

Standard AC Motors

Constant Speed Motors

# Electromagnetic Brake Motors

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## Electromagnetic Brake Motors

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Electromagnetic Brake Motors

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Clutch & Brake Motors

Synchronous Motors

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# Features and Types of Electromagnetic Brake Motors

## Features of Electromagnetic Brake Motors

### ● Power Off Activated Type Electromagnetic Brake Equipped

An AC power off activated type electromagnetic brake is equipped to allow the motor to stop instantaneously when the power is cut off, while still holding the load in position.

### ● Ideal for Applications Required Load Holding

This configuration is ideal for vertical applications in which the load must be held.

### ● Extensive Lineup



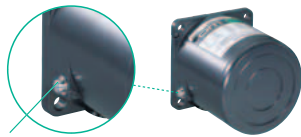


The World **K** Series and **BH** Series are available. We have models with an output power range of 6 W (1/125 HP) to 200 W (1/4 HP), so you can find a motor that meets your specific application.

### ● Compatible with Gearheads or Linear Heads

Combination with a gearhead allows the motor speed to be reduced to the required speed or generate higher torque.

Combination with a linear head allows the motor to convert rotation to linear motion with great ease.

## Types of Electromagnetic Brake Motors

Series	Features, Lineup									
<p><b>World K Series</b></p>  <p></p>	<ul style="list-style-type: none"> <li>● <b>Conforms to Safety Standards</b> All World <b>K</b> Series models have an overheat protection device built-in and conform to major safety standards.</li> <li>● <b>Applicable Standards</b> UL/CSA Standards Certified under the China Compulsory Certification System (CCC System) CE Marking (Low Voltage Directive)</li> <li>● <b>Motor Overheat Protection Device</b> Thermal protector, Impedance protected</li> <li>● <b>Global Voltage Specifications</b> The World <b>K</b> Series supports the power supply voltages used in major countries. Motors meeting the local voltage standard are readily available in major countries in Europe, Asia and North America.</li> </ul>	<ul style="list-style-type: none"> <li>● <b>The Motor Bearing Life is Twice as Long as a Conventional Type</b> A motor's life is determined by its bearing. We adopted high-performance bearing grease to lubricate this important component. As a result, the bearings of World <b>K</b> Series motors last twice as long as conventional bearings.</li> <li>● <b>Protective Earth Terminal on the Motor</b></li> </ul>  <p>Protective Earth Terminal</p>								
<p><b>BH Series</b></p>  <p></p>	<ul style="list-style-type: none"> <li>● <b>Smallest Frame Size among 200 W (1/4 HP) Motors</b> These motors achieve a high output of 200 W (1/4 HP) with a frame size of 104 mm (4.09 in.).</li> <li>● <b>Hypoid Gear Right Angle Type is Available.</b></li> <li>● <b>“Combination Type” for Easy Installation</b> With each combination type, the motor and gearhead come pre-assembled for easy installation into your equipment.</li> <li>● <b>Conforms to Safety Standards and Global Voltage Specifications</b></li> </ul>	<ul style="list-style-type: none"> <li>● <b>Tapped Hole at the Shaft End</b> The gearhead shaft features a tapped hole for convenient connection with loads.</li> </ul> <p>● <b>Lineup</b></p> <table border="1"> <tr> <td>Frame Size</td> <td>□104 mm (□4.09 in.)</td> </tr> <tr> <td>Output Power</td> <td>200 W (1/4 HP)</td> </tr> <tr> <td>Type</td> <td>Right-Angle, Hollow Shaft Type, Right-Angle, Solid Shaft Type, Parallel Shaft Type, Round Shaft Type</td> </tr> <tr> <td>Voltage</td> <td>Single-Phase 110/115 VAC Single-Phase 220/230 VAC Three-Phase 200/220/230 VAC</td> </tr> </table>	Frame Size	□104 mm (□4.09 in.)	Output Power	200 W (1/4 HP)	Type	Right-Angle, Hollow Shaft Type, Right-Angle, Solid Shaft Type, Parallel Shaft Type, Round Shaft Type	Voltage	Single-Phase 110/115 VAC Single-Phase 220/230 VAC Three-Phase 200/220/230 VAC
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### High Strength, Long Life, Low Noise V Series

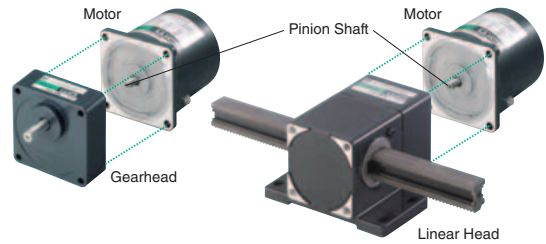
Highest Maximum Permissible torque, 10,000 hours of life and quiet operation. For more details on **V** Series see page C-149 or visit [www.orientalmotor.com](http://www.orientalmotor.com).



## Features of Gearheads and Linear Heads



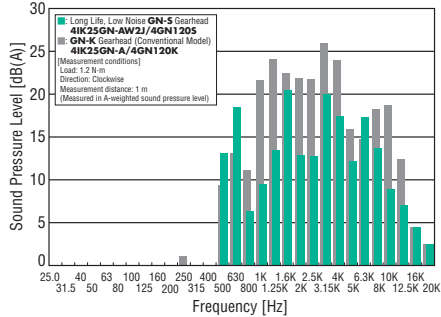

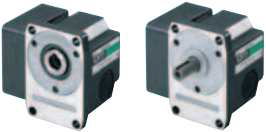

● **Gearheads: Easy Speed Reduction and Torque Increase**  
Combination with a gearhead allows the motor speed to be reduced to the required speed or generate higher torque. Gearheads come in various types including the long life, low noise gearhead and right-angle gearhead.

● **Linear Heads: Convert Motor Rotation to Linear Motion**  
Combination with a linear head allows the motor to convert rotation to linear motion with great ease. Linear heads are available with a square sectioned rack.



- Combine gearheads and linear heads with a pinion shaft type motor.
- Gearheads and linear heads are sold separately.
- **BH** Series comes with the gearhead pre-assembled.

## Types of Gearheads and Linear Heads

Types	Features	
<p><b>Long Life, Low Noise GN-S Gearhead</b></p> 	<ul style="list-style-type: none"> <li>● <b>Long Rated Life of 10000 Hours</b> The <b>GN-S</b> gearhead achieves a long rated life of 10000 hours, twice the level of a conventional gearhead, by adopting a large, specially designed bearing and reinforced gears.</li> <li>● <b>Low Noise Design</b> The <b>GN-S</b> gearhead generates less noise thanks to gears with a special shape and surface machining assembled with the use of advanced technology.</li> <li>● <b>Applicable Products</b> 6 W (1/125 HP), 15 W (1/50 HP), 25 W (1/30 HP) or 40 W (1/19 HP) <b>GN</b> pinion motor</li> </ul>	 
<p><b>Long Life GE-S Gearhead</b></p> 	<ul style="list-style-type: none"> <li>● <b>Long Rated Life of 10000 Hours</b> The <b>GE-S</b> gearhead achieves a long rated life of 10000 hours, twice the level of a conventional gearhead, by adopting a large, specially designed bearing and reinforced gears.</li> <li>● The <b>GE-S</b> gearhead comes with a tapped hole at the tip of the shaft.</li> </ul>	<ul style="list-style-type: none"> <li>● <b>Applicable Products</b> 60 W (1/12 HP) or 90 W (1/8 HP) <b>GE</b> pinion motor</li> </ul>
<p><b>Right-Angle Gearhead</b> → Page C-227</p> 	<ul style="list-style-type: none"> <li>● <b>Ideal Space-Saving Solution</b> The gear shaft is positioned at right angles with the motor shaft, enabling space-saving.</li> <li>● <b>Applicable Products</b> 25 W (1/30 HP), 40 W (1/19 HP), 60 W (1/12 HP) or 90 W (1/8 HP) pinion motor</li> </ul>	<ul style="list-style-type: none"> <li>● <b>Hollow Shaft and Solid Shaft Types are Available</b> Select an appropriate type that suits your specific application.</li> <li>● Solid shaft type of <b>GE</b> pinion gearhead comes with a tapped hole at the tip of the shaft.</li> </ul>
<p><b>Rack-and-Pinion Mechanism LS Linear Heads</b> → Page C-247</p> 	<ul style="list-style-type: none"> <li>● <b>Easy to Achieve Linear Motion</b> A rack-and-pinion mechanism is combined with a reduction mechanism, which allows the motor to convert rotation to linear motion with great ease.</li> </ul>	

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- Linear Heads
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## Product Line of Electromagnetic Brake Motors

Series	Voltage (VAC)	Motor Frame Size, Output Power						
		□60 mm (□2.36 in.)	□70 mm (□2.76 in.)	□80 mm (□3.15 in.)	□90 mm (□3.54 in.)		□104 mm (□4.09 in.)	
		6 W (1/125 HP)	15 W (1/50 HP)	25 W (1/30 HP)	40 W (1/19 HP)	60 W (1/12 HP)	90 W (1/8 HP)	200 W (1/4 HP)
World <b>K</b> Series	Single-Phase 110/115	●	●	●	●	●	●	
	Single-Phase 220/230	●	●	●	●	●	●	
	Three-Phase 200/220/230	●	●	●	●	●	●	
<b>BH</b> Series	Single-Phase 110/115							●
	Single-Phase 220/230							●
	Three-Phase 200/220/230							●

## Product Line of Gearheads and Linear Heads

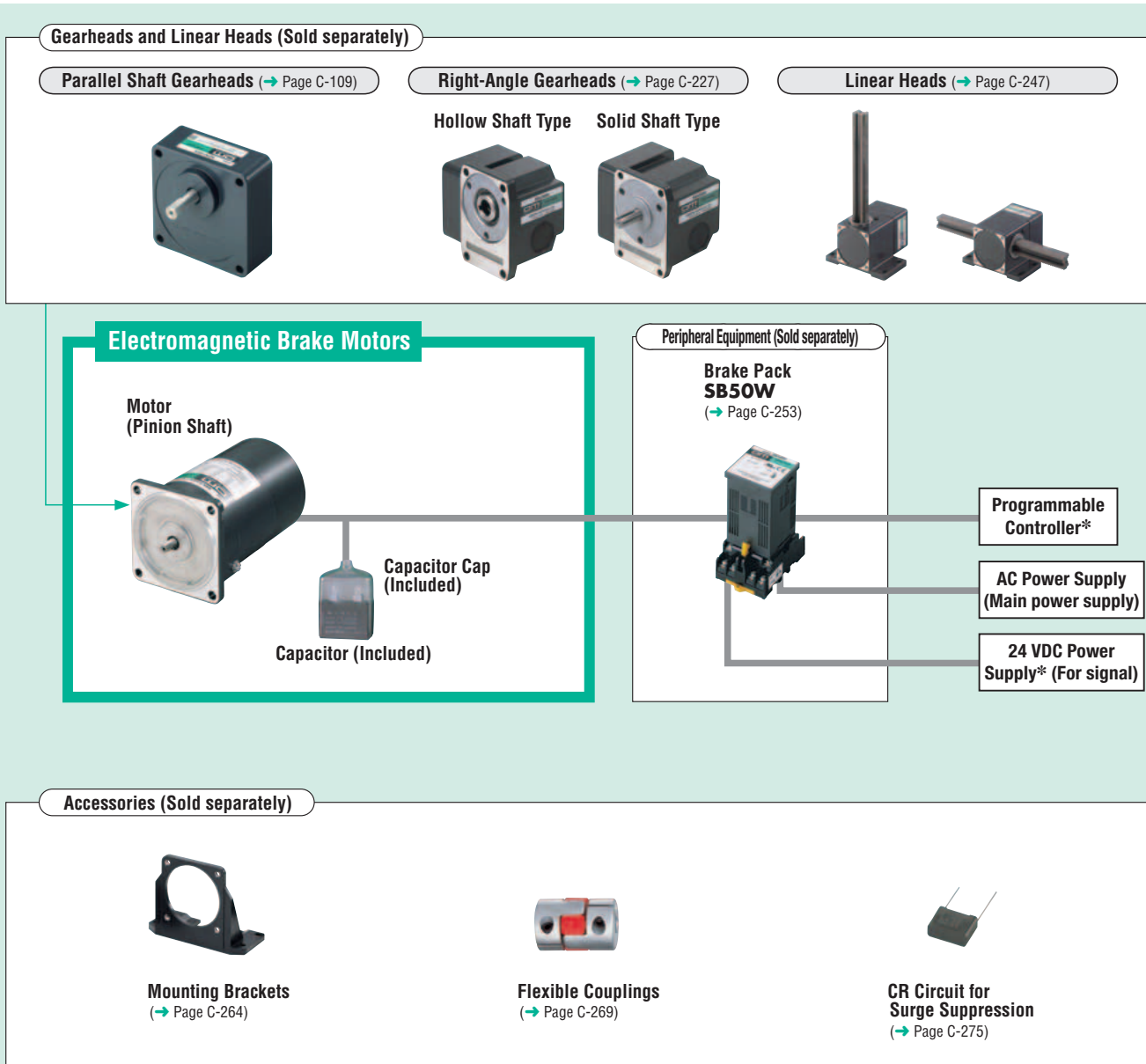
### ● Gearheads

Gearhead		Applicable Motor			Rated Life (hours)	Low Noise	
Type of Gearhead	Type of Pinion	Series	Output Power	Type of Pinion			
Parallel Shaft	Long Life, Low Noise <b>GN-S</b> Gearhead	<b>GN</b> Type Pinion Shaft	World <b>K</b> Series	6 W~40 W (1/125 HP~1/19 HP)	<b>GN</b> Type Pinion Shaft	10000	●
	<b>GN-K</b> Gearhead	<b>GN</b> Type Pinion Shaft	World <b>K</b> Series	6 W~40 W (1/125 HP~1/19 HP)	<b>GN</b> Type Pinion Shaft	5000	
	Long Life <b>GE-S</b> Gearhead	<b>GE</b> Type Pinion Shaft	World <b>K</b> Series	60 W, 90 W (1/12 HP, 1/8 HP)	<b>GE</b> Type Pinion Shaft	10000	
Right-Angle Shaft	Hollow Shaft Gearhead	<b>GN</b> Type Pinion Shaft	World <b>K</b> Series	25 W, 40 W (1/30 HP, 1/19 HP)	<b>GN</b> Type Pinion Shaft	5000	
		<b>GE</b> Type Pinion Shaft	World <b>K</b> Series	60 W, 90 W (1/12 HP, 1/8 HP)	<b>GE</b> Type Pinion Shaft	5000	
	Solid Shaft Gearhead	<b>GN</b> Type Pinion Shaft	World <b>K</b> Series	25 W, 40 W (1/30 HP, 1/19 HP)	<b>GN</b> Type Pinion Shaft	5000	
		<b>GE</b> Type Pinion Shaft	World <b>K</b> Series	60 W, 90 W (1/12 HP, 1/8 HP)	<b>GE</b> Type Pinion Shaft	5000	

### ● Linear Heads

Type of Linear Head		Applicable Motor		
		Series	Output Power	Type of Pinion
Square Sectioned Rack	<b>LS</b> Linear Head	World <b>K</b> Series	6 W, 25 W (1/125 HP, 1/30 HP)	<b>GN</b> Type Pinion Shaft

## System Configuration



### ● Example of System Configuration

Electromagnetic Brake Motor (Pinion shaft)	Sold Separately		Sold Separately		
	Long Life, Low Noise Gearhead		Mounting Bracket	Flexible Coupling	Brake Pack
<b>4RK25GN-AW2MU</b>	<b>4GN25SA</b>	+	<b>SOL4U10</b>	<b>MCL30F06F06</b>	<b>SB50W</b>

● Both types of gearheads and linear heads cannot be combined with round shaft type motors.

● The system configuration shown above is an example. Other combinations are available.

\* Not supplied

## Product Number Code

### World K Series

# 5 R K 40 GN - AW 2 M U

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨

①	Motor Frame Size	<b>2:</b> 60 mm (2.36 in.) <b>3:</b> 70 mm (2.76 in.) <b>4:</b> 80 mm (3.15 in.) <b>5:</b> 90 mm (3.54 in.)
②	Motor Type	<b>I:</b> Induction Motor <b>R:</b> Reversible Motor
③	Series	<b>K:</b> K Series
④	Output Power (W)	(Example) <b>40:</b> 40 W (1/19 HP)
⑤	Motor Shaft Type, Type of Pinion	<b>A:</b> Round Shaft <b>GN:</b> GN Type Pinion Shaft <b>GE:</b> GE Type Pinion Shaft
⑥	Power Supply Voltage	<b>AW:</b> Single-Phase 110/115 VAC <b>CW:</b> Single-Phase 220/230 VAC <b>SW:</b> Three-Phase 200/220/230 VAC
⑦		<b>2:</b> RoHS-Compliant
⑧		<b>M:</b> Power Off Activated Type Electromagnetic Brake
⑨	Included Capacitor	<b>U:</b> For Single-Phase 110/115 VAC <b>E:</b> For Single-Phase 220/230 VAC Blank: Three-Phase Type

● The **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: **5RK40GN-AW2MU** → Motor nameplate and product approved under various safety standards: **5RK40GN-AW2M**

### Gearhead

# 5 GN 50 SA

① ② ③ ④

①	Gearhead Frame Size	<b>2:</b> 60 mm (2.36 in.) <b>3:</b> 70 mm (2.76 in.) <b>4:</b> 80 mm (3.15 in.) <b>5:</b> 90 mm (3.54 in.)
②	Type of Pinion	<b>GN:</b> GN Type Pinion <b>GE:</b> GE Type Pinion
③	Gear Ratio	(Example) <b>50:</b> Gear Ratio of 50:1 <b>10X</b> denotes the decimal gearhead of gear ratio 10:1
④	<b>GN</b> Type Pinion	<b>SA:</b> Long Life, Low Noise <b>GN-S</b> Gearhead <b>KA:</b> GN-K Gearhead <b>RH:</b> Right-Angle, Hollow Shaft Gearhead <b>RAA:</b> Right-Angle, Solid Shaft Gearhead
	<b>GE</b> Type Pinion	<b>SA:</b> Long Life <b>GE-S</b> Gearhead <b>RH:</b> Right-Angle, Hollow Shaft Gearhead <b>RAA:</b> Right-Angle, Solid Shaft Gearhead

