

Right-Angle Gearheads

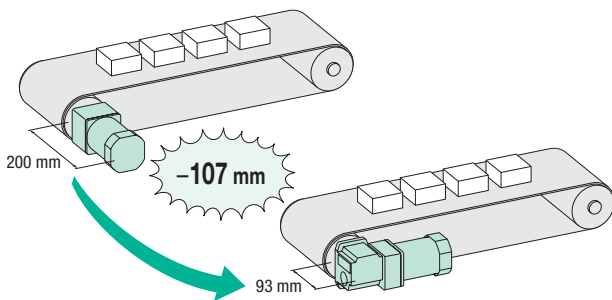
Right-angle gearheads are flange-mounted gearheads that use worm gears and special helical gears. They allow motors to be installed at right angles to the axis of equipment such as belt conveyors. They are available as hollow shaft **RH** types and solid shaft **RA** types and are ideal for keeping equipment compact.



Features

● Ideal for Space Saving

The motor is perpendicular to the load shaft, enabling space saving.



Combination of **5IK90GE-AW2U** motor and gearhead with a gear ratio of 1:18

● Wide Variety

A wide variety of gear ratios (20 types, from **3** to **180**) are available. The optimal gear ratio can be selected in the same manner as with parallel shaft gearheads. The maximum permissible torques are also the same as for parallel shaft gearheads.

● The **GE** pinion solid shaft type comes with a tapped hole at the shaft end.

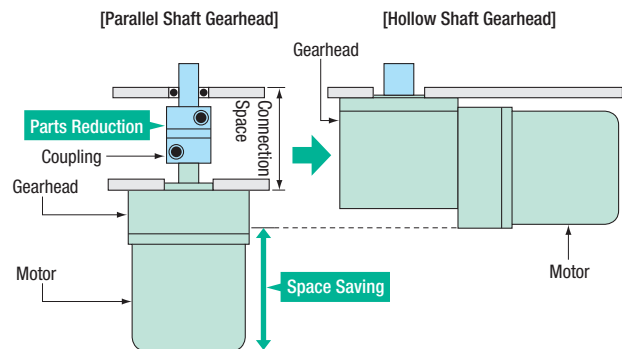
● Mounting Using Torque Arm (Sold separately)

Hollow shaft gearheads (**5GE□RH**, **5GU□RH**) are locked with a torque arm (sold separately) when mounted so the gearhead does not rotate from the reactive force of the load. When the torque arm is used, centering becomes unnecessary, so equipment mounting time can be reduced.

● Torque arm → Page A-251

● Low Cost

With hollow shaft gearheads, the parts cost and labor will decrease since no connecting parts are needed.



● (RoHS) RoHS Directive-Compliant

Right-Angle gearheads conform to the RoHS Directive that prohibits the use of six chemical substances including lead and cadmium.

● RoHS Directive → Page H-2

Introduction of Product Line of Right-Angle Gearheads

Combination types that feature a right-angle gearhead utilizing a hypoid gear combined with a motor are available.

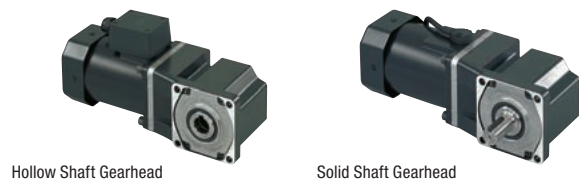
● BH Series, BHF Series – Combination Type – Right-Angle Shaft

High power of 200 W has been achieved with a frame size of 104 mm.

● Induction Motors **BH** Series → Page A-50

● Electromagnetic Brake Motors **BH** Series → Page A-138

● Speed Control Motor and Inverter Packages **BHF** Series → Page A-180



Hollow Shaft Gearhead

Solid Shaft Gearhead

Applicable Product

The right-angle gearheads can be used with pinion shaft type motors.

Applicable Product	Series Type	Output Power	Combination Motor Pages
Induction Motors	World K Series	25 W, 40 W, 60 W, 90 W	A-34, A-38, A-42, A-46
Reversible Motors	World K Series	25 W, 40 W, 60 W, 90 W	A-76, A-80, A-84, A-88
Electromagnetic Brake Motors	World K Series	25 W, 40 W, 60 W, 90 W	A-108, A-113, A-118, A-122
Speed Control Motors	MSS-W Series	25 W, 40 W, 60 W, 90 W	B-112
	US Series	25 W, 40 W, 60 W, 90 W	B-132
	ES01/ES02 + World K Series – Speed Control Motors	25 W, 40 W, 60 W	B-146
Inverters	FE100 + World K Series – Induction Motors	25 W, 40 W, 60 W, 90 W	B-168

Note

● The right-angle gearheads cannot be used with torque motors or the **AXU** Series.

Product Number Code

5 GE 25 RH

① ② ③ ④

①	Gearhead Frame Size	4 : 80 mm 5 : 90 mm
②	Type of Pinion	GN : GN Type of pinion GE : GE Type of pinion GU : GU Type of pinion
③	Gear Ratio	(Example) 25 : Gear ratio 1:25
④		RH : Right-Angle Shaft, Hollow Shaft Gearhead, RoHS Directive-Compliant RA : Right-Angle Shaft, Solid Shaft Gearhead, RoHS Directive-Compliant

Product Line

● Hollow Shaft Type (RoHS)

Gearhead Product Name	Gear Ratio
4GN □ RH	3~180
5GN □ RH	3~180
5GE □ RH	3~180
5GU □ RH	3~180

The following items are included in each product.

Gearhead, Mounting Screws, Parallel Key, Safety Cover (with screws), Gasket, Operating Manual

● Solid Shaft Type (RoHS)

Gearhead Product Name	Gear Ratio
4GN □ RA	3~180
5GN □ RA	3~180
5GE □ RA	3~180
5GU □ RA	3~180

The following items are included in each product.

Gearhead, Mounting Screws, Parallel Key, Gasket, Operating Manual

Specifications

Product Name	Gear Ratio	Maximum Permissible Torque N·m	Permissible Overhung Load N		Permissible Thrust Load N
			10 mm from Shaft End	20 mm from Shaft End	
4GN □ RH	3~180	8	250*	220*	100
5GN □ RH	3~180	10	350*	310*	200
5GE □ RH	3~180	20	560*	500*	250
5GU □ RH	3~180	20	560*	500*	250
4GN □ RA	3~18	8	100	150	100
	25~180		200	300	
5GN □ RA	3~18	10	250	350	200
	25~180		300	450	
5GE □ RA	3~9	20	400	500	250
	12.5~25		450	600	
	30~180		500	700	
5GU □ RA	3~9	20	400	500	250
	12.5~25		450	600	
	30~180		500	700	

*With the hollow shaft type, the permissible overhung load depends on the distance measured from the flange-mounting surface.

Note

● No self-locking capabilities.

● A number indicating the gear ratio is entered where the box □ is located within the product name.

Introduction

Induction Motors

Reversible Motors
Constant Speed Motors

Electromagnetic Brake Motors

Low-Speed Synchronous Motors
SMK

Torque Motor & Power Controller Packages
TM

Torque Motors

Water-tight, Dust-Resistant Motors

Right-Angle Gearheads

Linear Heads
LH

Brake Pack

Mounting Brackets

Accessories
Couplings

Others

Installation

Permissible Torque When Gearhead is Attached

The permissible torques when a representative motor is attached are shown on pages A-211 to A-220. For motor combinations not covered, use the transmission efficiency value in the table below for your calculations. When making a selection, remember that the efficiency at starting is lower than at the rated speed.

$$\text{Permissible Torque: } T_G = T_M \times i \times \eta$$

T_G : Gearhead Permissible Torque
 T_M : Motor Torque
 i : Gearhead Gear Ratio
 η : Gearhead Transmission Efficiency

Gearhead Transmission Efficiency

Product Name	Gear Ratio	3	3.6	5	6	7.5	9	12.5	15	18	25	30	36	50	60	75	90	100	120	150	180
		4GN□RH	Rated	40%			50%			60%											
	Starting	40%			50%			54%													
5GN□RH	Rated	50%			68%			60%													
	Starting	50%			60%			54%													
5GE□RH	Rated	50%			68%			60%						50%							
	Starting	50%			60%			54%						45%							
5GU□RH	Rated	50%			68%			60%						50%							
	Starting	50%			60%			54%						45%							
4GN□RA	Rated	50%			60%																
	Starting	50%			54%																
5GN□RA	Rated	68%			60%																
	Starting	60%			54%																
5GE□RA	Rated	68%			60%						50%										
	Starting	60%			54%						45%										
5GU□RA	Rated	68%			60%						50%										
	Starting	60%			54%						45%										

Note

When combined with **FE100/FE200**, not all gear ratios are available. Refer to page A-220 for the list of permissible torques.

Calculating Permissible Overhung Load of Hollow Shaft Types

When the end of the load shaft is not supported by a bearing in the figure shown below, calculate the permissible overhung load using the following formula.

(This type experiences the highest amount of overhung load.)

