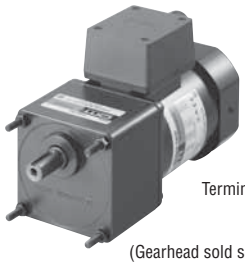
RoHS

Reversible Motors

90 W

Frame Size: □90 mm

Lead Wire Type



Terminal Box Type

(Gearhead sold separately)

Right-angle gearheads (hollow shaft or solid shaft) can be combined.
Right-Angle Gearheads ➜ Page 108

Specifications – 30 Minutes Rating RoHS

cULus CE

Model Upper Model Name: Pinion Shaft Type Lower Model Name ( ): Round Shaft Type		Output Power	Voltage	Frequency	Current	Starting Torque	Rated Torque	Rated Speed	Capacitor
Lead Wire Type Dimension ①	Terminal Box Type Dimension ②	W	VAC	Hz	A	mN·m	mN·m	r/min	μF
TP **5RK90GE-AW2J (5RK90A-AW2J)**	**5RK90GE-AW2TJ (5RK90A-AW2TJ)**	90	Single-Phase 100	50	1.85	630	700	1250	35
				60	2.16	590	585	1500	
TP **5RK90GE-AW2U (5RK90A-AW2U)**	**5RK90GE-AW2TU (5RK90A-AW2TU)**	90	Single-Phase 110	60	1.87	590	585	1500	30
			Single-Phase 115		1.86				
TP **5RK90GE-CW2J (5RK90A-CW2J)**	**5RK90GE-CW2TJ (5RK90A-CW2TJ)**	90	Single-Phase 200	50	0.91	600	730	1200	8.0
				60	1.09	590	605	1450	
TP **5RK90GE-CW3E (5RK90A-CW3E)**	**5RK90GE-CW3TE (5RK90A-CW3TE)**	90	Single-Phase 220	50	0.83	600	730	1200	7.0
				60	0.96	590	605	1450	
			Single-Phase 230	50	0.83	600	730	1200	
				60	0.95	590	605	1450	

- Values shown for rated torque and starting torque are measured for operation without the friction brake installed.
- The **J**, **U** and **E** at the end of the model name indicate that the unit includes a capacitor. These letters are not listed on the motor nameplate. When the motor is approved under various safety standards, the model name on the nameplate is the approved model name.

TP: Contains a built-in thermal protector. If a motor overheats for any reason, the thermal protector is opened and the motor stops. When the motor temperature drops, the thermal protector closes and the motor restarts. Be sure to turn the motor off before inspecting.

Product Line

Motor RoHS

Type	Model	
	Pinion Shaft Type	Round Shaft Type
Lead Wire	**5RK90GE-AW2J**	**5RK90A-AW2J**
	5RK90GE-AW2U	**5RK90A-AW2U**
	5RK90GE-CW2J	**5RK90A-CW2J**
	5RK90GE-CW3E	**5RK90A-CW3E**
Terminal Box	**5RK90GE-AW2TJ**	**5RK90A-AW2TJ**
	5RK90GE-AW2TU	**5RK90A-AW2TU**
	5RK90GE-CW2TJ	**5RK90A-CW2TJ**
	5RK90GE-CW3TE	**5RK90A-CW3TE**

Gearhead/Right-Angle Gearhead (Sold Separately) RoHS

Type	Gearhead Model	Gear Ratio
Long Life/ Parallel Shaft	**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**
	5GE10XS (Decimal gearhead)	
Right-Angle/ Hollow Shaft	**5GE□RH**	**3, 3.6, 5, 6, 7.5, 9, 12.5, 15, 18, 25, 30, 36, 50, 60, 75, 90, 100, 120, 150, 180**
Right-Angle/ Solid Shaft	**5GE□RA**	**3, 3.6, 5, 6, 7.5, 9, 12.5, 15, 18, 25, 30, 36, 50, 60, 75, 90, 100, 120, 150, 180**

- Enter the gear ratio in the box (□) within the model name.

Gearmotor – Torque Table

- Gearheads and decimal gearheads are sold separately.
- Enter the code that represents the terminal box type "**T**" in the box (■) within the model name.
- Enter the gear ratio in the box (□) within the model name.
- A colored background ▭ indicates gear shaft rotation in the same direction as the motor shaft, while the 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 - 20% less than the displayed value, depending on the size of the load.
- To reduce the speed beyond the gear ratio in the table, attach a decimal gearhead (gear ratio: 10) between the gearhead and the motor. In that case, the permissible torque is 20 N·m.

