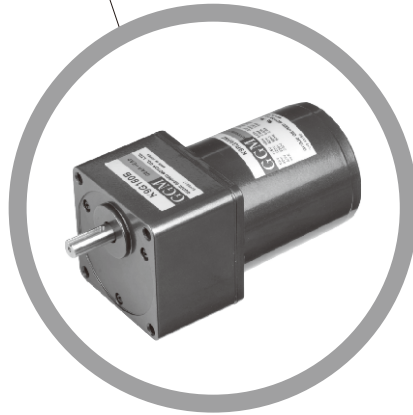
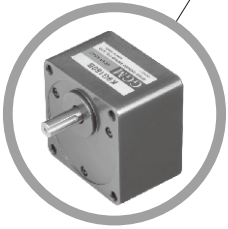
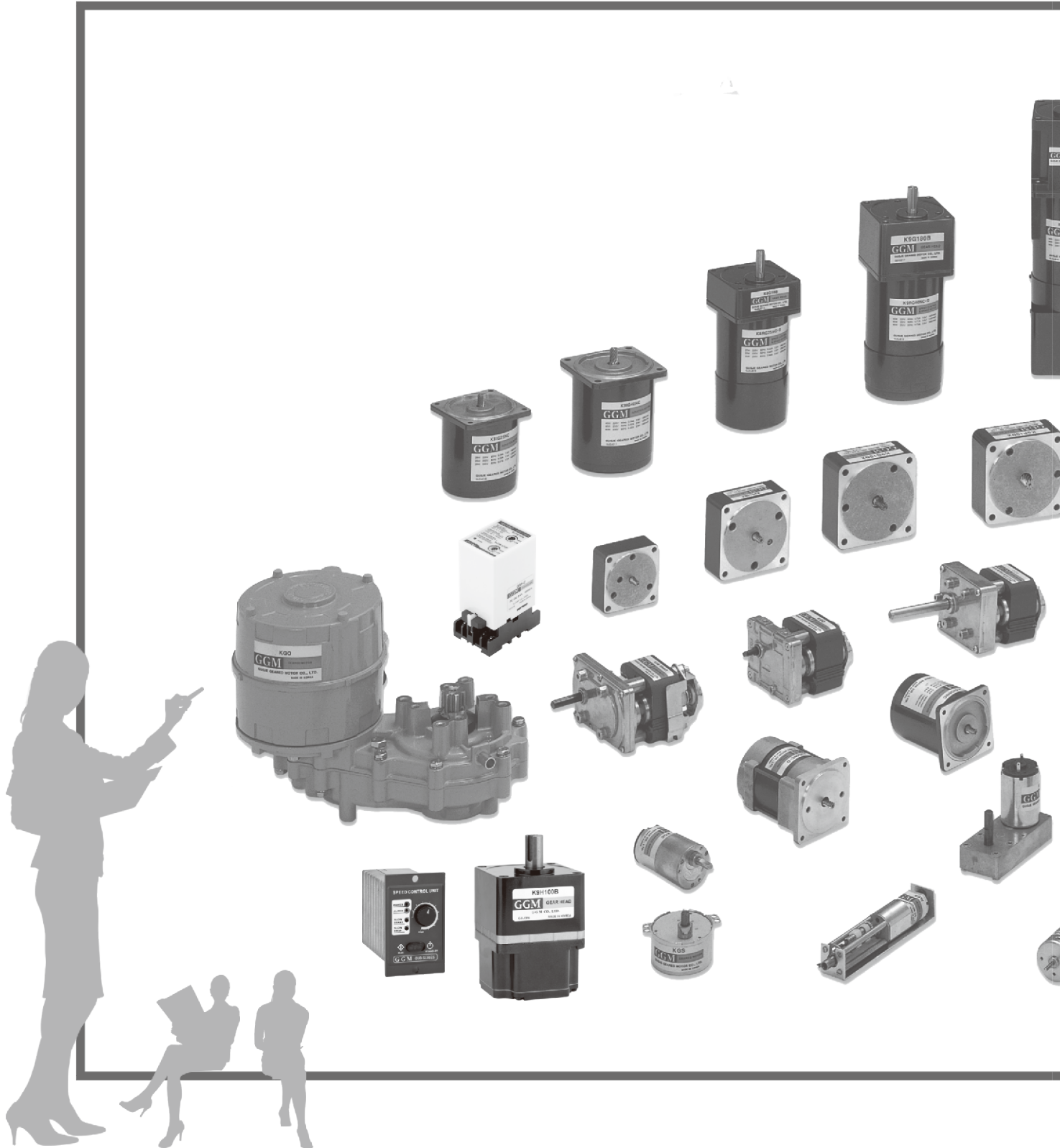


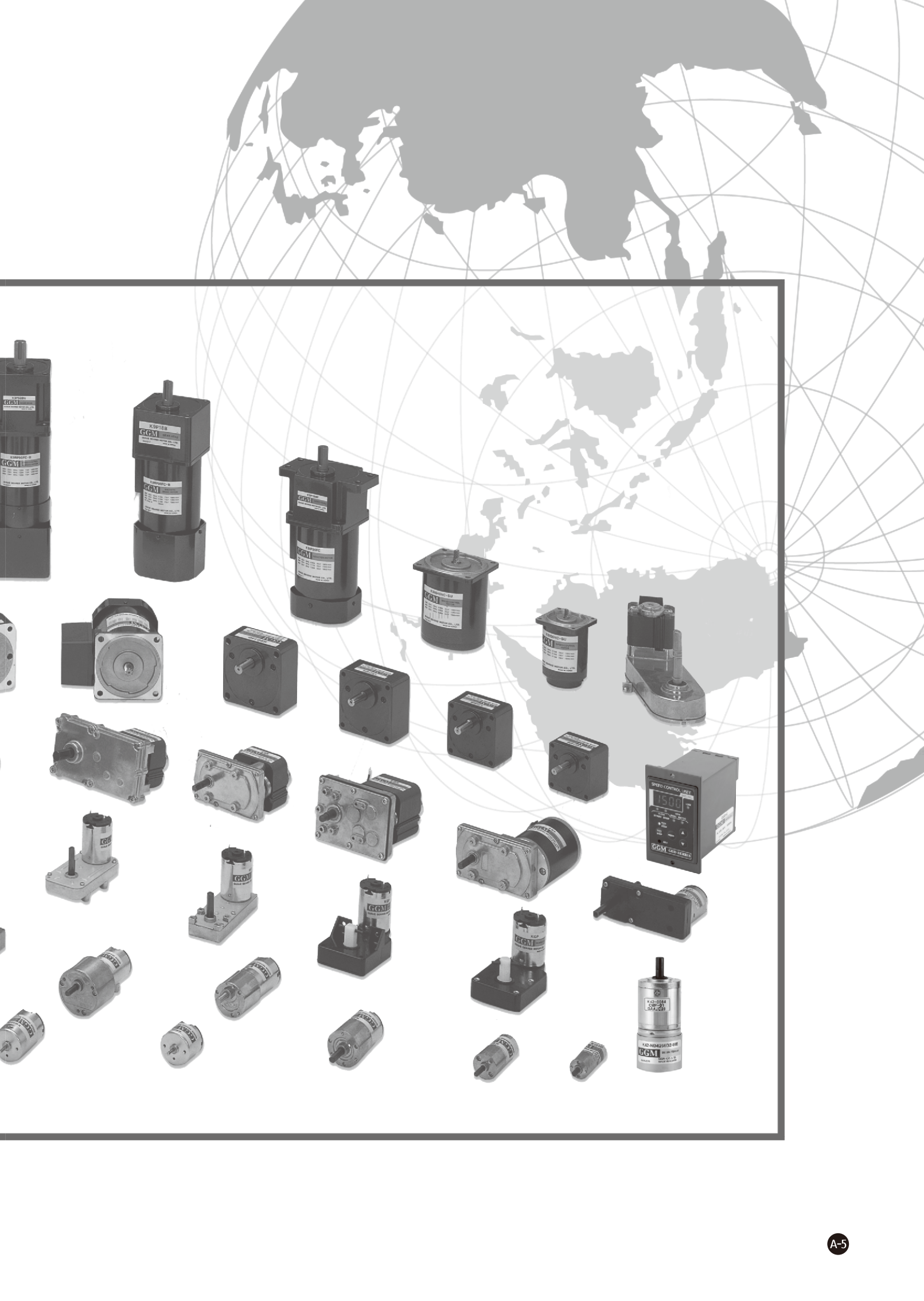
GGM GEARED MOTOR

**GGM**



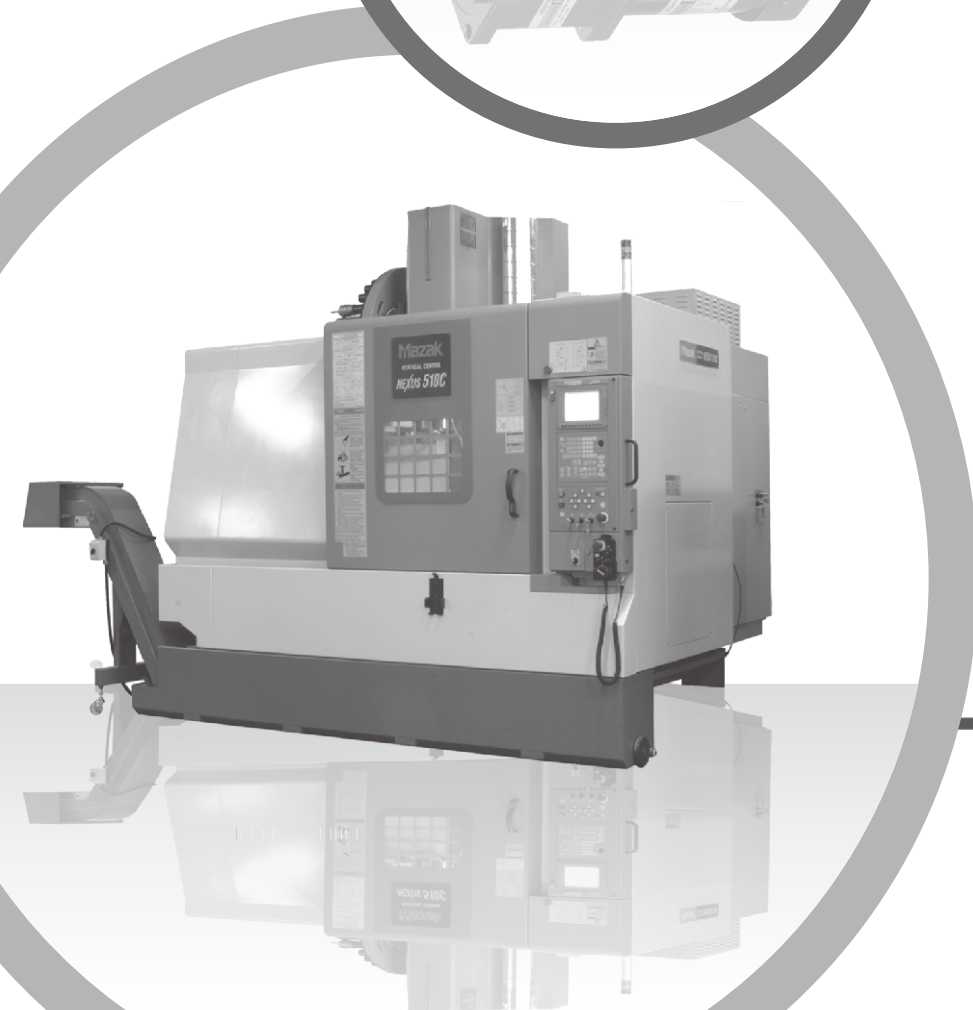
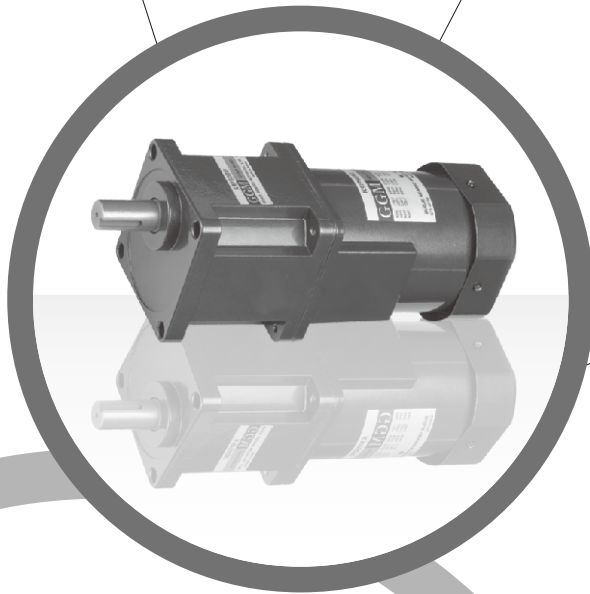
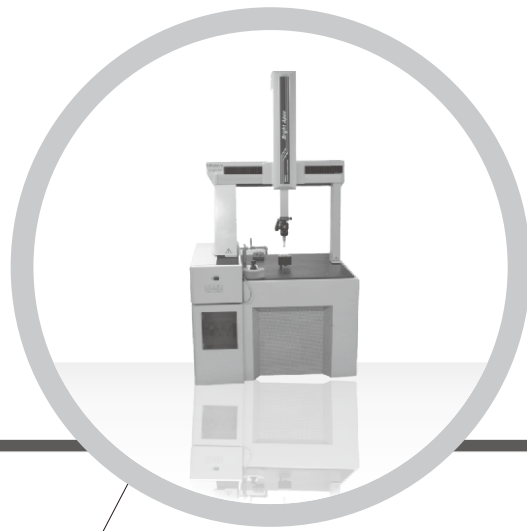
**THE LEADING RUNNER OF GEARED MOTORS,  
GGM GEARED MOTOR CO., LTD. IS PROCEEDING TO THE WORLD.**



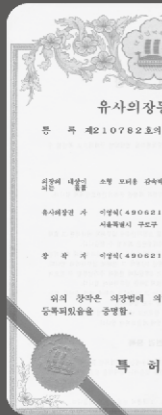
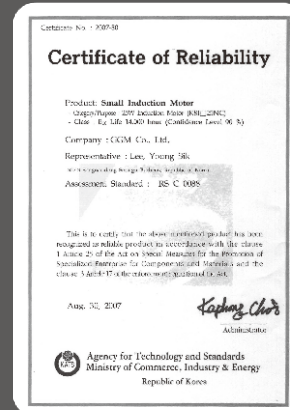
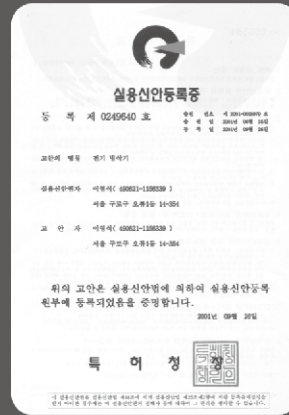
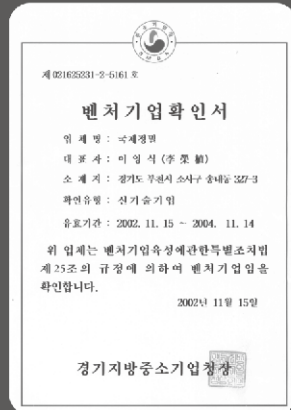
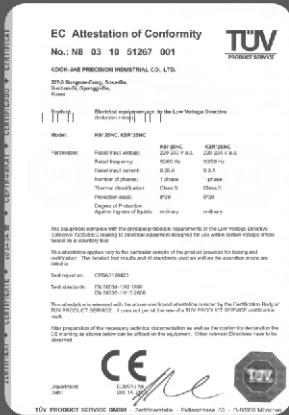


# COMPANY HISTORY

- Apr., 1979 Founded the company in Oryu-dong, Guro-gu, Seoul
- May, 1979 Developed SMALL GEARHEAD
- Jul., 1982 Developed AC SHADED POLE INDUCTION GEARED MOTOR
- May, 1983 Developed SHYNCRONOUS GEARED MOTOR
- Feb., 1984 Developed AC&DC GEARED MOTOR of LG Electronics
- Apr., 1985 Developed AC&DC GEARED MOTOR of SAMSUNG Electronics
- Mar., 1986 Developed GEARHEAD for DC MICOR MOTOR
- May, 1986 Developed ICE CRUSHER GEARHEAD
- Sep., 1992 Developed STANDARD DC GRARED MOTOR
- Jan., 1993 Developed DC MICOR MOTOR
- Dec., 1993 Moved the company building  
(in 327-3, Songnae-dong, Sosa-gu, Bucheon, Kyeonggi-do)
- Jun., 1994 Developed extracting system for regular coffee  
(joint development with SAMSUNG Electronics)
- May, 1995 Began exporting AC GEARED MOTOR to the U.S.A.
- Apr., 1996 Developed GEARED MOTOR for ventilators of LG Electronics
- May, 1997 Developed CARD DISPENSE
- Oct., 1997 Began exporting DC MICRO GEARED MOTOR to Japan
- May, 1998 Developed GEARHEAD for refrigerators of LG Electronics
- Nov., 1998 Took out a patent for a vending machine of lottery tickets
- Nov., 1998 Took out utility patent for small GEARHEAD
- Dec., 1999 Acquired ISO 9001 Certification  
(from Creativity Business Quality Management)
- Aug., 2000 Acquired UL Certification  
for AC SHADED POLE INDUCTION MOTOR
- May, 2002 Founded the second factory  
(in 272-11, Dodang-dong, Wonmi-gu, Bucheon,  
Kyeonggi-do)
- Nov., 2002 Selected as a venture company  
(by Kyeonggi Small and Medium Business  
Administration)
- May, 2003 Developed STANDARD AC MOTOR & GEARHEAD
- Jun., 2003 Acquired UL Certification for STANDARD AC MOTOR
- Oct., 2003 Acquired CE Certification for STANDARD AC MOTOR
- May., 2005 ISO 14001 Certificate Acquired(certified by Korean  
Efficiency Association)
- Dec., 2005 CCC certificate acquired
- Jun., 2006 INNO BIZ Company Appointed
- Aug., 2007 Parts & Material reliance certificate acquired  
(Technology standardization Institute)
- Sep., 2008 Promising Middle Size Company Appointed  
(Kyeonggi Province)  
Superior Products Development Awards received  
(Prime Minister)
- Jun., 2009 R&D Center established  
Primising Export Middle Size Company Appointed  
(Kyeonggi Middle Size Company Authority)
- Aug., 2009 Start BLDC motor & High Strength gearbox  
production
- Jul., 2010 Small DC planetary gearmotor development
- Jul., 2011 Established 3rd factory (DoHwa-dong, Nam-gu,  
Incheon)
- Dec., 2011 Completed the construction of Technology Research  
Institute
- Nov., 2013 Developed BLDC motor 400W
- Jun., 2014 Developed FLAT TYPE reducer
- Nov., 2014 Awarded USD 5 million export tower
- Fed., 2015 Right Angle gearhead developing
- May., 2016 Selected as a Global Hidden Champion



# GGM CO.,LTD.



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➤ SPEED CONTROL & BRAKE MOTOR / G-1