4GN□RH

$$\text{Permissible Overhung Load } W \text{ [N]} = \frac{59.5}{59.5 + L_p} \times 295 \text{ [N]}^*$$

*295 [N]: Permissible overhung load at the flange-mounting surface

5GN□RH

$$\text{Permissible Overhung Load } W \text{ [N]} = \frac{70}{70 + L_p} \times 400 \text{ [N]}^*$$

*400 [N]: Permissible overhung load at the flange-mounting surface

5GE□RH

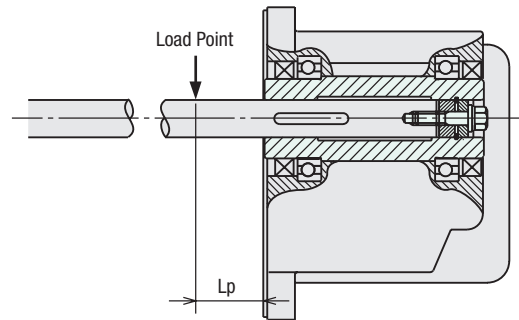
$$\text{Permissible Overhung Load } W \text{ [N]} = \frac{68.5}{68.5 + L_p} \times 645 \text{ [N]}^*$$

*645 [N]: Permissible overhung load at the flange-mounting surface

5GU□RH

$$\text{Permissible Overhung Load } W \text{ [N]} = \frac{68.5}{68.5 + L_p} \times 645 \text{ [N]}^*$$

*645 [N]: Permissible overhung load at the flange-mounting surface



Lp [mm]: Distance from flange-mounting surface to overhung load point

Permissible Load Inertia: J of Gearhead

→ Page A-17

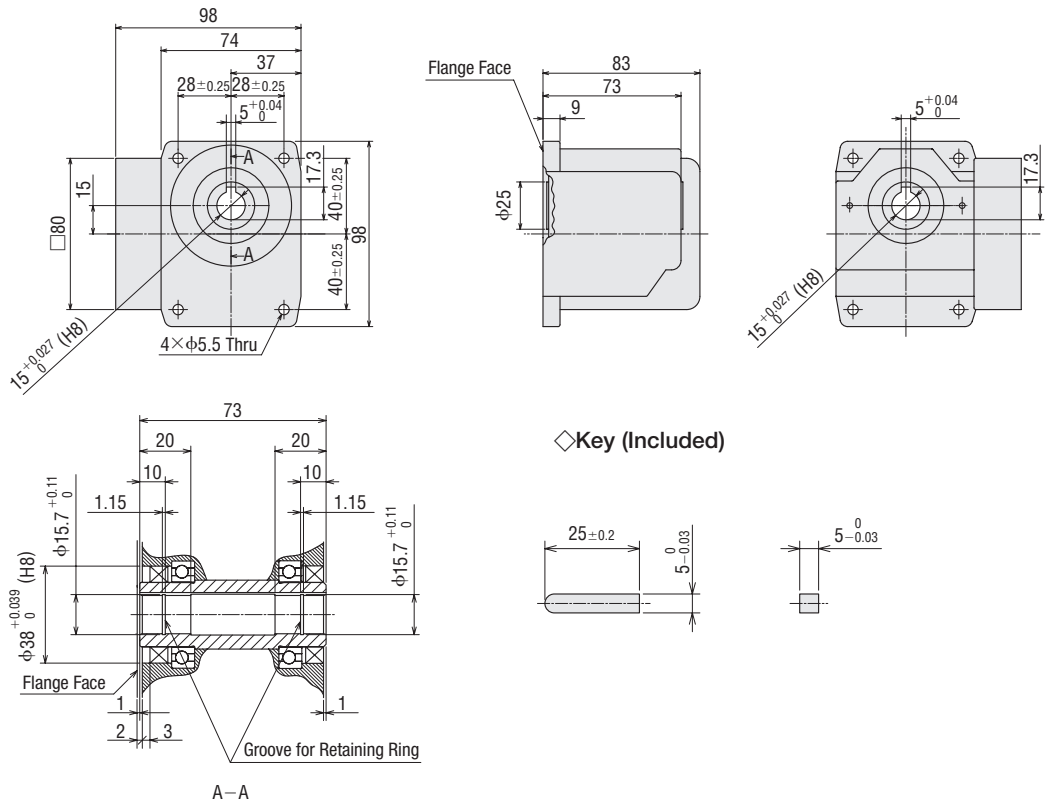
A number indicating the gear ratio is entered where the box □ is located within the product name.

Dimensions (Unit = mm)

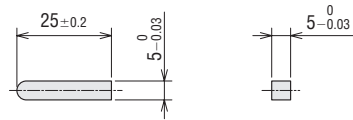
- Mounting screws are included with gearheads. Dimensions of mounting screws → Page A-267
- A number indicating the gear ratio is entered where the box □ is located within the product name.

◇ Hollow Shaft Type

4GN□RH
 Mass: 1.6 kg
 CAD A254

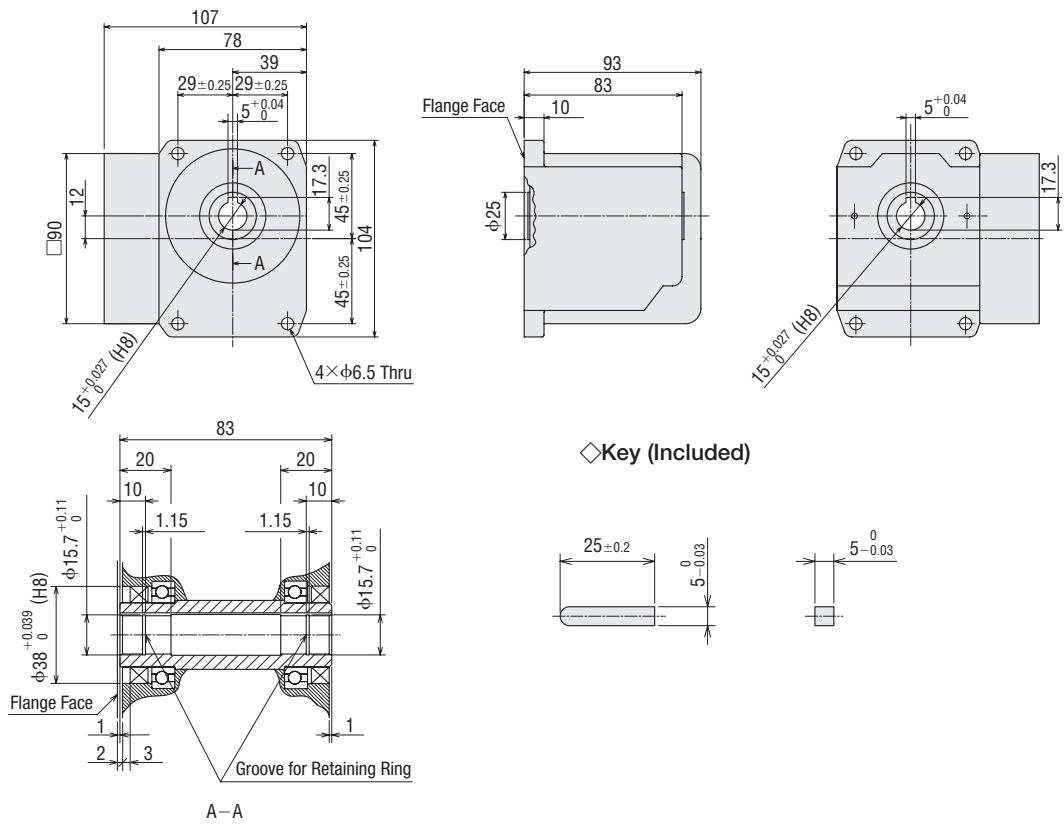


◇ Key (Included)

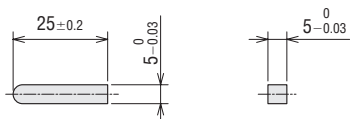


◇ Hollow Shaft Type

5GN□RH
 Mass: 2.0 kg
 CAD A229

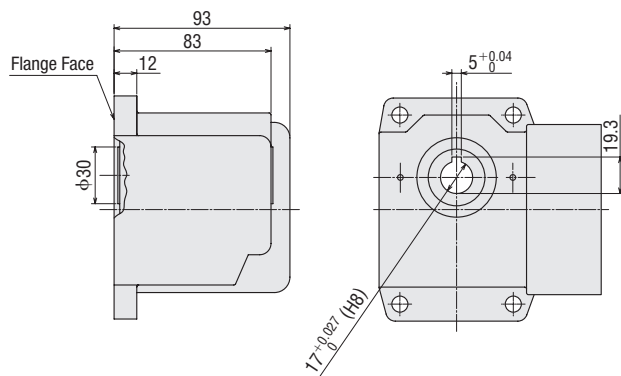
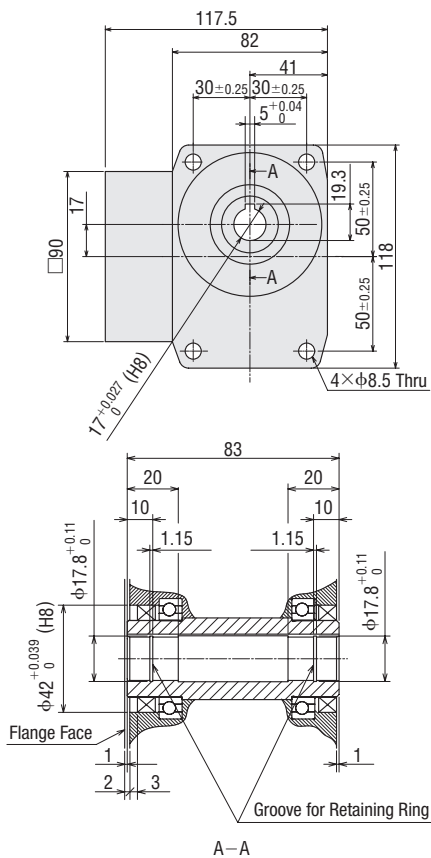


◇ Key (Included)