### BH Series

# BH I 6 2 F M T - 100 RH

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨

①	Series	<b>BH:</b> BH Series
②	Motor Type	<b>I:</b> Induction Motor
③	Motor Frame Size	<b>6:</b> 104 mm (4.09 in.)
④	Output Power (W)	(Example) <b>2:</b> 200 W (1/4 HP)
⑤	Power Supply Voltage	<b>F:</b> Single-Phase 110/115 VAC <b>E:</b> Single-Phase 220/230 VAC <b>S:</b> Three-Phase 200/220/230 VAC
⑥		<b>M:</b> Power Off Activated Type Electromagnetic Brake
⑦		<b>T:</b> Terminal Box Type
⑧	Gear Ratio, Motor Shaft Type	<b>A:</b> Round Shaft Type Number: Gear Ratio of Combination Type
⑨	Type of Gearhead (Combination type only)	<b>RH:</b> Right-Angle, Hollow Shaft Type <b>RA:</b> Right-Angle, Solid Shaft Type Blank: Parallel Shaft Type

## General Specifications

### World K Series

Item	Specifications
Insulation Resistance	100 MΩ or more when 500 VDC megger is applied between the windings and the case after rated motor operation under normal ambient temperature and humidity.
Dielectric Strength	Sufficient to withstand 1.5 kVAC at 50 Hz or 60 Hz applied between the windings and the case for 1 minute after rated motor operation under normal ambient temperature and humidity.
Temperature Rise	Temperature rise of windings are 80°C (144°F) or less measured by the resistance change method after rated operation under normal ambient temperature and humidity with connecting a gearhead or equivalent heat radiation plate*. [Three-phase type: 70°C (126°F) or less]
Thermal Class	130 (B)
Overheat Protection	6 W (1/125 HP) type has impedance protection. Other type Built-in thermal protector (automatic return type) Open: 130±5°C (266±9°F), Reset: 82±15°C (179.6±27°F) Three-phase 15 W type Open: 130±5°C (266±9°F), Reset: 90±15°C (194±27°F)
Ambient Temperature	Single-phase 110/115 VAC, Single-phase 220/230 VAC, Three-phase 220/230 VAC: -10~+40°C (+14~+104°F) (non-freezing) Three-phase 200 VAC: -10~+50°C (+14~+122°F) (non-freezing)
Ambient Humidity	85% or less (non-condensing)
Degree of Protection	6 W (1/125 HP), 15 W (1/50 HP), 25 W (1/30 HP), 40 W (1/19 HP) Type: IP20 60 W (1/12 HP), 90 W (1/8 HP) Type: IP40

\* Heat radiation plate (Material: Aluminum)

Motor Type	Size: mm (in.)	Thickness: mm (in.)
6 W (1/125 HP) Type	115×115 (4.53×4.53)	5 (0.20)
15 W (1/50 HP) Type	125×125 (4.92×4.92)	
25 W (1/30 HP) Type	135×135 (5.31×5.31)	
40 W (1/19 HP) Type	165×165 (6.50×6.50)	
60 W (1/12 HP), 90 W (1/8 HP) Type	200×200 (7.87×7.87)	

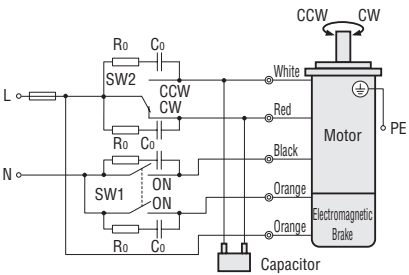
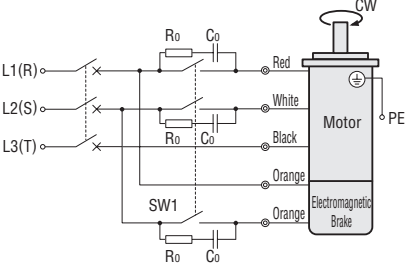
### BH Series

Item	Specifications
Insulation Resistance	100 MΩ or more when 500 VDC megger is applied between the windings and the case after rated operation under normal ambient temperature and humidity.
Dielectric Strength	Sufficient to withstand 1.5 kVAC at 50 Hz or 60 Hz applied between the windings and the case for 1 minute after rated operation under normal ambient temperature and humidity.
Temperature Rise	Temperature rise of windings are 70°C (126°F) or less measured by the resistance change method after rated operation under normal ambient temperature and humidity with connecting a gearhead or equivalent heat radiation plate*.
Thermal Class	130 (B)
Overheat Protection	Built-in thermal protector (automatic return type) Open: 150±5°C (302±9°F), Close: 96±15°C (204.8±27°F)
Ambient Temperature	Single-phase 110/115 VAC, Single-phase 220/230 VAC, Three-phase 220/230 VAC: -10~+40°C (+14~+104°F) (non-freezing) Three-phase 200 VAC: -10~+50°C (+14~+122°F) (non-freezing)
Ambient Humidity	85% or less (non-condensing)
Degree of Protection	IP54 (excluding the installation surface of the round shaft type)

\* Heat radiation plate: 230×230 mm (9.06×9.06 in.), Thickness: 5 mm (0.20 in.) (Material: Aluminum)

## 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.

<p>6 W (1/125 HP)</p> <p>15 W (1/50 HP)</p> <p>25 W (1/30 HP)</p> <p>40 W (1/19 HP)</p> <p>60 W (1/12 HP)</p> <p>90 W (1/8 HP)</p> <p>200 W (1/4 HP)</p>	<p>Single-Phase Motor</p> <p>Single-Phase 110/115 VAC Single-Phase 220/230 VAC</p>	 <p>The diagram shows a single-phase AC circuit with lines L and N. It includes two switches, SW1 and SW2, each with a resistor (R<sub>o</sub>) and capacitor (C<sub>o</sub>) in parallel. SW1 controls the motor and brake, while SW2 controls the motor direction. The motor has four leads: White (CCW), Red (CW), Black (PE), and Orange (Electromagnetic Brake). A capacitor is connected to the brake lead.</p>	<p>SW1 operates both motor and electromagnetic brake action. The electromagnetic brake will be released and the motor will rotate when SW1 is switched simultaneously to ON. When SW1 is switched simultaneously to OFF, the motor stops immediately with the electromagnetic brake and holds the load.</p> <p>If you wish to release the brake while the motor is stopped, apply voltage between the two brake lead wires (orange).</p> <p>Rotation Direction To rotate the motor in a clockwise (CW) direction, turn SW2 to CW. To rotate the motor in a counterclockwise (CCW) direction, turn SW2 to CCW.</p> <table border="1"> <thead> <tr> <th rowspan="2">Switch No.</th> <th colspan="2">Specifications</th> <th rowspan="2">Note</th> </tr> <tr> <th>Single-Phase 110/115 VAC Input</th> <th>Single-Phase 220/230 VAC Input</th> </tr> </thead> <tbody> <tr> <td>SW1</td> <td>125 VAC 3 A minimum [40 W (1/19 HP), 60 W (1/12 HP), 90 W (1/8 HP): 5 A minimum] (Inductive Load)</td> <td>250 VAC 1.5 A minimum [40 W (1/19 HP), 60 W (1/12 HP), 90 W (1/8 HP): 5 A minimum] (Inductive Load)</td> <td>Switched Simultaneously</td> </tr> <tr> <td>SW2</td> <td></td> <td></td> <td>—</td> </tr> </tbody> </table>	Switch No.	Specifications		Note	Single-Phase 110/115 VAC Input	Single-Phase 220/230 VAC Input	SW1	125 VAC 3 A minimum [40 W (1/19 HP), 60 W (1/12 HP), 90 W (1/8 HP): 5 A minimum] (Inductive Load)	250 VAC 1.5 A minimum [40 W (1/19 HP), 60 W (1/12 HP), 90 W (1/8 HP): 5 A minimum] (Inductive Load)	Switched Simultaneously	SW2			—
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SW2			—														
	<p>Three-Phase Motor</p> <p>Three-Phase 200/220/230 VAC</p>	 <p>The diagram shows a three-phase AC circuit with lines L1(R), L2(S), and L3(T). It includes a switch SW1 with a resistor (R<sub>o</sub>) and capacitor (C<sub>o</sub>) in parallel. The motor has four leads: Red (CW), White (PE), Black (PE), and Orange (Electromagnetic Brake). A capacitor is connected to the brake lead.</p>	<p>SW1 operates both motor and electromagnetic brake action. The electromagnetic brake will be released and the motor will rotate when SW1 is switched simultaneously to ON. When SW1 is switched simultaneously to OFF, the motor stops immediately with the electromagnetic brake and holds the load.</p> <p>If you wish to release the brake while the motor is stopped, apply voltage between the two brake lead wires (orange).</p> <p>Rotation Direction To change the rotation direction, change any two connections between L1(R), L2(S) and L3(T).</p> <table border="1"> <thead> <tr> <th>Switch No.</th> <th>Specifications</th> <th>Note</th> </tr> </thead> <tbody> <tr> <td>SW1</td> <td>6 W (1/125 HP), 15 W (1/50 HP), 25 W (1/30 HP): 250 VAC 1.5 A minimum 40 W (1/19 HP), 60 W (1/12 HP), 90 W (1/8 HP): 250 VAC 5 A minimum (Inductive Load)</td> <td>Switched Simultaneously</td> </tr> </tbody> </table>	Switch No.	Specifications	Note	SW1	6 W (1/125 HP), 15 W (1/50 HP), 25 W (1/30 HP): 250 VAC 1.5 A minimum 40 W (1/19 HP), 60 W (1/12 HP), 90 W (1/8 HP): 250 VAC 5 A minimum (Inductive Load)	Switched Simultaneously								
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PE: Protective Earth

● R<sub>o</sub> and C<sub>o</sub> indicate CR circuit for surge suppression. [R<sub>o</sub> = 5~200 Ω, C<sub>o</sub> = 0.1~0.2 μF, 200 WV (400 WV)]

● **EPCR1201-2** (CR circuit) is available as an accessory. → Page C-275

● How to connect a capacitor → Page C-282



Introduction

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V Series

Clutch &  
Brake Motors

Synchronous  
Motors

Low-Speed  
Synchronous  
Motors

Waterright,  
Dust-Resistant  
Motors

Torque  
Motors

Right-Angle  
Gearheads

Linear Heads

Brake Pack

Accessories

Installation

# Power Off Activated Type Electromagnetic Brake Motors

## 6 W (1/125 HP)

Frame Size: □60 mm (□2.36 in.)



(Gearhead sold separately)

### Specifications

● Motor (RoHS)



Model		Rating	Output Power W HP	Voltage VAC	Frequency Hz	Current A	Starting Torque mN·m oz-in	Rated Torque mN·m oz-in	Rated Speed r/min	Capacitor μF
Pinion Shaft Type	Round Shaft Type									
Ⓟ <b>2RK6GN-AW2MU</b>	<b>2RK6A-AW2MU</b>	30 minutes	6 1/125	Single-Phase 110	60	0.235	45	41	1450	3.5
				Single-Phase 115		0.242				
Ⓟ <b>2RK6GN-CW2ME</b>	<b>2RK6A-CW2ME</b>	30 minutes	6 1/125	Single-Phase 220	50	0.107	50	49	1150	0.8
					60	0.109	45	41	1450	
				Single-Phase 230	50	0.112	50	49	1200	
					60	0.113	45	41	1450	
Ⓟ <b>2IK6GN-SW2M</b>	<b>2IK6A-SW2M</b>	Continuous	6 1/125	Three-Phase 200	50	0.081	49	49	1200	-
					60	0.072	41	41	1400	
				Three-Phase 220	60	0.076	41	41	1500	
						0.079	5.8	5.8		

- This type of motor does not contain a built-in friction brake mechanism similar to the reversible motors.
- The **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. → Page H-11
- Details of safety standards → Page H-2
- Ⓟ: Impedance protected.

### Electromagnetic Brake (Power Off Activated Type)

Motor Model	Voltage	Frequency Hz	Current A	Input W	Holding Brake Torque mN·m oz-in	
	VAC					
<b>2RK6GN-AW2MU</b> <b>2RK6A-AW2MU</b>	Single-Phase 110	60	0.03	3	30	
	Single-Phase 115				4.2	
<b>2RK6GN-CW2ME</b> <b>2RK6A-CW2ME</b>	Single-Phase 220	50	0.02	3	30	
		60				
	Single-Phase 230	50				4.2
		60				
<b>2IK6GN-SW2M</b> <b>2IK6A-SW2M</b>	Single-Phase 200	50	0.02	3	30	
	Single-Phase 220	60			4.2	
		Single-Phase 230			60	

### Product Line

● Motor (RoHS)

Model	
Pinion Shaft Type	Round Shaft Type
<b>2RK6GN-AW2MU</b>	<b>2RK6A-AW2MU</b>
<b>2RK6GN-CW2ME</b>	<b>2RK6A-CW2ME</b>
<b>2IK6GN-SW2M</b>	<b>2IK6A-SW2M</b>

—The following items are included in each product.—  
 Motor, Capacitor\*, Capacitor Cap\*, Operating Manual  
 \*Only for single-phase motors

### 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 or visit [www.orientalmotor.com](http://www.orientalmotor.com).



## Parallel Shaft Gearhead (Sold separately) RoHS

Gearhead Type		Gearhead Model	Gear Ratio
Parallel Shaft	Long Life, Low Noise <b>GN-S</b> Gearhead	<b>2GN□SA</b>	<b>3, 3.6, 5, 6, 7.5, 9, 12.5, 15, 18, 25, 30, 36, 50, 60, 75, 90, 100, 120, 150, 180</b>
		<b>2GN10XS</b> (Decimal Gearhead)	

The following items are included in each product.  
Gearhead, Mounting Screws, Operating Manual

The following gearheads are also available. For details, please refer to website ([www.orientalmotor.com](http://www.orientalmotor.com)) or contact the nearest Oriental Motor sales office.

Gearhead Type		Gearhead Model	Gear Ratio
Parallel Shaft	<span style="border: 1px solid black; border-radius: 50%; padding: 2px;">RoHS</span> <b>GN-K</b> Gearhead	<b>2GN□KA</b>	<b>3~180</b>
		<b>2GN10XK</b> (Decimal Gearhead)	

## Gearmotor – Torque Table

- Enter the gear ratio in the box (□) within the gearhead 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 load.
- To reduce the speed beyond the gear ratio in the table, attach a decimal gearhead (gear ratio 10:1) between the gearhead and the motor. In that case, the permissible torque is 3 N·m (26 lb-in).

### ◇ 50 Hz

Unit = Upper values: N·m/Lower values: lb-in

Model Motor/ Gearhead	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	<b>3</b>	<b>3.6</b>	<b>5</b>	<b>6</b>	<b>7.5</b>	<b>9</b>	<b>12.5</b>	<b>15</b>	<b>18</b>	<b>25</b>	<b>30</b>	<b>36</b>	<b>50</b>	<b>60</b>	<b>75</b>	<b>90</b>	<b>100</b>	<b>120</b>	<b>150</b>	<b>180</b>
<b>2RK6GN-CW2ME</b> <b>2IK6GN-SW2M</b>	<b>2GN□SA</b>	0.12 1.06	0.14 1.23	0.20 1.77	0.24 2.1	0.30 2.6	0.36 3.1	0.50 4.4	0.60 5.3	0.71 6.2	0.89 7.8	1.1 9.7	1.3 11.5	1.6 14.1	1.9 16.8	2.4 21	2.9 25	3 26	3 26	3 26	3 26

### ◇ 60 Hz

Unit = Upper values: N·m/Lower values: lb-in

Model Motor/ Gearhead	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	<b>3</b>	<b>3.6</b>	<b>5</b>	<b>6</b>	<b>7.5</b>	<b>9</b>	<b>12.5</b>	<b>15</b>	<b>18</b>	<b>25</b>	<b>30</b>	<b>36</b>	<b>50</b>	<b>60</b>	<b>75</b>	<b>90</b>	<b>100</b>	<b>120</b>	<b>150</b>	<b>180</b>
<b>2RK6GN-AW2MU</b> <b>2RK6GN-CW2ME</b> <b>2IK6GN-SW2M</b>	<b>2GN□SA</b>	0.10 0.88	0.12 1.06	0.17 1.50	0.20 1.77	0.25 2.2	0.30 2.6	0.42 3.7	0.50 4.4	0.60 5.3	0.75 6.6	0.90 7.9	1.1 9.7	1.4 12.3	1.6 14.1	2.0 17.7	2.4 21	2.7 23	3 26	3 26	3 26

## Permissible Overhung Load and Permissible Thrust Load

Motor (Round shaft type) → Page C-17

Gearhead → Page C-17

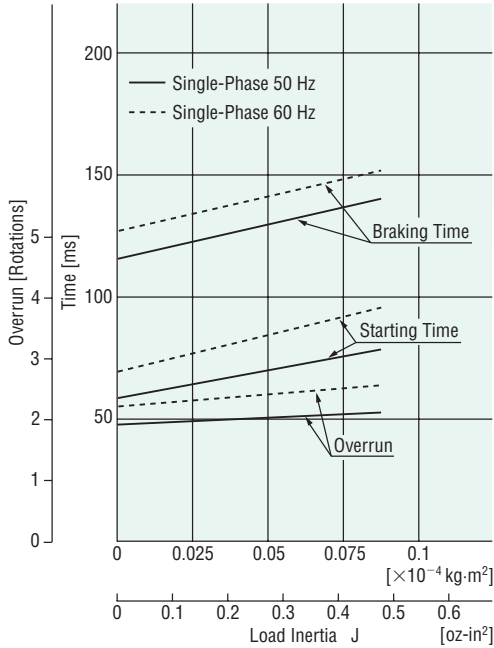
## Permissible Load Inertia J of Gearhead

→ Page C-18

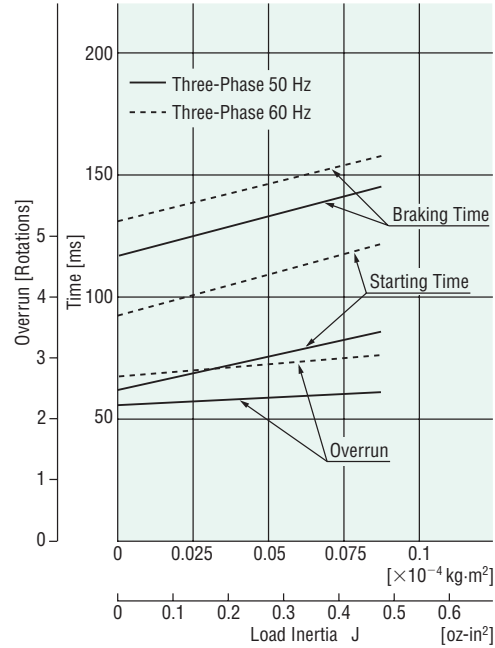
Enter the gear ratio in the box (□) within the model name.

