Standard AC Motors

Constant Speed Motors

Electromagnetic Brake Motors

Features and Types of Electromagnetic Brake Motors

Features of Electromagnetic Brake Motors

Power Off Activated Type Electromagnetic Brake Equipped

These motors are directly coupled to an AC electromagnetic brake which is a power off activated type. When the power source is turned off, the motor stops instantaneously and holds the load.

Ideal for Applications in Which the Load is Held

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

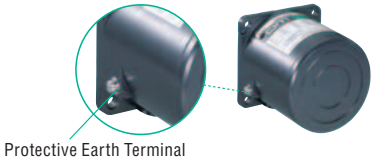
Wide Variety of Products

The World **K** Series and **BH** Series are available.
We have models with motor output power ranges from 6 W to 200 W, so you can surely find one that meets your specific application.
In addition, products that conform to various safety standards as well as the RoHS Directive are also available.

Compatible with Gearheads or Linear Heads

Combination with a gearhead allows the motor to reduce to a 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 Name	Features, Lineup
World **K** Series 	**Conforms to Major Safety Standards** All World **K** Series models have a built-in overheat protection device and conform to various safety standards. •**Applicable Standards** UL/CSA Standards Certified under the China Compulsory Certification System (CCC System) CE Marking (Low Voltage Directive) •**Motor Overheat Protection Device** Thermal protector, Impedance protected **Conforms to Global Power Supply Voltages** Our products support the power supply voltages used in many countries around the world, and they are readily available across the globe. **IP65 Terminal Box Type** Introducing new motors with terminal box conforming to IP65 rating for degree of protection. The terminal box provided at the back of the motor has an easy-to-wire construction. **Twice the Motor Bearing Life (Compared with a conventional model)** A motor's life is determined by its bearing. We adopted high-performance bearing grease to lubricate this important component. Life is twice as long as a conventional model. **Protective Earth Terminal on Motor**  Protective Earth Terminal **Lineup** Frame Size: □60 mm～□90 mm Output Power: Lead Wire Type: 6 W～90 W; IP65 Terminal Box Type: 6 W～40 W Voltage: Single-Phase 220/230 VAC
BH Series 	**Smallest Frame Size among 200 W Output Power** Achieves a high output power of 200 W with a frame size of 104 mm square. **Right-Angle Shaft Type Employing Hypoid Gear is Available** **"Combination Type" for Easy Mounting** The combination type is available with the motor and its gearhead pre-assembled. This enables easy mounting in equipment. **Conforms to the Safety Standards and Supports the Power Supply Voltages Used in Many Countries Around the World** **Tapped Hole at the Shaft End** The gearhead shaft features a tapped hole for convenient connection with loads. **Lineup** Frame Size: □104 mm Output Power: 200 W Type: Right-Angle, Hollow Shaft Type; Right-Angle, Solid Shaft Type; Parallel Shaft Type; Round Shaft Type Voltage: Single-Phase 220/230 VAC

High Strength, Long Life, Low Noise **V** Series

Highest Maximum Permissible torque, 10,000 hours* of life and quiet operation.
For more details on **V** Series see page C-149.
*For the rated life time definition, refer to "Service Life of Gearheads" on page G-35.

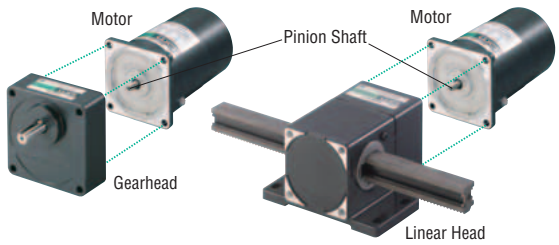
Features of Gearheads and Linear Heads

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.

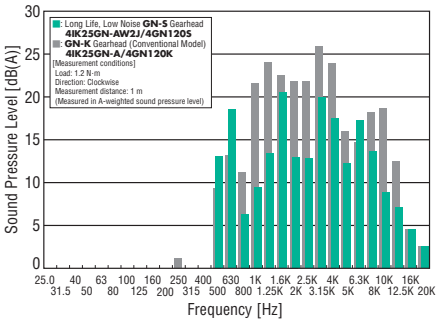
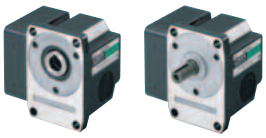
Linear Heads: Convert Motor Rotation to Linear Motion

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.



- Gearheads and linear heads can be used with pinion shaft type motors.
- Gearheads and linear heads are sold separately.
  The **BH** Series is a combination type that comes with the gearhead pre-assembled.

Types of Gearheads and Linear Heads

Types	Features
Long Life, Low Noise **GN-S** Gearhead 	**Long Rated Life of 10000 Hours*** The **GN-S** 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. *For the rated life time definition, refer to "Service Life of Gearheads" on page G-35. **Low Noise Design** The **GN-S** gearhead generates less noise thanks to gears with a special shape and surface machining assembled with the use of advanced technology. **Applicable Products** 6 W, 15 W, 25 W or 40 W **GN** pinion motor  
Long Life **GE-S** Gearhead 	**Long Rated Life of 10000 Hours*** The **GE-S** 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. *For the rated life time definition, refer to "Service Life of Gearheads" on page G-35. The **GE-S** gearhead comes with a tapped hole at the tip of the shaft. **Applicable Products** 60 W or 90 W **GE** pinion motor
Right-Angle Gearheads → Page C-213 	**Ideal for Space Saving** The output shaft of the gearhead is perpendicular to the motor shaft, enabling space saving. **Hollow Shaft Type and Solid Shaft Type are Available** Select the type that best suits your specific application. The **GE** pinion solid shaft type comes with a tapped hole at the shaft end. **Applicable Products** **World K Series** 25 W, 40 W, 60 W or 90 W Pinion Motor
Rack-and-Pinion Mechanism **LS** Linear Heads → Page E-178 	**Easy to Achieve Linear Motion** The structure combines a rack-and-pinion mechanism with a speed reduction mechanism. It allows the motor to reliably convert rotation to linear motion with great ease.

Types of Electromagnetic Brake Motors

Series		Frame Size (mm), Output Power	□60	□70	□80	□90			□104
		Voltage (VAC)	6 W	15 W	25 W	40 W	60 W	90 W	200 W
World **K** Series		Single-Phase 220/230	●	●	●	●	●	●	
	IP65 Terminal Box Type	Single-Phase 220/230	●	●	●	●			
BH Series		Single-Phase 220/230							●

Types of Gearheads and Linear Heads

Gearheads

Gearheads			Applicable Motor			Rated Life* (hours)	Low Noise
Type of Gearhead		Type of Pinion	Series Name	Output Power	Type of Pinion		
Parallel Shaft	Long Life, Low Noise **GN-S** Gearhead	**GN** Type Pinion Shaft	World **K** Series	6 W～40 W	**GN** Type Pinion Shaft	10000	●
	Long Life **GE-S** Gearhead	**GE** Type Pinion Shaft	World **K** Series	60 W, 90 W	**GE** Type Pinion Shaft	10000	
Right-Angle Shaft	Hollow Shaft Gearhead	**GN** Type Pinion Shaft	World **K** Series	25 W, 40 W	**GN** Type Pinion Shaft	5000	
		GE Type Pinion Shaft	World **K** Series	60 W, 90 W	**GE** Type Pinion Shaft	5000	
	Solid Shaft Gearhead	**GN** Type Pinion Shaft	World **K** Series	25 W, 40 W	**GN** Type Pinion Shaft	5000	
		GE Type Pinion Shaft	World **K** Series	60 W, 90 W	**GE** Type Pinion Shaft	5000	

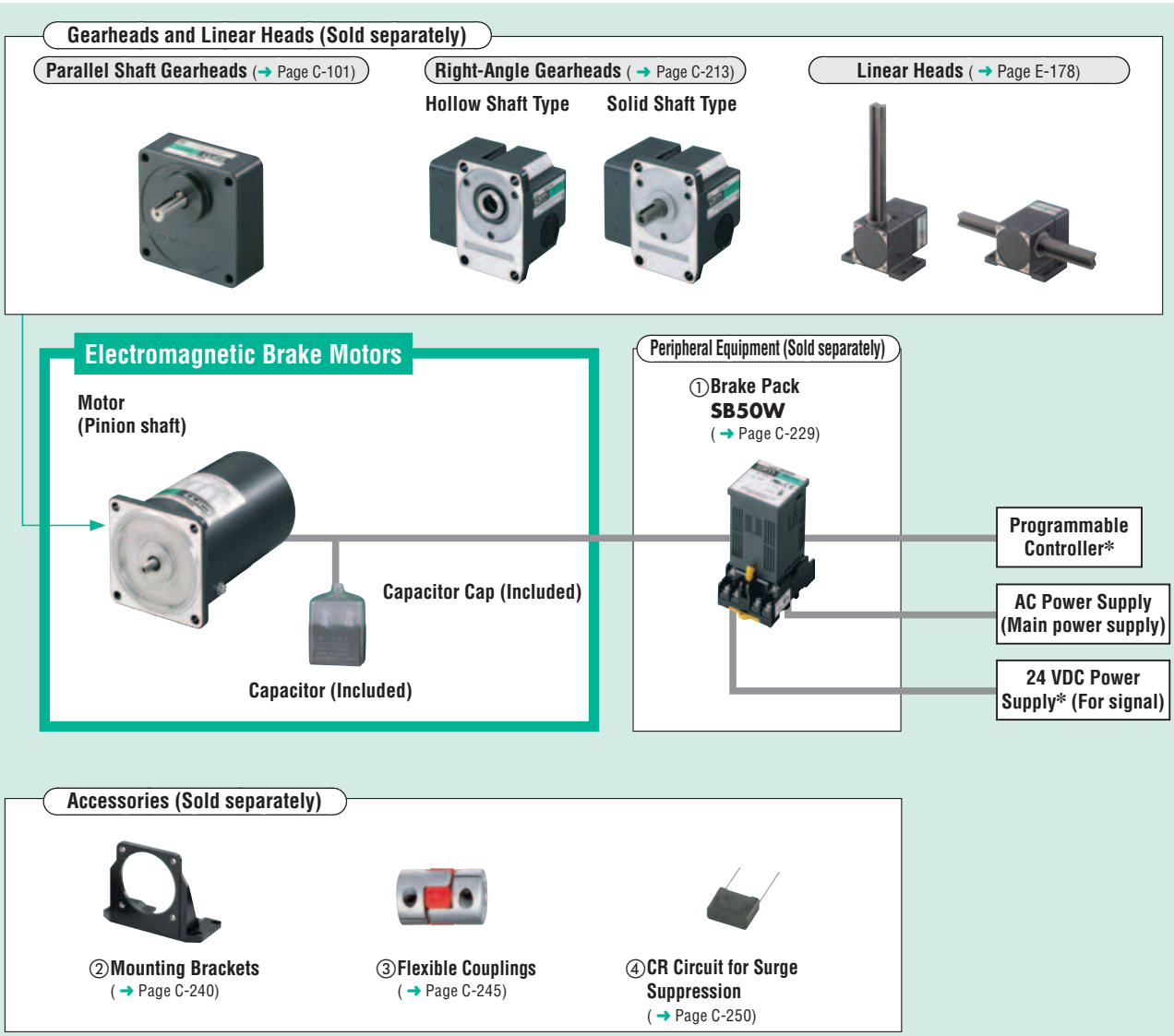
*For the rated life time definition, refer to "Service Life of Gearheads" on page G-35.

Linear Heads

Type of Linear Head		Applicable Motor		
		Series Name	Output Power	Type of Pinion
Square Sectioned Rack	**LS** Linear Head	World **K** Series	6 W, 25 W	**GN** Type Pinion Shaft

System Configuration

*Not supplied



Number	Name	Overview
①	Brake Pack	Use the brake pack to stop the motor instantaneously, perform bi-directional operation, and for other applications.
②	Mounting Brackets	Dedicated mounting bracket for the motor and gearhead.
③	Flexible Couplings	Clamp type coupling for connecting the motor/gearhead shaft with the driven shaft.
④	CR Circuit for Surge Suppression	Used to protect relay and switch contacts (**EPCR1201-2**).

●System Configuration Example

Electromagnetic Brake Motor (Pinion shaft)	Sold Separately			
	Parallel Shaft Gearhead	Mounting Bracket	Flexible Coupling	Brake Pack
4RK25GN-CW2ME	4GN25S	SOL4M5	MCL301012	SB50W

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

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

Product Number Code

World K Series

5 R K 40 GN - CW 2 M B E

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩

①	Motor Frame Size	**2**: 60 mm **3**: 70 mm **4**: 80 mm **5**: 90 mm
②	Motor Type	**I**: Induction Motor **R**: Reversible Motor
③	Series Name	**K**: **K** Series
④	Output Power (W)	(Example) **40**: 40 W
⑤	Motor Shaft Type, Type of Pinion	**A**: Round Shaft **GN**: **GN** Type Pinion **GE**: **GE** Type Pinion
⑥	Power Supply Voltage	**AW**: Single-Phase 100 VAC, 110/115 VAC **CW**: Single-Phase 200 VAC, 220/230 VAC **SW**: Three-Phase 200/220/230 VAC
⑦	**2**: RoHS Directive-Compliant	
⑧	**M**: Power Off Activated Type Electromagnetic Brake	
⑨	**B**: Terminal Box Type	
⑩	Included Capacitor*	**J**: Capacitor for Single-Phase 100 VAC and 200 VAC **U**: Capacitor for Single-Phase 110/115 VAC **E**: Capacitor for Single-Phase 220/230 VAC Blank: Three-Phase

*For some products, type of capacitor varies. Refer to the pages where each product is listed.

● The product name listed on the motor nameplate does not include the code (**J**, **U** and **E**) that indicates the type of capacitor.
Certification regarding various safety standards is acquired for the product name on the motor nameplate, please visit www.orientalmotor.eu.
(Example) Product Name: **5RK40GN-CW2ME** → Motor nameplate and product approved under various safety standards: **5RK40GN-CW2M**

Gearheads

5 GN 50 S

① ② ③ ④

①	Gearhead Frame Size	**2**: 60 mm **3**: 70 mm **4**: 80 mm **5**: 90 mm
②	Type of Pinion	**GN**: **GN** Type Pinion **GE**: **GE** Type Pinion
③	Gear Ratio	(Example) **50**: Gear Ratio of 1:50 **10X** denotes the decimal gearhead of gear ratio 1:10
④	**GN** Type Pinion	**S**: Long Life, Low Noise **GN-S** Gearhead **RH**: Right-Angle Shaft, Hollow Shaft Gearhead **RA**: Right-Angle Shaft, Solid Shaft Gearhead
	GE Type Pinion	**S**: Long Life **GE-S** Gearhead **RH**: Right-Angle Shaft, Hollow Shaft Gearhead **RA**: Right-Angle Shaft, Solid Shaft Gearhead

World K Series IP65 Terminal Box Type

4 R K 25 E M B - 18 S S

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩

①	Motor Frame Size	**2**: 60 mm **3**: 70 mm **4**: 80 mm **5**: 90 mm
②	Motor Type	**I**: Induction Motor **R**: Reversible Motor
③	Series Name	**K**: **K** Series
④	Output Power (W)	(Example) **25**: 25 W
⑤	Power Supply Voltage*	**A**: Single-Phase 100 VAC **F**: Single-Phase 110/115 VAC **C**: Single-Phase 200 VAC **E**: Single-Phase 220/230 VAC **S**: Three-Phase 200/220/230 VAC
⑥	**M**: Power Off Activated Type Electromagnetic Brake	
⑦	**B**: Terminal Box Type	
⑧	Gear Ratio	Number: Gear Ratio of Combination Type
⑨	Gearhead Type	**S**: Parallel Shaft
⑩	Thermal Protector Specifications	Blank: Automatic Return Type **S**: Signal Type

*For some products, type of capacitor varies. Refer to the pages where each product is listed.

BH Series

BH I 6 2 E M T - 100 RH

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨

①	Series Name	**BH**: **BH** Series
②	Motor Type	**I**: Induction Motor
③	Motor Frame Size	**6**: 104 mm
④	Output Power (W)	**2**: 200 W
⑤	Power Supply Voltage	**A**: Single-Phase 100 VAC **F**: Single-Phase 110/115 VAC **C**: Single-Phase 200 VAC **E**: Single-Phase 220/230 VAC **S**: Three-Phase 200/220/230 VAC
⑥	**M**: Power Off Activated Type Electromagnetic Brake	
⑦	**T**: Terminal Box Type	
⑧	Gear Ratio, Motor Shaft Type	**A**: Round Shaft Number: Gear Ratio of Combination Type
⑨	Gearhead Type (Combination type only)	**RH**: Right-Angle Shaft, Hollow Shaft Type **RA**: Right-Angle Shaft, Solid Shaft Type Blank: Parallel Shaft

Variation of Electromagnetic Brake Motors

World **K** Series

For the single-phase 100 VAC, the single-phase 110/115 VAC, the single-phase 200 VAC and the three-phase 200/220/230 VAC models, please contact the nearest Oriental Motor sales office.

◇6 W

Type / Power Supply Voltage	Pinion Shaft Type	Round Shaft Type
Single-Phase 100 VAC	**2RK6GN-AW2MJ**	**2RK6A-AW2MJ**
Single-Phase 110/115 VAC	**2RK6GN-AW2MU**	**2RK6A-AW2MU**
Single-Phase 200 VAC	**2RK6GN-CW2MJ**	**2RK6A-CW2MJ**
Single-Phase 220/230 VAC	**2RK6GN-CW2ME**	**2RK6A-CW2ME**
Three-Phase 200/220/230 VAC	**2IK6GN-SW2M**	**2IK6A-SW2M**

◇15 W

Type / Power Supply Voltage	Pinion Shaft Type	Round Shaft Type
Single-Phase 100 VAC	**3RK15GN-AW2MJ**	**3RK15A-AW2MJ**
Single-Phase 110/115 VAC	**3RK15GN-AW2MU**	**3RK15A-AW2MU**
Single-Phase 200 VAC	**3RK15GN-CW2MJ**	**3RK15A-CW2MJ**
Single-Phase 220/230 VAC	**3RK15GN-CW2ME**	**3RK15A-CW2ME**
Three-Phase 200/220/230 VAC	**3IK15GN-SW2M**	**3IK15A-SW2M**

◇25 W

Type / Power Supply Voltage	Pinion Shaft Type	Round Shaft Type
Single-Phase 100 VAC	**4RK25GN-AW2MJ**	**4RK25A-AW2MJ**
Single-Phase 110/115 VAC	**4RK25GN-AW2MU**	**4RK25A-AW2MU**
Single-Phase 200 VAC, Single-Phase 220 VAC (50 Hz)	**4RK25GN-CW2MJ**	**4RK25A-CW2MJ**
Single-Phase 220 VAC (60 Hz), Single-Phase 230 VAC	**4RK25GN-CW2ME**	**4RK25A-CW2ME**
Three-Phase 200/220/230 VAC	**4IK25GN-SW2M**	**4IK25A-SW2M**

◇40 W

Type / Power Supply Voltage	Pinion Shaft Type	Round Shaft Type
Single-Phase 100 VAC	**5RK40GN-AW2MJ**	**5RK40A-AW2MJ**
Single-Phase 110/115 VAC	**5RK40GN-AW2MU**	**5RK40A-AW2MU**
Single-Phase 200 VAC, Single-Phase 220 VAC (50 Hz)	**5RK40GN-CW2MJ**	**5RK40A-CW2MJ**
Single-Phase 220 VAC (60 Hz), Single-Phase 230 VAC	**5RK40GN-CW2ME**	**5RK40A-CW2ME**
Three-Phase 200/220/230 VAC	**5IK40GN-SW2M**	**5IK40A-SW2M**

◇60 W

Type / Power Supply Voltage	Pinion Shaft Type	Round Shaft Type
Single-Phase 100 VAC	**5RK60GE-AW2MJ**	**5RK60A-AW2MJ**
Single-Phase 110/115 VAC	**5RK60GE-AW2MU**	**5RK60A-AW2MU**
Single-Phase 200 VAC, Single-Phase 220 VAC (50 Hz)	**5RK60GE-CW2MJ**	**5RK60A-CW2MJ**
Single-Phase 220 VAC (60 Hz), Single-Phase 230 VAC	**5RK60GE-CW2ME**	**5RK60A-CW2ME**
Three-Phase 200/220/230 VAC	**5IK60GE-SW2M**	**5IK60A-SW2M**

◇90 W

Type / Power Supply Voltage	Pinion Shaft Type	Round Shaft Type
Single-Phase 100 VAC	**5RK90GE-AW2MJ**	**5RK90A-AW2MJ**
Single-Phase 110/115 VAC	**5RK90GE-AW2MU**	**5RK90A-AW2MU**
Single-Phase 200 VAC, Single-Phase 220 VAC (50 Hz)	**5RK90GE-CW2MJ**	**5RK90A-CW2MJ**
Single-Phase 220 VAC (60 Hz), Single-Phase 230 VAC	**5RK90GE-CW2ME**	**5RK90A-CW2ME**
Three-Phase 200/220/230 VAC	**5IK90GE-SW2M**	**5IK90A-SW2M**

●World **K** Series IP65 Terminal Box Type

For the single-phase 100 VAC, the single-phase 110/115 VAC, the single-phase 200 VAC and the three-phase 200/220/230 VAC models, please contact the nearest Oriental Motor sales office.

