

Induction Motors

90 W

□ 90 mm



Lead Wire Type



Terminal Box Type

Gearheads shown in the photograph are sold separately.

Specifications – Continuous Rating (RoHS)



Product Name and Type Upper Product Name: Pinion Shaft Type Lower Product Name (): Round Shaft Type			Output Power W	Voltage VAC	Frequency Hz	Current A	Starting Torque mN·m	Rated Torque mN·m	Rated Speed r/min	Capacitor μF	
Lead Wire Type Dimensions ①	Terminal Box Type Dimensions ②	Terminal Box Type Dimensions ③									
(TP) 5IK90GE-CW2E (5IK90A-CW2E)	(TP) 5IK90GE-CW2TE (5IK90A-CW2TE)	-	90	Single-Phase 220	50	0.74	450	730	1200	6.0	
					60	0.82		605	1450		
					Single-Phase 230	50		0.76	730		1200
						60		0.81	605		1450
(TP) 5IK90GE-SW2 (5IK90A-SW2)	(TP) 5IK90GE-SW2T (5IK90A-SW2T)	-	90	Three-Phase 200	50	0.64	850	680	1300	-	
					60	0.59	700	570	1550		
					Three-Phase 220	60	0.60	700	570		1600
Three-Phase 230	60	0.61	700	570		1600					
	(TP) 5IK90GE-UW2* (5IK90A-UW2*)	-	(TP) 5IK90GE-UW2T2* (5IK90A-UW2T2*)	90	Three-Phase 380	50	0.39	850	680	1300	-
60						0.33	700	570	1550		
Three-Phase 400					50	0.41	850	680	1300		
					60	0.34	700	570	1550		
Three-Phase 415	50	0.44	850	680	1300						

● The product name listed on the motor nameplate does not include the code (E) that indicates the type of capacitor.
Certification regarding various safety standards is acquired for the product name on the motor nameplate, please visit www.orientalmotor.eu.

● Safety standards → Page H-2

*These products only conform to the China Compulsory Certification (CCC) System. The CE Marking is affixed.

Note

● A three-phase 400 VAC specification motors cannot be used with an inverter. Using them together may lead to deterioration of the motor winding insulation and damage the products.

(TP): This indicates that there is a built-in thermal protector (automatic return type). If a motor overheats for any reason, the thermal protector is activated and the motor is stopped. When the motor temperature drops, the thermal protector closes and the motor restarts automatically. Be sure to turn the power supply off before inspecting.

Degree of Protection

Type	Product Name		Degree of Protection
	Pinion Shaft Type	Round Shaft Type	
Lead Wire	5IK90GE-CW2E 5IK90GE-SW2 5IK90GE-UW2	5IK90A-CW2E 5IK90A-SW2 5IK90A-UW2	IP20
Terminal Box	5IK90GE-CW2TE 5IK90GE-SW2T 5IK90GE-UW2T2	5IK90A-CW2TE* 5IK90A-SW2T* 5IK90A-UW2T2*	IP54

*Excluding the installation surface of the round shaft type.

Product Line

Motors (RoHS)

Type	Product Name	
	Pinion Shaft Type	Round Shaft Type
Lead Wire	5IK90GE-CW2E	5IK90A-CW2E
	5IK90GE-SW2	5IK90A-SW2
	5IK90GE-UW2	5IK90A-UW2
Terminal Box	5IK90GE-CW2TE	5IK90A-CW2TE
	5IK90GE-SW2T	5IK90A-SW2T
	5IK90GE-UW2T2	5IK90A-UW2T2

The following items are included in each product.
Motor, Capacitor*, Capacitor Cap*, Operating Manual
*Single-phase motors only

High Strength, Long Life, Low Noise V Series

Highest Maximum Permissible torque,
10,000 hours* of life and quiet operation.
For more details on V Series see page C-149.

*For the rated life time definition, refer to "Service Life of Gearheads" on page G-35.



Parallel Shaft Gearheads/Right-Angle Gearheads (Sold separately) (RoHS)

These products can be attached to pinion shafts.

Gearhead Type	Gearhead Product Name		Gear Ratio
	Long Life	GE-S Gearhead	
Parallel Shaft	5GE□S	5GE10XS (Decimal gearhead)	3~180
	5GE□RH	5GE□RA	
Right-Angle Shaft	Hollow Shaft Gearhead	5GE□RH	3~180
	Solid Shaft Gearhead	5GE□RA	3~180

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

The following items are included in each product.