## Starting and Braking Characteristics (Reference Values)

### Single-Phase Motor



### Three-Phase Motor



## Dimensions Unit = mm (in.)

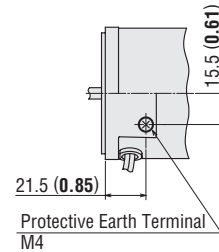
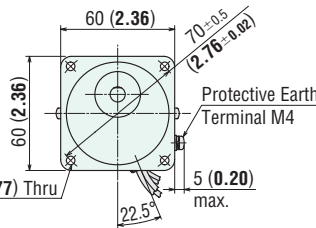
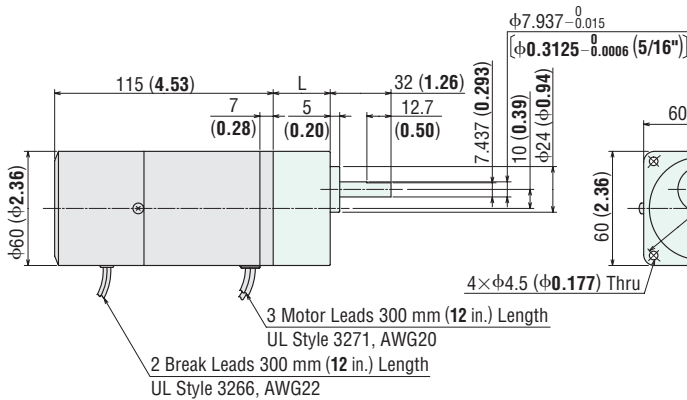
● Mounting screws are included with gearheads. Dimensions for mounting screws → Page C-280

### Motor/Gearhead

Mass: Motor 0.9 kg (1.98 lb.)  
Gearhead 0.4 kg (0.88 lb.)

Motor Model	Gearhead Model	Gear Ratio	L	DXF
<b>2RK6GN-AW2MU</b> <b>2RK6GN-CW2ME</b> <b>2IK6GN-SW2M</b>	<b>2GN□SA</b>	<b>3~18</b>	30 (1.18)	A462AU
<b>25~180</b>		40 (1.57)	A462BU	

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



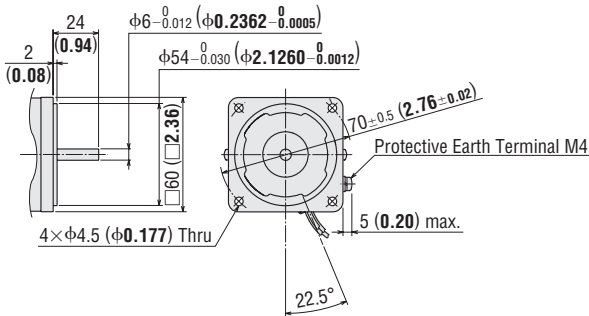
Detail Drawing of Protective Earth Terminal

### 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: 0.9 kg (1.98 lb.)

**DXF** A463



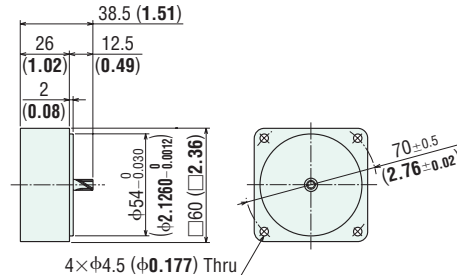
### Decimal Gearhead

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

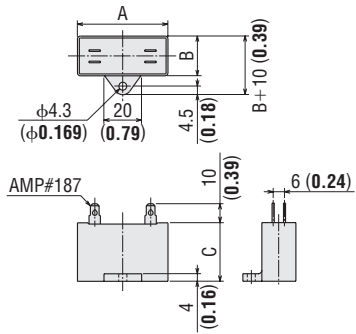
**2GN10XS**

Mass: 0.2 kg (0.44 lb.)

**DXF** A003



## ◇ Capacitor (Included with single-phase motors)



## ◇ Capacitor Dimensions Unit = mm (in.)

Model		Capacitor Model	A	B	C	Mass g (oz.)	Capacitor Cap
Pinion Shaft Type	Round Shaft Type						
<b>2RK6GN-AW2MU</b>	<b>2RK6A-AW2MU</b>	CH35FAUL2	31 (1.22)	17 (0.67)	27 (1.06)	22 (0.78)	Included
<b>2RK6GN-CW2ME</b>	<b>2RK6A-CW2ME</b>	CH08BFAUL	31 (1.22)	17 (0.67)	27 (1.06)	23 (0.81)	

## ■ Connection Diagrams

→ Page C-114

### Linear Head, Accessories and Peripheral Equipment

Linear Motion  
Linear Heads  
→ Page C-247



Instantaneous Stop  
Brake Pack  
→ Page C-253



Accessories  
→ Page C-263



- Introduction
- Induction Motors
- Reversible Motors
- Electromagnetic Brake Motors
- V Series
- Clutch & Brake Motors
- Synchronous Motors
- Low-Speed Synchronous Motors
- Waterright Dust-Resistant Motors
- Torque Motors
- Right-Angle Gearheads
- Linear Heads
- Brake Pack
- Accessories
- Installation

Power Off Activated Type Electromagnetic Brake Motors

15 W (1/50 HP)

Frame Size: □70 mm (□2.76 in.)



(Gearhead sold separately)

Specifications

Motor (RoHS)



Model		Rating	Output Power W HP	Voltage VAC	Frequency Hz	Current A	Starting Torque mN·m oz·in	Rated Torque mN·m oz·in	Rated Speed r/min	Capacitor μF
Pinion Shaft Type	Round Shaft Type									
TP	3RK15GN-AW2MU	30 minutes	15 1/50	Single-Phase 110	60	0.42	100	105 14.9	1450	6.0
				Single-Phase 115		0.41				
TP	3RK15GN-CW2ME	30 minutes	15 1/50	Single-Phase 220	50	0.18	100 14.2	125 17.7	1200	1.5
					60	0.20		105 14.9		
				Single-Phase 230	50	0.19	100 14.2	125 17.7	1200	
					60	0.20		105 14.9		
TP	3IK15GN-SW2M	Continuous	15 1/50	Three-Phase 200	50	0.17	110 15.6	110 15.6	1350	-
					60	0.15	85 12.0	100 14.2	1600	
				Three-Phase 220	60	0.16	100 14.2	100 14.2	1650	
Three-Phase 230	0.17									

- This type of motor does not contain a built-in friction brake mechanism similar to the reversible motors.
- The **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. → Page H-11
- Details of safety standards → Page H-2

TP: Contains 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. (The power supply to the electromagnetic brake is kept and the brake is released.)  
When the motor temperature drops, the thermal protector closes and the motor restarts. Be sure to turn the motor power off before inspecting.

Electromagnetic Brake (Power Off Activated Type)

Motor Model	Voltage VAC	Frequency Hz	Current A	Input W	Holding Brake Torque mN·m oz·in
3RK15GN-AW2MU 3RK15A-AW2MU	Single-Phase 110	60	0.09	7	80
	Single-Phase 115				11.3
3RK15GN-CW2ME 3RK15A-CW2ME	Single-Phase 220	50	0.05	7	80 11.3
		60			
	Single-Phase 230	50			
		60			
3IK15GN-SW2M 3IK15A-SW2M	Single-Phase 200	60	0.05	7	80
	Single-Phase 220				11.3
	Single-Phase 230				

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 or visit [www.orientalmotor.com](http://www.orientalmotor.com).



## Product Line

### Motor (RoHS)

Model	
Pinion Shaft Type	Round Shaft Type
<b>3RK15GN-AW2MU</b>	<b>3RK15A-AW2MU</b>
<b>3RK15GN-CW2ME</b>	<b>3RK15A-CW2ME</b>
<b>3IK15GN-SW2M</b>	<b>3IK15A-SW2M</b>

The following items are included in each product.  
 Motor, Capacitor\*, Capacitor Cap\*, Operating Manual  
 \*Only for single-phase motors

### Parallel Shaft Gearhead (Sold separately) (RoHS)

Gearhead Type		Gearhead Model	Gear Ratio
Parallel Shaft	Long Life, Low Noise <b>GN-S</b> Gearhead	<b>3GN□SA</b>	<b>3, 3.6, 5, 6, 7.5, 9, 12.5, 15, 18, 25, 30, 36, 50, 60, 75, 90, 100, 120, 150, 180</b>
		<b>3GN10XS</b> (Decimal Gearhead)	

The following items are included in each product.  
 Gearhead, Mounting Screws, Operating Manual

The following gearheads are also available. For details, please refer to website (www.orientalmotor.com) or contact the nearest Oriental Motor sales office.

Gearhead Type		Gearhead Model	Gear Ratio
Parallel Shaft	(RoHS) <b>GN-K</b> Gearhead	<b>3GN□KA</b>	<b>3~180</b>
		<b>3GN10XK</b> (Decimal Gearhead)	

## Gearmotor – Torque Table

- Enter the gear ratio in the box (□) within the gearhead 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 load.
- To reduce the speed beyond the gear ratio in the table, attach a decimal gearhead (gear ratio 10:1) between the gearhead and the motor. In that case, the permissible torque is 5 N·m (44 lb-in).

### ◇ 50 Hz

Unit = Upper values: N·m/Lower values: lb-in

Model Motor/ Gearhead	Speed r/min	Gear Ratio																			
		500	417	300	250	200	167	120	100	83	60	50	42	30	25	20	17	15	12.5	10	8.3
<b>3RK15GN-CW2ME</b> / <b>3GN□SA</b>	Gear Ratio	<b>3</b>	<b>3.6</b>	<b>5</b>	<b>6</b>	<b>7.5</b>	<b>9</b>	<b>12.5</b>	<b>15</b>	<b>18</b>	<b>25</b>	<b>30</b>	<b>36</b>	<b>50</b>	<b>60</b>	<b>75</b>	<b>90</b>	<b>100</b>	<b>120</b>	<b>150</b>	<b>180</b>
		0.30 2.6	0.36 3.1	0.51 4.5	0.61 5.3	0.76 6.7	0.91 8.0	1.3 11.5	1.5 13.2	1.8 15.9	2.3 20	2.7 23	3.3 29	4.1 36	5 44	5 44	5 44	5 44	5 44	5 44	5 44
<b>3IK15GN-SW2M</b> / <b>3GN□SA</b>	Gear Ratio	<b>3</b>	<b>3.6</b>	<b>5</b>	<b>6</b>	<b>7.5</b>	<b>9</b>	<b>12.5</b>	<b>15</b>	<b>18</b>	<b>25</b>	<b>30</b>	<b>36</b>	<b>50</b>	<b>60</b>	<b>75</b>	<b>90</b>	<b>100</b>	<b>120</b>	<b>150</b>	<b>180</b>
		0.27 2.3	0.32 2.8	0.45 3.9	0.53 4.6	0.67 5.9	0.80 7.0	1.1 9.7	1.3 11.5	1.6 14.1	2.0 17.7	2.4 21	2.9 25	3.6 31	4.4 38	5 44	5 44	5 44	5 44	5 44	5 44

### ◇ 60 Hz

Unit = Upper values: N·m/Lower values: lb-in

Model Motor/ Gearhead	Speed r/min	Gear Ratio																			
		600	500	360	300	240	200	144	120	100	72	60	50	36	30	24	20	18	15	12	10
<b>3RK15GN-AW2MU</b> <b>3RK15GN-CW2ME</b> / <b>3GN□SA</b>	Gear Ratio	<b>3</b>	<b>3.6</b>	<b>5</b>	<b>6</b>	<b>7.5</b>	<b>9</b>	<b>12.5</b>	<b>15</b>	<b>18</b>	<b>25</b>	<b>30</b>	<b>36</b>	<b>50</b>	<b>60</b>	<b>75</b>	<b>90</b>	<b>100</b>	<b>120</b>	<b>150</b>	<b>180</b>
		0.26 2.3	0.31 2.7	0.43 3.8	0.51 4.5	0.64 5.6	0.77 6.8	1.1 9.7	1.3 11.5	1.5 13.2	1.9 16.8	2.3 20	2.8 24	3.5 30	4.2 37	5 44	5 44	5 44	5 44	5 44	5 44
<b>3IK15GN-SW2M</b> / <b>3GN□SA</b>	Gear Ratio	<b>3</b>	<b>3.6</b>	<b>5</b>	<b>6</b>	<b>7.5</b>	<b>9</b>	<b>12.5</b>	<b>15</b>	<b>18</b>	<b>25</b>	<b>30</b>	<b>36</b>	<b>50</b>	<b>60</b>	<b>75</b>	<b>90</b>	<b>100</b>	<b>120</b>	<b>150</b>	<b>180</b>
		0.24 2.1	0.29 2.5	0.41 3.6	0.49 4.3	0.61 5.3	0.73 6.4	1.0 8.8	1.2 10.6	1.5 13.2	1.8 15.9	2.2 19.4	2.6 23	3.3 29	4.0 35	5 44	5 44	5 44	5 44	5 44	5 44

## Permissible Overhung Load and Permissible Thrust Load

Motor (Round shaft type) → Page C-17

Gearhead → Page C-17

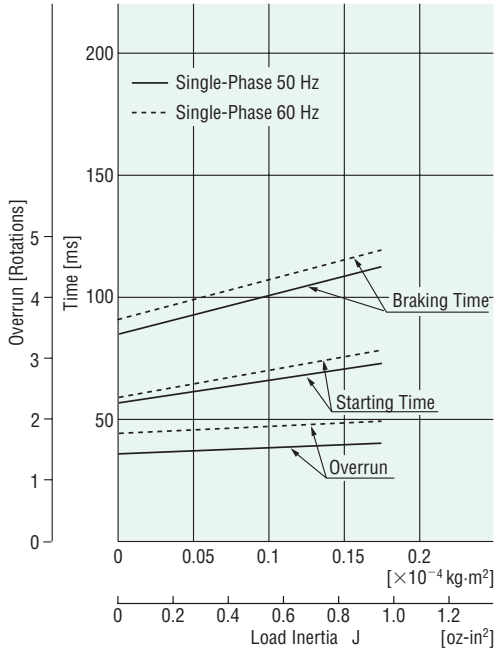
## Permissible Load Inertia J of Gearhead

→ Page C-18

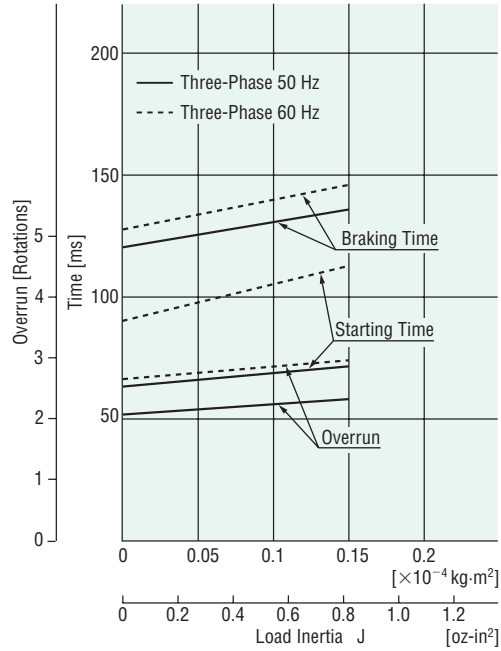
Enter the gear ratio in the box (□) within the model name.

## Starting and Braking Characteristics (Reference values)

### Single-Phase Motor



### Three-Phase Motor



## Dimensions Unit = mm (in.)

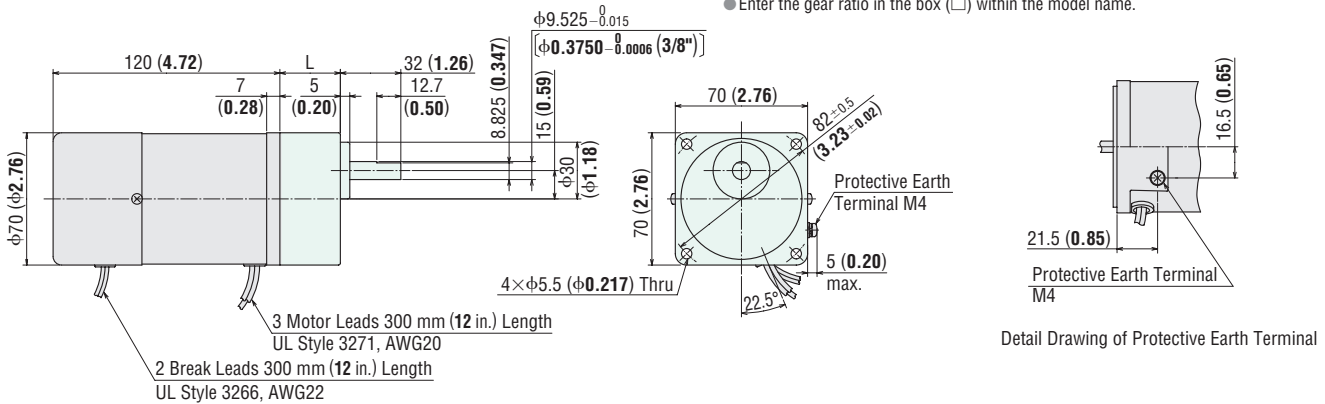
● Mounting screws are included with gearheads. Dimensions for mounting screws → Page C-280

### Motor/Gearhead

Mass: Motor 1.3 kg (2.9 lb.)  
Gearhead 0.55 kg (1.21 lb.)

Motor Model	Gearhead Model	Gear Ratio	L	DXF
<b>3RK15GN-AW2MU</b> <b>3RK15GN-CW2ME</b> <b>3IK15GN-SW2M</b>	<b>3GN□SA</b>	<b>3~18</b>	32 (1.26)	A464AU
		<b>25~180</b>	42 (1.65)	A464BU

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



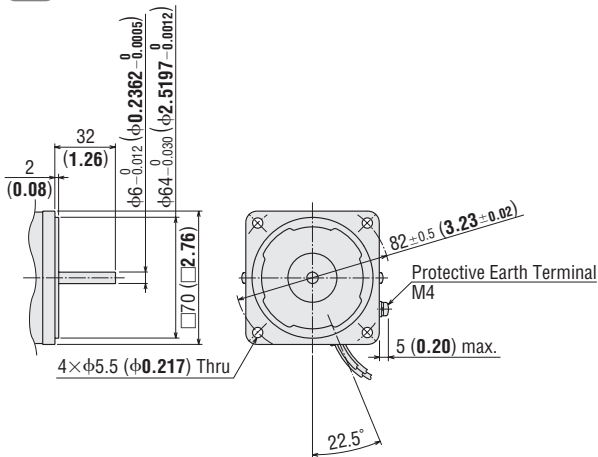


## ◇ Shaft Section of Round Shaft Type

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

Mass: 1.3 kg (2.9 lb.)

