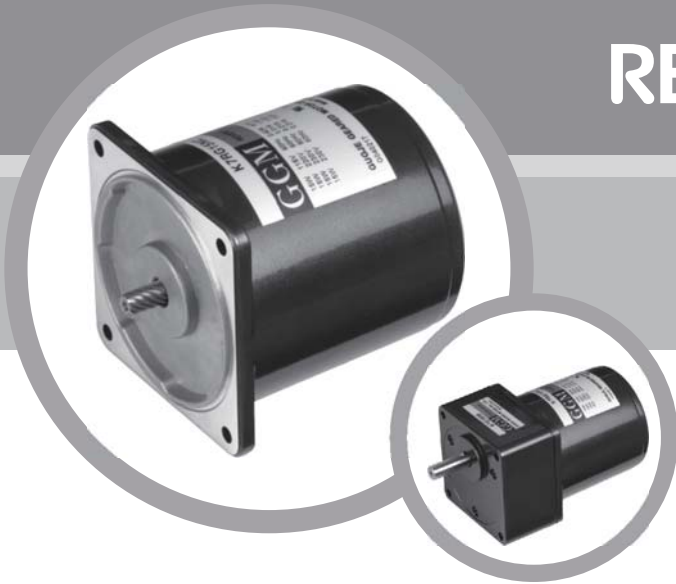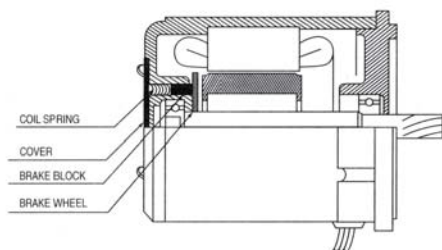# REVERSIBLE MOTOR

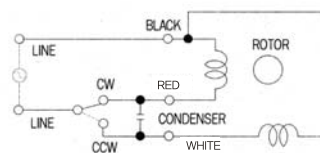# [Characteristic of Reversible Motor]
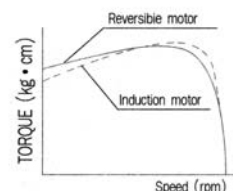
1. Characteristic of Reversible Motor

(Fig. 1)

- The reversible motor is a condenser type single-phase induction motor. Therefore, its general characteristics are as same as those of the induction motor.
- It is possible for the motor to operate in rotational direction from normal - stop - to reverse.
- The reversible motor has a temporary brake device built inside the motor to facilitate the operation in normal as well as reverse direction. Also, the mail and sub windings of the stator have their windings manufactured with the same method to guarantee the identical characteristics between them. Refer to (Fig. 2).
- Also, it has a higher starting torque to facilitate the frequent changes in rotational direction from normal direction to reverse direction, and vice versa, within a short time. Refer to (Fig. 3).
- The temporary brake is employed to prevent overrun. The temporary brake has a little retaining force to provide excellent instantaneous stop by preventing overrun when stopping. Refer to (Fig. 1).
- The changeover switch can help the motor reverse its rotational direction easily within a short time so that it is suitable for such operation that changes the rotational direction frequently from normal to reverse, and vice versa. Therefore, this motor is called a reversible motor.
- Since the design characteristic of the reversible motor is a capability to control the directional changes in rotation, the loss input is larger and the temperature can rise higher compared with the induction motor. Hence, the rated operating time is limited to 30 minutes.
- Thus, 30 minutes of rated operating time means that the motor at the rated load can have at least 30 minutes of non-stop operation within the safe upper limit of the temperature rise. It is possible for the motor at the intermittent load or at the light load to have non-stop operation, if only the outer cover temperature is not over 90℃.
- In general, the reversible motor is as same as the induction motor in terms of the number of rotation, and the characteristics of torque, voltage, and condenser.

CIRCUIT DIAGRAM   SPEED- TORQUE CURVE

(Fig 2)   (Fig 3)

2. Temporary Brake Structure

- The temporary brake of the reversible motor has characteristics as follows.
  ① Apply a frictional load to improve the frequent reversal operation.
  ② Reduce overrun.
  ③ Provide a little holding torque.
- Structurally, as shown in (Fig. 1), the brake block is forced toward the brake wheel by a spring to make retention force.
- Since at the aspect of the structure of the brake as shown the above it has a limitation to strengthen retention force, we adjusted the brake power to be about 10% of the motor output torque.
- The figures representing the holding torque and the overrun under no-load in (Table 1) may have more or less deviations for each motor. They may also have some discrepancies depending on the operating duration and the ambient temperature. It is advised therefore that the table figures should be used only for reference purpose.
- The rated torque and electric current of the reversible motor were measured in the circumstance where the temporary brake block is installed in the motor. Therefore, there will be no problem even if the corresponding table figures are used when selecting a motor. The conservative selection of a motor is recommended, however, because the figures may have some deviation depending on the brake block employed for the motor.
- Care should be given, because there is a case that the holding toque may fall below the figures of (Table 1) in the initial phase of operation.

PHASE	SIZE	OUTPUT (W)	MOTOR MODEL	HOLDING TORQUE		OVER RUN
				(g · cm)	(N · cm)	
SINGLE PHASE	60mm	6	K6RG6N□	50	0.5	4
	70mm	15	K7RG15N□	130	1.3	5
	80mm	25	K8RGP5N□	150	1.5	5
	90mm	40	K9RG40N□	400	4.0	6
		60	K9RP60F□			
		90	K9RP90F□			

(Table 1)

3. Operating Time and Temperature Rise

- Although 30 minutes of rated operating time is specified for the reversible motor, the rated operating time may change depending on the operation conditions if the operation frequently repeats stop and run (On-Off) within a short period of time.
- If the reversible motor frequently repeats stop and run (On-Off) within a short time, the starting current gets increased to cause the motor temperature to rise. However, the longer rated operating time may be obtained by allowing the motor to remain stop longer, because the stoppage can provide a chance of natural cooling for the motor to decrease its temperature.
- The conditions of the intermittent (On-Off) operation are determined as shown in A ~ F of (Fig. 4). F stands for continuous operation.
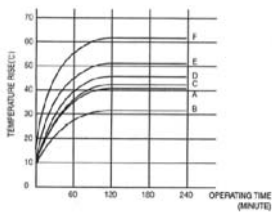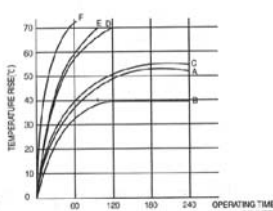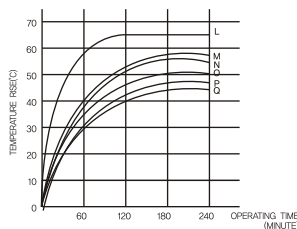
(Fig. 4)
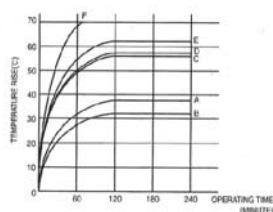
(Fig. 5)
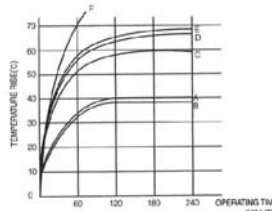
(Fig. 6)

(Fig. 7)

(Fig. 8)

	RUN	STOP						
A	1SEC	1SEC	1SEC					Operation for 1 second, Stop for 1 second (One direction operation)
B								Operation for 2 second, Stop for 2 second (One direction operation)
C								Operation for 2 second, Stop for 2 second
D								CW Operation for 1 second CCW Operation for 1 second stop for 1 second
E								CW Operation for 2 second CCW Operation for 2 second stop for 1 second
F								Continous Operation

(Table 2)

- The characteristics shown in (Fig. 5) through (Fig. 8) represent the measurements of the motor for 220V 50/60Hz. Naturally, the characteristics of the motor or 220V 60Hz will have a little greater characteristic values because of a voltage increased by about 10%, and therefore, the recommendation is that the motor should be operated at the temperature below the ambient temperature.
- The temperature rise measurement is performed when the motor, under no-load, is prevented rom transferring its internal heat to the outside through the motor's external contact points using thermograph. This method of measurement can provide the highest possible temperature rise.
- Especially, if either a load or an inertia load is greater than the motor's rated torque, the longer time is required for start or directional reversal, resulting in a greater temperature rise, which requires a user's attention.
- The specified temperature rise of the reversible motor is 75℃ (△T value) in general, and be careful not to exceed the temperature.
- In reality, there is a case that the motor alone is used, but mostly the motor is used in combination with the gearhead. Hence, when the motor of K8R25N is used with no-load in combination with the gearhead of K8G50B, the temperature rise is like a L curve shown in (Fig. 8) and also the temperature rise becomes lower and the operating time becomes longer by about 30 minutes as compared with the motor shown in (Fig. 6). (Table 2) shows various heat radiation plates for mounting surface. The table indicates that the temperature decreases by about 6℃ when the diameter of the heat radiation plate is doubled, and the greater heat conductivity of aluminum makes the aluminum temperature rise smaller than that of the steel. Also, the temperature can be lowered by about 3℃ if the aluminum is painted.
- Although the principle is to keep the coil temperature below the specified temperature for the insulation class. It is possible to continue the operation if the motor housing surface temperature remains less than 90℃. The temperature of the motor varies depending on the load, operating cycle, motor's mounting method, and ambient temperature.

GENERAL SPECIFICATION OF REVERSIBLE MOTORS

Item	Specification
Insulation Resistance	100MΩ or more when 500V megger is applied between the windings and the housing after rated motor operation under normal ambient temperature and humidity
Dielectric Strength	Sufficient to withstand 1500V at 50/60Hz applied between the windings and the 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℃～50℃ (with UL, CE marked motors: -10℃～40℃)
Ambient Humidity	85% maximum (non condensing)

REVERSIBLE MOTOR

6W □60mm

LEAD WIRE TYPE
TERMINAL BOX TYPE

K6RS6N□   K6RS6N□-T

SPECIFICATIONS

6W continuous rating, four poles

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

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	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□(-T)		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	21.3	27.8	30	30	30	30	30	30

● 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	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□(-T)		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/30kgfcm.
* 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.
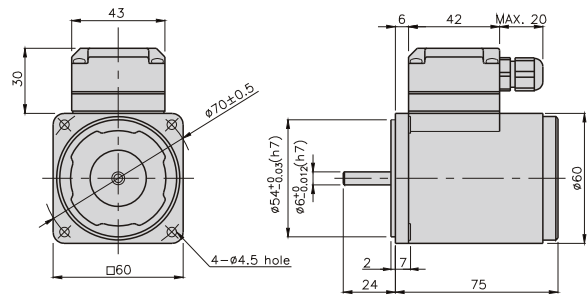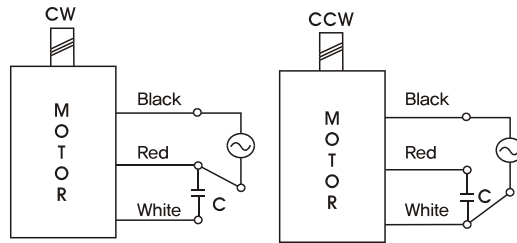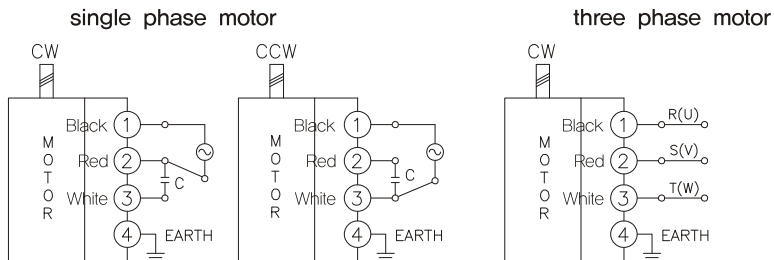
GGM GGM GEARED MOTOR

