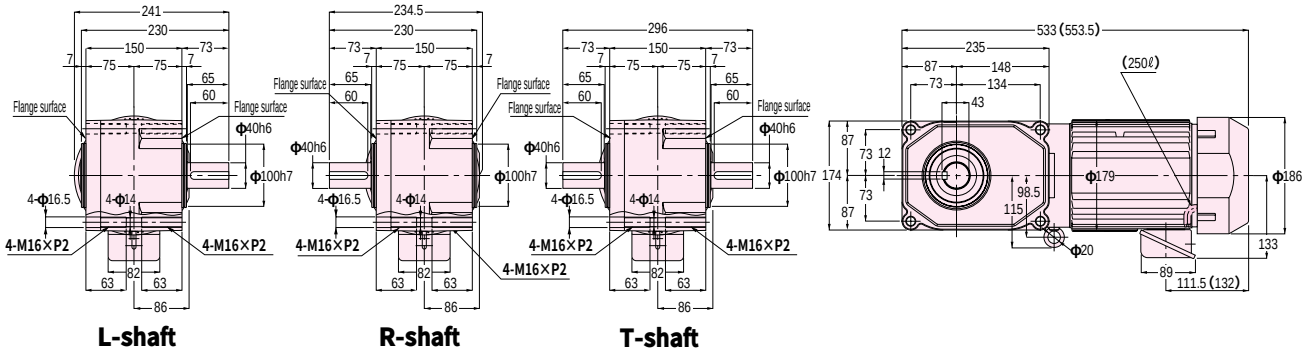
Motor Specs. Standard Voltage (Continuous Rated 4 Poles)	Capacity	Motor Capacity Designation	Voltage (V)	Frequency (Hz)	Rated Current (A)	Rated Rotation Speed (rpm)	Insulation Classification	Protective Cooling system
	2.2kW	220	50/60/60	200/200/220	9.0/8.6/8.0	1410/1690/1710	B	Totally Enclosed fan-cooled

Motor Capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio (Fraction)	Output Shaft Rotation Speed (rpm)		Output Shaft Allowable Torque N·m		Output Shaft Allowable Torque kgf·m		Output Shaft Allowable O.H.L		Output shaft Allowable Thrust Load		Page of Dimension Diagram shown, Fig. No. and Round Weight Gearmotor (Brake Gearmotor)
				50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	N	kgf	N	kgf	F3FM (F3FB)
3-phase 2.2kW	40	1/ 5	1/ 5	300	360	61	51	6.2	5.2	2940	300	800	82	P.D44 Fig.D-44 38kg (41kg)
		1/ 7.5	2/ 15	200	240	91	76	9.3	7.8	3230	330	900	92	
		1/10	1/ 10	150	180	122	102	12.4	10.4	3530	360	967	99	
		1/12.5	19/235	120	144	152	126	15.5	12.9	3820	390	1040	106	
		1/15	1/ 15	100	120	182	152	18.6	15.5	4120	420	1067	109	
		1/20	1/ 20	75	90	244	203	24.9	20.7	4410	450	1067	109	
		1/25	1/ 25	60	72	305	254	31.1	25.9	4410	450	1067	109	
		1/30	1/ 30	50	60	366	305	37.3	31.1	4410	450	1067	109	

Note 1) The allowable O.H.L. values shown are the ones measured at the center of the output shaft.
2) Please be sure to read cautions stated on page D33 regarding rotation direction of output shaft.

Fig.D-44

F3FM-40$^{L}_{R}$-5～30-220 CAD Data: F3FM-40(LRT)-220
(F3FB-40$^{L}_{R}$-5～30-220) (CAD Data: F3FB-40(LRT)-220)



Round Weight 38kg (41kg)

∗ For detailed drawing for the tapped hole for Face Mount (Standard Specification), refer to Page E53

Model Code P.D4
Detailed Dimension Diagram of Output Shaft P.E53
Comparison of dimensions (F3 Series) P.E68

F3F Type

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Concentric Hollow Shaft **IP-65**

Water-Resistant Gearmotor Brake Gearmotor

Model • Type Designation

GTR Gearmotor

F3 Series

F3S Type

Motor Part	Number of phase	3-Phase
	Capacity	0.1kW～2.2kW
	Power Source	200V 50/60Hz, 220V/60Hz
	Insulation Classification	Class B
	Starting Method	Direct start
	Protective cooling Method	Totally Enclosed fan-cooled (Totally Enclosed non-ventilated for 0.1kW)
	Number of Pole	4
	Rating	Continuous Rating
Speed Reduction Part	Reduction Method	Hypoid gear and Helical gear
	Lubrication	Grease Lubrication(Maintenance Free)
	Output Shaft	New JIS Key(JIS 1301-1976 class)
	Output Shaft Material	SUS420J2 (Water-Resistant W/Carbon Steel Shaft is S43C)
	Case Material	Aluminium die-cast (Frame No.50:Cast aluminium/Frame No.55:Cast iron)
Ambient Conditions	Ambient Temperature	−10°C～40°C
	Ambient Humidity	100% max.(without any dew condensation)
	Altitude	1,000m max.
	Environment	Well ventilated place free from corrosive gas, Should not be used in water and the place where high-hydrostatic pressure receives.
	Installation Location	Indoors
Painting	Painting Method	Anion painting, Acrylic paint
	Painting Color	Gray(Mansel code: 9B6/0.5)
Mounting Direction		No restriction in the mounting angle.(horizontally, vertically or heeling angle)

Model and Type Designation F3 Series

F3S Type(Concentric Hollow Shaft)
F3F Type(Concentric Solid Shaft)

F3 Series Water-resistant/Outdoor gearmotors are classified by codes as shown below. Specify these codes in your inquiry and order.

Type				Frame Number	Reduction Ratio		Motor Capacity	Option	Terminal box	Auxiliary Mark	Spec. Designation
F3	S	W	–	30	50	–	T040	W	E		
F3	S	V	–	45	240	–	075		E	X	AA
①	②	③		④	⑤		⑥	⑦	⑧	⑨	⑩

①Series Name	F3 : F3 Series (Concentric Hollow Shaft)
②Classification by Mount Form	S : Hollow Shaft Type (Note 1)
③Classification by Motor Type	W : With Water-resistant Motor W/SUS Shaft (JIS SUS420J2)
	V : With Water-resistant Brake Motor W/SUS Shaft (JIS SUS420J2)
	G : With Water-resistant Motor W/Carbon Steel Shaft (JIS:S43C)
	H : With Water-resistant Brake Motor W/Carbon Steel Shaft (JIS:S43C)
④Frame Number and Diameter of Output Shaft	Output Shaft Diameter (bore)
⑤Reduction Ratio	5 : 1/5 240 : 1/240 1500 : 1/1500
⑥Motor Type and Capacity	T010 : 3-phase 0.1 kW
	T020 : 3-phase 0.2 kW
	T040 : 3-phase 0.4 kW
	075 : 3-phase 0.75kW
	150 : 3-phase 1.5 kW
	220 : 3-phase 2.2 kW
⑦Option	Blank : Standard Voltage 3-phase: 200V/50Hz、200V/60Hz、220V/60Hz
	W : High Voltage 3-phase: 380V/50Hz、400V/50Hz、400V/60Hz、440V/60Hz
⑧Terminal box	E : Terminal Box for with Water-resistant, type only. (Standard Specs.)
⑨Auxiliary Code	Blank : Standard Specs.
	X : Code to identify additional special specs.
⑩Spec. Designation Note: Spec. Designation does not appear on the product type designation in the nameplate. It is specified on the additional numbers in the nameplate.	●Specification Code for Rectifier built-in Wiring For details, refer to the Specification Code Table on page E31. ●Instruction for terminal box position. Refer to the specification code list on page E39 for details.

Note 1) Please note that only F3S Type(hollow shaft) is available and F3F Type(solid shaft) is not available in the F3-Series water-resistant/outdoor type.

Separated rectifier type is the standard specification of the terminal box in brake gearmotors. When you need the rectifier built-in type, contact us with the following manner. We will do the wiring accordingly. For details, refer to page E31.

Type	Type Code when ordering(Example) (Indicate this type cord in your order.)
Standard (rectifier separated)	F3SV-30-50-T040E
AC Switching A	F3SV-30-50-T040EX-AA
AC Switching B	F3SV-30-50-T040EX-AB
DC Switching	F3SV-30-50-T040EX-DC

Note) ⑩The wiring method indication code does not appear on the product-type name. It appears in the supplemental number column on the nameplate.

■Model・Type Code (Option)

Capacity・Option

T040	E	X	–	AA
	⑧	⑨		⑩

⑧Terminal box	Refer to the above table.
⑨Auxiliary Code	Refer to the above table.
⑩Wiring Method Indication Code (Note)	Refer to the table on the left.

When ordering brake gearmotors, indicate the wiring method too as stated above.

Standard Model Lineup

F3 Series F3S Type

F3S Type (Hollow Shaft) Model Lineup

Type	4P Motor Capacity	Frame Number	Reduction Ratio
Water-Resistant W/SUS Shaft Gearmotor F3SW Water-Resistant W/SUS Shaft Brake Gearmotor F3SV Water-Resistant W/Carbon Steel Shaft Gearmotor F3SG Water-Resistant W/Carbon Steel Shaft Brake Gearmotor F3SH	3-phase 0.1kW	20	1/5 1/7.5 1/10 1/12.5 1/15 1/20 1/25 1/30 1/40 1/50 1/60
		25	1/80 1/100 1/120 1/160 1/200 1/240
		30	1/300 1/375
		35	1/450 1/600 1/750
		45	1/900 1/1200
		55	1/1500
	3-phase 0.2kW	25	1/5 1/7.5 1/10 1/12.5 1/15 1/20 1/25 1/30 1/40 1/50 1/60
		30	1/80 1/100 1/120 1/160 1/200 1/240
		35	1/300 1/375
		45	1/450 1/600 1/750
		55	1/900 1/1200
	3-phase 0.4kW	30	1/5 1/7.5 1/10 1/12.5 1/15 1/20 1/25 1/30 1/40 1/50 1/60
		35	1/80 1/100 1/120 1/160 1/200 1/240
		45	1/300 1/375
		55	1/450 1/600
	3-phase 0.75kW	35	1/5 1/7.5 1/10 1/12.5 1/15 1/20 1/25 1/30 1/40 1/50 1/60
		45	1/80 1/100 1/120 1/160 1/200 1/240
		55	1/300
Water-Resistant W/SUS Shaft Gearmotor F3SW Water-Resistant W/Carbon Steel Shaft Gearmotor F3SG	3-phase 1.5kW	45	1/5 1/7.5 1/10 1/12.5 1/15 1/20 1/25 1/30 1/40 1/50 1/60
		55	1/80 1/100 1/120 1/160 1/200 1/240
	3-phase 2.2kW	45	1/5 1/7.5 1/10 1/12.5 1/15 1/20 1/25 1/30
		50	1/40 1/50 1/60
		55	1/80 1/100 1/120

Note 1) The models enclosed with ▭ are limited torque type.
Be sure to check allowable torque in the performance table.

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Concentric Hollow Shaft **IP-65**

Water-Resistant Gearmotor Brake Gearmotor

Performance Table
Dimension diagram

GTR Gearmotor

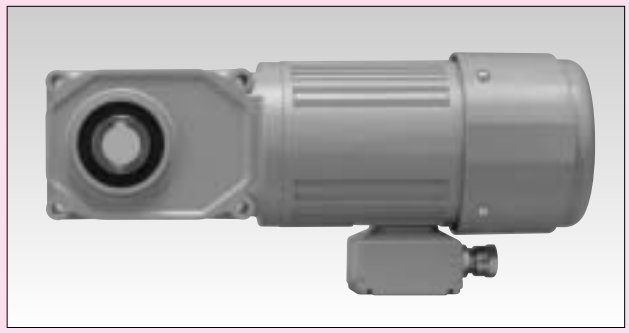
F3 Series

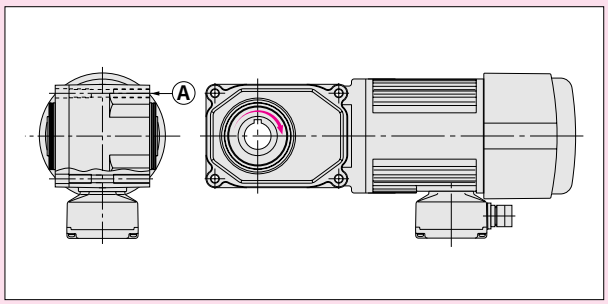
F3S Type

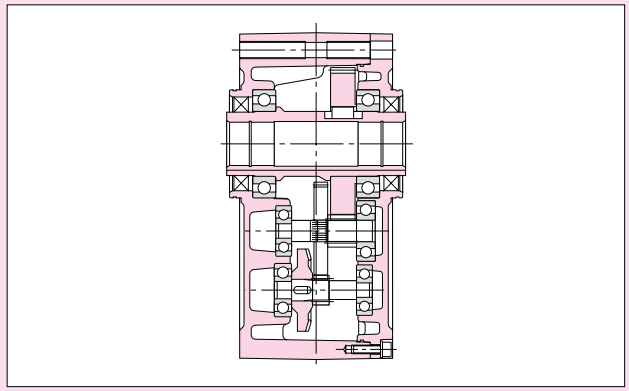
3-Phase

【Remarks】

- The output rotation speed is the value corresponds to the motor synchronous speed and the nominal reduction ratio.
- ▭ The shaded area in the Performance Table indicates that in the case that gearmotors are wired according to the diagram on page E28, the shaft **rotates clockwise** when viewing from side Ⓐ, as in the direction of the arrow shown in the following Dimension Diagrams.







Gearmotor Brake Gearmotor

Water-Resistant IP65 F3S Type(Concentric Hollow Shaft)

F3 Series 3-phase 0.1kW

The values in parentheses in the Performance Table/Dimension Diagram indicate the values of brake gearmotors.

Motor Specs. Standard Voltage (Continuous Rated 4 Poles)	Capacity	Motor Capacity Designation	Voltage (V)	Frequency (Hz)	Rated Current (A)	Rated Rotation Speed (rpm)	Insulation Classification	Protective Cooling system
	0.1kW	T010	200/200/220	50/60/60	0.61/0.54/0.54	1420/1700/1720	B	Totally Enclosed

Motor Capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio (Fraction)	Output Shaft Rotation Speed (rpm)		Output Shaft Allowable Torque N•m		Output Shaft Allowable Torque kgf•m		Output Shaft Allowable O.H.L		Output shaft Allowable Thrust Load		Page of Dimension Diagram shown, Fig. No. and Round Weight Gearmotor (Brake Gearmotor)	
				50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	N	kgf	N	kgf	F3SW (F3SV)	F3SG (F3SH)
3-phase 0.1kW	20	1/ 5	1/ 5	300	360	2.5	2.2	0.26	0.22	980	100	244	25	P.D53 Fig.D-45 6.5kg (8kg)	
		1/ 7.5	2/ 15	200	240	3.8	3.2	0.39	0.33	1080	110	270	28		
		1/ 10	1/ 10	150	180	5.2	4.3	0.53	0.44	1180	120	294	30		
		1/ 12.5	2/ 25	120	144	6.5	5.4	0.66	0.55	1270	130	316	32		
		1/ 15	1/ 15	100	120	7.7	6.5	0.79	0.66	1320	135	333	34		
		1/ 20	1/ 20	75	90	11	8.6	1.1	0.88	1470	150	373	38		
		1/ 25	1/ 25	60	72	13	11	1.3	1.1	1570	160	392	40		
		1/ 30	2/ 59	50	60	16	13	1.6	1.3	1670	170	422	43		
		1/ 40	1/ 40	37.5	45	21	18	2.1	1.8	1810	185	451	46		
		1/ 50	1/ 50	30	36	25	22	2.6	2.2	1860	190	471	48		
		1/ 60	1/ 59	25	30	31	25	3.2	2.6	1860	190	471	48		
	25	1/ 80	1/ 80	18.8	22.5	39	32	4	3.3	2550	260	637	65	P.D53 Fig.D-46 8kg (9.5kg)	
		1/ 100	19/ 1880	15	18	49	41	5	4.2	2550	260	637	65		
		1/ 120	1/ 120	12.5	15	59	49	6	5	2550	260	637	65		
		1/ 160	1/ 160	9.4	11.3	78	66	8	6.7	2550	260	637	65		
		1/ 200	1/ 200	7.5	9	98	81	10	8.3	2550	260	637	65		
		∗1/ 240	1/ 240	6.3	7.5	101	98	10.3	10	2550	260	637	65		
	30	1/ 300	77/23400	5	6	131	110	13.4	11.2	3140	320	785	80	P.D53 Fig.D-47 10.5kg (12kg)	
		1/ 375	11/ 4095	4	4.8	165	137	16.8	14	3140	320	785	80		
	35	1/ 450	8/ 3655	3.3	4	198	165	20.2	16.8	3630	370	912	93	P.D54 Fig.D-48 14kg (15.5kg)	
		1/ 600	133/80410	2.5	3	248	207	25.3	21.1	3630	370	912	93		
		1/ 750	14/10105	2	2.4	311	259	31.7	26.4	3630	370	912	93		
	45	1/ 900	7/ 6360	1.7	2	401	334	40.9	34.1	5190	530	1275	130	P.D54 Fig.D-49 21kg (22.5kg)	
		1/1200	7/ 8480	1.3	1.5	534	445	54.5	45.4	5190	530	1275	130		
	55	1/1500	7/10600	1	1.2	707	589	72.1	60.1	9800	1000	2452	250	P.D54 Fig.D-50 76kg (77.5kg)	

Note 1) The allowable O.H.L. are the values measured at the position of 20mm from the edge of output shaft.
2) Please be sure to read cautions stated on page D51 regarding rotation direction of output shaft.
3) The models marked with ∗ are limited torque type. Be sure to refer to the allowable torque in the Performance Table.

Model Code P.D48
Detailed Dimension Diagram of Output Shaft P.E53
Comparison of dimensions (F3 Series) P.E68

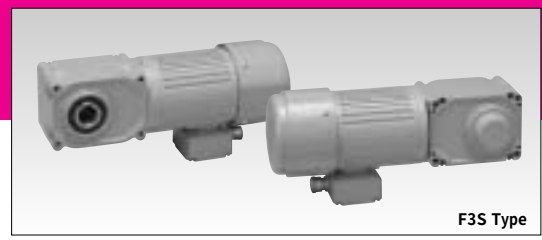
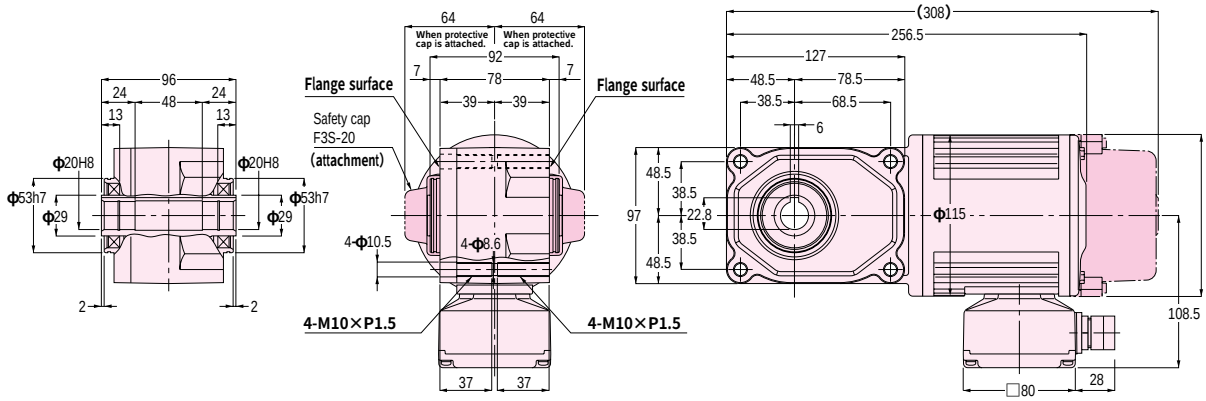


Fig.D-45 F3S$^{W}_{G}$-20-5〜60-T010E (F3S$^{V}_{H}$-20-5〜60-T010E)

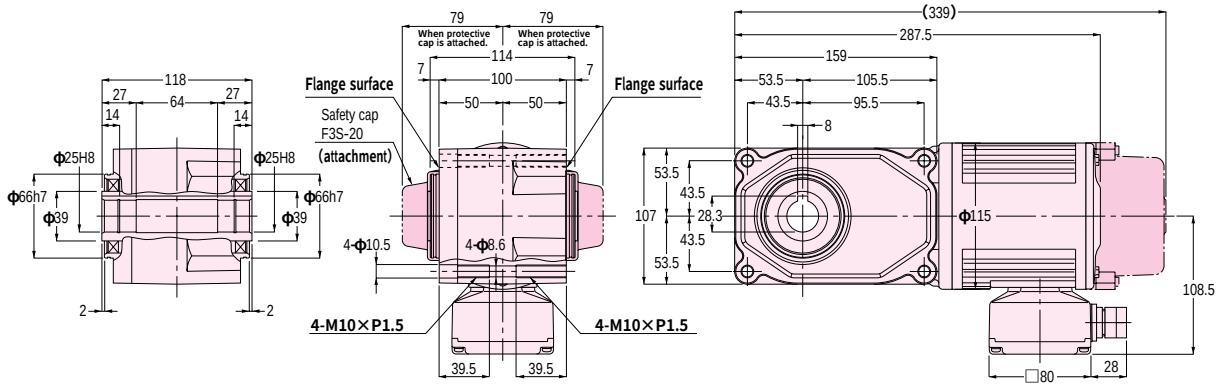
CAD Data: F3S$^{W}_{G}$-20-T010E (CAD Data: F3S$^{V}_{H}$-20-T010E)



Round Weight 6.5kg (8kg)

Fig.D-46 F3S$^{W}_{G}$-25-80〜240-T010E (F3S$^{V}_{H}$-25-80〜240-T010E)

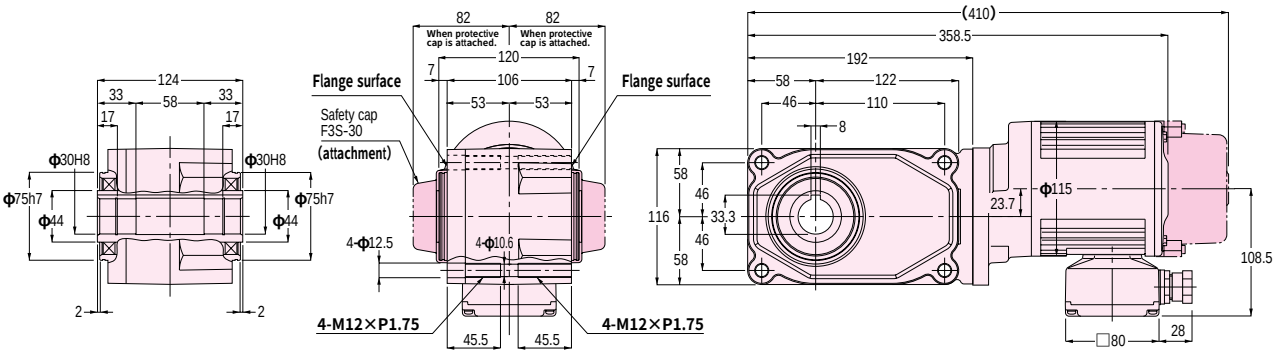
CAD Data: F3S$^{W}_{G}$-25-T010E (CAD Data: F3S$^{V}_{H}$-25-T010E)



Round Weight 8kg (9.5kg)

Fig.D-47 F3S$^{W}_{G}$-30-300〜375-T010E (F3S$^{V}_{H}$-30-300〜375-T010E)

CAD Data: F3S$^{W}_{G}$-30-T010E (CAD Data: F3S$^{V}_{H}$-30-T010E)



Round Weight 10.5kg (12kg)

＊For detailed drawing for the tapped hole for Face Mount (Standard Specification), refer to Page E53

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Gearmotor Brake Gearmotor

Water-Resistant IP65 F3S Type(Concentric Hollow Shaft)

F3 Series 3-phase 0.1kW

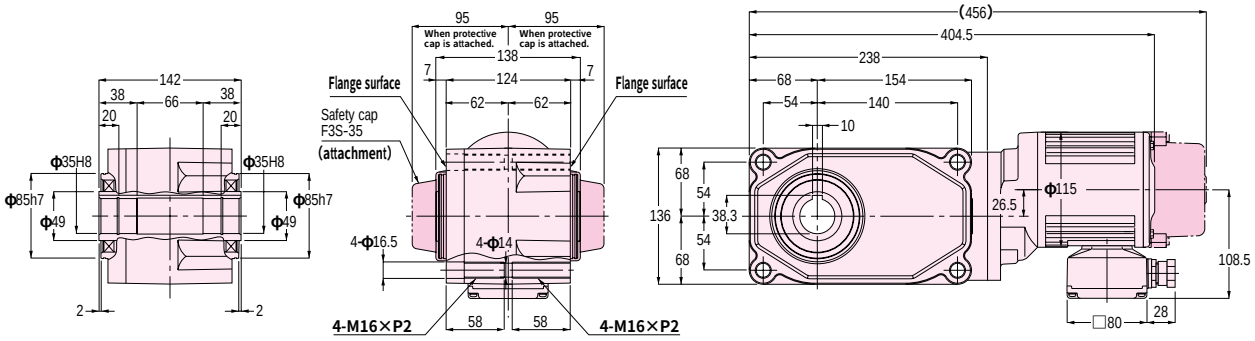
The values in parentheses in the Performance Table/Dimension Diagram indicate the values of brake gearmotors.

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Fig.D-48

F3S$^{W}_{G}$-35-450～750-T010E
(F3S$^{V}_{H}$-35-450～750-T010E)

CAD Data: F3S$^{W}_{G}$-35-T010E
(CAD Data: F3S$^{V}_{H}$-35-T010E)

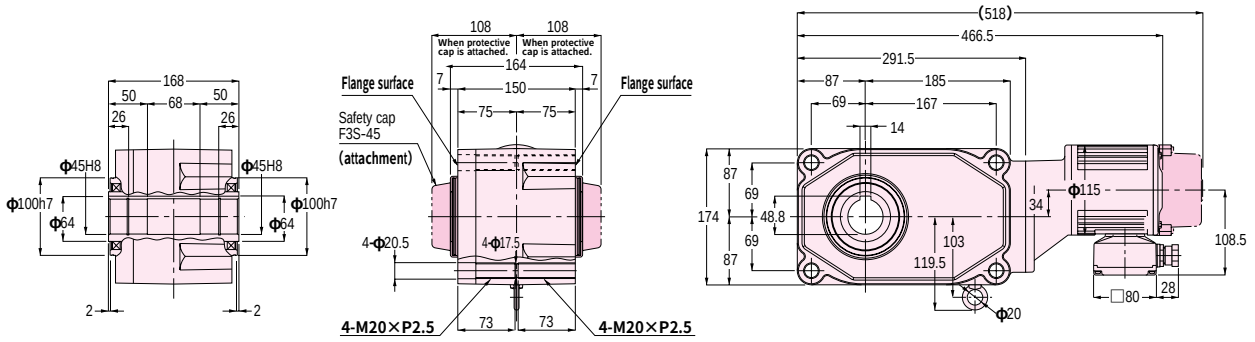


Round Weight 14kg (15.5kg)

Fig.D-49

F3S$^{W}_{G}$-45-900～1200-T010E
(F3S$^{V}_{H}$-45-900～1200-T010E)

CAD Data: F3S$^{W}_{G}$-45-T010E
(CAD Data: F3S$^{V}_{H}$-45-T010E)

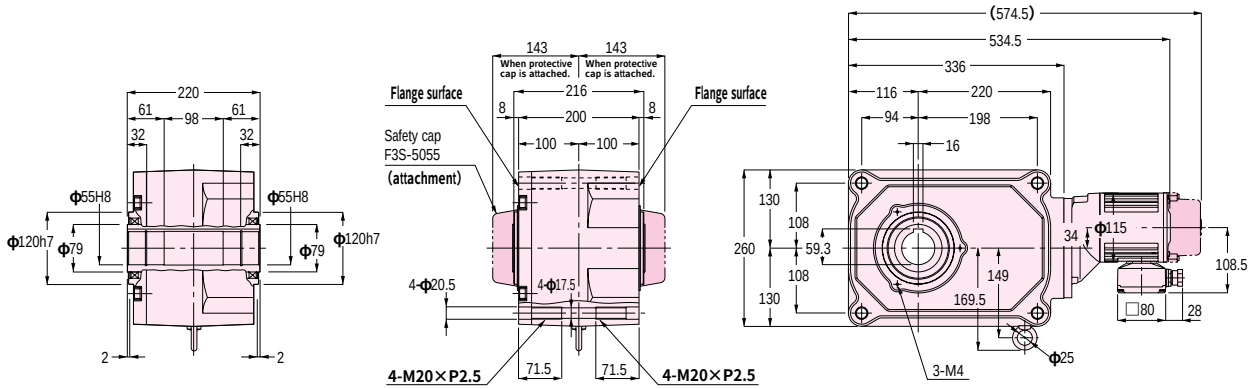


Round Weight 21kg (22.5kg)

Fig.D-50

F3S$^{W}_{G}$-55-1500-T010E
(F3S$^{V}_{H}$-55-1500-T010E)

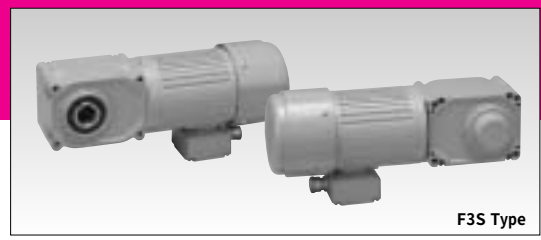
CAD Data: F3S$^{W}_{G}$-55-T010E
(CAD Data: F3S$^{V}_{H}$-55-T010E)



Round Weight 76kg (77.5kg)

＊For detailed drawing for the tapped hole for Face Mount (Standard Specification), refer to Page E53

Model Code P.D48
Detailed Dimension Diagram of Output Shaft P.E53
Comparison of dimensions (F3 Series) P.E68



F3S Type

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Gearmotor Brake Gearmotor

Water-Resistant IP65 F3S Type(Concentric Hollow Shaft)

F3 Series 3-phase 0.2kW

The values in parentheses in the Performance Table/Dimension Diagram indicate the values of brake gearmotors.

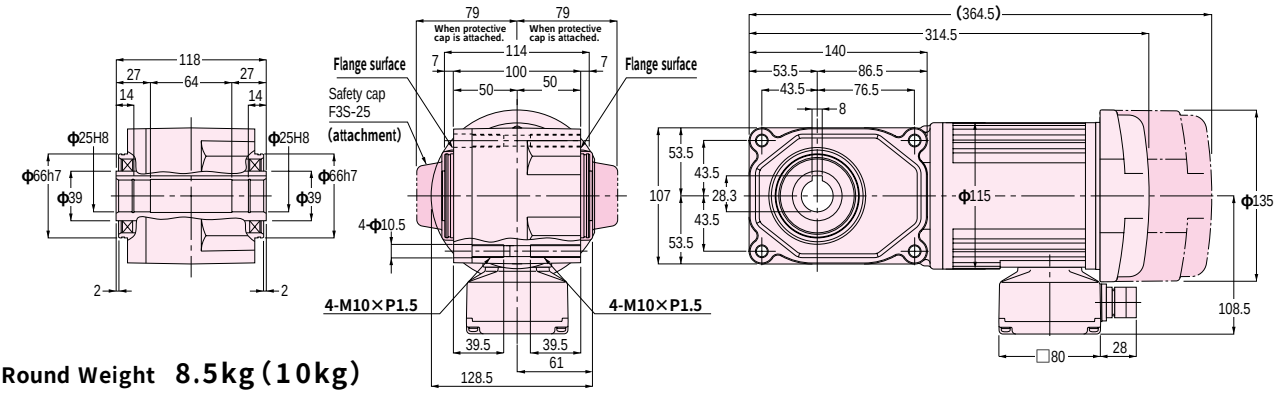
Motor Specs. Standard Voltage (Continuous Rated 4 Poles)	Capacity	Motor Capacity Designation	Voltage (V)	Frequency (Hz)	Rated Current (A)	Rated Rotation Speed (rpm)	Insulation Classification	Protective Cooling system
	0.2kW	T020	200/200/220	50/60/60	1.1/1.0/1.0	1420/1710/1720	B	Totally Enclosed fan-cooled

Motor Capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio (Fraction)	Output Shaft Rotation Speed (rpm)		Output Shaft Allowable Torque N•m		Output Shaft Allowable Torque kgf•m		Output Shaft Allowable O.H.L		Output shaft Allowable Thrust Load		Page of Dimension Diagram shown, Fig. No. and Round Weight Gearmotor (Brake Gearmotor)	
				50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	N	kgf	N	kgf	F3SW (F3SV)	F3SG (F3SH)
3-phase 0.2kW	25	1/ 5	1/ 5	300	360	5.5	4.6	0.56	0.47	1230	125	307	31	P.D56 Fig.D-51 8.5kg (10kg)	
		1/ 7.5	2/ 15	200	240	8.3	7	0.85	0.71	1370	140	342	35		
		1/ 10	1/ 10	150	180	11	9.2	1.1	0.94	1520	155	380	39		
		1/ 12.5	19/ 235	120	144	14	12	1.4	1.2	1620	165	405	41		
		1/ 15	1/ 15	100	120	17	14	1.7	1.4	1720	175	429	44		
		1/ 20	1/ 20	75	90	23	19	2.3	1.9	1860	190	466	48		
		1/ 25	1/ 25	60	72	27	24	2.8	2.4	2010	205	502	51		
		1/ 30	1/ 30	50	60	33	27	3.4	2.8	2110	215	527	54		
		1/ 40	1/ 40	37.5	45	44	37	4.5	3.8	2300	235	576	59		
		1/ 50	1/ 50	30	36	55	46	5.6	4.7	2450	250	613	63		
		1/ 60	1/ 60	25	30	67	55	6.8	5.6	2550	260	637	65		
	30	1/ 80	1/ 80	18.8	22.5	84	71	8.6	7.2	3090	315	775	79	P.D57 Fig.D-52 10kg (11.5kg)	
		1/ 100	19/ 1880	15	18	105	87	10.7	8.9	3140	320	785	80		
		1/ 120	1/ 120	12.5	15	126	105	12.9	10.7	3140	320	785	80		
		1/ 160	1/ 160	9.4	11.3	169	140	17.9	14.3	3140	320	785	80		
		∗1/ 200	1/ 200	7.5	9	184	175	18.8	17.9	3140	320	785	80		
		∗1/ 240	1/ 240	6.3	7.5	184	184	18.8	18.8	3140	320	785	80		
	35	1/ 300	34/ 10105	5	6	282	235	28.8	24	3630	370	912	93	P.D57 Fig.D-53 15kg (16.5kg)	
		1/ 375	7/ 2580	4	4.8	353	294	36	30	3630	370	912	93		
	45	1/ 450	13/ 5740	3.3	4	423	353	43.2	36	5190	530	1275	130	P.D57 Fig.D-54 22kg (23.5kg)	
		1/ 600	221/137760	2.5	3	534	446	54.5	45.5	5190	530	1275	130		
		1/ 750	13/ 10045	2	2.4	668	557	68.2	56.8	5190	530	1275	130		
	55	1/ 900	7/ 6360	1.7	2	849	707	86.6	72.1	9800	1000	2452	250	P.D57 Fig.D-55 77kg (78.5kg)	
		1/1200	7/ 8480	1.3	1.5	1127	943	115	96.2	9800	1000	2452	250		

Note 1) The allowable O.H.L. are the values measured at the position of 20mm from the edge of output shaft.
2) Please be sure to read cautions stated on page D51 regarding rotation direction of output shaft.
3) The models marked with ∗ are limited torque type. Be sure to refer to the allowable torque in the Performance Table.

Fig.D-51

F3S$^{W}_{G}$-25-5～60-T020E (F3S$^{Y}_{H}$-25-5～60-T020E) CAD Data: F3S$^{W}_{G}$-25-T020E (CAD Data: F3S$^{Y}_{H}$-T020E)



Round Weight 8.5kg (10kg)

∗ For detailed drawing for the tapped hole for Face Mount (Standard Specification), refer to Page E53

Model Code P.D48
Detailed Dimension Diagram of Output Shaft P.E53
Comparison of dimensions (F3 Series) P.E68

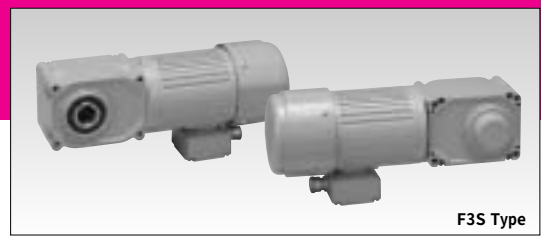
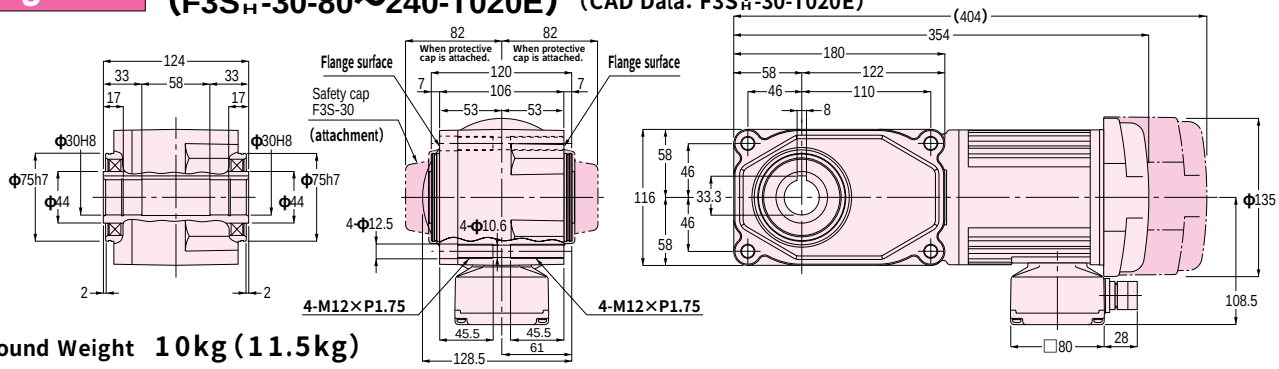

F3S Type

Fig.D-52

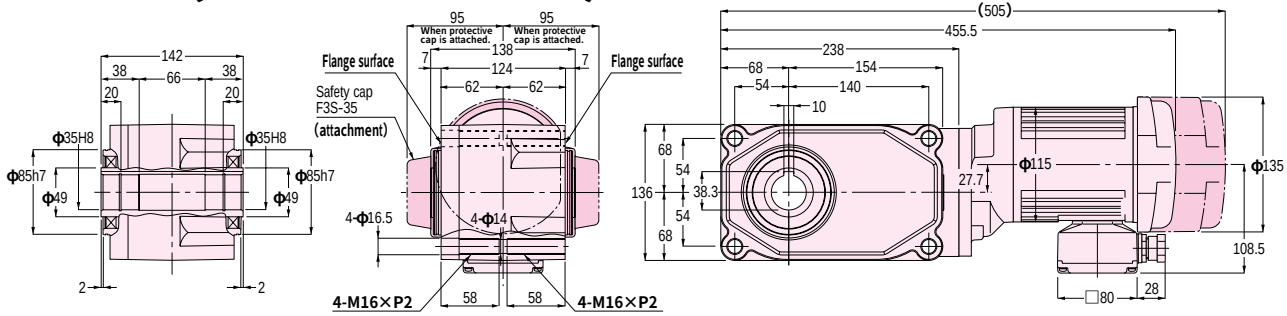
F3S$^{W}_{G}$-30-80～240-T020E
(F3S$^{V}_{H}$-30-80～240-T020E)
CAD Data: F3S$^{W}_{G}$-30-T020E
(CAD Data: F3S$^{V}_{H}$-30-T020E)



Round Weight 10kg (11.5kg)

Fig.D-53

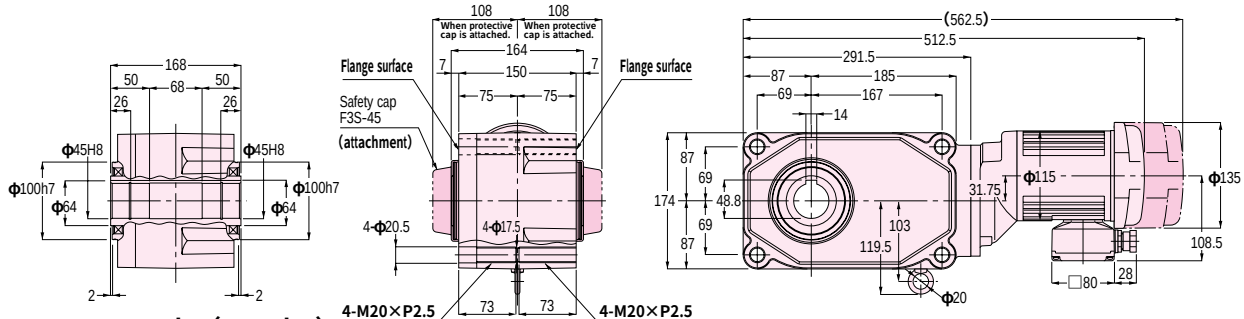
F3S$^{W}_{G}$-35-300～375-T020E
(F3S$^{V}_{H}$-35-300～375-T020E)
CAD Data: F3S$^{W}_{G}$-35-T020E
(CAD Data: F3S$^{V}_{H}$-35-T020E)



Round Weight 15kg (16.5kg)

Fig.D-54

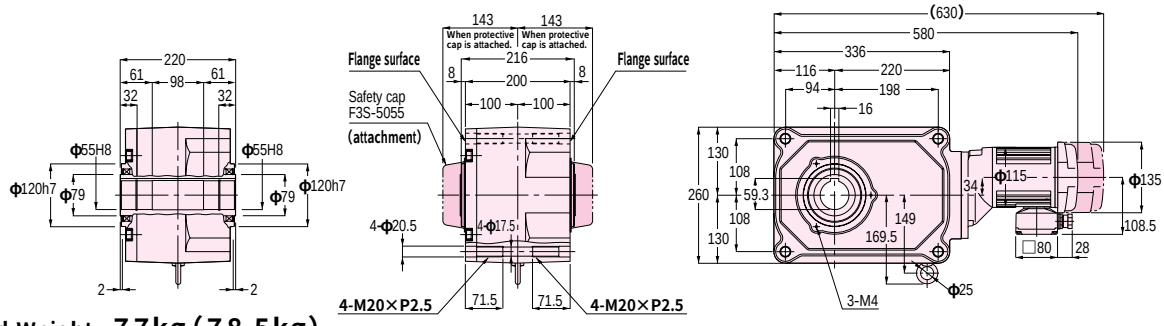
F3S$^{W}_{G}$-45-450～750-T020E
(F3S$^{V}_{H}$-45-450～750-T020E)
CAD Data: F3S$^{W}_{G}$-45-T020E
(CAD Data: F3S$^{V}_{H}$-45-T020E)



Round Weight 22kg (23.5kg)

Fig.D-55

F3S$^{W}_{G}$-55-900～1200-T020E
(F3S$^{V}_{H}$-55-900～1200-T020E)
CAD Data: F3S$^{W}_{G}$-55-T020E
(CAD Data: F3S$^{V}_{H}$-55-T020E)



Round Weight 77kg (78.5kg)

＊For detailed drawing for the tapped hole for Face Mount (Standard Specification), refer to Page E53

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Gearmotor Brake Gearmotor Water-Resistant IP65 F3S Type(Concentric Hollow Shaft)

F3 Series 3-phase 0.4kW

The values in parentheses in the Performance Table/Dimension Diagram indicate the values of brake gearmotors.

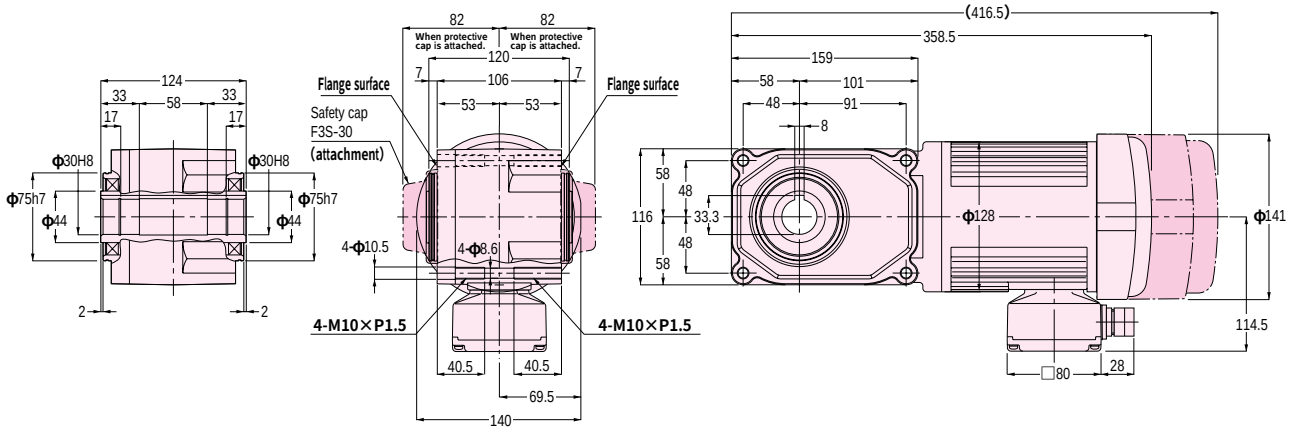
Motor Specs. Standard Voltage (Continuous Rated 4 Poles)	Capacity	Motor Capacity Designation	Voltage (V)	Frequency (Hz)	Rated Current (A)	Rated Rotation Speed (rpm)	Insulation Classification	Protective Cooling system
	0.4kW	T040	200/200/220	50/60/60	2.1/1.8/1.8	1410/1690/1710	B	Totally Enclosed fan-cooled

Motor Capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio (Fraction)	Output Shaft Rotation Speed (rpm)		Output Shaft Allowable Torque N·m		Output Shaft Allowable Torque kgf·m		Output Shaft Allowable O.H.L		Output shaft Allowable Thrust Load		Page of Dimension Diagram shown, Fig. No. and Round Weight Gearmotor (Brake Gearmotor)	
				50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	N	kgf	N	kgf	F3SW (F3SV)	F3SG (F3SH)
3-phase 0.4kW	30	1/ 5	1/ 5	300	360	11	9.2	1.1	0.94	1520	155	375	38	P.D58 Fig.D-56 11.5kg (13kg)	
		1/ 7.5	2/ 15	200	240	17	14	1.7	1.4	1760	180	438	45		
		1/ 10	1/ 10	150	180	23	19	2.3	1.9	1910	195	475	48		
		1/ 12.5	19/ 235	120	144	27	24	2.8	2.4	2060	210	506	52		
		1/ 15	1/ 15	100	120	33	27	3.4	2.8	2160	220	539	55		
		1/ 20	1/ 20	75	90	44	37	4.5	3.8	2400	245	600	61		
		1/ 25	1/ 25	60	72	55	46	5.6	4.7	2550	260	637	65		
		1/ 30	1/ 30	50	60	67	55	6.8	5.6	2650	270	662	68		
		1/ 40	1/ 40	37.5	45	88	74	9	7.5	2840	290	711	73		
		1/ 50	1/ 50	30	36	111	92	11.3	9.4	2990	305	747	76		
		1/ 60	1/ 60	25	30	133	111	13.6	11.3	3090	315	767	78		
	35	1/ 80	1/ 80	18.8	22.5	169	140	17.2	14.3	3480	355	873	89	P.D59 Fig.D-57 15kg (17kg)	
		1/100	19/ 1880	15	18	211	175	21.5	17.9	3530	360	883	90		
		1/120	1/ 120	12.5	15	253	211	25.8	21.5	3530	360	883	90		
		∗1/160	1/ 160	9.4	11.3	270	270	27.6	27.6	3630	370	912	93		
		∗1/200	1/ 200	7.5	9	270	270	27.6	27.6	3630	370	912	93		
		∗1/240	1/ 240	6.3	7.5	270	270	27.6	27.6	3630	370	912	93		
	45	1/300	1547/452640	5	6	565	471	57.7	48.1	5190	530	1275	130	P.D59 Fig.D-58 24kg (26kg)	
		1/375	13/ 4715	4	4.8	707	589	72.1	60.1	5190	530	1275	130		
	55	1/450	7/ 3120	3.3	4	849	707	86.6	72.1	9800	1000	2452	250	P.D59 Fig.D-59 79kg (81kg)	
		1/600	7/ 4160	2.5	3	1127	943	115	96.2	9800	1000	2452	250		

Note 1) The allowable O.H.L. are the values measured at the position of 20mm from the edge of output shaft.
2) Please be sure to read cautions stated on page D51 regarding rotation direction of output shaft.
3) The models marked with ∗ are limited torque type. Be sure to refer to the allowable torque in the Performance Table.

Fig.D-56

F3S$^{W}_{G}$-30-5～60-T040E CAD Data: F3S $^{W}_{G}$-30-T040E
(F3S$^{V}_{H}$-30-5～60-T040E) (CAD Data: F3S $^{V}_{H}$-30-T040E)



Round Weight 11.5kg (13kg)

∗ For detailed drawing for the tapped hole for Face Mount (Standard Specification), refer to Page 153

Model Code P.D48
Detailed Dimension Diagram of Output Shaft P.E53
Comparison of dimensions (F3 Series) P.E68

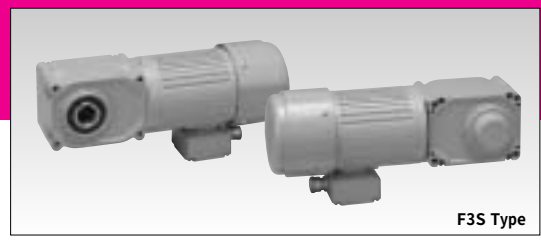
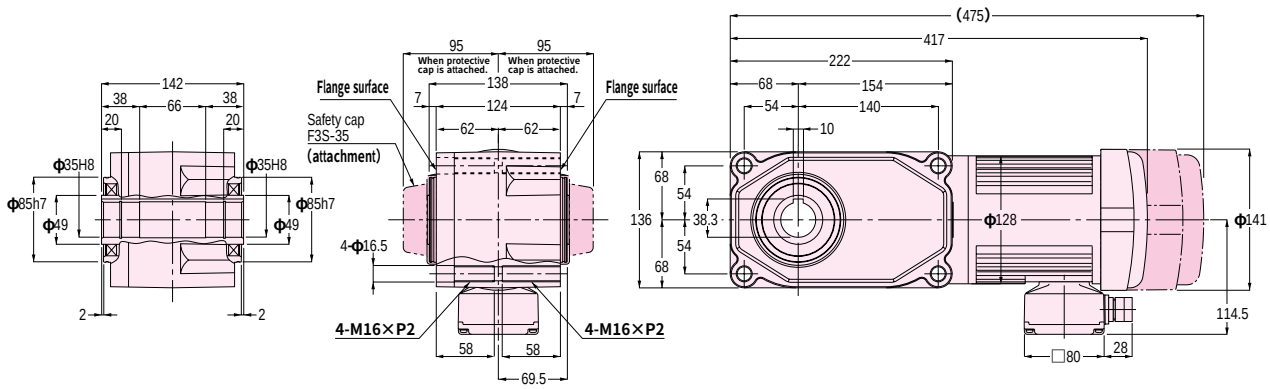

F3S Type

Fig.D-57

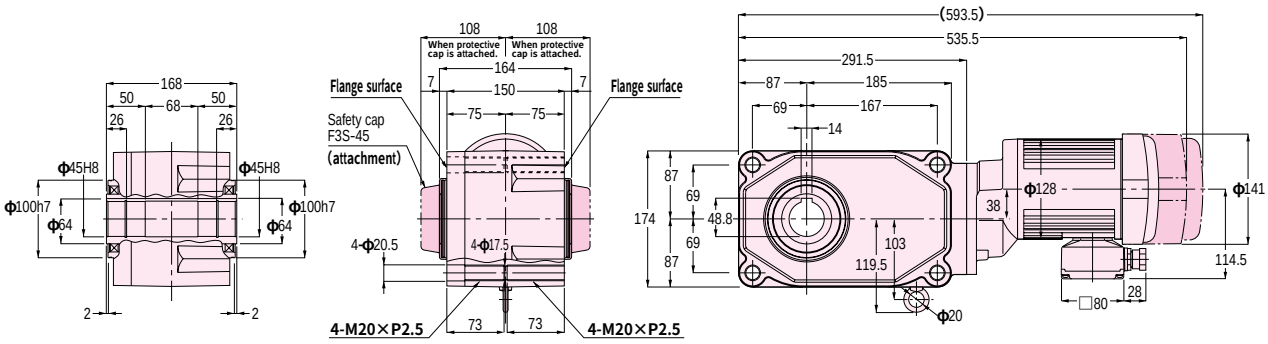
F3S$^{W}_{G}$-35-80～240-T040E (F3S$^{V}_{H}$-35-80～240-T040E) CAD Data: F3S$^{W}_{G}$-35-T040E (CAD Data: F3S$^{V}_{H}$-35-T040E)



Round Weight 15kg (17kg)

Fig.D-58

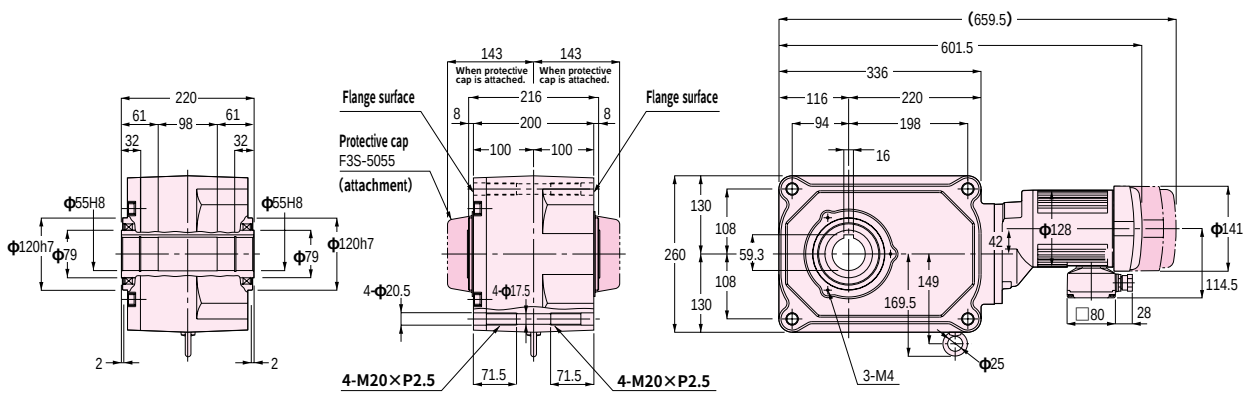
F3S$^{W}_{G}$-45-300～375-T040E (F3S$^{V}_{H}$-45-300～375-T040E) CAD Data: F3S$^{W}_{G}$-45-T040E (CAD Data: F3S$^{V}_{H}$-45-T040E)



Round Weight 24kg (26kg)

Fig.D-59

F3S$^{W}_{G}$-55-450～600-T040E (F3S$^{V}_{H}$-55-450～600-T040E) CAD Data: F3S$^{W}_{G}$-55-T040E (CAD Data: F3S$^{V}_{H}$-55-T040E)



Round Weight 79kg (81kg)

＊For detailed drawing for the tapped hole for Face Mount (Standard Specification), refer to Page E53

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Gearmotor Brake Gearmotor

Water-Resistant IP65 F3S Type(Concentric Hollow Shaft)

F3 Series 3-phase 0.75kW

The values in parentheses in the Performance Table/Dimension Diagram indicate the values of brake gearmotors.

Motor Specs. Standard Voltage (Continuous Rated 4 Poles)	Capacity	Motor Capacity Designation	Voltage (V)	Frequency (Hz)	Rated Current (A)	Rated Rotation Speed (rpm)	Insulation Classification	Protective Cooling system
	0.75kW	075	200/200/220	50/60/60	3.7/3.3/3.2	1430/1720/1730	B	Totally Enclosed fan-cooled

Motor Capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio (Fraction)	Output Shaft Rotation Speed (rpm)		Output Shaft Allowable Torque				Output Shaft Allowable O.H.L		Output shaft Allowable Thrust Load		Page of Dimension Diagram shown, Fig. No. and Round Weight Gearmotor (Brake Gearmotor)	
						N•m		kgf•m						F3SW (F3SV)	F3SG (F3SH)
				50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	N	kgf	N	kgf		
3-phase 0.75kW	35	1/ 5	1/ 5	300	360	21	18	2.1	1.8	1960	200	500	51	P.D61 Fig.D-60 17.5kg (19.5kg)	
		1/ 7.5	2/ 15	200	240	31	25	3.2	2.6	2250	230	567	58		
		1/ 10	1/ 10	150	180	41	34	4.2	3.5	2450	250	613	63		
		1/ 12.5	19/ 235	120	144	52	43	5.3	4.4	2600	265	669	68		
		1/ 15	1/ 15	100	120	63	52	6.4	5.3	2740	280	686	70		
		1/ 20	1/ 20	75	90	83	70	8.5	7.1	2990	305	747	76		
		1/ 25	1/ 25	60	72	104	86	10.6	8.8	3190	325	796	81		
		1/ 30	1/ 30	50	60	124	104	12.7	10.6	3280	335	821	84		
		1/ 40	1/ 40	37.5	45	166	138	16.9	14.1	3480	355	870	89		
		1/ 50	1/ 50	30	36	208	173	21.2	17.7	3480	355	870	89		
		1/ 60	1/ 60	25	30	249	208	25.4	21.2	3480	355	870	89		
	45	1/ 80	1/ 80	18.8	22.5	316	263	32.2	26.8	4750	485	1177	120	P.D61 Fig.D-61 25kg (27kg)	
		1/100	19/1880	15	18	395	328	40.3	33.5	4750	485	1177	120		
		1/120	1/ 120	12.5	15	473	395	48.3	40.3	4750	485	1177	120		
		∗1/160	1/ 160	9.4	11.3	554	526	56.5	53.7	5190	530	1275	130		
		∗1/200	1/ 200	7.5	9	554	554	56.5	56.5	5190	530	1275	130		
		∗1/240	1/ 240	6.3	7.5	554	554	56.5	56.5	5190	530	1275	130		
	55	1/300	7/2120	5	6	1058	884	108	90.2	9800	1000	2452	250	P.D61 Fig.D-62 82kg (85kg)	

Note 1) The allowable O.H.L. are the values measured at the position of 20mm from the edge of output shaft.
2) Please be sure to read cautions stated on page D51 regarding rotation direction of output shaft.
3) The models marked with ∗ are limited torque type. Be sure to refer to the allowable torque in the Performance Table.

Model Code P.D48
Detailed Dimension Diagram of Output Shaft P.E53
Comparison of dimensions (F3 Series) P.E68

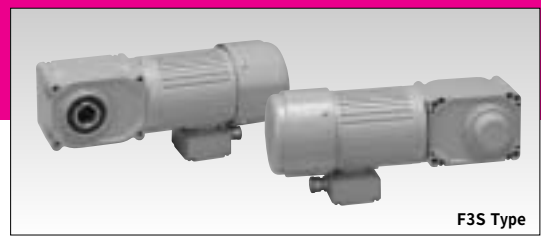
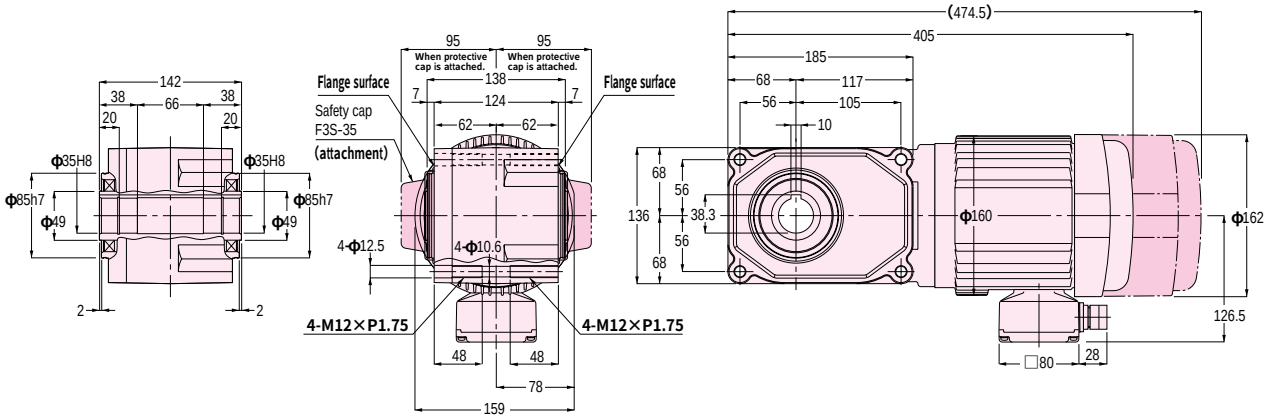

F3S Type

Fig.D-60

F3S$^{W}_{G}$-35-5～60-075E
(F3S$^{V}_{H}$-35-5～60-075E)

CAD Data: F3S $^{W}_{G}$35-075E
(CAD Data: F3S $^{V}_{H}$35-075E)

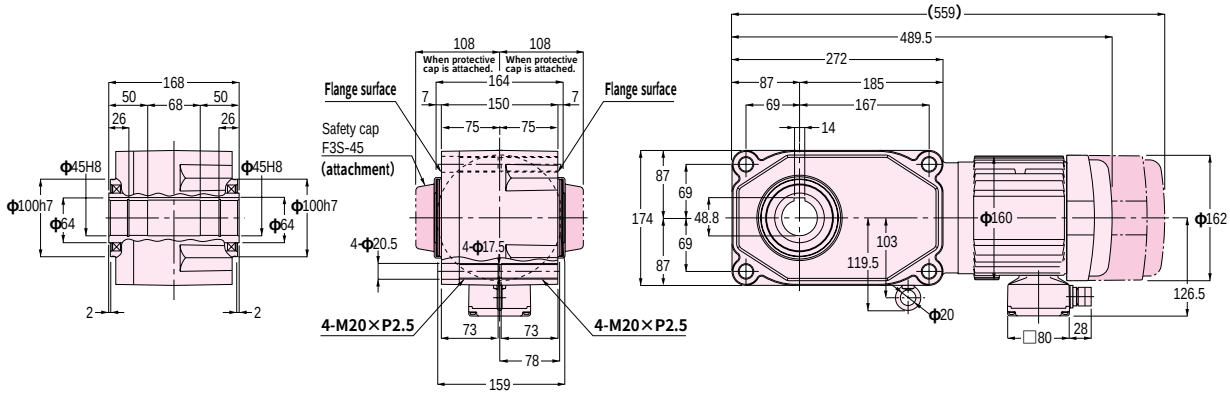


Round Weight 17.5kg (19.5kg)

Fig.D-61

F3S$^{W}_{G}$-45-80～240-075E
(F3S$^{V}_{H}$-45-80～240-075E)

CAD Data: F3S $^{W}_{G}$45-075E
(CAD Data: F3S $^{V}_{H}$45-075E)

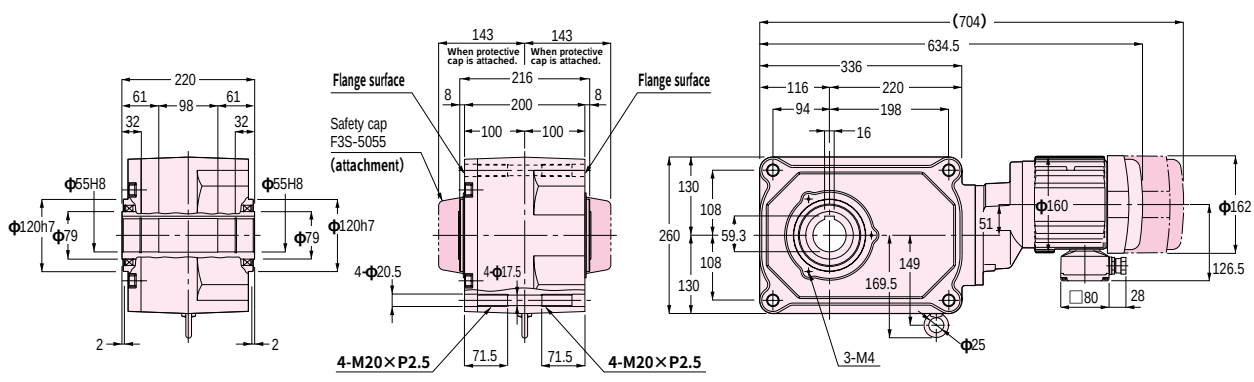


Round Weight 25kg (27kg)

Fig.D-62

F3S$^{W}_{G}$-55-300-075E
(F3S$^{V}_{H}$-55-300-075E)

CAD Data: F3S $^{W}_{G}$55-075E
(CAD Data: F3S $^{V}_{H}$55-075E)



Round Weight 82kg (85kg)

＊For detailed drawing for the tapped hole for Face Mount (Standard Specification), refer to Page E53

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Gearmotor Water-Resistant IP65 F3S Type(Concentric Hollow Shaft)

F3 Series 3-phase 1.5kW

Motor Specs. Standard Voltage (Continuous Rated 4 Poles)	Capacity	Motor Capacity Designation	Voltage (V)	Frequency (Hz)	Rated Current (A)	Rated Rotation Speed (rpm)	Insulation Classification	Protective Cooling system
	1.5kW	150	200/200/220	50/60/60	6.6/6.1/5.8	1430/1720/1730	B	Totally Enclosed fan-cooled

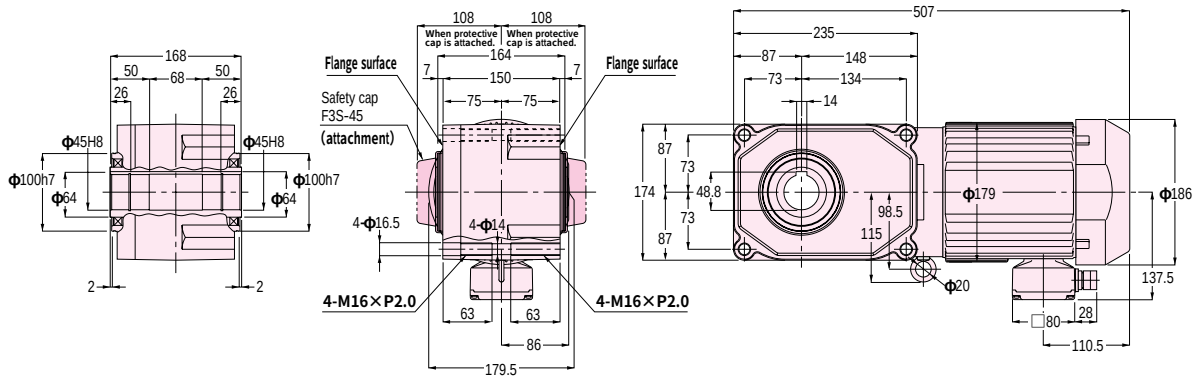
Motor Capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio (Fraction)	Output Shaft Rotation Speed (rpm)		Output Shaft Allowable Torque N•m		Output Shaft Allowable Torque kgf•m		Output Shaft Allowable O.H.L		Output shaft Allowable Thrust Load		Page of Dimension Diagram shown, Fig. No. and Round Weight Gearmotor	
				50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	N	kgf	N	kgf	F3SW	F3SG
3-phase 1.5kW	45	1/ 5	1/ 5	300	360	41	34	4.2	3.5	2940	300	800	82	P.D63 Fig.D-63 32kg	
		1/ 7.5	2/ 15	200	240	63	52	6.4	5.3	3330	340	900	92		
		1/ 10	1/ 10	150	180	83	70	8.5	7.1	3630	370	967	99		
		1/ 12.5	19/235	120	144	104	86	10.6	8.8	3920	400	1040	106		
		1/ 15	1/ 15	100	120	124	104	12.7	10.6	4070	415	1067	109		
		1/ 20	1/ 20	75	90	166	138	16.9	14.1	4460	455	1067	109		
		1/ 25	1/ 25	60	72	208	173	21.2	17.7	4700	480	1067	109		
		1/ 30	1/ 30	50	60	249	208	25.4	21.2	4750	485	1067	109		
		1/ 40	1/ 40	37.5	45	332	276	33.9	28.2	4750	485	1067	109		
		1/ 50	1/ 50	30	36	416	345	42.4	35.2	4750	485	1067	109		
		1/ 60	1/ 60	25	30	498	416	50.8	42.4	4750	485	1067	109		
	55	1/ 80	1/ 80	18.8	22.5	631	526	64.4	53.7	6420	655	1618	165	P.D63 Fig.D-64 86kg	
		1/100	1/100	15	18	789	658	80.5	67.1	6420	655	1618	165		
		1/120	1/120	12.5	15	947	789	96.6	80.5	7500	765	1863	190		
		1/160	1/160	9.4	11.3	1264	1049	129	107	8330	850	2059	210		
		∗1/200	1/200	7.5	9	1264	1264	129	129	9020	920	2256	230		
		∗1/240	1/240	6.3	7.5	1264	1264	129	129	9800	1000	2452	250		

Note 1) The allowable O.H.L. are the values measured at the position of 20mm from the edge of output shaft.
2) Please be sure to read cautions stated on page D51 regarding rotation direction of output shaft.
3) The models marked with ∗ are limited torque type. Be sure to refer to the allowable torque in the Performance Table.

Model Code P.D48
Detailed Dimension Diagram of Output Shaft P.E53
Comparison of dimensions (F3 Series) P.E68

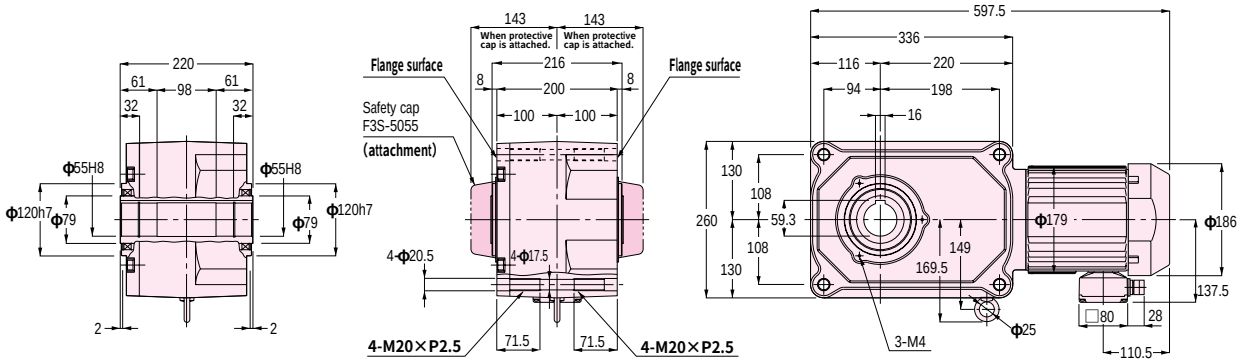
F3S Type

Fig.D-63 F3S$^{W}_{G}$-45-5〜60-150E CAD Data: F3S$^{W}_{G}$-45-150E



Round Weight 32kg

Fig.D-64 F3S$^{W}_{G}$-55-80〜240-150E CAD Data: F3S$^{W}_{G}$-55-150E



Round Weight 86kg

∗ For detailed drawing for the tapped hole for Face Mount (Standard Specification), refer to Page E53

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Gearmotor Water-Resistant IP65 F3S Type(Concentric Hollow Shaft)

F3 Series 3-phase 2.2kW

Motor Specs. Standard Voltage (Continuous Rated 4 Poles)	Capacity	Motor Capacity Designation	Voltage (V)	Frequency (Hz)	Rated Current (A)	Rated Rotation Speed (rpm)	Insulation Classification	Protective Cooling system
	2.2kW	220	50/60/60	200/200/220	9.0/8.6/8.0	1410/1690/1710	B	Totally Enclosed fan-cooled

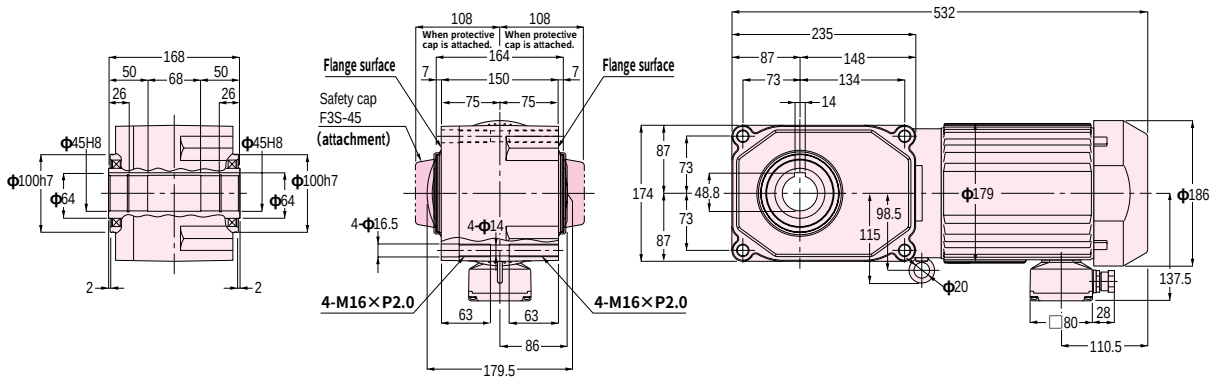
Motor Capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio (Fraction)	Output Shaft Rotation Speed (rpm)		Output Shaft Allowable Torque				Output Shaft Allowable O.H.L		Output shaft Allowable Thrust Load		Page of Dimension Diagram shown, Fig. No. and Round Weight	
						N•m		kgf•m						Gearmotor	
				50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	N	kgf	N	kgf	F3SW	F3SG
3-phase 2.2kW	45	1/ 5	1/ 5	300	360	61	51	6.2	5.2	3140	320	800	82	P.D65 Fig.D-65 35kg	
		1/ 7.5	2/ 15	200	240	91	76	9.3	7.8	3530	360	900	92		
		1/ 10	1/ 10	150	180	122	102	12.4	10.4	3920	400	967	99		
		1/ 12.5	19/235	120	144	152	126	15.5	12.9	4120	420	1040	106		
		1/ 15	1/ 15	100	120	182	152	18.6	15.5	4410	450	1067	109		
		1/ 20	1/ 20	75	90	244	203	24.9	20.7	4750	485	1067	109		
		1/ 25	1/ 25	60	72	305	254	31.1	25.9	4750	485	1067	109		
		1/ 30	1/ 30	50	60	366	305	37.3	31.1	4750	485	1067	109		
	50	1/ 40	1/ 40	37.5	45	487	406	49.7	41.4	5240	535	1275	130	P.D65 Fig.D-66 44kg	
		1/ 50	1/ 50	30	36	609	508	62.1	51.8	5240	535	1275	130		
		1/ 60	1/ 60	25	30	731	609	74.6	62.1	5240	535	1275	130		
	55	1/ 80	1/ 80	18.8	22.5	926	771	94.5	78.7	6420	655	1618	165	P.D65 Fig.D-67 91kg	
		1/100	1/100	15	18	1156	964	118	98.4	6420	655	1618	165		
		∗1/120	1/120	12.5	15	1264	1156	129	118	7500	765	1863	190		

Note 1) The allowable O.H.L. are the values measured at the position of 20mm from the edge of output shaft.
2) Please be sure to read cautions stated on page D51 regarding rotation direction of output shaft.
3) The models marked with ∗ are limited torque type. Be sure to refer to the allowable torque in the Performance Table.

Model Code P.D48
Detailed Dimension Diagram of Output Shaft P.E53
Comparison of dimensions (F3 Series) P.E68

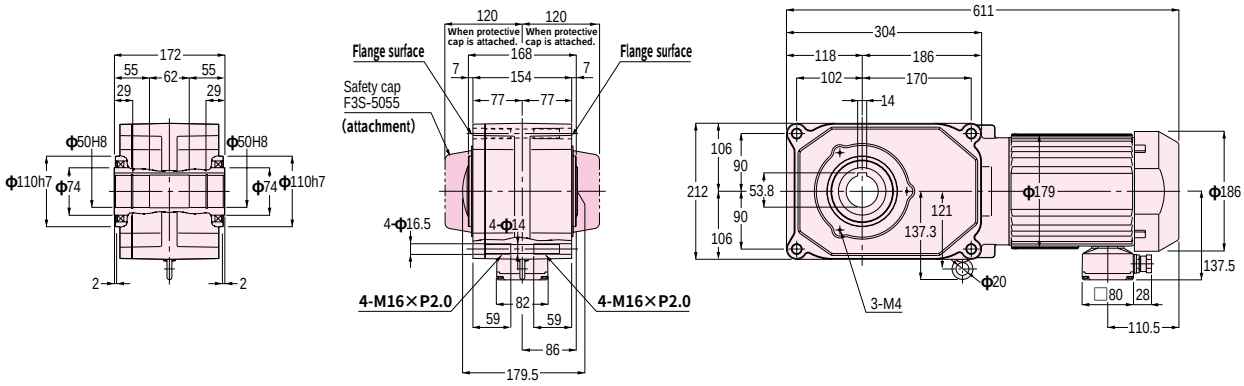
F3S Type

Fig.D-65 F3S$^{W}_{G}$-45-5〜30-220E CAD Data: F3S$^{W}_{G}$-45-220E



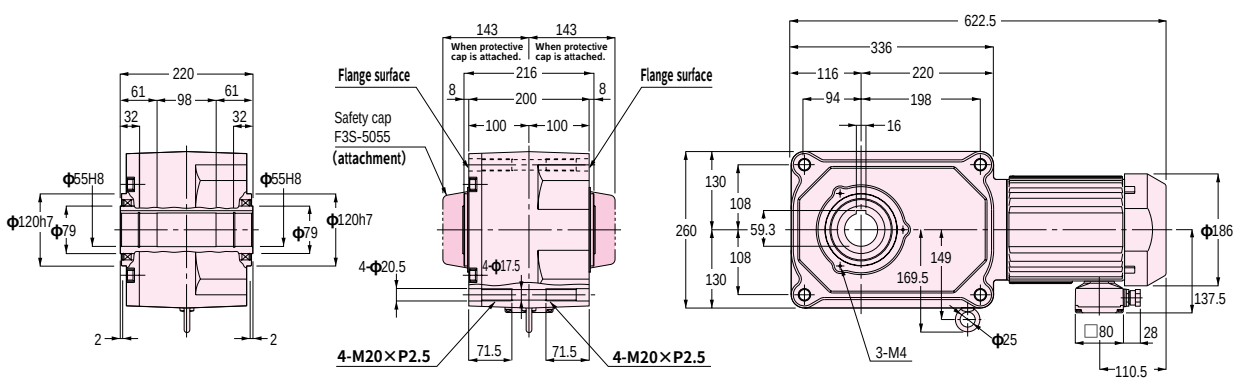
Round Weight 35kg

Fig.D-66 F3S$^{W}_{G}$-50-40〜60-220E CAD Data: F3S$^{W}_{G}$-50-220E



Round Weight 44kg

Fig.D-67 F3S$^{W}_{G}$-55-80〜120-220E CAD Data: F3S$^{W}_{G}$-55-220E



Round Weight 91kg

∗ For detailed drawing for the tapped hole for Face Mount (Standard Specification), refer to Page E53

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

GTR Gearmotor

Concentric Hollow Shaft

Reducer (Input/Output Shaft)

Model・Type Designation Standard Model Lineup

F3 Series

Equivalent 4P motor capacity		Equiv 0.1kW～Equiv2.2kW
Speed Reduction Part	Reduction Method	Hypoid gear and Helical gear
	Lubrication	Grease Lubrication(Maintenance Free)
	Output Shaft	New JIS Key(JIS 1301-1976 class)
	Output Shaft Material	S43C
	Case Material	Aluminium die-cast (Frame No.50:Cast aluminium/Frame No.55:Cast iron)
Ambient Conditions	Ambient Temperature	−10℃～40℃
	Ambient Humidity	85% max.(without any dew condensation)
	Altitude	1,000m max.
	Environment	Well ventilated place free from corrosive gas, explosive gas vapor and/or dust.
	Installation Location	Indoors
Painting	Painting Method	Anion painting, Acrylic paint
	Painting Color	Gray(Mansel code: 9B6/0.5)
Mounting Direction		No restriction in the mounting angle.(horizontally, vertically or heeling angle)

Model and Type Designation F3 Series F3S Type (Hollow Shaft)

F3 Series Input/Output Shaft type reducers are classified by codes as shown below. Specify these codes in your inquiry and order.

Type				Frame Number	Reduction Ratio		Motor Capacity	Auxiliary Mark	Spec. Designation
F3	S		–	30	50	–	040		
F3	S		–	45	240	–	075	X	
①	②	③		④	⑤		⑥	⑦	⑧

①Series Name	F3 : F3 Series (Concentric Hollow Shaft・Concentric Solid Shaft)
②Classification by Mount Form	S : Hollow Shaft Type (Note 1)
③Classification by Motor Type	Blank : Without Motor (Input/Output Shaft Type)
④Frame No. and Diameter of Output shaft	Diameter of Output shaft (bore)
⑤Reduction Ratio	5 : 1／5 240 : 1／240
⑥Motor Designation and Capacity	010 : Equiv 0.1 kW
	020 : Equiv 0.2 kW
	040 : Equiv 0.4 kW
	075 : Equiv 0.75kW
	150 : Equiv 1.5 kW
	220 : Equiv 2.2 kW
⑦Auxiliary Mark	Blank : Standard Specs.
	X : Code to identify additional special specs.
⑧Spec. Designation Note: Spec. Designation does not appear on the product type designation in the nameplate. It is specified on the additional numbers in the nameplate.	Blank : Standard Specs.

Note 1) F3 Series Input/Output Shaft type reducer is F3S type (hollow shaft) only, F3F type (solid shaft) is not available.

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Standard Model Lineup

F3 Series F3S Type

F3S Type (Hollow Shaft) Model Lineup

Type	Equivalent of 4P Motor Capacity	Frame Number	Reduction Ratio
Reducer (Input/Output Shaft Type) F3S	0.1kW	20	1/5 1/7.5 1/10 1/12.5 1/15 1/20 1/25 1/30 1/40 1/50 1/60
		25	1/80 1/100 1/120 1/160 1/200 1/240
	0.2kW	25	1/5 1/7.5 1/10 1/12.5 1/15 1/20 1/25 1/30 1/40 1/50 1/60
		30	1/80 1/100 1/120 1/160 1/200 1/240
	0.4kW	30	1/5 1/7.5 1/10 1/12.5 1/15 1/20 1/25 1/30 1/40 1/50 1/60
		35	1/80 1/100 1/120 1/160 1/200 1/240
	0.75kW	35	1/5 1/7.5 1/10 1/12.5 1/15 1/20 1/25 1/30 1/40 1/50 1/60
		45	1/80 1/100 1/120 1/160 1/200 1/240
	1.5kW	45	1/5 1/7.5 1/10 1/12.5 1/15 1/20 1/25 1/30 1/40 1/50 1/60
		55	1/80 1/100 1/120 1/160 1/200 1/240
	2.2kW	45	1/5 1/7.5 1/10 1/12.5 1/15 1/20 1/25 1/30
		50	1/40 1/50 1/60
		55	1/80 1/100 1/120

Note 1) The models enclosed with ▭ are limited torque type.
Be sure to check allowable torque in the performance table.

