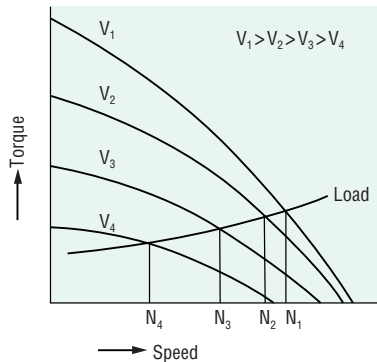


Features

The Speed Can Vary Widely, Depending on the Sloping Characteristics.

Torque motors have a high starting torque and sloping characteristics, allowing easy speed control simply by changing the voltage of the power supply. (The motor torque changes approximately proportionally to the square of the voltage.)

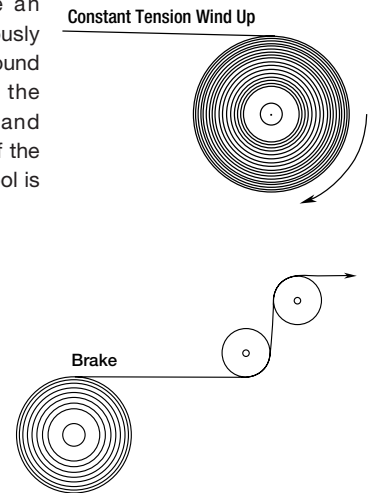


Suitable for Winding Applications

In an application where an object is released continuously at a constant speed and wound up with constant tension, the torque must be doubled and the speed must be halved if the diameter of the winding spool is doubled.

Use as a Brake

By using the motor in the braking region of the speed-torque characteristics, it can serve as a brake. Constant tension operation can be achieved by applying a DC voltage.



Safety Standards and CE Marking

| Standards | Certification Body | Standards File No. | CE Marking |
|---|--------------------|-----------------------------|------------------------|
| UL 1004 UL 2111 CSA C22.2 No.100 CSA C22.2 No.77 | UL | E64197 | Low Voltage Directives |
| EN 60950-1 EN 60034-1 EN 60034-5 IEC 60664-1 | | | |
| GB 12350 | CQC | 2005010401150784 (3 W~20 W) | |

● When the motor is approved under various safety standards, the model name on the nameplate is the approved model name.

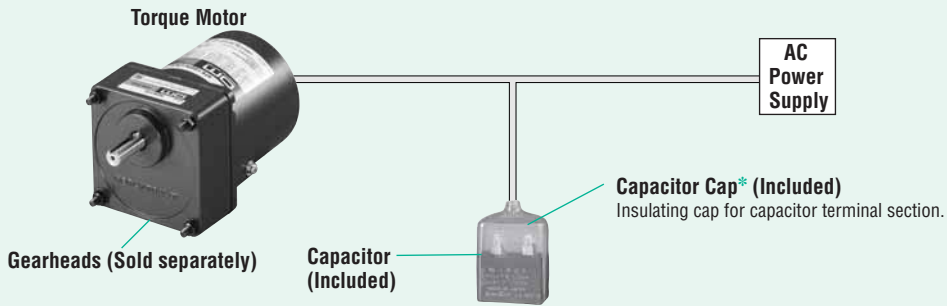
System Configuration



Mounting Brackets (Accessories)
(→ Page 121)



Flexible Couplings (Accessories)
(→ Page 123)



● **Example of System Configuration**
(Body)

| |
|-----------------------------|
| Motor (Pinion Shaft) |
| 4TK10GN-CW2E |

+

⊙: Required under this system.
(Sold separately) ○: Selectable according to necessity. Oriental Motor provides.

| Long Life/Low Noise GN-S Gearhead | Mounting Bracket | Flexible Coupling |
|-----------------------------------|------------------|-------------------|
| 4GN25S | SOL4M5 | MCL301012 |
| ⊙ | ○ | ○ |

*Capacitor cap is included.

● The system configuration shown above is an example. Other configurations are available. Decimal gearheads are also available.

Product Number Code

Motor

5 T K 20 GN - CW 2 E

① ② ③ ④ ⑤ ⑥ ⑦ ⑧

| | | |
|---|--------------------------|---|
| ① | Motor Frame Size | 2: 60 mm 3: 70 mm 4: 80 mm 5: 90 mm |
| ② | Motor Type | T: Torque Motors |
| ③ | Series | K: K Series |
| ④ | Output Power (W) | (Example) 20: 20 W |
| ⑤ | Motor Shaft Type | GN: GN Type Pinion Shaft A: Round Shaft |
| ⑥ | Power Supply Voltage | AW: Single-Phase 100 VAC, 110/115 VAC CW: Single-Phase 200 VAC, 220/230 VAC |
| ⑦ | 2: RoHS-Compliant | |
| ⑧ | Included Capacitor | J: For Single-Phase 100 VAC, 200 VAC U: For Single-Phase 110/115 VAC E: For Single-Phase 220/230 VAC |

● 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.

(Example) Model: **5TK20GN-CW2E**

→ Motor nameplate and product approved under various safety standards:

5TK20GN-CW2

Gearhead

5 GN 50 S

① ② ③ ④

| | | |
|---|-----------------------|---|
| ① | Gearhead Frame Size | 2: 60 mm 3: 70 mm 4: 80 mm 5: 90 mm |
| ② | Type of Pinion | GN: GN Type Pinion |
| ③ | Gear Ratio | (Example) 50: Gear Ratio of 1:50 10X denotes the decimal gearhead of gear ratio 1:10 |
| ④ | GN Type Pinion | S: Long Life/Low Noise GN-S Gearhead, RoHS-Compliant |

Note:

A right-angle gearhead cannot be combined.

Product Line

Motor (RoHS)

| Output Power | Model | |
|--------------|---------------------|--------------------|
| | Pinion Shaft Type | Round Shaft Type |
| 3 W | 2TK3GN-AW2J | 2TK3A-AW2J |
| | 2TK3GN-AW2U | 2TK3A-AW2U |
| | 2TK3GN-CW2J | 2TK3A-CW2J |
| | 2TK3GN-CW2E | 2TK3A-CW2E |
| 6 W | 3TK6GN-AW2J | 3TK6A-AW2J |
| | 3TK6GN-AW2U | 3TK6A-AW2U |
| | 3TK6GN-CW2J | 3TK6A-CW2J |
| | 3TK6GN-CW2E | 3TK6A-CW2E |
| 10 W | 4TK10GN-AW2J | 4TK10A-AW2J |
| | 4TK10GN-AW2U | 4TK10A-AW2U |
| | 4TK10GN-CW2J | 4TK10A-CW2J |
| | 4TK10GN-CW2E | 4TK10A-CW2E |
| 20 W | 5TK20GN-AW2J | 5TK20A-AW2J |
| | 5TK20GN-AW2U | 5TK20A-AW2U |
| | 5TK20GN-CW2J | 5TK20A-CW2J |
| | 5TK20GN-CW2E | 5TK20A-CW2E |