GEARHEADS

DIMENSIONS

K6RS6N□
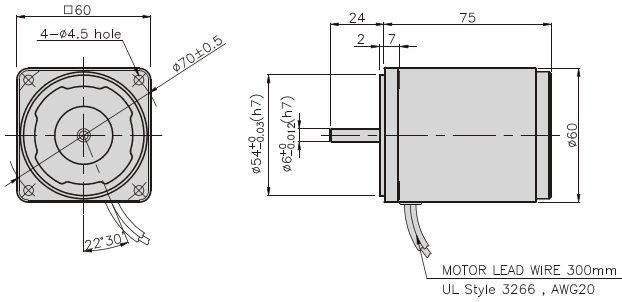
□60
4−ø4.5 hole
ø70±0.5
24
2   7
75
ø54$^{+0}_{-0.03}$(h7)
ø6$^{0}_{-0.012}$(h7)
ø60
22°30′
MOTOR LEAD WIRE 300mm
UL Style 3266 , AWG20

K6RS6N□−T

43
30
ø70±0.5
□60
4−ø4.5 hole
6   42   MAX. 20
ø54$^{+0}_{-0.03}$(h7)
ø6$^{0}_{-0.012}$(h7)
ø60
2   7
24   75

CONNECTION DIAGRAMS

K6RS6N□

CW — MOTOR — Black, Red, White, C
CCW — MOTOR — Black, Red, White, C

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

K6RS6N□−T

single phase motor

CW — MOTOR — Black (1), Red (2), White (3), C, (4) EARTH
CCW — MOTOR — Black (1), Red (2), White (3), C, (4) EARTH

three phase motor

CW — MOTOR — Black (1) R(U), Red (2) S(V), White (3) T(W), (4) EARTH

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

DIMENSIONS

DECIMAL GEARHEAD

K6G□B(C)   **K6G10BX□**

GEARHEAD

K6G□B(C)

□60
4−ø4.5 hole
ø70±0.5
12.5   26
2
ø54$^{+0}_{-0.03}$(h7)

□60
4−ø4.5 hole
ø70±0.5
32   L
3
7   12
ø24
10
ø8$^{+0}_{-0.015}$(h7)

GGM GGM GEARED MOTOR
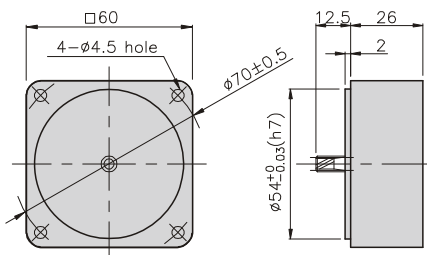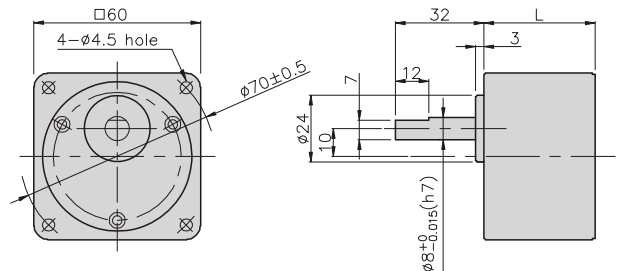
GEARHEADS

K6RG6N□ + K6G□B(C)　　　　K6RG6N□-T + K6G□B(C)

K6RG6N□ + K6G□B(C)
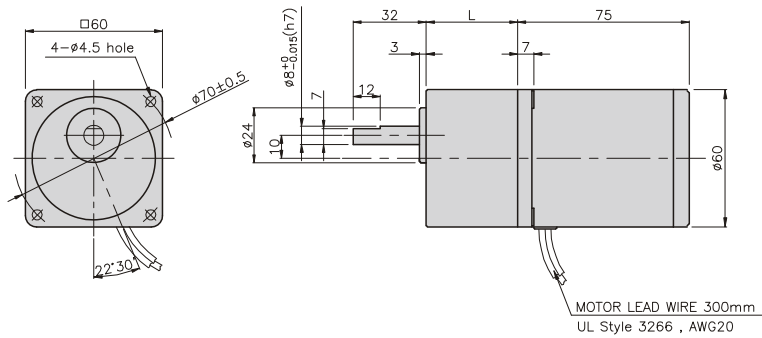
MOTOR LEAD WIRE 300mm
UL Style 3266 , AWG20

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		0,72
DECIMAL GEAR HEAD		0,22
GEAR HEAD	K6G3~18B(C)	0,26
	K6G20~40B(C)	0,33
	K6G50~250B(C)	0,36

K6RG6N□-T + K6G□B(C)
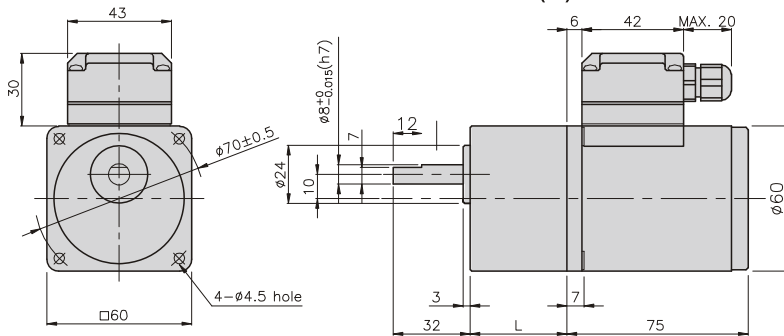
DIMENSION TABLE

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		0,76
DECIMAL GEAR HEAD		0,22
GEAR HEAD	K6G3~18B(C)	0,26
	K6G20~40B(C)	0,33
	K6G50~250B(C)	0,36

GGM GGM GEARED MOTOR

REVERSIBLE MOTOR

15W □70mm

LEAD WIRE TYPE
TERMINAL BOX TYPE

K7RS15N□   K7RS15N□−T

SPECIFICATIONS

15W continuous rating, four poles

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

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

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	12.5	10	8.3	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□(−T)		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 : 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
K7R□15N□(−T)		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	2.26	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.
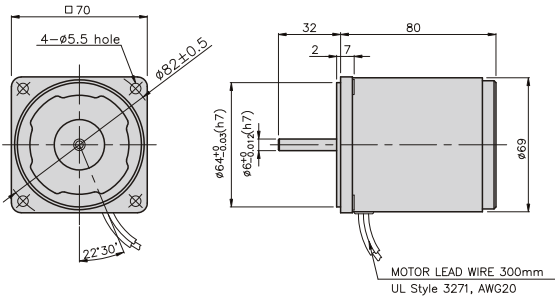* If you are to have less ratio than the ratio in the table, you can install the decimal gearhead, which has one tenth of the ratio, between the gearhead and the motor. In this case, the permissible torque is 5N·m/50kgfcm.
* RPM is based on motor's synchronous rpm (50HZ:1500rpm, 60HZ:1800rpm) and calculated by dividing gear ratio. Actual rpm is 2~20% less than indicating rpm according to load size.
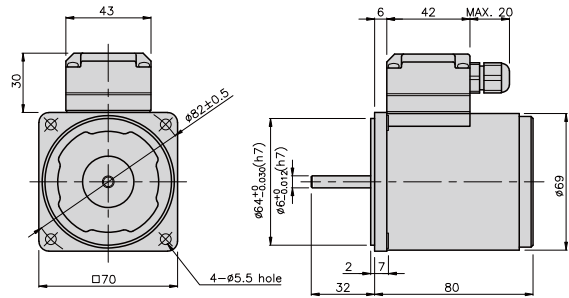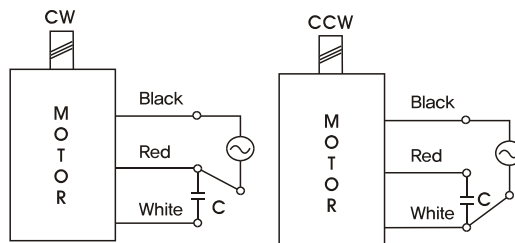
GGM GGM GEARED MOTOR

GEARHEADS

K7RS15N□

MOTOR LEAD WIRE 300mm
UL Style 3271, AWG20

K7RS15N□－T

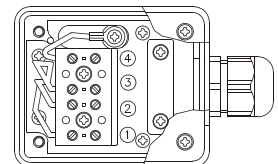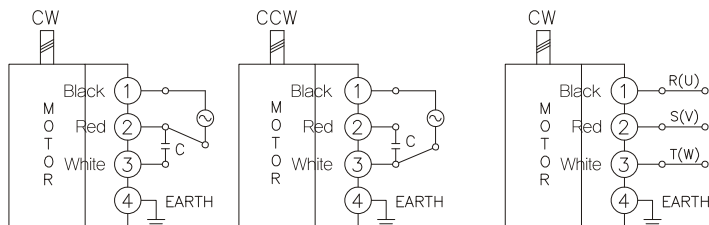### K7RS15N□

CW   CCW

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

K7RS15N□－T
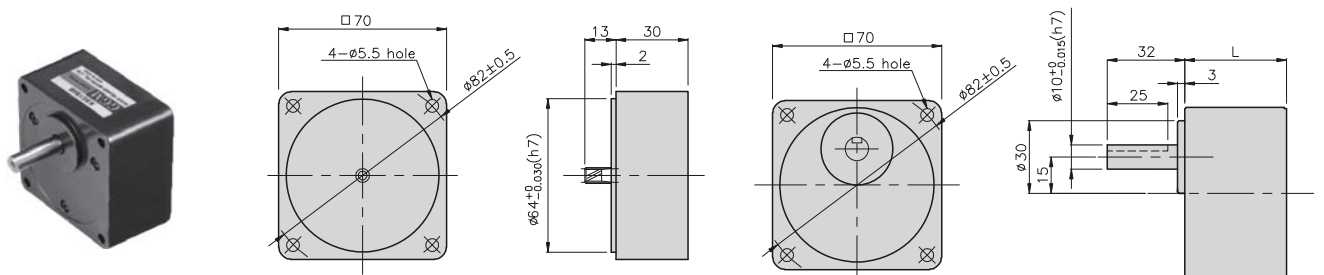
single phase motor   three phase motor

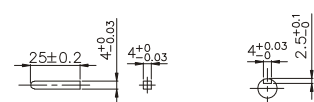The direction of motor rotation is as viewed from the front shaft end of the motor

K7G□B(C)

DECIMAL GEARHEAD
K7G10BX

GEARHEAD
K7G□B(C)

● KEY   ● KEY GROOVE

GGM GGM GEARED MOTOR

GEARHEADS

K7RG15N□ + K7G□B(C)   K7RG15N□-T + K7G□B(C)

K7RG15N□ + K7G□B(C)