➤ DC MOTOR / K-1

➤ SPEED CONTROL UNIT / H-1

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➤ OPEN TYPE MOTOR / J-1

# [MODEL CODING SYSTEM]

## MOTOR

**K 8 I G 25 N U - SU**

SERIES
K SERIES

FLANGE	
6	60 X 60
7	70 X 70
8	80 X 80
9	90 X 90
10	10 X 10

PART	
I	INDUCTION
R	REVERSIBLE
D	DC MOTOR
T	TORQUE

SHAFT	
S	STRAIGHT
G	PINION GENERAL
P	PINION POWERFUL
H	HIGH STRENGTH
K	KEY TYPE

OUTPUT	
6	6W
15	15W
20	20W
25	25W
30	30W
40	40W
60	60W
90	90W
120	120W
150	150W
180	180W
200	200W

COOLING	
F	COOLING FAN
N	NON FAN

VOLTAGE	
J	1Ø 100V 50/60Hz
U	1Ø 110V 60Hz
	1Ø 115V 60Hz
L	1Ø 200V 50/60Hz
C	1Ø 220V 50/60Hz
	1Ø 230V 50/60Hz
D	1Ø 240V 50Hz
T	3Ø 200V 50/60Hz
H	3Ø 220V 50/60Hz
	3Ø 230V 50/60Hz
M	3Ø 380V 50/60Hz
Q	3Ø 415V 50Hz
V	3Ø 400V 50Hz
Z	3Ø 440V 50/60Hz
K	3Ø 480V 50Hz
1	DC 12V
2	DC 24V
3	DC 90V
4	DC 180V
5	DC 220V

ADDITIONAL	
NON	GENERAL
SU	S/C UNIT TYPE
SP	S/C PLUG IN TYPE
B	BRAKE
D	S.C & B
T	TERMINAL BOX



## GEARHEAD

<b>K</b>	<b>8</b>	<b>G</b>	<b>100</b>	<b>B</b>	<b>F</b>
----------	----------	----------	------------	----------	----------

<b>INITIAL</b>					
<b>K-SERIES</b>					

FLANGE SIZE	
6	60 X 60
7	70 X 70
8	80 X 80
9	90 X 90

GEAR TYPE	
G	GENERAL
P	POWERFUL
H	HIGH STRENGTH

RATIO	
3	1/3
5	1/5
:	:
250	1/250

BEARING	
B	BALL BEARING
M	METAL
C	COMPOUND

SHAFT TYPE	
NON	BOX TYPE
F	FLANGE
U	ULTRA BOX
UF	ULTRA FLANGE
RH	RIGHT ANGLE ( HOLLOW SHAFT )
RS	RIGHT ANGLE ( SOLID SHAFT )

## DECIMAL GEARHEAD

<b>K</b>	<b>8</b>	<b>G</b>	<b>10</b>	<b>B</b>	<b>X</b>
----------	----------	----------	-----------	----------	----------

<b>INITIAL</b>					
<b>K-SERIES</b>					

FLANGE SIZE	
6	60 X 60
7	70 X 70
8	80 X 80
9	90 X 90

GEAR TYPE	
G	GENERAL
P	POWERFUL

RATIO	
10	1/10

BEARING	
B	BALL BEARING

SHAFT TYPE	
X	DECIMAL

## CONTROLLER (AC MOTOR SPEED CONTROLLER)

<b>G</b>	<b>U</b>	<b>A</b>	<b>-</b>	<b>C</b>	<b>-</b>	<b>6</b>	<b>A</b>
----------	----------	----------	----------	----------	----------	----------	----------

<b>INITIAL</b>							
<b>G-SERIES</b>							

CONTROLLER TYPE	
U	UNIT TYPE
P	PLUG IN TYPE
S	Slow Start Slow Stop
N	Non Slow Start Slow Stop

DISPLAY	
D	DIGITAL TYPE
A	ANALOG TYPE

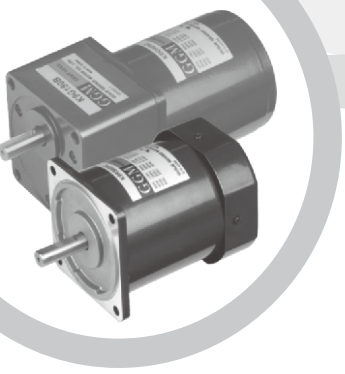
VOLTAGE	
J	1Ø 100V 50/60Hz
U	1Ø 110V 60Hz
	1Ø 115V 60Hz
L	1Ø 200V 50/60Hz
C	1Ø 220V 50/60Hz
	1Ø 230V 50/60Hz
D	1Ø 240V 50Hz

OUTPUT	
NON	SOCKET TYPE
6	6W
15	15W
25	25W
40	40W
60	60W
90	90W
120	120W
180	180W

FREQUENCY	
NON	50Hz & 60Hz
A	50Hz
B	60Hz



# [ Overview of Motor ]

## I. TYPE OF MOTOR

### 1. Category according to phase

The motor can be categorized in several ways, but generally it is divided into a single-phase and a three-phase motor depending on how many phases the electrical source provides.

#### i. Single-phase Motor

- The single-phase electrical source is a commercial power source for the household electricity and represents one phase.
- Since the electrical source alone can not make a motor rotate, a condenser should be connected to the auxiliary coil to operate the motor.

#### ii. Three-phase Motor

- The three-phase motor stands for electrical power and it is consisted of three electrical sources with a phase offset of 120 degrees in voltage.
- When the motor is connected to the electrical source, the magnetic field is generated and the motor starts rotating easily.
- The motor efficiency is high and the torque is also relatively big.

### 2. Category according to function

Functionally, the motor can be grossly divided into three types.

#### i. Motor of Constant Speed

##### a. INDUCTION MOTOR

- This is for one-direction operation.
- This is a representative model for small AC motors and possible to use continuously.
- There are two kinds: one is an induction motor with a condenser for single-phase and the other is an induction motor for three-phase.
- There are two types a lead-wire type and a terminal-box type.

##### b. REVERSIBLE MOTOR

- This is an induction motor run by a condenser for single-phase.
- The external appearance is almost like that of an induction motor, but it is suitable for such operation that changes the rotational direction frequently from normal to reverse, and vice versa, because a temporary brake is inserted inside the motor to facilitate the reverse rotation.
- There are two types a lead-wire type and a terminal-box type.

#### ii. Motor with Brake Function

##### a. Electromagnetic Brake attached Motor

- This is a motor that has a fail-safe electromagnetic brake.
- The reliable control function guarantees the stability of the motor.

- Since the brake function is activated when the electrical source is off, this motor can be used safely even if the electricity fails.

#### iii. Motor with Speed Controlling Function

##### a. UNIT TYPE

- This type of motor is easy to use with easy connection between a speed controller and a motor.

##### b. CONTROL PACK TYPE

- The speed controller and the motor are separated. Therefore the speed controller and the motor can be separately selected based on the requirements, purposes of use, and so on.

## II. CHARACTERISTIC OF MOTOR

### 1. Definition of Motor

The motor is a device that converts electrical energy to dynamic energy.

The motor plays a critical roles as a heart of a machine.

### 2. Characteristic of Motor

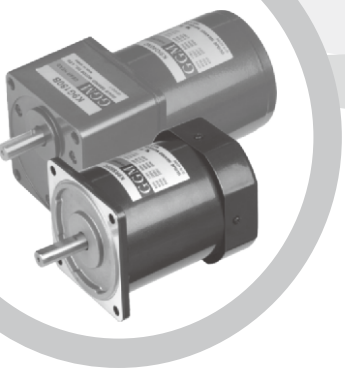
- When connected to a power source, the motor starts rotating to provide a source of motive power, and it is used for household electric appliances, industrial equipments, and automating the production lines.

#### i. Wide Variety of Motors

- The size ranges are from 60mm/6w to □104mm/200w and there are various and rich assortment of models, including induction motor, reversible motor, electromagnetic brake, terminal box, speed controller, electronic brake, etc.
- The operating voltage also covers the worldwide standards including 100V 50/60Hz (Japan), 200V 50/60Hz (Japan), 110V 60Hz (Taipei), 220V 60Hz (Korea, China), 115V 60Hz (North America), 230V 50Hz (Europe, Oceania), 220V-240V 50Hz (Southeast Asia), and so forth.

#### ii. Low Noise and Low Vibration

- Higher quality requirements for the motor in relation with place and condition of use ask for low noise and low vibration.
- To meet the requirements, the high precision of gear processing and the new skiving method are employed. To reduce the noise level and the vibration level to a minimum, the rotor, a source of vibration, is manufactured with high processing precision.



### iii. Ease of Use

- The design and production of the motor and the gear box can be customized to the user's specifications. So the user can use it safely and easily.
- It is easy for a single-phase motor to operate to obtain the source of motive power simply by connecting condenser to the commercial electrical source, which is available at any place around the world. Since the condenser is not needed for a three-phase electrical source, the motor use can be directly connected without the condenser to a three-phase electrical source to obtain dynamic force.

## III. GLOSSARY OF MOTOR-RELATED TERMS

### 1. Electrical Source

#### i. AC (Alternating Current)

- An alternating current is a current which changes level and direction periodically within a certain period of time.
- A sine wave is the most typical alternating current.

#### ii. DC (Direct Current)

- The direct current is an electrical current that has a positive (+) and a negative (-) fixed electrical sources like battery. Therefore the direction and magnitude of the direct current are constant.
- The examples of a direct current installation include dry batteries, storage batteries, direct current generators, and various rectifiers.

#### iii. Frequency

- The frequency is the number of complete alternations of an alternating current per second.
- The unit of the frequency is represented by Hertz (Hz).
- In Korea, 60Hz is adopted as a standard frequency, which means the alternating current alternates 60 times per second between positive (+) and negative (-) electrical magnitudes.

### 2. Rating

- The motor should be designed as to comply with the specified requirements, and the limit of its use under such a design is called rating.
- Just as there are ratings specifying the limit as to how much output can be used, there are also rating specifications for voltage, current, number of rotations, and frequency. These are called rated output, rated voltage, rated current, rated number of rotations, and rated frequency.
- The ratings are divided into a continuous rating, an intermittent rating, and an interactive rating. The INDUCTION MOTOR we manufacture belongs to a continuous rating. Our REVERSIBLE MOTOR is an intermittent rating (30 minutes).

#### i. Continuous Rating

- When the rated load is imposed under the rated voltage and frequency, the continuous rating means that it can guarantee the continuous operation which will not result in exceeding the specified temperature and comply with the other requirements.

#### ii. Intermittent Rating

- When the rated load is imposed under the rated voltage and frequency, the intermittent rating means the operation within a specified period of time will not result in exceeding the specified temperature and comply with the other requirements.
- There are 6 standard short-time rating including 5 minutes, 10 minutes, 15 minutes, 30 minutes, 1 hour and 2 hours.

#### iii. Interactive Rating

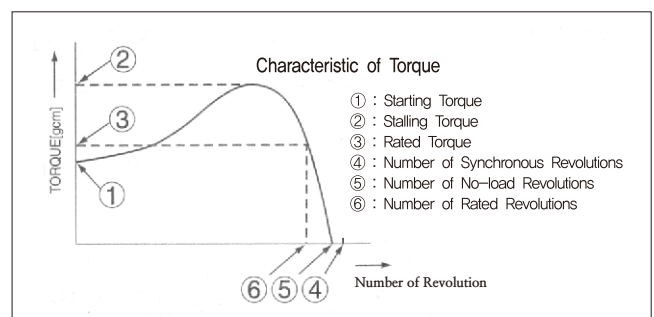
- When a motor is used with the rated load under the rated voltage and frequency, the interactive rating means that the cyclic operations of stopping and running with a certain load will not result in exceeding the specified temperature and comply with the other requirements.

### 3. Output

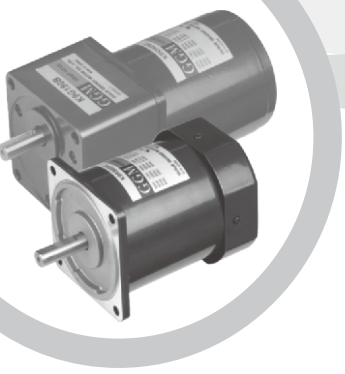
- The output is an amount of work accomplished by the motor in unit time and it is represented by the product value of the revolutions and the torque. The rated output is indicated in the motor.
- **Output = 1.027 × T × N [WATTS]**  
1.027 : Fixed Number, T : Torque(kg·m),  
N : Revolutions per minute (rpm)
- 1 Horse Power (HP) is 746 (Watts).
- Rated Output : The rated output is a continuously generated output under the specified voltage and frequency. In general, the rated output at this time is called an output of the motor.

### 4. Torque and Numbers of Rotations

- The torque of the motor is a rotating torque that makes a rotor start working and the unit is [g·cm] or [kg·cm]. [N·m] [oz·in], [lb·in] is used by countries.
- [1kg·cm = 0.0981N·m = 98.1mN·m = 13.9oz·in = 0.868lb·in]
- The torque of 1 kg · cm is the same as the rotating torque when 1kg of the force is added perpendicularly to a point in the output sphere of 1cm-radius rotor.



(Fig.1) Number of Revolutions – Characteristic of Torque



#### i. Starting Torque (① in Fig.)

- This is a torque when the motor is starting. It is also referred to as a locked rotating torque.
- If a force greater than the starting torque is applied to the motor, the motor will not work.

#### ii. Stalling Torque (② in Fig.)

- This is a maximum torque that the motor can supply.
- If a load greater than the maximum torque is applied to the motor, the motor will stop.

#### iii. Rated Torque (③ in Fig.)

- This is a torque when the motor operates at the rated speed.
- This is also a torque when the motor generates a rated output continuously with the rated voltage.

#### iv. Synchronous Revolutions (④ in Fig.)

- This is the number of rotations determined by the frequency of the power source and the number of poles in the motor.

$$N_s = \frac{120f}{P} \quad [\text{Rpm}]$$

- $N_s$  : Synchronous revolutions per minute (rpm)
- $P$  : Number of poles in a motor
- $f$  : Frequency of a power source [Hz]
- 120 : Fixed Number
- rpm : Number of revolutions per minute

Example)

If the motor has 4 poles and the power source frequency is 60Hz,

$$N_s = \frac{120 \times 60}{4} = 1800 \text{ [rpm]}$$

And if the motor has 4 poles and the power source frequency is 50Hz,

$$N_s = \frac{120 \times 50}{4} = 1500 \text{ [rpm]}$$

#### v. No-load Revolutions (⑤ in Fig.)

- This is the number of revolutions when the motor is operating while no load is imposed on the output axis. In case of an induction motor or a reversible motor, the number of revolutions is less by 20 – 80 [rpm] than the number of synchronous revolutions.

#### vi. Rated Revolutions (⑥ in Fig.)

- This is the number of revolutions when the motor is operating with the rated load for generating the rated output. This is an ideal number of revolutions for use.

#### vii. SLIP

- This is another way of expressing the number of

revolutions and it is represented by the following equation.

$$S = \frac{N_s - N}{N_s} \quad \text{or} \quad N = N_s \times (1-S)$$

- $N_s$  : Synchronous revolutions per minute [rpm]
- $N$  : Revolutions per minute under an arbitrary load [rpm]
- $S$  : Slip

Example)

If an induction motor of 4 poles and 60Hz is operating with a slip  $S = 0.1$ ,

$$N = \frac{120 \times 60}{4} (1-S) = 1800 \times (1-0.1) = 1620 \text{ [rpm]}$$

## 5. Static Torque

The static torque is a torque experienced when a load is being imposed while the electromagnetic brake and the clutch brake are stopped.

## 6. Ambient Torque

The ambient torque is a maximum torque allowable to use when the motor is operating. This torque has a limitation by the rated torque, the temperature-rise, and the strength of the assembled gearhead.

## 7. Over Run

This is an excessive number of revolutions, expressed as angular degrees, that the motor makes from the moment of power shut-off until the motor stops.

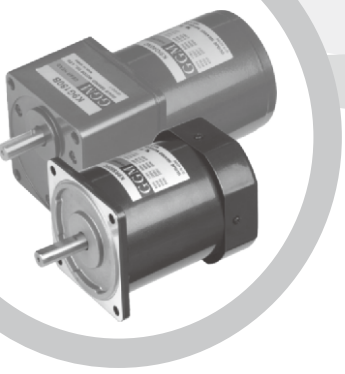
## 8. GEAR HEAD

### a. Gear Ratio

- This is a ratio that the gearhead decelerates the number of rotations of the motor.
- The number of rotations of the motor at the output axis of the gearhead is 1/Gear Ratio. The gear ratio has two kinds of rates in order to make the number of rotations of gearhead's output shaft in the motor between 50Hz and 60Hz equal each other. The one set of ratios are 3, 5, 7.5, 12.5, 15 ... and the other set ratios are 1.2 times of the former set, that is, 3.6, 6, 9, 15, 18, ...
- The number of rotations for the gearhead's output shaft is almost the same between the gear ratio of 3 in the area that uses 50Hz and the gear ratio of 3.6 in the area of 60Hz.
- Naturally, any gearhead is allowed to use either in 50Hz area or 60Hz.

### b. Maximum Ambient Torque

- This is a torque with a maximum load imposed on the gearhead.



- Since this torque is determined by the mechanical factors such as material and size of the gear and pinion used with the gearhead, it varies depending on the type of gearhead and gear ratio.

#### c. SERVICE FACTOR

- This is a coefficient used to estimate the lifetime of the gearhead.
- This is an empirically determined value based on the results of the lifetime test conducted under the given load and the conditions of use.

#### d. Delivery Efficiency Rate

- This is an efficiency rate when the torque is amplified by connection the gearhead to the motor and it is represented by percentage(%). It is determined by the resistance of the lubricant as well as the friction of pinion and gear used with the gearhead.
- The delivery efficiency rate is 90% for each gear. Therefore it would have efficiency rate, 81% for the 2nd gear, 73% for the 3rd gear, 66% for the 4th gear, 59% for the 5th gear. If gear ratio is higher, the number of gear will increase and the efficiency rate will decrease.

#### e. Overhung Load

- This is a load received vertical to the gearhead's output shaft.
- The maximum overhung load at the gearhead is called the ambient overhung load. The value varies depending on the type of the gearhead and the distance from the end of the shaft to the gearhead.
- This includes tensile force in using belt working.

#### f. Thrust Load

- This is a load received horizontal to the gearhead's output shaft.
- The maximum thrust load at the gearhead is called the ambient thrust load. The value varies depending on the type of the gearhead.

## IV. MOTOR TEMPERATURE RISE

### 1. Motor Temperature Rise and Insulation

- The motor generates heat when current flows. The heat is an electrical loss generated by the copper loss of the motor's conducting section, and the core loss developed when the iron core gets magnetized.
- The heat is generated by the frictional loss and the mechanical loss caused by the air friction, etc.
- Some of the heat generated in the motor is accumulated inside the motor, and the rest is released to the outside by means of radiation, convection, and conduction.
- While the motor is running, the temperature difference between the heat loss generated inside the motor and the heat released to the outside of the motor is referred to as a temperature rise.
- While the motor is running, the heat is generated and as a result the temperature rises, and the part that has the highest temperature in the motor is a winding section. Therefore, the use of the motor is restricted from the ambient temperature as well as the temperature of the motor itself.

- The limitations on use of a motor by the insulation class are shown in the table below.

Type of Insulation	Description	Max. Allowable Temperature	Remark
Class Y	Made of materials like cotton, silk, and paper. Materials not impregnated in varnishes or oils.	90℃	
Class A	Made of the same kinds of materials as described in Class Y. Materials impregnated in varnishes or oils	105℃	
Class A	Polyurethane resin for enamel wire, epoxy resin, accumulated cotton material, and accumulated paper material.	120℃	
Class B	Materials made of mica, asbestos, glass fiber using adhesive agent.	130℃	
Class F	Made of the same kinds of materials as described in Class B using adhesive agent such as silicon alkaloid resin, etc.	155℃	
Class H	Made of the same kinds of materials as described in Class B and F with silicon resin or equivalent materials.	180℃	
Class C	Made solely by original mica, asbestos, or ceramic, or together with adhesive agent.	180℃ OVER	

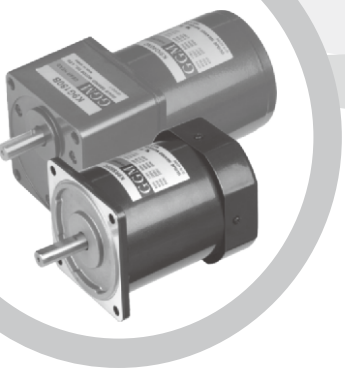
- Although the temperature rises while the motor is operating, the motor is such designed that it can prevent the temperature from rising up above the maximum ambient temperature shown in the table above.
- Most of our motors belong to Class E, while the motor for UL certification is Class A. If the induction motor is running continuously for 2 to 3 hours since it is started, its temperature may reach a saturation point and since then, the temperature stays constant below the specified maximum allowable temperature. The reversible motor is rated for 30 minutes continuous operation, but the operating time can be varied depending on the load and the operating mode (how often the operation is on and off, and so on). Therefore, if the motor is used at the temperature below the specified maximum allowable temperature, the operating hours can be extended.