Gearhead (Sold Separately) (RoHS)

| Applicable Motor Output Power (Pinion Shaft Type) | Gearhead Model | Gear Ratio |
|---|-----------------------------------|---|
| 3 W | 2GN□S | 3, 3.6, 5, 6, 7.5, 9, 12.5, 15, 18, 25, 30, 36, 50, 60, 75, 90, 100, 120, 150, 180 |
| | 2GN10XS (Decimal gearhead) | |
| 6 W | 3GN□S | 3, 3.6, 5, 6, 7.5, 9, 12.5, 15, 18, 25, 30, 36, 50, 60, 75, 90, 100, 120, 150, 180 |
| | 3GN10XS (Decimal gearhead) | |
| 10 W | 4GN□S | 3, 3.6, 5, 6, 7.5, 9, 12.5, 15, 18, 25, 30, 36, 50, 60, 75, 90, 100, 120, 150, 180 |
| | 4GN10XS (Decimal gearhead) | |
| 20 W | 5GN□S | 3, 3.6, 5, 6, 7.5, 9, 12.5, 15, 18, 25, 30, 36, 50, 60, 75, 90, 100, 120, 150, 180 |
| | 5GN10XS (Decimal gearhead) | |

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

Specifications

● 3 W, 6 W, 10 W (RoHS)



| Model | | Rating at Locked Rotor | Voltage | Frequency | Starting Torque | Max. Output Power | Speed at Max. Output | Torque at Max. Output | Current at Max. Output | Input Power at Max. Output | Capacitor | |
|-------------------|------------------|------------------------|------------|-----------|-----------------|-------------------|----------------------|-----------------------|------------------------|----------------------------|-----------|-----|
| Pinion Shaft Type | Round Shaft Type | | | | | | | | | | | VAC |
| TP | 2TK3GN-AW2J | 2TK3A-AW2J | 5 minutes | 100 | 50 | 70 | 3 | 750 | 39 | 0.42 | 40 | 7.0 |
| | | | | | 60 | 70 | 3.5 | 900 | 38 | 0.48 | 45 | |
| | | | Continuous | 50 | 50 | 18 | 0.8 | 750 | 10 | 0.21 | 10 | |
| | | | | | 60 | 20 | 1 | 900 | 11 | 0.30 | 14 | |
| TP | 2TK3GN-AW2U | 2TK3A-AW2U | 5 minutes | 110 | 60 | 70 | 3.5 | 900 | 38 | 0.42 | 45 | 6.0 |
| | | | | | | | | | | 115 | | |
| | | | Continuous | 60 | 60 | 25 | 1.2 | 900 | 13 | 0.26 | 15 | |
| | | | | | | | | | | | | |
| TP | 2TK3GN-CW2J | 2TK3A-CW2J | 5 minutes | 200 | 50 | 70 | 3 | 750 | 39 | 0.210 | 40 | 1.8 |
| | | | | | 60 | 70 | 3.5 | 900 | 38 | 0.230 | 45 | |
| | | | Continuous | 100 | 50 | 18 | 0.8 | 750 | 10 | 0.105 | 10 | |
| | | | | | 60 | 20 | 1 | 900 | 11 | 0.150 | 15 | |
| TP | 2TK3GN-CW2E | 2TK3A-CW2E | 5 minutes | 220 | 50 | 70 | 3 | 750 | 39 | 0.220 | 45 | 1.5 |
| | | | | | | | | | | 230 | | |
| | | | Continuous | 115 | 60 | 70 | 3.5 | 900 | 38 | 0.215 | 45 | |
| | | | | | | | | | | 230 | | |
| TP | 3TK6GN-AW2J | 3TK6A-AW2J | 5 minutes | 100 | 50 | 140 | 6 | 750 | 78 | 0.64 | 60 | 11 |
| | | | | | 60 | 140 | 7.5 | 900 | 82 | 0.63 | 60 | |
| | | | Continuous | 50 | 50 | 40 | 1.6 | 750 | 21 | 0.31 | 15 | |
| | | | | | 60 | 45 | 2 | 900 | 23 | 0.45 | 20 | |
| TP | 3TK6GN-AW2U | 3TK6A-AW2U | 5 minutes | 110 | 60 | 150 | 8 | 900 | 87 | 0.60 | 65 | 9.0 |
| | | | | | | | | | | 115 | | |
| | | | Continuous | 60 | 60 | 55 | 2.6 | 900 | 28 | 0.37 | 20 | |
| | | | | | | | | | | | | |
| TP | 3TK6GN-CW2J | 3TK6A-CW2J | 5 minutes | 200 | 50 | 140 | 6 | 750 | 78 | 0.340 | 60 | 3.0 |
| | | | | | 60 | 140 | 7.5 | 900 | 82 | 0.340 | 65 | |
| | | | Continuous | 100 | 50 | 40 | 1.6 | 750 | 21 | 0.165 | 15 | |
| | | | | | 60 | 45 | 2 | 900 | 23 | 0.245 | 25 | |
| TP | 3TK6GN-CW2E | 3TK6A-CW2E | 5 minutes | 220 | 50 | 140 | 6 | 750 | 78 | 0.390 | 70 | 2.5 |
| | | | | | | | | | | 230 | | |
| | | | Continuous | 115 | 60 | 150 | 8 | 900 | 87 | 0.320 | 70 | |
| | | | | | | | | | | 230 | | |
| TP | 4TK10GN-AW2J | 4TK10A-AW2J | 5 minutes | 100 | 50 | 220 | 10 | 750 | 130 | 0.76 | 70 | 14 |
| | | | | | 60 | 210 | 12 | 900 | 130 | 0.88 | 85 | |
| | | | Continuous | 50 | 50 | 60 | 2.3 | 750 | 30 | 0.40 | 20 | |
| | | | | | 60 | 65 | 2.8 | 900 | 30 | 0.54 | 25 | |
| TP | 4TK10GN-AW2U | 4TK10A-AW2U | 5 minutes | 110 | 60 | 210 | 12 | 900 | 130 | 0.74 | 80 | 11 |
| | | | | | | | | | | 115 | | |
| | | | Continuous | 60 | 60 | 70 | 3.3 | 900 | 35 | 0.45 | 25 | |
| | | | | | | | | | | | | |
| TP | 4TK10GN-CW2J | 4TK10A-CW2J | 5 minutes | 200 | 50 | 220 | 10 | 750 | 130 | 0.38 | 70 | 3.5 |
| | | | | | 60 | 210 | 12 | 900 | 130 | 0.43 | 85 | |
| | | | Continuous | 100 | 50 | 60 | 2.3 | 750 | 30 | 0.19 | 19 | |
| | | | | | 60 | 65 | 2.8 | 900 | 30 | 0.27 | 25 | |
| TP | 4TK10GN-CW2E | 4TK10A-CW2E | 5 minutes | 220 | 50 | 220 | 10 | 750 | 130 | 0.41 | 80 | 3.0 |
| | | | | | | | | | | 230 | | |
| | | | Continuous | 115 | 60 | 210 | 12 | 900 | 130 | 0.39 | 80 | |
| | | | | | | | | | | 230 | | |
| | | | | | 50 | 65 | 2.8 | 750 | 35 | 0.18 | 20 | |
| | | | | | | | | | | 60 | 70 | |

● 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.