- Parallel Shaft Gearhead
Gearhead, Mounting Screws, Parallel Key, Operating Manual
- Hollow Shaft Gearhead
Gearhead, Mounting Screws, Parallel Key, Safety Cover (with screws), Gasket, Operating Manual
- Solid Shaft Gearhead
Gearhead, Mounting Screws, Parallel Key, Gasket, Operating Manual

Permissible Torque When Gearhead is Attached

- A code (**T** or **T2**) 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.
- A colored background □ indicates gear shaft rotation in the same direction as the motor shaft. Others rotate in the opposite direction.
- The speed is calculated by dividing the motor's synchronous speed (50 Hz: 1500 r/min, 60 Hz: 1800 r/min) by the gear ratio.
The actual speed is 2 to 20% less than the displayed value, depending on the load.
- To reduce the speed beyond the gear ratio in the table, attach a decimal gearhead of gear ratio 1:10 between the gearhead and the motor. In that case, the permissible torque is 20 N·m.

◇ 50 Hz

Product Name Motor/Gearhead	Speed r/min Gear Ratio	Unit = N·m																		
		500	417	300	250	200	167	120	100	83	60	50	42	30	25	20	17	15	12.5	10
51K90GE-CW2□E / 5GE□S	3	3.6	5	6	7.5	9	12.5	15	18	25	30	36	50	60	75	90	100	120	150	180
51K90GE-SW2□ 51K90GE-UW2□	3	3.6	5	6	7.5	9	12.5	15	18	25	30	36	50	60	75	90	100	120	150	180

◇ 60 Hz

Product Name Motor/Gearhead	Speed r/min Gear Ratio	Unit = N·m																		
		600	500	360	300	240	200	144	120	100	72	60	50	36	30	24	20	18	15	12
51K90GE-CW2□E / 5GE□S	3	3.6	5	6	7.5	9	12.5	15	18	25	30	36	50	60	75	90	100	120	150	180
51K90GE-SW2□ 51K90GE-UW2□	3	3.6	5	6	7.5	9	12.5	15	18	25	30	36	50	60	75	90	100	120	150	180

Gearmotor – Torque Table When Right-Angle Gearhead is Attached

→ Page C-216

Permissible Overhung Load and Permissible Thrust Load

Motors (Round shaft type) → Page C-16, Gearheads → Page C-16

Permissible Load Inertia: J of Gearhead

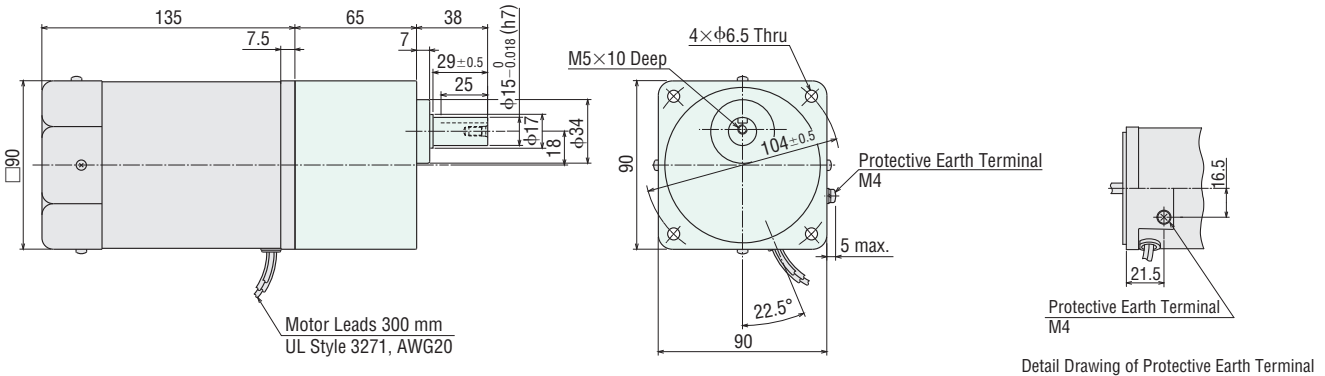
→ Page C-17

Dimensions (Unit = mm)

- Mounting screws are included with gearheads. Dimensions for mounting screws → Page C-254

