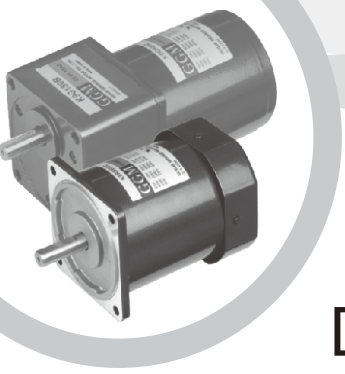# BRAKE MOTORS

[Characteristic of Electromagnetic Brake Motor]

1. Overview of Electromagnetic Brake Motor

- The electromagnetic brake of AC non-excitation run type is mounted at the back of the motor to enable the motor to stop at the same time when the power is turned off, and the load is maintained as same as before.
- The brake of the single-phase motor is connected with the reversible motor, and the brake of the three-phase motor with the induction motor.
- When you use a motor as a source of dynamic force, if you want to stop the motor in a short time and maintain the load at the position where it stops, the induction motor can not stop instantaneously when the power is turned off. Instead, it runs further by 30~40 rotations. On the other hand, the reversible motor makes 5~6 more rotations. (Provided to no-lead).
- If the motor requires to be stopped instantaneously, it can use the brake pack. But the brake pack is an electronic brake circuit that can let the motor stop instantaneously but it can not hold torque. (The overrun is less than one rotation on no-load.)
- The electromagnetic brake motor is employed if the load should be maintained.
- The electromagnetic brake of AC non-excitation run type os mounted at the back of the motor for operation.
- The electromagnetic motor makes 1~4 times of overrun rotation at the time the power is turned off if the electromagnetic brake motor unit is loaded.
- The frequent instantaneous directional changes are possible from normal to reverse, and vice versa. With a simple control, it is possible to make 6 stops per minute. (However, more than 3 seconds of stoppage is required.)
- The motor and the brake can use the same power source. The rectifying circuit is embedded in the brake and so the brake can use the same AC source as the motor uses.

2. Electromagnetic Brake of Non-excitation Run Type

(1) Structure and Operation Principle

- (Fig. 1) in the right side shows a structural diagram of the electromagnetic brake motor. Our electromagnetic brake motor is a non-excitation run type. When the voltage is applied to the coil, the armature that is suppressed by the spring is pulled to thrust the spring to make a gap between the armature and the brake to release the braking force and then, the motor shaft stops.

### (2) Characteristic of Electromagnetic Brake

- This is the electromagnetic brake of AC non-excitation run type and can be connected directly to the motor. When the power source is turned off, the motor stops instantaneously and the load is maintained. The retention force is 2 kgf · cm ~ 10 kgf · cm. This type of brake is best suited if a safer brake is required when the power is turned off, because the retention force is maintained when the power turns off.
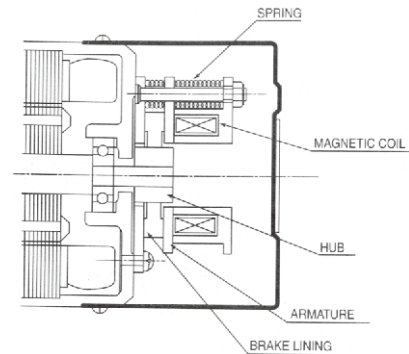
(Fig. 1) Structural Diagram of the Electromagnetic Brake

(3) Braking Time Difference by Connection Method

- The connection can be made as shown in (Fig. 2). However, the method shown in (Fig. 3) is also possible if a simpler connection metho is sought for. In case of (Fig. 3), the braking time takes longer roughly by 50msec than that of (Fig. 2), resulting in the increase overrun. This is because the braking action lags about 50msec by the magnet even after the brake's excitation is vanished, because the magnetic energy of the motor can act on the excitation winding of the electronic brakes's magnet when the braking takes place.
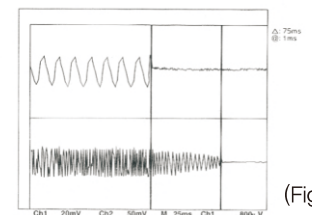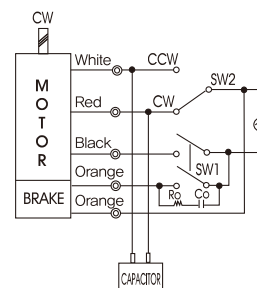
(Fig. 2)

(Stop time is about 75msec, SLIP is about 1.2 revolutions, Model K8RG25NU-D is used for measurement.)
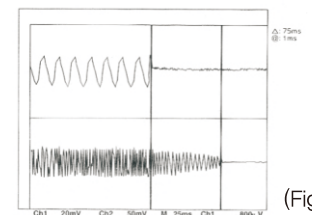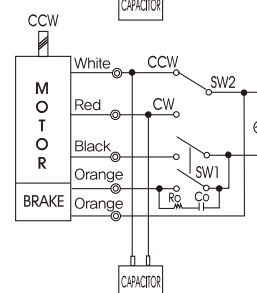
(Fig. 3)

(Stop time is about 124.50msec, SLIP is about 2.1 revolutions, Model K8RG25NU-B is used for measurement.)

BRAKE Specification

Voltage	Size (mm)	Output (w)	Frequency (Hz)	Ampere (A)	Input (W)	Brake (kg.cm)	Torque (N.m)
Single-phase 110V/220V	60	6	50/60	0.031	3.1	2.0	0.20
	70	15					
Single-phase 110V/220V ↓ Three-phase 220V	80	25	50/60	0.054	5.4	4.0	0.40
	90	40	50/60	0.100	10.0	10	1.00
		60					
		90					

3. Operating Time and Braking Characteristics

GEAR HEAD | MOTOR
GD^2_i K8G30B   S8R25GB-E
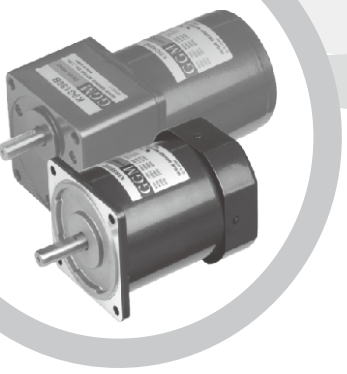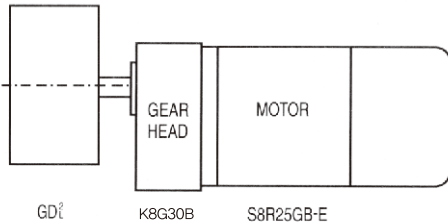
(1) Take K8RG25NC−B as an example and let it be combined with K8G30B to drive the inertia body (GDL2 = 1000kgf · cm2). To calculate the operating time, braking time, and overrun under the power source frequency of 60Hz, first convert the load's inertia moment to the motor shaft as follows.

$$GD_M{}^2 = \frac{GD_L{}^2}{I^2} \, [Kgf \cdot cm^2] = \frac{1000}{30^2} = 1.1[kgf \cdot cm^2]$$

$GD_L{}^2$: Fly wheel effect of load $[kgf \cdot cm^2]$
$GD_M{}^2$: Fly wheel effect at motor shaft $kgf \cdot cm^2]$
i : Ratio of gearhead

The inertia moment expressed in Sl unit can be calculated by the following expression.

$$I = \frac{GD^2}{4g} \, [Kgf \cdot cm^2]$$

g : 9,80665[m/s²]

## (2) OVER RUN

As shown in (Fig. 5), the overrun of the motor shaft is NM ≒ 2.5 revolutions. Hence, the gearhead's output shaft has the overrun as follows.

$$N_G = \frac{N_M}{I} = \frac{2.5}{30} = 0.08 \text{ revolution } (28.8°)$$

(3) Operating Time and Braking Time

■ As shown in (Fig. 5), the operating time t1 ≒ 130[msec], and the braking time t2 ≒ 170[msec].
■ The operating time of the brake motor is a total sum of the motor's operating time and the electronic brake's open time. Thus, if the electronic brake is left open in advance, the motor can be started quickly.
■ It is advised that the bake should be open at least 10msec before the motor starts operating.
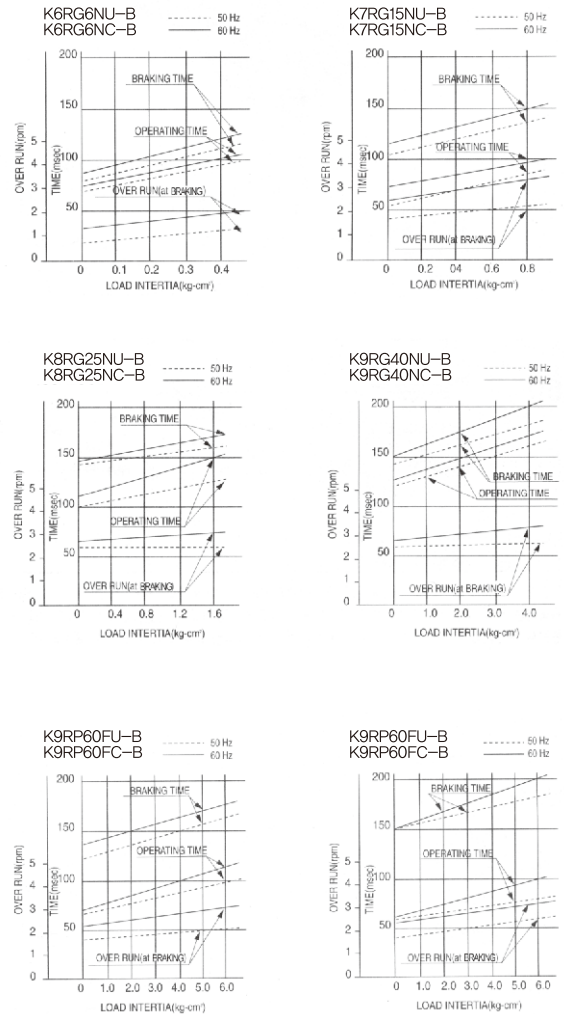
(Fig. 5) Operating Time and Braking Characteristics

GENERAL SPECIFICATION OF INDUCTION MOTORS

Item	Specification
Insulation Resistance	100Ω or more when 500V megger is applied between the coil of the motor and the motor case after rated motor operation under normal ambient temperature and humidity
Dielectric Strength	Sufficient to withstand 1500V at 50/60Hz applied between the coil of the motor and the motor case after rated motor operation under normal ambient temperature and humidity for 1 min.
Temperature Rise	class A (65℃) or class E (75℃)or less increase measured by thermometer after rated operation
Insulation Class	Class E(120℃), UL approval motor class A (105℃)
Overheat Protection Device	Built−in thermal protector (automatic return type) : Open 130℃±5℃ Close 82℃±15℃
Ambient Temperature	−10℃~40℃
Ambient Humidity	85% maximum (non condensing)

GGM GGM GEARED MOTOR

BRAKE MOTOR

6W □60mm

K6RS6N□-B
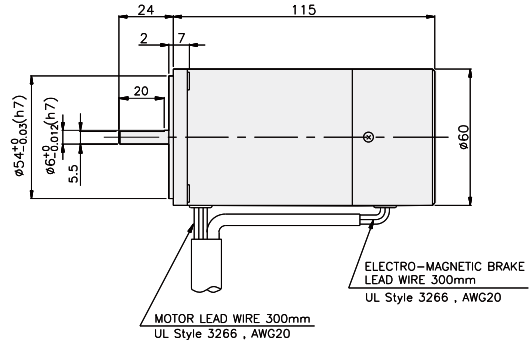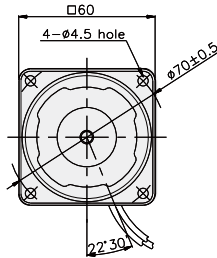
6W 30 minutes rating, four poles

Model	Duty	Voltage (V)	Frequency (Hz)	Current (A)	Start T. (N∗m/ Kgf∗cm)	Rated T. (N∗m/ Kgf∗cm)	Speed (rpm)	Condenser (µF)	Friction T. (N∗m/ (Kgf∗cm)
K6R□6NJ-B		100	50	0.25	0.035/0.35	0.049/0.49	1200	3	0.2/2
			60	0.23		0.04/0.4	1500		
K6R□6NU-B		110	60	0.2	0.045/0.45	0.04/0.4	1500	2.5	0.2/2
		115		0.2	0.05/0.5				
K6R□6NL-B	single-phase	200	50	0.12	0.055/0.55	0.049/0.49	1200	1	0.2/2
			60	0.13		0.04/0.4	1500		
K6R□6NC-B	30 minutes	220	50	0.12	0.045/0.45	0.047/0.47	1250	0.8	0.2/2
			60	0.12		0.04/0.4	1500		
		230	50	0.15	0.055/0.55	0.047/0.47	1250		
			60	0.13	0.06/0.6	0.04/0.4	1500		
K6R□6ND-B		240	50	0.12	0.048/0.48	0.047/0.47	1250	0.6	0.2/2

∗□ : SHAFT SHAPE (S : STRAIGHT, G : PINION)

● 50Hz

unit = above : N·m / below : Kgf·cm

Model	Speed(rpm)	500	416	300	250	200	166	150	120	100	83	75	60	50	41	37	30	25	20	16	15	12.5	10	8.3	7.5	6
Motor/ Gearhead	Ratio	3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180	200	250
K6R□6N□-B		0.11	0.14	0.19	0.23	0.29	0.34	0.38	0.48	0.57	0.69	0.69	0.86	1.03	1.23	1.37	1.54	1.85	2.31	2.78	3	3	3	3	3	3
K6G□B(C)		1.1	1.4	1.9	2.3	2.9	3.4	3.8	4.8	5.7	6.9	6.9	8.6	10.3	12.3	13.7	15.4	18.5	23.1	27.8	30	30	30	30	30	30

● 60Hz

unit = above : N·m / below : Kgf·cm

Model	Speed(rpm)	600	500	360	300	240	200	180	144	120	100	90	72	60	50	45	36	30	24	20	18	15	12	10	9	7.2
Motor/ Gearhead	Ratio	3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180	200	250
K6R□6N□-B		0.10	0.12	0.16	0.19	0.24	0.29	0.32	0.41	0.49	0.58	0.58	0.73	0.87	1.05	1.17	1.31	1.57	1.97	2.36	2.62	3	3	3	3	3
K6G□B(C)		1.0	1.2	1.6	1.9	2.4	2.9	3.2	4.1	4.9	5.8	5.8	7.3	8.7	10.5	11.7	13.1	15.7	19.7	23.6	26.2	30	30	30	30	30

* Gearhead and decimal gearhead are sold separately.
* The code in □ of gearhead model is for gear ratio.
* ▨ color indicates that the output shaft of the geared motor rotates in the same direction as the output shaft of the motor. Others indicate rotation in the opposite direction.
* If you are to have less ratio than the ratio in the table, you can install the decimal gearhead, which has one tenth of the ratio, between the gearhead and the motor. In this case, the permissible torque is 3N·m/30kgf·cm.
* RPM is based on motor's synchronous rpm (50HZ:1500rpm, 60HZ:1800rpm) and calculated by dividing gear ratio. Actual rpm is 2~20% less than indicating rpm according to load size.