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

GTR Gearmotor

Concentric Hollow Shaft

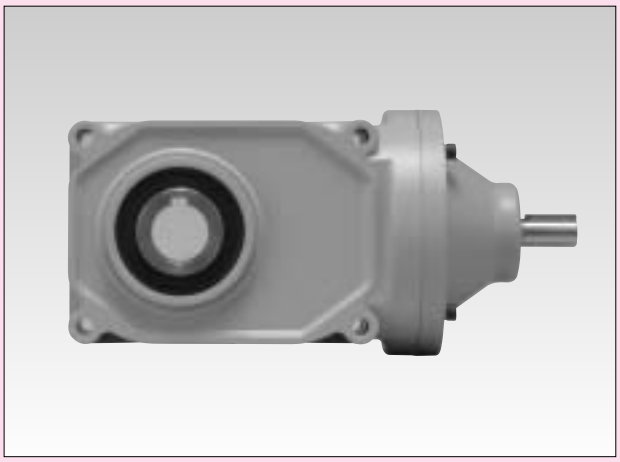
Reducer
(Input/Output Shaft Type)

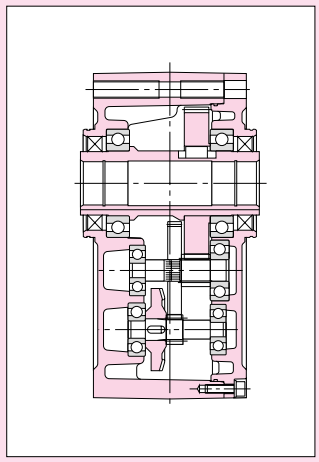
Performance Table
Dimension diagram

F3 Series

F3S Type

【Remark】
●The motor capacities are the values when 4 pole motor is applied.



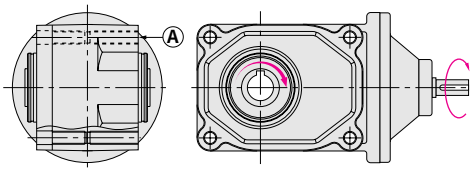


■Relation for Rotating Direction

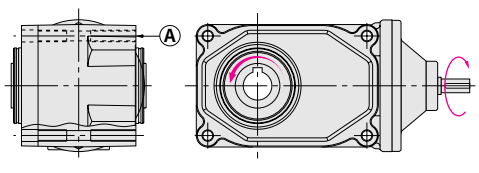
(View from side Ⓐ, as in the direction of the arrow shown in the following diagram)

The rotation directions shown by arrow just show the rotation in input/output shaft, and do not limit the rotation direction.

	Motor Capacity	Reduction ratio
F3SType	0.1kW～2.2kW	1/5～1/60



	Motor Capacity	Reduction ratio
F3SType	0.1kW～0.75kW	1/80～1/240



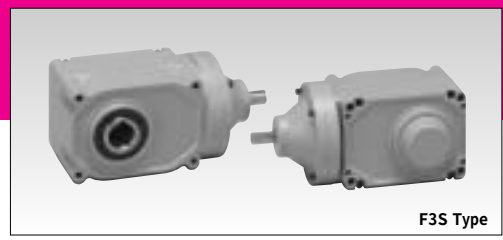
Reducer (Input/Output Shaft Type) F3S Type(Concentric Hollow Shaft)

F3 Series equiv 0.1kW

Equivalent 4P motor capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio (Fraction)	Output Shaft Allowable Torque Input (1500rpm)		Allowable O.H.L.				Output shaft Allowable Thrust Load		Page of Dimension Diagram shown, Fig. No. and Round Weight
						N		kgf				
				N•m	kgf•m	input shaft	output shaft	input shaft	output shaft	N	kgf	F3S
0.1kW	20	1/ 5	1/ 5	2.5	0.26	196	980	20	100	244	25	P.D73 Fig.D-68 3.5kg
		1/ 7.5	2/ 15	3.8	0.39		1080		110	270	28	
		1/ 10	1/ 10	5.2	0.53		1180		120	294	30	
		1/ 12.5	2/ 25	6.5	0.66		1270		130	316	32	
		1/ 15	1/ 15	7.7	0.79		1320		135	333	34	
		1/ 20	1/ 20	11	1.0		1470		150	373	38	
		1/ 25	1/ 25	13	1.3		1570		160	392	40	
		1/ 30	2/ 59	16	1.6		1670		170	422	43	
		1/ 40	1/ 40	21	2.1		1810		185	451	46	
		1/ 50	1/ 50	25	2.6		1860		190	471	48	
		1/ 60	1/ 59	31	3.2		1860		190	471	48	
	25	1/ 80	1/ 80	39	4	196	2550	20	260	637	65	P.D73 Fig.D-69 5kg
		1/100	19/1880	49	5		2550		260	637	65	
		1/120	1/ 120	59	6		2550		260	637	65	
		1/160	1/ 160	78	8		2550		260	637	65	
		1/200	1/ 200	98	10		2550		260	637	65	
		∗1/240	1/ 240	101	10.3		2550		260	637	65	

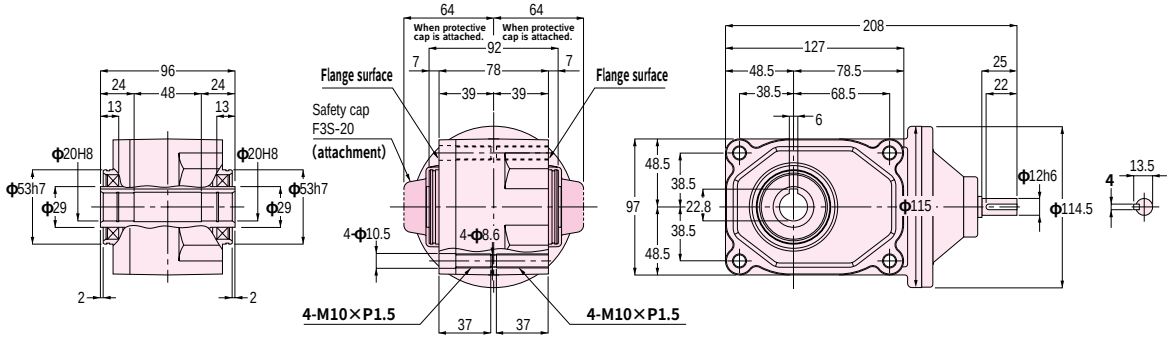
Note 1) The allowable O.H.L. are the values measured at the position of 20mm from the edge of output shaft.
2) Please be sure to read cautions stated on page D71 regarding rotation direction of output shaft.
3) The models marked with ∗ are limited torque type. Be sure to refer to the allowable torque in the Performance Table.

Model Code P.D68
Detailed Dimension Diagram of Output Shaft P.E53
Comparison of dimensions (F3 Series) P.E68



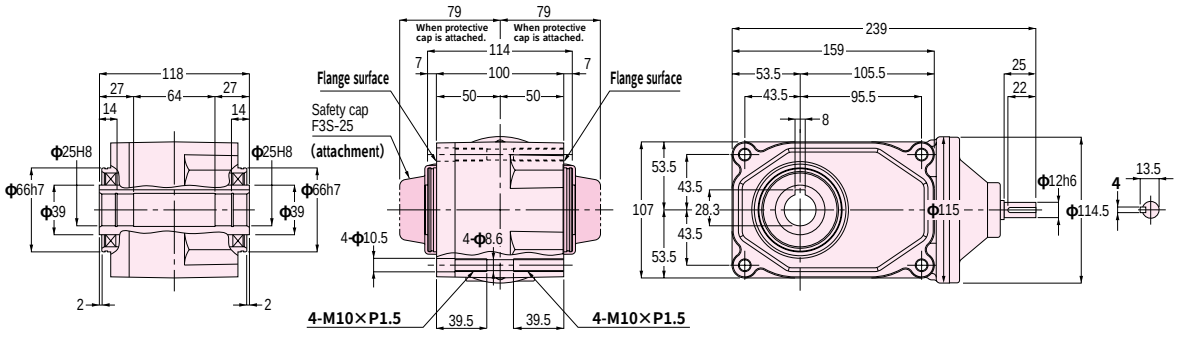
F3S Type

Fig.D-68 F3S-20-5～60-（010） CAD Data: F3S-20-010



Round Weight 3.5kg

Fig.D-69 F3S-25-80～240-（010） CAD Data: F3S-25-010



Round Weight 5kg

＊For detailed drawing for the tapped hole for Face Mount (Standard Specification), refer to Page E53

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

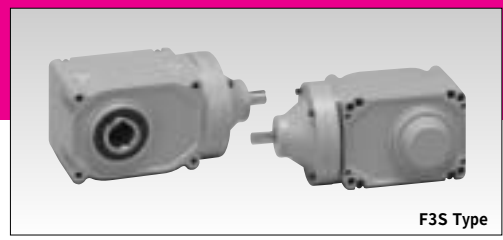
Reducer (Input/Output Shaft Type) F3S Type(Concentric Hollow Shaft)

F3 Series equiv 0.2kW

Equivalent 4P motor capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio (Fraction)	Output Shaft Allowable Torque Input (1500rpm)		Allowable O.H.L.				Output shaft Allowable Thrust Load		Page of Dimension Diagram shown, Fig. No. and Round Weight
						N		kgf				
				N•m	kgf•m	input shaft	output shaft	input shaft	output shaft	N	kgf	F3S
0.2kW	25	1/ 5	1/ 5	5.5	0.56	245	1230	25	125	307	31	P.D75 Fig.D-70 5kg
		1/ 7.5	2/ 15	8.3	0.85		1370		140	342	35	
		1/ 10	1/ 10	11	1.1		1520		155	380	39	
		1/ 12.5	19/ 235	14	1.4		1620		165	405	41	
		1/ 15	1/ 15	17	1.7		1720		175	429	44	
		1/ 20	1/ 20	23	2.3		1860		190	466	48	
		1/ 25	1/ 25	27	2.8		2010		205	502	51	
		1/ 30	1/ 30	33	3.4		2110		215	527	54	
		1/ 40	1/ 40	44	4.5		2300		235	576	59	
		1/ 50	1/ 50	55	5.6		2450		250	613	63	
		1/ 60	1/ 60	67	6.8		2550		260	637	65	
	30	1/ 80	1/ 80	84	8.6	245	3090	25	315	775	79	P.D75 Fig.D-71 6.5kg
		1/100	19/1880	105	10.7		3140		320	785	80	
		1/120	1/ 120	126	12.9		3140		320	785	80	
		1/160	1/ 160	169	17.9		3140		320	785	80	
		∗1/200	1/ 200	184	18.8		3140		320	785	80	
		∗1/240	1/ 240	184	18.8		3140		320	785	80	

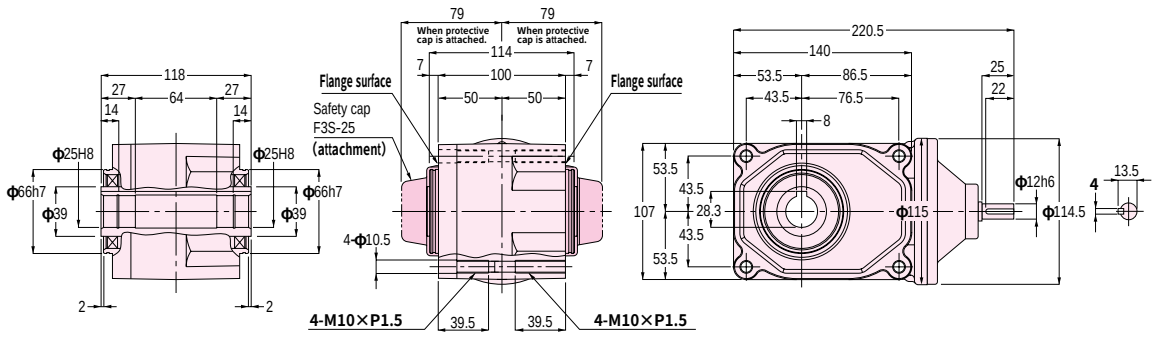
Note 1) The allowable O.H.L. are the values measured at the position of 20mm from the edge of output shaft.
2) Please be sure to read cautions stated on page D71 regarding rotation direction of output shaft.
3) The models marked with ∗ are limited torque type. Be sure to refer to the allowable torque in the Performance Table.

Model Code P.D68
Detailed Dimension Diagram of Output Shaft P.E53
Comparison of dimensions (F3 Series) P.E68



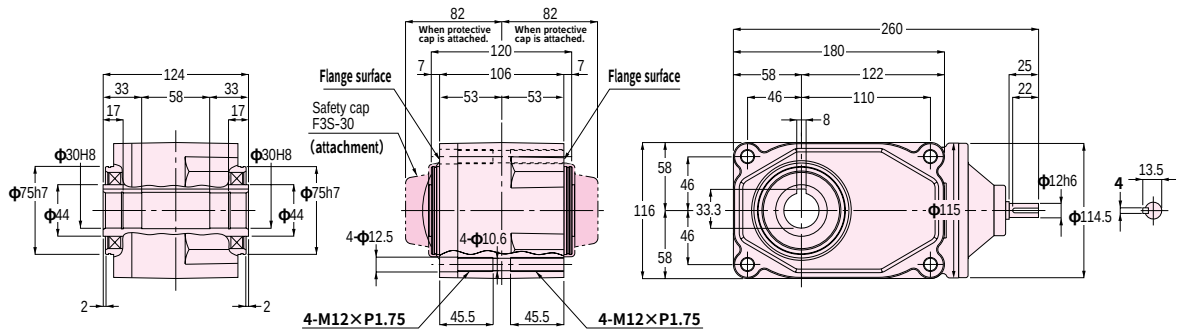
F3S Type

Fig.D-70 F3S-25-5～60-（020） CAD Data: F3S-25-020



Round Weight 5kg

Fig.D-71 F3S-30-80～240-（020） CAD Data: F3S-30-020



Round Weight 6.5kg

＊For detailed drawing for the tapped hole for Face Mount (Standard Specification), refer to Page E53

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

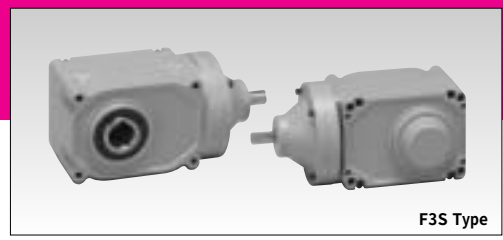
Reducer (Input/Output Shaft Type) F3S Type(Concentric Hollow Shaft)

F3 Series equiv 0.4kW

Equivalent 4P motor capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio (Fraction)	Output Shaft Allowable Torque Input (1500rpm)		Allowable O.H.L.				Output shaft Allowable Thrust Load		Page of Dimension Diagram shown, Fig. No. and Round Weight
						N		kgf				
				N•m	kgf•m	input shaft	output shaft	input shaft	output shaft	N	kgf	F3S
0.4kW	30	1/ 5	1/ 5	11	1.1	294	1520	30	155	375	38	P.D77 Fig.D-72 6kg
		1/ 7.5	2/ 15	17	1.7		1760		180	438	45	
		1/ 10	1/ 10	23	2.3		1910		195	475	48	
		1/ 12.5	19/ 235	27	2.8		2060		210	506	52	
		1/ 15	1/ 15	33	3.4		2160		220	539	55	
		1/ 20	1/ 20	44	4.5		2400		245	600	61	
		1/ 25	1/ 25	55	5.6		2550		260	637	65	
		1/ 30	1/ 30	67	6.8		2650		270	662	68	
		1/ 40	1/ 40	88	9		2840		290	711	73	
		1/ 50	1/ 50	111	11.3		2990		305	747	76	
		1/ 60	1/ 60	133	13.6		3090		315	767	78	
	35	1/ 80	1/ 80	169	17.2	294	3480	30	355	873	89	P.D77 Fig.D-73 9.5kg
		1/100	19/1880	211	21.5		3530		360	883	90	
		1/120	1/ 120	253	25.8		3530		360	883	90	
		∗1/160	1/ 160	270	27.6		3630		370	912	93	
		∗1/200	1/ 200	270	27.6		3630		370	912	93	
		∗1/240	1/ 240	270	27.6		3630		370	912	93	

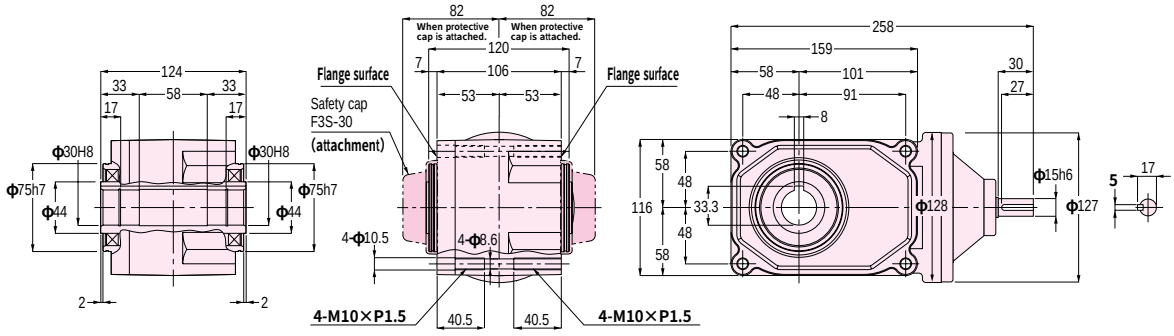
Note 1) The allowable O.H.L. are the values measured at the position of 20mm from the edge of output shaft.
2) Please be sure to read cautions stated on page D71 regarding rotation direction of output shaft.
3) The models marked with ∗ are limited torque type. Be sure to refer to the allowable torque in the Performance Table.

Model Code P.D68
Detailed Dimension Diagram of Output Shaft P.E53
Comparison of dimensions (F3 Series) P.E68



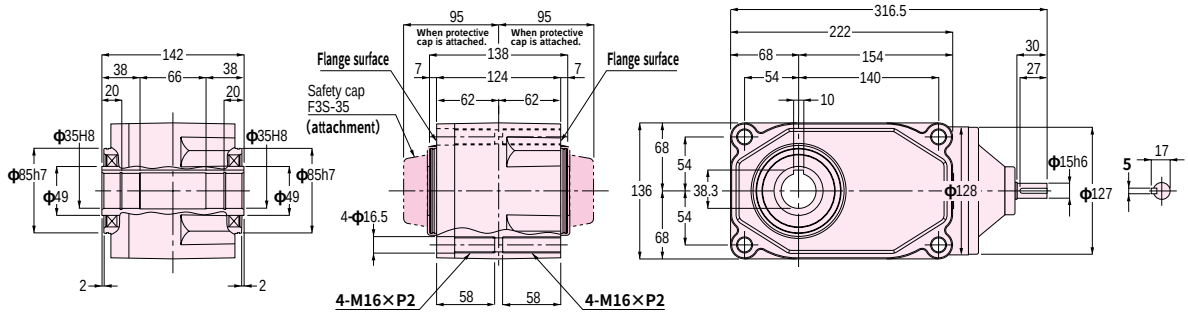
F3S Type

Fig.D-72 F3S-30-5～60-（040） CAD Data: F3S-30-040



Round Weight 6kg

Fig.D-73 F3S-35-80～240-（040） CAD Data: F3S-35-040



Round Weight 9.5kg

＊For detailed drawing for the tapped hole for Face Mount (Standard Specification), refer to Page E53

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Reducer (Input/Output Shaft Type) F3S Type(Concentric Hollow Shaft)

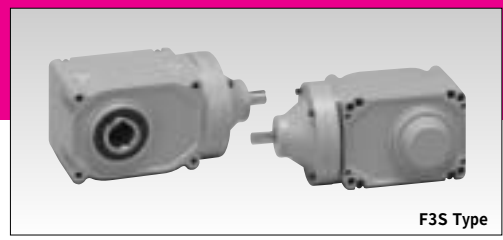
F3 Series equiv 0.75kW

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Equivalent 4P motor capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio (Fraction)	Output Shaft Allowable Torque Input (1500rpm)		Allowable O.H.L.				Output shaft Allowable Thrust Load		Page of Dimension Diagram shown, Fig. No. and Round Weight
						N		kgf				
				N•m	kgf•m	input shaft	output shaft	input shaft	output shaft	N	kgf	F3S
0.75kW	35	1/ 5	1/ 5	21	2.1	392	1960	40	200	500	51	P.D79 Fig.D-74 8kg
		1/ 7.5	2/ 15	31	3.2		2250		230	567	58	
		1/ 10	1/ 10	41	4.2		2450		250	613	63	
		1/ 12.5	19/ 235	52	5.3		2600		265	669	68	
		1/ 15	1/ 15	63	6.4		2740		280	686	70	
		1/ 20	1/ 20	83	8.5		2990		305	747	76	
		1/ 25	1/ 25	104	10.6		3190		325	796	81	
		1/ 30	1/ 30	124	12.7		3280		335	821	84	
		1/ 40	1/ 40	166	16.9		3480		355	870	89	
		1/ 50	1/ 50	208	21.2		3480		355	870	89	
		1/ 60	1/ 60	249	25.4		3480		355	870	89	
	45	1/ 80	1/ 80	316	32.2	392	4750	40	485	1177	120	P.D79 Fig.D-75 16.5kg
		1/100	19/1880	395	40.3		4750		485	1177	120	
		1/120	1/ 120	473	48.3		4750		485	1177	120	
		∗1/160	1/ 160	554	56.5		5190		530	1275	130	
		∗1/200	1/ 200	554	56.5		5190		530	1275	130	
		∗1/240	1/ 240	554	56.5		5190		530	1275	130	

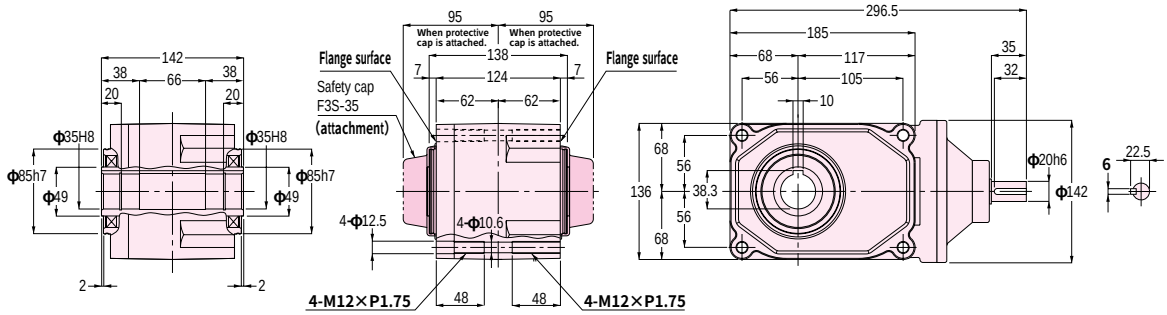
Note 1) The allowable O.H.L. are the values measured at the position of 20mm from the edge of output shaft.
2) Please be sure to read cautions stated on page D71 regarding rotation direction of output shaft.
3) The models marked with ∗ are limited torque type. Be sure to refer to the allowable torque in the Performance Table.

Model Code P.D68
Detailed Dimension Diagram of Output Shaft P.E53
Comparison of dimensions (F3 Series) P.E68



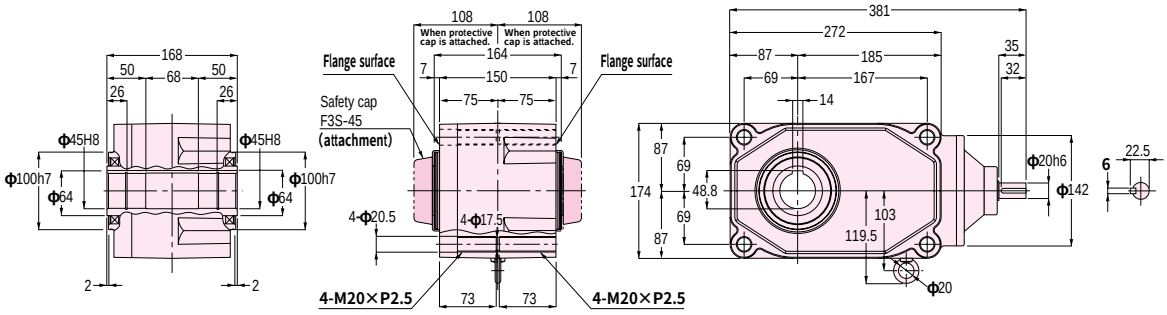
F3S Type

Fig.D-74 F3S-35-5～60-(075) CAD Data: F3S-35-075



Round Weight 8kg

Fig.D-75 F3S-45-80～240-(075) CAD Data: F3S-45-075



Round Weight 16.5kg

＊For detailed drawing for the tapped hole for Face Mount (Standard Specification), refer to Page E53

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

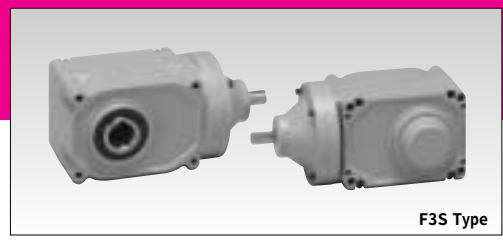
Reducer (Input/Output Shaft Type) F3S Type(Concentric Hollow Shaft)

F3 Series equiv 1.5kW

Equivalent 4P motor capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio (Fraction)	Output Shaft Allowable Torque Input (1500rpm)		Allowable O.H.L.				Output shaft Allowable Thrust Load		Page of Dimension Diagram shown, Fig. No. and Round Weight
						N		kgf				
				N•m	kgf•m	input shaft	output shaft	input shaft	output shaft	N	kgf	F3S
1.5kW	45	1/ 5	1/ 5	41	4.2	392	2940	40	300	800	82	P.D81 Fig.D-76 17kg
		1/ 7.5	2/ 15	63	6.4		3330		340	900	92	
		1/ 10	1/ 10	83	8.5		3630		370	967	99	
		1/ 12.5	19/235	104	10.6		3920		400	1040	106	
		1/ 15	1/ 15	124	12.7		4070		415	1067	109	
		1/ 20	1/ 20	166	16.9		4460		455	1067	109	
		1/ 25	1/ 25	208	21.2		4700		480	1067	109	
		1/ 30	1/ 30	249	25.4		4750		485	1067	109	
		1/ 40	1/ 40	332	33.9		4750		485	1067	109	
		1/ 50	1/ 50	416	42.4		4750		485	1067	109	
		1/ 60	1/ 60	498	50.8		4750		485	1067	109	
	55	1/ 80	1/ 80	631	64.4	392	6420	40	655	1618	165	P.D81 Fig.D-77 73kg
		1/100	1/100	789	80.5		6420		655	1618	165	
		1/120	1/120	947	96.6		7500		765	1863	190	
		1/160	1/160	1264	129		8330		850	2059	210	
		∗1/200	1/200	1264	129		9020		920	2256	230	
		∗1/240	1/240	1264	129		9800		1000	2452	250	

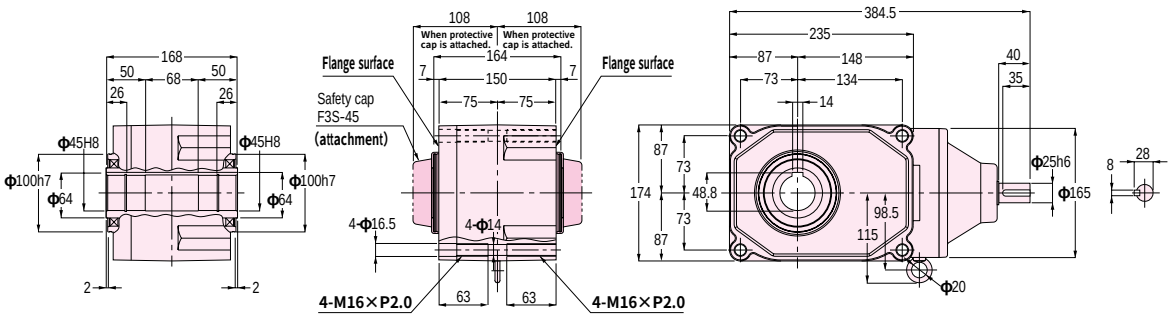
Note 1) The allowable O.H.L. are the values measured at the position of 20mm from the edge of output shaft.
2) Please be sure to read cautions stated on page D71 regarding rotation direction of output shaft.
3) The models marked with ∗ are limited torque type. Be sure to refer to the allowable torque in the Performance Table.

Model Code P.D68
Detailed Dimension Diagram of Output Shaft P.E53
Comparison of dimensions (F3 Series) P.E68



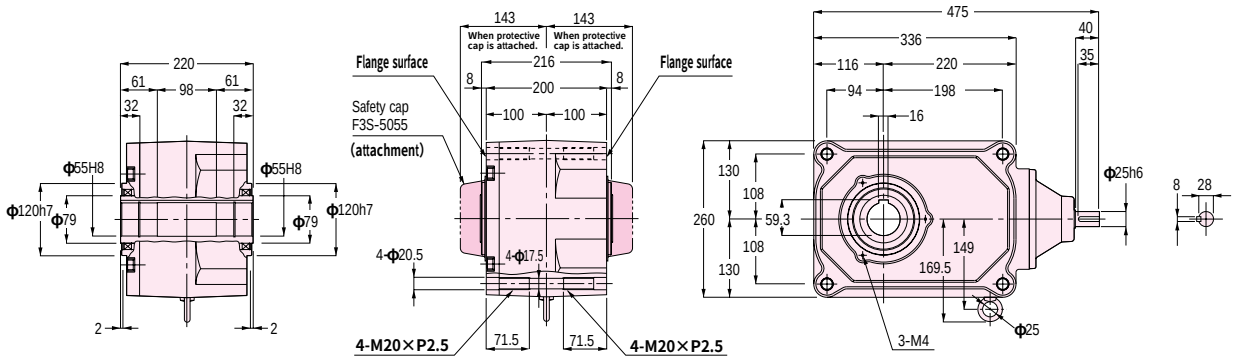
F3S Type

Fig.D-76 F3S-45-5～60-（150） CAD Data: F3S-45-150



Round Weight 17kg

Fig.D-77 F3S-55-80～240-（150） CAD Data: F3S-55-150



Round Weight 73kg

∗ For detailed drawing for the tapped hole for Face Mount (Standard Specification), refer to Page E53

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

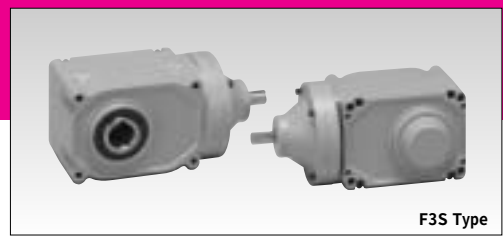
Reducer (Input/Output Shaft Type) F3S Type(Concentric Hollow Shaft)

F3 Series equiv 2.2kW

Equivalent 4P motor capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio (Fraction)	Output Shaft Allowable Torque Input (1500rpm)		Allowable O.H.L.				Output shaft Allowable Thrust Load		Page of Dimension Diagram shown, Fig. No. and Round Weight
						N		kgf				
				N•m	kgf•m	input shaft	output shaft	input shaft	output shaft	N	kgf	F3S
2.2kW	45	1/ 5	1/ 5	61	6.2	392	3140	40	320	800	82	P.D83 Fig.D-78 18kg
		1/ 7.5	2/ 15	91	9.3		3530		360	900	92	
		1/ 10	1/ 10	122	12.4		3920		400	967	99	
		1/ 12.5	19/235	152	15.5		4120		420	1040	106	
		1/ 15	1/ 15	182	18.6		4410		450	1067	109	
		1/ 20	1/ 20	244	24.9		4750		485	1067	109	
		1/ 25	1/ 25	305	31.1		4750		485	1067	109	
		1/ 30	1/ 30	366	37.3		4750		485	1067	109	
	50	1/ 40	1/ 40	487	49.7	392	5240	40	535	1275	130	P.D83 Fig.D-79 27kg
		1/ 50	1/ 50	609	62.1		5240		535	1275	130	
		1/ 60	1/ 60	731	74.6		5240		535	1275	130	
	55	1/ 80	1/ 80	926	94.5		6420		655	1618	165	P.D83 Fig.D-80 74kg
		1/100	1/100	1156	118		6420		655	1618	165	
		∗1/120	1/120	1264	129		7500		765	1863	190	

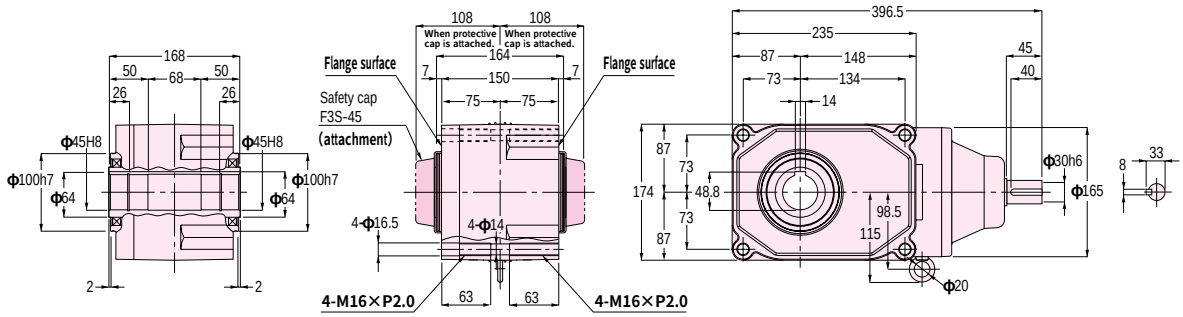
Note 1) The allowable O.H.L. are the values measured at the position of 20mm from the edge of output shaft.
2) Please be sure to read cautions stated on page D71 regarding rotation direction of output shaft.
3) The models marked with ∗ are limited torque type. Be sure to refer to the allowable torque in the Performance Table.

Model Code P.D68
Detailed Dimension Diagram of Output Shaft P.E53
Comparison of dimensions (F3 Series) P.E68



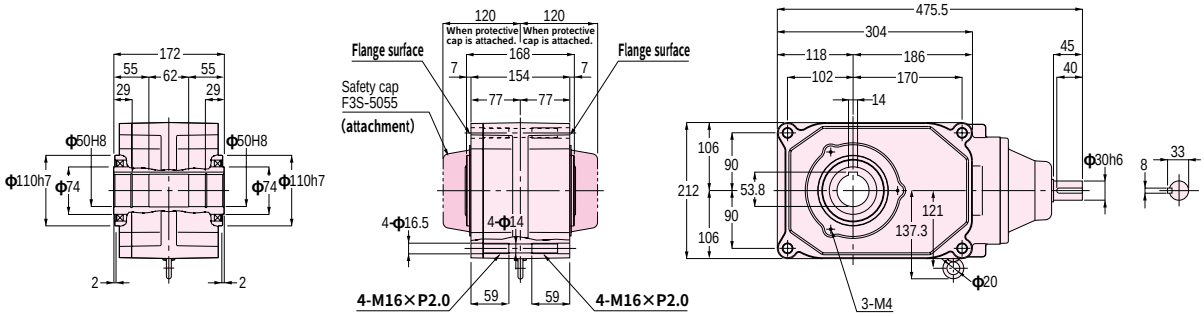
F3S Type

Fig.D-78 F3S-45-5～30-(220) CAD Data: F3S-45-220



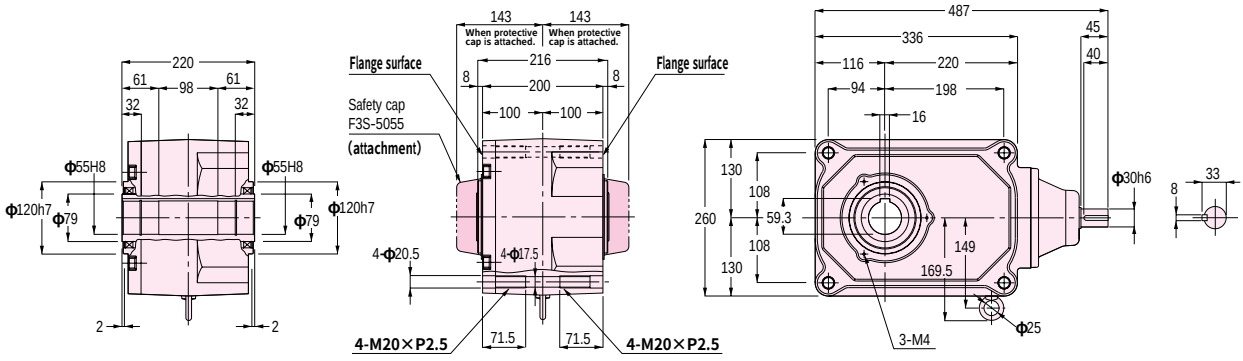
Round Weight 18kg

Fig.D-79 F3S-50-40～60-(220) CAD Data: F3S-50-220



Round Weight 27kg

Fig.D-80 F3S-55-80～120-(220) CAD Data: F3S-55-220



Round Weight 74kg

∗ For detailed drawing for the tapped hole for Face Mount (Standard Specification), refer to Page E53

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

GTR Gearmotor

Concentric Hollow Shaft

S-Type Reducer (For Designated Motor)

Model・Type Designation Standard Model Lineup

F3 Series

Equivalent 4P motor capacity		Equiv 0.1kW～Equiv2.2kW
Speed Reduction Part	Reduction Method	Hypoid gear and Helical gear
	Lubrication	Grease Lubrication(Maintenance Free)
	Output Shaft	New JIS Key(JIS 1301-1976 class)
	Output Shaft Material	S43C
	Case Material	Aluminium die-cast (Frame No.50:Cast aluminium/Frame No.55:Cast iron)
Ambient Conditions	Ambient Temperature	−10℃～40℃
	Ambient Humidity	85% max.(without any dew condensation)
	Altitude	1,000m max.
	Environment	Well ventilated place free from corrosive gas, explosive gas vapor and/or dust.
	Installation Location	Indoors
Painting	Painting Method	Anion painting, Acrylic paint
	Painting Color	Gray(Mansel code: 9B6/0.5)
Mounting Direction		No restriction in the mounting angle.(horizontally, vertically or heeling angle)

Model and Type Designation F3 Series F3S Type (Hollow Shaft)

F3 Series S-Type Reducers are classified by codes as shown below.
Specify these codes in your inquiry and order.

Type			Frame Number	Reduction Ratio	Motor Capacity	Auxiliary Mark
F3	S	S	30	50	040	
F3	S	S	45	240	075	X
①	②	③	④	⑤	⑥	⑦

①Series Name	F : F3 Series (Concentric Hollow Shaft)
②Classification by Mount Form	S : Hollow Shaft Type (Note 1)
③Classification by Motor Type	S : Designated Motor Attachable (S-Type)
④Frame No. and Diameter of Output shaft	Diameter of Output shaft (bore)
⑤Reduction Ratio	5 : 1／5　240 : 1／240
⑥Motor Designation and Capacity	010 : Equiv 0.1 kW
	020 : Equiv 0.2 kW
	040 : Equiv 0.4 kW
	075 : Equiv 0.75 kW
	150 : Equiv 1.5 kW
	220 : Equiv 2.2 kW
⑦Auxiliary Mark	Blank : Standard Specs.
	X : Code to identify additional special specs.

Note 1) F3 Series S-type reducer is F3S type (hollow shaft) only, F3F type (solid shaft) is not available.

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

F3 Series F3S Type

F3S Type (Hollow Shaft) Model Lineup

Type	Equivalent of 4P Motor Capacity	Frame Number	Reduction Ratio
S-Type Reducer F3SS	0.1kW	20	1/5 1/7.5 1/10 1/12.5 1/15 1/20 1/25 1/30 1/40 1/50 1/60
		25	1/80 1/100 1/120 1/160 1/200 1/240
	0.2kW	25	1/5 1/7.5 1/10 1/12.5 1/15 1/20 1/25 1/30 1/40 1/50 1/60
		30	1/80 1/100 1/120 1/160 1/200 1/240
	0.4kW	30	1/5 1/7.5 1/10 1/12.5 1/15 1/20 1/25 1/30 1/40 1/50 1/60
		35	1/80 1/100 1/120 1/160 1/200 1/240
	0.75kW	35	1/5 1/7.5 1/10 1/12.5 1/15 1/20 1/25 1/30 1/40 1/50 1/60
		45	1/80 1/100 1/120 1/160 1/200 1/240
	1.5kW	45	1/5 1/7.5 1/10 1/12.5 1/15 1/20 1/25 1/30 1/40 1/50 1/60
		55	1/80 1/100 1/120 1/160 1/200 1/240
	2.2kW	45	1/5 1/7.5 1/10 1/12.5 1/15 1/20 1/25 1/30
		50	1/40 1/50 1/60
		55	1/80 1/100 1/120

Note 1) The models enclosed with ▭ are limited torque type.
Be sure to check allowable torque in the performance table.

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

GTR Gearmotor

Concentric Hollow Shaft

S-Type Reducer (For Designated Motor)

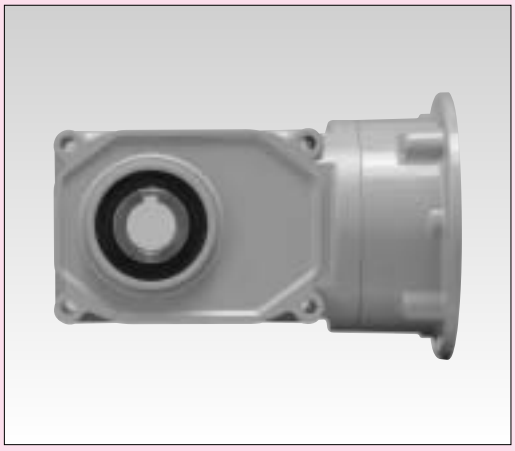
Performance Table
Dimension diagram

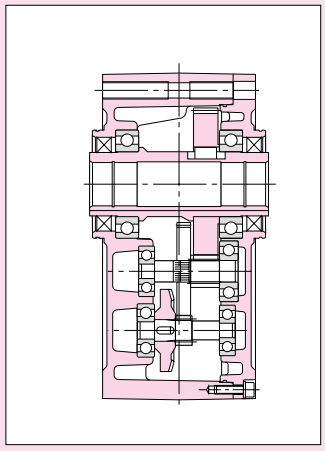
F3 Series

F3S Type

【Remarks】

- Output Shaft allowable torques are the values when using 4-pole motor.
- In case of using with motors other than 4-pole motor, the output allowable torque can be obtained by multiplying the torque correction coefficient indicated in page E46, to the written value.
- The direction of rotation of the output shaft against the same of the output/input shaft are shown in the page D71.





Designated Motor Attachable

S-Type Reducer F3S Type(Concentric Hollow Shaft)

F3 Series equiv 0.1kW

Equivalent 4P motor capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio (Fraction)	Output Shaft Allowable Torque N•m		Output Shaft Allowable Torque kgf•m		Output Shaft Allowable O.H.L.		Output shaft Allowable Thrust Load		Page of Dimension Diagram shown, Fig. No. and Round Weight
				50Hz	60Hz	50Hz	60Hz	N	kgf	N	kgf	F3SS
0.1kW	20	1/ 5	1/ 5	2.5	2.2	0.26	0.22	980	100	244	25	P.D91 Fig.D-81 4kg
		1/ 7.5	2/ 15	3.8	3.2	0.39	0.33	1080	110	270	28	
		1/ 10	1/ 10	5.2	4.3	0.53	0.44	1180	120	294	30	
		1/ 12.5	2/ 25	6.5	5.4	0.66	0.55	1270	130	316	32	
		1/ 15	1/ 15	7.7	6.5	0.79	0.66	1320	135	333	34	
		1/ 20	1/ 20	11	8.6	1.1	0.88	1470	150	373	38	
		1/ 25	1/ 25	13	11	1.3	1.1	1570	160	392	40	
		1/ 30	2/ 59	16	13	1.6	1.3	1670	170	422	43	
		1/ 40	1/ 40	21	18	2.1	1.8	1810	185	451	46	
		1/ 50	1/ 50	25	22	2.6	2.2	1860	190	471	48	
		1/ 60	1/ 59	31	25	3.2	2.6	1860	190	471	48	
	25	1/ 80	1/ 80	39	32	4	3.3	2550	260	637	65	P.D91 Fig.D-82 5.5kg
		1/100	19/1880	49	41	5	4.2	2550	260	637	65	
		1/120	1/ 120	59	49	6	5	2550	260	637	65	
		1/160	1/ 160	78	66	8	6.7	2550	260	637	65	
		1/200	1/ 200	98	81	10	8.3	2550	260	637	65	
		∗1/240	1/ 240	101	98	10.3	10	2550	260	637	65	

Note 1) The allowable O.H.L. are the values measured at the position of 20mm from the edge of output shaft.
2) Please be sure to read cautions stated on page D89 regarding rotation direction of output shaft.
3) The models marked with ∗ are limited torque type. Be sure to refer to the allowable torque in the Performance Table.

Model Code P.D86
Detailed Dimension Diagram of Output Shaft P.E53
Comparison of dimensions (F3 Series) P.E68

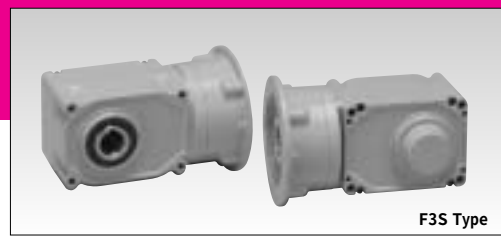
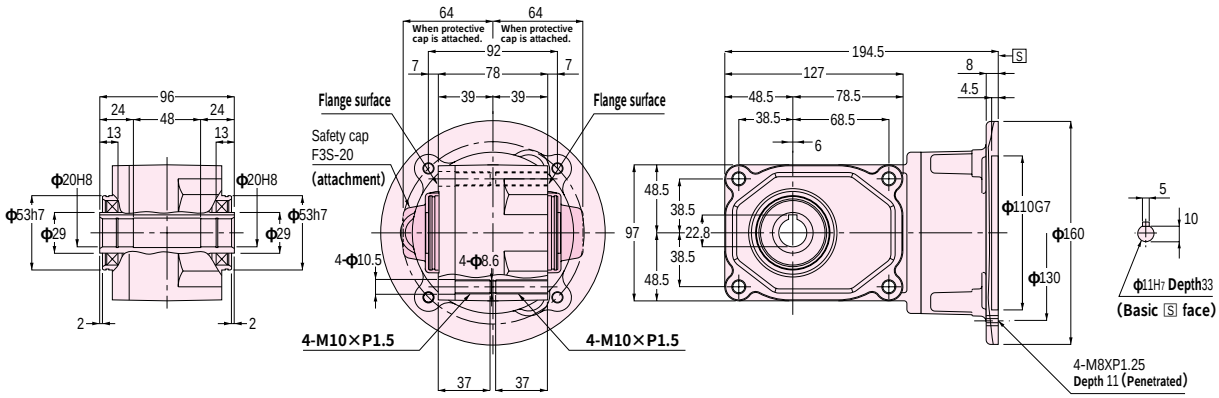
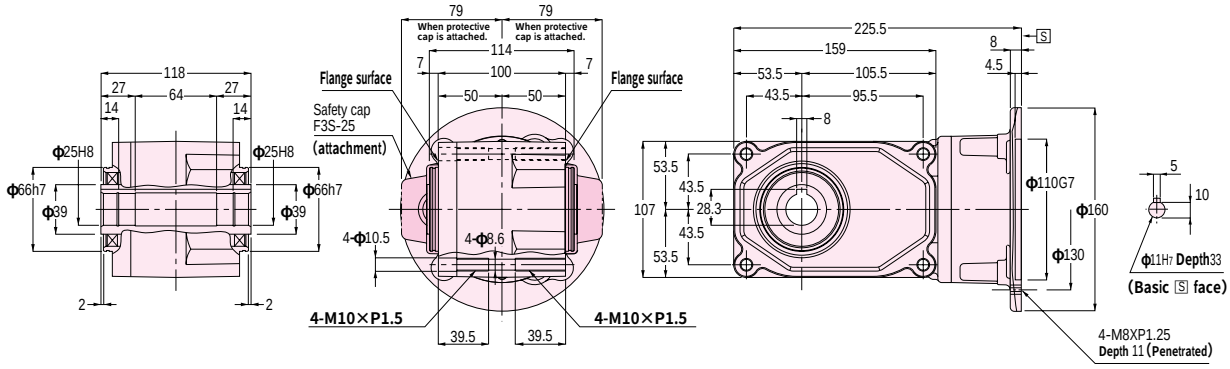

F3S Type

Fig.D-81 F3SS-20-5～60-（010） CAD Data: F3SS-20-010



Round Weight 4kg

Fig.D-82 F3SS -25-80～240-（010） CAD Data: F3SS-25-010



Round Weight 5.5kg

＊For detailed drawing for the tapped hole for Face Mount (Standard Specification), refer to Page E53

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Designated Motor Attachable

S-Type Reducer F3S Type(Concentric Hollow Shaft)

F3 Series equiv 0.2kW

Equivalent 4P motor capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio (Fraction)	Output Shaft Allowable Torque N•m		Output Shaft Allowable Torque kgf•m		Output Shaft Allowable O.H.L.		Output shaft Allowable Thrust Load		Page of Dimension Diagram shown, Fig. No. and Round Weight
				50Hz	60Hz	50Hz	60Hz	N	kgf	N	kgf	F3SS
0.2kW	25	1/ 5	1/ 5	5.5	4.6	0.56	0.47	1230	125	307	31	P.D93 Fig.D-83 5.5kg
		1/ 7.5	2/ 15	8.3	7	0.85	0.71	1370	140	342	35	
		1/ 10	1/ 10	11	9.2	1.1	0.94	1520	155	380	39	
		1/ 12.5	19/ 235	14	12	1.4	1.2	1620	165	405	41	
		1/ 15	1/ 15	17	14	1.7	1.4	1720	175	429	44	
		1/ 20	1/ 20	23	19	2.3	1.9	1860	190	466	48	
		1/ 25	1/ 25	27	24	2.8	2.4	2010	205	502	51	
		1/ 30	1/ 30	33	27	3.4	2.8	2110	215	527	54	
		1/ 40	1/ 40	44	37	4.5	3.8	2300	235	576	59	
		1/ 50	1/ 50	55	46	5.6	4.7	2450	250	613	63	
		1/ 60	1/ 60	67	55	6.8	5.6	2550	260	637	65	
	30	1/ 80	1/ 80	84	71	8.6	7.2	3090	315	775	79	P.D93 Fig.D-84 7kg
		1/100	19/1880	105	87	10.7	8.9	3140	320	785	80	
		1/120	1/ 120	126	105	12.9	10.7	3140	320	785	80	
		1/160	1/ 160	169	140	17.9	14.3	3140	320	785	80	
		∗1/200	1/ 200	184	175	18.8	17.9	3140	320	785	80	
		∗1/240	1/ 240	184	184	18.8	18.8	3140	320	785	80	

Note 1) The allowable O.H.L. are the values measured at the position of 20mm from the edge of output shaft.
2) Please be sure to read cautions stated on page D89 regarding rotation direction of output shaft.
3) The models marked with ∗ are limited torque type. Be sure to refer to the allowable torque in the Performance Table.

Model Code P.D86
Detailed Dimension Diagram of Output Shaft P.E53
Comparison of dimensions (F3 Series) P.E68

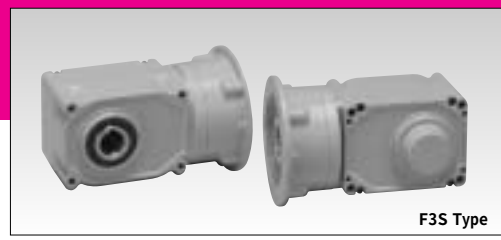
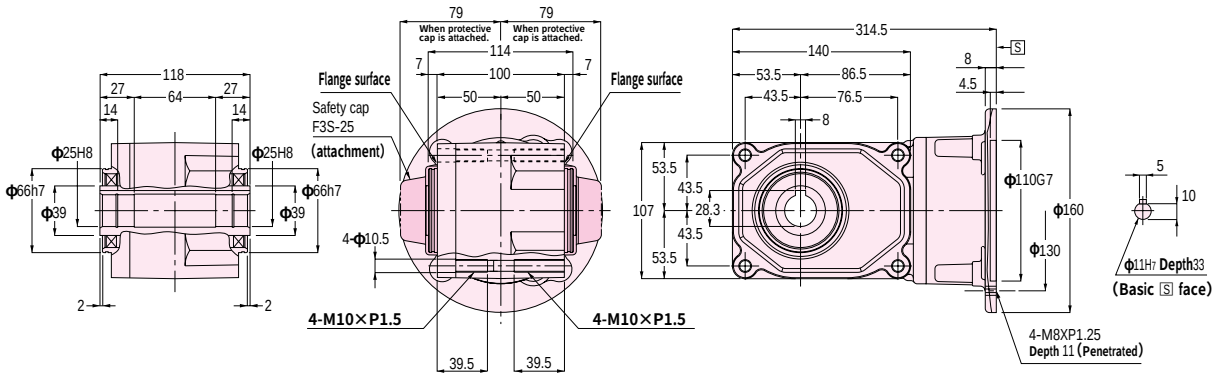
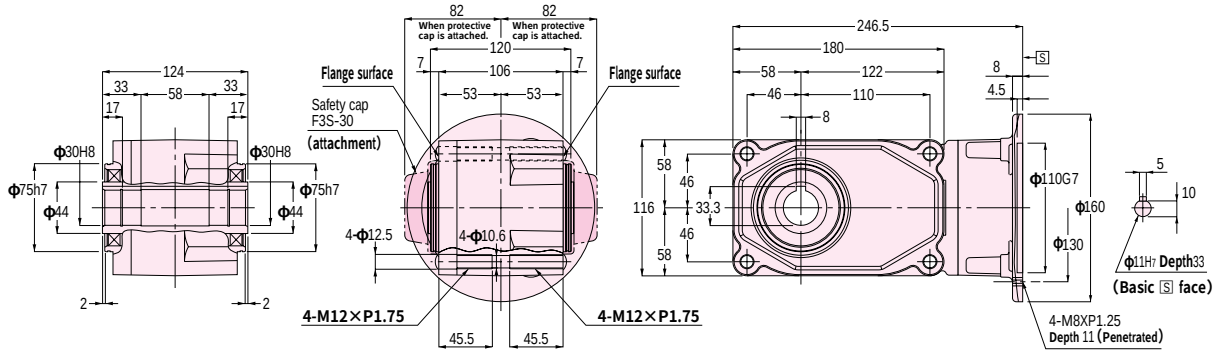

F3S Type

Fig.D-83 F3SS-25-5～60-（020） CAD Data: F3SS-25-020



Round Weight 5.5kg

Fig.D-84 F3SS -30-80～240-（020） CAD Data: F3SS-30-020



Round Weight 7kg

＊For detailed drawing for the tapped hole for Face Mount (Standard Specification), refer to Page E53

Designated Motor Attachable

S-Type Reducer F3S Type(Concentric Hollow Shaft)

F3 Series equiv 0.4kW

Equivalent 4P motor capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio (Fraction)	Output Shaft Allowable Torque N•m 50Hz	Output Shaft Allowable Torque N•m 60Hz	Output Shaft Allowable Torque kgf•m 50Hz	Output Shaft Allowable Torque kgf•m 60Hz	Output Shaft Allowable O.H.L. N	Output Shaft Allowable O.H.L. kgf	Output shaft Allowable Thrust Load N	Output shaft Allowable Thrust Load kgf	Page of Dimension Diagram shown, Fig. No. and Round Weight F3SS
0.4kW	30	1/ 5	1/ 5	11	9.2	1.1	0.94	1520	155	375	38	P.D95 Fig.D-85 7kg
		1/ 7.5	2/ 15	17	14	1.7	1.4	1760	180	438	45	
		1/ 10	1/ 10	23	19	2.3	1.9	1910	195	475	48	
		1/ 12.5	19/ 235	27	24	2.8	2.4	2060	210	506	52	
		1/ 15	1/ 15	33	27	3.4	2.8	2160	220	539	55	
		1/ 20	1/ 20	44	37	4.5	3.8	2400	245	600	61	
		1/ 25	1/ 25	55	46	5.6	4.7	2550	260	637	65	
		1/ 30	1/ 30	67	55	6.8	5.6	2650	270	662	68	
		1/ 40	1/ 40	88	74	9	7.5	2840	290	711	73	
		1/ 50	1/ 50	111	92	11.3	9.4	2990	305	747	76	
		1/ 60	1/ 60	133	111	13.6	11.3	3090	315	767	78	
	35	1/ 80	1/ 80	169	140	17.2	14.3	3480	355	873	89	P.D95 Fig.D-86 10.5kg
		1/100	19/1880	211	175	21.5	17.9	3530	360	883	90	
		1/120	1/ 120	253	211	25.8	21.5	3530	360	883	90	
		∗1/160	1/ 160	270	270	27.6	27.6	3630	370	912	93	
		∗1/200	1/ 200	270	270	27.6	27.6	3630	370	912	93	
		∗1/240	1/ 240	270	270	27.6	27.6	3630	370	912	93	

Note 1) The allowable O.H.L. are the values measured at the position of 20mm from the edge of output shaft.
2) Please be sure to read cautions stated on page D89 regarding rotation direction of output shaft.
3) The models marked with ∗ are limited torque type. Be sure to refer to the allowable torque in the Performance Table.

Model Code P.D86
Detailed Dimension Diagram of Output Shaft P.E53
Comparison of dimensions (F3 Series) P.E68

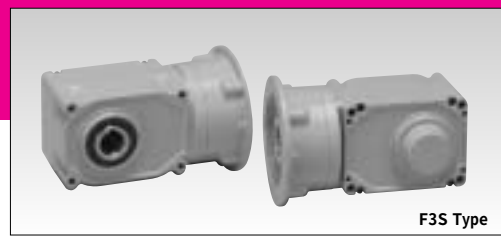
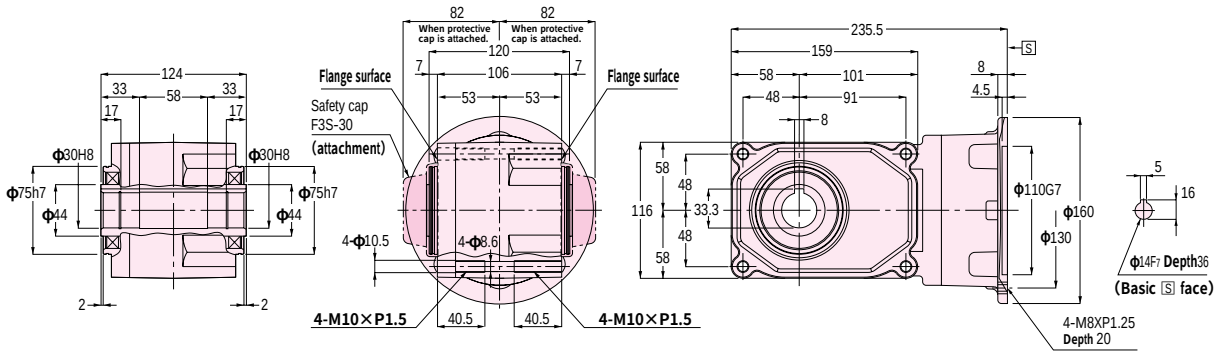
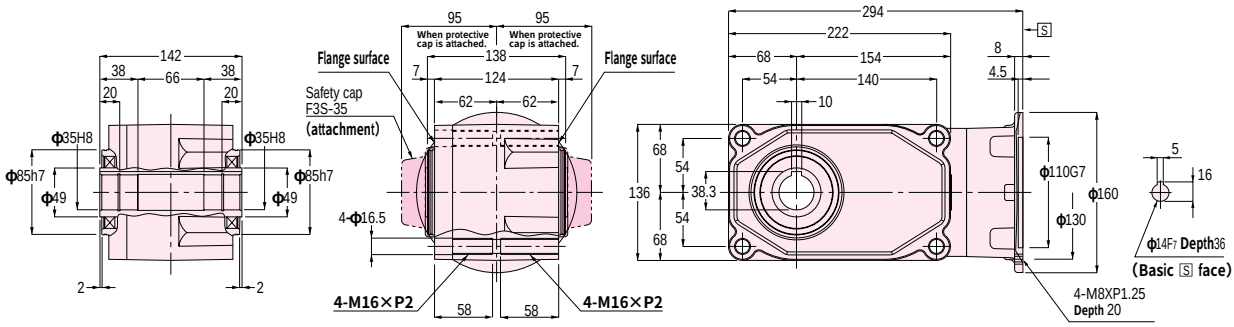

F3S Type

Fig.D-85 F3SS-30-5～60-（040） CAD Data: F3SS-30-040



Round Weight 7kg

Fig.D-86 F3SS-35-80～240-（040） CAD Data: F3SS-35-040



Round Weight 10.5kg

＊For detailed drawing for the tapped hole for Face Mount (Standard Specification), refer to Page E53

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Designated Motor Attachable

S-Type Reducer F3S Type(Concentric Hollow Shaft)

F3 Series equiv 0.75kW

Equivalent 4P motor capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio (Fraction)	Output Shaft Allowable Torque N•m		Output Shaft Allowable Torque kgf•m		Output Shaft Allowable O.H.L.		Output shaft Allowable Thrust Load		Page of Dimension Diagram shown, Fig. No. and Round Weight
				50Hz	60Hz	50Hz	60Hz	N	kgf	N	kgf	F3SS
0.75kW	35	1/ 5	1/ 5	21	18	2.1	1.8	1960	200	500	51	P.D97 Fig.D-87 9kg
		1/ 7.5	2/ 15	31	25	3.2	2.6	2250	230	567	58	
		1/ 10	1/ 10	41	34	4.2	3.5	2450	250	613	63	
		1/ 12.5	19/ 235	52	43	5.3	4.4	2600	265	669	68	
		1/ 15	1/ 15	63	52	6.4	5.3	2740	280	686	70	
		1/ 20	1/ 20	83	70	8.5	7.1	2990	305	747	76	
		1/ 25	1/ 25	104	86	10.6	8.8	3190	325	796	81	
		1/ 30	1/ 30	124	104	12.7	10.6	3280	335	821	84	
		1/ 40	1/ 40	166	138	16.9	14.1	3480	355	870	89	
		1/ 50	1/ 50	208	173	21.2	17.7	3480	355	870	89	
		1/ 60	1/ 60	249	208	25.4	21.2	3480	355	870	89	
	45	1/ 80	1/ 80	316	263	32.2	26.8	4750	485	1177	120	P.D97 Fig.D-88 17.5kg
		1/100	19/1880	395	328	40.3	33.5	4750	485	1177	120	
		1/120	1/ 120	473	395	48.3	40.3	4750	485	1177	120	
		∗1/160	1/ 160	554	526	56.5	53.7	5190	530	1275	130	
		∗1/200	1/ 200	554	554	56.5	56.5	5190	530	1275	130	
		∗1/240	1/ 240	554	554	56.5	56.5	5190	530	1275	130	

Note 1) The allowable O.H.L. are the values measured at the position of 20mm from the edge of output shaft.
2) Please be sure to read cautions stated on page D89 regarding rotation direction of output shaft.
3) The models marked with ∗ are limited torque type. Be sure to refer to the allowable torque in the Performance Table.

Model Code P.D86
Detailed Dimension Diagram of Output Shaft P.E53
Comparison of dimensions (F3 Series) P.E68

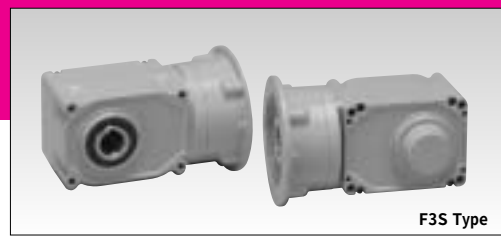
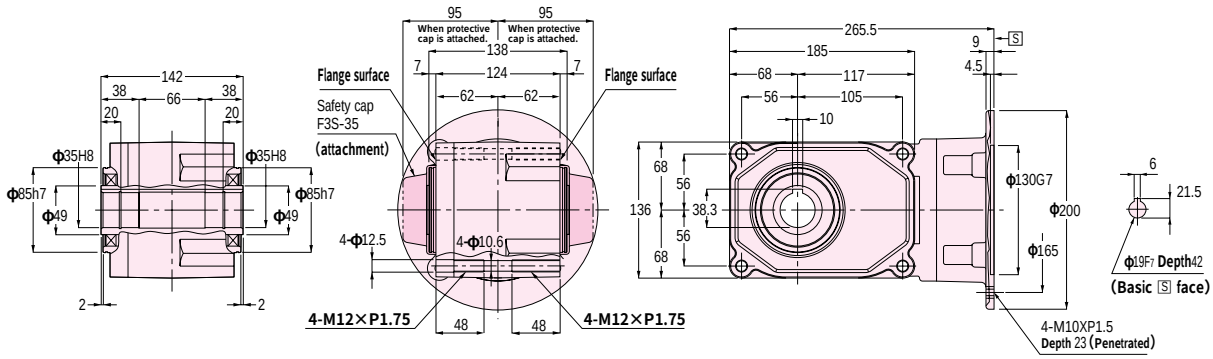
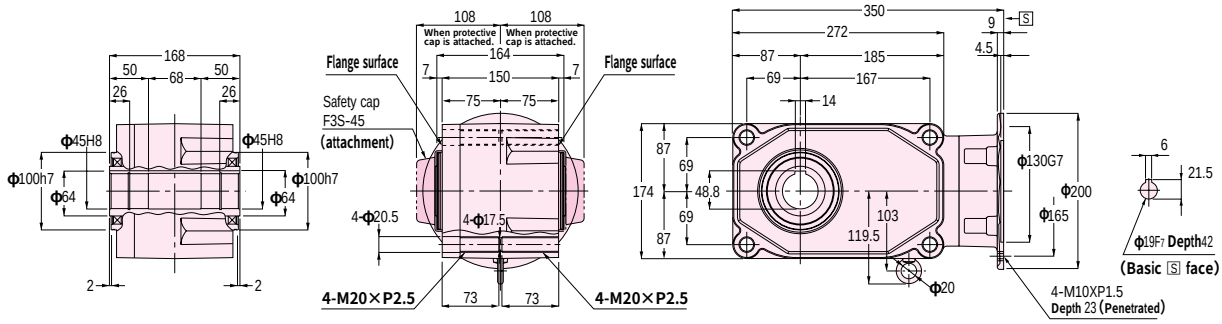

F3S Type

Fig.D-87 F3SS-35-5～60-（075） CAD Data: F3SS-35-075



Round Weight 9kg

Fig.D-88 F3SS-45-80～240-（075） CAD Data: F3SS-45-075



Round Weight 17.5kg

＊For detailed drawing for the tapped hole for Face Mount (Standard Specification), refer to Page E53

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Designated Motor Attachable

S-Type Reducer F3S Type(Concentric Hollow Shaft)

F3 Series equiv 1.5kW

Equivalent 4P motor capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio (Fraction)	Output Shaft Allowable Torque N•m		Output Shaft Allowable Torque kgf•m		Output Shaft Allowable O.H.L.		Output shaft Allowable Thrust Load		Page of Dimension Diagram shown, Fig. No. and Round Weight
				50Hz	60Hz	50Hz	60Hz	N	kgf	N	kgf	F3SS
1.5kW	45	1/ 5	1/ 5	41	34	4.2	3.5	2940	300	800	82	P.D99 Fig.D-89 19kg
		1/ 7.5	2/ 15	63	52	6.4	5.3	3330	340	900	92	
		1/ 10	1/ 10	83	70	8.5	7.1	3630	370	967	99	
		1/ 12.5	19/235	104	86	10.6	8.8	3920	400	1040	106	
		1/ 15	1/ 15	124	104	12.7	10.6	4070	415	1067	109	
		1/ 20	1/ 20	166	138	16.9	14.1	4460	455	1067	109	
		1/ 25	1/ 25	208	173	21.2	17.7	4700	480	1067	109	
		1/ 30	1/ 30	249	208	25.4	21.2	4750	485	1067	109	
		1/ 40	1/ 40	332	276	33.9	28.2	4750	485	1067	109	
		1/ 50	1/ 50	416	345	42.4	35.2	4750	485	1067	109	
		1/ 60	1/ 60	498	416	50.8	42.4	4750	485	1067	109	
	55	1/ 80	1/ 80	631	526	64.4	53.7	6420	655	1618	165	P.D99 Fig.D-90 75kg
		1/100	1/100	789	658	80.5	67.1	6420	655	1618	165	
		1/120	1/120	947	789	96.6	80.5	7500	765	1863	190	
		1/160	1/160	1264	1049	129	107	8330	850	2059	210	
		∗1/200	1/200	1264	1264	129	129	9020	920	2256	230	
		∗1/240	1/240	1264	1264	129	129	9800	1000	2452	250	

Note 1) The allowable O.H.L. are the values measured at the position of 20mm from the edge of output shaft.
2) Please be sure to read cautions stated on page D89 regarding rotation direction of output shaft.
3) The models marked with ∗ are limited torque type. Be sure to refer to the allowable torque in the Performance Table.

Model Code P.D86
Detailed Dimension Diagram of Output Shaft P.E53
Comparison of dimensions (F3 Series) P.E68

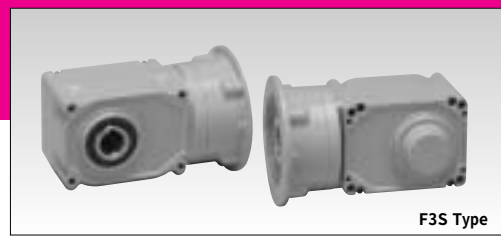
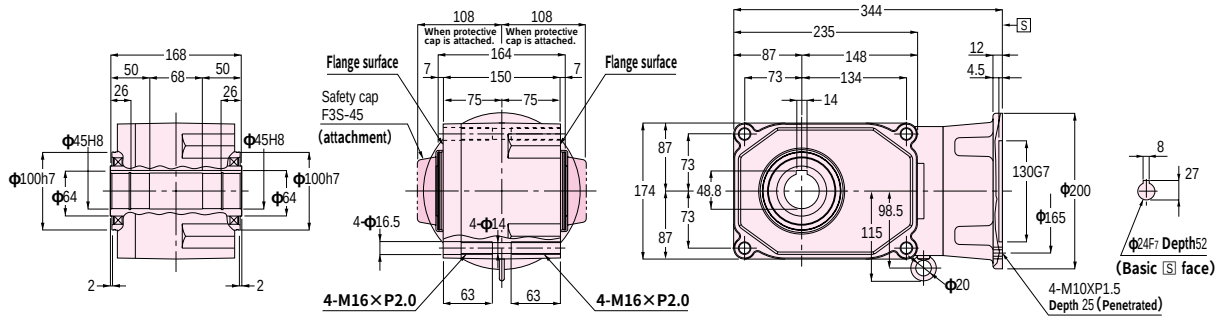
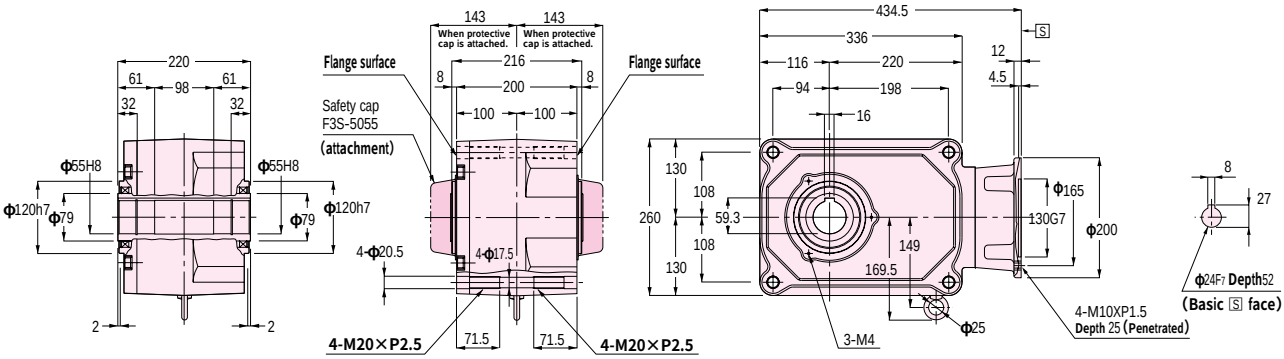

F3S Type

Fig.D-89 F3SS-45-5～60-（150） CAD Data: F3SS-45-150



Round Weight 19kg

Fig.D-90 F3SS-55-80～240-（150） CAD Data: F3SS-55-150



Round Weight 75kg

∗ For detailed drawing for the tapped hole for Face Mount (Standard Specification), refer to Page E53

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Designated Motor Attachable

S-Type Reducer F3S Type(Concentric Hollow Shaft)

F3 Series equiv 2.2kW

Equivalent 4P motor capacity	Frame No.	Reduction Ratio	Actual Reduction Ratio (Fraction)	Output Shaft Allowable Torque N•m		Output Shaft Allowable Torque kgf•m		Output Shaft Allowable O.H.L.		Output shaft Allowable Thrust Load		Page of Dimension Diagram shown, Fig. No. and Round Weight
				50Hz	60Hz	50Hz	60Hz	N	kgf	N	kgf	F3SS
2.2kW	45	1/ 5	1/ 5	61	51	6.2	5.2	3140	320	800	82	P.D101 Fig.D-91 20kg
		1/ 7.5	2/ 15	91	76	9.3	7.8	3530	360	900	92	
		1/ 10	1/ 10	122	102	12.4	10.4	3920	400	967	99	
		1/ 12.5	19/235	152	126	15.5	12.9	4120	420	1040	106	
		1/ 15	1/ 15	182	152	18.6	15.5	4410	450	1067	109	
		1/ 20	1/ 20	244	203	24.9	20.7	4750	485	1067	109	
		1/ 25	1/ 25	305	254	31.1	25.9	4750	485	1067	109	
		1/ 30	1/ 30	366	305	37.3	31.1	4750	485	1067	109	
	50	1/ 40	1/ 40	487	406	49.7	41.4	5240	535	1275	130	P.D101 Fig.D-92 29kg
		1/ 50	1/ 50	609	508	62.1	51.8	5240	535	1275	130	
		1/ 60	1/ 60	731	609	74.6	62.1	5240	535	1275	130	
	55	1/ 80	1/ 80	926	771	94.5	78.7	6420	655	1618	165	P.D101 Fig.D-93 76kg
		1/100	1/100	1156	964	118	98.4	6420	655	1618	165	
		∗1/120	1/120	1264	1156	129	118	7500	765	1863	190	

Note 1) The allowable O.H.L. are the values measured at the position of 20mm from the edge of output shaft.
2) Please be sure to read cautions stated on page D89 regarding rotation direction of output shaft.
3) The models marked with ∗ are limited torque type. Be sure to refer to the allowable torque in the Performance Table.

Model Code P.D86
Detailed Dimension Diagram of Output Shaft P.E53
Comparison of dimensions (F3 Series) P.E68

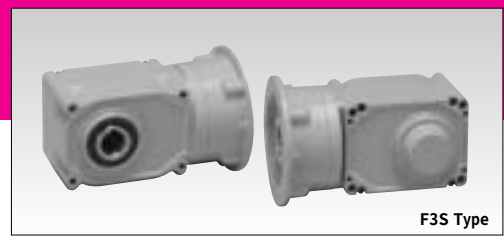
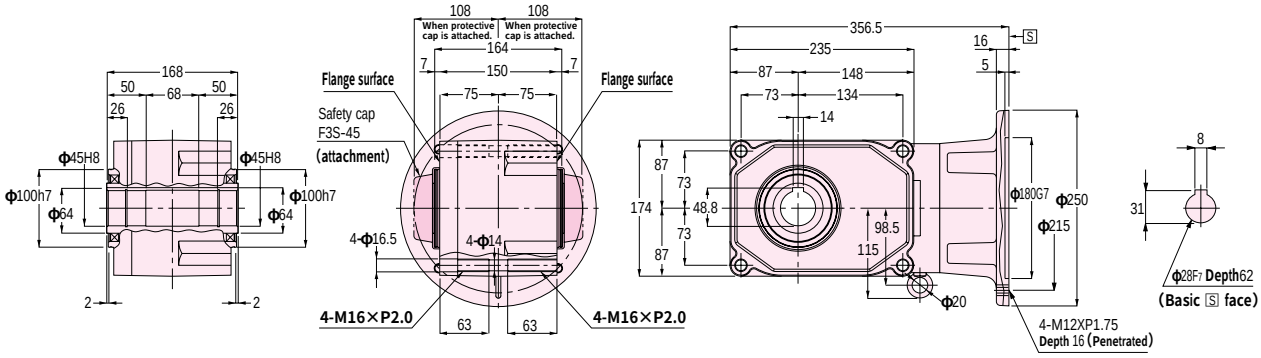
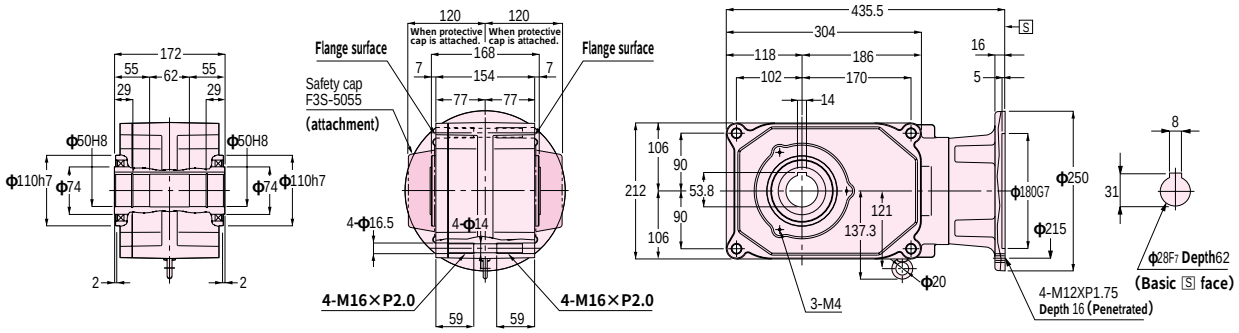

F3S Type

Fig.D-91 F3SS-45-5～30-（220） CAD Data: F3SS-45-220



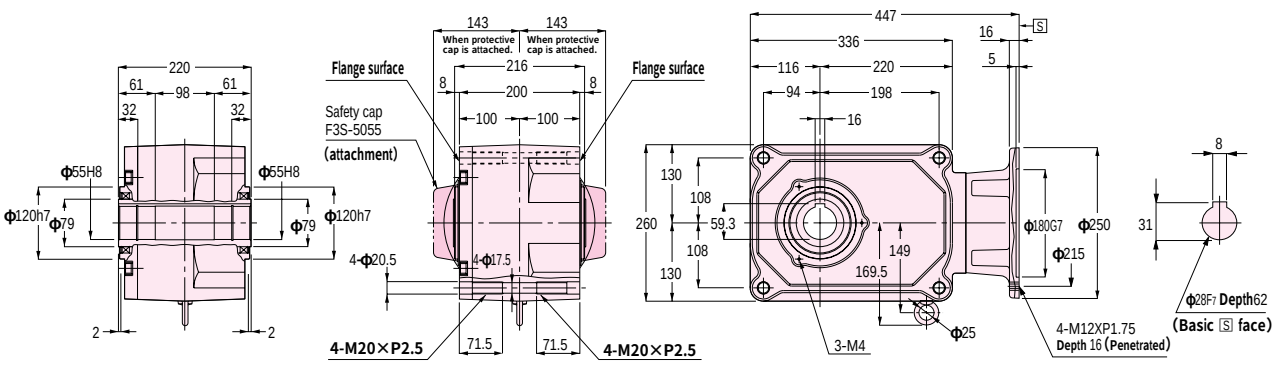
Round Weight 20kg

Fig.D-92 F3SS-50-40～60-（220） CAD Data: F3SS-50-220



Round Weight 29kg

Fig.D-93 F3SS-55-80～120-（220） CAD Data: F3SS-55-220



Round Weight 76kg

＊For detailed drawing for the tapped hole for Face Mount (Standard Specification), refer to Page E53

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

GTR Gearmotor

Technical Information

CONTENTS

- Selection ..... P. E1
- Braking time and lifetime frequency of Gearmotor with Brake and with Clutch/Brake ... P. E8
- Construction Drawings ..... P. E10
- How to read the nameplate ..... P. E11
- Motor characteristics ..... P. E12
- Inertia moment (product itself) ..... P. E14
- Gearmotor(Indoor) ..... P. E16
- Gearmotor with Brake (Indoor) ..... P. E18
- Water-Resistant Gearmotor ..... P. E28
- Water-Resistant Gearmotor with Brake ..... P. E29
- Necessary Space for taking off the Motor Fan Cover ..... P. E33
- Terminal Box ..... P. E34
- Gearmotor with Clutch/Brake(Indoor) ..... P. E40
- Combination of Gearmotor and Inverter ..... P. E44
- Lead Wire Specifications ..... P. E45
- Reducer (Double Shaft Type) Remarks ..... P. E46
- S-Type Reducer (Designated Motor Attachable Type) Remarks ..... P. E47
- Detailed Dimension Diagram of Input Shaft (Double Shfat Type･S-Type) P. E48
- Detailed Dimension Diagram of Output Shaft ..... P. E52
- Dimensions around Output Shaft ..... P. E54
- Attachment of Hollow Shaft Type ..... P. E56
- Dimension of protruded part of Fan Cover when changing the position of Terminal Box P. E67
- Differences between F3 Series and F2 Series ..... P. E68
- Standard Motor ..... P. E70
- Caution for Safe Operation ..... P. E76
- Option ..... P. E78

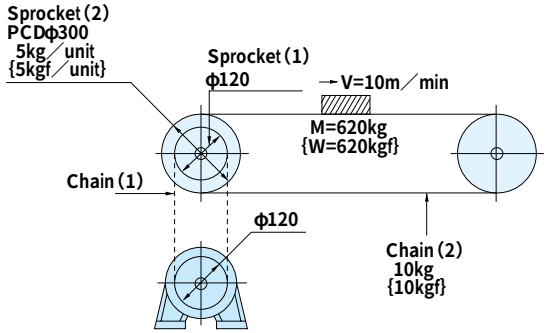
  Multipurpose Inverter ..... P. E86

Process of selection and example of selection

An example of Selection — In Case of Foot or Flange Mount

Application ..... **Conveyor (Moderate shock load)**
Conveyor Speed **10m/min**
Weight of Work **620Kg**
(Mass of Work ..... **620kgf)**
Type of Drive ..... **Chain(Located on the center of shaft)**
Operating Time ..... **12 hours/day**
Starting & Stopping Frequency ... **720 times/day**
Area of Use ..... **Area of Power Supply Frequency of 60Hz**
Coefficient of Friction ..... **Supposed to be 0.2**

Chain(1), Sprocket(1) and other conditions were neglected for this calculation.