◇6W

Power Supply Voltage \ Type	Combination Type	Round Shaft Type
Single-Phase 100 VAC	**2RK6AMB-□S**	**2RK6A-AW2MBJ**
Single-Phase 110/115 VAC	**2RK6FMB-□S**	**2RK6A-AW2MBU**
Single-Phase 200 VAC	**2RK6CMB-□S**	**2RK6A-CW2MBJ**
Single-Phase 220/230 VAC	**2RK6EMB-□S**	**2RK6A-CW2MBE**
Three-Phase 200/220/230 VAC	**2IK6SMB-□S**	**2IK6A-SW2MB**

◇15W

Power Supply Voltage \ Type	Thermal Protector for Automatic Return Type		Thermal Protector for Signal Type	
	Combination Type	Round Shaft Type	Combination Type	Round Shaft Type
Single-Phase 100 VAC	**3RK15AMB-□S**	**3RK15A-AW2MBJ**	**3RK15AMB-□SS**	**3RK15A-AW2MBSJ**
Single-Phase 110/115 VAC	**3RK15FMB-□S**	**3RK15A-AW2MBU**	**3RK15FMB-□SS**	**3RK15A-AW2MBSU**
Single-Phase 200 VAC	**3RK15CMB-□S**	**3RK15A-CW2MBJ**	**3RK15CMB-□SS**	**3RK15A-CW2MBSJ**
Single-Phase 220/230 VAC	**3RK15EMB-□S**	**3RK15A-CW2MBE**	**3RK15EMB-□SS**	**3RK15A-CW2MBSE**
Three-Phase 200/220/230 VAC	**3IK15SMB-□S**	**3IK15A-SW2MB**	**3IK15SMB-□SS**	**3IK15A-SW2MBS**

◇25W

Power Supply Voltage \ Type	Thermal Protector for Automatic Return Type		Thermal Protector for Signal Type	
	Combination Type	Round Shaft Type	Combination Type	Round Shaft Type
Single-Phase 100 VAC	**4RK25AMB-□S**	**4RK25A-AW2MBJ**	**4RK25AMB-□SS**	**4RK25A-AW2MBSJ**
Single-Phase 110/115 VAC	**4RK25FMB-□S**	**4RK25A-AW2MBU**	**4RK25FMB-□SS**	**4RK25A-AW2MBSU**
Single-Phase 200 VAC, Single-Phase 220 VAC (50 Hz)	**4RK25CMB-□S**	**4RK25A-CW2MBJ**	**4RK25CMB-□SS**	**4RK25A-CW2MBSJ**
Single-Phase 220 VAC (60 Hz), Single-Phase 230 VAC	**4RK25EMB-□S**	**4RK25A-CW2MBE**	**4RK25EMB-□SS**	**4RK25A-CW2MBSE**
Three-Phase 200/220/230 VAC	**4IK25SMB-□S**	**4IK25A-SW2MB**	**4IK25SMB-□SS**	**4IK25A-SW2MBS**

◇40W

Power Supply Voltage \ Type	Thermal Protector for Automatic Return Type		Thermal Protector for Signal Type	
	Combination Type	Round Shaft Type	Combination Type	Round Shaft Type
Single-Phase 100 VAC	**5RK40AMB-□S**	**5RK40A-AW2MBJ**	**5RK40AMB-□SS**	**5RK40A-AW2MBSJ**
Single-Phase 110/115 VAC	**5RK40FMB-□S**	**5RK40A-AW2MBU**	**5RK40FMB-□SS**	**5RK40A-AW2MBSU**
Single-Phase 200 VAC, Single-Phase 220 VAC (50 Hz)	**5RK40CMB-□S**	**5RK40A-CW2MBJ**	**5RK40CMB-□SS**	**5RK40A-CW2MBSJ**
Single-Phase 220 VAC (60 Hz), Single-Phase 230 VAC	**5RK40EMB-□S**	**5RK40A-CW2MBE**	**5RK40EMB-□SS**	**5RK40A-CW2MBSE**
Three-Phase 200/220/230 VAC	**5IK40SMB-□S**	**5IK40A-SW2MB**	**5IK40SMB-□SS**	**5IK40A-SW2MBS**

●**BH** Series

For the single-phase 100 VAC, the single-phase 110/115 VAC, the single-phase 200 VAC and the three-phase 200/220/230 VAC models, please contact the nearest Oriental Motor sales office.

◇Combination Type

Power Supply Voltage \ Type	Terminal Box Type, Right-Angle Gearhead		Terminal Box Type, Parallel Shaft Type
	Hollow Shaft Type	Solid Shaft Type	
Single-Phase 100 VAC	**BHI62AMT-□RH**	**BHI62AMT-□RA**	**BHI62AMT-□**
Single-Phase 110/115 VAC	**BHI62FMT-□RH**	**BHI62FMT-□RA**	**BHI62FMT-□**
Single-Phase 200 VAC	**BHI62CMT-□RH**	**BHI62CMT-□RA**	**BHI62CMT-□**
Single-Phase 220/230 VAC	**BHI62EMT-□RH**	**BHI62EMT-□RA**	**BHI62EMT-□**
Three-Phase 200/220/230 VAC	**BHI62SMT-□RH**	**BHI62SMT-□RA**	**BHI62SMT-□**

◇Round Shaft Type

Power Supply Voltage \ Type	Terminal Box Type
Single-Phase 100 VAC	**BHI62AMT-A**
Single-Phase 110/115 VAC	**BHI62FMT-A**
Single-Phase 200 VAC	**BHI62CMT-A**
Single-Phase 220/230 VAC	**BHI62EMT-A**
Three-Phase 200/220/230 VAC	**BHI62SMT-A**

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

General Specifications

World K Series

Item	Specifications
Insulation Resistance	The measured value is 100 MΩ or more when a 500 VDC megger is applied between the windings and the case after rated operation under normal ambient temperature and humidity.
Dielectric Strength	No abnormality is judged even with application of 1.5 kVAC at 50 Hz or 60 Hz between the windings and the case for 1 minute after rated operation under normal ambient temperature and humidity.
Temperature Rise	A gearhead or equivalent heat radiation plate* is connected and the temperature rise of windings is measured at 80˚C or less using the resistance change method after rated operation under normal ambient temperature and humidity.
Thermal Class	130 (B)
Overheat Protection	6 W type Impedance Protected Other type Built-in thermal protector (Automatic return type) Open: 130±5˚C, Reset: 82±15˚C IP65 Terminal box type Open: 130±5˚C, Reset: 90±15˚C (40 W Type: 82±15˚C)
Operating Ambient Temperature	−10～+40˚C (non-freezing)
Operating Ambient Humidity	85% or less (non-condensing)
Degree of Protection	Lead Wire Type (6 W, 15 W, 25 W, 40 W): IP20 (60 W, 90 W): IP40 IP65 Terminal Box Type (6 W, 15 W, 25 W, 40 W): IP65 (Except for the installation surface)

*Heat radiation plate size (Material: Aluminum)

Motor Type	Size (mm)	Thickness (mm)
6 W Type	115×115	5
15 W Type	125×125	
25 W Type	135×135	
40 W Type	165×165	
60 W, 90 W Type	200×200	

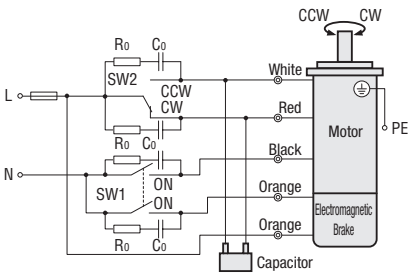
BH Series

Item	Specifications
Insulation Resistance	The measured value is 100 MΩ or more when a 500 VDC megger is applied between the windings and the case after rated operation under normal ambient temperature and humidity.
Dielectric Strength	No abnormality is judged even with application of 1.5 kVAC at 50 Hz or 60 Hz between the windings and the case for 1 minute after rated operation under normal ambient temperature and humidity.
Temperature Rise	A gearhead or equivalent heat radiation plate* is connected and the winding temperature rise is measured at 70˚C or less using the resistance change method after rated operation under normal ambient temperature and humidity.
Thermal Class	130 (B)
Overheat Protection	Built-In Thermal Protector (Automatic return type) Open: 150±5˚C, Close: 96±15˚C
Operating Ambient Temperature	−10～+40˚C (non-freezing)
Operating Ambient Humidity	85% or less (non-condensing)
Degree of Protection	IP54 (Excluding the installation surface of the round shaft type)

*Heat Radiation Plate Size: 230×230 mm, Thickness: 5 mm (Material: Aluminum)

Connection Diagrams

●The rotation direction of the motor is as viewed from the output shaft of the motor. CW represents the clockwise direction, while CCW represents the counterclockwise direction.

Single-Phase Motor	Single-Phase 220/230 VAC	

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.

To release the electromagnetic brake while the motor is stopped, keep the SW1 OFF and apply voltage on the orange brake lead wires side only.

Rotation Direction
To rotate the motor in the clockwise (CW) direction, turn SW2 to CW.
To rotate the motor in the counterclockwise (CCW) direction, turn SW2 to CCW.

Switch No.	Contact Capacity of Switch	Remarks
SW1	250 VAC 1.5 A min. (40 W, 60 W, 90 W: 5 A min.) (Inductive Load)	Switched simultaneously
SW2		—

●R0 and C0 indicate CR circuit for surge suppression. [R0=5～200 Ω, C0=0.1～0.2 μF, 200 WV (400 WV)]
EPCR1201-2 is available as an accessory. ➜ Page C-250
●How to connect a capacitor ➜ Page C-255

Power Off Activated Type Electromagnetic Brake Motors

6 W
□60 mm

Gearhead shown in the photograph is sold separately

Specifications RoHS

Motors

Product Name and Type		Rating	Output Power	Voltage	Frequency	Current	Starting Torque	Rated Torque	Rated Speed	Capacitor
Pinion Shaft Type	Round Shaft Type		W	VAC	Hz	A	mN·m	mN·m	r/min	μF
ZP **2RK6GN-CW2ME**	ZP **2RK6A-CW2ME**	30 minutes	6	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	

- The product name listed on the motor nameplate does not include the code (**E**) that indicates the type of capacitor.
  Certification regarding various safety standards is acquired for the product name on the motor nameplate, please visit www.orientalmotor.eu.
- This type of motor does not contain a built-in friction brake mechanism similar to the reversible motors.
- Safety standards ➜ Page H-2

ZP: These products are impedance protected.

Electromagnetic Brake (Power off activated type)

Motor Product Name	Voltage VAC	Frequency Hz	Current A	Input W	Static Friction Torque mN·m
2RK6GN-CW2ME **2RK6A-CW2ME**	Single-Phase 220	50	0.02	3	30
		60			
	Single-Phase 230	50			
		60			

Degree of Protection

Product Name		Degree of Protection
Pinion Shaft Type	Round Shaft Type	
2RK6GN-CW2ME	**2RK6A-CW2ME**	IP20

Product Line

Motors RoHS

Product Name	
Pinion Shaft Type	Round Shaft Type
2RK6GN-CW2ME	**2RK6A-CW2ME**

The following items are included in each product.
Motor, Capacitor, Capacitor Cap, Operating Manual

Parallel Shaft Gearheads (Sold separately) RoHS

These products can be attached to pinion shafts.

Gearhead Type		Gearhead Product Name	Gear Ratio
Parallel Shaft	Long Life, Low Noise **GN-S** Gearhead	**2GN□S**	**3~180**
		2GN10XS (Decimal Gearhead)	

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

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

High Strength, Long Life, Low Noise
V Series

Highest Maximum Permissible torque,
10,000 hours* of life and quiet operation.
For more details on **V** Series see page C-149.
*For the rated life time definition, refer to "Service Life of Gearheads" on page G-35.

Permissible Torque When Gearhead is Attached

- A number indicating the gear ratio is entered where the box □ is located within the gearhead product name.
- A colored background ▭ indicates gear shaft rotation in the same direction as the motor shaft. Others rotate in the opposite direction.
- The speed is calculated by dividing the motor's synchronous speed (50 Hz: 1500 r/min, 60 Hz: 1800 r/min) by the gear ratio. The actual speed is 2 to 20% less than the displayed value, depending on the load.
- To reduce the speed beyond the gear ratio in the table, attach a decimal gearhead of gear ratio 1:10 between the gearhead and the motor. In that case, the permissible torque is 3 N·m.

◇50 Hz

Unit = N·m

Product Name	Speed r/min	500	417	300	250	200	167	120	100	83	60	50	42	30	25	20	17	15	12.5	10	8.3
Motor/ Gearhead	Gear Ratio	**3**	**3.6**	**5**	**6**	**7.5**	**9**	**12.5**	**15**	**18**	**25**	**30**	**36**	**50**	**60**	**75**	**90**	**100**	**120**	**150**	**180**
2RK6GN-CW2ME / **2GN□S**		0.12	0.14	0.20	0.24	0.30	0.36	0.50	0.60	0.71	0.89	1.1	1.3	1.6	1.9	2.4	2.9	3	3	3	3

◇60 Hz

Unit = N·m

Product Name	Speed r/min	600	500	360	300	240	200	144	120	100	72	60	50	36	30	24	20	18	15	12	10
Motor/ Gearhead	Gear Ratio	**3**	**3.6**	**5**	**6**	**7.5**	**9**	**12.5**	**15**	**18**	**25**	**30**	**36**	**50**	**60**	**75**	**90**	**100**	**120**	**150**	**180**
2RK6GN-CW2ME / **2GN□S**		0.10	0.12	0.17	0.20	0.25	0.30	0.42	0.50	0.60	0.75	0.90	1.1	1.4	1.6	2.0	2.4	2.7	3	3	3

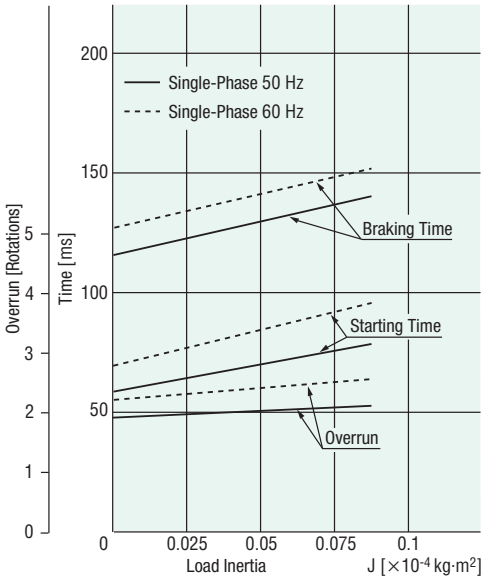
Permissible Overhung Load and Permissible Thrust Load

Motors (Round shaft type) ➜ Page C-16
Gearheads ➜ Page C-16

Permissible Load Inertia: J of Gearhead

➜ Page C-17

Starting and Braking Characteristics (Reference values)



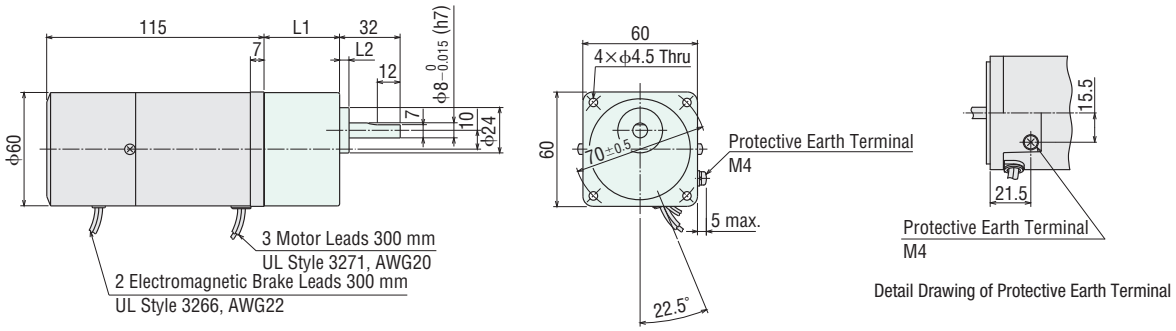
Dimensions (Unit = mm)

- Mounting screws are included with gearheads. Dimensions for mounting screws ➜ Page C-254
- A number indicating the gear ratio is entered where the box □ is located within the product name.

◇Motor/Gearhead

Mass: Motor 0.9 kg
Gearhead 0.4 kg

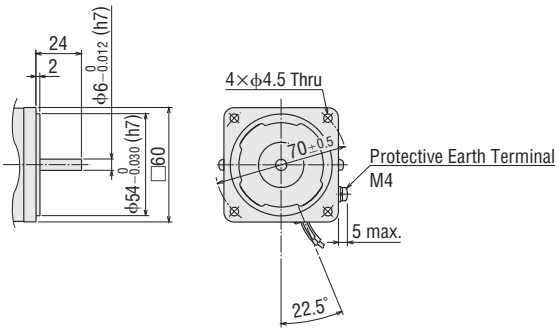
Motor Product Name	Gearhead Product Name	Gear Ratio	L1	L2
2RK6GN-CW2ME	**2GN□S**	**3~18**	30	5
		25~180	40	



◇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

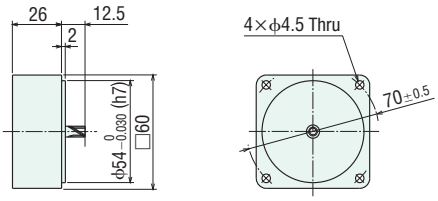


◇Decimal Gearhead

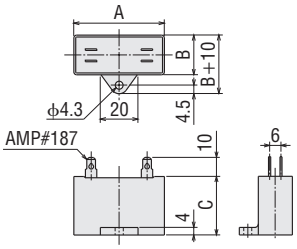
This can be attached to the **GN** pinion shaft type.

2GN10XS

Mass: 0.2 kg



◇Capacitor (Included)



◇Capacitor Dimensions (mm)

Product Name		Capacitor Product Name	A	B	C	Mass (g)	Capacitor Cap
Pinion Shaft Type	Round Shaft Type						
2RK6GN-CW2ME	**2RK6A-CW2ME**	CH08BFAUL	31	17	27	23	Included

Connection Diagrams

➜ Page C-108

Power Off Activated Type Electromagnetic Brake Motors

15 W
□70 mm

Gearhead shown in the photograph is sold separately

Specifications RoHS

Motors

Product Name and Type		Rating	Output Power	Voltage	Frequency	Current	Starting Torque	Rated Torque	Rated Speed	Capacitor
Pinion Shaft Type	Round Shaft Type		W	VAC	Hz	A	mN·m	mN·m	r/min	μF
TP 3RK15GN-CW2ME	TP 3RK15A-CW2ME	30 minutes	15	Single-Phase 220	50	0.18	100	125	1200	1.5
					60	0.20		105	1450	
				Single-Phase 230	50	0.19	100	125	1200	
					60	0.20		105	1450	

- The product name listed on the motor nameplate does not include the code (**E**) that indicates the type of capacitor.
  Certification regarding various safety standards is acquired for the product name on the motor nameplate, please visit www.orientalmotor.eu.
- This type of motor does not contain a built-in friction brake mechanism similar to the reversible motors.
- Safety standards → Page H-2

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

Electromagnetic Brake (Power off activated type)

Motor Product Name	Voltage VAC	Frequency Hz	Current A	Input W	Static Friction Torque mN·m
3RK15GN-CW2ME 3RK15A-CW2ME	Single-Phase 220	50	0.05	7	80
		60			
	Single-Phase 230	50			
		60			

Degree of Protection

Product Name		Degree of Protection
Pinion Shaft Type	Round Shaft Type	
3RK15GN-CW2ME	3RK15A-CW2ME	IP20

Product Line

Motors RoHS

Product Name	
Pinion Shaft Type	Round Shaft Type
3RK15GN-CW2ME	3RK15A-CW2ME

The following items are included in each product.
Motor, Capacitor, Capacitor Cap, Operating Manual

Parallel Shaft Gearheads (Sold separately) RoHS

These products can be attached to pinion shafts.

