

Power Off Activated Type Electromagnetic Brake Motors

6 W (1/125 HP)

Frame Size: 2.36 in. (60 mm)



World **K** Series
(Gearhead Sold Separately)



V Series / Combination Type
(Pre-assembled Gearmotor)



Specifications

Motor Specifications

World K Series (General Purpose)

Model	Rating	Output Power		Voltage VAC	Frequency Hz	Current A	Starting Torque		Rated Torque		Rated Speed r/min	Capacitor μF
		HP	W				oz-in	mN·m	oz-in	mN·m		
^(ZP) 2RK6GN-AWMU 2RK6A-AWMU	30 minutes	1/125	6	Single-Phase 110	60	0.25	6.3	45	5.8	41	1450	3.5
				Single-Phase 115								
^(ZP) 2RK6GN-CWME 2RK6A-CWME	30 minutes	1/125	6	Single-Phase 220	60	0.12	7.1	50	6.9	49	1200	0.8
				Single-Phase 220								
				Single-Phase 230								
				Single-Phase 230								
^(ZP) 2IK6GN-SWM 2IK6A-SWM	Continuous	1/125	6	Three-Phase 200	60	0.09	6.9	49	6.9	49	1200	—
				Three-Phase 200								
				Three-Phase 220								
				Three-Phase 230								

^(ZP) Impedance protected.

- This type of motor does not contain a built-in simple brake mechanism.
- The "U" and "E" at the end of the model name indicate that the unit includes a capacitor. These two letters are not listed on the motor nameplate.
- When the motor is approved under various safety standards, the model names on the nameplate is the approved model name. → Page G-11

• Details of Safety Standards → Page G-2

V Series (Quiet Operation, High Strength, Long Life)



Model Combination Type	Rating	Output Power		Voltage VAC	Frequency Hz	Current A	Starting Torque		Rated Torque		Rated Speed r/min	Capacitor μF
		HP	W				oz-in	mN·m	oz-in	mN·m		
^(ZP) VHR206AM-□U	30 minutes	1/125	6	Single-Phase 110	60	0.25	6.3	45	5.8	41	1450	3.5
				Single-Phase 115								
^(ZP) VHR206CM-□E	30 minutes	1/125	6	Single-Phase 220	60	0.12	7.1	50	6.9	49	1200	0.8
				Single-Phase 220								
				Single-Phase 230								
				Single-Phase 230								

^(ZP) Impedance protected.

- This type of motor does not contain a built-in simple brake mechanism.
- The "U" and "E" at the end of the model name indicate that the unit includes a capacitor. These two letters are not listed on the motor nameplate.
- When the motor is approved under various safety standards, the model names on the nameplate is the approved model name. → Page G-12

• Details of Safety Standards → Page G-2

• Models above are provided as combination type with motor and gearhead pre-assembled.

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

• The values in the table are for the motor only.

Electromagnetic Brake (Power Off Activated Type) Specifications

World K Series

Model	Voltage VAC	Frequency Hz	Current A	Input W	Holding oz-in	Brake Torque mN·m
2RK6GN-AWMU 2RK6A-AWMU	Single-Phase 110	60	0.03	3	4.2	30
	Single-Phase 115					
2RK6GN-CWME 2RK6A-CWME	Single-Phase 220	60	0.02	3	4.2	30
	Single-Phase 220					
	Single-Phase 230					
	Single-Phase 230					
2IK6GN-SWM 2IK6A-SWM	Single-Phase 220	60	0.02	3	4.2	30
	Single-Phase 220					
	Single-Phase 230					

V Series

Model	Voltage VAC	Frequency Hz	Current A	Input W	Holding oz-in	Brake Torque mN·m
VHR206AM-□U	Single-Phase 110	60	0.03	3	4.2	30
	Single-Phase 115					
VHR206CM-□E	Single-Phase 220	60	0.02	3	4.2	30
	Single-Phase 220					
	Single-Phase 230					
	Single-Phase 230					

• The values in the table are for the motor only.

Gearheads for World K Series (Sold Separately)

Parallel Shaft

Gearhead Model	Gear Ratio
2GN□KA	3~180
2GN10XK (Decimal Gearhead)	

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

■ Gearmotor — Torque Table

● World K Series (General Purpose)

The maximum permissible torque with a decimal gearhead with a gear ratio of 10:1 is 26 lb-in (3 N-m).