GGM GGM GEARED MOTOR

GEARHEADS

Connect Cr circuit for absorbing serge voltage as connection diagram to protect contact point.
Ro = 5 ~ 200Ω
Co = 0.1 ~ 0.2μF 200WV(400WV)
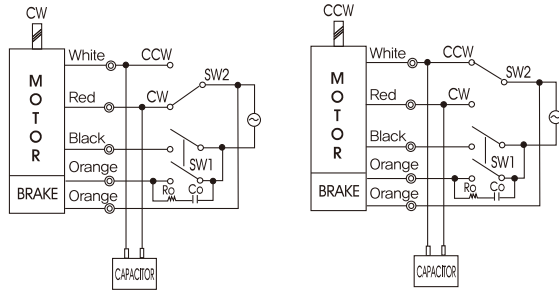
※The direction of motor rotation is as viewed from the front shaft end of the motor

DIMENSIONS

K6G□B(C)

K6RG6N□-B + K6G□B(C)

DECIMAL GEARHEAD
K6G10BX

GEARHEAD
K6G□B(C)

DIMENSION TABLE

PART No	L	Application Model	Mounting BOLT
01	30	K6G3~18B(C)	M4 P0.7 X 50
02	40	K6G20~250B(C)	M4 P0.7 X 60
03	26	K6G10BX	M4 P0.7 X 85

WEIGHT

PART		WEIGHT(kg)
MOTOR		0.93
DECIMAL GEAR HEAD		0.22
GEAR HEAD	K6G3~18B(C)	0.26
	K6G30~40B(C)	0.33
	K6G50~250B(C)	0.36

K6RG6N□-B + K6G□B(C)

ELECTRO-MAGNETIC BRAKE
LEAD WIRE 300mm
UL Style 3266 , AWG20

MOTOR LEAD WIRE 300mm
UL Style 3266 , AWG20

BRAKE MOTOR

GGM GGM GEARED MOTOR

BRAKE MOTOR

15W □70mm

K7RS15N□-B

15W 30 minutes rating, four poles

Model	Duty	Voltage (V)	Frequency (Hz)	Current (A)	Start T. (N*m/ Kgf*cm)	Rated T. (N*m/ Kgf*cm)	Speed (rpm)	Condenser (μF)	Friction T. (N*m/ (Kgf*cm)
K7R□15NJ-B	single-phase	100	50	0.46	0.115/1.15	0.12/1.2	1250	7	0.2/2
			60	0.48		0.1/1	1500		
K7R□15NU-B		110	60	0.47	0.12/1.2	0.1/1	1500	6	0.2/2
		115		0.49	0.125/1.25				
K7R□15NL-B		200	50	0.23	0.115/1.15	0.122/1.22	1250	2	0.2/2
			60	0.28		0.1/1	1500		
K7R□15NC-B		220	50	0.21	0.115/1.15	0.12/1.2	1250	1.5	0.2/2
			60	0.24		0.1/1	1500		
		230	50	0.25	0.125/1.25	0.12/1.2	1250		
			60	0.24		0.1/1	1500		
K7R□15ND-B		240	50	0.25	0.13/1.3	0.12/1.2	1250	1.5	0.2/2

* □ : SHAFT SHAPE (S : STRAIGHT, G : PINION)

● 50Hz

unit = above : N·m / below : Kgf·cm

Model	Speed(rpm)	500	416	300	250	200	166	150	120	100	83	75	60	50	41	37	30	25	20	16	15	12.5	10	8.3	7.5
Motor/ Gearhead	Ratio	3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180	200
K7R□15N□-B		0.29	0.35	0.49	0.58	0.73	0.87	0.97	1.22	1.46	1.75	1.75	2.19	2.62	3.15	3.50	3.94	4.72	5	5	5	5	5	5	5
K7G□B(C)		2.9	3.5	4.9	5.8	7.3	8.7	9.7	12.2	14.6	17.5	17.5	21.9	26.2	31.5	35.0	39.4	47.2	50	50	50	50	50	50	50

● 60Hz

unit = above : N·m / below : Kgf·cm

Model	Speed(rpm)	600	500	360	300	240	200	180	144	120	100	90	72	60	50	45	36	30	24	20	18	15	12	10	9
Motor/ Gearhead	Ratio	3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180	200
K7R□15N□-B		0.24	0.29	0.41	0.49	0.61	0.73	0.81	1.01	1.22	1.46	1.46	1.82	2.19	2.62	2.92	3.28	3.94	4.92	5	5	5	5	5	5
K7G□B(C)		2.4	2.9	4.1	4.9	6.1	7.3	8.1	10.1	12.2	14.6	14.6	18.2	21.9	26.2	29.2	32.8	39.4	49.2	50	50	50	50	50	50

* Gearhead and decimal gearhead are sold separately.
* The code in □ of gearhead model is for gear ratio.
* ▨ color indicates that the output shaft of the geared motor rotates in the same direction as the output shaft of the motor. Others indicate rotation in the opposite direction.
* If you are to have less ratio than the ratio in the table, you can install the decimal gearhead, which has one tenth of the ratio, between the gearhead and the motor. In this case, the permissible torque is 5N·m/50kgf·cm.
* RPM is based on motor's synchronous rpm (50HZ:1500rpm, 60HZ:1800rpm) and calculated by dividing gear ratio. Actual rpm is 2~20% less than indicating rpm according to load size.

GGM GGM GEARED MOTOR

GEARHEADS

CONNECTION DIAGRAMS

Connect Cr circuit for absorbing serge voltage as connection diagram to protect contact point.
Ro = 5 – 200Ω
Co = 0.1 ~ 0.2μF 200WV(400WV)
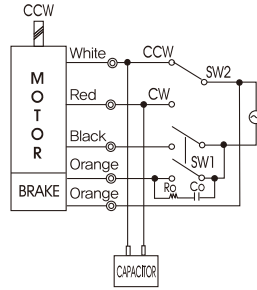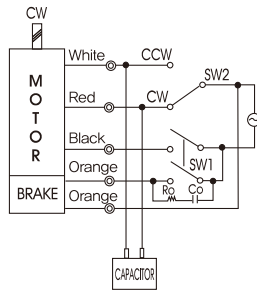
※The direction of motor rotation is as viewed from the front shaft end of the motor
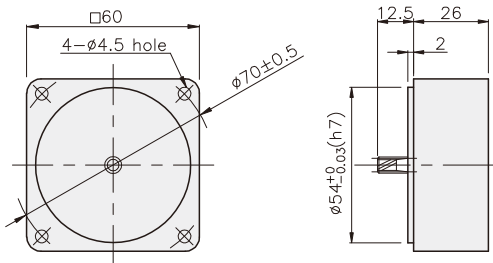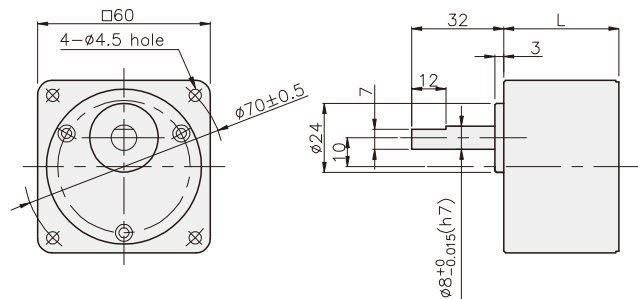
DIMENSIONS

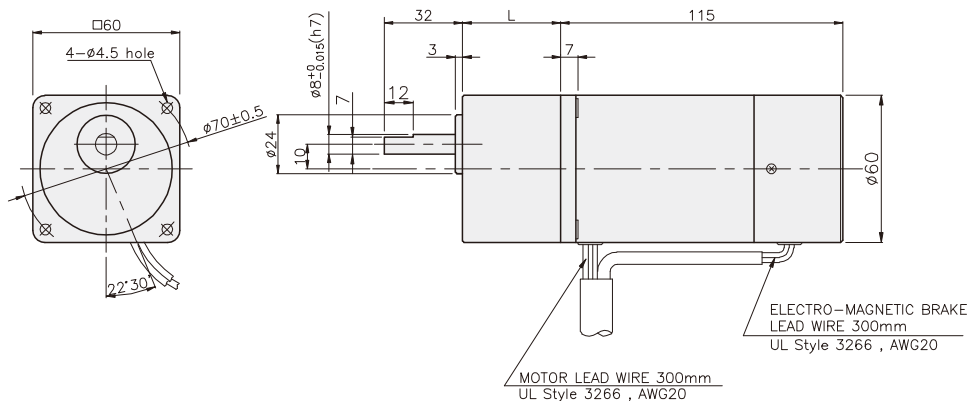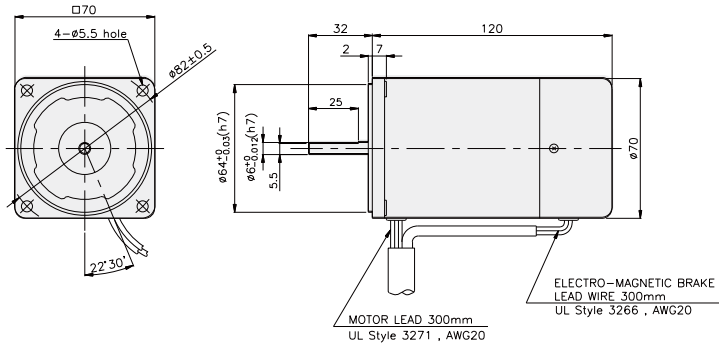K7G□B(C)   K7RG15N□–B + K7G□B(C)

DECIMAL GEARHEAD
K7G10BX
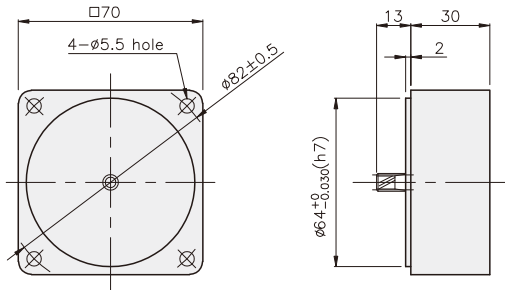
GEARHEAD
K7G□B(C)
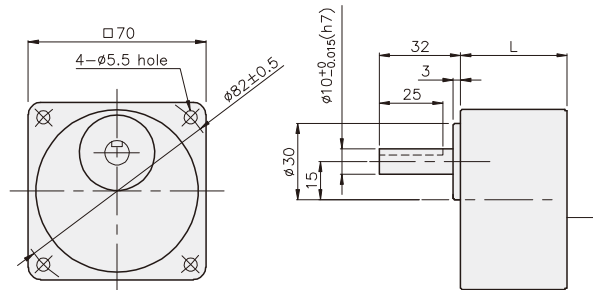
● KEY   ● KEY GROOVE
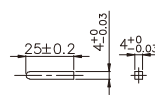
DIMENSION TABLE

PART No.	L	Application Model	Mounting BOLT
01	32	K7G3~18B(C)	M4 P0.8 X 50
02	42	K7G20~200B(C)	M4 P0.8 X 65
03	30	K7G10BX	M4 P0.8 X 90

WEIGHT

PART		WEIGHT(kg)
MOTOR		1.30
DECIMAL GEAR HEAD		0.32
GEAR HEAD	K7G3~18B(C)	0.38
	K7G20~40B(C)	0.46
	K7G50~200B(C)	0.51

K7RG15N□–B + K7G□B(C)

ELECTRO–MAGNETIC BRAKE
LEAD WIRE 300mm
UL Style 3266 , AWG20

MOTOR LEAD 300mm
UL Style 3271 , AWG20

GGM GGM GEARED MOTOR
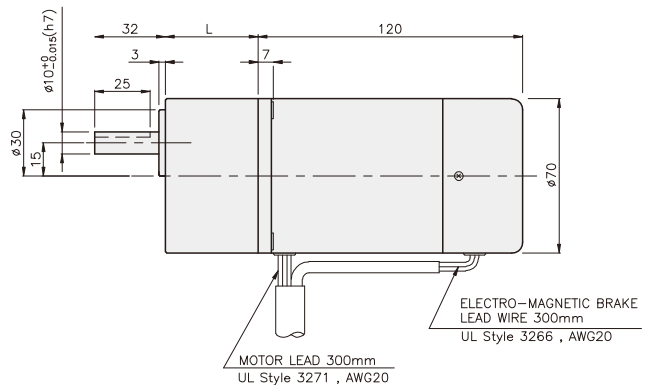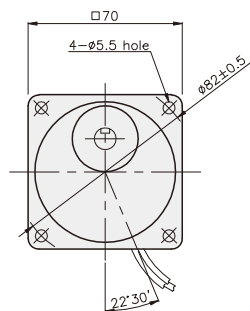
BRAKE MOTOR

25W □80mm

K8□S25N□−B

□80
4−⌀5.5 hole
⌀94±0.5
22°30'

32 130
7
2
25
7
⌀73+0.030/−0.030(h7)
⌀8+0.030/−0(h7)
⌀80

ELECTRO−MAGNETIC BRAKE
LEAD WIRE 300mm
UL Style 3266 , AWG20

MOTOR LEAD WIRE 300mm
UL Style 3271 , AWG20
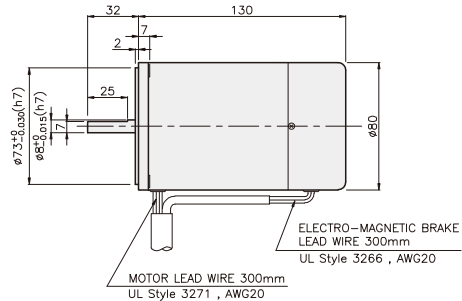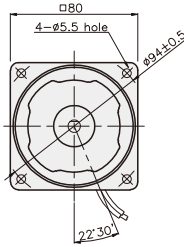
25W single−phase : 30 minutes rating, three−phase : continuous rating, four poles

Model	Duty		Voltage (V)	Frequency (Hz)	Current (A)	Start T. (N∗m/ Kgf∗cm)	Rated T. (N∗m/ Kgf∗cm)	Speed (rpm)	Condenser (μF)	Friction T. (N∗m/ (Kgf∗cm)
K8R□25NJ−B			100	50	0.65	0.15/1.5	0.195/1.95	1250	10	0.4/4
				60	0.74		0.165/1.65	1500		
K8R□25NU−B			110	60	0.51	0.13/1.3	0.165/1.65	1500	6	0.4/4
			115		0.54					
K8R□25NL−B	single−phase	30 minutes	200	50	0.33	0.16/1.6	0.195/1.95	1250	2.5	0.4/4
				60	0.37		0.16/1.6	1550		
K8R□25NC−B			220	50	0.29	0.15/1.5	0.195/1.95	1250	2	0.4/4
				60	0.34		0.165/1.65	1500		
			230	50	0.35	0.165/1.65	0.195/1.95	1250		
				60	0.34		0.165/1.65	1500		
K8R□25ND−B			240	50	0.32	0.15/1.5	0.19/1.9	1300	1.5	0.4/4
K8I□25NT−B			200	50	0.27	0.5/5	0.19/1.9	1300	−	0.4/4
				60	0.24	0.4/4	0.16/1.6	1550		
K8I□25NH−B			220	50	0.28	0.6/6	0.185/1.85	1350	−	0.4/4
				60	0.24	0.48/4.8	0.155/1.55	1600		
			230	50	0.29	0.65/6.5	0.185/1.85	1350		
				60	0.25	0.52/5.2	0.155/1.55	1600		
K8I□25NM−B	three−phase	continuous	380	50	0.17	0.6/6	0.19/1.9	1300	−	0.4/4
				60	0.14	0.48/4.8	0.155/1.55	1600		
K8I□25NV−B			400	50	0.17	0.73/7.3	0.19/1.9	1300	−	0.4/4
				60	0.15	0.6/6	0.155/1.55	1600		
K8I□25NQ−B			415	50	0.13	0.55/5.5	0.19/1.9	1300	−	0.4/4
				60	0.11	0.4/4	0.155/1.55	1600		
K8I□25NZ−B			440	50	0.14	0.63/6.3	0.19/1.9	1300	−	0.4/4
				60	0.12	0.5/5	0.155/1.55	1600		

∗ □ : SHAFT SHAPE (S : STRAIGHT, G : PINION) ∗ 3 phase over 380V motor cannot be used with inverter. Motor winding insulation can be damaged.

● 50Hz

unit = above : N·m/ below : Kgf·cm

Model	Speed(rpm)	500	46	300	250	200	166	150	120	100	83	75	60	50	41	37	30	25	20	16	15	12.5	10	8.3	7.5	6
Motor/ Gearhead	Ratio	3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180	200	250
K8□G25N□−B		0.45	0.54	0.75	0.90	1.12	1.35	1.50	1.87	2.25	2.70	2.70	3.37	4.05	4.86	5.39	6.07	7.28	8	8	8	8	8	8	8	8
K8G□B(C)		4.5	5.4	7.5	9.0	11.2	13.5	15.0	18.7	22.5	27.0	27.0	33.7	40.5	48.6	53.9	60.7	72.8	80	80	80	80	80	80	80	80

● 60Hz

unit = above : N·m/ below : Kgf·cm

Model	Speed(rpm)	600	500	360	300	240	200	180	144	120	100	90	72	60	50	45	36	30	24	20	18	15	12	10	9	7.2
Motor/ Gearhead	Ratio	3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180	200	250
K8□G25N□−B		0.38	0.45	0.63	0.75	0.94	1.13	1.26	1.57	1.88	2.26	2.26	2.82	3.39	4.07	4.52	5.08	6.10	7.63	8	8	8	8	8	8	8
K8G□B(C)		3.8	4.5	6.3	7.5	9.4	11.3	12.6	15.7	18.8	22.6	22.6	28.2	33.9	40.7	45.2	50.8	61.0	76.3	80	80	80	80	80	80	80

* Gearhead and decimal gearhead are sold separately.
* The code in □ of gearhead model is for gear ratio.
* ▨ color indicates that the output shaft of the geared motor rotates in the same direction as the output shaft of the motor. Others indicate rotation in the opposite direction.
* If you are to have less ratio than the ratio in the table, you can install the decimal gearhead, which has one tenth of the ratio, between the gearhead and the motor. In this case, the permissible torque is 8N·m/80kgf·cm. But, if you install 1/25〜1/40 gearhead, the permissible torque is 6N·m/60kgfcm.
* RPM is based on motor's synchronous rpm (50HZ:1500rpm, 60HZ:1800rpm) and calculated by dividing gear ratio. Actual rpm is 2〜20% less than indicating rpm according to load size.