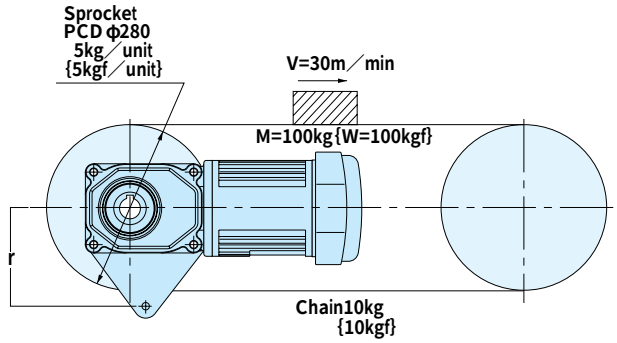


Process of Selection		Example of Selection	
		SI Unit	Gravimetric Unit
Deciding Type	Decide on Parallel Shaft, Right Angle Shaft or Hollow Shaft	Decide on a G3 Series(parallel shaft) considering the mounting space.	
Determining Reduction Ratio	Determine Reduction Ratio: $i=\frac{\text{Required rotating speed for output shaft}}{\text{Power supply frequency}\times 30}$	Required Rotation Speed of Conveyor Shaft $=\frac{10\times1000}{300\times\pi}$ 10.6 rpm Since the diameter of sprocket for conveyor shaft and that of reducer output shaft are the same, we obtain. $i=\frac{10.6}{60\times30}$ $\frac{1}{160}$	
Checking Torque	Calculate Actual Load Torque(T_L)	$T_L=9.8\times(620+2\times5+10)\times0.2\times\frac{300}{2\times1000}=188N\cdot m$	$T_L=(620+2\times5+10)\times0.2\times\frac{300}{2\times1000}=19.2kgf\cdot m$
	Calculate equivalent torque(T_{LE}) of output shaft from service factor: (sf given in Table-1 on page E4) $T_{LE}=T_L\times Sf$	Adjust Actual Load Torque(T_L) using a Service Factor (Sf).	
		$T_{LE}=188\times1.25=235N\cdot m$	$T_{LE}=19.2\times1.25=24kgf\cdot m$
	Choose the allowable torque(T_A) of output shaft from the performance table, which should be greater than T_{LE}	Select an appropriate model of $T_{LE}\leqq T_A$ G3LM-32-160-T040	
Checking Inertia	Calculate Actual Load Inertia	Calculate Actual Load Inertia Moment(I_L) $I_L=\{620\times(\frac{0.3}{2})^2\}+\{\frac{1}{2}\times5\times(\frac{0.3}{2})^2\times2\}+\{10\times(\frac{0.3}{2})^2\}$ $=14.29kg\cdot m^2$	Calculate Actual Load GD^2 (GD_L^2) $GD_L^2=(620\times0.3^2)+(\frac{1}{2}\times5\times0.3^2\times2)+(10\times0.3^2)$ $=57.15kgf\cdot m^2$
	Calculate Load Inertia converted to Motor Shaft	Convert IL into the equivalent value at the motor shaft (I_ℓ) $I_\ell=I_L\times(i)^2$ $I_\ell=14.29\times(\frac{1}{160})^2$ $0.000558kg\cdot m^2$	Convert GD_L^2 into the equivalent value at the motor shaft (GD_ℓ^2) $GD_\ell^2=GD_L^2\times(i)^2$ $GD_\ell^2=57.15\times(\frac{1}{160})^2$ $0.00223kgf\cdot m^2$
	Calculate Equivalent Inertia using the correction factor corresponding to the operating condition.	Correction factor from the operating condition is 3.	
		Calculate Equivalent Inertia Moment I($I_{\ell E}$) $I_{\ell E}=I_\ell\times$(Correction factor) ⟨Table-3 on page E-3⟩ $I_{\ell E}=0.000558\times3=0.001674kg\cdot m^2$ Choose the model which satisfy $I_{\ell E}\leqq$ Allowable Inertia Moment(I_A)	Calculate Equivalent GD^2 ($GD_{\ell E}^2$) $GD_{\ell E}^2=GD_\ell^2\times$(Correction factor) ⟨Table-3 on page E-3⟩ $GD_{\ell E}^2=0.00223\times3=0.0067kgf\cdot m^2$ Choose the model which satisfy $GD_{\ell E}^2\leqq$Allowable GD^2 (GD_A^2)
	From Table-2 on page E4, choose the model which satisfy Equivalent Inertia ≦ Allowable Inertia.	G3LM-40-160-075	
Checking O.H.L.	Determine K1 by the type of drive ⟨Table 4 on page E6⟩ Determine k2 by the location of the load ⟨Table-5 on page E6⟩	$K_1=1$ $K_2=1$	
	O.H.L.$=\frac{T_{LE}\times K_1\times K_2}{R}$ *R: Pitch Circle Radius of sprocket, etc. equipped to reducer shaft	O.H.L.$=\frac{235\times1\times1}{\frac{120}{2\times1000}}=3917N$	O.H.L.$=\frac{24\times1\times1}{\frac{120}{2\times1000}}=400kgf$
	Select O.H.L.≦Allowable O.H.L. from the performance table	Select the model which satisfy O.H.L.≦Allowable O.H.L., then found G3LM-32-160-T040	
Final Decision	Select the most appropriate model which satisfy all the conditions required from torque, inertia and O.H.L.	The most appropriate model is G3LM-40-160-075	

Example of Selection

In case of Shaft Mount

Application ····· **Conveyor (Moderate shock load)**
Conveyor Speed ····· **30m／min**
Weight of Work ····· **100kg**
{Mass of Work ····· **100kgf}**
Type of Drive ····· **Chain**
Operating Time ····· **12 hours/day**
Starting & Stopping Frequency ··· **720 times/day**
Area of Use ····· **Area of Power Supply Frequency of 60Hz**
Coefficient of Friction ····· **Supposed to be 0.2**



Conditions other than above stated were not considered in this calculation.

Process of Selection		Example of Selection	
		SI Unit	Gravimetric Unit
Deciding Type	Selection of hollow shaft, right angle shaft, or parallel shaft	Decide on F3-Series, F3S-Type (hollow shaft) model considering from the shaft mounting.	
Determining Reduction Ratio	Determine Reduction Ratio: $i=\frac{\text{Required rotating speed for output shaft}}{\text{Power supply frequency}\times 30}$	Required Rotation Speed of Conveyor Shaft $=\frac{30\times 1000}{280\times\pi}$ 34.1 rpm Since the rotation speed of the conveyor shaft and that of the reducer's output shaft are the same. $i=\frac{34.1}{60\times 30}$ $\frac{1}{50}$	
Checking Torque	Calculate Actual Load Torque(T_L)	$T_L=9.8\times(100+2\times5+10)\times0.2\times\frac{280}{2\times1000}=32.9\text{N}\cdot\text{m}$	$T_L=(100+2\times5+10)\times0.2\times\frac{280}{2\times1000}=3.36\text{kgf}\cdot\text{m}$
	Calculate equivalent torque(T_{LE}) of output shaft from service factor: (sf given in Table-1 on page E4) $T_{LE}=T_L\times Sf$	Adjust Actual Load Torque(T_L) using a Service Factor (Sf).	
		$T_{LE}=32.9\times1.25=41.1\text{N}\cdot\text{m}$	$T_{LE}=3.36\times1.25=4.2\text{kgf}\cdot\text{m}$
	Choose the allowable torque(T_A) of output shaft from the performance table, which should be greater than T_{LE}	Select an appropriate model of $T_{LE}\leqq T_A$ F2SM-25-50-T020A	
Checking Inertia	Calculate Actual Load Inertia	Calculate Actual Load Inertia Moment(I_L) $I_L=\{100\times(\frac{0.28}{2})^2\}+\{\frac{1}{2}\times5\times(\frac{0.28}{2})^2\times2\}+\{10\times(\frac{0.28}{2})^2\}$ $=2.25\text{kg}\cdot\text{m}^2$	Calculate Actual load GD^2 (GD_L^2) $GD_L^2=(100\times0.28^2)+(\frac{1}{2}\times5\times0.28^2\times2)+(10\times0.28^2)$ $=9.02\text{kgf}\cdot\text{m}^2$
	Calculate Load Inertia converted to Motor Shaft	Convert IL into the equivalent value at the motor shaft (I_ℓ) $I_\ell=I_L\times(i)^2$ $I_\ell=2.25\times(\frac{1}{50})^2$ $=0.0009\text{kg}\cdot\text{m}^2$	Convert GD_L^2 into the equivalent value at the motor shaft (GD_ℓ^2) $GD_\ell^2=GD_L^2\times(i)^2$ $GD_\ell^2=9.02\times(\frac{1}{50})^2$ $0.00361\text{kgf}\cdot\text{m}^2$
	Calculate Equivalent Inertia using the correction factor corresponding to the operating condition.	Correction factor from the operating condition is 3.	
		Calculate Equivalent Inertia Moment I($I_{\ell E}$) $I_{\ell E}=I_\ell\times$(Correction factor) ⟨Table-3 on page E4⟩ $I_{\ell E}=0.0009\times3=0.0027\text{kg}\cdot\text{m}^2$ Choose the model which satisfy $I_{\ell E}\leqq$ Allowable Inertia Moment (I_A)	Calculate Equivalent GD^2 ($GD_{\ell E}^2$) $GD_{\ell E}^2=GD_\ell^2\times$(Correction factor) ⟨Table-3 on page E4⟩ $GD_{\ell E}^2=0.00361\times3=0.0108\text{kgf}\cdot\text{m}^2$ Choose the model which satisfy $GD_{\ell E}^2\leqq$Allowable GD^2 (GD_A^2)
	From Table-2 on page E4, choose the model which satisfy Equivalent Inertia ≦ Allowable Inertia.	F3SM-35-50-075	
Final Decision	Select the most appropriate model which satisfy all the conditions required from torque, inertia and O.H.L.	Finally we can determine the model F3SM-35-50-075 Torque Arm TAF2S-35(Option Number) is recommended. Refer to page E62. In case the torque arm is to be made by customer, the distance(r) from the center of the output shaft to the fixing point, should be no less than 12.4mm by the calculation below: $r\geqq\frac{\text{Actual Load Torque}\times1000}{\text{Allowable O.H.L.}-\text{mass of Reducer}}=\frac{41.1\{4.2\}\times1000}{3480\{355\}-9.8\times17\{17\}}=12.4$ *As for calculation of torque arm, please see page E62 of MIDI SERIES (0.1kW - 2.2kW) Catalog.	

Technical Note

Service Factor (Sf)

G3 Series, H2 Series and F-F3 Series gearmotors and reducers are designed for the operation of 10 hrs/day with moderate shock loads. In case of using in severer condition, adjust the load torque with the Table-1 below.

〈Table-1〉

Load Condition	Service Factor(Sf)			Application
	Under 3 hrs/day	3~10 hrs./day	Over 10 hrs/day	
Uniform Load	1	1	1	Conveyors(uniform load), Screens, Agitators(low viscosity), Sewage Disposal Equipments(light load), Machine Tools(feed shaft), Elevators, Extruders, Distillers
Moderate Shock Load	1	1	1.25	Conveyors(non-uniform or heavy load), Agitators(high viscosity), Machines for Vehicles, Sewage Disposal Equipments(moderate load), Hoists(light load), Paper Mills, Feeders, Food Machines, Pumps, Sugar Mills, Textile Machines
Heavy Shock Load	1	1.25	1.5	Hoists(heavy load), Hammer Mills, Metal Mills, Crushers, Tumblers

Allowable Inertia Moment (I_A) Allowable GD^2 (GD^2_A)

When operating gearmotors intermittently under high inertia load, critical torque may instantaneously arise at the starting(or stopping in brake gearmotor). This may cause unexpected accident, therefore, be sure that the inertia of the connecting machine should be within the allowable value listed in the Table below, which may vary according to the connecting type and/or starting frequency.

Allowable Inertia Moment I by Capacity {GD^2}

(Motor shaft or Input Shaft Equivalent)

Unit: Inertia Moment I (kg·m²) {GD^2 (kgf·m²)} 〈Table-2〉

3-Phase	1-Phase	Allowable Inertia Moment (I_A) {Allowable GD^2 (GD^2_A)}
50W Reduction Ratio 1/10~1/240	—	0.0002 {0.0008}
50W Reduction Ratio 1/300~1/900	—	0.0001 {0.0004}
50W Reduction Ratio 1/1200~1/1800	—	0.0002 {0.0008}
0.1kW	100W	0.0008 {0.003}
0.2kW	200W	0.0010 (0.0013) {0.004 (0.005)}
0.4kW	400W	0.0015 (0.0019) {0.006 (0.0075)}
0.75kW	—	0.0030 (0.0038) {0.012 (0.015)}
1.5kW	—	0.008 {0.032}
2.2kW	—	0.011 {0.042}

Note 1) In case of reducers, operating with the input rotation speed of over 1800rpm, the allowable inertia moment I (GD^2) can be obtained by multiplying the value in the left by (1800/Input rpm)². (Example: In case the input shaft rpm is 3600, the allowable inertia moment I (GD^2) will be 1/4).

2) Motor shaft(input shaft) equivalent inertia moment I
= Output shaft inertia moment I × (reduction ratio)^2
(Motor shaft(input shaft) equivalent GD^2 = Output shaft GD^2 ×(reduction ratio)^2)
(Example: In case the reduction ratio is 1/20, the answer is 1/400.)

3) The values in ( ) in the Allowable Inertia Moment (Allowable GD^2) in the Table are the ones of gearmotors with reinforced clutch/brake.

Correction Factor for Allowable Inertia Moment I by Operating Condition {Allowable GD^2}

〈Table-3〉

Connection Type	Starting Frequency	Correction Factor
Direct Coupling (without slack)	Under 70 times/day	1
	Over 70 times/day	1.5
By Chain (with slack)	Under 70 times/day	2
	Over 70 times/day	3

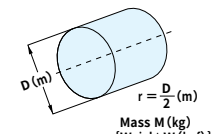
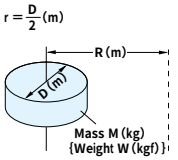
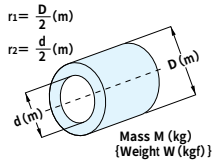
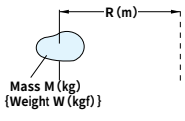
Calculation of Inertia Moment I (GD² (Flywheel Effect)

The conversion between the inertia moment(kg•m²)-(SI units) and the gravimetric units GD² (kg•m²) are calculated as follows:

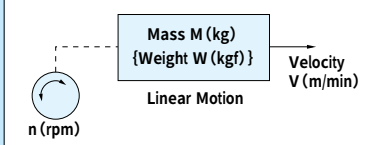
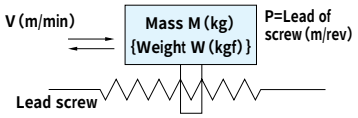
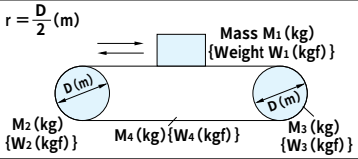
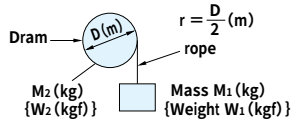
$$I = \frac{GD^2}{4}$$

G : Gravity (kgf)
D : Rotation Diameter (m)
I : Inertia Moment (kg•m²)

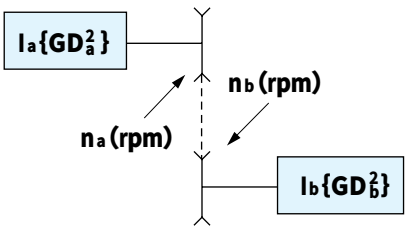
Inertia Moment in Rotation {GD²}

When the center of rotation is concentric with the center of gravity			When the center of rotation is not concentric with the center of gravity		
	SI Unit	Gravimetric Unit		SI Unit	Gravimetric Unit
	$I = \frac{1}{2}Mr^2$ (kg•m²)	$GD^2 = \frac{1}{2}WD^2$ {kgf•m²}		$I = \frac{1}{2}Mr^2 + MR^2$ (kg•m²)	$GD^2 = \frac{1}{2}WD^2 + 4WR^2$ {kgf•m²}
	$I = \frac{1}{2}M(r_1^2 + r_2^2)$ (kg•m²)	$GD^2 = \frac{1}{2}W(D^2 + d^2)$ {kgf•m²}		(when you can ignore size) $I = MR^2$ (kg•m²)	(when you can ignore size) $GD^2 = 4WR^2$ {kgf•m²}

Inertia Moment in Linear Motion {GD²}

		SI Unit	Gravimetric Unit
Ordinary Use		$I = \frac{1}{4}M \cdot \left(\frac{V}{\pi \cdot n}\right)^2$ (kg•m²)	$GD^2 = W \cdot \left(\frac{V}{\pi \cdot n}\right)^2$ {kgf•m²}
Horizontal Linear Motion (driven with lead screw)		$I = \frac{1}{4}M \cdot \left(\frac{P}{\pi}\right)^2 = \frac{1}{4}M \cdot \left(\frac{V}{\pi \cdot n}\right)^2$ (kg•m²)	$GD^2 = W \cdot \left(\frac{P}{\pi}\right)^2 = W \cdot \left(\frac{V}{\pi \cdot n}\right)^2$ {kgf•m²}
Horizontal Linear Motion (conveyors, etc.)		$I = M_1r^2 + \frac{1}{2}M_2r^2 + \frac{1}{2}M_3r^2 + M_4r^2$ (kg•m²)	$GD^2 = W_1D^2 + \frac{1}{2}W_2D^2 + \frac{1}{2}W_3D^2 + W_4D^2$ {kgf•m²}
Vertical Linear Motion (cranes, winches, etc.)		$I = M_1r^2 + \frac{1}{2}M_2r^2$ (kg•m²)	$GD^2 = W_1D^2 + \frac{1}{2}W_2D^2$ {kgf•m²}

Conversion of Inertia Moment when Speed Ratio is available



The inertia moment Ib (GD$_b^2$) of the load can be converted into the equivalent value at the na shaft as shown below:

$$I = I_a + \left(\frac{n_b}{n_a}\right)^2 \times I_b$$

$$\{GD^2 = GD_a^2 + \left(\frac{n_b}{n_a}\right)^2 \times GD_b^2\}$$

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Technical Note

Overhung Load (O.H.L.)

An overhung load is a suspending load imposed on a shaft. In the coupling of reducer shaft and other machine, if chains, belts and gears are used, this O.H.L. must be taken into consideration.

$$O.H.L. = \frac{T_{LE} \times K_1 \times K_2}{R} \text{ (N) \{kgf\}}$$

- T_{LE} : Equivalent output torque imposed on reducer shaft (N•m) {kgf•m}
- R : Pitch Circle Radius(m) of sprocket, pulley, gear, etc. attached to reducer shaft.
- K_1 : Factor for the connecting method (Refer to Table-4)
- K_2 : Factor for the load point (Refer to Table-5)

Be sure that the OHL value calculated by above formula should not exceed the allowable OHL value listed in the performance table.

Factor K_1

〈Table-4〉

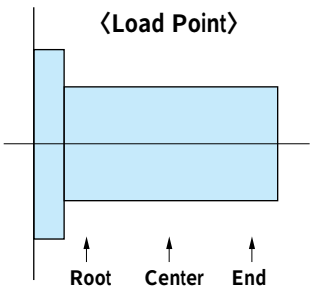
Connecting Method	K_1
Chain, Timing Belt	1.00
Gear	1.25
V-Belt	1.50

Factor K_2

〈Table-5〉

Load Point	K_2
Root of the shaft	0.75
Center of the shaft	1.00
End of the shaft	1.50

〈Load Point〉



Thrust Load

The thrust load values of F and F2 Series hollow shaft type are listed in the performance table. If there is a possibility of having excessive thrust load in the operating condition, consult us.

F Series Overhung Load on a Hollow Shaft(O.H.L.)

■Flange Mounting

(1) Load Point of O.H.L.

Allowable OHL is calculated at the point 20mm off from the end of output shaft.

(2)-1 Adjustment of O.H.L. without any support by pillow

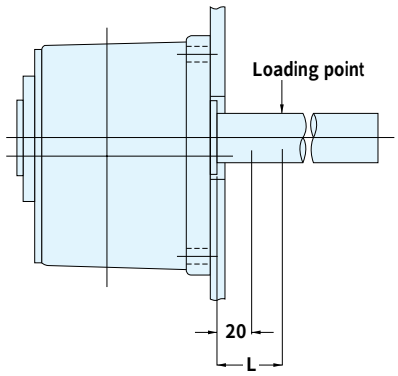
When load point of O.H.L. (L) become greater than 20mm,
the allowable O.H.L. can be corrected by the following formula:

$$\text{Bearable O.H.L (N) \{kgf\}} = \frac{A+20}{A+L} \times \text{Allowable O.H.L (N) \{kgf\}}$$

Note) Refer Table-6-1 for A.

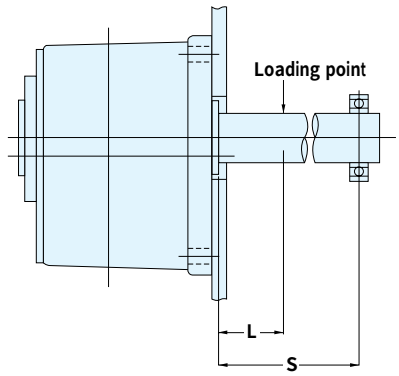
〈Table-6-1〉

Frame Number	A (mm)
20	68.5
25	84.5
30	91
35	98
45	113
55	150



(2)-2 Correction of O.H.L. when supported by pillow at one end

$$\text{Bearable O.H.L (N) \{kgf\}} = \frac{S}{S-L} \times \text{Allowable O.H.L (N) \{kgf\}}$$



F3 Series Overhung Load on a Hollow Shaft(O.H.L.)

■Flange Mounting

(1) Load Point of O.H.L.

Allowable OHL is calculated at the point 20mm off from the end of output shaft.

(2)-1 Adjustment of O.H.L. without any support by pillow

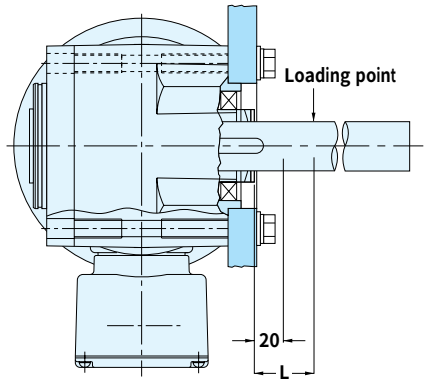
When load point of O.H.L. (L) become greater than 20mm,
the allowable O.H.L. can be corrected by the following formula:

$$\frac{A+20}{A+L}$$

Note) Refer Table-6-2 for A.

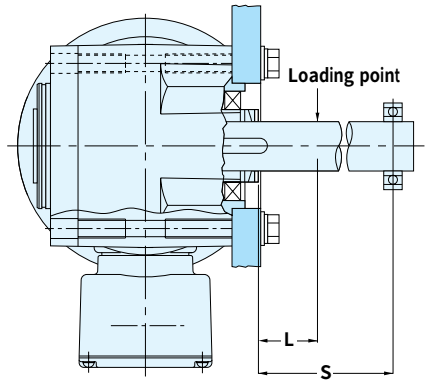
〈Table-6-2〉

Frame Number	A (mm)
20	68.5
25	84.5
30	91
35	98
45	113
50	139
55	184.5



(2)-2 Correction of O.H.L. when supported by pillow at one end

$$\text{Bearable O.H.L (N) \{kgf\}} = \frac{S}{S-L} \times \text{Allowable O.H.L (N) \{kgf\}}$$



Technical Note

Sample Calculation for Gearmotor with Brake/Gearmotor with Clutch/Brake

	SI Unit	Gravimetric Unit	Notes
Braking Time• Gearing Time of Clutch (ttb)	$t_{tb}=t_{ab}+t_a$ (s) $t_{ab}=\frac{(I_r+I_\ell)\times n}{9.57\times(Td\pm T\ell)}$ (s)	$t_{tb}=t_{ab}+t_a$ (s) $t_{ab}=\frac{(GD_r^2+GD_\ell^2)\times n}{375\times(Td\pm T\ell)}$ (s)	Note ❶ When the load torque become negative such as winding down, $T\ell$ should be $(-T\ell)$. ❷ For the mark「±」, Clutch should be「−」and B rake should be「+」.
Geared Total Work (E)	**Geared Total Work (E) of clutch brake or brake** $E=\frac{(I_r+I_\ell)\times n^2}{183}\times\frac{Td}{Td\pm T\ell}$ (J)	$E=\frac{(GD_r^2+GD_\ell^2)\times n^2}{7160}\times\frac{Td}{Td\pm T\ell}$ (kgf•m)	Note ❶ When the load torque become negative such as winding down, $T\ell$ should be $(-T\ell)$. ❷ For the mark「±」, Clutch should be「−」and B rake should be「+」.
Life	The life of clutch/brake lining varies according to surface pressure, temperature, slip speed, etc. Therefore, it is not possible to obtain exact value, however, the round number of life-time braking frequency can be estimated by the following formula: $Z=\frac{Emax}{E}$ (times of braking)		

【Explanations of Code】

ta ····· Brake delay time of gearmotor with brake ····· 〈Refer Table-15 on page E21〉
Armature braking time of gearmotor with clutch/brake ····· 〈Refer Table-16•17 on page E40〉

Ir{GD_r^2} ····· Gearmotor with brake ····· 〈Refer Table-8-1 o Table-8-2 on page E14〉
Gearmotor with clutch/brake ····· 〈Refer Table 9 or 10 on page E14〉

I_ℓ{GD_ℓ^2} ····· Inertia Moment of load I Motor shaft or reducer Input Shaft Equivalent of (GD^2) (kg•m^2) {kgf•m^2}

n ····· Rotation speed of clutch shaft or brake shaft (rpm)

Td ····· Dynamic friction torque against the corresponding rotation speed of clutch/brake (N•m) {kgf•m}
Gearmotor with brake ····· 〈Refer Table-13-1 or Table-13-2 on page E18〉
Gearmotor with clutch/brake ····· 〈Refer Table-16•17 on page E40〉

$T\ell$ ····· Equivalent load torque converted to reducer input shaft (N•m) {kgf•m}

Emax ····· Allowable total work(J)(kgf•m) of clutch/brake
Gearmotor with clutch ····· 〈Refer Table-13-1 or Table-13-2 on page E18〉
Gearmotor with clutch/brake ····· 〈Refer Table-16•17 on page E40〉

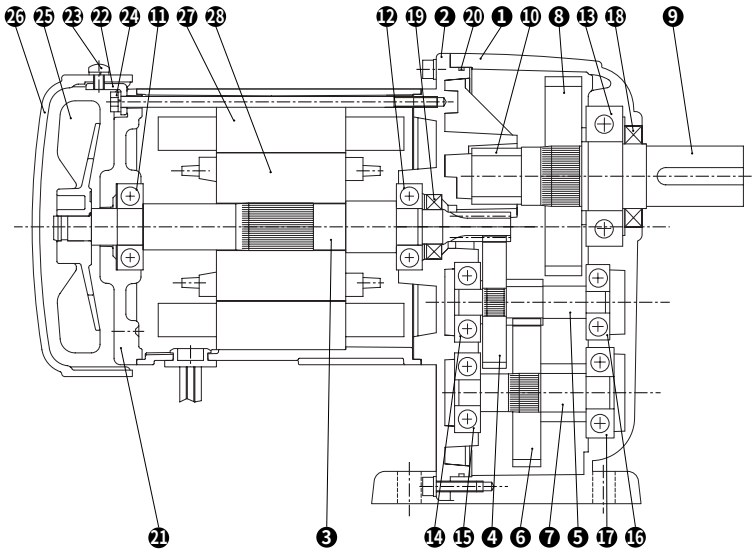
Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Structural chart and Nameplate

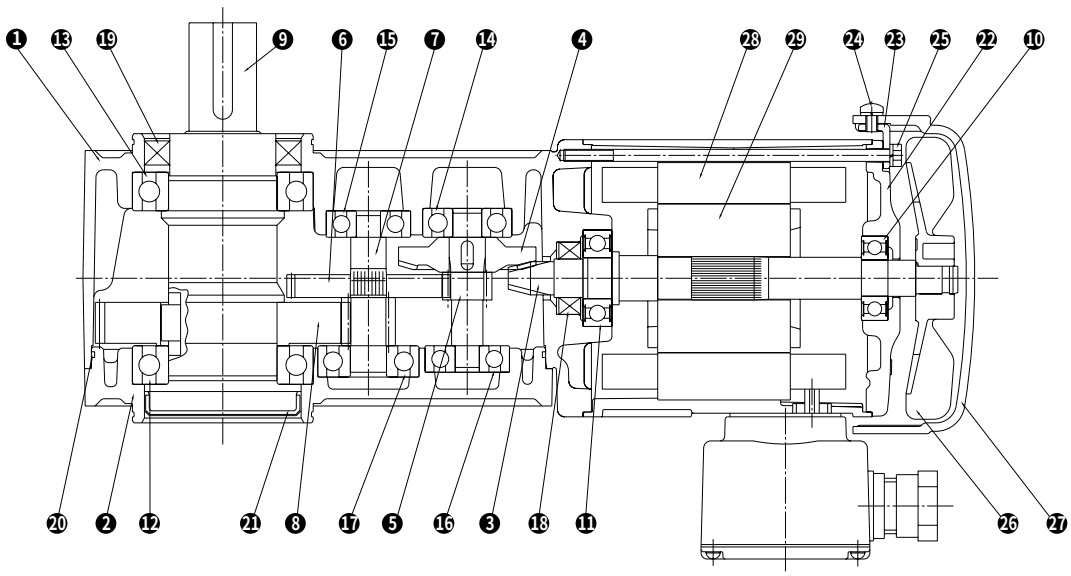
Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Parallel Shaft



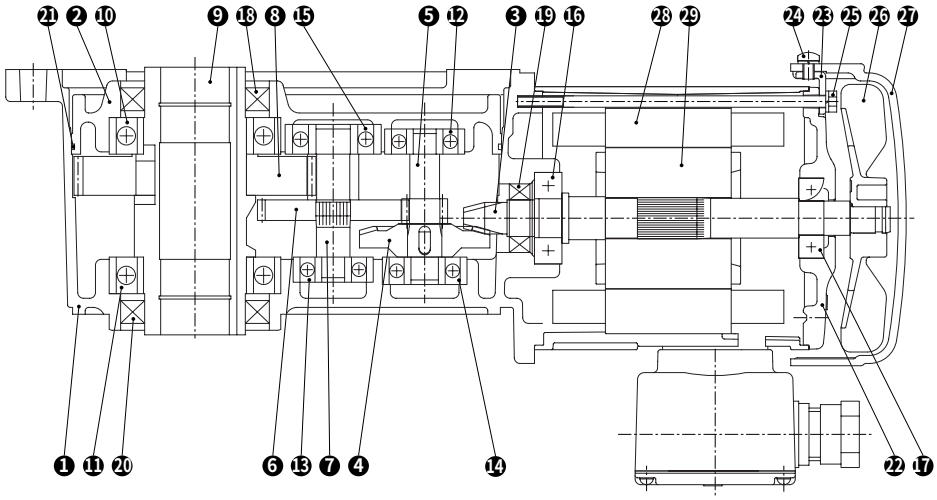
❶ Case	❻ 2 Shaft Gear	⓫ Bearing	⓰ Bearing	㉑ Motor Bracket	㉖ Fan Cover
❷ Bracket	❼ 2 Shaft Pinion	⓬ Bearing	⓱ Bearing	㉒ Stay	㉗ Stator Core
❸ Input Shaft	❽ Output Shaft Gear	⓭ Bearing	⓲ Oil seal	㉓ Attaching Screw	㉘ Rotor Core
❹ 1 Shaft Gear	❾ Output Shaft	⓮ Bearing	⓳ Oil seal	㉔ Eye Bolt	
❺ 1 Shaft Pinion	❿ Metal	⓯ Bearing	⓴ O-ring	㉕ Fan	

Right Angle Shaft (Solid Shaft type)



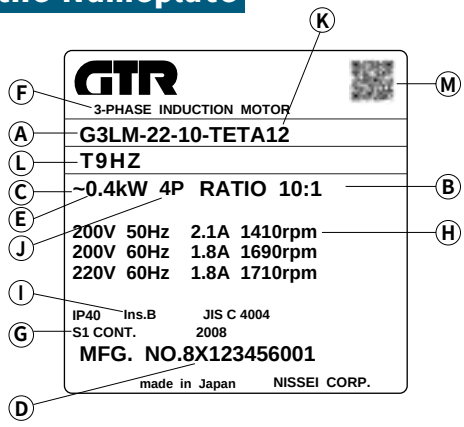
❶ Case	❻ 2 Shaft Gear	⓫ Bearing	⓰ Bearing	㉑ Seal cap	㉖ Fan
❷ Case Cover	❼ 2 Shaft Pinion	⓬ Bearing	⓱ Bearing	㉒ Motor Bracket	㉗ Fan Cover
❸ Input Shaft	❽ Output Shaft Gear	⓭ Bearing	⓲ Oil seal	㉓ Stay	㉘ Stator Core
❹ 1 Shaft Gear	❾ Output Shaft	⓮ Bearing	⓳ Oil seal	㉔ Attaching Screw	㉙ Rotor Core
❺ 1 Shaft Pinion	❿ Bearing	⓯ Bearing	⓴ O-ring	㉕ Eye Bolt	

Right Angle Shaft (Hollow shaft type)



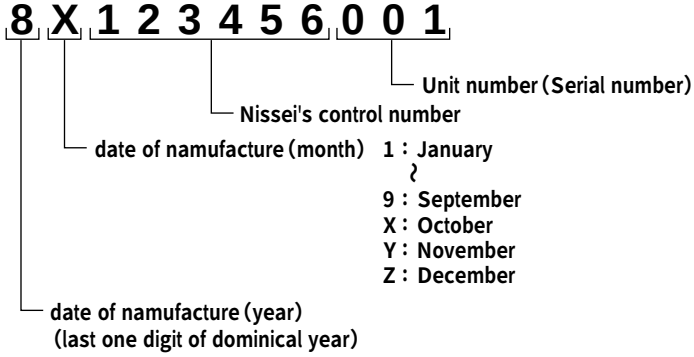
❶ Case	❻ 2 Shaft Gear	⓫ Bearing	⓰ Bearing	㉑ O-ring	㉖ Fan
❷ Case Cover	❼ 2 Shaft Pinion	⓬ Bearing	⓱ Bearing	㉒ Motor Bracket	㉗ Fan Cover
❸ Input Shaft	❽ Output Shaft Gear	⓭ Bearing	⓲ Oil seal	㉓ Stay	㉘ Stator Core
❹ 1 Shaft Gear	❾ Output Shaft	⓮ Bearing	⓳ Oil seal	㉔ Attaching Screw	㉙ Rotor Core
❺ 1 Shaft Pinion	❿ Bearing	⓯ Bearing	⓴ Oil seal	㉕ Eye Bolt	

How to read the Nameplate



Ⓐ Product type name
Ⓑ Reduction Ratio
Ⓒ Motor capacity or Equivalent motor capacity
Ⓓ Manufacturing number
Ⓔ Motor capacity
Ⓕ Number of phase
Ⓖ Rating
Ⓗ Motor characteristic
Ⓘ Insulation classification
Ⓙ Number of pole
Ⓚ Auxiliary code
Ⓛ Additional number
Ⓜ QR code (Nissei private controlling code)

How to read the namufacturing number



Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Motor Specifications

3-Phase Standard Voltage(3 Rated)

Characteristics for motor itself

Capacity	Motor Capacity	Voltage	Frequency	Rated Rotation Speed	Current Characteristics		Torque Characteristic		Remarks
					Rated Current	Starting Current	Starting Torque	Braking Torque	
		(V)	(Hz)	(rpm)	(A)	(A)	(%)	(%)	
50W	T50	200	50	1350	0.40	1.04	264	270	Reduction ratio of less than 1/240 and over 1/1200
		200	60	1550	0.36	0.97	241	246	
		220	60	1600	0.36	1.07	303	309	
		200	50	1350	0.42	0.94	194	198	Reduction ratio of 1/300～1/900
		200	60	1550	0.39	0.86	168	175	
		220	60	1550	0.39	1.00	218	227	
0.1kW	T010	200	50	1420	0.61	2.39	215	258	
		200	60	1700	0.54	2.27	190	238	
		220	60	1720	0.54	2.52	245	300	
0.2kW	T020	200	50	1420	1.1	4.70	215	248	
		200	60	1710	1.0	4.35	195	225	
		220	60	1720	1.0	4.85	238	279	
0.4kW	T040	200	50	1410	2.1	9.50	220	265	
		200	60	1690	1.8	8.60	190	234	
		220	60	1710	1.8	9.60	236	289	
0.75kW	075	200	50	1430	3.7	17.7	246	266	
		200	60	1720	3.3	16.7	228	244	
		220	60	1730	3.2	17.7	258	297	
1.5kW	150	200	50	1430	6.6	37.0	264	280	
		200	60	1720	6.1	33.5	232	248	
		220	60	1730	5.8	34.9	254	301	
2.2kW	220	200	50	1410	9.0	46.6	245	252	
		200	60	1690	8.6	41.2	202	225	
		220	60	1710	8.0	45.6	251	275	

1-Phase Standard Voltage

Characteristics for motor itself

Capacity	Motor Capacity	Voltage	Frequency	Rated Rotation Speed	Current Characteristics		Torque Characteristic	
					Rated Current	Starting Current	Starting Torque	Braking Torque
		(V)	(Hz)	(rpm)	(A)	(A)	(%)	(%)
100W	S100 Note 1	100	50	1400	1.7	4.40	60	165
		100	60	1700	1.9	4.07	70	172
	100 Note 1	100	50	1420	2.7	10.5	220	188
		100	60	1710	2.4	10.5	204	184
200W	200	100	50	1420	5.1	20.0	276	194
		100	60	1700	4.5	20.0	294	187
400W	400	100	50	1440	8.7	32.0	210	189
		100	60	1730	7.9	32.0	205	178

Note 1) Corresponding models for the motor capacity code S100W are F-Series, F3-Series and H2-Series, and that for 100W is G3-Series.

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

3-Phase High Voltage (4 Rated)

Characteristics for motor itself

Capacity	Motor Capacity	Voltage	Frequency	Rated Rotation Speed	Current Characteristics		Torque Characteristic		Remarks
					Rated Current	Starting Current	Starting Torque	Braking Torque	
		(V)	(Hz)	(rpm)	(A)	(A)	(%)	(%)	
50W	T50W	380	50	1300	0.20	0.46	183	192	Ratio 1/240 and below
		400	50	1300	0.20	0.48	216	219	
		400	60	1550	0.18	0.46	190	201	
		440	60	1600	0.18	0.50	258	260	
		380	50	1250	0.20	0.38	155	171	Reduction ratio of 1/300～1/900
		400	50	1300	0.20	0.40	174	191	
		400	60	1500	0.20	0.38	155	178	
		440	60	1550	0.20	0.41	193	215	
		380	50	1300	0.17	0.43	167	169	Ratio 1/1200 and above
		400	50	1350	0.17	0.45	194	200	
		400	60	1550	0.17	0.43	170	183	
		440	60	1600	0.17	0.47	222	230	
0.1kW	T010W	380	50	1410	0.31	1.12	180	224	
		400	50	1420	0.31	1.18	199	250	
		400	60	1700	0.28	1.12	180	233	
		440	60	1720	0.28	1.22	217	285	
0.2kW	T020W	380	50	1420	0.56	2.29	192	230	
		400	50	1430	0.56	2.38	220	257	
		400	60	1710	0.50	2.29	214	239	
		440	60	1730	0.50	2.48	258	294	
0.4kW	T040W	380	50	1410	1.0	4.35	194	225	
		400	50	1420	1.0	4.65	216	258	
		400	60	1700	0.9	4.30	184	232	
		440	60	1720	0.9	4.75	221	286	
0.75kW	075W	380	50	1430	1.8	8.15	202	233	
		400	50	1440	1.8	8.65	228	258	
		400	60	1730	1.7	8.15	207	236	
		440	60	1740	1.6	8.95	252	287	
1.5kW	150W	380	50	1430	3.3	17.5	218	258	
		400	50	1440	3.3	18.5	245	278	
		400	60	1730	3.0	16.5	200	245	
		440	60	1740	2.9	18.3	248	298	
2.2kW	220W	380	50	1410	4.6	22.3	215	226	
		400	50	1420	4.5	23.6	243	252	
		400	60	1700	4.3	20.9	200	224	
		440	60	1720	4.0	23.1	247	273	

1-Phase High Voltage

Characteristics for motor itself

Capacity	Motor Capacity	Voltage	Frequency	Rated Rotation Speed	Current Characteristics		Torque Characteristic	
					Rated Current	Starting Current	Starting Torque	Braking Torque
		(V)	(Hz)	(rpm)	(A)	(A)	(%)	(%)
100W	S100W Note 1	200	50	1410	0.82	2.10	65	163
		200	60	1700	0.96	2.00	81	178
	100W Note 1	200	50	1420	1.3	5.4	222	194
		200	60	1710	1.2	5.4	200	182
200W	200W	200	50	1420	2.5	10.0	254	203
		200	60	1700	2.2	10.0	250	205
400W	400W	200	50	1440	4.3	19.0	181	240
		200	60	1730	3.9	18.0	190	217

Note 1) Corresponding models for the motor capacity code S100W are F-Series, F3-Series and H2-Series, and that for 100W is G3-Series.

Inertia Moment of Gearmotor

Inertia Moment I {GD²} of Gearmotor (Motor+Reducer) Itself

(Motor Shaft Equivalent, Common to Every Reduction Ratio)

〈Table-7-1〉

Motor Capacity	3-Phase 50W	3-Phase 50W	3-Phase 50W	3-Phase 0.1kW	3-Phase 0.2kW	3-Phase 0.4kW	3-Phase 0.75kW	3-Phase 1.5kW	3-Phase 2.2kW
Inertia Moment I (kg·m²) {GD² (kgf·m²)}	✳1 0.00010 {0.00040}	✳2 0.00008 {0.00033}	✳3 0.00010 {0.00040}	0.00048 {0.0019 }	0.00073 {0.0029 }	0.0012 {0.0046}	0.0025 {0.010 }	0.0065 {0.026 }	0.0085 {0.034 }

〈Table-7-2〉

Motor Capacity	1-Phase 100W	1-Phase 100W	1-Phase 200W	1-Phase 400W
Inertia Moment I (kg·m²) {GD² (kgf·m²)}	✳4 0.00055 {0.0022 }	0.00080 {0.0032 }	0.00100 {0.0040 }	0.0028 {0.011 }

Note) ✳1 is for F Series/ratio 1/240 and below.
✳2 is for F Series/ratio 1/300～1/900.
✳3 is for F Series/ratio 1/1200 and above.
✳4 is for motor capacity type S100・S100W.

Inertia Moment I ({GD²} of Gearmotor with Brake (Motor +Reducer)

(Motor Shaft Equivalent, Common to Every Reduction Ratio)

〈Table-8-1〉

Motor Capacity	3-Phase 50W	3-Phase 50W	3-Phase 50W	3-Phase 0.1kW	3-Phase 0.2kW	3-Phase 0.4kW	3-Phase 0.75kW	3-Phase 1.5kW	3-Phase 2.2kW
Inertia Moment I (kg·m²) {GD² (kgf·m²)}	✳1 0.00012 {0.00048}	✳2 0.00009 {0.00037}	✳3 0.00012 {0.00048}	0.00070 {0.0028 }	0.00088 {0.0035 }	0.0013 {0.0052}	0.0028 {0.011 }	0.0070 {0.028 }	0.0093 {0.037 }

〈Table-8-2〉

Motor Capacity	1-Phase 100W	1-Phase 100W	1-Phase 200W	1-Phase 400W
Inertia Moment I (kg·m²) {GD² (kgf·m²)}	✳4 0.00070 {0.0028 }	0.00103 {0.0041 }	0.00115 {0.0046 }	0.0030 {0.012 }

Note) ✳1 is for F Series/ratio 1/240 and below.
✳2 is for F Series/ratio 1/300～1/900.
✳3 is for F Series/ratio 1/1200 and above.
✳4 is for motor capacity type S100・S100W.

Inertia Moment I {GD²} of Gearmotor with Clutch/Brake (Clutch/Brake +Reducer)

(Motor Shaft Equivalent)

Standard Type

〈Table-9〉

Motor Capacity	3-Phase 0.1kW 0.2kW	3-Phase 0.4kW	3-Phase 0.75kW
Inertia Moment I (kg·m²) {GD² (kgf·m²)}	0.00035 {0.0014 }	0.00085 {0.0034 }	0.0011 {0.0042}

Reinforced Type

〈Table-10〉

Motor Capacity	3-Phase 0.2kW	3-Phase 0.4kW	3-Phase 0.75kW
Inertia Moment I (kg·m²) {GD² (kgf·m²)}	0.00085 {0.0034 }	0.0011 {0.0042}	0.0015 {0.0059}

Inertia Moment I {GD²} of Reducer(Parallel Shaft)

(Input Shaft Equivalent)

〈Table-11〉

Equivalent Capacity of 4P motor	0.1kW	0.2kW	0.4kW	0.75kW	1.5kW	2.2kW
Inertia Moment I (kg·m²) {GD² (kgf·m²)}	0.000006 {0.000023}	0.000007 {0.000029}	0.000017 {0.000068}	0.00006 {0.00023}	0.00018 {0.00070}	0.0003 {0.0011}

Inertia Moment I {GD²} of S-Type Reducer

(Input Shaft Equivalent)

〈Table-12〉

Equivalent Capacity of 4P motor	0.1kW	0.2kW	0.4kW	0.75kW	1.5kW	2.2kW
Inertia Moment I (kg·m²) {GD² (kgf·m²)}	0.000023 {0.000093}	0.000025 {0.00010 }	0.00003 {0.00012}	0.000073 {0.00029 }	0.00019 {0.00077}	0.0004 {0.0016}

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Gearmotor Wiring・Terminal Box

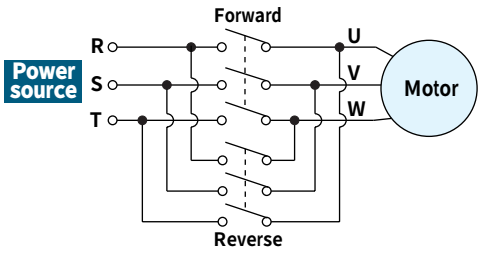
Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Wiring Gearmotor

Wirings shown in the diagrams below are for the standard gearmotor. The rotation direction of the output shaft in the wiring below is shown in the performance table respectively for each model.

■3-Phase Motor (Common to G3・H2・F・F3 Series)

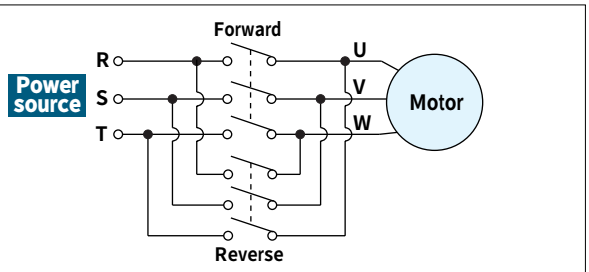
Motor capacity designations T50 ・T010 ・T020 ・T040
T50W ・T010W・T020W・T040W



Mark in the Diagram	Lead Wire Type		Terminal Box Type
	200V	400V	Terminal Code
U	Black	Black	U
V	Grey	Brown	V
W	White	White	W

■3-Phase Motor (Common to G3・H2・F・F3 Series)

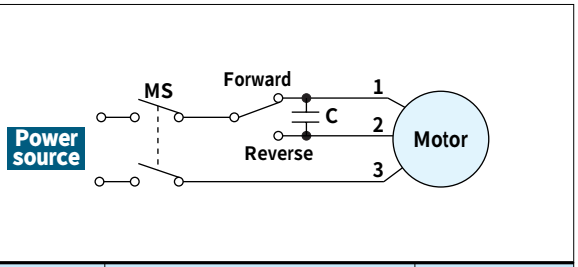
Motor capacity designations 075 ・150 ・220
075W・150W・220W



Mark in the Diagram	Terminal Box
	Terminal Code
U	U
V	V
W	W

■1-Phase Motor/H2・F・F3 Series

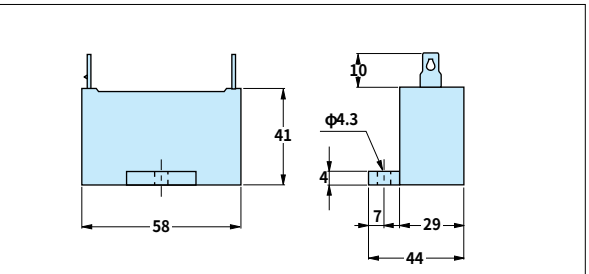
Motor capacity designations S100 (100V) ・S100W (200V)



Mark in the Diagram	Lead Wire Type		Terminal Box Type
	100V	200V	Terminal Code
1	Blue	Brown	1
2	Black	Black	2
3	Grey	Grey	3

Capacitor is needed for use in single-phase S100・S100W motors. Use the attached capacitor properly wired. Refer to the diagram on the right.

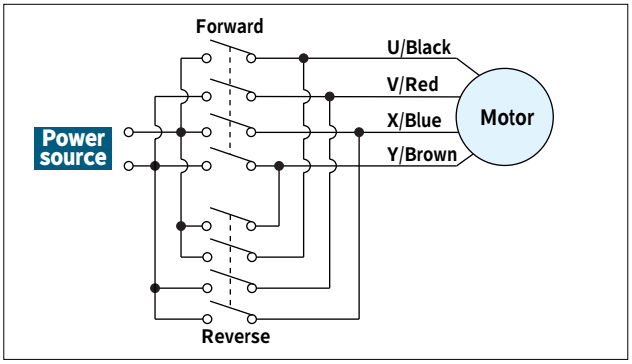
Capacitor



Voltage	Withstand Voltage	Capacity	Round Weight
100V	220V	30μF	100g
200V	440V	7μF	100g

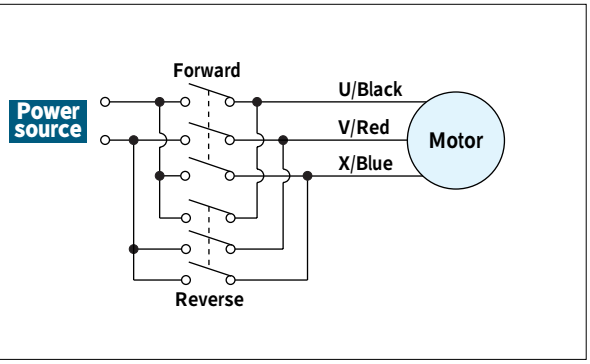
■1-Phase Motor (100V)

G3 Series／Motor capacity designations 100 ・200 ・400
H2 Series／Motor capacity designations 200 ・400
F Series ／Motor capacity designations 200 ・400
F3 Series ／Motor capacity designations 200 ・400



■1-Phase Motor (200V)

G3 Series／Motor capacity designations 100W・200W・400W
H2 Series／Motor capacity designations 200W・400W
F Series ／Motor capacity designations 200W・400W
F3 Series ／Motor capacity designations 200W・400W



Terminal box for Gearmotor (with motor type)

■Terminal Boxes for GTR Gearmotor are as listed below:

Series	No. of Phase	Motor capacity designation	Terminal Box	
			Standard or optional spec	Box Type
G3-Series (Parallel Shaft)	3-Phase	T010•T010W	△	A
		T020•T020W	△	A
		T040•T040W	△	A
		075•075W	○	T
		150•150W	○	T
		220•220W	○	T
	1-Phase	100•100W	＊	(A)
		200•200W	＊	(A)
		400•400W	＊	(T)
H2-Series (Right Angle Shaft)	3-Phase	T010•T010W	△	A
		T020•T020W	△	A
		T040•T040W	△	A
		075•075W	○	T
		150•150W	○	T
		220•220W	○	T
	1-Phase	S100•S100W	△	A
		200•200W	＊	(A)
		400•400W	＊	(T)

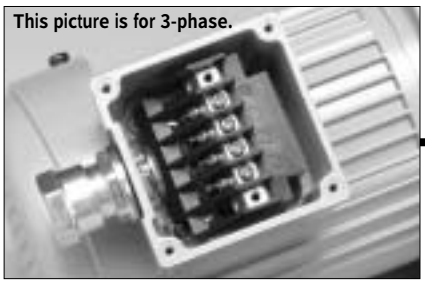
Series	No. of Phase	Motor capacity designation	Terminal Box		
			Standard or optional spec		Box Type
			F-Series	F3-Series	
F-Series FS Type (hollow shaft) F3-Series F3S Type (hollow shaft)	3-Phase	T50•T50W	○	—	A
		T010•T010W	○	○	A
		T020•T020W	○	○	A
		T040•T040W	○	○	A
		075•075W	○	○	T
		150•150W	○	○	T
		220•220W	○	—	T
	1-Phase	S100•S100W	△	—	A
		200•200W	＊	—	(A)
		400•400W	＊	—	(T)
F-Series FF Type (solid shaft) F3-Series F3F Type (solid shaft)	3-Phase	T50•T50W	○	—	A
		T010•T010W	○	○	A
		T020•T020W	○	○	A
		T040•T040W	○	○	A
		075•075W	○	○	T
		150•150W	—	○	T

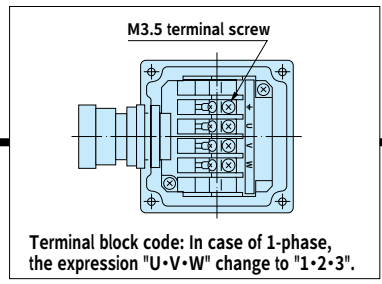
Note 1) ○ mark in the Table: Terminal Box attached is the standard △ mark in the Table: Optional specification
＊ mark in the Table: models for special order
2) If terminal box position is needed or position other than standard is required, refer to Page E34～E-39.

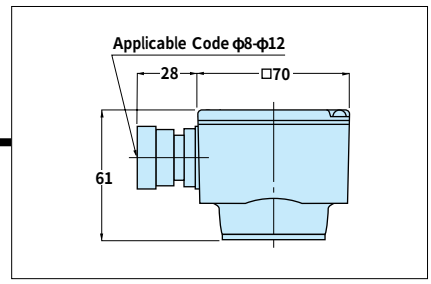
■Types and Configurations

● A-Type Terminal Box

3-Phase／200V•400V　　1-Phase／100V•200V

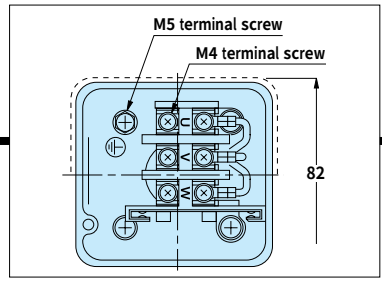


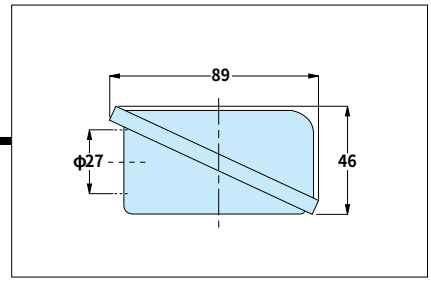




● T-Type Terminal Box

3-Phase／200V•400V





Gearmotor with Brake Specifications・Structure

Brake Specifications

〈Table-13-1〉

Items \ Motor Capacity	3-Phase							
	50W		0.1kW	0.2kW	0.4kW	0.75kW	1.5kW	2.2kW
Motor Capacity Designation	T50・T50W ratio 1/240 and below	T50・T50W ratio 1/300 and above	T010 T010W	T020 T020W	T040 T040W	075 075W	150 150W	220 220W
Brake Type	"Power-off, Brake-on" Type (Spring Close)							
Static Friction Torque Ts (N・m) {kgf・m}	0.26{0.027}	0.46{0.047}	0.98{0.10}	1.96{0.20}	3.92{0.40}	7.35{0.75}	14.7{1.50}	21.6{2.20}
Dynamic Friction Torque Td (N・m) {kgf・m}	0.22{0.022}	0.37{0.038}	0.78{0.08}	1.57{0.16}	3.14{0.32}	5.88{0.60}	11.8{1.20}	17.2{1.76}
Voltage DC (Average) Rectifier Attached (V)	90							
Power (at 75°C) (W)	4.5	12	14	14	16	24	46	46
Current (at 75°C) (A)	0.05	0.13	0.15	0.15	0.18	0.27	0.51	0.51
Allowable Total Work Emax (J)	1.5×10^7	3.0×10^7	1.5×10^8	1.5×10^8	1.5×10^8	4.0×10^8	6.0×10^8	6.0×10^8
{kgf・m}	1.5×10^6	3.0×10^6	1.5×10^7	1.5×10^7	1.5×10^7	4.0×10^7	6.0×10^7	6.0×10^7
Allowable Braking Frequency (times/minute)	10							

〈Table-13-2〉

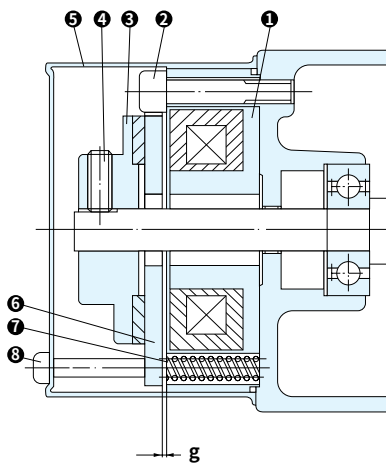
Items \ Motor Capacity	1-Phase		
	100W	200W	400W
Motor Capacity Designation	S100 ・100 S100W・100W	200 200W	400 400W
Brake Type	"Power-off, Brake-on" Type (Spring Close)		
Static Friction Torque Ts (N・m) {kgf・m}	0.98{0.10}	1.96{0.20}	3.92{0.40}
Dynamic Friction Torque Td (N・m) {kgf・m}	0.78{0.08}	1.57{0.16}	3.14{0.32}
Voltage DC (Average) Rectifier Attached	90	90	
Power (at 75°C) (W)	14	14	24
Current (at 75°C) (A)	0.15	0.15	0.27
Allowable Total Work Emax (J)	1.5×10^8	1.5×10^8	4.0×10^8
{kgf・m}	1.5×10^7	1.5×10^7	4.0×10^7
Allowable Braking Frequency (times/minute)	6		

Note 1) Allowable braking frequencies are guideline values to avoid excessive motor temperature rise. The braking frequency can be increased when loads are light or motor is sufficiently cooled. (Be sure to maintain the motor surface temperature below 80°C.)
2) Avoid continuous energizing to the brake coil while the motor stops.
3) Use the attached rectifier for the brake power supply. if other type of rectifier is to be sued for power supply, consult us.
4) The life of the contacting point of the 1-phase motor centrifugal switch is 300,000 times as a guideline.
5) Static friction torque/Dynamic friction torque are guideline values and not guaranteed ones.

Brake Structure

■Motor Capacity Designation

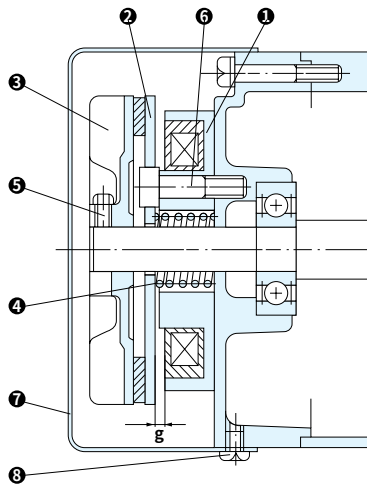
3-Phase/T50・T50W Reduction Ratio Below 1/240 〈Figure-1〉



❶ Field
❷ Hexagon socket head bolt
❸ Friction Disk Assembly
❹ Hexagon socket head locking screw
❺ Brake Cover
❻ Armature
❼ Spring
❽ Brake Cover Screw
g : Gap

■Motor Capacity Designation

3-Phase/T50・T50W Reduction Ratio Below 1/300 〈Figure-2〉



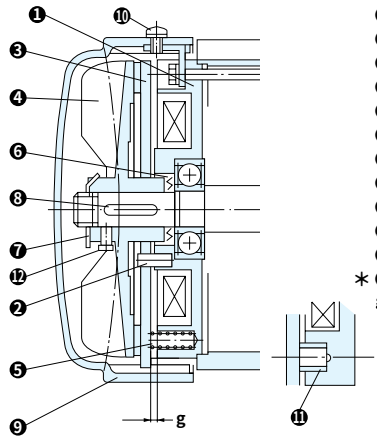
❶ Field
❷ Armature
❸ Fan Kit
❹ Spring
❺ Hexagon socket head bolt
❻ Hexagon socket head bolt
❼ Fan cover
❽ Fan cover fixing screw
g : Gap

Brake Structure

■Motor Capacity Designation

3-Phase／T010•T020•T040•075•T010W•T020W•T040W•075W
1-Phase／S100•100•200•400•S100W•100W•200W•400W

〈Figure-3〉

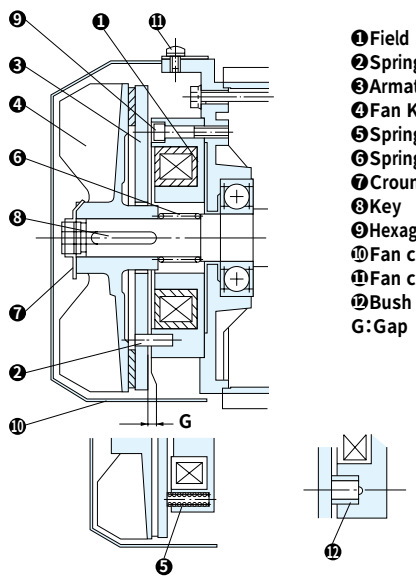


＊mark ⓬ is only for capacity S100,100,200,400,S100W, 100W,200W, and 400W

■Motor Capacity Designation

3-Phase／150•220•150W•220W

〈Figure-4〉



■Brake Gap

As a result of using brake for an extended period of time, naturally brake gap grew and finally brake releasing become impossible. To avoid this trouble, be sure to adjust brake gap periodically (Every one year or every 1～1.5 million cycles). Refer to Page E33 for the dimension necessary for the space when taking off the motor fan cover at brake gap adjustment.

〈Table-14〉

Figure No.	Motor Capacity Designation		Gap for Suction Limit	Proper Gap
	3-Phase	1-Phase		
Figure-1	T50•T50W ratio 1/240 and below	——	G:0.5 and below	G:0.2±0.1
Figure-2	T50•T50W ratio 1/300 and above	——	g:0.8 and below	g:0.4±0.1
Figure-3	T010•T020•T010W•T020W	S100•100•200•S100W•100W•200W	g:2.3 and below	g:1.9±0.1
	T040•T040W	——	g:1.8 and below	g:1.4±0.1
	0.75•0.75W	400•400W	g:2.4 and below	g:2.0±0.1
Figure-4	150•220•150W•220W	——	G:1.0 and below	G:0.4±0.1

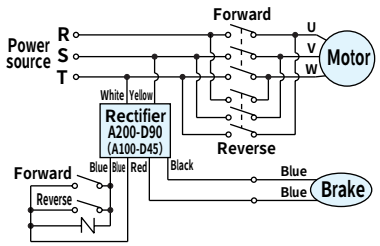
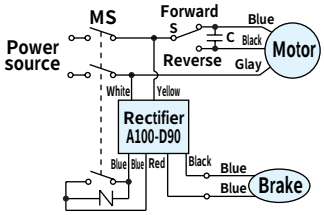
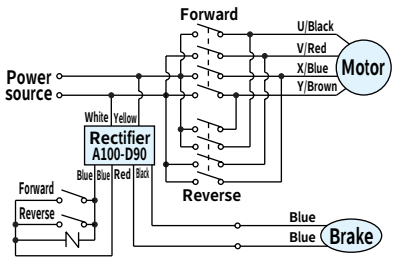
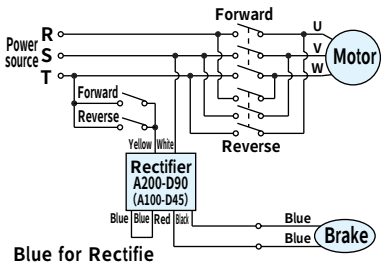
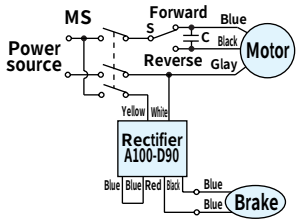
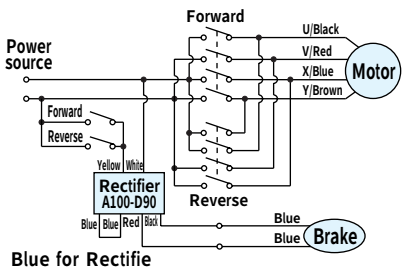
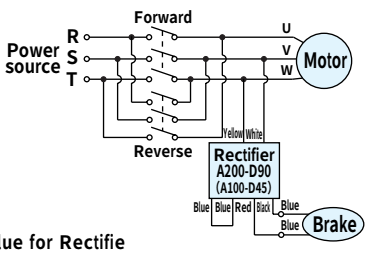
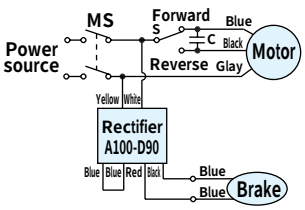
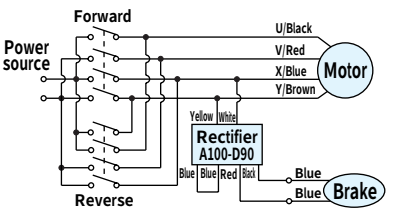
Gearmotor with Brake Wiring

Types of Wiring and Selecting Points

Wiring	Selecting Point	Inverter	Hoisting Operation	Wire Saving	Braking Delay
DC Switching	Because of the shortest braking delay time, most appropriate for the application which needs sudden braking such as hoisting operation.	○(Usable)	◎(Optimum)	△	◎
AC Switching (A)	Separate circuit can be employed for motor and brake. Therefore, most appropriate for inverter drive operation.	◎(Optimum)	○(Usable)	○	○
AC Switching (B)	This is the simplest way. Operation can be done only by connecting to the power source. You can save wiring.	×(Unusable)	×(Unusable)	◎	△

Note) Braking delay time indicates interval between switching off and brake on. (Not the braking time.)
For braking delay time by wiring method, refer to Table-15 on page E21.
In case braking time is needed, refer to the calculation method on page E8.

■Wiring Method 〔Standard Voltage〕

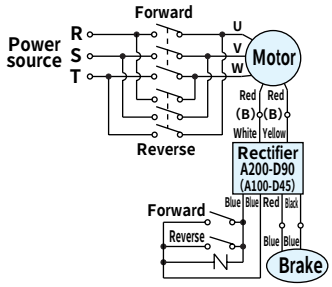
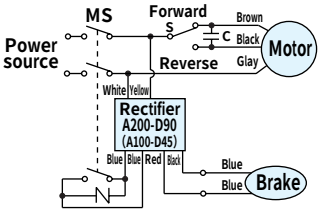
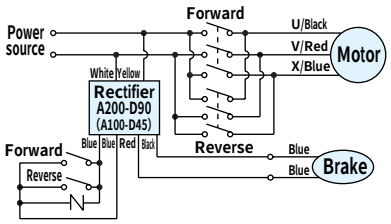
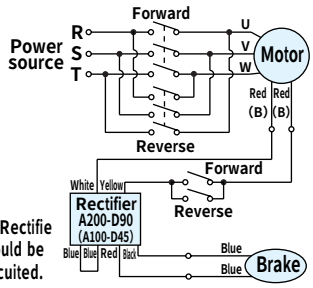
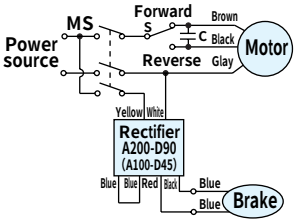
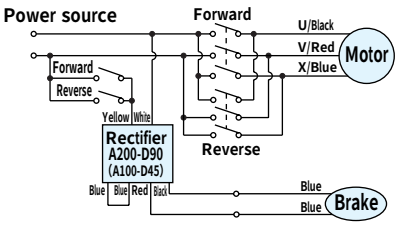
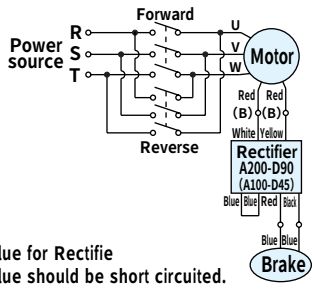
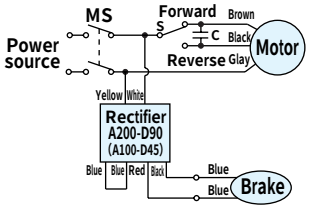
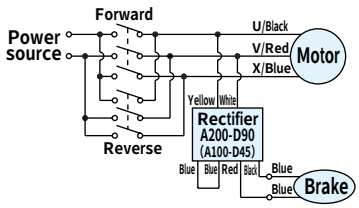
No.	Motor Capacity Designation 3-Phase〔T50～T040･075～220〕	Motor Capacity Designation 1-Phase〔S100〕	Motor Capacity Designation 1-Phase〔100～400〕
1.DC Switching			
2.AC Switching(A)	 Blue for Rectifie Blue should be short circuited.	 Blue for Rectifie Blue should be short circuited.	 Blue for Rectifie Blue should be short circuited.
3.AC Switching(B)	 Blue for Rectifie Blue should be short circuited.	 Blue for Rectifie Blue should be short circuited.	 Blue for Rectifie Blue should be short circuited.

S: Rotation Changeover Switch C: Capacitor MS: Electro-Magnetic Switch ⊣N⊢ : Surge Suppressor (option)

Note 1) For the application of vertical motion such as lifting, DC Switching wiring should be employed.
2) It is recommended to insert surge suppressor between contact points in DC Switching circuit. (Varistor Voltage 423～517V)
3) The electro-magnetic switch with the rated current of over 6A(AC200V) is recommended for the relay for brake circuit. In case DC Switching wiring is employed, in order to sield the inductive load (DC coil), DC110V, DC13 class is recommended. Also, in case of employing a noncontact relay, it is recommended to use the rated voltage of AC240V equivalent (half-wave rectification switching available).
4) Since the rectifier contains diodes, improper wiring may cause fatal short-circuiting. Therefore, special care should be given to the wiring.
5) For wirings and cautions in case of inverter drive, refer to page E44.

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

■Wiring Method 〔High Voltage〕

No.	Motor Capacity Designation 3-Phase〔T50～T040W・075W～220W〕	Motor Capacity Designation 1-Phase〔S100W〕	Motor Capacity Designation 1-Phase〔100W～400W〕
1.DC Switching			
2.AC Switching(A)	 Blue for Rectifie Blue should be short circuited.	 Blue for Rectifie Blue should be short circuited.	 Blue for Rectifie Blue should be short circuited.
3.AC Switching(B)	 Blue for Rectifie Blue should be short circuited.	 Blue for Rectifie Blue should be short circuited.	 Blue for Rectifie Blue should be short circuited.

S: Rotation Changeover Switch　C: Capacitor　MS: Electro-Magnetic Switch　⊣N⊢ : Surge Suppressor (option)

Note 1) For the application of vertical motion such as lifting, DC Switching wiring should be employed.
2) It is recommended to insert surge suppressor between contact points in DC Switching circuit. (Varistor Voltage 423～517V)
3) The electro-magnetic switch with the rated current of over 6A(AC200V) is recommended for the relay for brake circuit. In case DC Switching wiring is employed, in order to sield the inductive load (DC coil), DC110V, DC13 class is recommended. Also, in case of employing a noncontact relay, it is recommended to use the rated voltage of AC240V equivalent (half-wave rectification switching available).
4) Since the rectifier contains diodes, improper wiring may cause fatal short-circuiting. Therefore, special care should be given to the wiring.
5) AS for the 3-phase/double voltage model or over 230V model, be sure to connect 200V leads(red, 0.75～2.2kW for B terminal), which are extended out from the motor for the brake supply, to the input of rectifier.
In case of the operation by inverter drive, the 200V terminal extended out from the motor is not feasible. For details, contact us. For cautions in case of inverter drive, refer to page E44.

■Braking Delay Time: T_a

Braking delay time indicates interval (second) between switching off and brake on.
(Not the braking time.)

〈Table-15〉

No.	Motor Capacity Designation 3-Phase〔T50 ～T040 ・075〕 3-Phase〔T50W～T040W・075W〕	Motor Capacity Designation 3-Phase〔150 ・220〕 3-Phase〔150W・220W〕	Motor Capacity Designation 1-Phase〔S100 ・100 ～400〕 1-Phase〔S100W・100W～400W〕
1.DC Switching	0.005～0.015	0.005～0.020	0.005～0.015
2.AC Switching(A)	0.03～0.10	0.05～0.15	0.03～0.10
3.AC Switching(B)	0.1～0.2	0.2～0.4	0.1～0.2

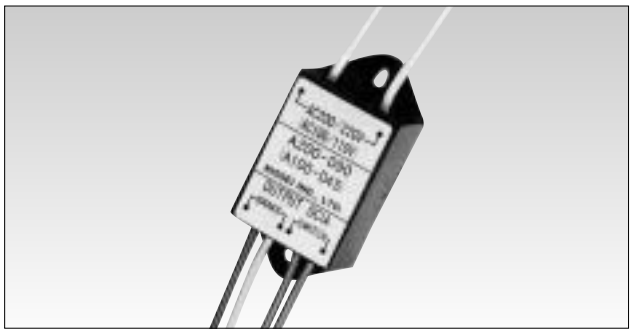
Gearmotor with Brake Rectifier・Terminal Box

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

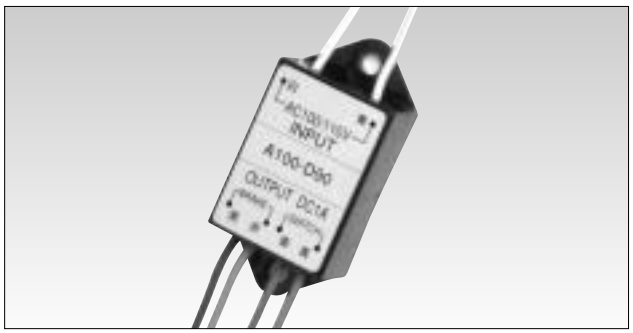
Rectifier

The supplied rectifier A200-D90 (A100-D45) or A100-D90 is required for the brake operation of the gearmotor with brake. Since the braking delay time differs according to the brake wiring, select the most appropriate wiring method for the application, referring to page E20～E21.
The rectifier basically contains a surge absorber. However, if a risk is foreseen, add another surge absorber or noise filter for safety sake.

A200－D90 (A100－D45) For 3-phase/standard voltage motor For 1-phase High voltage motor

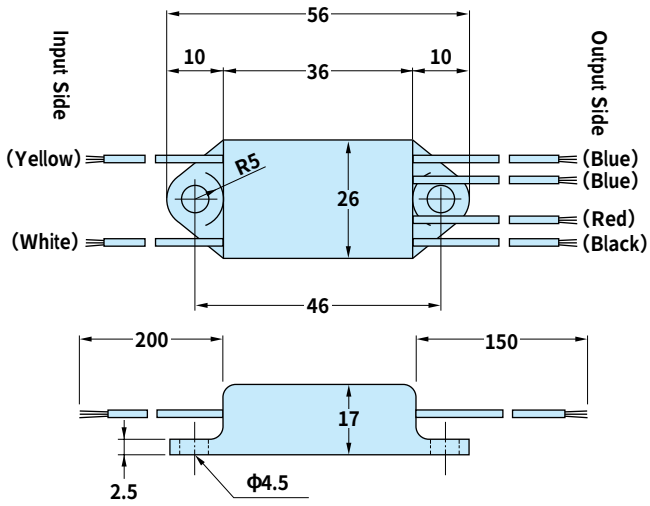


A100－D90 For 1-Phase Standard Voltage Motor



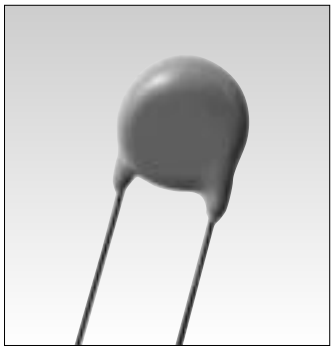
A200－D90・A100－D90 Dimension Diagram

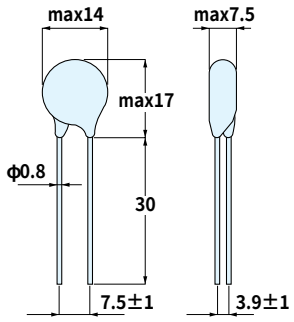
(A100－D45) 〈Round weight: 40g〉



Surge Suppressor/ Option No. OP-ENE471D-10A

For use in cutting off the sparks of a brake switch for DC switching or AC line switching.





Terminal Box for Gearmotor with Brake

■Terminal Boxes for GTR Gearmotor with brake are as listed below:

Series	No. of Phase	Motor capacity designation	Terminal Box: Standard or optional spec	Terminal Box: Box Type
G3-Series (Parallel Shaft)	3-Phase	T010・T010W	△	A
		T020・T020W	△	A
		T040・T040W	△	A
		075・075W	○	T
		150・150W	○	T
		220・220W	○	T
	1-Phase	100・100W	＊	(A)
		200・200W	＊	(A)
		400・400W	＊	(T)
H2-Series (Right Angle Shaft)	3-Phase	T010・T010W	△	A
		T020・T020W	△	A
		T040・T040W	△	A
		075・075W	○	T
		150・150W	○	T
		220・220W	○	T
	1-Phase	S100・S100W	△	A
		200・200W	＊	(A)
		400・400W	＊	(T)

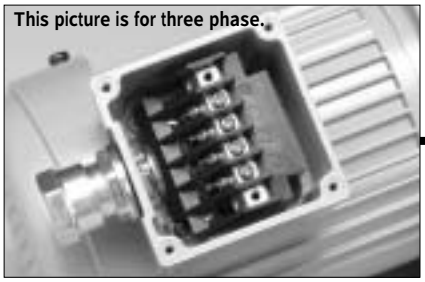
Series	No. of Phase	Motor capacity designation	Terminal Box: Standard or optional spec F-Series	Terminal Box: Standard or optional spec F3-Series	Terminal Box: Box Type
F-Series FS Type (hollow shaft) F3-Series F3S Type (hollow shaft)	3-Phase	T50・T50W	○	—	A
		T010・T010W	○	○	A
		T020・T020W	○	○	A
		T040・T040W	○	○	A
		075・075W	○	○	T
		150・150W	○	○	T
		220・220W	○	—	T
	1-Phase	S100・S100W	△	—	A
		200・200W	＊	—	(A)
		400・400W	＊	—	(T)
F-Series FF Type (solid shaft) F3-Series F3F Type (solid shaft)	3-Phase	T50・T50W	○	—	A
		T010・T010W	○	○	A
		T020・T020W	○	○	A
		T040・T040W	○	○	A
		075・075W	○	○	T
		150・150W	—	○	T

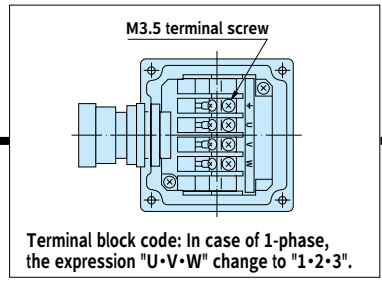
Note 1) ○ mark in the Table: Terminal Box attached is the standard △ mark in the Table: Optional specification
＊ mark in the Table: models for special order
2) If terminal box position is needed or position other than standard is required, refer to Page E34～E-39.
3) Although independent rectifier is the standard, rectifier built-in terminal box is also available. If you request so, direct us when ordering. In this case, the type of the terminal box will be "Z" in "A" Type box only. (Refer to page E24～E26) Please note that built-in rectifier is not feasible in S100-S100W.

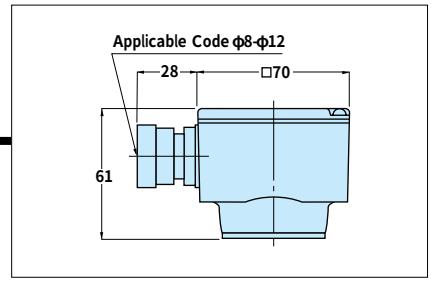
■Types and Configurations

●A-Type Terminal Box

3-Phase／200V・400V
1-Phase／100V・200V

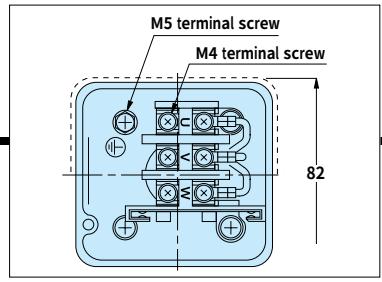


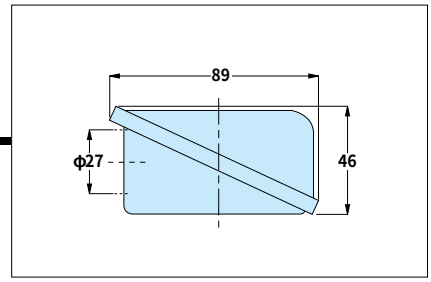




●T-Type Terminal Box

3-Phase／200V・400V





Gearmotor with Brake built in rectifier

■Motor Capacity Designation

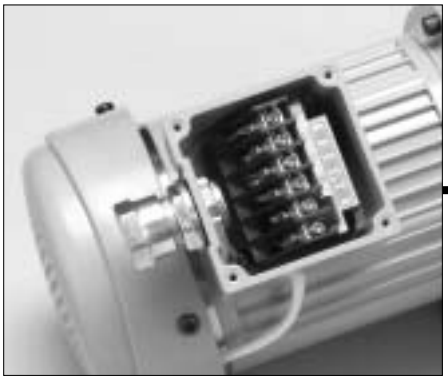
3-Phase ／T50 ・T010 ・T020 ・T040
／T50W・T010W・T020W・T040W

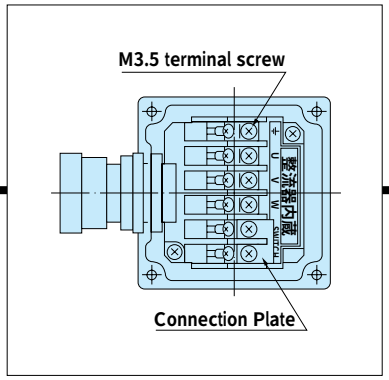
Z-Type terminal box with built-in rectifier can be attached to the brake motors with the designation codes listed on the left. If you need this spec., direct us when ordering.