● 20 W (RoHS)



| Model | | Rating at Locked Rotor | Voltage VAC | Frequency Hz | Starting Torque mN·m | Max. Output Power W | Speed at Max. Output Power r/min | Torque at Max. Output Power mN·m | Current at Max. Output Power A | Input Power at Max. Output Power W | Capacitor μ F | | |
|-------------------|------------------|------------------------|-------------|--------------|----------------------|---------------------|----------------------------------|----------------------------------|--------------------------------|------------------------------------|-------------------|-----|-----|
| Pinion Shaft Type | Round Shaft Type | | | | | | | | | | | | |
| TP | 5TK20GN-AW2J | 5TK20A-AW2J | 5 minutes | 100 | 50 | 350 | 20 | 750 | 260 | 1.00 | 90 | 18 | |
| | | | | | 60 | 300 | 20 | 900 | 220 | 1.18 | 115 | | |
| Continuous | 50 | 60 | 50 | 80 | 4 | 750 | 50 | 0.50 | 25 | | | | |
| | | | 60 | 85 | 4 | 900 | 45 | 0.69 | 34 | | | | |
| TP | 5TK20GN-AW2U | 5TK20A-AW2U | 5 minutes | 110 | 60 | 350 | 23 | 900 | 250 | 1.00 | 110 | | 14 |
| | | | | 115 | | | | | | 1.02 | 115 | | |
| Continuous | 60 | 60 | 60 | 100 | 5.5 | 900 | 60 | 0.58 | 34 | | | | |
| | | | 60 | 100 | 5.5 | 900 | 60 | 0.58 | 34 | | | | |
| TP | 5TK20GN-CW2J | 5TK20A-CW2J | 5 minutes | 200 | 50 | 350 | 20 | 750 | 260 | 0.57 | 105 | 4.5 | |
| | | | | | 60 | 300 | 20 | 900 | 220 | 0.55 | 105 | | |
| Continuous | 100 | 60 | 50 | 80 | 4 | 750 | 50 | 0.24 | 24 | | | | |
| | | | 60 | 85 | 4 | 900 | 45 | 0.31 | 30 | | | | |
| TP | 5TK20GN-CW2E | 5TK20A-CW2E | 5 minutes | 220 | 50 | 350 | 20 | 750 | 260 | 0.63 | 120 | | 4.0 |
| | | | | 230 | | | | | | 0.68 | 130 | | |
| Continuous | 115 | 60 | 220 | 60 | 350 | 20 | 900 | 220 | 0.53 | 115 | | | |
| | | | 230 | | | | | | 0.54 | 120 | | | |
| Continuous | 115 | 60 | 50 | 85 | 4.5 | 750 | 60 | 0.26 | 29 | | | | |
| | | | 60 | 100 | 5.5 | 900 | 60 | 0.30 | 34 | | | | |

● 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.

General Specifications

● 3 W, 6 W, 10 W, 20 W

| Item | Specifications |
|-----------------------|--|
| Insulation Resistance | 100 M Ω or more when 500 VDC megger is applied between the windings and the frame after rated motor operation under normal ambient temperature and humidity. |
| Dielectric Strength | Sufficient to withstand 1.5 kV at 50 Hz or 60 Hz applied between the windings and the frame for 1 minute after rated motor operation under normal ambient temperature and humidity. |
| Temperature Rise | Temperature rise of windings are 80°C or less measured by the resistance change method after rated motor operation under normal ambient temperature and humidity, with connecting a gearhead or equivalent heat radiation plate*. |
| Insulation Class | Class B (130°C) |
| Overheat Protection | Built-in thermal protector (automatic return type) 3W type open: 130°C \pm 5°C, close: 90°C \pm 15°C Other type open: 130°C \pm 5°C, close: 82°C \pm 15°C |
| Ambient Temperature | Single-Phase 50 VAC, Single-Phase 100 VAC, Single-Phase 200 VAC: -10°C~+50°C (nonfreezing) Single-Phase 60 VAC, Single-Phase 110 VAC, Single-Phase 115 VAC, Single-Phase 220 VAC, Single-Phase 230 VAC: -10°C~+40°C (nonfreezing) |
| Ambient Humidity | 85% or less (noncondensing) |
| Degree of Protection | IP20 |

* Heat radiation plate (Material: Aluminum)

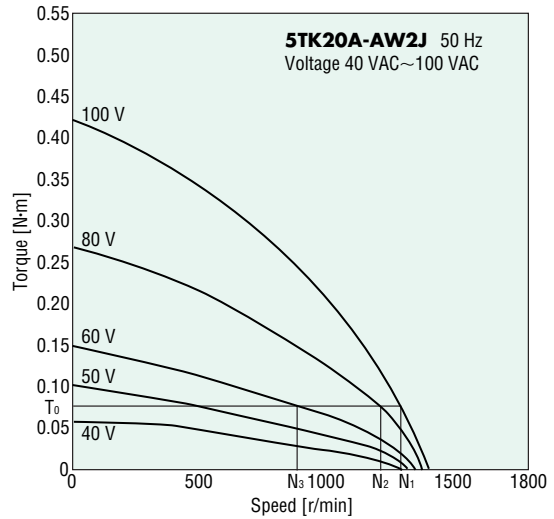
| Motor Type | Size (mm) | Thickness (mm) |
|------------|-----------|----------------|
| 3 W Type | 115×115 | 5 |
| 6 W Type | 125×125 | |
| 10 W Type | 135×135 | |
| 20 W Type | 165×165 | |

How to Read Speed – Torque Characteristics

The motor torque changes approximately proportion to the square of the voltage. When the voltage supplied to the motor is changed, speed – torque curves with a sloping characteristics (torque is highest at zero speed and decreases steadily with increasing speed) shifts to that of the corresponding voltage.

When the voltage is changed to 100 VAC, 80 VAC and 60 VAC while the load torque is T_0 , the motor rotates at the speeds N_1 , N_2 and N_3 respectively. Thus, the speed can be changed easily by varying the voltage.

When choosing a torque motor, first determine the required torque and speed. Then select a motor using the speed – torque characteristics curves to determine whether the motor should be operated under continuous duty or limited duty. When used under locked rotor conditions, only the torque factor is considered. The temperature rise of the motor may cause a problem during continuous operation. In this case, choose a motor with an output power large enough for continuous operation and adjust the voltage to control the torque and speed.



Voltage Control of Torque Motors

The method most commonly used to control voltage is by phase control using a triac. As shown in Fig. 1, by changing the phase angle "α" at which the triac switches, the input voltage is controlled as represented by the phase angle areas of the graph.