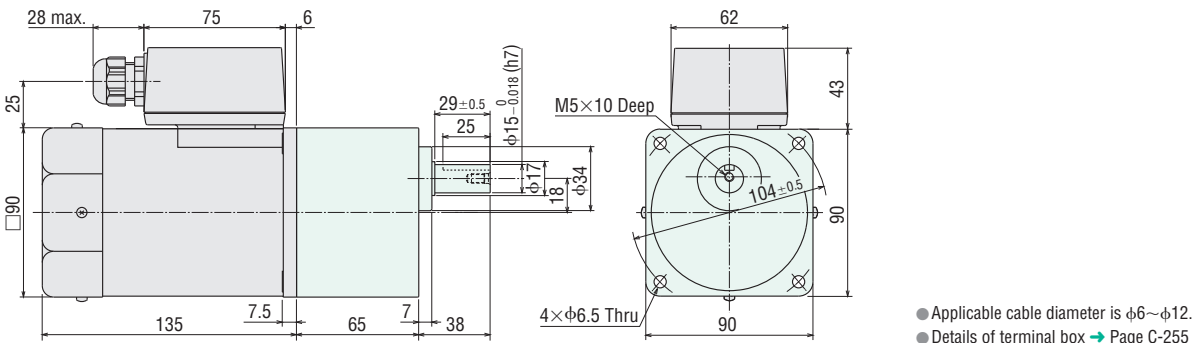
◇ Lead Wire Type ①

Mass: Motor 3.2 kg, Gearhead 1.5 kg



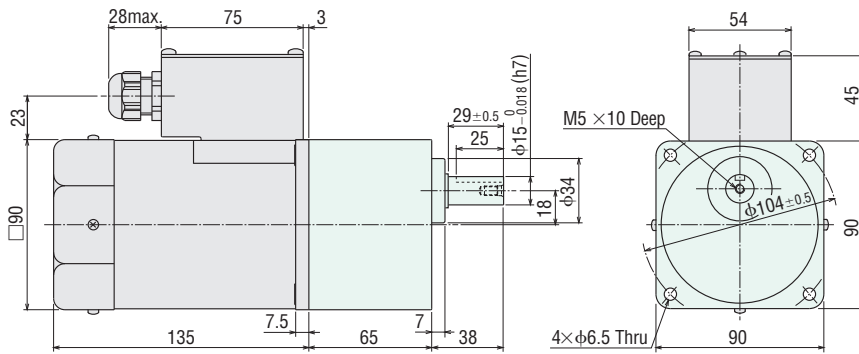
◇ Terminal Box Type ②

Mass: Motor 3.3 kg, Gearhead 1.5 kg

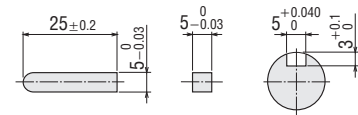


◇ Terminal Box Type ③

Mass: Motor 3.3 kg
Gearhead 1.5 kg



◇ Key and Key Slot (The key is included with the gearhead.)

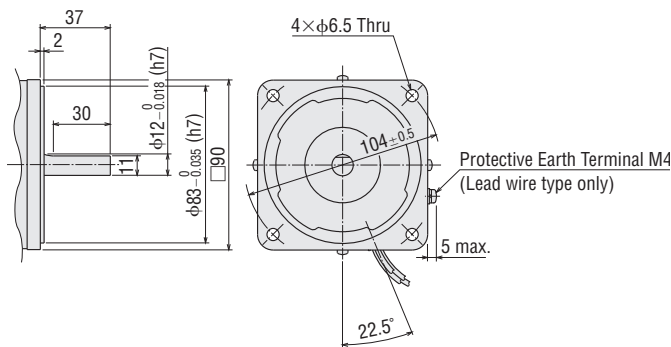


- Applicable cable diameter is φ6~φ12.
- Cable glands can be installed in three directions.
- Details of terminal box → Page C-255

◇ Shaft Section of Round Shaft Type

The motor's dimensions (excluding the shaft section) are the same as those of the pinion shaft types.

Mass: 3.2 kg (Lead wire type)
3.3 kg (Terminal box type)

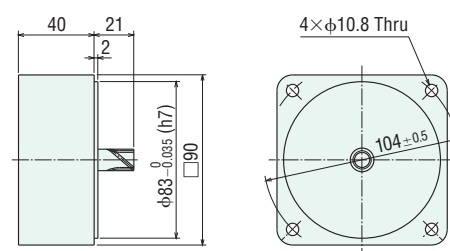


◇ Decimal Gearhead

This can be attached to the **GE** pinion shaft type.

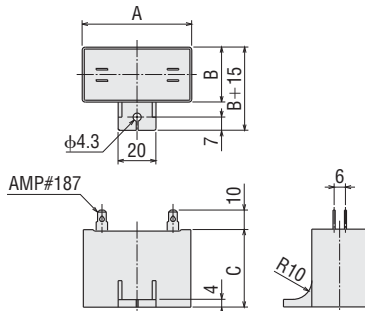
5GE10XS

Mass: 0.6 kg



◇ Capacitor

(Included with single-phase motors)



◇ Capacitor Dimensions (mm)

Product Name		Capacitor Product Name	A	B	C	Mass (g)	Capacitor Cap
Upper Product Name: Pinion Shaft Type	Lower Product Name in (): Round Shaft Type						
Lead Wire Type	Terminal Box Type	CH60BFAUL	58	29	41	92	Included
5IK90GE-CW2E (5IK90A-CW2E)	5IK90GE-CW2TE (5IK90A-CW2TE)						

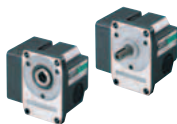
Connection Diagrams

→ Page C-29

Gearheads, Peripheral Equipment

Space Saving

Right-Angle Gearheads
→ Page C-213



Instantaneous Stop

Brake Pack
→ Page C-229



Speed Control

Inverters
→ Page D-136



Accessories

Mounting Brackets
→ Page C-240

Couplings
→ Page C-245