Gearhead Type		Gearhead Product Name	Gear Ratio
Parallel Shaft	Long Life, Low Noise **GN-S** Gearhead	**3GN□S**	**3~180**
		3GN10XS (Decimal Gearhead)	

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

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

High Strength, Long Life, Low Noise **V** Series

Highest Maximum Permissible torque,
10,000 hours* of life and quiet operation.
For more details on **V** Series see page C-149.
*For the rated life time definition, refer to "Service Life of Gearheads" on page G-35.

Page
Features C-100 / System Configuration C-103 / Product Line C-112 / Specifications C-112 / Characteristics C-113
Dimensions C-114 / Connection Diagrams C-108

Permissible Torque When Gearhead is Attached

- A number indicating the gear ratio is entered where the box □ is located within the gearhead product name.
- A colored background ▭ indicates gear shaft rotation in the same direction as the motor shaft. Others rotate in the opposite direction.
- The speed is calculated by dividing the motor's synchronous speed (50 Hz: 1500 r/min, 60 Hz: 1800 r/min) by the gear ratio.
  The actual speed is 2 to 20% less than the displayed value, depending on the load.
- To reduce the speed beyond the gear ratio in the table, attach a decimal gearhead of gear ratio 1:10 between the gearhead and the motor.
  In that case, the permissible torque is 5 N·m.

◇50 Hz

Unit = N·m

Product Name	Speed r/min	500	417	300	250	200	167	120	100	83	60	50	42	30	25	20	17	15	12.5	10	8.3
Motor/ Gearhead	Gear Ratio	**3**	**3.6**	**5**	**6**	**7.5**	**9**	**12.5**	**15**	**18**	**25**	**30**	**36**	**50**	**60**	**75**	**90**	**100**	**120**	**150**	**180**
3RK15GN-CW2ME	**3GN□S**	0.30	0.36	0.51	0.61	0.76	0.91	1.3	1.5	1.8	2.3	2.7	3.3	4.1	5	5	5	5	5	5	5

◇60 Hz

Unit = N·m

Product Name	Speed r/min	600	500	360	300	240	200	144	120	100	72	60	50	36	30	24	20	18	15	12	10
Motor/ Gearhead	Gear Ratio	**3**	**3.6**	**5**	**6**	**7.5**	**9**	**12.5**	**15**	**18**	**25**	**30**	**36**	**50**	**60**	**75**	**90**	**100**	**120**	**150**	**180**
3RK15GN-CW2ME	**3GN□S**	0.26	0.31	0.43	0.51	0.64	0.77	1.1	1.3	1.5	1.9	2.3	2.8	3.5	4.2	5	5	5	5	5	5

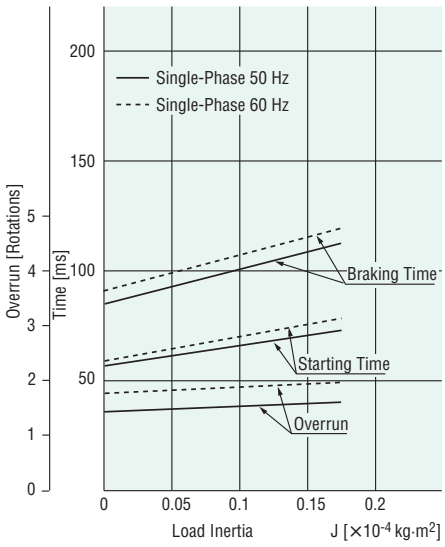
Permissible Overhung Load and Permissible Thrust Load

Motors (Round shaft type) ➜ Page C-16
Gearheads ➜ Page C-16

Permissible Load Inertia: J of Gearhead

➜ Page C-17

Starting and Braking Characteristics (Reference values)



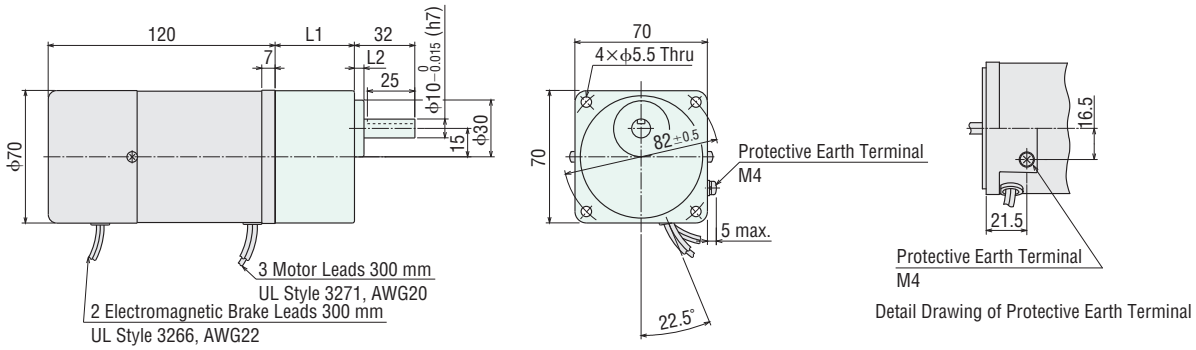
Dimensions (Unit = mm)

- Mounting screws are included with gearheads. Dimensions for mounting screws ➜ Page C-254
- A number indicating the gear ratio is entered where the box □ is located within the product name.

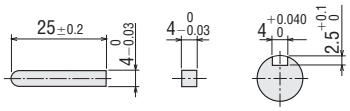
◇Motor/Gearhead

Mass: Motor 1.3 kg
Gearhead 0.55 kg

Motor Product Name	Gearhead Product Name	Gear Ratio	L1	L2
3RK15GN-CW2ME	**3GN□S**	**3~18**	32	5
		25~180	42	



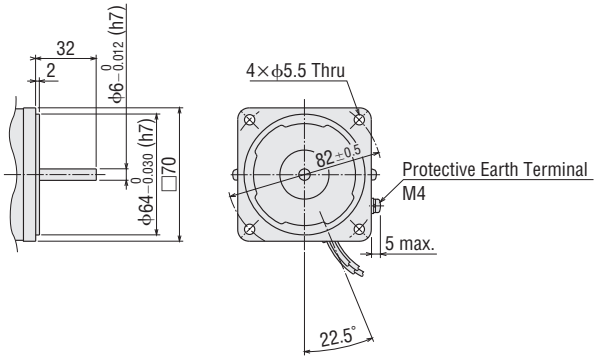
◇Key and Key Slot (The key is included with the gearhead.)



◇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

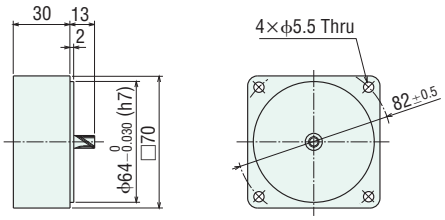


◇Decimal Gearhead

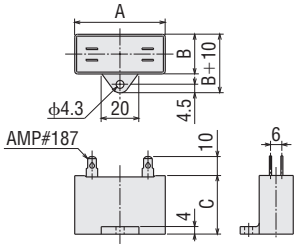
This can be attached to the **GN** pinion shaft type.

3GN10XS

Mass: 0.3 kg



◇Capacitor (Included)



◇Capacitor Dimensions (mm)

Product Name		Capacitor Product Name	A	B	C	Mass (g)	Capacitor Cap
Pinion Shaft Type	Round Shaft Type						
3RK15GN-CW2ME	**3RK15A-CW2ME**	CH15BFAUL	38	21	31	37	Included

Connection Diagrams

➜ Page C-108

Peripheral Equipment

Instantaneous Stop

Brake Pack
➜ Page C-229

Accessories

Mounting Brackets
➜ Page C-240

Couplings
➜ Page C-245

Power Off Activated Type Electromagnetic Brake Motors

25 W

□80 mm

Gearhead shown in the photograph is sold separately

Specifications RoHS

Motors

cULus CE

Product Name and Type		Rating	Output Power	Voltage	Frequency	Current	Starting Torque	Rated Torque	Rated Speed	Capacitor
Pinion Shaft Type	Round Shaft Type		W	VAC	Hz	A	mN·m	mN·m	r/min	μF
TP 4RK25GN-CW2MJ	TP 4RK25A-CW2MJ	30 minutes	25	Single-Phase 200	50	0.27	160	205	1200	2.5
					60	0.34	140	170	1450	
				Single-Phase 220	50	0.27	160	205	1200	
TP 4RK25GN-CW2ME	TP 4RK25A-CW2ME	30 minutes	25	Single-Phase 220	60	0.28	140	170	1450	2.0
				Single-Phase 230	50	0.25	160	205	1200	
					60	0.28	140	170	1450	

- The product name listed on the motor nameplate does not include the code (**J**, **E**) that indicates the type of capacitor.
  Certification regarding various safety standards is acquired for the product name on the motor nameplate, please visit www.orientalmotor.eu.
- This type of motor does not contain a built-in friction brake mechanism similar to the reversible motors.
- Safety standards ➜ Page H-2

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

Electromagnetic Brake (Power off activated type)

Motor Product Name	Voltage VAC	Frequency Hz	Current A	Input W	Static Friction Torque mN·m
4RK25GN-CW2MJ 4RK25A-CW2MJ	Single-Phase 200	50	0.05	7	100
		60			
	Single-Phase 220	50			
4RK25GN-CW2ME 4RK25A-CW2ME	Single-Phase 220	60	0.05	7	100
	Single-Phase 230	50			
		60			

Degree of Protection

Product Name		Degree of Protection
Pinion Shaft Type	Round Shaft Type	
4RK25GN-CW2MJ 4RK25GN-CW2ME	4RK25A-CW2MJ 4RK25A-CW2ME	IP20

Product Line

Motors RoHS

Product Name	
Pinion Shaft Type	Round Shaft Type
4RK25GN-CW2MJ	4RK25A-CW2MJ
4RK25GN-CW2ME	4RK25A-CW2ME

The following items are included in each product.
Motor, Capacitor, Capacitor Cap, Operating Manual

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

These products can be attached to pinion shafts.

Gearhead Type		Gearhead Product Name	Gear Ratio
Parallel Shaft	Long Life, Low Noise **GN-S** Gearhead	**4GN□S**	**3**~**180**
		4GN10XS (Decimal Gearhead)	
Right-Angle Shaft	Hollow Shaft Gearhead	**4GN□RH**	**3**~**180**
	Solid Shaft Gearhead	**4GN□RA**	**3**~**180**

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

The following items are included in each product.
- Parallel Shaft Gearhead
  Gearhead, Mounting Screws, Parallel Key, Operating Manual
- Hollow Shaft Gearhead
  Gearhead, Mounting Screws, Parallel Key, Safety Cover (with screws), Gasket, Operating Manual
- Solid Shaft Gearhead
  Gearhead, Mounting Screws, Parallel Key, Gasket, Operating Manual

High Strength, Long Life, Low Noise **V** Series

Highest Maximum Permissible torque,
10,000 hours* of life and quiet operation.
For more details on **V** Series see page C-149.
*For the rated life time definition, refer to "Service Life of Gearheads" on page G-35.

Permissible Torque When Gearhead is Attached

- A number indicating the gear ratio is entered where the box □ is located within the gearhead product name.
- A colored background ▭ indicates gear shaft rotation in the same direction as the motor shaft. Others rotate in the opposite direction.
- The speed is calculated by dividing the motor's synchronous speed (50 Hz: 1500 r/min, 60 Hz: 1800 r/min) by the gear ratio.
  The actual speed is 2 to 20% less than the displayed value, depending on the load.
- To reduce the speed beyond the gear ratio in the table, attach a decimal gearhead of gear ratio 1:10 between the gearhead and the motor.
  In that case, the permissible torque is 8 N·m. When a gearhead of 1/25 to 1/36 is attached, the value for permissible torque is 6 N·m.

◇50 Hz

Unit = N·m

Product Name	Speed r/min	500	417	300	250	200	167	120	100	83	60	50	42	30	25	20	17	15	12.5	10	8.3
Motor/ Gearhead	Gear Ratio	**3**	**3.6**	**5**	**6**	**7.5**	**9**	**12.5**	**15**	**18**	**25**	**30**	**36**	**50**	**60**	**75**	**90**	**100**	**120**	**150**	**180**
4RK25GN-CW2MJ 4RK25GN-CW2ME	**4GN□S**	0.50	0.60	0.83	1.0	1.2	1.5	2.1	2.5	3.0	3.7	4.5	5.4	6.8	8	8	8	8	8	8	8

◇60 Hz

Unit = N·m

Product Name	Speed r/min	600	500	360	300	240	200	144	120	100	72	60	50	36	30	24	20	18	15	12	10
Motor/ Gearhead	Gear Ratio	**3**	**3.6**	**5**	**6**	**7.5**	**9**	**12.5**	**15**	**18**	**25**	**30**	**36**	**50**	**60**	**75**	**90**	**100**	**120**	**150**	**180**
4RK25GN-CW2MJ 4RK25GN-CW2ME	**4GN□S**	0.41	0.50	0.69	0.83	1.0	1.2	1.7	2.1	2.5	3.1	3.7	4.5	5.6	6.7	8	8	8	8	8	8

Gearmotor – Torque Table When Right-Angle Gearhead is Attached

➜ Page C-216

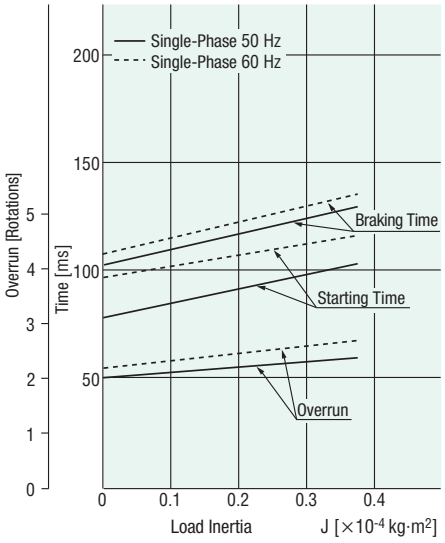
Permissible Overhung Load and Permissible Thrust Load

Motors (Round shaft type) ➜ Page C-16
Gearheads ➜ Page C-16

Permissible Load Inertia: J of Gearhead

➜ Page C-17

Starting and Braking Characteristics (Reference values)



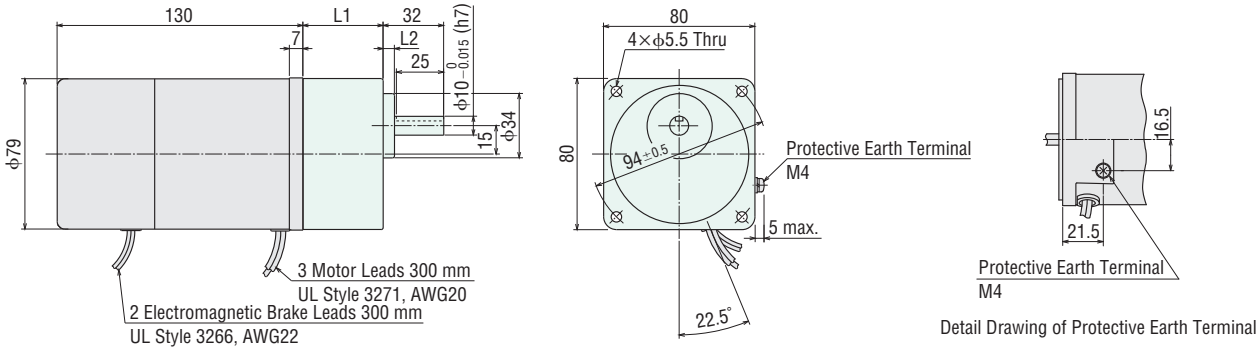
Dimensions (Unit = mm)

- Mounting screws are included with gearheads. Dimensions for mounting screws ➜ Page C-254
- A number indicating the gear ratio is entered where the box □ is located within the product name.

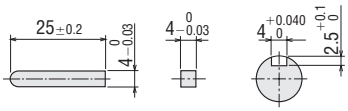
◇Motor/Gearhead

Mass: Motor 2.0 kg
Gearhead 0.65 kg

Motor Product Name	Gearhead Product Name	Gear Ratio	L1	L2
4RK25GN-CW2MJ **4RK25GN-CW2ME**	**4GN□S**	**3~18**	32	6
		25~180	42.5	



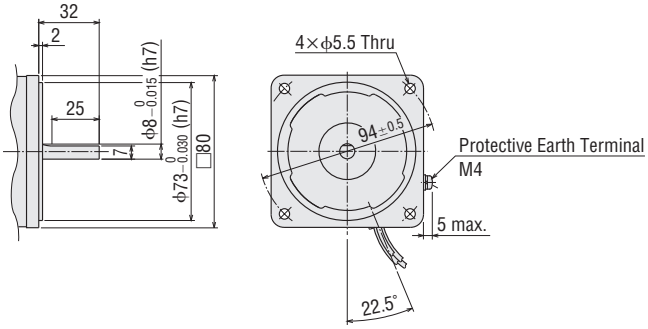
◇Key and Key Slot (The key is included with the gearhead.)



◇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

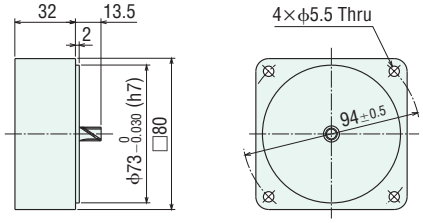


◇Decimal Gearhead

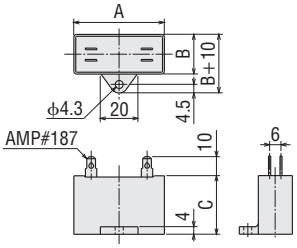
This can be attached to the **GN** pinion shaft type.