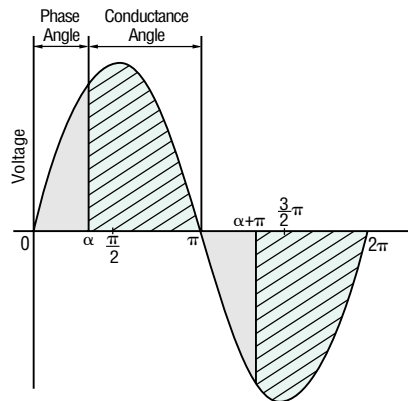


Fig. 1 Phase Control

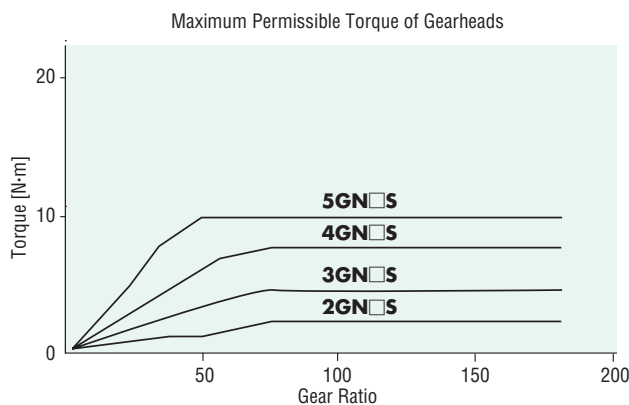
Gearmotor – Torque Table

Due to the sloping characteristics, torque motors can be operated over a wide speed range, from locked rotor condition to the maximum speed. The permissible torque when a gearhead and a decimal gearhead are directly connected can be calculated according to the following formula, using the speed and torque determined from the speed – torque characteristics.

Speed of gearhead output shaft $N_g = \text{Motor speed} \times 1/\text{gearhead gear ratio}$

Output torque of gearhead $T_g = \text{Motor torque} \times \text{Gearhead gear ratio} \times \text{Gearhead efficiency}$

The output torque of the gearhead must be lower than the maximum permissible torque.

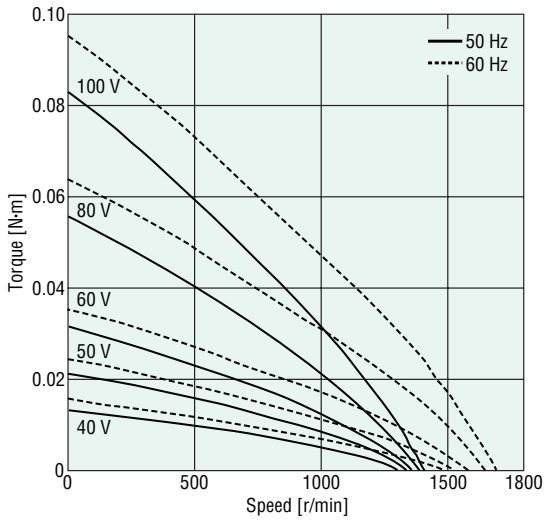


| Gearhead Model | Gearhead Gear Ratio | Gearhead Efficiency |
|----------------|---------------------|---------------------|
| 2GN□S | 3~18 | 81% |
| 3GN□S | | |
| 4GN□S | 25~36 | 73% |
| 5GN□S | | |
| | 50~180 | 66% |

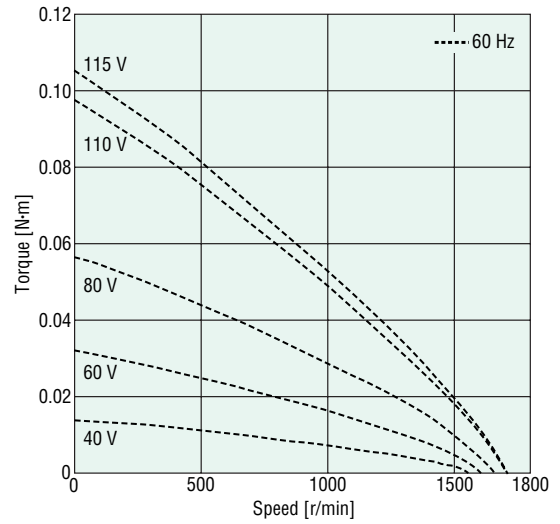
- Gearheads and decimal gearheads are sold separately.
- Enter the gear ratio in the box (□) within the model name.

Speed – Torque Characteristics (Reference Values)