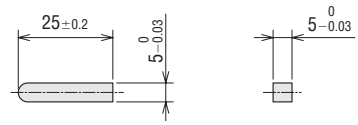


◇ Hollow Shaft Type

5GE□RH
 Mass: 2.5 kg
 CAD A230

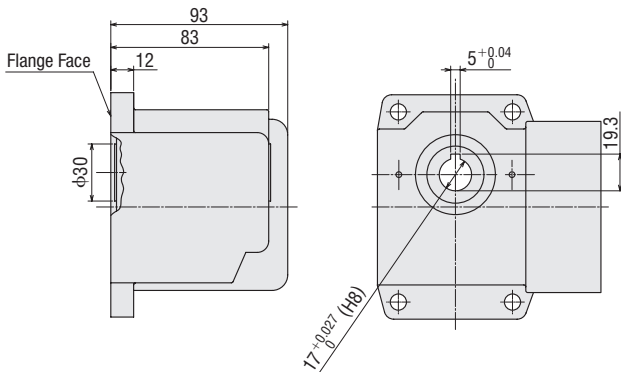
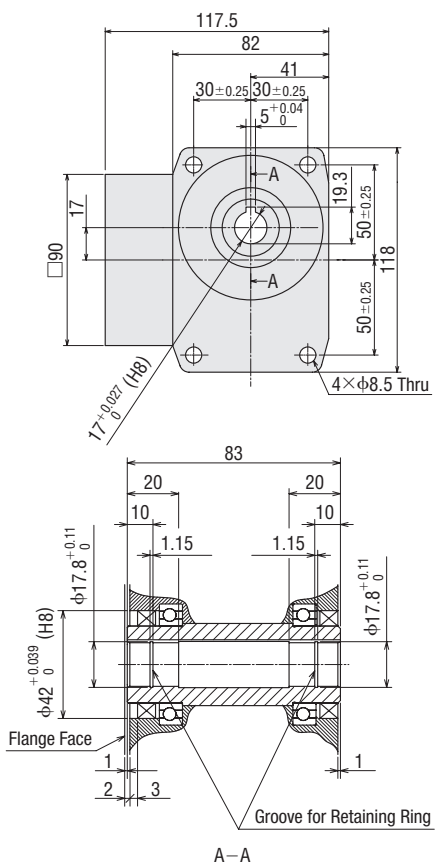


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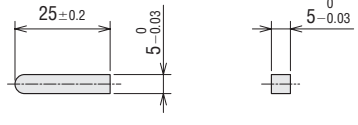


◇ Hollow Shaft Type

5GU□RH
 Mass: 2.5 kg
 CAD A230



◇ Key (Included)

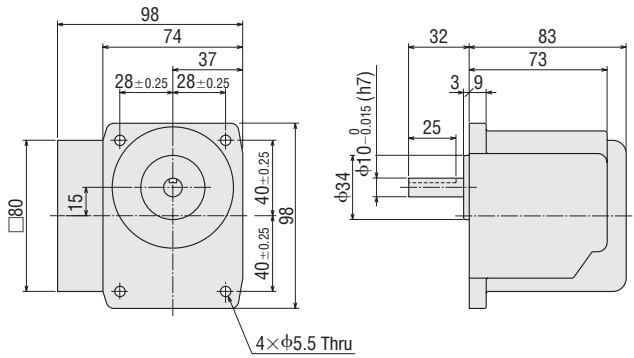


◇ Solid Shaft Type

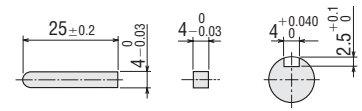
4GN□RA

Mass: 1.6 kg

CAD A255



◇ Key and Key Slot (Included)

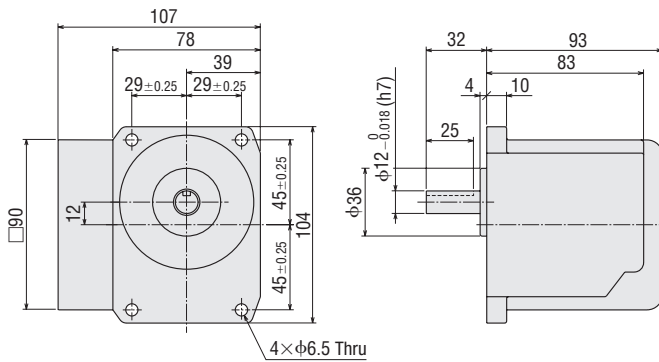


◇ Solid Shaft Type

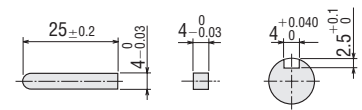
5GN□RA

Mass: 2.0 kg

CAD A025



◇ Key and Key Slot (Included)

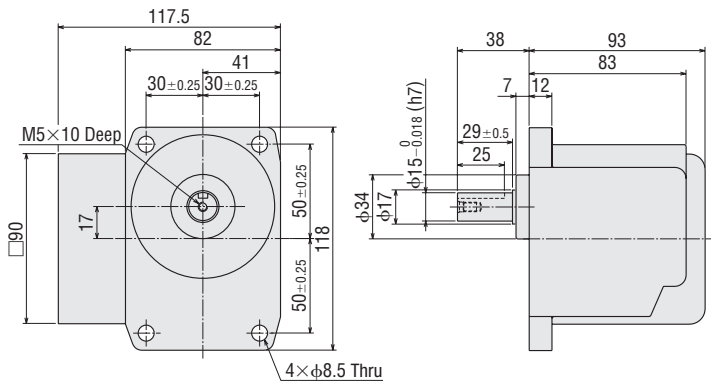


◇ Solid Shaft Type

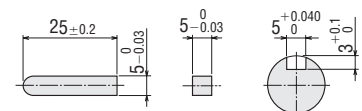
5GE□RA

Mass: 2.5 kg

CAD A512



◇ Key and Key Slot (Included)

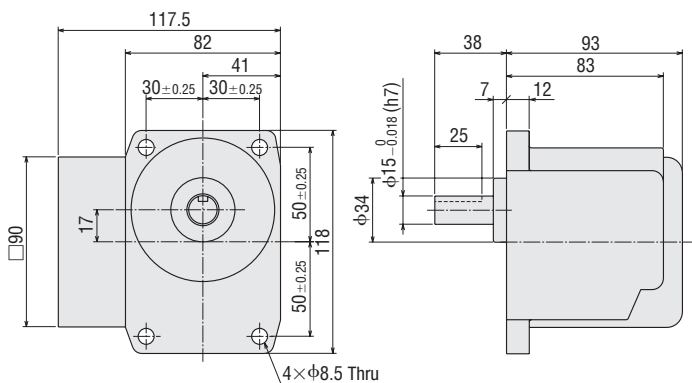


◇ Solid Shaft Type

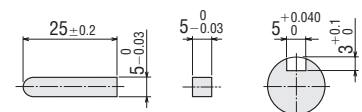
5GU□RA

Mass: 2.5 kg

CAD A034

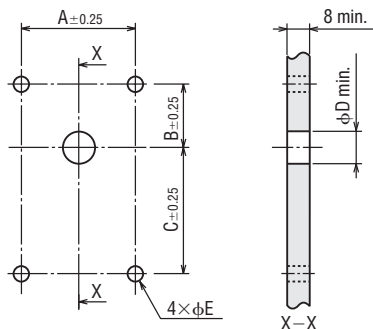


◇ Key and Key Slot (Included)



◇ Dimensions of the Gearhead Mounting Surface

Allow 8 mm or more for the thickness of the mounting plate and use screws of the appropriate length.



Unit = mm

Type	Product Name	A	B	C	φD	φE
Hollow Shaft	4GN□RH	56	25	55	φ15	φ5.5
	5GN□RH	58	33	57	φ15	φ6.5
	5GE□RH	60	33	67	φ17	φ8.5
	5GU□RH	60	33	67	φ17	φ8.5
Solid Shaft	4GN□RA	56	25	55	φ35	φ5.5
	5GN□RA	58	33	57	φ37	φ6.5
	5GE□RA	60	33	67	φ35	φ8.5
	5GU□RA	60	33	67	φ35	φ8.5

■ Mounting Method for Right-Angle, Hollow Shaft Types

● Example of Load Mounting Method

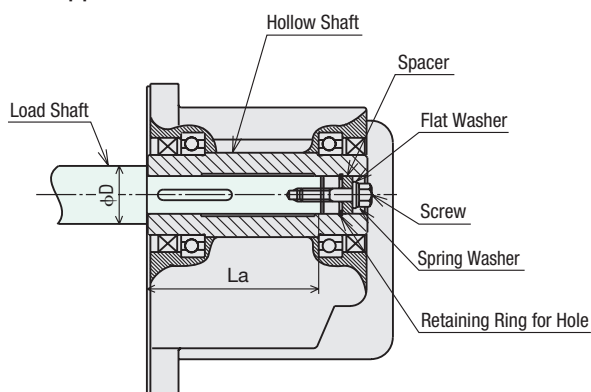
These figures below show how to install loads depending on the shape of the shaft.

- Install the load shaft to the hollow output shaft by aligning the center of the hollow shaft with that of the load shaft.
- The hollow output shaft has a key slot. Machine a matching key slot on the load shaft and use the supplied key to fix the two shafts across the slots.
- The recommended tolerance of the load shaft is h7.
- If the motor is intended to receive large shocks due to frequent instantaneous stops or carry a large overhung load, use a stepped load shaft.

Notes

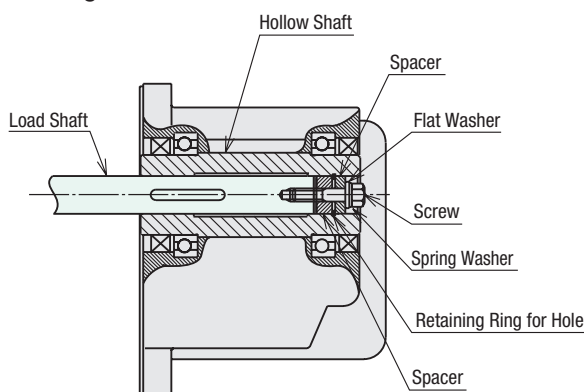
- When installing the load shaft to the hollow output shaft, be careful not to damage the hollow output shaft or bearing.
- To prevent sticking, apply a coat of molybdenum disulfide grease on the exterior surface of the load shaft and interior surface of the hollow output shaft.
- Do not attempt to modify or machine the hollow output shaft. It may damage the bearing and cause the hollow shaft type gearhead to break.

◇ Stepped Load Shaft



- After installing a load shaft, install the safety cover.