4GN10XS

Mass: 0.4 kg



◇Capacitor (Included)



◇Capacitor Dimensions (mm)

Product Name		Capacitor Product Name	A	B	C	Mass (g)	Capacitor Cap
Pinion Shaft Type	Round Shaft Type						
4RK25GN-CW2MJ	**4RK25A-CW2MJ**	CH25BFAUL	48	21	31	42	Included
4RK25GN-CW2ME	**4RK25A-CW2ME**	CH20BFAUL	48	19	29	36	

Connection Diagrams

➜ Page C-108

Power Off Activated Type Electromagnetic Brake Motors

40 W
□90 mm

Gearhead shown in the photograph is sold separately

Specifications RoHS

Motors

Product Name and Type		Rating	Output Power	Voltage	Frequency	Current	Starting Torque	Rated Torque	Rated Speed	Capacitor
Pinion Shaft Type	Round Shaft Type		W	VAC	Hz	A	mN·m	mN·m	r/min	μF
TP 5RK40GN-CW2MJ	TP 5RK40A-CW2MJ	30 minutes	40	Single-Phase 200	50	0.40	270	315	1250	4.0
					60	0.51	260	260	1500	
				Single-Phase 220	50	0.40	270	315	1250	
TP 5RK40GN-CW2ME	TP 5RK40A-CW2ME	30 minutes	40	Single-Phase 220	60	0.43	260	260	1500	3.5
				Single-Phase 230	50	0.38	270	315	1250	
					60	0.43	260	260	1500	

- The product name listed on the motor nameplate does not include the code (**J**, **E**) that indicates the type of capacitor.
  Certification regarding various safety standards is acquired for the product name on the motor nameplate, please visit www.orientalmotor.eu.
- This type of motor does not contain a built-in friction brake mechanism similar to the reversible motors.
- Safety standards ➜ Page H-2

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

Electromagnetic Brake (Power off activated type)

Motor Product Name	Voltage VAC	Frequency Hz	Current A	Input W	Static Friction Torque mN·m
5RK40GN-CW2MJ 5RK40A-CW2MJ	Single-Phase 200	50	0.05	7	200
		60			
	Single-Phase 220	50			
5RK40GN-CW2ME 5RK40A-CW2ME	Single-Phase 220	60	0.05	7	200
	Single-Phase 230	50			
		60			

Degree of Protection

Product Name		Degree of Protection
Pinion Shaft Type	Round Shaft Type	
5RK40GN-CW2MJ 5RK40GN-CW2ME	5RK40A-CW2MJ 5RK40A-CW2ME	IP20

Product Line

Motors RoHS

Product Name	
Pinion Shaft Type	Round Shaft Type
5RK40GN-CW2MJ	**5RK40A-CW2MJ**
5RK40GN-CW2ME	**5RK40A-CW2ME**

The following items are included in each product.
Motor, Capacitor, Capacitor Cap, Operating Manual

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

These products can be attached to pinion shafts.

Gearhead Type		Gearhead Product Name	Gear Ratio
Parallel Shaft	Long Life, Low Noise **GN-S** Gearhead	**5GN□S**	**3~180**
		5GN10XS (Decimal Gearhead)	
Right-Angle Shaft	Hollow Shaft Gearhead	**5GN□RH**	**3~180**
	Solid Shaft Gearhead	**5GN□RA**	**3~180**

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

The following items are included in each product.
- Parallel Shaft Gearhead
  Gearhead, Mounting Screws, Parallel Key, Operating Manual
- Hollow Shaft Gearhead
  Gearhead, Mounting Screws, Parallel Key, Safety Cover (with screws), Gasket, Operating Manual
- Solid Shaft Gearhead
  Gearhead, Mounting Screws, Parallel Key, Gasket, Operating Manual

Permissible Torque When Gearhead is Attached

- A number indicating the gear ratio is entered where the box □ is located within the gearhead product name.
- A colored background ▭ indicates gear shaft rotation in the same direction as the motor shaft. Others rotate in the opposite direction.
- The speed is calculated by dividing the motor's synchronous speed (50 Hz: 1500 r/min, 60 Hz: 1800 r/min) by the gear ratio. The actual speed is 2 to 20% less than the displayed value, depending on the load.
- To reduce the speed beyond the gear ratio in the table, attach a decimal gearhead of gear ratio 1:10 between the gearhead and the motor. In that case, the permissible torque is 10 N·m.

◇50 Hz

Unit = N·m

Product Name	Speed r/min	500	417	300	250	200	167	120	100	83	60	50	42	30	25	20	17	15	12.5	10	8.3
Motor/ Gearhead	Gear Ratio	**3**	**3.6**	**5**	**6**	**7.5**	**9**	**12.5**	**15**	**18**	**25**	**30**	**36**	**50**	**60**	**75**	**90**	**100**	**120**	**150**	**180**
5RK40GN-CW2MJ 5RK40GN-CW2ME	**5GN□S**	0.77	0.92	1.3	1.5	1.9	2.3	3.2	3.8	4.6	5.7	6.9	8.3	10	10	10	10	10	10	10	10

◇60 Hz

Unit = N·m

Product Name	Speed r/min	600	500	360	300	240	200	144	120	100	72	60	50	36	30	24	20	18	15	12	10
Motor/ Gearhead	Gear Ratio	**3**	**3.6**	**5**	**6**	**7.5**	**9**	**12.5**	**15**	**18**	**25**	**30**	**36**	**50**	**60**	**75**	**90**	**100**	**120**	**150**	**180**
5RK40GN-CW2MJ 5RK40GN-CW2ME	**5GN□S**	0.63	0.76	1.1	1.3	1.6	1.9	2.6	3.2	3.8	4.7	5.7	6.8	8.6	10	10	10	10	10	10	10

Gearmotor – Torque Table When Right-Angle Gearhead is Attached

➜ Page C-216

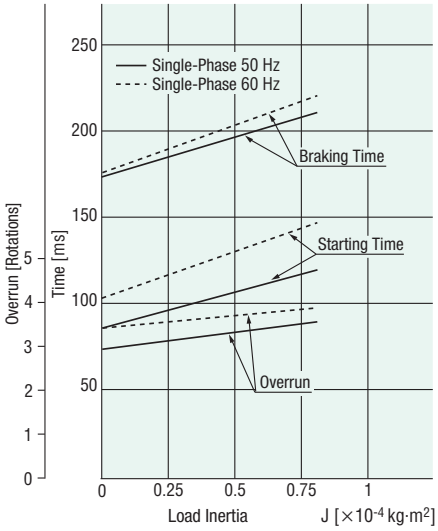
Permissible Overhung Load and Permissible Thrust Load

Motors (Round shaft type) ➜ Page C-16
Gearheads ➜ Page C-16

Permissible Load Inertia: J of Gearhead

➜ Page C-17

Starting and Braking Characteristics (Reference values)



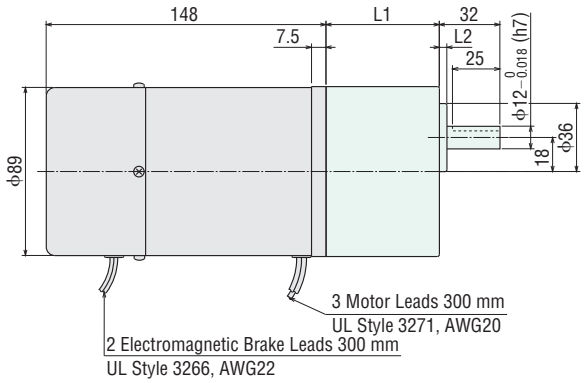
Dimensions (Unit = mm)

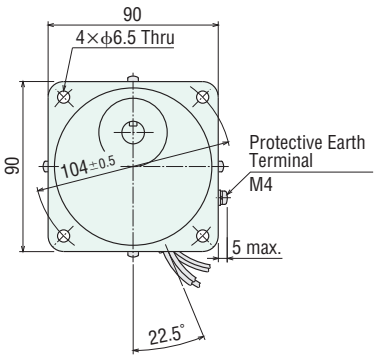
- Mounting screws are included with gearheads. Dimensions for mounting screws ➜ Page C-254
- A number indicating the gear ratio is entered where the box □ is located within the product name.

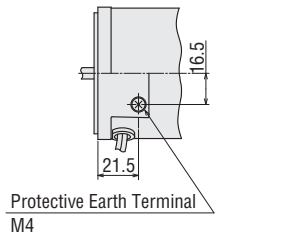
◇Motor/Gearhead

Mass: Motor 2.8 kg
Gearhead 1.5 kg

Motor Product Name	Gearhead Product Name	Gear Ratio	L1	L2
5RK40GN-CW2MJ	5GN□S	3~18	42	4
5RK40GN-CW2ME		25~180	60	

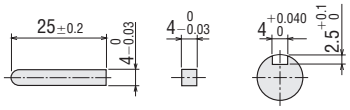






Detail Drawing of Protective Earth Terminal

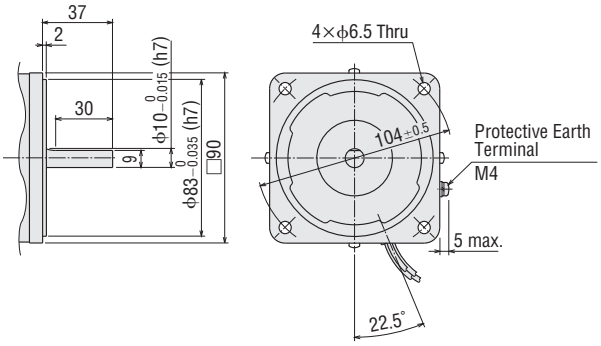
◇Key and Key Slot (The key is included with the gearhead.)



◇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

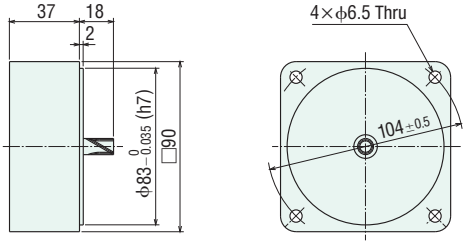


◇Decimal Gearhead

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

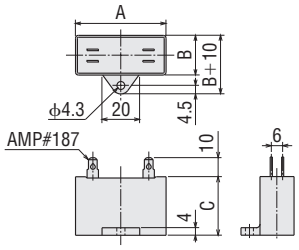
5GN10XS

Mass: 0.6 kg

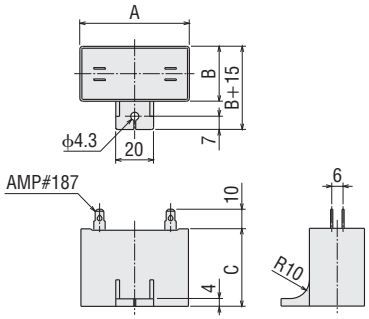


◇Capacitor (Included)

Dimensions No. ①



Dimensions No. ②



◇Capacitor Dimensions (mm)

Product Name		Capacitor Product Name	A	B	C	Mass (g)	Dimension Number	Capacitor Cap
Pinion Shaft Type	Round Shaft Type							
5RK40GN-CW2MJ	**5RK40A-CW2MJ**	CH40BFAUL	58	23.5	37	73	②	Included
5RK40GN-CW2ME	**5RK40A-CW2ME**	CH35BFAUL	58	22	35	59	①	

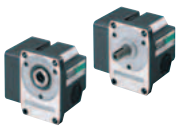
Connection Diagrams

→ Page C-108

Gearheads, Peripheral Equipment

Space Saving

Right-Angle Gearheads
→ Page C-213



Instantaneous Stop

Brake Pack
→ Page C-229

Accessories

Mounting Brackets
→ Page C-240

Couplings
→ Page C-245

Power Off Activated Type Electromagnetic Brake Motors

60 W
□90mm

Gearhead shown in the photograph is sold separately

Specifications RoHS

Motors

Product Name and Type		Rating	Output Power	Voltage	Frequency	Current	Starting Torque	Rated Torque	Rated Speed	Capacitor
Pinion Shaft Type	Round Shaft Type		W	VAC	Hz	A	mN·m	mN·m	r/min	μF
TP 5RK60GE-CW2MJ	TP 5RK60A-CW2MJ	30 minutes	60	Single-Phase 200	50	0.61	450	490	1200	6.0
					60	0.74	380	405	1450	
				Single-Phase 220	50	0.61	470	490	1200	
TP 5RK60GE-CW2ME	TP 5RK60A-CW2ME	30 minutes	60	Single-Phase 220	60	0.61	380	405	1450	5.0
				Single-Phase 230	50	0.59	470	490	1200	
					60	0.61	380	405	1450	

- The product name listed on the motor nameplate does not include the code (**J**, **E**) that indicates the type of capacitor.
  Certification regarding various safety standards is acquired for the product name on the motor nameplate, please visit www.orientalmotor.eu.
- This type of motor does not contain a built-in friction brake mechanism similar to the reversible motors.
- Safety standards ➜ Page H-2

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

Electromagnetic Brake (Power off activated type)

Motor Product Name	Voltage VAC	Frequency Hz	Current A	Input W	Static Friction Torque mN·m
5RK60GE-CW2MJ 5RK60A-CW2MJ	Single-Phase 200	50	0.07	10	500
		60			
	Single-Phase 220	50			
5RK60GE-CW2ME 5RK60A-CW2ME	Single-Phase 220	60	0.07	10	500
	Single-Phase 230	50			
		60			

Degree of Protection

Product Name		Degree of Protection
Pinion Shaft Type	Round Shaft Type	
5RK60GE-CW2MJ 5RK60GE-CW2ME	5RK60A-CW2MJ 5RK60A-CW2ME	IP40

Product Line

Motors RoHS

Product Name	
Pinion Shaft Type	Round Shaft Type
5RK60GE-CW2MJ	**5RK60A-CW2MJ**
5RK60GE-CW2ME	**5RK60A-CW2ME**

The following items are included in each product.
Motor, Capacitor, Capacitor Cap, Operating Manual

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

These products can be attached to pinion shafts.

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

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

The following items are included in each product.
- Parallel Shaft Gearhead
  Gearhead, Mounting Screws, Parallel Key, Operating Manual
- Hollow Shaft Gearhead
  Gearhead, Mounting Screws, Parallel Key, Safety Cover (with screws), Gasket, Operating Manual
- Solid Shaft Gearhead
  Gearhead, Mounting Screws, Parallel Key, Gasket, Operating Manual

Permissible Torque When Gearhead is Attached

- A number indicating the gear ratio is entered where the box □ is located within the gearhead product name.
- A colored background ▭ indicates gear shaft rotation in the same direction as the motor shaft. Others rotate in the opposite direction.
- The speed is calculated by dividing the motor's synchronous speed (50 Hz: 1500 r/min, 60 Hz: 1800 r/min) by the gear ratio. The actual speed is 2 to 20% less than the displayed value, depending on the load.
- To reduce the speed beyond the gear ratio in the table, attach a decimal gearhead of gear ratio 1:10 between the gearhead and the motor.
  In that case, the permissible torque is 20 N·m.

◇50 Hz

Unit = N·m

Product Name	Speed r/min	500	417	300	250	200	167	120	100	83	60	50	42	30	25	20	17	15	12.5	10	8.3
Motor/ Gearhead	Gear Ratio	**3**	**3.6**	**5**	**6**	**7.5**	**9**	**12.5**	**15**	**18**	**25**	**30**	**36**	**50**	**60**	**75**	**90**	**100**	**120**	**150**	**180**
5RK60GE-CW2MJ 5RK60GE-CW2ME	**5GE□S**	1.2	1.4	2.0	2.4	3.0	3.6	4.5	5.4	6.4	8.1	9.7	11.6	16.2	19.4	20	20	20	20	20	20

◇60 Hz

Unit = N·m

Product Name	Speed r/min	600	500	360	300	240	200	144	120	100	72	60	50	36	30	24	20	18	15	12	10
Motor/ Gearhead	Gear Ratio	**3**	**3.6**	**5**	**6**	**7.5**	**9**	**12.5**	**15**	**18**	**25**	**30**	**36**	**50**	**60**	**75**	**90**	**100**	**120**	**150**	**180**
5RK60GE-CW2MJ 5RK60GE-CW2ME	**5GE□S**	0.98	1.2	1.6	2.0	2.5	3.0	3.7	4.4	5.3	6.7	8.0	9.6	13.4	16.0	17.9	20	20	20	20	20

Gearmotor – Torque Table When Right-Angle Gearhead is Attached

→ Page C-216

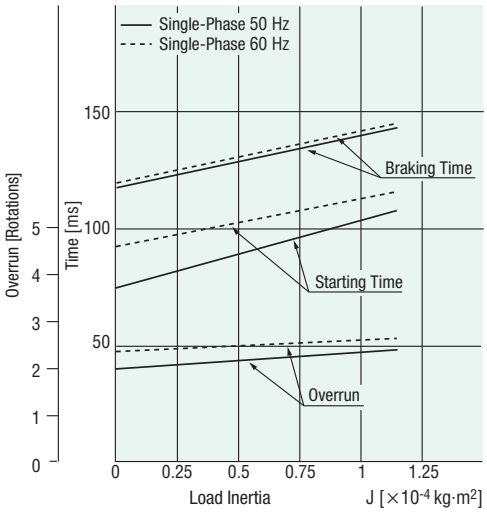
Permissible Overhung Load and Permissible Thrust Load

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

Permissible Load Inertia: J of Gearhead

→ Page C-17

Starting and Braking Characteristics (Reference values)



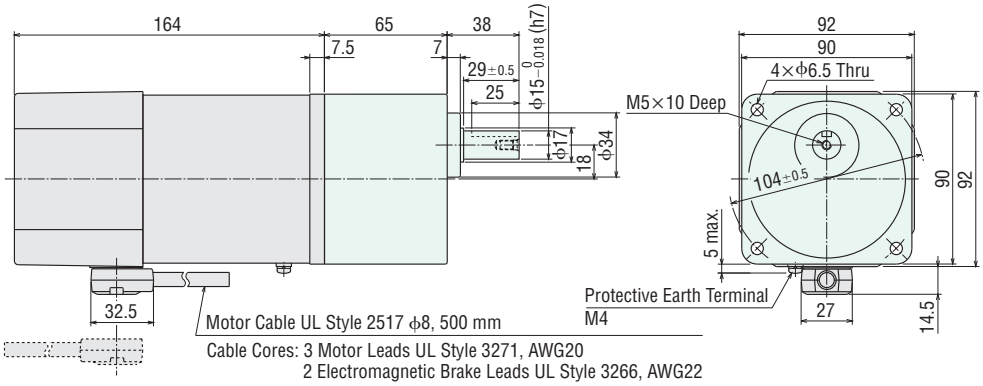
Dimensions (Unit = mm)

- Mounting screws are included with gearheads. Dimensions for mounting screws ➜ Page C-254
- A number indicating the gear ratio is entered where the box □ is located within the product name.

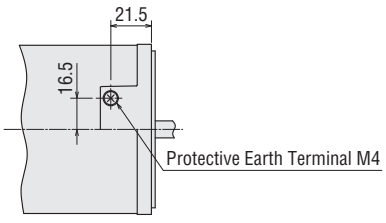
◇Motor/Gearhead

Motor: **5RK60GE-CW2MJ**, **5RK60GE-CW2ME**
Mass: 3.4 kg

Gearheads: **5GE□S**
Mass: 1.5 kg

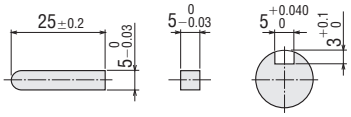


- Cable direction can be switched to the opposite direction



Detail Drawing of Protective Earth Terminal

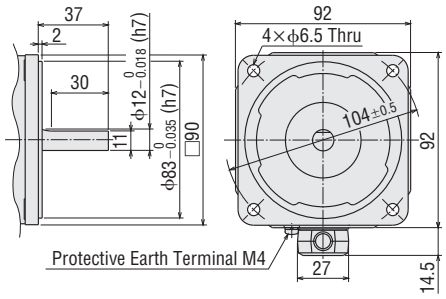
◇Key and Key Slot (The key is included with the gearhead.)



◇Shaft Section of Round Shaft Type

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

Mass: 3.4 kg

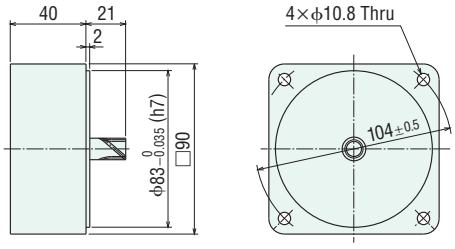


◇Decimal Gearhead

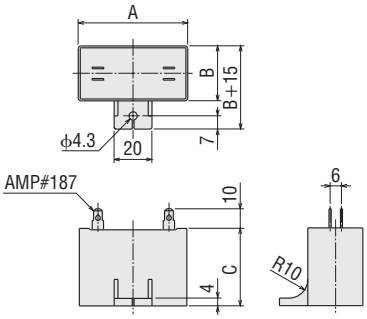
This can be attached to the **GE** pinion shaft type.