◆ Single-Phase 115/230 VAC 60 Hz, Three-Phase 230 VAC 60 Hz

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

Model	Speed r/min	600	500	360	300	240	200	144	120	100	72	60	50	36	30	24	20	18	15	12	10
	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-AWMU 2RK6GN-CWME 2IK6GN-SWM / 2GN□KA		0.88	1.06	1.5	1.77	2.2	2.6	3.7	4.4	5.3	6.6	7.9	9.7	12.3	14.1	17.7	21	23	26	26	26
		0.1	0.12	0.17	0.20	0.25	0.30	0.42	0.50	0.6	0.75	0.90	1.1	1.4	1.6	2.0	2.4	2.7	3	3	3

◆ Single-Phase 230 VAC 50 Hz

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

Model	Speed r/min	500	416	300	250	200	166	120	100	83	60	50	41	30	25	20	16	15	12.5	10	8.3
	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-CWME 2IK6GN-SWM / 2GN□KA		1.06	1.23	1.77	2.1	2.6	3.1	4.4	5.3	6.2	7.8	9.7	11.5	14.1	16.8	21	25	26	26	26	26
		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

● V Series (Quiet Operation, High Strength, Long Life)

◆ Single-Phase 115/230 VAC 60 Hz

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

Model	Speed r/min	360	300	200	120	100	60	50	30	20	15	10	6	5
	Gear Ratio	5	6	9	15	18	30	36	60	90	120	180	300	360
VHR206AM-□U VHR206CM-□E		1.59	1.94	2.9	4.8	5.8	9.7	11.5	18.5	28	37	53	53	53
		0.18	0.22	0.33	0.55	0.66	1.1	1.3	2.1	3.2	4.2	6	6	6

◆ Single-Phase 230 VAC 50 Hz

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

Model	Speed r/min	300	250	166	100	83	50	41	25	16	12.5	8.3	5	4.2
	Gear Ratio	5	6	9	15	18	30	36	60	90	120	180	300	360
VHR206CM-□E		1.94	2.3	3.5	5.8	6.9	11.5	13.2	22	33	45	53	53	53
		0.22	0.26	0.4	0.66	0.79	1.3	1.5	2.5	3.8	5.1	6	6	6

- Gearheads and decimal gearheads are sold separately. Decimal gearheads are not available for **V** Series.
- Enter the gear ratio in the box (□) within the model name. A colored background indicates gear shaft rotation in the same direction as the motor shaft; a white background indicates rotation in the opposite direction.
- The speed is calculated by dividing the motor's synchronous speed (50 Hz: 1500 r/min, 60 Hz: 1800 r/min) by the gear ratio. The actual speed is 2~20% less than the displayed value, depending on the size of the load.

■ Permissible Overhung Load and Permissible Thrust Load

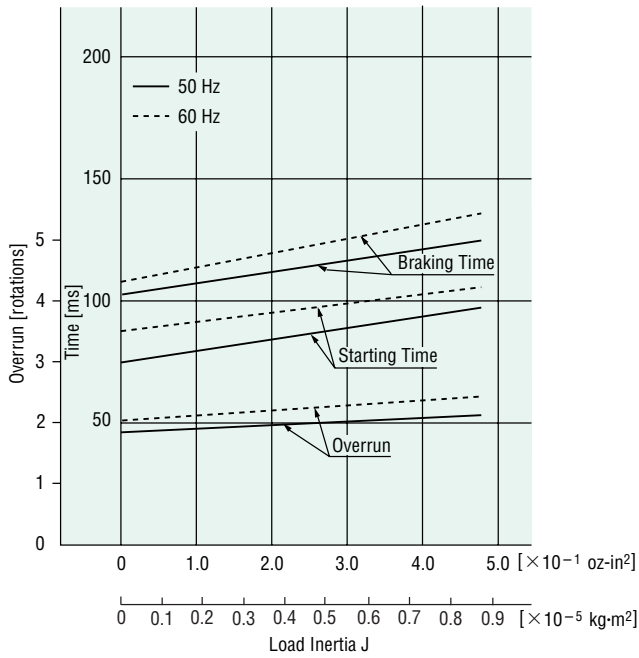
Motor (Round shaft motor) → Page A-11

Gearhead → Page A-11

■ Permissible Load Inertia J for Gearhead

→ Page A-12

Starting and Braking Characteristics Common to 6W Type (Reference Values)



Dimensions Scale 1/4, Unit = inch (mm)