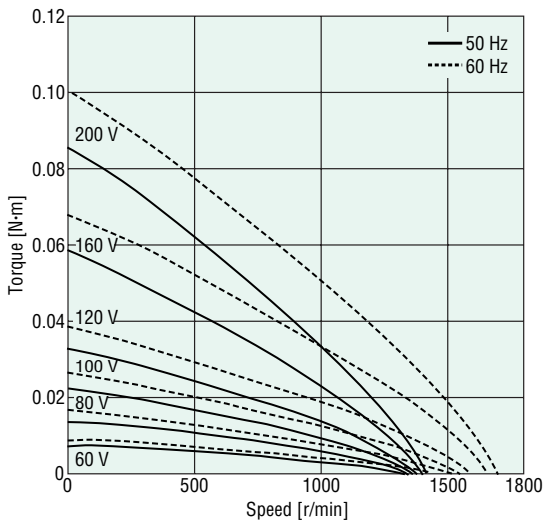
2TK3GN-AW2J, 2TK3A-AW2J



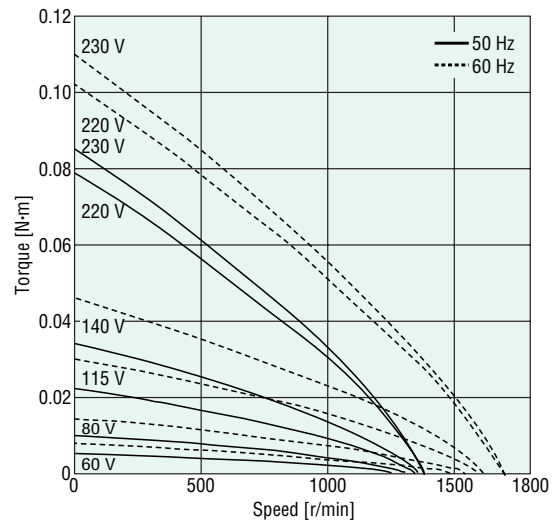
2TK3GN-AW2U, 2TK3A-AW2U



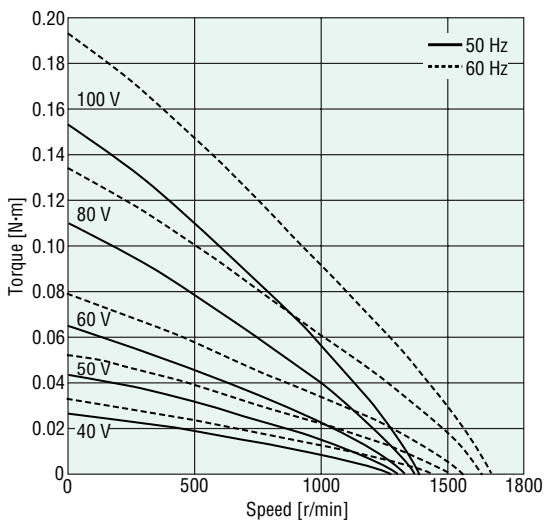
2TK3GN-CW2J, 2TK3A-CW2J



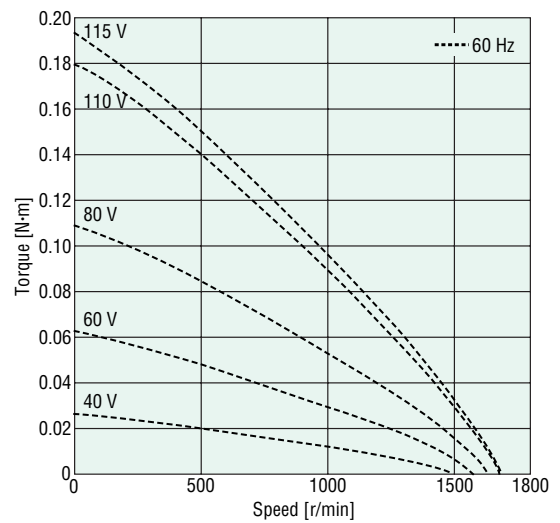
2TK3GN-CW2E, 2TK3A-CW2E



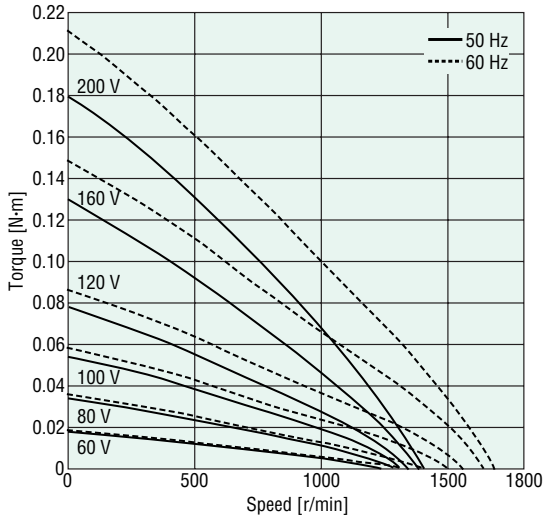
3TK6GN-AW2J, 3TK6A-AW2J



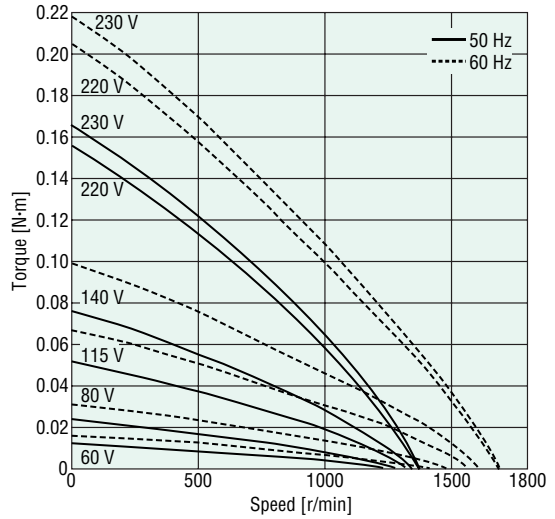
3TK6GN-AW2U, 3TK6A-AW2U



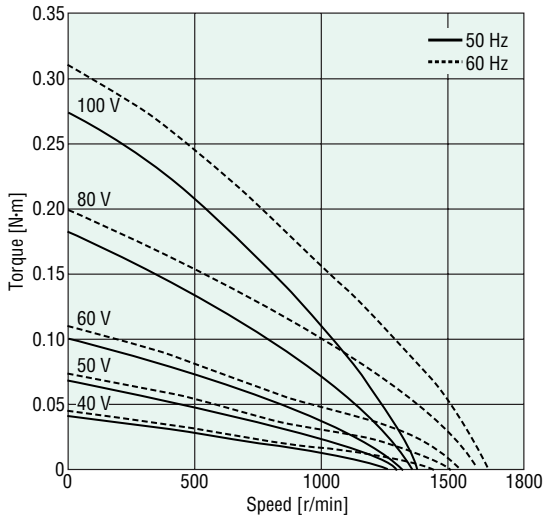
3TK6GN-CW2J, 3TK6A-CW2J



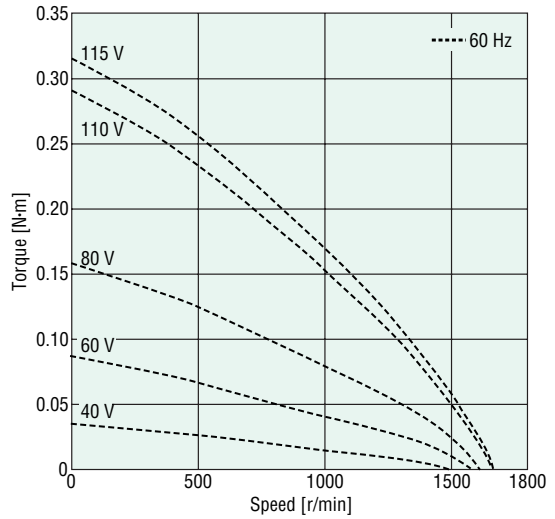
3TK6GN-CW2E, 3TK6A-CW2E



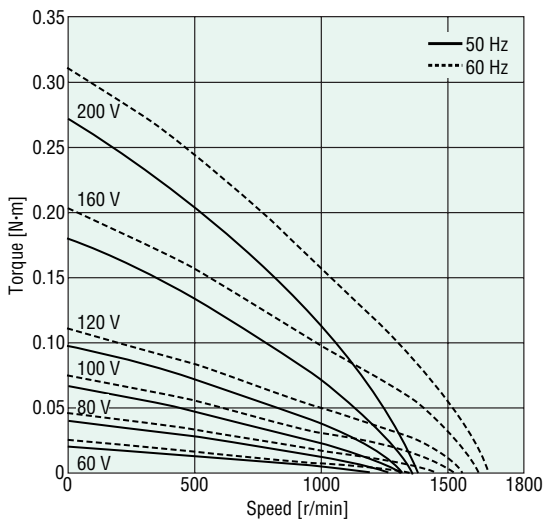
4TK10GN-AW2J, 4TK10A-AW2J



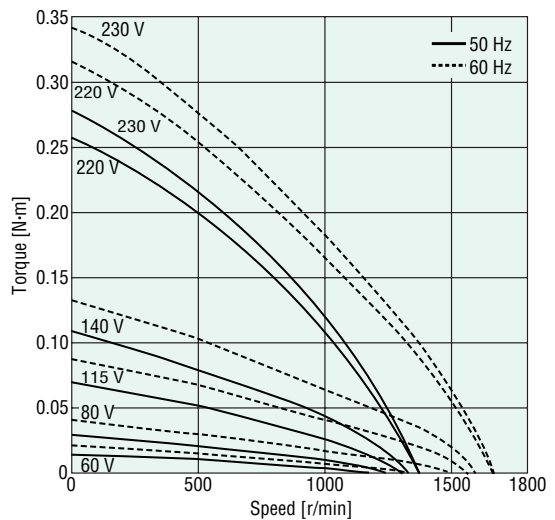
4TK10GN-AW2U, 4TK10A-AW2U



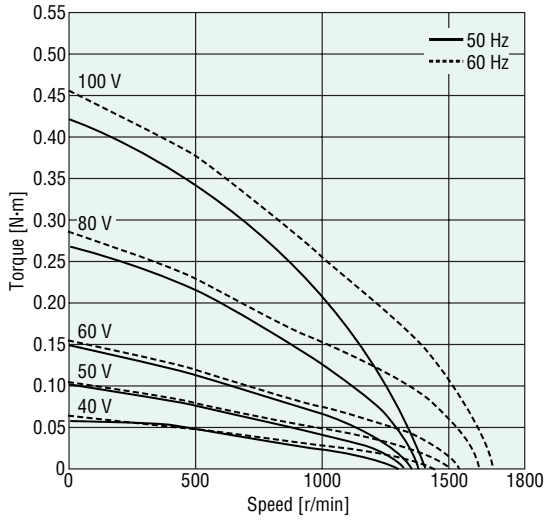
4TK10GN-CW2J, 4TK10A-CW2J



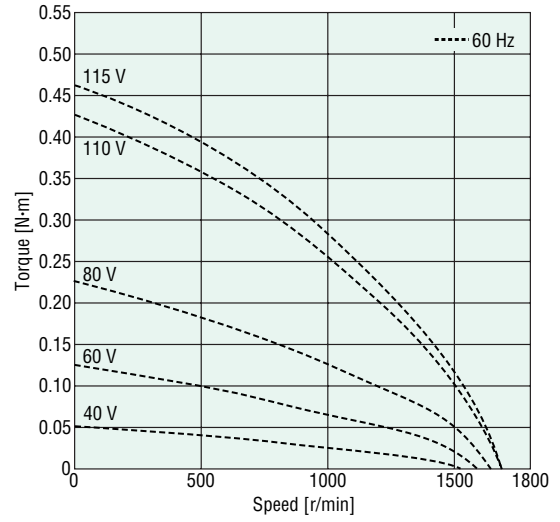
4TK10GN-CW2E, 4TK10A-CW2E



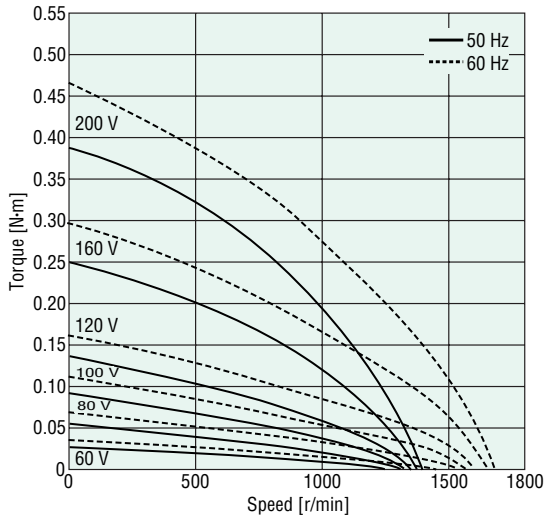
5TK20GN-AW2J, 5TK20A-AW2J



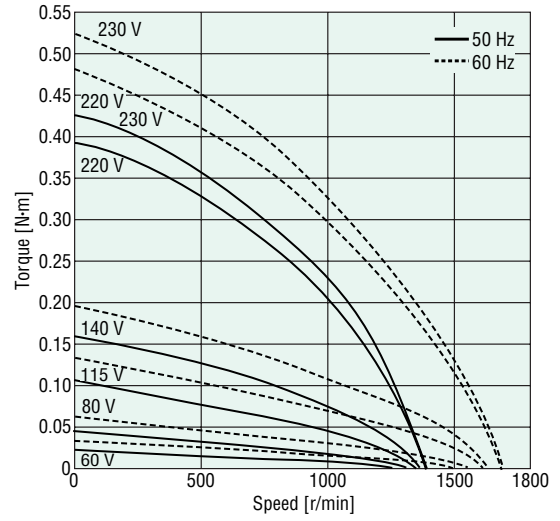
5TK20GN-AW2U, 5TK20A-AW2U