GGM GGM GEARED MOTOR

CONNECTION DIAGRAMS

single phase motor

three phase motor

3Ø 200V~230V	3Ø 380V~440V
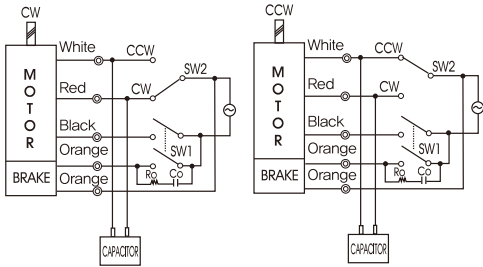
connecting two leadwires
of U,V,W in turns

※The direction of motor rotation is as
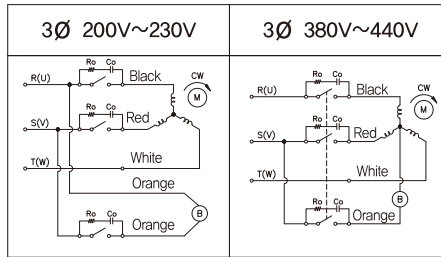viewed from the front shaft end of the motor

Connect Cr circuit for absorbing
serge voltage as connection
diagram to protect contact point.
Ro = 5 – 200Ω
Co = 0.1 ~ 0.2μF 200WV(400WV)

DIMENSIONS

K8G□B(C)

K8□G25N□-B + K8G□B(C)

DECIMAL GEARHEAD
K8G10BX
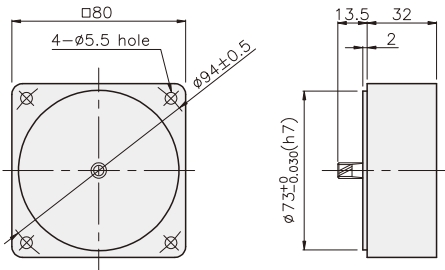
GEARHEAD
K8G□B(C)
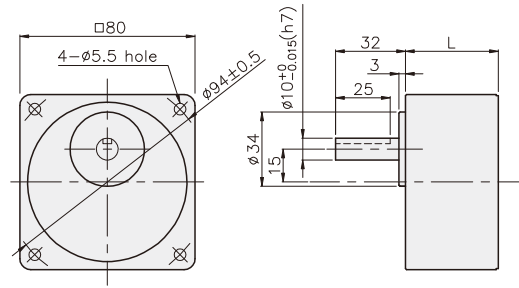
● KEY   ● KEY GROOVE
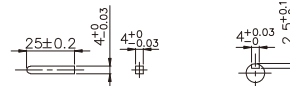
DIMENSION TABLE

PART No	L	Application Model	Mounting BOLT
01	32	K8G3~18B(C)	M4 P0.8 X 50
02	42.5	K8G20~250B(C)	M4 P0.8 X 65
03	32	K8G10BX	M4 P0.8 X 95

WEIGHT

PART		WEIGHT(kg)
MOTOR		1.84
DECIMAL GEAR HEAD		0.46
GEAR HEAD	K8G3~18B(C)	0.51
	K8G20~40B(C)	0.64
	K8G50~250B(C)	0.70

K8□G25N□-B + K8G□B(C)

ELECTRO–MAGNETIC BRAKE
LEAD WIRE 300mm
UL Style 3266 , AWG20

MOTOR LEAD WIRE 300mm
UL Style 3271 , AWG20
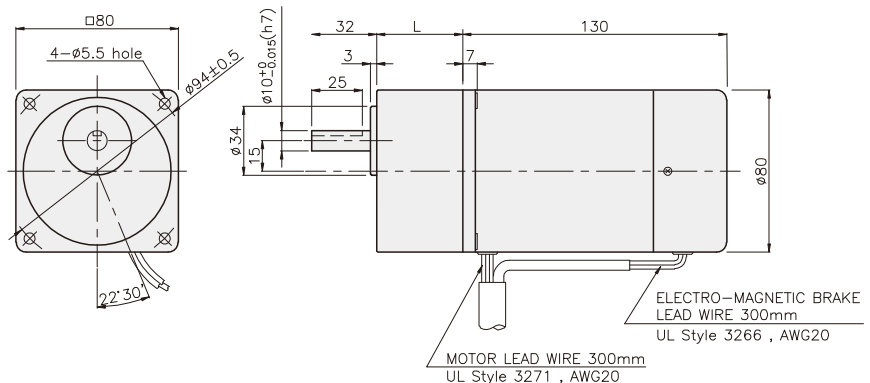
BRAKE MOTOR

BRAKE MOTOR

40W □90mm

K9□S40N□-B

□90
4-ø6.5 hole
ø104±0.5
ø83⁺⁰.₀₃₅(h7)
ø102⁰.₀₃₅(h7)
230

37　145
7.5
2
30
9
ø89

ELECTRO-MAGNETIC BRAKE
LEAD WIRE 300mm
UL Style 3266 , AWG20

MOTOR LEAD WIRE 300mm
UL Style 3271 , AWG20

SPECIFICATIONS

40W single-phase : 30 minutes rating, three-phase : continuous rating, four poles

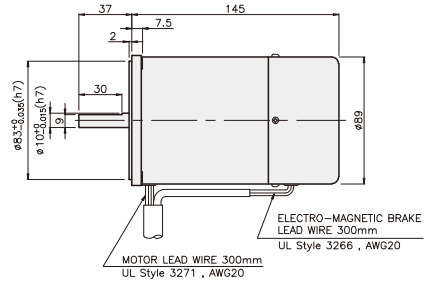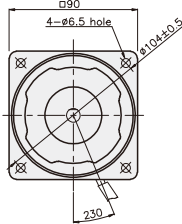| Model	Duty		Voltage (V)	Frequency (Hz)	Current (A)	Start T. (N∗m/ Kgf∗cm)	Rated T. (N∗m/ Kgf∗cm)	Speed (rpm)	Condenser (μF)	Friction T. (N∗m/ (Kgf∗cm)
K9R□40NJ-B	single-phase	30 minutes	100	50	1	0.3/3	0.315/3.15	1250	16	1/10
				60	1.13	0.33/3.3	0.255/2.55	1550		
K9R□40NU-B			110	60	0.8	0.2/2	0.26/2.6	1500	10	1/10
			115		0.83	0.22/2.2				
K9R□40NL-B			200	50	0.45	0.3/3	0.315/3.15	1250	4	1/10
				60	0.57		0.26/2.6	1500		
K9R□40NC-B			220	50	0.46	0.3/3	0.315/3.15	1250	3.5	1/10
				60	0.55	0.32/3.2	0.26/2.6	1500		
			230	50	0.55	0.4/4	0.315/3.15	1250		
				60	0.58	0.36/3.6	0.26/2.6	1500		
K9R□40ND-B			240	50	0.41	0.34/3.4	0.3/3	1300	3	1/10
K9I□40NT-B	three-phase	continuous	200	50	0.39	1/10	0.3/3	1300	−	1/10
				60	0.32	0.78/7.8	0.245/2.45	1600		
K9I□40NH-B			220	50	0.33	0.95/9.5	0.29/2.9	1350	−	1/10
				60	0.31	0.78/7.8	0.245/2.45	1600		
			230	50	0.41	1/10	0.29/2.9	1350		
				60	0.32	0.83/8.3	0.245/2.45	1600		
K9I□40NM-B			380	50	0.18	1/10	0.29/2.9	1350	−	1/10
				60		0.78/7.8	0.245/2.45	1600		
K9I□40NV-B			400	50	0.18	1.15/11.5	0.29/2.9	1350	−	1/10
				60	0.19	0.88/8.8	0.245/2.45	1600		
K9I□40NQ-B			415	50	0.16	0.95/9.5	0.29/2.9	1350	−	1/10
				60	0.14	0.72/7.2	0.245/2.45	1600		
K9I□40NZ-B			440	50	0.19	1/10	0.29/2.9	1350	−	1/10
				60	0.16	0.79/7.9	0.245/2.45	1600		

∗ □ : SHAFT SHAPE (S : STRAIGHT, G : PINION) ∗ 3 phase over 380V motor cannot be used with inverter. Motor winding insulation can be damaged.

RATED TORQUE OF GEARHEAD

● 50Hz

unit = above : N·m / below : Kgf·cm

Model	Speed(rpm)	500	416	300	250	200	166	150	120	100	83	75	60	50	41	37	30	25	20	16	15	12.5	10	8.3	7.5
Motor/ Gearhead	Ratio	3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180	200
K9□G40N□-B		0.70	0.85	1.17	1.41	1.76	2.11	2.35	2.94	3.52	4.23	4.23	5.29	6.34	7.61	8.46	10	10	10	10	10	10	10	10	10
K9G□B(C)		7.0	8.5	11.7	14.1	17.6	21.1	23.5	29.4	35.2	42.3	42.3	52.9	63.4	76.1	84.6	100	100	100	100	100	100	100	100	100

● 60Hz

unit = above : N·m / below : Kgf·cm

Model	Speed(rpm)	600	500	360	300	240	200	180	144	120	100	90	72	60	50	45	36	30	24	20	18	15	12	10	9
Motor/ Gearhead	Ratio	3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180	200
K9□G40N□-B		0.60	0.71	0.99	1.19	1.49	1.79	1.98	2.48	2.98	3.57	3.57	4.47	5.36	6.43	7.14	8.04	10	10	10	10	10	10	10	10
K9G□B(C)		6.0	7.1	9.9	11.9	14.9	17.9	19.8	24.8	29.8	35.7	35.7	44.7	53.6	64.3	71.4	80.4	100	100	100	100	100	100	100	100

∗ Gearhead and decimal gearhead are sold separately.
∗ The code in □ of gearhead model is for gear ratio.
∗ ▨ color indicates that the output shaft of the geared motor rotates in the same direction as the output shaft of the motor. Others indicate rotation in the opposite direction.
∗ If you are to have less ratio than the ratio in the table, you can install the decimal gearhead, which has one tenth of the ratio, between the gearhead and the motor. In this case, the permissible torque is 10N·m/100kgf·cm.
∗ RPM is based on motor's synchronous rpm (50HZ:1500rpm, 60HZ:1800rpm) and calculated by dividing gear ratio. Actual rpm is 2~20% less than indicating rpm according to load size.
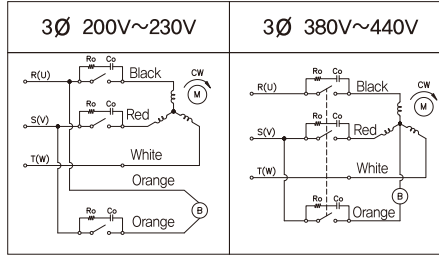
GGM GGM GEARED MOTOR

GEARHEADS

single phase motor

CW
MOTOR — White — CCW
Red — CW — SW2
Black
Orange
BRAKE — Orange — SW1 — Ro Co
CAPACITOR

CCW
MOTOR — White — CCW
Red — CW — SW2
Black
Orange
BRAKE — Orange — SW1 — Ro Co
CAPACITOR

three phase motor

3Ø 200V~230V	3Ø 380V~440V
R(U) Ro Co Black CW M	R(U) Ro Co Black CW M
S(V) Ro Co Red	S(V) Ro Co Red
T(W) White	T(W) White
Orange	Orange
Ro Co Orange B	Ro Co Orange B
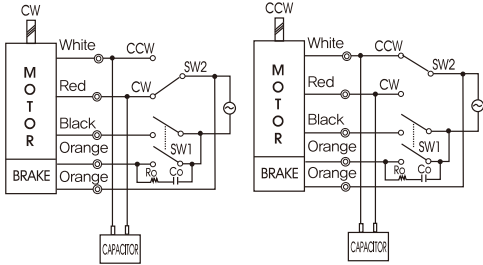
connecting two leadwires of U,V,W in turns

※The direction of motor rotation is as viewed from the front shaft end of the motor

Connect Cr circuit for absorbing serge voltage as connection diagram to protect contact point.
Ro = 5 ~ 200Ω
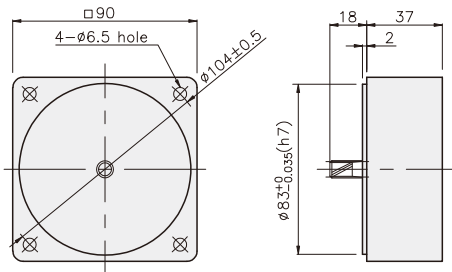Co = 0.1 ~ 0.2μF 200WV(400WV)
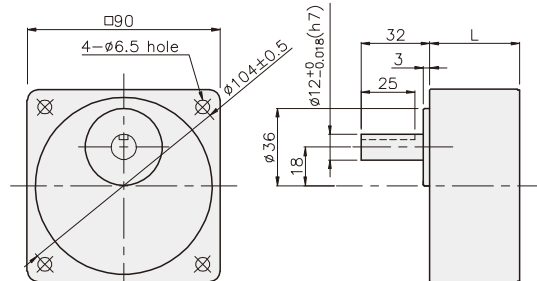
DIMENSIONS

K9G□B(C)
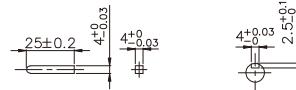
K9□G40N□-B + K9G□B(C)

DECIMAL GEARHEAD
K9G10BX

□90
4-ø6.5 hole
ø104±0.5
ø83+0/-0.035(h7)
18 | 37
2

GEARHEAD
K9G□B(C)

□90
4-ø6.5 hole
ø104±0.5
ø12+0/-0.018(h7)
ø36
18
32 | L
3
25

● KEY
25±0.2
4+0/-0.03
4+0/-0.03

● KEY GROOVE
4+0.03/0
2.5+0.1/0

DIMENSION TABLE

PART No	L	Application Model	Mounting BOLT
01	42	K9G3~18B(C)	M6 P1.0 X 65
02	60	K9G20~200B(C)	M6 P1.0 X 80
03	37	K9G10BX	M6 P1.0 X 120

WEIGHT

PART		WEIGHT(kg)
MOTOR		2.86
DECIMAL GEAR HEAD		0.60
GEAR HEAD	K9G3~18B(C)	0.78
	K9G20~40B(C)	1.04
	K9G50~200B(C)	1.14

K9□G40N□-B + K9G□B(C)

□90
4-ø6.5 hole
ø104±0.5
22°30'
ø12+0/-0.018(h7)
ø36
18
32 | L | 145
3 | 7.5
25
ø89

ELECTRO-MAGNETIC BRAKE LEAD WIRE 300mm
UL Style 3266 , AWG20

MOTOR LEAD WIRE 300mm
UL Style 3271 , AWG20

BRAKE MOTOR

D-11

GGM GGM GEARED MOTOR
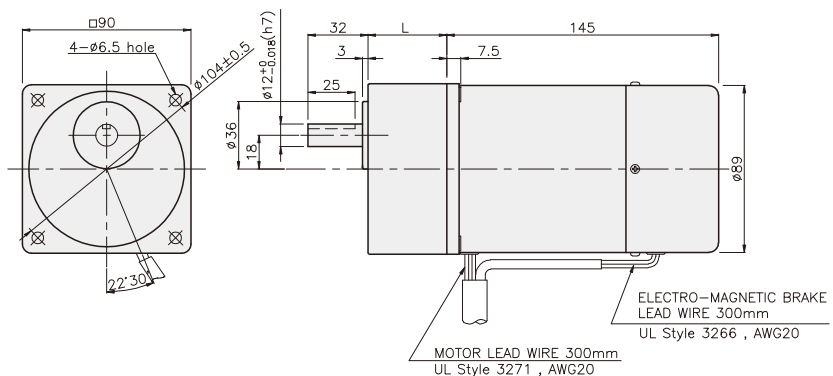
BRAKE MOTOR

60W □90mm

K9□P60F□-B

ELECTRO-MAGNETIC BRAKE
LEAD WIRE 300mm
UL Style 3266 , AWG20

MOTOR LEAD WIRE 300mm
UL Style 3271 , AWG20
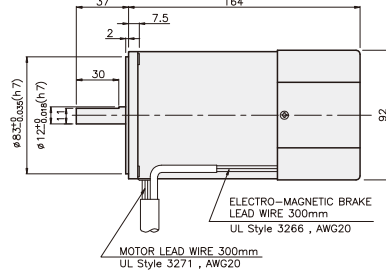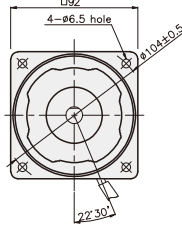
SPECIFICATIONS