**DXF** A465



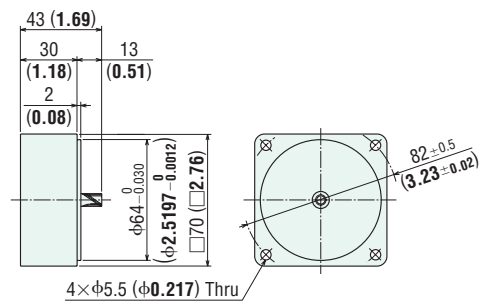
## ◇ Decimal Gearhead

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

**3GN10XS**

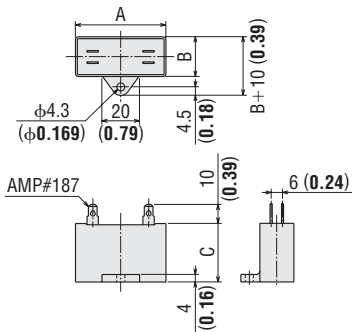
Mass: 0.3 kg (0.66 lb.)

**DXF** A009



## ◇ Capacitor

(Included with single-phase motors)



## ◇ Capacitor Dimensions Unit = mm (in.)

Model		Capacitor Model	A	B	C	Mass g (oz.)	Capacitor Cap
Pinion Shaft Type	Round Shaft Type						
<b>3RK15GN-AW2MU</b>	<b>3RK15A-AW2MU</b>	CH60CFAUL2	38 (1.50)	21 (0.83)	31 (1.22)	35 (1.24)	Included
<b>3RK15GN-CW2ME</b>	<b>3RK15A-CW2ME</b>	CH15BFAUL	38 (1.50)	21 (0.83)	31 (1.22)	37 (1.31)	

## ■ Connection Diagrams

→ Page C-114

### Accessories and Peripheral Equipment

Instantaneous Stop Brake Pack

→ Page C-253



Accessories

→ Page C-263



## Power Off Activated Type Electromagnetic Brake Motors

# 25 W (1/30 HP)

Frame Size: □80 mm (□3.15 in.)



(Gearhead sold separately)

### Specifications

● Motor (RoHS)



Model		Rating	Output Power W HP	Voltage	Frequency Hz	Current A	Starting Torque mN·m oz-in	Rated Torque mN·m oz-in	Rated Speed r/min	Capacitor μF
Pinion Shaft Type	Round Shaft Type			VAC						
ⓉP 4RK25GN-AW2MU	4RK25A-AW2MU	30 minutes	25 1/30	Single-Phase 110	60	0.54	140 19.8	170 24	1450	8.0
				Single-Phase 115						
ⓉP 4RK25GN-CW2ME	4RK25A-CW2ME	30 minutes	25 1/30	Single-Phase 220	60	0.28	140 19.8	170 24	1450	2.0
				Single-Phase 230						
					60	0.28	140 19.8	170 24	1450	
ⓉP 4IK25GN-SW2M	4IK25A-SW2M	Continuous	25 1/30	Three-Phase 200	50	0.23	240 34	190 26	1300	-
					60	0.21	160 22	160 22	1550	
				Three-Phase 220	60	0.20	160 22	150 21	1600	
Three-Phase 230	0.21									

- This type of motor does not contain a built-in friction brake mechanism similar to the reversible motors.
- The **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. → Page H-11
- Details of safety standards → Page H-2

ⓉP: Contains 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. (The power supply to the electromagnetic brake is kept and the brake is released.)  
When the motor temperature drops, the thermal protector closes and the motor restarts. Be sure to turn the motor power off before inspecting.

### Electromagnetic Brake (Power Off Activated Type)

Motor Model	Voltage VAC	Frequency Hz	Current A	Input W	Holding Brake Torque mN·m oz-in
4RK25GN-AW2MU 4RK25A-AW2MU	Single-Phase 110	60	0.09	6	100
	Single-Phase 115				14.2
4RK25GN-CW2ME 4RK25A-CW2ME	Single-Phase 220	60	0.05	7	100
	Single-Phase 230				14.2
4IK25GN-SW2M 4IK25A-SW2M	Single-Phase 200	60	0.05	7	100
	Single-Phase 220				14.2
	Single-Phase 230				

### Product Line

● Motor (RoHS)

Model	
Pinion Shaft Type	Round Shaft Type
4RK25GN-AW2MU	4RK25A-AW2MU
4RK25GN-CW2ME	4RK25A-CW2ME
4IK25GN-SW2M	4IK25A-SW2M

The following items are included in each product.  
Motor, Capacitor\*, Capacitor Cap\*, Operating Manual  
\*Only for single-phase motors

### 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 or visit [www.orientalmotor.com](http://www.orientalmotor.com).



## ● Parallel Shaft Gearhead/Right-Angle Gearhead (Sold separately) (RoHS)

Gearhead Type		Gearhead Model	Gear Ratio
Parallel Shaft	Long Life, Low Noise <b>GN-S</b> Gearhead	<b>4GN□SA</b>	<b>3, 3.6, 5, 6, 7.5, 9, 12.5, 15, 18, 25, 30, 36, 50, 60, 75, 90, 100, 120, 150, 180</b>
	Hollow Shaft	<b>4GN□RH</b>	
Right-Angle Shaft	Solid Shaft	<b>4GN□RAA</b>	
Parallel Shaft	Long Life, Low Noise <b>GN-S</b> Gearhead	<b>4GN10XS</b> (Decimal Gearhead)	

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

The following items are included in each product.

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

● The following gearheads are also available. For details, please refer to website (www.orientalmotor.com) or contact the nearest Oriental Motor sales office.

Gearhead Type		Gearhead Model	Gear Ratio
Parallel Shaft	(RoHS) <b>GN-K</b> Gearhead	<b>4GN□KA</b>	<b>3~180</b>
		<b>4GN10XK</b> (Decimal Gearhead)	

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

## ■ Gearmotor – Torque Table

- Enter the gear ratio in the box (□) within the gearhead 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 load.
- To reduce the speed beyond the gear ratio in the table, attach a decimal gearhead (gear ratio 10:1) between the gearhead and the motor. In that case, the permissible torque is 8 N·m (70 lb-in). When a gearhead of 25:1~36:1 is connected, the value for permissible torque is 6 N·m (53 lb-in).

### ◇ 50 Hz

Unit = Upper values: N-m/Lower values: lb-in

Model Motor/ Gearhead	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	<b>3</b>	<b>3.6</b>	<b>5</b>	<b>6</b>	<b>7.5</b>	<b>9</b>	<b>12.5</b>	<b>15</b>	<b>18</b>	<b>25</b>	<b>30</b>	<b>36</b>	<b>50</b>	<b>60</b>	<b>75</b>	<b>90</b>	<b>100</b>	<b>120</b>	<b>150</b>	<b>180</b>
<b>4RK25GN-CW2ME</b> / <b>4GN□SA</b>	0.50 4.4	0.60 5.3	0.83 7.3	1.0 8.8	1.2 10.6	1.5 13.2	2.1 18.5	2.5 22	3.0 26	3.7 32	4.5 39	5.4 47	6.8 60	8 70	8 70	8 70	8 70	8 70	8 70	8 70	8 70
<b>4IK25GN-SW2M</b> / <b>4GN□SA</b>	0.46 4.0	0.55 4.8	0.77 6.8	0.92 8.1	1.2 10.6	1.4 12.3	1.9 16.8	2.3 20	2.8 24	3.5 30	4.2 37	5.0 44	6.3 55	7.5 66	8 70	8 70	8 70	8 70	8 70	8 70	8 70

### ◇ 60 Hz

Unit = Upper values: N-m/Lower values: lb-in

Model Motor/ Gearhead	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	<b>3</b>	<b>3.6</b>	<b>5</b>	<b>6</b>	<b>7.5</b>	<b>9</b>	<b>12.5</b>	<b>15</b>	<b>18</b>	<b>25</b>	<b>30</b>	<b>36</b>	<b>50</b>	<b>60</b>	<b>75</b>	<b>90</b>	<b>100</b>	<b>120</b>	<b>150</b>	<b>180</b>
<b>4RK25GN-AW2MU</b> <b>4RK25GN-CW2ME</b> / <b>4GN□SA</b>	0.41 3.6	0.50 4.4	0.69 6.1	0.83 7.3	1.0 8.8	1.2 10.6	1.7 15.0	2.1 18.5	2.5 22	3.1 27	3.7 32	4.5 39	5.6 49	6.7 59	8 70	8 70	8 70	8 70	8 70	8 70	8 70
<b>4IK25GN-SW2M</b> (200 VAC) / <b>4GN□SA</b>	0.39 3.4	0.47 4.1	0.65 5.7	0.78 6.9	0.97 8.5	1.2 10.6	1.6 14.1	1.9 16.8	2.3 20	2.9 25	3.5 30	4.2 37	5.3 46	6.3 55	7.9 69	8 70	8 70	8 70	8 70	8 70	8 70
<b>4IK25GN-SW2M</b> (220/230 VAC) / <b>4GN□SA</b>	0.36 3.1	0.44 3.8	0.61 5.3	0.73 6.4	0.91 8.0	1.1 9.7	1.5 13.2	1.8 15.9	2.2 19.4	2.7 23	3.3 29	3.9 34	5.0 44	5.9 52	7.4 65	8 70	8 70	8 70	8 70	8 70	8 70

## ■ Gearmotor – Torque Table When Right-Angle Gearhead is Attached

→ Page C-238

## ■ Permissible Overhung Load and Permissible Thrust Load

Motor (Round shaft type) → Page C-17

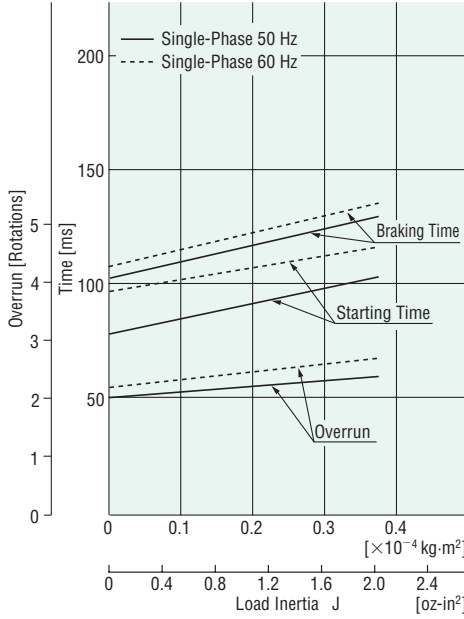
Gearhead → Page C-17

## ■ Permissible Load Inertia J of Gearhead

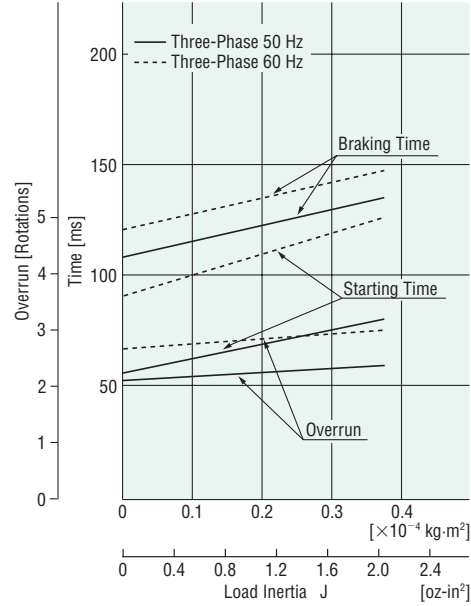
→ Page C-18

## Starting and Braking Characteristics (Reference values)

### ● Single-Phase Motor



### ● Three-Phase Motor



## Dimensions Unit = mm (in.)

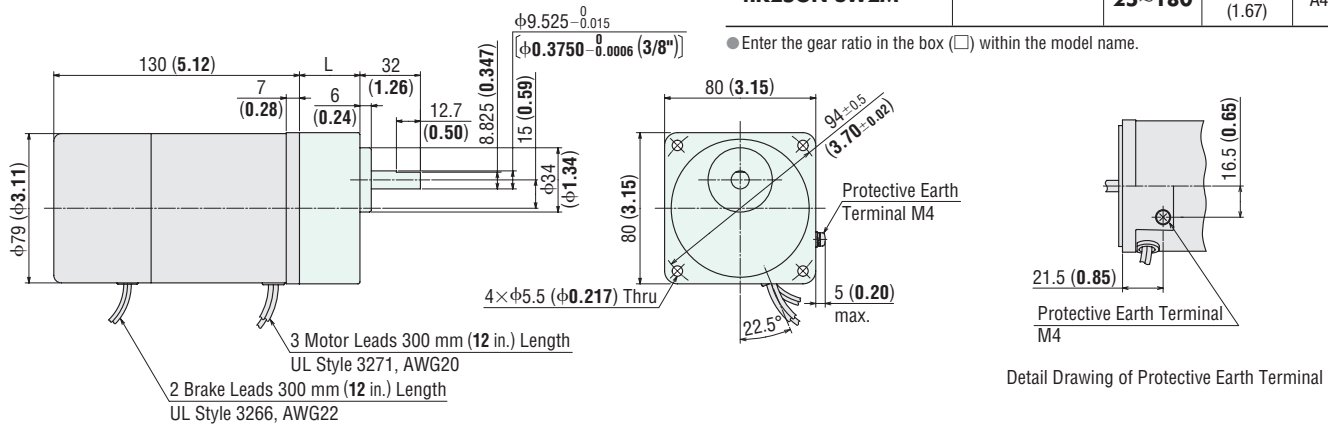
● Mounting screws are included with gearheads. Dimensions for mounting screws → Page C-280

### ◇ Motor/Gearhead

Mass: Motor 2.0 kg (4.4 lb.)  
Gearhead 0.65 kg (1.43 lb.)

Motor Model	Gearhead Model	Gear Ratio	L	DXF
4RK25GN-AW2MU 4RK25GN-CW2ME 4IK25GN-SW2M	4GN□SA	3~18	32 (1.26)	A466AU
		25~180	42.5 (1.67)	A466BU

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

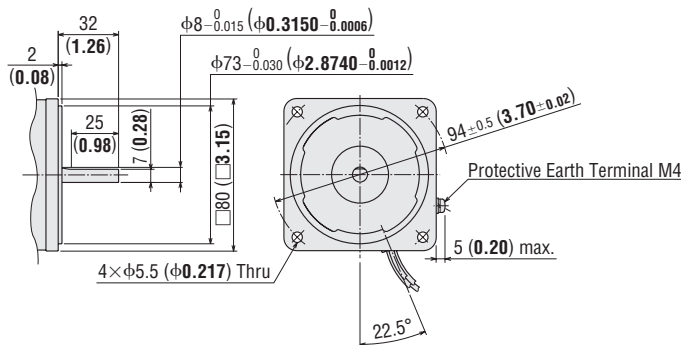


### ◇ Shaft Section of Round Shaft Type

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

Mass: 2.0 kg (4.4 lb.)

DXF A467



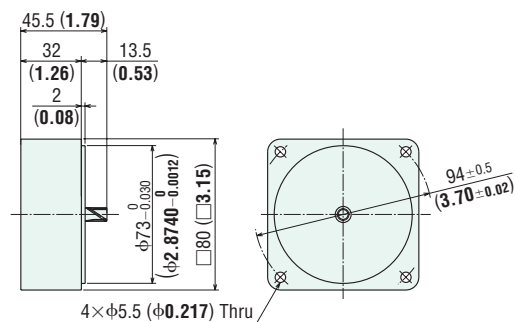
### ◇ Decimal Gearhead

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

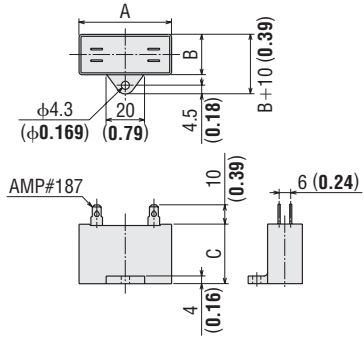
4GN10XS

Mass: 0.4 kg (0.88 lb.)

DXF A013



## ◇ Capacitor (Included with single-phase motors)



## ◇ Capacitor Dimensions Unit = mm (in.)

Model		Capacitor Model	A	B	C	Mass g (oz.)	Capacitor Cap
Pinion Shaft Type	Round Shaft Type						
<b>4RK25GN-AW2MU</b>	<b>4RK25A-AW2MU</b>	CH80CFAUL2	48 (1.89)	21 (0.83)	31 (1.22)	41 (1.45)	Included
<b>4RK25GN-CW2ME</b>	<b>4RK25A-CW2ME</b>	CH20BFAUL	48 (1.89)	19 (0.75)	29 (1.14)	36 (1.27)	

## ■ Connection Diagrams

→ Page C-114

### Gearhead, Linear Head, Accessories and Peripheral Equipment

<p><b>Space-Saving Right-Angle Gearheads</b> → Page C-227</p>	<p><b>Linear Motion Linear Heads</b> → Page C-247</p>	<p><b>Instantaneous Stop Brake Pack</b> → Page C-253</p>	<p><b>Accessories</b> → Page C-263</p>
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Introduction

Induction Motors

Reversible Motors

Electromagnetic Brake Motors

V Series

Clutch & Brake Motors

Synchronous Motors

Low-Speed Synchronous Motors

Waterright Dust-Resistant Motors

Torque Motors

Right-Angle Gearheads

Linear Heads

Brake Pack

Accessories

Installation

Power Off Activated Type Electromagnetic Brake Motors

40 W (1/19 HP)

Frame Size: □90 mm (□3.54 in.)



(Gearhead sold separately)

Specifications

● Motor (RoHS)



Model		Rating	Output Power W HP	Voltage	Frequency Hz	Current A	Starting Torque mN·m oz·in	Rated Torque mN·m oz·in	Rated Speed r/min	Capacitor μF					
Pinion Shaft Type	Round Shaft Type			VAC											
ⓉP 5RK40GN-AW2MU	5RK40A-AW2MU	30 minutes	40 1/19	Single-Phase 110	60	0.81	260 36	270 38	1450	12					
				Single-Phase 115											
ⓉP 5RK40GN-CW2ME	5RK40A-CW2ME	30 minutes	40 1/19	Single-Phase 220	50	0.38	260 36	315 44	1250	3.5					
				Single-Phase 230							60	260 36	260 36	1500	
											Three-Phase 200	50	0.32	400 56	300 42
ⓉP 5IK40GN-SW2M	5IK40A-SW2M	Continuous	40 1/19	Three-Phase 220	60	0.30	260 36	260 36	1550	-					
				Three-Phase 230							Three-Phase 220	0.30	260 36	260 36	1600
											Three-Phase 230	0.31	260 36	260 36	1600

- This type of motor does not contain a built-in friction brake mechanism similar to the reversible motors.
- The **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. → Page H-11
- Details of safety standards → Page H-2
- ⓉP: Contains 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. (The power supply to the electromagnetic brake is kept and the brake is released.)  
When the motor temperature drops, the thermal protector closes and the motor restarts. Be sure to turn the motor power off before inspecting.