5TK20GN-CW2J, 5TK20A-CW2J



5TK20GN-CW2E, 5TK20A-CW2E



Dimensions (Unit = mm)

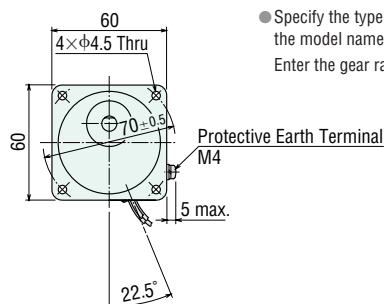
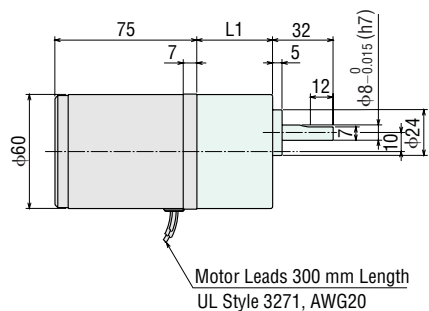
Mounting screws are included with gearheads.

3 W

Motor/Gearhead

Mass: Motor 0.7 kg

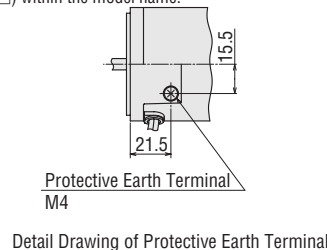
Gearhead 0.4 kg



| Motor Model | Gearhead Model | Gear Ratio | L1 |
|-------------------|----------------|---------------|----|
| 2TK3GN-AW2 | 2GN S | 3~18 | 30 |
| 2TK3GN-CW2 | | 25~180 | 40 |

Specify the type of the capacitor to be included by entering **J**, **U** or **E** in the box (□) within the model name.

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



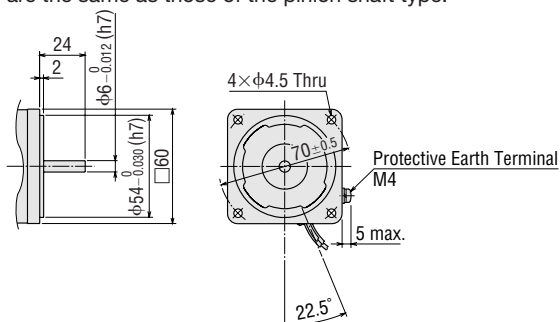
Detail Drawing of Protective Earth Terminal

Shaft Section of Round Shaft Type

2TK3A-AW2

2TK3A-CW2

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

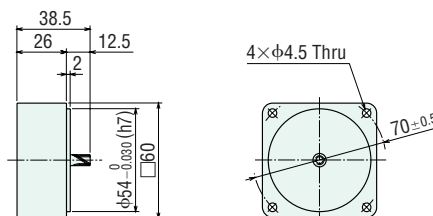


Decimal Gearhead

Can be connected to **2TK3GN** type.