5GE10XS

Mass: 0.6 kg



◇Capacitor (Included)



◇Capacitor Dimensions (mm)

Product Name		Capacitor Product Name	A	B	C	Mass (g)	Capacitor Cap
Pinion Shaft Type	Round Shaft Type						
5RK60GE-CW2MJ	**5RK60A-CW2MJ**	CH60BFAUL	58	29	41	92	Included
5RK60GE-CW2ME	**5RK60A-CW2ME**	CH50BFAUL	58	29	41	93	

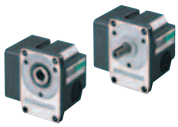
Connection Diagrams

➜ Page C-108

Gearheads, Peripheral Equipment

Space Saving

Right-Angle Gearheads
➜ Page C-213



Instantaneous Stop

Brake Pack
➜ Page C-229

Accessories

Mounting Brackets
➜ Page C-240

Couplings
➜ Page C-245

Power Off Activated Type Electromagnetic Brake Motors

90 W
□90 mm

Gearhead shown in the photograph is sold separately

Specifications RoHS

Motors

Product Name and Type		Rating	Output Power	Voltage	Frequency	Current	Starting Torque	Rated Torque	Rated Speed	Capacitor
Pinion Shaft Type	Round Shaft Type		W	VAC	Hz	A	mN·m	mN·m	r/min	μF
TP 5RK90GE-CW2MJ	TP 5RK90A-CW2MJ	30 minutes	90	Single-Phase 200	50	0.88	600	730	1200	8.0
					60	1.08	590	605	1450	
				Single-Phase 220	50	0.83	600	730	1200	
TP 5RK90GE-CW2ME	TP 5RK90A-CW2ME	30 minutes	90	Single-Phase 220	60	0.96	590	605	1450	7.0
				Single-Phase 230	50	0.82	600	730	1200	
					60	0.96	590	605	1450	

- The product name listed on the motor nameplate does not include the code (**J**, **E**) that indicates the type of capacitor.
  Certification regarding various safety standards is acquired for the product name on the motor nameplate, please visit www.orientalmotor.eu.
- This type of motor does not contain a built-in friction brake mechanism similar to the reversible motors.
- Safety standards ➜ Page H-2

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

Electromagnetic Brake (Power off activated type)

Motor Product Name	Voltage VAC	Frequency Hz	Current A	Input W	Static Friction Torque mN·m
5RK90GE-CW2MJ 5RK90A-CW2MJ	Single-Phase 200	50	0.07	10	500
		60			
	Single-Phase 220	50			
5RK90GE-CW2ME 5RK90A-CW2ME	Single-Phase 220	60	0.07	10	500
	Single-Phase 230	50			
		60			

Degree of Protection

Product Name		Degree of Protection
Pinion Shaft Type	Round Shaft Type	
5RK90GE-CW2MJ 5RK90GE-CW2ME	5RK90A-CW2MJ 5RK90A-CW2ME	IP40

Product Line

Motors RoHS

Product Name	
Pinion Shaft Type	Round Shaft Type
5RK90GE-CW2MJ	**5RK90A-CW2MJ**
5RK90GE-CW2ME	**5RK90A-CW2ME**

The following items are included in each product.
Motor, Capacitor, Capacitor Cap, Operating Manual

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

These products can be attached to pinion shafts.

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

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

The following items are included in each product.
- Parallel Shaft Gearhead
  Gearhead, Mounting Screws, Parallel Key, Operating Manual
- Hollow Shaft Gearhead
  Gearhead, Mounting Screws, Parallel Key, Safety Cover (with screws), Gasket, Operating Manual
- Solid Shaft Gearhead
  Gearhead, Mounting Screws, Parallel Key, Gasket, Operating Manual

Permissible Torque When Gearhead is Attached

- A number indicating the gear ratio is entered where the box □ is located within the gearhead product name.
- A colored background ▭ indicates gear shaft rotation in the same direction as the motor shaft. Others rotate in the opposite direction.
- The speed is calculated by dividing the motor's synchronous speed (50 Hz: 1500 r/min, 60 Hz: 1800 r/min) by the gear ratio. The actual speed is 2 to 20% less than the displayed value, depending on the load.
- To reduce the speed beyond the gear ratio in the table, attach a decimal gearhead of gear ratio 1:10 between the gearhead and the motor.

  In that case, the permissible torque is 20 N·m.

◇50 Hz

Unit = N·m

Product Name	Speed r/min	500	417	300	250	200	167	120	100	83	60	50	42	30	25	20	17	15	12.5	10	8.3
Motor/ Gearhead	Gear Ratio	**3**	**3.6**	**5**	**6**	**7.5**	**9**	**12.5**	**15**	**18**	**25**	**30**	**36**	**50**	**60**	**75**	**90**	**100**	**120**	**150**	**180**
5RK90GE-CW2MJ 5RK90GE-CW2ME	**5GE□S**	1.8	2.1	3.0	3.5	4.4	5.3	6.7	8.0	9.6	12.0	14.5	17.3	20	20	20	20	20	20	20	20

◇60 Hz

Unit = N·m

Product Name	Speed r/min	600	500	360	300	240	200	144	120	100	72	60	50	36	30	24	20	18	15	12	10
Motor/ Gearhead	Gear Ratio	**3**	**3.6**	**5**	**6**	**7.5**	**9**	**12.5**	**15**	**18**	**25**	**30**	**36**	**50**	**60**	**75**	**90**	**100**	**120**	**150**	**180**
5RK90GE-CW2MJ 5RK90GE-CW2ME	**5GE□S**	1.5	1.8	2.5	2.9	3.7	4.4	5.5	6.6	7.9	10.0	12.0	14.4	20	20	20	20	20	20	20	20

Gearmotor – Torque Table When Right-Angle Gearhead is Attached

→ Page C-216

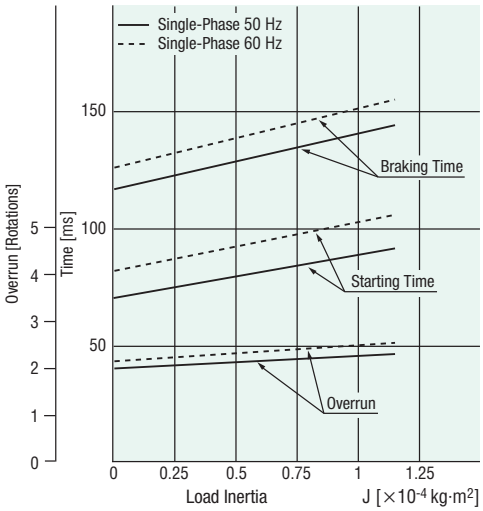
Permissible Overhung Load and Permissible Thrust Load

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

Permissible Load Inertia: J of Gearhead

→ Page C-17

Starting and Braking Characteristics (Reference values)



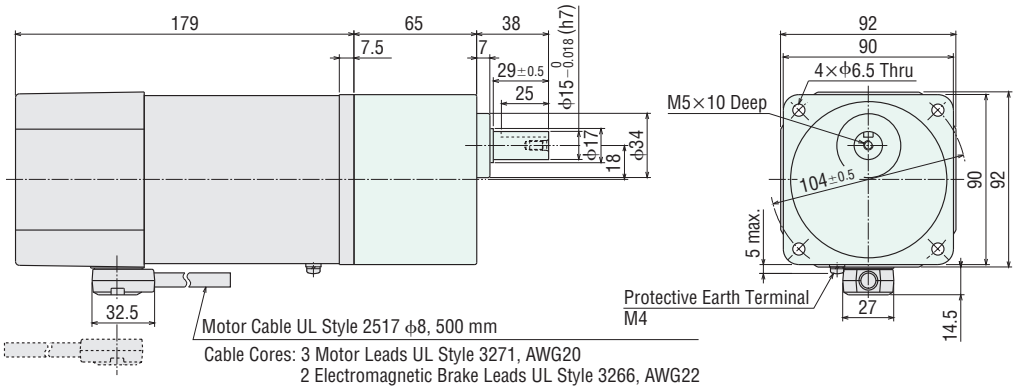
Dimensions (Unit = mm)

●Mounting screws are included with gearheads. Dimensions for mounting screws ➜ Page C-254
●A number indicating the gear ratio is entered where the box □ is located within the product name.

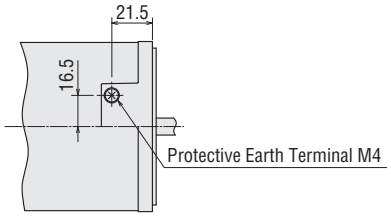
◇Motor/Gearhead

Motor: **5RK90GE-CW2MJ**, **5RK90GE-CW2ME**
Mass: 3.9 kg

Gearhead: **5GE□S**
Mass: 1.5 kg

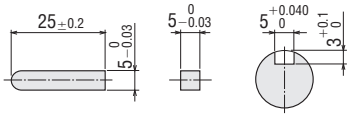


●Cable direction can be switched to the opposite direction.



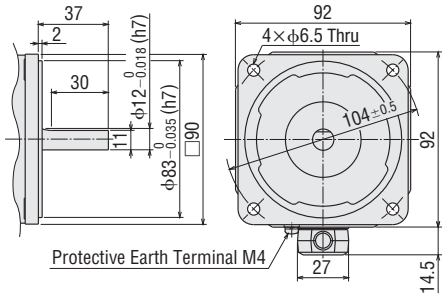
Detail Drawing of Protective Earth Terminal

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



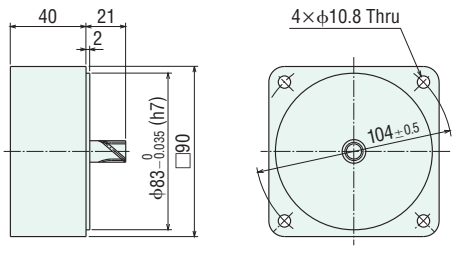
◇Shaft Section of Round Shaft Type

The motor's dimensions (excluding the shaft section) are the same as those of the pinion shaft types.
Mass: 3.9 kg

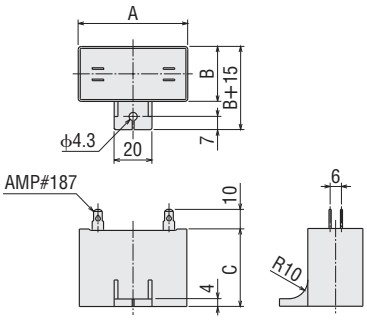


◇Decimal Gearhead

This can be attached to the **GE** pinion shaft type.
5GE10XS
Mass: 0.6 kg



◇Capacitor (Included)



◇Capacitor Dimensions (mm)

Product Name		Capacitor Product Name	A	B	C	Mass (g)	Capacitor Cap
Pinion Shaft Type	Round Shaft Type						
5RK90GE-CW2MJ	**5RK90A-CW2MJ**	CH80BFAUL	58	35	50	136	Included
5RK90GE-CW2ME	**5RK90A-CW2ME**	CH70BFAUL	58	35	50	138	

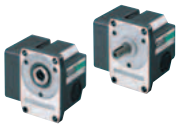
Connection Diagrams

➜ Page C-108

Gearheads, Peripheral Equipment

Space Saving

Right-Angle Gearheads
➜ Page C-213



Instantaneous Stop

Brake Pack
➜ Page C-229

Accessories

Mounting Brackets
➜ Page C-240

Couplings
➜ Page C-245

World K Series IP65 Terminal Box Type
Power Off Activated Type Electromagnetic Brake Motors
6 W, 15 W, 25 W, 40 W
□60 mm, □70 mm, □80 mm, □90 mm

Features

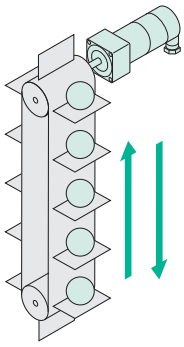
●Electromagnetic Brake Type Motors with Terminal Boxes are Now Available

◇Power Off Activated Type Electromagnetic Brake Equipped

These motors are directly coupled to an AC electromagnetic brake which is a power off activated type. When the power source is turned OFF, the motor stops instantaneously and holds the load.

◇Ideal for Applications in Which the Load is Held

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



●IP65 Specification Suitable for Use in Factory Environment

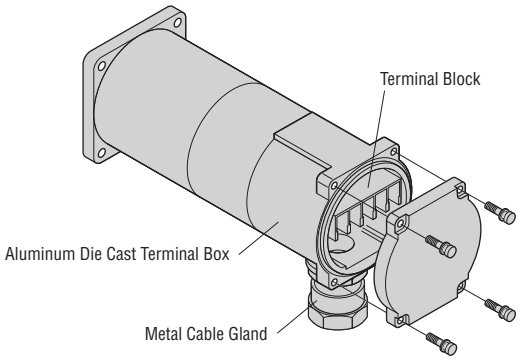
The world **K** series IP65 terminal box type electromagnetic brake motors include parts with excellent environmental resistance to meet the needs of factory environments.

◇Protection Performance against Dust and Water Conforming to IP65 Rating for Degree of Protection

The degree of protection conforms to IP65 by using an O-ring in the motor and an oil seal construction in the gearhead. These motors are ideal for use in an environment requiring dust resistance and water resistance to protect against cutting powder suspended in air, splashed water droplets, etc.

◇Strong Metal Terminal Box

A sturdy aluminum die-cast terminal box is fitted with a metal cable gland.



●Combination Type with Assembled Motor and Gearhead

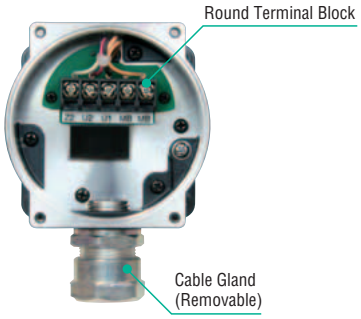
Combination type products are delivered with the motor and gearhead pre-assembled. This can reduce the number of assembly man-hours and alleviate any worries about damaging the motor shaft during assembly.

●Terminal Box with Easy-to-Use Structure

The terminal box provided at the back of the motor not only offers high environmental resistance, but it is also structured to ensure ease of use.

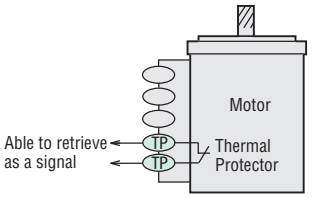
User-Friendly Design

- Wires can be connected using round crimp terminals.
- The direction in which the cables are taken out can be changed according to the combination of motor and gearhead.
- The cable gland can be removed to connect a conduit pipe, etc., instead.



●Lineup of Overheat Protection Devices (Thermal Protectors) for Signal

An overheat protection device (thermal protector) is built into 15 W to 40 W motors. A signal type that can use a conventional automatic return type thermal protector to retrieve the operation of the overheat protection device as a signal and control the operation and stopping of the motor is available.* Oriental Motor has a thermal protector for automatic return type and signal type to meet your various needs.



*Connect the motor properly so that the power of the motor can be interrupted when the thermal protector is activated. Connection example ➜ Page C-141

●Long Life, Low Noise **GN-S** Gearhead is Available

Adopting innovative technologies and structure, the “long life, low noise **GN-S** gearhead” achieves a long rated life of 10000 hours*, twice as long as the level of a conventional gearhead. Also, the gearhead is designed for low noise.

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

- Can be combined with a right-angle gearhead. For details, please contact the nearest Oriental Motor sales office.

Note

- It does not conform to the IP65 rating when used with a decimal gearhead.

Product Line

Combination Type

This type comes with the motor and its dedicated gearhead pre-assembled. This simplifies installing in equipment. Motors and gearheads are also available separately to facilitate changes in motor and gearhead combinations and if spare gearheads are required.

For the single-phase 100 VAC, the single-phase 110/115 VAC and the three-phase 200/220/230 VAC models, please contact the nearest Oriental Motor sales office.

●Combination Type

◇Thermal Protector for Automatic Return Type RoHS

Output Power	Power Supply Voltage	Product Name	Gear Ratio
6 W*	Single-Phase 100 VAC	**2RK6AMB-□S**	3~180
	Single-Phase 110/115 VAC	**2RK6FMB-□S**	
	Single-Phase 200 VAC	**2RK6CMB-□S**	
	Single-Phase 220/230 VAC	**2RK6EMB-□S**	
	Three-Phase 200/220/230 VAC	**2IK6SMB-□S**	
15 W	Single-Phase 100 VAC	**3RK15AMB-□S**	3~180
	Single-Phase 110/115 VAC	**3RK15FMB-□S**	
	Single-Phase 200 VAC	**3RK15CMB-□S**	
	Single-Phase 220/230 VAC	**3RK15EMB-□S**	
	Three-Phase 200/220/230 VAC	**3IK15SMB-□S**	

*6 W models are impedance protected. A thermal protector is not built in.

Output Power	Power Supply Voltage	Product Name	Gear Ratio
25 W	Single-Phase 100 VAC	**4RK25AMB-□S**	3~180
	Single-Phase 110/115 VAC	**4RK25FMB-□S**	
	Single-Phase 200 VAC Single-Phase 220 VAC (50 Hz)	**4RK25CMB-□S**	
	Single-Phase 220 VAC (60 Hz) Single-Phase 230 VAC	**4RK25EMB-□S**	
	Three-Phase 200/220/230 VAC	**4IK25SMB-□S**	
40 W	Single-Phase 100 VAC	**5RK40AMB-□S**	3~180
	Single-Phase 110/115 VAC	**5RK40FMB-□S**	
	Single-Phase 200 VAC Single-Phase 220 VAC (50 Hz)	**5RK40CMB-□S**	
	Single-Phase 220 VAC (60 Hz) Single-Phase 230 VAC	**5RK40EMB-□S**	
	Three-Phase 200/220/230 VAC	**5IK40SMB-□S**	

◇Thermal Protector for Signal Type RoHS

Output Power	Power Supply Voltage	Product Name	Gear Ratio
15 W	Single-Phase 100 VAC	**3RK15AMB-□SS**	3~180
	Single-Phase 110/115 VAC	**3RK15FMB-□SS**	
	Single-Phase 200 VAC	**3RK15CMB-□SS**	
	Single-Phase 220/230 VAC	**3RK15EMB-□SS**	
	Three-Phase 200/220/230 VAC	**3IK15SMB-□SS**	
25 W	Single-Phase 100 VAC	**4RK25AMB-□SS**	3~180
	Single-Phase 110/115 VAC	**4RK25FMB-□SS**	
	Single-Phase 200 VAC Single-Phase 220 VAC (50 Hz)	**4RK25CMB-□SS**	
	Single-Phase 220 VAC (60 Hz) Single-Phase 230 VAC	**4RK25EMB-□SS**	
	Three-Phase 200/220/230 VAC	**4IK25SMB-□SS**	

Output Power	Power Supply Voltage	Product Name	Gear Ratio
40 W	Single-Phase 100 VAC	**5RK40AMB-□SS**	3~180
	Single-Phase 110/115 VAC	**5RK40FMB-□SS**	
	Single-Phase 200 VAC Single-Phase 220 VAC (50 Hz)	**5RK40CMB-□SS**	
	Single-Phase 220 VAC (60 Hz) Single-Phase 230 VAC	**5RK40EMB-□SS**	
	Three-Phase 200/220/230 VAC	**5IK40SMB-□SS**	

The following items are included in each product.
Motor, Gearhead, Capacitor*1, Capacitor Cap*1, Mounting Screws, Parallel Key*2, Operating Manual
*1 Single-phase motors only
*2 Only for products with a key slot on the output shaft

●Round Shaft Type

◇Thermal Protector for Automatic Return Type RoHS

Output Power	Power Supply Voltage	Product Name
6 W*	Single-Phase 100 VAC	**2RK6A-AW2MBJ**
	Single-Phase 110/115 VAC	**2RK6A-AW2MBU**
	Single-Phase 200 VAC	**2RK6A-CW2MBJ**
	Single-Phase 220/230 VAC	**2RK6A-CW2MBE**
	Three-Phase 200/220/230 VAC	**2IK6A-SW2MB**
15 W	Single-Phase 100 VAC	**3RK15A-AW2MBJ**
	Single-Phase 110/115 VAC	**3RK15A-AW2MBU**
	Single-Phase 200 VAC	**3RK15A-CW2MBJ**
	Single-Phase 220/230 VAC	**3RK15A-CW2MBE**
	Three-Phase 200/220/230 VAC	**3IK15A-SW2MB**
25 W	Single-Phase 100 VAC	**4RK25A-AW2MBJ**
	Single-Phase 110/115 VAC	**4RK25A-AW2MBU**
	Single-Phase 200 VAC Single-Phase 220 VAC (50 Hz)	**4RK25A-CW2MBJ**
	Single-Phase 220 VAC (60 Hz) Single-Phase 230 VAC	**4RK25A-CW2MBE**
	Three-Phase 200/220/230 VAC	**4IK25A-SW2MB**
40 W	Single-Phase 100 VAC	**5RK40A-AW2MBJ**
	Single-Phase 110/115 VAC	**5RK40A-AW2MBU**
	Single-Phase 200 VAC Single-Phase 220 VAC (50 Hz)	**5RK40A-CW2MBJ**
	Single-Phase 220 VAC (60 Hz) Single-Phase 230 VAC	**5RK40A-CW2MBE**
	Three-Phase 200/220/230 VAC	**5IK40A-SW2MB**

*6 W models are impedance protected. A thermal protector is not built in.