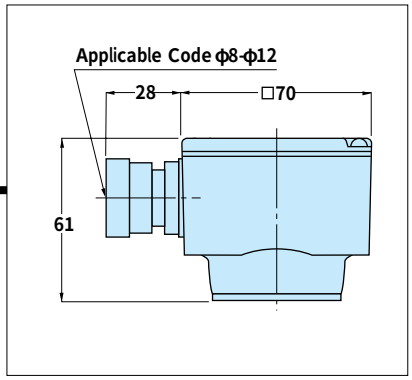
In case of rectifier built-in type, the code of the terminal box will change from "A" to "Z". Direct us for the wiring method.

● Z-Type Terminal Box

3-Phase ／Standard Specifications・High voltage







■Z-Type Terminal Box Wiring Types, Specifications and Selecting Points

Wiring	Specs. and Selecting Points	Inverter	Hoisting Operation	Wire Saving	Braking Delay
AC Switching(B)	Z-Type terminal box contains built-in rectifier and is connected in "AC Switching(B)". Therefore, just connect power supply source to the terminals for start operation. Also you can modify to "DC Switching" by just taking off the connecting plate.	× (Unusable)	× (Unusable)	◎	△
DC Switching	Because of the shortest braking delay time, This is appropriate for the application which needs sudden braking such as hoisting operation.	× (Unusable)	◎ (Optimum)	△	◎
AC Switching(A)	Separate circuit can be employed for motor and brake. Therefore, most appropriate for inverter drive operation. Wiring with 200V supply is appropriate for the standard voltage. As for the double voltage supply, use the 200V terminal (red lead wire, 0.75～2.2kW for B terminal) which is extended out from the motor. (Not fixed to the terminal block.) Since the AC Switching(A) wiring is a custom specification, direct us when ordering.	◎ (Optimum)	○ (Usable)	○	○
Independent Rectifier	The brake lead wire is taken into the terminal box and fixed in the terminal block. Rectifier is not built-in. Any wiring can be feasible according to the customer's specification, for example, putting the rectifier within the switchboard, etc. As for the double voltage supply, use the 200V terminal (red lead wire, 0.75～2.2kW for B terminal) which is extended out from the motor. (Not fixed to the terminal block.) Since the model with independent rectifier is a custom specification, direct us when ordering. As the rectifier is attached, select the most appropriate wiring method, referring the wiring diagram on page E20.	Application differs according to the wiring method in the switchboard of the rectifier. (AC Switching(A), AC Switching (B) or DC Switching)		——	——

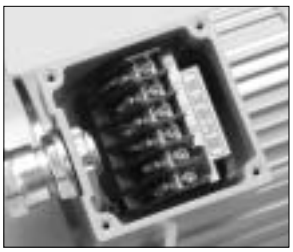
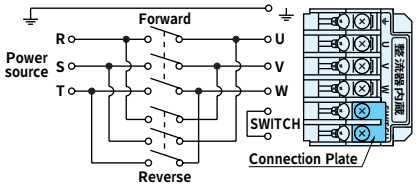
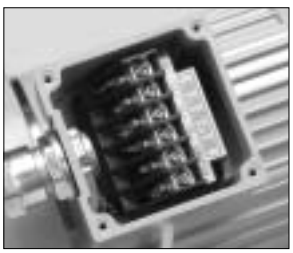
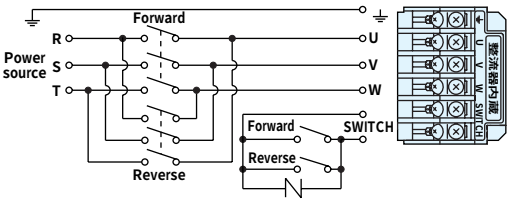
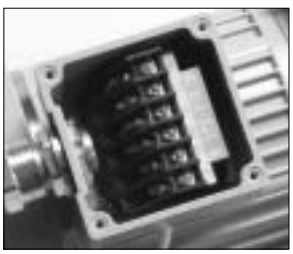
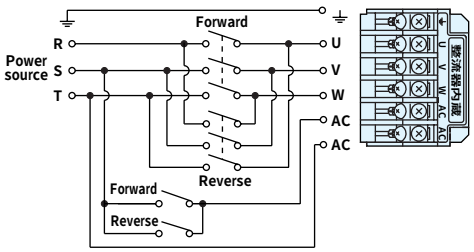
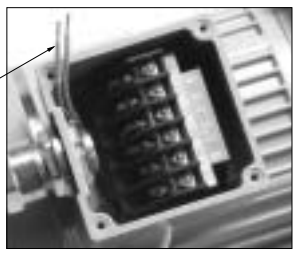
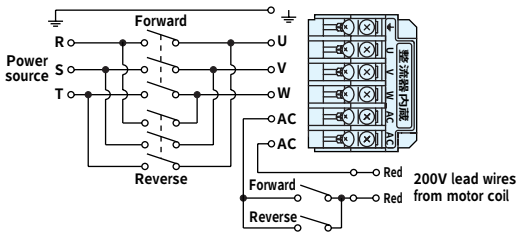
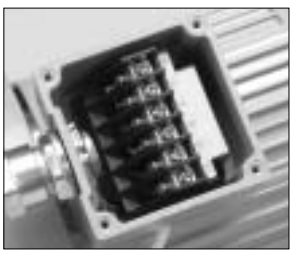
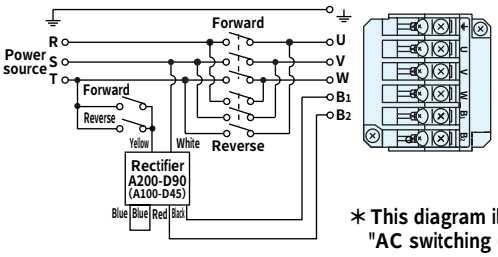
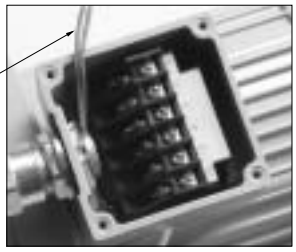
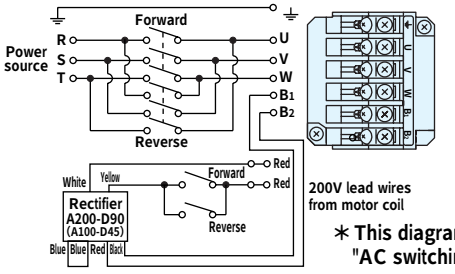
Note 1) "braking delay time" means the time from turn off switch to start braking motion, not the total time for braking. For braking delay time cause of wiring method, please reter to Table-15 on page E21. Please reter to calculated data according to page E8.

2) In case of inverter drive, "AC Switching(B)" wiring and "DC Switching" wiring are not feasible, while "AC Switching(A)" wiring is feasible. (Custom specs.) However, the lead wire 200V terminal extended out from the motor body cannot be used. Contact us for details. For cautions for inverter drive, refer to page E44.

●Rated Current

The rated current values listed on the motor performance table on page E12 are the ones for motor itself. For rectifier built-in type terminal box, the current value through brake should be taken into account. For details, consult us.

Wiring Z type Terminal Box

Wiring	3-Phase		
AC Switching(B)	Standard Specifications/ High voltage		
DC Switching	Standard Specifications/ High voltage		
AC Switching(A) (Specific wiring)	Standard Specifications		
	High voltage 200V lead wires from motor coil		
Independent Rectifier (Specific wiring)	Standard Specifications		 ∗This diagram illustrates "AC switching (A)"
	High voltage 200V lead wires from motor coil		 200V lead wires from motor coil ∗This diagram illustrates "AC switching (A)"

Gearmotor with Brake built in rectifier

■Motor Capacity Designation

3-Phase／075•150•220

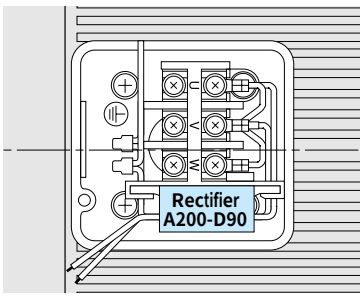
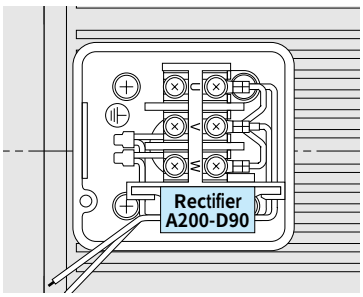
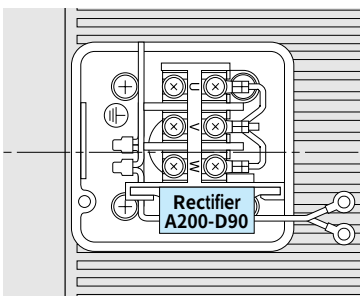
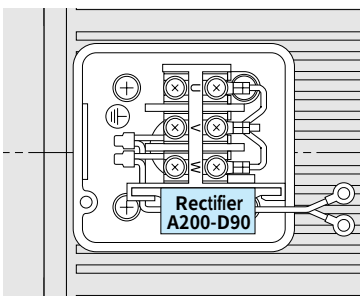
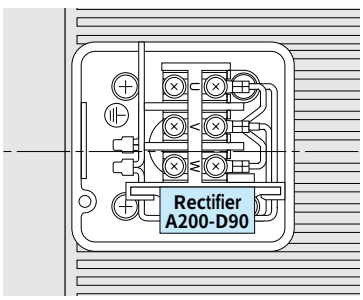
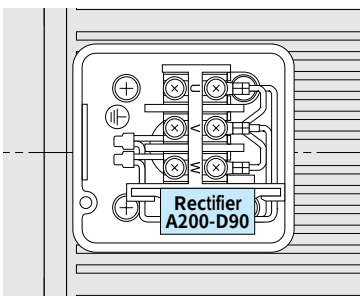
Please let me know if you need built in rectifier type terminal box when you order.

＊When high voltage is required, please ask us on a head.

In case of rectifier built-in motor, inform us of the wiring method together with the type name.

For example : G3LB-32-30-075 AC switching (A)

■Wiring method

Wiring	Motor Capacity Designation (075)	Motor Capacity Designation (150•220)
DC Switching		
AC Switching (A)		
AC Switching (B)		

●Incase of changing speed by inverter drive

In case of rectifier built-in terminal box in combination with inverter, wirings other than AC Switching (A) are not feasible. Also, in the case of AC Switching (A) wiring, power supply to the rectifier should be done through the primary input of the inverter. Refer to page E44.

●Rated Current

The rated current values listed on the motor performance table on page E12 are the ones for motor itself. For rectifier built-in type terminal box, the current value through brake should be taken into account. For details, consult us.

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

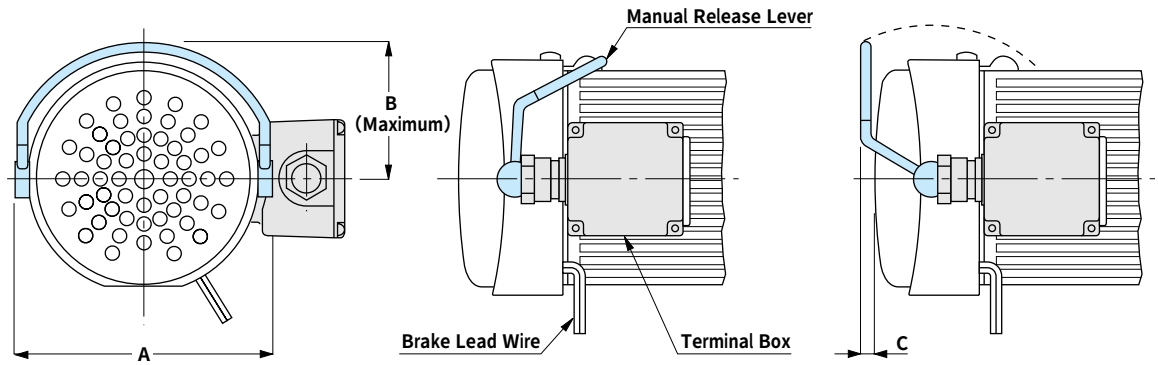
Manual Release Device

If requested, the brake manual release device can be attached. The terminal box and the manual release lever are basically in the same positioning.

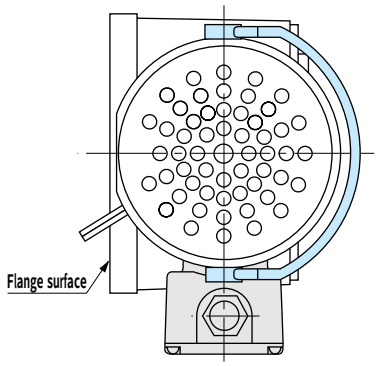
* The manual release device cannot be attached to the F-Series, Motor Capacity Designation of T50 and T50W.
* The manual release device cannot be attached to the water-resistant, outdoor specs gearmotors.

G3•H2 Series

●At Operation ●At Brake Released



F Series•F3 Series



* Above diagram is just a representative. In case of F3-Series, the shape of the gear head is different.

Dimensions by Motor Capacity

Common to G3•H2•F•F3 Series

Motor Capacity Designation	3-Phase T010•T010W 1-Phase S100•S100W	3-PhaseT020 •T020W 1-Phase100 •200 1-Phase100W•200W	3-Phase T040•T040W	3-Phase 075•075W 1-Phase 400•400W	3-Phase 150•220 3-Phase 150W•220W
A	156	156	156	180	212
B	83	83	83	102	124
C	8	0	0	2	6

Note 1) The terminal box and the manual release lever are basically in the same positioning.
2) When built in rectifier terminal box with manual release needs to change position, some direction is impossible as for technical reason. please ask us about detail.
3) In case the position of terminal box has been changed, the positioning with the flat surface of the fan cover can be referred in page E34～39.

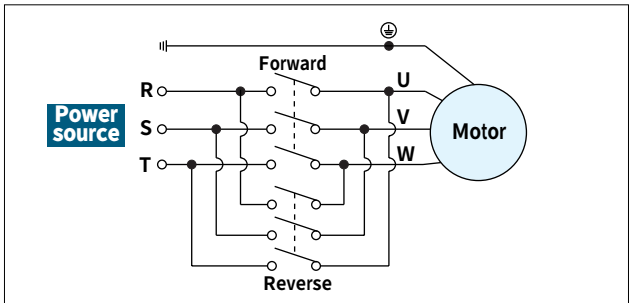
Water-Resistant Specifications Gearmotor Wiring・Terminal Box

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Wiring for Water-Resistant, Gearmotors

The wiring shown below is recommended for water-resistant, outdoor type gearmoters. The rotation direction of the output shaft in the wiring below is shown in the performance table respectively for each model.

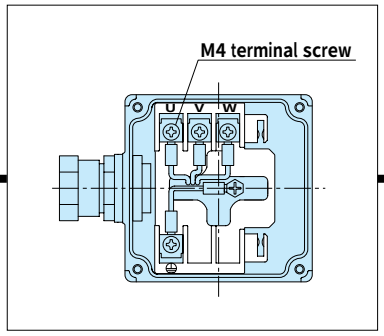
■3-Phase Motor/Common to G3・H2・F・F3 series

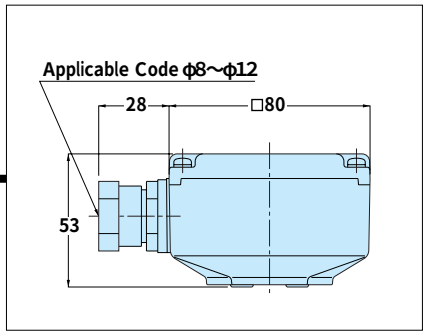


Mark in the Diagram	Terminal Code
U	U
V	V
W	W
⏚	⏚

■Types and Structures

● E-Type Terminal Box 0.1kW～2.2kW
3-Phase/Standard Voltage・High Voltage





Note) For the E-Type terminal box for gearmotors with brake, refer to page E30.

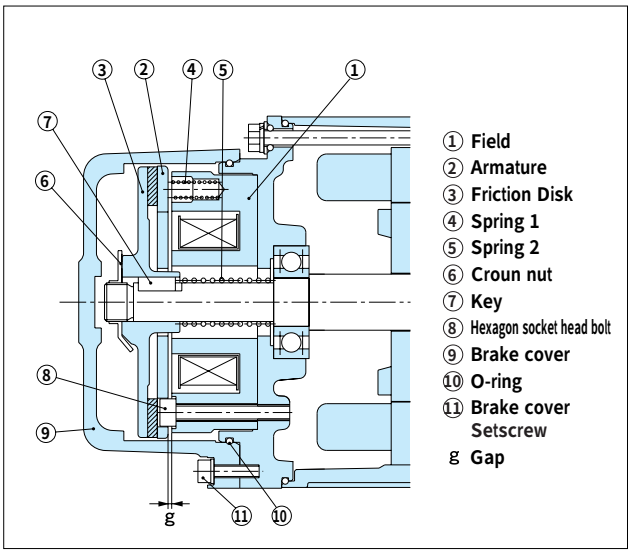
Water-Resistant Specifications Gearmotor with Brake Specifications・Structure

Brake Specifications

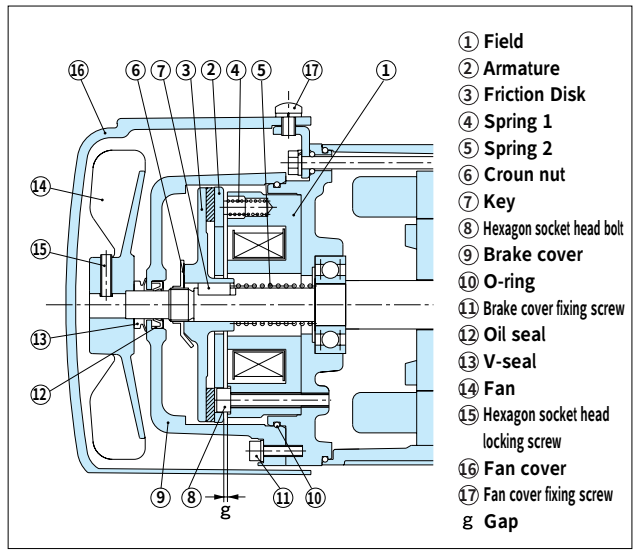
Items \ Motor Capacity	3-Phase			
	0.1kW	0.2kW	0.4kW	0.75kW
Motor Capacity Designation	T010 T010W	T020 T020W	T040 T040W	075 075W
Brake Type	"Power-off, Brake-on" Type (Spring Close)			
Static Friction Torque Ts (N・m) {kgf・m}	0.98{0.10}	1.96{0.20}	3.92{0.40}	7.35{0.75}
Dynamic Friction Torque Td (N・m) {kgf・m}	0.78{0.08}	1.57{0.16}	3.14{0.32}	5.88{0.60}
Voltage DC (Average) Rectifier Attached (V)	90			
Power (at 75°C) (W)	10	16	18	22
Current (at 75°C) (A)	0.11	0.18	0.20	0.25
Allowable Total Work Emax (J)	1.5×10^8	1.5×10^8	1.5×10^8	4.0×10^8
{kgf・m}	1.5×10^7	1.5×10^7	1.5×10^7	4.0×10^7
Allowable Braking Frequency (times/minute)	10			

Brake Structure

0.1kW Outer Disk Type 〈Figure-6〉



0.2kW～0.75kW Fan Attached Type 〈Figure-7〉



■Brake Gap

As a result of using brake for an extended period of time, naturally brake gap grew and finally brake releasing become impossible. To avoid this trouble, be sure to adjust brake gap periodically (Every one year or every 1~1.5 million cycles). Refer to Page E33 for the necessary space when taking off the brake cover/motor fan cover at brake gap adjustment.

Figure No.	Motor Capacity Designation 3-Phase	Gap for Suction	Limit Proper Gap
Fig.6	T010・T010W	g:0.8以下	g:0.3±0.1
Fig.7	T020・T040・T020W・T040W	g:0.7以下	g:0.3±0.1
Fig.7	075・075W	g:0.9以下	g:0.3±0.1

Gap adjustment should strictly be done according to the handling manual. Failure to observe this warning may cause unexpected trouble such as water getting through

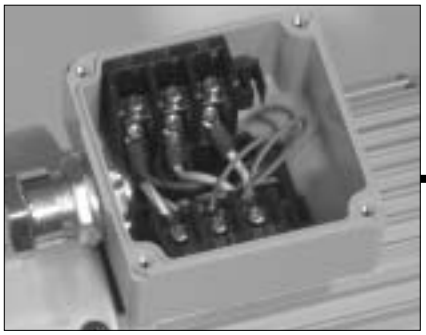
Water-Resistant Specifications Gearmotor with Brake Wiring・Rectifier

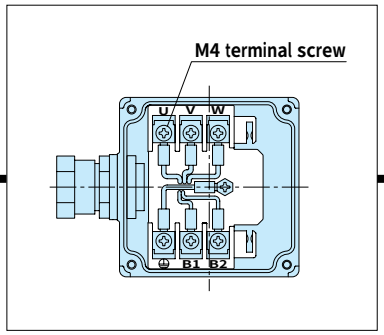
Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

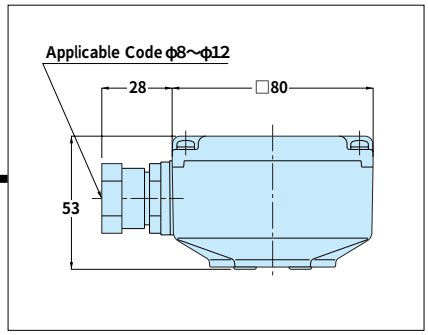
● E-Type Terminal Box

3-Phase/Standard Voltage・High Voltage

Separated rectifier type is the standard specification of the terminal box in gearmotor with brake. please refer to page E31 for rectifier built-in type.

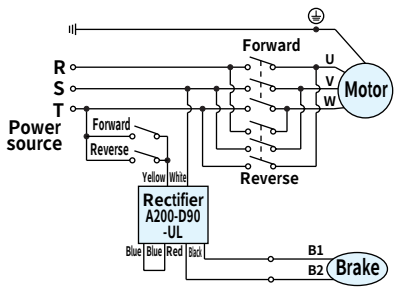
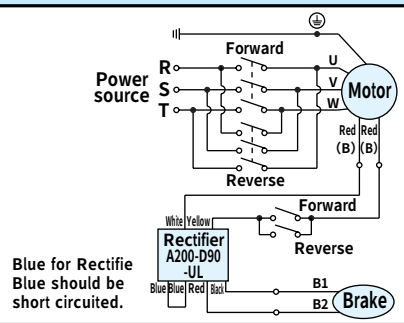
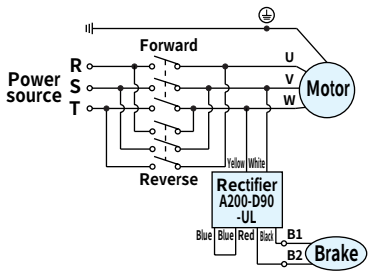
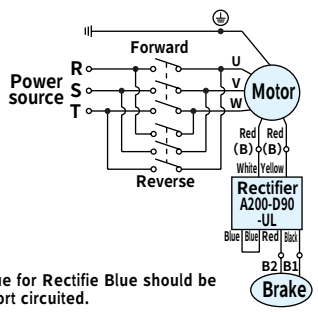
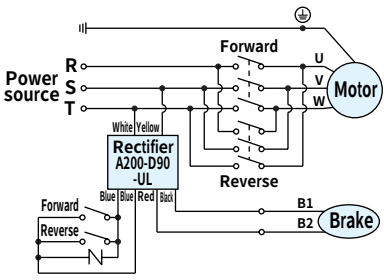
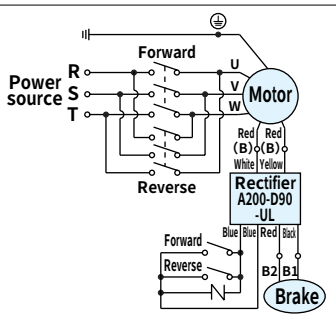






Wiring for Water-Resistant, Outdoor Gearmotors with Brake

■Wiring Method

Wiring	Motor capacity designation: Standard Voltage 3-Phase (T010～T040・075)	Motor capacity designation: High Voltage 3-Phase (T010W～T040W・075W)	Braking Delay Time: ta Braking delay time indicates interval (second) between switching off and brake on. (Not the braking time.)
AC Switching (A)	 Blue for Rectifie Blue should be short circuited.	 Blue for Rectifie Blue should be short circuited.	0.03～0.13
AC Switching (B)	 Blue for Rectifie Blue should be short circuited.	 Blue for Rectifie Blue should be short circuited.	0.1～0.3
DC Switching			0.005～0.015

S: Rotation Changeover Switch C: Capacitor MS: Electro-Magnetic Switch ⊣N⊢ : Surge Suppressor (option)

Note 1) For the application of vertical motion such as lifting, DC Switching wiring should be employed.
2) It is recommended to insert surge suppressor between contact points in DC Switching circuit. (Varistor Voltage 423～517V)
3) The electro-magnetic switch with the rated current of over 6A(AC200V) is recommended for the relay for brake circuit. In case DC Switching wiring is employed, in order to sield the inductive load (DC coil), DC110V, DC13 class is recommended. Also, in case of employing a noncontact relay, it is recommended to use the rated voltage of AC240V equivalent (half-wave rectification switching available).
4) Since the rectifier contains diodes, improper wiring may cause fatal short-circuiting. Therefore, special care should be given to the wiring.
5) For 3 phase High voltage or 230V and above special voltage, please use and connect with AC 200V terminal which is sepalately take out from the motor, (Red wires, and 0.75kW type is B terminal) and input terminal of rectifier. However, separated 200V terminal cannot be used for use of inverter, Please contact as for more information. For wiring or notes for use of inverter, Please refer to page E44.

Water-Resistant Specifications Gearmotor with Brake Wiring•Built-in Rectifier Terminal Box

Separated rectifier type is the standard specification of the terminal box in gearmotors with brake.
When you need the rectifier built-in type, contact us with the following manner.

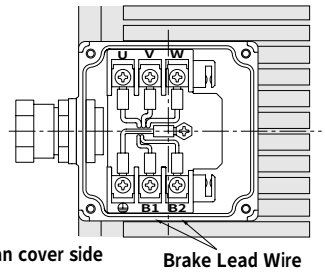
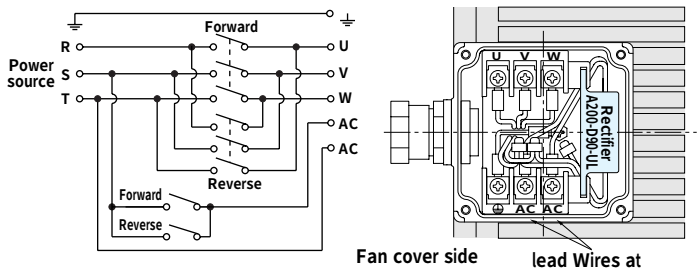
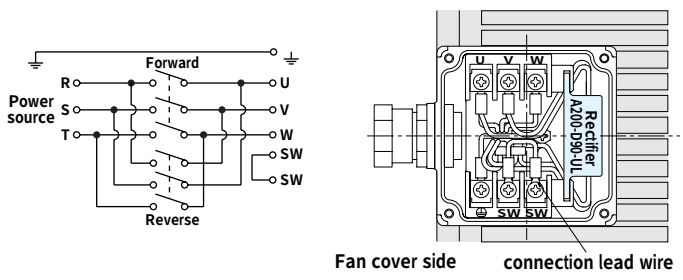
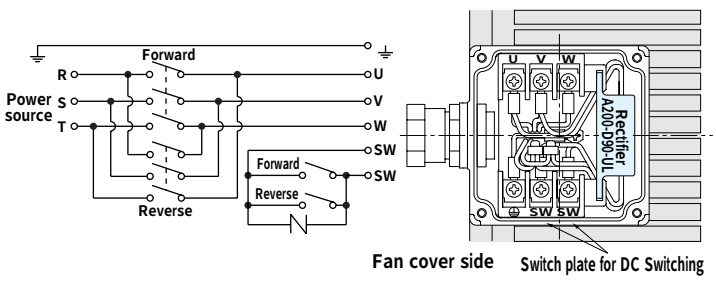
Type	Type Code when ordering(Example) (Indicate this type cord in your order.)
AC Switching A	EX-AA
AC Switching B	EX-AB
DC Switching	EX-DC

The wiring method indication code does not appear on the product-type name.
It appears in the supplemental number column on the nameplate.

Explanations of Type Designation

E X – AA
- AA: wiring method ("AA" means AC Switching A)
- X: Auxiliary Mark (X)
- E: E-Type Terminal Box

Wiring Method

	Wiring	Inverter Operation	Hoisting Operation	Point	Ordered Type
Standard	Please refer to diagram of page E30 	Application differs according to the wiring method in the switchboard of the rectifier. (AC Switching(A), AC Switching (B) or DC Switching)		Any wiring can be possible according to the customer's specification, for example, putting the rectifier inside of the switchboard, etc. Brake lead wire is extended out to the terminal block.	End of type **E**
AC Switching (A)		◎ (Optimum)	○ (Usable)	Wiring enables inverter operation. Also, the power supply input lead wire for rectifier is extended out to the terminal block.	End of type **EX-AA**
AC Switching (B)		× (Unusable)	× (Unusable)	Easy wiring. Start operation only by connecting the power source (U•V•W). (Modification to DC Switching wiring can be done only by taking out the connecting lead wire.)	End of type **EX-AB**
DC Switching		× (Unusable)	◎ (Optimum)	Because of the shortest braking delay time, most appropriate for the application such as hoisting operation. the DC Switching terminal is extended out to the terminal block.	End of type **EX-DC**

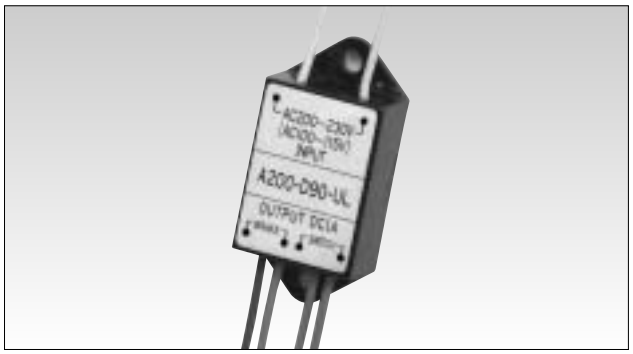
Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Water-Resistant Specifications Gearmotor with Brake Wiring・Rectifier

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

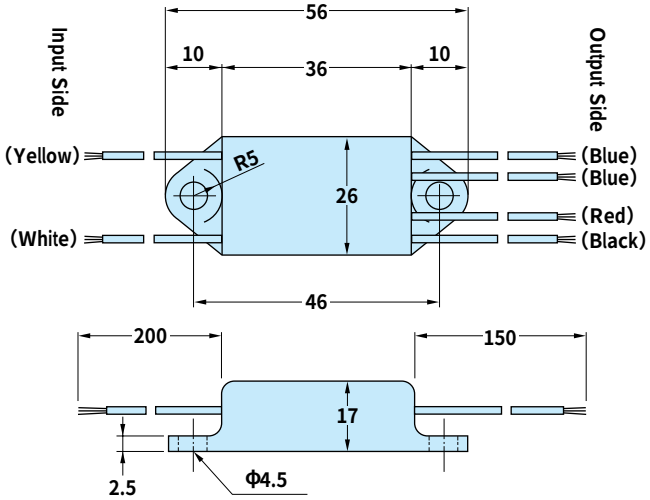
Rectifier

The supplied rectifier A200-D90-UL is required for the brake operation of the gearmotor with brake. Since the braking delay time differs according to the brake wiring, select the most appropriate wiring method for the application, referring to page E30.
The rectifier basically contains a surge absorber. However, if a risk is foreseen, add another surge absorber or noise filter for safety sake.



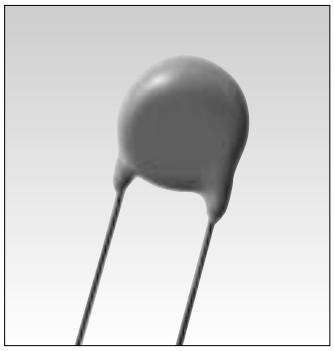
A200—D90—UL Dimension Diagram

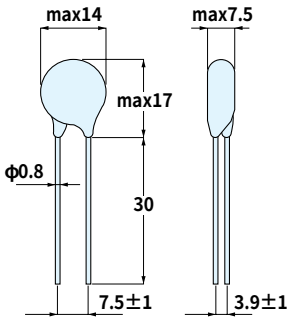
(A100—D45) 〈Round weight: 40g〉



Surge Suppressor Z／Option No.OP-ENE471D-10A

For use in cutting off the sparks of a brake switch for DC switching or AC line switching.



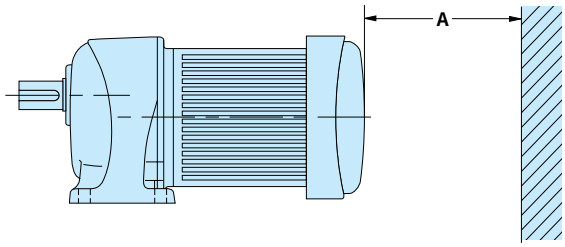


Open space size necessary for taking off the Motor Fan Cover

The values indicated below are the necessary open space sizes for doing brake gap adjustment of the installed motor. These are the open space sizes needed for taking off the fan cover from the installed motor. When you consider ventilation, add more than 20mm to each value.

Indoor Specification

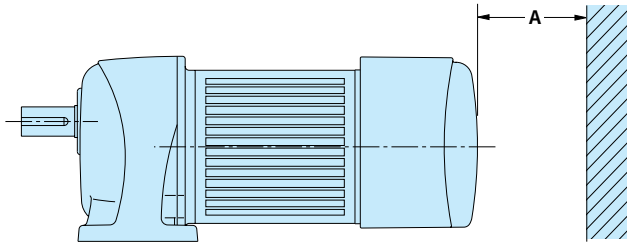
Location dimension A (mm)



Specifications / Series	3-Phase									1-Phase			
	T50 1/240 and below	T50 1/300 and below	T010	T020	T040	075	150	220		S100	100	200	400
G3			44	59	56	59	81	81			59	59	59
H2			44	59	56	59	81	81		44		59	59
F	32	45	44	59	56	59	81	81		44		59	59
F3			44	59	56	59	81	81				59	59

Water-Resistant, Outdoor Specification

Location dimension A (mm)



Specifications / Series	3-Phase			
	T010	T020	T040	075
All models of brake motors	44	82	96	117

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

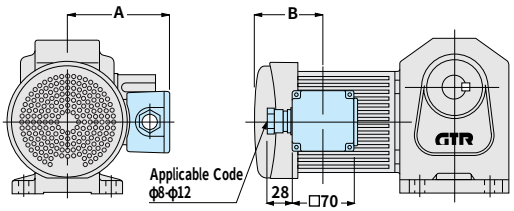
Terminal Box Measure and position
Gearmotor•Gearmotor with Brake in common

Terminal Box for G3 Series(Parallel Shaft) and H2 Series(Right Angle Shaft)

In the G3 Series and H2 Series, models of 1/3-phase motor with the capacity of less than 0.4kW have no terminal box.
If desired, terminal box can be attached. Instruct us when ordering.

Dimension Diagram When Terminal Box Attached

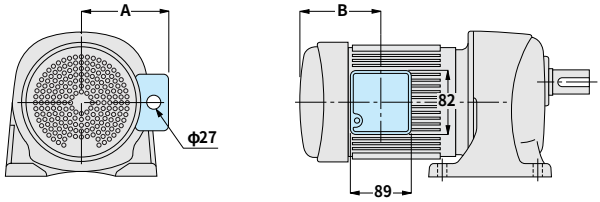
G3•H2 in common



Motor capacity designation	Box Type	A	B		Modification of Box Position
			Gearmotor	Brake Gearmotor	
T010•T010W	A (Z)	117	47.5	87.5	90 °dividing
T020•T020W	A (Z)	117	78.5	95.5	90 °dividing
T040•T040W	A (Z)	123	84.5	104	90 °dividing
S100•S100W	A	117	78.5	87.5	90 °dividing

Note 1) Figures above illustrates the standard position of terminal box. For the modification of position, direct us when ordering. Refer to page E35.
2) (Z) in the Box Type column indicates the brake motor with built-in rectifier. Nevertheless , built-in rectifier type is not available in S100• S100W.
3) Above figure is just a representative. There are different motor shapes at the gear head.

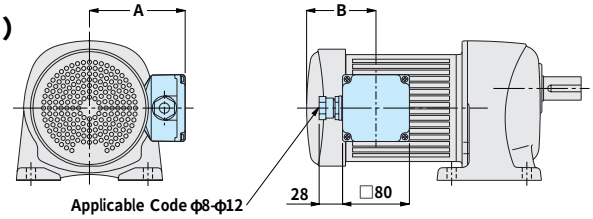
G3•H2 in common



Motor capacity designation	Box Type	A	B		Modification of Box Position
			Gearmotor	Brake Gearmotor	
075•075W	T	122	101	108	90 °dividing
150•220•150W•220W	T	133	111.5	132	90 °dividing

Note 1) Figures above illustrates the standard position of terminal box. For the modification of position, direct us when ordering. Refer to page E35.
2) Above figure is just a representative. There are different motor shapes at the gear head.

G3•H2 in common
(Water-Resistant Specifications)



Motor capacity designation	Box Type	A	B		Modification of Box Position
			Gearmotor	Brake Gearmotor	
T010•T010W	E	108.5	47.5	99	90 °dividing
T020•T020W	E	108.5	78	128	90 °dividing
T040•T040W	E	114.5	83	141	90 °dividing
075•075W	E	126.5	94	163.5	90 °dividing
150•220•150W•220W	E	137.5	110.5		90 °dividing

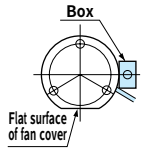
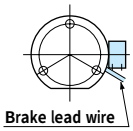
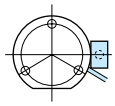
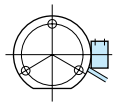
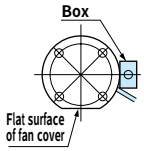
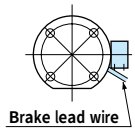
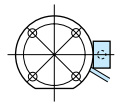
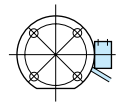
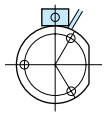
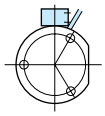
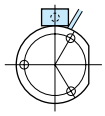
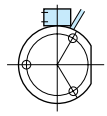
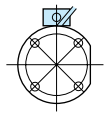
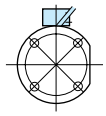
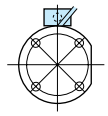
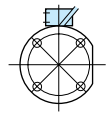
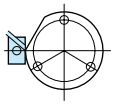
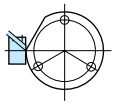
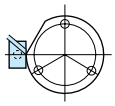
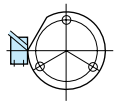
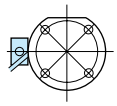
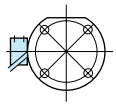
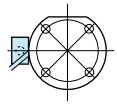
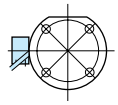
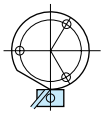
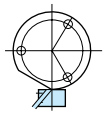
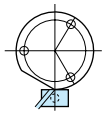
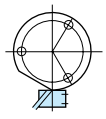
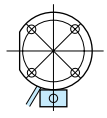
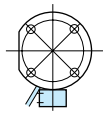
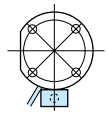
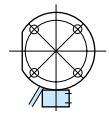
Note 1) Figures above illustrates the standard position of terminal box. For the modification of position, direct us when ordering. Refer to page E35.
2) Above figure is just a representative. There are different motor shapes at the gear head.

Change position
Gearmotor・Gearmotor with Brake in common

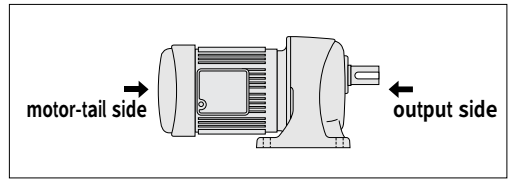
Direction method when modifying the position of lead wire type terminal box of the G3・H2 Series

If non-standard positioning of the lead wire and terminal box is needed, direct us with the code enclosed with ▭ in the table below:

Direction Method

Motor capacity designation: T010 ・T020 ・S100 ・200 / T010W ・T020W ・S100W ・200W (Lead wire only)				Motor capacity designation: T040 ・075 ・150 ・220 ・400 / T040W ・075W ・150W ・220W ・400W (Lead wire only)			
fly lead type	with Terminal Box			fly lead type	with Terminal Box		
Modification of Box Position and Power Source Inlet Position				Modification of Box Position and Power Source Inlet Position			
 Standard	 Hole (lower)	 Hole (Load-side)	 Hole (upper)	 Standard	 Hole (lower)	 Hole (Load-side)	 Hole (upper)
Standard	H6	H3	HZ	Standard	H6	H3	HZ
 T (upper)	 T (upper) Hole (right)	 T (upper) Hole (Load-side)	 T (upper) Hole (left)	 T (upper)	 T (upper) Hole (right)	 T (upper) Hole (Load-side)	 T (upper) Hole (left)
TZ	TZ H6	TZ H3	TZ HZ	TZ	TZ H6	TZ H3	TZ HZ
 T (left)	 T (left) Hole (upper)	 T (left) Hole (Load-side)	 T (left) Hole (lower)	 T (left)	 T (left) Hole (upper)	 T (left) Hole (Load-side)	 T (left) Hole (lower)
T9	T9 H6	T9 H3	T9 HZ	T9	T9 H6	T9 H3	T9 HZ
 T (lower)	 T (lower) Hole (left)	 T (lower) Hole (Load-side)	 T (lower) Hole (right)	 T (lower)	 T (lower) Hole (left)	 T (lower) Hole (Load-side)	 T (lower) Hole (right)
T6	T6 H6	T6 H3	T6 HZ	T6	T6 H6	T6 H3	T6 HZ

Note 1) All the diagrams show the profile viewed from anti-load side of the motor.
2) No need to direct for standard position.
3) Be sure that customers cannot modify the position of the models 0.1kW～0.2kW for the reason of its construction. If modification of position is needed, direct us beforehand with the code in the above diagram.
4) In case of brake motor, the brake lead wire is basically positioned in the same direction as the terminal box.
5) Only in the frame No. 28 in G3 Series, 0.1kW・0.2kW, the position of terminal box does not come to the right above or right below of the motor. The terminal box will be moved 17 degrees clockwise from the centerline, in "TZ"(above) and in "T6"(below).
6) As for with clutch brake type please be careful not to get exogenous materials in the apertural are of clutch brake.
7) No need to direct the hole position in the lead wire type model.



●Meanings of Designations
1) "T" indictaes "Terminal Box".
2) "H" indicates the supply inlet hole.

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Terminal Box Measure and position
Gearmotor•Gearmotor with Brake in common

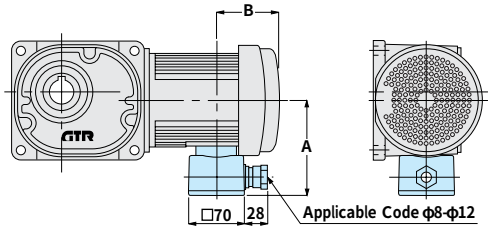
Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Terminal Box for F Series (Hollow Shaft•Solid Shaft)

Terminal Box attached is the standard spec. of F Series 3-Phase motors. If requested, terminal box can also be attached to the S100 Single-phase motors. Direct us when ordering.

Dimension Diagram When Terminal Box Attached

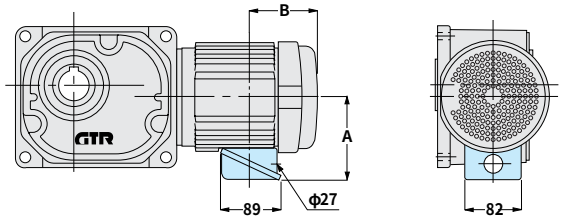
FS•FF in common



Motor capacity designation	Box Type	A	B		Modification of Box Position
			Gearmotor	Brake Gearmotor	
T50•T50W	A (Z)	105	62	99.5	180 °dividing
T010•T010W	A (Z)	117	47.5	87.5	90 °dividing
T020•T020W	A (Z)	117	78.5	95.5	90 °dividing
T040•T040W	A (Z)	123	84.5	104	90 °dividing
S100•S100W	A	117	87.5	87.5	90 °dividing

Note 1) Figures above illustrates the standard position of terminal box. For the modification of position, direct us when ordering. Refer to page E37.
2) (Z) in the Box Type column indicates the brake motor with built-in rectifier. Nevertheless , built-in rectifier type is not available in S100• S100W.
3) Above figure is just a representative. There are different motor shapes at the gear head.

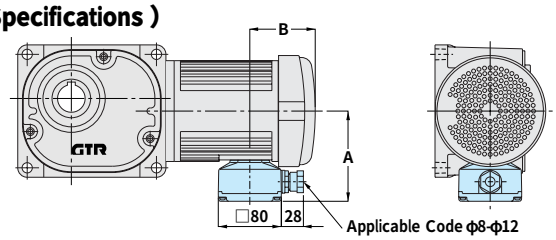
FS•FF in common



Motor capacity designation	Box Type	A	B		Modification of Box Position
			Gearmotor	Brake Gearmotor	
075•075W	T	122	101	108	90 °dividing
150•220•150W•220W	T	133	111.5	132	90 °dividing

Note 1) Figures above illustrates the standard position of terminal box. For the modification of position, direct us when ordering. Refer to page E37.
2) Above figure is just a representative. There are different motor shapes.

FS in common (Water-Resistant Specifications)



Motor capacity designation	Box Type	A	B		Modification of Box Position
			Gearmotor	Brake Gearmotor	
T010•T010W	E	108.5	47.5	99	90 °dividing
T020•T020W	E	108.5	78	128	90 °dividing
T040•T040W	E	114.5	83	141	90 °dividing
075•075W	E	126.5	94	163.5	90 °dividing
150•220•150W•220W	E	137.5	110.5		90 °dividing

Note 1) Figures above illustrates the standard position of terminal box. For the modification of position, direct us when ordering. Refer to page E37.
2) Above figure is just a representative. There are different motor shapes.

Change position
Gearmotor・Gearmotor with Brake in common

Direction method when modifying the position of lead wire type terminal box F series.

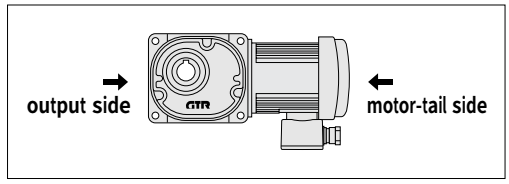
If non-standard positioning of the terminal box is needed, direct us with the code enclosed with ▭ in the table below:

Direction Method

Motor capacity designation (T50・T50W) with Terminal Box — Modification of Box Position and Power Source Inlet Position	Flange side / Terminal Box							
	Standard	Hole (left)	Hole (negative)	Hole (right)	T (upper)	T (upper) Hole (left)	T (upper) Hole (Load-side)	T (upper) Hole (right)
	Standard	H6	H3	HZ	TZ	TZ HZ	TZH3	TZ H6

Motor capacity designation (T010 ・T020 ・S100 ・200 / T010W・T020W・S100W・200W) (Lead wire only) — with Terminal Box — Modification of Box Position and Power Source Inlet Position				Motor capacity designation (T040 ・075 ・150 ・220 ・400 / T040W・075W・150W・220W・400W) (Lead wire only) — with Terminal Box — Modification of Box Position and Power Source Inlet Position			
Flat surface of fan cover / Box	Brake lead wire			Flat surface of fan cover / Box	Brake lead wire		
Standard	Hole (left)	Hole (Load-side)	Hole (right)	Standard	Hole (left)	Hole (Load-side)	Hole (right)
Standard	H6	H3	HZ	Standard	H6	H3	HZ
T (right)	T (right) Hole (lower)	T (right) Hole (Load-side)	T (right) Hole (upper)	T (right)	T (right) Hole (lower)	T (right) Hole (Load-side)	T (right) Hole (upper)
T3 ＊	T3 H6 ＊	T3 H3 ＊	T3 HZ ＊	T3 ＊	T3 H6 ＊	T3 H3 ＊	T3 HZ ＊
T (upper)	T (upper) Hole (right)	T (upper) Hole (Load-side)	T (upper) Hole (left)	T (upper)	T (upper) Hole (right)	T (upper) Hole (Load-side)	T (upper) Hole (left)
TZ ＊	TZ H6 ＊	TZ H3 ＊	TZ HZ ＊	TZ ＊	TZ H6 ＊	TZ H3 ＊	TZ HZ ＊
T (left)	T (left) Hole (upper)	T (left) Hole (Load-side)	T (left) Hole (lower)	T (left)	T (left) Hole (upper)	T (left) Hole (Load-side)	T (left) 穴 (lower)
T9 ＊	T9 H6 ＊	T9 H3 ＊	T9 HZ ＊	T9 ＊	T9 H6 ＊	T9 H3 ＊	T9 HZ ＊

Note 1) All the diagrams show the profile viewed from anti-load side of the motor.
2) No need to direct for standard position.
3) Be sure that customers cannot modify the position of the models 0.1kW～0.2kW for the reason of its construction. If modification of position is needed, direct us beforehand with the code in the above diagram.
4) In case of brake motor, the brake lead wire is basically positioned in the same direction as the terminal box.
5) No need to direct the hole position in the lead wire type model.
6) ＊ This mark indicates that the fan cover will extrude from the flange surface. For detailed measurement of the extruded part, refer to page E66.



●Meanings of Designations
1) "T" indictaes "Terminal Box".
2) "H" indicates the supply inlet hole.

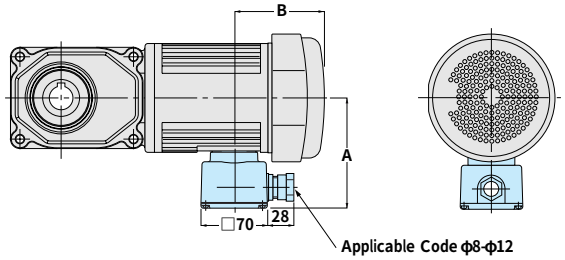
Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Terminal Box Measure and Position
Gearmotor•Gearmotor with Brake in common

Terminal Box for F3 Series (Hollow shaft and Solid Shaft)

Terminal Box attached is the standard spec. of F3 Series 3-Phase motors. If requested, terminal box can also be attached to the S100 Single-phase motors. Direct us when ordering.

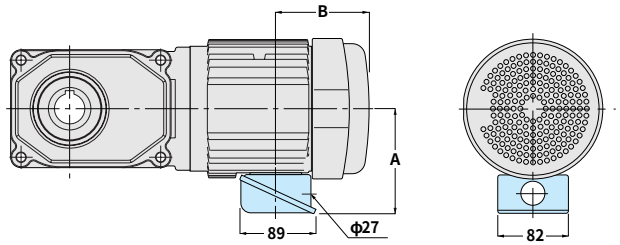
F3S•F3F in common



Motor capacity designation	Box Type	A	B		Modification of Box Position
			Gearmotor	Brake Gearmotor	
T010•T010W	A (Z)	117	47.5	87.5	90 °dividing
T020•T020W	A (Z)	117	78.5	95.5	90 °dividing
T040•T040W	A (Z)	123	84.5	104	90 °dividing
S100•S100W	A	117	87.5	87.5	90 °dividing

Note 1) Figures above illustrates the standard position of terminal box. For the modification of position, direct us when ordering. Refer to page E37.
2) (Z) in the Box Type column indicates the brake motor with built-in rectifier. Nevertheless , built-in rectifier type is not available in S100• S100W.
3) Above figure is just a representative. There are different motor shapes at the gear head.

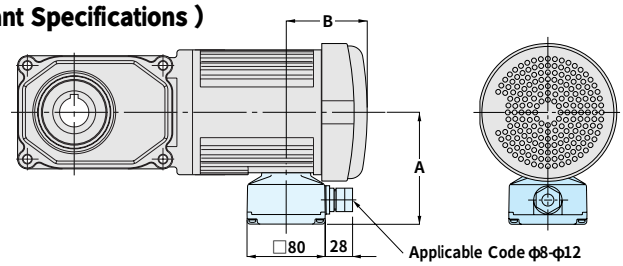
F3S•F3F in common



Motor capacity designation	Box Type	A	B		Modification of Box Position
			Gearmotor	Brake Gearmotor	
075•075W	T	122	101	108	90 °dividing
150•220•150W•220W	T	133	111.5	132	90 °dividing

Note 1) Figures above illustrates the standard position of terminal box. For the modification of position, direct us when ordering. Refer to page E37.
2) Above figure is just a representative. There are different motor shapes.

F3S in common (Water-Resistant Specifications)



Motor capacity designation	Box Type	A	B		Modification of Box Position
			Gearmotor	Brake Gearmotor	
T010•T010W	E	108.5	47.5	99	90 °dividing
T020•T020W	E	108.5	78	128	90 °dividing
T040•T040W	E	114.5	83	141	90 °dividing
075•075W	E	126.5	94	163.5	90 °dividing
150•220•150W•220W	E	137.5	110.5		90 °dividing

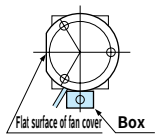
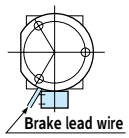
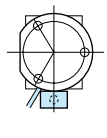
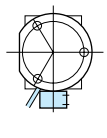
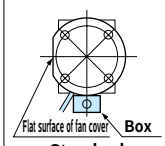
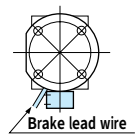
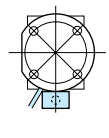
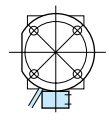
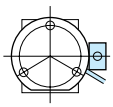
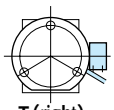
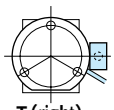
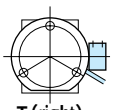
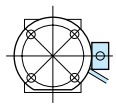
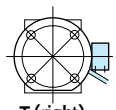
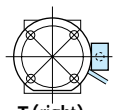
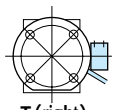
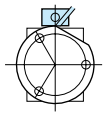
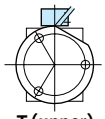
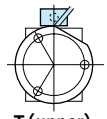
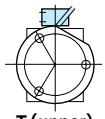
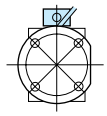
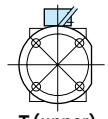
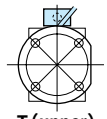
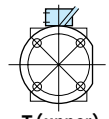
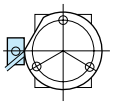
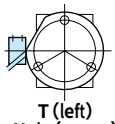
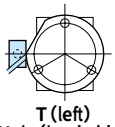
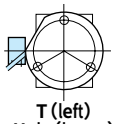
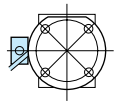
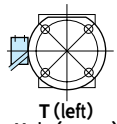
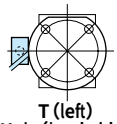
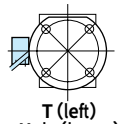
Note 1) Figures above illustrates the standard position of terminal box. For the modification of position, direct us when ordering. Refer to page E37.
2) Above figure is just a representative. There are different motor shapes.

Position Change
Gearmotor・Gearmotor with Brake in common

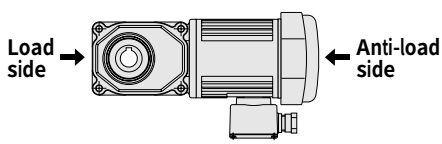
Direction method when modifying the position of lead wire type terminal box F3 series.

If non-standard positioning of the terminal box is needed, direct us with the code enclosed with ▭ in the table below:

Direction Method

Motor capacity designation (T010 ・T020 ・S100 ・200 / T010W・T020W・S100W ・200W (Lead wire only))				Motor capacity designation (T040 ・075 ・150 ・220 ・400 / T040W・075W・150W・220W ・400W (Lead wire only))			
Modification of Box Position and Power Source Inlet Position				Modification of Box Position and Power Source Inlet Position			
 Standard	 Hole (left)	 Hole (load side)	 Hole (right)	 Standard	 Hole (left)	 Hole (load side)	 Hole (right)
Standard	H6	H3	HZ	Standard	H6	H3	HZ
 T (right)	 T (right) Hole (lower)	 T (right) Hole (load side)	 T (right) Hole (upper)	 T (right)	 T (right) Hole (lower)	 T (right) Hole (load side)	 T (right) Hole (upper)
T3	T3 H6	T3 H3	T3 HZ	T3	T3 H6	T3 H3	T3 HZ
 T (upper)	 T (upper) Hole (right)	 T (upper) Hole (load side)	 T (upper) Hole (left)	 T (upper)	 T (upper) Hole (right)	 T (upper) Hole (load side)	 T (upper) Hole (left)
TZ	TZ H6	TZ H3	TZ HZ	TZ	TZ H6	TZ H3	TZ HZ
 T (left)	 T (left) Hole (upper)	 T (left) Hole (load side)	 T (left) Hole (lower)	 T (left)	 T (left) Hole (upper)	 T (left) Hole (load side)	 T (left) Hole (lower)
T9	T9 H6	T9 H3	T9 HZ	T9	T9 H6	T9 H3	T9 HZ

Note 1) All the diagrams show the profile viewed from anti-load side of the motor.
2) No need to direct for standard position.
3) Be sure that customers cannot modify the position of the models 0.1kW～0.2kW for the reason of its construction. If modification of position is needed, direct us beforehand with the code in the above diagram.
4) In case of brake motor, the brake lead wire is basically positioned in the same direction as the terminal box.
5) No need to direct the hole position in the lead wire type model.



●Meanings of Designations
1) "T" indictaes "Terminal Box".
2) "H" indicates the supply inlet hole.

Gearmotor with Clutch and Brake
Specifications・Structure・Wiring

Specifications of clutch and brake 〈Standard Type〉

〈Table-16〉

Item \ Motor Capacity	3-Phase 0.1kW	3-Phase 0.2kW	3-Phase 0.4kW	3-Phase 0.75kW
Motor Capacity Designation	T010・T010W	T020・T020W	T040・T040W	075・075W
Brake Type	Magnet close			
Static Friction Torque (N・m){kgf・m}	1.96{0.20}	1.96{0.20}	3.92{0.40}	7.35{0.75}
Dynamic Friction Torque (N・m){kgf・m}	1.57{0.16}	1.57{0.16}	3.14{0.32}	5.88{0.60}
Exciting Voltage DC (Average) Rectifier Attached (V)	90			
Power (at 75°C Clutch/Brake) (W)	10/12	10/12	14/16	13/19
Current (at 75°C Clutch/Brake) (A)	0.11/0.14	0.11/0.14	0.15/0.18	0.14/0.21
Armature Braking Time ta(s)	0.010	0.010	0.015	0.020
Torque Buildup Time (s)	0.020	0.020	0.050	0.070
Torque Extinction Time (s)	0.015	0.015	0.020	0.040
Allowable Continuous Works (per time) (J){kgf・m}	15{1.5}	15{1.5}	27{2.7}	49{4.9}
Allowable Total Work Emax (J)	1.2×10^8	1.2×10^8	2.2×10^8	4.3×10^8
{kgf・m}	1.2×10^7	1.2×10^7	2.2×10^7	4.3×10^7
Allowable Braking Frequency (times/minute)	50			

Note) The allowable braking frequency is a guideline value and it differs according to the using condition.

Specifications of clutch and brake 〈Reinforced Type〉

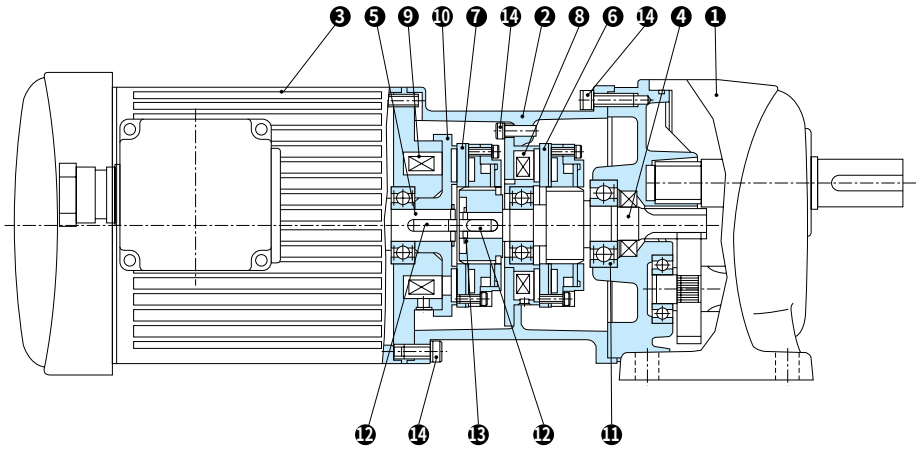
〈Table-17〉

Item \ Motor Capacity	3-Phase 0.2kW	3-Phase 0.4kW	3-Phase 0.75kW
Motor Capacity Designation	T020・T020W	T040・T040W	075・075W
Brake Type	Magnet close		
Static Friction Torque (N・m){kgf・m}	1.96{0.20}	3.92{0.40}	7.35{0.75}
Dynamic Friction Torque (N・m){kgf・m}	1.57{0.16}	3.14{0.32}	5.88{0.60}
Exciting Voltage DC (Average) Rectifier Attached (V)	90		
Power (at 75°C Clutch/Brake) (W)	14/15	13/18	11/12
Current (at 75°C Clutch/Brake) (A)	0.15/0.17	0.14/0.20	0.13/0.13
Armature Braking Time ta(s)	0.010	0.015	0.020
Torque Buildup Time (s)	0.020	0.050	0.070
Torque Extinction Time (s)	0.015	0.020	0.040
Allowable Continuous Works (per time) (J){kgf・m}	15{1.5}	27{2.7}	49{4.9}
Allowable Total Work Emax (J)	2.2×10^8	4.3×10^8	5.5×10^8
{kgf・m}	2.2×10^7	4.3×10^7	5.5×10^7
Allowable Braking Frequency (times/minute)	50		

Note 1) The allowable braking frequency is a guideline value to avoid excessive motor temperature rise. Braking frequency can be increased when load is light or motor is sufficiently cooled. (Be sure to maintain the motor surface temperature below 80°C.)
2) Be sure to avoid continuous energizing to the clutch/brake coil during the motor stops.
3) Use the rectifier attached for the power supply to the clutch/brake. If different type of rectifier is to be used, consult us.
4) The values of the static and dynamic friction torques are just guidelines and not guaranteed ones.

Note) The allowable braking frequency is a guideline value and it differs according to the using condition.

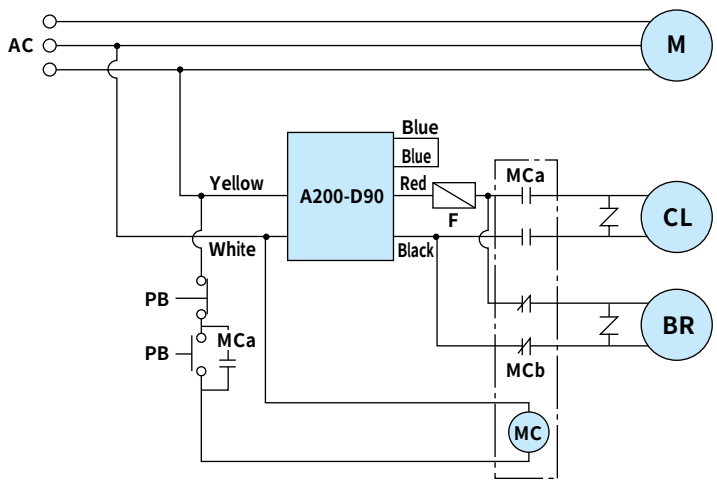
Structure



❶ Gear head
❷ Bracket
❸ Motor
❹ OSP (spline moving type)
❺ Motor shaft
❻ Armature (for brake)
❼ Armature (for clutch)
❽ Field (for brake)
❾ Field (for clutch)
❿ Clutch rotor
⓫ Bearing
⓬ Key
⓭ Retaining ring
⓮ Hex socket head bolt

Wiring Method

For the brake operation of this clutch/brake motor, DC voltage 90V should be employed. Connect the attached rectifier A200-D90 and the surge suppressor (ENC471D-10A) for quenching spark, according to the wiring method described below. For the dimension of the rectifier, refer to page E22.



Ⓜ : Motor
Ⓒ : Clutch
Ⓑ : Brake
Ⓜ : Relay Coil
MCa : Magnetic Contact POC a
MCb : Magnetic Contact POC b
Z : Surge Suppressor (attached ENC471D-10A)
PB : Push Button Switch
F : Fuse

Note 1) For protecting the rectifier, put a fuse (capacity 1A) in the input or output side.
2) As the rectifier contains diodes, improper wiring may cause fatal short-circuiting. So special care should be given to the wiring.
3) For the relay capacity for the clutch/brake circuit, DC110V, DC13 class is recommended for its ability of cutting off the inductive load (DC coil). In case of using non-contact relay, apply the rated voltage of AC240V equivalent(half-wave rectification switchable)
4) As for the wiring for 3-phase double voltage or a special voltage of over 230V model, be sure to connect 200V terminal (red lead wire, 0.75 kW for B terminal) which are extended out from the motor, to the input terminal of the rectifier.

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Gearmotor with Clutch and Brake
Structure and position of terminal box

Terminal Box for clutch and brake type.

■**Following assortments are available in the terminal box for GTR gearmotors with clutch/brake.**

Series	No. of Phase	Motor capacity designation	Terminal Box	
			Standard or optional spec	Box Type
H2-Series (Right Angle Shaft)	3-Phase	T020•T020W	△	A
		T040•T040W	○	A
		075•075W	○	T

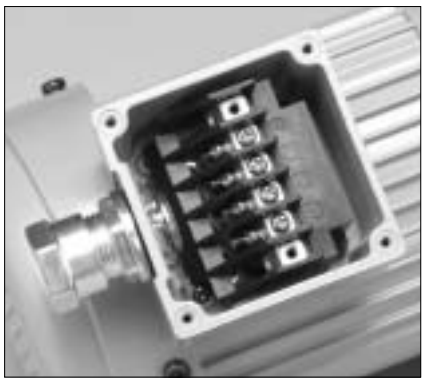
Series	No. of Phase	Motor capacity designation	Terminal Box	
			Standard or optional spec	Box Type
G3-Series (Parallel Shaft)	3-Phase	T010•T010W	△	A
		T020•T020W	△	A
		T040•T040W	○	A
		075•075W	○	T

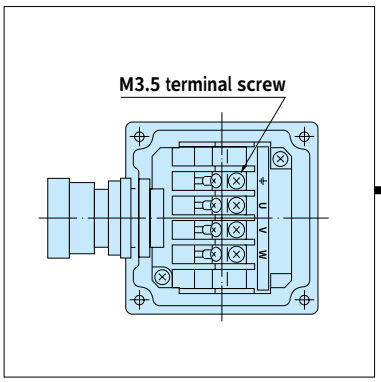
Note 1) "○" : Terminal box attached is the standard spec.
"△": Terminal box attached is the optional spec.

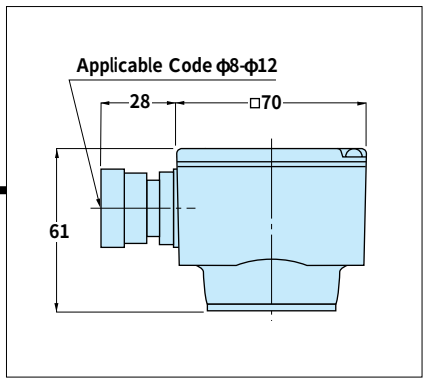
■Types and Structures

● A-Type Terminal Box

3-Phase/Standard Voltage•High Voltage

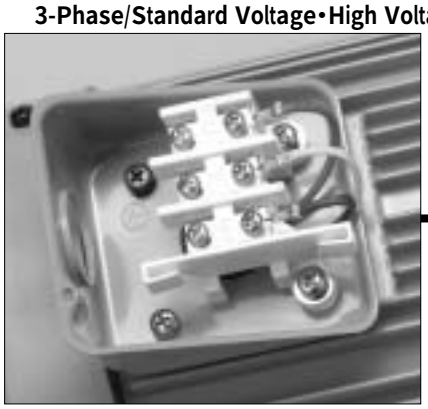


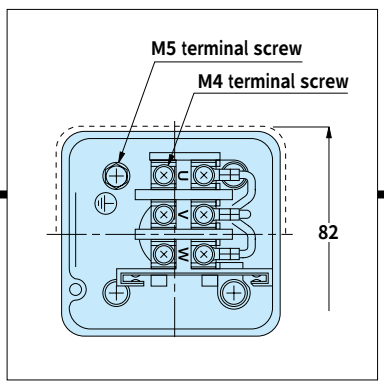


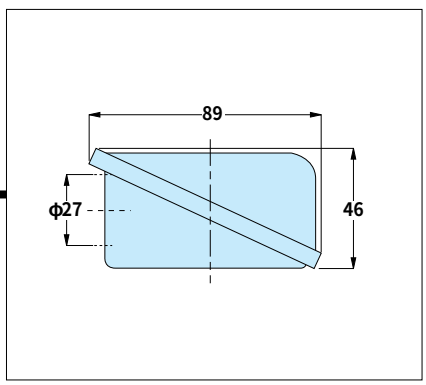


● T-Type Terminal Box

3-Phase/Standard Voltage•High Voltage



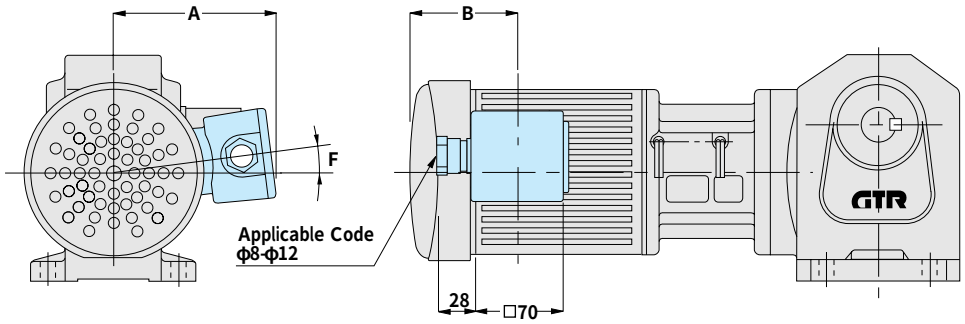




Dimensions of Terminal Box and Position Change

Both H2 Series and G3 Series with the capacity below 0.2kW are the models without terminal box. However, if required, terminal box can be attached. Direct us when ordering.

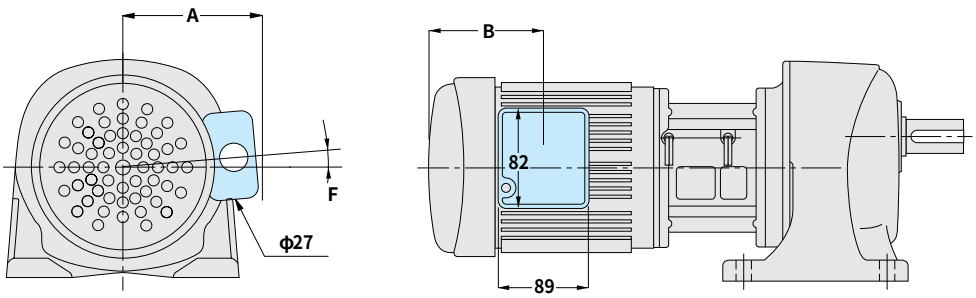
H2•G3 in common



Motor capacity designation	Type	A	B	F	Modification of Box Position
T010•T010W	A	117	47.5	0 °	Please ask us for detail.
T020•T020W	A	117	78.5	0 °	Please ask us for detail.
Standard Type T040•T040W	A	126	84.5	7.5 °	Please ask us for detail.
Reinforced Type T040•T040W	A	123	84.5	0 °	Please ask us for detail.

Note 1) The position of the box illustrated above is the standard spec. For changing the position of the box, refer to page E35.
2) Above figure is just a representative. Gear head part and/or motor shape differs according to it's capacity.
3) No strengthened type is available in the H2 Series.

H2•G3 in common



Motor capacity designation	Type	A	B	F	Modification of Box Position
Standard Type 075•075W	T	127	101	7.5 °	Please ask us for detail.
Reinforced Type 075•075W	T	122	101	0 °	Please ask us for detail.

Note 1) The position of the box illustrated above is the standard spec. For changing the position of the box, refer to page E35.
2) It you ask to change the position of terminal box, the clutch brake lead wires come same direction with terminal box. Please be careful not to get exogenous materials in the apertural area of clutch brake.
3) Above figure is just a representative. Gear head part and/or motor shape differs according to it's capacity.
4) No strengthened type is available in the H2 Series.

On Combination of Gearmotor and Inverter

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

1. Range of Frequency to be Effective

In general, frequency of 5~ 120Hz is recommended.

＊For gearmotors with clutch/brake, frequency of 5～60Hz is recommended.

(1) Cautions for high speed operations of more than 60Hz.:

In the high speed operations of more than 60Hz, vibration and noise will increase. Also, circumferential velocity increased, which may result in shortening of oil seal life.

(2) Cautions for low speed operations:

In the low speed operation, the cooling effect may decrease, which may result in abnormal temperature rise in motor. Therefore, care should be given to the low speed operations. (Be sure to maintain the temperature of the motor surface below 80℃.)

2. Torque Characteristics of the motor (Operation Limit)

The torque characteristics of the motor (operation limit) differ according to the inverter to be combined with and/or controlling method. We have ready made inverter set (set with the inverter "J1000" produced by Yasukawa Denki) The employment of this set provides you continuous low speed operation. For more details, refer to the "Range of continuous rated operation" on page E86.

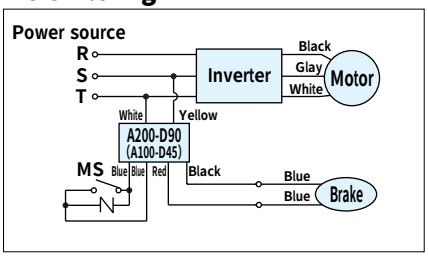
3. In case of gearmotors with brake:

For wiring the brake, be sure to bypass the inverter. (Power supply should be from the primary side of the inverter)

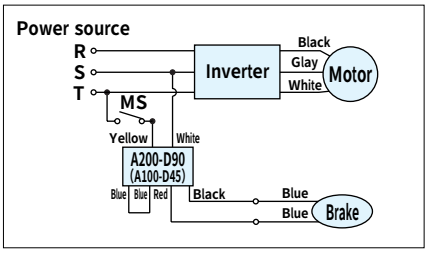
Fluctuations of the voltage may result in braking failure.

Refer to the wiring diagram below:

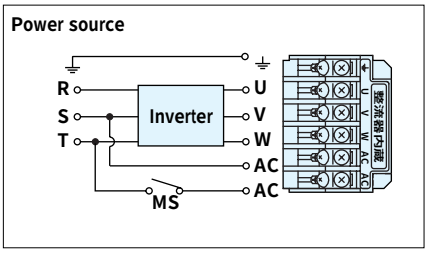
DC Switching



AC Switching (A)



Z-Type Terminal Box (Rectifier built-in) AC Switching A)



4. Correction of the Allowable Value (selection)

At high-speed operation, correction of the allowable value is necessary. To determine the value, multiply the correction coefficient referring to the "Allowable Torque Coefficient by reducer's input rotation speed".

5. In case of driving 400V class motor with inverter

Surge voltage may arise between the terminals of the motor, which may weaken the insulation effect of the motor. In general, there are two ways to suppress the surge voltage, namely, one for suppressing the voltage at the initial stage(output reactor) and the other for suppressing the crest value (output filter).

(1) Output Reactor

If the wiring length is relatively short, install the AC reactor in the inverter output side and suppress the crest value. This enables the surge voltage reduced. Suppression of the crest value of the surge voltage may be difficult if the wiring is long.

(2) Output filter

Install the filter in the inverter output side and suppress the crest value of the terminal voltage of the motor.

Since the explanations stated above are the general handling methods, we recommend you to consult with the inverter manufacturer for more details.

Specification of Motor Lead Wire

3-Phase Standard Voltage (3Rated)

Capacity	Motor Capacity Designation	Lead Wire Spec
50W	T50	UL3266 AWG20
0.1kW	T010	UL3271 AWG18
0.2kW	T020	
0.4kW	T040	
0.75kW	075	UL3398 AWG16
1.5kW	150	
2.2kW	220	

1-Phase Standard Voltage

Capacity	Motor Capacity Designation	Lead Wire Spec
100W	S100 Note1	UL3271 AWG18
	100 Note1	UL3398 AWG16
200W	200	
400W	400	

Note 1) The corresponding models for the motor capacity designation S100 are F-Series and H2-Series. Also the corresponding models for the motor capacity designation 100 are G3-Series.

3-Phase High Voltage (4Rated)

Capacity	Motor Capacity Designation	Lead Wire Spec
50W	T50W	UL3271 AWG24
0.1kW	T010W	UL3271 AWG18
0.2kW	T020W	
0.4kW	T040W	
0.75kW	075W	UL3289 AWG20
1.5kW	150W	
2.2kW	220W	

Note) In case of gearmotor with brake, the 200V terminal is extended out from the motor. In the 200V terminal, the specifications are UL3266 AWG20 for the models with the capacity of 50W~0.4kW and UL3289 AWG20 for the models with the capacity of 0.75~2.2kW.

1-Phase High Voltage

Capacity	Motor Capacity Designation	Lead Wire Spec
100W	S100W Note1	UL3271 AWG18
	100W Note1	UL3398 AWG16
200W	200W	
400W	400W	

Note 1) The corresponding models for the motor capacity designation S100 are F-Series and H2-Series. Also the corresponding models for the motor capacity designation 100 are G3-Series.

Others

The Specifications of brake and clutch brake wire is UL3266 AWG20.

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Reducer

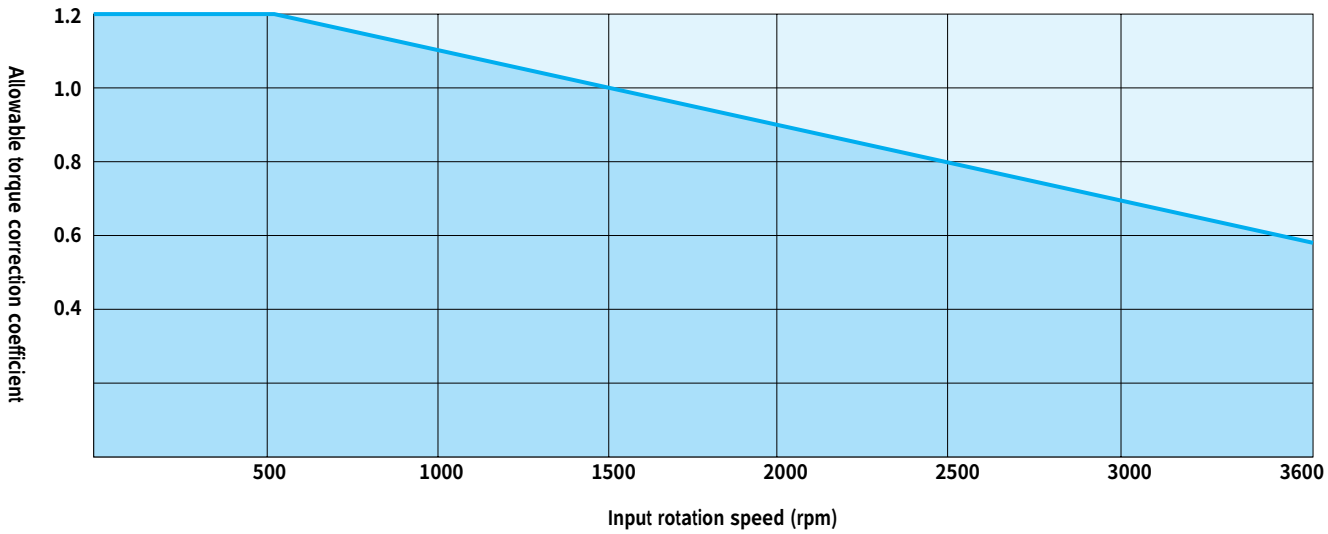
Independent Reducer consists of the reducer part of GTR gearmotors. Use this reducer in the following cases:

1. When required reducer unit only.
2. In case of driving reducer with special motor or with motors other than electric motor.
3. In case input rotation speeds of reducer and motor are different.

Relation between the Input Rotation Speed and the Output Shaft Allowable Torque

The values of output shaft allowable torque in the performance table are the values when the input rotation speed is 1500rpm. In case of using the motor with the different rotation speed, the output allowable torque can be obtained by multiplying the torque correction coefficient in the diagram below

Allowable Torque Coefficient by Reducer Input Rotation speed



1) The allowable O.H.L. can also be obtained by the correction coefficient shown above.
2) As for the allowable inertia moment I {allowable GD^2}, in case of using with the input rotation speed of over 1800rpm, it can be obtained by multiplying (1800/input•rpm)_ to the allowable inertia moment in the Table-2 on page E4.

Example

In case of using the model H2L-32L-40-075 with the input rotation speed of 2500rpm, the output shaft allowable torque, input/output shaft allowable O.H.L., and output shaft allowable inertia moment {GD^2} can be obtained as follows.
From the above table, the correction coefficient at the input rotation speed of 2500rpm is 0.8, therefore values can be obtained as follows:

Output shaft allowable torque =172×0.8=138N•m
{17.5×0.8=14kgf•m}
Input shaft allowable O.H.L. =392×0.8=314N
{40×0.8=32kgf}
Output shaft allowable O.H.L. =3430×0.8=2744N
{350×0.8=280kgf}

Also, the output shaft allowable inertia moment I{GD^2} can be obtained by
0.003× (1800/2500)^2×40^2 2.5kg•m^2
{0.012× (1800/2500)^2×40^2 10.0kgf•m^2}

Designated Motor Attachable Type

S-Type Reducer

All the motors of GTR gearmotor are supplied from the specific manufacturer. In case motors and/or special motors (outdoor motor or increased safety explosion-proof motor, etc) of different manufacturer are requested to be installed, we recommend this S-Type Reducer.
This reducer can be attached if the motor attaching part conforms to JEM1401-1991, with the same dimension as that of the low pressure 3-phase basket-shape inductive motor with flange shape for general use.

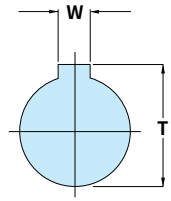
* In case of using a motor like servo motor which has special motor torque characteristics, care should be given to the selection of the reducer model.
* Motor for the S-Type Reducer should be prepared and attached by customer.
* The color of the motor for the S-Type Reducer will be chosen by the motor manufacturer.