● Electromagnetic Brake (Power Off Activated Type)

Motor Model	Voltage	Frequency Hz	Current A	Input W	Holding Brake Torque mN·m oz·in	
	VAC					
5RK40GN-AW2MU 5RK40A-AW2MU	Single-Phase 110	60	0.09	6	200 28	
	Single-Phase 115					
5RK40GN-CW2ME 5RK40A-CW2ME	Single-Phase 220	50	0.05	7	200 28	
	Single-Phase 230					60
						50
5IK40GN-SW2M 5IK40A-SW2M	Single-Phase 200	60	0.05	7	200 28	
	Single-Phase 220					50
						Single-Phase 230

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 or visit [www.orientalmotor.com](http://www.orientalmotor.com).



6 W (1/125 HP)  
15 W (1/50 HP)  
25 W (1/30 HP)  
40 W (1/19 HP)  
60 W (1/12 HP)  
90 W (1/8 HP)  
200 W (1/4 HP)

## Product Line

### ● Motor (RoHS)

Model	
Pinion Shaft Type	Round Shaft Type
<b>5RK40GN-AW2MU</b>	<b>5RK40A-AW2MU</b>
<b>5RK40GN-CW2ME</b>	<b>5RK40A-CW2ME</b>
<b>5IK40GN-SW2M</b>	<b>5IK40A-SW2M</b>

The following items are included in each product.  
 Motor, Capacitor\*, Capacitor Cap\*, Operating Manual  
 \*Only for single-phase motors

### ● Parallel Shaft Gearhead/Right-Angle Gearhead (Sold separately) (RoHS)

Gearhead Type		Gearhead Model	Gear Ratio
Parallel Shaft	Long Life, Low Noise <b>GN-S</b> Gearhead	<b>5GN□SA</b>	<b>3, 3.6, 5, 6, 7.5, 9, 12.5, 15, 18, 25, 30, 36, 50, 60, 75, 90, 100, 120, 150, 180</b>
	Right-Angle Shaft	Hollow Shaft	
Solid Shaft		<b>5GN□RAA</b>	
Parallel Shaft	Long Life, Low Noise <b>GN-S</b> Gearhead	<b>5GN10XS</b> (Decimal Gearhead)	

The following items are included in each product.

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

● The following gearheads are also available. For details, please refer to website ([www.orientalmotor.com](http://www.orientalmotor.com)) or contact the nearest Oriental Motor sales office.

Gearhead Type		Gearhead Model	Gear Ratio
Parallel Shaft	(RoHS)	<b>5GN□KA</b>	<b>3~180</b>
	<b>GN-K</b> Gearhead	<b>5GN10XK</b> (Decimal Gearhead)	

## Gearmotor – Torque Table

- Enter the gear ratio in the box (□) within the gearhead 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 load.
- To reduce the speed beyond the gear ratio in the table, attach a decimal gearhead (gear ratio 10:1) between the gearhead and the motor.  
In that case, the permissible torque is 10 N·m (88 lb-in).

### ◇ 50 Hz

Unit = Upper values: N·m/Lower values: lb-in

Model Motor/ Gearhead	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	<b>3</b>	<b>3.6</b>	<b>5</b>	<b>6</b>	<b>7.5</b>	<b>9</b>	<b>12.5</b>	<b>15</b>	<b>18</b>	<b>25</b>	<b>30</b>	<b>36</b>	<b>50</b>	<b>60</b>	<b>75</b>	<b>90</b>	<b>100</b>	<b>120</b>	<b>150</b>	<b>180</b>
<b>5RK40GN-CW2ME</b> / <b>5GN□SA</b>	0.77 6.8	0.92 8.1	1.3 11.5	1.5 13.2	1.9 16.8	2.3 20	3.2 28	3.8 33	4.6 40	5.7 50	6.9 61	8.3 73	10 88	10 88	10 88	10 88	10 88	10 88	10 88	10 88	10 88
<b>5IK40GN-SW2M</b> / <b>5GN□SA</b>	0.73 6.4	0.87 7.6	1.2 10.6	1.5 13.2	1.8 15.9	2.2 19.4	3.0 26	3.6 31	4.4 38	5.5 48	6.6 58	7.9 69	9.9 87	10 88	10 88	10 88	10 88	10 88	10 88	10 88	10 88

### ◇ 60 Hz

Unit = Upper values: N·m/Lower values: lb-in

Model Motor/ Gearhead	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	<b>3</b>	<b>3.6</b>	<b>5</b>	<b>6</b>	<b>7.5</b>	<b>9</b>	<b>12.5</b>	<b>15</b>	<b>18</b>	<b>25</b>	<b>30</b>	<b>36</b>	<b>50</b>	<b>60</b>	<b>75</b>	<b>90</b>	<b>100</b>	<b>120</b>	<b>150</b>	<b>180</b>
<b>5RK40GN-AW2MU</b> / <b>5GN□SA</b>	0.66 5.8	0.79 6.9	1.1 9.7	1.3 11.5	1.6 14.1	2.0 17.7	2.7 23	3.3 29	3.9 34	4.9 43	5.9 52	7.1 62	8.9 78	10 88	10 88	10 88	10 88	10 88	10 88	10 88	10 88
<b>5RK40GN-CW2ME</b> <b>5IK40GN-SW2M</b> / <b>5GN□SA</b>	0.63 5.5	0.76 6.7	1.1 9.7	1.3 11.5	1.6 14.1	1.9 16.8	2.6 23	3.2 28	3.8 33	4.7 41	5.7 50	6.8 60	8.6 76	10 88	10 88	10 88	10 88	10 88	10 88	10 88	10 88

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

## ■ Gearmotor – Torque Table When Right-Angle Gearhead is Attached

→ Page C-238

## ■ Permissible Overhung Load and Permissible Thrust Load

Motor (Round shaft type) → Page C-17

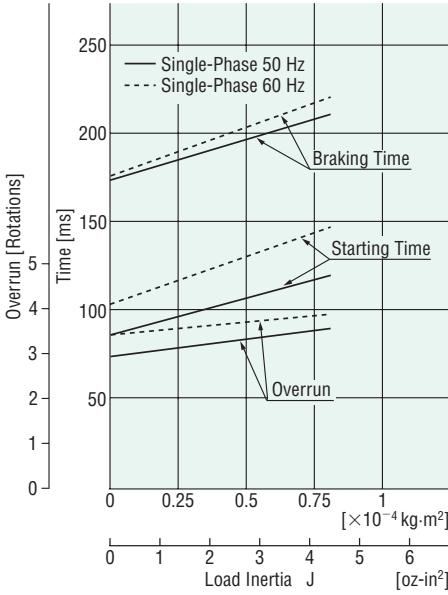
Gearhead → Page C-17

## ■ Permissible Load Inertia J of Gearhead

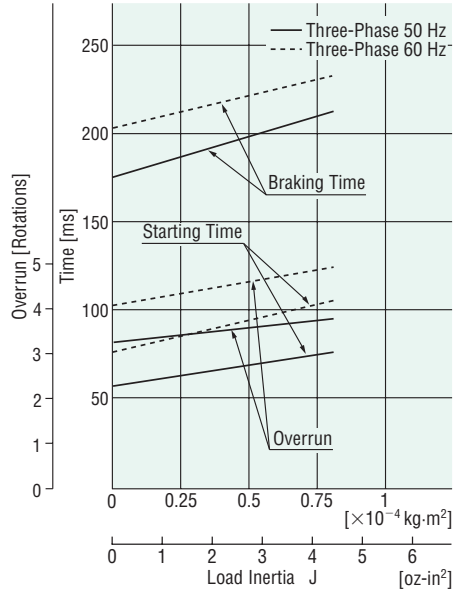
→ Page C-18

## ■ Starting and Braking Characteristics (Reference values)

### ● Single-Phase Motor



### ● Three-Phase Motor



## ■ Dimensions Unit = mm (in.)

● Mounting screws are included with gearheads. Dimensions for mounting screws → Page C-280

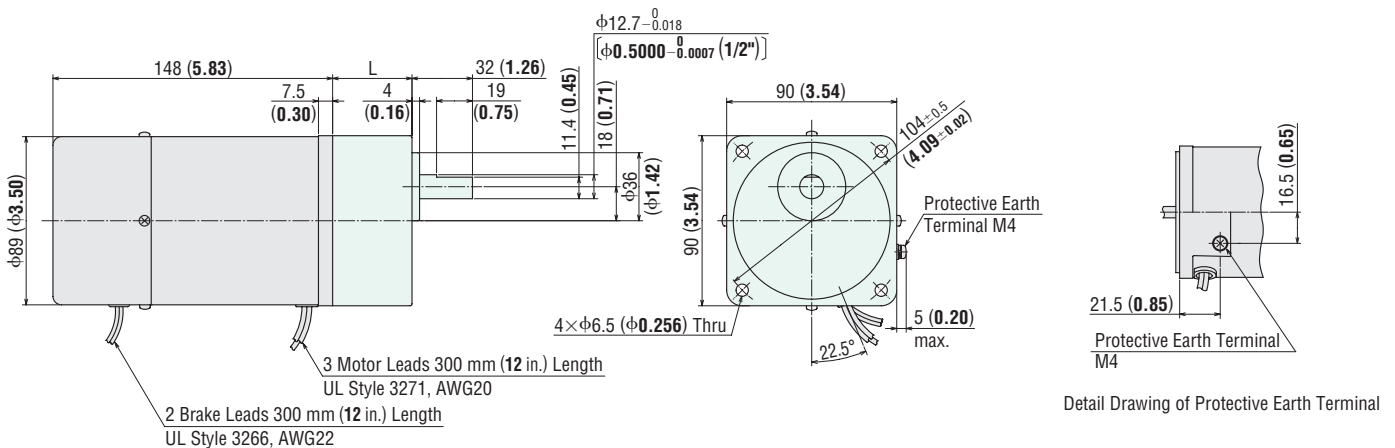
### ◇ Motor/Gearhead

Mass: Motor 2.8 kg (6.2 lb.)

Gearhead 1.5 kg (3.3 lb.)

Motor Model	Gearhead Model	Gear Ratio	L	DXF
<b>5RK40GN-AW2MU</b> <b>5RK40GN-CW2ME</b> <b>5IK40GN-SW2M</b>	<b>5GN□SA</b>	<b>3~18</b>	42 (1.65)	A468AU
		<b>25~180</b>	60 (2.36)	A468BU

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



Detail Drawing of Protective Earth Terminal

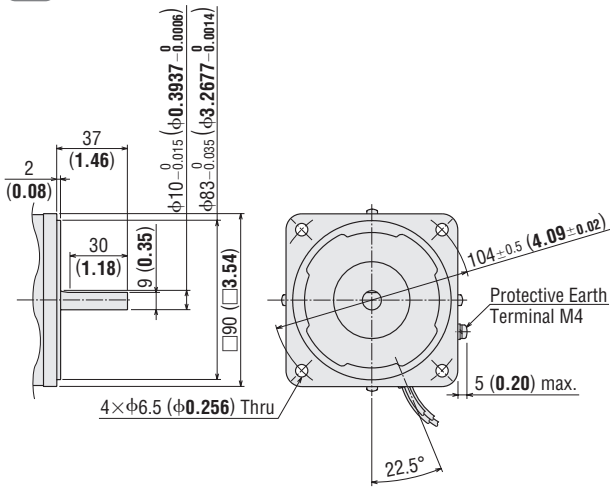


## ◇ Shaft Section of Round Shaft Type

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

Mass: 2.8 kg (6.2 lb.)

**DXF** A469



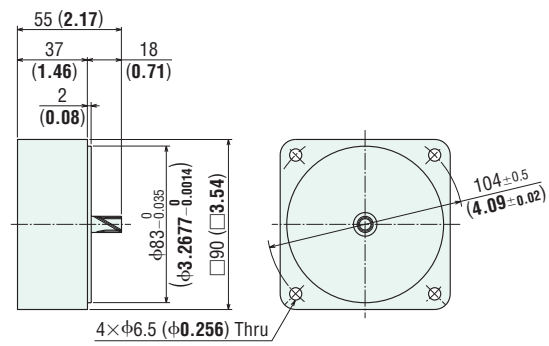
## ◇ Decimal Gearhead

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

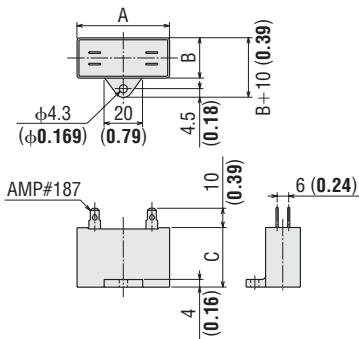
**5GN10XS**

Mass: 0.6 kg (1.32 lb.)

**DXF** A022



## ◇ Capacitor (Included with single-phase motors)



## ◇ Capacitor Dimensions Unit = mm (in.)

Model		Capacitor Model	A	B	C	Mass g (oz.)	Capacitor Cap
Pinion Shaft Type	Round Shaft Type						
<b>5RK40GN-AW2MU</b>	<b>5RK40A-AW2MU</b>	CH120CFAUL2	58 (2.28)	22 (0.87)	35 (1.38)	60 (2.1)	Included
<b>5RK40GN-CW2ME</b>	<b>5RK40A-CW2ME</b>	CH35BFAUL	58 (2.28)	22 (0.87)	35 (1.38)	59 (2.1)	

## ■ Connection Diagrams

→ Page C-114

### Gearhead, Accessories and Peripheral Equipment

**Space-Saving**  
Right-Angle Gearheads  
→ Page C-227



**Instantaneous Stop**  
Brake Pack  
→ Page C-253



**Accessories**  
→ Page C-263



Power Off Activated Type Electromagnetic Brake Motors

60 W (1/12 HP)

Frame Size: □90 mm (□3.54 in.)



(Gearhead sold separately)

6 W  
(1/125 HP)

15 W  
(1/50 HP)

25 W  
(1/30 HP)

40 W  
(1/19 HP)

60 W  
(1/12 HP)

90 W  
(1/8 HP)

200 W  
(1/4 HP)

Specifications

● Motor (RoHS)



Model		Rating	Output Power W HP	Voltage	Frequency Hz	Current A	Starting Torque mN·m oz-in	Rated Torque mN·m oz-in	Rated Speed r/min	Capacitor μF
Pinion Shaft Type	Round Shaft Type			VAC						
TP	5RK60GE-AW2MU	30 minutes	60 1/12	Single-Phase 110	60	1.24	380 53	405 57	1450	20
				Single-Phase 115						
TP	5RK60GE-CW2ME	30 minutes	60 1/12	Single-Phase 220	60	0.61	380 53	405 57	1450	5.0
				Single-Phase 230						
				60	0.61	380 53	405 57	1450		
TP	5IK60GE-SW2M	Continuous	60 1/12	Three-Phase 200	50	0.50	600 85	450 63	1300	-
				Three-Phase 220	60	0.43	500 71	380 53	1550	
				Three-Phase 220	60	0.45	500	380	1600	
				Three-Phase 230						

- This type of motor does not contain a built-in friction brake mechanism similar to the reversible motors.
- The **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. → Page H-11
- Details of safety standards → Page H-2

TP: Contains 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. (The power supply to the electromagnetic brake is kept and the brake is released.)  
When the motor temperature drops, the thermal protector closes and the motor restarts. Be sure to turn the motor power off before inspecting.

● Electromagnetic Brake (Power Off Activated Type)

Motor Model	Voltage VAC	Frequency Hz	Current A	Input W	Holding Brake Torque mN·m oz-in
5RK60GE-AW2MU 5RK60A-AW2MU	Single-Phase 110	60	0.13	10	500
	Single-Phase 115				71
5RK60GE-CW2ME 5RK60A-CW2ME	Single-Phase 220	60	0.07	10	500
	Single-Phase 230				71
	60				
5IK60GE-SW2M 5IK60A-SW2M	Single-Phase 200	60	0.07	10	500
	Single-Phase 220				71
	Single-Phase 230				

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 or visit [www.orientalmotor.com](http://www.orientalmotor.com).



## Product Line

### ● Motor (RoHS)

Model	
Pinion Shaft Type	Round Shaft Type
<b>5RK60GE-AW2MU</b>	<b>5RK60A-AW2MU</b>
<b>5RK60GE-CW2ME</b>	<b>5RK60A-CW2ME</b>
<b>5IK60GE-SW2M</b>	<b>5IK60A-SW2M</b>

The following items are included in each product.  
 Motor, Capacitor\*, Capacitor Cap\*, Operating Manual  
 \*Only for single-phase motors

### ● Parallel Shaft Gearhead/Right-Angle Gearhead (Sold separately) (RoHS)

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

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

## Gearmotor – Torque Table

- Enter the gear ratio in the box (□) within the gearhead 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 load.
- To reduce the speed beyond the gear ratio in the table, attach a decimal gearhead (gear ratio 10:1) between the gearhead and the motor.  
In that case, the permissible torque is 20 N·m (177 lb-in).