Mounting screws are included with gearheads. Dimensions for screws → A-223

World K Series

Motor

2RK6GN-AWMU
2RK6GN-CWME
2IK6GN-SWM

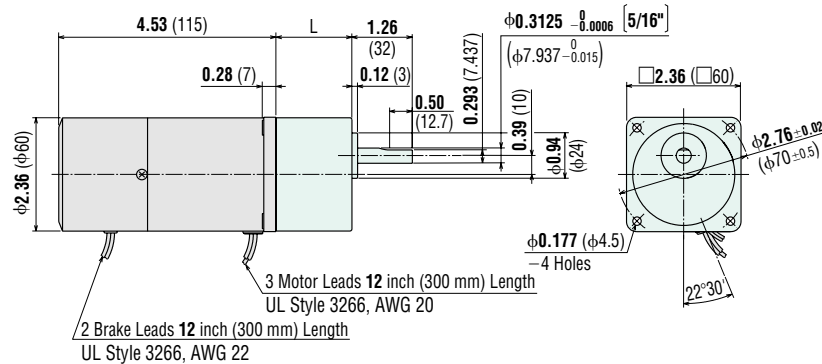
Weight: 2.0 lb. (0.9 kg)

Gearhead

2GN□KA

Weight: 0.88 lb. (0.4 kg)

DXF A086AU (**2GN3KA~18KA**)
A086BU (**2GN25KA~180KA**)



2GN3KA-18KA: L = 1.18 (30)
2GN25KA-180KA: L = 1.57 (40)

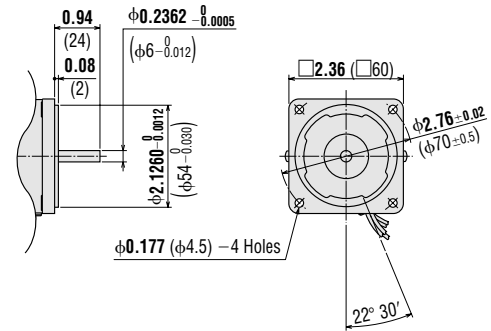
Round Shaft Type

2RK6A-AWMU
2RK6A-CWME
2IK6A-SWM

Weight: 2.0 lb. (0.9 kg)

DXF A346

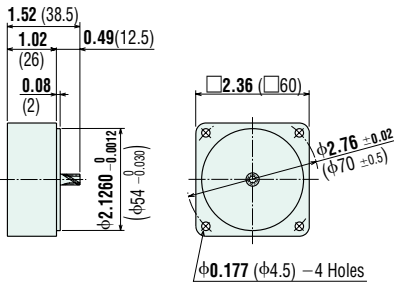
1/4 inch shaft motors are also available. Contact your Oriental Motor Representative for more information.



● **Decimal Gearhead (for World K Series)**

2GN10XK Weight: 0.44 lb. (0.2 kg)

DXF A003



● **V Series**

VHR206AM-□U, VHR206CM-□E (Combination Type)

Weight: 3.1 lb. (1.4 kg) including gearhead

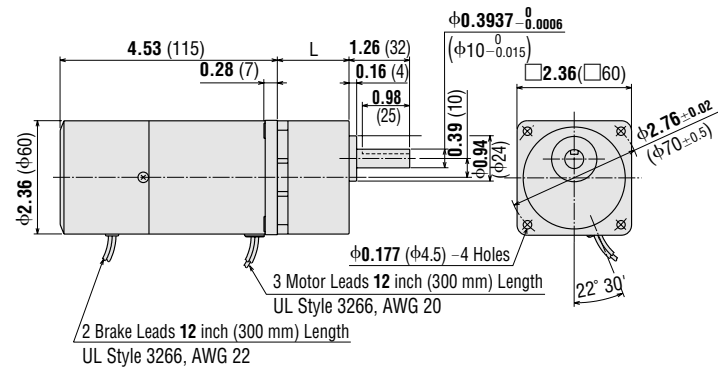
Motor Model: VHR206AM-GV, VHR206CM-GV

Gearhead Model: GV2G□

DXF A213A (GV2G5~18)

A213B (GV2G30~120)

A213C (GV2G180~360)



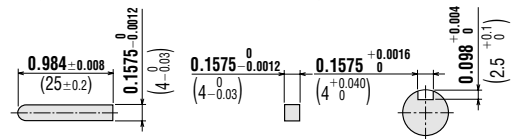
GV2G5-GV2G18: L = 1.34 (34)

GV2G30-GV2G120: L = 1.5 (38)