### 2. Ambient Temperature

- It is advised to use the motor at the ambient temperature between  $-10^{\circ}\text{C}$  and  $+50^{\circ}\text{C}$ . If the motor is operating in an environment of the temperature higher than the maximum ambient temperature or inside a house, the heat emitted by the increased temperature of the motor is added to the ambient temperature so that the lifetime of the winding coil and the ball bearing shortens significantly. The operation of the motor in a too low temperature environment also causes problems associated with starting of the motor. In addition, the decrease of the interrelative influence of the gearhead's lubricating grease and the ball bearing causes the frictional torque to be increased. As a result, the motor does not get started or takes longer time to start.

### 3. Method of Measuring Temperature Rise in Motor

- A thermocouple of temperature multipoint reorder is attached at the center of the housing (the motor case) in order to check the housing temperature saturation caused by the heat the motor releases. The difference of the saturated temperature and the ambient temperature is called a temperature rise and the unit of the temperature is deg.
- In general, the part that has a highest temperature in the motor is a winding section. The maximum ambient



temperature of the winding section is specified as K,S, standards for each type of insulation material,

- The temperature rise can be derived from the following equation,

$$\Delta t(\text{deg}) = \frac{R2 - R1}{R1} \times (234.5 + T1) - (T2 - T1)$$

- R1 : Resistance of winding before the temperature rise test
- R2 : Resistance of winding after the temperature rise test
- T1 : Ambient temperature before the temperature rise test
- T2 : Ambient temperature after the temperature rise test
- 234.5 : Temperature coefficient of the copper wire

- The temperature of the motor rises further if the motor is frequently stopped and re-started, or the direction of the rotation is frequently reversed, or the instantaneous stoppage is frequent. The lower the temperature of the motor is, the longer the lifetime of the motor.
- During the operation of the motor, the temperature of the housing (motor case) surface may rise or go up above 90°C, but it is not an anomaly. Thus, care should be taken, because careless touching of the motor or bringing of a flammable substance near to the motor may result in an accident.

#### 4. Overheat Protection Device

##### i. THERMALLY PROTECTED TYPE

- T.P which is the overheating protection device (Thermal Protection) device, which is an overheat protection device, in a winding section to protect the motor from being damaged when the motor is overheating or the temperature around rises during the operation. Especially, UL conformance products and CE marked products have a built-in T/P device. Our K7, K8, and K9, which are UL conformance motors and CE marked motors, have a built-in T/P device, and "Thermally Protected" sign is indicated in the name plate. If the T/P sign in the name plate is shown in the motor intended for the domestic market, it has a built-in T/P.
- This T/P employed a heat sensing bimetal to facilitate the opening and closing of the contact point. This is an automatic reset type, meaning that it shuts off the circuit when an abnormal temperature is detected and that it returns to the original state when the temperature returns to a normal level.

##### ii. IMPEDANCE PROTECTED TYPE


- The impedance protected motor is designed to increase the impedance of the winding to reduce the increment of (input) current in order to prevent the temperature from rising up above the maximum ambient temperature even when the motor is restrained.
- The sign "Impedance Protected" or "ZP" is shown in the name plate of the motor. The UL certified model of our K6 motor belongs to this category.

## [ Overview of Motor's Standard Certification ]

In designing an automatic machine and any other instrument, the reliability of parts, especially the reliability of a motor, plays an important role. And the use of standardized parts or components makes designing an manufacturing easy and reliable. Therefore, the countries throughout the world have their own established standards and legally put them in effect.

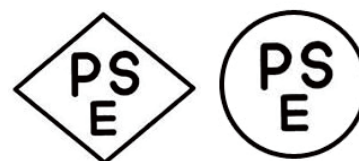
### I. DOMESTIC STANDARDS

#### KC (Korea Certification)

 The Electrical Appliances Safety Control Act was amended in March 2009, simplifying 20 legal compulsory certification screening categories into 9 categories, and integrating 13 legal compulsory certification marks into KC (Korea Certification) mark, and this was implemented in July 2009. Safety (S), quality (Q), environment (E) and health (H) are marked next to KC mark additionally for each field of certification. It is possible to select between the previous K series standards and KS C IEC series standards for applied standards.

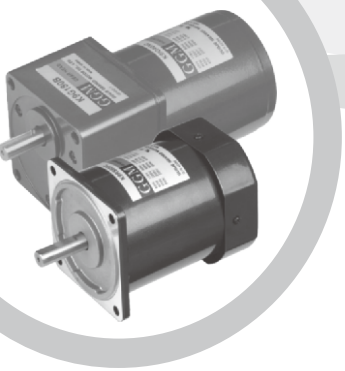
### II. JAPANESE STANDARDS

#### PSE (Product , Safety, Electrical appliance & materials)



These marks are required to be attached on an electrical appliance when safety is verified during inspection for short-circuiting and other malfunctions, according to the

Act on Product Safety of Electrical Appliances and Materials, implemented in April 2001. Currently, these marks are managed by the Product Safety Office, Consumption Economy Division, Economic and Industrial Policy Bureau which falls under the Ministry of Economy Trade and Industry (METI). In the Act on Product Safety of Electrical Appliances and Materials, electrical appliances are categorized into specific electrical appliances, and other electrical appliances, which differs from specified electrical appliances. These specified electrical appliances are required to undergo conformity assessment by a certificate agency that meets the guidelines of the METI, and the PSE mark is diamond-shaped. Non-compulsory certification applies to other electrical appliances other than specific electrical appliances which includes the motor, and when the conformity has been certified under the necessity, a circular PSE mark is attached.



### III. U.S. STANDARDS

#### UL (Underwriters Laboratories Inc)



Underwriters Laboratories Inc. is a non-profit corporation established by the American Fire Insurance Operators Association in 1894 and it is an inspection agency that has international authority. The UL mark is regulated for 1,400 target items including electronic/electric appliances, components, machines and equipment with the aim of minimizing physical injury of users, loss of lives and properties, and although it is a voluntary standard, not a forced standard, the credibility of UL in the U.S. is well-respected, and consumers show a high level of preference for this standard, so most manufacturers, dealers, and importers require this level of certification. Therefore, it is nearly the same as a mandatory standard.

Standards related to the motor are as follows.

- UL - 73 : STANDARD FOR MOTOR - OPERATED APPLIANCES
- UL - 94 : TEST FOR FLAMMABILITY OF PLASTIC MATERIALS
- UL - 507 : ELECTRIC FANS
- UL - 519 : IMPEDANCE PROTECTED MOTOR
- UL - 547 : THERMAL PROTECTED MOTOR
- UL - 674 : ELECTRIC MOTOR AND GENERATORS
- UL - 845 : MOTOR CONTROL CENTERS
- UL - 1004 : ELECTRIC MOTOR

### IV. CANADIAN STANDARDS

#### CSA (Canadian Standards Association)



CSA standards are established by the Electronic Industries Association of Canada and the Canadian Standards Association is a private non-profit inspection agency. Any product, including electric appliances, components, gas and petroleum-based fuel appliances, and safety appliances, except for products certified by the CSA, cannot be used, or

sold, in order to protect human lives and properties from fire and other accidents by law. The CSA provides standards for the inspection and requirements for checking the safety of such components. Also, CSA is tested as the Nationally Recognized Testing Laboratory (NRTL) by The United States Occupational Safety and Health Administration (OSHA), so if it is recognized that products conform with American safety standards, products carrying the CSA mark added with NRTL can be sold and used in the U.S.

C22.2 NO. 77 : MOTOR WITH INHERENT OVERHEATING PROTECTION

C22.2NO.100 : MOTOR AND GENERATORS

C22.2NO.113 : FAN AND VENTILATORS



US mark

(For the U.S. only)



NRTL mark

(For the U.S. only)



C/US mark

(For don't Canada

and the U.S.)



NRTL/C mark

### V. EUROPEAN STANDARDS

#### CE (Communaut European)



A manufacturer who wishes to distribute, or sell products in Europe, should declare that such products conform with the relevant EU directives and attach the CE mark to the product earned via conformity assessment, such as model inspection, by the relevant notification agency (authorized

agency, notified body). The attachment of a CE mark to a product means that the product, or its manufacturer, meets the essential requirements of EC regulations or directives. In other words, it means that the conformity assessment for such product was carried out by one of the manufacturers, importers, or third parties (certification agency) in order to distribute such a product to the market without any restrictions, and therefore, the CE mark should be attached to a product related to the health, safety and environment of a consumer, and a marked product can be distributed freely within the region of EU and EFTA countries, without inspection or additional testing. Main EU directives are as shown below.

- Low voltage appliances(LVD) Low Voltage Directive 73/23/EEC
- Electromagnetic compatibility(EMCD) Electromagnetic Compatibility 89/336/EEC
- Machinery(MD) Machinery Directive 98/37/EC

## VI. CHINESE STANDARDS

### CCC (China Compulsory Certification)



This system requires products falling under the compulsory certification items among all products produced and distributed in China, all products and components exported to China to receive the safety and quality certification, and a product can be sold in the country only after receiving the CCC mark.

The quality and safety-related certification system in China was operated separately by applying a separate certification to products produced in the country, and imported products, but upon the entry into the WTO, the CCC mark certification system was implemented comprehensively starting on May 1, 2002. This is the safety and quality certification system that's mainly for products including electric and electronic appliances, as well as automotive, and all items exported to China must receive the CCC mark from a Chinese certification agency in order to be exported, and companies that established a local factory in China can sell their products only after obtaining the CCC mark, instead of the previous CCEE mark.

## VII. INTERNATIONAL STANDARDS

### IECEE/CB-Scheme



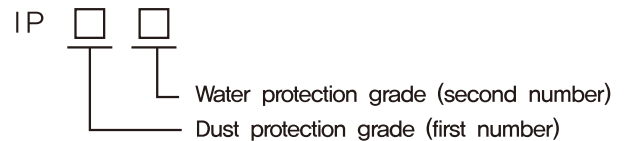
As the international certification system for the safety of electrical and electronic appliances, this is a specific mutual recognition system that enables the acquisition of certification from the relevant country, without a duplicate test between 52 member countries, according to the IECEE/CB SCHEME.

IECEE (IEC System for Conformity Testing and Certification of Electrical Equipment) is the system established by merging the IEC and the CEE (European Commission for Conformity Testing of Electrical Equipment) in September 1985, and CEE which is the origin of this system was established in 1946, with the goal of promoting international trade

by mutually certifying an electrical appliance tested by a testing agency of a member country in Europe, without testing it again, and IECEE has the advantage of simplifying the certification process of each country, that which is a technical barrier to non-tariff trade, and promotes trade between member countries while reducing the workload of testing agencies in each country. The extension of IECEE/CB-Scheme CB system will increase the exchange of information required for assisting manufacturers throughout the world that intend to obtain the certification, or approval, on each national scale, and the operation unit of the CB system is NCBs, and specified according to such principles. NCBs utilizes a testing lab called CBTL (CB Testing Lab) which is designated according to the rule.

## [Unit Protection Structure]

- Grades of unit protection structure for dustproof (protection against dust), waterproof (water protection) are regulated by IEC529, IEC34-5 standards.
- Display way for dustproof, waterproof by classification are as follows.



- The classification and test methods for Dustproof, Waterproof is as shown in the table below.

### (1) Classification for Dustproof (first number)

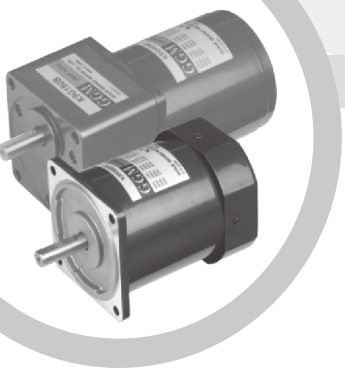
IP Indication	Type of Protection for Dustproof	
	Degree of Protection	Test conditions.
IP0□	None	None
IP1□	Protection from the hand approaching	Not to be penetrated by foreign object of more than diameter 30mm
IP2□	Protection from the fingers approaching	Not to be penetrated by foreign object of more than diameter 12mm
IP3□	Protection from the tip of the tool etc.	Not to be penetrated by foreign object of more than diameter 2.5mm
IP4□	Protection from the WIRE etc.	Not to be penetrated by foreign object of more than diameter 1.0mm
IP5□	Protection from dust	Dust will not penetrate that prevents normal operation.
IP6□	(Complete Dustproof) structure	Dust will be fully protected from the infiltration.

### (2) Classification for waterproof (second number)

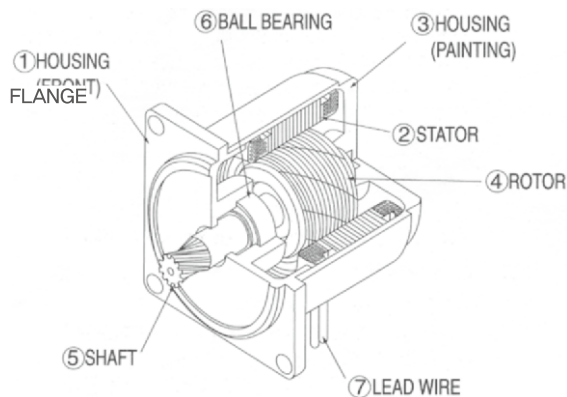
IP Indication	Type of Protection for Dustproof	
	Degree of Protection	Test conditions.
IP□0	None	None
IP□1	Protection from vertical droplets	Drop of droplet of 3~5 L/min from height of 200mm for 10 minutes
IP□2	Protection from water droplets falling vertically in the range of 15°	Drop of droplet of 3~5 L/min from height of 200mm for 10 minutes in range of 15°
IP□3	Protection from water droplets falling vertically in the range of 60°	Sprinkle water of 10 L/minute at a height of 200mm for 10 minutes in range of 60°
IP□4	Protection from scattering water in all directions	Sprinkle water of 10 L/minute at a distance of 300 ~ 500mm from all directions for 10 minutes
IP□5	Protection from water to pour from all directions	Pour water of 12.5L/min · 30kPa from a distance of 3m in all directions for 3 minutes
IP□6	Protection from water pouring as like strong waves	Pour water of 100L/min · 100kPa from a distance of 3m in all directions for 3 minutes
IP□7	In fixed condition, available to use even sunk in water	For 30 minutes under water
IP□8	Can be used under water	By conference with user and manufacturer side

Note) All of our CE MARK MOTOR are structured in accordance with the IEC529, IEC34-5 Protection Provisions of the unit, and the IP grade of each MOTOR is set forth in the NAME PLATE.





## [ Motor's Structure ]



### ① FLANGE (FRONT)

- The flange and the housing (frame, bracket) are a single body type, and this is proceeded with precision. This plays an important part to attach the motor alone or combine the gearhead.

### ② STATOR

- The roles of the stator are to generate magnetic field, form the rotation, and make the rotor operate.
- This is made up of an iron core, a magnet wire, a lead wire, an insulator.

### ③ HOUSING(PAINTING)

- The housing forms motor's exterior covering. Its precise process, aesthetic shape, and structure are excellent. This is an important part to support the shaft in order to make the stator be positioned exactly and the rotor rotate well.
- The material is aluminum die casting, iron drawing, or press. Our standard geared motors are made of aluminum die casting.

### ④ ROTOR

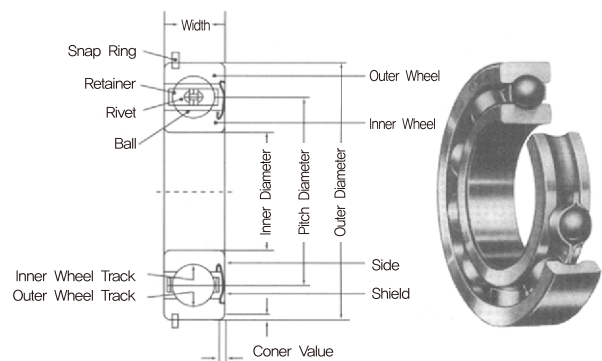
- It is called a rotor and it converts electrical energy received from the stator into mechanical energy and delivers such energy to the outside through its shaft. The rotor consists of an iron core, end ring and aluminum bar.
- The rotor consists of an iron core, end ring and aluminum bar.

### ⑤ SHAFT

- It plays a role to deliver mechanical output generated from the rotor to the outside, and should have both electrical performance coupled with mechanical strength. Also, cut strong steel is used for the shaft.

### ⑥ BALL BEARING

- It plays a role in keeping the rotor in a correct position to ensure stable rotation. The induction motor has a narrow air-gap (a gap between a stator and a rotor) so that a great care should be taken to the bearing when using it. Especially, the standard geared motors have a narrower air gap than the general induction motors.
- The ball bearing consists of inner wheels, outer wheels, vibrating bodies, and retainers. In general, the ball bearing has many types, but the small and medium motors mostly use deep groove ball bearings.



Single Track Deep Groove Ball Bearing

NOTE) The single track deep groove ball bearing type is the most typical type among roller bearings, which purpose of use is very extensive, and the groove on the inner and outer ring raceways has a slightly larger curvature radius than the radius of the rolling element (ball). This bearing can take loads in any direction, including radial direction loads, axial loads and combined loads and, moreover, it has less friction torque, which is most appropriate for the purpose requiring high speed spinning, low noise, and vibration.

This type of bearing includes an open type bearing, shielded or sealed type bearing with a rubber seal and a bearing in the form of a snap ring is attached to the outside diameter of the outer ring.

– It plays a role in providing power to the stator, and UL STYLE NO.3266, and the UL STYLE NO.3271 AWG NO.20 are used, too.

### ⑦ LEAD WIRE

- It plays a role in providing power to the stator, and UL STYLE NO.3266, and the UL STYLE NO.3271 AWG NO.20 are used, too.

# [ Overview of Gearhead ]

## I. TYPE OF GEARHEAD

### When the two axes are parallel

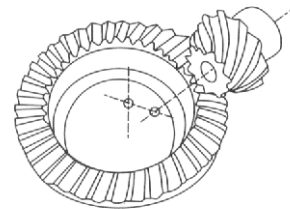
- SPUR GEAR, HELICAL GEAR, INTERNAL GEAR, etc.

### When two axes intersect

- BEVEL GEAR, ZEROL BEVEL, etc.

### When two axes do not intersect or not parallel to each other

- SCREW GEAR, WORM GEAR, HYPOID GEAR etc.



HYPOLD GEAR

## II. CHARACTERISTICS OF GEARHEAD

### 1. What is a Gearhead

The gearhead is an instrumental device that not only reduces the revolution speed of the motor but also makes a torque change according to the gear ratio.

### 2. Characteristics of Gearhead

- Low noise type with big delivery capability
- Precise revolution speed according to the reduction ratio
- Good durability within the permissible torque
- Wide spectrum of reduction ratio according to necessary speed

### 3. Gearhead Ratio

- The ratio of spin speed between the driving shaft, and the driven shaft, in the reduction gear is called the reduction gear ratio.
- We have gone through precision process for the motor shaft and the helical gear, and as a result, we could make a remarkable reduction in noise level to 10dB. There are various types of exclusive gearheads that can be connected to the motor simply including 1/3~1/200 (1/3~1/250 in case of K6 and K8).
- If you need a ratio greater than 1/200, you can use inter-decimal gearhead (1/10).