◇ Straight Load Shaft



● Recommended Load Shaft Installation Dimensions

Unit = mm

Product Name	4GN□RH	5GN□RH	5GE□RH 5GU□RH	BH Series, BHF Series BH6G2-□RH
Inner Diameter of Hollow Shaft (H8)	$\phi 15^{+0.027}_0$	$\phi 15^{+0.027}_0$	$\phi 17^{+0.027}_0$	$\phi 25^{+0.033}_0$
Shaft Diameter of Load Shaft (h7)	$\phi 15^0_{-0.018}$	$\phi 15^0_{-0.018}$	$\phi 17^0_{-0.018}$	$\phi 25^0_{-0.021}$
Nominal Hole Diameter of Retaining Ring	φ15 C-Shaped Retaining Ring	φ15 C-Shaped Retaining Ring	φ17 C-Shaped Retaining Ring	φ25 C-Shaped Retaining Ring
Applicable Screw	M5	M5	M5	M8
Spacer Thickness*	4	4	4	6
Stepped Shaft Outer Diameter φD	φ25	φ25	φ30	φ40
Length of Stepped Shaft La	58~60	68~70	68~70	86~90

*Determine the spacer thickness according to the dimensions in the table. If the spacer is thicker than the specified dimension, the screw will project from the surface and prevent connection of the safety cover.

- Retaining rings for holes, spacers, screws or other parts used to install the load shaft are not included. These parts must be purchased separately.

- A number indicating the gear ratio is entered where the box □ is located within the product name.

Permissible Torque When Motor is Installed

- A code (T) indicating the terminal box type is entered where the box □ is located within the motor product name.
- A number indicating the gear ratio is entered where the box □ is located within the gearhead product name.
- The speed is calculated by dividing the motor's synchronous speed by the gear ratio.
The actual speed is 2 to 20% less than the displayed value, depending on the load.
- The transmission efficiency at starting is lower than at the rated speed, so output torque is lower.

World K Series – Induction Motors

◇ Hollow Shaft Type - 50 Hz

- The rotation direction of all output shafts is the opposite direction to the motor shaft.

Unit = N·m

Product Name	Speed r/min	500	417	300	250	200	167	120	100	83	60	50	42	30	25	20	17	15	12.5	10	8.3
	Gear Ratio	3	3.6	5	6	7.5	9	12.5	15	18	25	30	36	50	60	75	90	100	120	150	180
41K25GN-CW2□E (220 VAC)/4GN□RH	Rated	0.25	0.30	0.41	0.49	0.77	0.92	1.5	1.8	2.2	3.1	3.7	4.4	6.2	7.4	8	8	8	8	8	8
	Starting	0.13	0.16	0.22	0.26	0.41	0.50	0.74	0.89	1.1	1.5	1.8	2.1	3.0	3.6	4.5	5.3	5.9	7.1	8	8
41K25GN-CW2□E (230 VAC)/4GN□RH	Rated	0.25	0.30	0.41	0.49	0.77	0.92	1.5	1.8	2.2	3.1	3.7	4.4	6.2	7.4	8	8	8	8	8	8
	Starting	0.14	0.17	0.24	0.29	0.45	0.54	0.81	0.97	1.2	1.6	1.9	2.3	3.2	3.9	4.9	5.8	6.5	7.8	8	8
41K25GN-SW2□ /4GN□RH	Rated	0.23	0.27	0.38	0.46	0.71	0.86	1.4	1.7	2.1	2.9	3.4	4.1	5.7	6.8	8	8	8	8	8	8
	Starting	0.29	0.35	0.48	0.58	0.90	1.1	1.6	1.9	2.3	3.2	3.9	4.7	6.5	7.8	8	8	8	8	8	8
51K40GN-CW2□E (220 VAC)/5GN□RH	Rated	0.47	0.57	0.79	0.95	1.6	1.9	2.7	3.2	3.9	4.7	5.7	6.8	9.5	10	10	10	10	10	10	10
	Starting	0.30	0.36	0.50	0.60	0.90	1.1	1.5	1.8	2.2	2.7	3.2	3.9	5.4	6.5	8.1	9.7	10	10	10	10
51K40GN-CW2□E (230 VAC)/5GN□RH	Rated	0.45	0.54	0.75	0.90	1.5	1.8	2.6	3.1	3.7	4.5	5.4	6.5	9.0	10	10	10	10	10	10	10
	Starting	0.30	0.36	0.50	0.60	0.90	1.1	1.5	1.8	2.2	2.7	3.2	3.9	5.4	6.5	8.1	9.7	10	10	10	10
51K40GN-SW2□ /5GN□RH	Rated	0.45	0.54	0.75	0.90	1.5	1.8	2.6	3.1	3.7	4.5	5.4	6.5	9.0	10	10	10	10	10	10	10
	Starting	0.60	0.72	1.0	1.2	1.8	2.2	3.0	3.6	4.3	5.4	6.5	7.8	10	10	10	10	10	10	10	10
51K60GE-CW2□E /5GE□RH	Rated	0.74	0.88	1.2	1.5	2.5	3.0	4.2	5.0	6.0	8.3	8.8	10.6	14.7	17.6	20	20	20	20	20	20
	Starting	0.48	0.58	0.80	0.96	1.4	1.7	2.4	2.9	3.5	4.8	5.2	6.2	8.6	10.4	13.0	15.6	17.3	17.3	20	20
51K60GE-SW2□ /5GE□RH	Rated	0.68	0.81	1.1	1.4	2.3	2.8	3.8	4.6	5.5	7.7	8.1	9.7	13.5	16.2	20	20	20	20	20	20
	Starting	0.90	1.1	1.5	1.8	2.7	3.2	4.5	5.4	6.5	9.0	9.7	11.7	16.2	19.4	20	20	20	20	20	20
51K90GE-CW2□E /5GE□RH	Rated	1.1	1.3	1.8	2.2	3.7	4.5	6.2	7.4	8.9	12.4	13.1	15.8	20	20	20	20	20	20	20	20
	Starting	0.68	0.81	1.1	1.4	2.0	2.4	3.4	4.1	4.9	6.8	7.3	8.7	12.2	14.6	18.2	20	20	20	20	20
51K90GE-SW2□ /5GE□RH	Rated	1.0	1.2	1.7	2.0	3.5	4.2	5.8	6.9	8.3	11.6	12.2	14.7	20	20	20	20	20	20	20	20
	Starting	1.3	1.5	2.1	2.6	3.8	4.6	6.4	7.7	9.2	12.8	13.8	16.5	20	20	20	20	20	20	20	20

◇ Hollow Shaft Type - 60 Hz

- The rotation direction of all output shafts is the opposite direction to the motor shaft.

Unit = N·m

Product Name	Speed r/min	600	500	360	300	240	200	144	120	100	72	60	50	36	30	24	20	18	15	12	10
	Gear Ratio	3	3.6	5	6	7.5	9	12.5	15	18	25	30	36	50	60	75	90	100	120	150	180
41K25GN-AW2□U 41K25GN-CW2□E (230 VAC)/4GN□RH	Rated	0.20	0.24	0.34	0.41	0.64	0.77	1.3	1.5	1.8	2.6	3.1	3.7	5.1	6.1	7.7	8	8	8	8	8
	Starting	0.14	0.17	0.24	0.29	0.45	0.54	0.81	0.97	1.2	1.6	1.9	2.3	3.2	3.9	4.9	5.8	6.5	7.8	8	8
41K25GN-CW2□E (220 VAC)/4GN□RH	Rated	0.20	0.24	0.34	0.41	0.64	0.77	1.3	1.5	1.8	2.6	3.1	3.7	5.1	6.1	7.7	8	8	8	8	8
	Starting	0.13	0.16	0.22	0.26	0.41	0.50	0.74	0.89	1.1	1.5	1.8	2.1	3.0	3.6	4.5	5.3	5.9	7.1	8	8
41K25GN-SW2□ /4GN□RH	Rated	0.19	0.23	0.32	0.38	0.60	0.72	1.2	1.4	1.7	2.4	2.9	3.5	4.8	5.8	7.2	8	8	8	8	8
	Starting	0.19	0.23	0.32	0.38	0.60	0.72	1.1	1.3	1.6	2.2	2.6	3.1	4.3	5.2	6.5	7.8	8	8	8	8
51K40GN-AW2□U 51K40GN-CW2□E /5GN□RH	Rated	0.39	0.47	0.65	0.78	1.3	1.6	2.2	2.7	3.2	3.9	4.7	5.6	7.8	9.4	10	10	10	10	10	10
	Starting	0.30	0.36	0.50	0.60	0.90	1.1	1.5	1.8	2.2	2.7	3.2	3.9	5.4	6.5	8.1	9.7	10	10	10	10
51K40GN-SW2□ /5GN□RH	Rated	0.39	0.47	0.65	0.78	1.3	1.6	2.2	2.7	3.2	3.9	4.7	5.6	7.8	9.4	10	10	10	10	10	10
	Starting	0.39	0.47	0.65	0.78	1.2	1.4	2.0	2.3	2.8	3.5	4.2	5.1	7.0	8.4	10	10	10	10	10	10
51K60GE-AW2□U 51K60GE-CW2□E /5GE□RH	Rated	0.61	0.73	1.0	1.2	2.1	2.5	3.4	4.1	5.0	6.9	7.3	8.7	12.2	14.6	18.2	20	20	20	20	20
	Starting	0.48	0.58	0.80	0.96	1.4	1.7	2.4	2.9	3.5	4.8	5.2	6.2	8.6	10.4	13.0	15.6	17.3	17.3	20	20
51K60GE-SW2□ /5GE□RH	Rated	0.57	0.68	0.95	1.1	1.9	2.3	3.2	3.9	4.7	6.5	6.8	8.2	11.4	13.7	17.1	20	20	20	20	20
	Starting	0.75	0.90	1.3	1.5	2.3	2.7	3.8	4.5	5.4	7.5	8.1	9.7	13.5	16.2	20	20	20	20	20	20
51K90GE-AW2□U /5GE□RH	Rated	0.88	1.1	1.5	1.8	3.0	3.6	5.0	6.0	7.2	9.9	10.5	12.6	17.6	20	20	20	20	20	20	20
	Starting	0.68	0.81	1.1	1.4	2.0	2.4	3.4	4.1	4.9	6.8	7.3	8.7	12.2	14.6	18.2	20	20	20	20	20
51K90GE-CW2□E /5GE□RH	Rated	0.91	1.1	1.5	1.8	3.1	3.7	5.1	6.2	7.4	10.3	10.9	13.1	18.2	20	20	20	20	20	20	20
	Starting	0.68	0.81	1.1	1.4	2.0	2.4	3.4	4.1	4.9	6.8	7.3	8.7	12.2	14.6	18.2	20	20	20	20	20
51K90GE-SW2□ /5GE□RH	Rated	0.86	1.0	1.4	1.7	2.9	3.5	4.8	5.8	7.0	9.7	10.3	12.3	17.1	20	20	20	20	20	20	20
	Starting	1.1	1.3	1.8	2.1	3.2	3.8	5.3	6.3	7.6	10.5	11.3	13.6	18.9	20	20	20	20	20	20	20

◇ Solid Shaft Type - 50 Hz

● The rotation direction of all output shafts is the opposite direction to the motor shaft.