### ◇ 50 Hz

Unit = Upper values: N·m/Lower values: lb-in

Model Motor/ Gearhead	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	<b>3</b>	<b>3.6</b>	<b>5</b>	<b>6</b>	<b>7.5</b>	<b>9</b>	<b>12.5</b>	<b>15</b>	<b>18</b>	<b>25</b>	<b>30</b>	<b>36</b>	<b>50</b>	<b>60</b>	<b>75</b>	<b>90</b>	<b>100</b>	<b>120</b>	<b>150</b>
<b>5RK60GE-CW2ME</b> / <b>5GE□SA</b>	1.2 10.6	1.4 12.3	2.0 17.7	2.4 21	3.0 26	3.6 31	4.5 39	5.4 47	6.4 56	8.1 71	9.7 85	11.6 102	16.2 143	19.4 171	20 177	20 177	20 177	20 177	20 177	20 177	20 177
<b>5IK60GE-SW2M</b> / <b>5GE□SA</b>	1.1 9.7	1.3 11.5	1.8 15.9	2.2 19.7	2.7 23	3.3 29	4.1 36	4.9 43	5.9 52	7.4 65	8.9 78	10.7 94	14.9 131	17.8 157	19.9 176	20 177	20 177	20 177	20 177	20 177	20 177

### ◇ 60 Hz

Unit = Upper values: N·m/Lower values: lb-in

Model Motor/ Gearhead	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	<b>3</b>	<b>3.6</b>	<b>5</b>	<b>6</b>	<b>7.5</b>	<b>9</b>	<b>12.5</b>	<b>15</b>	<b>18</b>	<b>25</b>	<b>30</b>	<b>36</b>	<b>50</b>	<b>60</b>	<b>75</b>	<b>90</b>	<b>100</b>	<b>120</b>	<b>150</b>
<b>5RK60GE-AW2MU</b> <b>5RK60GE-CW2ME</b> / <b>5GE□SA</b>	0.98 8.6	1.2 10.6	1.6 14.1	2.0 17.7	2.5 22	3.0 26	3.7 32	4.4 38	5.3 46	6.7 59	8.0 70	9.6 84	13.4 118	16.0 141	17.9 158	20 177	20 177	20 177	20 177	20 177	20 177
<b>5IK60GE-SW2M</b> / <b>5GE□SA</b>	0.92 8.1	1.1 9.7	1.5 13.2	1.8 15.9	2.3 20	2.8 24	3.5 30	4.2 37	5.0 44	6.3 55	7.5 66	9.0 79	12.5 110	15.0 132	16.8 148	20 177	20 177	20 177	20 177	20 177	20 177

## Gearmotor – Torque Table When Right-Angle Gearhead is Attached

→ Page C-238

## Permissible Overhung Load and Permissible Thrust Load

Motor (Round shaft type) → Page C-17

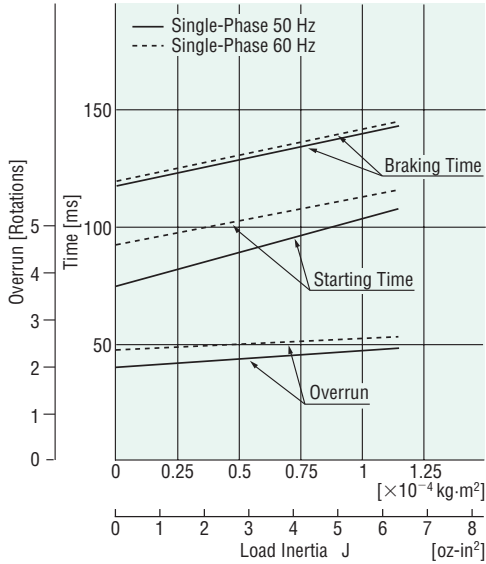
Gearhead → Page C-17

## Permissible Load Inertia J of Gearhead

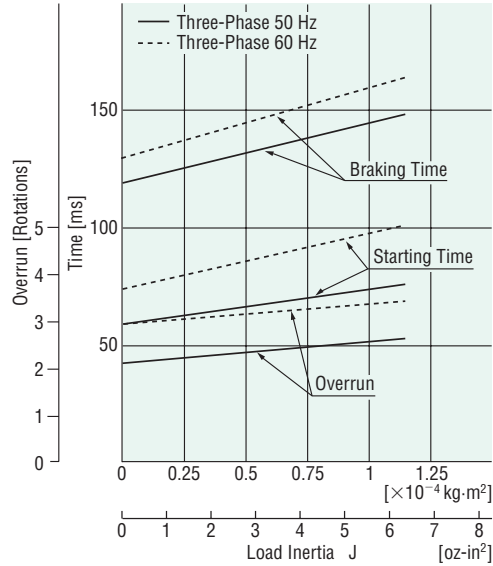
→ Page C-18

## Starting and Braking Characteristics (Reference values)

### Single-Phase Motor



### Three-Phase Motor



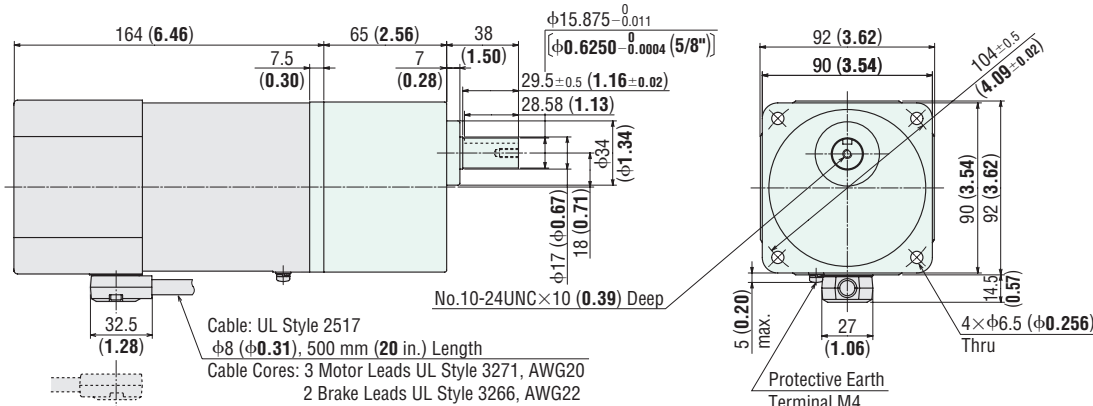
## Dimensions Unit = mm (in.)

● Mounting screws are included with gearheads. Dimensions for mounting screws → Page C-280

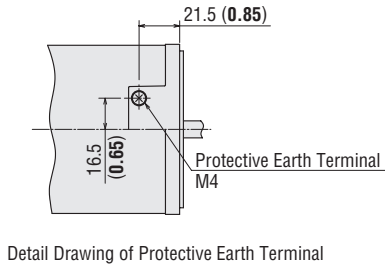
### Motor/Gearhead

Mass: Motor 3.4 kg (7.5 lb.)  
Gearhead 1.5 kg (3.3 lb.)

**DXF** A470U

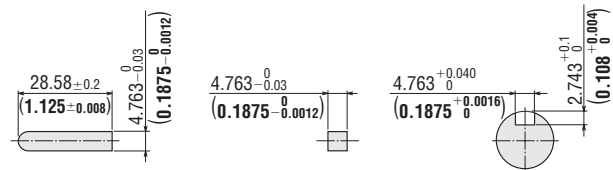


● Cable direction can be switched to the opposite direction.



### Key and Key Slot

(The key is included with the gearhead)

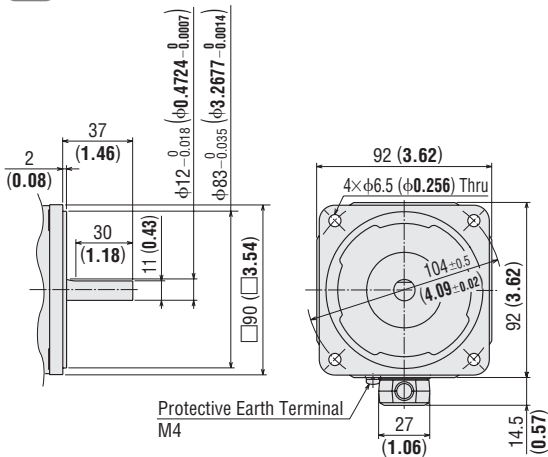


## ◇ Shaft Section of Round Shaft Type

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

Mass: 3.4 kg (7.5 lb.)

**DXF** A471



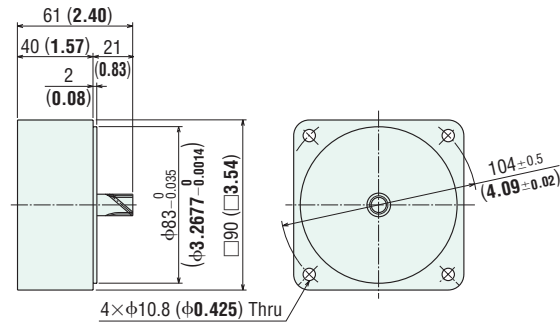
## ◇ Decimal Gearhead

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

**5GE10XS**

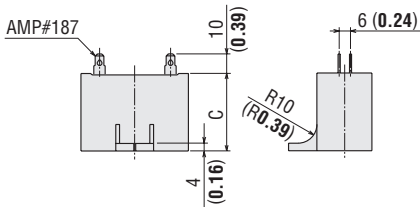
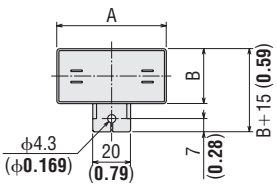
Mass: 0.6 kg (1.32 lb.)

**DXF** A029



## ◇ Capacitor

(Included with single-phase motors)



## ◇ Capacitor Dimensions Unit = mm (in.)

Model		Capacitor Model	A	B	C	Mass g (oz.)	Capacitor Cap
Pinion Shaft Type	Round Shaft Type						
<b>5RK60GE-AW2MU</b>	<b>5RK60A-AW2MU</b>	CH200CFAUL2	58 (2.28)	29 (1.14)	41 (1.61)	91 (3.2)	Included
<b>5RK60GE-CW2ME</b>	<b>5RK60A-CW2ME</b>	CH50BFAUL	58 (2.28)	29 (1.14)	41 (1.61)	93 (3.3)	

## ■ Connection Diagrams

→ Page C-114

### Gearhead, Accessories and Peripheral Equipment

Space-Saving Right-Angle Gearheads  
→ Page C-227



Instantaneous Stop Brake Pack  
→ Page C-253



Accessories  
→ Page C-263



Power Off Activated Type Electromagnetic Brake Motors

90 W (1/8 HP)

Frame Size: □90 mm (□3.54 in.)



(Gearhead sold separately)

Specifications

● Motor (RoHS)



Model		Rating	Output Power W HP	Voltage VAC	Frequency Hz	Current A	Starting Torque mN·m oz·in	Rated Torque mN·m oz·in	Rated Speed r/min	Capacitor μF
Pinion Shaft Type	Round Shaft Type									
TP 5RK90GE-AW2MU	5RK90A-AW2MU	30 minutes	90 1/8	Single-Phase 110	60	1.81	590 83	585 83	1500	30
				Single-Phase 115						
TP 5RK90GE-CW2ME	5RK90A-CW2ME	30 minutes	90 1/8	Single-Phase 220	60	0.96	590 83	605 85	1450	7.0
				Single-Phase 230						
				50	0.82	600 85	730 103	1200		
				60					0.96	
TP 5IK90GE-SW2M	5IK90A-SW2M	Continuous	90 1/8	Three-Phase 200	50	0.64	850 120	680 96		1300
					60				0.59	
				Three-Phase 220	60	0.60	700	570		1600
				Three-Phase 230					0.61	

- This type of motor does not contain a built-in friction brake mechanism similar to the reversible motors.
- The **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. → Page H-11
- Details of safety standards → Page H-2

TP: Contains 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. (The power supply to the electromagnetic brake is kept and the brake is released.)  
When the motor temperature drops, the thermal protector closes and the motor restarts. Be sure to turn the motor power off before inspecting.

● Electromagnetic Brake (Power Off Activated Type)

Motor Model	Voltage VAC	Frequency Hz	Current A	Input W	Holding Brake Torque mN·m oz·in	
5RK90GE-AW2MU 5RK90A-AW2MU	Single-Phase 110	60	0.13	10	500	
	Single-Phase 115				71	
5RK90GE-CW2ME 5RK90A-CW2ME	Single-Phase 220	60	0.07	10	500	
	Single-Phase 230				50	71
					60	
5IK90GE-SW2M 5IK90A-SW2M	Single-Phase 200	50	0.07	10	500	
		60				
	Single-Phase 220	60				71
	Single-Phase 230					

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 or visit [www.orientalmotor.com](http://www.orientalmotor.com).



## Product Line

### Motor (RoHS)

Model	
Pinion Shaft Type	Round Shaft Type
<b>5RK90GE-AW2MU</b>	<b>5RK90A-AW2MU</b>
<b>5RK90GE-CW2ME</b>	<b>5RK90A-CW2ME</b>
<b>5IK90GE-SW2M</b>	<b>5IK90A-SW2M</b>

The following items are included in each product.  
 Motor, Capacitor\*, Capacitor Cap\*, Operating Manual  
 \*Only for single-phase motors

### Parallel Shaft Gearhead/Right-Angle Gearhead (Sold separately) (RoHS)

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

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

## Gearmotor – Torque Table

- Enter the gear ratio in the box (□) within the gearhead 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 load.
- To reduce the speed beyond the gear ratio in the table, attach a decimal gearhead (gear ratio 10:1) between the gearhead and the motor.  
In that case, the permissible torque is 20 N·m (177 lb-in).

### 50 Hz

Unit = Upper values: N·m/Lower values: lb-in

Model Motor/ Gearhead	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	<b>3</b>	<b>3.6</b>	<b>5</b>	<b>6</b>	<b>7.5</b>	<b>9</b>	<b>12.5</b>	<b>15</b>	<b>18</b>	<b>25</b>	<b>30</b>	<b>36</b>	<b>50</b>	<b>60</b>	<b>75</b>	<b>90</b>	<b>100</b>	<b>120</b>	<b>150</b>	<b>180</b>
<b>5RK90GE-CW2ME</b> / <b>5GE□SA</b>	1.8 15.9	2.1 18.5	3.0 26	3.5 30	4.4 38	5.3 46	6.7 59	8.0 70	9.6 84	12.0 106	14.5 128	17.3 153	20 177	20 177	20 177	20 177	20 177	20 177	20 177	20 177	20 177
<b>5IK90GE-SW2M</b> / <b>5GE□SA</b>	1.7 15.0	2.0 17.7	2.8 24	3.3 29	4.1 36	5.0 44	6.2 54	7.4 65	8.9 78	11.2 99	13.5 119	16.2 143	20 177	20 177	20 177	20 177	20 177	20 177	20 177	20 177	20 177

### 60 Hz

Unit = Upper values: N·m/Lower values: lb-in

Model Motor/ Gearhead	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	<b>3</b>	<b>3.6</b>	<b>5</b>	<b>6</b>	<b>7.5</b>	<b>9</b>	<b>12.5</b>	<b>15</b>	<b>18</b>	<b>25</b>	<b>30</b>	<b>36</b>	<b>50</b>	<b>60</b>	<b>75</b>	<b>90</b>	<b>100</b>	<b>120</b>	<b>150</b>	<b>180</b>
<b>5RK90GE-AW2MU</b> / <b>5GE□SA</b>	1.4 12.3	1.7 15.0	2.4 21	2.8 24	3.6 31	4.3 38	5.3 46	6.4 56	7.7 68	9.7 85	11.6 102	13.9 123	19.3 170	20 177	20 177	20 177	20 177	20 177	20 177	20 177	20 177
<b>5RK90GE-CW2ME</b> / <b>5GE□SA</b>	1.5 13.2	1.8 15.9	2.5 22	2.9 25	3.7 32	4.4 38	5.5 48	6.6 58	7.9 69	10.0 88	12.0 106	14.4 127	20 177	20 177	20 177	20 177	20 177	20 177	20 177	20 177	20 177
<b>5IK90GE-SW2M</b> / <b>5GE□SA</b>	1.4 12.3	1.7 15.0	2.3 20	2.8 24	3.5 30	4.2 37	5.2 46	6.2 54	7.5 66	9.4 83	11.3 100	13.5 119	18.8 166	20 177	20 177	20 177	20 177	20 177	20 177	20 177	20 177

## Gearmotor – Torque Table When Right-Angle Gearhead is Attached

→ Page C-238

## Permissible Overhung Load and Permissible Thrust Load

Motor (Round shaft type) → Page C-17

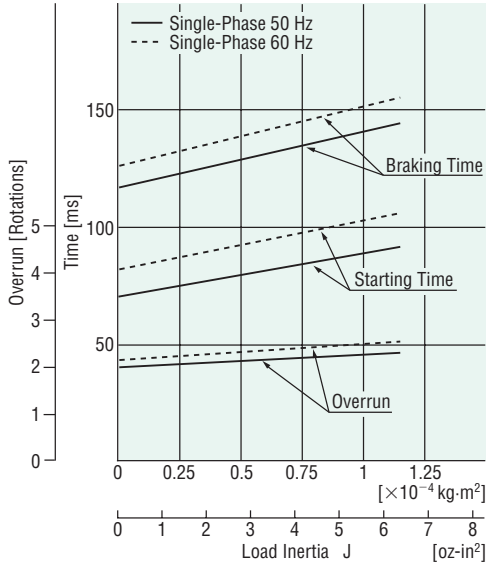
Gearhead → Page C-17

## Permissible Load Inertia J of Gearhead

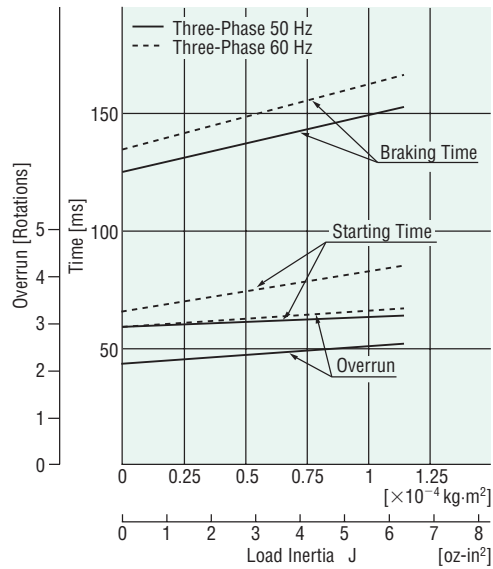
→ Page C-18

## Starting and Braking Characteristics (Reference values)

### Single-Phase Motor



### Three-Phase Motor



## Dimensions Unit = mm (in.)

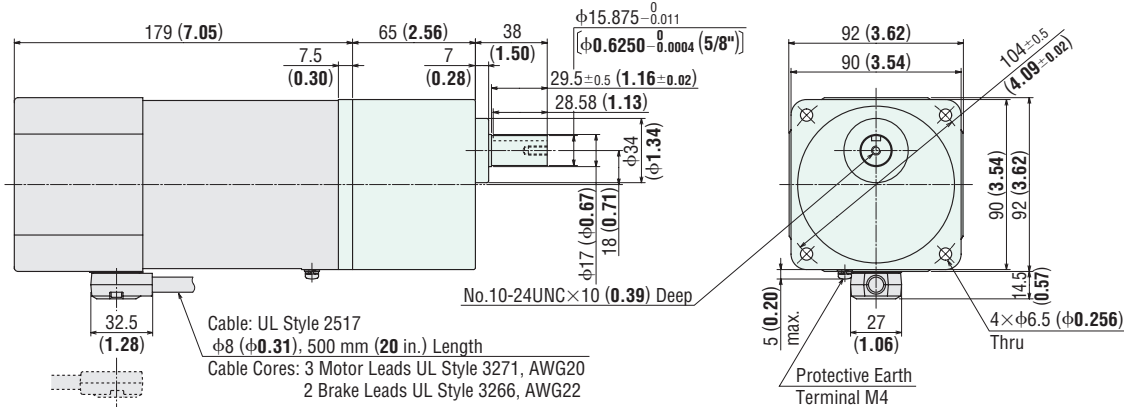
● Mounting screws are included with gearheads. Dimensions for mounting screws → Page C-280

### Motor/Gearhead

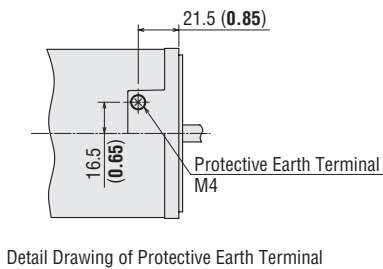
Mass: Motor 3.9 kg (8.6 lb.)