60W single-phase : 30 minutes rating, three-phase : continuous rating, four poles

Model	Duty		Voltage (V)	Frequency (Hz)	Current (A)	Start T. (N∗m/ Kgf∗cm)	Rated T. (N∗m/ Kgf∗cm)	Speed (rpm)	Condenser (μF)	Friction T. (N∗m/ (Kgf∗cm)
K9R□60FJ-B	single-phase	30 minutes	100	50	1.48	0.48/4.8	0.47/4.7	1250	25	1/10
				60	1.66		0.38/3.8	1550		
K9R□60FU-B			110	60	1.25	0.4/4	0.38/3.8	1550	17	1/10
			115		1.31	0.425/4.25				
K9R□60FL-B			200	50	0.72	0.5/5	0.47/4.7	1250	6	1/10
				60	0.76	0.44/4.4	0.39/3.9	1500		
K9R□60FC-B			220	50	0.69	0.45/4.5	0.47/4.7	1250	5	1/10
				60	0.76	0.48/4.8	0.38/3.8	1550		
			230	50	0.77	0.5/5	0.47/4.7	1250		
				60	0.79		0.38/3.8	1550		
K9R□60FD-B			240	50	0.75	0.5/5	0.47/4.7	1250	5	1/10
K9I□60FT-B	three-phase	continuous	200	50	0.49	1.35/13.5	0.45/4.5	1300	—	1/10
				60	0.45	1.05/10.5	0.38/3.8	1550		
K9I□60FH-B			220	50	0.55	1.6/16	0.435/4.35	1350	—	1/10
				60	0.47	1.2/12	0.37/3.7	1600		
			230	50	0.6	1.65/16.5	0.435/4.35	1350		
				60	0.52	1.3/13	0.37/3.7	1600		
K9I□60FM-B			380	50	0.34	1.55/15.5	0.435/4.35	1350	—	1/10
				60	0.25	1.19/11.9	0.37/3.7	1600		
K9I□60FV-B			400	50	0.37	1.85/18.5	0.435/4.35	1350	—	1/10
				60	0.28	1.42/14.2	0.37/3.7	1600		
K9I□60FQ-B			415	50	0.26	1.45/14.5	0.45/4.5	1300	—	1/10
				60	0.21	1.15/11.5	0.37/3.7	1600		
K9I□60FZ-B			440	50	0.28	1.6/16	0.45/4.5	1300	—	1/10
				60	0.23	1.25/12.5	0.37/3.7	1600		

* □ : SHAFT SHAPE (S : STRAIGHT, P : PINION)   * 3 phase over 380V motor cannot be used with inverter. Motor winding insulation can be damaged.

RATED TORQUE OF GEARHEAD

● 50Hz

unit = above : N·m / below : Kgf·cm

Model	Speed(rpm)	500	416	300	250	200	166	150	120	100	83	75	60	50	41	37	30	25	20	16	15	12,5	10	8,3	7,5
Motor/ Gearhead	Ratio	3	3,6	5	6	7,5	9	10	12,5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180	200
K9□60F□-B		1,06	1,27	1,76	2,11	2,64	3,17	3,52	3,96	4,76	5,71	6,34	7,14	8,56	10,27	11,42	14,27	17,12	20	20	20	20	20	20	20
K9P□B, BF		10,6	12,7	17,6	21,1	26,4	31,7	35,2	39,6	47,6	57,1	63,4	71,4	85,6	102,7	114,2	142,7	171,2	200	200	200	200	200	200	200

● 60Hz

unit = above : N·m / below : Kgf·cm

Model	Speed(rpm)	600	500	360	300	240	200	180	144	120	100	90	72	60	50	45	36	30	24	20	18	15	12	10	9
Motor/ Gearhead	Ratio	3	3,6	5	6	7,5	9	10	12,5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180	200
K9□60F□-B		0,90	1,08	1,50	1,80	2,25	2,70	3,00	3,37	4,05	4,86	5,39	6,07	7,28	8,74	9,71	12,14	14,57	16,39	19,66	20	20	20	20	20
K9P□B, BF		9,0	10,8	15,0	18,0	22,5	27,0	30,0	33,7	40,5	48,6	53,9	60,7	72,8	87,4	97,1	121,4	145,7	163,9	196,6	200	200	200	200	200

* Gearhead and decimal gearhead are sold separately.
* The code in □ of gearhead model is for gear ratio.
* ▭ color indicates that the output shaft of the geared motor rotates in the same direction as the output shaft of the motor. Others indicate rotation in the opposite direction.
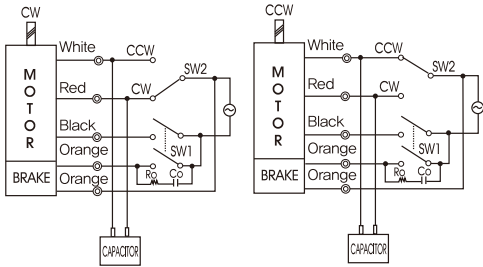* If you are to have less ratio than the ratio in the table, you can install the decimal gearhead, which has one tenth of the ratio, between the gearhead and the motor. In this case, the permissible torque is 20N·m/200kgf·cm.
* RPM is based on motor's synchronous rpm (50HZ:1500rpm, 60HZ:1800rpm) and calculated by dividing gear ratio. Actual rpm is 2~20% less than indicating rpm according to load size.
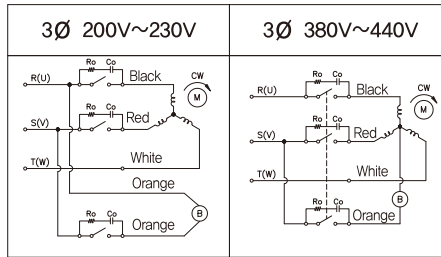
GGM GGM GEARED MOTOR

CONNECTION DIAGRAMS

single phase motor

three phase motor

3Ø 200V~230V	3Ø 380V~440V

connecting two leadwires
of U,V,W in turns

※The direction of motor rotation is as
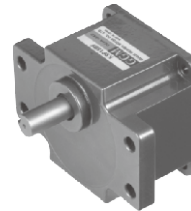viewed from the front shaft end of the motor

Connect Cr circuit for absorbing
serge voltage as connection
diagram to protect contact point.
Ro = 5 − 200Ω
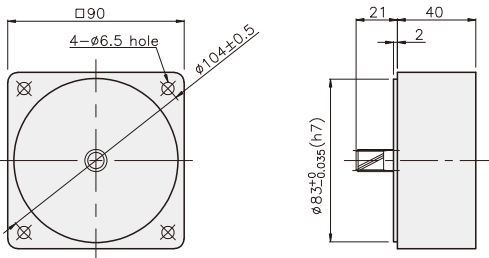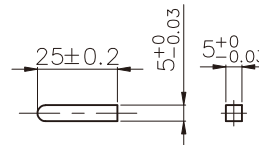Co = 0.1 ～ 0.2μF 200WV(400WV)

DIMENSIONS

K9P□B

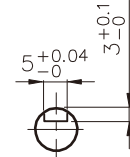### K9P□BF

DECIMAL GEARHEAD

K9P10BX

□90
4−Ø6.5 hole
Ø104±0.5
21 40
2
Ø83$^{+0}_{-0.035}$(h7)

KEY SPEC

● KEY   ● KEY GROOVE

25±0.2   5$^{+0}_{-0.03}$ 5$^{+0}_{-0.03}$ 5$^{+0.04}_{-0}$ 3$^{+0.1}_{-0}$

GEARHEAD

K9P□B

□90
4−Ø6.5 hole
Ø104±0.5
38 65
2
7
25
Ø15$^{+0}_{-0.018}$(h7)
Ø34
18

K9P□BF

130
110±0.5
60
Ø104±0.5
36±0.5 60
90
4−Ø8.5 hole
4−M6 TAP
38 65
7 12
2
25
11
Ø15$^{+0}_{-0.018}$(h7)
Ø34
18

D-13

GGM GGM GEARED MOTOR
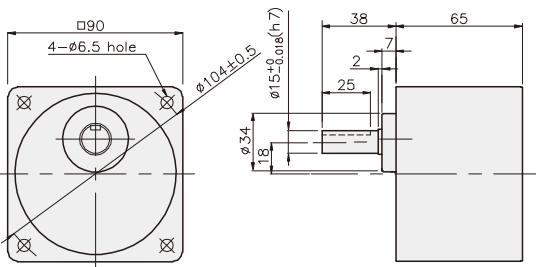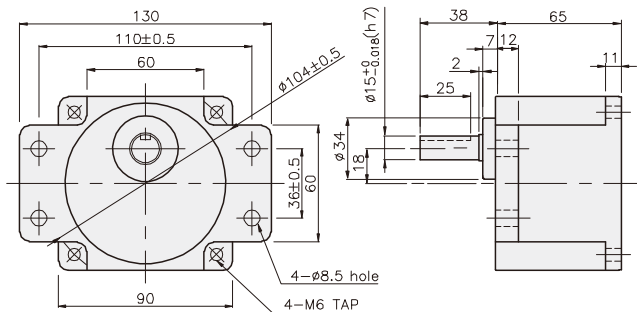
K9□P60F□-B + K9P□B

K9□P60F□-B + K9P□BF
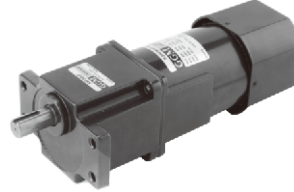
K9□P60F□-B + K9P□B
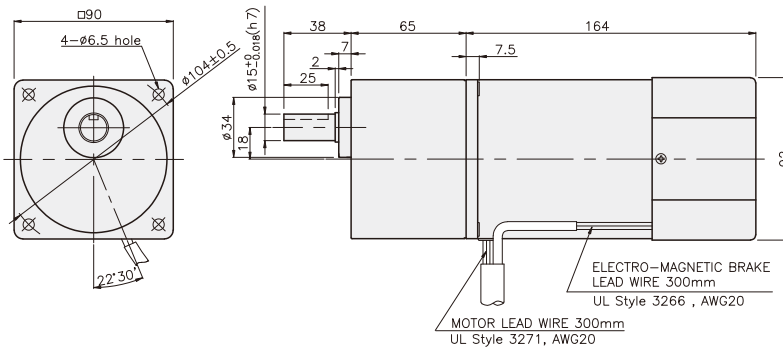
DIMENSION TABLE

PART No	L	Application Model	Mounting BOLT
01	65	K9P3~200B	M6 P1.0 X 25
02	40	K9P10BX	M6 P1.0 X 140

WEIGHT

PART		WEIGHT(kg)
MOTOR		3.08
DECIMAL GEAR HEAD		0.62
GEAR HEAD	K9P3~10B	1.22
	K9P12.5~20B	1.32
	K9P25~60B	1.42
	K9P75~200B	1.45

K9□P60F□-B + K9P□BF
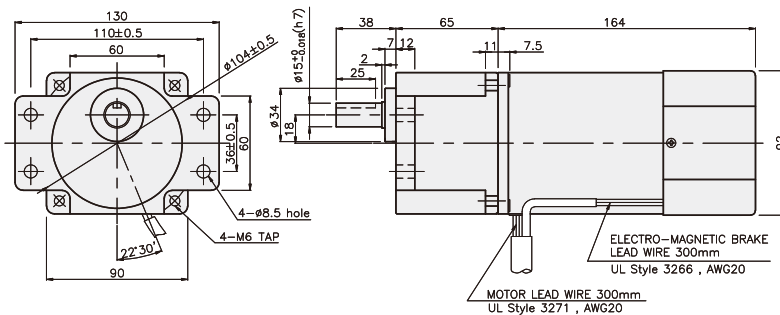
DIMENSION TABLE

PART No	L	Application Model	Mounting BOLT
01	65	K9P3~200BF	M6 P1.0 X 25
02	40	K9P10BX	M6 P1.0 X 65

WEIGHT

PART		WEIGHT(kg)
MOTOR		3.08
DECIMAL GEAR HEAD		0.62
GEAR HEAD	K9P3~10BF	1.22
	K9P12.5~20BF	1.30
	K9P25~60BF	1.42
	K9P75~200BF	1.44

GGM GGM GEARED MOTOR

BRAKE MOTOR

90W □90mm

K9□S90F□-B
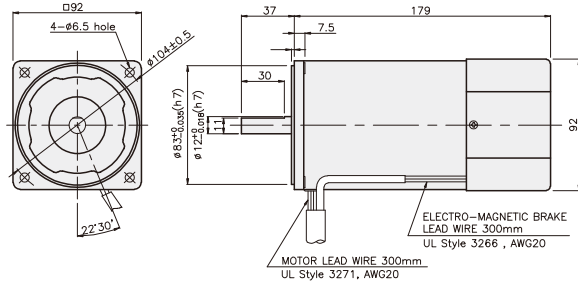
SPECIFICATIONS

90W single-phase : 30 minutes rating, three-phase : continuous rating, four poles

Model	Duty		Voltage (V)	Frequency (Hz)	Current (A)	Start T. (N*m/ Kgf*cm)	Rated T. (N*m/ Kgf*cm)	Speed (rpm)	Condenser (μF)	Friction T. (N*m) (Kgf*cm)
K9R□90FJ-B	single-phase	30 minutes	100	50	2,52	0,6/6	0,705/7,05	1250	35	1/10
				60	2,42		0,57/5,7	1550		
K9R□90FU-B			110	60	1,88	0,55/5,5	0,57/5,7	1550	25	1/10
			115		2,12					
K9R□90FL-B			200	50	0,9	0,55/5,5	0,705/7,05	1250	8	1/10
				60	1,1		0,57/5,7	1550		
K9R□90FC-B			220	50	1	0,5/5	0,705/7,05	1250	7	1/10
				60	1,1	0,53/5,3	0,57/5,7	1550		
			230	50	1,3	0,6/6	0,705/7,05	1250		
				60	1,1		0,57/5,7	1550		
K9R□90FD-B			240	50	0,94	0,55/5,5	0,705/7,05	1250	6	1/10
K9I□90FT-B	three-phase	continuous	200	50	0,79	2,25/22,5	0,65/6,5	1350	—	1/10
				60	0,72	1,75/17,5	0,55/5,5	1600		
K9I□90FH-B			220	50	0,72	2,35/23,5	0,65/6,5	1350	—	1/10
				60	0,63	1,8/18	0,55/5,5	1600		
			230	50	0,86	2,45/24,5	0,65/6,5	1350		
				60	0,66	1,95/19,5	0,55/5,5	1600		
K9I□90FM-B			380	50	0,43	2,35/23,5	0,65/6,5	1350	—	1/10
				60	0,37	1,7/17	0,55/5,5	1600		
K9I□90FV-B			400	50	0,52	2,65/26,5	0,65/6,5	1350	—	1/10
				60	0,45	2,1/21	0,55/5,5	1600		
K9I□90FQ-B			415	50	0,39	2/20	0,68/6,8	1300	—	1/10
				60	0,31	1,5/15	0,55/5,5	1600		
K9I□90FZ-B			440	50	0,45	2,1/21	0,68/6,8	1300	—	1/10
				60	0,39	1,7/17	0,55/5,5	1600		

* □ : SHAFT SHAPE (S : STRAIGHT, P : PINION) * 3 phase over 380V motor cannot be used with inverter. Motor winding insulation can be damaged.

RATED TORQUE OF GEARHEAD

● 50Hz

unit = above : N·m / below : Kgf·cm

Model	Speed(rpm)	500	416	300	250	200	166	150	120	100	83	75	60	50	41	37	30	25	20	16	15	12,5	10	8,3	7,5
Motor/ Gearhead	Ratio	3	3,6	5	6	7,5	9	10	12,5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180	200
K9□P90F□-B		1,58	1,90	2,63	3,16	3,95	4,74	5,27	5,92	7,11	8,53	9,48	10,66	12,79	15,35	17,06	20	20	20	20	20	20	20	20	20
K9P□B, BF		15,8	19,0	26,3	31,6	39,5	47,4	52,7	59,2	71,1	85,3	94,8	106,6	127,9	153,5	170,6	200	200	200	200	200	200	200	200	200

● 60Hz

unit = above : N·m / below : Kgf·cm

Model	Speed(rpm)	600	500	360	300	240	200	180	144	120	100	90	72	60	50	45	36	30	24	20	18	15	12	10	9
Motor/ Gearhead	Ratio	3	3,6	5	6	7,5	9	10	12,5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180	200
K9□P90F□-B		1,34	1,60	2,23	2,67	3,34	4,01	4,46	5,01	6,01	7,22	8,02	9,02	10,83	12,99	14,43	18,0	20	20	20	20	20	20	20	20
K9P□B, BF		13,4	16,0	22,3	26,7	33,4	40,1	44,6	50,1	60,1	72,2	80,2	90,2	108,3	129,9	144,3	180	200	200	200	200	200	200	200	200

* Gearhead and decimal gearhead are sold separately.
* The code in □ of gearhead model is for gear ratio.
* ▨ color indicates that the output shaft of the geared motor rotates in the same direction as the output shaft of the motor. Others indicate rotation in the opposite direction.
* If you are to have less ratio than the ratio in the table, you can install the decimal gearhead, which has one tenth of the ratio, between the gearhead and the motor. In this case, the permissible torque is 20N·m/200kgf·cm.
* RPM is based on motor's synchronous rpm (50HZ:1500rpm, 60HZ:1800rpm) and calculated by dividing gear ratio. Actual rpm is 2~20% less than indicating rpm according to load size.