Unit = N·m

Product Name	Speed r/min	500	417	300	250	200	167	120	100	83	60	50	42	30	25	20	17	15	12.5	10	8.3	
	Motor/ Gearhead	Gear Ratio	3	3.6	5	6	7.5	9	12.5	15	18	25	30	36	50	60	75	90	100	120	150	180
41K25GN-CW2□E (220 VAC)/4GN□RA	Rated	0.31	0.37	0.51	0.62	0.77	0.92	1.5	1.8	2.2	3.1	3.7	4.4	6.2	7.4	8	8	8	8	8	8	8
	Starting	0.17	0.20	0.28	0.33	0.41	0.50	0.74	0.89	1.1	1.5	1.8	2.1	3.0	3.6	4.5	5.3	5.9	7.1	8	8	8
41K25GN-CW2□E (230 VAC)/4GN□RA	Rated	0.31	0.37	0.51	0.62	0.77	0.92	1.5	1.8	2.2	3.1	3.7	4.4	6.2	7.4	8	8	8	8	8	8	8
	Starting	0.18	0.22	0.30	0.36	0.45	0.54	0.81	0.97	1.2	1.6	1.9	2.3	3.2	3.9	4.9	5.8	6.5	7.8	8	8	8
41K25GN-SW2□ /4GN□RA	Rated	0.29	0.34	0.48	0.57	0.71	0.86	1.4	1.7	2.1	2.9	3.4	4.1	5.7	6.8	8	8	8	8	8	8	8
	Starting	0.36	0.43	0.60	0.72	0.90	1.1	1.6	1.9	2.3	3.2	3.9	4.7	6.5	7.8	8	8	8	8	8	8	8
51K40GN-CW2□E (220 VAC)/5GN□RA	Rated	0.64	0.77	1.1	1.3	1.6	1.9	2.7	3.2	3.9	4.7	5.7	6.8	9.5	10	10	10	10	10	10	10	10
	Starting	0.36	0.43	0.60	0.72	0.90	1.1	1.5	1.8	2.2	2.7	3.2	3.9	5.4	6.5	8.1	9.7	10	10	10	10	10
51K40GN-CW2□E (230 VAC)/5GN□RA	Rated	0.61	0.73	1.0	1.2	1.5	1.8	2.6	3.1	3.7	4.5	5.4	6.5	9.0	10	10	10	10	10	10	10	10
	Starting	0.36	0.43	0.60	0.72	0.90	1.1	1.5	1.8	2.2	2.7	3.2	3.9	5.4	6.5	8.1	9.7	10	10	10	10	10
51K40GN-SW2□ /5GN□RA	Rated	0.61	0.73	1.0	1.2	1.5	1.8	2.6	3.1	3.7	4.5	5.4	6.5	9.0	10	10	10	10	10	10	10	10
	Starting	0.72	0.86	1.2	1.4	1.8	2.2	3.0	3.6	4.3	5.4	6.5	7.8	10	10	10	10	10	10	10	10	10
51K60GE-CW2□E /5GE□RA	Rated	1.0	1.2	1.7	2.0	2.5	3.0	4.2	5.0	6.0	8.3	8.8	10.6	14.7	17.6	20	20	20	20	20	20	20
	Starting	0.58	0.69	0.96	1.2	1.4	1.7	2.4	2.9	3.5	4.8	5.2	6.2	8.6	10.4	13.0	15.6	17.3	17.3	20	20	20
51K60GE-SW2□ /5GE□RA	Rated	0.92	1.1	1.5	1.8	2.3	2.8	3.8	4.6	5.5	7.7	8.1	9.7	13.5	16.2	20	20	20	20	20	20	20
	Starting	1.1	1.3	1.8	2.2	2.7	3.2	4.5	5.4	6.5	9.0	9.7	11.7	16.2	19.4	20	20	20	20	20	20	20
51K90GE-CW2□E /5GE□RA	Rated	1.5	1.8	2.5	3.0	3.7	4.5	6.2	7.4	8.9	12.4	13.1	15.8	20	20	20	20	20	20	20	20	20
	Starting	0.81	0.97	1.4	1.6	2.0	2.4	3.4	4.1	4.9	6.8	7.3	8.7	12.2	14.6	18.2	20	20	20	20	20	20
51K90GE-SW2□ /5GE□RA	Rated	1.4	1.7	2.3	2.8	3.5	4.2	5.8	6.9	8.3	11.6	12.2	14.7	20	20	20	20	20	20	20	20	20
	Starting	1.5	1.8	2.6	3.1	3.8	4.6	6.4	7.7	9.2	12.8	13.8	16.5	20	20	20	20	20	20	20	20	20

◇ Solid Shaft Type - 60 Hz

● The rotation direction of all output shafts is the opposite direction to the motor shaft.

Unit = N·m

Product Name	Speed r/min	600	500	360	300	240	200	144	120	100	72	60	50	36	30	24	20	18	15	12	10	
	Motor/ Gearhead	Gear Ratio	3	3.6	5	6	7.5	9	12.5	15	18	25	30	36	50	60	75	90	100	120	150	180
41K25GN-AW2□U 41K25GN-CW2□E (230 VAC)/4GN□RA	Rated	0.26	0.31	0.43	0.51	0.64	0.77	1.3	1.5	1.8	2.6	3.1	3.7	5.1	6.1	7.7	8	8	8	8	8	8
	Starting	0.18	0.22	0.30	0.36	0.45	0.54	0.81	0.97	1.2	1.6	1.9	2.3	3.2	3.9	4.9	5.8	6.5	7.8	8	8	8
41K25GN-CW2□E (220 VAC)/4GN□RA	Rated	0.26	0.31	0.43	0.51	0.64	0.77	1.3	1.5	1.8	2.6	3.1	3.7	5.1	6.1	7.7	8	8	8	8	8	8
	Starting	0.17	0.20	0.28	0.33	0.41	0.50	0.74	0.89	1.1	1.5	1.8	2.1	3.0	3.6	4.5	5.3	5.9	7.1	8	8	8
41K25GN-SW2□ /4GN□RA	Rated	0.24	0.29	0.40	0.48	0.60	0.72	1.2	1.4	1.7	2.4	2.9	3.5	4.8	5.8	7.2	8	8	8	8	8	8
	Starting	0.24	0.29	0.40	0.48	0.60	0.72	1.1	1.3	1.6	2.2	2.6	3.1	4.3	5.2	6.5	7.8	8	8	8	8	8
51K40GN-AW2□U 51K40GN-CW2□E /5GN□RA	Rated	0.53	0.64	0.88	1.1	1.3	1.6	2.2	2.7	3.2	3.9	4.7	5.6	7.8	9.4	10	10	10	10	10	10	10
	Starting	0.36	0.43	0.60	0.72	0.90	1.1	1.5	1.8	2.2	2.7	3.2	3.9	5.4	6.5	8.1	9.7	10	10	10	10	10
51K40GN-SW2□ /5GN□RA	Rated	0.53	0.64	0.88	1.1	1.3	1.6	2.2	2.7	3.2	3.9	4.7	5.6	7.8	9.4	10	10	10	10	10	10	10
	Starting	0.47	0.56	0.78	0.94	1.2	1.4	2.0	2.3	2.8	3.5	4.2	5.1	7.0	8.4	10	10	10	10	10	10	10
51K60GE-AW2□U 51K60GE-CW2□E /5GE□RA	Rated	0.83	0.99	1.4	1.7	2.1	2.5	3.4	4.1	5.0	6.9	7.3	8.7	12.2	14.6	18.2	20	20	20	20	20	20
	Starting	0.58	0.69	0.96	1.2	1.4	1.7	2.4	2.9	3.5	4.8	5.2	6.2	8.6	10.4	13.0	15.6	17.3	17.3	20	20	20
51K60GE-SW2□ /5GE□RA	Rated	0.78	0.93	1.3	1.6	1.9	2.3	3.2	3.9	4.7	6.5	6.8	8.2	11.4	13.7	17.1	20	20	20	20	20	20
	Starting	0.90	1.1	1.5	1.8	2.3	2.7	3.8	4.5	5.4	7.5	8.1	9.7	13.5	16.2	20	20	20	20	20	20	20
51K90GE-AW2□U /5GE□RA	Rated	1.2	1.4	2.0	2.4	3.0	3.6	5.0	6.0	7.2	9.9	10.5	12.6	17.6	20	20	20	20	20	20	20	20
	Starting	0.81	0.97	1.4	1.6	2.0	2.4	3.4	4.1	4.9	6.8	7.3	8.7	12.2	14.6	18.2	20	20	20	20	20	20
51K90GE-CW2□E /5GE□RA	Rated	1.2	1.5	2.1	2.5	3.1	3.7	5.1	6.2	7.4	10.3	10.9	13.1	18.2	20	20	20	20	20	20	20	20
	Starting	0.81	0.97	1.4	1.6	2.0	2.4	3.4	4.1	4.9	6.8	7.3	8.7	12.2	14.6	18.2	20	20	20	20	20	20
51K90GE-SW2□ /5GE□RA	Rated	1.2	1.4	1.9	2.3	2.9	3.5	4.8	5.8	7.0	9.7	10.3	12.3	17.1	20	20	20	20	20	20	20	20
	Starting	1.3	1.5	2.1	2.5	3.2	3.8	5.3	6.3	7.6	10.5	11.3	13.6	18.9	20	20	20	20	20	20	20	20

● Speed Control Motors – **US Series**

◇ Hollow Shaft Type

● The rotation direction of all output shafts is the opposite direction to the motor shaft.