DIMENSION TABLE

PART No	L	Application Model	Mounting BOLT
01	32	K7G3~18B(C)	M5 P0.8 X 50
02	42	K7G20~200B(C)	M5 P0.8 X 65
03	30	K7G10BX	M5 P0.8 X 90

WEIGHT

PART		WEIGHT(kg)
MOTOR		1.07
DECIMAL GEAR HEAD		0.32
GEAR HEAD	K7G3~18B(C)	0.38
	K7G20~40B(C)	0.46
	K7G50~200B(C)	0.51
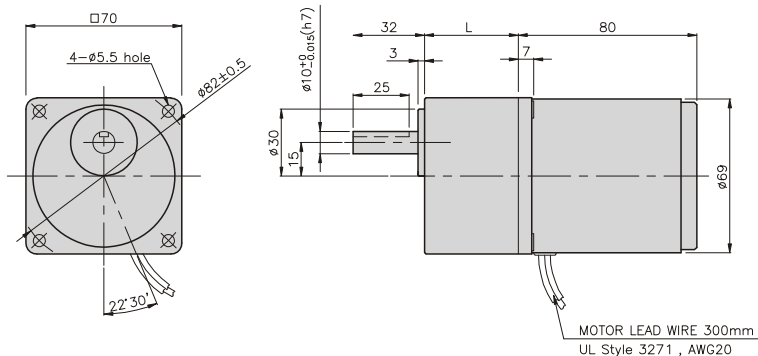
□70
4-ø5.5 hole
ø82±0.5
22°30'

32 L 80
ø10⁺⁰₋₀.₀₁₅(h7)
3
25
7
ø30
15
ø69

MOTOR LEAD WIRE 300mm
UL Style 3271 , AWG20

K7RG15N□-T + K7G□B(C)

DIMENSION TABLE

PART No	L	Application Model	Mounting BOLT
01	32	K7G3~18B(C)	M5 P0.8 X 50
02	42	K7G20~200B(C)	M5 P0.8 X 65
03	30	K7G10BX	M5 P0.8 X 90

WEIGHT

PART		WEIGHT(kg)
MOTOR		1.10
DECIMAL GEAR HEAD		0.32
GEAR HEAD	K7G3~18B(C)	0.38
	K7G20~40B(C)	0.46
	K7G50~200B(C)	0.51

43
30
ø82±0.5
□70
4-ø5.5 hole

6 42 MAX. 20
ø10⁺⁰₋₀.₀₁₅(h7)
25
ø30
15
ø69
3
32 L 80

GGM GGM GEARED MOTOR
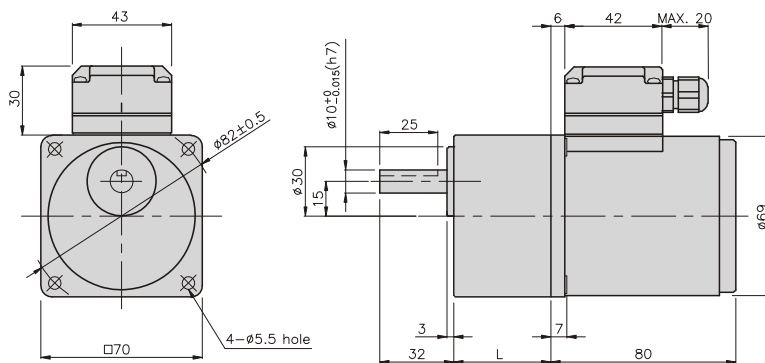
REVERSIBLE MOTOR

25W □80mm

LEAD WIRE TYPE
TERMINAL BOX TYPE

K8RS25N□   K8RS25N□-T, T5

SPECIFICATIONS

25W continuous rating, four poles

Model		Voltage (V)	Frequency (Hz)	Current (A)	Start T. (N∗m/ Kgf∗Cm)	Rated T. (N∗m/ Kgf∗Cm)	Speed (rpm)	Condenser (μF)
K8R□25NJ(-T, -T5)		100	50	0.65	0.15/1.5	0.195/1.95	1250	10
			60	0.74		0.165/1.65	1500	
K8R□25NU(-T, -T5)		110	60	0.51	0.13/1.3	0.165/1.65	1500	6
	single-phase	115		0.54				
K8R□25NL(-T, -T5)		200	50	0.33	0.16/1.6	0.195/1.95	1250	2.5
			60	0.37		0.16/1.6	1550	
K8R□25NC(-T, -T5)		220	50	0.29	0.15/1.5	0.195/1.95	1250	2
			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(-T, -T5)		240	50	0.32	0.15/1.5	0.19/1.9	1300	1.5

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

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	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
K8R□25N□(-T, -T5)		0.46	0.55	0.77	0.92	1.15	1.39	1.54	1.92	2.31	2.77	2.77	3.46	4.16	4.99	5.54	6.23	7.48	8	8	8	8	8	8	8	8
K8G□B(C)		4.6	5.5	7.7	9.2	11.5	13.9	15.4	19.2	23.1	27.7	27.7	34.6	41.6	49.9	55.4	62.3	74.8	80	80	80	80	80	80	80	80

● 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	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
K8R□25N□(-T, -T5)		0.39	0.47	0.65	0.78	0.97	1.17	1.30	1.62	1.94	2.33	2.33	2.92	3.50	4.20	4.67	5.25	6.30	7.87	8	8	8	8	8	8	8
K8G□B(C)		3.9	4.7	6.5	7.8	9.7	11.7	13.0	16.2	19.4	23.3	23.3	29.2	35.0	42.0	46.7	52.5	63.0	78.7	80	80	80	80	80	80	80

* Gearhead and decimal gearhead are sold separately.
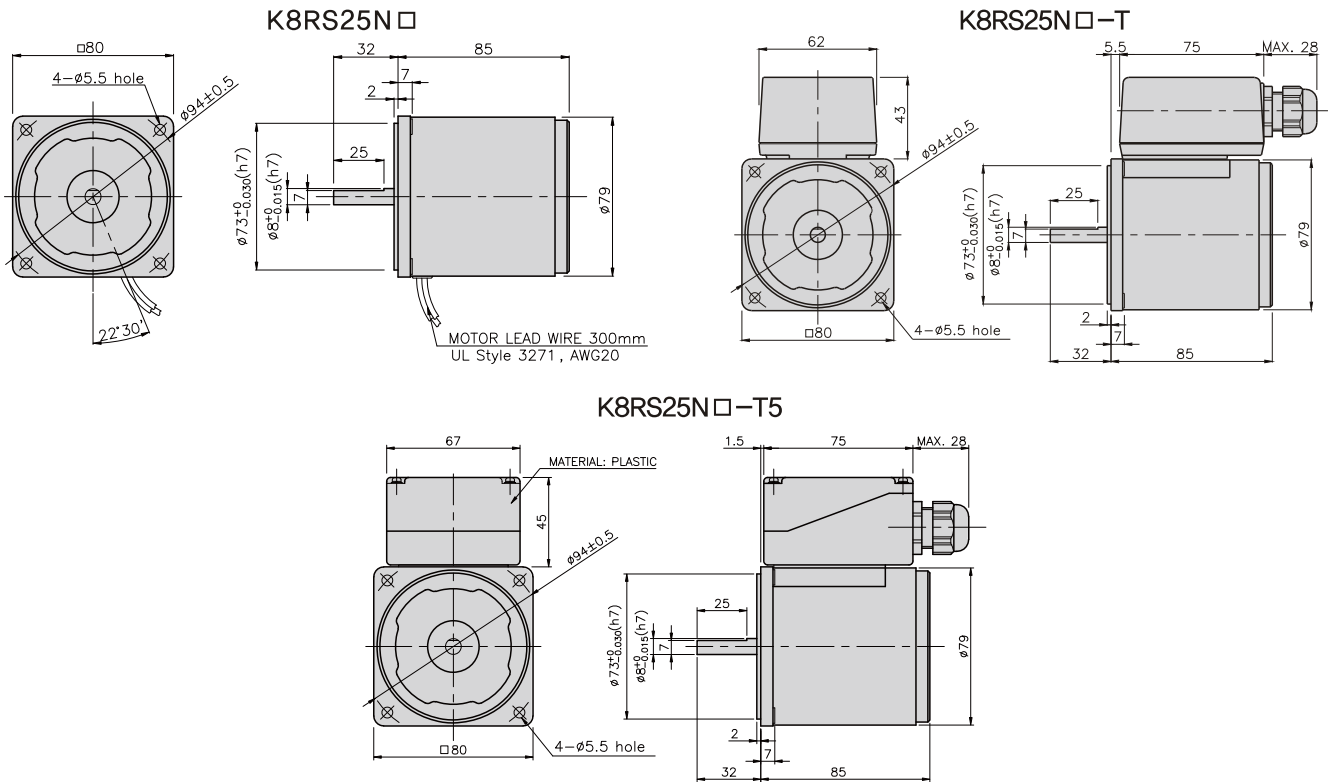* The code in □ of gearhead model is for gear ratio.
* ▓ color indicates that the output shaft of the geared motor rotates in the same direction as the output shaft of the motor. Others indicate rotation in the opposite direction.
* If you are to have less ratio than the ratio in the table, you can install 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/80kgfcm. 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.
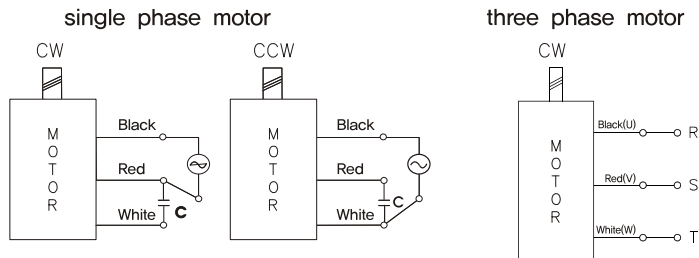
GGM GGM GEARED MOTOR

GEARHEADS

DIMENSIONS

K8RS25N□

MOTOR LEAD WIRE 300mm
UL Style 3271 , AWG20

K8RS25N□-T

K8RS25N□-T5

MATERIAL: PLASTIC

CONNECTION DIAGRAMS
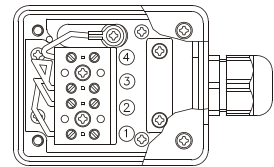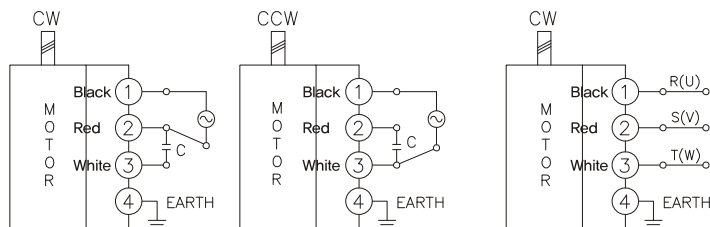
K8RS25N□

single phase motor

three phase motor
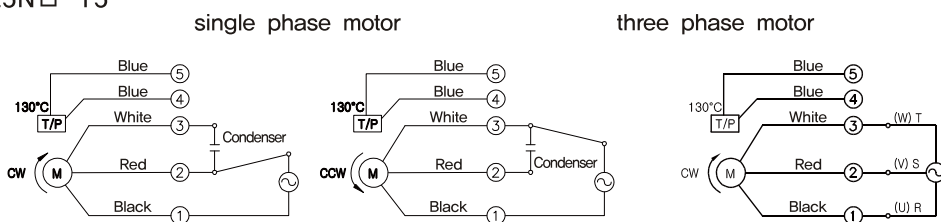

connecting two leadwires of U,V,W in turns

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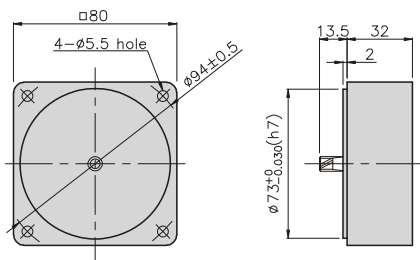from the front shaft end of the motor