GGM GGM GEARED MOTOR

GEARHEADS

RATED TORQUE OF GEARHEAD

● 50Hz

unit = above : N · m / below : kgfcm

Model	Speed(rpm)	500	416	300	250	200	166	150	120	100	82	75	60	50	41	37	30	25	20	16	15	13	10	8.3	7.5
Motor/ Gearhead	Ratio	3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180	200
K9□P90F□−B		1.58	1.90	2.63	3.16	3.95	4.74	5.27	5.92	7.11	8.53	9.48	10.66	12.79	15.35	17.06	21.32	25.59	30	30	30	30	30	30	30
K9P□BU, BUF		15.8	19.0	26.3	31.6	39.5	47.4	52.7	59.2	71.1	85.3	94.8	106.6	127.9	153.5	170.6	213.2	255.9	300	300	300	300	300	300	300

● 60Hz

unit = above : N · m / below : kgfcm

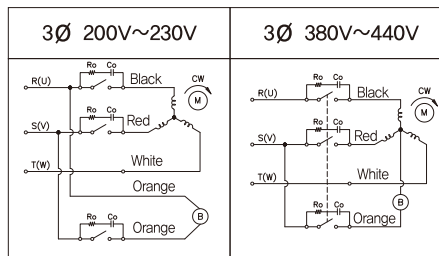| Model	Speed(rpm)	600	500	360	300	240	200	180	144	120	100	90	72	60	50	45	36	30	24	20	18	15	12	10	9
Motor/ Gearhead	Ratio	3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180	200
K9□P90F□−B		1.34	1.60	2.23	2.67	3.34	4.01	4.46	5.01	6.01	7.22	8.02	9.02	10.83	12.99	14.43	18.04	21.65	24.36	30	30	30	30	30	30
K9P□BU, BUF		13.4	16.0	22.3	26.7	33.4	40.1	44.6	50.1	60.1	72.2	80.2	90.2	108.3	129.9	144.3	180.4	216.5	243.6	300	300	300	300	300	300

* Gearhead and decimal gearhead are sold separately.
* The code in □ of gearhead model is for gear ratio.
* ▨ color indicates that the output shaft of the geared motor rotates in the same direction as the output shaft of the motor. Others indicate rotation in the opposite direction.
* If you are to have less ratio than the ratio in the table, you can install the decimal gearhead, which has one tenth of the ratio, between the gearhead and the motor. In this case, the permissible torque is 30N · m/300kgfcm.
* RPM is based on motor's synchronous rpm (50HZ:1500rpm, 60HZ:1800rpm) and calculated by dividing gear ratio. Actual rpm is 2~20% less than indicating rpm according to load size.

CONNECTION DIAGRAMS

single phase motor

three phase motor

connecting two leadwires of U,V,W in turns

※The direction of motor rotation is as viewed from the front shaft end of the motor

Connect Cr circuit for absorbing serge voltage as connection diagram to protect contact point.
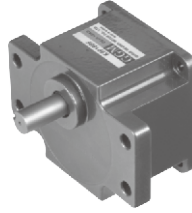Ro = 5 − 200Ω
Co = 0.1 ~ 0.2μF 200WV(400WV)
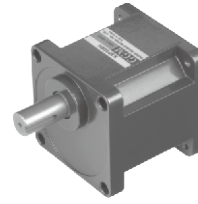
GGM GGM GEARED MOTOR

GEARHEADS

K9P□B   K9P□BF, BUF   K9P□BU

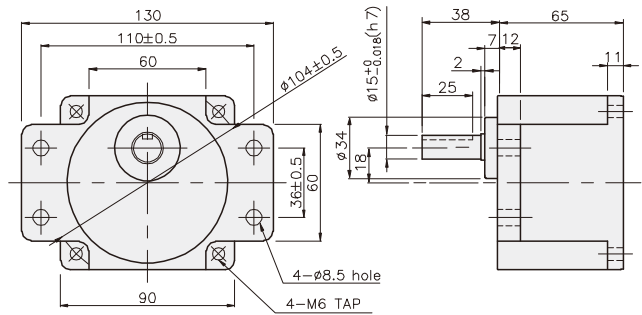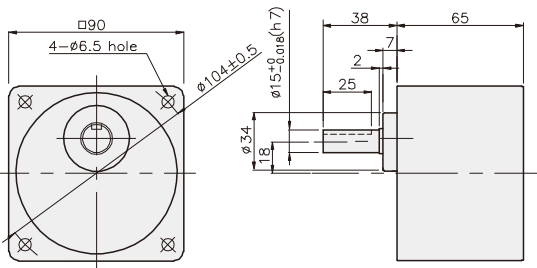DECIMAL GEARHEAD

K9P10BX

□90
4−∅6.5 hole
∅104±0.5
∅83±0.035(h7)
21 40
2

KEY SPEC

● KEY   ● KEY GROOVE

25±0.2
5 +0 −0.03
5 +0 −0.03
5 +0.04 −0
3 +0.1 −0

GEARHEAD

K9P□B

□90
4−∅6.5 hole
∅104±0.5
∅15 +0.018 −0 (h7)
∅34
18
38 65
7
2
25

K9P□BF

130
110±0.5
60
∅104±0.5
∅15 +0.018 −0 (h7)
∅34
18
36±0.5
60
90
4−∅8.5 hole
4−M6 TAP
38 65
7 12
2
25
11

K9P□BU

□90
49
∅104±0.5
∅18 +0.018 −0 (h7)
∅40
18
49
4−∅8.5hole
4−∅8.5hole
4−M6 TAP
42 85
7 12
2
25
11

K9P□BUF

130
110±0.5
60
∅104±0.5
∅18 +0.018 −0 (h7)
∅40
18
36±0.5
60
90
4−∅8.5 hole
4−M6 TAP
42 85
7 12
2
25
11

BRAKE MOTOR

GGM GGM GEARED MOTOR

DIMENSIONS

K9□P90F□−B + K9P□B   K9□P90F−B + K9P□BF, BUF   K9□P90F□−B + K9P□BU
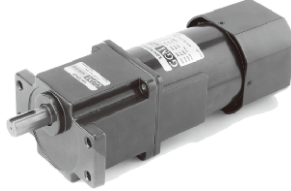
K9□P90F□−B + K9P□B

ELECTRO−MAGNETIC BRAKE
LEAD WIRE 300mm
UL Style 3271 , AWG20

MOTOR LEAD WIRE 300mm
UL Style 3271 , AWG20
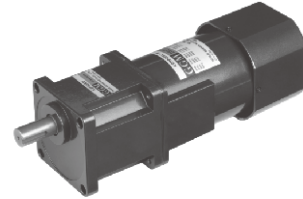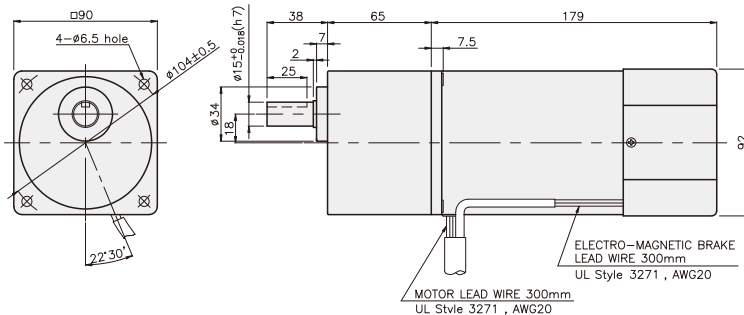
WEIGHT

PART	WEIGHT(kg)
MOTOR	3,60
DECIMAL GEAR HEAD	0,62

DIMENSION TABLE

PART No	L	Application Model	Mounting BOLT
01	65	K9P3~200B	M6 P1,0 X 95
02	40	K9P10BX	M6 P1,0 X 140

WEIGHT

PART	WEIGHT(kg)
K9P3~10B	1,22
K9P12,5~20B	1,32
K9P25~60B	1,42
K9P75~200B	1,45

K9□P90F−B + K9P□BF
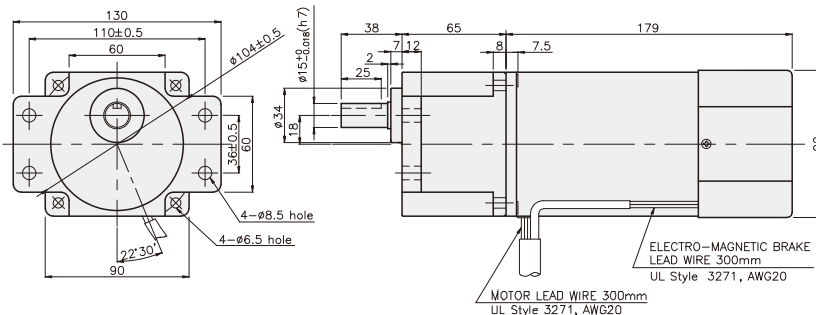
ELECTRO−MAGNETIC BRAKE
LEAD WIRE 300mm
UL Style 3271, AWG20

MOTOR LEAD WIRE 300mm
UL Style 3271, AWG20

DIMENSION TABLE

PART No	L	Application Model	Mounting BOLT
01	65	K9P3~200BF	M6 P1,0 X 25
02	40	K9P10BX	M6 P1,0 X 65

WEIGHT

PART	WEIGHT(kg)
K9P3~10BF	1,22
K9P12,5~20BF	1,30
K9P25~60BF	1,42
K9P75~200BF	1,44

K9□P90F□−B + K9P□BU
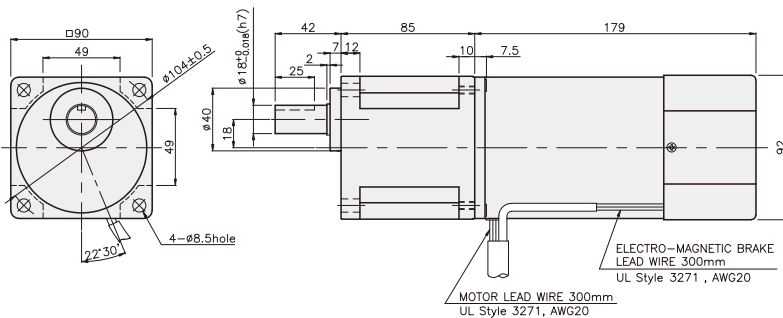
ELECTRO−MAGNETIC BRAKE
LEAD WIRE 300mm
UL Style 3271 , AWG20

MOTOR LEAD WIRE 300mm
UL Style 3271, AWG20

DIMENSION TABLE

PART No	L	Application Model	Mounting BOLT
01	85	K9P3~200BU	M6 P1,0 X 20
02	40	K9P10BX	M6 P1,0 X 60

WEIGHT

PART	WEIGHT(kg)
K9P3~10BU	1,44
K9P12,5~20BU	1,55
K9P25~60BU	1,69
K9P75~200BU	1,74

K9□P90F□−B + K9P□BUF
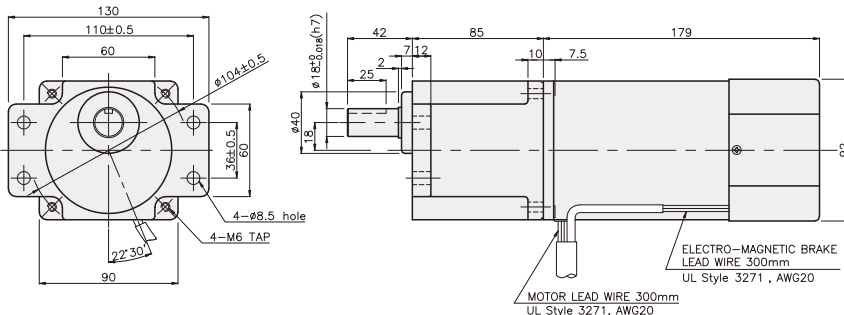
ELECTRO−MAGNETIC BRAKE
LEAD WIRE 300mm
UL Style 3271 , AWG20

MOTOR LEAD WIRE 300mm
UL Style 3271, AWG20

DIMENSION TABLE

PART No	L	Application Model	Mounting BOLT
01	85	K9P3~200BUF	M6 P1,0 X 20
02	40	K9P10BX	M6 P1,0 X 65

WEIGHT

PART	WEIGHT(kg)
K9P3~10BUF	1,50
K9P12,5~20BUF	1,62
K9P25~60BUF	1,76
K9P75~200BUF	1,82

GGM GGM GEARED MOTOR

BRAKE MOTOR

120W □90mm

K9□S120F□-B
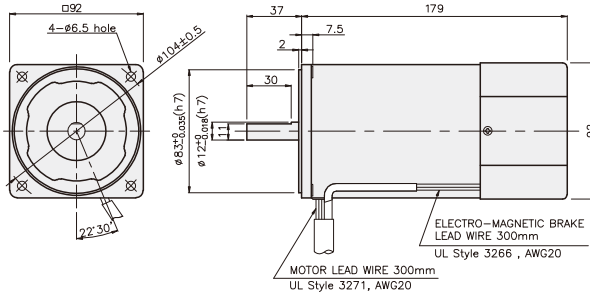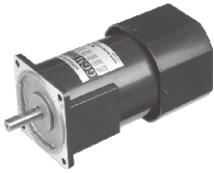
DIMENSION TABLE

PART No	M	Application Model
01	200	50Hz
02	179	60Hz

※ 50Hz motor is "C50" added to model number.

SPECIFICATIONS

120W 30 minutes rating, four poles

Model	Duty		Voltage (V)	Frequency (Hz)	Current (A)	Start T. (N*m/ Kgf*cm)	Rated T. (N*m/ Kgf*cm)	Speed (rpm)	Condenser (μF)	Friction T. (N*m/ Kgf*cm)
K9R□120FJ-B			100	50	2.4	0.65/6.5	0.9/9	1300	40	1/10
				60	2.61	0.7/7	0.755/7.55	1550		
K9R□120FU-B			110	60	1.93	0.6/6	0.755/7.55	1550	25	1/10
			115		1.88	0.62/6.2				
K9R□120FL-B	single-phase	30 minutes	200	50	1.07	0.6/6	0.9/9	1300	8.5	1/10
				60	1.22	0.58/5.8	0.755/7.55	1550	8	
K9R□120FC-B			220	50	0.82	0.53/5.3	0.9/9	1300	6	1/10
			230		0.85	0.58/5.8				
			220	60	1	0.63/6.3	0.735/7.35	1600	7	
			230		1.1					
K9R□120FD-B			240	50	0.9	0.58/5.8	0.9/9	1300	6	1/10

* □ : SHAFT SHAPE (S : STRAIGHT, P : PINION)

RATED TORQUE OF GEARHEAD

● **50Hz**

unit = above : N·m / below : Kgf·cm

Model	Speed(rpm)	500	416	300	250	200	166	150	120	100	83	75	60	50	41	37	30	25	20	16	15	13	10	8.3	7.5
Motor/Gearhead	Ratio	3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180	200
K9RP120F□-B K9P□B, BF		2.19	2.62	3.65	4.37	5.47	6.56	7.29	8.20	9.84	11.81	13.12	14.76	17.71	20	20	20	20	20	20	20	20	20	20	20
		21.9	26.2	36.5	43.7	54.7	65.6	72.9	82.0	98.4	118.1	131.2	147.6	177.1	200	200	200	200	200	200	200	200	200	200	200

● **60Hz**

unit = above : N·m / below : Kgf·cm

Model	Speed(rpm)	600	500	360	300	240	200	180	144	120	100	90	72	60	50	45	36	30	24	20	18	15	12	10	9
Motor/Gearhead	Ratio	3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180	200
K9RP120F□-B K9P□B, BF		1.79	2.14	2.98	3.57	4.47	5.36	5.95	6.70	8.04	9.64	10.72	12.06	14.47	17.36	19.29	20	20	20	20	20	20	20	20	20
		17.9	21.4	29.8	35.7	44.7	53.6	59.5	67.0	80.4	96.41	107.2	120.6	144.7	173.6	192.9	200	200	200	200	200	200	200	200	200

* Gearhead and decimal gearhead are sold separately.
* The code in □ of gearhead model is for gear ratio.
*   color indicates that the output shaft of the geared motor rotates in the same direction as the output shaft of the motor. Others indicate rotation in the opposite direction.
* If you are to have less ratio than the ratio in the table, you can install the decimal gearhead, which has one tenth of the ratio, between the gearhead and the motor. In this case, the permissible torque is 20N·m/200kgf·cm.
* RPM is based on motor's synchronous rpm (50HZ:1500rpm, 60HZ:1800rpm) and calculated by dividing gear ratio. Actual rpm is 2~20% less than indicating rpm according to load size.