Unit = N·m

Product Name Motor/ Gearhead	Gear Ratio Motor Speed r/min	3	3.6	5	6	7.5	9	12.5	15	18	25	30	36	50	60	75	90	100	120	150	180
		<p>US425-401U2 /4GN□RH</p> <p>1200 0.24 0.29 0.40 0.48 0.75 0.90 1.5 1.8 2.2 3.0 3.6 4.3 6.0 7.2 8 8 8 8 8 8 8</p> <p>90 0.060 0.072 0.10 0.12 0.19 0.23 0.38 0.45 0.54 0.75 0.90 1.1 1.5 1.8 2.3 2.7 3.0 3.6 4.5 5.4</p> <p>Starting 0.13 0.15 0.21 0.25 0.39 0.47 0.71 0.85 1.0 1.4 1.7 2.0 2.8 3.4 4.3 5.1 5.7 6.8 8 8</p> <p>US425-402E2 /4GN□RH</p> <p>1200 220/230 VAC 50 Hz 0.25 0.30 0.41 0.49 0.77 0.92 1.5 1.8 2.2 3.1 3.7 4.4 6.2 7.4 8 8 8 8 8 8 8</p> <p>220 VAC 60 Hz 0.19 0.23 0.32 0.38 0.60 0.72 1.2 1.4 1.7 2.4 2.9 3.5 4.8 5.8 7.2 8 8 8 8 8</p> <p>230 VAC 60 Hz 0.17 0.20 0.28 0.34 0.53 0.63 1.1 1.3 1.5 2.1 2.5 3.0 4.2 5.0 6.3 7.6 8 8 8 8</p> <p>90 220 VAC 50/60 Hz 230 VAC 50 Hz 0.048 0.058 0.080 0.096 0.15 0.18 0.30 0.36 0.43 0.60 0.72 0.86 1.2 1.4 1.8 2.2 2.4 2.9 3.6 4.3</p> <p>230 VAC 60 Hz 0.042 0.050 0.070 0.084 0.13 0.16 0.26 0.32 0.38 0.53 0.63 0.76 1.1 1.3 1.6 1.9 2.1 2.5 3.2 3.8</p> <p>Starting 220 VAC 50/60 Hz 0.12 0.14 0.20 0.24 0.38 0.45 0.68 0.81 0.97 1.4 1.6 1.9 2.7 3.2 4.1 4.9 5.4 6.5 8 8</p> <p>230 VAC 50/60 Hz 0.13 0.16 0.22 0.26 0.41 0.50 0.74 0.89 1.1 1.5 1.8 2.1 3.0 3.6 4.5 5.3 5.9 7.1 8 8</p> <p>US540-401U2 /5GN□RH</p> <p>1200 0.39 0.47 0.65 0.78 1.3 1.6 2.2 2.7 3.2 3.9 4.7 5.6 7.8 9.4 10 10 10 10 10 10</p> <p>90 0.11 0.13 0.18 0.21 0.36 0.43 0.60 0.71 0.86 1.1 1.3 1.5 2.1 2.5 3.2 3.8 4.2 5.0 6.3 7.6</p> <p>Starting 0.27 0.32 0.45 0.54 0.81 0.97 1.4 1.6 1.9 2.4 2.9 3.5 4.9 5.8 7.3 8.7 9.7 10 10 10</p> <p>US540-402E2 /5GN□RH</p> <p>1200 220/230 VAC 50 Hz 0.45 0.54 0.75 0.90 1.5 1.8 2.6 3.1 3.7 4.5 5.4 6.5 9.0 10 10 10 10 10 10</p> <p>220/230 VAC 60 Hz 0.35 0.41 0.58 0.69 1.2 1.4 2.0 2.3 2.8 3.5 4.1 5.0 6.9 8.3 10 10 10 10 10 10</p> <p>90 0.095 0.11 0.16 0.19 0.32 0.39 0.54 0.64 0.77 0.95 1.1 1.4 1.9 2.3 2.8 3.4 3.8 4.5 5.7 6.8</p> <p>Starting 220 VAC 50 Hz 230 VAC 50/60 Hz 0.21 0.25 0.35 0.42 0.63 0.76 1.1 1.3 1.5 1.9 2.3 2.7 3.8 4.5 5.7 6.8 7.6 9.1 10 10</p> <p>220 VAC 60 Hz 0.19 0.23 0.31 0.38 0.56 0.68 0.94 1.1 1.4 1.7 2.0 2.4 3.4 4.1 5.1 6.1 6.8 8.1 10 10</p> <p>US560-501U2 /5GU□RH</p> <p>1200 0.74 0.88 1.2 1.5 2.5 3.0 4.2 5.0 6.0 8.3 8.8 10.6 14.7 17.6 20 20 20 20 20 20</p> <p>90 0.30 0.36 0.50 0.60 1.0 1.2 1.7 2.0 2.4 3.4 3.6 4.3 6.0 7.2 9.0 10.8 12.0 12.0 15.0 18.0</p> <p>Starting 0.43 0.51 0.71 0.86 1.3 1.5 2.1 2.6 3.1 4.3 4.6 5.5 7.7 9.2 11.5 13.9 15.4 15.4 19.2 20</p> <p>US560-502E2 /5GU□RH</p> <p>1200 220/230 VAC 50 Hz 0.74 0.88 1.2 1.5 2.5 3.0 4.2 5.0 6.0 8.3 8.8 10.6 14.7 17.6 20 20 20 20 20 20</p> <p>220/230 VAC 60 Hz 0.68 0.81 1.1 1.4 2.3 2.8 3.8 4.6 5.5 7.7 8.1 9.7 13.5 16.2 20 20 20 20 20 20</p> <p>90 220/230 VAC 50 Hz 0.21 0.25 0.35 0.42 0.71 0.86 1.2 1.4 1.7 2.4 2.5 3.0 4.2 5.0 6.3 7.6 8.4 8.4 10.5 12.6</p> <p>220/230 VAC 60 Hz 0.24 0.29 0.40 0.48 0.82 0.98 1.4 1.6 2.0 2.7 2.9 3.5 4.8 5.8 7.2 8.6 9.6 9.6 12.0 14.4</p> <p>Starting 220 VAC 50 Hz 230 VAC 50/60 Hz 0.36 0.43 0.60 0.72 1.1 1.3 1.8 2.2 2.6 3.6 3.9 4.7 6.5 7.8 9.7 11.7 13.0 13.0 16.2 19.4</p> <p>220 VAC 60 Hz 0.32 0.38 0.53 0.63 0.95 1.1 1.6 1.9 2.3 3.2 3.4 4.1 5.7 6.8 8.5 10.2 11.3 11.3 14.2 17.0</p> <p>US590-501U2 /5GU□RH</p> <p>1200 1.1 1.3 1.8 2.2 3.7 4.5 6.2 7.4 8.9 12.4 13.1 15.8 20 20 20 20 20 20 20 20</p> <p>90 0.30 0.36 0.50 0.60 1.0 1.2 1.7 2.0 2.4 3.4 3.6 4.3 6.0 7.2 9.0 10.8 12.0 12.0 15.0 18.0</p> <p>Starting 0.61 0.73 1.0 1.2 1.8 2.2 3.0 3.6 4.4 6.1 6.6 7.9 10.9 13.1 16.4 19.7 20 20 20 20</p> <p>US590-502E2 /5GU□RH</p> <p>1200 1.1 1.3 1.8 2.2 3.7 4.5 6.2 7.4 8.9 12.4 13.1 15.8 20 20 20 20 20 20 20 20</p> <p>90 220/230 VAC 50 Hz 0.35 0.41 0.58 0.69 1.2 1.4 2.0 2.3 2.8 3.9 4.1 5.0 6.9 8.3 10.4 12.4 13.8 13.8 17.3 20</p> <p>220/230 VAC 60 Hz 0.39 0.47 0.65 0.78 1.3 1.6 2.2 2.7 3.2 4.4 4.7 5.6 7.8 9.4 11.7 14.0 15.6 15.6 19.5 20</p> <p>Starting 220 VAC 50/60 Hz 0.54 0.65 0.90 1.1 1.6 1.9 2.7 3.2 3.9 5.4 5.8 7.0 9.7 11.7 14.6 17.5 19.4 19.4 20 20</p> <p>230 VAC 50/60 Hz 0.60 0.72 1.0 1.2 1.8 2.2 3.0 3.6 4.3 6.0 6.5 7.8 10.8 13.0 16.2 19.4 20 20 20 20</p>																			

◇ Solid Shaft Type

● The rotation direction of all output shafts is the opposite direction to the motor shaft.