### 4. Types of Gearhead

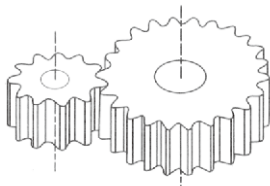
Our gearheads are grossly divided into □60mm, □70mm, □80mm, and □90mm depending on the flange size.

< General type of Gearhead >

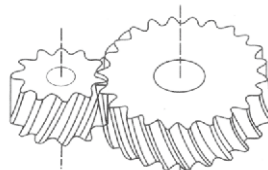
#### □80mm GEAR HEAD

K8 G □ B(C)(M)  
① ② ③ ④

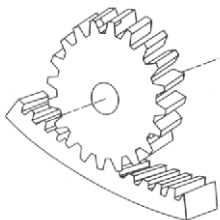
- ① means that the flange size is □80mm.
- ② is the shape of cutting.
- ③ is a ratio. There are 24 ratios from 1/3 to 1/200.
- ④ means a bearing type.



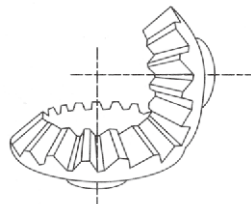
SPUR GEAR



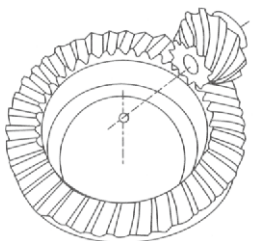
HELICAL GEAR



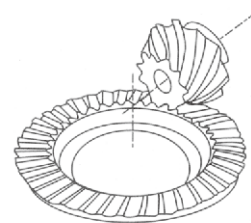
INTERNAL GEAR



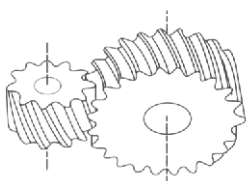
STRAIGHT BEVEL GEAR



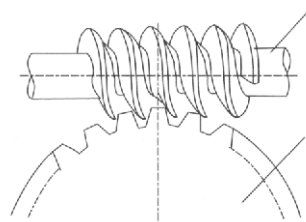
SPIRAL BEVELGEAR



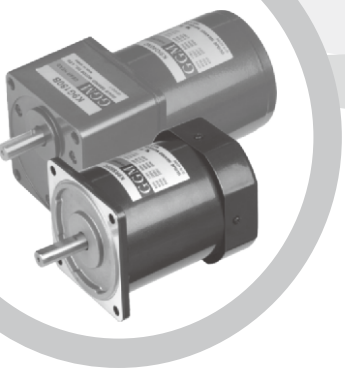
ZEROL BEVELGEAR



CROSSED HELICAL GEAR



WORM GEAR



B : ALL BEARING TYPE

C : BALL BEARING + METAL BEARING,

M : ALL METAL BEARING TYPE

\* If you need a ratio greater than 1/200, you can use an inter-decimal gearhead K8G10BX(1/10).

\* K8G is adapted to 25W motor.

〈Strong & Super-strong types of Gearhead〉

**□90mm GEAR HEAD**

**K9 P □ B F(U,UF)**

① ② ③ ④ ⑤

- ① means that the flange size is □90mm.
- ② is the shape of cutting.
- ③ is a ratio. There are 20 ratios from 1/3 to 1/180.
- ④ means a bearing type.

Strong types and super-strong types of gearheads are only in ball bearing types.

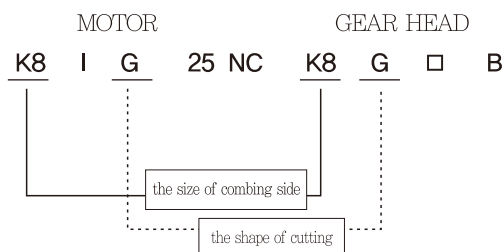
⑤ is a sign of strong type and super-strong type

- No-Sign : Strong rectangle box type
- F : Strong flange type
- U : Super-strong type
- UF : Super-strong flange type

- \* If you need a ratio greater than 1/180, you can use a decimal gearhead K9P10BX.
- \* K9P is adapted to 60W or 90W motor.

**5. Combination Method of Motor and Gearhead**

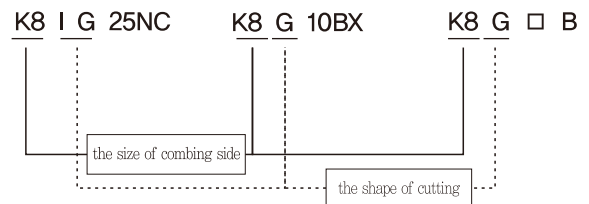
i. For example, refer to (below Fig.)



※ Care should be taken when doing assembly because only if the size of combing side and the shape of cutting are the same, they can be combined.

ii. When using a decimal gearhead together, refer to (below Fig.)

MOTOR DECIMAL GEAR HEAD GEAR HEAD



※ If you need bigger gear ratio which can not be got by gearhead itself, you can use the decimal gearhead. The number of rotations are reduced by 1/10 but the ambient torque would not be increased because the ambient torque already fixed on gearhead.

**III. NUMBER OF DIRECTION OF ROTATIONS**

**1. Number of Rotations**

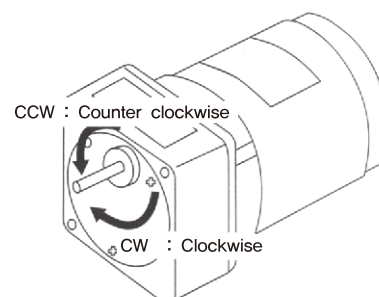
● For the directly assembled gearhead, the number of rotations is expressed by the following equation.

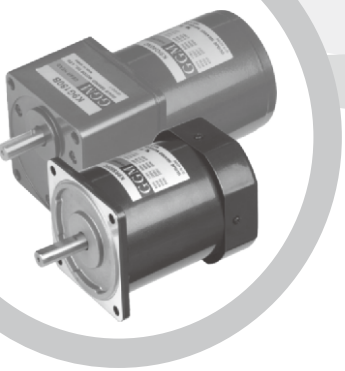
$$N_g = \frac{N_m}{i}$$

- $N_g$  : Revolutions of a gearhead (rpm)
- $N_m$  : Revolutions of a motor (rpm)
- $i$  : gear ratio of a gearhead

**2. Direction of Rotations**

- Rotating direction of the output shaft in the gearhead is either identical or opposite to the motor's rotating direction depending on the gear ratio. Refer to (Table 1).
- In case of using a decimal gearhead (1/10), the rotating direction is as same as the gearhead's direction.





MODEL \ 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
K6G□B(C)	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
K7G□B(C)	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
K8G□B(C)	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
K9G□B(C)	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
K9P□B(F)	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
K9P□BU K9P□BUF	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
K10H□B	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■

■ Same direction as the motor    □ Opposite direction as the motor

(Table 1) The rotating direction of the output shaft in the gearhead

## IV. Calculation Of Output Torque When Head Is Combined

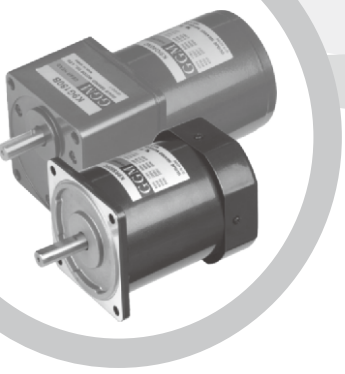
- The output torque when the gearhead is combined is calculated as follows. Refer to (Table 2) Transfer efficiency of gearhead

$$T_G = T_M \times i \times \eta$$

- $T_G$  : Torque of a gearhead's output shaft
- $T_M$  : Torque of a motor
- $i$  : Reduction ratio of a gearhead
- $\eta$  : Delivery efficiency of a gearhead.

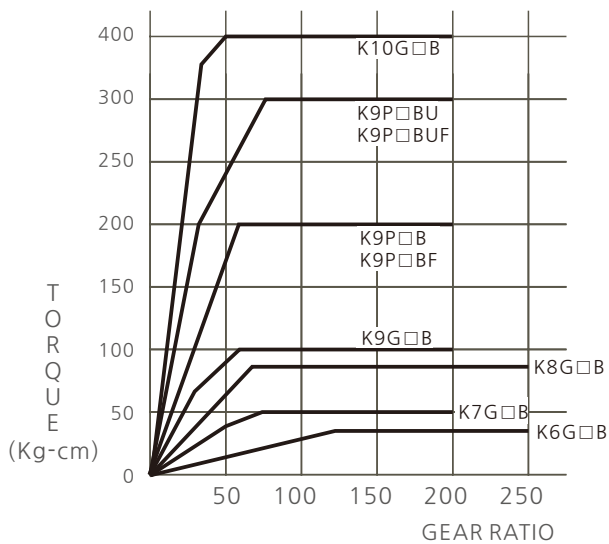
MODEL \ RATIO	3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180	200	250
K6G□B(C)	81%										73%					66%									
K7G□B(C)	81%										73%					66%									
K8G□B(C)	81%										73%					66%									
K9G□B(C)	81%										73%					66%									
K9P□B(F)	81%										73%					66%					59%				
K9P□BU K9P□BUF	81%										73%					66%					59%				
K10H□B	90%										86%					81%									

(Table 2) Delivery Efficiency of Gearhead



## V. MAXIMUM PERMISSIBLE TORQUE OF GEARHEAD

- Although the output torque of the gearhead is proportional to the ratio, the torque allowable to the gearhead has a limitation depending on what materials are used and the other conditions. This is called a maximum permissible torque and determined based on the size of the gearhead and the gear ratio.
- For example, when a 40W induction motor and a gear ratio of 1/180 is combined, the rated torque is 2.6kg·cm, which leads to  $TG = TM \times i \times n = 2.6 \times 180 \times 0.66 = 308.8\text{kg}\cdot\text{cm}$ . Although the calculation turns out to be 308.8kg·cm, the maximum permissible torque for K9G180B is prescribed as 100kg·cm as shown in (Fig. 1) below.



(Fig. 1) Maximum Ambient Torque of Gearhead

## VI. GEARHEAD LIFETIME AND SERVICE FACTOR

The lifetime of the gearhead is usually determined by how the shaft is supported. However, since the load varies in general, the lifetime of the gearhead is determined by the service factor based on the load. Refer to (Table 3).

### ■ Rated Lifetime

If the gearhead is used within the permissible torque, the rated lifetime of the gearhead is 5,000Hr for the ball bearing type and 2,000Hr for the metal type.

In case the gearhead operates as following conditions, the rated lifetime of the gearhead is the hours that it is impossible for the motor torque from the output shaft of the gearhead to convey and the gearhead has to stopped.

1. Torque : within the permissible torque
2. Load : Operating load in a constant direction without any load change
3. Operating hours: 8 hours a day
4. Temperature of the bearing : Metal type - 50°C / Ball bearing type - 80°C

The service factor in such case is  $sf = 1$

If a ball bearing type of gearhead is operating for 24 hours a day, the service factor should be taken into account. Therefore, a motor and a gearhead which have biggest permissible torque should be selected.

leads to  $TG = TM \times i \times n = 2.6 \times 180 \times 0.66 = 308.8\text{kg}\cdot\text{cm}$ . Although the calculation turns out to be 308.8kg·cm, the maximum permissible torque for K9G180B is prescribed as 100kg·cm as shown in (Fig. 1) below.

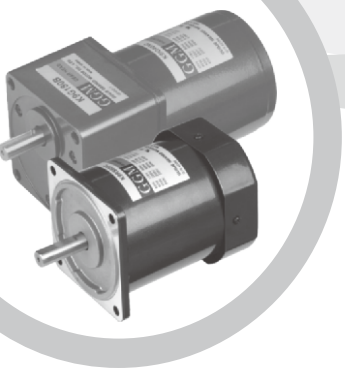
Type of Load	Example of Load
General Load	Belt conveyor; Continuous operation in one direction
Light Impact Load	Frequent starting/operating; Frequent CAM driving
Medium Load	Instantaneous reversal operation; Instantaneous stopping
Heavy Impact Load	Very frequent occurrence of medium impact load operation

Service factory		
5 hours a day	8 hours a day	24 hours a day
0.8	1.0	1.5
1.2	1.5	2.0
1.5	2.0	2.5
2.0~2.5	2.5~3.0	3.0~3.5

(Table 3) Example of Load and Service Factor

BALL BEARING TYPE	5,000 hour
METAL TYPE	2,000 hour

(Table 4) Standard Lifetime



## VII. OVERHUNG LOAD AND THRUST LOAD

The overhung load is loaded where the places between more than two supporting mechanisms are not on the shaft.

- When a chain, a gear, or a belt is employed as an output delivery mechanism for the output shaft of a gearhead, the overhung load is loaded upon the shaft, (Fig. 2)
- Since the overhung load exerts a load directly on the gearhead, it affects the life span of the gear.
- The overhung load can be calculated from the following equation,

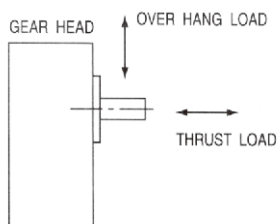
$$W = \frac{K \times T \times f}{r} \quad [\text{Kg}]$$

- W : Overhung load [Kg]
- K : Weight coefficient by driving method (Refer to Table 5)
- T : Delivery force [Kg·cm] of a gearhead output shaft
- f : Service factor (Refer to Table 3)
- r : Effective radius of gear, pulley, etc. [cm]

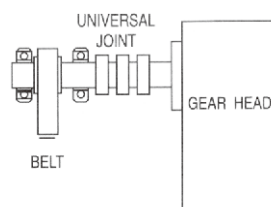
Driving Method	K
CHAIN, SPROCKET	1
Gear	1.25
V-BELT	1.5
PLATE-BELT	2.5

(Table 5) Load Coefficient by Driving Method

- If the motor operates with the calculated overhung load greater than the maximum allowable value in (Table 6), then care should be taken, because the damage of the bearing may result in shortening of the lifetime, the output shaft may bend, the fatigue deformation may occur due to the repeated load.
- In such a case, please set up the structure of the motor as depicted in (Fig. 3) to withstand the overhung load.
- Also, if a load should be directly imposed on the output shaft, please place the load as near to the gearhead as possible to avoid the one-sided load.
- If a helical gear or a worm gear is employed as an output delivery mechanism, make sure not to exceed both the overhung load and the thrust load simultaneously.



(Fig. 2)



(Fig. 3)

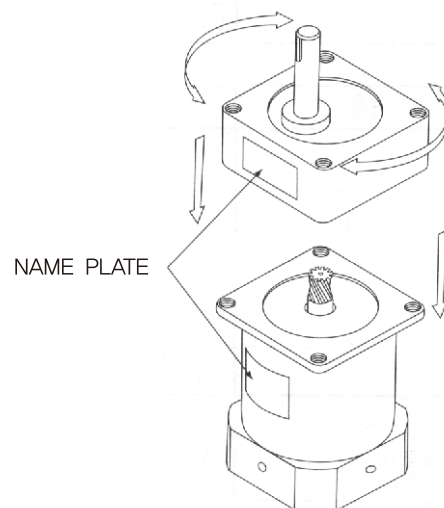
MODEL	GEAR RATIO	Maximum Ambient Torque (Kg · cm)	Permissible Overhung Load (Kg)	Permissible Thrust Load (Kg)
K6G□B(C)	3~18	30	5	3
	20~250		12	
K7G□B(C)	3~18	50	8	4
	20~200		45	
K8G□B(C)	3~18	80	10	5
	20~250		20	
K9G□B(C)	3~18	100	25	10
	20~200		30	
K9P□B K9P□BF	3~10	200	40	15
	12.5~20		45	
	25~200		50	
K9P□BU K9P□BUF	3~10	300	40	20
	12.5~20		40	
	25~200		40	
K10H□B	3~36	400	55	20
	40~200		65	

(Table 6) Permissible Overhung Load and Permissible Thrust Load

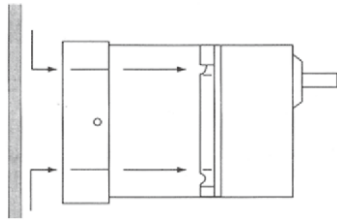
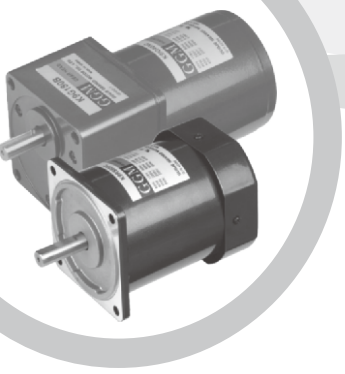
Note) The maximum permissible torque varies depending on the ratio. Use an range of permissible torque each for ratio.

## VIII. ASSEMBLY METHOD OF MOTOR AND GEARHEAD

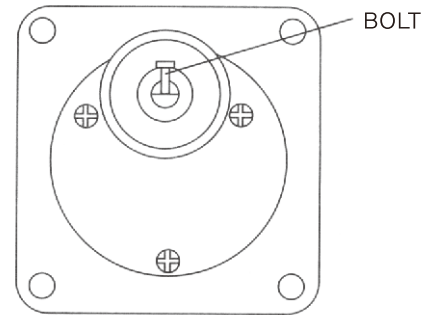
- To assemble the motor and the gearhead, adjust the assembling faces together in such a way as shown in (Fig. 4) and turn slowly to complete the assembly. When doing the assembly, special care should be taken neither to exert excessive force on the motor shaft nor to hit inside of the gearhead. Otherwise, the gear will get damaged, resulting in a abnormal noise and a shortened lifetime of the motor.
- When assembling the motor's gearhead, use a specified bolt of that motor to avoid a gap between the assembling faces.
- For a motor equipped with a cooling fan, leave a space at least 10cm from the fan cover to prevent the motor's intake hole from being clogged. (See Figure5)



(Fig. 4)



(Fig. 5)



(Fig. 7)

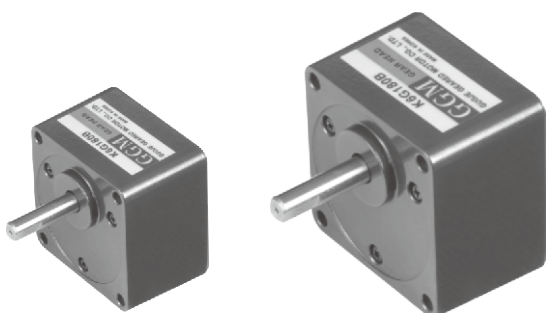
## X. Table of Gearhead Type

Gear head Size	MOTOR	Heat Treatment (Yes/No)	Bearing Type			Remark
			ALL BALL BEARING	ABALL BEARING + METAL BEARING	METAL BEARING	
□60mm	6W	No	K6G□B	K6G□C	K6G□M	
□70mm	15W	No	K7G□B	K7G□C	K7G□M	
□80mm	25W	No	K8G□B	K8G□C	K8G□M	
		40W	Yes No	K9G□B	K9G□C	K9G□M
□90mm	60W~200W	Yes	K9P□B	—	—	BOX TYPE
			K9P□BF	—	—	FLANGE TYPE
	60W~200W	Yes	K9P□BU	—	—	BOX TYPE
			K9P□BUF	—	—	FLANGE TYPE
□104mm	200W	Yes	K10H□B	—	—	

- In case of key groove processing, make a key groove in a delivery device such a chain, a pulley, or sprocket and use a key (Fig. 8), a part, to the key groove in order to fasten the load. Refer to (Fig 9), (Fig 10).
- It should not give impact when the gearhead shaft fasten on delivery device otherwise. It is caused a damage and shortening the lifetime.