Motor Installing Procedure

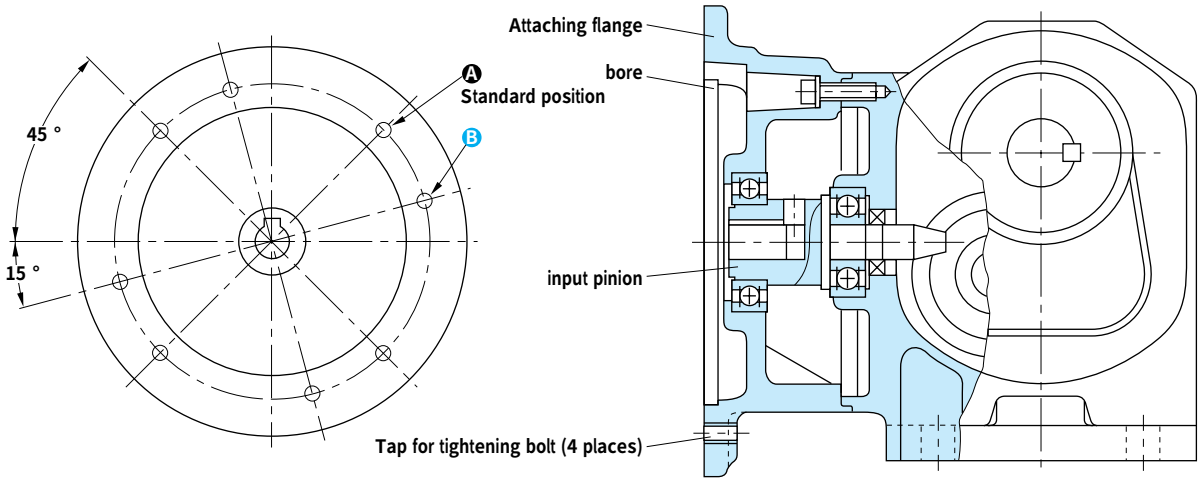
1. Confirm if the key is precisely set in the input pinion. (equiv. 4P motor capacity: 0.1•0.2kW)
2. Fit the key position to the flat part of the motor shaft or key groove and insert it.
3. Confirm if the bore of the motor perfectly fit in, and then tighten with 4 bolts.

Note) Be sure to read the cautions on page E77.

4. Detailed dimension of input pinion key groove



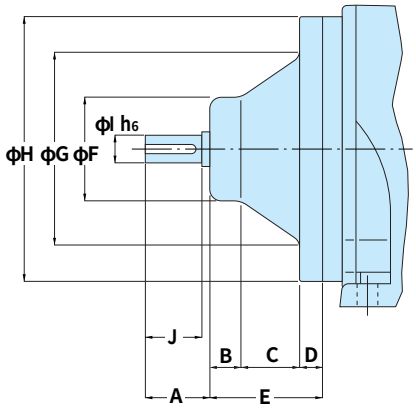
Equiv. capacity 4P motor	W		T	
	Standard Dimension	Dimension Tolerance	Standard Dimension	Dimension Tolerance
0.1kW	5	+0.05 +0.01	13	+0.1 0
0.2kW	5	+0.05 +0.01	13	+0.1 0
0.4kW	5	+0.05 +0.01	16	+0.2 0
0.75kW	6	+0.05 +0.01	21.5	+0.2 0
1.5kW	8	+0.05 +0.01	27	+0.2 0
2.2kW	8	+0.05 +0.01	31	+0.2 0



Note) The position of the tap for tightening bolt is Ⓑ in case of the model with the equivalent capacity of 0.4kW, flame number 40•50. (Except to F3 Series) For cautions when installing motor to the S-Type Reducer, refer to page E77.

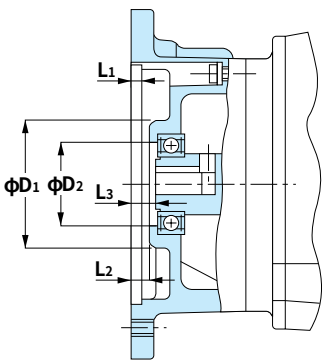
Detailed Dimension Diagram of Input/Output Shaft

G3 Double Shaft Type



Motor Capacity Designation \ Dimension	A	B	C	D	E	F	G	H	I	J	キー
010	28	13.5	25.5	10	49	45	80	115	12	25	4×4×22
020	28	13.5	25.5	10	49	45	80	115	12	25	4×4×22
040	32	13.5	27.5	12.5	53.5	52	92	128	15	30	5×5×27
075	37	17	28.5	11	56.5	64	108	142	20	35	6×6×32
150	42	21	42.5	11	74.5	74	129	165	25	40	8×7×35
220	48	26	41.5	13	80.5	90	130	165	30	45	8×7×40

G3 S-Type Reducer

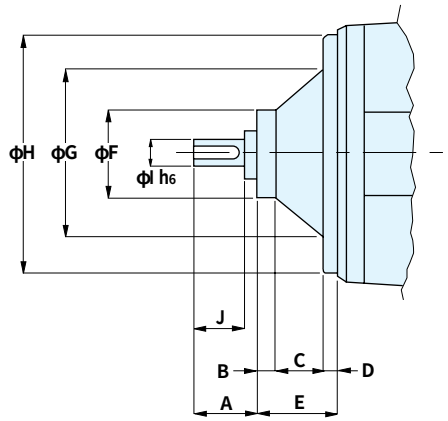


Motor Capacity Designation \ Dimension	L1	L2	L3	D1	D2
010	4.5	5.5	8.5	59	39
020	4.5	5.5	8.5	59	39
040	4.5	5.5	8.5	59	39
075	4.5	5.5	10	67	47
150	4.5	6.5	12.5	88	62
220	5	7	13	96	70

Note) Each dimension indicated shows standard value. It is recommended to have enough allowance especially for the L^2, D^1 and D^2 parts for their rough surfaces.

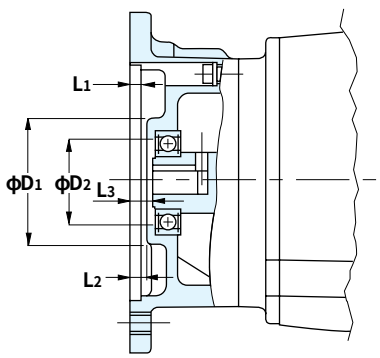
Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

H2 Double Shaft Type



Dimension / Motor Capacity Designation	A	B	C	D	E	F	G	H	I	J	キー
020 Frame No. 22～28	28	10	22	8	40	43	80	114.5	12	25	4×4×22
020 Frame No. 32～40	28	13.5	25.5	10	49	45	80	115	12	25	4×4×22
040	32	10	26.5	10	46.5	48	92	127	15	30	5×5×27
075	37	17	25.5	10	52.5	62	105	142	20	35	6×6×32
150	42	21	42.5	11	74.5	74	129	165	25	40	8×7×35
220	48	26	41.5	13	80.5	90	130	165	30	45	8×7×40

H2 S-Type Reducer



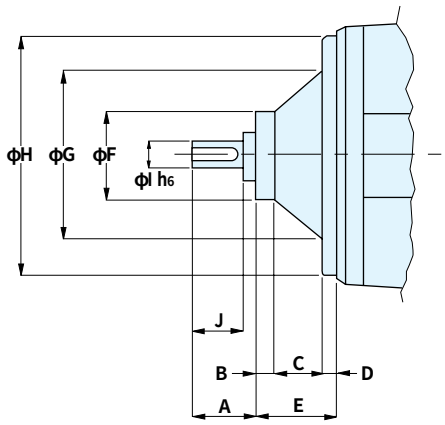
Dimension / Motor Capacity Designation	L_1	L_2	L_3	D_1	D_2
010	4.5	5.5	8.5	59	39
020	4.5	5.5	8.5	59	39
040	4.5	5.5	8.5	59	39
075	4.5	5.5	10	67	47
150	4.5	6.5	12.5	88	62
220	5	7	13	96	70

Note) Each dimension indicated shows standard value. It is recommended to have enough allowance especially for the L^2, D^1 and D^2 parts for their rough surfaces.

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

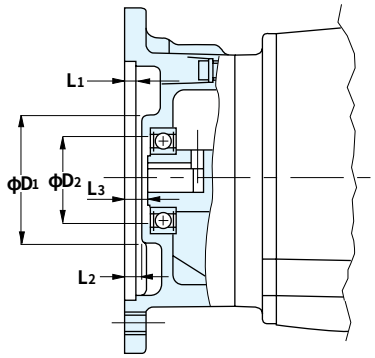
Detailed Dimension Diagram of Input Shaft

F/F3 Double Shaft Type



Dimension / Motor Capacity Designation	A	B	C	D	E	F	G	H	I	J	key
010	28	10	22	8	40	43	80	114.5	12	25	4×4×22
020	28	10	22	8	40	43	80	114.5	12	25	4×4×22
040	32	10	26.5	10	46.5	48	92	127	15	30	5×5×27
075	37	17	25.5	10	52.5	62	105	142	20	35	6×6×32
150	42	21	42.5	11	74.5	74	129	165	25	40	8×7×35
220	48	26	41.5	13	80.5	90	130	165	30	45	8×7×40

F/F3 S-Type Reducer



Dimension / Motor Capacity Designation	L_1	L_2	L_3	D_1	D_2
010	4.5	5.5	8.5	59	39
020	4.5	5.5	8.5	59	39
040	4.5	5.5	8.5	59	39
075	4.5	5.5	10	67	47
150	4.5	6.5	12.5	88	62
220	5	7	13	96	70

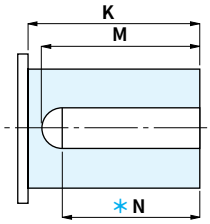
Note) Each dimension indicated shows standard value. It is recommended to have enough allowance especially for the L^2, D^1 and D^2 parts for their rough surfaces.

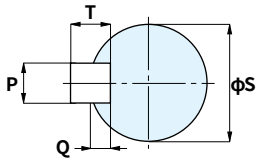
Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Detailed Dimension Diagram of out put shaft for common

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox



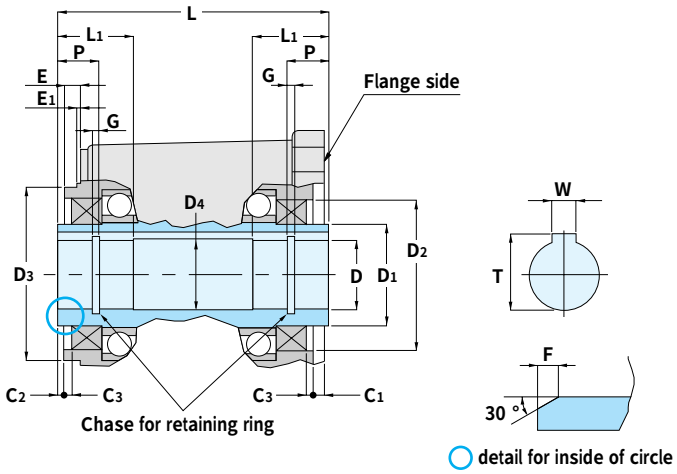


- **G3 Series**
- **H2 Series**
- **F Series FF Type (Solid Shaft)**
- **F3 Series F2F Type (Concentric Solid Shaft)**

Dimension / Frame Number	K	M	N	S (h_6)		Key P (h_9)		Key T		Q
18	30	27	24	18	$^{0}_{-0.011}$	6	$^{0}_{-0.030}$	6	$^{0}_{-0.030}$	3.5
22	40	35	32	22	$^{0}_{-0.013}$					
28	45	40	36	28		8	$^{0}_{-0.036}$	7	$^{0}_{-0.090}$	4
32	55	50	45	32	$^{0}_{-0.016}$	10		8		5
40	65	60	54	40		12	$^{0}_{-0.043}$			
50	75	70	63	50		14		9		5.5

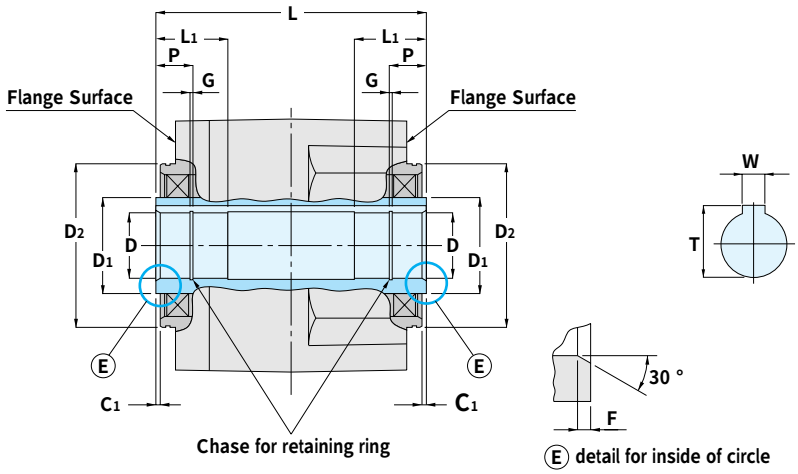
∗distance N is the key length for water-resistance type.

FS Type



Frame Number	D (H_8)	D_1	D_2 (H_8)	D_3 (h_8)	D_4	W	T	L	L_1	P	C_1	C_2	C_3	E	E_1	F	G
20	ϕ20	ϕ29	ϕ 46	ϕ 53	ϕ21	6	22.8	91	24	13	1	2	3	8	0	2	1.15
25	ϕ25	ϕ39	ϕ 58	ϕ 66	ϕ26	8	28.3	108	27	14	6	2	3	6	0	2	1.35
30	ϕ30	ϕ44	ϕ 65	ϕ 75	ϕ31	8	33.3	117	33	17	5	2	3	7	0	2	1.35
35	ϕ35	ϕ49	ϕ 72	ϕ 85	ϕ36	10	38.3	124	38	20	3	2	3	7	0	2	1.75
45	ϕ45	ϕ64	ϕ 85	ϕ100	ϕ46	14	48.8	140	50	26	3	2	3	6	0	2	1.95
55	ϕ55	ϕ79	ϕ100	ϕ120	ϕ56	16	59.3	181	61	32	5	2	5	10	2	2	2.20

F3S Type



Detailed dimension table for the hollow shaft part

Frame Number	D (H8)	D1	D2 (h7)	W	T	L	L1	P	C1	F	G
20	ϕ20	ϕ29	ϕ53	6	22.8	96	24	13	2	2	1.15
25	ϕ25	ϕ39	ϕ66	8	28.3	118	27	14	2	2	1.35
30	ϕ30	ϕ44	ϕ75	8	33.3	124	33	17	2	2	1.35
35	ϕ35	ϕ49	ϕ85	10	38.3	142	38	20	2	2	1.75
45	ϕ45	ϕ64	ϕ100	14	48.8	168	50	26	2	2	1.95
50	ϕ50	ϕ74	ϕ110	14	53.8	172	55	29	2	2	2.20
55	ϕ55	ϕ79	ϕ120	16	59.3	220	61	32	2	2	2.20

＊Refer to the "Differences between F2 Sereis and F3 Series" in page E68.

Detailed Drawing for the Tapped Hole for Face Mount (Standard Specification)

Common to Hollow Shaft/Solid Shaft

Figure1

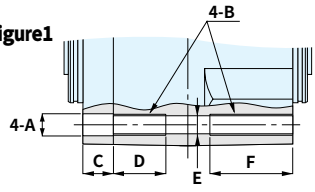
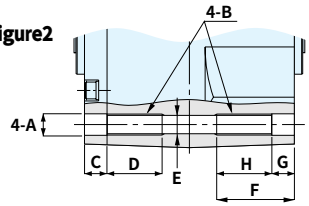


Figure2



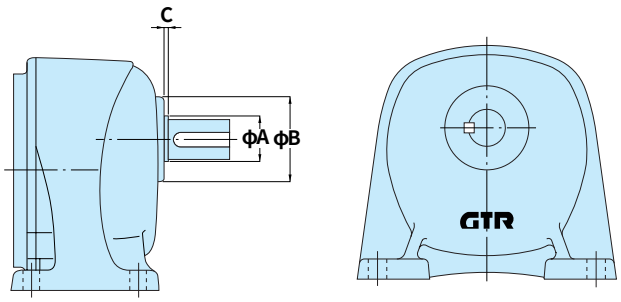
Frame No.	Reduction Ratio	Capacity	Shape	A	B	C	D	E	F	G	H
20 (18)	1／ 5~1／ 60	0.1 kW	Figure1	ϕ10.5	M10×P1.5	12	25	ϕ8.6	37	—	—
25 (22)	1／ 5~1／ 60	0.2 kW		ϕ10.5	M10×P1.5	14.5	25	ϕ8.6	39.5	—	—
	1／ 80~1／ 240	0.1 kW		ϕ10.5	M10×P1.5	14.5	25	ϕ8.6	39.5	—	—
30 (28)	1／ 5~1／ 60	0.4 kW		ϕ10.5	M10×P1.5	15.5	25	ϕ8.6	40.5	—	—
	1／ 80~1／ 240	0.2 kW		ϕ12.5	M12×P1.75	15.5	30	ϕ10.6	45.5	—	—
30	1／ 300~1／ 375	0.1 kW									
35 (32)	1／ 5~1／ 60	0.75kW		ϕ12.5	M12×P1.75	18	30	ϕ10.6	48	—	—
	1／ 80~1／ 240	0.4 kW		ϕ16.5	M16×P2	18	40	ϕ14	58	—	—
35	1／ 300~1／ 375	0.2 kW									
	1／ 450~1／ 750	0.1 kW									
45 (40)	1／ 5~1／ 60	1.5 kW		ϕ16.5	M16×P2	23	40	ϕ14	63	—	—
	1／ 5~1／ 30	2.2 kW									
	1／ 80~1／ 240	0.75kW		ϕ20.5	M20×P2.5	23	50	ϕ17.5	73	—	—
45	1／ 300~1／ 375	0.4 kW									
	1／ 450~1／ 750	0.2 kW									
	1／ 900~1／1200	0.1 kW									
50	1／ 40~1／ 60	2.2 kW	Figure2	ϕ16.5	M16×P2	19	40	ϕ14	59	19	40
55	1／ 80~1／ 240	1.5 kW		ϕ20.5	M20×P2.5	21.5	50	ϕ17.5	71.5	21.5	50
	1／ 80~1／ 120	2.2 kW									
	1／ 300	0.75kW									
	1／ 450~1／ 600	0.4 kW									
	1／ 900~1／1200	0.2 kW									
	1／1500	0.1 kW									

＊Values in the parenthesis in the "Frame Number" are that for F3F.
The necessary holding part of the bolt are recommended to be twice as much as the nominal designation(bolt diameter) of the screw.
(Example: In case of M10, over 20mm is recommended.)

Dimensions around Output Shaft

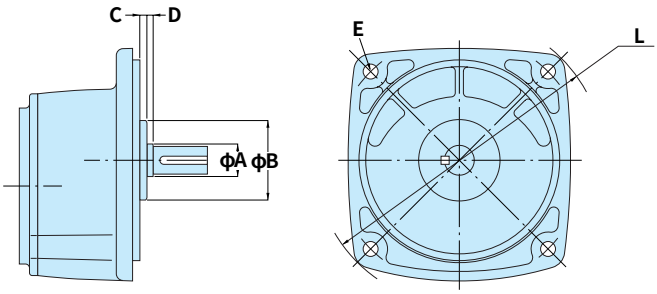
G3 Series

G3L (Foot Mount)



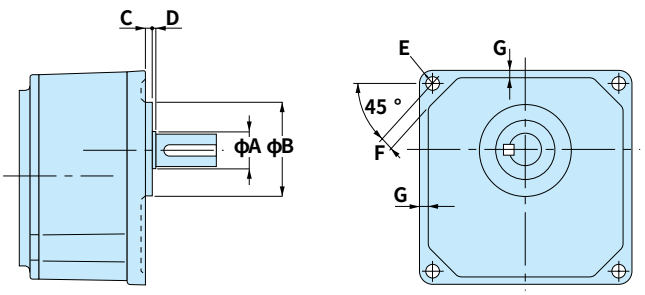
Frame Number \ Dimension	A	B	C
18	20	43	2
22	24	50	2
28	30	60	2
32	34	68	3
40	42	90	3
50	53	105	3

G3F (Flange Mount)



Frame Number \ Dimension	A	B	C	D	E	L
18	20	50	0	2	14	ϕ198
22	24	60	+1	2	12.5	ϕ214
28	30	80	−1	2	12.5	ϕ214
32	34	88	−2	3	15	ϕ282
40	42	100	−2	3	19	ϕ350
50	53	120	0	3	20	ϕ412

G3K (Small Flange Mount)

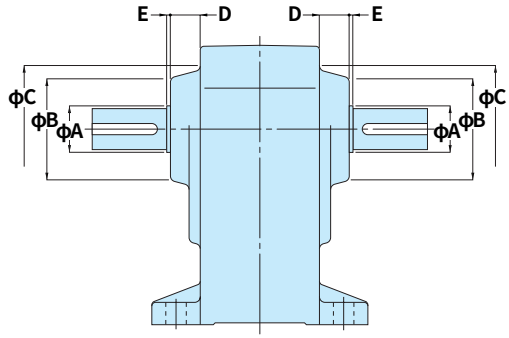


Frame Number \ Dimension	A	B	C	D	E	F	G
18	20	50h7	4	2	9	9	5
22	24	60h7	5	2	9	9	5
28	30	80h7	5	2	11	11	7
32	34	88h7	5	3	13	13	8

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

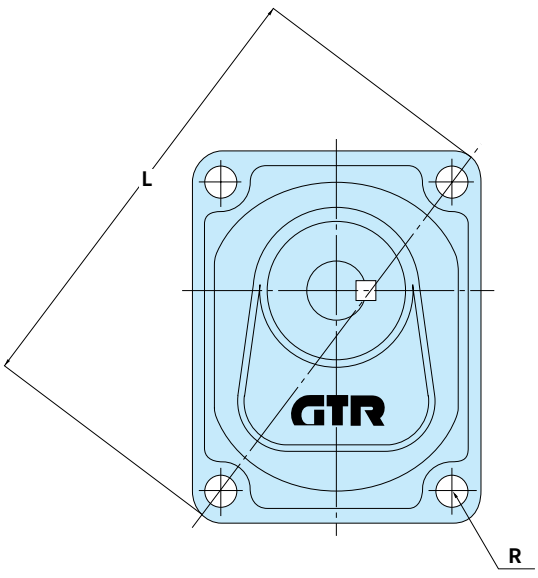
H2 Series

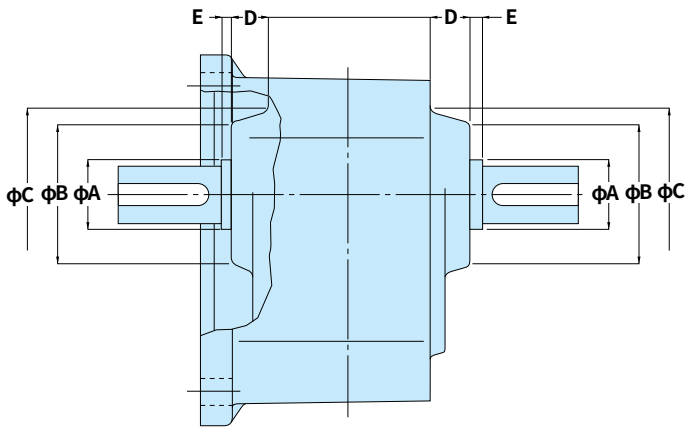
H2L (Foot Mount)



Dimension / Frame Number	A	B	C	D	E
22	25	55	63.5	16	2
28	30	67	76	16	2
32	35	78	88	17	3
40	45	92	104	21	2
50	55	110	122	22	3

H2F (Flange Mount)





Dimension / Frame Number	A	B	C	D	E	R	L
22	25	55	63.5	16	2	12	174

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

FS·F3S Type
Attachment and Detachment of Hollow Shaft

Attachment of Hollow Shaft and Driven Shaft of Reducer

1. Apply anti-seizing agent proper for the using circumstance such as molybdenum disulfide, on the surface of the driven shaft and the bore of the hollow shaft, and then insert the reducer in the driven shaft.
2. In case impact does not affect in the uniform load, "h_7" tolerance is recommended for the driven shaft. In case shock load is imposed or great radial load is observed, tighten the fittings. "H_2" tolerance is recommended for the bore of the hollow shaft.
3. If the fitting is too tight, tap the edge of the hollow drive shaft with the plastic hummer and fit together. In this case, never hit the casing. Smoother insert can be obtained if you prepare jigs shown in the figure below:

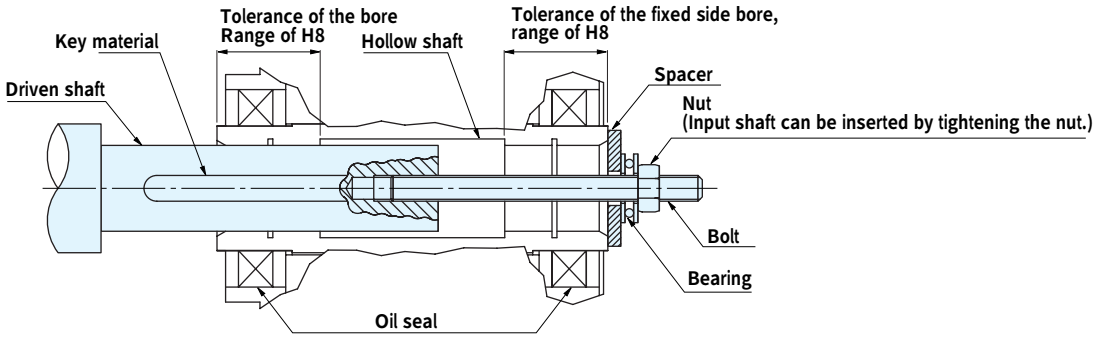


Figure-1

Spacer, nuts, bolts, key materials and bearing parts should be prepared by customer.

4. The length of the driven shaft and the fixing key are recommended to be within the tolerance of H_8 range of the fixed side bore. (The dimension of the bore H_8 tolerance part can be seen as L1 in the "Detailed figure of the Hollow Shaft" on page E53.)
5. It is recommended to supress the fluctuation at the edge of the driven shaft below 0.05. The greater fluctuation at operation may give harmful effect to the reducer.

Connecting Reducer with Driven Shaft

1. Driven shaft with shoulder

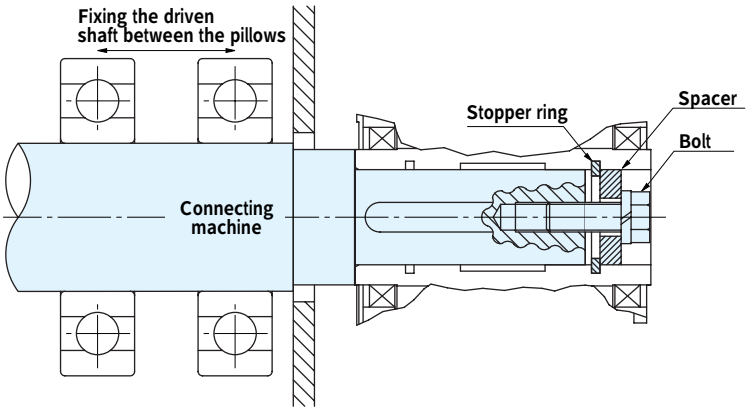


Figure-2 Fixing by spacer and stopper ring

(The spacer, bolt and retaining ring parts should be prepared by customer.)

Note) Excessive tightening of the bolt may cause deformation of the retaining ring, which carefully note.

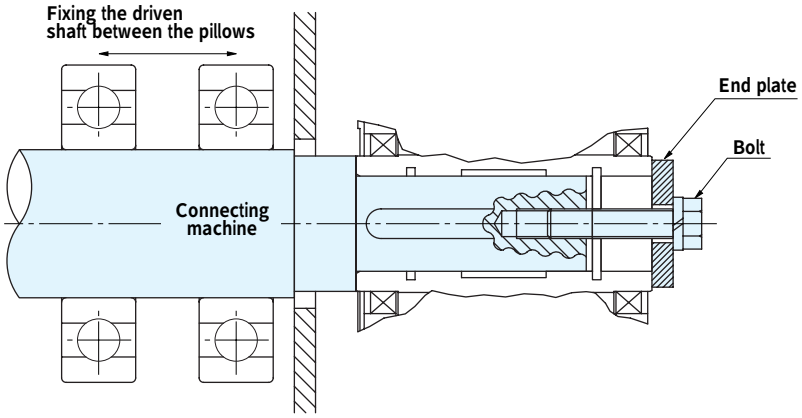


Figure-3 Fixing by End plate
(End plate, bolt parts should be prepared by customer.)

Note) The resin cover which is the attachment of F-Series, cannot be attached, which please note. Safety measure such as preparing the protective cover, should be given by customer in order to avoid wind-in at the output shaft.

❷ Driven shaft without shoulder

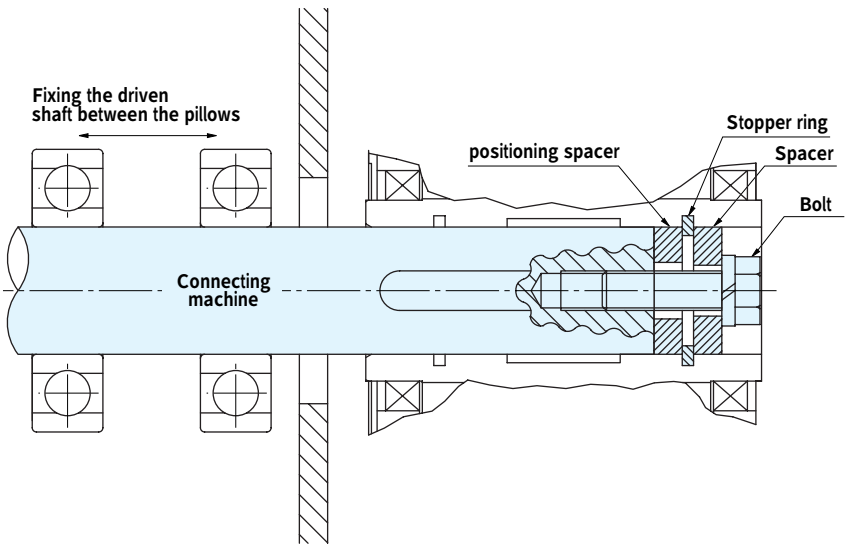


Figure-4 Fixing by spacer and stopper ring
(Spacer, positioning spacer, bolt and stopper ring parts should be prepared by customer.)

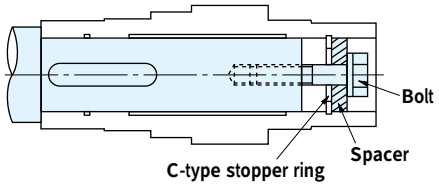
Note) Be sure to have space between the outer diameter of the spacer and the inner diameter of the hollow shaft. Excessive tightness of the fitting or inaccuracy of the spacer1s diameter may cause greater fluctuation on the driven and hollow shafts. Positioning spacer is used when deciding the position of the reducer. In case the length of the driven shaft is clarified preliminarily, positioning spacer is not necessary. By having positioning spacer, smooth detachment from the hollow shaft can be obtained. (For the details of detachment from the hollow shaft, refer to Figure-5 on page E58.)

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

FS・F3S Type
Attachment and Detachment of Hollow Shaft

Recommended size for the driven shaft fixing part.

For the attachment of the hollow shaft in general use, we recommend you to refer to the dimensions shown on the right as a guideline for the strength when designing.

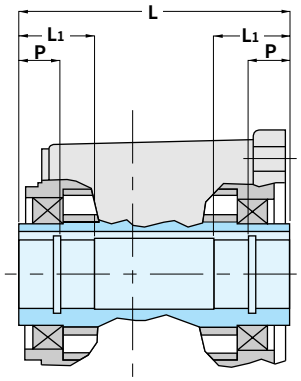


<Recommended sizes for the driven shaft fixing parts>

	Bolt size	Spacer measurements			Nominal designation for C-type stopper ring
		Outer diameter	Inner diameter	Width	
FS -20 F3S-20	M6	ϕ19.5	ϕ7	3	20
FS -25 F3S-25	M6	ϕ24.5	ϕ7	4	25
FS -30 F3S-30	M8	ϕ29.5	ϕ9	5	30
FS -35 F3S-35	M10	ϕ34.5	ϕ11	5	35
FS -45 F3S-45	M10	ϕ44.5	ϕ11	5	45
F3S-50	M12	ϕ49.5	ϕ13	6	50
FS -55 F3S-55	M12	ϕ54.5	ϕ13	6	55

About the length of driven shaft

The driven shaft must be reached to the both side of the L_1 part. (As shown on the right figure) However, be sure to have an allowance for the spacer's dimension necessary at the "detachment from the hollow shaft".



About the length of key for the driven shaft

The length of the key should be more than 1.5 times of the diameter of hollow shaft. Also, the key inserting position should be the place where more than 1/2 of the total key length can be reached to L_1. (Refer to the figure on the right)

Detaching from the Hollow Shaft

Make sure to avoid excessive force between the casing and the hollow shaft. Smoother detachment can be obtained by using a jig as shown in the figure below:

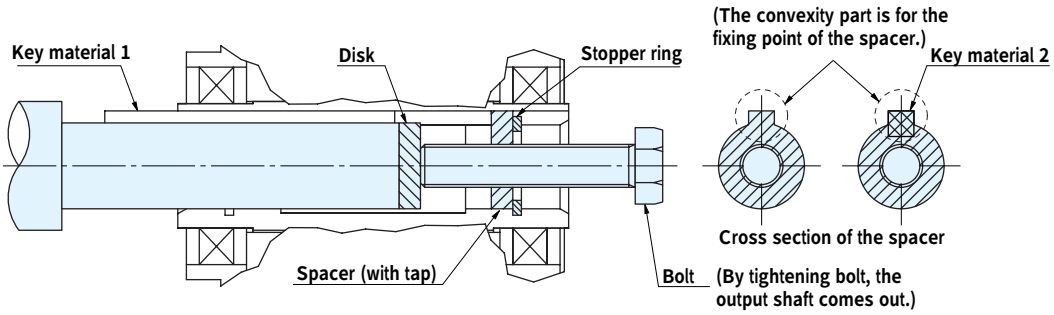


Figure-5

(Parts such as spacer, disk, bolt, stopper ring, etc. should be prepared by customer.)

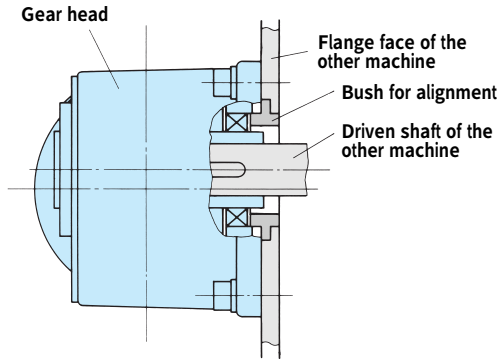
Attaching Reducer

Merits and demerits of flange mounted and torque arm mounted.

	Merits	Demerits
Flange Mounted	•Direct attachment to the machine is possible. •Space saving	•Alignment with the connecting machine is needed. •Four(4) attaching taps are needed for connecting with other machine.
Torque Arm Mounted	•Easy alignment with the connecting machine •Only one fixing point is needed for fixing with other machine	•Torque arm is needed. •Space for attaching torque arm is needed.

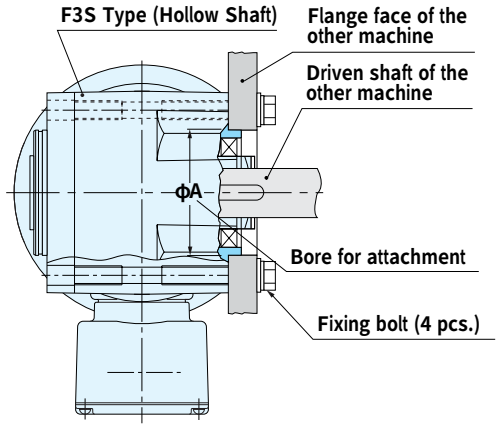
FS Type Hollow Shaft•Flange Mount

When the FS Type unit is directly coupled with the flange face of the other machine, the alignment should be done precisely to avoid motor burn, damage to the bearings, etc. caused by misalignment. Easy alignment can be obtained by using the alignment bush as shown in the diagram on the right. (The alignment bush should be parepared by customer.)



F3S Type Hollow Shaft•Flange Mount

When the F3S Type unit is directly coupled with the flange face of the other machine, the alignment should be done precisely to avoid burnout of motor, damage to the bearings, etc. caused by misalignment. In the F3 Series, there is a bore for the attachment as shown in the diagram on the right. The dimension tolerance of the bore for the attachment ϕA is "h7".
The fixing bolts are to be used as shown in the diagram on the right. Fix by 4 bolts.



FS・F3S-Type Torque Arm

Fixing a Reducer and a Torque Arm

1. Torque arms are subjected to rotation reaction torque, therefore, they must be strong by using materials of enough thickness and bolts to endure the shock load on starting/braking. Choosing our optional torque arms is the most appropriate solution. (Refer to page E61.)
2. When installing a reducer with a torque arm, be sure to tighten the bolt using helical spring lock washers and plain washers. For proper tightening torque, refer to the table shown on the right.

Bolt Size and Respective Tightening Torque

Bolt Size	Tightening Torque N・m{kgf・m}
M5	2.9{ 0.3}
M6	4.9{ 0.5}
M8	13 { 1.3}
M10	25 { 2.6}
M12	44 { 4.5}
M14	69 { 7.0}
M16	108 {11 }
M20	294 {30 }

How to fix the Torque Arm Fixing Part

1. In case of Normal/Reverse Operation

Firmly fix the fixing part of the torque arm. Make sure that there is no radial load (suspending load) imposed between the driven shaft and the hollow shaft of the reducer, caused by poor alignment between the hole of fixing part and the connecting machine. (Refer to the Figure-6)

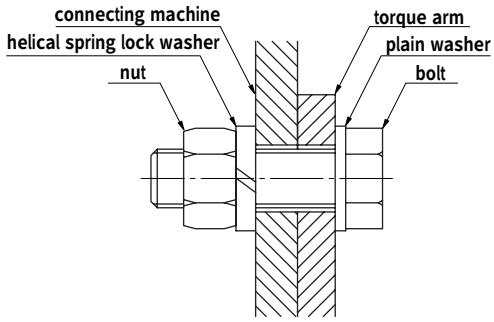
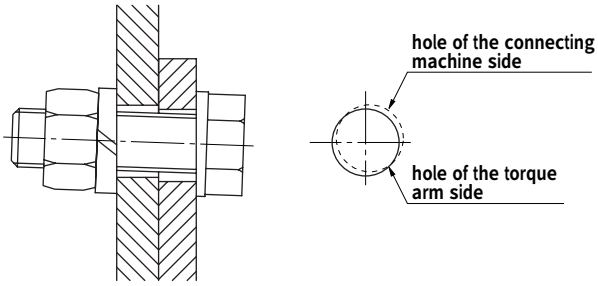


Figure-6 Attaching the fixing part



Excess force arisen in the driven shaft and the hollow shaft may cause failure of the machine.

Bad example

Note) When a backlash in the attaching part arose by normal/reverse operations or by high frequency of starting/stopping, the intense impact given to the torque arm in each starting may cause the failures such as loosening of the tightening bolt.

2. In case of One-Direction Operation

If the frequent staring torque like in the normal/reverse operation, is not observed, operation with the released fixing part of torque arm is possible. However, it is necessary to fix the driven shaft and the hollow shaft. (Refer to page E56～E-57, Figure -2～Figure-4)
In this case, be sure to secure enough space both for radial direction and for thrust direction in the alignment between the connecting machine and the fixing part.

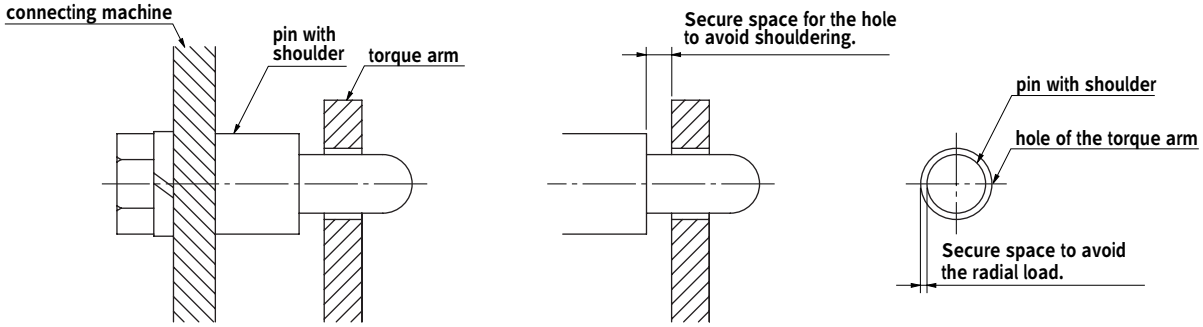


Figure-7 Example of using pin with shoulder

FS Type (Hollow Shaft)•Torque Arm (Option)

Figure No. 1

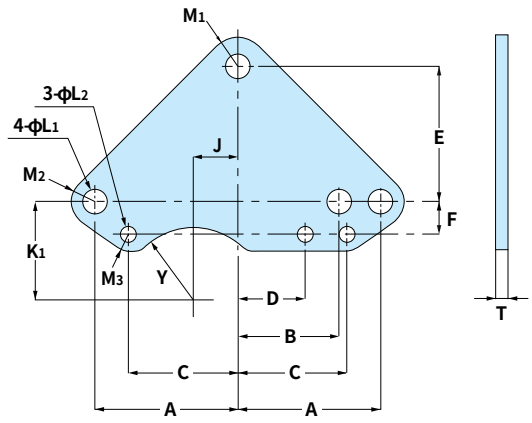
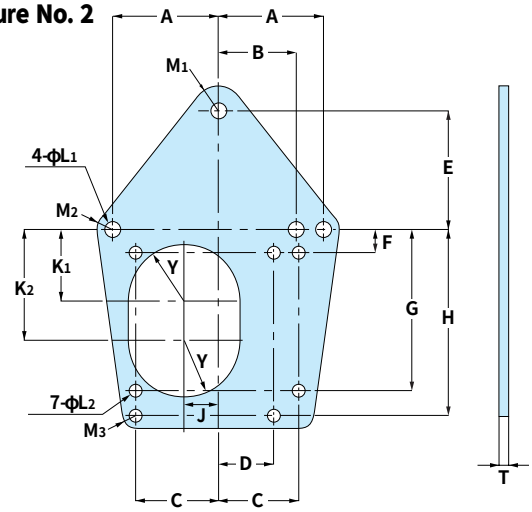


Figure No. 2



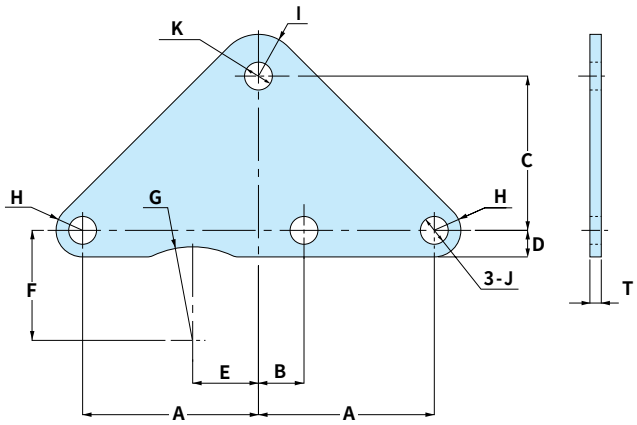
Model Number	Frame Number	Figure No.	A	B	C	D	E	F	G	H	J	K1	K2	L1	L2	M1	M2	M3	Y	T
TA-20	20	1	55	39	42	26	52	13	—	—	17	38	—	φ9	φ5.5	R11	R 9	R 6	R28	4.5
TA-25	25	1	63	47	47	31	61	16	—	—	19	44	—	φ11	φ6.5	R15	R10.5	R 7	R34	4.5
TA-30	30	1	70	52	53	35	70	17	—	—	20	50	—	φ11	φ9	R15	R12	R 9	R39	6
TA-35	35	2	82	62	64	44	94	18	126	146	26	56	88	φ13	φ9	R18	R12	R10	R43.5	6
TA-45	45	2	102	72	80	50	110	22	152	182	32	70	104	φ15	φ11	R20	R15	R11	R51	9
TA-55	55	2	129	93	97	61	160	32	190	226	39	90	132	φ18	φ13	R25	R20	R13	R70	9

Material	Surface Treatment	Color
SS400	uni-chrome coating	white

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

FS•F3S-Type Torque Arm

F3S Type (Hollow Shaft)•Torque Arm (Option)



Specificaiton

Frame Number	Name of product	Capacity	Reduction Ratio	A	B	C	D	E	F	G	H	I	J	K	T	Round Weight (kg)
20	TAF3S-20-2	0.1 kW	1/ 5~1/ 60	53.5	23.5	52	10.5	—	—	—	R10.5	R11	ϕ11	ϕ 9	3.2	0.1
25	TAF3S-25-2	0.2 kW	1/ 5~1/ 60	60	27	61	10.5	16.5	43.5	R37	R10.5	R15	ϕ11	ϕ 9	3.2	0.2
	TAF3S-25-3	0.1 kW	1/ 80~1/ 240	69.5	17.5	61	10.5	26	43.5	R37	R10.5	R 6.5	ϕ11	ϕ11	4.5	0.2
30	TAF3S-30-2	0.4 kW	1/ 5~1/ 60	69.5	26.5	70	10.5	21.5	48	R41.5	R10.5	R15	ϕ11	ϕ11	4.5	0.3
	TAF3S-30-3	0.1 kW	1/ 300~1/ 375	78	14	70	12	32	46	R41.5	R12	R16.5	ϕ13.5	ϕ13.5	6	0.4
		0.2 kW	1/ 80~1/ 240													
35	TAF3S-35-2	0.75kW	1/ 5~1/ 80	80.5	31.5	94	12	24.5	56	R46.5	R12	R18	ϕ13.5	ϕ13.5	6	0.6
	TAF3S-35-3	0.1 kW	1/ 450~1/ 750	97	11	94	15	43	54	R46.5	R15	R22.5	ϕ17.5	ϕ17.5	9	1.2
		0.2 kW	1/ 300~1/ 375													
		0.4 kW	1/ 80~1/ 240													
45	TAF3S-45-2	1.5 kW	1/ 5~1/ 60	103.5	42.5	110	15	—	—	—	R15	R20	ϕ17.5	ϕ17.5	9	1.4
		2.2 kW	1/ 5~1/ 30													
	TAF3S-45-3	0.1 kW	1/ 900~1/1200	118	20	110	18.5	49	69	R54	R18.5	R28.5	ϕ22	ϕ22	9	1.7
		0.2 kW	1/ 450~1/ 750													
		0.4 kW	1/ 300~1/ 375													
		0.75kW	1/ 80~1/2400													
50	TAF3S-50-2	2.2 kW	1/ 40~1/ 60	136	44	140	15	—	—	—	R15	R20	ϕ17.5	ϕ17.5	9	2.1
55	TAF3S-55-3	0.1 kW	1/1500	146	70	160	18.5	—	—	—	R18.5	R28.5	ϕ20.5	ϕ20.5	12	3.6
		0.2 kW	1/ 900~1/1200													
		0.4 kW	1/ 450~1/ 600													
		0.75kW	1/ 300													
		1.5 kW	1/ 80~1/ 240													
		2.2 kW	1/ 80~1/ 120													

Material	Surface Treatment	Color
SS400	uni-chrome coating	white

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Overhung Load (O.H.L.) on a Hollow Shaft

■Designing the Torque Arm

In case customer does not use our optional torque arm and use their manufactured torque arm as shown in the Figure-8, the distance between the center of the output shaft and the fixing point(r) can be calculated with the following formulas:

SI Unit

$$r\,(mm) \geqq \frac{\text{Actual load torque}\,(N\cdot m)\times 1000}{\text{Allowable O.H.L.}\,(N) - 9.8\times \text{Mass of the reducer}\,(kg)}$$

Gravimetric Unit

$$r\,(mm) \geqq \frac{\text{Actual load torque}\,(kgf\cdot m)\times 1000}{\text{Allowable O.H.L.}\,(kgf) - \text{Weight of the reducer}\,(kgf)}$$

In case of using the torque arm as shown in the Figure-9, the distance between the center of the output shaft and the fixing point(r) can be calculated with the following formulas:

SI Unit

$$r\,(mm) \geqq \frac{\text{Actual load torque}\,(N\cdot m)\times (A+M)\times 1000}{\{\text{Allowable O.H.L.}\,(N) - 9.8\times \text{Mass of the reducer}\,(kg)\}\times (A+20)}$$

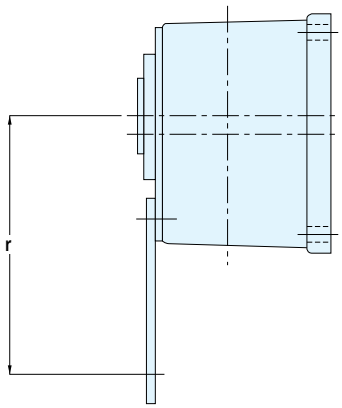
Gravimetric Unit

$$r\,(mm) \geqq \frac{\text{Actual load torque}\,(kgf\cdot m)\times (A+M)\times 1000}{\{\text{Allowable O.H.L.}\,(kgf) - \text{Weight of the reducer}\,(kgf)\}\times (A+20)}$$

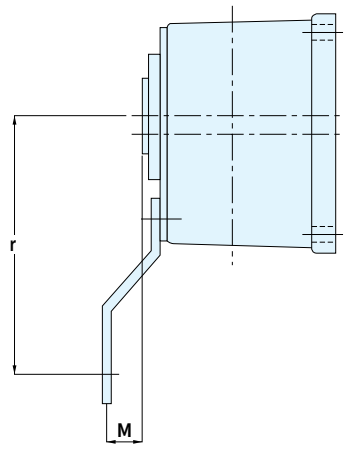
Note) Refer to the table below for "A".

Ratio	A (mm)
20	68.5
25	84.5
30	91
35	98
45	113
55	150

〈Figure-8〉



〈Figure-9〉

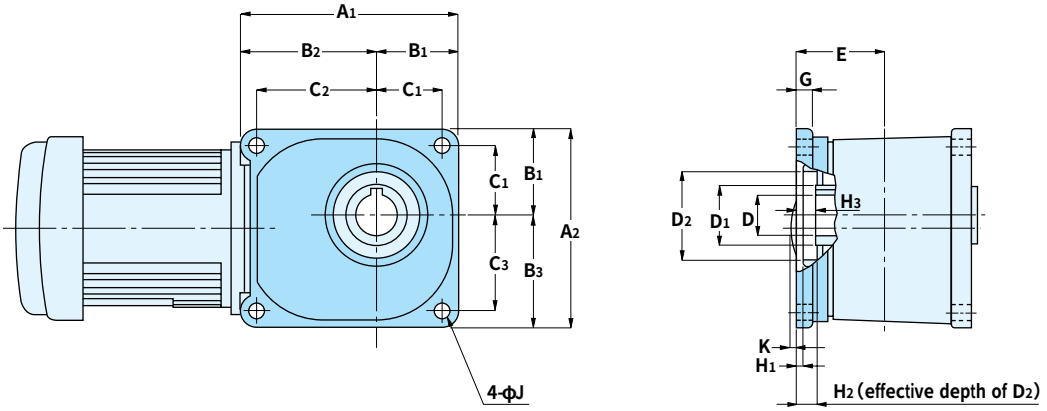


Note) For the thickness of torque arm, refer to the "Torque Arm(Option)" in page E61.

Attaching R-Flange

FS Type(Hollow Shaft)•R-Flange(Option)

Dimension Diagram for attaching the R-Flange



Model Number	Frame Number	A1	A2	B1	B2	B3	C1	C2	C3	E	G	H1	H2	H3	D2 (H8)	Output Shaft D1	Output Shaft D (H8)	J
RF-20	20	128	112	47	81	65	38	72	56	51	10	1	13	12	ϕ 46	ϕ29	ϕ20	ϕ 8.5
RF-25	25	147	131	54.5	92.5	76.5	44	82	66	59	12	6	12	11	ϕ 58	ϕ39	ϕ25	ϕ11
RF-30	30	164	146	62	102	84	50	90	72	65	14	5	15	14	ϕ 65	ϕ44	ϕ30	ϕ11
RF-35	35	188	168	68	120	100	56	108	88	70	16	3	18	17	ϕ 72	ϕ49	ϕ35	ϕ13
RF-45	45	234	204	85	149	119	70	134	104	80	18	3	22	21	ϕ 85	ϕ64	ϕ45	ϕ15
RF-55	55	298	262	110	188	152	90	168	132	98	22	6	17	16	ϕ100	ϕ79	ϕ55	ϕ18

Measurements of the extruded part of Fan Cover when attaching the R-Flange (Measurement of K)

There is no extruded part of Fan Cover in the Frame number 20 and 55.

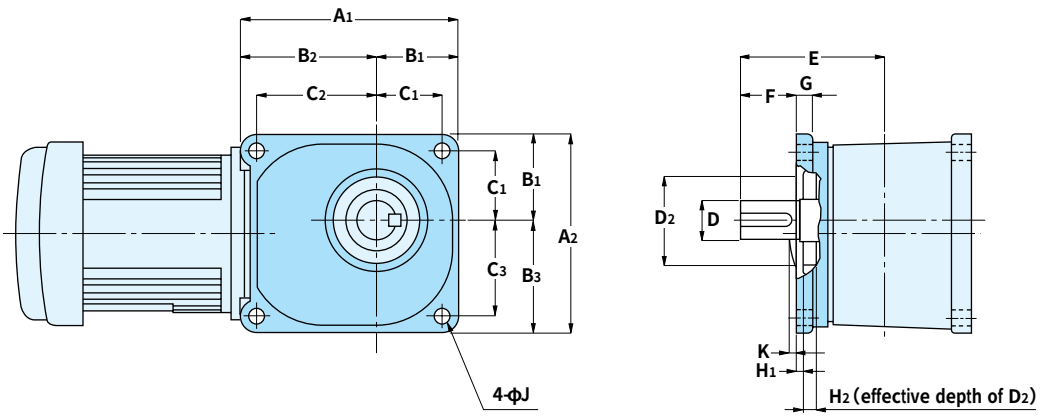
Capacity	Frame Number	Outdoor Specification		Water-resistant, Outdoor specification	
		with Moter	with Brake	with Moter	with Brake
		Standard	Standard	Standard	Standard
0.1kW	25	—	8.5	—	—
	30	—	2.5	—	—
0.2kW	30	2.5	2.5	2.5	2.5
0.4kW	35	0.5	0.5	0.5	0.5
0.75kW	45	1	1	1	1

For use in the single-phase motor, consult us.

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

FF Type(Solid Shaft)·R-Flange(Option)

Dimension Diagram for attaching the R-Flange



Model Number	Frame Number	A_1	A_2	B_1	B_2	B_3	C_1	C_2	C_3	E	G	H_1	H_2	D_2 (H_8)	Output Shaft		J
															F	D (h_6)	
RF-20	18	128	112	47	81	65	38	72	56	82	10	1	13	ϕ46	31	ϕ18	ϕ 8.5
RF-25	22	147	131	54.5	92.5	76.5	44	82	66	95	12	6	12	ϕ58	36	ϕ22	ϕ11
RF-30	28	164	146	62	102	84	50	90	72	107	14	5	15	ϕ65	42	ϕ28	ϕ11
RF-35	32	188	168	68	120	100	56	108	88	124	16	3	18	ϕ72	54	ϕ32	ϕ13
RF-45	40	234	204	85	149	119	70	134	104	144	18	3	22	ϕ85	64	ϕ40	ϕ15

Measurements of the extruded part of Fan Cover when attaching the R-Flange (Measurement of K)

There is no extruded part of Fan Cover in the Frame number 18.

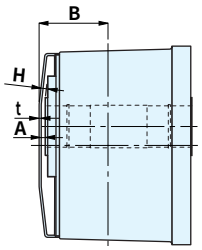
Capacity	Frame Number	with Moter	with Brake
0.1kW	22	—	8.5
0.2kW	28	2.5	2.5
0.4kW	32	0.5	0.5
0.75kW	40	1	1

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

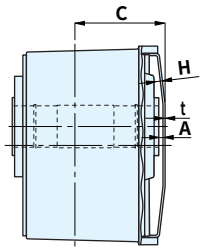
Detailed Dimension of Hollow Shaft Safety Cover

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

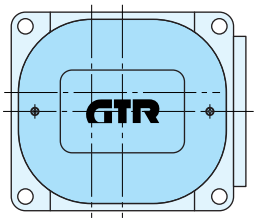
FS Type



When attaching to the R-face

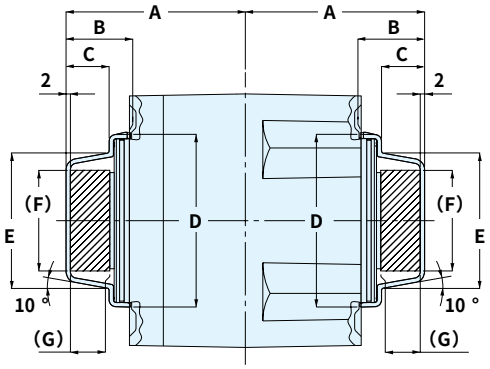


When attaching to the L-face



Ratio	A Space between shaft and cover	B When attaching to the R-face	C When attaching to the L-face	H	t
20	1.2	42	55	1.03	1.8
25	1.2	51	63	0.61	1.8
30	1.2	54	69	0.74	1.8
35	1.2	56	74	0.54	1.8
45	1.2	62	84	0.39	1.8
55	3.0	87	104	2.07	2.0

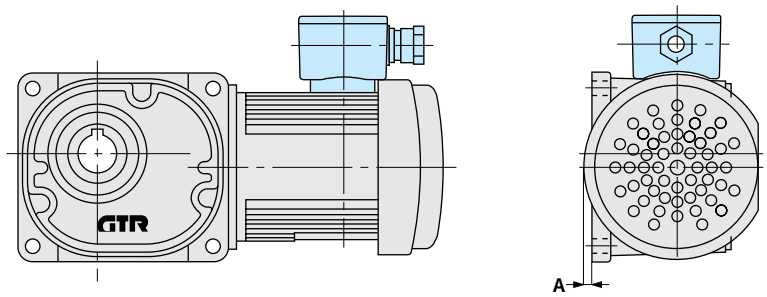
F3S Type



The shaded area represents empty space.

Frame Number	A	B	C	D	E	F	G
20	64	25.5	15.7	ϕ57	ϕ 40	ϕ 26	14
25	79	29.5	19.7	ϕ70	ϕ 53	ϕ 37.5	18
30	82	19.5	19.7	ϕ79	ϕ 62	ϕ 46.5	18
35	95	33.5	23.7	ϕ89	ϕ 72	ϕ 55	22
45	108	33.5	23.7	ϕ104	ϕ 87	ϕ 70	22
50	120	43	41	ϕ141	ϕ127.5	ϕ104	32
55	143	43	41	ϕ141	ϕ127.5	ϕ104	32

Dimension of protruded part of Fan Cover when changing the position of Terminal Box



Above Figure illustrates the position of terminal box(TZ) on top.

Measurement of A

Capacity	No. of Phase	Frame Number	Outdoor Specification					
			with Moter			with Brake		
			T9	TZ	T3	T9	TZ	T3
0.1kW	1-Phase	25	8.5	8.5	8.5	8.5	8.5	8.5
	3-Phase	25	—	—	—	8.5	8.5	8.5
		30	—	—	—	2.5	2.5	2.5
0.2kW	3-Phase	30	2.5	2.5	2.5	2.5	2.5	2.5
0.4kW	3-Phase	35	0.5	0.5	0.5	0.5	0.5	0.5
0.75kW	3-Phase	45	1	1	1	1	1	1

There is no extruded part in the models of 1.5kW and 2.2kW.

Measurement of A

Capacity	No. of Phase	Frame Number	Water-resistant, Outdoor specification					
			with Moter			with Brake		
			T9	TZ	T3	T9	TZ	T3
0.2kW	3-Phase	30	2.5	2.5	2.5	2.5	2.5	2.5
0.4kW	3-Phase	35	0.5	0.5	0.5	0.5	0.5	0.5
0.75kW	3-Phase	45	1	1	1	1	1	1

Model with the capacity of 0.1kW do not have fan cover.
There is no extruded part in the models of 1.5kW and 2.2kW.

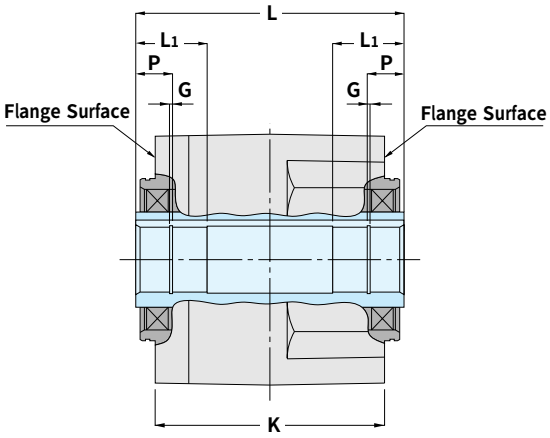
The measurements remain the same even after changing the direction of the power supply inlet. (TZH6, TZH3, etc.)

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

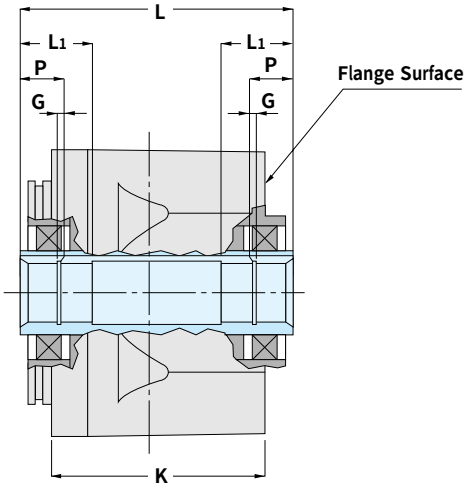
Differences between F3 Sereis and F2 Series

Although the mounting dimension is the same between F2 Series and F3 Series with the reduction ratio of 1/5～1/60, the length of the hollow shaft is different. Also, the width of the casing will be different in both hollow and solid shaft. Therefore, when replacing F2 Sereis to F3 Series, be sure to confirm the dimensions shown below:

F3 Series



F2 Series



Frame Number	L		L1	P	G
	F3 Series	F2 Series			
20	96	91	24	13	1.15
25	118	108	27	14	1.35
30	124	117	33	17	1.35
35	142	124	38	20	1.75
45	168	140	50	26	1.95

＊The dimensions of L1, P and G are the same between F2 Sereis and F3 Series.

Frame Number	K	
	F3 Series	F2 Series
20 (18)	78	71.5
25 (22)	100	83.5
30 (28)	106	93.5
35 (32)	124	102.5
45 (40)	150	118.5

Frame number 50 and 55 are not available in F2 Series.

＊Common to F3S Type and F3F Type. The values in the parenthesis in the "Frame Number" are that for F3F.

■Please note that when gearmotors in the F2 and F3 Series are wired according to the diagram on page 122, rotating directions of the output shaft are different in reduction ratio between 1/5 to 1/60. The output shaft in the F2 Series rotates counterclockwise, while output shafts in the F3 Series rotate clockwise.

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

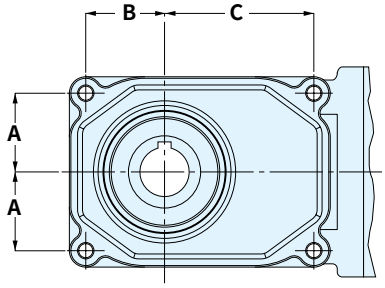
The "Frame Number" of the F3 Series

F3S Type (Concentric Hollow Shaft) F3F Type (Concentric Solid Shaft)

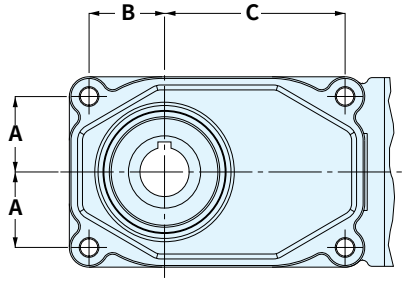
■ In F3 Series, two different shapes exist in the same frame number.
The mounting dimensions are different according to the reduction ratio, which please note.

Figure

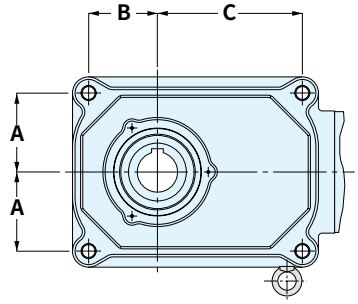
〈Figure-1〉



〈Figure-2〉



〈Figure-3〉



Frame Number	Reduction Ratio	Motor Capacity	Shape	A	B	C
20 (18)	1/ 5～1/ 60	0.1 kW	Figure1	38.5	38.5	68.5
25 (22)	1/ 5～1/ 60	0.2 kW	Figure1	43.5	43.5	76.5
	1/ 80～1/ 240	0.1 kW	Figure2	43.5	43.5	95.5
30 (28)	1/ 5～1/ 60	0.4 kW	Figure1	48	48	91
	1/ 80～1/ 240	0.2 kW	Figure2	46	46	110
30	1/ 300～1/ 375	0.1 kW	Figure2	46	46	110
35 (32)	1/ 5～1/ 60	0.75kW	Figure1	56	56	105
	1/ 80～1/ 240	0.4 kW	Figure2	54	54	140
35	1/ 450～1/ 750	0.1 kW	Figure2	54	54	140
	1/ 300～1/ 375	0.2 kW				
45 (40)	1/ 5～1/ 60	1.5 kW	Figure1	73	73	134
	1/ 5～1/ 30	2.2 kW				
	1/ 80～1/ 240	0.75kW	Figure2	69	69	167
45	1/ 900～1/1200	0.1 kW	Figure2	69	69	167
	1/ 450～1/ 750	0.2 kW				
	1/ 300～1/ 375	0.4 kW				
50	1/ 40～1/ 60	2.2 kW	Figure3	90	102	170
55	1/ 80～1/ 240	1.5 kW	Figure3	108	94	198
	1/ 80～1/ 120	2.2 kW				
	1/1500	0.1 kW				
	1/ 900～1/1200	0.2 kW				
	1/ 450～1/ 600	0.4 kW				
	1/ 300	0.75kW				

＊Common to F3S Type and F3F Type. The values in the parenthesis in the "Frame Number" are that for F3F.

■ F3 Series has tapped holes for face mounting(Standard Sepcification).
For more details, refer to <P.E53>.

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

We provide gearmotors that meet the global directive, standards and institutions.

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

UL Standard Gearmotors

About UL Standards

UL is the abbreviation of "Underwriters Laboratories Inc.", a private testing organization which was established in 1894 by the Association of American Fire Insurance, with the aim to protect human lives and properties from fire, disasters and other accidents. This organization performs testing and certification of all kinds of products, parts and materials. This is the safety standard employed by most of the American states.

■Relevant Standards

Number of Phase	UL Standard
1-Phase	UL1004 (Regulations on overall structures of motors) UL2111 (Regulations on overheating protection of motors)
3-Phase	UL1004 (Regulations on overall structures of motors)

∗ 3-phase motors are only evaluated by structures and not evaluated by the overheating protection test.

■UL File No.

1-Phase No. E141674
3-Phase No. E172621

About CSA Standards

In Canada, it is regulated by law that all products must conform to CSA Standards. UL is authorized as a certification organization for CSA Standards, therefore, when a product is certified by CSA Standards, it can also be allowed to display "cUL" mark and used in the domestic Canadian market.

■Relevant Standards

Number of Phase	CSA Standards
1-Phase	C22. 2 No.100(Regulations on general matters for motors) C22. 2 No.77 (Regulations on requirements for the motors with overheating protection device)
3-Phase	C22 2 No.100(Regulations on general matters for motors)

Both Nissei's 1 and 3-phase gearmotors are certified by UL and CSA and allowed to display "UL" and "cUL" marks.

CE Marking Gearmotors

About CE Marking

All the machines exported to Europe are required to have "CE Marking". In order to comply with the "CE Marking", products must be in conformity with the EC Directive. For the verification of conformity with the EC Directive, the approval from the EN Standards is a must.
Nissei declares that all the NIssei "CE Marking" products conform to the EC Directive.

■Relevant Directives/Standards

EC Directives	Low Voltage Directive 73/23/EEC (Low Voltage Directive)
EN Standards	EN60034-1 (Regulations on motors in general)

∗ "CE" Marking

Nissei affixes the "CE Marking" on the gearmotors which conform to EC Directive (Low Voltage Directive).

China CCC Certified Gearmotor

China: About the CCC marking

In China, on the occasion of joining the WTO, the China Compulsory Certification started operation in August, 2003, unifying all the certification systems existed and obligating to affix the CCC mark to all the items distributed in the domestic China market. Relevant Nissei products to this certification are gearmotors with the capacity of less than 0.75kW with induction motor. Products certified by CCC are regarded as the CE Marking certified products. (Refer to page E70)

In case exporting gearmotors as an independent unit to Mainland China, the CCC certification for the gearmotor itself is needed. However, in case of exporting gearmotor as a component of a machine, only certification of the machine is needed.

3-phase 0.1kW~2.2kW

G3·H2·F·F3 Series	UL	CE	CCC
Gearmotor	○	○	○
Brake Gearmotor	○	○	○
Gearmotor with Brake Manual Release Device	○	○	○
Water-resistant Gearmotor	○	○	○
Water-resistant Brake Gearmotor	○	○	○

Note 1) Water-resistant Brake Gearmotor is under 0.75kW only.
2) Motor capacity above 1.5kW gearmotor is not included in CCC standards.

1-phase 100W

Note) Not available for the G3 type.

H2·F·F3 Series	UL	CE	CCC
Gearmotor	○	○	×
Brake Gearmotor	○	○	×
Gearmotor with Brake Manual Release Device	○	○	×

UL

Phase	Capacity	Voltage/Frequency (V) (Hz)
3-phase	0.1kW ~ 2.2kW	200V/50Hz, 200V/60Hz, 220V/60Hz 208V/60Hz, 230V/60Hz 380V/50Hz, 400V/50Hz, 400V/60Hz, 440V/60Hz 415V/50Hz, 460V/60Hz 420V/50Hz, 440V/50Hz, 480V/60Hz 575V/60Hz
1-phase	100W	100V/50Hz, 100V/60Hz 115V/60Hz 120V/60Hz 200V/50Hz, 200V/60Hz 220V/60Hz 230V/60Hz

- We have motor type and brake type.
- Brake Manual Release is available.
- For 3-phase, dual motor (specification) is available.
- Blue ink voltage/freauency indicates " X " on the tail.
- Please contact us about the other voltage.

CE

Phase	Capacity	Voltage/Frequency (V) (Hz)
3-phase	0.1kW ~ 2.2kW	200V/50Hz, 200V/60Hz, 220V/60Hz 220V/50Hz, 230V/50Hz 380V/50Hz, 400V/50Hz, 400V/60Hz, 440V/60Hz 415V/50Hz 420V/50Hz, 440V/50Hz
1-phase	100W	100V/50Hz, 100V/60Hz 200V/50Hz, 200V/60Hz 220V/50Hz 230V/50Hz

- We have motor type and brake type.
- Brake Manual Release is available.
- Blue ink voltage/freauency indicates " X " on the tail.
- Please contact us about the other voltage.

CCC

Phase	Capacity	Voltage/Frequency (V) (Hz)
3-phase	0.1kW ~ 0.75kW	200V/50Hz, 200V/60Hz, 220V/60Hz 220V/50Hz, 230V/50Hz 380V/50Hz, 400V/50Hz, 400V/60Hz, 440V/60Hz

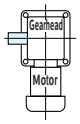
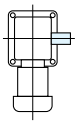
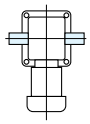
- 1.5kW and 2.2kW is out of control subject.
- We have motor type and brake type.
- Brake Manual Release is available.
- Blue ink voltage/freauency indicates " X " on the tail.
- Please contact us about the other voltage.
- 220V/50Hz or 380V/50Hz is usually standard voltage in China.

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Overseas standard product Gearmotor

GTR MIDI SERIES Overseas standard product gearmotor（0.1kW～2.2kW）are classified by codes as shown below, Specify these codes in your induiry and order.

Type	Frame Number	Shaft Arrangement	Reduction Ratio		Stardards	Phase	Classification by Motor Type	Motor Capacity	Voltage Frequency	Terminal Box	Auxiliary Mark	Specification Code
G3L	18	N	015	–	U	T	M	010	N	N		
H2L	40	R	12X	–	Y	T	WB	020	W	E		
FS	45	N	120	–	C	T	J	075	N	S	X	T9HZ
F3F	40	T	060	–	Y	T	B	150	W	S		
①	②	③	④		⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬

①Type	G3L : G3 Series (Parallel Shaft) Foot Mount G3F : G3 Series (Parallel Shaft) Flange Mount G3K : G3 Series (Parallel Shaft) Small Flange Mount H2L : H2 Series (Right Angle Shaft) Foot Mount H2F : H2 Series (Right Angle Shaft) Flange Mount (Frame No.22 only) FS : F Series (Hollow Shaft) FF : F Series (Solid Shaft) F3S : F3 Series (Concentric Hollow Shaft) F3F : F3 Series (Concentric Solid Shaft)
②Frame NO, and Diameter of Output Shaft	Output Shaft Diameter (Hollow Shaft type is the bore and other type is the outside diameter)
③Shaft Arrangement H2L,H2F,FF,F2F,F3F only, other than thoseabove type is "N"	L: Output shaft on the left viewing from Input shaft side.  R: Output shaft on the right viewing from Input shaft side.  T: Output shaft on both side 
④Reduction Ratio (Reduction Ratio is all triple digits dicplay.)	005 : 1／5 ～ 15X : 1／1500 (10→010、1200→12X)
⑥Standards	U : UL Standards (UL, cUL) Y : CE Marking Products C : Praducts Certified by CCC. (1.5kW, and 2.2kW are expect from CCC regulation)
⑦Phase Note1: NO 1-phase of CCC certitiation	T : 3-phase S : 1-phase (Note 1)
⑧Classification by Motor Type	M :: With Motor B : With Brake Motor J : With Brake Manual Release Device WM : With Water-resistant Motor (IP65) WB : With Water-resistant Brake Motor (IP65)
⑨Capacity	010 : 3-phase 0.1kW 100 : 1-phase 100W (only H2,F,F3 Series) 020 : 3-phase 0.2kW 040 : 3-phase 0.4kW 075 : 3-phase 0.75kW 150 : 3-phase 1.5kW 220 : 3-phase 2.2kW
⑩Voltage/Frequency	N : Standard Voltage 3-phase : 200V／50Hz, 200V／60Hz, 220V／60Hz 1-phase : 100V／50Hz, 100V／60Hz W : High Voltage 3-phase : 380V／50Hz, 400V／50Hz, 400V／60Hz, 440V／60Hz 1-phase : 200V／50Hz, 200V／60Hz
⑪Terminal Box Note2: The spec is different each Standards, Pleace make sure to read "The spec of overseas standard product" and confirm.	A : A type Terminal Box for 0.1kW～0.4kW Z : Z type Terminal Box (Rectifier built-in Terminal Box) for 0.1kW～0.4kW brake motor. S : S type Terminal Box for 0.75kW～2.2kW (The same spec for dometic spec " T type Terminal Box") E : E type Terminal Box for water resistant (IP65) exclusive use. N : No Terminal Box (lead wire disascemble)
⑫Auxiliary Code	Blank: Standard Specs X : Mark for Additional Specs
⑬Specification Code Note3: Spec Code does not appear on the product type designation in the nameplate. It is indicated on the additional number column in the nameplate.	Indication of Terminal Box lead wire position Refer to the indication mark list in P.E34～E39 for details.

Accreditation for the various safety standards is received for the motor models. [E.g.] G3L18N015-CTM010NA → Registered model CTM010NA
For adapting from domestic models refer to the transformation table on page E73.

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Domestic model and Overseas standard product model.

Format of international standard supporting products

- International standard supporting product formats are different than domestic standard specifications so when ordering it is necessary to indicate the international standard supporting product format. First select the domestic specification product from this catalog with equivalent specifications (volume, reduction ratio, motor category, etc.) and change the format to an international standard supporting product format using the diagram below as a reference.
- Factors such as dimensions, functionality will be the same as the domestic specification product.

Main precautions regarding format changes

- The reducer and motor are expressed with different formats.
- The reduction ratio is expressed differently, all expressions using three digits. [Examples] 5 → 005, 1200 → 12x
- The terminal box for 0.75kW to 2.2 kW is the S model, coded "S."

Example of model translation

Domestic model

Type	Classification by motor type		Frame Number	Shaft Anangement		Reduction Ratio		Phase	Motor Capacity	Option		Auxiliary Mark	Specification Code
G3L	M	–	18		–	15	–	T	010		A		
H2L	B	–	40	R	–	1200	–	T	020	W	Z	X	T9HZ
FS	J	–	45		–	120	–	T	075				
F2F	M	–	28	T	–	60	–	T	040	W	A	X	TZ

Standard model

	Type	Frame Number	Shaft Anangement	Reduction Ratio		Standard	Phase	Classification by motor type	Motor Capacity	Voltage Frequency	Terminal Box	Auxiliary Mark	Specification Code
UL	G3L	18	N	015	–	U	T	M	010	N	A		
CCC	H2L	40	R	12X	–	C	T	B	020	W	Z	X	T9HZ
CE	FS	45	N	120	–	Y	T	J	075	N	S		
CCC	F2F	28	T	060	–	C	T	M	040	W	A	X	TZ

Motor Nameplate

UL

GTR c UL us
3-PHASE INDUCTION MOTOR
G3L22N010-UTM040NN
TETA12
~0.4kW 4P RATIO 10:1

200V 50Hz 2.1A 1400rpm
200V 60Hz 1.8A 1680rpm
220V 60Hz 1.8A 1700rpm

IP40 Ins.A
S1 CONT. 2008
MFG NO.12345678901 M
made in Japan NISSEI CORP.

CE

GTR CE
3-PHASE INDUCTION MOTOR
G3L22N010-YTM040NA
TETA12
~0.4kW 4P RATIO 10:1

200V 50Hz 2.1A 1400rpm 0.78P.F.
200V 60Hz 1.8A 1680rpm 0.83P.F.
220V 60Hz 1.8A 1700rpm 0.78P.F.

IP44 Ins.B EN60034-1
S1 CONT. 2008
MFG No.12345678901
made in Japan NISSEI CORP.

CCC

The CE mark is included. Also, separate from the nameplate, the CCC seal is attached.

GTR CE
3-PHASE 齿轮减速机
G3L22N060-CTM020NA
TETA10
~0.2kW 4P RATIO 60:1

200V 50Hz 1.1A 1400rpm 0.76P.F.
200V 60Hz 1.0A 1680rpm 0.75P.F.
220V 60Hz 1.0A 1700rpm 0.73P.F.

IP44 Ins.B EN60034-1
S1 CONT. 2008
MFG No.12345678901
日本爱知县安城市和泉町大海古6-3 株式会社日精

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Specifications of standard Motor

Terminal Box type and specification is following cnart, please confirm and issue all necessary instructions

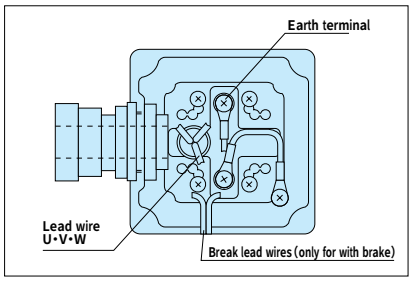
UL Terminal Box for UL standard

●for indoor

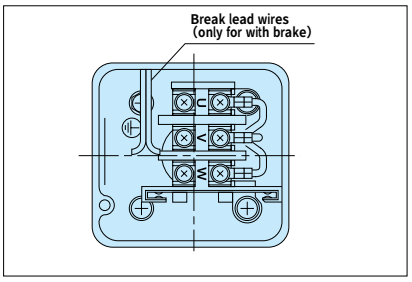
Capacity	Specification	Flying Lead	Terminal Box Type	
			A-BOX	S-Box
0.1kW～0.4kW	without brake	○	○	×
	with brake	○	○	×
0.75kW～2.2kW	without brake	×	×	○
	with brake	×	×	○

Note 1) A-box is without terminal.For with brake, break lead wires are employed terminal.
2) S-box is with terminal. For with brake, break lead wires are taken terminal as flying lead.
3) For more than 230V, 200V terminal is taken separately. Red is for 0.1kW～0.4kW, and black is for 0.75kW～2.2kW.

● A type Terminal Box
3-phase 0.1kW～0.4kW 1-phase 100W



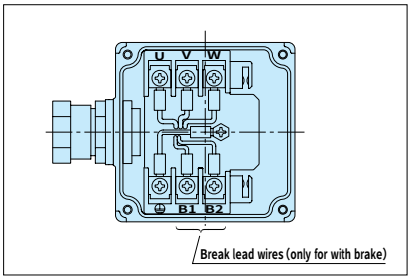
● S type Terminal Box
3-phase 0.75kW～2.2kW



●Water-resistant (IP65)

Capacity	Specification	E-BOX
0.1kW～2.2kW	without brake	○
	with brake (～0.75kW)	○

Note 1) E-Box is with terminal. For with brake, break lead wires are employed terminal.
2) For more than 230V, 200V terminal is taken separately. Red is for 0.1kW～0.4kW, and Black is for 0.75kW～2.2kW.



CE CCC Terminal Box for CCC standard

●for indoor

Capacity	Specification	Flying Lead	Terminal Box Type		
			A-Box	Z-Box	S-Box
0.1kW～0.4kW	without brake	○	○	×	×
	with brake	○	○	○	×
0.75kW～2.2kW	without brake	×	×	×	○
	with brake	×	×	×	○

Note 1) Same as Japanese domestic standard.Please refer to P.E17, P.E23～P.E26.
2) For more than, 230V,200V terminal is taken separately. red is for 0.1kW～0.4kW and Black is for 0.75kW to 2.2kW
3) Voltage 400V class is not available for flying lead. Please choose with terminal box.