K8RS25N□-T

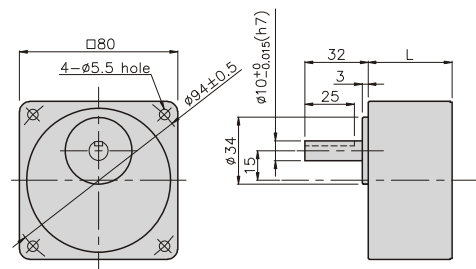The direction of motor rotation is as viewed
from the front shaft end of the motor

K8RS25N□-T5

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

GGM GGM GEARED MOTOR

GEARHEADS

K8G□B(C)

DECIMAL GEARHEAD
K8G10BX

□80
4−ø5.5 hole
ø94±0.5
13.5   32
2
ø73 +0 −0.030 (h7)

GEAR HEAD
K8G□B(C)

□80
4−ø5.5 hole
ø94±0.5
ø10 +0 −0.015 (h7)
32   L
3
25
ø34
15

● KEY

25±0.2
4 +0 −0.03
4 +0 −0.03

● KEY GROOVE

4 +0.03 −0
2.5 +0.1 −0

GGM GGM GEARED MOTOR
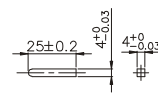
GEARHEADS

K8RG25N□ + K8G□B(C)   K8RG25N□−T(−T5) + K8G□B(C)

DIMENSION TABLE

PART No	L	Application Model	Mounting BOLT
01	32	K8G3~18B(C)	M5 P0.8 X 50
02	42.5	K8G20~250B(C)	M5 P0.8 X 65
03	32	K8G10BX	M5 P0.8 X 95

WEIGHT

PART		WEIGHT(kg)
MOTOR		1.58
DECIMAL GEAR HEAD		0.46
GEAR HEAD	K8G3~18B(C)	0.51
	K8G20~40B(C)	0.64
	K8G50~250B(C)	0.70

K8RG25N□ + K8G□B(C)

□80
4−∅5.5 hole
∅94±0.5
∅34
22°30'
∅10+0 −0.015(h7)
32 L 85
3
25
7
15
∅79
MOTOR LEAD WIRE 300mm
UL Style 3271 , AWG20

DIMENSION TABLE

PART No	L	Application Model	Mounting BOLT
01	32	K8G3~18B(C)	M5 P0.8 X 50
02	42.5	K8G20~250B(C)	M5 P0.8 X 60
03	32	K8G10BX	M5 P0.8 X 95

WEIGHT

PART		WEIGHT(kg)
MOTOR		1.76
DECIMAL GEAR HEAD		0.46
GEAR HEAD	K8G3~18B(C)	0.51
	K8G20~40B(C)	0.64
	K8G50~250B(C)	0.70

K8RG25N□−T + K8G□B(C)

62
43
∅94±0.5
4−∅5.5 hole
□80
5.5 75 MAX. 28
∅10+0 −0.015(h7)
∅34
25
15
∅79
3 L 85
32
7

DIMENSION TABLE

PART No	L	Application Model	Mounting BOLT
01	32	K8G3~18B(C)	M5 P0.8 X 50
02	42.5	K8G20~250B(C)	M5 P0.8 X 60
03	32	K8G10BX	M5 P0.8 X 95

WEIGHT

PART		WEIGHT(kg)
MOTOR		1.76
DECIMAL GEAR HEAD		0.46
GEAR HEAD	K8G3~18B(C)	0.51
	K8G20~40B(C)	0.64
	K8G50~250B(C)	0.70

K8RG25N□−T5 + K8G□B(C)

67
45
MATERIAL: PLASTIC
∅94±0.5
4−∅5.5 hole
□80
1.5 75 MAX. 28
∅10+0 −0.015(h7)
∅34
25
15
∅79
3 L 85
32
7

GGM GGM GEARED MOTOR
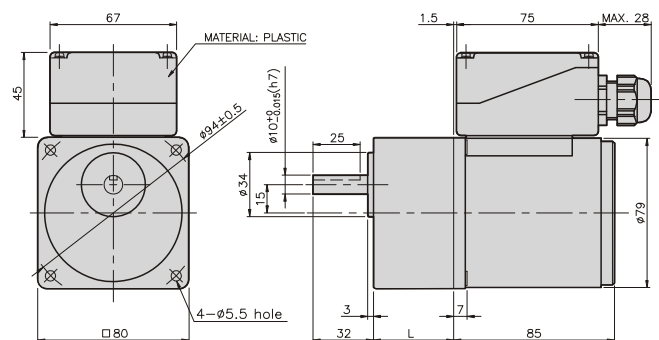
REVERSIBLE MOTOR

40W □90mm

LEAD WIRE TYPE
TERMINAL BOX TYPE

K9RS40N□

K9RS40N□-T, T5

SPECIFICATIONS

40W continuous rating, four poles

Model		Voltage (V)	Frequency (Hz)	Current (A)	Start T. (N*m/ Kgf*Cm)	Rated T. (N*m/ Kgf*Cm)	Speed (rpm)	Condenser (μF)
K9R□40NJ(-T, -T5)		100	50	1	0.3/3	0.315/3.15	1250	16
			60	1.13	0.33/3.3	0.255/2.55	1550	
K9R□40NU(-T, -T5)	single-phase	110	60	0.8	0.2/2	0.26/2.6	1500	10
		115		0.83	0.22/2.2			
K9R□40NL(-T, -T5)		200	50	0.45	0.3/3	0.315/3.15	1250	4
			60	0.57		0.26/2.6	1500	
K9R□40NC(-T, -T5)		220	50	0.46	0.3/3	0.315/3.15	1250	3.5
			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(-T, -T5)		240	50	0.41	0.34/3.4	0.3/3	1300	3

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

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	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
K9R□40N□(-T, -T5)		0.73	0.87	1.22	1.46	1.82	2.19	2.43	3.04	3.65	4.37	4.37	5.47	6.56	7.87	8.75	10	10	10	10	10	10	10	10	10
K9G□B(C)		7.3	8.7	12.2	14.6	18.2	21.9	24.3	30.4	36.5	43.7	43.7	54.7	65.6	78.7	87.5	100	100	100	100	100	100	100	100	100

● 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
K9R□40N□(-T, -T5)		0.62	0.74	1.03	1.24	1.55	1.86	2.07	2.58	3.10	3.72	3.72	4.65	5.58	6.69	7.44	8.37	10	10	10	10	10	10	10	10
K9G□B(C)		6.2	7.4	10.3	12.4	15.5	18.6	20.7	25.8	31.0	37.2	37.2	46.5	55.8	66.9	74.4	83.7	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.
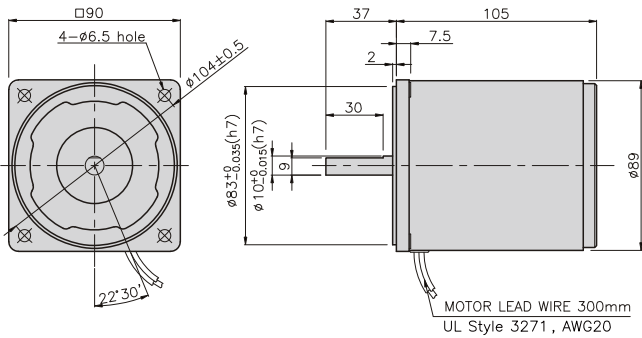* If you are to have less ratio than the ratio in the table, you can install the decimal gearhead, which has one tenth of the ratio, between the gearhead and the motor. In this case, the permissible torque is 10N · m/100kgfcm.
* RPM is based on motor's synchronous rpm (50HZ:1500rpm, 60HZ:1800rpm) and calculated by dividing gear ratio. Actual rpm is 2～20% less than indicating rpm according to load size.
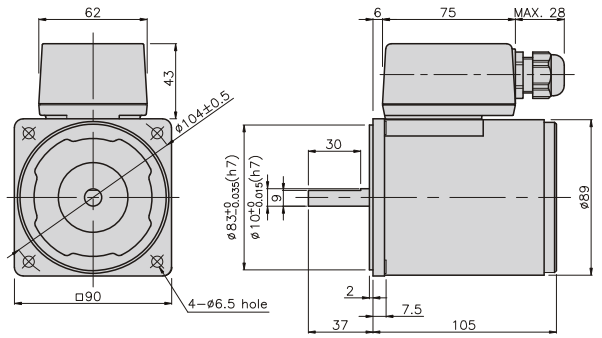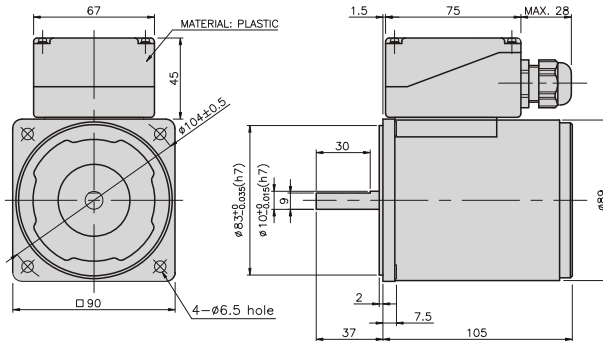
GGM GGM GEARED MOTOR

GEARHEADS

DIMENSIONS

K9RS40N□

□90
4−ø6.5 hole
ø104±0.5
22°30'
37
7.5
2
30
ø83+0−0.035(h7)
ø10+0−0.015(h7)
9
105
ø89
MOTOR LEAD WIRE 300mm
UL Style 3271 , AWG20

K9RS40N□−T

62
43
ø104±0.5
□90
4−ø6.5 hole
6
75
MAX. 28
30
ø83+0−0.035(h7)
ø10+0−0.015(h7)
9
ø89
2
7.5
37
105

K9RS40N□−T5

67
MATERIAL: PLASTIC
45
ø104±0.5
□90
4−ø6.5 hole
1.5
75
MAX. 28
30
ø83+0−0.035(h7)
ø10+0−0.015(h7)
9
ø89
2
7.5
37
105

CONNECTION DIAGRAMS

K9RS40N□

single phase motor
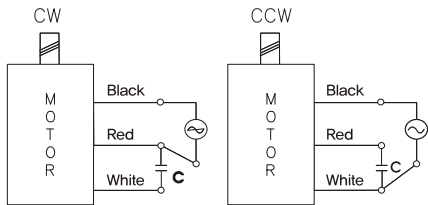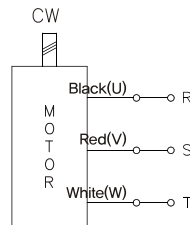
CW
MOTOR
Black
Red
White C