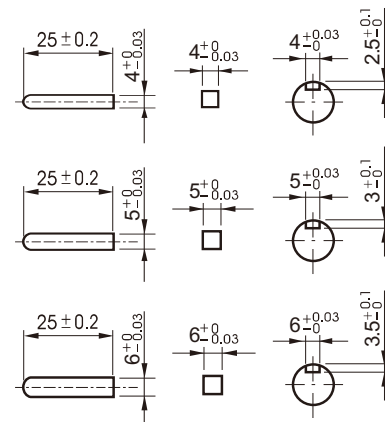
## XI. FASTENING OF LOAD

- To facilitate fastening a load to the gearhead output shaft, there is a groove in the key and D-cut in the smaller gearhead. Refer to (Fig.6)



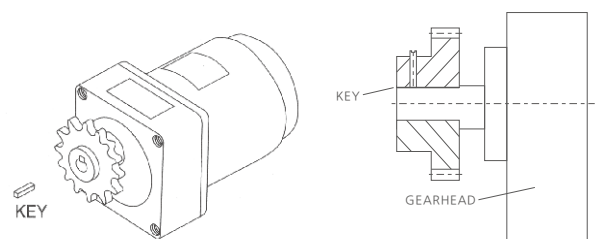
(Fig. 6)

### KEY & KEY GROOVE



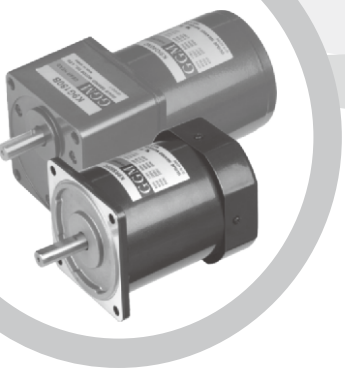
(Fig. 8)

- In case of D-cut processing, use a clamping bolt to the D-cut processing area in order to prevent the load from making racing. Refer to (Fig. 7)



(Fig. 9)

(Fig. 10)



# [Calculation of Motor Capacity]

## I. MOTOR AND INERTIA LOAD

- The equation to calculate the torque that is required for the motor to make the inertia load shaft rotating is as follows.

$$T = Ja = J \cdot \frac{d\omega}{dt} = \frac{GD^2}{4g} \cdot \frac{d\omega}{dt} = \frac{2\pi}{60} = \frac{GD^2}{4g} \cdot \frac{dn}{dt}$$

- T : Torque
- J : Inertia moment
- ω : Angular velocity
- t : Time
- n : Rotational velocity
- GD<sup>2</sup> : Flywheel effect [GD<sup>2</sup> = 4J]
- g : Gravitational acceleration (g = 9.8[m/sec<sup>2</sup>])
- a : Angular acceleration

- In case of an induction motor, the starting torque would be changed by rotating speed.

Thus, the average value of it that from the starting speed to the normal constant speed is called an average acceleration torque, a value commonly used in practice.

The average acceleration torque TA required for the inertia load GD<sup>2</sup> to be accelerated up to the speed n[r/min] within t[sec] is represented by the following equation.

$$T_A = \frac{GD^2}{37500} \times \frac{n}{t} \quad [\text{Kgf}\cdot\text{cm}] \text{ It is calculated by the equation}$$

## II. CALCULATION OF FLYWHEEL EFFECT [GD<sup>2</sup>]

- In case that a load is acquired through the connection of a gearhead, the motor shaft component of the load inertia should be calculated to select the motor.
- Also, the calculation method of GD<sup>2</sup> is different depending on the type of a load, and the following table provides GD<sup>2</sup> calculation method for each shape.

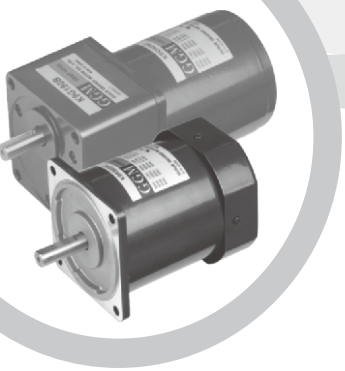
	Circular Disk	Hollow
Shape		
GD <sup>2</sup> Equation	GD <sup>2</sup> = 1/2 WD <sup>2</sup> [kgf · cm <sup>2</sup> ] W : Mass(Kgff) D : Outer Diameter(cm)	GD <sup>2</sup> = 1/2 WD(D <sup>2</sup> +d <sup>2</sup> )[kgf · cm <sup>2</sup> ] W : Mass(Kgff) d : In Diameter(cm) D : Outer diameter(cm)

	Sphere	Hexahedron
Shape		
GD <sup>2</sup> Equation	GD <sup>2</sup> = 2/5 WD <sup>2</sup> [kgf · cm <sup>2</sup> ] W : Mass(Kgff) D : Outer Diameter(cm)	GD <sup>2</sup> = 1/3W(a <sup>2</sup> +b <sup>2</sup> )[kgf · cm <sup>2</sup> ] W : Mass(Kgff) a,b : Length of Side(cm)

	POLE	
Shape		
GD <sup>2</sup> Equation	GD <sup>2</sup> = W(D <sup>2</sup> /4+l <sup>2</sup> /3)[kgf · cm <sup>2</sup> ] W : Mass(Kgff) l : Length D : Outer Diameter(cm) l : Length(cm)	GD <sup>2</sup> = 4/3Wl <sup>2</sup> [kgf · cm <sup>2</sup> ] W : Mass(Kgff) l : Length(cm)

	GD <sup>2</sup> of Arbitrary shaft
Shape	
GD <sup>2</sup> Equation	GD <sup>2</sup> =GD <sup>2</sup> × 4WS <sup>2</sup> [kgf · cm] D : Diameter(cm) —W : Mass(Kgff) —S : Radius of Rotation(cm)





	Linear Motion (Horizontal)	Linear Motion (Vertical)
Shape		
GD <sup>2</sup> Equation	$GD^2 = WD^2[\text{kgf} \cdot \text{cm}^2] = WV^2/\pi N^2$ V : Conveyor Speed [cm/min] N : Drum Rotational Speed [rpm] W : Weight Over Conveyor D : Drum Outside Diameter [cm] (Not included GD <sup>2</sup> for belt and drum)	$GD^2 = WD^2[\text{kgf} \cdot \text{cm}^2]$ W : Mass(Kgff) D : Diameter(cm)

	Gearhead	Operation of Ball Screw
Shape		
GD <sup>2</sup> Equation	$a$ -axis component of total $GD^2$ $GD^2_a = GD^2 + (n_1/n_2) \times GD^2$ [kgf · cm <sup>2</sup> ] n1 : Rotational speed of a-axis n2 : Rotational speed of b-axis Reduction ratio is $n1/n2$ (i > 1)	$GD^2 = GD^2 + WP^2/\pi$ [kgf · cm <sup>2</sup> ] GD <sup>2</sup> : BALL SCREW's GD <sup>2</sup> P : Pitch of Ball Screw[cm] W : Total weight of table and work

- For example, if a gearhead with a ratio of 1/18 is used and the inertia of a load ( $GD_L^2$ ) is 1000[kgf · cm<sup>2</sup>], the component of the motor shaft is

$$GD_M = \frac{1}{18^2} \times 1000 = 3.1 [\text{kgf} \cdot \text{cm}^2]$$

- If converted to SI units of the inertia moment, the inertia moment is expressed as I in SI units and this is represented as an equation below.

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

·g : Gravitational Acceleration 9.80665 [m/sec<sup>2</sup>]

- Indicated allowable inertia load in below chart. Please use in less than value indicated.

※ Explicit Calculation Method of Motor Capacity

SIZE	output	Allowable inertia load in the motor shaft
		GD <sup>2</sup> [kgf · cm]
□ 60	6W	0.25
□ 70	15W	0.57
□ 80	15W, 25W	1.20
□ 90	40W	3.00
□ 90	60W	3.00
□ 90	90W, 120W, 150W	4.60
□ 90	80W, 200W	6.00
□ 104	200W	7.84

- When the brake motor is used, the inertia moment of a load has a greater impact on stop time, overrun, and stop precision. The relationship between the inertia moment J and the flywheel effect  $GD^2$  expressed as the following equation.

$$GD^2 = 4gJ [\text{Kgf} \cdot \text{cm}^2]$$

·GD<sup>2</sup> : Flywheel Effect  
 ·J : Inertia Moment

- When the deceleration is applied using a gearhead, the motor shaft component of  $GD^2$  is represented by  $1/(\text{Gear Ratio})^2$ . The equation is as follows.

$$GD_M = \frac{1}{i^2} \times GD_L^2 [\text{kgf} \cdot \text{cm}^2]$$

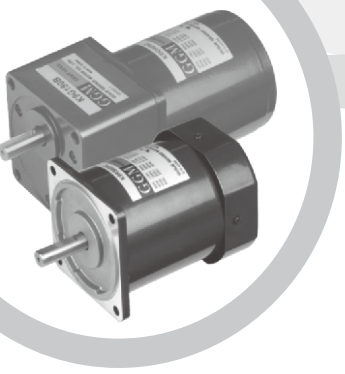
·GD<sub>M</sub> : Motor Axis Component of GD<sup>2</sup>  
 ·GD<sub>L</sub><sup>2</sup> : Assembled Load of GD<sup>2</sup> on Gearhead  
 ·i : Reduction Ratio of a Gearhead

- Allowable inertia load in the gearhead shaft is as below according to gear ratio.

$$\text{Gear ratio } 1/3 \sim 1/50 \quad GD^2_G = GD^2_M \times i^2$$

$$\text{Gear ratio } 1/60 \quad GD^2_G = GD^2_M \times 2500$$

·GD<sup>2</sup><sub>G</sub> : Allowable inertia in gearhead shaft  
 ·GD<sup>2</sup><sub>M</sub> : Allowable inertia in motor shaft  
 ·i : Gear ratio of Gear Head

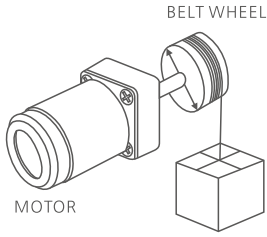
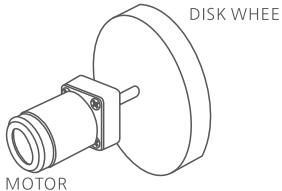
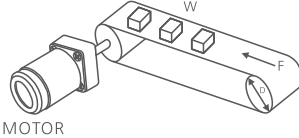
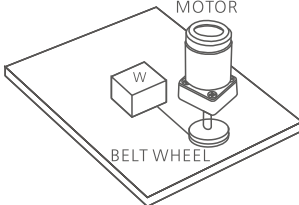
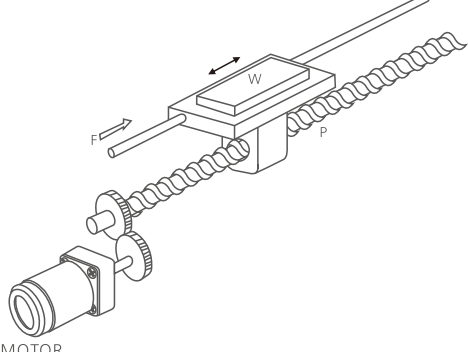


# [ TORQUE calculations ]

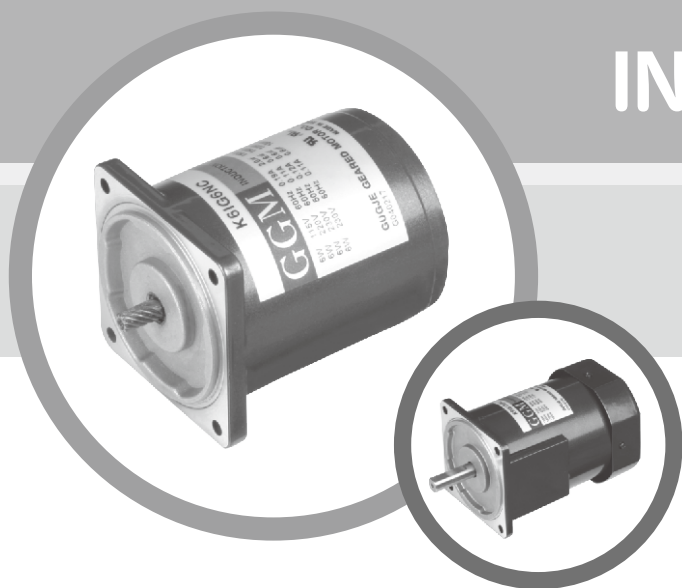
The following explanations describe how the required capacity for a motor can be calculated. We explained here is a basic equation in a general circumstance. Hence, when selecting a motor in reality, the following points should be taken into consideration. The acceleration at starting time, the power required for an instantaneously imposing large load, or the safety measures implemented at design and manufacturing levels, and the impact of changing voltage.

■ Calculation of load torque

Torque must be used less than the allowable loads of gearhead for safety.

1) In case of roll up load	2) In case of run inertia object	3) BELT CONVEYOR
		
$T = \frac{1}{2} D \cdot W \text{ [kgf}\cdot\text{cm]}$	$T = \frac{GD^2}{37500} \times \frac{N}{t} \text{ [kgf}\cdot\text{cm]}$	$T = \frac{1}{2} D (F + \mu W) \text{ [kgf}\cdot\text{cm]}$
<p>D : Drum Diameter [cm] W : Weight [Kgf]</p>	<p>N : Revolutions per minute [rpm] GD<sup>2</sup> : Flywheel effect [Kgf·cm<sup>2</sup>] t : Time [sec]</p>	<p>D : Drum Diameter [cm] W : Mass of belt in unit length [Kgf] μ : Coefficient of friction F : External force [Kgf]</p>
4) In case of moving the touching plane horizontally	5) Driving a ball screw	
		
$T = \frac{1}{2} D \cdot \mu W \text{ [kgf}\cdot\text{cm]}$	$T = \frac{1}{2\pi} P \cdot (F + \mu W) \text{ [kgf}\cdot\text{cm]}$	
<p>W : Weight [Kgf] μ : Coefficient of friction D : Wheel diameter [cm]</p>	<p>F : External force [Kgf] W : Weight of the load [Kgf] μ : Coefficient of friction [about 0.05~0.2] of sliding surface P : BALL SCREW LEAD [cm]</p>	

# INDUCTION MOTORS

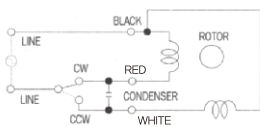


# [Characteristic of Induction Motor]

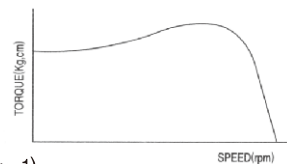
## 1. Characteristic of Induction Motor

- The induction motor is classified into a single-phase motor and a three-phase motor according to the using power source. This motor always uses both auxiliary winding and condenser not only when starting but also during operation. Generally speaking, its starting torque is not so great, but its structure is simple and reliable. In addition, its connection is simple. It is suitable to use in houses and on factories. For a single-phase induction motor, be sure that the condenser indicated in the name plate should comply with the capacity of the motor.
- For a single-phase induction motor, it is not possible to reverse the direction of rotation within a short time during operation because of the inertia torque exerting adversely against the direction the motor is supposed to change to. Thus, stop the motor first and change the rotational direction next. In case you do not, the motor can be damaged.
- The power source of a single-phase motor includes U (100V 60/60Hz), C (200V 50/60Hz, 220V 50/60Hz, 230V 50Hz). Refer to (Fig. 1).

CIRCUIT DIAGRAM



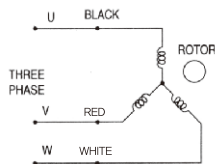
SPEED-TORQUE CURVE



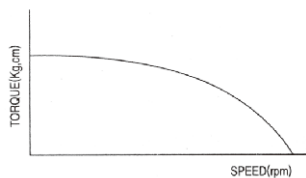
(Fig. 1)

- The three-phase induction motor has simpler connection, and higher efficiency and reliability than the single-phase motor, because it can be driven by a three-phase power source directly. The three-phase motor is popular as a general-purpose motor. The power source for a three-phase motor includes H (220V 60Hz, 230V 50/60Hz), M (380V 50/60Hz), Z (440V/460V 50/60Hz). Refer to (Fig. 2)

CIRCUIT DIAGRAM(C.W)



SPEED-TORQUE CURVE



(Fig. 2)

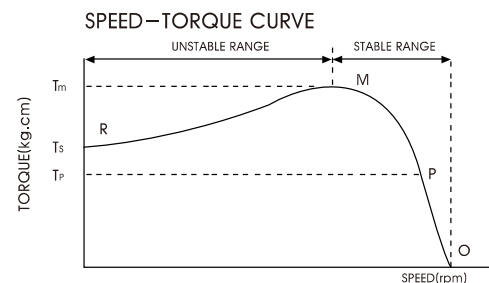
- It is possible to use the motor for continuous rated operation.
- It is designed to be used in a single direction.
- The number of rated revolution of the motor varies depending on the load imposed on it.
- It is suitable for such operation that does not need the speed control.
- Its insulation class is E. Our UL conformance motor is class A.

## 2. Characteristic of Rotation and Torque

- Under a constant voltage, the relationship between the number of rotation and the torque is as shown in (Fig. 3).

With no-load, the number of rotation roughly approximates the number of synchronous rotation, but as the load increases, the number of rotation decreases and reaches the torque  $T_L$ . The stable zone is to this point.

- When the load is further increased and over the point  $T_M$ , that is, the torque of the motor reaches the unstable zone, the motor stops and restriction electricity runs. As a result, the motor generates high heat, and then it can be damaged. Therefore, a safe operation is possible if only the motor is used within the stable zone of the load.



(Fig. 3)

## 3. Characteristic of Voltage and Condenser

- The characteristic of voltage can be represented by the torque's characteristic about the applied voltage. The torque of induction motor changes in proportion to two times the voltage.
- The characteristic of torque also change according to the capacity of the condenser.
- As the capacity of the condenser boost, the starting torque and stalling torque increase. But if the capacity is increased by 2.5~3.0 folds, the operating torque decreases and the starting torque do not increase.
- As a simple method to increase the torque when the induction motor is short on torque, either the voltage or the condenser capacity can be increased to continue the operation. In this case, the loss input of the motor increases and the temperature rises rapidly.
- However, if the motor must be run with insufficient torque, take measures to let the motor release heat as much as possible and operate the motor while keeping the temperature of the motor's housing below 90°C. Refer to (Fig. 4).

### General Specification of Induction Motors

Item	Specification
Insulation Resistance	100Ω 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
Temperature Rise	class A (65°C) or class E (75°C) or less increase measured by thermometer after rated operation
Insulation Class	Class E (120°C), UL approval motor class A (105°C)
Overheat Protection Device	Built-in thermal protector (automatic return type) : Open 130°C±5°C Close 82°C±15°C
Ambient Temperature	-10°C~50°C
Ambient Humidity	85% maximum (non condensing)

# [Characteristic of Terminal Box Type Motor]

## 1. Characteristic of Terminal Box Type Motor

- The motor's charging section including lead wire is made airtight by the terminal box to provide the protection from the dust and moisture.
- Therefore, the motor can be used in the harsh environment.
- The classification of the device protection structure for our T type terminal box motor is IP54.
- The motor features a compact design.
- The ground terminal is attached to the motor. However, Type (6~15W) of the single-phase induction motor does not have a built-in ground inside the terminal box.
- Since the motor is so structured as to make the piping work easier, it is excellent in connection work. The cable is firmly fixed to provide the stronger tension when wiring the cable.
- The terminal box cover is made of PC resin which is excellent in insulation and stiffness.
- The T type terminal box uses a product that provides high reliability.
- Please use AWG NO. 24~AWG NO. 10 ( $0.25\text{ mm}^2\sim 4.0\text{ mm}^2$ ) for the lead wire. At this time, the length of the peeled-off lead wire should be about 8mm.