●Water-resistant (IP65)

Capacity	Specification	E-Box
0.1kW～2.2kW	without brake	○
	with brake	○

Note 1) Same as Japanese domestic standard.Please refer to P.E28, P.E30～E31.
2) For more than, 230V,200V terminal is taken separately. red is for 0.1kW～0.4kW and Black is for 0.75kW to 2.2kW

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Motor Specifications

3-Phase Standard Voltage (3Rated)

Characteristics of motor as an unit

Capacity	Motor Capacity Designation	Voltage	Frequency	Rated Rotation Speed	Current Characteristics		Torque Characteristics	
					Rated Current	Starting Current	Starting Torque	Braking Torque
		(V)	(Hz)	(rpm)	(A)	(A)	(%)	(%)
0.1kW	T010	200	50	1410	0.61	2.39	215	258
		200	60	1690	0.54	2.27	190	238
		220	60	1710	0.54	2.52	245	300
0.2kW	T020	200	50	1400	1.1	4.70	215	248
		200	60	1680	1.0	4.35	195	225
		220	60	1700	1.0	4.85	238	279
0.4kW	T040	200	50	1400	2.1	9.50	220	265
		200	60	1680	1.8	8.60	190	234
		220	60	1700	1.8	9.60	236	289
0.75kW	075	200	50	1410	3.7	17.7	246	266
		200	60	1690	3.3	16.7	228	244
		220	60	1720	3.2	17.7	258	297
1.5kW	150	200	50	1430	6.6	37.0	264	280
		200	60	1710	6.1	33.5	232	248
		220	60	1730	5.8	34.9	254	301
2.2kW	220	200	50	1420	9.0	46.6	245	252
		200	60	1690	8.6	41.2	202	225
		220	60	1720	8.0	45.6	251	275

3-Phase High Voltage (4Rated)

Characteristics of motor as an unit

Capacity	Motor Capacity Designation	Voltage	Frequency	Rated Rotation Speed	Current Characteristics		Torque Characteristics	
					Rated Current	Starting Current	Starting Torque	Braking Torque
		(V)	(Hz)	(rpm)	(A)	(A)	(%)	(%)
0.1kW	T010W	380	50	1400	0.31	1.12	180	224
		400	50	1410	0.31	1.18	199	250
		400	60	1690	0.28	1.12	180	233
		440	60	1720	0.28	1.22	217	285
0.2kW	T020W	380	50	1390	0.56	2.29	192	230
		400	50	1400	0.56	2.38	220	257
		400	60	1680	0.50	2.29	214	239
		440	60	1710	0.50	2.48	258	294
0.4kW	T040W	380	50	1390	1.0	4.35	194	225
		400	50	1400	1.0	4.65	216	258
		400	60	1680	0.9	4.30	184	232
		440	60	1710	0.9	4.75	221	286
0.75kW	075W	380	50	1400	1.8	8.15	202	233
		400	50	1410	1.8	8.65	228	258
		400	60	1690	1.7	8.15	207	236
		440	60	1720	1.6	8.95	252	287
1.5kW	150W	380	50	1420	3.3	17.5	218	258
		400	50	1430	3.3	18.5	245	278
		400	60	1710	3.0	16.5	200	245
		440	60	1730	2.9	18.3	248	298
2.2kW	220W	380	50	1400	4.6	22.3	215	226
		400	50	1420	4.5	23.6	243	252
		400	60	1690	4.3	20.9	200	224
		440	60	1720	4.0	23.1	247	273

1-phase Standard Voltage·High Voltage

Characteristics of motor as an unit

Capacity	Motor Capacity Designation	Voltage	Frequency	Rated Rotation Speed	Current Characteristics		Torque Characteristics	
					Rated Current	Starting Current	Starting Torque	Braking Torque
		(V)	(Hz)	(rpm)	(A)	(A)	(%)	(%)
100W	S100	100	50	1410	1.70	4.48	61	149
		100	60	1710	1.90	4.17	77	158
	S100W	200	50	1410	0.80	2.15	61	142
		200	60	1700	0.95	2.02	78	154

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Caution for Safe Operation

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Installation Location

	Indoor Specifications	Water-Resistant Specifications
Ambient Temperature	−10°C~40°C	−10°C~40°C
Ambient Humidity	85% max.(without any dew condensation)	100% max.(without any dew condensation)
Altitude	1,000m max.	1,000m max.
Installation Location	Well ventilated place free from corrosive gas, explosive gas, vapor and/or dust	Well ventilated place free from corrosive gas, Should not be used in water and the place where high-hydrostatic pressure receives.
Installation place	Indoors	Indoors/Outdoors

Installation Surface

Install the products with four bolts on a flat and machined surface free from vibration. For the shaft mount of the hollow shaft type, refer to page E56~ E59.

Mounting Position

All products can be mounted in any direction due to a grease lubrication system.

Connecting with Other Equipment

1. "H_7" fit is recommended for the hole for couplings, sprockets, pulleys, gears etc., when attaching to the reducer.
2. In case of direct connection, connect a reducer shaft and a shaft of the connecting machine precisely, so that the center of the shaft of both machines will be fully aligned.
3. In case of using chains, belts gears, etc. connect the units precisely, so that the shaft of the reducer and that of the other machine are parallel. Also, be sure that the centerline of the sprockets and pulleys must be perpendicular to the shaft.
4. When attaching couplings or connecting equipment to the output shaft, be sure not to give any strong impact by hammer, etc. Failure to observe this warning may cause damage to the bearings, which may lead to noise, vibration or failure.

Cautions for Operation

1. Load torque, load inertia moment I (GD^2)・O.H.L. should always be kept within the allowable value in operation.
2. When reversing the motor, be sure to confirm if the motor is completely stopped. Failure to observe this warning may cause serious damage to gearmotors and the connecting machine by plugging.
3. When reversing a 1-phase motor, be sure to start reversing after confirming complete stop of the motor. Failure to observe this warning may cause the motor run out of control in the same direction.
4. Do not stop the motor forcibly. Failure to observe this warning may cause the motor run out of control by an unexpected reversing.
5. Be sure that the temperature of the reducer surface should never exceed 80°C.

About Rated Current

The rated current values listed in the performance table are the ones of motor. For gearmotors with brake and gearmotors with clutch/brake, the current through brake coil should also be taken into consideration. For more details, consult us.

Lubrication

All the F, F2, H2 and G3 Series models are employed a grease lubrication system and filled with high-grade grease before shipment from our factories.
The grease contains the additive agent of extreme-pressure, which is equivalent to NLGI-00 or NLGI-0. Quantities of the grease are shown in the list below:

G3 Series (Parallel Shaft)

Grease Used : Equivalent to NLGI-0 (Unit: g)

Frame Number \ Ratio	1/200 and below	1/300~1/450	1/600 and above
18	65	—	—
22	130	—	—
28	210	250	—
32	350	400	390
40	580	680	630
50	1000	1150	1100

H2 Series (Right-angle Shaft)

Grease Used : Equivalent to NLGI-0 (Unit: g)

Frame Number \ Ratio	1/240 and below	1/300~1/450	1/600 and above
22	105	—	—
28	190	230	—
32	370	420	410
40	0.75kW 500 1.5kW 600	700	550
50	1200	1350	1300

F Series (Hollow Shaft. Solid Shaft)

Grease Used : Equivalent to NLGI-0 (Unit: g)

Frame Number \ Ratio	1/240 and below	1/300~1/450	1/600 and above
＊20 (18)	105	—	—
25 (22)	160	175	—
30 (28)	295	335	310
35 (32)	420	470	50W 435 0.1kW 460
45 (40)	840	890	890
55	1200	1350	1300

Note 1) Frame numbers in the parenthesis indicate the FF Type (solid shaft).
2) The grease of the frame numbers marked with ＊is the one equivalent to NLGI-0.

F3 Series (Hollow Shaft, Solid Shaft)

Grease Used : Equivalent to NLGI-0 (Unit: g)

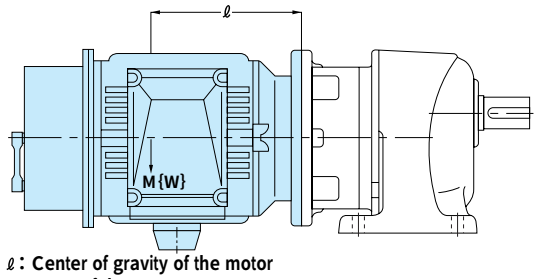
Frame Number \ Ratio	1/60 and below	1/80~1/240	1/300 and above
20 (18)	130	—	—
25 (22)	200	270	—
30 (28)	320	450	590
35 (32)	480	700	930
45 (40)	1070	1440	1780
50	2200	—	—
55	—	3800	4190

Note 1) Frame numbers in the parenthesis indicate the F3F Type (solid shaft).

Cautions on attaching motors to S Type Reducer

❶ Wipe off the rust, dust and the anticorrosive agent on the motor shaft.
❷ When attaching motor, do not hit the motor part or reducer part, also do not insert these parts forcibly, taking advantage of the tightening torque of the bolt. Failure to observe this warning may cause damage to the bearings and abnormal noise caused by the key running on the key groove of the motor.
❸ Since there is no key material of the input pinion attached in the S Type reducer, use the key material of the motor side. In the motors with the capacity of 0.1kW•0.2kW, key material is attached.
❹ When the weight of S Type motor become greater, excessive load will be imposed to the attaching flange and this may cause a serious trouble. Refer to the Table-18 as a guideline.

Note 1) Attaching heavier motor than the designated weight limit may result in the damage to the casing and/or motor falling down.
2) Damages caused by attaching the over weighted motor are not in the scope of warranty.



ℓ: Center of gravity of the motor
M: Mass of the motor
{W: Weight of the motor}

〈Table-18〉

Equivalent Capacity 4P motor	ℓ×M {ℓ×W}
0.1、0.2kW	27N•m {2.8kgf•m}以下
0.4kW	31N•m {3.2kgf•m}以下
0.75kW	34N•m {3.5kgf•m}以下
1.5kW	83N•m {8.5kgf•m}以下
2.2kW	93N•m {9.5kgf•m}以下

Incase of changing speed of GTR Gearmotors by using inverter (device for converting frequency)

When using a gearmotor in combination with inverter, take care that the abnormal temperature rise (over 80℃ at the motor surface) may occur in the low speed rotation. Also, in case of brake motor, brake failure may happen caused by the fluctuation of the voltage. In order to avoid these failures, be sure to bypass the inverter when wiring the brake.
For more details, refer to page E44, "On combination of gearmotor and inverter".

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Option

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Tapped Hole in Output Shaft

Output shafts with the tapped hole are available in the dimensions as seen below. Therefore when designing, direct us with these dimensions as much as possible. Since there is no tapped hole in the standard model, specify " with standard tapped hole" when ordering.

* "○" mark in the list indicates "standard stock".
  "△" mark indicate " more than 10 days required for the lead-time"
* Nonstandard tap size or water-proof specs(SUS420J2)are regarded as a special order specification. For details such as delivery or price, ask our local sales office.

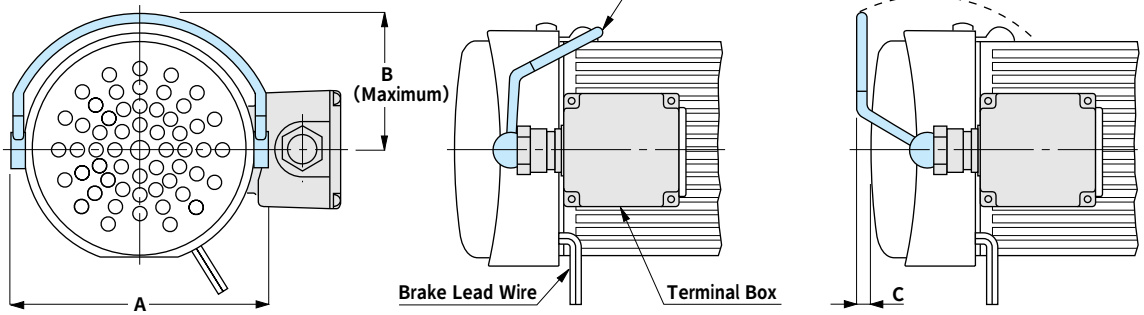
Shaft Dia. (Frame Number)	Size×Pitch×Effective Depth	G3 Series (Parallel Shaft)	H2 Series (Right Angle Shaft)			F Series FF Type (Solid Shaft) F3 Series F3F Type (Hollow Shaft)		
			L-shaft	R-shaft	T-shaft	L-shaft	R-shaft	T-shaft
18	M 6×1.0 ×15ℓ	○	None	None	None	○	△	△
22, 28	M 8×1.25×20ℓ	○	○	○	△	○	△	△
32, 40	M10×1.5 ×25ℓ	○	○	○	△	○	△	△
50	M12×1.75×30ℓ	○	○	○	△	None	None	None

Brake Manual Release Device

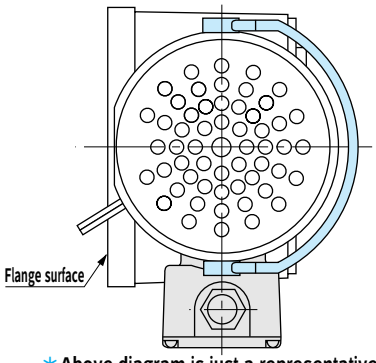
If requested, the brake manual release device can be attached. The terminal box and the manual release lever are basically in the same positioning.

* The manual release device cannot be attached to the F-Series, Motor Capacity Designation of T50 and T50W.
* The manual release device cannot be attached to the water-resistant, outdoor specs. gearmotors.

H2•G3 Series



F Series•F3 Series



* Above diagram is just a representative. In case of F2-Series, the shape of the gear head is different.

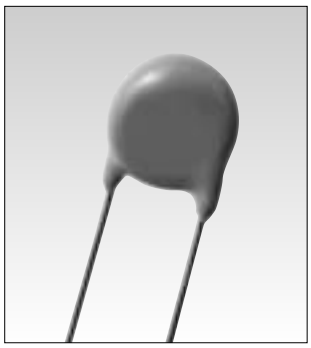
Dimensions by Motor Capacity

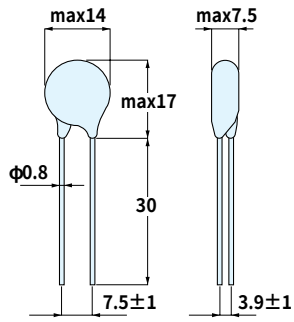
Common to G3•H2•F•F3 Series

Motor Capacity Designation	3-Phase T010•T010W 1-Phase S100•S100W	3-Phase T020 •T020W 1-Phase 100 •200 1-Phase 100W•200W	3-Phase T040•T040W	3-Phase 075•075W 1-Phase 400•400W	3-Phase 150•220 3-Phase 150W•220W
A	156	156	156	180	212
B	83	83	83	102	124
C	8	0	0	2	6

Note 1) The terminal box and the manual release lever are basically in the same positioning.
2) When built in rectifier terminal box with manual release needs to change position, some direction is impossible as for technical reason. please ask us about detail.
3) In case the position of terminal box has been changed, the positioning with the flat surface of the fan cover can be referred in page E34～39.

Surge Suppressor for Brake Wiring/OP-ENE471D-10A





●Appropriate for cutting off the sparks of a brake switch for AC line switching.

Positioning between the Lead Wire and the Terminal Box

Refer to page E34～E39.

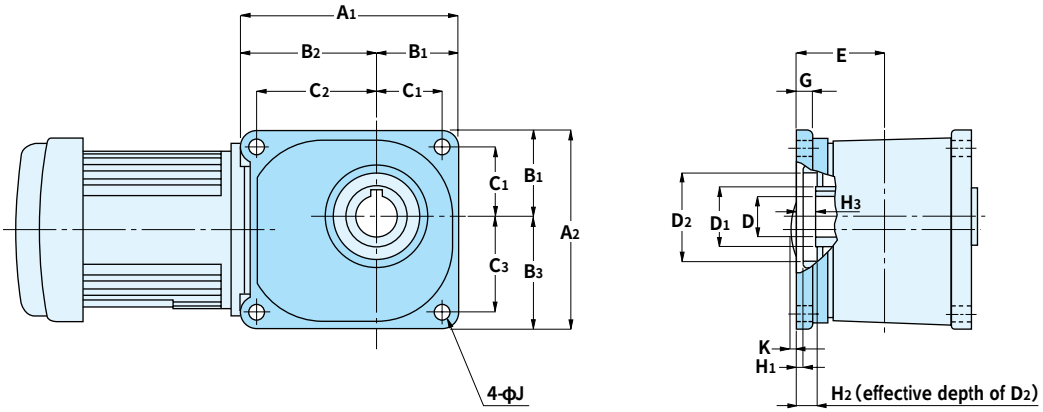
Rectifier Built-in Gearmotors with Brake

For indoor spec., refer to page E24～E26, for water-resistant, outdoor spec., refer to page E31.

Option

FS Type(Hollow Shaft)•R-Flange(Option)

Dimension Diagram for attaching the R-Flange



Model Number	Frame Number	A1	A2	B1	B2	B3	C1	C2	C3	E	G	H1	H2	H3	D2 (H8)	Output Shaft D1	Output Shaft D (H8)	J
RF-20	20	128	112	47	81	65	38	72	56	51	10	1	13	12	φ 46	φ29	φ20	φ 8.5
RF-25	25	147	131	54.5	92.5	76.5	44	82	66	59	12	6	12	11	φ 58	φ39	φ25	φ11
RF-30	30	164	146	62	102	84	50	90	72	65	14	5	15	14	φ 65	φ44	φ30	φ11
RF-35	35	188	168	68	120	100	56	108	88	70	16	3	18	17	φ 72	φ49	φ35	φ13
RF-45	45	234	204	85	149	119	70	134	104	80	18	3	22	21	φ 85	φ64	φ45	φ15
RF-55	55	298	262	110	188	152	90	168	132	98	22	6	17	16	φ100	φ79	φ55	φ18

Measurements of the extruded part of Fan Cover when attaching the R-Flange (Measurement of K)

There is no extruded part of Fan Cover in the Frame number 20 and 55.

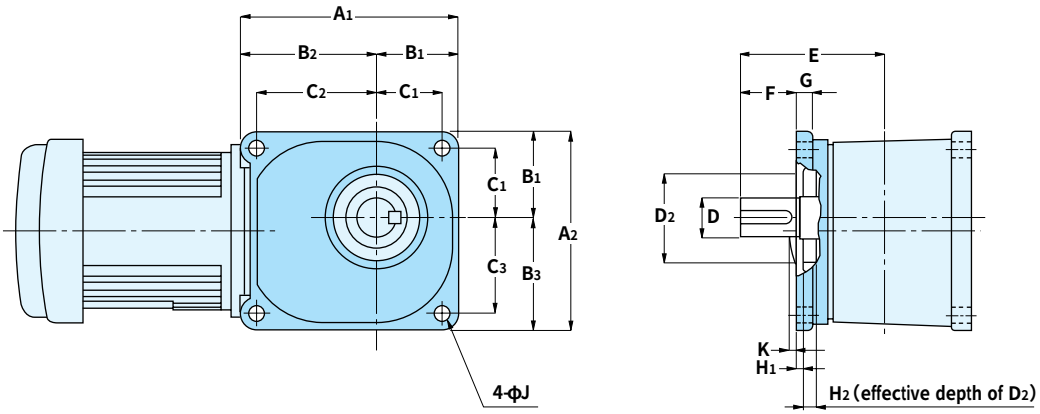
Capacity	Frame Number	Outdoor Specification		Water-resistant, Outdoor specification	
		with Moter	with Brake	with Moter	with Brake
		Standard	Standard	Standard	Standard
0.1kW	25	—	8.5	—	—
	30	—	2.5	—	—
0.2kW	30	2.5	2.5	2.5	2.5
0.4kW	35	0.5	0.5	0.5	0.5
0.75kW	45	1	1	1	1

For use in the single-phase motor, consult us.

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

FF Type(Solid Shaft)·R-Flange(Option)

Dimension Diagram for attaching the R-Flange



Model Number	Frame Number	A_1	A_2	B_1	B_2	B_3	C_1	C_2	C_3	E	G	H_1	H_2	D_2 (H_8)	Output Shaft		J
															F	D (h_6)	
RF-20	18	128	112	47	81	65	38	72	56	82	10	1	13	ϕ46	31	ϕ18	ϕ 8.5
RF-25	22	147	131	54.5	92.5	76.5	44	82	66	95	12	6	12	ϕ58	36	ϕ22	ϕ11
RF-30	28	164	146	62	102	84	50	90	72	107	14	5	15	ϕ65	42	ϕ28	ϕ11
RF-35	32	188	168	68	120	100	56	108	88	124	16	3	18	ϕ72	54	ϕ32	ϕ13
RF-45	40	234	204	85	149	119	70	134	104	144	18	3	22	ϕ85	64	ϕ40	ϕ15

Measurements of the extruded part of Fan Cover when attaching the R-Flange (Measurement of K)

There is no extruded part of Fan Cover in the Frame number 18.

Capacity	Frame Number	with Moter	with Brake
0.1kW	22	—	8.5
0.2kW	28	2.5	2.5
0.4kW	32	0.5	0.5
0.75kW	40	1	1

Spec for R-Flange

Model Number	Frame Number	Weight (kg)	Material	Surface Treatment	Color
RF-20	20•18	0.3	aluminium casting	Anion electrophoretic coating	grey
RF-25	25•22	0.5			
RF-30	30•28	0.5	aluminium die casting		
RF-35	35•32	1.0	aluminium casting		
RF-45	45•40	2.0			
RF-55	55	7.0	cast iron		

Option

FS Type (Hollow Shaft)•Torque Arm (Option)

Figure No. 1

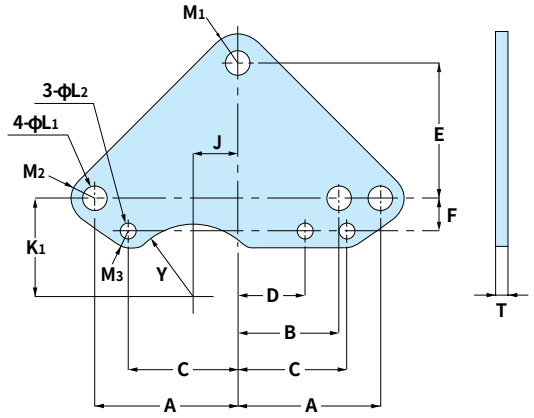
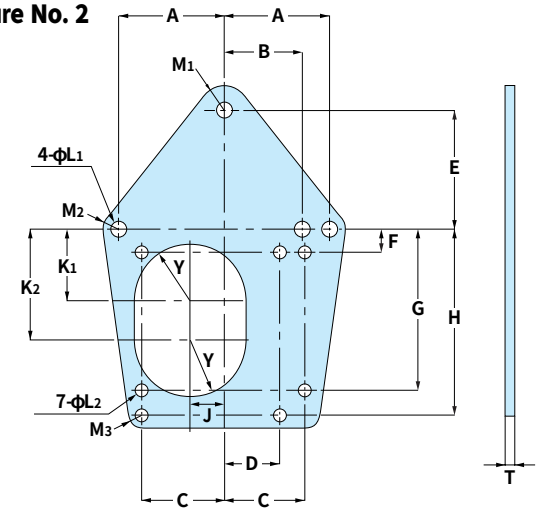
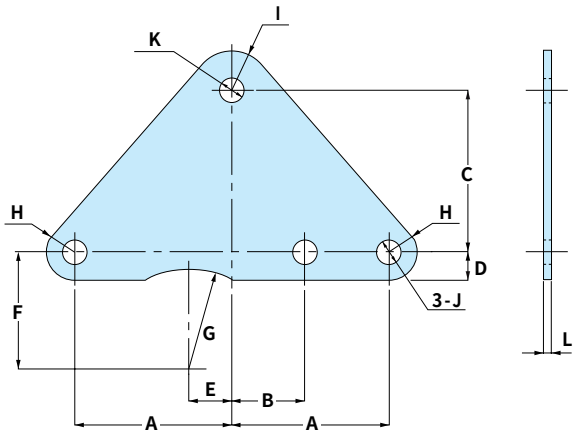


Figure No. 2



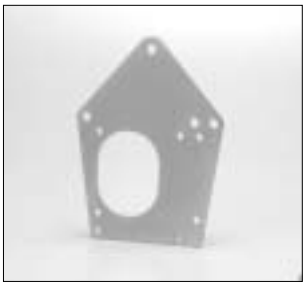
Model Number	Frame Number	Figure No.	A	B	C	D	E	F	G	H	J	K1	K2	L1	L2	M1	M2	M3	Y	T
TA-20	20	1	55	39	42	26	52	13	—	—	17	38	—	φ9	φ5.5	R11	R 9	R 6	R28	4.5
TA-25	25	1	63	47	47	31	61	16	—	—	19	44	—	φ11	φ6.5	R15	R10.5	R 7	R34	4.5
TA-30	30	1	70	52	53	35	70	17	—	—	20	50	—	φ11	φ9	R15	R12	R 9	R39	6
TA-35	35	2	82	62	64	44	94	18	126	146	26	56	88	φ13	φ9	R18	R12	R10	R43.5	6
TA-45	45	2	102	72	80	50	110	22	152	182	32	70	104	φ15	φ11	R20	R15	R11	R51	9
TA-55	55	2	129	93	97	61	160	32	190	226	39	90	132	φ18	φ13	R25	R20	R13	R70	9

F2S Type (Hollow Shaft)•Torque Arm (Option)



Model Number	Frame Number	A	B	C	D	E	F	G	H	I	J	K	L
TAF2S-20	20	53.5	23.5	52	9	—	—	—	R 9	R11	φ 9	φ 9	3.2
TAF2S-25	25	60	27	61	10.5	16.5	43.5	R37	R10.5	R15	φ 9	φ 9	3.2
TAF2S-30	30	69.5	26.5	70	12	21.5	48	R41.5	R12	R15	φ 9	φ11	4.5
TAF2S-35	35	80.5	31.5	94	12	24.5	56	R46.5	R12	R18	φ11	φ13.5	6
TAF2S-45	45	103.5	42.5	110	15	—	—	—	R15	R20	φ13.5	φ17.5	9

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox



Torque Arm Specificaiton

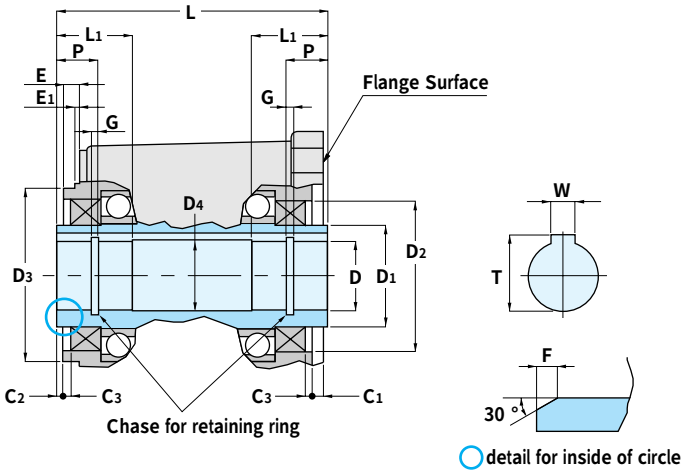
Model Number	Frame Number	Weight (kg)	Material	Surface Treatment	Color
TA-20	20	0.2	SS41	uni-chrome coating	white
TA-25	25	0.3			
TA-30	30	0.5			
TA-35	35	1.2			
TA-45	45	3.0			
TA-55	55	4.8			
TAF2S-20	20	0.1			
TAF2S-25	25	0.2			
TAF2S-30	30	0.3			
TAF2S-35	35	0.6			
TAF2S-45	45	1.4			

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Option

■In the FS•F2S Type (hollow shaft), output shafts with the bore sizes listed below are also available. Instruct us your required shaft diameter when ordering.
∗Water-resistant type (SUS420J2) is also available.
∗Need investigation about the strength of inserting shaft.
∗For more details such as delivery and price, etc., ask our local office.

FS Type (Hollow Shaft) • Additional specification for output shaft hole diameter

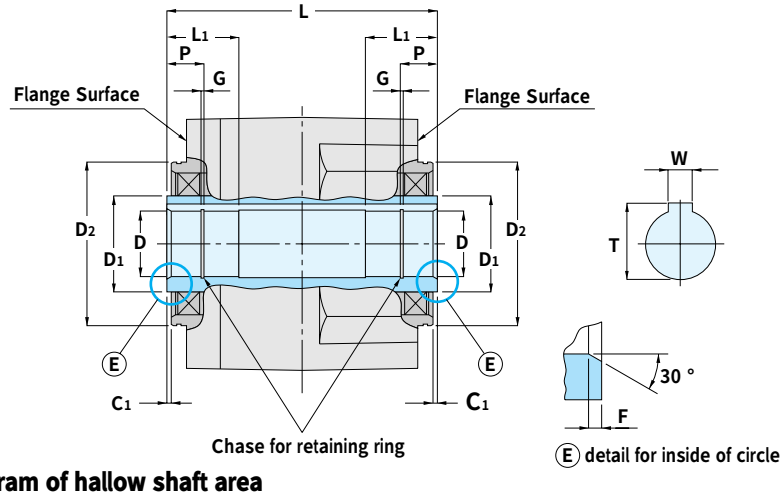


Frame Number	Bore of the Hollow Shaft	D (H8)	D1	D2 (H8)	D3 (h8)	D4	W	T	L	L1	P	C1	C2	C3	E	E1	F	G
20	ϕ17	ϕ17	ϕ29	ϕ 46	ϕ 53	ϕ18	5	19.3	91	24	13	1	2	3	8	0	2	1.15
25	ϕ20	ϕ20	ϕ39	ϕ 58	ϕ 66	ϕ21	6	22.8	108	27	14	6	2	3	6	0	2	1.15
30	ϕ20	ϕ20	ϕ44	ϕ 65	ϕ 75	ϕ21	6	22.8	117	33	17	5	2	3	7	0	2	1.15
	ϕ25	ϕ25	ϕ44	ϕ 65	ϕ 75	ϕ26	8	28.3	117	33	17	5	2	3	7	0	2	1.35
35	ϕ25	ϕ25	ϕ49	ϕ 72	ϕ 85	ϕ26	8	28.3	124	38	20	3	2	3	7	0	2	1.35
	ϕ30	ϕ30	ϕ49	ϕ 72	ϕ 85	ϕ31	8	33.3	124	38	20	3	2	3	7	0	2	1.35
45	ϕ30	ϕ30	ϕ64	ϕ 85	ϕ100	ϕ31	8	33.3	140	50	26	3	2	3	6	0	2	1.35
	ϕ35	ϕ35	ϕ64	ϕ 85	ϕ100	ϕ36	10	38.3	140	50	26	3	2	3	6	0	2	1.75
	ϕ40	ϕ40	ϕ64	ϕ 85	ϕ100	ϕ41	12	43.3	140	50	26	3	2	3	6	0	2	1.95
55	ϕ40	ϕ40	ϕ79	ϕ100	ϕ120	ϕ41	12	43.3	181	61	32	5	2	5	10	2	2	1.95
	ϕ45	ϕ45	ϕ79	ϕ100	ϕ120	ϕ46	14	48.8	181	61	32	5	2	5	10	2	2	1.95
	ϕ50	ϕ50	ϕ79	ϕ100	ϕ120	ϕ51	14	53.8	181	61	32	5	2	5	10	2	2	2.20

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

F3S Type (Hollow Shaft) • Additional specification for output shaft hole diameter

■In the F3S Type (hollow shaft), output shafts with the bore sizes listed below are also available. Instruct us your required shaft diameter when ordering.
*Water-resistant type (SUS420J2) is also available.
*Need investigation about the strength of inserting shaft.
*For more details such as delivery and price, etc., ask our local office.



Detailed dimension diagram of hallow shaft area

Frame Number	Bore Size	D (H8)	D1	D2 (h7)	W	T	L	L1	P	C1	F	G
20	ϕ17	ϕ17	ϕ29	ϕ53	5	19.3	96	24	13	2	2	1.15
25	ϕ20	ϕ20	ϕ39	ϕ66	6	22.8	118	27	14	2	2	1.15
30	ϕ20	ϕ20	ϕ44	ϕ75	6	22.8	124	33	17	2	2	1.15
	ϕ25	ϕ25	ϕ44	ϕ75	8	28.3	124	33	17	2	2	1.35
35	ϕ25	ϕ25	ϕ49	ϕ85	8	28.3	142	38	20	2	2	1.35
	ϕ30	ϕ30	ϕ49	ϕ85	8	33.3	142	38	20	2	2	1.35
45	ϕ30	ϕ30	ϕ64	ϕ100	8	33.3	168	50	26	2	2	1.35
	ϕ35	ϕ35	ϕ64	ϕ100	10	38.3	168	50	26	2	2	1.75
	ϕ40	ϕ40	ϕ64	ϕ100	12	43.3	168	50	26	2	2	1.95
50	ϕ40	ϕ40	ϕ74	ϕ110	12	43.3	172	55	29	2	2	1.95
	ϕ45	ϕ45	ϕ74	ϕ110	14	48.8	172	55	29	2	2	1.95
55	ϕ40	ϕ40	ϕ79	ϕ120	12	43.3	220	61	32	2	2	1.95
	ϕ45	ϕ45	ϕ79	ϕ120	14	48.8	220	61	32	2	2	1.95
	ϕ50	ϕ50	ϕ79	ϕ120	14	53.8	220	61	32	2	2	2.20

Main Features of Combination of Nissei-Gearmotor & Inverter

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Quick Installation and Operation

- With the best setting of parameter, wide range of continuous rated operation can be feasible. Continuous operations in the range of 5Hz to 60Hz are feasible.
- At the shipment of inverters, the most appropriate parameter has already been set in accordance with the Nissei Gearmotor. Upon arrival of products, customer can start using them without doing troublesome parameter settings.

The figure shown on the right is an example of the case with the motor capacity of 3-phase, 0.2kW. For other capacities, refer to page E80～E81.

Low Cost when Set Purchasing, No additional Labor!

- Inverters can be ordered in combination with gearmotors. Eliminate a needless trouble of ordering inverter and gearmotor separately. Specify the type of gearmotor to be used, in your inquiry.
- We will do the parameter setting in accordance with our gearmotor to be used.

For the standard specifications, parameters have already been set, using our gearmotor with the same capacity.
In case the inverter capacity is different from that of gearmotor, consult us.

Performance・Function

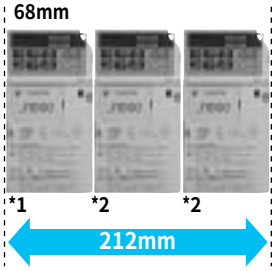
Entire Area・Fully Automatic Torque Booster

- Even in a same machine, necessary motor torque varies according to the load condition. It is the Entire Area Fully Automatic Booster that automatically adjust the voltage (V) of V/f in accordance with the torque needed. In the J1000, voltage (V) can be adjusted not only at the constant speed operation but also at the acceleration. Calculation of the needed torque is done by the inverter.

Compact Design

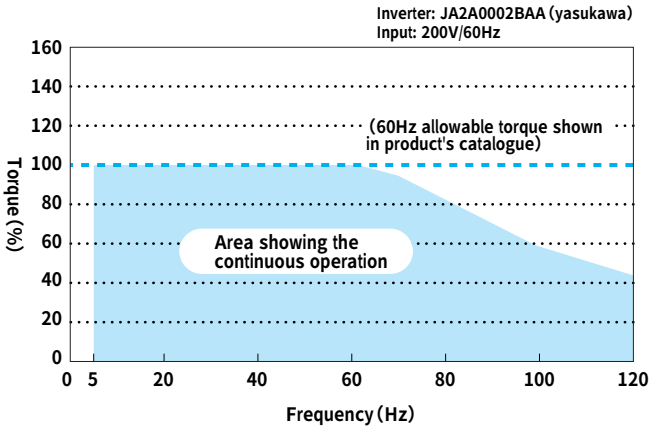
The super miniaturized body and side-by-side installation allows a compact control panel design.

Note) In some cases load reduction may be necessary.
Ensure the selected motor rated current is within the inverter rated current.



*1: When the side is a wall, 30mm is required.
*2: The gap between inverters is 2 mm.

●"Range of continuous rated operations" 0.2kW



Advantage Point

Shipment will be made after setting the parameter in accordance with the ordered gearmotor.

Simple Operation

The gear comes with a verification function to simply check the parameter if it has been changed since the value set when shipped from the factory.

- Changed parameters

Name	Parameter No.	Shipped Setting	Set Value
Frequency Instruction Selection	b1-01	1	0
Acceleration Hour 1	C1-01	10.00s	15.00s
Deceleration Hour 1	C1-02	10.00s	15.00s
⋮	⋮	⋮	⋮

Environmental Considerations

Standard products comply with the RoHS (European Restriction of Hazardous Substances) Directive.

Incorporating Swing PWM mode to reduce electromagnetic and ear damaging noises.

- Comparing noise from current and Swing PWM based models:

23% reduction

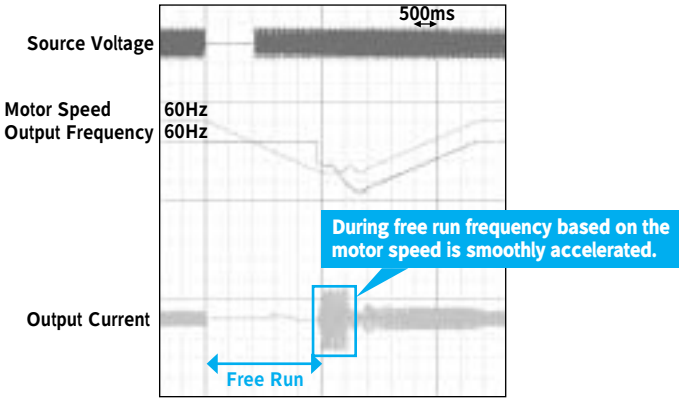
Note) Comparison of peak noise frequency analysis values

Continues Operation Even with Changes in Load or Power or Temporary Power Outages

Motor speed loss is prevented based on full stalling prevention functionality. Also inverter trips caused by temporary unusual circumstances are prevented due to functions such as speed search, which can restart the motor's free run state without a speed sensor, and temporary stop operation continuation.

●Speed Search Functionality

It is simple to start the motor's free run conditions without a speed sensor. (Example applications: A fluid machine that has a rotating part such as a fan or blower.)



Complete Control Functions, Vertically Operable

Based on over excitation control functionality it is possible to quickly adjust even without resistance. In addition, all models include a control transistor so that simply by adding a control resistor (option) even greater ability to control can be gained. Vertical operation is also possible.

Complete Conservation Functionality

A charge current control circuit is installed standard preventing inverter damage even in poor power conditions.

Conservative Reduction

Condenser, cooling fan, charge prevention relay, IGBT maintenance period can all be performed by monitor checking for complete preventative protection.
Cooling fan is installed in the top and is replaceable. It is easy to replace without requiring removal of the main wiring circuit.

●Cooler fan replacement

Power Harmonics Reduction Considerations

It is possible to connect AC reactors (option) and DC reactors (option).

This inverter falls under the "Guideline to reduce harmonic emissions caused by electrical and electronic equipment for household and general use" released in September 1994 by METI. Following these guidelines the Japan Electronics and Information Technology Industries Association determined standard levels in steps. Aligning our inverters installed from January 1, 1997 with these criteria requires connection with a harmonic emissions controller reactor. Among power-factor improvement reactors (harmonic reduction reactors) use either DC reactors or AC reactors. When providing reactors separately contact us for detailed specifications.

In case of brake motors, the braking failure may happen because of the fluctuation of voltage by inverter. Therefore, inverter should not be employed for the brake wiring. In case of low speed operations, temperature rise become greater, therefore, care should be given to the range of continuous operation. In case of high speed operations, decline of the allowable torque value, greater vibration and noise may be observed. In this case, contact us. When ordering gearmotors with terminal box, refer to the cautions indicated on the right.

Motor Capacity	Caution
0.1kW～0.4kW	When ordering A Type or Z Type terminal box, instruct us whether rectifier independent specification or AC Switching (A) wirings.
0.75kW～2.2kW	When ordering the rectifier built-in inverter, instruct us with the AC Switching (A) wiring.

Cautions on Safety

This inverter can be applied to variable speed 3-phase AC motors for general industry use.

- In case inverters are applied to the equipments where the inverter failure or malfunction may directly affects to human life or may cause serious injury, inform us beforehand. It is necessary to have detailed study for each case. (Examples: Atomic power control, Aerospace equipments, Transportation equipments, Medical instruments, Various safety devices, etc)
- Inverters are manufactured under the severe quality control, however, it is recommended to install safety device to prevent from serious accidents in the application where the inverter failure may cause fatal accidents and/or may cause serious losses to valuable equipments.
- Wiring should be done by a professional electric worker.
- Inverter should not be applied to the load other than 3-phase AC motor.

Multipurpose Inverter

Outer Dimension

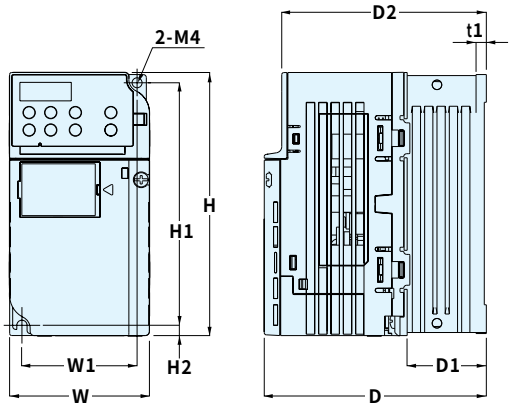


Fig.1

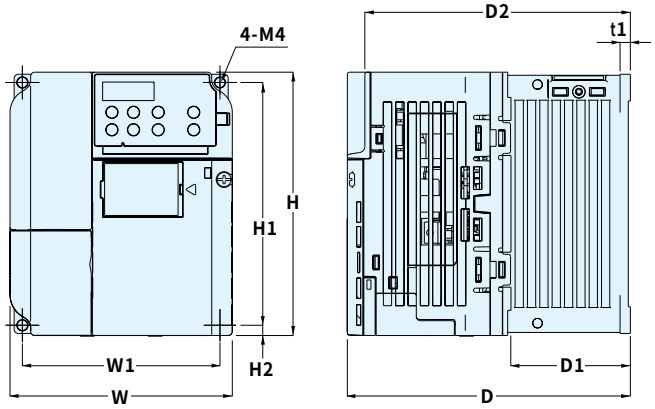


Fig.2

Voltage Class	Maximum Applicable Motor Capacity	Fig. No.	Outer Dimension mm									Round Weight kg	Cooling mode
			W	H	D	W1	H1	H2	D1	D2	t1		
200V (3-phase)	0.1 kW	1	68	128	76	56	118	5	6.5	67.5	3	0.6	Self cooling
	0.2 kW		68	128	76	56	118	5	6.5	67.5	3	0.6	
	0.4 kW		68	128	108	56	118	5	38.5	99.5	5	0.9	
	0.75 kW		68	128	128	56	118	5	58.5	119.5	5	1.1	Air cooling
	1.5 kW	2	108	128	129	96	118	5	58	120.5	5	1.7	
	2.2 kW		108	128	137.5	96	118	5	58	129	5	1.7	
	3.7 kW		140	128	143	128	118	5	65	134.5	5	2.4	

Explanation about Type Designation

Note) When ordering and/or inquiring, inform us of the inverter type shown below, together with our gearmotor type to be used with.

CIMR- J A 2 A 0001 B A A

Inverter J1000 Series

Design Serial Code

Code	Destination
A	Japan

Code	Voltage class
2	3-phase 200V

Code	Customization
A	Standard

Code	Current Class
(Note) Refer to the table below	

Code	Protective Structure
B	IP20

Code	Environmental Resistance
A	Standard

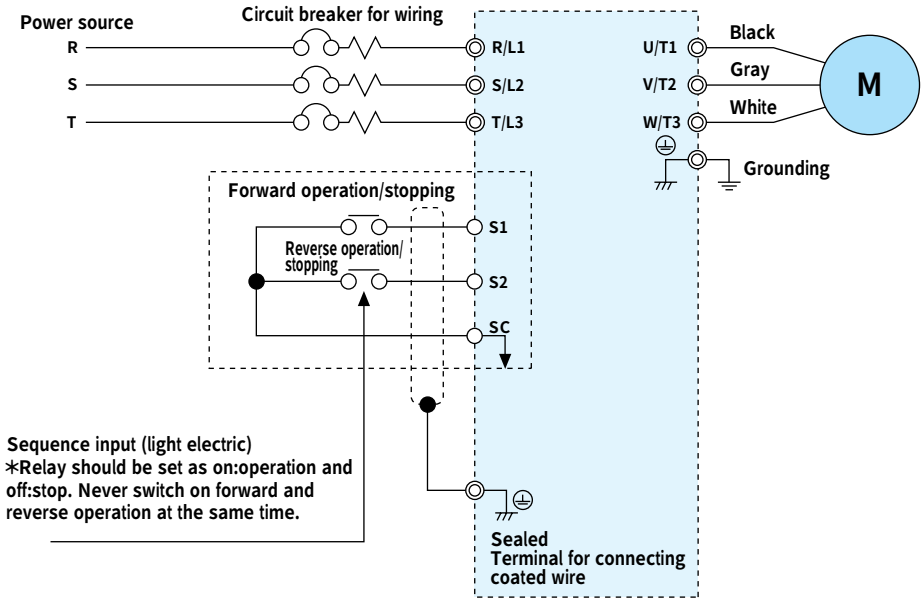
Model Organization

Voltage Class	Inverter Type CIMR-JA2A□□□□			0001 (Note 1)	0002 (Note 1)	0004 (Note 1)	0006 (Note 1)	0010 (Note 2)	0012 (Note 2)	0020 (Note 2)
200V (3-phase)	Motor Capacity		kW	0.1	0.2	0.4	0.75	1.5	2.2	3.7
	Rated output current		A	0.8	1.6	3	5	8	11	17.5
	Heat generating (generation loss)	Cooling fin	W	4.3	7.9	16.1	27.4	54.8	70.7	110.5
		Unit interior	W	7.3	8.8	11.5	15.9	23.8	30.0	43.3
		Total heat generation	W	11.6	16.7	27.6	43.3	78.6	100.7	153.8

Note 1) When the carrier frequency value is 10kHz.
2) When the carrier frequency value is 8kHz.
3) We deliver inverters with most appropriate parameter setting in accordance with the characteristics of our gearmotors. In general, parameter setting is done in accordance with gearmotors of the same capacity. In case of a different combination, consult us.
4) The inverter of this product is manufactured by Yasukawa Denki.

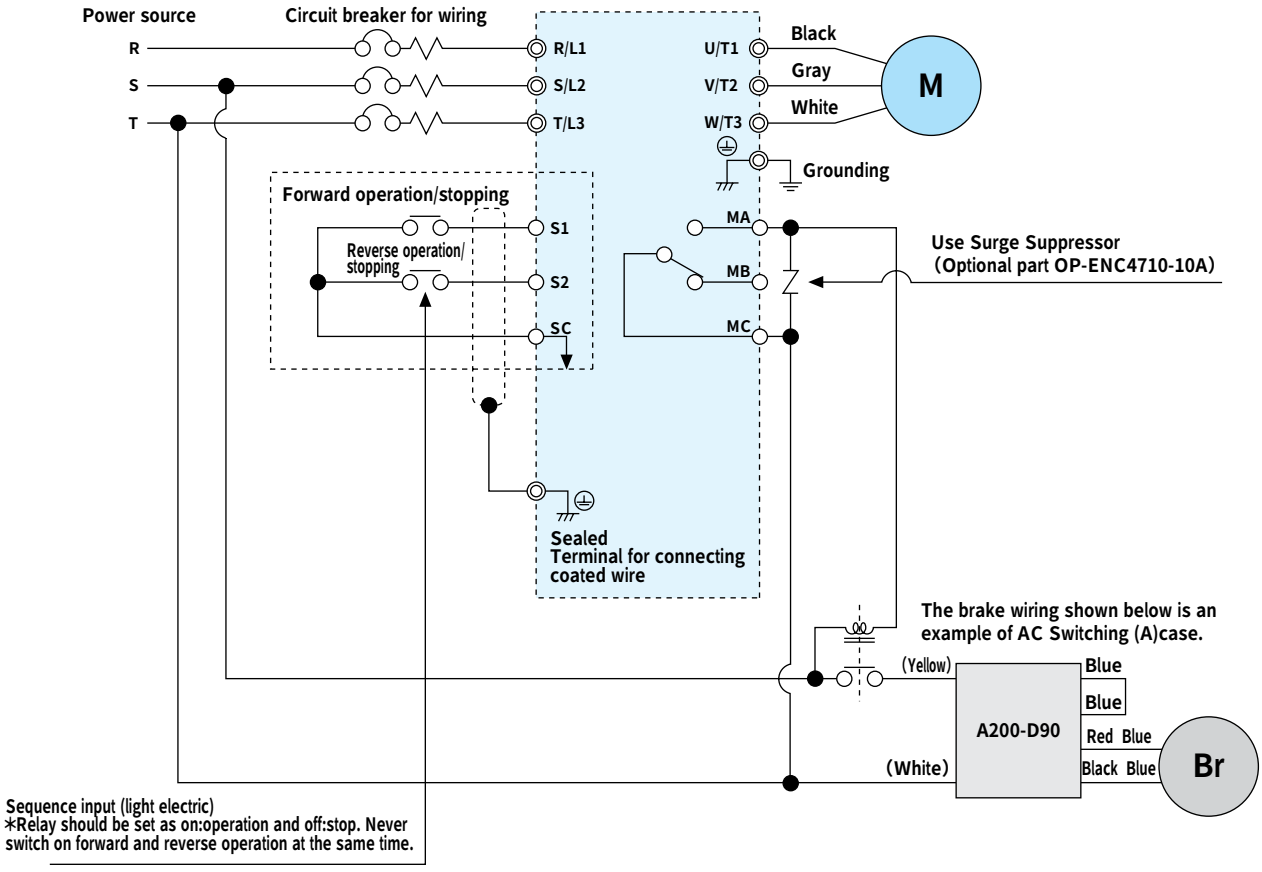
Wiring Diagram for Inverter (J1000) and Gearmotor (Typical Example)

The wiring shown below is a example of the guideline circuit for operation.
In case of applying to the different controlling (operation), refer to the instruction manual or ask us.



Wiring Diagram for Inverter (J1000) and Gearmotor with Brake (Typical Example)

The wiring shown below is a example of the guideline circuit for operation.
In case of applying to the different controlling (operation), refer to the instruction manual or ask us.

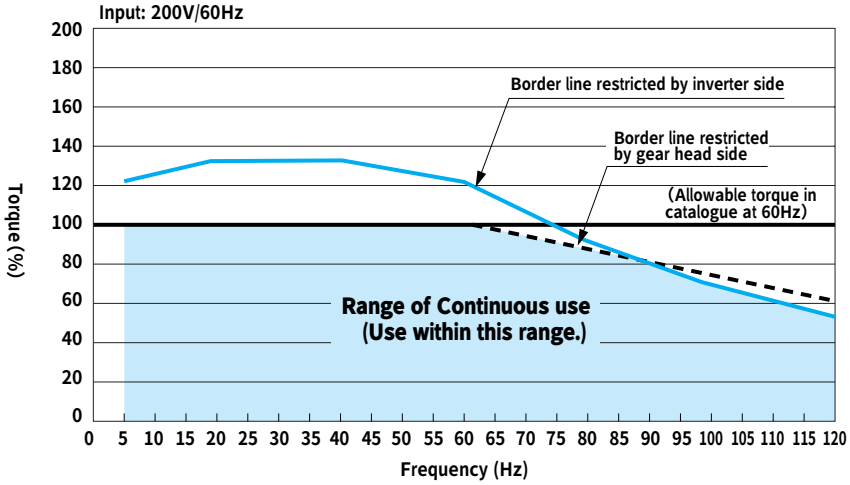


Multipurpose Inverter

Range of Continuous Rated Use

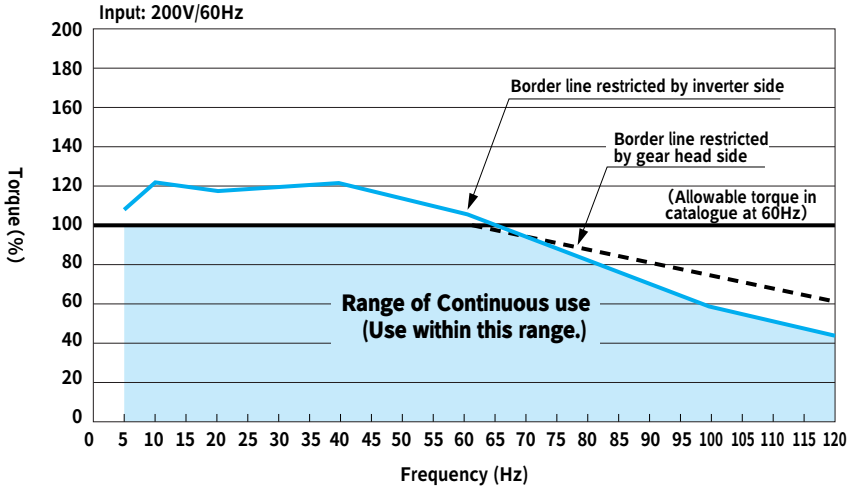
0.1kW

Inverter: CIMR-JA2A0001BAA (YASUKAWA)
Input: 200V/60Hz



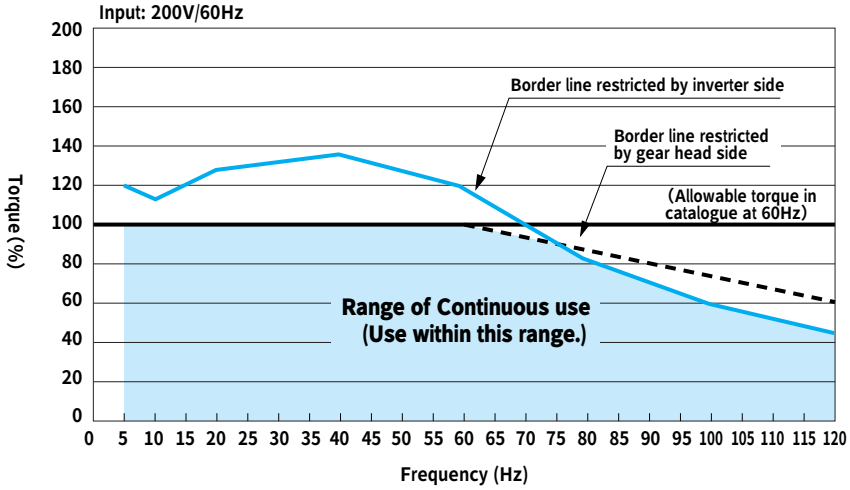
0.2kW

Inverter: CIMR-JA2A0002BAA (YASUKAWA)
Input: 200V/60Hz



0.4kW

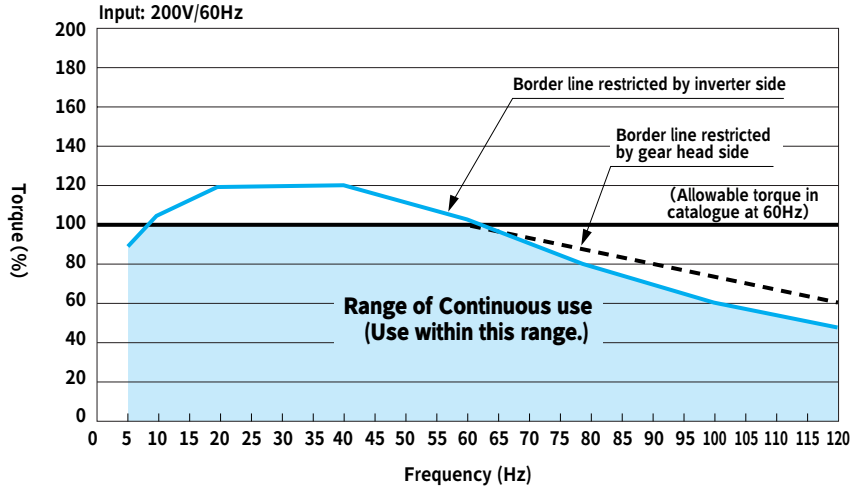
Inverter: CIMR-JA2A0004BAA (YASUKAWA)
Input: 200V/60Hz



Range of Continuous Rated Use

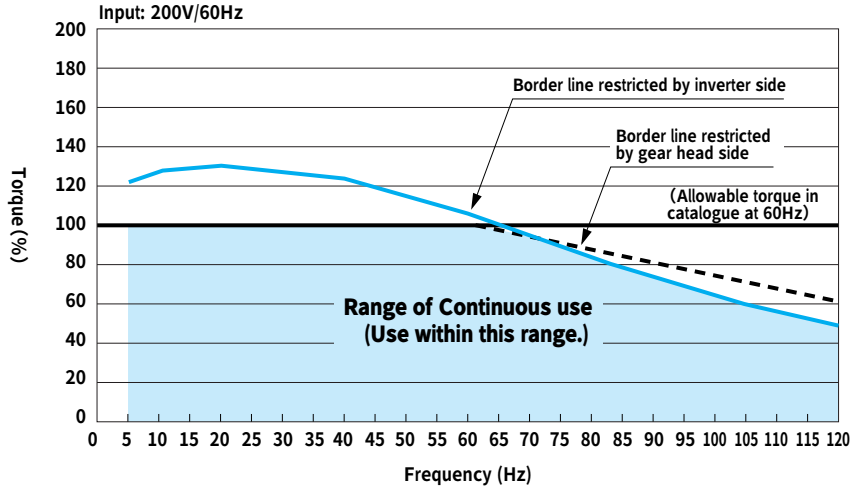
0.75kW

Inverter: CIMR-JA2A0006BAA (YASUKAWA)
Input: 200V/60Hz



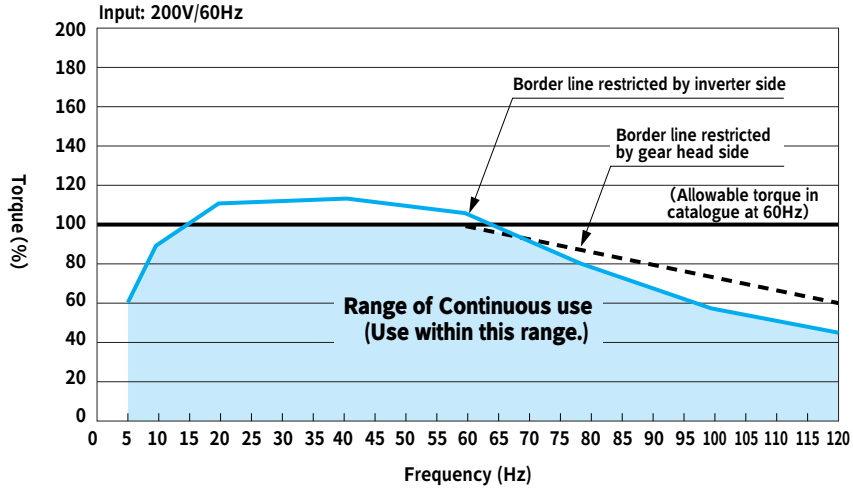
1.5kW

Inverter: CIMR-JA2A0010BAA (YASUKAWA)
Input: 200V/60Hz



2.2kW

Inverter: CIMR-JA2A0012BAA (YASUKAWA)
Input: 200V/60Hz



Multipurpose Inverter

Remarks on the Use Limit Graph

■This is the Use Limit Graph in case of correcting the inverter constant (parameter) in accordance with the Nissei gearmotor of the same capacity.
(For set value, refer to the "Modified Constant (Parameter) Table" shown below.) Constant (parameter) has been corrected when shipping from our factory.
∗Correction is not necessary due to the entire area fully automatic torque boost.

■Border line restricted by inverter side
This is an area of continuous use restricted due to the performance limit of inverter when making combination with gearmotor.

■Border line restricted by gear head side
This is an area of continuous use restricted due to the value which is equivalent to the value of multiplying the correction coefficient by the "Allowable torque coefficient in accordance with the reducer input shaft rotation speed" when making combination with gearmotor.

About the Modification of the Constant(Parameter) of Inverter

■Table for Modified Constant (Parameter)
●In order to realize the maximum performance of our gearmotors, we modify the constants shown below.
●When inputting the constant (Constant No. A1-03) be careful that initialization may erase the modified constants shown below. In such a case, change to the contents below in order from ① to ⑤.
Setting each capacitance's current value to number ④ (No. E2-01 motor rated current) first and then setting number ① (No. C6-01ND/HD selection) will reset the changes to number ④ (No. E2-01 motor rated current).
After changing the values, verify the changed parameters below.

No.		Designation	0.1kW	0.2kW	0.4kW	0.75kW	1.5kW	2.2kW
①	C6-01	ND/HD selection	0	0	0	0	0	0
②	C1-01	Acceleration hour 1	1s	1s	1s	1s	1s	1s
③	C1-02	Deceleration hour 1	5s	5s	5s	5s	5s	5s
④	E2-01	Motor rated current	0.54A	1.0A	1.9A	3.1A	5.7A	8.7A
⑤	L1-01	Motor protection function selection	2	2	2	2	2	1

Note 1) No. E1-04 Maximum output frequency has been set to 60Hz, considering the safety at the initial stage of installing. In case of using with over 60Hz, operate after modifying the frequency to a proper value with an upper limit of 120Hz.
2) The constant values shown above are the ones corresponding to our gearmotors of the same capacity.
3) The parameter setting done according to the capacity of gearmotor are only the capacities between 0.1kW through 2.2kW.
4) For the constants in combination with gearmotors other than our sap capacity gearmotors, ask us.

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

GT-STEP
Index Gearmotor

Motor Part	Number of phase	3-Phase	1-Phase
	Capacity	25W～90W、0.2kW	25W～90W
	Power Source	3 Rated Power Source 200V 50/60Hz、220V/60Hz	100V 50/60Hz
	Insulation Classification	Class E (Class B for 0.2kW)	Class E
	Starting Method	Direct start	Capacitor Operation
	Protective cooling Method	Totally Enclosed fan-cooled (Totally Enclosed only for 25～90W without brake)	Totally Enclosed fan-cooled (Totally Enclosed only for 25～50W without brake)
	Number of Pole	4	
Speed Reduction Part	Reduction Method	Helical Gear and Geneva Gear	
	Lubrication	Grease Lubrication(Maintenance Free)	
	Output Shaft Material	S43C	
	Case Material	Aluminium die-cast	
Ambient Conditions	Ambient Temperature	－10°C～40°C	
	Ambient Humidity	85% max. (without any dew condensation)	
	Altitude	1,000m max.	
	Environment	Well ventilated place free from corrosive gas, explosive gas vapor and/or dust.	
	Installation Location	Indoors	
Painting	Painting Method	Anion painting, Acrylic paint	
	Painting Color	Grey (Mansel code:9B6/0.5)	
Mounting Direction		No restriction in the mounting angle. (horizontally, vertically or heeling angle)	

Model and Type Designation GT-STEP

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Standard Model

■Model type and code

GT-STEP are classified by codes as shown below.
Specify these codes in your inquiry and/or order.

Type				Frame Number		Number of Stop		Cycle Time		Motor Capacity・Option		
G	I	L	M	22	–	4	/	1.5	–	S25	W	T

- **Series Name of GT-STEP**: GI
- **Classification by Mount**: L : Foot Mount / F : Flange Mount
- **Classification by Motor Type**: M : With Motor / B : With Brake Motor
- **Frame No. and Diameter of Output shaft**: 22
- **Number of Stop (Refer to Table-1)**: 4
- **Nominal Cycle Time (Refer to Table-1)**: 1.5
  For the relation between the number of stop and nominal cycle time, refer to page F22.
- **Motor Capacity・Option**: S25
  Example: S25 : 1-phase 25W / T90 : 3-phase 90W / T020: 3-phase 0.2kW
- **Blank:** Standard Voltage
  (3-phase 200V/50・60Hz, 220V/60Hz / 1-phase 100V/50・60Hz)
  W : High Voltage (Option)
  (3-phase 380V/50Hz, 400V/50・60Hz, 440V/60Hz / 1-phase 200V/50・60Hz)
  T : Small type terminal box (option) 25W～90W
  K : Small type terminal box (option) 25W～90W
  C : Large type terminal box (option) 25W～90W
  With brake and rectifier built in type
  A : Terminal box (option) 0.2kW
  Z : Terminal box (option) 0.2kW
  for with brake motor
  (rectifier insert type)

■Model Lineup (1264 various)

〈Table-1〉

Number of Stop	Type	Motor Capacity	Frame Number	1	1.5	2	3	4	5	6	8	10	12	16	20	24
4, 6, 8, 12	With Motor (GILM GIFM)	3-phase 25W / 1-phase 25W	22	○	○	○	○	○	○	○						
			28								○	○	○			
			32											○	○	○
		3-phase 50W / 1-phase 50W	28	○	○	○	○	○	○	○						
			32								○	○	○			
			40											○	○	○
	With Brake Motor (GILB GIFB)	3-phase 90W / 1-phase 90W	32	○	○	○	○	○	○	○						
			40								○	○	○			
		3-phase 0.2kW	40	○	○	○	○	○	○	○						

Features

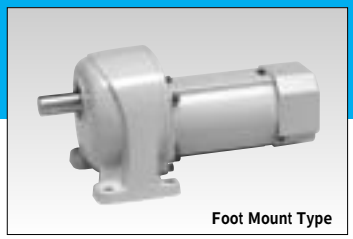
❶Reasonable Price
Prepared for users who is unable to purchase the previous index because of the high prices. For those who are using the expensive index, we offer you with the reasonable price for easy employment.

❷All-in-one Structure
Intermittent mechanisms, reducer and motor are compactly combined. This design offers better handlings.

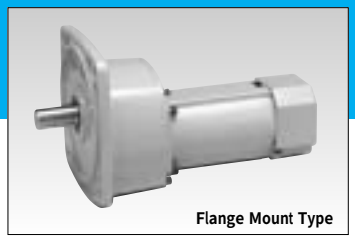
❸Wide varieties of models
1,264 models of GT-STEP are nominated as standard model. Therefore, detailed selection for the most adequate model is possible.

❹Long Life
Excellent durability of the built-in gears and Geneva gears have been realized with the precise machining and the high-level heat treatment.

❺Free mounting direction
Because of the high level grease lubrication system, there is no restriction in the mounting direction.



Foot Mount Type



Flange Mount Type

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Index Gearmotor
Index Gearmotor with Brake

3-phase 25W

The values in parentheses in the Performance Table/Dimension Diagram indicate the values of gearmotors with brake.

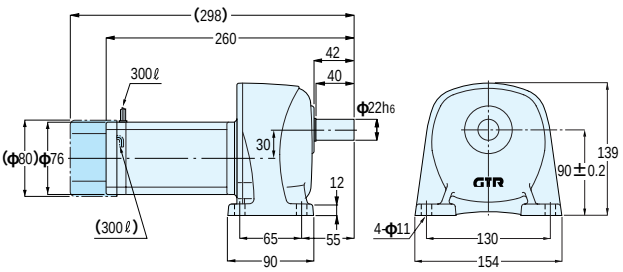
Top figure/Allowable Torque(N•m)
Bottom figure/Allowable Inertia Moment I (kg•m²)

No. of stop	Motor Capacity	Frame Number	Nominal Cycle Time (At the input speed of 1800rpm) 1	1.5	2	3	4	5	6	8	10	12	16	20	24	Plotted Accuracy (minute)	Allowable O.H.L. (N)	Outer dimension Figure No. and Page GILM (GILB)	GIFM (GIFB)
4	3-phase 25W	22	1.47 0.070	2.25 0.150	2.94 0.275	4.41 0.625	5.88 1.13	7.35 1.75	8.82 2.53							±5	882	P.F4 Fig.F-1	P.F5 Fig.F-4
		28								11.8 5.75	14.7 9.00	17.6 13.0					1370	P.F4 Fig.F-2	P.F5 Fig.F-5
		32											23.5 37.8	29.4 59.0	35.3 85.0		2550	P.F5 Fig.F-3	P.F5 Fig.F-6
6		22	2.16 0.158	3.33 0.325	4.41 0.600	6.57 1.40	8.82 2.53	10.8 3.93	12.7 5.68								1180	P.F4 Fig.F-1	P.F5 Fig.F-4
		28								17.6 13.0	21.6 20.3	26.5 29.0					1760	P.F4 Fig.F-2	P.F5 Fig.F-5
		32											35.3 84.8	44.1 133	52.9 191		3330	P.F5 Fig.F-3	P.F5 Fig.F-6
8		22	2.94 0.275	4.51 0.600	5.88 1.10	8.82 2.50	11.8 4.50	14.7 7.00	17.6 10.1								1470	P.F4 Fig.F-1	P.F5 Fig.F-4
		28								23.5 23.0	29.4 36.0	35.3 51.8					2250	P.F4 Fig.F-2	P.F5 Fig.F-5
		32											47.0 151	58.8 236	70.6 340		4310	P.F5 Fig.F-3	P.F5 Fig.F-6
12		22	4.31 0.625	6.66 1.30	8.82 2.40	12.7 5.60	17.6 10.1	21.6 15.7	25.5 22.7								1670	P.F4 Fig.F-1	P.F5 Fig.F-4
		28								35.3 51.8	43.1 81.0	52.9 116					2550	P.F4 Fig.F-2	P.F5 Fig.F-5
		32											70.6 340	88.2 530	106 765		4700	P.F5 Fig.F-3	P.F5 Fig.F-6

Foot Mount Type

Fig.F-1

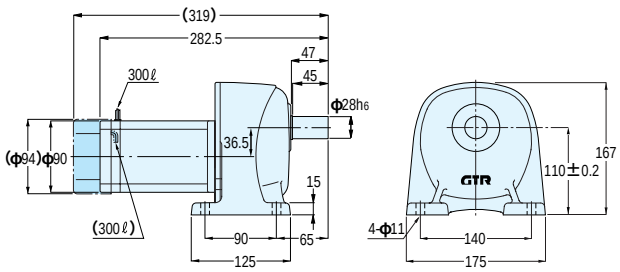
GILM-22-4～12/1～6-T25
CAD Data: GILM-22-T25
(GILB-22-4～12/1～6-T25)
(CAD Data: GILB-22-T25)



Round Weight 6kg

Fig.F-2

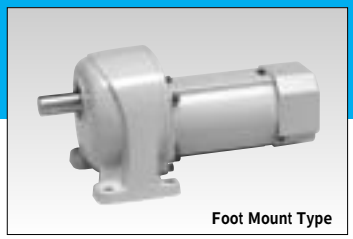
GILM-28-4～12/8～12-T25
CAD Data: GILM-28-T25
(GILB-28-4～12/8～12-T25)
(CAD Data: GILB-28-T25)



Round Weight 8kg

Model Code P.F2
Technical Information P.F19

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox


Foot Mount Type

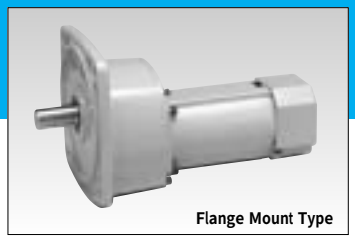
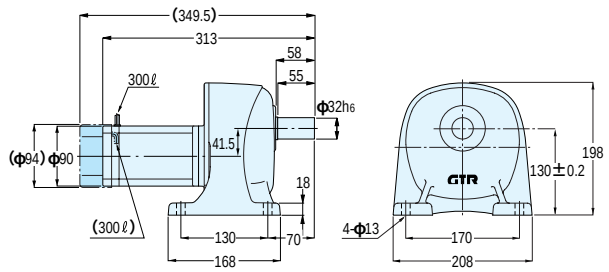

Flange Mount Type

Fig.F-3

GILM-32-4～12/16～24-T25
CAD Data: GILM-32-T25
(GILB-32-4～12/16～24-T25)
(CAD Data: GILB-32-T25)

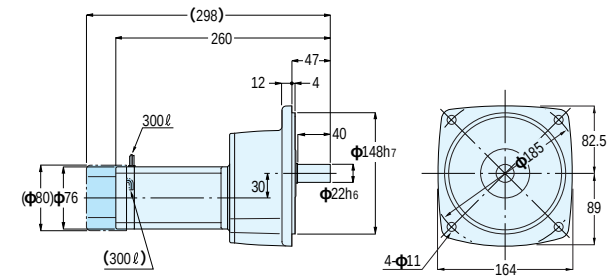


Round Weight 12kg

Flange Mount Type

Fig.F-4

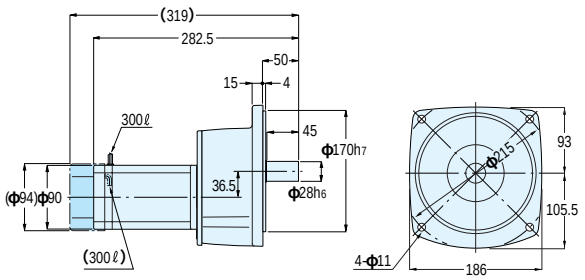
GIFM-22-4～12/1～6-T25
CAD Data: GIFM-22-T25
(GIFB-22-4～12/1～6-T25)
(CAD Data: GIFB-22-T25)



Round Weight 6kg

Fig.F-5

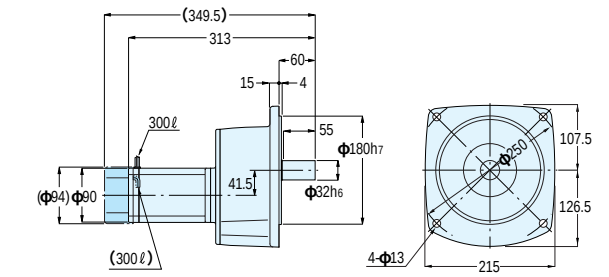
GIFM-28-4～12/8～12-T25
CAD Data: GIFM-28-T25
(GIFB-28-4～12/8～12-T25)
(CAD Data: GIFB-28-T25)



Round Weight 8kg

Fig.F-6

GIFM-32-4～12/16～24-T25
CAD Data: GIFM-32-T25
(GIFB-32-4～12/16～24-T25)
(CAD Data: GIFB-32-T25)



Round Weight 12kg

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Index Gearmotor
Index Gearmotor with Brake

3-phase 50W

The values in parentheses in the Performance Table/Dimension Diagram indicate the values of gearmotors with brake.

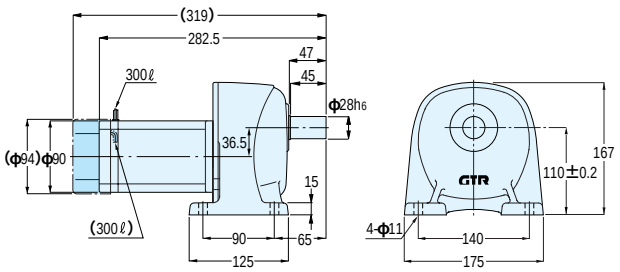
Top figure/Allowable Torque(N•m)
Bottom figure/Allowable Inertia Moment I (kg•m²)

No. of stop	Motor Capacity	Frame Number	Nominal Cycle Time (At the input speed of 1800rpm) 1	1.5	2	3	4	5	6	8	10	12	16	20	24	Plotted Accuracy (minute)	Allowable O.H.L. (N)	Outer dimension Figure No. and Page GILM (GILB)	GIFM (GIFB)
4	3-phase 50W	28	2.94 0.140	4.41 0.300	5.88 0.550	8.82 1.25	11.8 2.25	14.7 3.50	17.6 5.05							±5	1370	P.F6 Fig.F-7	P.F7 Fig.F-10
		32								23.5 11.7	29.4 18.3	35.3 26.3					2550	P.F6 Fig.F-8	P.F7 Fig.F-11
		40											47.0 76.8	58.8 120	70.6 173		3530	P.F7 Fig.F-9	P.F7 Fig.F-12
6		28	4.41 0.300	6.57 0.675	8.82 1.23	12.7 2.80	17.6 5.05	21.6 7.88	26.5 11.4								1760	P.F6 Fig.F-7	P.F7 Fig.F-10
		32								35.3 26.3	44.1 41.0	52.9 59.0					3330	P.F6 Fig.F-8	P.F7 Fig.F-11
		40											70.6 173	88.2 270	106 388		4610	P.F7 Fig.F-9	P.F7 Fig.F-12
8		28	5.88 0.550	8.82 1.20	11.8 2.20	17.6 5.00	23.5 9.00	29.4 14.0	35.3 20.2								2250	P.F6 Fig.F-7	P.F7 Fig.F-10
		32								47.0 46.8	58.8 73.0	70.6 105					4310	P.F6 Fig.F-8	P.F7 Fig.F-11
		40											94.1 308	118 480	141 690		5880	P.F7 Fig.F-9	P.F7 Fig.F-12
12		28	8.82 1.20	12.7 2.70	17.6 4.90	25.5 11.2	35.3 20.2	43.1 31.5	52.9 45.5								2550	P.F6 Fig.F-7	P.F7 Fig.F-10
		32								70.6 105	94.1 164	106 236					4700	P.F6 Fig.F-8	P.F7 Fig.F-11
		40											141 690	176 1080	212 1560		6660	P.F7 Fig.F-9	P.F7 Fig.F-12

Foot Mount Type

Fig.F-7

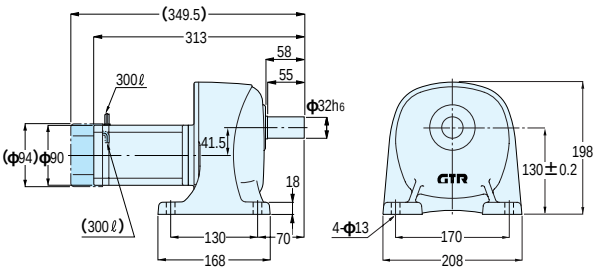
GILM-28-4～12/1～6-T50
CAD Data: GILM-28-T50
(GILB-28-4～12/1～6-T50)
(CAD Data: GILB-28-T50)



Round Weight 8kg

Fig.F-8

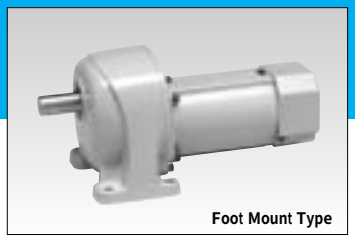
GILM-32-4～12/8～12-T50
CAD Data: GILM-32-T50
(GILB-32-4～12/8～12-T50)
(CAD Data: GILB-32-T50)



Round Weight 12kg

Model Code P.F2
Technical Information P.F19

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox


Foot Mount Type

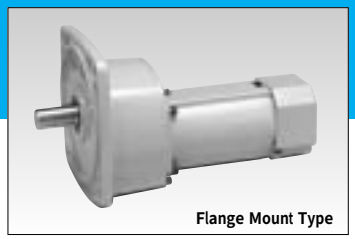
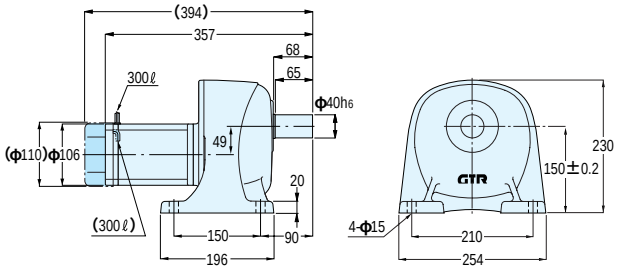

Flange Mount Type

Fig.F-9

GILM-40-4～12/16～24-T50
CAD Data: GILM-40-T50
(GILB-40-4～12/16～24-T50)
(CAD Data: GILB-40-T50)

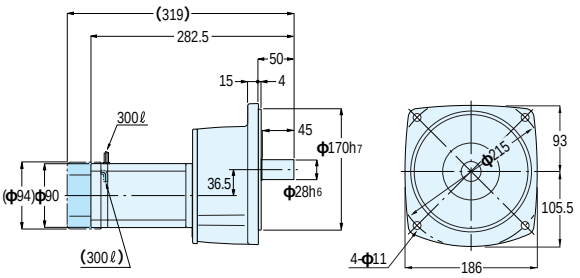


Round Weight 17kg

Flange Mount Type

Fig.F-10

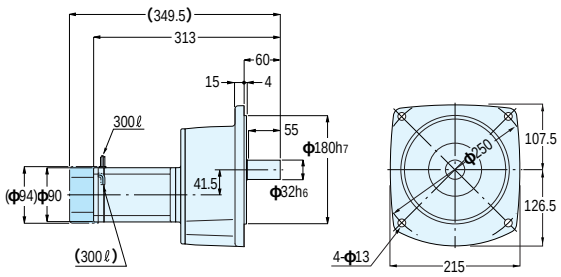
GIFM-28-4～12/1～6-T50
CAD Data: GIFM-28-T50
(GIFB-28-4～12/1～6-T50)
(CAD Data: GIFB-28-T50)



Round Weight 8kg

Fig.F-11

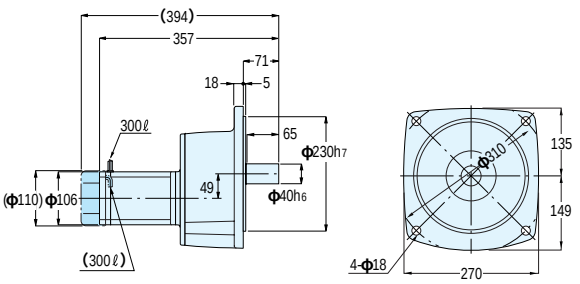
GIFM-32-4～12/8～12-T50
CAD Data: GIFM-32-T50
(GIFB-32-4～12/8～12-T50)
(CAD Data: GIFB-32-T50)



Round Weight 12kg

Fig.F-12

GIFM-40-4～12/16～24-T50
CAD Data: GIFM-40-T50
(GIFB-40-4～12/16～24-T50)
(CAD Data: GIFB-40-T50)



Round Weight 17kg

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Index Gearmotor
Index Gearmotor with Brake

3-phase 90W

The values in parentheses in the Performance Table/Dimension Diagram indicate the values of gearmotors with brake.