Unit = N·m

Product Name Motor/ Gearhead	Gear Ratio Motor Speed r/min	3	3.6	5	6	7.5	9	12.5	15	18	25	30	36	50	60	75	90	100	120	150	180
		<p>US425-401U2 /4GN□RA</p> <p>1200 0.30 0.36 0.50 0.60 0.75 0.90 1.5 1.8 2.2 3.0 3.6 4.3 6.0 7.2 8 8 8 8 8 8 8</p> <p>90 0.075 0.090 0.13 0.15 0.19 0.23 0.38 0.45 0.54 0.75 0.90 1.1 1.5 1.8 2.3 2.7 3.0 3.6 4.5 5.4</p> <p>Starting 0.16 0.19 0.26 0.32 0.39 0.47 0.71 0.85 1.0 1.4 1.7 2.0 2.8 3.4 4.3 5.1 5.7 6.8 8 8</p> <p>US425-402E2 /4GN□RA</p> <p>1200 220/230 VAC 50 Hz 0.31 0.37 0.51 0.62 0.77 0.92 1.5 1.8 2.2 3.1 3.7 4.4 6.2 7.4 8 8 8 8 8 8 8</p> <p>220 VAC 60 Hz 0.24 0.29 0.40 0.48 0.60 0.72 1.2 1.4 1.7 2.4 2.9 3.5 4.8 5.8 7.2 8 8 8 8 8</p> <p>230 VAC 60 Hz 0.21 0.25 0.35 0.42 0.53 0.63 1.1 1.3 1.5 2.1 2.5 3.0 4.2 5.0 6.3 7.6 8 8 8 8</p> <p>90 220 VAC 50/60 Hz 230 VAC 50 Hz 0.060 0.072 0.10 0.12 0.15 0.18 0.30 0.36 0.43 0.60 0.72 0.86 1.2 1.4 1.8 2.2 2.4 2.9 3.6 4.3</p> <p>230 VAC 60 Hz 0.053 0.063 0.088 0.11 0.13 0.16 0.26 0.32 0.38 0.53 0.63 0.76 1.1 1.3 1.6 1.9 2.1 2.5 3.2 3.8</p> <p>Starting 220 VAC 50/60 Hz 0.15 0.18 0.25 0.30 0.38 0.45 0.68 0.81 0.97 1.4 1.6 1.9 2.7 3.2 4.1 4.9 5.4 6.5 8 8</p> <p>230 VAC 50/60 Hz 0.17 0.20 0.28 0.33 0.41 0.50 0.74 0.89 1.1 1.5 1.8 2.1 3.0 3.6 4.5 5.3 5.9 7.1 8 8</p> <p>US540-401U2 /5GN□RA</p> <p>1200 0.53 0.64 0.88 1.1 1.3 1.6 2.2 2.7 3.2 3.9 4.7 5.6 7.8 9.4 10 10 10 10 10 10</p> <p>90 0.14 0.17 0.24 0.29 0.36 0.43 0.60 0.71 0.86 1.1 1.3 1.5 2.1 2.5 3.2 3.8 4.2 5.0 6.3 7.6</p> <p>Starting 0.32 0.39 0.54 0.65 0.81 0.97 1.4 1.6 1.9 2.4 2.9 3.5 4.9 5.8 7.3 8.7 9.7 10 10 10</p> <p>US540-402E2 /5GN□RA</p> <p>1200 220/230 VAC 50 Hz 0.61 0.73 1.0 1.2 1.5 1.8 2.6 3.1 3.7 4.5 5.4 6.5 9.0 10 10 10 10 10 10</p> <p>220/230 VAC 60 Hz 0.47 0.56 0.78 0.94 1.2 1.4 2.0 2.3 2.8 3.5 4.1 5.0 6.9 8.3 10 10 10 10 10 10</p> <p>90 0.13 0.15 0.21 0.26 0.32 0.39 0.54 0.64 0.77 0.95 1.1 1.4 1.9 2.3 2.8 3.4 3.8 4.5 5.7 6.8</p> <p>Starting 220 VAC 50 Hz 230 VAC 50/60 Hz 0.25 0.30 0.42 0.50 0.63 0.76 1.1 1.3 1.5 1.9 2.3 2.7 3.8 4.5 5.7 6.8 7.6 9.1 10 10</p> <p>220 VAC 60 Hz 0.23 0.27 0.38 0.45 0.56 0.68 0.94 1.1 1.4 1.7 2.0 2.4 3.4 4.1 5.1 6.1 6.8 8.1 10 10</p>																			

◇ **Reversible Motors - Solid Shaft Type**

● The rotation direction of all output shafts is the opposite direction to the motor shaft.

Unit = N·m

Product Name		Gear Ratio		3	3.6	5	6	7.5	9	12.5	15	18	25	30	36	50	60	75	90	100	120	150	180
Motor/ Gearhead	Combination Speed Controller Product Name	Motor Speed r/min																					
4RK25RGN-AW2U /4GN□RA	ES01	1200		0.31	0.37	0.51	0.62	0.77	0.92	1.5	1.8	2.2	3.1	3.7	4.4	6.2	7.4	8	8	8	8	8	8
		90		0.17	0.20	0.28	0.33	0.41	0.50	0.83	0.99	1.2	1.7	2.0	2.4	3.3	4.0	5.0	5.9	6.6	7.9	8	8
		Starting		0.21	0.25	0.35	0.42	0.53	0.63	0.95	1.1	1.4	1.9	2.3	2.7	3.8	4.5	5.7	6.8	7.6	8	8	8
4RK25RGN-CW2E /4GN□RA	ES02	1200		0.31	0.37	0.51	0.62	0.77	0.92	1.5	1.8	2.2	3.1	3.7	4.4	6.2	7.4	8	8	8	8	8	8
		90	220/230 VAC 50 Hz	0.17	0.21	0.29	0.35	0.43	0.52	0.86	1.0	1.2	1.7	2.1	2.5	3.5	4.1	5.2	6.2	6.9	8	8	8
			220/230 VAC 60 Hz	0.17	0.20	0.28	0.33	0.41	0.50	0.83	0.99	1.2	1.7	2.0	2.4	3.3	4.0	5.0	5.9	6.6	7.9	8	8
		Starting	220 VAC 50/60 Hz	0.21	0.25	0.35	0.42	0.53	0.63	0.95	1.1	1.4	1.9	2.3	2.7	3.8	4.5	5.7	6.8	7.6	8	8	8
			230 VAC 50 Hz	0.23	0.28	0.39	0.47	0.58	0.70	1.0	1.3	1.5	2.1	2.5	3.0	4.2	5.0	6.3	7.5	8	8	8	8
5RK40RGN-AW2U /5GN□RA	ES01	1200		0.65	0.78	1.1	1.3	1.6	2.0	2.7	3.3	3.9	4.8	5.8	6.9	9.6	10	10	10	10	10	10	10
		90		0.32	0.38	0.53	0.63	0.79	0.95	1.3	1.6	1.9	2.3	2.8	3.3	4.7	5.6	7.0	8.4	9.3	10	10	10
		Starting	110 VAC 60 Hz	0.43	0.52	0.72	0.86	1.1	1.3	1.8	2.2	2.6	3.2	3.9	4.7	6.5	7.8	9.7	10	10	10	10	10
115 VAC 60 Hz	0.47		0.56	0.78	0.94	1.2	1.4	2.0	2.3	2.8	3.5	4.2	5.1	7.0	8.4	10	10	10	10	10	10		
5RK40RGN-CW2E /5GN□RA	ES02	1200		0.65	0.78	1.1	1.3	1.6	2.0	2.7	3.3	3.9	4.8	5.8	6.9	9.6	10	10	10	10	10	10	10
		90	220 VAC 50 Hz	0.37	0.44	0.61	0.73	0.92	1.1	1.5	1.8	2.2	2.7	3.2	3.9	5.4	6.5	8.1	9.7	10	10	10	10
			220 VAC 60 Hz	0.35	0.42	0.58	0.69	0.87	1.0	1.4	1.7	2.1	2.6	3.1	3.7	5.1	6.1	7.7	9.2	10	10	10	10
		Starting	220/230 VAC 50 Hz	0.49	0.58	0.81	0.97	1.2	1.5	2.0	2.4	2.9	3.6	4.4	5.2	7.3	8.7	10	10	10	10	10	10
			220/230 VAC 60 Hz	0.47	0.56	0.78	0.94	1.2	1.4	2.0	2.3	2.8	3.5	4.2	5.1	7.0	8.4	10	10	10	10	10	10
5RK60RGU-AW2U /5GU□RA	ES01	1200		1.0	1.2	1.7	2.0	2.5	3.0	4.2	5.0	6.0	8.3	8.8	10.6	14.7	17.6	20	20	20	20	20	20
		90		0.55	0.66	0.92	1.1	1.4	1.7	2.3	2.8	3.3	4.6	4.9	5.8	8.1	9.7	12.2	14.6	16.2	16.2	20	20
		Starting		0.68	0.82	1.1	1.4	1.7	2.1	2.9	3.4	4.1	5.7	6.2	7.4	10.3	12.3	15.4	18.5	20	20	20	20
5RK60RGU-CW2E /5GU□RA	ES02	1200		1.0	1.2	1.7	2.0	2.5	3.0	4.2	5.0	6.0	8.3	8.8	10.6	14.7	17.6	20	20	20	20	20	20
		90		0.57	0.69	0.95	1.1	1.4	1.7	2.4	2.9	3.4	4.8	5.0	6.0	8.4	10.1	12.6	15.1	16.8	16.8	20	20
		Starting	220 VAC 50 Hz	0.76	0.91	1.3	1.5	1.9	2.3	3.2	3.8	4.5	6.3	6.8	8.2	11.3	13.6	17.0	20	20	20	20	20
			230 VAC 50 Hz	0.83	0.99	1.4	1.7	2.1	2.5	3.5	4.1	5.0	6.9	7.5	8.9	12.4	14.9	18.6	20	20	20	20	20
	220/230 VAC 60 Hz	0.68	0.82	1.1	1.4	1.7	2.1	2.9	3.4	4.1	5.7	6.2	7.4	10.3	12.3	15.4	18.5	20	20	20	20		

Introduction

Induction
Motors

Reversible
Motors

Constant Speed
Motors

Electromagnetic
Brake Motors

Low-Speed
Synchronous
Motors
SMK

Torque Motor &
Power Controller
TM

Torque
Motors

Waterright,
Dust-
Resistant
Motors

Right-Angle
Gearheads

Linear
Heads
LH

Brake Pack

Mounting
Brackets

Couplings
Accessories

Others

Installation

● Inverter FE100 + World K Series – Induction Motors

◇ Hollow Shaft Type

● The rotation direction of all output shafts is the opposite direction to the motor shaft.