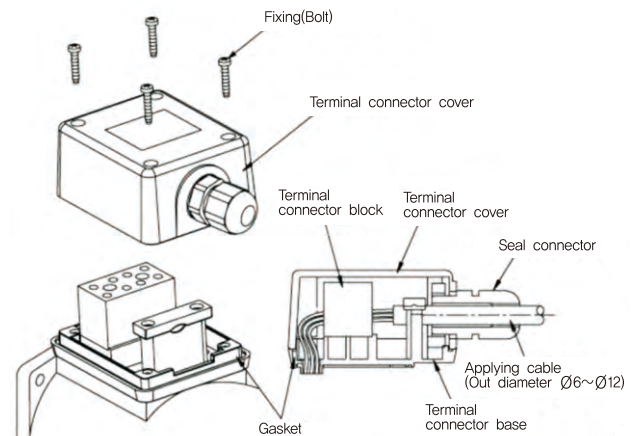
### General Specification of Terminal Box Type Motors

Item	Specification
Insulation Resistance	100Ω 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°C) or class E (75°C) or less increase measured by thermometer after rated operation
Insulation Class	Class E (120°C), UL approval motor class A (105°C)
Overheat Protection Device	Built-in thermal protector (automatic return type) : Open 130°C±5°C Close 82°C±15°C
Ambient Temperature	-10°C~50°C
Ambient Humidity	85% maximum (non condensing)

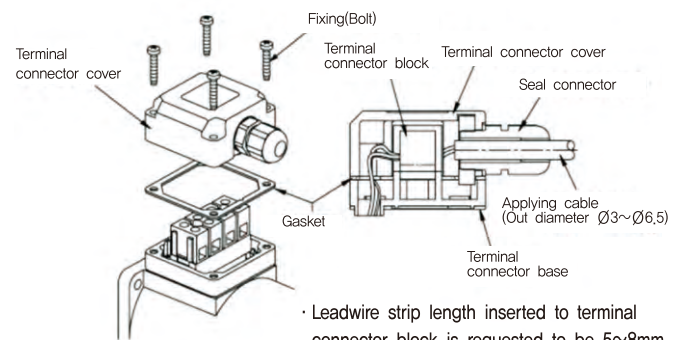
## 2. Diagram of Terminal Box Structure

### (1) Terminal Block Box Type (T Type)

- □80 25W ~ □90 200W



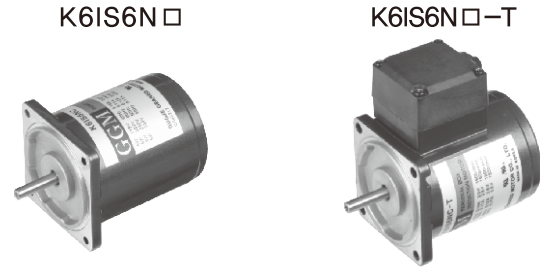
- □60 6W ~ □70 15W



## INDUCTION MOTOR

**6W**

**□60mm** TERMINAL BOX TYPE



### 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)
K6I□6NJ(-T)	100	50	0,25	0,04/0,4	0,049/0,49	1200	3
		60	0,23		0,04/0,4	1500	
K6I□6NU(-T)	110	60	0,18	0,035/0,35	0,04/0,4	1500	2
	115		0,19	0,04/0,4			
K6I□6NL(-T)	200	50	0,11	0,045/0,45	0,049/0,49	1200	0,8
		60			0,04/0,4	1500	
K6I□6NC(-T)	220	50	0,11	0,04/0,4	0,047/0,47	1250	0,6
		60	0,1	0,035/0,35	0,04/0,4	1500	
		50	0,12	0,045/0,45	0,047/0,47	1250	
		60	0,11	0,04/0,4	0,04/0,4	1500	
K6I□6ND(-T)	240	50	0,12	0,045/0,45	0,047/0,47	1250	0,5

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

### RATED TORQUE OF GEARHEAD

#### ● 50Hz

unit = above : N·m / below : Kgf·cm

Model Motor/ Gearhead	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
	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
K6I□6N□(-T) K6G□B(C)	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	3
	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	30

#### ● 60Hz

unit = above : N·m / below : Kgf·cm

Model Motor/ Gearhead	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
	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
K6I□6N□(-T) K6G□B(C)	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	3
	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	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.

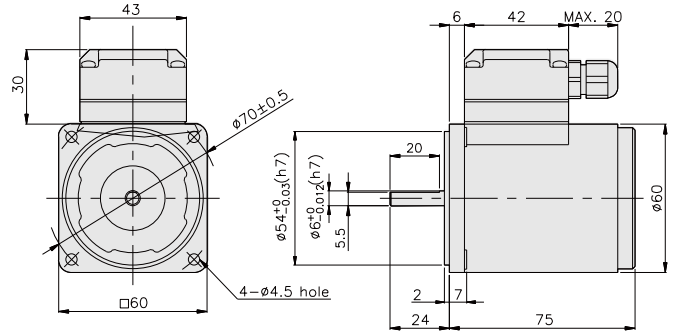
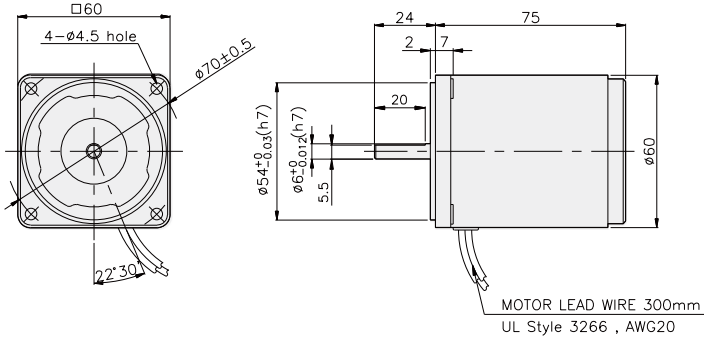
\* RPM is based on motor's synchronous rpm (50HZ:1500rpm, 60HZ:1800rpm) and calculated by dividing gear ratio. Actual rpm is 2~20% less than indicating rpm according to load size.

## GEARHEAD

### DIMENSIONS

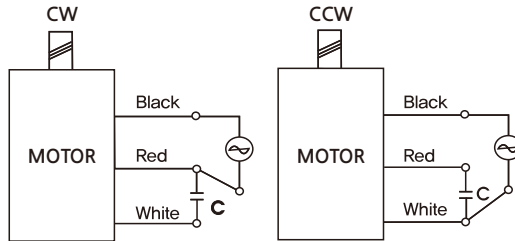
K6IS6N □

K6IS6N □-T



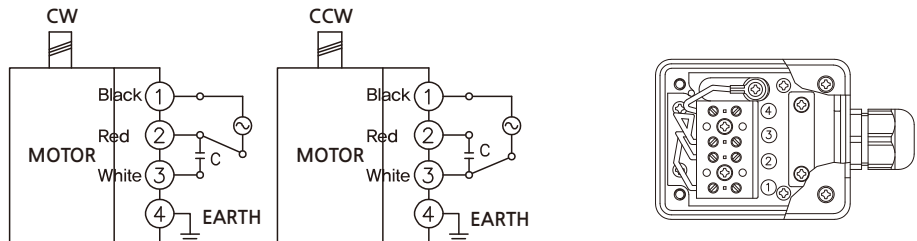
### CONNECTION DIAGRAMS

K6IS6N □



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

K6IS6N □-T



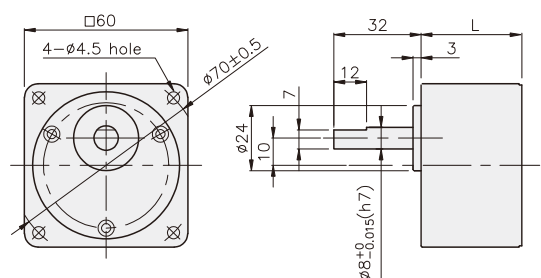
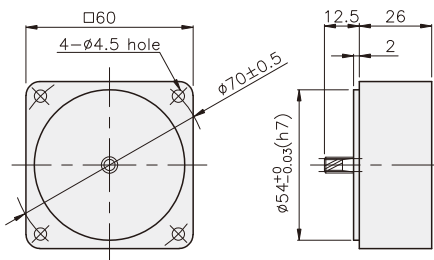
※ The direction of motor rotation is as viewed from the front shaft end of the motor

### DIMENSIONS

K6G □B(C)

DECIMAL GEARHEAD  
K6G10BX

GEARHEAD  
K6G □B(C)

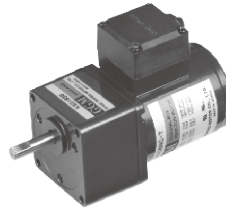
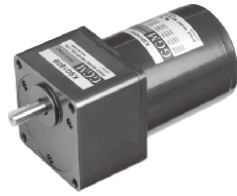


## GEARHEAD

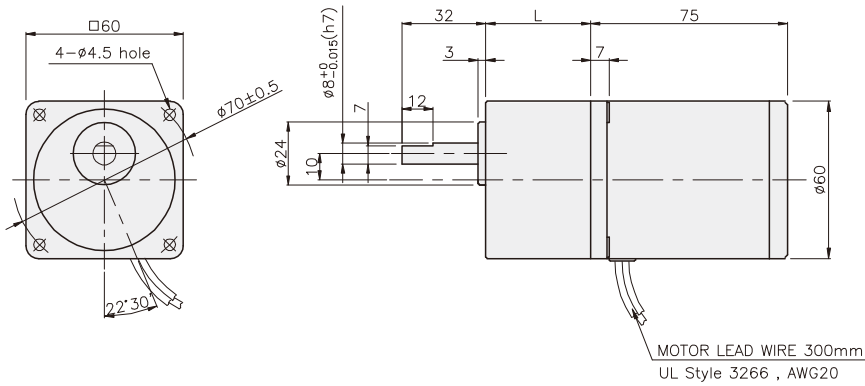
### DIMENSIONS

K6IG6N□ + K6G□B(C)

K6IG6N□-T + K6G□B(C)



K6IG6N□ + K6G□B(C)



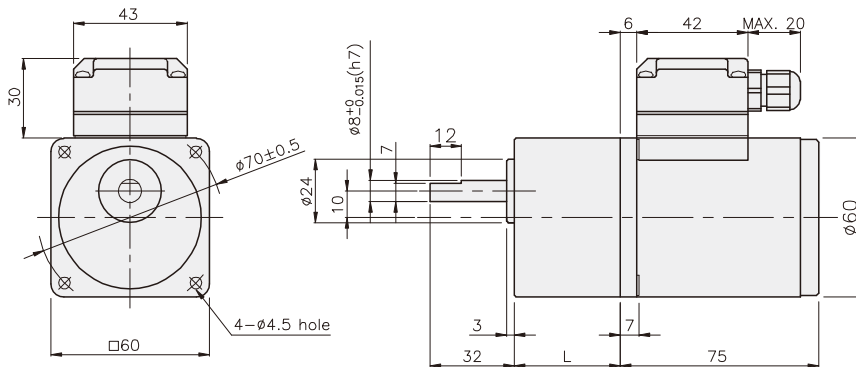
DIMENSION TABLE

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

K6IG6N□-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 GEARHEAD	0,22	
GEAR HEAD	K6G3~18B(C)	0,26
	K6G20~40B(C)	0,33
	K6G50~250B(C)	0,36



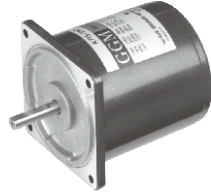
## INDUCTION MOTOR

**15W**

□70mm LEAD WIRE TYPE  
TERMINAL BOX TYPE

INDUCTION MOTOR

K7IS15N□



K7IS15N□-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)
K7I□15NJ(-T)	100	50	0,45	0,08/0,8	0,12/1,2	1250	5
		60	0,41			1500	
K7I□15NU(-T)	110	60	0,38	0,08/0,8	0,1/1	1500	4,5
	115		0,39				
K7I□15NL(-T)	200	50	0,21	0,09/0,9	0,122/1,22	1200	1,5
		60	0,22			0,095/0,95	
K7I□15NC(-T)	220	50	0,2	0,075/0,75	0,12/1,2	1250	1
		60	0,19			0,1/1	
	230	50	0,21	0,08/0,8	0,12/1,2	1250	
		60	0,2			0,1/1	
K7I□15ND(-T)	240	50	0,23	0,085/0,85	0,12/1,2	1250	1

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

### RATED TORQUE OF GEARHEAD

● 50Hz

unit = above : N·m / below : Kgf·cm

Model Motor/ Gearhead	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
	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
K7I□15N□(-T) K7G□B(C)	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	5
	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	50

● 60Hz

unit = above : N·m / below : Kgf·cm

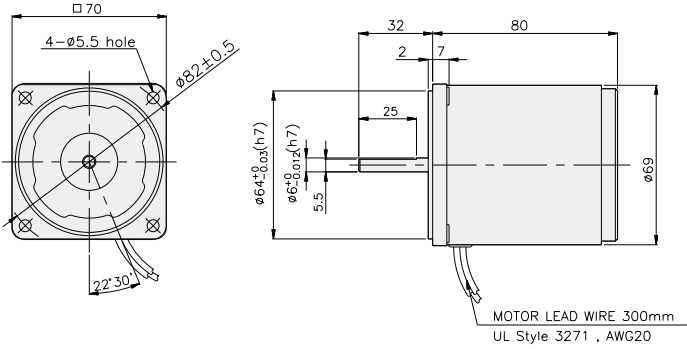
Model Motor/ Gearhead	Speed(rpm)	600	500	360	300	240	200	180	144	120	100	90	72	60	50	45	36	30	24	20	18	15	12	10	9
	Ratio	3	3,6	5	6	7,5	9	10	12,5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180	200
K7I□15N□(-T) K7G□B(C)	0,24	0,29	0,41	0,49	0,61	0,73	0,81	1,01	1,22	1,46	1,46	1,82	2,19	2,62	2,92	3,28	3,94	4,92	5	5	5	5	5	5	5
	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	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.

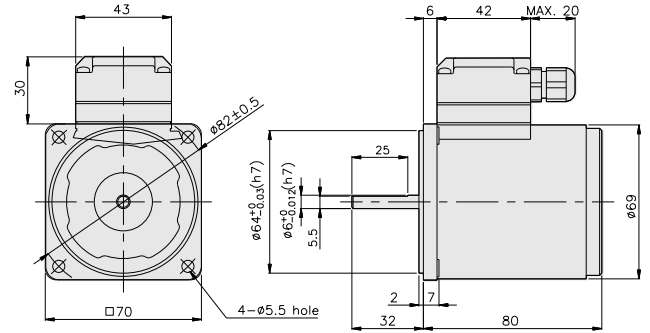
## GEARHEAD

### DIMENSIONS

K7IS15N □

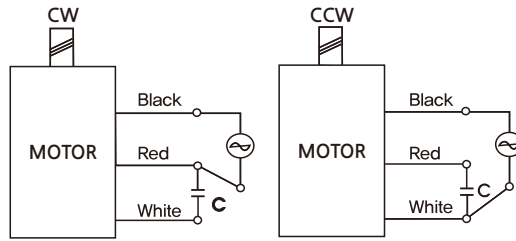


K7IS15N □-T



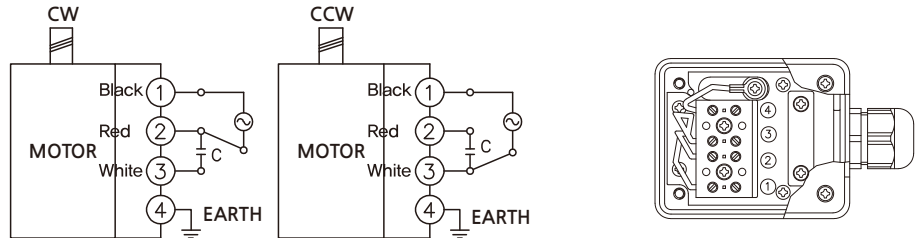
### CONNECTION DIAGRAMS

K7IS15N □



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

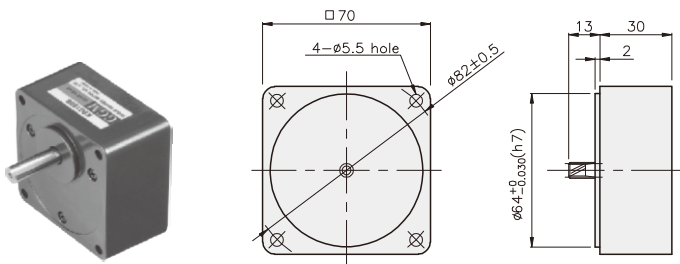
K7IS15N □-T



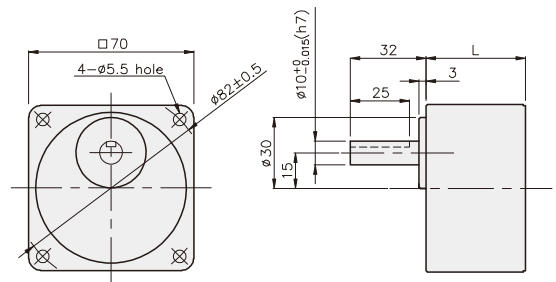
※The direction of motor rotation is as viewed from the front shaft end of the motor

### DIMENSIONS

DECIMAL GEARHEAD  
K7G10BX



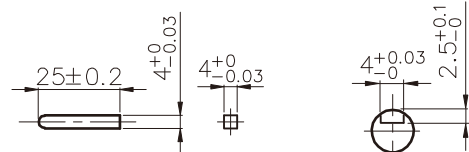
GEARHEAD  
K7G □B(C)



### KEY SPEC

● KEY

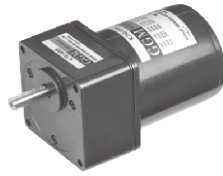
● KEY GROOVE



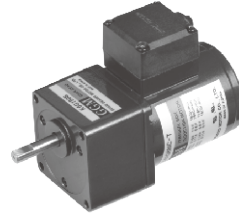
## GEARHEAD

### DIMENSIONS

K7IG15N□ + K7G□B(C)



K7IG15N□-T + K7G□B(C)



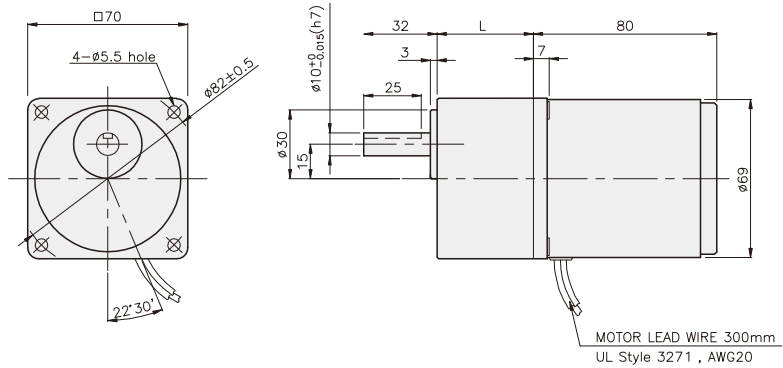
#### DIMENSION TABLE

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	1,07	
DECIMAL GEARHEAD	0,32	
GEAR HEAD	K7G3~18B(C)	0,38
	K7G20~40B(C)	0,46
	K7G50~200B(C)	0,51

K7IG15N□ + K7G□B(C)