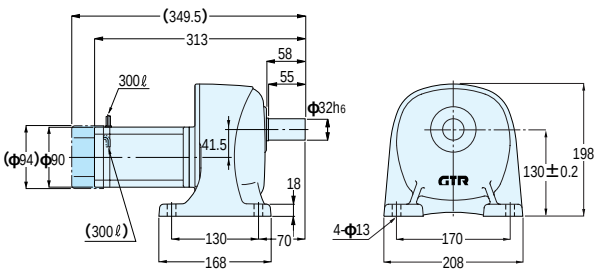
Top figure/Allowable Torque(N•m)
Bottom figure/Allowable Inertia Moment I (kg•m²)

No. of stop	Motor Capacity	Frame Number	Nominal Cycle Time (At the input speed of 1800rpm) 1	1.5	2	3	4	5	6	8	10	12	16	20	24	Plotted Accuracy (minute)	Allowable O.H.L. (N)	Outer dimension Figure No. and Page GILM (GILB)	GIFM (GIFB)
4	3-phase 90W	32	5.39 0.275	8.13 0.625	10.8 1.10	16.7 2.48	21.6 4.40	27.4 6.88	32.3 9.90							±5	2550	P.F8 Fig.F-13	P.F9 Fig.F-15
		40								43.1 22.4	53.9 35.0	64.7 50.5					3530	P.F8 Fig.F-14	P.F9 Fig.F-16
6		32	8.04 0.600	11.8 1.40	15.7 2.48	24.5 5.55	32.3 9.90	41.2 15.5	48.0 22.3								3330	P.F8 Fig.F-13	P.F9 Fig.F-15
		40								64.7 50.3	80.4 78.8	97.0 114					4610	P.F8 Fig.F-14	P.F9 Fig.F-16
8		32	10.8 1.10	16.7 2.50	21.6 4.40	33.3 9.90	43.1 17.6	54.9 27.5	64.7 39.5								4310	P.F8 Fig.F-13	P.F9 Fig.F-15
		40								86.2 89.5	108 140	129 202					5880	P.F8 Fig.F-14	P.F9 Fig.F-16
12		32	15.7 2.40	23.5 5.60	31.4 9.90	49.0 22.2	64.7 39.5	82.3 61.8	96.0 89.0								4700	P.F8 Fig.F-13	P.F9 Fig.F-15
		40								129 201	161 315	194 455					6660	P.F8 Fig.F-14	P.F9 Fig.F-16

Foot Mount Type

Fig.F-13

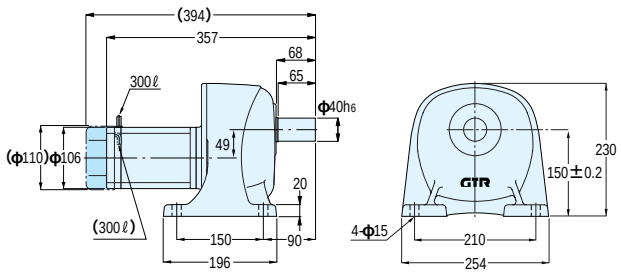
GILM-32-4～12/1～6-T90
CAD Data: GILM-32-T90
(GILB-32-4～12/1～6-T90)
(CAD Data: GILB-32-T90)



Round Weight 12kg

Fig.F-14

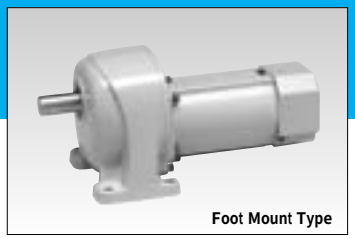
GILM-40-4～12/8～12-T90
CAD Data: GILM-40-T90
(GILB-40-4～12/8～12-T90)
(CAD Data: GILB-40-T90)

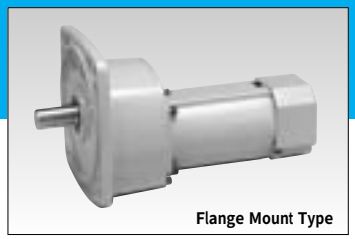


Round Weight 17kg

Model Code P.F2
Technical Information P.F19

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

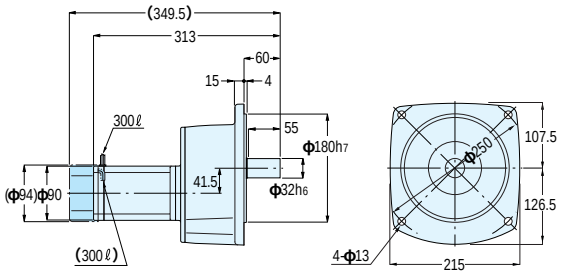

Foot Mount Type


Flange Mount Type

Flange Mount Type

Fig.F-15

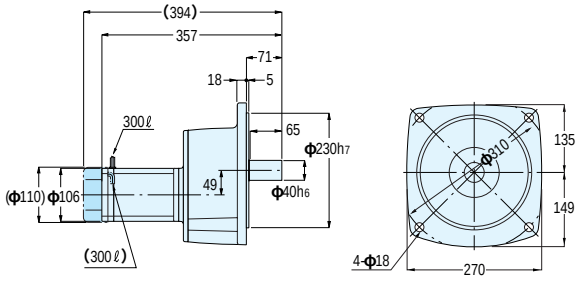
GIFM-32-4～12/1～6-T90
CAD Data: GIFM-32-T90
(GIFB-32-4～12/1～6-T90)
(CAD Data: GIFB-32-T90)



Round Weight 12kg

Fig.F-16

GIFM-40-4～12/8～12-T90
CAD Data: GIFM-40-T90
(GIFB-40-4～12/8～12-T90)
(CAD Data: GIFB-40-T90)



Round Weight 17kg

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Index Gearmotor
Index Gearmotor with Brake

3-phase 0.2kW

The values in parentheses in the Performance Table/Dimension Diagram indicate the values of gearmotors with brake.

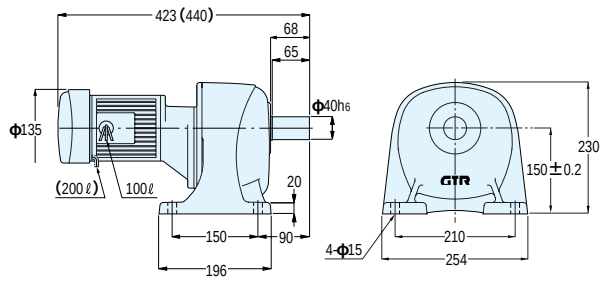
Top figure/Allowable Torque(N•m)
Bottom figure/Allowable Inertia Moment I (kg•m²)

No. of stop	Motor Capacity	Frame Number	Nominal Cycle Time (At the input speed of 1800rpm) 1	1.5	2	3	4	5	6	8	10	12	16	20	24	Plotted Accuracy (minute)	Allowable O.H.L. (N)	Outer dimension Figure No. and Page GILM (GILB)	GIFM (GIFB)
4	3-phase 0.2kW	40	11.8 0.450	17.6 1.03	23.5 1.80	35.3 4.05	47.0 7.20	58.8 11.3	70.6 16.3							±5	3530	P.F10 Fig.F-17	P.F10 Fig.F-18
6		40	17.6 1.00	26.5 2.30	35.3 4.05	52.9 9.10	70.6 16.2	88.2 25.3	106 36.3								4610	P.F10 Fig.F-17	P.F10 Fig.F-18
8		40	23.5 1.80	35.3 4.10	47.0 7.20	70.6 16.2	94.1 28.8	118 45.0	141 65.0								5880	P.F10 Fig.F-17	P.F10 Fig.F-18
12		40	35.3 4.00	52.9 9.20	70.6 16.2	106 36.5	141 64.8	176 101	212 145								6660	P.F10 Fig.F-17	P.F10 Fig.F-18

Foot Mount Type

Fig.F-17

GILM-40-4～12/1～6-T020
CAD Data: GILM-40-T020
(GILB-40-4～12/1～6-T020)
(CAD Data: GILB-40-T020)

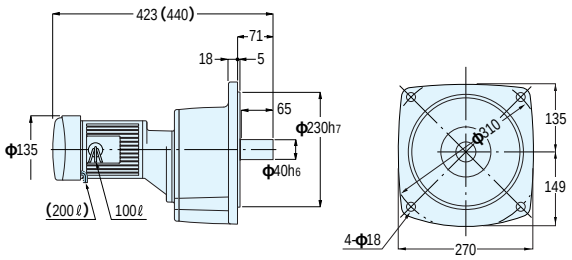


Round Weight 21kg

Flange Mount Type

Fig.F-18

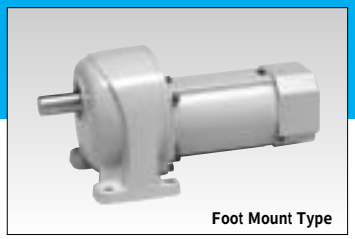
GIFM-40-4～12/1～6-T020
CAD Data: GIFM-40-T020
(GIFB-40-4～12/1～6-T020)
(CAD Data: GIFB-40-T020)

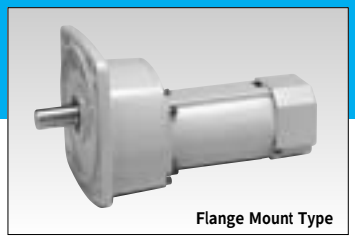


Round Weight 21kg

Model Code P.F2
Technical Information P.F19

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox


Foot Mount Type


Flange Mount Type

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Index Gearmotor
Index Gearmotor with Brake

1-phase 25W

The values in parentheses in the Performance Table/Dimension Diagram indicate the values of gearmotors with brake.

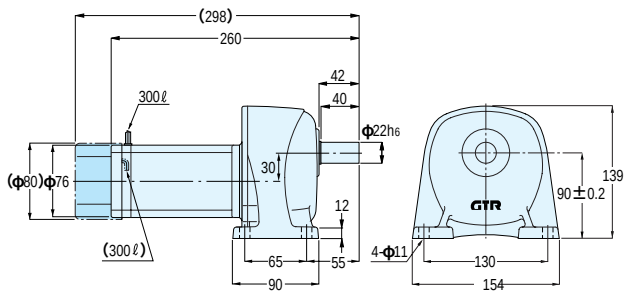
Top figure/Allowable Torque(N•m)
Bottom figure/Allowable Inertia Moment I (kg•m²)

No. of stop	Motor Capacity	Frame Number	Nominal Cycle Time (At the input speed of 1800rpm) 1	1.5	2	3	4	5	6	8	10	12	16	20	24	Plotted Accuracy (minute)	Allowable O.H.L. (N)	Outer dimension Figure No. and Page GILM (GILB)	GIFM (GIFB)
4	1-phase 25W	22	1.47 0.070	2.25 0.150	2.94 0.275	4.41 0.625	5.88 1.13	7.35 1.75	8.82 2.53							±5	882	P.F12 Fig.F-19	P.F13 Fig.F-22
		28								11.8 5.75	14.7 9.00	17.6 13.0					1370	P.F12 Fig.F-20	P.F13 Fig.F-23
		32											23.5 37.8	29.4 59.0	35.3 85.0		2550	P.F13 Fig.F-21	P.F13 Fig.F-24
6		22	2.16 0.158	3.33 0.325	4.41 0.600	6.57 1.40	8.82 2.53	10.8 3.93	12.7 5.68								1180	P.F12 Fig.F-19	P.F13 Fig.F-22
		28								17.6 13.0	21.6 20.3	26.5 29.0					1760	P.F12 Fig.F-20	P.F13 Fig.F-23
		32											35.3 84.8	44.1 133	52.9 191		3330	P.F13 Fig.F-21	P.F13 Fig.F-24
8		22	2.94 0.275	4.51 0.600	5.88 1.10	8.82 2.50	11.8 4.50	14.7 7.00	17.6 10.1								1470	P.F12 Fig.F-19	P.F13 Fig.F-22
		28								23.5 23.0	29.4 36.0	35.3 51.8					2250	P.F12 Fig.F-20	P.F13 Fig.F-23
		32											47.0 151	58.8 236	70.6 340		4310	P.F13 Fig.F-21	P.F13 Fig.F-24
12		22	4.31 0.625	6.66 1.30	8.82 2.40	12.7 5.60	17.6 10.1	21.6 15.7	25.5 22.7								1670	P.F12 Fig.F-19	P.F13 Fig.F-22
		28								35.3 51.8	43.1 81.0	52.9 116					2550	P.F12 Fig.F-20	P.F13 Fig.F-23
		32											70.6 340	88.2 530	106 765		4700	P.F13 Fig.F-21	P.F13 Fig.F-24

Foot Mount Type

Fig.F-19

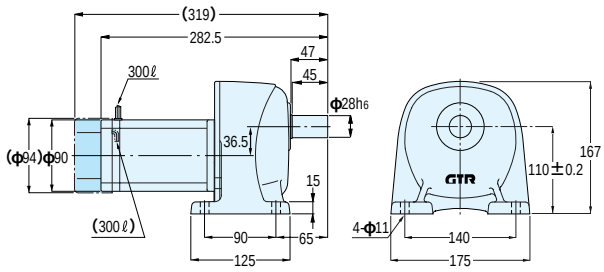
GILM-22-4～12/1～6-S25
CAD Data: GILM-22-S25
(GILB-22-4～12/1～6-S25)
(CAD Data: GILB-22-S25)



Round Weight 6kg

Fig.F-20

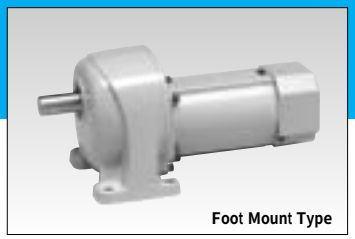
GILM-28-4～12/8～12-S25
CAD Data: GILM-28-S25
(GILB-28-4～12/8～12-S25)
(CAD Data: GILB-28-S25)



Round Weight 8kg

Model Code P.F2
Technical Information P.F19

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox


Foot Mount Type

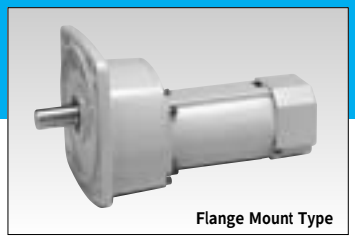
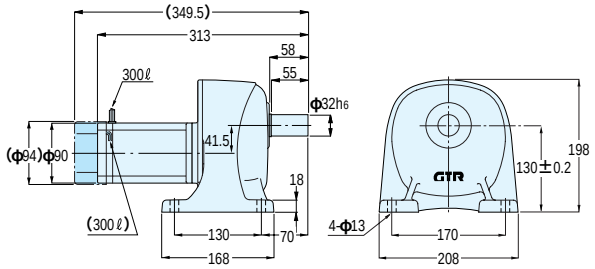

Flange Mount Type

Fig.F-21

GILM-32-4～12/16～24-S25
CAD Data: GILM-32-S25
(GILB-32-4～12/16～24-S25)
(CAD Data: GILB-32-S25)

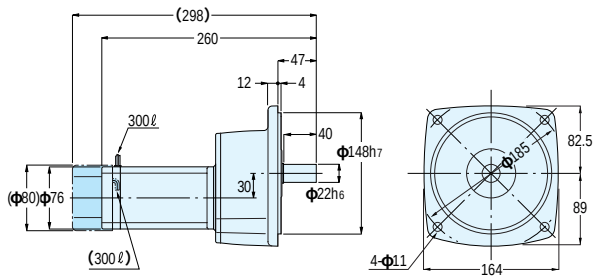


Round Weight 12kg

Flange Mount Type

Fig.F-22

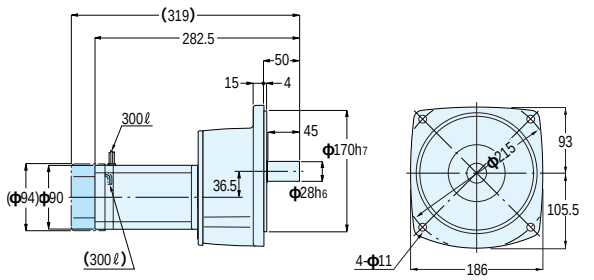
GIFM-22-4～12/1～6-S25
CAD Data: GIFM-22-S25
(GIFB-22-4～12/1～6-S25)
(CAD Data: GIFB-22-S25)



Round Weight 6kg

Fig.F-23

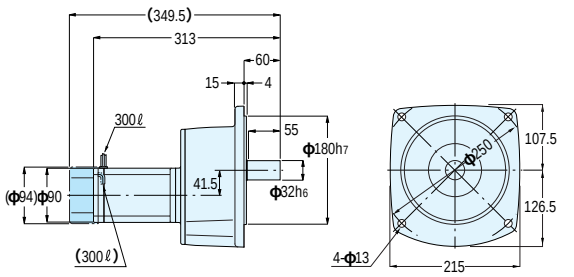
GIFM-28-4～12/8～12-S25
CAD Data: GIFM-28-S25
(GIFB-28-4～12/8～12-S25)
(CAD Data: GIFB-28-S25)



Round Weight 8kg

Fig.F-24

GIFM-32-4～12/16～24-S25
CAD Data: GIFM-32-S25
(GIFB-32-4～12/16～24-S25)
(CAD Data: GIFB-32-S25)



Round Weight 12kg

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Index Gearmotor
Index Gearmotor with Brake

1-phase 50W

The values in parentheses in the Performance Table/Dimension Diagram indicate the values of gearmotors with brake.

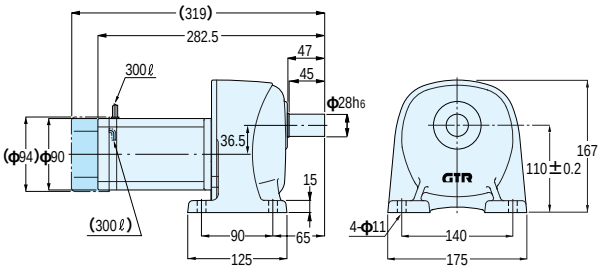
Top figure/Allowable Torque(N•m)
Bottom figure/Allowable Inertia Moment I (kg•m²)

No. of stop	Motor Capacity	Frame Number	Nominal Cycle Time (At the input speed of 1800rpm) 1	1.5	2	3	4	5	6	8	10	12	16	20	24	Plotted Accuracy (minute)	Allowable O.H.L. (N)	Outer dimension Figure No. and Page GILM (GILB)	GIFM (GIFB)
4	1-phase 50W	28	2.94 0.140	4.41 0.300	5.88 0.550	8.82 1.25	11.8 2.25	14.7 3.50	17.6 5.05							±5	1370	P.F14 Fig.F-25	P.F15 Fig.F-28
		32								23.5 11.7	29.4 18.3	35.3 26.3					2550	P.F14 Fig.F-26	P.F15 Fig.F-29
		40											47.0 76.8	58.8 120	70.6 173		3530	P.F15 Fig.F-27	P.F15 Fig.F-30
6		28	4.41 0.300	6.57 0.675	8.82 1.23	12.7 2.80	17.6 5.05	21.6 7.88	26.5 11.4								1760	P.F14 Fig.F-25	P.F15 Fig.F-28
		32								35.3 26.3	44.1 41.0	52.9 59.0					3330	P.F14 Fig.F-26	P.F15 Fig.F-29
		40											70.6 173	88.2 270	106 388		4610	P.F15 Fig.F-27	P.F15 Fig.F-30
8		28	5.88 0.550	8.82 1.20	11.8 2.20	17.6 5.00	23.5 9.00	29.4 14.0	35.3 20.2								2250	P.F14 Fig.F-25	P.F15 Fig.F-28
		32								47.0 46.8	58.8 73.0	70.6 105					4310	P.F14 Fig.F-26	P.F15 Fig.F-29
		40											94.1 308	118 480	141 690		5880	P.F15 Fig.F-27	P.F15 Fig.F-30
12		28	8.82 1.20	12.7 2.70	17.6 4.90	25.5 11.2	35.3 20.2	43.1 31.5	52.9 45.5								2550	P.F14 Fig.F-25	P.F15 Fig.F-28
		32								70.6 105	94.1 164	106 236					4700	P.F14 Fig.F-26	P.F15 Fig.F-29
		40											141 690	176 1080	212 1560		6660	P.F15 Fig.F-27	P.F15 Fig.F-30

Foot Mount Type

Fig.F-25

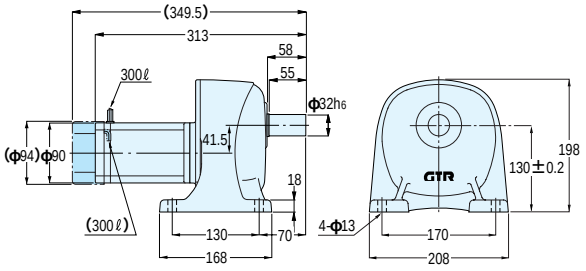
GILM-28-4～12/1～6-S50
CAD Data: GILM-28-S50
(GILB-28-4～12/1～6-S50)
(CAD Data: GILB-28-S50)



Round Weight 8kg

Fig.F-26

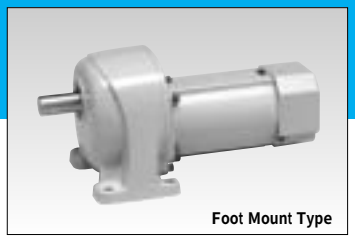
GILM-32-4～12/8～12-S50
CAD Data: GILM-32-S50
(GILB-32-4～12/8～12-S50)
(CAD Data: GILB-32-S50)



Round Weight 12kg

Model Code P.F2
Technical Information P.F19

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox


Foot Mount Type

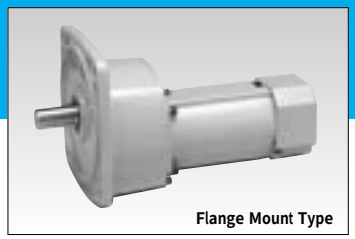
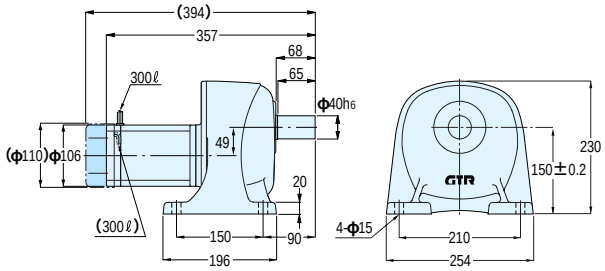

Flange Mount Type

Fig.F-27

GILM-40-4～12/16～24-S50
CAD Data: GILM-40-S50
(GILB-40-4～12/16～24-S50)
(CAD Data: GILB-40-S50)

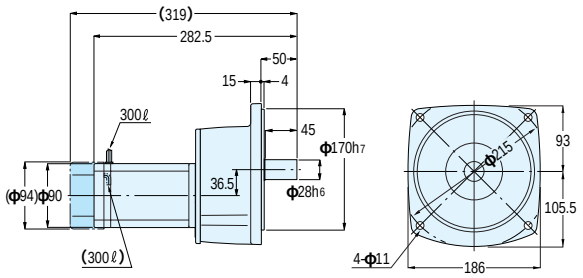


Round Weight 17kg

Flange Mount Type

Fig.F-28

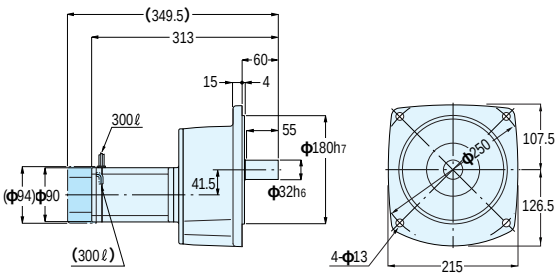
GIFM-28-4～12/1～6-S50
CAD Data: GIFM-28-S50
(GIFB-28-4～12/1～6-S50)
(CAD Data: GIFB-28-S50)



Round Weight 8kg

Fig.F-29

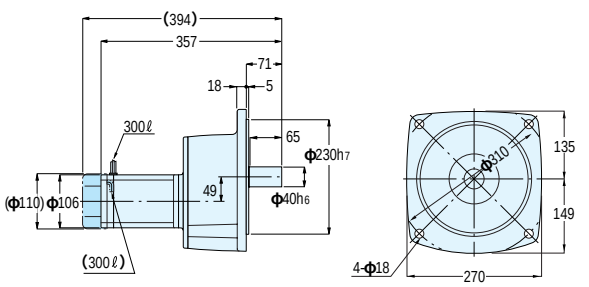
GIFM-32-4～12/8～12-S50
CAD Data: GIFM-32-S50
(GIFB-32-4～12/8～12-S50)
(CAD Data: GIFB-32-S50)



Round Weight 12kg

Fig.F-30

GIFM-40-4～12/16～24-S50
CAD Data: GIFM-40-S50
(GIFB-40-4～12/16～24-S50)
(CAD Data: GIFB-40-S50)



Round Weight 17kg

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Index Gearmotor
Index Gearmotor with Brake
1-phase 90W

The values in parentheses in the Performance Table/Dimension Diagram indicate the values of gearmotors with brake.

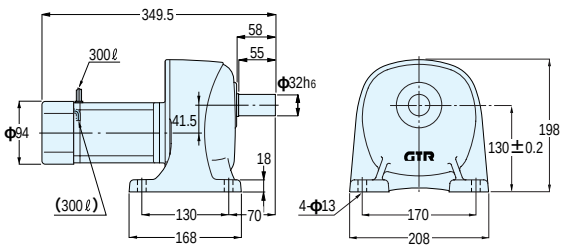
Top figure/Allowable Torque(N•m)
Bottom figure/Allowable Inertia Moment I (kg•m²)

No. of stop	Motor Capacity	Frame Number	Nominal Cycle Time (At the input speed of 1800rpm) 1	1.5	2	3	4	5	6	8	10	12	16	20	24	Plotted Accuracy (minute)	Allowable O.H.L. (N)	Outer dimension Figure No. and Page GILM (GILB)	GIFM (GIFB)
4	1-phase 90W	32	5.39 0.275	8.13 0.625	10.8 1.10	16.7 2.48	21.6 4.40	27.4 6.88	32.3 9.90							±5	2550	P.F16 Fig.F-31	P.F17 Fig.F-33
		40								43.1 22.4	53.9 35.0	64.7 50.5					3530	P.F16 Fig.F-32	P.F17 Fig.F-34
6		32	8.04 0.600	11.8 1.40	15.7 2.48	24.5 5.55	32.3 9.90	41.2 15.5	48.0 22.3								3330	P.F16 Fig.F-31	P.F17 Fig.F-33
		40								64.7 50.3	80.4 78.8	97.0 114					4610	P.F16 Fig.F-32	P.F17 Fig.F-34
8		32	10.8 1.10	16.7 2.50	21.6 4.40	33.3 9.90	43.1 17.6	54.9 27.5	64.7 39.5								4310	P.F16 Fig.F-31	P.F17 Fig.F-33
		40								86.2 89.5	108 140	129 202					5880	P.F16 Fig.F-32	P.F17 Fig.F-34
12		32	15.7 2.40	23.5 5.60	31.4 9.90	49.0 22.2	64.7 39.5	82.3 61.8	96.0 89.0								4700	P.F16 Fig.F-31	P.F17 Fig.F-33
		40								129 201	161 315	194 455					6660	P.F16 Fig.F-32	P.F17 Fig.F-34

Foot Mount Type

Fig.F-31

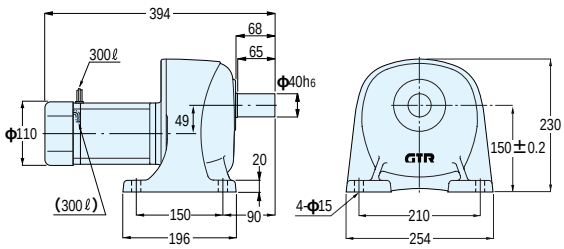
GILM-32-4～12/1～6-S90
CAD Data: GILM-32-S90
(GILB-32-4～12/1～6-S90)
(CAD Data: GILB-32-S90)



Round Weight 12kg

Fig.F-32

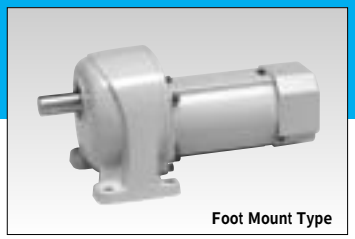
GILM-40-4～12/8～12-S90
CAD Data: GILM-40-S90
(GILB-40-4～12/8～12-S90)
(CAD Data: GILB-40-S90)

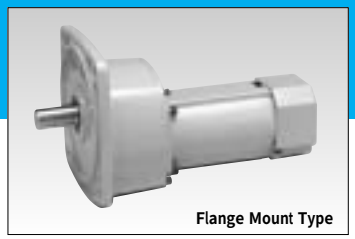


Round Weight 17kg

Model Code P.F2
Technical Information P.F19

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

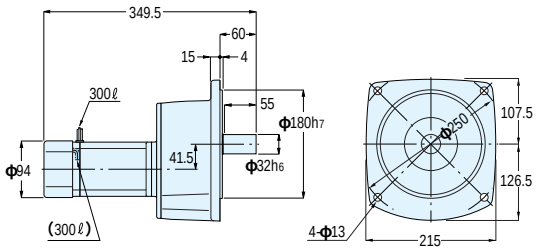

Foot Mount Type


Flange Mount Type

Flange Mount Type

Fig.F-33

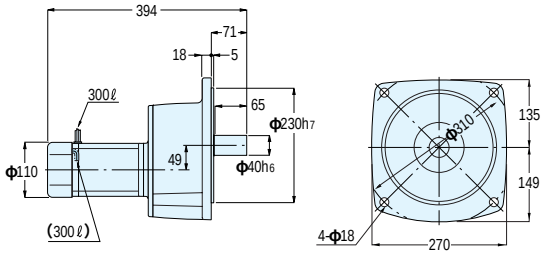
GIFM-32-4～12/1～6-S90
CAD Data: GIFM-32-S90
(GIFB-32-4～12/1～6-S90)
(CAD Data: GIFB-32-S90)



Round Weight 12kg

Fig.F-34

GIFM-40-4～12/8～12-S90
CAD Data: GIFM-40-S90
(GIFB-40-4～12/8～12-S90)
(CAD Data: GIFB-40-S90)



Round Weight 17kg

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

GT-STEP
Index Gearmotor

GT-STEP
Index Gearmotor

Technical Information

Technical Information

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Wiring

Motor

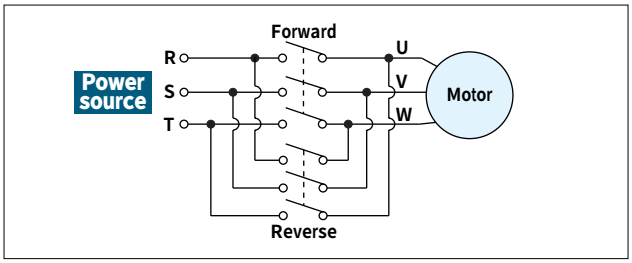
Induction motors are employed for both 3-phase and 1-phase. The reversible wiring (with 3 lead wires) is adopted to all the 1-phase motors, therefore, forward/reverse rotation can easily be switched just like 3-phase motors.

Time rated : Continuous
Protective cooling method : Totally enclosed or totally enclosed outer fan
Insulation type : E type (B type for 0.2kW)

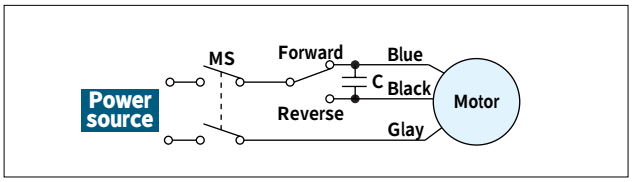
❶Wiring of Capacitor

In case of operating with the power supply of 1-phase 100V, connect the capacitor•C enclosed with the products, as shown in the right figure.

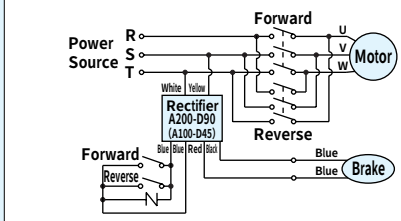
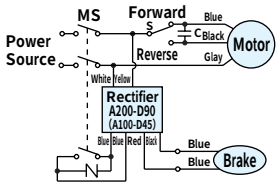
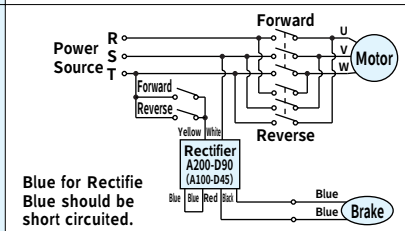
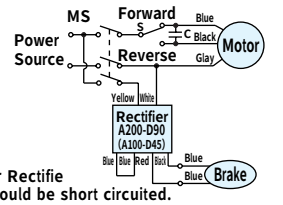
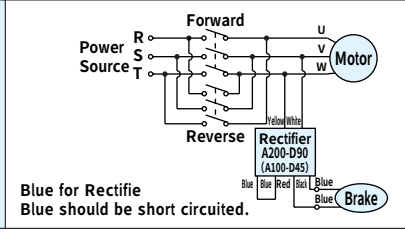
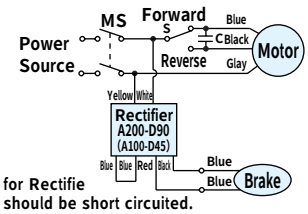
■3-Phase Motor Motor Capacity Designation T25•T50•T90•T020



■1-Phase Motor Motor Capacity Designation S25•S50•S90



❷Wiring of Gearmotor with Brake

No.	Wiring Diagram 3-phase (200V)	Wiring Diagram 1-phase (100V)	Braking delay time (second) The values indicate interval between switching-off and braking on. They are different from braking time.
1.DC Switching			0.005〜0.015
2.AC Switching(A)	 Blue for Rectifie Blue should be short circuited.	 Blue for Rectifie Blue should be short circuited.	0.03〜0.10
3.AC Switching(B)	 Blue for Rectifie Blue should be short circuited.	 Blue for Rectifie Blue should be short circuited.	0.1〜0.2

M:Motor Br:Brake S: Rotation Changeover Switch C: Capacitor MS: Electro-Magnetic Switch ⊣N⊢: Surge Suppressor (option)

Note 1) For the application of vertical motion such as lifting, DC Switching wiring should be employed.
2) It is recommended to insert surge suppressor between contact points in DC Switching circuit. (Varistor Voltage 423〜517V)
3) The electro-magnetic switch with the rated current of over 6A(AC200V) is recommended for the relay for brake circuit. In case DC Switching wiring is employed, in order to sield the inductive load (DC coil), DC110V, DC13 class is recommended. Also, in case of employing a noncontact relay, it is recommended to use the rated voltage of AC240V equivalent (half-wave rectification switching available).
4) Since the rectifier contains diodes, improper wiring may cause fatal short-circuiting. Therefore, special care should be given to the wiring.

❸In case of changing speed by Inverter (Frequency changing device)

When using the GT-STEP in combination with inverter, abnormal temperature rise (over 80℃ on the surface of motor) may occur due to the decline of cooling function caused by slow down of fan speed. As for a gearmotors with brake, poor braking may occur due to fluctuations of voltage. To avoid this failure, be sure to bypass the inverter when wiring the brake. For more details, refer to page E44 " On Combination of Gearmotor and Inverter "

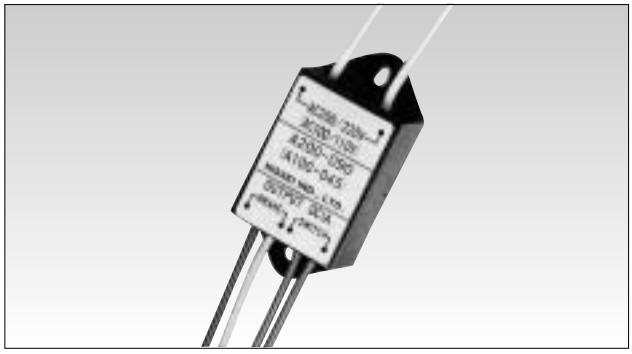
Brake Specifications

Items \ Motor	3-phase				1-phase		
	25W	50W	90W	0.2kW	25W	50W	90W
Brake Type	"Power-off, Brake-on" Type (Spring Close)						
Rated torque N·m (at 1500~1800rpm)	0.37	0.37	0.54	1.57	0.37	0.37	0.54
Voltage(Average)	DC90V				DC45V		
Capacity(at 75℃) (W)	12			14	11		
Current(at 75℃) (A)	0.13			0.15	0.25		
Allowable Total Work Emax (J)	3×10^7			1.5×10^8	3×10^7		
Braking time (s)	0.25~0.35			0.1~0.2	0.25~0.35		
Allowable Braking Frequency	10 times/minute						

Note 1) Guideline values of allowable braking frequency for avoiding excessive motor temperature rise are given above. Braking frequency can be increased under light loads or where cooling of motor is sufficient enough. (Be sure to maintain the motor surface temperature below 80 ℃.)
Note 2) Avoid continuous energizing to the brake coil while the motor stops.

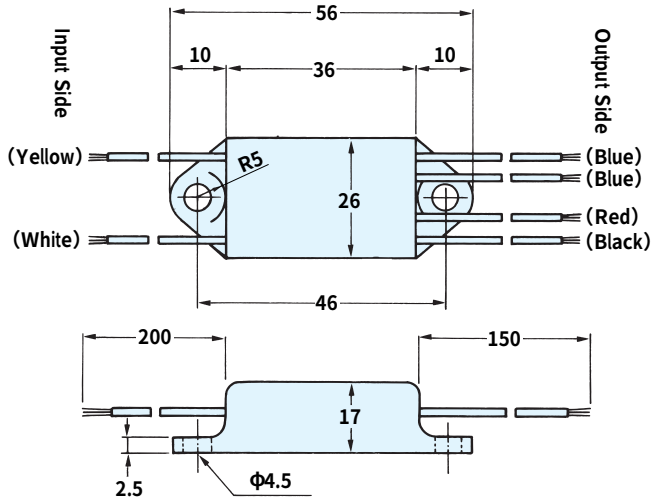
Rectifier

Rectifier A200-D90 (A100-45) comes with brake motor type is required for actuation of brake. Braking lag time differ depend on method for connection, so please choose according to page F20 as usage. Surge Suppressor comes to the rectifier, please add extra rectifier or moise filter.



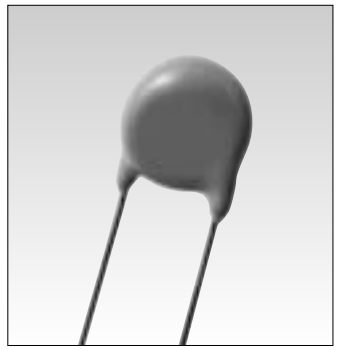
A200—D90Dimension ⟨Round Weight 40g⟩

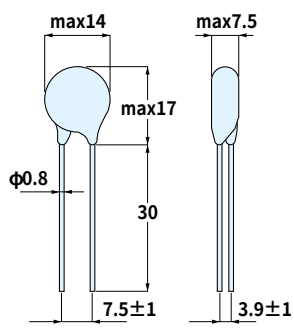
(A100—D45)



Surge Suppressor (Option) OP-ENE471D-10A

For use in cutting off the sparks of a brake switch for DC switching or AC line switching.



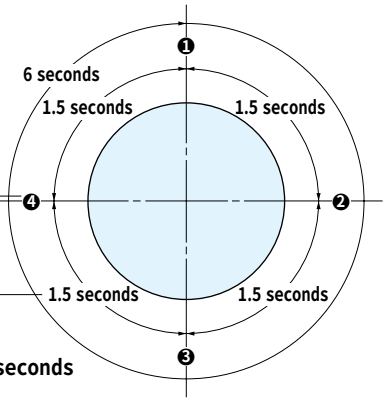


Technical Information

Number of Stop and Nominal Cycle Time

The“ Number of Stop ”means the times of plot (stop) during the output shaft's one rotation, while the “ Nominal Cycle Time ” means the total hour of one cycle (rotate and stop). Therefore, the value of multiplying the number of stop by the nominal cycle time equal to the time consumed(second) in the output shaft's one rotation. Also, there is a formula, namely, (Operating Time) : (Stopping Time) = 1 : 2

〈Example〉
Number of stop ：n = 4
Nominal Cycle Time：St= 1.5 seconds
(operating time = 0.5 seconds
stopping time = 1.0 seconds)
Time consumed in output shaft's one rotation：n x St= 6 seconds



Since the nominal cycle values used in the type code are the ones under the input speed of 1,800/hour, in case of operating the machine in the 50Hz area, refer to the table shown below for quick reference:

(Unit: Seconds)

60Hz (Nominal)	1	1.5	2	3	4	5	6	8	10	12	16	20	24
50Hz	1.2	1.8	2.4	3.6	4.8	6.0	7.2	9.6	12.0	14.4	19.2	24.0	28.8

Cam Curve

In GT-STEP, Geneva Gear is built-in. The shift(S), velocity(V) and acceleration(A) in the operating time can be obtained by the formula below.

n……Number of stop St……Nominal Cycle Time

1) Shift〔S〕

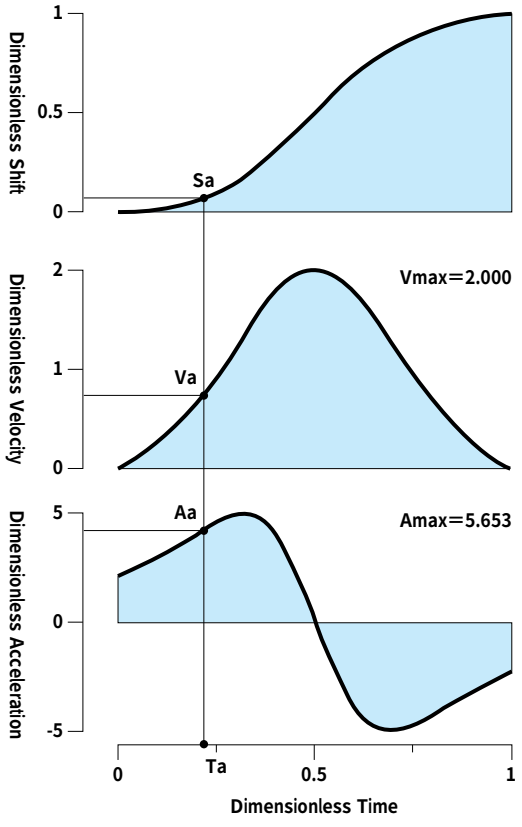
$$S=\frac{2\pi Sa}{n}\ (rad) \qquad S=\frac{360Sa}{n}\ (°)$$

2) Velocity〔V〕

$$V=\frac{6\pi Va}{n\cdot St}\ (rad/sec) \qquad V=\frac{1080Va}{n\cdot St}\ (°/s)$$

3) Acceleration〔A〕

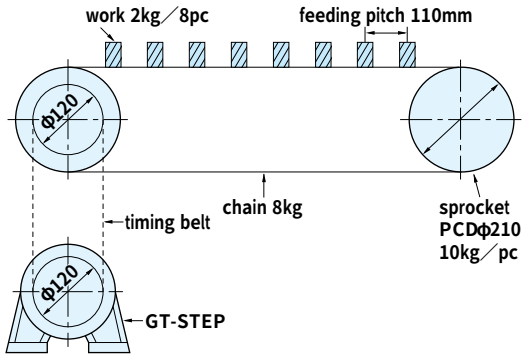
$$A=\frac{18\pi Aa}{n\cdot St^2}\ (rad/sec^2) \qquad A=\frac{3240Aa}{n\cdot St^2}\ (°/s^2)$$



Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Selection Example

■An example of conveyor selection (1)



conveyor feeding pitch ： 110mm
nominal cycle time ： 3 seconds (operating time: 1 second, stopping time: 2 seconds)
friction coefficient: 0.2
Since the feeding pitch 110mm is equivalent to the sprocket's 1/6 rotation, stopping time 6 can be applied to GT-STEP.

●Calculation for Inertia Moment
Refer to " calculation formula for inertia moment "on page ....

I_1 of sprocket can be obtained by:

$$I_1=\frac{1}{2}\times M\times\left(\frac{D^2}{2}\right)\times n=\frac{1}{2}\times 10\times\left(\frac{0.21}{2}\right)^2\times 2=0.1103\,(kg\cdot m^2)$$

I_2 of chain can be obtained by:

$$I_2=M\times\left(\frac{D}{2}\right)^2=8\times\left(\frac{0.21}{2}\right)^2=0.0882\,(kg\cdot m^2)$$

I_3 of work can be obtained by:

$$I_3=M\times\left(\frac{D}{2}\right)^2\times n=2\times\left(\frac{0.21}{2}\right)^2\times 8=0.1764\,(kg\cdot m^2)$$

Total I of conveyor can be obtained by:

$$I=0.1103+0.0882+0.1764=0.375\,(kg\cdot m^2)$$

●Calculation for Torque
Supposing the friction coefficient of conveyor is 0.2, the load torque(T) can be obtained:

$$T=9.8\times(2\times 8+8+10\times 2)\times 0.2\times\frac{210}{2\times 1000}=9.1\,(N\cdot m)$$

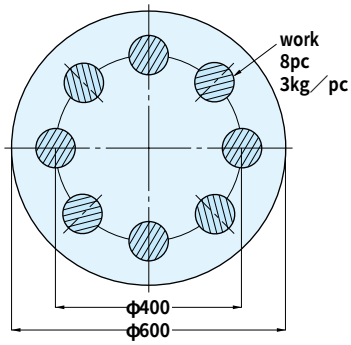
●Calculation for O.H.L. **Refer to " O.H.L. " on page ...**
Supposing the load point of O.H.L. is at the center of the shaft
O.H.L. of the load can be obtained by:

$$O.H.L.=\frac{T\times K_1\times K_2}{R}=\frac{9.1\times 1.0\times 1.0}{\frac{120}{2\times 1000}}=152\,(N)$$

We obtained:	Nominal Cycle Time :	3 seconds
	Number of Stop:	6
	Inertia Moment:	0.375 (kg·m²)
	Torque:	9.1 (N·m)
	O.H.L.	152 (N)

Judging from these values, the most appropriate model is:
GILM-28-6/3-T50

■An example of Turntable Selection (2)



Weight of Turntable：40kg
Number of Stop：8
Nominal Cycle Time：3 seconds (operating time: 1 second, stopping time: 2 seconds)
Friction Coefficient：0.05
Supposing the turntable is sustained by the thrust bearing of 100mm diameter rolling unit.

●Calculation for Inertia Moment
Refer to " calculation formula for inertia moment "on page ....

I_1 of table can be obtained by:

$$I_1=\frac{1}{2}\times M\times\left(\frac{D}{2}\right)^2=\frac{1}{2}\times 40\times\left(\frac{0.6}{2}\right)^2=1.8\,(kg\cdot m^2)$$

I_2 of work can be obtained by:

$$I_2=M\times R^2\times n=3\times 0.2^2\times 8=0.96\,(kg\cdot m^2)$$

Total I of Turntable can be obtained by:

$$I=1.8+0.96=2.76\,(kg\cdot m^2)$$

●Calculation for Torque
The load torque (T) can be, Obtained

$$T=9.8\times(40+3\times 8)\times\frac{100}{2\times 1000}\times 0.05=1.6\,(N\cdot m)$$

We obtained:	Nominal Cycle Time :	3 seconds
	Number of Stop:	8
	Inertia Moment:	2.76 (kg·m²)
	Torque:	1.6 (N·m)

Judging from these values, the most appropriate model is:
GIFM-28-8/3-T50

Technical Information

Allowable Inertia Moment I

When operating gearmotor under high load inertia, critical torque may arise transiently at starting (or at stopping in gearmotors with brake). And this may cause unexpected accident and failure such as damage to the gear, etc. Therefore, be sure to operate gearmotor within the allowable value in the performance table.

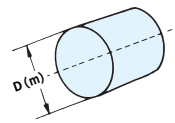
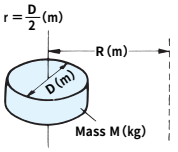
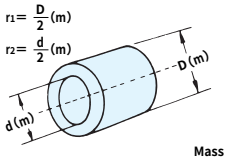
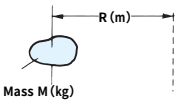
❶Calculation Method for the Inertia Moment

The inertia moment I (kg•m²)of SI Unit can be converted into the GD²(kgf•m²) of gravimetric unit with the following formula:

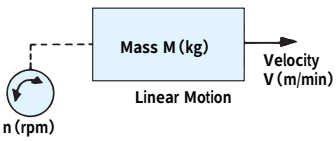
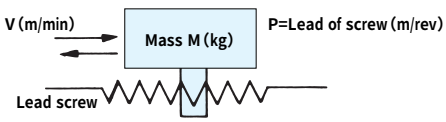
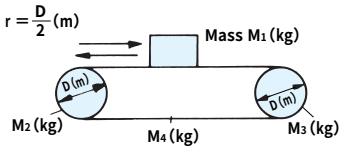
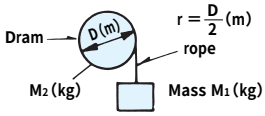
$$I = \frac{GD^2}{4}$$

G : Gravity (kgf)
D : Diameter of Rotation (m)
I : Inertia Moment (kg•m²)

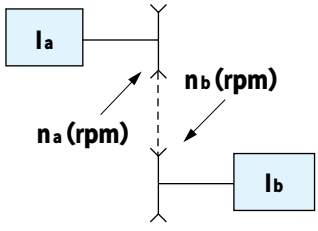
Inertia Moment I in Rotating Object

When the center of rotation is concentric with the center of gravity		When the center of rotation is not concentric with the center of gravity	
	S I Unit		S I Unit
	$I = \frac{1}{2} Mr^2$ (kg•m²)		$I = \frac{1}{2} Mr^2 + MR^2$ (kg•m²)
	$I = \frac{1}{2} M(r_1^2 + r_2^2)$ (kg•m²)		(when you can ignore size) $I = MR^2$ (kg•m²)

Inertia Moment I in case of Linear Motion

		S I Unit
Normal Use		$I = \frac{1}{4} M \cdot \left(\frac{V}{\pi \cdot n}\right)^2$ (kg•m²)
Use in Horizontal Movement (Mass driven by lead screw)		$I = \frac{1}{4} M \cdot \left(\frac{P}{\pi}\right)^2 = \frac{1}{4} M \cdot \left(\frac{V}{\pi \cdot n}\right)^2$ (kg•m²)
Use in Horizontal Movement (Conveyors, etc.)		$I = M_1r^2 + \frac{1}{2} M_2r^2 + \frac{1}{2} M_3r^2 + M_4r^2$ (kg•m²)
Use in Vertical Movement (cranes, winches, etc.)		$I = M_1r^2 + \frac{1}{2} M_2r^2$ (kg•m²)

Conversion of Inertia Moment in case of Speed Ratio



The inertia moment I_b of the load can be converted into the value at the n_a shaft as follows:

$$I = I_a + \left(\frac{n_b}{n_a}\right)^2 \times I_b$$

Overhung Load (O.H.L.)

An overhung load is a suspending load imposed on a shaft. In the coupling of reducer shaft and other machine, if chains, belts and gears are used, this O.H.L. must be taken into consideration.

Be sure that the OHL value calculated by the formula below should not exceed the allowable OHL value listed in the performance table.

$$O.H.L. = \frac{T \times K_1 \times K_2}{R} \ (N)$$

T : Torque imposed on reducer shaft (N•m)
R : Pitch Circle Radius(m) of sprocket, pulley, gear, etc. attached to reducer shaft.
K_1 : Factor by the connecting method (Refer to Table-1)
K_2 : Factor by the load point (Refer to Table-2)

Factor K_1

〈Table−1〉

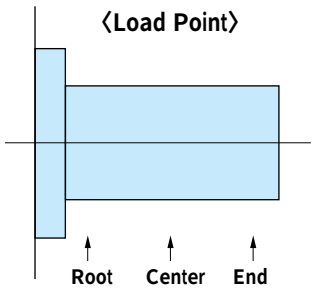
Connecting Method	K_1
Chain, Timing Belt	1.00
Gear	1.25
V-Belt	1.50

Factor K_2

〈Table−2〉

Load Point	K_2
Root of shaft	0.75
Center of shaft	1.00
End of shaft	1.50

〈Load Point〉



Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

KOMPASS®
Gear Box

KOMPASS®
Bevel gear boxes

■Standard Specifications (Compass)

Type		K Type		KN Type
Frame Number		04, 06, 08	10, 15, 20	19, 25, 32, 40
Reduction Ratio		1:1	1:1, 1:2	
Structure	Reduction Method	Grease Lubrication (Applied to gear tooth)	Grease Lubrication	Oil Lubrication
	Case Material	Resin	Aluminium Die-Casting	Cast Iron
	Inner Gear	Straight Bevel Gear	Spiral Bevel Gear	
Painting	Painting Method	No Painting	Anion Painting, Acrylic Paint	
	Color		Grey (Mansel value: 9B6/0.5)	
Mounting Direction		No restriction in mounting angle(horizontally, vertically, incline, etc.)		Horizontal Type, Vertical Type (Note)
Ambient Condition	Ambient Temperature	−10°C to 40°C		
	Ambient Humidity	80% max.		
	Altitude	1,000m max		
	Atmosphere	Well ventilated place free from corrosive gas, explosive gas, vapor and/or dust.		
	Installation Location	Indoors		

Note) For the shaft positioning and shaft positioning codes of the horizontal and vertical type, refer to page G15.

Characteristics

■K-Type (Metal Type)

❶ Offering Reasonable Price・Simple・Quick Delivery

Simple Structure, reasonable price and short delivery of 3 days

❷ Direction-Free Mounting

This product can be mounted to any direction.

❸ Ready for Use Without Any Extra Work

We ship the product after giving grease lubrication to the gear tooth, therefore it is ready to use upon arrival.

❹ Variation

●Diameter of the shaft φ4, φ6, φ8
●Reduction Ratio 1／1

■K-Type (Bearing Type)

❶ Compact

Simple Structure and Aluminium Die-Casting Case

❷ Low Noise & High Efficiency

Employing the Spiral Bevel Gear made of special steel of quench hardening by carburizing

❸ Direction-Free Mounting

Mountable to any direction and easy mounting

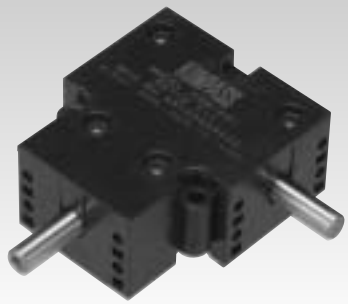
❹ Maintenance-free

High class grease lubrication on shipment

❺ Reduction Ratio

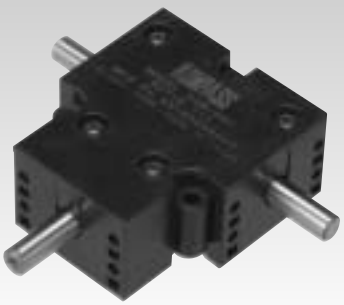
Selectable gear ratio of either 1/1 or 1/2 according to the using purpose

KBM Type

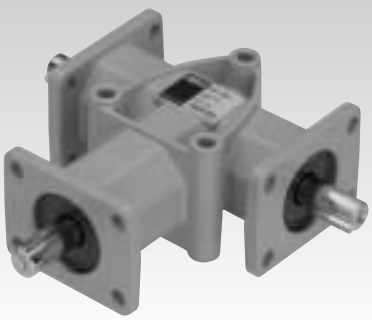


KB Type

KCM Type



KC Type



■Lubrication

Lubricant is filled with regulated amount at the moment of shipment from factory.

Model	General amount of oil	Class of grease	
K10 Type K15 Type K20 Type	10g 30g 50g	Grease	Type Li-extreme-pressure additive No.GI-00.

❶ **Painted color:**
Grey (Mansel value 9B6/0.5)

❷ **Key Dimension:**
New JIS Key is adopted.
(JIS B1301-1976(standard))

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

■KN Type

❶ Strong

Employing high class cast iron for casing and taper roller bearing for bearing

❷ Low Noise & High Efficiency

Employing the Spiral Bevel Gear made of special steel of quench hardening by carburizing

❸ Direction-Free Mounting

Mountable to any direction according to the selected shaft positioning However, it may possible that the model cannot be used with the standard specification. For more details, refer to page G36.

❹ Filled up lubrication

High class oil is filled up before shipment

❺ Reduction Ratio

Selectable gear ratio of 1/1 or 1/2 according to the using purpose

KNB Type

KNC Type

■Lubrication

Lubricant is filled with regulated amount at the moment of shipment from factory.

Model	General amount of oil	Class of grease	
KN-19 Type	0.3 L	Oil	JIS Gear Oil Industrial Use Class 2
KN-25 Type	0.7 L		
KN-32 Type	1.0 L		
KN-40 Type	1.5 L		

❶ **Painted color:**
Grey (Mansel value 9B6/0.5)

❷ **Key Dimension:**
New JIS Key is adopted.
(JIS B1301-1976(standard))

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

KOMPASS®
Gear Box

Bevel gear boxes K Type

Model • Type Designation
Performance Table
Dimension diagram

Model and Type Designation

Bevel gear boxes (KOMPASS) K-Type are classified by codes as shown below.
When ordering/inquiring, indicate these codes.

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

K-Type (Metal Type)

K B M – 04 1

- **1** — Reduction Ratio 1 : 1
- **04** — Frame No. and Diameter of Output shaft
  - 04 : φ4
  - 06 : φ6
  - 08 : φ8
- **M** — Bearing type M : Metal Type
- **B** — Classification by Form
  - B : Y shaft with one direction
  - C : Y shaft with two one direction
- **K** — Type

K-Type (Bearing Type)

K B – 10 1

- **1** — Reduction Ratio
  - 1 : 1/1
  - 2 : 1/2 (reduce from shaft X to Y)
- **10** — Frame No. and Diameter of Output shaft
  - 10 : φ10
  - 15 : φ15
  - 20 : φ20
- **B** — Classification by Form
  - B : Y shaft with one direction
  - C : Y shaft with two one direction
- **K** — Type

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Bevel gear boxes K Type (Metal Type)

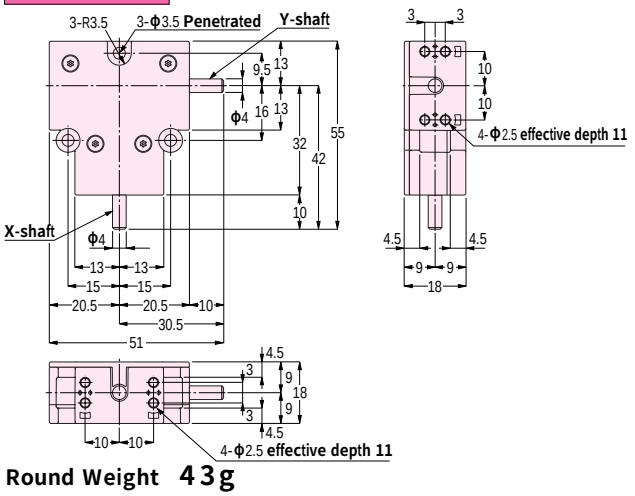
Shaft Diameter φ4・φ6・φ8

Reduction Ratio	Type Designation	Spec. Designation	"X" Shaft Rotation Speed (rpm)						
			50	100	200	250	300	400	500
1 : 1	KBM-041 KCM-041	Allowable Torque on X and Y Shaft (N・cm) {kgf・cm}	9.8 {1.0}	9.8 {1.0}	9.6 {0.98}	9.5 {0.97}	9.4 {0.96}	9.3 {0.95}	9.1 {0.93}
	KBM-061 KCM-061	Allowable Torque on X and Y Shaft (N・cm) {kgf・cm}	39.2 {4.0}	39.2 {4.0}	38.5 {3.93}	38.2 {3.90}	37.9 {3.87}	37.2 {3.80}	36.5 {3.72}
	KBM-081 KCM-081	Allowable Torque on X and Y Shaft (N・cm) {kgf・cm}	78.4 {8.0}	78.4 {8.0}	77.0 {7.86}	76.4 {7.80}	75.7 {7.72}	74.4 {7.59}	73.1 {7.46}

(Notes)

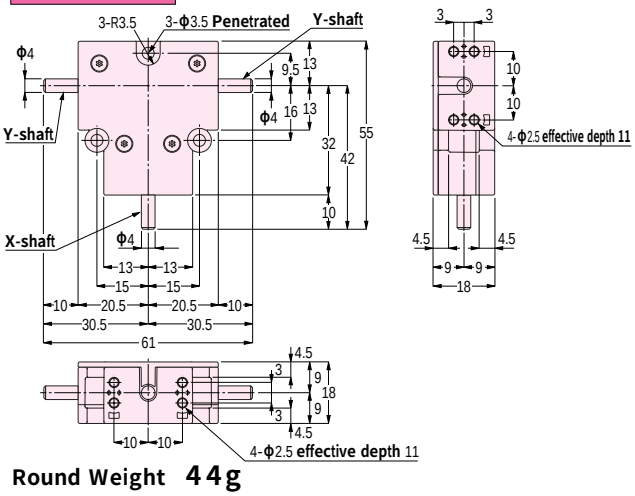
1. Be sure to use the product within the allowable value.
2. Values in this performance table are the ones when the service factor is 1. In case of using the product under different condition, correct the load torque referring the service factor in the Table-1 on page G32.
3. The KBM/KCM types are light and compact type gear box. When higher strength, rotation and speed are to be required in your operation, study to introduce the KB/KC types.
4. Be sure that the overhung load (O.H.L.)and thrust load should never be imposed to the shaft of gear box. In case the overhung load and thrust load are imposed, support the both edges of sprocket and gear with a bearing such as pillow, etc., in order to avoid these loads. (Refer to the Figure-1 on page G32.)
5. Never use the product under the condition of sudden reverse rotation by plugging or of heavy shock load may occur. In such situations, study to introduce the KB/KC Types.

Fig.G-1 KBM-041 CAD data: KBM-041



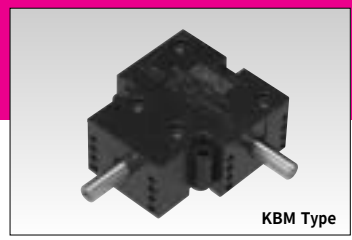
Round Weight 43g

Fig.G-2 KCM-041 CAD data: KCM-041



Round Weight 44g

Model Code P.G6
Technical Information P.G32～G35


KBM Type

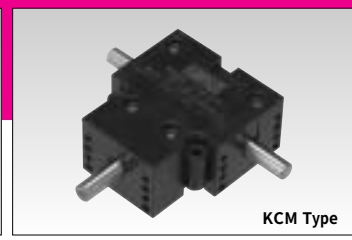
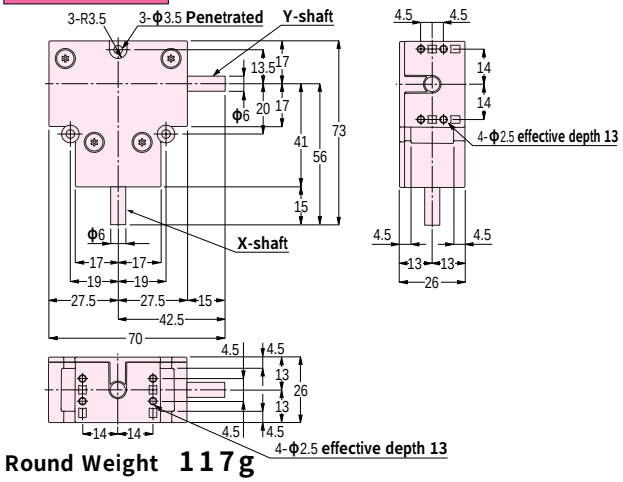
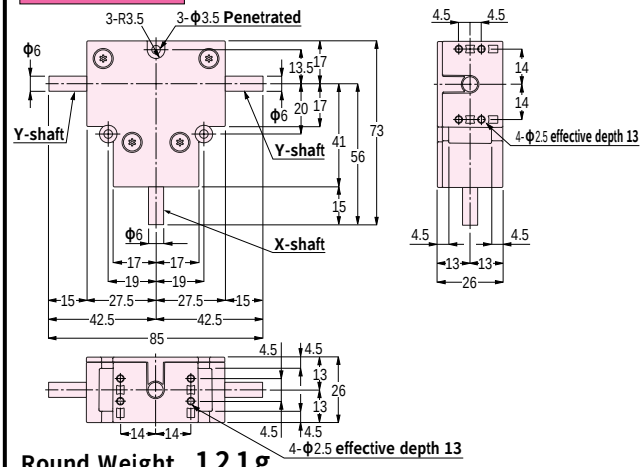

KCM Type

Fig.G-3 KBM-061 CAD data: KBM-061



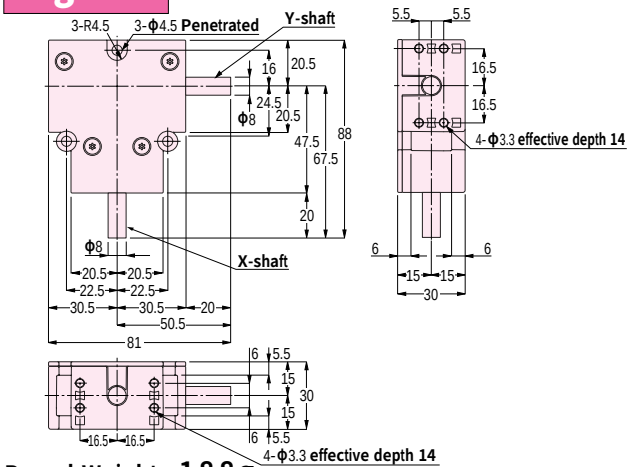
Round Weight 117g

Fig.G-4 KCM-061 CAD data: KCM-061



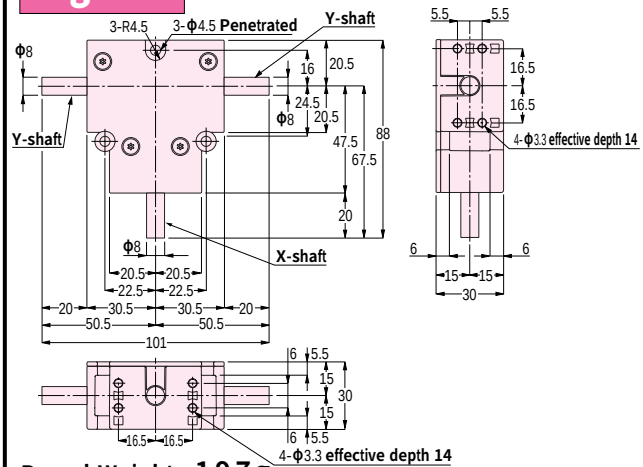
Round Weight 121g

Fig.G-5 KBM-081 CAD data: KBM-081



Round Weight 188g

Fig.G-6 KCM-081 CAD data: KCM-081



Round Weight 197g

Bevel gear boxes
K Type (Bearing Type)
Shaft Diameter φ10・φ15・φ20

Reduction Ratio	Type Designation	Spec. Designation	"X" Shaft Rotation Speed (rpm) 50	100	200	300	400	600	900	1200	1500	1800	2500	3600	Allowable Thrust Load(N) (kgf) X Shaft	Y Shaft
1 : 1	KB-101 KC-101	Allowable Transfer Capacity (kW)	0.01	0.02	0.05	0.07	0.09	0.14	0.20	0.26	0.31	0.35	0.38	0.44	59 {6}	69 {7}
		Allowable Torque on X and Y Shaft (N・m) {kgf・m}	2.35 {0.24}	2.35 {0.24}	2.25 {0.23}	2.25 {0.23}	2.16 {0.22}	2.16 {0.22}	2.06 {0.21}	2.06 {0.21}	1.96 {0.20}	1.86 {0.19}	1.47 {0.15}	1.18 {0.12}		
		Allowable O.H.L. on X Shaft (N) {kgf}	78 {8}	78 {8}	78 {8}	78 {8}	69 {7}	69 {7}	69 {7}	69 {7}	69 {7}	59 {6}	49 {5}	39 {4}		
		Allowable O.H.L. on Y Shaft (N) {kgf}	127 {13}	127 {13}	118 {12}	118 {12}	118 {12}	118 {12}	108 {11}	108 {11}	108 {11}	98 {10}	78 {8}	59 {6}		
	KB-151 KC-151	Allowable Transfer Capacity (kW)	0.05	0.09	0.18	0.27	0.35	0.51	0.75	0.96	1.16	1.30	1.44	1.66	98 {10}	118 {12}
		Allowable Torque on X and Y Shaft (N・m) {kgf・m}	8.82 {0.90}	8.82 {0.90}	8.62 {0.88}	8.53 {0.87}	8.33 {0.85}	8.13 {0.83}	7.94 {0.81}	7.64 {0.78}	7.35 {0.75}	6.86 {0.70}	5.49 {0.56}	4.41 {0.45}		
		Allowable O.H.L. on X Shaft (N) {kgf}	255 {26}	255 {26}	255 {26}	245 {25}	245 {25}	235 {24}	225 {23}	216 {22}	216 {22}	186 {19}	157 {16}	127 {13}		
		Allowable O.H.L. on Y Shaft (N) {kgf}	294 {30}	294 {30}	284 {29}	284 {29}	274 {28}	265 {27}	265 {27}	255 {26}	245 {25}	216 {22}	176 {18}	147 {15}		
	KB-201 KC-201	Allowable Transfer Capacity (kW)	0.09	0.18	0.36	0.52	0.68	0.95	1.38	1.78	2.15	2.50	2.55	2.95	196 {20}	274 {28}
		Allowable Torque on X and Y Shaft (N・m) {kgf・m}	17.6 {1.80}	17.6 {1.80}	17.2 {1.75}	16.7 {1.70}	16.2 {1.65}	15.2 {1.55}	14.7 {1.50}	14.2 {1.45}	13.7 {1.40}	13.2 {1.35}	9.80 {1.00}	7.84 {0.80}		
		Allowable O.H.L. on X Shaft (N) {kgf}	353 {36}	353 {36}	343 {35}	333 {34}	333 {34}	323 {33}	314 {32}	304 {31}	294 {30}	265 {27}	216 {22}	176 {18}		
		Allowable O.H.L. on Y Shaft (N) {kgf}	529 {54}	529 {54}	519 {53}	510 {52}	500 {51}	490 {50}	470 {48}	451 {46}	441 {45}	392 {40}	314 {32}	255 {26}		
1 : 2	KB-102 KC-102	Allowable Transfer Capacity (kW)	0.005	0.01	0.02	0.03	0.04	0.06	0.09	0.12	0.14	0.16	0.17	0.20	59 {6}	69 {7}
		Allowable Torque on Y Shaft (N・m) {kgf・m}	2.06 {0.21}	2.06 {0.21}	2.06 {0.21}	1.96 {0.20}	1.96 {0.20}	1.96 {0.20}	1.86 {0.19}	1.86 {0.19}	1.76 {0.18}	1.67 {0.17}	1.27 {0.13}	1.08 {0.11}		
		Allowable O.H.L. on X Shaft (N) {kgf}	88 {9}	88 {9}	88 {9}	88 {9}	88 {9}	78 {8}	78 {8}	78 {8}	78 {8}	69 {7}	59 {6}	49 {5}		
		Allowable O.H.L. on Y Shaft (N) {kgf}	137 {14}	137 {14}	137 {14}	127 {13}	127 {13}	127 {13}	127 {13}	118 {12}	118 {12}	108 {11}	88 {9}	69 {7}		
	KB-152 KC-152	Allowable Transfer Capacity (kW)	0.02	0.04	0.08	0.13	0.17	0.25	0.36	0.46	0.55	0.62	0.69	0.80	98 {10}	118 {12}
		Allowable Torque on Y Shaft (N・m) {kgf・m}	8.43 {0.86}	8.43 {0.86}	8.23 {0.84}	8.13 {0.83}	8.04 {0.82}	7.84 {0.80}	7.55 {0.77}	7.25 {0.74}	7.06 {0.72}	6.57 {0.67}	5.29 {0.54}	4.21 {0.43}		
		Allowable O.H.L. on X Shaft (N) {kgf}	255 {26}	255 {26}	255 {26}	245 {25}	245 {25}	235 {24}	225 {23}	216 {22}	216 {22}	186 {19}	157 {16}	127 {13}		
		Allowable O.H.L. on Y Shaft (N) {kgf}	294 {30}	294 {30}	284 {29}	284 {29}	274 {28}	265 {27}	265 {27}	255 {26}	245 {25}	216 {22}	176 {18}	147 {15}		
	KB-202 KC-202	Allowable Transfer Capacity (kW)	0.05	0.10	0.19	0.28	0.37	0.53	0.77	0.99	1.15	1.31	1.40	1.57	196 {20}	274 {28}
		Allowable Torque on Y Shaft (N・m) {kgf・m}	19.6 {2.00}	19.6 {2.00}	18.6 {1.90}	18.1 {1.85}	17.6 {1.80}	17.0 {1.73}	16.4 {1.67}	15.7 {1.60}	14.7 {1.50}	13.9 {1.42}	10.8 {1.10}	8.33 {0.85}		
		Allowable O.H.L. on X Shaft (N) {kgf}	372 {38}	372 {38}	363 {37}	363 {37}	353 {36}	343 {35}	333 {34}	323 {33}	314 {32}	274 {28}	235 {24}	186 {19}		
		Allowable O.H.L. on Y Shaft (N) {kgf}	588 {60}	588 {60}	578 {59}	568 {58}	559 {57}	539 {55}	529 {54}	510 {52}	490 {50}	441 {45}	363 {37}	294 {30}		

(Notes)

❶ Be sure to use the product within the allowable value. In case of the ratio of (1 : 2), speed reduction is applied to Y shaft.

❷ Values in this performance table are the ones when the service factor is 1. In case of using the product under different condition, refer to the " Service Factor " in the Table-2 on page G33.

❸ An overhung load(O.H.L.) means the allowable load imposed on the center of the shaft. In case of using the product under different condition, refer to the factor K1 and K2 in the Table-3 and 4 on page G33.

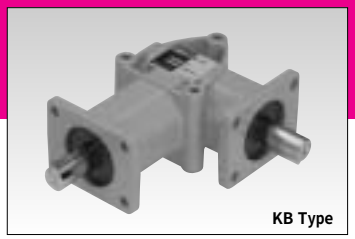
❹ When using the type with the ratio of (1 : 2) with increased speed(Increasing speed from Y shaft to X shaft.), the torque on the X shaft become 1/2 of the value in the performance table(torque on the Y shaft).

❺ The torque at Y shaft in the KC Type is the sum of right and left shaft.

❻ The O.H.L. value at Y shaft in the KC Type is the sum of right and left shaft.

Model Code P.G6

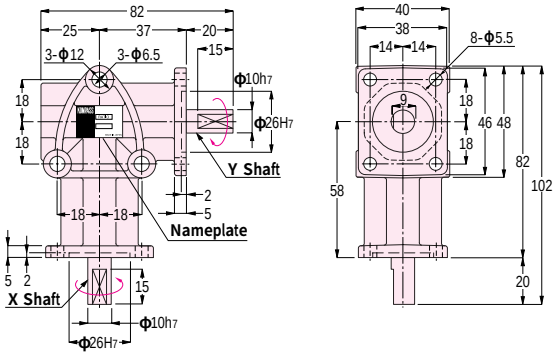
Technical Information P.G32～G35


KB Type

KC Type

Fig.G-7 KB-101 KB-102

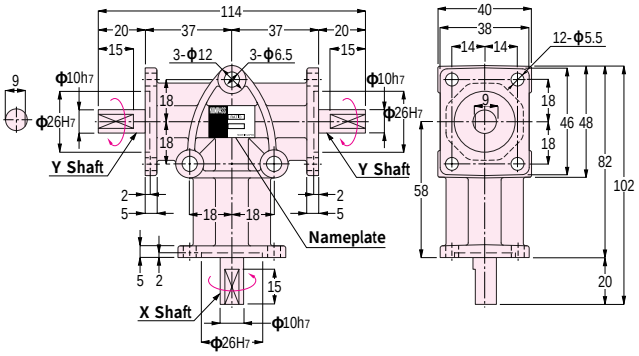
CAD data: KB-10



Round Weight 0.4kg

Fig.G-8 KC-101 KC-102

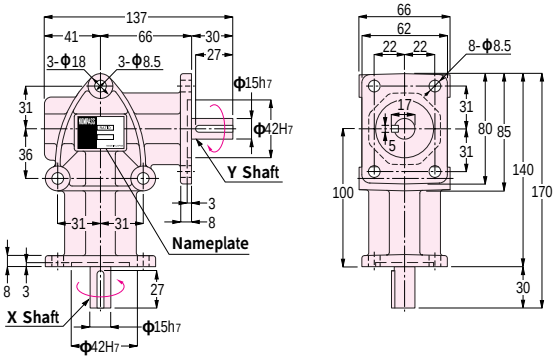
CAD data: KC-10



Round Weight 0.5kg

Fig.G-9 KB-151 KB-152

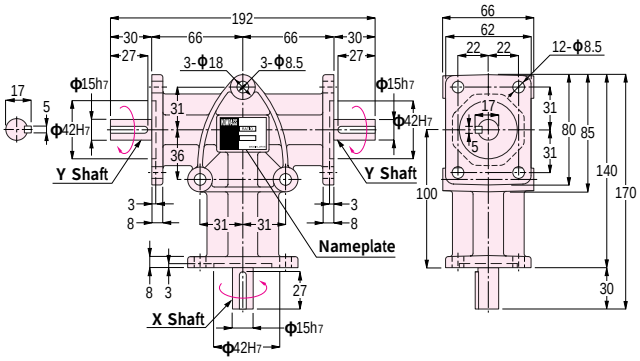
CAD data: KB-15



Round Weight 1.8kg

Fig.G-10 KC-151 KC-152

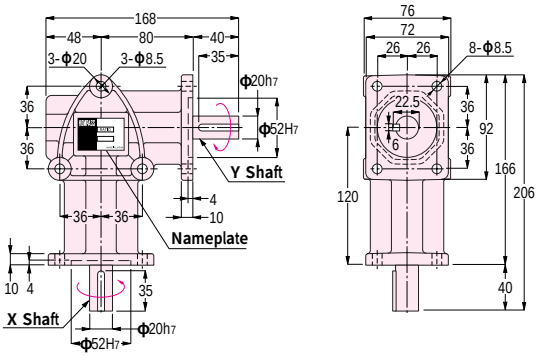
CAD data: KC-15



Round Weight 2.2kg

Fig.G-11 KB-201 KB-202

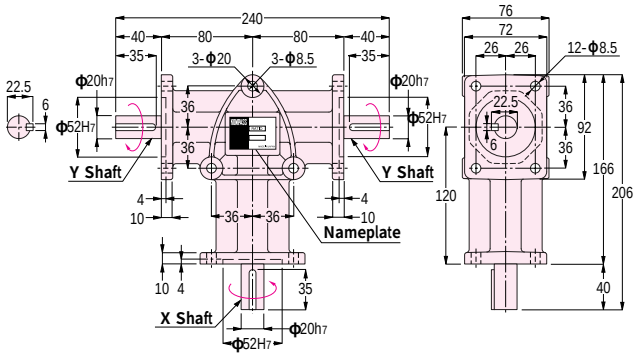
CAD data: KB-20



Round Weight 3.1kg

Fig.G-12 KC-201 KC-202

CAD data: KC-20



Round Weight 3.4kg

(Note)❶The rotation direction shown by arrow just indicates the directional relation between the shafts, and does not limit the rotation direction. Therefore, both forward and reverse rotation can be feasible.
❷Right-hand rotation for X-shaft against left-hand rotation for Y-shaft is regarded as standard.
❸The key groove for X shaft and that for Y shaft are not necessarily aligned.

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

KOMPASS®
Gear Box

Bevel gear boxes KN Type

Model • Type Designation
Performance Table
Dimension diagram

Model and Type Designation

Bevel gear boxes (KOMPASS) KN-Type are classified by codes as shown below.
When ordering/inquiring, indicate these codes.

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

KN-Type

KN B – 19 1 HH1043

- **HH1043** — Shaft Positioning (Refer to page G15)
- **1** — Reduction Ratio
  - 1 : 1/1
  - 2 : 1/2 (reduce from shaft X to Y)
- **19** — Frame No. and Diameter of Output shaft
  - 19 : ϕ19
  - 25 : ϕ25
  - 32 : ϕ32
  - 40 : ϕ40
- **B** — Classification by Mount
  - B : Y shaft with one direction
  - C : Y shaft with two one direction
- **KN** — Type

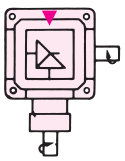
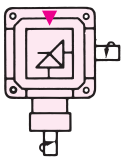
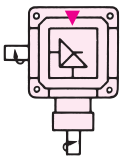
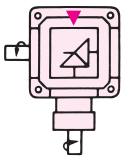
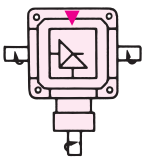
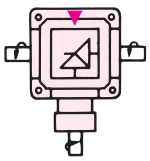
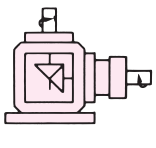
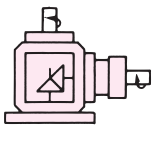
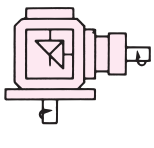
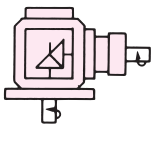
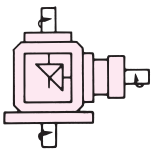
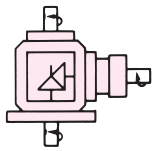
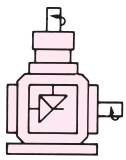
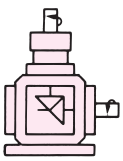
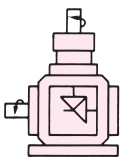
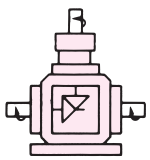
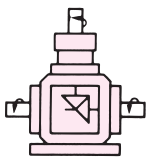
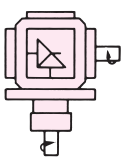
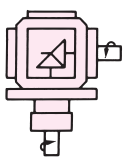
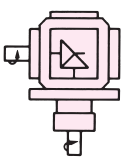
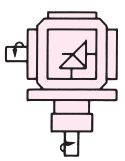
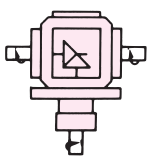
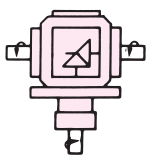
KN Type
Shaft Positioning Code

■Shaft Positioning and Shaft Positioning Code

In <KOMPASS> Series KN-Type, 24 ways are available as standard types of shaft positioning, according to the shaft direction and shaft rotation. Therefore, when ordering, the shaft positioning should be taken into consideration in addition to the type codes.

(Notes)

❶ These figures indicate the mounting space and the horizontal mounting (floor mounting).
❷ The rotation direction shown by arrow just indicates the relation of rotation direction between each shaft and not limits the direction. Shafts can be rotated in both forward and reverse direction.
❸ The mark ▼ indicates the wall surface in which the filler opening and drain plug exist, in case of horizontal mounting (floor mounting). The ones with no mark means that the wall surface comes to the back side of the figures described. (Standard Specification)
❹ Shaft Positioning: In case of wall mounting in which the input shaft (X shaft) is to be used in the upward position other than " HU Type ", inform us accordingly when ordering. Because the lubrication method for bearing is different in this case.
❺ For use other than horizontal mounting, refer to page G36.