BRAKE MOTOR

GEARHEADS

RATED TORQUE OF GEARHEAD

● **50Hz**

unit = above : N · m / below : kgfcm

Model	Speed(rpm)	500	416	300	250	200	166	150	120	100	83	75	60	50	41	37	30	25	20	16	15	13	10	8,3	7,5
Motor/Gearhead	Ratio	3	3,6	5	6	7,5	9	10	12,5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180	200
K9RP120F□−B		2,19	2,62	3,65	4,37	5,47	6,56	7,29	8,20	9,84	11,81	13,12	14,76	17,71	21,26	23,62	30	30	30	30	30	30	30	30	30
K9P□BU，BUF		21,9	26,2	36,5	43,7	54,7	65,6	72,9	82,0	98,4	118,2	131,2	147,6	177,1	212,6	236,2	300	300	300	300	300	300	300	300	300

● **60Hz**

unit = above : N · m / below : kgfcm

Model	Speed(rpm)	600	500	360	300	240	200	180	144	120	100	90	72	60	50	45	36	30	24	20	18	15	12	10	9
Motor/Gearhead	Ratio	3	3,6	5	6	7,5	9	10	12,5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180	200
K9RP120F□−B		1,79	2,14	2,98	3,57	4,47	5,36	5,95	6,70	8,04	9,64	10,72	12,06	14,47	17,36	19,29	24,11	28,93	30	30	30	30	30	30	30
K9P□BU，BUF		17,9	21,4	29,8	35,7	44,7	53,6	59,5	67,0	80,4	96,4	107,2	120,6	144,7	173,6	192,9	241,1	289,3	300	300	300	300	300	300	300

* Gearhead and decimal gearhead are sold separately.

* The code in □ of gearhead model is for gear ratio.

* ▨ color indicates that the output shaft of the geared motor rotates in the same direction as the output shaft of the motor. Others indicate rotation in the opposite direction.

* If you are to have less ratio than the ratio in the table, you can install the decimal gearhead, which has one tenth of the ratio, between the gearhead and the motor. In this case, the permissible torque is 30N · m/300kgfcm.

* RPM is based on motor's synchronous rpm (50HZ:1500rpm, 60HZ:1800rpm) and calculated by dividing gear ratio. Actual rpm is 2~20% less than indicating rpm according to load size.

CONNECTION DIAGRAMS

Connect Cr circuit for absorbing serge voltage as connection diagram to protect contact point.
Ro = 5 − 200Ω
Co = 0,1 ~ 0,2μF 200WV(400WV)

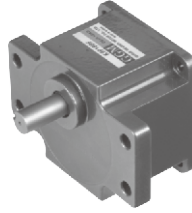※The direction of motor rotation is as viewed from the front shaft end of the motor
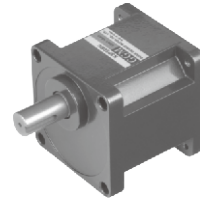
GGM GGM GEARED MOTOR

GEARHEADS

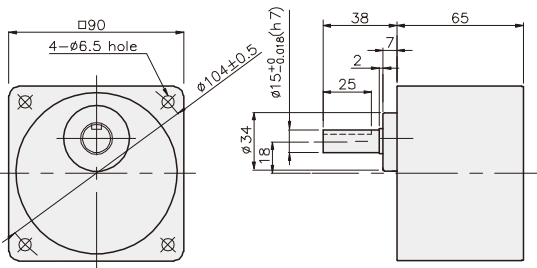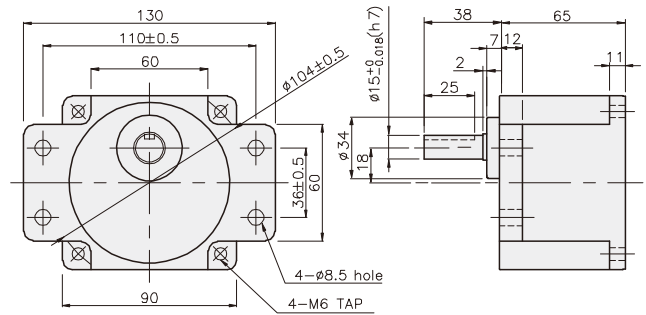K9P□B   K9P□BF, BUF   K9P□BU

DECIMAL GEARHEAD

K9P10BX

□90
4-⌀6.5 hole
⌀104±0.5
⌀83±0.035(h7)
21 40
2

KEY SPEC

● KEY   ● KEY GROOVE

25±0.2   5 +0 -0.03   5 +0 -0.03

5 +0.04 -0   3 +0.1 -0

GEARHEAD

K9P□B

□90
4-⌀6.5 hole
⌀104±0.5
⌀15 +0.018 -0 (h7)
⌀34
18
38   65
7
2
25

K9P□BF

130
110±0.5
60
⌀104±0.5
⌀15 +0.018 -0 (h7)
⌀34
18
36±0.5
60
90
4-⌀8.5 hole
4-M6 TAP
38   65
7 12
2
25
11

K9P□BU

□90
49
⌀104±0.5
49
⌀18 +0.018 -0 (h7)
⌀40
18
42   85
7 12
2
25
11
4-⌀8.5 hole
4-⌀8.5 hole
4-M6 TAP

K9P□BUF

130
110±0.5
60
⌀104±0.5
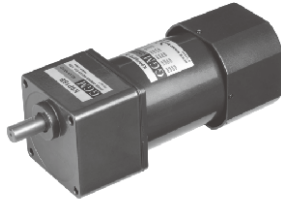⌀18 +0.018 -0 (h7)
⌀40
18
36±0.5
60
90
4-⌀8.5 hole
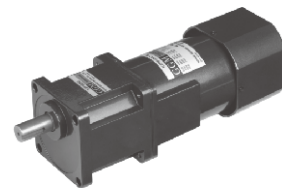4-M6 TAP
42   85
7 12
2
25
11

BRAKE MOTOR

DIMENSIONS

K9□P120F□-B + K9P□B

K9□P120F□-B + K9P□BF, BUF
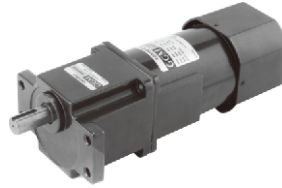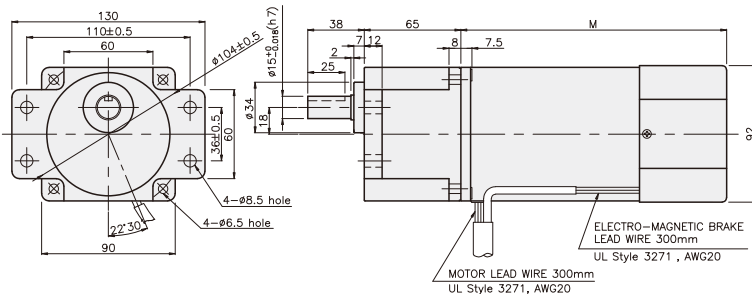
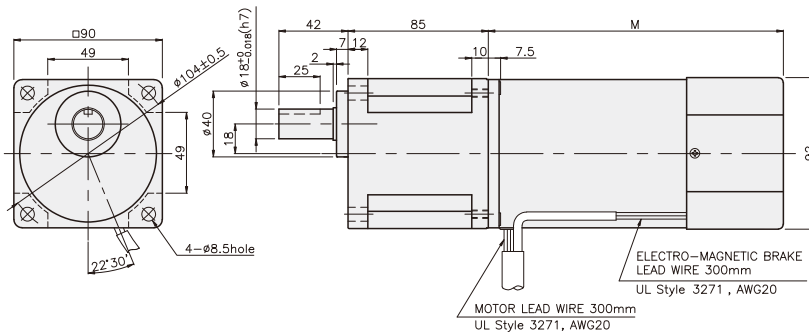### K9□P120F□-B + K9P□BU

K9□P120F□-B + K9P□B

ELECTRO-MAGNETIC BRAKE
LEAD WIRE 300mm
UL Style 3271, AWG20

MOTOR LEAD WIRE 300mm
UL Style 3271, AWG20
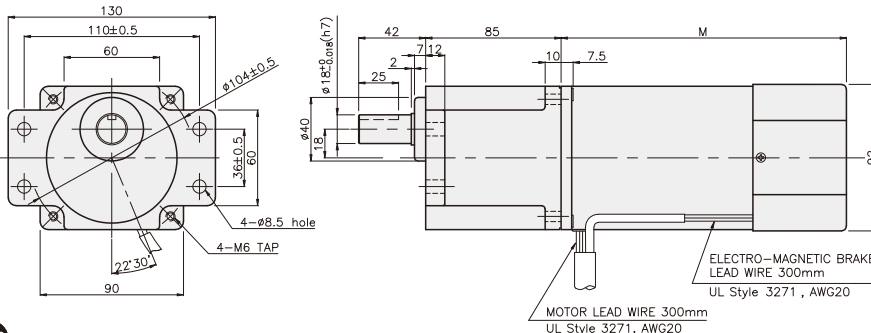
WEIGHT

PART	WEIGHT(kg)
MOTOR	3.20
DECIMAL GEAR HEAD	0.62

DIMENSION TABLE

PART No	M	Application Model
01	155	50Hz
02	135	60Hz

DIMENSION TABLE

PART No	L	Application Model	Mounting BOLT
01	65	K9P3~200B	M6 P1.0 X 95
02	40	K9P10BX	M6 P1.0 X 140

WEIGHT

PART	WEIGHT(kg)
K9P3~10B	1.22
K9P12.5~20B	1.32
K9P25~60B	1.42
K9P75~200B	1.45

K9□P120F□-B + K9P□BF

ELECTRO-MAGNETIC BRAKE
LEAD WIRE 300mm
UL Style 3271, AWG20

MOTOR LEAD WIRE 300mm
UL Style 3271, AWG20

DIMENSION TABLE

PART No	L	Application Model	Mounting BOLT
01	65	K9P3~200BF	M6 P1.0 X 25
02	40	K9P10BX	M6 P1.0 X 65

WEIGHT

PART	WEIGHT(kg)
K9P3~10BF	1.22
K9P12.5~20BF	1.30
K9P25~60BF	1.42
K9P75~200BF	1.44

K9□P120F□-B + K9P□BU

ELECTRO-MAGNETIC BRAKE
LEAD WIRE 300mm
UL Style 3271, AWG20

MOTOR LEAD WIRE 300mm
UL Style 3271, AWG20

DIMENSION TABLE

PART No	L	Application Model	Mounting BOLT
01	85	K9P3~200BU	M6 P1.0 X 20
02	40	K9P10BX	M6 P1.0 X 60

WEIGHT

PART	WEIGHT(kg)
K9P3~10BU	1.44
K9P12.5~20BU	1.55
K9P25~60BU	1.69
K9P75~200BU	1.74

K9□P120F□-B + K9P□BUF

ELECTRO-MAGNETIC BRAKE
LEAD WIRE 300mm
UL Style 3271, AWG20

MOTOR LEAD WIRE 300mm
UL Style 3271, AWG20

DIMENSION TABLE

PART No	L	Application Model	Mounting BOLT
01	85	K9P3~200BUF	M6 P1.0 X 20
02	40	K9P10BX	M6 P1.0 X 65

WEIGHT

PART	WEIGHT(kg)
K9P3~10BUF	1.50
K9P12.5~20BUF	1.62
K9P25~60BUF	1.76
K9P75~200BUF	1.82

GGM GGM GEARED MOTOR

150W □90mm

K9□S150F□-B
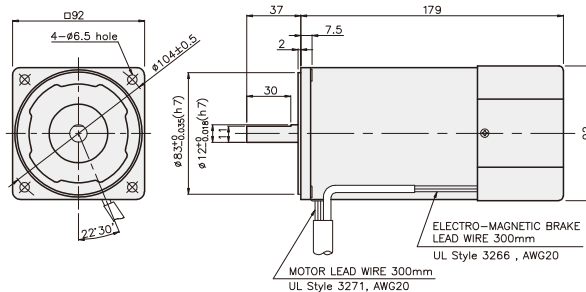
DIMENSION TABLE

PART No	M	Application Model
01	200	50Hz
02	179	60Hz

※ 50Hz motor is "C50" added to model number.

ELECTRO-MAGNETIC BRAKE
LEAD WIRE 300mm
UL Style 3266 , AWG20

MOTOR LEAD WIRE 300mm
UL Style 3271, AWG20

SPECIFICATIONS

150W continuous rating, four poles

Model	Duty	Voltage (V)	Frequency (Hz)	Current (A)	Start T. (N*m/ Kgf*cm)	Rated T. (N*m/ Kgf*cm)	Speed (rpm)	Condenser (μF)	Friction T. (N*m/ (Kgf*cm)
K9I□150FT-B		200	50	1.2	3.5/35	1.13/11.3	1300	–	1/10
			60	0.95	2.65/26.5	0.915/9.15	1600		
K9I□150FH-B		220	50	0.99	2.95/29.5	1.13/11.3	1300	–	1/10
		230		1.1	3/30				
		220	60	0.97	2.5/25	0.915/9.15	1600	–	
		230		1.02	2.7/27				
K9I□150FM-B	three-phase	380	50	0.57	3/30	1.13/11.3	1300	–	1/10
	continuous		60		2.25/22.5	0.915/9.15	1600		
K9I□150FV-B		400	50	0.6	3.5/35	1.13/11.3	1300	–	1/10
			60		2.5/25	0.915/9.15	1600		
K9I□150FQ-B		415	50	0.57	3.15/31.5	1.13/11.3	1300	–	1/10
			60	0.42	2.35/23.5	0.915/9.15	1600		
K9I□150FZ-B		440	50	0.53	3.3/33	1.085/10.82	1350	–	1/10
			60	0.44	2.6/26	0.915/9.15	1600		

* □ : SHAFT SHAPE (S : STRAIGHT, P : PINION) * 3 phase over 380V motor cannot be used with inverter. Motor winding insulation can be damaged.

RATED TORQUE OF GEARHEAD

● **50Hz**

unit = above : N·m / below : Kgf·cm

Model	Speed(rpm)	500	416	300	250	200	166	150	120	100	83	75	60	50	41	37	30	25	20	16	15	13	10	8.3	7.5
Motor/ Gearhead	Ratio	3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180	200
K9IP150F□-B K9P□B, BF		2.64	3.16	4.39	5.27	6.59	7.91	8.79	9.89	11.86	14.24	15.82	17.80	20	20	20	20	20	20	20	20	20	20	20	20
		26.4	31.6	43.9	52.7	65.9	79.1	87.9	98.9	118.6	142.4	158.2	178.0	200	200	200	200	200	200	200	200	200	200	200	200

● **60Hz**

unit = above : N·m / below : Kgf·cm

Model	Speed(rpm)	600	500	360	300	240	200	180	144	120	100	90	72	60	50	45	36	30	24	20	18	15	12	10	9
Motor/ Gearhead	Ratio	3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180	200
K9IP150F□-B K9P□B, BF		2.22	2.67	3.71	4.45	5.56	6.67	7.41	8.34	10.01	12.01	13.34	15.01	18.01	20	20	20	20	20	20	20	20	20	20	20
		22.2	26.7	37.1	44.5	55.6	66.7	74.1	83.4	100.1	120.1	133.4	150.1	180.1	200	200	200	200	200	200	200	200	200	200	200

* Gearhead and decimal gearhead are sold separately.
* The code in □ of gearhead model is for gear ratio.
* ▨ color indicates that the output shaft of the geared motor rotates in the same direction as the output shaft of the motor. Others indicate rotation in the opposite direction.
* If you are to have less ratio than the ratio in the table, you can install the decimal gearhead, which has one tenth of the ratio, between the gearhead and the motor. In this case, the permissible torque is 20N·m/200kgf·cm.
* RPM is based on motor's synchronous rpm (50HZ:1500rpm, 60HZ:1800rpm) and calculated by dividing gear ratio. Actual rpm is 2~20% less than indicating rpm according to load size.