Unit = N·m

Product Name		Gear Ratio		Setting Frequency Hz (Setting speed r/min)																					
Motor/ Gearhead	Combination Inverters Product Name			3	3.6	5	6	7.5	9	12.5	15	18	25	30	36	50	60	75	90	100	120	150	180		
4IK25GN-SW2 /4GN □RH	FE100A FE100C FE100S	6.6 (200)	Rated	—	—	—	—	—	0.75	1.1	1.3	1.6	2.5	3.0	3.7	4.4	5.3	6.6	8	8	8	8	8		
			Starting	—	—	—	—	—	0.75	0.99	1.2	1.5	2.3	2.7	3.3	3.9	4.7	5.6	6.7	8	8	8	8	8	
		10 ~ 50 (300 ~ 1500)	Rated	—	—	—	—	—	—	0.95	1.4	1.7	2.3	3.2	3.9	4.7	5.6	6.7	8	8	8	8	8	8	8
			Starting	—	—	—	—	—	—	0.95	1.3	1.5	2.0	2.9	3.5	4.2	5.0	6.0	7.6	8	8	8	8	8	8
		80 (2400)	Rated	—	—	—	—	—	—	0.22	0.64	0.82	1.0	1.5	2.0	2.4	2.9	3.5	4.4	5.3	5.9	7.1	8	8	8
			Starting	—	—	—	—	—	—	0.22	0.58	0.73	0.92	1.3	1.8	2.1	2.6	3.1	3.9	4.7	5.3	6.4	8	8	8
5IK40GN-SW2 /5GN □RH	FE100A FE100C FE100S	6.6 ~ 50 (200 ~ 1500)	Rated	—	—	—	—	1.3	1.6	2.5	3.0	3.6	5.1	6.2	7.4	8.9	10	10	10	10	10	10	10		
			Starting	—	—	—	—	1.1	1.4	2.2	2.7	3.2	4.6	5.6	6.7	8.0	9.6	10	10	10	10	10	10	10	
		80 (2400)	Rated	—	—	—	—	0.58	0.75	1.1	1.4	1.7	2.7	3.2	3.9	4.7	5.6	7.1	8.5	9.5	10	10	10	10	
			Starting	—	—	—	—	0.51	0.66	1.0	1.2	1.5	2.4	2.9	3.5	4.2	5.1	6.4	7.7	8.5	10	10	10	10	
		5IK60GE-SW2 /5GE □RH	FE100A FE100C FE100S	6.6 (200)	Rated	—	—	0.84	1.0	1.4	1.7	2.6	3.1	3.8	5.3	5.4	6.5	9.1	11.0	13.8	16.6	18.4	18.4	20	20
					Starting	—	—	0.84	1.0	1.2	1.5	2.3	2.7	3.3	4.7	4.9	5.9	8.2	9.9	12.4	14.9	16.6	16.6	20	20
10 ~ 50 (300 ~ 1500)	Rated			—	—	1.2	1.5	2.1	2.6	3.7	4.5	5.5	7.7	7.9	9.6	13.3	16.0	20	20	20	20	20	20	20	
	Starting			—	—	1.2	1.5	1.9	2.3	3.3	4.0	4.8	6.8	7.1	8.6	12.0	14.4	18.1	20	20	20	20	20	20	
80 (2400)	Rated			—	—	0.50	0.70	0.99	1.3	2.0	2.5	3.1	4.4	4.5	5.4	7.6	9.2	11.5	13.9	15.4	15.4	19.3	20	20	
	Starting			—	—	0.50	0.70	0.87	1.1	1.8	2.2	2.7	3.8	4.0	4.9	6.9	8.3	10.4	12.5	13.9	13.9	17.4	20	20	
5IK90GE-SW2 /5GE □RH	FE100A FE100C FE100S	6.6 (200)	Rated	—	—	1.3	1.6	2.2	2.7	3.8	4.6	5.5	7.7	7.9	9.6	13.3	16.0	20	20	20	20	20	20		
			Starting	—	—	1.3	1.6	1.9	2.4	3.3	4.0	4.9	6.8	7.2	8.6	12.0	14.4	18.1	20	20	20	20	20		
		10 ~ 60 (300 ~ 1800)	Rated	—	—	1.3	1.8	2.4	2.9	4.2	5.1	6.1	8.6	8.8	10.6	14.8	17.8	20	20	20	20	20	20	20	
			Starting	—	—	1.3	1.8	2.1	2.6	3.7	4.5	5.4	7.6	7.9	9.6	13.4	16.1	20	20	20	20	20	20	20	
		80 (2400)	Rated	—	—	0.83	1.1	1.5	2.0	2.9	3.6	4.3	6.1	6.3	7.6	10.6	12.8	16.0	19.3	20	20	20	20	20	
			Starting	—	—	0.83	1.1	1.3	1.8	2.6	3.1	3.8	5.4	5.7	6.8	9.6	11.5	14.4	17.4	19.3	19.3	20	20	20	

Note

● Gear ratios not shown in the list of permissible torque are not available.

◇ Solid Shaft Type

● The rotation direction of all output shafts is the opposite direction to the motor shaft.

Unit = N·m

Product Name		Gear Ratio		Setting Frequency Hz (Setting speed r/min)																					
Motor/ Gearhead	Combination Inverters Product Name			3	3.6	5	6	7.5	9	12.5	15	18	25	30	36	50	60	75	90	100	120	150	180		
4IK25GN-SW2 /4GN □RA	FE100A FE100C FE100S	6.6 (200)	Rated	—	—	0.45	0.54	0.73	0.88	1.2	1.5	1.8	2.6	3.2	3.8	4.5	5.4	6.8	8	8	8	8	8		
			Starting	—	—	0.45	0.54	0.73	0.88	1.1	1.3	1.6	2.4	2.8	3.4	4.1	4.9	6.1	7.3	8	8	8	8	8	
		10 ~ 50 (300 ~ 1500)	Rated	—	—	0.38	0.74	0.93	1.1	1.5	1.9	2.4	3.3	4.0	4.8	5.7	6.8	8	8	8	8	8	8	8	
			Starting	—	—	0.38	0.74	0.93	1.1	1.4	1.7	2.2	3.0	3.6	4.3	5.1	6.2	7.7	8	8	8	8	8	8	
		80 (2400)	Rated	—	—	0.20	0.24	0.30	0.41	0.81	0.98	1.2	1.6	2.1	2.5	3.0	3.6	4.5	5.4	6.0	7.2	8	8	8	
			Starting	—	—	0.20	0.24	0.30	0.41	0.73	0.88	1.1	1.5	1.9	2.3	2.7	3.2	4.1	4.9	5.4	6.5	8	8	8	
5IK40GN-SW2 /5GN □RA	FE100A FE100C FE100S	6.6 ~ 50 (200 ~ 1500)	Rated	—	—	0.98	1.2	1.5	1.8	2.6	3.2	3.8	5.3	6.3	7.6	9.0	10	10	10	10	10	10	10		
			Starting	—	—	0.86	1.0	1.3	1.5	2.3	2.8	3.3	4.7	5.7	6.8	8.1	9.7	10	10	10	10	10	10		
		80 (2400)	Rated	—	—	0.32	0.38	0.78	0.94	1.3	1.6	1.9	2.8	3.4	4.0	4.8	5.8	7.2	8.6	9.6	10	10	10	10	
			Starting	—	—	0.28	0.34	0.69	0.83	1.1	1.4	1.7	2.5	3.0	3.6	4.3	5.2	6.5	7.8	8.6	10	10	10	10	
		5IK60GE-SW2 /5GE □RA	FE100A FE100C FE100S	6.6 (200)	Rated	—	—	1.0	1.2	1.5	1.8	2.7	3.3	3.9	5.4	5.6	6.7	9.3	11.2	14.0	16.7	18.6	18.6	20	20
					Starting	—	—	0.89	1.1	1.3	1.6	2.4	2.9	3.4	4.8	5.0	6.0	8.4	10.0	12.6	15.1	16.7	16.7	20	20
10 ~ 50 (300 ~ 1500)	Rated			—	—	1.5	1.8	2.4	2.8	3.9	4.7	5.7	7.9	8.1	9.7	13.5	16.2	20	20	20	20	20	20	20	
	Starting			—	—	1.3	1.5	2.1	2.5	3.5	4.2	5.0	6.9	7.3	8.7	12.2	14.6	18.2	20	20	20	20	20	20	
80 (2400)	Rated			—	—	0.85	1.0	1.3	1.5	2.3	2.7	3.3	4.6	4.7	5.6	7.8	9.4	11.7	14.0	15.6	15.6	19.5	20	20	
	Starting			—	—	0.75	0.89	1.1	1.3	2.0	2.4	2.9	4.0	4.2	5.1	7.0	8.4	10.5	12.6	14.0	14.0	17.6	20	20	
5IK90GE-SW2 /5GE □RA	FE100A FE100C FE100S	6.6 (200)	Rated	0.88	1.1	1.5	1.8	2.4	2.8	3.9	4.7	5.7	7.9	8.1	9.7	13.5	16.2	20	20	20	20	20	20		
			Starting	0.77	0.93	1.3	1.5	2.1	2.5	3.5	4.2	5.0	6.9	7.3	8.7	12.2	14.6	18.2	20	20	20	20	20	20	
		10 ~ 60 (300 ~ 1800)	Rated	0.98	1.2	1.6	2.1	2.6	3.2	4.4	5.3	6.3	8.8	9.0	10.8	15.0	18.0	20	20	20	20	20	20	20	
			Starting	0.86	1.0	1.4	1.9	2.3	2.8	3.9	4.6	5.6	7.7	8.1	9.7	13.5	16.2	20	20	20	20	20	20	20	
		80 (2400)	Rated	0.70	0.84	1.2	1.4	1.8	2.3	3.2	3.8	4.5	6.3	6.5	7.8	10.8	13.0	16.2	19.4	20	20	20	20	20	
			Starting	0.62	0.74	1.0	1.2	1.5	2.0	2.8	3.3	4.0	5.6	5.8	7.0	9.7	11.7	14.6	17.5	19.4	19.4	20	20	20	

Note

● Gear ratios not shown in the list of permissible torque are not available.