CCW
MOTOR
Black
Red
White C

three phase motor

CW
MOTOR
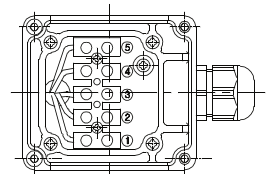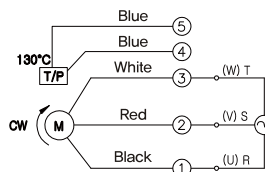Black(U) R
Red(V) S
White(W) T

connecting two leadwires of U,V,W in turns

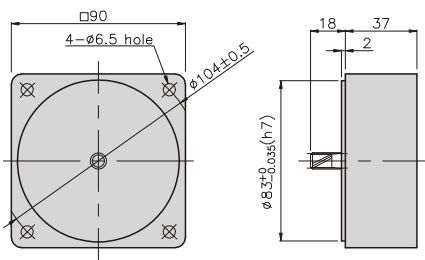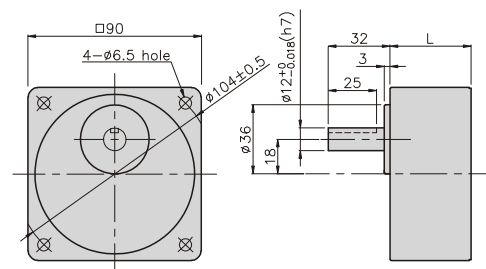The direction of motor rotation is as viewed from the front shaft end of the motor

K9RS40N□−T

single phase motor
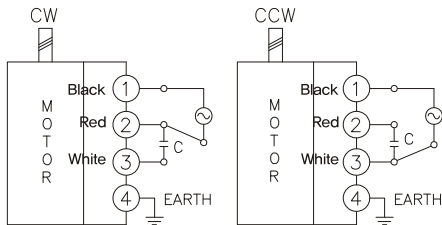
CW
MOTOR
Black 1
Red 2
White 3
C
4 EARTH

CCW
MOTOR
Black 1
Red 2
White 3
C
4 EARTH

three phase motor

CW
MOTOR
Black 1 R(U)
Red 2 S(V)
White 3 T(W)
4 EARTH
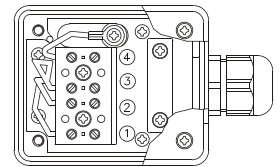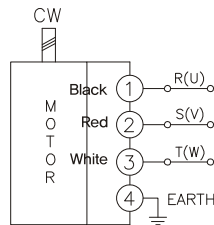
The direction of motor rotation is as viewed from the front shaft end of the motor

K9RS40N□−T5

single phase motor
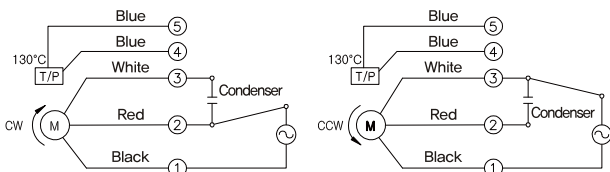
Blue 5
Blue 4
White 3
130°C T/P
Red 2
Black 1
CW M
Condenser

Blue 5
Blue 4
White 3
130°C T/P
Red 2
Black 1
CCW M
Condenser

three phase motor

Blue 5
Blue 4
White 3
130°C T/P
Red 2 (V) S
Black 1 (U) R
CW M
(W) T

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

GGM GGM GEARED MOTOR

GEARHEADS

K9G□B(C)

DECIMAL GEARHEAD

K9G10BX

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

18
37
2

GEAR HEAD

K9G□B(C)

□90
4−∅6.5 hole
∅104±0.5
∅12±0.018(h7)
∅36
18

32
3
25
L

● KEY
25±0.2
4±0.03
4±0.03

● KEY GROOVE
4±0.03
2.5±0.1

GGM GGM GEARED MOTOR
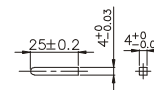
GEARHEADS

K9RG40N□ + K9G□B(C)   K9RG40N□−T(−T5) + K9G□B(C)

K9RG40N□ + K9G□B(C)

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		2.36
DECIMAL GEAR HEAD		0.60
GEAR HEAD	K9G3~18B(C)	0.78
	K9G20~40B(C)	1.04
	K9G50~200B(C)	1.14
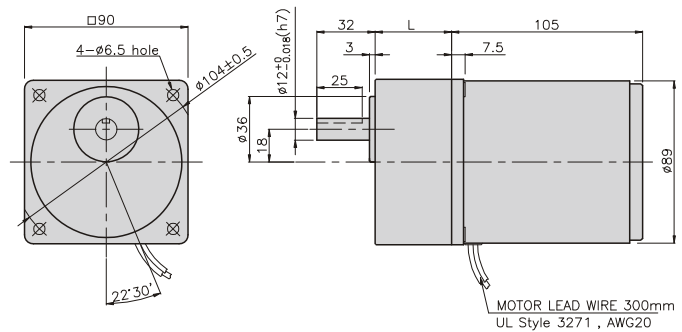
□90
4−ø6.5 hole
ø104±0.5
ø12+0.018(h7)
ø36
18
22°30′
32 L 105
3 7.5 25
ø89
MOTOR LEAD WIRE 300mm
UL Style 3271 , AWG20

K9RG40N□−T + K9G□B(C)

DIMENSION TABLE

PART No	L	Application Model	Mounting BOLT
01	42	K9G3~18B(C)	M5 P1.0 X 65
02	60	K9G20~200B(C)	M5 P1.0 X 80
03	37	K9G10BX	M5 P1.0 X 120

WEIGHT

PART		WEIGHT(kg)
MOTOR		2.52
DECIMAL GEAR HEAD		0.60
GEAR HEAD	K9G3~18B(C)	0.78
	K9G20~40B(C)	1.04
	K9G50~200B(C)	1.14

62
43
ø104±0.5
ø12+0.018(h7)
ø36
18
□90
4−ø6.5 hole
5.5 75 MAX. 28
25
3 7.5
32 L 105
ø89

K9RG40N□−T5 + K9G□B(C)

DIMENSION TABLE

PART No	L	Application Model	Mounting BOLT
01	42	K9G3~18B(C)	M5 P1.0 X 65
02	60	K9G20~200B(C)	M5 P1.0 X 80
03	37	K9G10BX	M5 P1.0 X 120

WEIGHT

PART		WEIGHT(kg)
MOTOR		2.52
DECIMAL GEAR HEAD		0.60
GEAR HEAD	K9G3~18B(C)	0.78
	K9G20~40B(C)	1.04
	K9G50~200B(C)	1.14

67
MATERIAL: PLASTIC
45
ø104±0.5
ø12+0.018(h7)
ø36
18
□90
4−ø6.5 hole
1.5 75 MAX. 28
25
3 7.5
32 L 105
ø89

GGM GGM GEARED MOTOR
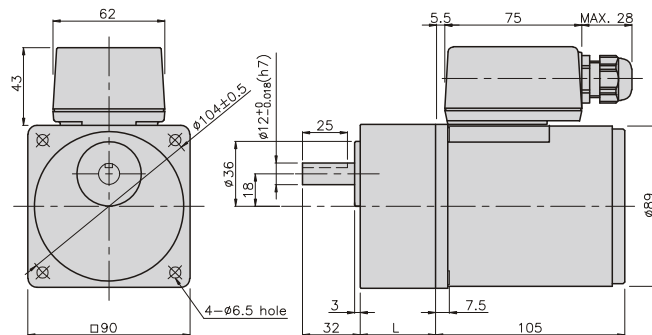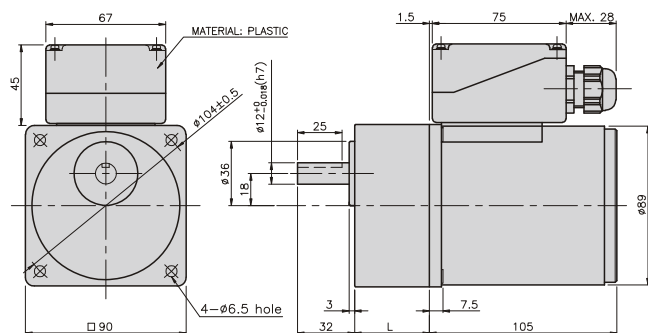
REVERSIBLE MOTOR

60W **□90mm**

LEAD WIRE TYPE
TERMINAL BOX TYPE

K9RS60F□   K9RS60F□-T, T5

SPECIFICATIONS

60W continuous rating, four poles

Model		Voltage (V)	Frequency (Hz)	Current (A)	Start T. (N*m/ Kgf*Cm)	Rated T. (N*m/ Kgf*Cm)	Speed (rpm)	Condenser (μF)
K9R□60FJ(-T, -T5)		100	50	1.48	0.48/4.8	0.47/4.7	1250	25
			60	1.66		0.38/3.8	1550	
K9R□60FU(-T, -T5)		110	60	1.25	0.4/4	0.38/3.8	1550	17
		115		1.31	0.425/4.25			
K9R□60FL(-T, -T5)	single-phase	200	50	0.72	0.5/5	0.47/4.7	1250	6
			60	0.76	0.44/4.4	0.39/3.9	1500	
K9R□60FC(-T, -T5)		220	50	0.69	0.45/4.5	0.47/4.7	1250	5
			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(-T, -T5)		240	50	0.75	0.5/5	0.47/4.7	1250	5

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

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	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
K9R□60F□(-T, -T5)		1.14	1.37	1.90	2.28	2.86	3.43	3.81	4.28	5.14	6.17	6.85	7.71	9.25	11.10	12.33	15.42	18.50	20	20	20	20	20	20	20
K9P□B, BF		11.4	13.7	19.0	22.8	28.6	34.3	38.1	42.8	51.4	61.7	68.5	77.1	92.5	111.0	123.3	154.2	185	200	200	200	200	200	200	200

● **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
K9R□60F□(-T, -T5)		0.92	1.11	1.54	1.85	2.31	2.77	3.08	3.46	4.16	4.99	5.54	6.23	7.48	8.98	9.97	12.47	14.96	16.83	20	20	20	20	20	20
K9P□B, BF		9.2	11.1	15.4	18.5	23.1	27.7	30.8	34.6	41.6	49.9	55.4	62.3	74.8	89.8	99.7	124.7	149.6	168.3	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.
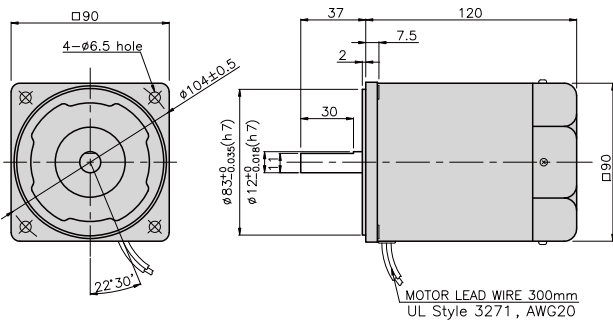* If you are to have less ratio than the ratio in the table, you can install the decimal gearhead, which has one tenth of the ratio, between the gearhead and the motor. In this case, the permissible torque is 20N・m/200kgfcm.
* RPM is based on motor's synchronous rpm (50HZ:1500rpm, 60HZ:1800rpm) and calculated by dividing gear ratio. Actual rpm is 2~20% less than indicating rpm according to load size.
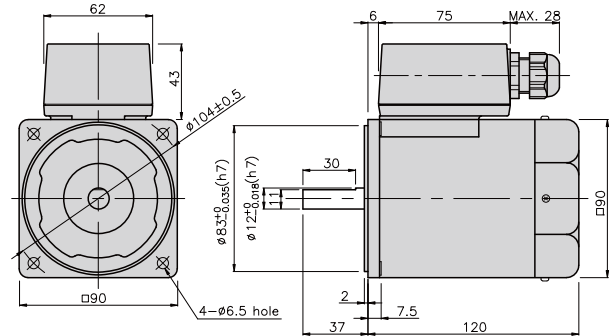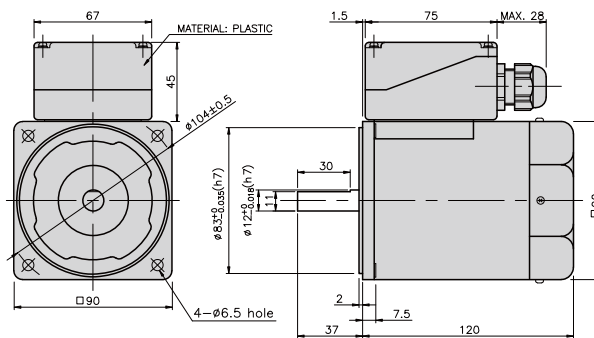
GGM GGM GEARED MOTOR