◇Thermal Protector for Signal Type RoHS

Output Power	Power Supply Voltage	Product Name
15 W	Single-Phase 100 VAC	**3RK15A-AW2MBSJ**
	Single-Phase 110/115 VAC	**3RK15A-AW2MBSU**
	Single-Phase 200 VAC	**3RK15A-CW2MBSJ**
	Single-Phase 220/230 VAC	**3RK15A-CW2MBSE**
	Three-Phase 200/220/230 VAC	**3IK15A-SW2MBS**
25 W	Single-Phase 100 VAC	**4RK25A-AW2MBSJ**
	Single-Phase 110/115 VAC	**4RK25A-AW2MBSU**
	Single-Phase 200 VAC Single-Phase 220 VAC (50 Hz)	**4RK25A-CW2MBSJ**
	Single-Phase 220 VAC (60 Hz) Single-Phase 230 VAC	**4RK25A-CW2MBSE**
	Three-Phase 200/220/230 VAC	**4IK25A-SW2MBS**
40 W	Single-Phase 100 VAC	**5RK40A-AW2MBSJ**
	Single-Phase 110/115 VAC	**5RK40A-AW2MBSU**
	Single-Phase 200 VAC Single-Phase 220 VAC (50 Hz)	**5RK40A-CW2MBSJ**
	Single-Phase 220 VAC (60 Hz) Single-Phase 230 VAC	**5RK40A-CW2MBSE**
	Three-Phase 200/220/230 VAC	**5IK40A-SW2MBS**

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

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

IP65 Terminal Box Type
Power Off Activated Type Electromagnetic Brake Type Motors
6 W
□60 mm

Specifications RoHS

Motor

Product Name and Type Upper Product Name: Combination Type Lower Product Name in ( ): Round Shaft Type	Rating	Output Power W	Voltage VAC	Frequency Hz	Current A	Starting Torque mN·m	Rated Torque mN·m	Rated Speed r/min	Capacitor μF
ZP **2RK6EMB-□S** **(2RK6A-CW2MBE)**	30 minutes	6	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	

- This type of motor does not contain a built-in friction brake mechanism similar to the reversible motors.
- The values in the table are characteristics for the motor only.
- Safety standards ➜ Page H-2

ZP: These products are impedance protected.

Electromagnetic Brake (Power off activated type)

Product Name and Type Upper Product Name: Combination Type Lower Product Name in ( ): Round Shaft Type	Voltage VAC	Frequency Hz	Current A	Input W	Static Friction Torque mN·m
2RK6EMB-□S **(2RK6A-CW2MBE)**	Single-Phase 220	50	0.02	3	30
		60			
	Single-Phase 230	50			
		60			

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

Permissible Torque When Combination Type

- A number indicating the gear ratio is entered where the box □ is located within the product name.
- A colored background ▭ indicates gear shaft rotation in the same direction as the motor shaft. Others rotate in the opposite direction.
- The speed is calculated by dividing the motor's synchronous speed (50 Hz: 1500 r/min, 60 Hz: 1800 r/min) by the gear ratio. The actual speed is 2 to 20% less than the displayed value, depending on the load.
- To reduce the speed beyond the gear ratio in the table, attach a decimal gearhead of gear ratio 1:10 between the gearhead and the motor. In that case, the permissible torque is 3 N·m.

◇50 Hz

Unit = N·m

Product Name	Speed r/min	500	417	300	250	200	167	120	100	83	60	50	42	30	25	20	17	15	12.5	10	8.3
	Gear Ratio	**3**	**3.6**	**5**	**6**	**7.5**	**9**	**12.5**	**15**	**18**	**25**	**30**	**36**	**50**	**60**	**75**	**90**	**100**	**120**	**150**	**180**
2RK6EMB-□S		0.12	0.14	0.20	0.24	0.30	0.36	0.50	0.60	0.71	0.89	1.1	1.3	1.6	1.9	2.4	2.9	3	3	3	3

◇60 Hz

Unit = N·m

Product Name	Speed r/min	600	500	360	300	240	200	144	120	100	72	60	50	36	30	24	20	18	15	12	10
	Gear Ratio	**3**	**3.6**	**5**	**6**	**7.5**	**9**	**12.5**	**15**	**18**	**25**	**30**	**36**	**50**	**60**	**75**	**90**	**100**	**120**	**150**	**180**
2RK6EMB-□S		0.10	0.12	0.17	0.20	0.25	0.30	0.42	0.50	0.60	0.75	0.90	1.1	1.4	1.6	2.0	2.4	2.7	3	3	3

Permissible Overhung Load and Permissible Thrust Load

Motors (Round shaft type) ➜ Page C-16
Gearheads ➜ Page C-16

Permissible Load Inertia: J of Gearhead

➜ Page C-17

Starting and Braking Characteristics (Reference values)

➜ Page C-110

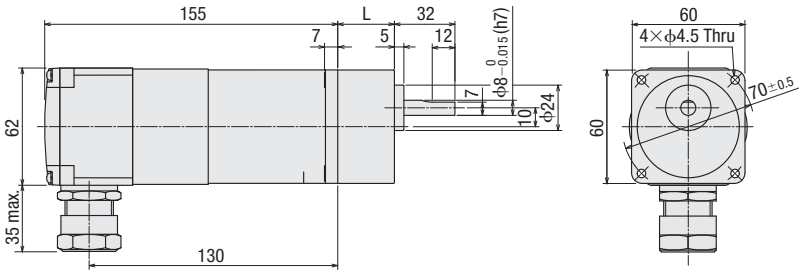
Dimensions (Unit = mm)

- Mounting screws are included with gearheads. Dimensions for mounting screws ➜ Page C-254
- A number indicating the gear ratio is entered where the box □ is located within the product name.

6 W

◇Combination Type

Product Name	Motor Product Name	Gearhead Product Name	Gear Ratio	L	Mass kg
2RK6EMB-□S	2RK6GN-CW2MBE	2GN□S	**3~18**	30	1.7
			25~180	40	

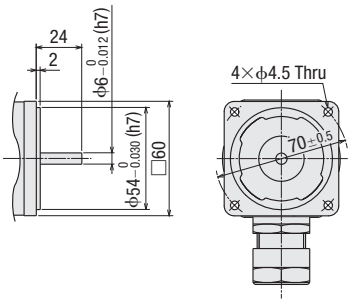


- Applicable cable diameter is φ12~φ16.
- Details of terminal box ➜ Page C-255

◇Shaft Section of Round Shaft Type

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

Mass: 1.3 kg

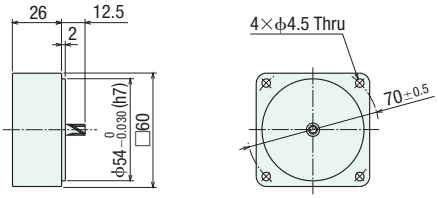


◇Decimal Gearhead

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

2GN10XS

Mass: 0.2 kg



IP65 Terminal Box Type
Power Off Activated Type Electromagnetic Brake Type Motors
15 W
□70 mm

Specifications RoHS

Motor

Product Name and Type Upper Product Name: Combination Type Lower Product Name in ( ): Round Shaft Type		Rating	Output Power	Voltage	Frequency	Current	Starting Torque	Rated Torque	Rated Speed	Capacitor
Thermal Protector for Automatic Return Type	Thermal Protector for Signal Type		W	VAC	Hz	A	mN·m	mN·m	r/min	μF
TP **3RK15EMB-□S** (**3RK15A-CW2MBE**)	TP **3RK15EMB-□SS** (**3RK15A-CW2MBSE**)	30 minutes	15	Single-Phase 220	50	0.18	100	125	1200	1.5
					60	0.20		105	1450	
				Single-Phase 230	50	0.19	100	125	1200	
					60	0.20		105	1450	

- This type of motor does not contain a built-in friction brake mechanism similar to the reversible motors.
- The values in the table are characteristics for the motor only.
- Safety standards ➜ Page H-2

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

TP: This indicates that there is a built-in thermal protector for signal that enables the retrieval of whether the thermal protector contacts are open or closed. Connection example ➜ Page C-141

Electromagnetic Brake (Power off activated type)

Product Name and Type Upper Product Name: Combination Type Lower Product Name in ( ): Round Shaft Type		Voltage	Frequency	Current	Input	Static Friction Torque
Thermal Protector for Automatic Return Type	Thermal Protector for Signal Type	VAC	Hz	A	W	mN·m
3RK15EMB-□S (**3RK15A-CW2MBE**)	**3RK15EMB-□SS** (**3RK15A-CW2MBSE**)	Single-Phase 220	50	0.05	7	80
			60			
		Single-Phase 230	50			
			60			

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

Permissible Torque When Combination Type

- A number indicating the gear ratio is entered where the box □ is located within the product name.
  S indicating the thermal protector for signal is entered where the box ◇ is located within the product name.
- A colored background ▭ indicates gear shaft rotation in the same direction as the motor shaft. Others rotate in the opposite direction.
- The speed is calculated by dividing the motor's synchronous speed (50 Hz: 1500 r/min, 60 Hz: 1800 r/min) by the gear ratio.
  The actual speed is 2 to 20% less than the displayed value, depending on the load.
- To reduce the speed beyond the gear ratio in the table, attach a decimal gearhead of gear ratio 1:10 between the gearhead and the motor.
  In that case, the permissible torque is 5 N·m.

◇50 Hz

Unit = N·m

Product Name	Speed r/min	500	417	300	250	200	167	120	100	83	60	50	42	30	25	20	17	15	12.5	10	8.3
	Gear Ratio	**3**	**3.6**	**5**	**6**	**7.5**	**9**	**12.5**	**15**	**18**	**25**	**30**	**36**	**50**	**60**	**75**	**90**	**100**	**120**	**150**	**180**
3RK15EMB-□S◇		0.30	0.36	0.51	0.61	0.76	0.91	1.3	1.5	1.8	2.3	2.7	3.3	4.1	5	5	5	5	5	5	5

◇60 Hz

Unit = N·m

Product Name	Speed r/min	600	500	360	300	240	200	144	120	100	72	60	50	36	30	24	20	18	15	12	10
	Gear Ratio	**3**	**3.6**	**5**	**6**	**7.5**	**9**	**12.5**	**15**	**18**	**25**	**30**	**36**	**50**	**60**	**75**	**90**	**100**	**120**	**150**	**180**
3RK15EMB-□S◇		0.26	0.31	0.43	0.51	0.64	0.77	1.1	1.3	1.5	1.9	2.3	2.8	3.5	4.2	5	5	5	5	5	5

Permissible Overhung Load and Permissible Thrust Load

Motors (Round shaft type) ➜ Page C-16
Gearheads ➜ Page C-16

Permissible Load Inertia: J of Gearhead

➜ Page C-17

Starting and Braking Characteristics (Reference values)

➜ Page C-113

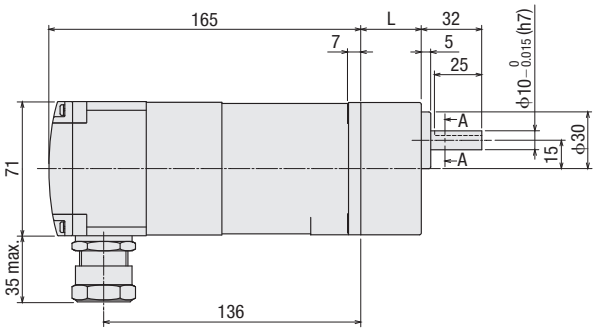
Dimensions (Unit = mm)

- Mounting screws are included with gearheads. Dimensions for mounting screws ➜ Page C-254
- A number indicating the gear ratio is entered where the box □ is located within the product name.

15 W

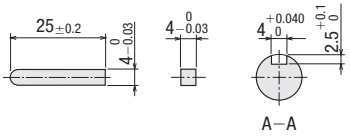
◇Combination Type

Product Name	Motor Product Name	Gearhead Product Name	Gear Ratio	L	Mass kg
3RK15EMB-□S	3RK15GN-CW2MBE	3GN□S	**3~18**	32	2.25
3RK15EMB-□SS	3RK15GN-CW2MBSE		**25~180**	42	



- Applicable cable diameter is φ12~φ16.
- Details of terminal box ➜ Page C-255

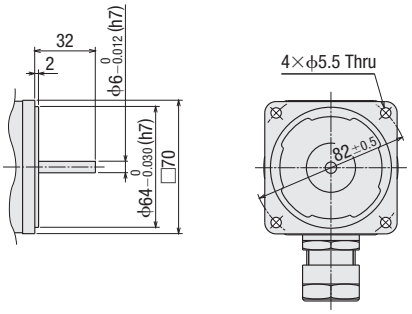
◇Key and Key Slot (Included)



◇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: 1.7 kg

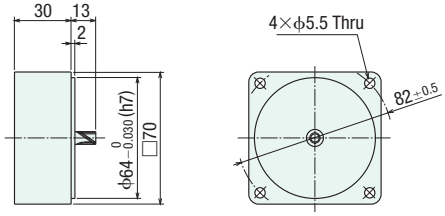


◇Decimal Gearhead

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

3GN10X5

Mass: 0.3 kg



IP65 Terminal Box Type
Power Off Activated Type Electromagnetic Brake Type Motors
25 W
□80 mm

Specifications RoHS

Motor

Product Name and Type Upper Product Name: Combination Type Lower Product Name in ( ): Round Shaft Type		Rating	Output Power	Voltage	Frequency	Current	Starting Torque	Rated Torque	Rated Speed	Capacitor
Thermal Protector for Automatic Return Type	Thermal Protector for Signal Type		W	VAC	Hz	A	mN·m	mN·m	r/min	μF
TP **4RK25CMB-□S** (**4RK25A-CW2MBJ**)	TP **4RK25CMB-□SS** (**4RK25A-CW2MBSJ**)	30 minutes	25	Single-Phase 200	50	0.27	160	205	1200	2.5
					60	0.34	140	170	1450	
				Single-Phase 220	50	0.27	160	205	1200	
TP **4RK25EMB-□S** (**4RK25A-CW2MBE**)	TP **4RK25EMB-□SS** (**4RK25A-CW2MBSE**)	30 minutes	25	Single-Phase 220	60	0.28	140	170	1450	2.0
				Single-Phase 230	50	0.25	160	205	1200	
					60	0.28	140	170	1450	

- This type of motor does not contain a built-in friction brake mechanism similar to the reversible motors.
- The values in the table are characteristics for the motor only.
- Safety standards ➜ Page H-2

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

TP: This indicates that there is a built-in thermal protector for signal that enables the retrieval of whether the thermal protector contacts are open or closed. Connection example ➜ Page C-141

Electromagnetic Brake (Power off activated type)

Product Name and Type Upper Product Name: Combination Type Lower Product Name in ( ): Round Shaft Type		Voltage	Frequency	Current	Input	Static Friction Torque
Thermal Protector for Automatic Return Type	Thermal Protector for Signal Type	VAC	Hz	A	W	mN·m
4RK25CMB-□S (**4RK25A-CW2MBJ**)	**4RK25CMB-□SS** (**4RK25A-CW2MBSJ**)	Single-Phase 200	50	0.05	7	100
			60			
		Single-Phase 220	50			
4RK25EMB-□S (**4RK25A-CW2MBE**)	**4RK25EMB-□SS** (**4RK25A-CW2MBSE**)	Single-Phase 220	60	0.05	7	100
		Single-Phase 230	50			
			60			

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

Permissible Torque When Combination Type

- A number indicating the gear ratio is entered where the box □ is located within the product name.
  S indicating the thermal protector for signal is entered where the box ◇ is located within the product name.
- A colored background ▭ indicates gear shaft rotation in the same direction as the motor shaft. Others rotate in the opposite direction.
- The speed is calculated by dividing the motor's synchronous speed (50 Hz: 1500 r/min, 60 Hz: 1800 r/min) by the gear ratio.
  The actual speed is 2 to 20% less than the displayed value, depending on the load.
- To reduce the speed beyond the gear ratio in the table, attach a decimal gearhead of gear ratio 1:10 between the gearhead and the motor.
  In that case, the permissible torque is 8 N·m. When a gearhead of 1/25 to 1/36 is attached, the value for permissible torque is 6 N·m.

◇50 Hz

Unit = N·m

Product Name	Speed r/min	500	417	300	250	200	167	120	100	83	60	50	42	30	25	20	17	15	12.5	10	8.3
	Gear Ratio	**3**	**3.6**	**5**	**6**	**7.5**	**9**	**12.5**	**15**	**18**	**25**	**30**	**36**	**50**	**60**	**75**	**90**	**100**	**120**	**150**	**180**
4RK25CMB-□S◇ **4RK25EMB-□S◇**		0.50	0.60	0.83	1.0	1.2	1.5	2.1	2.5	3.0	3.7	4.5	5.4	6.8	8	8	8	8	8	8	8

◇60 Hz

Unit = N·m

Product Name	Speed r/min	600	500	360	300	240	200	144	120	100	72	60	50	36	30	24	20	18	15	12	10
	Gear Ratio	**3**	**3.6**	**5**	**6**	**7.5**	**9**	**12.5**	**15**	**18**	**25**	**30**	**36**	**50**	**60**	**75**	**90**	**100**	**120**	**150**	**180**
4RK25CMB-□S◇ **4RK25EMB-□S◇**		0.41	0.50	0.69	0.83	1.0	1.2	1.7	2.1	2.5	3.1	3.7	4.5	5.6	6.7	8	8	8	8	8	8

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Permissible Overhung Load and Permissible Thrust Load

Motors (Round shaft type) ➜ Page C-16
Gearheads ➜ Page C-16

Permissible Load Inertia: J of Gearhead

➜ Page C-17

Starting and Braking Characteristics (Reference values)

➜ Page C-116

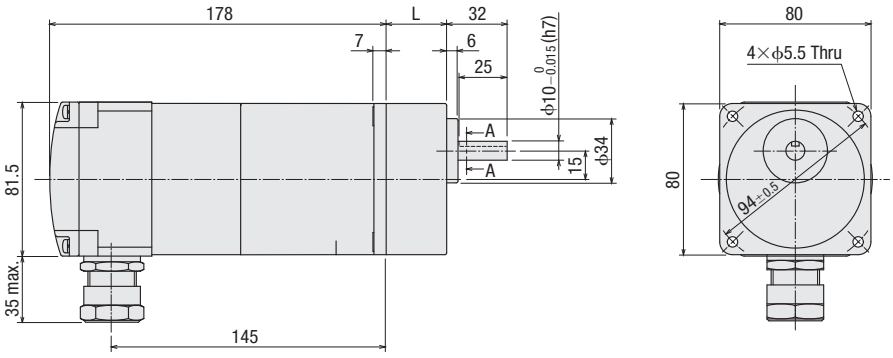
Dimensions (Unit = mm)

- Mounting screws are included with gearheads. Dimensions for mounting screws ➜ Page C-254
- A number indicating the gear ratio is entered where the box □ is located within the product name.