Gearhead 1.5 kg (3.3 lb.)

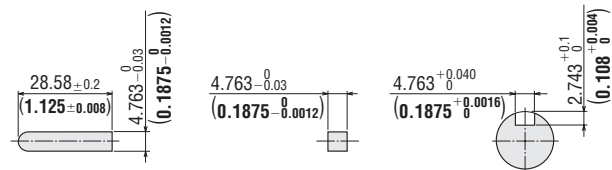
DXF A472U



● Cable direction can be switched to the opposite direction.



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



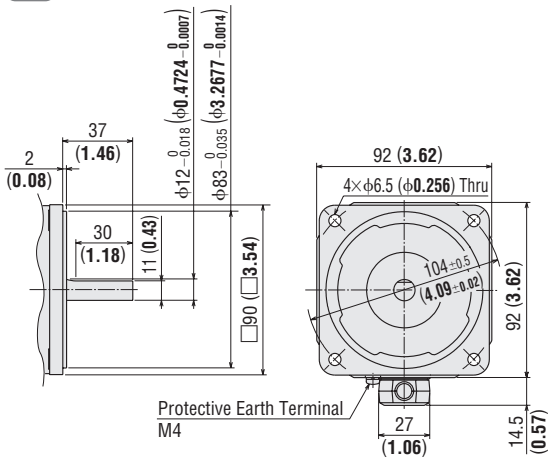


## ◇ Shaft Section of Round Shaft Type

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

Mass: 3.9 kg (8.6 lb.)

**DXF** A473



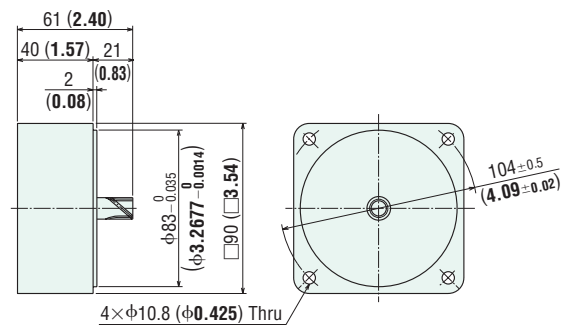
## ◇ Decimal Gearhead

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

**5GE10XS**

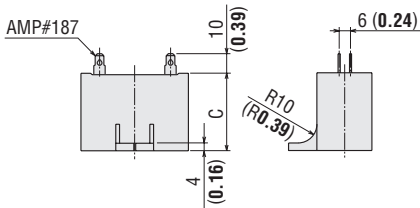
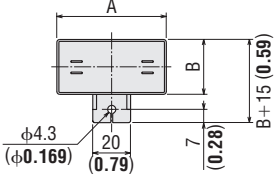
Mass: 0.6 kg (1.32 lb.)

**DXF** A029



## ◇ Capacitor

(Included with single-phase motors)



## ◇ Capacitor Dimensions Unit = mm (in.)

Model		Capacitor Model	A	B	C	Mass g (oz.)	Capacitor Cap
Pinion Shaft Type	Round Shaft Type						
<b>5RK90GE-AW2MU</b>	<b>5RK90A-AW2MU</b>	CH300CFAUL2	58 (2.28)	35 (1.38)	50 (1.97)	140 (4.9)	Included
<b>5RK90GE-CW2ME</b>	<b>5RK90A-CW2ME</b>	CH70BFAUL	58 (2.28)	35 (1.38)	50 (1.97)	138 (4.9)	

## ■ Connection Diagrams

→ Page C-114

### Gearhead, Accessories and Peripheral Equipment

Space-Saving Right-Angle Gearheads

→ Page C-227



Instantaneous Stop Brake Pack

→ Page C-253



Accessories

→ Page C-263



# Induction Motors BH Series

## Power Off Activated Electromagnetic Brake

### 200 W (1/4 HP)

Frame Size: □104 mm (□4.09 in.)



Right-Angle Hollow Shaft



Parallel Shaft

### Features

- **High Power 200 W (1/4 HP)**  
Smallest frame size among 200 W (1/4 HP) motors
- **Hypoid Gear Right-Angle Gearheads**  
Right-angle gearheads employ hypoid gears. Hollow shafts and solid shafts are available to enable space-saving.
- **Tapped Hole at the Shaft End**  
The gearhead shafts feature a tapped hole for convenient connection with a load.

### ● "Combination Type" for Easy Installation

The combination type comes with the motor and gearhead pre-assembled. This enables easy installation in equipment.

**Combination Type:**  
The combination type comes with the motor and its dedicated gearhead pre-assembled which simplifies installation in equipment. Motors and gearheads are also available separately to facilitate changes or repairs.

### Specifications – Continuous Rating (RoHS)



Model		Output Power	Voltage	Frequency	Current	Starting Torque	Rated Torque	Rated Speed	Capacitor
Combination Type	Round Shaft Type	W HP	VAC	Hz	A	N-m oz-in	N-m oz-in	r/min	μF
(TP) <b>BHI62FMT-□RH</b> <b>BHI62FMT-□RA</b> <b>BHI62FMT-□</b>	<b>BHI62FMT-A</b>	200 1/4	Single-Phase 110	60	3	0.88	1.27	1500	40
			Single-Phase 115			124			
(TP) <b>BHI62EMT-□RH</b> <b>BHI62EMT-□RA</b> <b>BHI62EMT-□</b>	<b>BHI62EMT-A</b>	200 1/4	Single-Phase 220	50	1.5	0.98	1.52	1250	10
				60			210	1500	
			Single-Phase 230	50			1.52	1250	
				60			210	1500	
(TP) <b>BHI62SMT-□RH</b> <b>BHI62SMT-□RA</b> <b>BHI62SMT-□</b>	<b>BHI62SMT-A</b>	200 1/4	Three-Phase 200	50	1.1	1.49	1.49	1250	-
				60		210	1500		
			Three-Phase 220	60	0.95	1.23	1.23	1550	
				60		174	174		
			Three-Phase 230	60	1.18	1.18	1600		
				60	167	167	-		

- The values for each specification applies to the motor only.
- Details of safety standards → Page H-2
- For detailed product safety standard information including standards, file number and certification body, please visit [www.orientalmotor.com](http://www.orientalmotor.com).
- (TP): Contains 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. (The power supply to the electromagnetic brake is kept and the brake is released.)  
When the motor temperature drops, the thermal protector closes and the motor restarts. Be sure to turn the motor power off before inspecting.

### ● Electromagnetic Brake (Power Off Activated Type)

Motor Model	Voltage	Frequency	Current	Input	Holding Brake Torque
	VAC	Hz	A	W	N-m oz-in
<b>BHI62FMT-□RH, BHI62FMT-□RA</b> <b>BHI62FMT-□, BHI62FMT-A</b>	Single-Phase 110	60	0.17	12	1.5
	Single-Phase 115				210
<b>BHI62EMT-□RH, BHI62EMT-□RA</b> <b>BHI62EMT-□, BHI62EMT-A</b>	Single-Phase 220	50	0.09	12	1.5
		60			210
	Single-Phase 230	50	0.09	12	1.5
		60			210
<b>BHI62SMT-□RH, BHI62SMT-□RA</b> <b>BHI62SMT-□, BHI62SMT-A</b>	Single-Phase 200	50	0.09	12	1.5
		60			210
	Single-Phase 220	60	0.09	12	1.5
		60			210

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

## Product Line

### ● Combination Type (RoHS)

#### ◇ Right-Angle Shaft

Type	Voltage	Model	Gear Ratio
Hollow Shaft	Single-Phase 110/115 VAC	<b>BHI62FMT-□RH</b>	<b>5, 6, 7.5, 9, 12.5, 15, 18, 25, 30, 36, 50, 60, 75, 90, 100, 120, 150, 180</b>
	Single-Phase 220/230 VAC	<b>BHI62EMT-□RH</b>	
	Three-Phase 200/220/230 VAC	<b>BHI62SMT-□RH</b>	
Solid Shaft	Single-Phase 110/115 VAC	<b>BHI62FMT-□RA</b>	
	Single-Phase 220/230 VAC	<b>BHI62EMT-□RA</b>	
	Three-Phase 200/220/230 VAC	<b>BHI62SMT-□RA</b>	

The following items are included in each product.  
 Motor, Gearhead, Capacitor\*, Capacitor Cap\*, Parallel Key, Operating Manual  
 \* Only for single-phase motors

#### ◇ Parallel Shaft

Voltage	Model	Gear Ratio
Single-Phase 110/115 VAC	<b>BHI62FMT-□</b>	<b>3, 3.6, 5, 6, 7.5, 9, 12.5, 15, 18, 25, 30, 36, 50, 60, 75, 90, 100, 120, 150, 180</b>
Single-Phase 220/230 VAC	<b>BHI62EMT-□</b>	
Three-Phase 200/220/230 VAC	<b>BHI62SMT-□</b>	

The following items are included in each product.  
 Motor, Gearhead, Capacitor\*, Capacitor Cap\*, Mounting Screws, Parallel Key,  
 Operating Manual  
 \* Only for single-phase motors

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

## Gearmotor – Torque Table for Combination Type

- 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 directions will be reversed for all right-angle shaft types.
- 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 load.
- Decimal gearheads are not available for the **BH** Series.

### ● Right-Angle Shaft 50 Hz

Unit = Upper values: N-m/Lower values: lb-in

Model	Speed r/min	300	250	200	167	120	100	83	60	50	42	30	25	20	17	15	12.5	10	8.3
	Gear Ratio	<b>5</b>	<b>6</b>	<b>7.5</b>	<b>9</b>	<b>12.5</b>	<b>15</b>	<b>18</b>	<b>25</b>	<b>30</b>	<b>36</b>	<b>50</b>	<b>60</b>	<b>75</b>	<b>90</b>	<b>100</b>	<b>120</b>	<b>150</b>	<b>180</b>
<b>BHI62EMT-□RH/RA</b>	5.5 48	6.7 59	8.3 73	10.0 88	13.9 123	16.6 146	20.0 177	27.7 240	33.3 290	36.0 310	40.0 350	43.0 380	47.0 410	51.5 450	54.5 480	60 530	60 530	60 530	
<b>BHI62SMT-□RH/RA</b>	5.4 47	6.5 57	8.2 72	9.8 86	13.6 120	16.3 144	19.6 173	27.2 240	32.6 280	36.0 310	40.0 350	43.0 380	47.0 410	51.5 450	54.5 480	60 530	60 530	60 530	

### ● Right-Angle Shaft 60 Hz

Unit = Upper values: N-m/Lower values: lb-in

Model	Speed r/min	360	300	240	200	144	120	100	72	60	50	36	30	24	20	18	15	12	10
	Gear Ratio	<b>5</b>	<b>6</b>	<b>7.5</b>	<b>9</b>	<b>12.5</b>	<b>15</b>	<b>18</b>	<b>25</b>	<b>30</b>	<b>36</b>	<b>50</b>	<b>60</b>	<b>75</b>	<b>90</b>	<b>100</b>	<b>120</b>	<b>150</b>	<b>180</b>
<b>BHI62FMT-□RH/RA</b> <b>BHI62EMT-□RH/RA</b>	4.6 40	5.6 49	7.0 61	8.3 73	11.6 102	13.9 123	16.7 147	23.2 200	27.8 240	33.4 290	40.0 350	43.0 380	47.0 410	51.5 450	54.5 480	60 530	60 530	60 530	
<b>BHI62SMT-□RH/RA</b> (200 VAC)	4.6 40	5.5 48	6.8 60	8.2 72	11.4 100	13.7 121	16.4 145	22.8 200	27.4 240	32.9 290	40.0 350	43.0 380	47.0 410	51.5 450	54.5 480	60 530	60 530	60 530	
<b>BHI62SMT-□RH/RA</b> (220 VAC)	4.5 39	5.4 47	6.7 59	8.1 71	11.2 99	13.5 119	16.2 143	22.4 198	26.9 230	32.3 280	40.0 350	43.0 380	47.0 410	51.5 450	54.5 480	60 530	60 530	60 530	
<b>BHI62SMT-□RH/RA</b> (230 VAC)	4.3 38	5.2 46	6.5 57	7.8 69	10.8 95	12.9 114	15.5 137	21.5 190	25.8 220	31.0 270	40.0 350	43.0 380	47.0 410	51.5 450	54.5 480	60 530	60 530	60 530	

### ● Round Shaft Type (RoHS)

Voltage	Model
Single-Phase 110/115 VAC	<b>BHI62FMT-A</b>
Single-Phase 220/230 VAC	<b>BHI62EMT-A</b>
Three-Phase 200/220/230 VAC	<b>BHI62SMT-A</b>

The following items are included in each product.  
 Motor, Capacitor\*, Capacitor Cap\*, Operating Manual  
 \* Only for single-phase motors

## ● Parallel Shaft 50 Hz

Unit = Upper values: N-m/Lower values: lb-in

Model	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	<b>3</b>	<b>3.6</b>	<b>5</b>	<b>6</b>	<b>7.5</b>	<b>9</b>	<b>12.5</b>	<b>15</b>	<b>18</b>	<b>25</b>	<b>30</b>	<b>36</b>	<b>50</b>	<b>60</b>	<b>75</b>	<b>90</b>	<b>100</b>	<b>120</b>	<b>150</b>	<b>180</b>
<b>BHI62EMT-□</b>		4.1 36	4.9 43	6.8 60	8.2 72	10.3 91	12.3 108	16.3 144	19.6 173	23.5 200	32.7 280	39.2 340	40 350	40 350	40 350	40 350	40 350	40 350	40 350	40 350	40 350
<b>BHI62SMT-□</b>		4.0 35	4.8 42	6.7 59	8.0 70	10.1 89	12.1 107	16.0 141	19.2 169	23.1 200	32.0 280	38.4 330	40 350	40 350	40 350	40 350	40 350	40 350	40 350	40 350	40 350

## ● Parallel Shaft 60 Hz

Unit = Upper values: N-m/Lower values: lb-in

Model	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	<b>3</b>	<b>3.6</b>	<b>5</b>	<b>6</b>	<b>7.5</b>	<b>9</b>	<b>12.5</b>	<b>15</b>	<b>18</b>	<b>25</b>	<b>30</b>	<b>36</b>	<b>50</b>	<b>60</b>	<b>75</b>	<b>90</b>	<b>100</b>	<b>120</b>	<b>150</b>	<b>180</b>
<b>BHI62FMT-□</b>		3.4 30	4.1 36	5.7 50	6.9 61	8.6 76	10.3 91	13.7 121	16.4 145	19.7 174	27.3 240	32.8 290	39.3 340	40 350	40 350	40 350	40 350	40 350	40 350	40 350	40 350
<b>BHI62EMT-□</b>		3.4 30	4.1 36	5.6 49	6.8 60	8.4 74	10.1 89	13.4 118	16.1 142	19.4 171	26.9 230	32.3 280	38.7 340	40 350	40 350	40 350	40 350	40 350	40 350	40 350	40 350
<b>BHI62SMT-□ (200 VAC)</b>		3.4 30	4.1 36	5.6 49	6.8 60	8.4 74	10.1 89	13.4 118	16.1 142	19.4 171	26.9 230	32.3 280	38.7 340	40 350	40 350	40 350	40 350	40 350	40 350	40 350	40 350
<b>BHI62SMT-□ (220 VAC)</b>		3.3 29	4.0 35	5.5 48	6.6 58	8.3 73	10.0 88	13.2 116	15.9 140	19.0 168	26.4 230	31.7 280	38.1 330	40 350	40 350	40 350	40 350	40 350	40 350	40 350	40 350
<b>BHI62SMT-□ (230 VAC)</b>		3.2 28	3.8 33	5.3 46	6.4 56	8.0 70	9.6 84	12.7 112	15.2 134	18.3 161	25.4 220	30.4 260	36.5 320	40 350	40 350	40 350	40 350	40 350	40 350	40 350	40 350

## ■ Permissible Overhung Load and Permissible Thrust Load

Combination Type → Page C-17

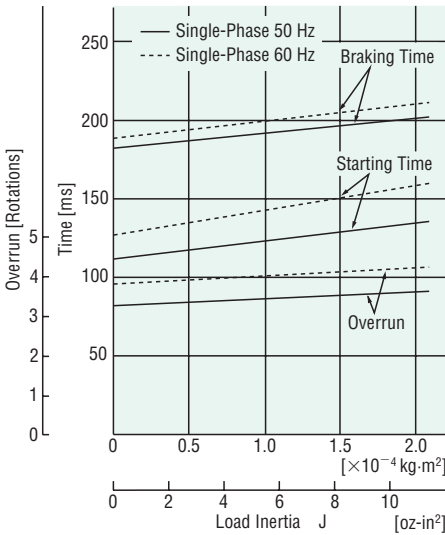
Round Shaft Type → Page C-17

## ■ Permissible Load Inertia J of Gearhead

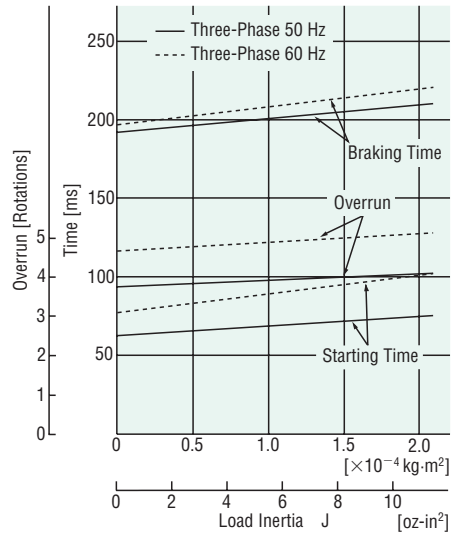
→ Page C-18

## ■ Starting and Braking Characteristics (Reference values)

### ● Single-Phase Motor



### ● Three-Phase Motor



## Dimensions Unit = mm (in.)

● Mounting screws are included with the combination type, parallel shaft. Dimensions for mounting screws → Page C-280