GEARHEADS

DIMENSIONS

K9RS60F□

MOTOR LEAD WIRE 300mm
UL Style 3271, AWG20

K9RS60F□-T

K9RS60F□-T5

MATERIAL: PLASTIC

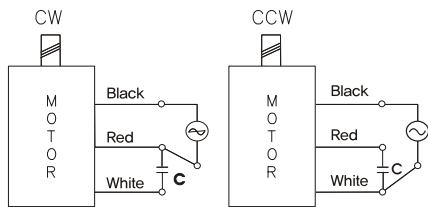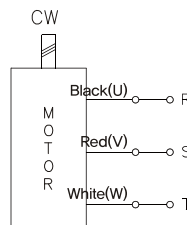### CONNECTION DIAGRAMS

K9RS60F□
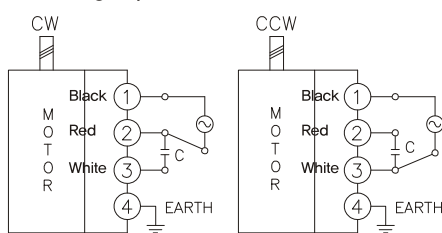
single phase motor | three phase motor

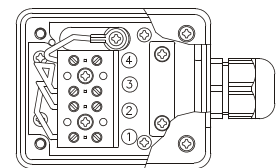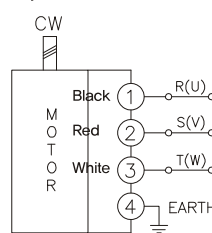connecting two leadwires of U,V,W in turns

The direction of motor rotation is as viewed from the front shaft end of the motor
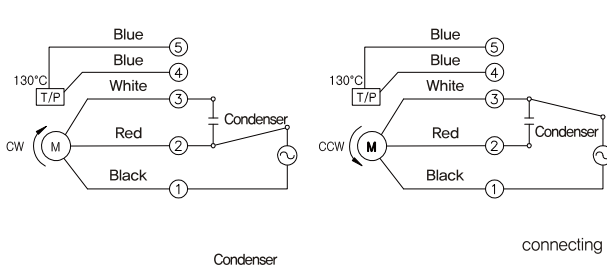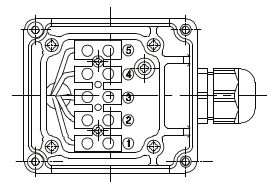
K9RS60F□-T

single phase motor | three phase motor

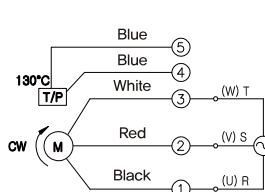
The direction of motor rotation is as viewed from the front shaft end of the motor

K9RS60F□-T5

single phase motor | three phase motor

Condenser

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
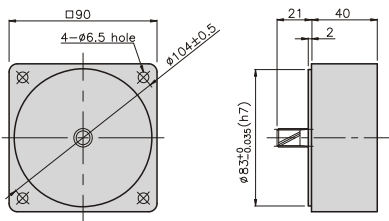
GGM GGM GEARED MOTOR
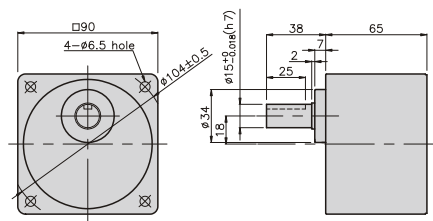
GEARHEADS

K9P□B   K9P□BF
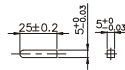

DECIMAL GEARHEAD
K9P10BX

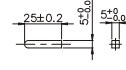GEAR HEAD
K9P□B

GEARHEAD
K9P□BF

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

□90
4−ø6.5 hole
ø104±0.5
ø15±0.018(h7)
ø34
18
38
65
2
7
25

● KEY
25±0.2
5±0.03

● KEY GROOVE
5±0.03
3±0.1

130
110±0.5
60
ø104±0.5
ø15±0.018(h7)
ø34
18
36±0.5
60
90
4−ø8.5 hole
4−ø6.5 hole
38
65
7
12
2
25
8

● KEY
25±0.2
5±0.03

● KEY GROOVE
5±0.03
3±0.1

GGM GGM GEARED MOTOR
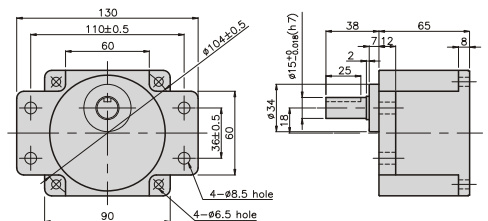
GEARHEADS

K9RP60F☐ + K9P☐B   K9RP60F☐ + K9P☐BF

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)
MOTOR		2.50
DECIMAL GEAR HEAD		0.62
GEAR HEAD	K9P3~10B	1.22
	K9P12.5~20B	1.32
	K9P25~60B	1.42
	K9P75~200B	1.45

K9RP60F☐ + K9P☐B
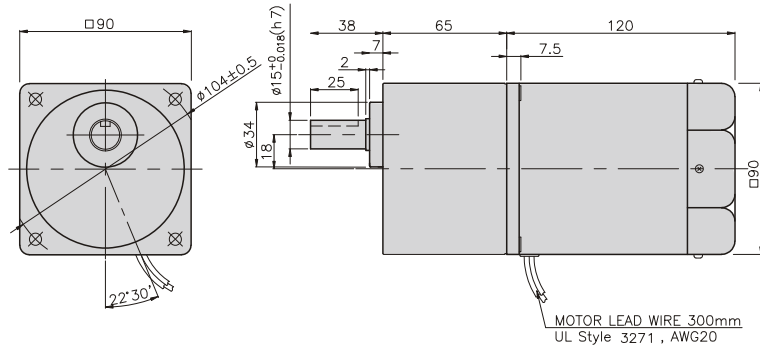
MOTOR LEAD WIRE 300mm
UL Style 3271 , AWG20

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)
MOTOR		3.00
DECIMAL GEAR HEAD		0.62
GEAR HEAD	K9P3~10BF	1.22
	K9P12.5~20BF	1.30
	K9P25~60BF	1.42
	K9P75~200BF	1.44

K9RP60F☐ + K9P☐BF

4-ø8.5 hole
4-ø6.5 hole

MOTOR LEAD WIRE 300mm
UL Style 3271 , AWG20
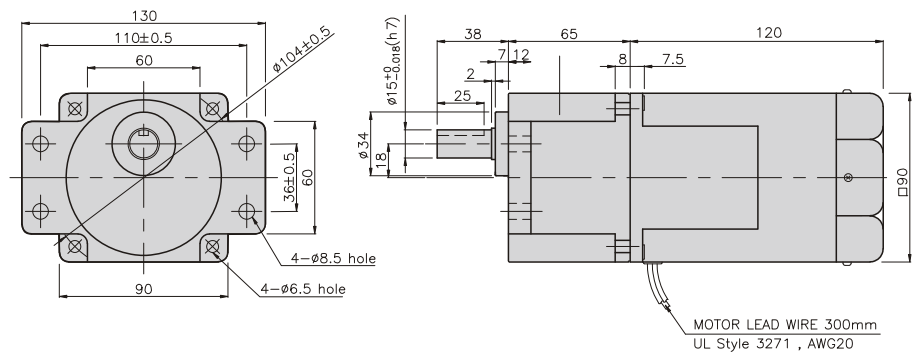
GEARHEADS

DIMENSIONS

K9RP60F□-T + K9P□B

K9RP60F□-T + K9P□BF

K9RP60F□-T + K9P□B
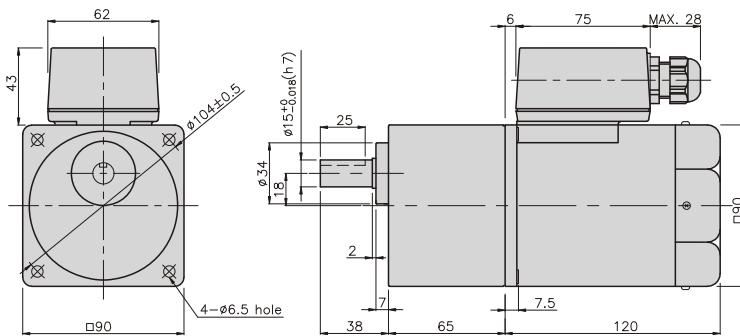
DIMENSION TABLE

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)
MOTOR		2,68
DECIMAL GEAR HEAD		0,62
GEAR HEAD	K9P3~10B	1,22
	K9P12,5~20B	1,32
	K9P25~60B	1,42
	K9P75~200B	1,45

K9RP60F□-T + K9P□BF
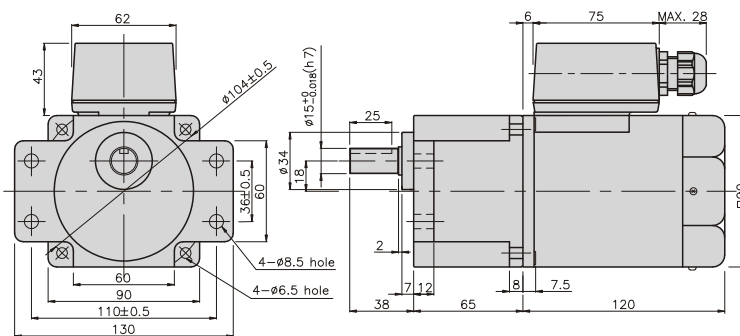
DIMENSION TABLE

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)
MOTOR		2,68
DECIMAL GEAR HEAD		0,62
GEAR HEAD	K9P3~10BF	1,22
	K9P12,5~20BF	1,32
	K9P25~60BF	1,42
	K9P75~200BF	1,45