25 W

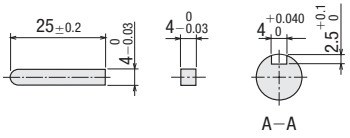
◇Combination Type

Product Name	Motor Product Name	Gearhead Product Name	Gear Ratio	L	Mass kg
4RK25CMB-□S **4RK25EMB-□S** **4RK25CMB-□SS** **4RK25EMB-□SS**	4RK25GN-CW2MBJ 4RK25GN-CW2MBE 4RK25GN-CW2MBSJ 4RK25GN-CW2MBSE	4GN□S	**3~18**	32	3.15
			25~180	42.5	



- Applicable cable diameter is ϕ12~ϕ16.
- Details of terminal box ➜ Page C-255

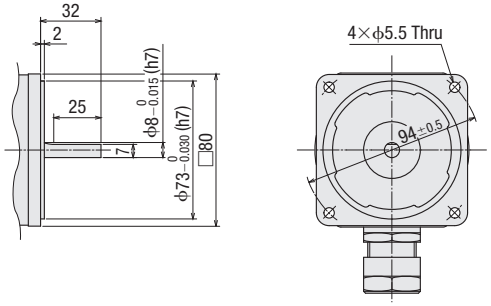
◇Key and Key Slot (Included)



◇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: 2.5 kg

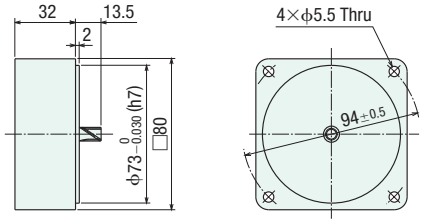


◇Decimal Gearhead

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

4GN10XS

Mass: 0.4 kg



IP65 Terminal Box Type
Power Off Activated Type Electromagnetic Brake Type Motors
40 W
□90 mm

Specifications RoHS

Motor

Product Name and Type Upper Product Name: Combination Type Lower Product Name in ( ): Round Shaft Type		Rating	Output Power	Voltage	Frequency	Current	Starting Torque	Rated Torque	Rated Speed	Capacitor
Thermal Protector for Automatic Return Type	Thermal Protector for Signal Type		W	VAC	Hz	A	mN·m	mN·m	r/min	μF
TP **5RK40CMB-□S** (**5RK40A-CW2MBJ**)	TP **5RK40CMB-□SS** (**5RK40A-CW2MBSJ**)	30 minutes	40	Single-Phase 200	50	0.40	270	315	1250	4.0
					60	0.51	260	260	1500	
				Single-Phase 220	50	0.40	270	315	1250	
TP **5RK40EMB-□S** (**5RK40A-CW2MBE**)	TP **5RK40EMB-□SS** (**5RK40A-CW2MBSE**)	30 minutes	40	Single-Phase 220	60	0.43	260	260	1500	3.5
				Single-Phase 230	50	0.38	270	315	1250	
					60	0.43	260	260	1500	

- This type of motor does not contain a built-in friction brake mechanism similar to the reversible motors.
- The values in the table are characteristics for the motor only.
- Safety standards ➜ Page H-2

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

TP: This indicates that there is a built-in thermal protector for signal that enables the retrieval of whether the thermal protector contacts are open or closed. Connection example ➜ Page C-141

Electromagnetic Brake (Power off activated type)

Product Name and Type Upper Product Name: Combination Type Lower Product Name in ( ): Round Shaft Type		Voltage	Frequency	Current	Input	Static Friction Torque
Thermal Protector for Automatic Return Type	Thermal Protector for Signal Type	VAC	Hz	A	W	mN·m
5RK40CMB-□S (**5RK40A-CW2MBJ**)	**5RK40CMB-□SS** (**5RK40A-CW2MBSJ**)	Single-Phase 200	50	0.05	7	200
			60			
		Single-Phase 220	50			
5RK40EMB-□S (**5RK40A-CW2MBE**)	**5RK40EMB-□SS** (**5RK40A-CW2MBSE**)	Single-Phase 220	60	0.05	7	200
		Single-Phase 230	50			
			60			

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

Permissible Torque When Combination Type

- A number indicating the gear ratio is entered where the box □ is located within the product name.
  S indicating the thermal protector for signal is entered where the box ◇ is located within the product name.
- A colored background ▭ indicates gear shaft rotation in the same direction as the motor shaft. Others rotate in the opposite direction.
- The speed is calculated by dividing the motor's synchronous speed (50 Hz: 1500 r/min, 60 Hz: 1800 r/min) by the gear ratio.
  The actual speed is 2 to 20% less than the displayed value, depending on the load.
- To reduce the speed beyond the gear ratio in the table, attach a decimal gearhead of gear ratio 1:10 between the gearhead and the motor.
  In that case, the permissible torque is 10 N·m.

◇50 Hz

Unit = N·m

Product Name	Speed r/min	500	417	300	250	200	167	120	100	83	60	50	42	30	25	20	17	15	12.5	10	8.3
	Gear Ratio	**3**	**3.6**	**5**	**6**	**7.5**	**9**	**12.5**	**15**	**18**	**25**	**30**	**36**	**50**	**60**	**75**	**90**	**100**	**120**	**150**	**180**
5RK40CMB-□S◇ **5RK40EMB-□S◇**		0.77	0.92	1.3	1.5	1.9	2.3	3.2	3.8	4.6	5.7	6.9	8.3	10	10	10	10	10	10	10	10

◇60 Hz

Unit = N·m

Product Name	Speed r/min	600	500	360	300	240	200	144	120	100	72	60	50	36	30	24	20	18	15	12	10
	Gear Ratio	**3**	**3.6**	**5**	**6**	**7.5**	**9**	**12.5**	**15**	**18**	**25**	**30**	**36**	**50**	**60**	**75**	**90**	**100**	**120**	**150**	**180**
5RK40CMB-□S◇ **5RK40EMB-□S◇**		0.63	0.76	1.1	1.3	1.6	1.9	2.6	3.2	3.8	4.7	5.7	6.8	8.6	10	10	10	10	10	10	10

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Permissible Overhung Load and Permissible Thrust Load

Motors (Round shaft type) ➜ Page C-16
Gearheads ➜ Page C-16

Permissible Load Inertia: J of Gearhead

➜ Page C-17

Starting and Braking Characteristics (Reference values)

➜ Page C-120

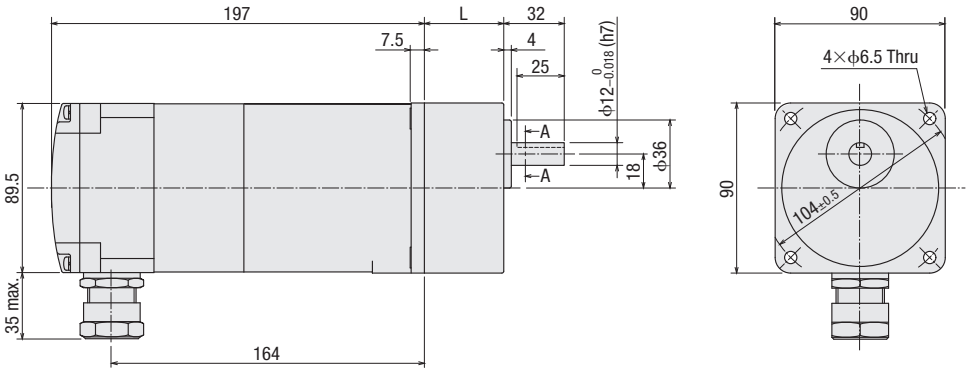
Dimensions (Unit = mm)

●Mounting screws are included with gearheads. Dimensions for mounting screws ➜ Page C-254
●A number indicating the gear ratio is entered where the box □ is located within the product name.

●40 W

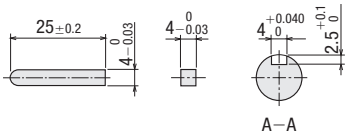
◇Combination Type

Product Name	Motor Product Name	Gearhead Product Name	Gear Ratio	L	Mass kg
5RK40CMB-□S **5RK40EMB-□S** **5RK40CMB-□SS** **5RK40EMB-□SS**	5RK40GN-CW2MBJ 5RK40GN-CW2MBE 5RK40GN-CW2MBSJ 5RK40GN-CW2MBSE	5GN□S	**3~18**	42	4.9
			25~180	60	



●Applicable cable diameter is φ12~φ16.
●Details of terminal box ➜ Page C-255

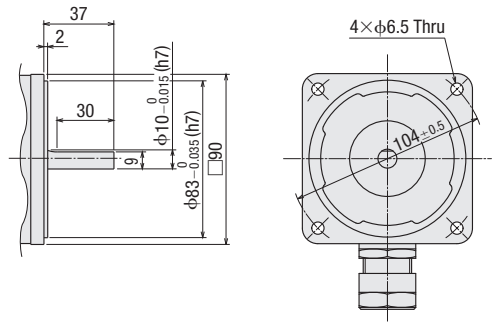
◇Key and Key Slot (Included)



◇Shaft Section of Round Shaft Type

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

Mass: 3.4 kg

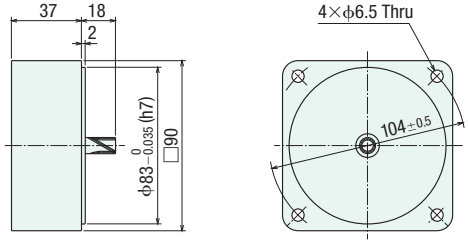


◇Decimal Gearhead

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

5GN10XS

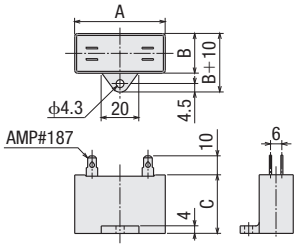
Mass: 0.6 kg



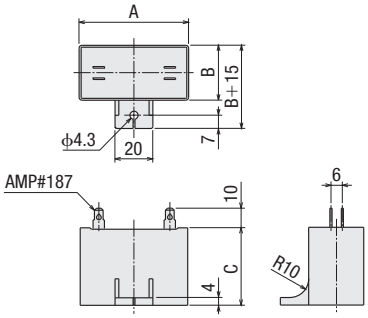
Dimensions (Unit = mm)

Capacitor (Included)

• Dimensions No. ①



• Dimensions No. ②



◇Capacitor Dimensions (mm)

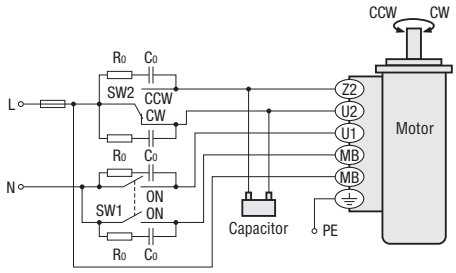
Product Name and Type Upper Product Name: Combination Type Lower Product Name in ( ): Round Shaft Type		Capacitor Product Name	A	B	C	Mass g	Dimensions Number
Thermal Protector for Automatic Return Type	Thermal Protector for Signal Type						
2RK6EMB-□S **(2RK6A-CW2MBE)**	–	CH08BFAUL	31	17	27	23	①
3RK15EMB-□S **(3RK15A-CW2MBE)**	**3RK15EMB-□SS** **(3RK15A-CW2MBSE)**	CH15BFAUL	38	21	31	37	①
4RK25CMB-□S **(4RK25A-CW2MBJ)**	**4RK25CMB-□SS** **(4RK25A-CW2MBSJ)**	CH25BFAUL	48	21	31	42	①
4RK25EMB-□S **(4RK25A-CW2MBE)**	**4RK25EMB-□SS** **(4RK25A-CW2MBSE)**	CH20BFAUL	48	19	29	36	
5RK40CMB-□S **(5RK40A-CW2MBJ)**	**5RK40CMB-□SS** **(5RK40A-CW2MBSJ)**	CH40BFAUL	58	23.5	37	73	②
5RK40EMB-□S **(5RK40A-CW2MBE)**	**5RK40EMB-□SS** **(5RK40A-CW2MBSE)**	CH35BFAUL	58	22	35	59	①

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

Connection Diagram

- The rotation direction of the motor is as viewed from the output shaft of the motor. CW represents the clockwise direction, while CCW represents the counterclockwise direction.
- The rotation direction of the gearhead output shaft may differ from that of the motor output shaft depending on the gear ratio of the gearhead.
  Refer to the permissible torque table of the combination type for the rotation direction.

Thermal Protector for Automatic Return Type, Impedance Protected



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.

To release the electromagnetic brake while the motor is stopped, keep the SW1 OFF and apply voltage on the orange brake lead wires side only.

Rotation Direction
To rotate the motor in the clockwise (CW) direction, turn SW2 to CW.
To rotate the motor in the counterclockwise (CCW) direction, turn SW2 to CCW.

Switch No.	Contact Capacity of Switch	Remarks
SW1	250 VAC 1.5 A min. (40 W: 5 A min.) Inductive load	Switched simultaneously
SW2		–

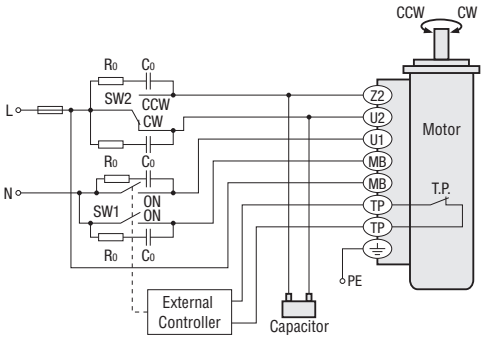
- R_0 and C_0 indicate CR circuit for surge suppression. [R_0=5～200 Ω, C_0=0.1～0.2 μF, 200 WV (400 WV)]
  EPCR1201-2 is available as an accessory. ➜ Page C-250
- How to connect a capacitor ➜ Page C-255
- Z2, U2, U1: Motor power line, MB: Electromagnetic brake

●Thermal Protector for Signal Type

●If the motor with built-in thermal protector abnormally heats for some reason, the contacts (normally closed) become open. When the temperature of the motor decreases, the contacts of the thermal protector are reset (closed).

●Operate SW1 with the external controller and shut off the motor's power supply in order to stop the motor when the thermal protector has been activated.

●Even if the thermal protector automatically returns, ensure that the power supply remains shut off with SW1.



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.

To release the electromagnetic brake while the motor is stopped, keep the SW1 OFF and apply voltage on the orange brake lead wires side only.

Rotation Direction
To rotate the motor in the clockwise (CW) direction, turn SW2 to CW.
To rotate the motor in the counterclockwise (CCW) direction, turn SW2 to CCW.

Switch No.	Contact Capacity of Switch	Remarks
SW1	250 VAC 1.5 A min. (40 W: 5 A min.) Inductive load	Switched simultaneously
SW2		–

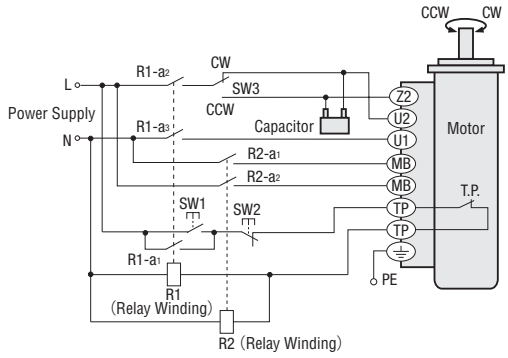
●R_0 and C_0 indicate CR circuit for surge suppression. [R_0=5～200 Ω, C_0=0.1～0.2 μF, 200 WV (400 WV)]
EPCR1201-2 is available as an accessory. ➜ Page C-250
●How to connect a capacitor ➜ Page C-255
●Z2, U2, U1: Motor power line, MB: Electromagnetic brake, TP: Thermal protector

◇Connection Example of Thermal Protector for Signal Type

When Relays and Switches are Used

•Connect the motor properly so that the power of the motor can be interrupted when the thermal protector is activated.
•When switch SW1 (normally open) is turned ON, the motor operates. When switch SW2 (normally closed) is turned ON, the motor stops.

Single-Phase Motor



Note
●Configure the circuit properly so that the motor does not unexpectedly start even when the thermal protector is automatically reset.
●Do not connect the thermal protector directly to a power source. Always connect a switch or relay.

◇Contact Capacity

Number	Single-Phase 220/230 VAC	Remarks
SW1 SW2 SW3	250 VAC 5 A min. (Inductive load)	–
R1-a1, R1-a2, R1-a3 R2-a1, R2-a2	250 VAC 5 A min. (Inductive load)	Switched simultaneously

●Connect a CR circuit for surge suppression to the forward/reverse select switch to protect the contact.
EPCR1201-2 (sold separately) is available as an accessory. ➜ Page C-250

◇Thermal Protector Specifications (Thermal Protector for Signal Type)

Item	Specifications
Operating Temperature	Open: 130±5˚C, Close: 90±15˚C (Normally Closed)
Contact Specifications	Rated operational voltage and rated operational current (resistance load): 250 VAC 2 A, 26 VDC 2 A Minimum Load Condition: 85 VAC 50 mA, 5 VDC 5 mA Initial Contact Resistance: 50 mΩ max.
Dielectric Strength	No abnormality is judged even with application of 3.0 kVAC at 50 Hz or 60 Hz between the motor windings and the thermal protector lead wire cores for 1 minute after rated operation under normal ambient temperature and humidity.

●Connecting Method

◇Applicable Cable Diameter

ϕ12～16 mm

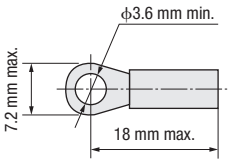
◇Applicable Lead Wire Diameter

AWG18 (0.75 mm^2) min.

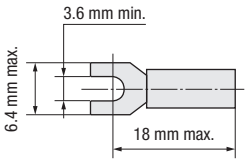
◇Applicable Crimp Terminal

Connection to Terminal Block

•Insulated Round Terminal

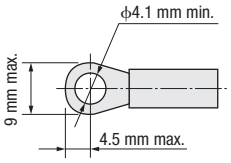


•Insulated Fork Terminal

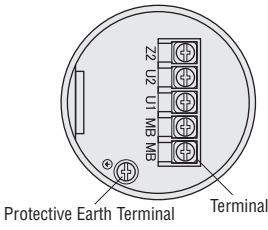
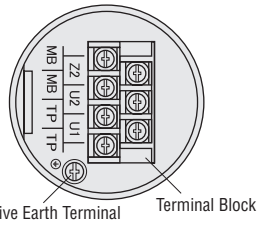


Connection to Protective Earth Terminal

•Insulated Round Terminal



◇Inside of the Terminal Box

Thermal Protector for Automatic Return Type, Impedance Protected	Thermal Protector for Signal Type
Single-Phase Motor	Single-Phase Motor
	

●Z2, U2, U1 U, V, W: Motor power line, MB: Electromagnetic brake, TP: Thermal protector

List of Motor and Gearhead Combinations

●Combination Type

◇Thermal Protector for Automatic Return Type

Output Power	Product Name	Motor Product Name	Gearhead Product Name
6 W	**2RK6EMB-□S**	2RK6GN-CW2MBE	2GN□S
15 W	**3RK15EMB-□S**	3RK15GN-CW2MBE	3GN□S
25 W	**4RK25CMB-□S**	4RK25GN-CW2MBJ	4GN□S
	4RK25EMB-□S	4RK25GN-CW2MBE	
40 W	**5RK40CMB-□S**	5RK40GN-CW2MBJ	5GN□S
	5RK40EMB-□S	5RK40GN-CW2MBE	

◇Thermal Protector for Signal Type

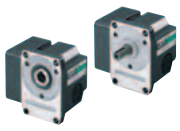
Output Power	Product Name	Motor Product Name	Gearhead Product Name
15 W	**3RK15EMB-□SS**	3RK15GN-CW2MBSE	3GN□S
25 W	**4RK25CMB-□SS**	4RK25GN-CW2MBSJ	4GN□S
	4RK25EMB-□SS	4RK25GN-CW2MBSE	
40 W	**5RK40CMB-□SS**	5RK40GN-CW2MBSJ	5GN□S
	5RK40EMB-□SS	5RK40GN-CW2MBSE	

Gearheads, Linear Heads, Peripheral Equipment

Space Saving

Right-Angle Gearheads

➜ Page C-213



Linear Motion

Linear Heads

➜ Page E-178

Instantaneous Stop

Brake Pack

➜ Page C-229

Accessories

Mounting Brackets

➜ Page C-240

Couplings

➜ Page C-245

Induction Motors BH Series
Power off Activated Type Electromagnetic Brake Motors
200 W
□104 mm


Right-Angle Hollow Shaft


Parallel Shaft

Features

High Power 200 W
Smallest frame size among 200 W output power.