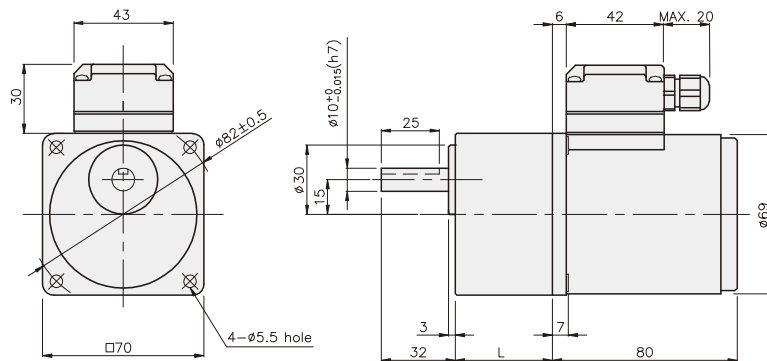
#### DIMENSION TABLE

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 GEARHEAD	0,32	
GEAR HEAD	K7G3~18B(C)	0,38
	K7G20~40B(C)	0,46
	K7G50~200B(C)	0,51

K7IG15N□-T + K7G□B(C)



## INDUCTION MOTOR

**25W**

**□80mm** LEAD WIRE TYPE  
TERMINAL BOX TYPE

K8IS25N□



K8IS25N□-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)		
single-phase	K8I□25NJ(-T, -T5)	100	50	0,59	0,11/1,1	0,195/1,95	1250	7		
			60	0,54		0,16/1,6	1550			
	K8I□25NU(-T, -T5)	110	60	50	0,48	0,09/0,9	0,165/1,65	1500	5	
				60	0,5					0,095/0,95
	K8I□25NL(-T, -T5)	200	50	50	0,26	0,115/1,15	0,195/1,95	1250	1,8	
				60	0,28		0,16/1,6	1550		
	K8I□25NC(-T, -T5)	220	50	50	0,28	0,11/1,1	0,195/1,95	1250	1,5	
				60	0,25		0,16/1,6	1550		
				230	50	0,29	0,12/1,2	0,195/1,95		1250
					60	0,26		0,16/1,6		1550
	K8I□25ND(-T, -T5)	240	50	0,3	0,11/1,1	0,195/1,95	1250	1,2		
	K8I□25NT(-T, -T5)	200	50	50	0,27	0,5/5	0,19/1,9	1300	-	
60				0,24	0,4/4	0,16/1,6	1550			
K8I□25NH(-T, -T5)	220	50	50	0,28	0,6/6	0,185/1,85	1350	-		
			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(-T, -T5)	380	50	50	0,17	0,6/6	0,19/1,9	1300	-		
			60	0,14	0,48/4,8	0,155/1,55	1600			
K8I□25NV(-T, -T5)	400	50	50	0,17	0,73/7,3	0,19/1,9	1300	-		
			60	0,15	0,6/6	0,155/1,55	1600			
K8I□25NQ(-T, -T5)	415	50	50	0,13	0,55/5,5	0,19/1,9	1300	-		
			60	0,11	0,4/4	0,155/1,55	1600			
K8I□25NZ(-T, -T5)	440	50	50	0,14	0,63/6,3	0,19/1,9	1300	-		
			60	0,12	0,5/5	0,155/1,55	1600			

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

\* 3 phase motor for over 380voltage can't be used with inverter. Motor winding insulation can be damaged.

### RATED TORQUE OF GEARHEAD

#### ● 50Hz

unit = above : N·m / below : Kgf·cm

Model Motor/ Gearhead	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
	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
K8I□25N□(-T, -T5) K8G□B(C)	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	8
	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	80

#### ● 60Hz

unit = above : N·m / below : Kgf·cm

Model Motor/ Gearhead	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
	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
K8I□25N□(-T, -T5) K8G□B(C)	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	8
	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	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.

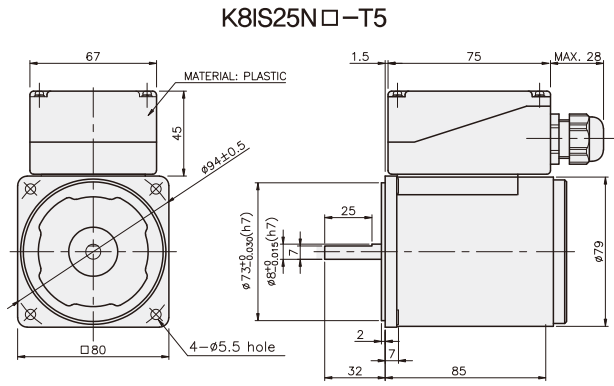
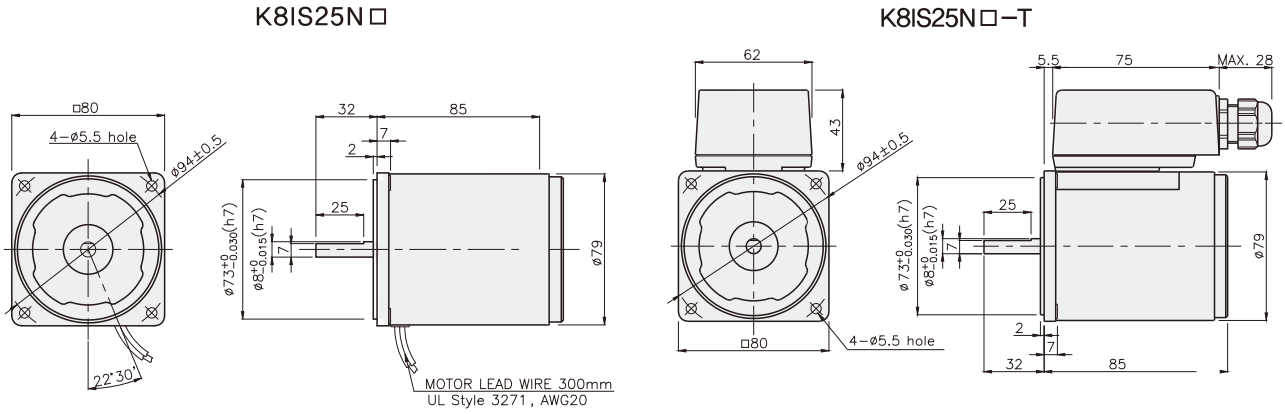
\* If you are to have less ratio than the ratio in the table, you can install the decimal gearhead, which has one tenth of the ratio, between the gearhead and the motor. In this case, the permissible torque is 8N·m/80kgf·cm. But, if you install 1/25~1/40 gearhead, the permissible torque is 6N·m/60kgf·cm.

\* 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.

## GEARHEAD

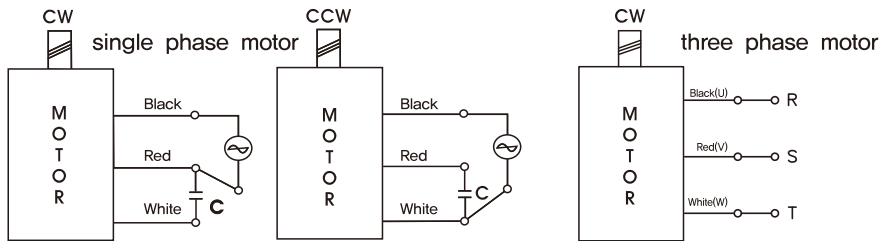
### DIMENSIONS

INDUCTION MOTOR



### CONNECTION DIAGRAMS

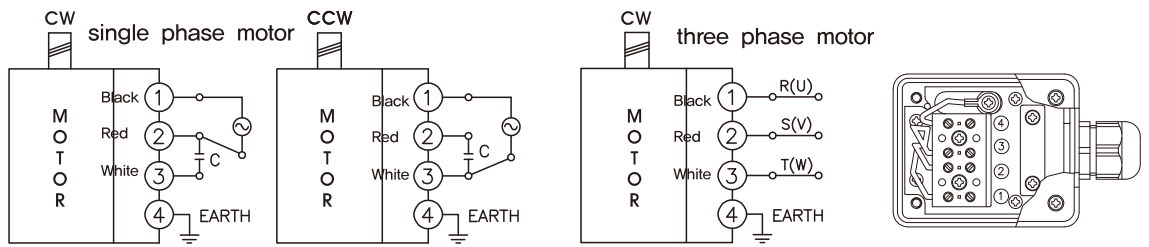
K8IS25N□



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

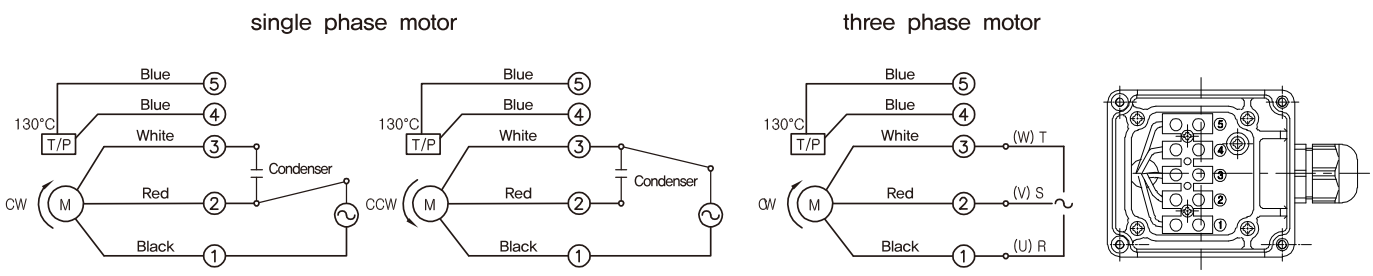
K8IS25N□-T



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

K8IS25N□-T5



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

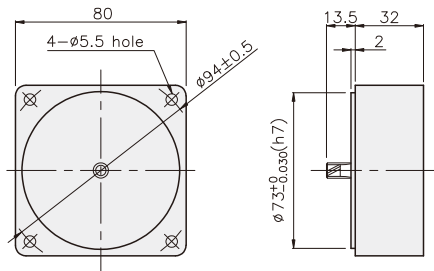
**GEARHEAD**

**DIMENSIONS**

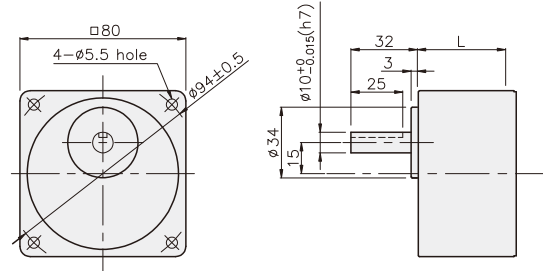
K8G□B(C)



DECIMAL GEARHEAD  
K8G10BX



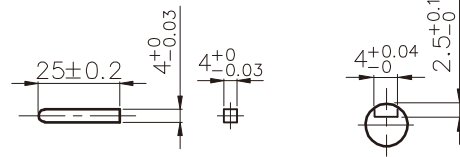
GEARHEAD  
K8G□B(C)



**KEY SPEC**

● KEY

● KEY GROOVE



## GEARHEAD

### DIMENSIONS

K8IG25N□ + K8G□B(C)

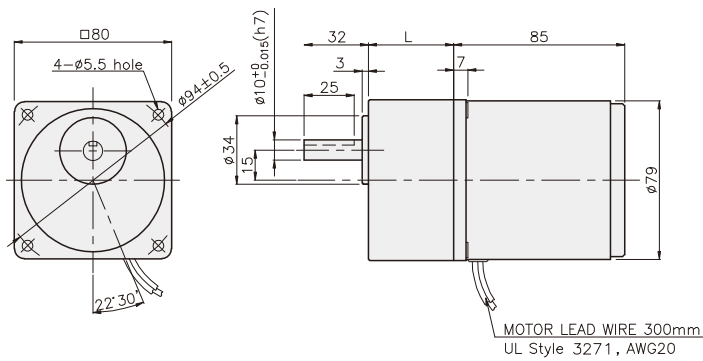


K8IG25N□-T(-T5) + K8G□B(C)



INDUCTION MOTOR

K8IG25N□ + K8G□B(C)



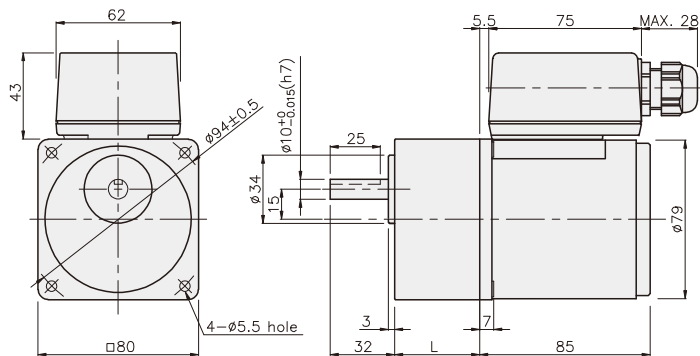
DIMENSION TABLE

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 GEARHEAD	0,46	
GEAR HEAD	K8G3~18B(C)	0,51
	K8G20~40B(C)	0,64
	K8G50~250B(C)	0,70

K8IG25N□-T + K8G□B(C)



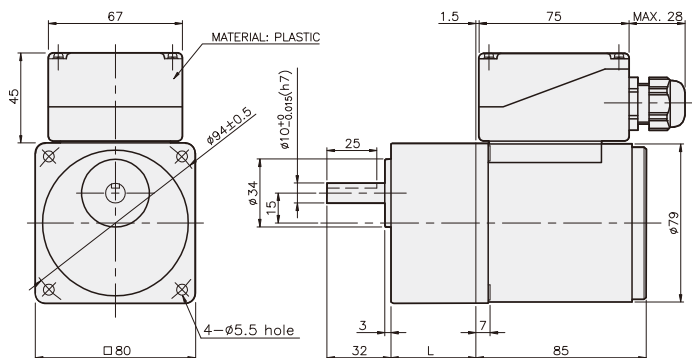
DIMENSION TABLE

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	1,76	
DECIMAL GEARHEAD	0,46	
GEAR HEAD	K8G3~18B(C)	0,51
	K8G20~40B(C)	0,64
	K8G50~250B(C)	0,70

K8IG25N□-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

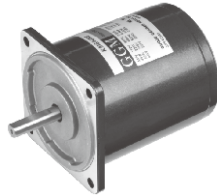
PART	WEIGHT(kg)	
MOTOR	1,76	
DECIMAL GEARHEAD	0,46	
GEAR HEAD	K8G3~18B(C)	0,51
	K8G20~40B(C)	0,64
	K8G50~250B(C)	0,70

## INDUCTION MOTOR

**40W**

**□90mm** LEAD WIRE TYPE  
TERMINAL BOX TYPE

K9IS40N□



K9IS40N□-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)
K9I□40NJ(-T, -T5)	single-phase	100	50	0,86	0,21/2,1	0,315/3,15	1250	12
			60	0,84	0,22/2,2	0,255/2,55	1550	
K9I□40NU(-T, -T5)	single-phase	110	60	0,65	0,19/1,9	0,255/2,55	1550	8
				115	0,68			
K9I□40NL(-T, -T5)	single-phase	200	50	0,4	0,22/2,2	0,315/3,15	1250	3
			60	0,41		0,255/2,55	1550	
K9I□40NC(-T, -T5)	single-phase	220	50	0,38	0,24/2,4	0,315/3,15	1250	2,5
			60	0,37		0,255/2,55	1550	
			50	0,4	0,26/2,6	0,315/3,15	1250	
			60	0,38		0,255/2,55	1550	
K9I□40ND(-T, -T5)	single-phase	240	50	0,39	0,2/2	0,3/3	1300	2
K9I□40NT(-T, -T5)	three-phase	200	50	0,39	1/10	0,3/3	1300	-
			60	0,32	0,78/7,8	0,245/2,45	1600	
K9I□40NH(-T, -T5)	three-phase	220	50	0,33	0,95/9,5	0,29/2,9	1350	-
			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(-T, -T5)	three-phase	380	50	0,18	1/10	0,29/2,9	1350	-
			60		0,78/7,8	0,245/2,45	1600	
K9I□40NV(-T, -T5)	three-phase	400	50	0,18	1,15/11,5	0,29/2,9	1350	-
			60	0,19	0,88/8,8	0,245/2,45	1600	
K9I□40NQ(-T, -T5)	three-phase	415	50	0,16	0,95/9,5	0,29/2,9	1350	-
			60	0,14	0,72/7,2	0,245/2,45	1600	
K9I□40NZ(-T, -T5)	three-phase	440	50	0,19	1/10	0,29/2,9	1350	-
			60	0,16	0,79/7,9	0,245/2,45	1600	

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

\*3 phase motor for over 380voltage can't be used with inverter. Motor winding insulation can be damaged.

### RATED TORQUE OF GEARHEAD

● 50Hz

unit = above : N·m / below : Kgf·cm

Model Motor/ Gearhead	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
	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
K9I□40N□(-T, -T5) K9G□B(C)	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	10
	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	100

● 60Hz

unit = above : N·m / below : Kgf·cm

Model Motor/ Gearhead	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
	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
K9I□40N□(-T, -T5) K9G□B(C)	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	
	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.

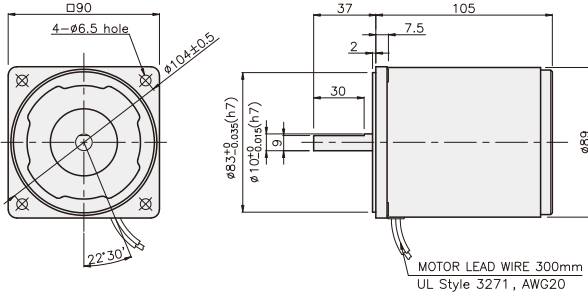
\* If you are to have less ratio than the ratio in the table, you can install the decimal gearhead, which has one tenth of the ratio, between the gearhead and the motor. In this case, the permissible torque is 10N·m/100kgf·cm.