GGM GGM GEARED MOTOR

GEARHEADS

RATED TORQUE OF GEARHEAD

● **50Hz**

Model	Speed(rpm)	500	416	300	250	200	166	150	120	100	83	75	60	50	41	37	30	25	20	16	15	13	10	8,3	7,5
Motor/ Gearhead	Ratio	3	3,6	5	6	7,5	9	10	12,5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180	200
K9IP150F□−B		2,64	3,16	4,39	5,27	6,59	7,91	8,79	9,89	11,86	14,24	15,82	17,80	21,36	25,63	28,47	30	30	30	30	30	30	30	30	30
K9P□BU, BUF		26,4	31,6	43,9	52,7	65,9	79,1	87,9	98,9	118,6	142,4	158,2	178,0	213,6	256,3	284,7	300	300	300	300	300	300	300	300	300

● **60Hz**

Model	Speed(rpm)	600	500	360	300	240	200	180	144	120	100	90	72	60	50	45	36	30	24	20	18	15	12	10	9
Motor/ Gearhead	Ratio	3	3,6	5	6	7,5	9	10	12,5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180	200
K9IP150F□−B		2,22	2,67	3,71	4,45	5,56	6,67	7,41	8,34	10,01	12,01	13,34	15,01	18,01	21,61	24,01	30	30	30	30	30	30	30	30	30
K9P□BU, BUF		22,2	26,7	37,1	44,5	55,6	66,7	74,1	83,4	100,1	120,1	133,4	150,1	180,1	216,1	240,1	300	300	300	300	300	300	300	300	300

* Gearhead and decimal gearhead are sold separately.
* The code in □ of gearhead model is for gear ratio.
* ▇▇▇ color indicates that the output shaft of the geared motor rotates in the same direction as the output shaft of the motor. Others indicate rotation in the opposite direction.
* If you are to have less ratio than the ratio in the table, you can install the decimal gearhead, which has one tenth of the ratio, between the gearhead and the motor. In this case, the permissible torque is 30N · m/300kgfcm.
* RPM is based on motor's synchronous rpm (50HZ:1500rpm, 60HZ:1800rpm) and calculated by dividing gear ratio. Actual rpm is 2~20% less than indicating rpm according to load size.

CONNECTION DIAGRAMS

three phase motor

Connect Cr circuit for absorbing serge voltage as connection diagram to protect contact point.
Ro = 5 − 200Ω
Co = 0.1 ~ 0.2μF 200WV(400WV)

3Ø 200V~230V	3Ø 380V~440V

※The direction of motor rotation is as viewed from the front shaft end of the motor
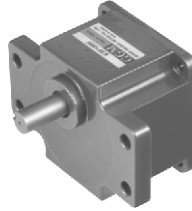
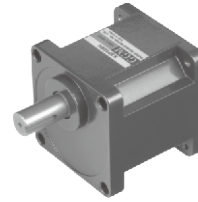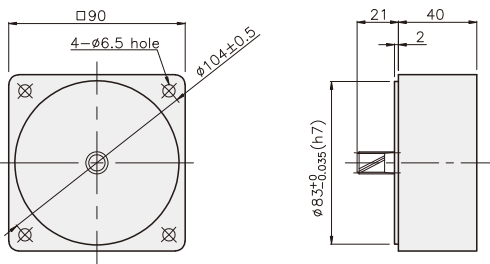connecting two leadwires of U,V,W in turns

GGM GGM GEARED MOTOR

GEARHEADS

K9P□B   K9P□BF，BUF   K9P□BU

DECIMAL GEARHEAD

K9P10BX

□90
4−∅6.5 hole
∅104±0.5
∅83±0.035(h7)
21 40
2

KEY SPEC

● KEY   ● KEY GROOVE

25±0.2   5 +0 −0.03   5 +0 −0.03
5 +0.04 −0   3 +0.1 −0

GEARHEAD

K9P□B

□90
4−∅6.5 hole
∅104±0.5
∅15 +0 −0.018(h7)
∅34
18
38 65
7
2
25

K9P□BF

130
110±0.5
60
∅104±0.5
36±0.5
60
90
4−∅8.5 hole
4−M6 TAP
∅15 +0 −0.018(h7)
∅34
18
38 65
7 12
2
25
11

K9P□BU

□90
49
49
∅104±0.5
4−∅8.5hole
∅18 +0 −0.018(h7)
∅40
18
42 85
7 12
2
25
11
4−∅8.5hole
4−M6 TAP

K9P□BUF

130
110±0.5
60
∅104±0.5
36±0.5
60
90
4−∅8.5 hole
4−M6 TAP
∅18 +0 −0.018(h7)
∅40
18
42 85
7 12
2
25
11
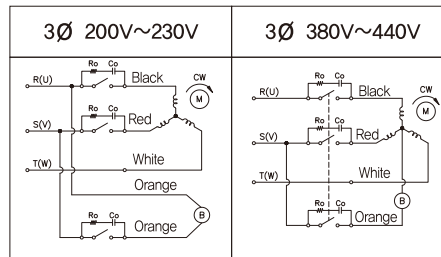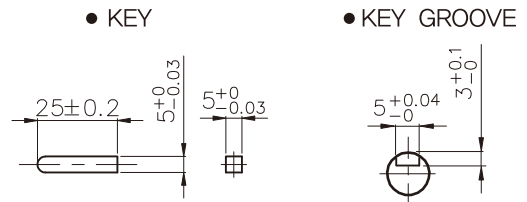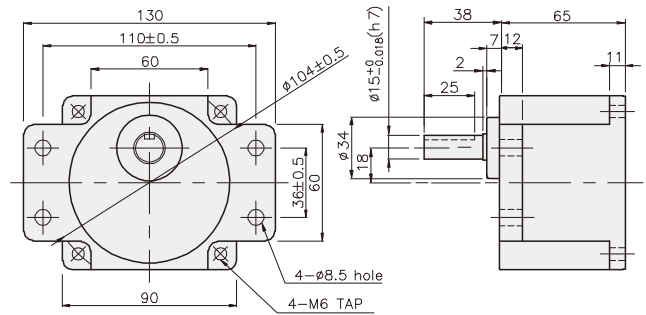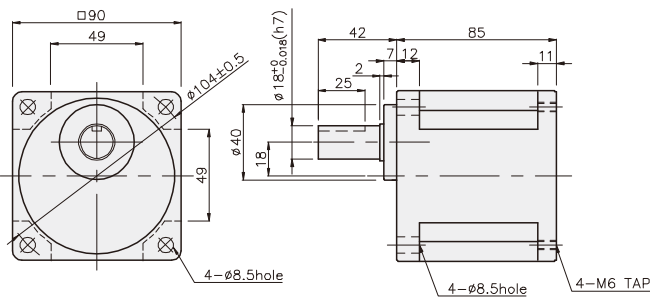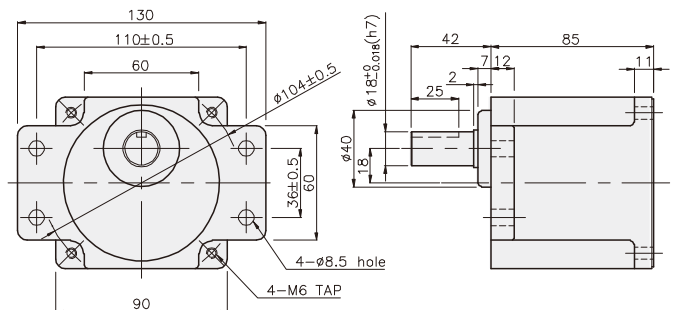
BRAKE MOTOR
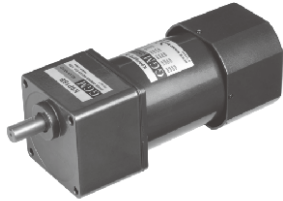
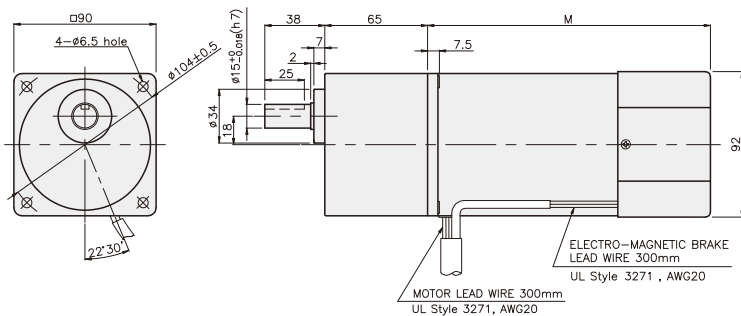K9□P150F□−B + K9P□B   K9□P150F□−B + K9P□BF, BUF   K9□P150F□−B + K9P□BU
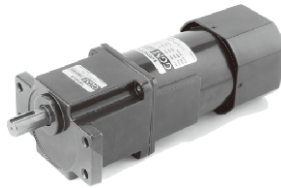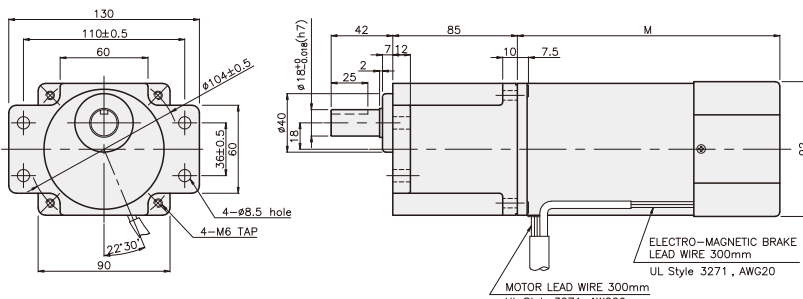

K9IP150F□−B + K9P□B

□90
4−ø6.5 hole
ø104±0.5
ø15+0 -0.018(h7)
ø34
18
38
7
25
65
7.5
M
92
22°30'

ELECTRO−MAGNETIC BRAKE
LEAD WIRE 300mm
UL Style 3271 , AWG20

MOTOR LEAD WIRE 300mm
UL Style 3271, AWG20

K9IP150F□−B + K9P□BF

130
110±0.5
60
ø104±0.5
ø15+0 -0.018(h7)
ø34
18
36±0.5
60
4−ø8.5 hole
4−ø6.5 hole
22°30'
90
38
2
7 12
25
65
8
7.5
M
92

ELECTRO−MAGNETIC BRAKE
LEAD WIRE 300mm
UL Style 3271 , AWG20

MOTOR LEAD WIRE 300mm
UL Style 3271, AWG20

K9IP150F□−B + K9P□BU

□90
49
ø104±0.5
ø18+0 -0.018(h7)
ø40
18
49
4−ø8.5hole
22°30'
42
2
7 12
25
85
10
7.5
M
92

ELECTRO−MAGNETIC BRAKE
LEAD WIRE 300mm
UL Style 3271 , AWG20

MOTOR LEAD WIRE 300mm
UL Style 3271, AWG20

K9IP150F□−B + K9P□BUF

130
110±0.5
60
ø104±0.5
ø18+0 -0.018(h7)
ø40
36±0.5
60
4−ø8.5 hole
4−M6 TAP
22°30'
90
42
2
7 12
25
85
10
7.5
M
92

ELECTRO−MAGNETIC BRAKE
LEAD WIRE 300mm
UL Style 3271 , AWG20

MOTOR LEAD WIRE 300mm
UL Style 3271, AWG20

WEIGHT

PART	WEIGHT(kg)
MOTOR	4,38(50Hz)
	3,66(60Hz)
DECIMAL GEAR HEAD	0,62

DIMENSION TABLE

PART No	M	Application Model
01	155	50Hz
02	135	60Hz

DIMENSION TABLE

PART No	L	Application Model	Mounting BOLT
01	65	K9P3~200B	M6 P1,0 X 95
02	40	K9P10BX	M6 P1,0 X 140

WEIGHT

PART	WEIGHT(kg)
K9P3~10B	1,22
K9P12,5~20B	1,32
K9P25~60B	1,42
K9P75~200B	1,45

DIMENSION TABLE

PART No	L	Application Model	Mounting BOLT
01	65	K9P3~200BF	M6 P1,0 X 25
02	40	K9P10BX	M6 P1,0 X 65

WEIGHT

PART	WEIGHT(kg)
K9P3~10BF	1,22
K9P12,5~20BF	1,30
K9P25~60BF	1,42
K9P75~200BF	1,44

DIMENSION TABLE

PART No	L	Application Model	Mounting BOLT
01	85	K9P3~200BU	M6 P1,0 X 20
02	40	K9P10BX	M6 P1,0 X 60

WEIGHT

PART	WEIGHT(kg)
K9P3~10BU	1,44
K9P12,5~20BU	1,55
K9P25~60BU	1,69
K9P75~200BU	1,74

DIMENSION TABLE

PART No	L	Application Model	Mounting BOLT
01	85	K9P3~200BUF	M6 P1,0 X 20
02	40	K9P10BX	M6 P1,0 X 65

WEIGHT

PART	WEIGHT(kg)
K9P3~10BUF	1,50
K9P12,5~20BUF	1,62
K9P25~60BUF	1,76
K9P75~200BUF	1,82

GGM GGM GEARED MOTOR

180W □90mm

K9□S180F□-B
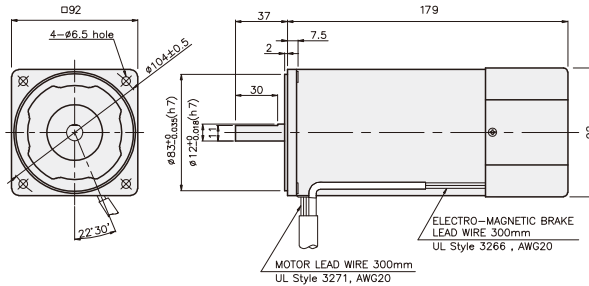
SPECIFICATIONS

180W 30 minutes rating, four poles

Model	Duty		Voltage (V)	Frequency (Hz)	Current (A)	Start T. (N*m/ Kgf*cm)	Rated T. (N*m/ Kgf*cm)	Speed (rpm)	Condenser (μF)	Friction T. (N*m/ (Kgf*cm)
K9R□180FJ-B			100	50	3.1	0.7/7	1.35/13.5	1300	40	1/10
				60	2.95	0.75/7.5	1.1/11	1600		
K9R□180FU-B			110	60	2.9	0.85/8.5	1.1/11	1600	40	1/10
	single-phase	30 minutes	115		3.1					
K9R□180FL-B			200	50	1.47	0.65/6.5	1.35/13.5	1300	12	1/10
				60	1.43	0.55/5.5	1.1/11	1600		
K9R□180FC-B			220	50	1.58	0.65/0.6	1.35/13.5	1300	8	1/10
				60	1.38	0.6/6	1.1/11	1600		
			230	50	1.7	0.7/7	1.35/13.5	1300		
				60	1.54	0.65/6.5	1.1/11	1600		
K9R□180FD-B			240	50	1.2	0.7/7	1.35/13.5	1300	8	1/10

* □ : SHAFT SHAPE (S : STRAIGHT, P : PINION)

RATED TORQUE OF GEARHEAD

● **50Hz**

unit = above : N·m / below : Kgf·cm

Model	Speed(rpm)	600	500	360	300	240	200	180	144	120	100	90	72	60	50	45	36	30	24	20	18	15	12	10	9
Motor/ Gearhead	Ratio	3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180	200
K9RP180F□-B		3.28	3.94	5.47	6.56	8.20	9.84	10.94	12.30	14.76	17.71	19.68	22.14	26.57	30	30	30	30	30	30	30	30	30	30	30
K9P□BU, BUF		32.8	39.4	54.7	65.6	82.0	98.4	109.4	123.0	147.6	177.1	196.8	221.4	265.7	300	300	300	300	300	300	300	300	300	300	300

● **60Hz**

unit = above : N·m / below : Kgf·cm

Model	Speed(rpm)	600	500	360	300	240	200	180	144	120	100	90	72	60	50	45	36	30	29	18	15	12	10	9
Motor/ Gearhead	Ratio	3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180	200
K9RP180F□-B		2.67	3.21	4.46	5.35	6.68	8.02	8.91	10.02	12.03	14.43	16.04	18.04	21.65	25.98	28.87	30	30	30	30	30	30	30	30	30
K9P□BU, BUF		26.7	32.1	44.6	53.5	66.8	80.2	89.1	100.2	120.3	144.3	160.4	180.4	216.5	259.8	288.7	300	300	300	300	300	300	300	300	300