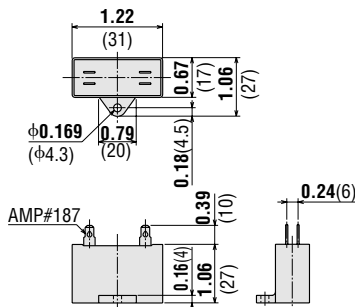
GV2G180-GV2G360: L = 1.69 (43)

● **Key and Key Slot (Scale 1/2)**

(The key is included with the gearhead)



● **Capacitor** (included with single-phase motors)



Motor Model	Capacitor Model	Weight oz. (g)
2RK6GN-AWMU 2RK6A-AWMU VHR206AM-□U	CH35FAUL	0.71 (20)
2RK6GN-CWME 2RK6A-CWME VHR206CM-□E	CH08BFAUL	0.71 (20)

- If you need to order a capacitor without a motor, add "-C" to the capacitor model name shown. A capacitor cap is included with a capacitor.

Introduction

Induction Motors

Reversible Motors

Synchronous Motors

Torque Motors

Waterlight Motors

Magnetic Brake

Clutch & Brake

Brake Pack

Right-Angle Gearheads

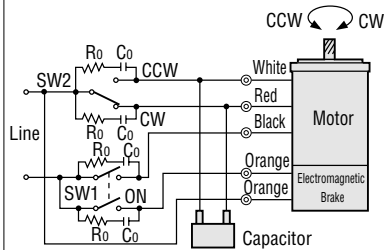
Accessories

Before Using a Standard AC Motor

Connection Diagrams

Single-Phase Motor

2RK6GN-AWMU
2RK6GN-CWME
VHR206AM-□U
VHR206CM-□U



SW1 operates both motor and electromagnetic brake action. The motor will rotate when SW1 is switched simultaneously to ON (short circuit). When SW1 is switched simultaneously to OFF (open), the motor stops immediately with the electromagnetic brake and holds the load.
(To release the brake while the motor is stopped, apply voltage between the two brake lead wires (orange).)

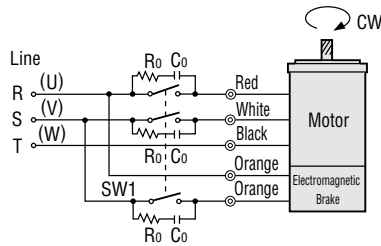
Direction of Rotation

To rotate the motor in a clockwise (CW) direction, flip SW2 to CW.
To rotate the motor in a counterclockwise (CCW) direction, flip SW2 to CCW.

Switch No.	Specifications		Note
	Single-Phase 110 VAC Input Single-Phase 115 VAC Input	Single-Phase 220 VAC Input Single-Phase 230 VAC Input	
SW1	125 VAC 3 A minimum	250 VAC 1.5 A minimum	Switched Simultaneously
SW2	(Inductive Load)	(Inductive Load)	—

Three-Phase Motor

2IK6GN-SWM



SW1 operates both motor and electromagnetic brake action. The motor will rotate when SW1 is switched simultaneously to ON (short circuit). When SW1 is switched simultaneously to OFF (open), the motor stops immediately with the electromagnetic brake and holds the load.
(To release the brake while the motor is stopped, apply voltage between the two brake lead wires (orange).)

Direction of Rotation

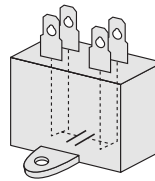
To rotate the motor in a counterclockwise direction, change any two connections between U, V and W.

Switch No.	Specifications	Note
SW1	250 VAC 1.5 A minimum (Inductive Load)	Switched Simultaneously

- The direction of motor rotation is as viewed from the shaft end of the motor.
- CW represents the clockwise direction, while CCW represents the counterclockwise direction.
- Connection diagrams are also valid for the equivalent round shaft motors.
- Ro and Co indicates surge absorber circuit. [Ro = 5~200Ω, Co = 0.1~0.2μF, 200WV (400WV)]
EPCR1201-2 is available as an optional surge absorber. →Page A-218
- **How to connect a capacitor** →Page A-225

Inner Connection Diagram for 4-Terminal Capacitor

Terminals of the capacitor are connected as shown in the figure. For lead wire connection, use one lead wire per terminal.



List of Motor and Gearhead Combinations for V Series

Model numbers for motor and gearhead combinations are shown below.

Model	Motor Model	Gearhead Model
VHR206AM-□U	VHR206AM-GV	GV2G□
VHR206CM-□E	VHR206CM-GV	

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