### ◇ Combination Type: Right-Angle, Hollow Shaft

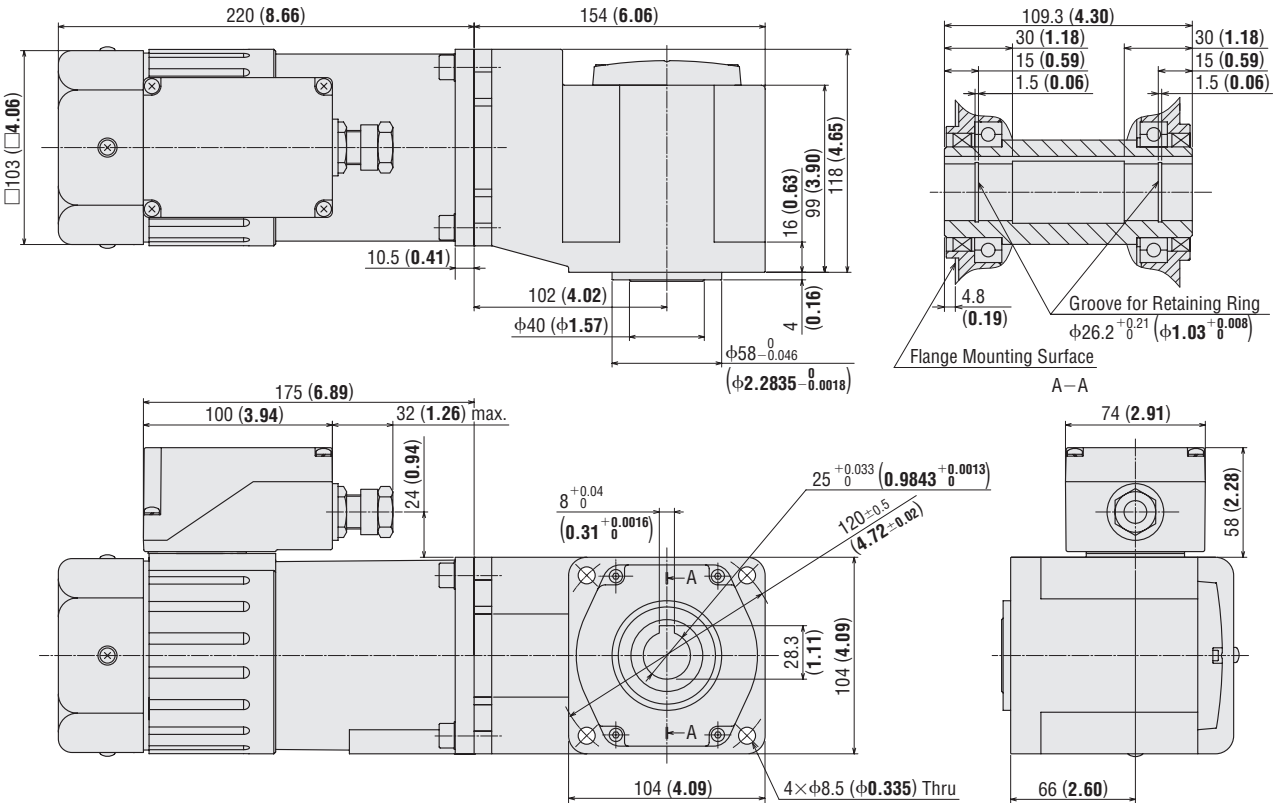
**BHI62FMT-□RH, BHI62EMT-□RH, BHI62SMT-□RH**

Mass: 11.5 kg (25 lb.)

Motor: BHI62FMT-G2, BHI62EMT-G2, BHI62SMT-G2

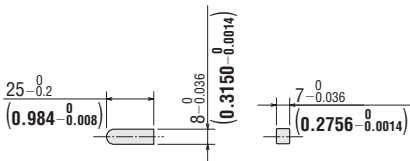
Gearhead: BH6G2-□RH

**DXF** A384



- Use cable with a diameter of  $\phi 8 \sim \phi 12$  mm ( $\phi 0.31 \sim \phi 0.47$  in.).
- Details of terminal box → Page C-283

### ◇ Key (Included)



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

6 W (1/125 HP)  
15 W (1/50 HP)  
25 W (1/30 HP)  
40 W (1/19 HP)  
60 W (1/12 HP)  
90 W (1/8 HP)  
200 W (1/4 HP)

◇ Combination Type: Right-Angle, Solid Shaft

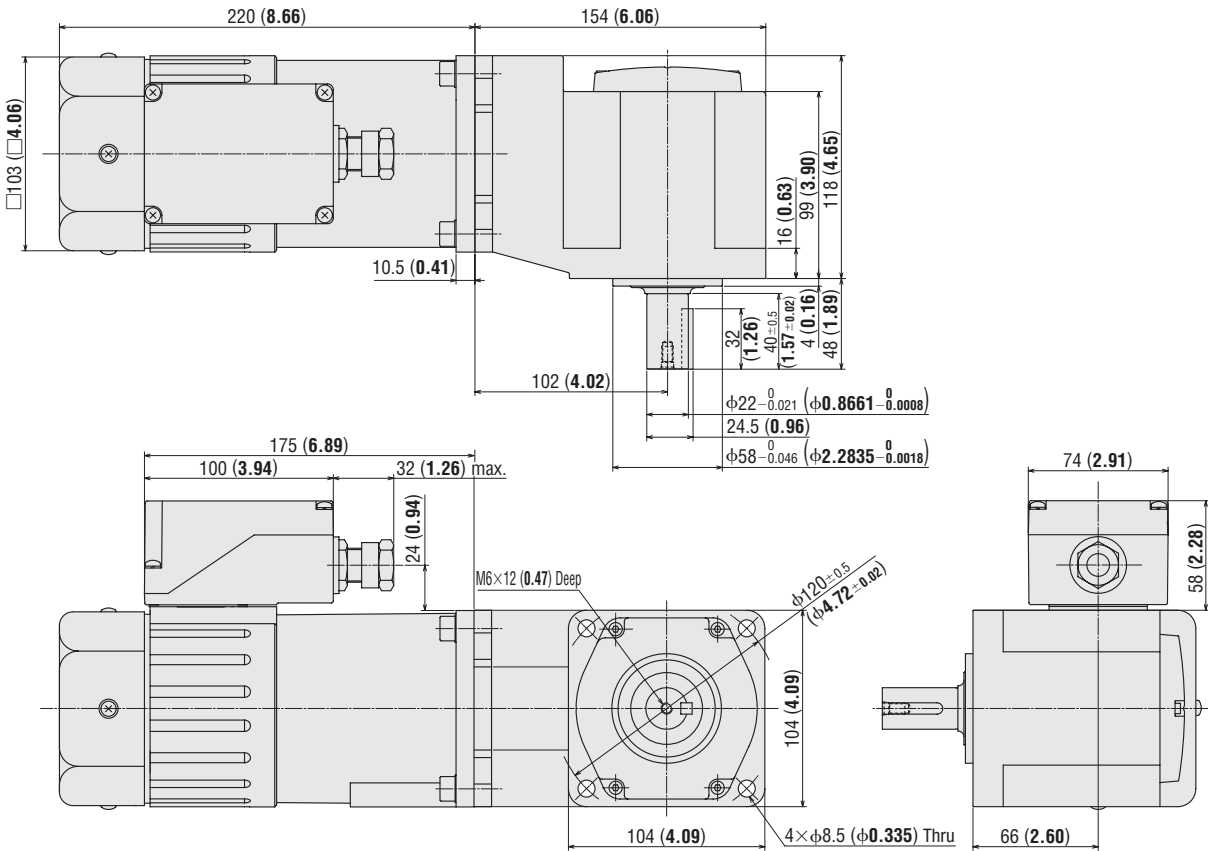
**BHI62FMT-□RA, BHI62EMT-□RA, BHI62SMT-□RA**

Mass: 11.5 kg (25 lb.)

Motor: BHI62FMT-G2, BHI62EMT-G2, BHI62SMT-G2

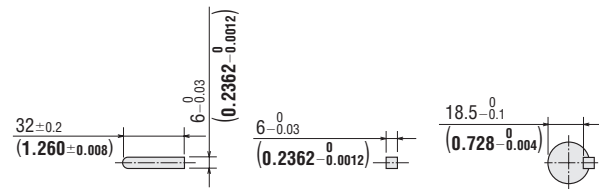
Gearhead: BH6G2-□RA

**DXF** A385



- Use cable with a diameter of  $\phi 8 \sim \phi 12$  mm ( $\phi 0.31 \sim \phi 0.47$  in.).
- Details of terminal box → Page C-283

◇ Key and Key Slot (Included)



- At the shipment, a parallel key is inserted on the gearhead's shaft.

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

## ◇ Combination Type: Parallel Shaft

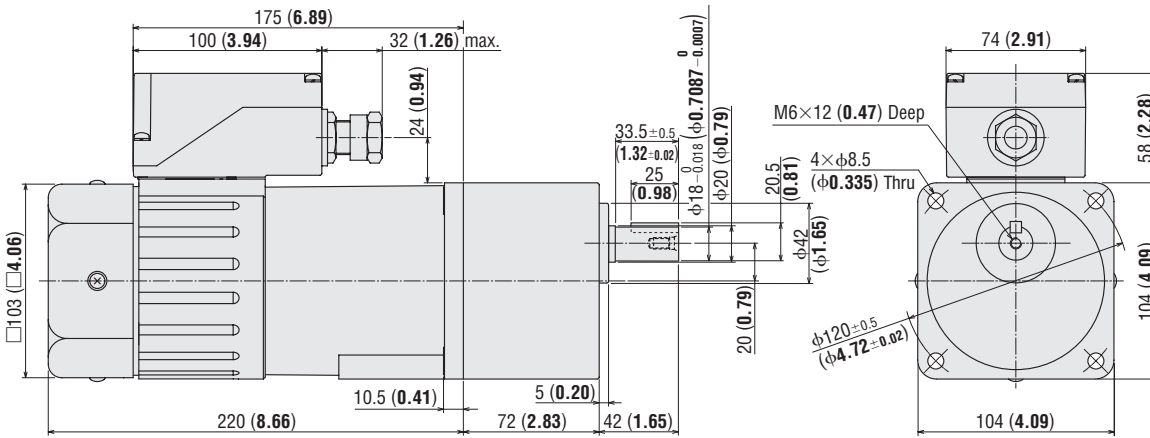
**BHI62FMT-□, BHI62EMT-□, BHI62SMT-□**

Mass: 9.5 kg (21 lb.)

Motor: BHI62FMT-G2, BHI62EMT-G2, BHI62SMT-G2

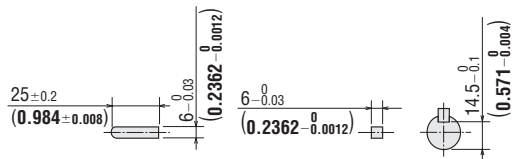
Gearhead: BH6G2-□

**DXF** A386



- Use cable with a diameter of  $\phi 8 \sim \phi 12$  mm ( $\phi 0.31 \sim \phi 0.47$  in.).
- Details of terminal box → Page C-283

## ◇ Key and Key Slot (Included)



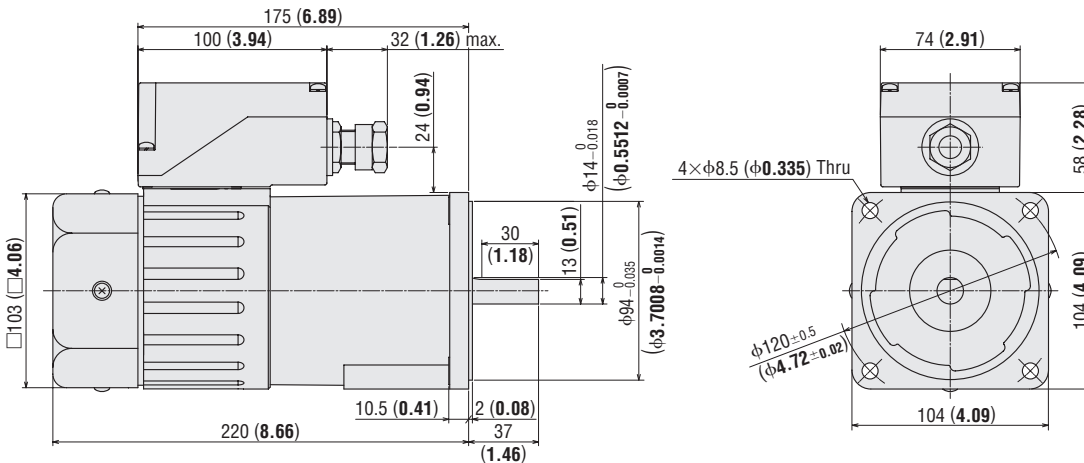
- At the shipment, a parallel key is inserted on the gearhead's shaft.

## ◇ Round Shaft Type

**BHI62FMT-A, BHI62EMT-A, BHI62SMT-A**

Mass: 6.5 kg (14 lb.)

**DXF** A387

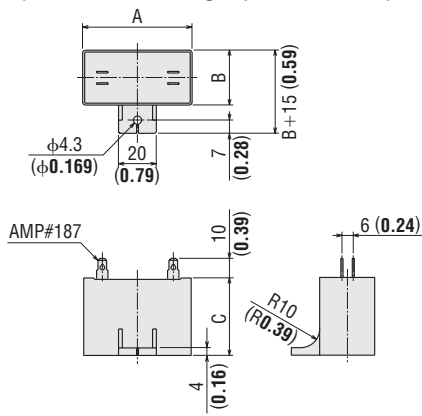


- Use cable with a diameter of  $\phi 8 \sim \phi 12$  mm ( $\phi 0.31 \sim \phi 0.47$  in.).
- Details of terminal box → Page C-283

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

6 W (1/125 HP)  
 15 W (1/50 HP)  
 25 W (1/30 HP)  
 40 W (1/19 HP)  
 60 W (1/12 HP)  
 90 W (1/8 HP)  
 200 W (1/4 HP)

### ◇ Capacitor (Included with single-phase motors)



### ◇ Capacitor Dimensions Unit = mm (in.)

Model	Capacitor Model	A	B	C	Mass g (oz.)	Capacitor Cap
<b>BHI62FMT-□RH</b> <b>BHI62FMT-□RA</b> <b>BHI62FMT-□</b> <b>BHI62FMT-A</b>	CH400CFAUL2	58 (2.28)	41 (1.61)	58 (2.28)	175 (6.2)	Included
<b>BHI62EMT-□RH</b> <b>BHI62EMT-□RA</b> <b>BHI62EMT-□</b> <b>BHI62EMT-A</b>	CH100BFAUL	58 (2.28)	35 (1.38)	50 (1.97)	132 (4.7)	

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

## ■ Mounting Method for Right-Angle, Hollow Shaft Types

→ Page C-237



## Connection Diagrams

- The direction of motor rotation is as viewed from the shaft end of the motor. CW indicates clockwise direction, while CCW counterclockwise direction.
- Enter the voltage (**F**, **E** or **S**) in the box (□) within the model name.

Motor Type	Single-Phase Motor	Three-Phase Motor
<ul style="list-style-type: none"> <li>● Combination Type: Parallel Shaft <b>BHI62□MT-3~9</b> <b>BHI62□MT-50~180</b></li> <li>● Round Shaft Type <b>BHI62□MT-A</b></li> </ul>		<p><b>Clockwise</b></p>
<ul style="list-style-type: none"> <li>● Combination Type: Parallel Shaft <b>BHI62□MT-12.5~36</b></li> <li>● Combination Type: Right Angle Shaft <b>BHI62□MT-5~180RA</b> <b>BHI62□MT-5~180RH</b></li> </ul>		<p><b>Clockwise</b></p>
Rotation Direction	<p>Clockwise: To rotate in a clockwise (CW) direction, turn SW2 to CW.</p> <p>Counterclockwise: To rotate in a counterclockwise (CCW) direction, turn SW2 to CCW.</p>	To change the rotation direction, change any two connections between R, S and T.

PE: Protective Earth

SW1 operates both motor and electromagnetic brake action.

The electromagnetic brake will be released and the motor will rotate when SW1 is switched simultaneously to ON.

When SW1 is switched simultaneously to OFF, the motor stops immediately with the electromagnetic brake and holds the load.

Switch No.	Specifications			Note
	Single-Phase 110/115 VAC Input	Single-Phase 220/230 VAC Input	Three-Phase 200/220/230 VAC Input	
SW1	125 VAC 5 A minimum (Inductive Load)	250 VAC 5 A minimum (Inductive Load)	250 VAC 5 A minimum (Inductive Load)	Switched Simultaneously
SW2			-	-

Connect a CR circuit (R<sub>0</sub> C<sub>0</sub>) for surge suppression shown on the diagrams to protect the contact.

R<sub>0</sub>=5~200 Ω C<sub>0</sub>=0.1~0.2 μF 200 WV

**EPCR1201-2** (CR circuit) is available as an accessory.

### Note

- Change the direction of single-phase motor rotation only after bringing the motor to a stop. If an attempt is made to change the direction of rotation while the motor is rotating, motor may ignore reversing command or change its direction of rotation after some delay.

- How to connect a capacitor → Page C-282

## List of Motor and Gearhead Combinations

Motor and gearhead combinations are shown below.

### ● Combination Type: Right Angle Shaft

Model	Motor Model	Gearhead Model
<b>BHI62FMT-□RH</b>	BHI62FMT-G2	BH6G2-□RH
<b>BHI62FMT-□RA</b>		BH6G2-□RA
<b>BHI62EMT-□RH</b>	BHI62EMT-G2	BH6G2-□RH
<b>BHI62EMT-□RA</b>		BH6G2-□RA
<b>BHI62SMT-□RH</b>	BHI62SMT-G2	BH6G2-□RH
<b>BHI62SMT-□RA</b>		BH6G2-□RA

### ● Combination Type: Parallel Shaft

Model	Motor Model	Gearhead Model
<b>BHI62FMT-□</b>	BHI62FMT-G2	BH6G2-□
<b>BHI62EMT-□</b>	BHI62EMT-G2	
<b>BHI62SMT-□</b>	BHI62SMT-G2	

### Accessories

Accessories

→ Page C-263



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

6 W (1/125 HP)  
15 W (1/50 HP)  
25 W (1/30 HP)  
40 W (1/19 HP)  
60 W (1/12 HP)  
90 W (1/8 HP)  
200 W (1/4 HP)