◇50 Hz

Unit = N·m

Model	Speed r/min	500	416	300	250	200	166	120	100	83	60	50	41	30	25	20	16	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**
5RK90GE-AW2■J	**5GE□S**	1.7	2.0	2.8	3.4	4.3	5.1	6.4	7.7	9.2	11.6	13.9	16.6	20	20	20	20	20	20	20	20
5RK90GE-CW2■J 5RK90GE-CW3■E	**5GE□S**	1.8	2.1	3.0	3.5	4.4	5.3	6.7	8.0	9.6	12.0	14.5	17.3	20	20	20	20	20	20	20	20

◇60 Hz

Unit = N·m

Model	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**
5RK90GE-AW2■J 5RK90GE-AW2■U	**5GE□S**	1.4	1.7	2.4	2.8	3.6	4.3	5.3	6.4	7.7	9.7	11.6	13.9	19.3	20	20	20	20	20	20	20
5RK90GE-CW2■J 5RK90GE-CW3■E	**5GE□S**	1.5	1.8	2.5	2.9	3.7	4.4	5.5	6.6	7.9	10.0	12.0	14.4	20	20	20	20	20	20	20	20

Permissible Overhung Load and Permissible Thrust Load

Motor (Round shaft type) ➜ Page 107
Gearhead ➜ Page 107

Permissible Load Inertia J for Gearhead

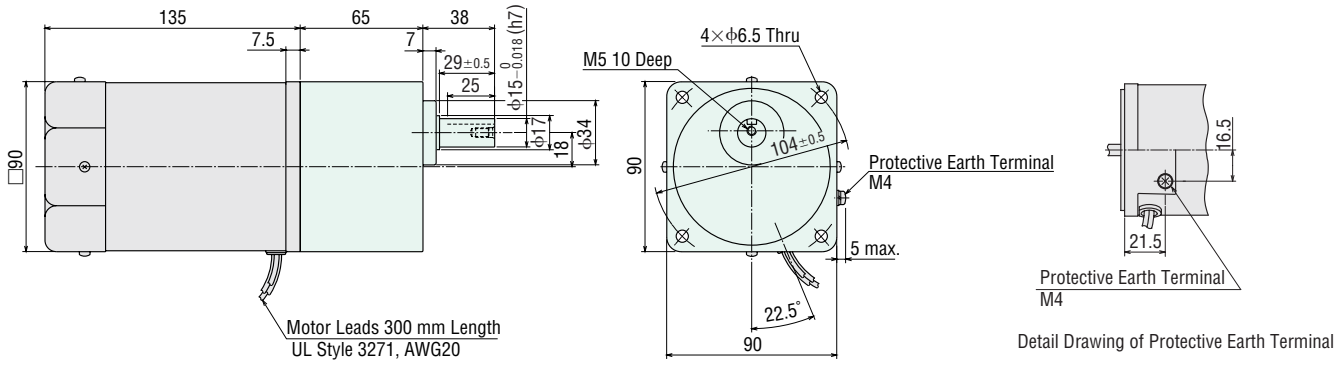
➜ Page 107

Dimensions (Unit = mm)

Mounting screws are included with gearheads.

◇Lead Wire Type ①

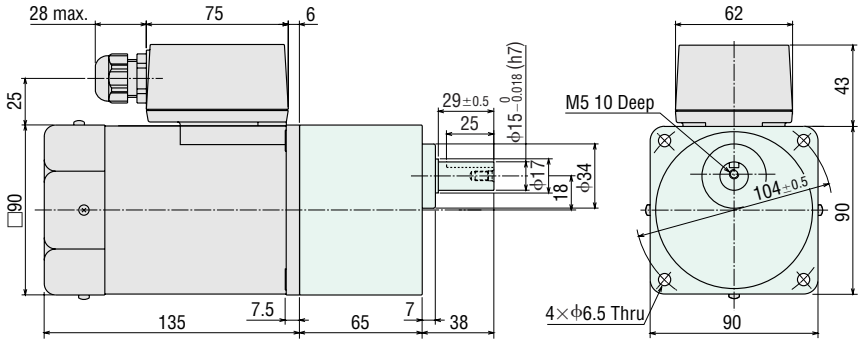
Mass: Motor 3.2 kg
Gearhead 1.5 kg



Detail Drawing of Protective Earth Terminal

◇Terminal Box Type ②

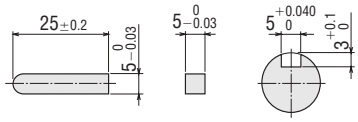
Mass: Motor 3.3 kg
Gearhead 1.5 kg



● Use cable with a diameter of φ6 ～ φ12 mm.