* Gearhead and decimal gearhead are sold separately.
* The code in □ of gearhead model is for gear ratio.
*　color indicates that the output shaft of the geared motor rotates in the same direction as the output shaft of the motor. Others indicate rotation in the opposite direction.
* If you are to have less ratio than the ratio in the table, you can install the decimal gearhead, which has one tenth of the ratio, between the gearhead and the motor. In this case, the permissible torque is 30N·m/300kgf·cm.
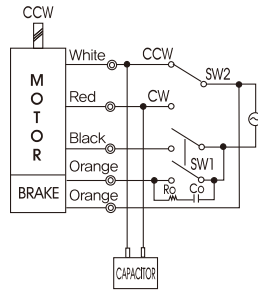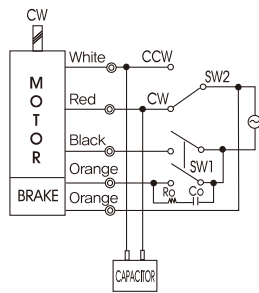* RPM is based on motor's synchronous rpm (50HZ:1500rpm, 60HZ:1800rpm) and calculated by dividing gear ratio. Actual rpm is 2～20% less than indicating rpm according to load size.
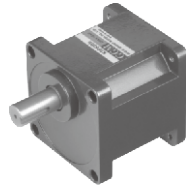
GGM GGM GEARED MOTOR

CONNECTION DIAGRAMS

Connect Cr circuit for absorbing
serge voltage as connection
diagram to protect contact point.
Ro = 5 ~ 200Ω
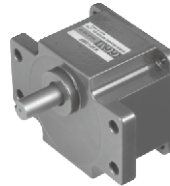Co = 0.1 ~ 0.2μF 200WV(400WV)

※The direction of motor rotation is as viewed
from the front shaft end of the motor

DIMENSIONS

K9P□BU

K9P□BUF
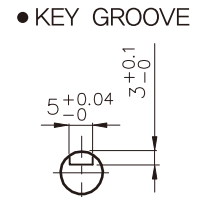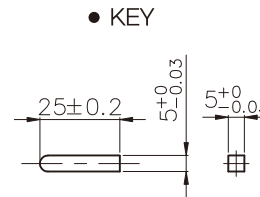

DECIMAL GEARHEAD
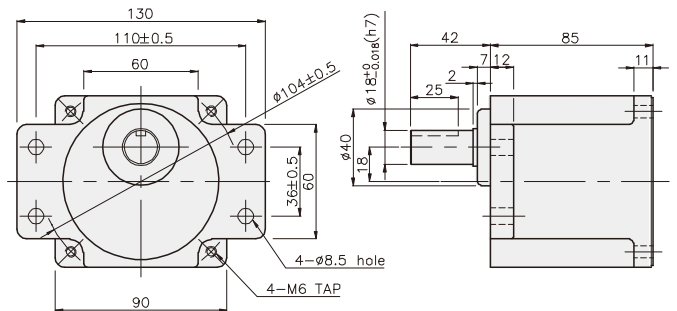### K9P10BX

□90
4−ø6.5 hole
ø104±0.5
21
40
2
ø83+0−0.035(h7)

KEY SPEC

● KEY

● KEY GROOVE

25±0.2
5+0−0.03
5+0−0.03
5+0.04−0
3+0.1−0

GEARHEAD

K9P□BU

□90
49
ø104±0.5
49
4−ø8.5hole
42
85
7 12
2
25
11
ø18+0−0.018(h7)
ø40
18
4−ø8.5hole
4−M6 TAP

K9P□BUF

130
110±0.5
60
ø104±0.5
36±0.5
60
4−ø8.5 hole
4−M6 TAP
90
42
85
7 12
2
25
11
ø18+0−0.018(h7)
ø40
18

GGM GGM GEARED MOTOR

DIMENSIONS

K9RP180F□-B + K9P□BU

K9RP180F□-B + K9P□BUF

WEIGHT

PART	WEIGHT(kg)
MOTOR	4.34
DECIMAL GEAR HEAD	0.62

DIMENSION TABLE

PART No	L	Application Model	Mounting BOLT
01	65	K9P3~200B	M6 P1.0 X 20
02	40	K9P10BX	M6 P1.0 X 60

WEIGHT

PART	WEIGHT(kg)
K9P3~10BU	1.44
K9P12.5~20BU	1.55
K9P25~60BU	1.69
K9P75~200BU	1.74

DIMENSION TABLE

PART No	L	Application Model	Mounting BOLT
01	85	K9P3~200BUF	M6 P1.0 X 20
02	40	K9P10BX	M6 P1.0 X 65

WEIGHT

PART	WEIGHT(kg)
K9P3~10BUF	1.50
K9P12.5~20BUF	1.62
K9P25~60BUF	1.76
K9P75~200BUF	1.82

K9RP180F□-B + K9P□BU
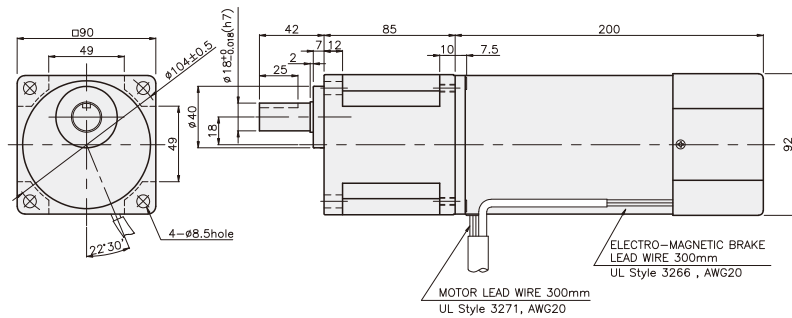
K9RP180F□-B + K9P□BUF
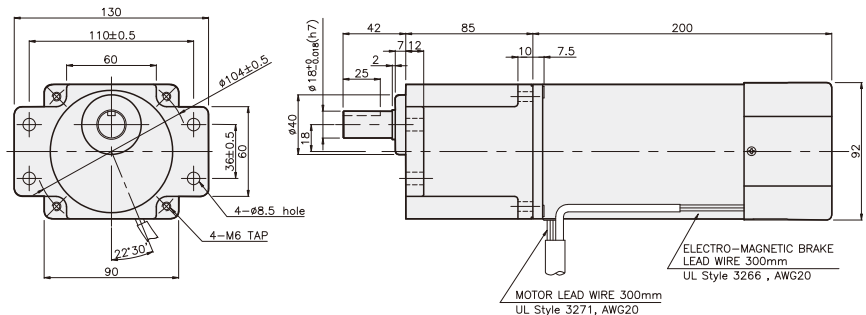
GGM GGM GEARED MOTOR

BRAKE MOTOR

200W □90mm

K9□S200F□−B

□92
4−ø6.5 hole
ø104±0.5
ø83⁺⁰.₀₃₅(h7)
ø12⁺⁰.₀ₘ(h7)
22°30'
37
7.5
2
30
11
179
92

ELECTRO−MAGNETIC BRAKE LEAD WIRE 300mm
UL Style 3266 , AWG20

MOTOR LEAD WIRE 300mm
UL Style 3271, AWG20
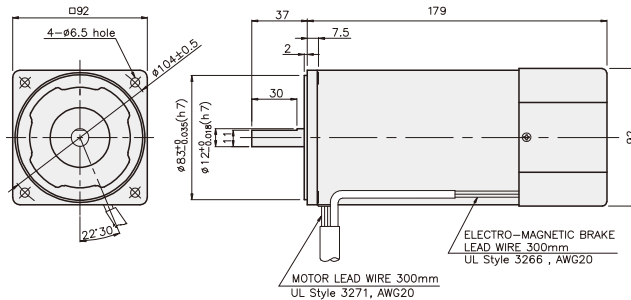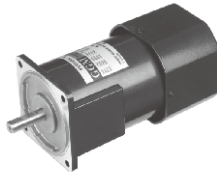
SPECIFICATIONS

200W continuous rating, four poles

Model	Duty	Voltage (V)	Frequency (Hz)	Current (A)	Start T. (N∗m/ Kgf∗cm)	Rated T. (N∗m/ Kgf∗cm)	Speed (rpm)	Condenser (μF)	Friction T. (N∗m/ (Kgf∗cm)
K9I□200FT−B	three−phase	200	50	1.62	4/40	1.5/15	1300	−	1/10
			60	1.29	3.15/31.5	1.22/12.1	1600		
K9I□200FH−B		220	50	1.36	4.25/42.5	1.45/14.5	1350	−	1/10
			60	1.06	3.4/34	1.22/12.2	1600		
		230	50	1.51	4.3/43	1.45/14.5	1350	−	
			60	1.15	3.5/35	1.22/12.2	1600		
K9I□200FM−B	continuous	380	50	0.81	4.3/43	1.45/45.5	1350	−	1/10
			60	0.58	3.6/36	1.22/12.2	1600		
K9I□200FV−B		400	50	0.91	4.5/45	1.45/14.5	1350	−	1/10
			60	0.67	4/40	1.22/12.2	1600		
K9I□200FQ−B		415	50	0.62	3.8/38	1.5/15	1300	−	1/10
			60	0.58	3/30	1.26/12.6	1550		
K9I□200FZ−B		440	50	0.68	4.1/41	1.5/15	1300	−	1/10
			60	0.54	3/30	1.22/12.2	1600		

* □ : SHAFT SHAPE (S : STRAIGHT, P : PINION) * 3 phase over 380V motor cannot be used with inverter. Motor winding insulation can be damaged.

RATED TORQUE OF GEARHEAD

● 50Hz

unit = above : N·m / below : Kgf·cm

Model	Speed(rpm)	500	416	300	250	200	166	150	120	100	83	75	60	50	41	37	30	25	20	16	15	13	10	8.3	7.5
Motor/ Gearhead	Ratio	3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180	200
K9IP200F□−B K9P□BU, BUF		3.52	4.23	5.87	7.05	8.81	10.57	11.75	13.21	15.86	19.03	21.14	23.78	28.54	30	30	30	30	30	30	30	30	30	30	30
		35.2	42.3	58.7	70.5	88.1	105.7	117.5	132.1	158.6	190.3	211.4	237.8	285.4	300	300	300	300	300	300	300	300	300	300	300

● 60Hz

unit = above : N·m / below : Kgf·cm

Model	Speed(rpm)	600	500	360	300	240	200	180	144	120	100	90	72	60	50	45	36	30	24	20	18	15	12	10	9
Motor/ Gearhead	Ratio	3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180	200
K9IP200F□−B K9P□BU, BUF		2.96	3.56	4.94	5.93	7.41	8.89	9.88	11.12	13.34	16.01	17.79	20.01	24.01	28.82	30	30	30	30	30	30	30	30	30	30
		29.6	35.6	49.4	59.3	74.1	88.9	98.8	111.2	133.4	160.1	177.9	200.1	240.1	288.2	300	300	300	300	300	300	300	300	300	300

* Gearhead and decimal gearhead are sold separately.
* The code in □ of gearhead model is for gear ratio.
* color indicates that the output shaft of the geared motor rotates in the same direction as the output shaft of the motor. Others indicate rotation in the opposite direction.
* If you are to have less ratio than the ratio in the table, you can install the decimal gearhead, which has one tenth of the ratio, between the gearhead and the motor. In this case, the permissible torque is 30N·m/300kgf·cm.
* RPM is based on motor's synchronous rpm (50HZ:1500rpm, 60HZ:1800rpm) and calculated by dividing gear ratio. Actual rpm is 2~20% less than indicating rpm according to load size.

GGM GGM GEARED MOTOR

GEARHEADS
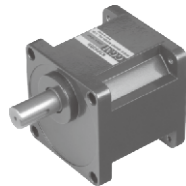
Connect Cr circuit for absorbing
serge voltage as connection
diagram to protect contact point.
Ro = 5 – 200Ω
Co = 0.1 ~ 0.2μF 200WV(400WV)

※The direction of motor rotation is as viewed
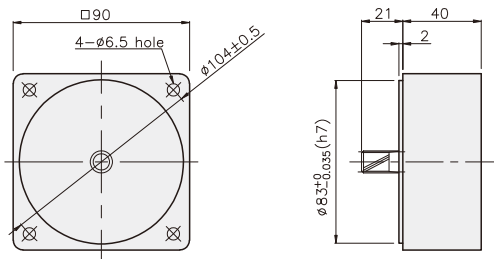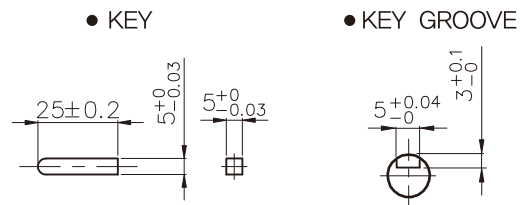from the front shaft end of the motor

DIMENSIONS

K9P□BU

K9P□BUF

DECIMAL GEARHEAD

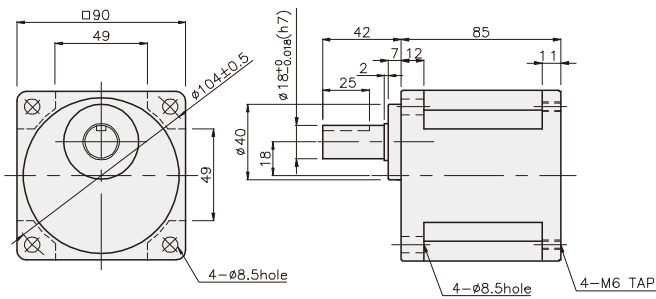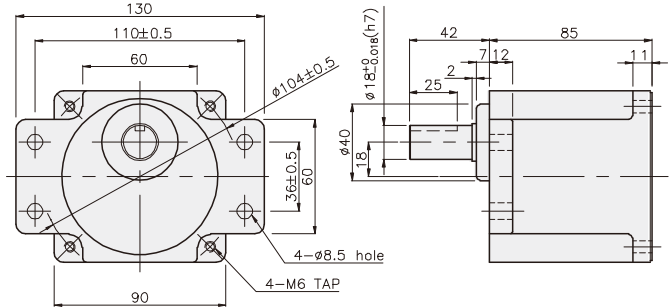### K9P10BX

□90
4–ø6.5 hole
ø104±0.5
21 40
2
ø83+0 -0.035(h7)

KEY SPEC

● KEY

● KEY GROOVE

25±0.2
5+0 -0.03
5+0 -0.03

5+0.04 -0
3+0.1 -0

GEARHEAD

K9P□BU

□90
49
ø104±0.5
49
4–ø8.5hole
42
7 12
2
25
ø18+0 -0.018(h7)
ø40
18
85
11
4–ø8.5hole
4–M6 TAP

K9P□BUF

130
110±0.5
60
ø104±0.5
36±0.5
60
4–ø8.5 hole
90
4–M6 TAP
42
7 12
2
25
ø18+0 -0.018(h7)
ø40
18
85
11

BRAKE MOTOR

GEARHEADS

K9□P200F□ + K9P□BU

K9□P200F□ + K9P□BUF
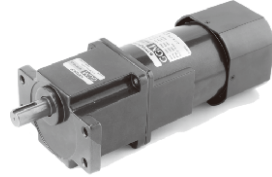
K9IP200F□−B + K9P□BU
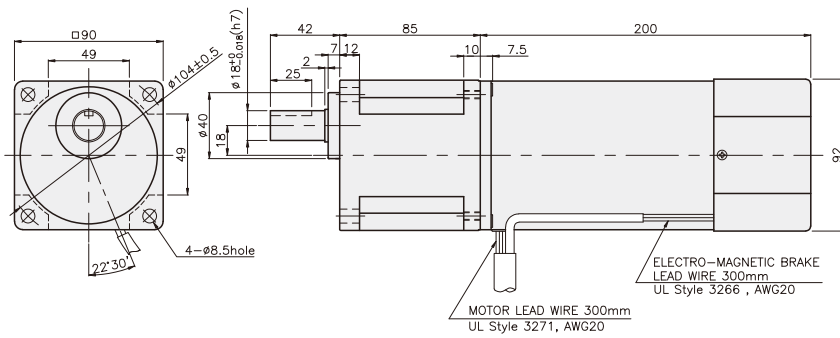
WEIGHT

PART	WEIGHT(kg)
MOTOR	4.38
DECIMAL GEAR HEAD	0.62

DIMENSION TABLE

PART No	L	Application Model	Mounting BOLT
01	85	K9P3~200BU	M6 P1.0 X 20
02	40	K9P10BX	M6 P1.0 X 60

WEIGHT

PART	WEIGHT(kg)
K9P3~10BU	1.44
K9P12.5~20BU	1.55
K9P25~60BU	1.69
K9P75~200BU	1.74

DIMENSION TABLE

PART No	L	Application Model	Mounting BOLT
01	85	K9P3~200BUF	M6 P1.0 X 20
02	40	K9P10BX	M6 P1.0 X 65

WEIGHT

PART	WEIGHT(kg)
K9P3~10BUF	1.50
K9P12.5~20BUF	1.62
K9P25~60BUF	1.76
K9P75~200BUF	1.82

K9IP200F□−B + K9P□BUF