GGM GGM GEARED MOTOR

GEARHEADS

K9RP60F□-T5 + K9P□B

K9RP60F□-T5 + K9P□BF
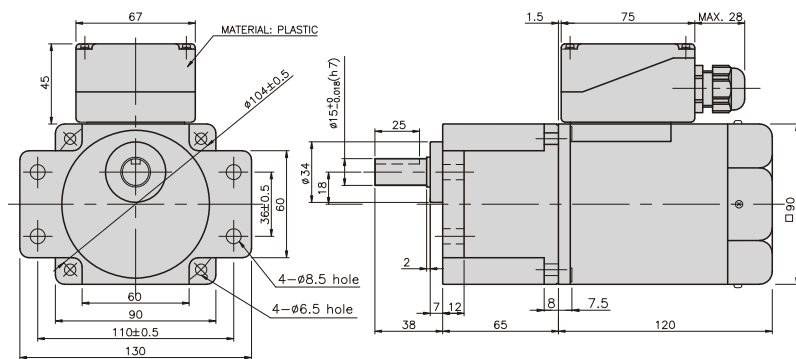
K9RP60F□-T5 + K9P□B

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)
MOTOR		2,68
DECIMAL GEAR HEAD		0,62
GEAR HEAD	K9P3~10B	1,22
	K9P12,5~20B	1,32
	K9P25~60B	1,42
	K9P75~200B	1,45

K9RP60F□-T5 + K9P□BF

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)
MOTOR		2,68
DECIMAL GEAR HEAD		0,62
GEAR HEAD	K9P3~10BF	1,22
	K9P12,5~20BF	1,32
	K9P25~60BF	1,42
	K9P75~200BF	1,45

GGM GGM GEARED MOTOR

REVERSIBLE MOTOR

LEAD WIRE TYPE
TERMINAL BOX TYPE

K9RS90F□   K9RS90F□-T, T5

SPECIFICATIONS

90W continuous rating, four poles

Model		Voltage (V)	Frequency (Hz)	Current (A)	Start T. (N*m/ Kgf*Cm)	Rated T. (N*m/ Kgf*Cm)	Speed (rpm)	Condenser (µF)
K9R□90FJ(-T, -T5)		100	50	2.52	0.6/6	0.705/7.05	1250	35
			60	2.42		0.57/5.7	1550	
K9R□90FU(-T, -T5)	single -phase	110	60	1.88	0.55/5.5	0.57/5.7	1550	25
		115		2.12				
K9R□90FL(-T, -T5)		220	50	0.9	0.55/5.5	0.705/7.05	1250	8
			60	1.1		0.57/5.7	1550	
K9R□90FC(-T, -T5)		220	50	1	0.5/5	0.705/7.05	1250	7
			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(-T, -T5)		240	50	0.94	0.55/5.5	0.705/7.05	1250	6

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

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	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
K9R□90F□(-T, -T5)		1.71	2.06	2.86	3.43	4.28	5.14	5.71	6.42	7.71	9.25	10.28	11.56	13.88	16.65	18.5	20	20	20	20	20	20	20	20	20
K9P□B, BF		17.1	20.6	28.6	34.3	42.8	51.4	57.1	64.2	77.1	92.5	102.8	115.6	138.8	166.5	185.0	200	200	200	200	200	200	200	200	200

● 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
K9R□90F□(-T, -T5)		1.39	1.66	2.31	2.77	3.46	4.16	4.62	5.19	6.23	7.48	8.31	9.35	11.22	13.46	14.96	18.7	20	20	20	20	20	20	20	20
K9P□B, BF		13.9	16.6	23.1	27.7	34.6	41.6	46.2	51.9	62.3	74.8	83.1	93.5	112.2	134.6	149.6	187	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/200kgfcm.
* 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	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
K9R□90F□(−T, −T5) K9RP□BU, BUF		1.71	2.06	2.86	3.43	4.28	5.14	5.71	6.42	7.71	9.25	10.28	11.56	13.88	16.65	18.50	23.13	27.75	30	30	30	30	30	30	30
		17.1	20.6	28.6	34.3	42.8	51.4	57.1	64.2	77.1	92.5	102.8	115.6	138.8	165.6	185.0	231.3	277.5	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
K9R□90F□(−T, −T5) K9RP□BU, BUF		1.39	1.66	2.31	2.77	3.46	4.16	4.62	5.19	6.23	7.48	8.31	9.35	11.22	13.46	14.96	18.70	22.44	25.24	30	30	30	30	30	30
		13.9	16.6	23.1	27.7	34.6	41.6	46.2	51.9	62.3	74.8	83.1	93.5	112.2	134.6	149.6	187.0	224.4	252.4	300	300	300	300	300	300

* Gearhead and decimal gearhead are sold separately.
* The code in □ of gearhead model is for gear ratio.
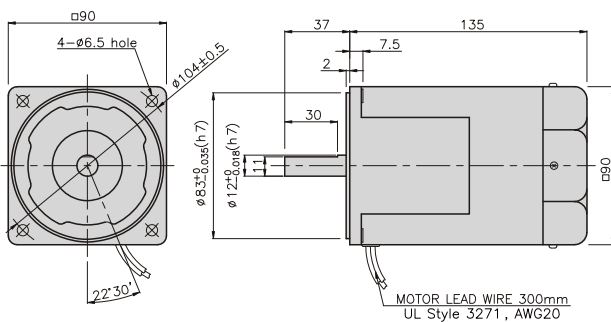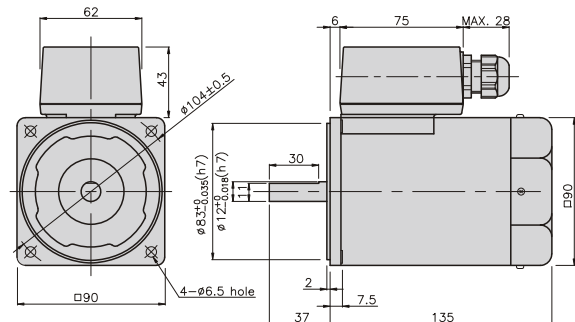* � color indicates that the output shaft of the geared motor rotates in the same direction as the output shaft of the motor. Others indicate rotation in the opposite direction.
* If you are to have less ratio than the ratio in the table, you can install the decimal gearhead, which has one tenth of the 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.
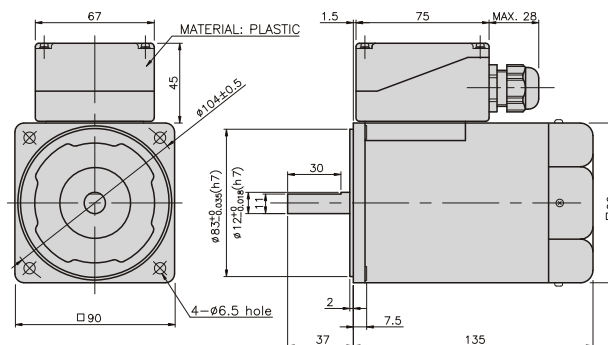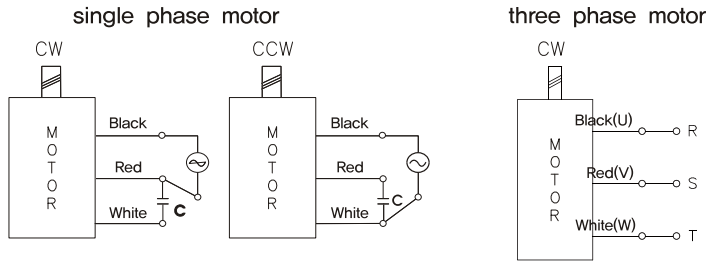
DIMENSIONS

K9RS90F□

K9RS90F□−T

K9RS90F□−T5

GGM GGM GEARED MOTOR

GEARHEADS

K9RS90F□

single phase motor

CW

MOTOR
Black
Red
White C

CCW

MOTOR
Black
Red
White C

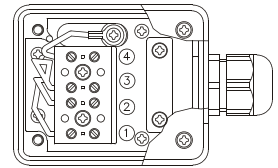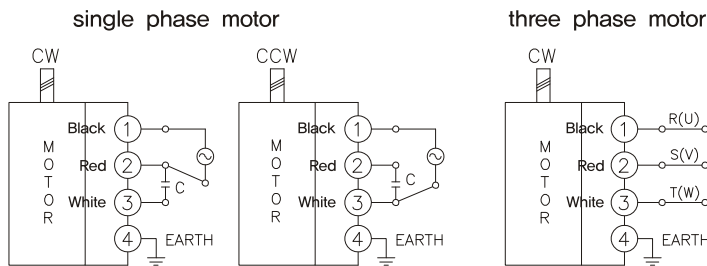**three phase motor**

CW

MOTOR
Black(U) ○ R
Red(V) ○ S
White(W) ○ T

connecting two leadwires of U,V,W in turns

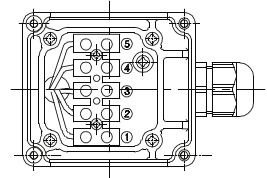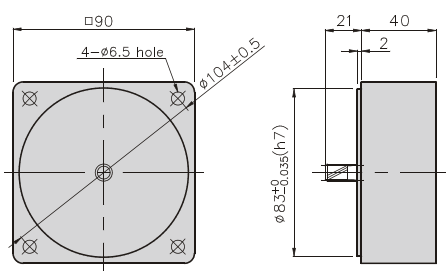The direction of motor rotation is as viewed from the front shaft end of the motor

K9RS90F□−T

single phase motor

CW

MOTOR
Black ①
Red ②
White ③ C
④ EARTH

CCW

MOTOR
Black ①
Red ②
White ③ C
④ EARTH

three phase motor

CW

MOTOR
Black ① R(U)
Red ② S(V)
White ③ T(W)
④ EARTH

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

K9RS90F□−T5

single phase motor

Blue ⑤
Blue ④
130°C T/P White ③ Condenser
CW M Red ②
Black ①

Blue ⑤
Blue ④
130°C T/P White ③
CCW M Red ② Condenser
Black ①

three phase motor

Blue ⑤
Blue ④
130°C T/P White ③ (W) T
CW M Red ② (V) S
Black ① (U) R

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

GGM GGM GEARED MOTOR
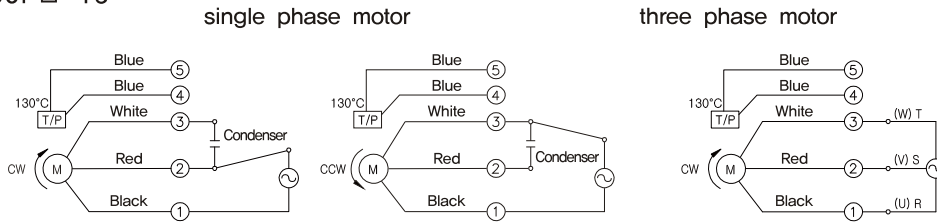
GEARHEADS

K9P□B   K9P□BF, BUF   K9P□BU

DECIMAL GEARHEAD
K9P10BX
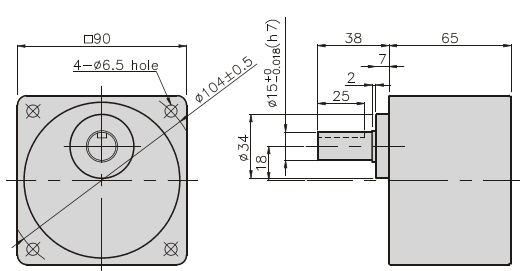
□90
4-ϕ6.5 hole
ϕ104±0.5
ϕ83+0.035/0(h7)
21 40
2