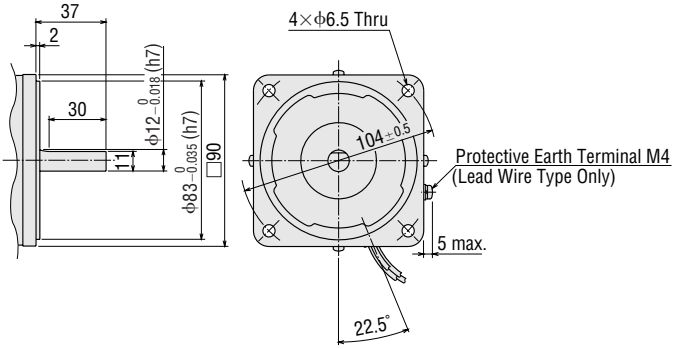
◇Key and Key Slot

(The key is included with the gearhead)



◇Shaft Section of Round Shaft Type

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

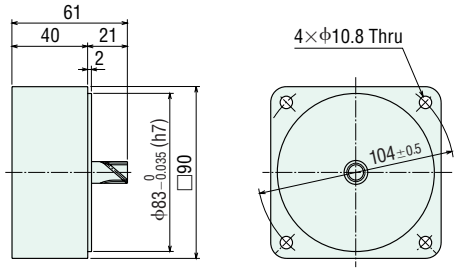


◇Decimal Gearhead

Can be connected to **GE** pinion shaft type.

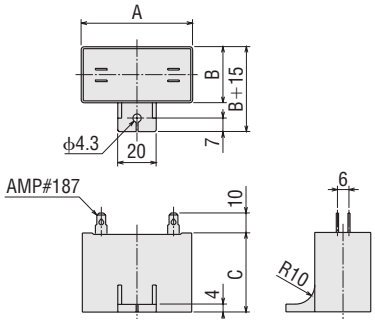
5GE10XS

Mass: 0.6 kg



◇Capacitor

(Included with the motors)

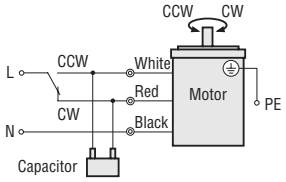
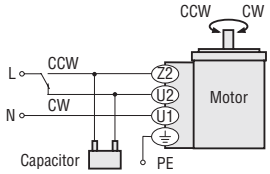


◇Capacitor Dimensions (mm)

Model Upper Model Name: Pinion Shaft Type Lower Model Name ( ): Round Shaft Type		Capacitor Model	A	B	C	Mass (g)	Capacitor Cap
Lead Wire Type	Terminal Box Type						
5RK90GE-AW2J (5RK90A-AW2J)	**5RK90GE-AW2TJ (5RK90A-AW2TJ)**	CH350CFAUL2	58	41	58	180	Included
5RK90GE-AW2U (5RK90A-AW2U)	**5RK90GE-AW2TU (5RK90A-AW2TU)**	CH300CFAUL2	58	35	50	140	
5RK90GE-CW2J (5RK90A-CW2J)	**5RK90GE-CW2TJ (5RK90A-CW2TJ)**	CH80BFAUL	58	35	50	130	
5RK90GE-CW3E (5RK90A-CW3E)	**5RK90GE-CW3TE (5RK90A-CW3TE)**	CH70BFAUL	58	35	50	130	

Connection Diagrams

- The direction of motor rotation is as viewed from the shaft end of the motor. CW represents the clockwise direction, while CCW represents the counterclockwise direction.
- Connection diagrams are also valid for the equivalent round shaft type.
- Specify the type of the capacitor to be included by entering **J** or **U** in the box (□) within the model name.

Lead Wire Type	Terminal Box Type
5RK90GE-AW2□ **5RK90GE-CW2J** **5RK90GE-CW3E**	**5RK90GE-AW2T□** **5RK90GE-CW2TJ** **5RK90GE-CW3TE**
	
Clockwise To rotate the motor in a clockwise (CW) direction, turn the switch to CW. **Counterclockwise** To rotate the motor in a counterclockwise (CCW) direction, turn the switch to CCW.	**Clockwise** To rotate the motor in a clockwise (CW) direction, turn the switch to CW. **Counterclockwise** To rotate the motor in a counterclockwise (CCW) direction, turn the switch to CCW.

PE: Protective Earth

Note:

Connect a CR circuit to the forward/reverse select switch to protect the contact.

EPCR1201-2 is available as an optional surge suppressor. ➜ Page 123