2GN10XS

Mass: 0.2 kg

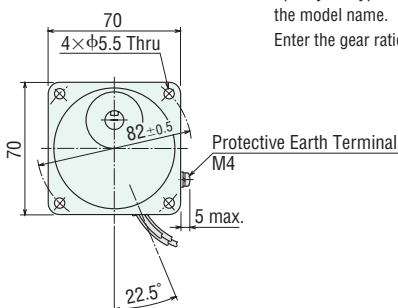
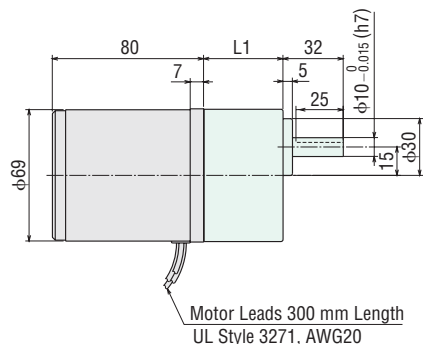


6 W

Motor/Gearhead

Mass: Motor 1.1 kg

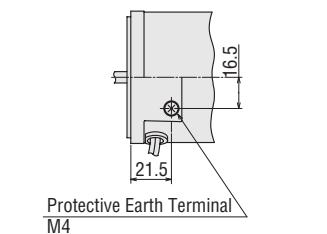
Gearhead 0.55 kg



| Motor Model | Gearhead Model | Gear Ratio | L1 |
|-------------------|----------------|---------------|----|
| 3TK6GN-AW2 | 3GN S | 3~18 | 32 |
| 3TK6GN-CW2 | | 25~180 | 42 |

Specify the type of the capacitor to be included by entering **J**, **U** or **E** in the box (□) within the model name.

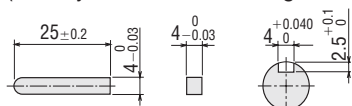
Enter the gear ratio in the box (□) within the model name.



Detail Drawing of Protective Earth Terminal

Key and Key Slot

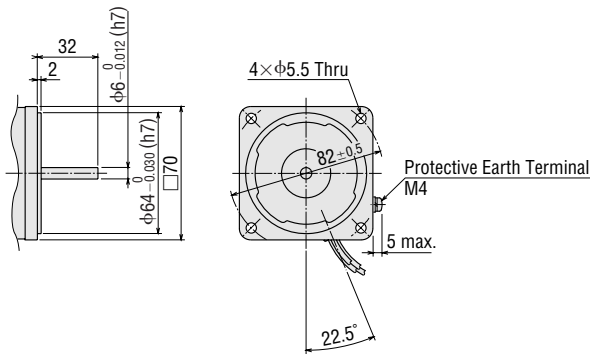
(The key is included with the gearhead)



◇ Shaft Section of Round Shaft Type

3TK6A-AW2
3TK6A-CW2

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

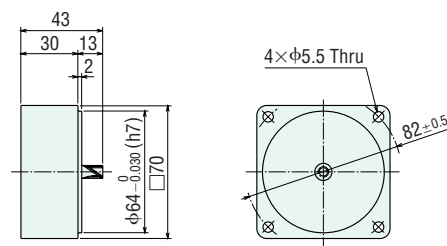


◇ Decimal Gearhead

Can be connected to **3TK6GN** type.

3GN10XS

Mass: 0.3 kg



● 10 W

◇ Motor/Gearhead

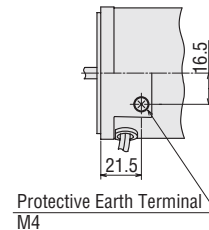
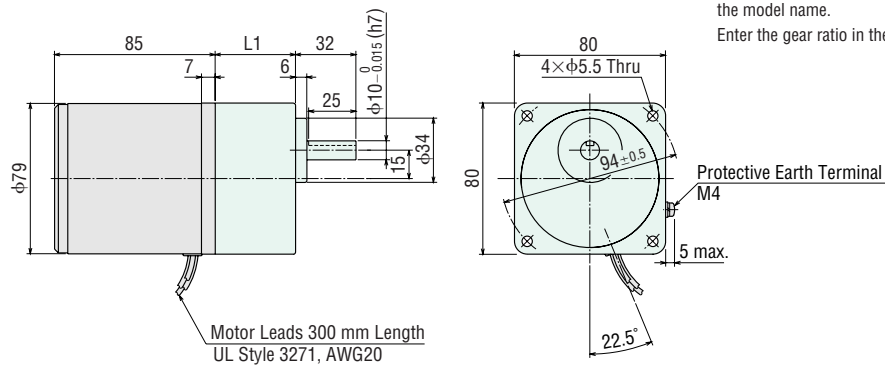
Mass: Motor 1.5 kg

Gearhead 0.65 kg

| Motor Model | Gearhead Model | Gear Ratio | L1 |
|--------------------|----------------|---------------|------|
| 4TK10GN-AW2 | 4GN □S | 3~18 | 32 |
| 4TK10GN-CW2 | | 25~180 | 42.5 |

● Specify the type of the capacitor to be included by entering **J**, **U** or **E** in the box (□) within the model name.

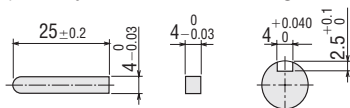
Enter the gear ratio in the box (□) within the model name.



Detail Drawing of Protective Earth Terminal

◇ Key and Key Slot

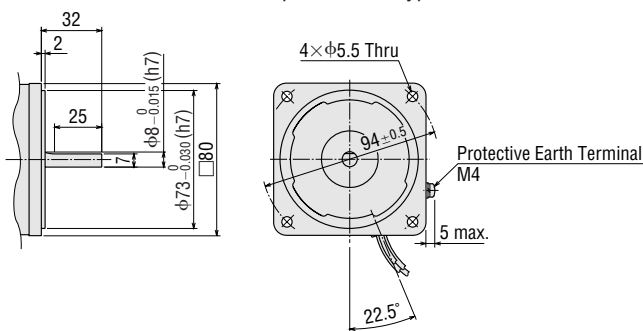
(The key is included with the gearhead)



◇ Shaft Section of Round Shaft Type

4TK10A-AW2
4TK10A-CW2

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

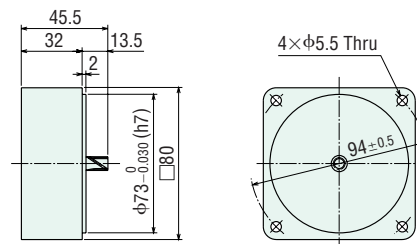


◇ Decimal Gearhead

Can be connected to **4TK10GN** type.