GEAR HEAD
K9P□B

□90
4-ϕ6.5 hole
ϕ104±0.5
ϕ15+0/-0.018(h7)
ϕ34
18
38 65
7
25
2

GEARHEAD
K9P□BF

130
110±0.5
60
ϕ104±0.5
36±0.5
60
90
4-ϕ8.5 hole
4-ϕ6.5 hole
ϕ15+0/-0.018(h7)
ϕ34
18
38 65
7 12
25
2
8

GEARHEAD
K9P□BU

□90
49
ϕ104±0.5
49
4-ϕ8.5hole
ϕ18+0/-0.018(h7)
ϕ40
18
42 85
7 12
25
2
10
4-M6 P1

GEARHEAD
K9P□BUF

130
110±0.5
60
ϕ104±0.5
36±0.5
60
90
4-ϕ8.5 hole
4-M6 TAP
ϕ18+0/-0.018(h7)
ϕ40
18
42 85
7 12
25
2
10

● KEY
25±0.2
5+0/-0.03
5+0/-0.03

● KEY GROOVE
5+0.03/-0
3+0.1/-0

GGM GGM GEARED MOTOR
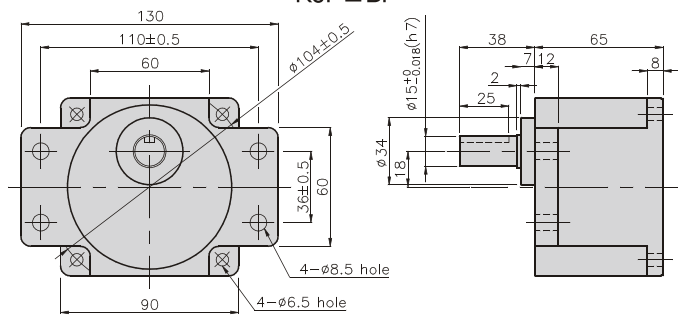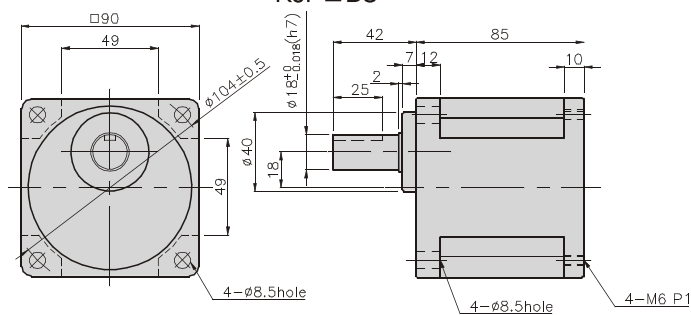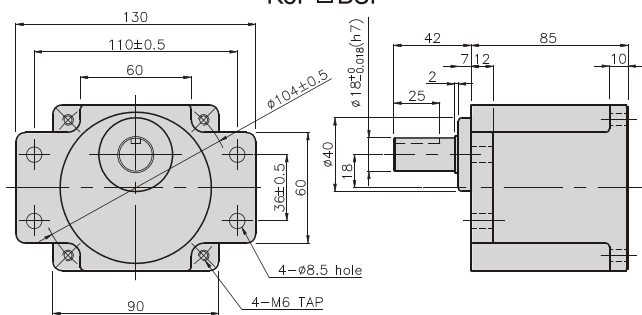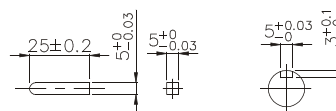
GEARHEADS

K9RP90F☐ + K9P☐B   K9RP90F☐ + K9P☐BF, BUF   K9RP90F☐ + K9P☐BU
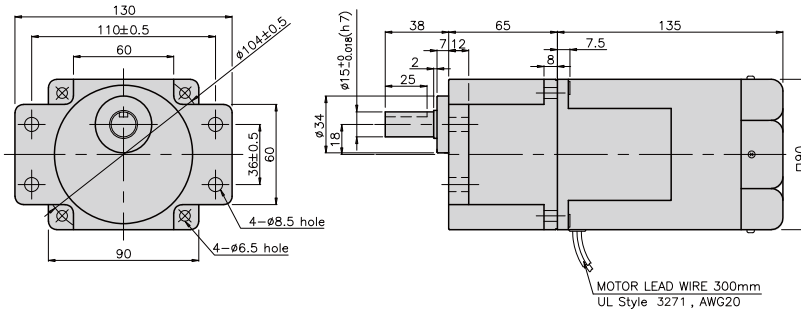
K9RP90F☐ + K9P☐B

WEIGHT

PART	WEIGHT(kg)
MOTOR	3.00
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

K9RP90F☐ + 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)
K9P3∼10BF	1.22
K9P12.5∼20BF	1.30
K9P25∼60BF	1.42
K9P75∼200BF	1.44

K9RP90F☐ + K9P☐BU

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

K9RP90F☐ + K9P☐BUF

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

GEARHEADS

K9RP90F□-T + K9P□B   K9RP90F□-T + K9P□BF, BUF   K9RP90F□-T + K9P□BU

WEIGHT

PART	WEIGHT(kg)
MOTOR	3.18
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

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

K9RP90F□-T + K9P□B
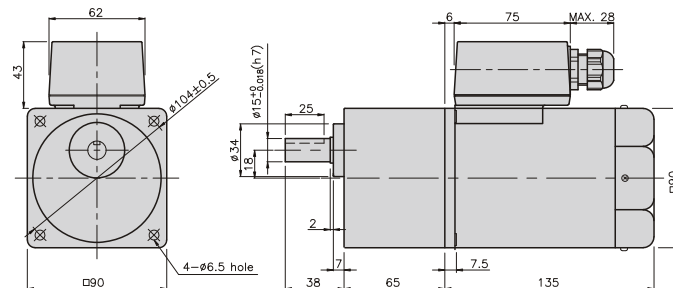
K9RP90F□-T + K9P□BF
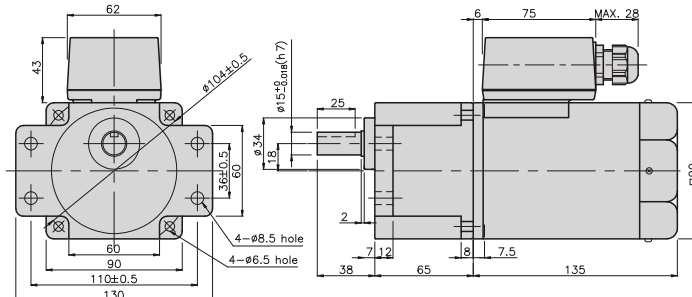
K9RP90F□-T + K9P□BU

K9RP90F□-T + K9P□BUF

GGM GGM GEARED MOTOR
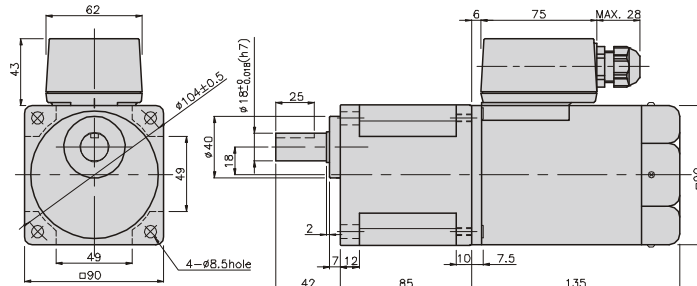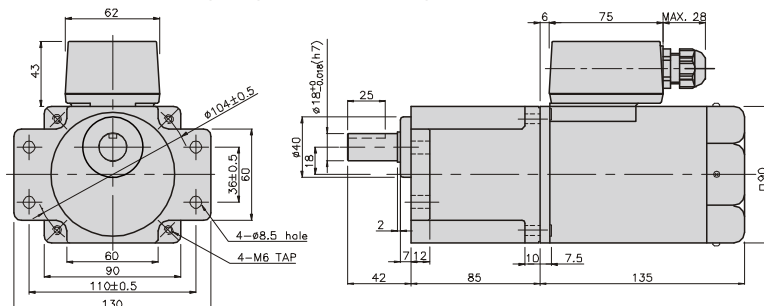
DIMENSIONS

K9RP90F□-T5 + K9P□B

K9RP90F□-T5 + K9P□BF, BUF

K9RP90F□-T5 + K9P□BU

K9RP90F□-T5 + K9P□B
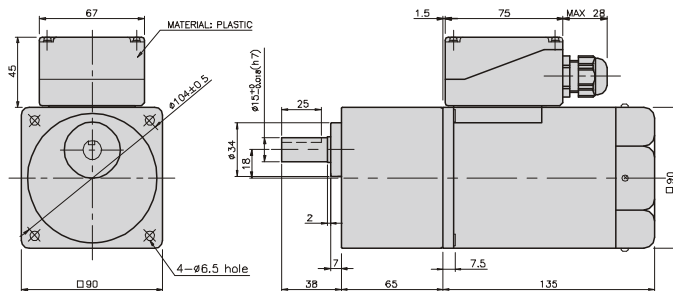
MATERIAL: PLASTIC
MAX. 28
4-ø6.5 hole

WEIGHT

PART	WEIGHT(kg)
MOTOR	3.18
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

K9RP90F□-T5 + K9P□BF
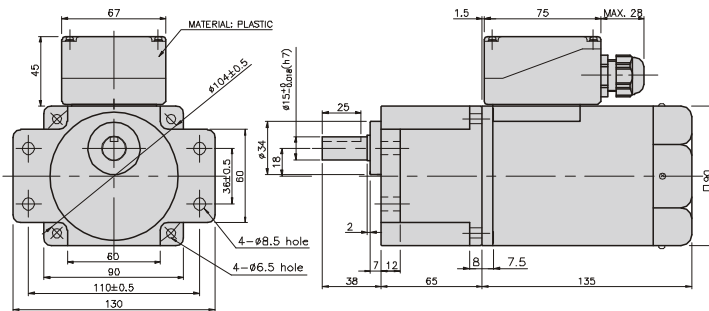
MATERIAL: PLASTIC
MAX. 28
4-ø8.5 hole
4-ø6.5 hole

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

K9RP90F□-T5 + K9P□BU
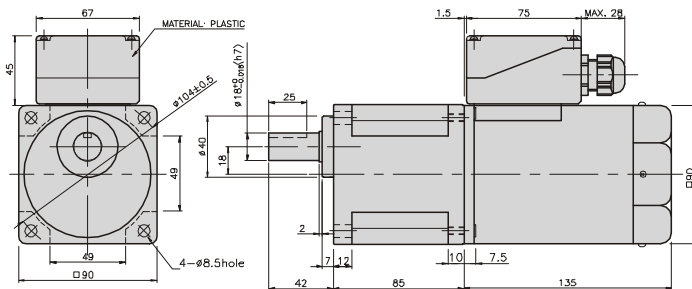
MATERIAL: PLASTIC
MAX. 28
4-ø8.5hole

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

K9RP90F□-T5 + K9P□BUF

MATERIAL: PLASTIC
MAX. 28
4-ø8.5 hole
4-M6 TAP

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