	KNB-Type				KNC-Type	
Horizontal Type (plan view)	 HH1043	 HH1044	 HH1033	 HH1034	 HH1343	 HH1344
Vertical Type (front view)	 HH1022	 HH1025	 HH1052	 HH1055	 HH1252	 HH1255
	 HU2043	 HU2044	HU2033	 HU2034	 HU2343	 HU2344
	 HD5043	 HD5044	 HD5033	 HD5034	 HD5343	 HD5344

Bevel gear boxes KN Type

Shaft Diameter ϕ19

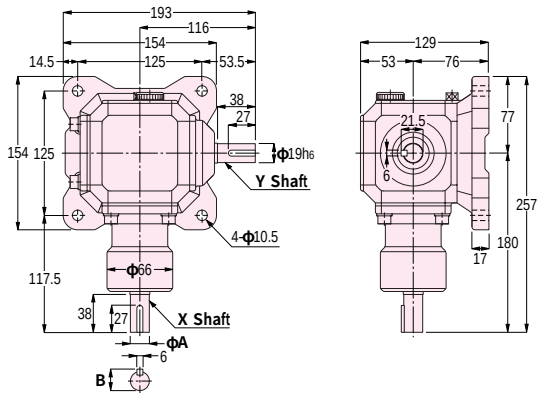
Reduction Ratio	Type Designation	Spec. Designation	" X " Shaft Rotation Speed (rpm)											
			20	50	100	200	300	400	600	900	1200	1500	1800	2500	3600
1 : 1	KNB-191 KNC-191	Allowable Transfer Capacity (kW)	0.08	0.20	0.39	0.77	1.15	1.50	2.05	2.67	3.30	3.95	4.40	4.40	4.40
		Allowable Torque on X and Y Shaft (N•m) {kgf•m}	37.2 {3.8}	37.2 {3.8}	37.2 {3.8}	36.3 {3.7}	36.3 {3.7}	36.3 {3.6}	32.3 {3.3}	28.4 {2.9}	26.5 {2.7}	24.5 {2.5}	23.5 {2.4}	16.7 {1.7}	10.8 {1.1}
		Allowable O.H.L. on X Shaft (N) {kgf}	1760 {180}	1760 {180}	1760 {180}	1760 {180}	1670 {170}	1620 {165}	1270 {130}	1080 {110}	882 {90}	833 {85}	784 {80}	686 {70}	637 {65}
		Allowable O.H.L. on Y Shaft (N) {kgf}	1960 {200}	1960 {200}	1960 {200}	1960 {200}	1960 {200}	1810 {185}	1470 {150}	1180 {120}	1030 {105}	980 {100}	931 {95}	784 {80}	735 {75}
1 : 2	KNB-192 KNC-192	Allowable Transfer Capacity (kW)	0.03	0.07	0.14	0.27	0.40	0.53	0.78	1.15	1.50	1.85	2.17	2.20	2.20
		Allowable Torque on Y Shaft (N•m) {kgf•m}	25.5 {2.6}	25.5 {2.6}	25.5 {2.6}	25.5 {2.6}	25.5 {2.6}	24.5 {2.5}	24.5 {2.5}	24.5 {2.5}	23.5 {2.4}	23.5 {2.4}	22.5 {2.3}	16.7 {1.7}	10.8 {1.1}
		Allowable O.H.L. on X Shaft (N) {kgf}	1180 {120}	1180 {120}	1180 {120}	1180 {120}	1180 {120}	1130 {115}	1130 {115}	1080 {110}	1080 {110}	882 {90}	833 {85}	784 {80}	735 {75}
		Allowable O.H.L. on Y Shaft (N) {kgf}	1760 {180}	1760 {180}	1760 {180}	1760 {180}	1760 {180}	1720 {175}	1670 {170}	1470 {150}	1270 {130}	1080 {110}	980 {100}	833 {85}	784 {80}

(Notes)

❶ Be sure to use the product within the allowable value. In case of the ratio of (1 : 2), speed reduction is given to Y shaft.
❷ Values in this performance table are the ones when the service factor is 1. In case of using the product under different condition, refer to the " Service Factor " in the Table-2 on page G33.
❸ An overhung load(O.H.L.) means the allowable load imposed on the center of the shaft. In case using the product under different condition, refer to the factor K1 and K2 in the Table-3 and 4 on page G33.
❹ When using the type with the ratio of (1 : 2) with increased speed(Increasing speed from Y shaft to X shaft.), the torque on the X shaft become 1/2 of the value in the performance table(torque on the Y shaft).
❺ The torque at Y shaft in the KC Type is the sum of right and left shaft.
❻ The O.H.L. value at Y shaft in the KC Type is the sum of right and left shaft.
❼ The allowable thrust load will be the half of the O.H.L. value respectively.

Fig.G-13

KNB-191 HH1043 CAD data: **KNB-191-HH104**
KNB-191 HH1044
KNB-192 HH1043 CAD data: **KNB-192-HH104**
KNB-192 HH1044

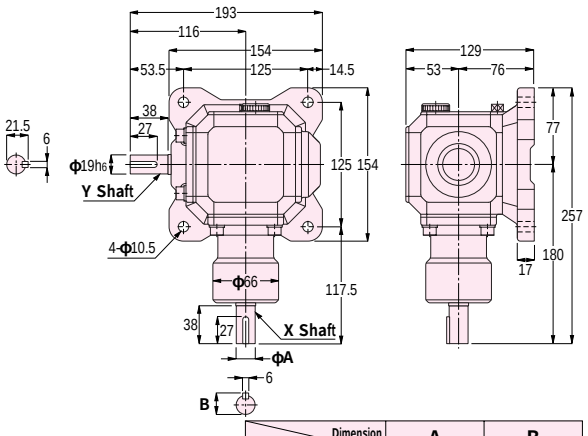


Type \ Dimension	A	B
KNB-191	ϕ19h6	21.5
KNB-192	ϕ18h6	20.5

Round Weight 10kg

Fig.G-14

KNB-191 HH1033 CAD data: **KNB-191-HH103**
KNB-191 HH1034
KNB-192 HH1033 CAD data: **KNB-192-HH103**
KNB-192 HH1034



Type \ Dimension	A	B
KNB-191	ϕ19h6	21.5
KNB-192	ϕ18h6	20.5

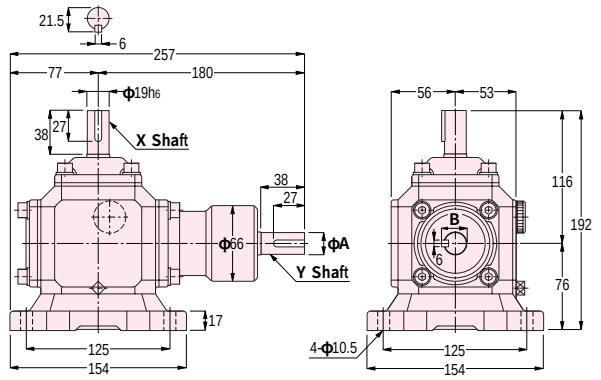
Round Weight 10kg

Model Code P.G14
Technical Information P.G32～G35

KNB Type

Fig.G-15

KNB-191 HH1022 CAD data: KNB-191-HH102
KNB-191 HH1025
KNB-192 HH1022 CAD data: KNB-192-HH102
KNB-192 HH1025

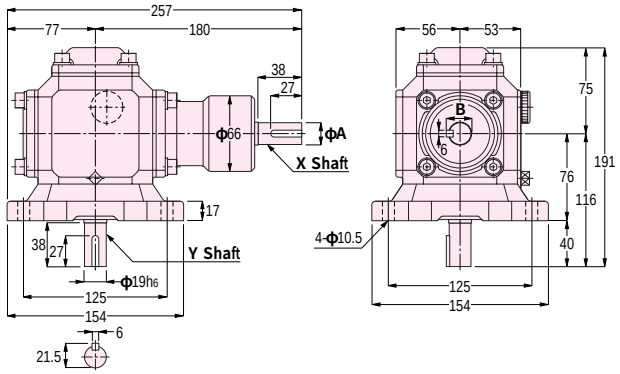


Type \ Dimension	A	B
KNB-191	ϕ19h6	21.5
KNB-192	ϕ18h6	20.5

Round Weight 10kg

Fig.G-16

KNB-191 HH1052 CAD data: KNB-191-HH105
KNB-191 HH1055
KNB-192 HH1052 CAD data: KNB-192-HH105
KNB-192 HH1055

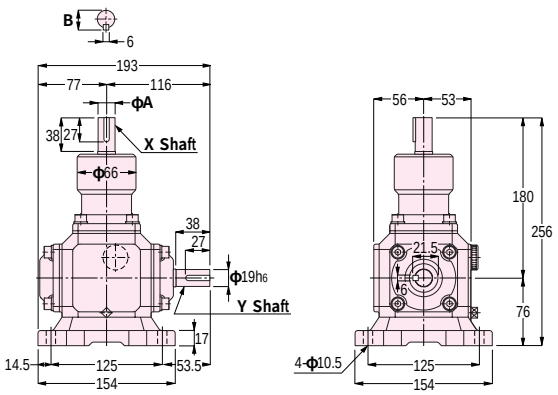


Type \ Dimension	A	B
KNB-191	ϕ19h6	21.5
KNB-192	ϕ18h6	20.5

Round Weight 10kg

Fig.G-17

KNB-191 HU2043 CAD data: KNB-191-HU204
KNB-191 HU2044
KNB-192 HU2043 CAD data: KNB-192-HU204
KNB-192 HU2044

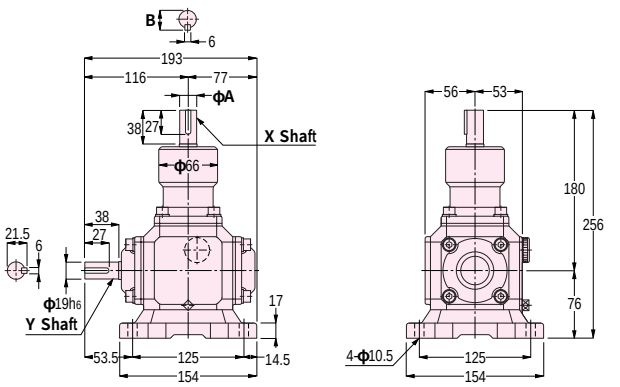


Type \ Dimension	A	B
KNB-191	ϕ19h6	21.5
KNB-192	ϕ18h6	20.5

Round Weight 10kg

Fig.G-18

KNB-191 HU2033 CAD data: KNB-191-HU203
KNB-191 HU2034
KNB-192 HU2033 CAD data: KNB-192-HU203
KNB-192 HU2034



Type \ Dimension	A	B
KNB-191	ϕ19h6	21.5
KNB-192	ϕ18h6	20.5

Round Weight 10kg

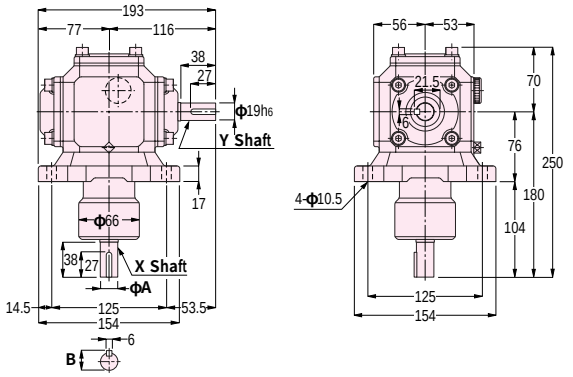
(Notes)
❶ The sizes of oil plug are PF1/2 for intake and PT1/4 for vent. (Standard Specification)
❷ The key groove between the X shaft and Y shaft is not always aligned.

Bevel gear boxes KN Type

Shaft Diameter ϕ19

Fig.G-19

KNB-191 HD5043 CAD data: KNB-191-HD504
KNB-191 HD5044
KNB-192 HD5043 CAD data: KNB-192-HD504
KNB-192 HD5044

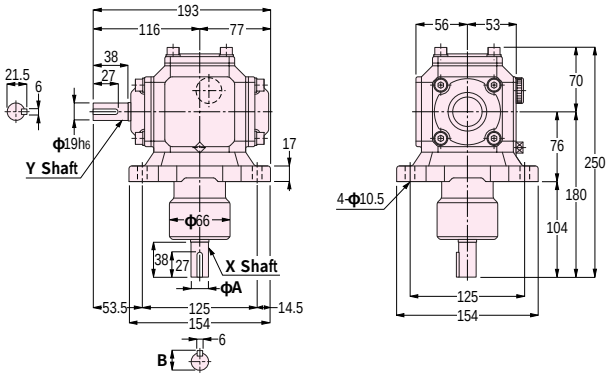


Type \ Dimension	A	B
KNB-191	ϕ19h6	21.5
KNB-192	ϕ18h6	20.5

Round Weight 10kg

Fig.G-20

KNB-191 HD5033 CAD data: KNB-191-HD503
KNB-191 HD5034
KNB-192 HD5033 CAD data: KNB-192-HD503
KNB-192 HD5034



Type \ Dimension	A	B
KNB-191	ϕ19h6	21.5
KNB-192	ϕ18h6	20.5

Round Weight 10kg

(Notes)
❶ The sizes of oil plug are PF1/2 for intake and PT1/4 for vent. (Standard Specification)
❷ The key groove between the X shaft and Y shaft is not always aligned.

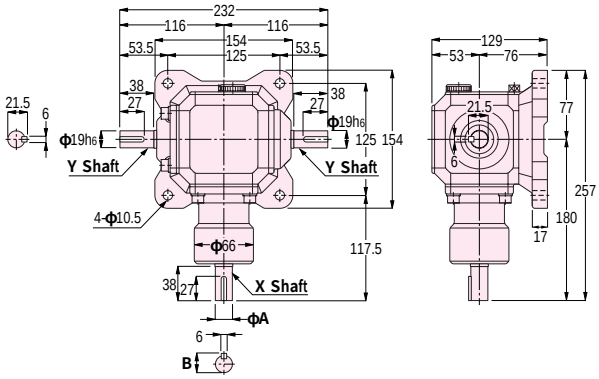
Model Code P.G14
Technical Information P.G32～G35

KNB Type

KNC Type

Fig.G-21

KNC-191 HH1343 CAD data:
KNC-191 HH1344 KNC-191-HH134
KNC-192 HH1343 CAD data:
KNC-192 HH1344 KNC-192-HH134

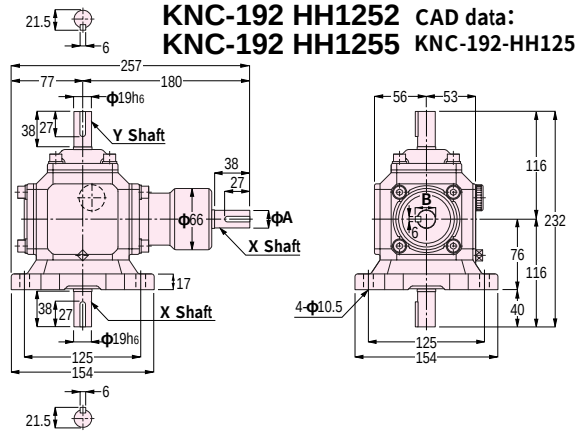


Type \ Dimension	A	B
KNC-191	Φ19h6	21.5
KNC-192	Φ18h6	20.5

Round Weight 10kg

Fig.G-22

KNC-191 HH1252 CAD data:
KNC-191 HH1255 KNC-191-HH125
KNC-192 HH1252 CAD data:
KNC-192 HH1255 KNC-192-HH125

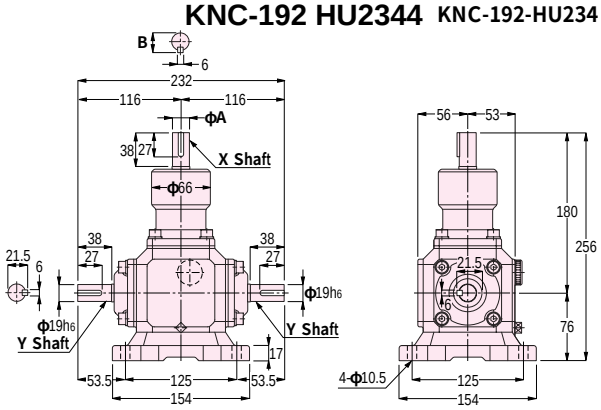


Type \ Dimension	A	B
KNC-191	Φ19h6	21.5
KNC-192	Φ18h6	20.5

Round Weight 10kg

Fig.G-23

KNC-191 HU2343 CAD data:
KNC-191 HU2344 KNC-191-HU234
KNC-192 HU2343 CAD data:
KNC-192 HU2344 KNC-192-HU234

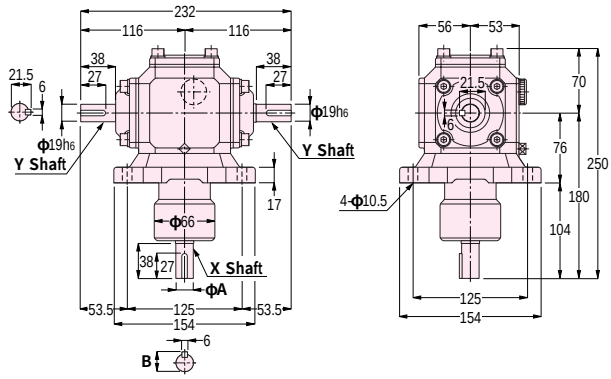


Type \ Dimension	A	B
KNC-191	Φ19h6	21.5
KNC-192	Φ18h6	20.5

Round Weight 10kg

Fig.G-24

KNC-191 HD5343 CAD data:
KNC-191 HD5344 KNC-191-HD534
KNC-192 HD5343 CAD data:
KNC-192 HD5344 KNC-192-HD534



Type \ Dimension	A	B
KNC-191	Φ19h6	21.5
KNC-192	Φ18h6	20.5

Round Weight 10kg

(Notes)
❶ The sizes of oil plug are PF1/2 for intake and PT1/4 for vent. (Standard Specification)
❷ The key groove between the X shaft and Y shaft is not always aligned.

Model Code P.G14
Technical Information P.G32～G35

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Bevel gear boxes KN Type

Shaft Diameter ϕ25

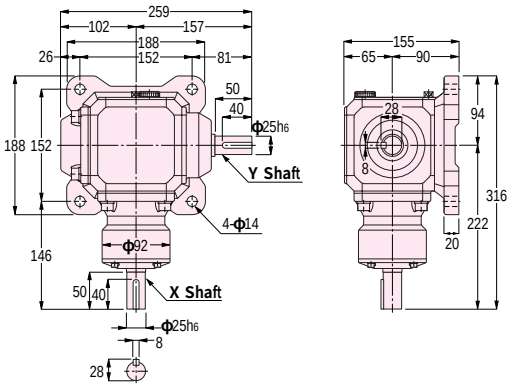
Reduction Ratio	Type Designation	Spec. Designation	"X" Shaft Rotation Speed (rpm)												
			20	50	100	200	300	400	600	900	1200	1500	1800	2500	3600
1 : 1	KNB-251 KNC-251	Allowable Transfer Capacity (kW)	0.25	0.62	1.24	2.47	3.68	4.70	6.40	8.60	10.5	12.3	13.8	—	—
		Allowable Torque on X and Y Shaft (N•m) {kgf•m}	118 {12.0}	118 {12.0}	118 {12.0}	118 {12.0}	116 {11.8}	112 {11.4}	101 {10.3}	91.1 {9.3}	83.3 {8.5}	78.4 {8.0}	73.5 {7.5}	—	—
		Allowable O.H.L. on X Shaft (N) {kgf}	3920 {400}	3920 {400}	3920 {400}	3920 {400}	3630 {370}	3330 {340}	2940 {300}	2450 {250}	2160 {220}	1960 {200}	1760 {180}	—	—
		Allowable O.H.L. on Y Shaft (N) {kgf}	4120 {420}	4120 {420}	4120 {420}	4120 {420}	4020 {410}	3920 {400}	3430 {350}	2940 {300}	2550 {260}	2450 {250}	2250 {230}	—	—
1 : 2	KNB-252 KNC-252	Allowable Transfer Capacity (kW)	0.09	0.23	0.45	0.90	1.34	1.78	2.67	4.00	5.30	6.33	7.50	7.50	—
		Allowable Torque on Y Shaft (N•m) {kgf•m}	85.3 {8.7}	85.3 {8.7}	85.3 {8.7}	85.3 {8.7}	85.3 {8.7}	84.3 {8.6}	84.3 {8.6}	84.3 {8.6}	84.3 {8.6}	80.4 {8.2}	79.4 {8.1}	56.8 {5.8}	—
		Allowable O.H.L. on X Shaft (N) {kgf}	3920 {400}	3920 {400}	3920 {400}	3920 {400}	3920 {400}	3720 {380}	3630 {370}	3530 {360}	3230 {330}	2740 {280}	2250 {230}	1670 {170}	—
		Allowable O.H.L. on Y Shaft (N) {kgf}	4120 {420}	4120 {420}	4120 {420}	4120 {420}	4020 {410}	3920 {400}	3820 {390}	3720 {380}	3430 {350}	3040 {310}	2650 {270}	2350 {240}	—

(Notes)

❶ Be sure to use the product within the allowable value. In case of the ratio of (1 : 2), speed reduction is given to Y shaft.
❷ Values in this performance table are the ones when the service factor is 1. In case of using the product under different condition, refer to the " Service Factor " in the Table-2 on page G33.
❸ An overhung load(O.H.L.) means the allowable load imposed on the center of the shaft. In case using the product under different condition, refer to the factor K1 and K2 in the Table-3 and 4 on page G33.
❹ When using the type with the ratio of (1 : 2) with increased speed(Increasing speed from Y shaft to X shaft.), the torque on the X shaft become 1/2 of the value in the performance table(torque on the Y shaft).
❺ The torque at Y shaft in the KC Type is the sum of right and left shaft.
❻ The O.H.L. value at Y shaft in the KC Type is the sum of right and left shaft.
❼ The allowable thrust load will be the half of the O.H.L. value respectively.

Fig.G-25

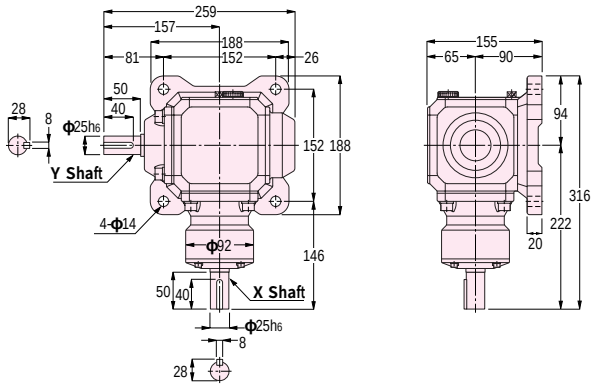
KNB-251 HH1043 CAD data:
KNB-251 HH1044 KNB-25-HH104
KNB-252 HH1043
KNB-252 HH1044



Round Weight 17kg

Fig.G-26

KNB-251 HH1033 CAD data:
KNB-251 HH1034 KNB-25-HH103
KNB-252 HH1033
KNB-252 HH1034



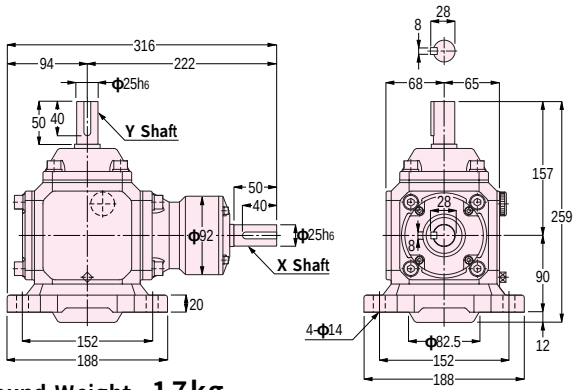
Round Weight 17kg

Model Code P.G14
Technical Information P.G32～G35

KNB Type

Fig.G-27

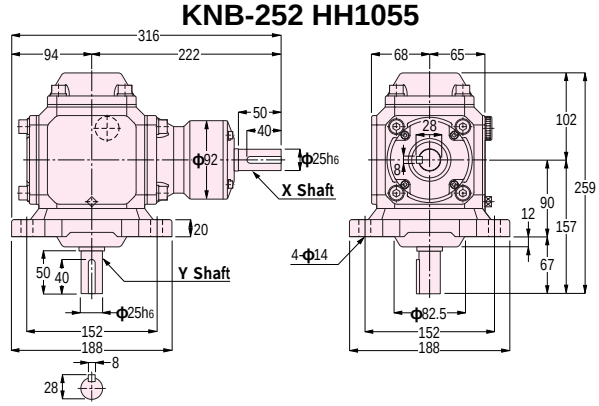
KNB-251 HH1022 **CAD data:**
KNB-251 HH1025 **KNB-25-HH102**
KNB-252 HH1022
KNB-252 HH1025



Round Weight 17kg

Fig.G-28

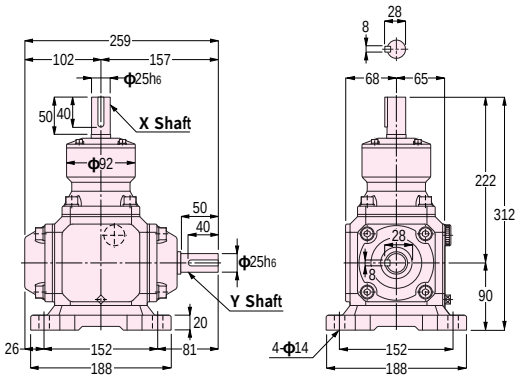
KNB-251 HH1052 **CAD data:**
KNB-251 HH1055 **KNB-25-HH105**
KNB-252 HH1052
KNB-252 HH1055



Round Weight 17kg

Fig.G-29

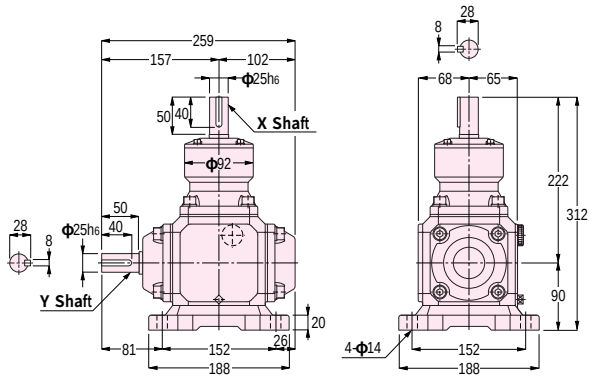
KNB-251 HU2043 **CAD data:**
KNB-251 HU2044 **KNB-25-HU204**
KNB-252 HU2043
KNB-252 HU2044



Round Weight 17kg

Fig.G-30

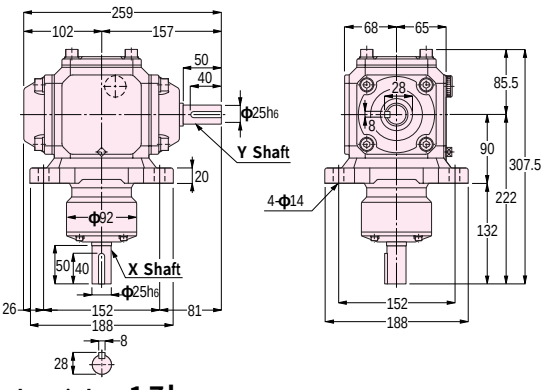
KNB-251 HU2033 **CAD data:**
KNB-251 HU2034 **KNB-25-HU203**
KNB-252 HU2033
KNB-252 HU2034



Round Weight 17kg

Fig.G-31

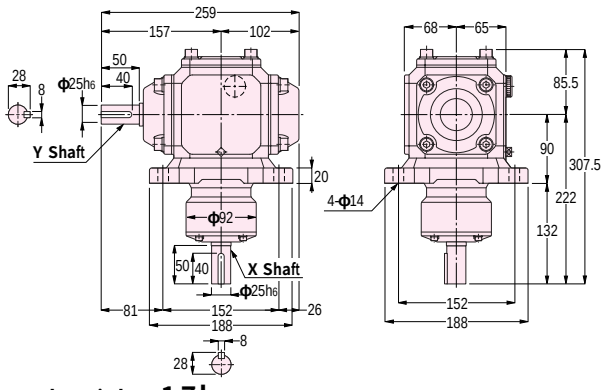
KNB-251 HD5043 **CAD data:**
KNB-251 HD5044 **KNB-25-HD504**
KNB-252 HD5043
KNB-252 HD5044



Round Weight 17kg

Fig.G-32

KNB-251 HD5033 **CAD data:**
KNB-251 HD5034 **KNB-25-HD503**
KNB-252 HD5033
KNB-252 HD5034



Round Weight 17kg

(Notes) ❶ The sizes of oil plug are PF1/2 for intake and PT1/4 for vent. (Standard Specification)

❷ The key groove between the X shaft and Y shaft is not always aligned.

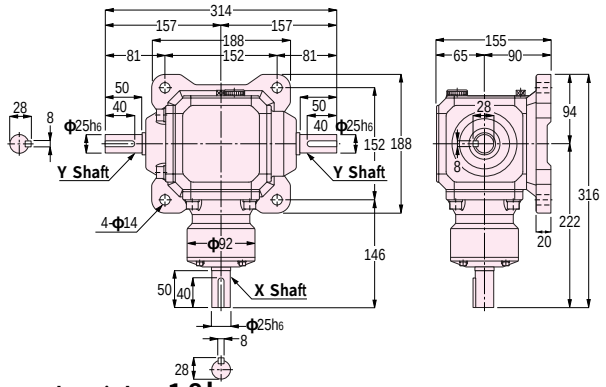
Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Bevel gear boxes KN Type

Shaft Diameter ϕ25

Fig.G-33

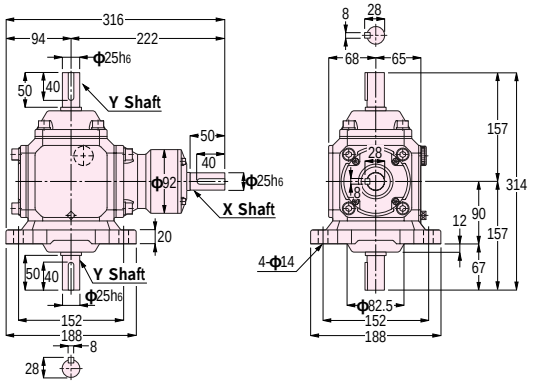
KNC-251 HH1343 CAD data:
KNC-251 HH1344 KNC-25-HH134
KNC-252 HH1343
KNC-252 HH1344



Round Weight 18kg

Fig.G-34

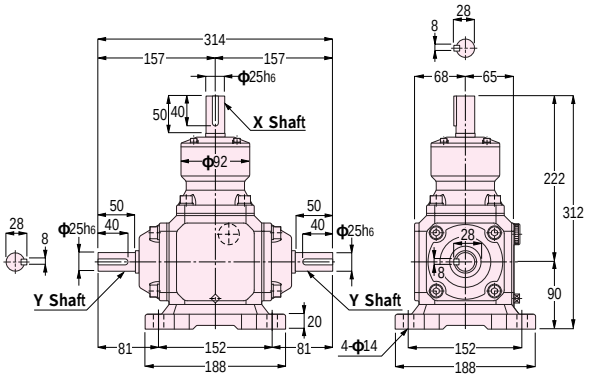
KNC-251 HH1252 CAD data:
KNC-251 HH1255 KNC-25-HH125
KNC-252 HH1252
KNC-252 HH1255



Round Weight 18kg

Fig.G-35

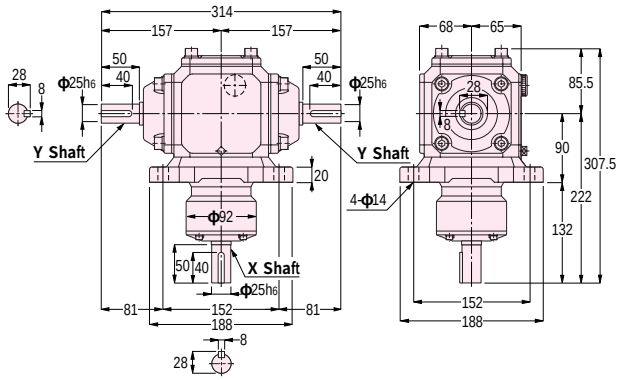
KNC-251 HU2343 CAD data:
KNC-251 HU2344 KNC-25-HU234
KNC-252 HU2343
KNC-252 HU2344



Round Weight 18kg

Fig.G-36

KNC-251 HD5343 CAD data:
KNC-251 HD5344 KNC-25-HD534
KNC-252 HD5343
KNC-252 HD5344



Round Weight 18kg

(Notes) ❶ The sizes of oil plug are PF1/2 for intake and PT1/4 for vent. (Standard Specification)

❷ The key groove between the X shaft and Y shaft is not always aligned.

Model Code P.G14
Technical Information P.G32～G35

KNC Type

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Bevel gear boxes KN Type

Shaft Diameter ϕ32

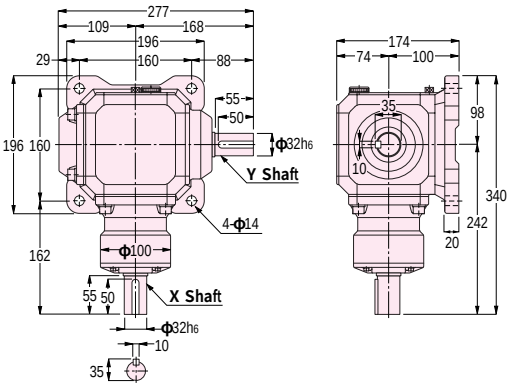
Reduction Ratio	Type Designation	Spec. Designation	" X " Shaft Rotation Speed (rpm)												
			20	50	100	200	300	400	600	900	1200	1500	1800	2500	3600
1 : 1	KNB-321 KNC-321	Allowable Transfer Capacity (kW)	0.36	0.88	1.77	3.53	5.26	6.72	9.15	12.3	15.0	17.5	19.7	—	—
		Allowable Torque on X and Y Shaft (N•m) {kgf•m}	167 {17.0}	167 {17.0}	167 {17.0}	167 {17.0}	165 {16.8}	160 {16.3}	144 {14.7}	130 {13.3}	119 {12.1}	112 {11.4}	104 {10.6}	—	—
		Allowable O.H.L. on X Shaft (N) {kgf}	4900 {500}	4900 {500}	4900 {500}	4900 {500}	4610 {470}	4210 {430}	3720 {380}	3140 {320}	2740 {280}	2450 {250}	2160 {220}	—	—
		Allowable O.H.L. on Y Shaft (N) {kgf}	5190 {530}	5190 {530}	5190 {530}	5190 {530}	5100 {520}	4900 {500}	4310 {440}	3720 {380}	3230 {330}	3140 {320}	2840 {290}	—	—
1 : 2	KNB-322 KNC-322	Allowable Transfer Capacity (kW)	0.13	0.32	0.64	1.28	1.91	2.54	3.80	5.72	7.57	9.05	10.7	—	—
		Allowable Torque on Y Shaft (N•m) {kgf•m}	123 {12.5}	123 {12.5}	123 {12.5}	123 {12.5}	122 {12.4}	122 {12.4}	121 {12.3}	121 {12.3}	120 {12.2}	115 {11.7}	114 {11.6}	—	—
		Allowable O.H.L. on X Shaft (N) {kgf}	4900 {500}	4900 {500}	4900 {500}	4900 {500}	4900 {500}	4700 {480}	4610 {470}	4410 {450}	4120 {420}	3430 {350}	2840 {290}	—	—
		Allowable O.H.L. on Y Shaft (N) {kgf}	5190 {530}	5190 {530}	5190 {530}	5190 {530}	5100 {520}	4900 {500}	4800 {490}	4700 {480}	4310 {440}	3820 {390}	3330 {340}	—	—

(Notes)

❶ Be sure to use the product within the allowable value. In case of the ratio of (1 : 2), speed reduction is given to Y shaft.
❷ Values in this performance table are the ones when the service factor is 1. In case of using the product under different condition, refer to the " Service Factor " in the Table-2 on page G33.
❸ An overhung load(O.H.L.) means the allowable load imposed on the center of the shaft. In case using the product under different condition, refer to the factor K1 and K2 in the Table-3 and 4 on page G33.
❹ When using the type with the ratio of (1 : 2) with increased speed(Increasing speed from Y shaft to X shaft.), the torque on the X shaft become 1/2 of the value in the performance table(torque on the Y shaft).
❺ The torque at Y shaft in the KC Type is the sum of right and left shaft.
❻ The O.H.L. value at Y shaft in the KC Type is the sum of right and left shaft.
❼ The allowable thrust load will be the half of the O.H.L. value respectively.

Fig.G-37

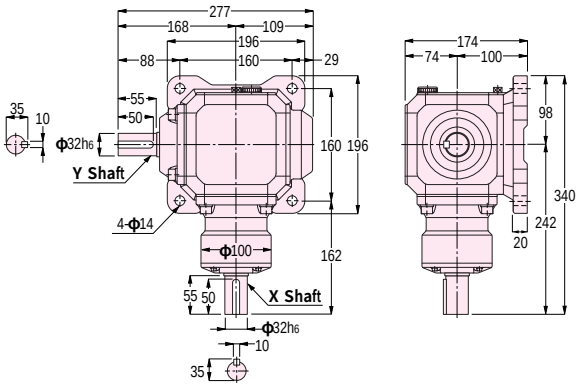
KNB-321 HH1043 CAD data:
KNB-321 HH1044 KNB-32-HH104
KNB-322 HH1043
KNB-322 HH1044



Round Weight 22kg

Fig.G-38

KNB-321 HH1033 CAD data:
KNB-321 HH1034 KNB-32-HH103
KNB-322 HH1033
KNB-322 HH1034



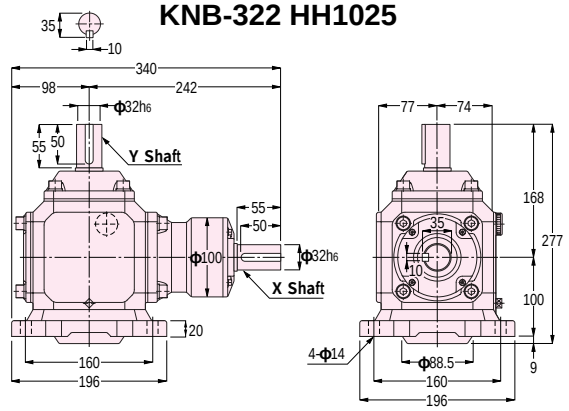
Round Weight 22kg

Model Code P.G14
Technical Information P.G32～G35

KNB Type

Fig.G-39

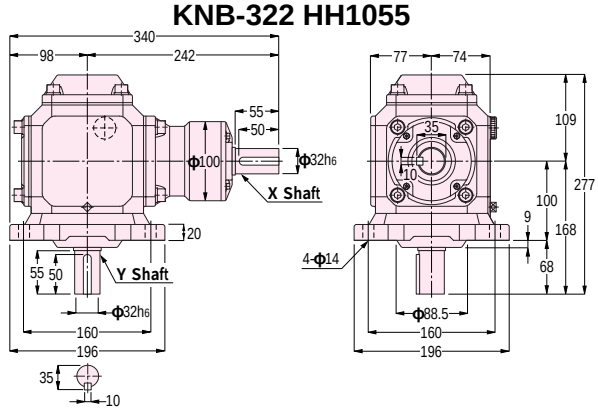
KNB-321 HH1022 CAD data:
KNB-321 HH1025 KNB-32-HH102
KNB-322 HH1022
KNB-322 HH1025



Round Weight 22kg

Fig.G-40

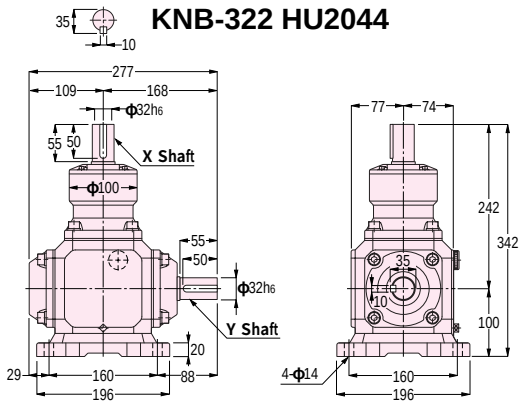
KNB-321 HH1052 CAD data:
KNB-321 HH1055 KNB-32-HH105
KNB-322 HH1052
KNB-322 HH1055



Round Weight 22kg

Fig.G-41

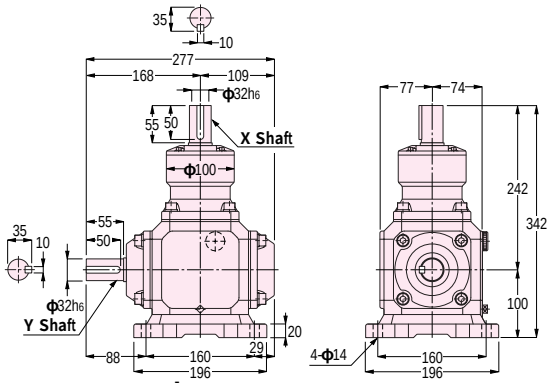
KNB-321 HU2043 CAD data:
KNB-321 HU2044 KNB-32-HU204
KNB-322 HU2043
KNB-322 HU2044



Round Weight 22kg

Fig.G-42

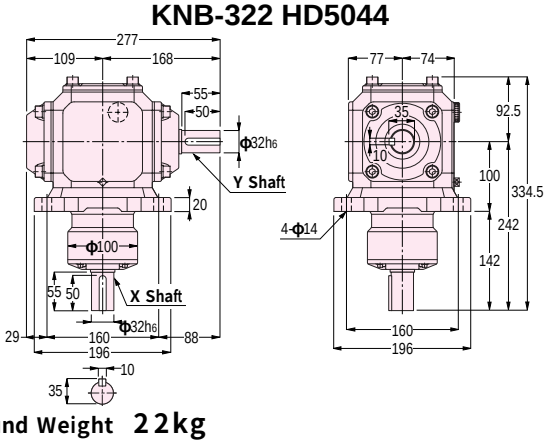
KNB-321 HU2033 CAD data:
KNB-321 HU2034 KNB-32-HU203
KNB-322 HU2033
KNB-322 HU2034



Round Weight 22kg

Fig.G-43

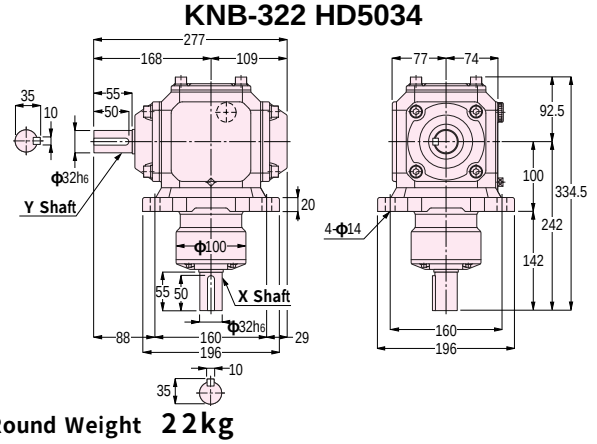
KNB-321 HD5043 CAD data:
KNB-321 HD5044 KNB-32-HD504
KNB-322 HD5043
KNB-322 HD5044



Round Weight 22kg

Fig.G-44

KNB-321 HD5033 CAD data:
KNB-321 HD5034 KNB-32-HD503
KNB-322 HD5033
KNB-322 HD5034



Round Weight 22kg

(Notes) ❶ The sizes of oil plug are PF1/2 for intake and PT1/4 for vent. (Standard Specification)

❷ The key groove between the X shaft and Y shaft is not always aligned.

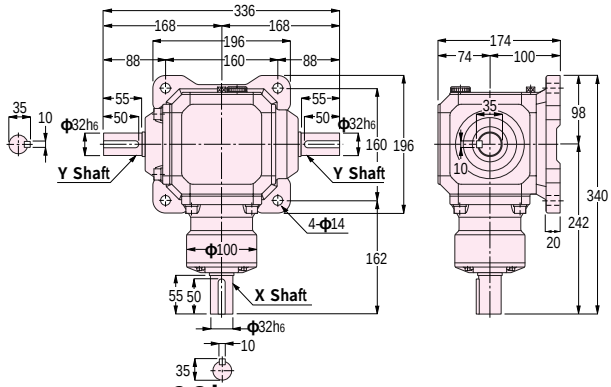
Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Bevel gear boxes KN Type

Shaft Diameter ϕ32

Fig.G-45

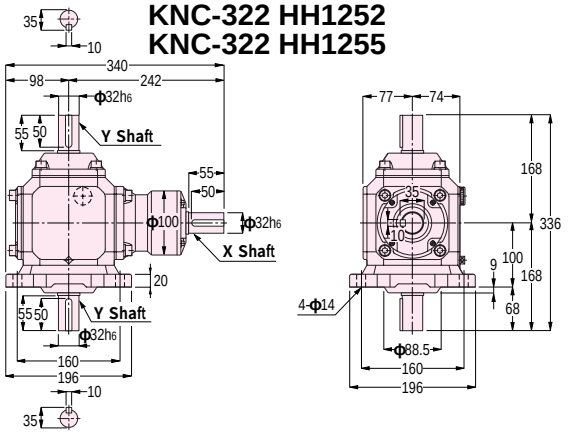
KNC-321 HH1343 CAD data:
KNC-321 HH1344 KNC-32-HH134
KNC-322 HH1343
KNC-322 HH1344



Round Weight 23kg

Fig.G-46

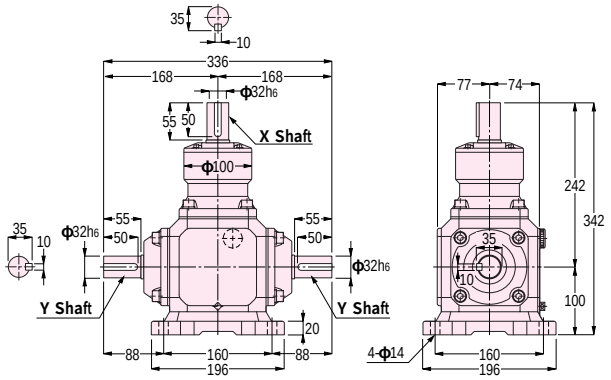
KNC-321 HH1252 CAD data:
KNC-321 HH1255 KNC-32-HH125
KNC-322 HH1252
KNC-322 HH1255



Round Weight 23kg

Fig.G-47

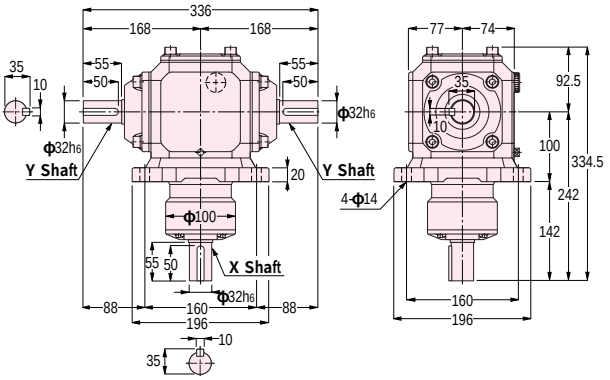
KNC-321 HU2343 CAD data:
KNC-321 HU2344 KNC-32-HU234
KNC-322 HU2343
KNC-322 HU2344



Round Weight 23kg

Fig.G-48

KNC-321 HD5343 CAD data:
KNC-321 HD5344 KNC-32-HD534
KNC-322 HD5343
KNC-322 HD5344



Round Weight 23kg

(Notes) ❶ The sizes of oil plug are PF1/2 for intake and PT1/4 for vent. (Standard Specification)

❷ The key groove between the X shaft and Y shaft is not always aligned.

Model Code P.G14
Technical Information P.G32～G35

KNC Type

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Bevel gear boxes KN Type

Shaft Diameter ϕ40

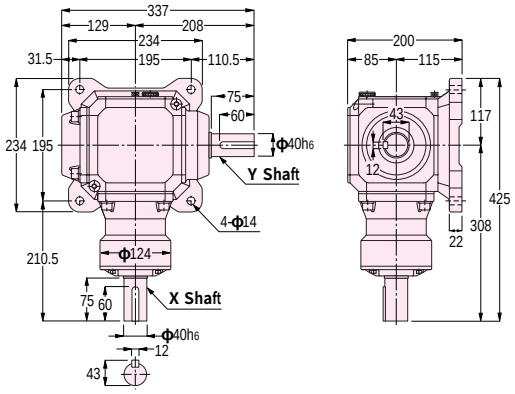
Reduction Ratio	Type Designation	Spec. Designation	" X " Shaft Rotation Speed (rpm)											
			20	50	100	200	300	400	600	900	1200	1500	1800	2500	3600
1 : 1	KNB-401 KNC-401	Allowable Transfer Capacity (kW)	0.62	1.59	3.18	6.32	9.50	12.0	16.1	22.0	26.5	—	—	—	—
		Allowable Torque on X and Y Shaft (N•m) {kgf•m}	294 {30.0}	294 {30.0}	294 {30.0}	294 {30.0}	294 {30.0}	284 {29.0}	255 {26.0}	231 {23.6}	211 {21.5}	—	—	—	—
		Allowable O.H.L. on X Shaft (N) {kgf}	9800 {1000}	9800 {1000}	9800 {1000}	7840 {800}	5880 {600}	4900 {500}	4410 {450}	3720 {380}	3430 {350}	—	—	—	—
		Allowable O.H.L. on Y Shaft (N) {kgf}	11760 {1200}	11760 {1200}	11760 {1200}	9800 {1000}	7350 {750}	6370 {650}	5880 {600}	5100 {520}	4020 {410}	—	—	—	—
1 : 2	KNB-402 KNC-402	Allowable Transfer Capacity (kW)	0.20	0.48	0.96	1.93	2.90	3.84	5.72	8.55	11.0	13.8	16.4	—	—
		Allowable Torque on Y Shaft (N•m) {kgf•m}	183 {18.7}	183 {18.7}	183 {18.7}	183 {18.7}	183 {18.7}	182 {18.6}	181 {18.5}	180 {18.4}	174 {17.8}	173 {17.6}	172 {17.5}	—	—
		Allowable O.H.L. on X Shaft (N) {kgf}	9800 {1000}	9800 {1000}	9800 {1000}	9800 {1000}	9800 {1000}	8820 {900}	7840 {800}	6860 {700}	5880 {600}	4900 {500}	3920 {400}	—	—
		Allowable O.H.L. on Y Shaft (N) {kgf}	11760 {1200}	11760 {1200}	11760 {1200}	11760 {1200}	11760 {1200}	9800 {1000}	8820 {900}	8820 {900}	8820 {900}	7840 {800}	6860 {700}	—	—

(Notes)

❶ Be sure to use the product within the allowable value. In case of the ratio of (1 : 2), speed reduction is given to Y shaft.
❷ Values in this performance table are the ones when the service factor is 1. In case of using the product under different condition, refer to the " Service Factor " in the Table-2 on page G33.
❸ An overhung load(O.H.L.) means the allowable load imposed on the center of the shaft. In case using the product under different condition, refer to the factor K1 and K2 in the Table-3 and 4 on page G33.
❹ When using the type with the ratio of (1 : 2) with increased speed(Increasing speed from Y shaft to X shaft.), the torque on the X shaft become 1/2 of the value in the performance table(torque on the Y shaft).
❺ The torque at Y shaft in the KC Type is the sum of right and left shaft.
❻ The O.H.L. value at Y shaft in the KC Type is the sum of right and left shaft.
❼ The allowable thrust load will be the half of the O.H.L. value respectively.

Fig.G-49

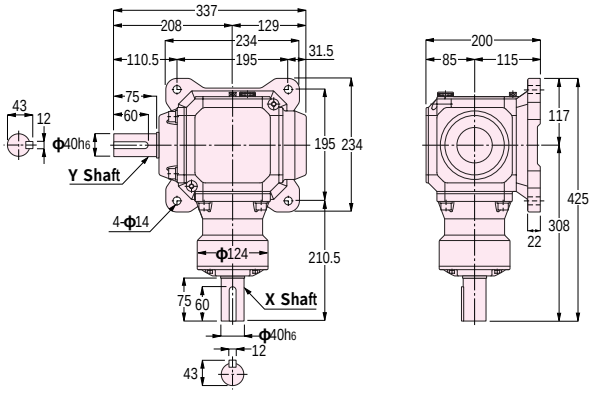
KNB-401 HH1043 CAD data:
KNB-401 HH1044 KNB-40-HH104
KNB-402 HH1043
KNB-402 HH1044



Round Weight 33kg

Fig.G-50

KNB-401 HH1033 CAD data:
KNB-401 HH1034 KNB-40-HH103
KNB-402 HH1033
KNB-402 HH1034



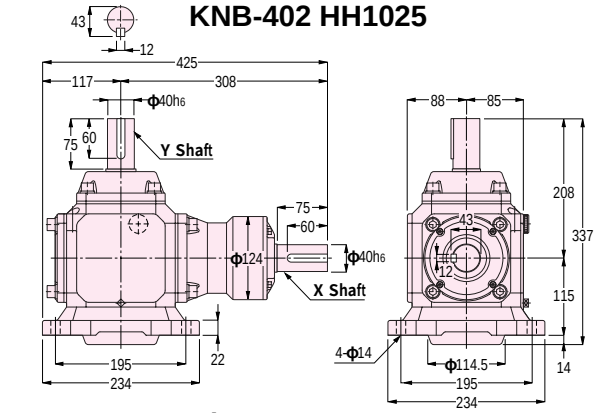
Round Weight 33kg

Model Code P.G14
Technical Information P.G32～G35

KNB Type

Fig.G-51

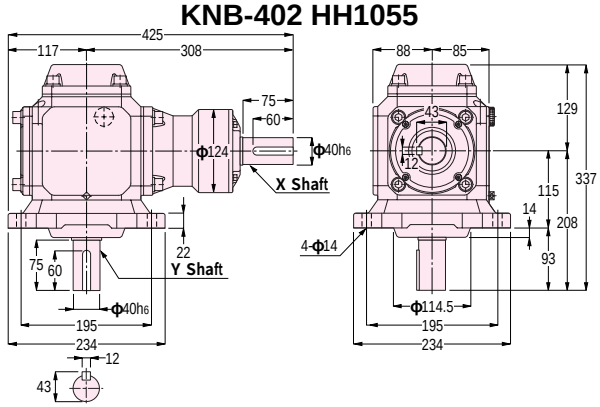
KNB-401 HH1022 CAD data:
KNB-401 HH1025 KNB-40-HH102
KNB-402 HH1022
KNB-402 HH1025



Round Weight 33kg

Fig.G-52

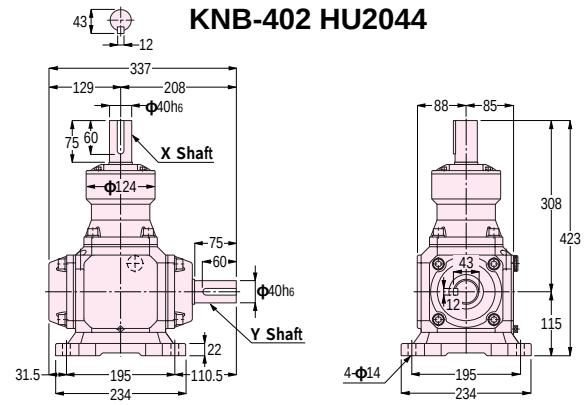
KNB-401 HH1052 CAD data:
KNB-401 HH1055 KNB-40-HH105
KNB-402 HH1052
KNB-402 HH1055



Round Weight 33kg

Fig.G-53

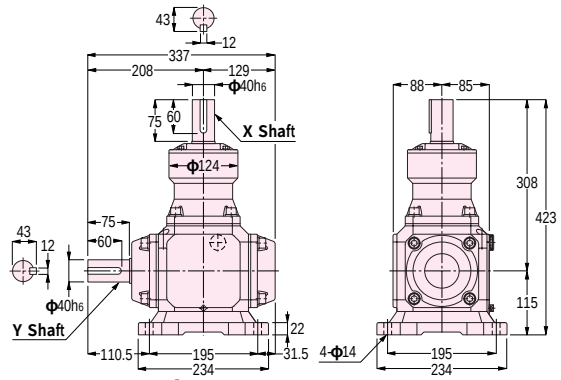
KNB-401 HU2043 CAD data:
KNB-401 HU2044 KNB-40-HU204
KNB-402 HU2043
KNB-402 HU2044



Round Weight 33kg

Fig.G-54

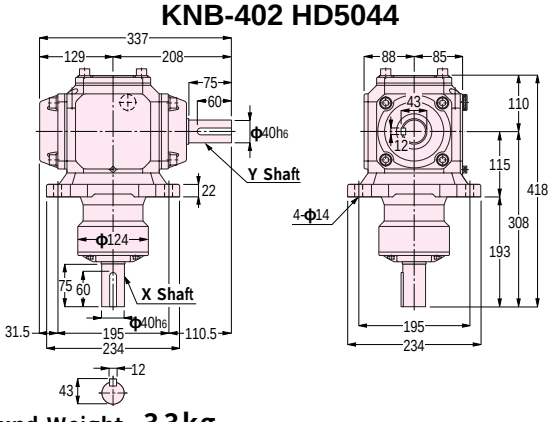
KNB-401 HU2033 CAD data:
KNB-401 HU2034 KNB-40-HU203
KNB-402 HU2033
KNB-402 HU2034



Round Weight 33kg

Fig.G-55

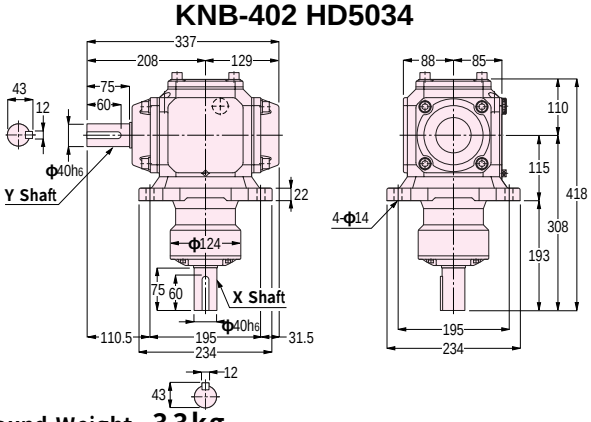
KNB-401 HD5043 CAD data:
KNB-401 HD5044 KNB-40-HD504
KNB-402 HD5043
KNB-402 HD5044



Round Weight 33kg

Fig.G-56

KNB-401 HD5033 CAD data:
KNB-401 HD5034 KNB-40-HD503
KNB-402 HD5033
KNB-402 HD5034



Round Weight 33kg

(Notes) ❶ The sizes of oil plug are PF1/2 for intake and PT1/4 for vent. (Standard Specification)

❷ The key groove between the X shaft and Y shaft is not always aligned.

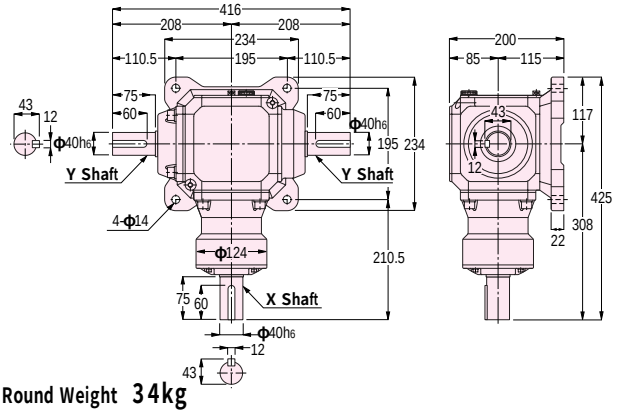
Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Bevel gear boxes KN Type

Shaft Diameter ϕ40

Fig.G-57

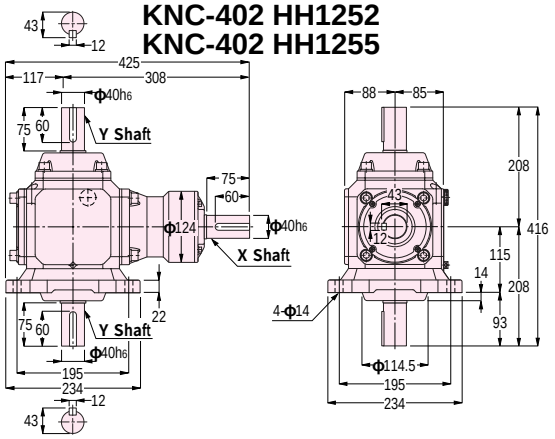
KNC-401 HH1343 CAD data:
KNC-401 HH1344 KNC-40-HH134
KNC-402 HH1343
KNC-402 HH1344



Round Weight 34kg

Fig.G-58

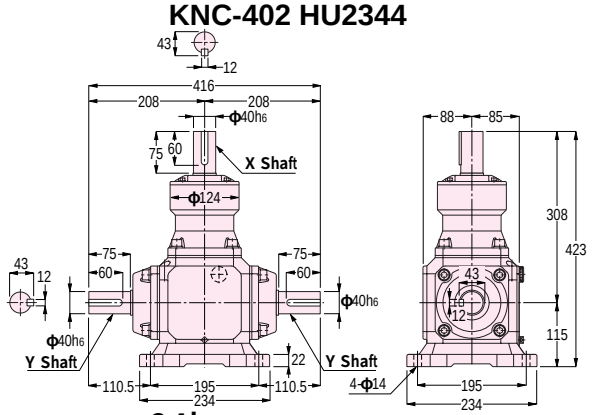
KNC-401 HH1252 CAD data:
KNC-401 HH1255 KNC-40-HH125
KNC-402 HH1252
KNC-402 HH1255



Round Weight 34kg

Fig.G-59

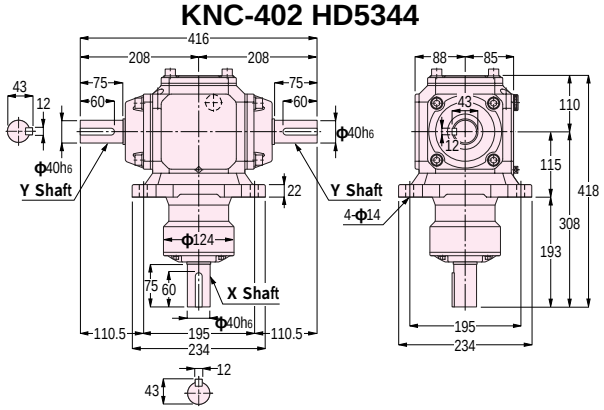
KNC-401 HU2343 CAD data:
KNC-401 HU2344 KNC-40-HU234
KNC-402 HU2343
KNC-402 HU2344



Round Weight 34kg

Fig.G-60

KNC-401 HD5343 CAD data:
KNC-401 HD5344 KNC-40-HD534
KNC-402 HD5343
KNC-402 HD5344



Round Weight 34kg

(Notes) ❶ The sizes of oil plug are PF1/2 for intake and PT1/4 for vent. (Standard Specification)

❷ The key groove between the X shaft and Y shaft is not always aligned.

Model Code P.G14
Technical Information P.G32～G35

KNC Type

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

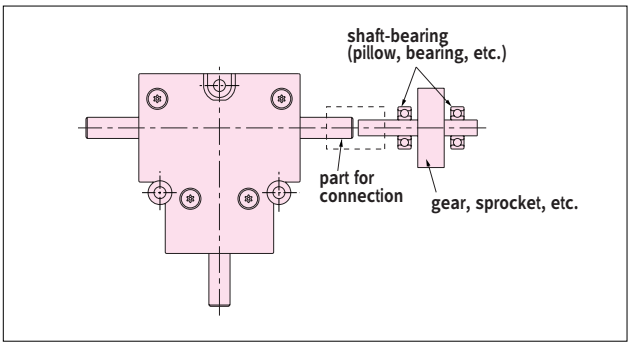
Technical Information

K-Type (Metal Type)

Cautions on Selection

①The KBM/KCM types are light and compact type gear box. When higher strength, rotation and speed are to be required in your operation, study to introduce the KB/KC types.
②Be sure that the overhung load (O.H.L.)and thrust load should never be imposed to the shaft of gear box. In case the overhung load and thrust load are imposed, support the both edges of sprocket and gear with a bearing such as pillow, etc., in order to avoid these loads. (Refer to the Figure-1 on page G32.)
③Never use the product under the condition of sudden reverse rotation by plugging or of heavy shock load may occur. In such situation, study to introduce the KB/KC Types.
④The values in the performance table in this catalogue are obtained under the condition of: motor as a power generator, operation with uniform load at 10 hours/day. Therefore, in case of using the product in the different condition, correct the load torque by the service factor in the Table-1.

Figure-1



Service Factor (Sf) Table-1

Load Condition	Service Factor (Sf)		
	Operation of less than 3 hours/day	Operation of 3～10 hours/day	Operation of over 10 hours/day
Uniform Load	1 (1)	1 (1.25)	1.25 (1.50)
Light Shock Load	1 (1.25)	1.25 (1.50)	1.50 (1.75)

(Note)
In case the frequency of start/stop is over 10 times/hour, use the coefficient in the parenthesis.

Corrected Load Torque
Load Torque Imposed to Gear Box x Service Factor

In the operating rotation speed, the corrected load torque should be always smaller than the allowable torque of X•Y shaft specified in the performance table or than the Y shaft allowable torque.

Cautions on Operation

1. Installation Location

●Ambient Temperature: −10°C to 40°C
●Ambient Humidity: 85% max.
●Altitude: 1,000 m max.
●Environment: Well ventilated place free from corrosive gas, explosive gas, vapor and/or dust
●Installation Location: Indoors

2. Installation

●Install the products on a flat surface free from vibration.
●The JIS Class 2 screw with groove is recommended for tapping screw.
●The recommended tightening torque and the screw dimensions are as shown in the table below:

●Recommended Tightening Torque (N•m)

	Hole for screw		Hole for tapping screw at end face		
Model	Size	Tightening Torque	Nominal Diameter	Effective Length (mm)	Tightening Torque
KM-04	M3	0.3～0.6	3	7～11	0.4～0.8
KM-06	M3	0.4～0.8	3	9～13	0.5～1.0
KM-08	M4	0.5～1.0	4	9～14	0.5～1.0

●Additional modification such as making bolt hole in the casing, etc., must be avoided. Failure to observe this warning may cause damage to gear box.
●In the equipments such as food machine, which must avoid oil or grease, furnish with protective devices such as oil pan, etc. in order to protect from the oil leakage.

3. Connecting with Other Equipment

●Before connecting with other equipment, be sure to confirm the rotation direction. Opposite rotation may cause personal injury and/or damage to the equipment.
●Use a flexible connecting parts in the connection of gearmotor with the other equipment.
●Connect the units precisely, so that the center of shaft of gearmotor and the other equipment are fully aligned.
●There is no shoulder on the gear box shaft. Therefore, when attaching couplings, etc., be sure not to interfere the surface of casing.
●There is no key groove in the gear box shaft. Therefore, when connecting to the other equipment, use the clamping type coupling to avoid slipping.

4. Cautions on Operation

●During operation, do not approach or touch the rotating object such as shaft. Failure to observe this warning may cause physical injury by winding in.
●When noise and/or abnormal temperature rise are observed, stop operation immediately. And never start operation until the causes of the abnormal situation are found out and proper measures are taken.
●Do not dismantle or modify the product. Failure to observe this warning may cause damage to the equipment.

K-Type (Bearing Type)・KN-Type

Cautions on Selection

■Particulars Necessary for Selection

load torque, type of power generator, input rotation speed, reduction ratio, operating hour, connecting method, frequency of start/stop

■Process of Selection

① The values in the performance table in this catalogue are obtained under the condition of: motor as a power generator, operation with uniform load at 10 hours/day. Therefore, in case of using the product in the different condition, correct the load torque by the service factor in the Table-2

Corrected Load Torque =Load Torque Imposed to Gear Box x Service Factor

Service Factor (Sf) Table-2

Load Condition	Service Factor (Sf)		
	Operation of less than 3 hours/day	Operation of 3~10 hours/day	Operation of over 10 hours/day
Uniform Load	1 (1)	1 (1.25)	1.25 (1.50)
Light Shock Load	1 (1.25)	1.25 (1.50)	1.50 (1.75)
Heavy Shock Load	1.25 (1.50)	1.50 (1.75)	1.75 (2.00)

(Note)
1. In case starting/stopping action counts more than 10 times/hour, use the coefficient in the parenthesis.
2. In case of power generator other than electric motor (engine, etc.), use the coefficient in the parenthesis too.

In the operating rotation speed, the corrected load torque should be always smaller than the allowable torque of X・Y shaft specified in the performance table or than the Y shaft allowable torque.

② For the positioning of shaft, select from the shaft positioning figures of each model.

③ Confirmation of overhung load (O.H.L.).
An overhung load is a suspending load imposed on a shaft. In the coupling of reducer shaft and other machine, if chains, belts and gears are used, this O.H.L. must be taken into consideration.

$$\text{O.H.L.} = \frac{T_{LE} \times K_1 \times K_2}{R} \text{ (N) \{kgf\}}$$

T_{LE} : Corrected load torque imposed on gear box shaft (N・m)(kgf・m)
R : Pitch Circle Radius(m) of sprocket, pulley, gear, etc. ttached to gear box shaft.
K_1 : Factor by the connecting method (Refer to Table-3)
K_2 : Factor by the load point (Refer to Table-4)

*The O.H.L. value calculated by the above formula should be smaller than the allowable O.H.L. value in the performance table.

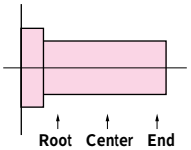
Factor K_1 Table-3

Connecting Method	K_1
Chain, Timing Belt	1.00
Gear	1.25
V-Belt	1.50

Factor K_2 Table-4

Load Point	K_2
Root of the shaft	0.75
Center of the shaft	1.00
End of the shaft	1.50

●Load point



④ Select the model which satisfies all of the above ①, ② and ③.

Cautions on Operation

1. Installation Location

●Ambient Temperature: −10℃ to 40℃
●Ambient Humidity: 85% max.
●Altitude: 1,000 m max.
●Environment: Well ventilated place free from corrosive gas, explosive gas, vapor and/or dust
●Installation Location: Indoors

2. Installation Surface

●Install the product, fixing with bolts on a flat and machined surface free from vibration.

3. Connecting with Other Equipment

●When attaching couplings, sprockets, pulleys, gears, etc., to the gear box shaft, be sure not to interfere the oil seal or case surface because some models have no shoulder. " H7 " fit is recommended for the connecting hole.
●In direct connection, connect the gear box shaft with the shaft of other equipment precisely, so that the center of the shaft of both machines are fully aligned.
●In case of attachment by chains, belts or gears, connect the gear box shaft and that of the other machine precisely, so that the shaft of both machines are parallel. Also, be sure that the centerline of the shaft of both machines must be perpendicular to the shaft.

4. Cautions on Operation

●Be sure to operate the product within the allowable load torque and O.H.L.
●Sudden reverse rotation by plugging may cause damages to gear box or other machine. Therefore, be sure to make complete stop before starting reverse rotation.

Technical Information

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

■Inertia Moment of COMPASS (GD²) (Values converted to X shaft)

●K Type

Reduction Ratio	Type Designation	Inertia Moment ($X10^{-4}kg \cdot m^2$)	$\{GD^2 (X10^{-4}kg \cdot m^2)\}$
1:1	KBM-041	0.0015	0.0061
	KCM-041	0.0016	0.0062
	KBM-061	0.014	0.054
	KCM-061	0.014	0.054
	KBM-081	0.031	0.12
	KCM-081	0.032	0.13
	KB-101	0.045	0.18
	KC-101	0.048	0.19
	KB-151	0.53	2.1
	KC-151	0.56	2.2
	KB-201	1.8	7.2
	KC-201	1.9	7.8
1:2	KB-102	0.022	0.086
	KC-102	0.022	0.089
	KB-152	0.37	1.5
	KC-152	0.37	1.5
	KB-202	0.79	3.1
	KC-202	0.82	3.3

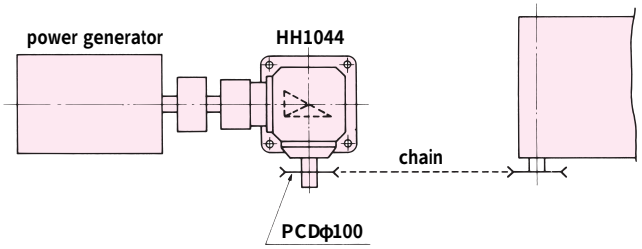
●KN Type

Reduction Ratio	Type Designation	Inertia Moment ($X10^{-4}kg \cdot m^2$)	$\{GD^2 (X10^{-4}kg \cdot m^2)\}$
1:1	KNB-191	4.0	16.0
	KNC-191	4.1	16.2
	KNB-251	24.8	99.3
	KNC-251	25.0	100
	KNB-321	40.0	160
	KNC-321	40.8	163
	KNB-401	89.5	358
	KNC-401	92.0	368
1:2	KNB-192	1.9	7.4
	KNC-192	1.9	7.5
	KNB-252	10.3	41.3
	KNC-252	10.4	41.6
	KNB-322	12.9	51.7
	KNC-322	13.1	52.4
	KNB-402	38.3	153
	KNC-402	38.8	155

An Example of Selection

■An Example of Selection 1

Application: Conveyor (uniform load)
Load Torque: 78.4N•m (8kgf•m)
X Shaft Rotation Speed: 300 rpm
Reduction Ratio: 1 : 2
Shaft Positioning: HH1044
Operating Hour: 12 hours/day
Connecting Method: X Shaft- coupling
Y Shaft - chain (positioned at the center of shaft)
Installation Method: Horizontal mount
Installation Location: Indoors



❶Obtain torque

The service factor according to the load torque can be obtained by the Table-2, namely Sf=1.25
Accordingly, the corrected torque imposed on the Y shaft can be calculated as follows:

$T_{LE}=78.4\times1.25=98N\cdot m$ {$T_{LE}=8\times1.25=10kgf\cdot m$}

❷Obtain O.H.L.

The load O.H.L. can be obtained with the following formula:

$$O.H.L=\frac{T_{LE}\times K_1\times K_2}{R}=\frac{98\times1\times1}{\frac{100}{2\times1000}}=1960N \quad \{O.H.L=\frac{T_{LE}\times K_1\times K_2}{R}=\frac{10\times1\times1}{\frac{100}{2\times1000}}=200kgf\}$$

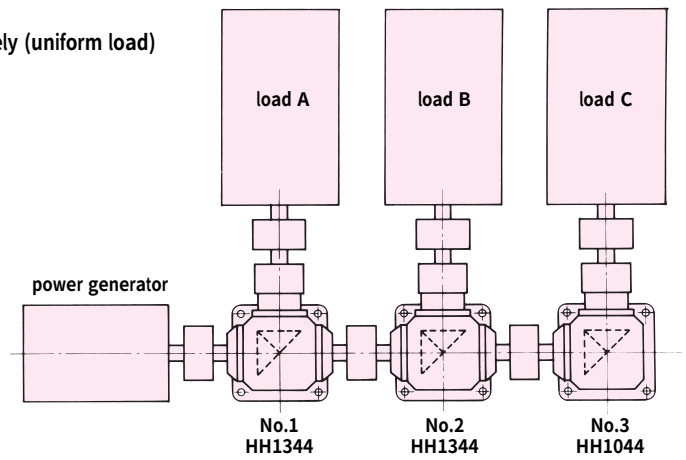
❸Determine the model:

The most appropriate model which satisfies all the conditions, torque and the O.H.L. is **KNB-322 HH1044**.

■An Example of Selection 2

Application: Line Shaft Drive
Load Torque: Load A, B and C are all 58.8 N•m (6kgf•m) respectively (uniform load)
Rotation Speed: 600 rpm
Reduction Ratio: 1 : 1
Shaft Positioning: As shown in the figure on the right
Operating Hour: 8 hours/day
Connecting Method: All with coupling
Installation Method: Horizontal mount
Installation Location: Indoors

In case of Line Shaft Drive, the load imposed to Y shaft differs according to the gear box position. Therefore, model should be selected respectively. Service factor (Sf) (Table-2) according to the conditions is 1(Sf=1.0) for all the case.



❶Gear Box No.1

The correction load torque imposed on X shaft is calculated as follows since operation is done only for the load A:
58.8×1.0=58.8N•m {6×1.0=6kgf•m}
The correction load torque imposed on Y shaft is calculated as follows since operation is done for the load A, B and C.
(58.8+58.8+58.8)×1.0=176.4N•m
{(6+6+6)×1.0=18kgf•m}
Finally, KNC-401 HH1344 is selected from the performance table.

❷Gear Box No. 2

The correction load torque imposed on X shaft is calculated as follows since operation is done only for the load B:
58.8×1.0=58.8N•m {6×1.0=6kgf•m}
The correction load torque imposed on Y shaft is calculated as follows since operation is done for the load B and C.
(58.8+58.8)×1.0=117.6N•m
{(6+6)×1.0=12kgf•m}
Finally, KNC-321 HH1344 is selected from the performance table.

❸Gear Box No. 3

The correction load torque imposed on X shaft is calculated as follows since operation is done only for the load C:
58.8×1.0=58.8N•m {6×1.0=6kgf•m}
The correction load torque imposed on Y shaft is calculated as follows since operation is only for the load C:
58.8×1.0=58.8N•m {6×1.0=6kgf•m}
Finally, KNB-251 HH1344 is selected from the performance table.

❹Final Decision of the Model

No.1 Gear Box KNC-401 HH1344
No.2 Gear Box KNC-321 HH1344
No.3 Gear Box KNB-251 HH1044

Technical Information

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

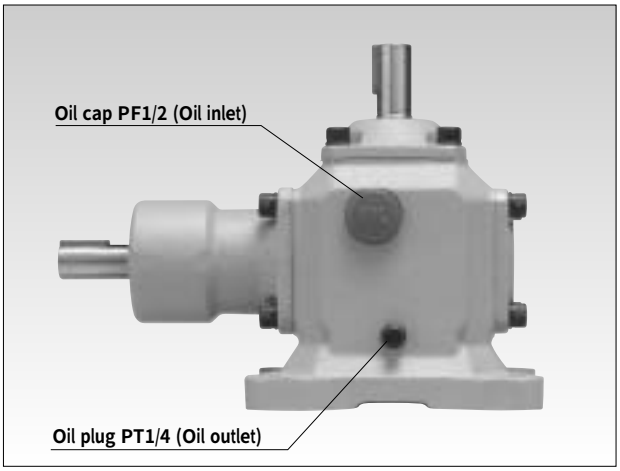
■The case of adding oil plug PT1/4 to the standard specification

In our standard, the position of oil inlet and oil outlet are designed to be in the horizontal face (floor face)

Besides the oil inlet/outlet in the horizontal face, inlet/outlet in the ceiling or wall face are also available. Therefore, if you require the oil inlet/outlet to be in the position other than the horizontal face, instruct us in which face of the A, B, C or D in the Figure-2 you wish to add the oil plug PT1/4 as a special order.

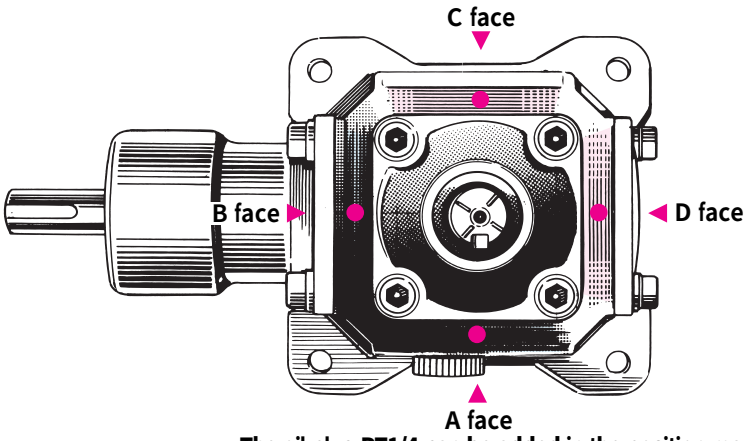
※ In the case of additional works, we need additional days for the delivery. Ask our sales office for the delivery.

●standard specification

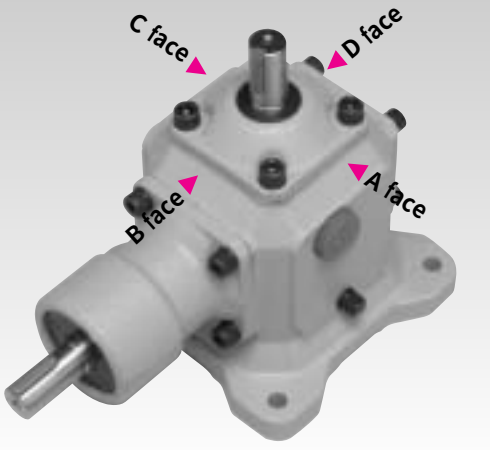


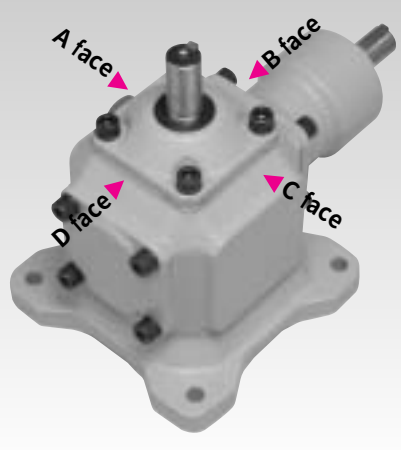
●The position of oil plug PT1/4 added

〈Figure−2〉



The oil plug PT1/4 can be added in the position marked with ● in the figure.





※ If the face in which the oil cap exist, is supposed to be A face, the other faces are regarded as B, C and D face in clockwise viewed from above.

Parallel Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch/Brake
Reducer (Double Shaft)
S-Type Reducer
Right Angle Shaft (Performance Table/Dimension)
Gearmotor with Brake
Water-resistant, Outdoor Gearmotor with Brake
Gearmotor with Clutch /Brake
Reduce (Double Shaft)
S-Type Reducer
Hollow Shaft Solid Shaft Performance Table/Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reduce (Double Shaft)
S-Type Reducer
Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension
Gearmotor with Brake
Water-Resistant, Outdoor Gearmotor with Brake
Reducer (Parallel Shaft)
S-Type Reducer
Technical Information
Standard Motors
Cautions for Safety
Option
GT-STEP Index Gearmotor
KOMPASS Gearbox

Guidance to NISSEI's Website

Visit NISSEI's Website and Register Yourself

http://www.nissei-gtr.co.jp/

"The following items are available on NISSEI's website."

■GTR model selection and product details ■Request for catalogs ■Downloadable drawings of external dimensions ■Downloadable CAD data
■PDF date on a variety of catalogs and operation manuals ■Information on new products ■Registration for the information dispatch system

Make full use of NISSEI's website.

For details, contact your NISSEI representative or NISSEI sales staffs.

NISSEI CORPORATION

■Sales, Overseas Section
TEL : +81-566-92-5312
FAX : +81-566-92-7002
E-mail : oversea@nissei-gtr.co.jp

■Tokyo Branch Office 2-8-9 Iwamoto-cho, Chiyoda-ku, Tokyo 101-0032 Japan
TEL:+81-3-3865-7681 FAX:+81-3-5820-7693
E-mail:tokyo@nissei-gtr.co.jp

■Osaka Branch Office 1-18 Ikutamamaemachi, Tennoji-ku, Osaka 543-0072 Japan
TEL:+81-6-6772-1900 FAX:+81-6-6772-0406
E-mail:osaka@nissei-gtr.co.jp

■Honbu Sales Office 1-1 Inoue, Izumi-cho, Anjo-shi, Aichi 444-1297 Japan
TEL:+81-566-92-7410 FAX:+81-566-92-7418
E-mail:honbu@nissei-gtr.co.jp