4GN10XS

Mass: 0.4 kg



● 20 W

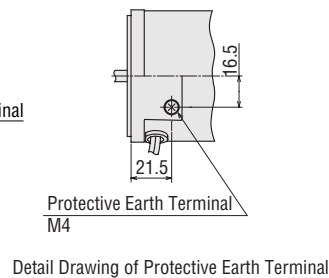
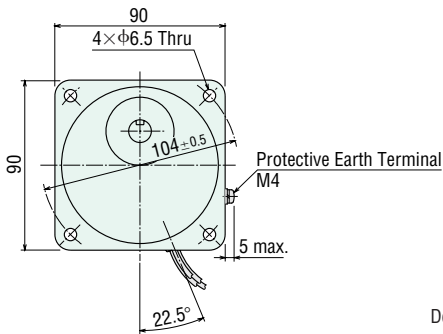
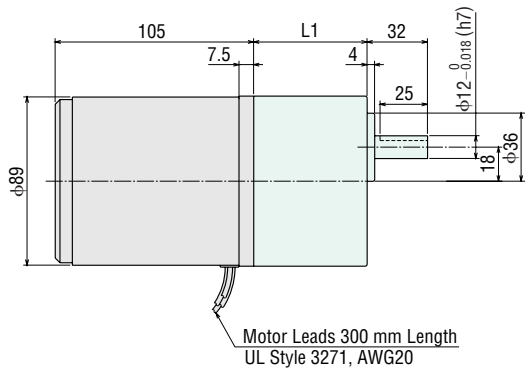
◇ Motor/Gearhead

Mass: Motor 2.5 kg
Gearhead 1.5 kg

| Motor Model | Gearhead Model | Gear Ratio | L1 |
|---|--|---------------|----|
| 5TK20GN-AW2 <input type="checkbox"/> | 5GN <input type="checkbox"/> S | 3~18 | 42 |
| 5TK20GN-CW2 <input type="checkbox"/> | | 25~180 | 60 |

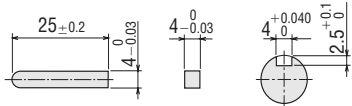
● Specify the type of the capacitor to be included by entering **J**, **U** or **E** in the box () within the model name.

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



◇ Key and Key Slot

(The key is included with the gearhead)

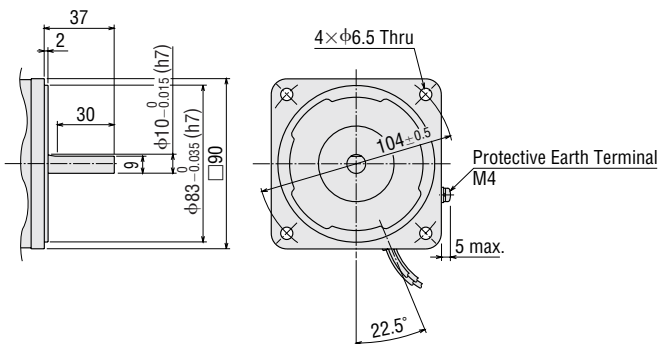


◇ Shaft Section of Round Shaft Type

5TK20A-AW2

5TK20A-CW2

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

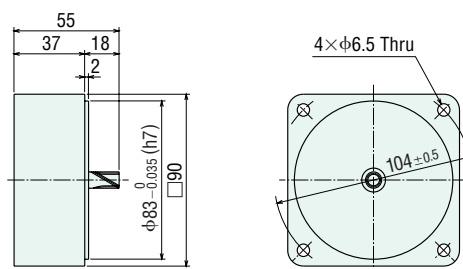


◇ Decimal Gearhead

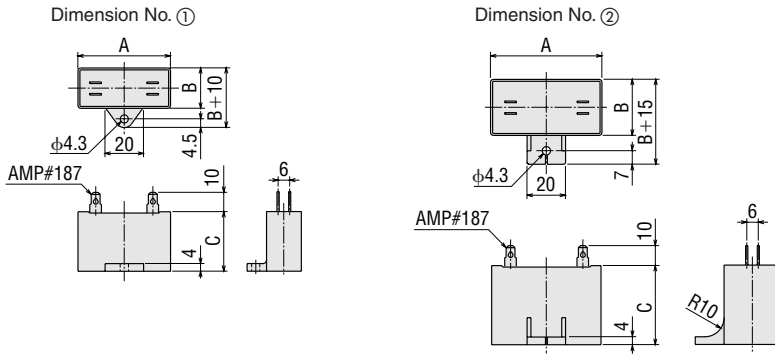
Can be connected to **5TK20GN** type.

5GN10XS

Mass: 0.6 kg



◇ Capacitor (Included with the motors)



◇ Capacitor Dimensions (mm)

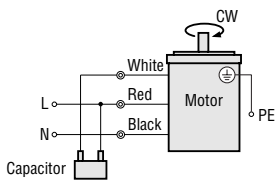
| Model | | Capacitor Model | A | B | C | Mass (g) | Dimension No. | Capacitor Cap |
|-------------------|------------------|-----------------|----|------|------|----------|---------------|---------------|
| Pinion Shaft Type | Round Shaft Type | | | | | | | |
| 2TK3GN-AW2J | 2TK3A-AW2J | CH70CFAUL2 | 48 | 19 | 29 | 36 | ① | Included |
| 2TK3GN-AW2U | 2TK3A-AW2U | CH60CFAUL2 | 38 | 21 | 31 | 40 | ① | |
| 2TK3GN-CW2J | 2TK3A-CW2J | CH18BFAUL | 38 | 21 | 31 | 35 | ① | |
| 2TK3GN-CW2E | 2TK3A-CW2E | CH15BFAUL | 38 | 21 | 31 | 35 | ① | |
| 3TK6GN-AW2J | 3TK6A-AW2J | CH110CFAUL2 | 58 | 21 | 31 | 50 | ① | |
| 3TK6GN-AW2U | 3TK6A-AW2U | CH90CFAUL2 | 48 | 22.5 | 31.5 | 45 | ① | |
| 3TK6GN-CW2J | 3TK6A-CW2J | CH30BFAUL | 58 | 21 | 31 | 50 | ① | |
| 3TK6GN-CW2E | 3TK6A-CW2E | CH25BFAUL | 48 | 21 | 31 | 45 | ① | |
| 4TK10GN-AW2J | 4TK10A-AW2J | CH140CFAUL2 | 58 | 22 | 35 | 61 | ① | |
| 4TK10GN-AW2U | 4TK10A-AW2U | CH110CFAUL2 | 58 | 21 | 31 | 50 | ① | |
| 4TK10GN-CW2J | 4TK10A-CW2J | CH35BFAUL | 58 | 22 | 35 | 55 | ① | |
| 4TK10GN-CW2E | 4TK10A-CW2E | CH30BFAUL | 58 | 21 | 31 | 50 | ① | |
| 5TK20GN-AW2J | 5TK20A-AW2J | CH180CFAUL2 | 58 | 29 | 41 | 95 | ② | |
| 5TK20GN-AW2U | 5TK20A-AW2U | CH140CFAUL2 | 58 | 22 | 35 | 61 | ① | |
| 5TK20GN-CW2J | 5TK20A-CW2J | CH45BFAUL | 58 | 23.5 | 37 | 73 | ② | |
| 5TK20GN-CW2E | 5TK20A-CW2E | CH40BFAUL | 58 | 23.5 | 37 | 70 | ② | |

■ Connection Diagrams

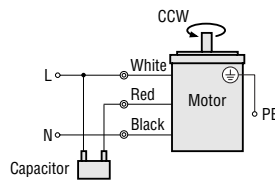
- The direction of motor rotation is as viewed from the shaft end of the motor. CW represents the clockwise direction, while CCW represents the counterclockwise direction.
- Connection diagrams are also valid for the equivalent round shaft type.
- Specify the type of the capacitor to be included by entering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

2TK3GN-AW2□, 2TK3GN-CW2□, 3TK6GN-AW2□, 3TK6GN-CW2□
 4TK10GN-AW2□, 4TK10GN-CW2□, 5TK20GN-AW2□, 5TK20GN-CW2□

Clockwise



Counterclockwise



PE: Protective Earth