Right-Angle Gearheads Employing Hypoid Gears
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 Mounting
The combination type comes with the motor and its dedicated gearhead pre-assembled. This enables easy installation in equipment.

Combination Type:	This type comes with the motor and its dedicated gearhead pre-assembled. This simplifies installation in equipment. Motors and gearheads are also available separately to facilitate changes in motor and gearhead combinations and if spare gearheads are required.

Specifications – Continuous Rating RoHS

Product Name		Output Power	Voltage	Frequency	Current	Starting Torque	Rated Torque	Rated Speed	Capacitor
Combination Type	Round Shaft Type	W	VAC	Hz	A	N·m	N·m	r/min	μF
(TP) **BHI62EMT-□RH** **BHI62EMT-□RA** **BHI62EMT-□**	(TP) **BHI62EMT-A**	200	Single-Phase 220	50	1.5	0.98	1.52	1250	10
				60			1.27	1500	
			Single-Phase 230	50			1.52	1250	
				60			1.27	1500	

- The values for each specification are the characteristics for when there is only a motor.
- Safety standards ➜ Page H-2

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

Electromagnetic Brake (Power off activated type) Specifications

Product Name	Voltage VAC	Frequency Hz	Current A	Input W	Static Friction Torque N·m
BHI62EMT-□RH, BHI62EMT-□RA BHI62EMT-□, BHI62EMT-A	Single-Phase 220	50	0.09	12	1.5
		60			
	Single-Phase 230	50	0.09	12	1.5
		60			

Degree of Protection

Product Name				Degree of Protection
Hollow Shaft	Solid Shaft	Parallel Shaft	Round Shaft	
BHI62EMT-□RH	**BHI62EMT-□RA**	**BHI62EMT-□**	**BHI62EMT-A***	IP54

*Excluding the installation surface of the round shaft type.

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

Product Line

Combination Type RoHS

Type	Power Supply Voltage	Product Name	Gear Ratio
Right-Angle Shaft Hollow Shaft	Single-Phase 220/230 VAC	**BHI62EMT-□RH**	**5~180**
Right-Angle Shaft Solid Shaft		**BHI62EMT-□RA**	
Parallel Shaft		**BHI62EMT-□**	**3~180**

The following items are included in each product.
Motor, Gearhead, Capacitor, Capacitor Cap, Mounting Screws*, Parallel Key, Operating Manual
*Parallel shaft type only

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

Round Shaft Type RoHS

Power Supply Voltage	Product Name
Single-Phase 220/230 VAC	**BHI62EMT-A**

The following items are included in each product.
Motor, Capacitor, Capacitor Cap, Operating Manual

Permissible Torque of Combination Type

● A number indicating the gear ratio is entered where the box □ is located within the product name.
● A colored background indicates gear shaft rotation in the same direction as the motor shaft. Others rotate in the opposite direction. (The directions will be for the opposite direction 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 to 20% less than the displayed value, depending on the load.
● Decimal gearheads are not available.

Right-Angle Shaft 50 Hz

Unit = N·m

Product Name	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	**5**	**6**	**7.5**	**9**	**12.5**	**15**	**18**	**25**	**30**	**36**	**50**	**60**	**75**	**90**	**100**	**120**	**150**	**180**
BHI62EMT-□RH/RA		5.5	6.7	8.3	10.0	13.9	16.6	20.0	27.7	33.3	36.0	40.0	43.0	47.0	51.5	54.5	60	60	60

Right-Angle Shaft 60 Hz

Unit = N·m

Product Name	Speed r/min	360	300	240	200	144	120	100	72	60	50	36	30	24	20	18	15	12	10
	Gear Ratio	**5**	**6**	**7.5**	**9**	**12.5**	**15**	**18**	**25**	**30**	**36**	**50**	**60**	**75**	**90**	**100**	**120**	**150**	**180**
BHI62EMT-□RH/RA		4.6	5.6	7.0	8.3	11.6	13.9	16.7	23.2	27.8	33.4	40.0	43.0	47.0	51.5	54.5	60	60	60

Parallel Shaft 50 Hz

Unit = N·m

Product Name	Speed r/min	500	417	300	250	200	167	120	100	83	60	50	42	30	25	20	17	15	12.5	10	8.3
	Gear Ratio	**3**	**3.6**	**5**	**6**	**7.5**	**9**	**12.5**	**15**	**18**	**25**	**30**	**36**	**50**	**60**	**75**	**90**	**100**	**120**	**150**	**180**
BHI62EMT-□		4.1	4.9	6.8	8.2	10.3	12.3	16.3	19.6	23.5	32.7	39.2	40	40	40	40	40	40	40	40	40

Parallel Shaft 60 Hz

Unit = N·m

Product Name	Speed r/min	600	500	360	300	240	200	144	120	100	72	60	50	36	30	24	20	18	15	12	10
	Gear Ratio	**3**	**3.6**	**5**	**6**	**7.5**	**9**	**12.5**	**15**	**18**	**25**	**30**	**36**	**50**	**60**	**75**	**90**	**100**	**120**	**150**	**180**
BHI62EMT-□		3.4	4.1	5.7	6.9	8.6	10.3	13.7	16.4	19.7	27.3	32.8	39.3	40	40	40	40	40	40	40	40

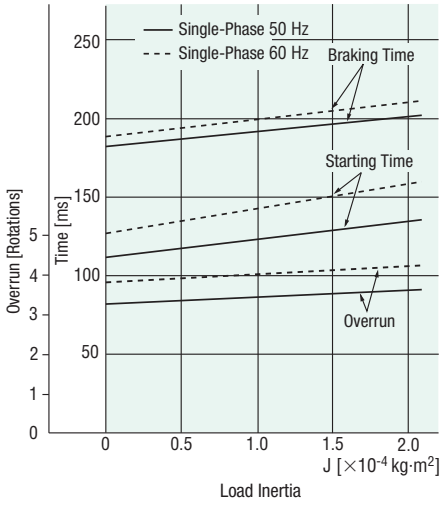
Permissible Overhung Load and Permissible Thrust Load

Combination type ➜ Page C-16
Round shaft type ➜ Page C-16

Permissible Load Inertia: J of Gearhead

➜ Page C-17

Starting and Braking Characteristics (Reference values)



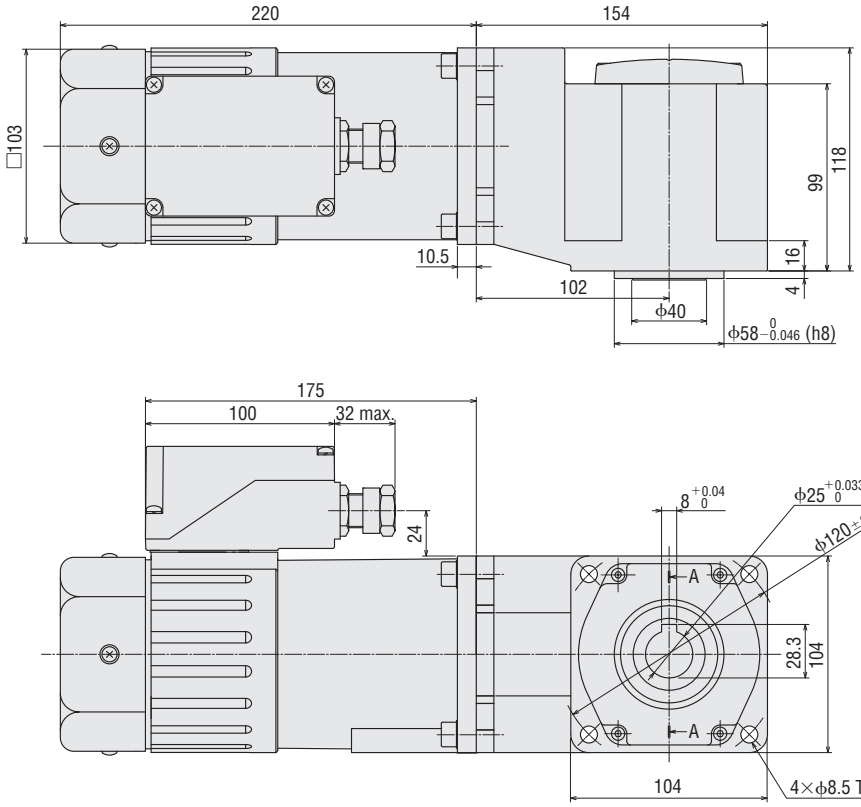
Dimensions (Unit = mm)

- Mounting screws are included with the combination type with a parallel shaft. Dimensions for mounting screws ➜ Page C-254
- A number indicating the gear ratio is entered where the box □ is located within the product name.

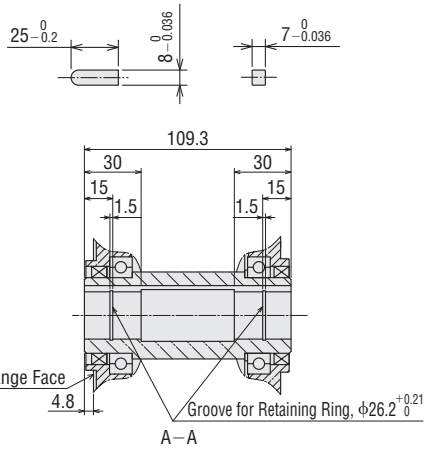
◇Combination Type - Right-Angle Shaft, Hollow Shaft

BHI62EMT-□RH

Motor: BHI62EMT-G2
Gearhead: BH6G2-□RH
Mass: 11.5 kg



◇Key (Included)



- Applicable cable diameter is ϕ8~ϕ12 mm.
- Details of terminal box ➜ Page C-255

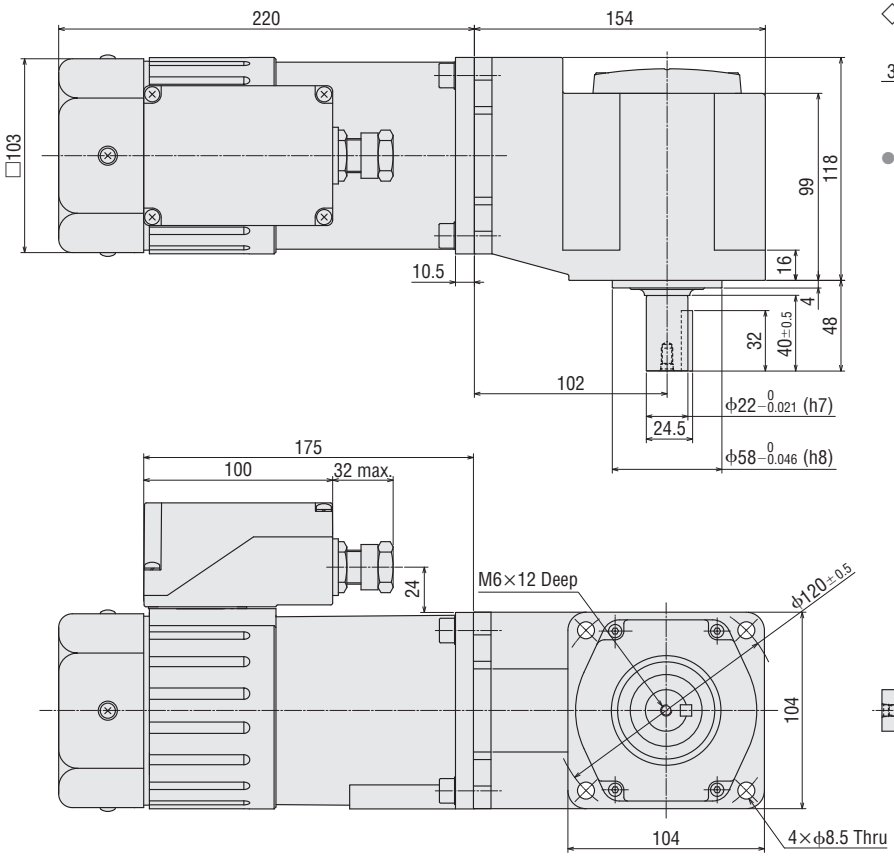
◇Combination Type - Right-Angle Shaft, Solid Shaft

BHI62EMT-□RA

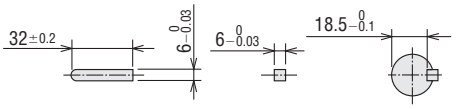
Motor: BHI62EMT-G2

Gearhead: BH6G2-□RA

Mass: 11.5 kg



◇Key and Key Slot (Included)



- At the time of shipment, a key is inserted in the key slot of the gearhead shaft.

- Applicable cable diameter is ϕ8～ϕ12 mm.
- Details of terminal box ➜ Page C-255

◇Combination Type - Parallel Shaft

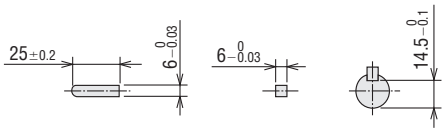
BHI62EMT-□

Motor: BHI62EMT-G2

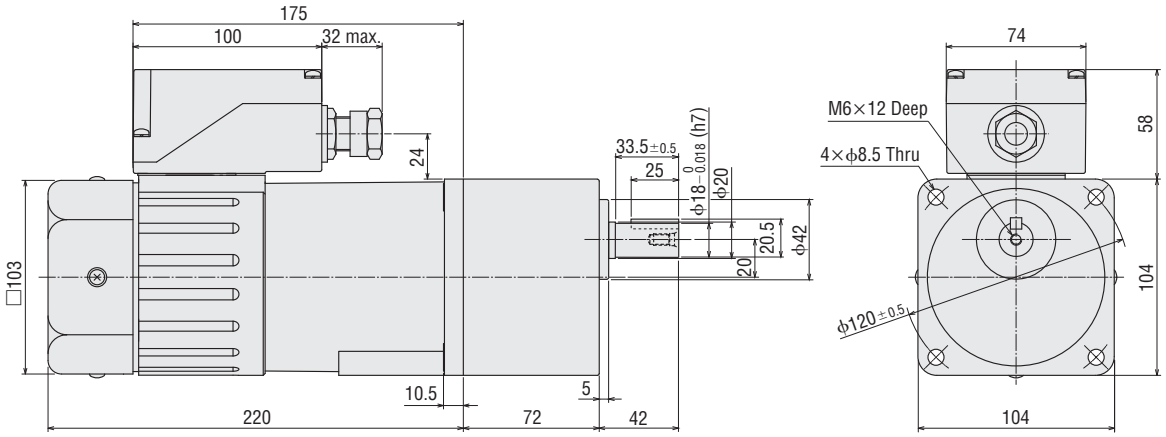
Gearhead: BH6G2-□

Mass: 9.5 kg

◇Key and Key Slot (Included)



- At the time of shipment, a key is inserted in the key slot of the gearhead shaft.

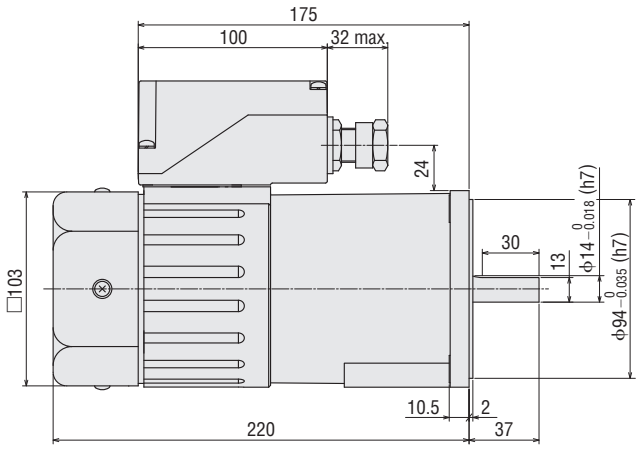


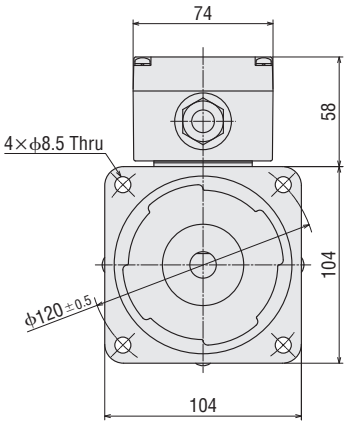
- Applicable cable diameter is ϕ8～ϕ12 mm.
- Details of terminal box ➜ Page C-255

◇Round Shaft Type

BHI62EMT-A

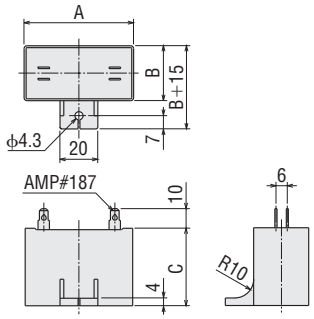
Mass: 6.5 kg





- Applicable cable diameter is ϕ8~ϕ12 mm.
- Details of terminal box ➜ Page C-255

◇Capacitor (Included)



◇Capacitor Dimensions (mm)

Product Name	Capacitor Product Name	A	B	C	Mass (g)
BHI62EMT-□ (RH/RA) **BHI62EMT-A**	CH100BFAUL	58	35	50	132

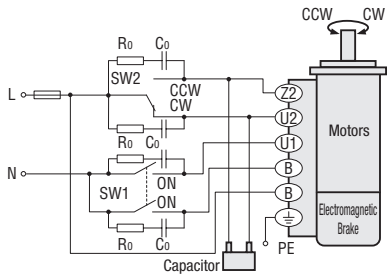
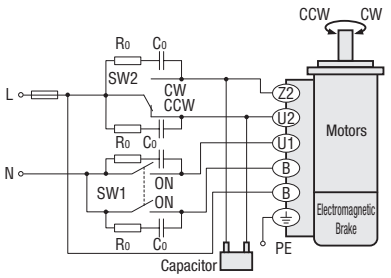
- A capacitor cap is included with the capacitor.
- A number indicating the gear ratio is entered where the box □ is located within the product name.

Mounting Method for Right Angle - Hollow Shaft Type

➜ Page C-220

Connection Diagrams

●The rotation direction of the motor is as viewed from the output shaft of the gearhead or motor. CW represents the clockwise direction, while CCW represents the counterclockwise direction.

Motor Product Name	・Combination Type: Parallel Shaft **BHI62EMT-3～9** **BHI62EMT-50～180** ・Round Shaft Type **BHI62EMT-A**	・Combination Type: Parallel Shaft **BHI62EMT-12.5～36** ・Combination Type: Right-Angle Shaft **BHI62EMT-5～180RA** **BHI62EMT-5～180RH**
Single-Phase Motor		
Rotation Direction	Clockwise: Switch to CW to rotate the motor in a clockwise (CW) direction. Counterclockwise: To rotate the motor in a counterclockwise (CCW) direction, switch the SW to CCW.	
Run/Stop	SW1 operates both motor and electromagnetic brake action. The electromagnetic brake will be released and the motor will rotate when SW1 is turned ON. When SW1 is switched simultaneously to OFF, the motor stops immediately with the electromagnetic brake and holds the load.	

Switch No.	Contact Capacity of Switch Single-Phase 220/230 VAC Input	Remarks
SW1	250 VAC 5 A min. (Inductive load)	Switched simultaneously
SW2		—

Connect a CR circuit for surge suppression (RoCo) for surge suppression shown on the connection diagram to protect the contact.
Ro=5～200 Ω Co=0.1～0.2 μF 200 WV
These are available from Oriental Motor as accessory **EPCR1201-2** (sold separately) ➜ Page C-250

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, the motor may ignore the reversing command or change its direction of rotation after some delay.

●How to connect a terminal box type ➜ Page C-255

List of Motor and Gearhead Combinations

Product Name names for the motor and gearhead combination type are shown below.

●Combination Type - Right-Angle Shaft

Product Name	Motor Product Name	Gearhead Product Name
BHI62EMT-□RH	BHI62EMT-G2	BH6G2-□RH
BHI62EMT-□RA		BH6G2-□RA

●Combination Type - Parallel Shaft

Product Name	Motor Product Name	Gearhead Product Name
BHI62EMT-□	BHI62EMT-G2	BH6G2-□

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

Peripheral Equipment

Accessories

Mounting Brackets ➜ Page C-240

Couplings ➜ Page C-245