\* 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

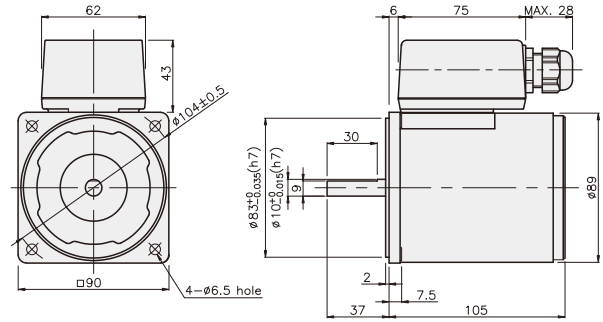


### DIMENSIONS

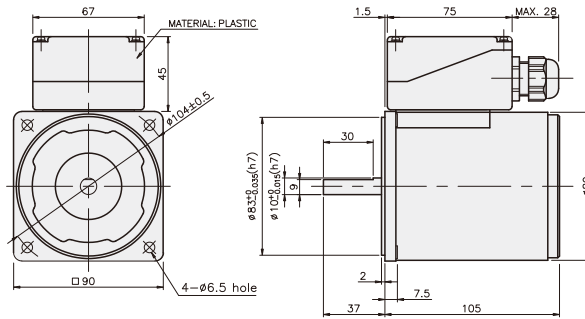
K9IS40N□



K9IS40N□-T



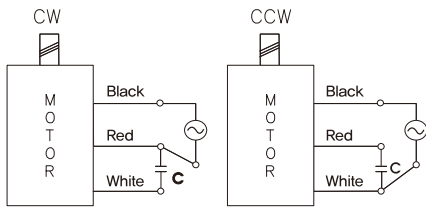
K9IS40N□-T5



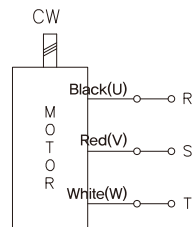
### CONNECTION DIAGRAMS

K9IS40N□

single phase motor



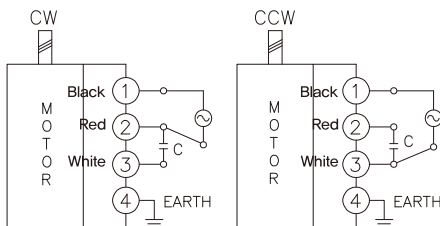
three phase motor



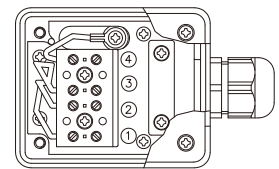
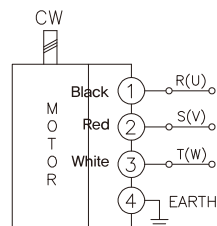
connecting two leadwires of U,V,W in turns  
 ※The direction of motor rotation is as viewed from the front shaft end of the motor

K9IS40N□-T

single phase motor



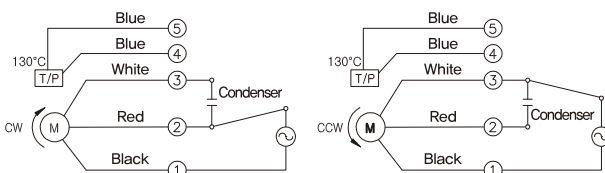
three phase motor



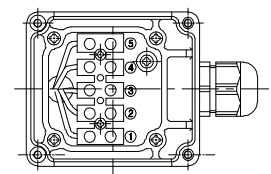
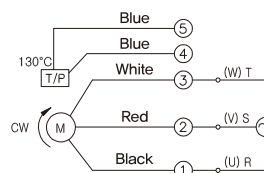
※The direction of motor rotation is as viewed from the front shaft end of the motor

K9IS40N□-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

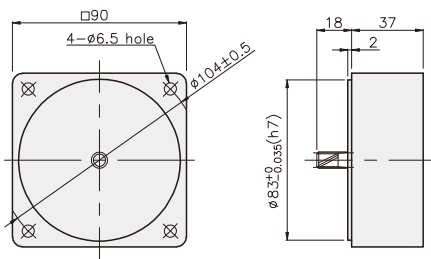
**GEARHEAD**

**DIMENSIONS**

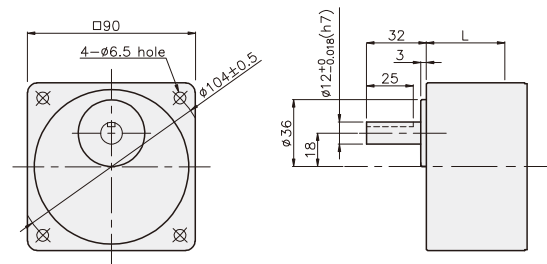
K9G□B(C)



DECIMAL GEARHEAD  
K9G10BX



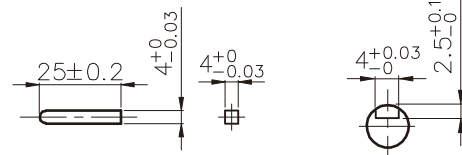
GEARHEAD  
K9G□B(C)



**KEY SPEC**

• KEY

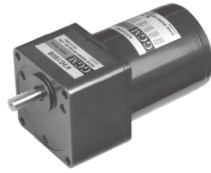
• KEY GROOVE



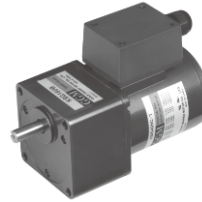
## GEARHEAD

### DIMENSIONS

K9IG40N□ + K9G□B(C)



K9IG40N□-T(T5) + K9G□B(C)



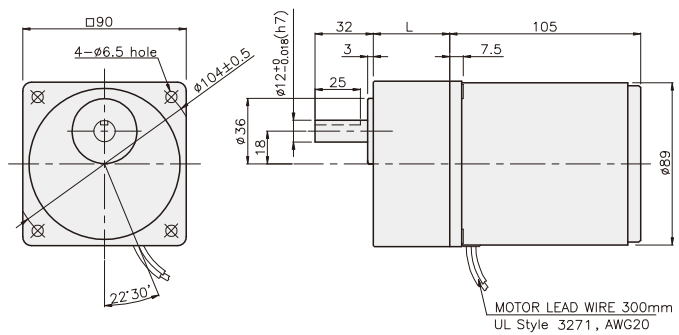
**DIMENSION TABLE**

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 GEARHEAD	0,60	
GEAR HEAD	K9G3~18B(C)	0,78
	K9G20~40B(C)	1,04
	K9G50~200B(C)	1,14

K9IG40N□ + K9G□B(C)



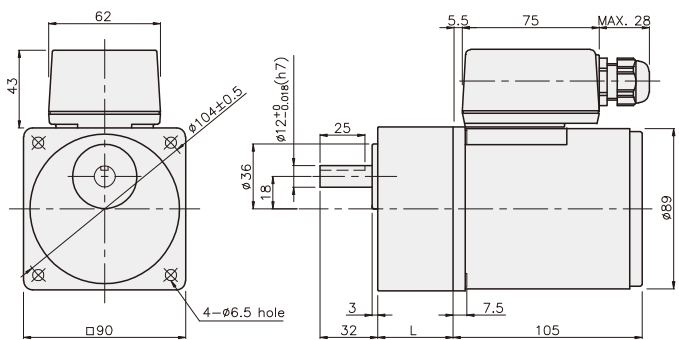
**DIMENSION TABLE**

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 GEARHEAD	0,60	
GEAR HEAD	K9G3~18B(C)	0,78
	K9G20~40B(C)	1,04
	K9G50~200B(C)	1,14

K9IG40N□-T + K9G□B(C)



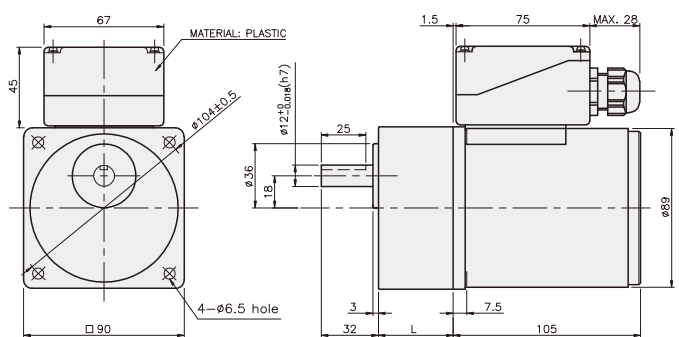
**DIMENSION TABLE**

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 GEARHEAD	0,60	
GEAR HEAD	K9G3~18B(C)	0,78
	K9G20~40B(C)	1,04
	K9G50~200B(C)	1,14

K9IG40N□-T5 + K9G□B(C)

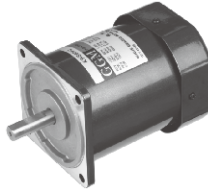


## INDUCTION MOTOR

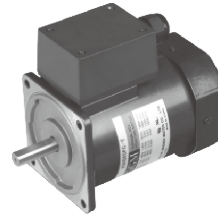
**60W**

**□90mm** LEAD WIRE TYPE  
TERMINAL BOX TYPE

K9IS60F□



K9IS60F□-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)	
K9I□60FJ(-T, -T5)	single-phase	100	50	1,36	0,38/3,8	0,47/4,7	1250	20	
			60	1,37		0,38/3,8	1550		
K9I□60FU(-T, -T5)		110	115	60	1,21	0,37/3,7	0,38/3,8	1550	16
				60	1,27		0,38/3,8		
K9I□60FL(-T, -T5)		200	50	0,67	0,4/4	0,47/4,7	1250	5	
			60	0,69		0,38/3,8	1550		
K9I□60FC(-T, -T5)		220	50	0,58	0,38/3,8	0,47/4,7	1250	4	
			60	0,57		0,38/3,8	1550		
K9I□60FD(-T, -T5)			50	0,63	0,4/4	0,47/4,7	1250		
			60	0,63		0,38/3,8	1550		
K9I□60FT(-T, -T5)	240	50	0,69	0,44/4,4	0,47/4,7	1250	4		
K9I□60FH(-T, -T5)	three-phase	200	50	0,49	1,35/13,5	0,45/4,5	1300	-	
			60	0,45	1,05/10,5	0,38/3,8	1550		
K9I□60FM(-T, -T5)		220	50	0,55	1,6/16	0,435/4,35	1350	-	
			60	0,47	1,2/12	0,37/3,7	1600		
K9I□60FV(-T, -T5)		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□60FQ(-T, -T5)	380	50	0,34	1,55/15,5	0,435/4,35	1350	-		
		60	0,25	1,19/11,9	0,37/3,7	1600			
K9I□60FZ(-T, -T5)	400	50	0,37	1,85/18,5	0,435/4,35	1350	-		
		60	0,28	1,42/14,2	0,37/3,7	1600			
K9I□60FQ(-T, -T5)	415	50	0,26	1,45/14,5	0,45/4,5	1300	-		
		60	0,21	1,15/11,5	0,37/3,7	1600			
K9I□60FZ(-T, -T5)	440	50	0,28	1,6/16	0,45/4,5	1300	-		
		60	0,23	1,25/12,5	0,37/3,7	1600			

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

\* 3 phase motor for over 380voltage can't be used with inverter. Motor winding insulation can be damaged.

### RATED TORQUE OF GEARHEAD

#### ● 50Hz

unit = above : N·m / below : Kgf·cm

Model Motor/ Gearhead	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
	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
K9I□60F□(-T, -T5) K9P□B, BF	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	20
	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	200

#### ● 60Hz

unit = above : N·m / below : Kgf·cm

Model Motor/ Gearhead	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
	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
K9I□60F□(-T, -T5) K9P□B, BF	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	20	20	20	20	20	20	20
	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	200	200	200	200	200	200	200

\* Gearhead and decimal gearhead are sold separately.

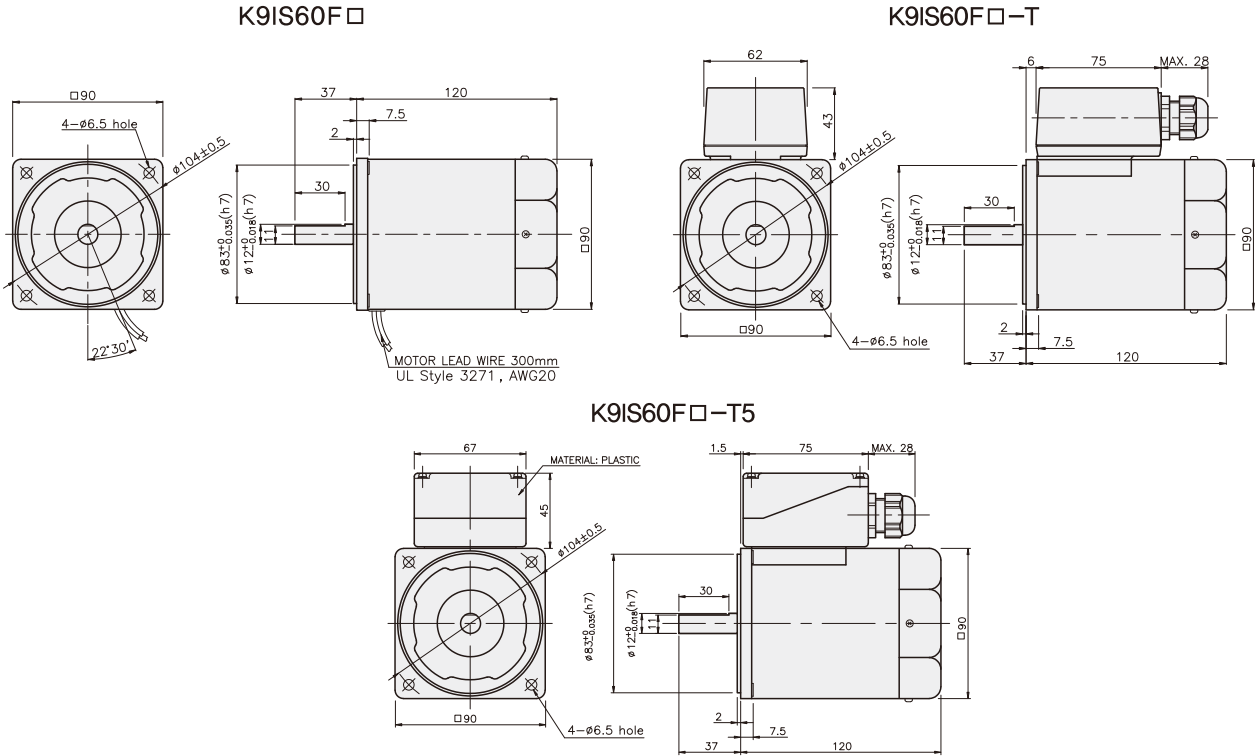
\* The code in □ of gearhead model is for gear ratio.

\*   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.

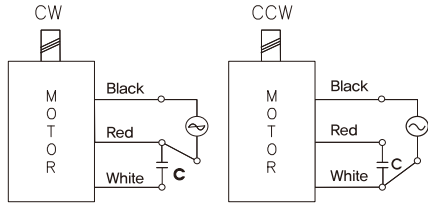
### DIMENSIONS



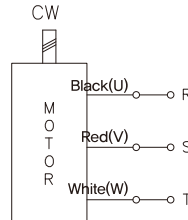
### CONNECTION DIAGRAMS

K9IS60F□

single phase motor



three phase motor

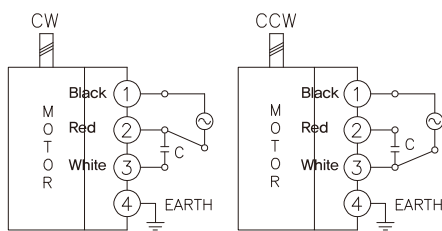


connecting two leadwires of U,V,W in turns

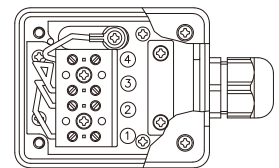
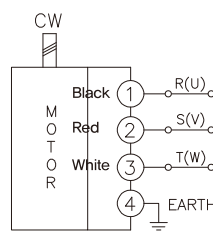
※The direction of motor rotation is as viewed from the front shaft end of the motor

K9IS60F□-T

single phase motor



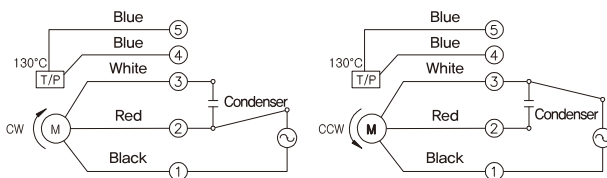
three phase motor



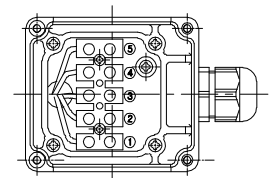
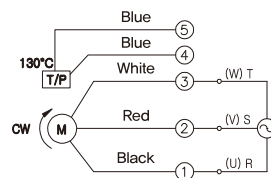
※The direction of motor rotation is as viewed from the front shaft end of the motor

K9IS60F□-T5

single phase motor



three phase motor



connecting two leadwires of U,V,W in turns

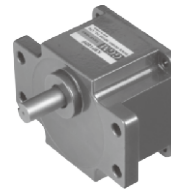
※The direction of motor rotation is as viewed from the front shaft end of the motor

**GEARHEAD**

**DIMENSIONS**

K9P□B

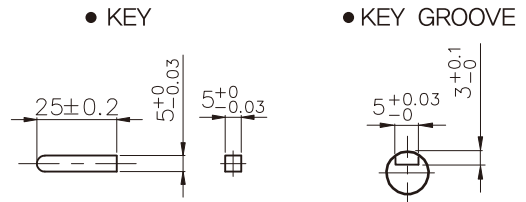
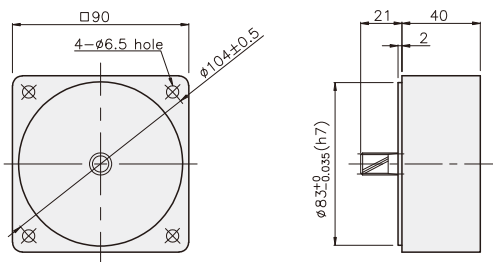
K9P□BF



DECIMAL GEARHEAD

K9P10BX

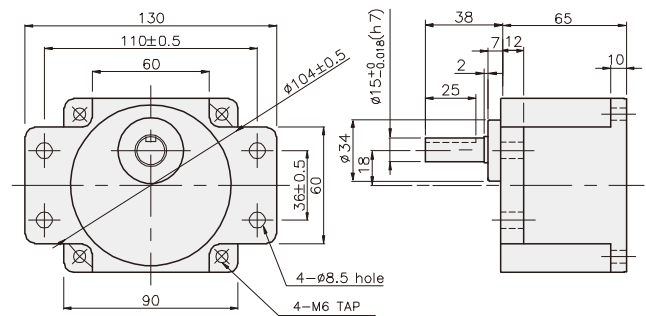
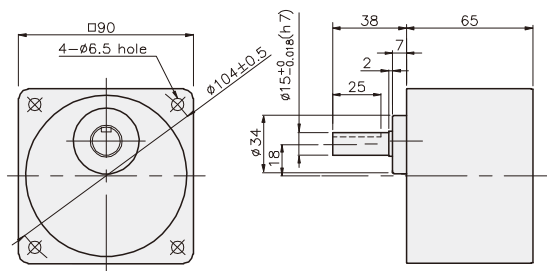
KEY SPEC



K9P□B

GEARHEAD

K9P□BF



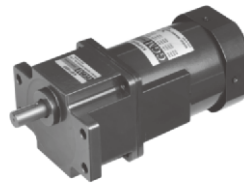
## GEARHEAD

### DIMENSIONS

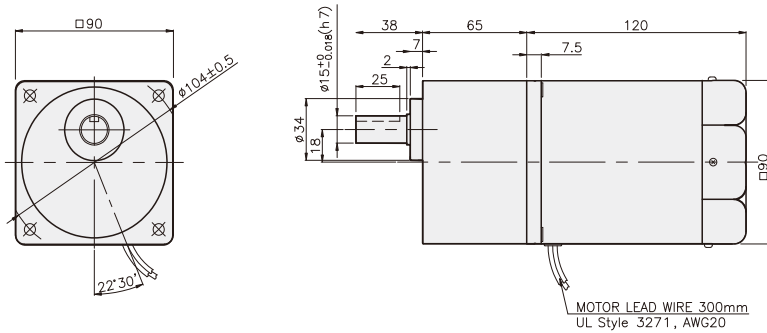
K9IP60F□ + K9P□B



K9IP60F□ + K9P□BF



K9IP60F□ + K9P□B



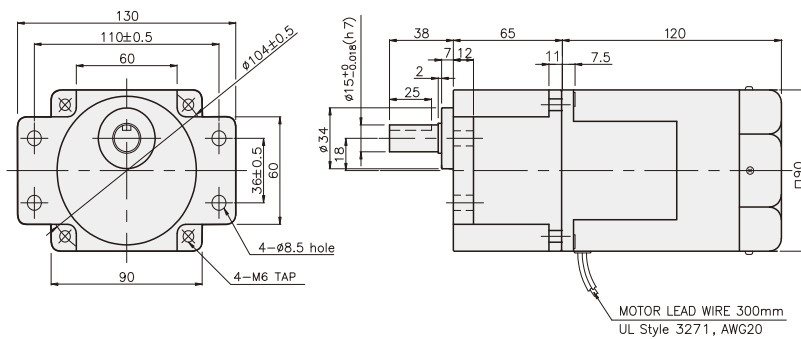
DIMENSION TABLE

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

WEIGHT

PART	WEIGHT(kg)	
MOTOR	2,50	
DECIMAL GEARHEAD	0,62	
GEAR HEAD	K9P3~10B	1,22
	K9P12.5~20B	1,32
	K9P25~60B	1,42
	K9P75~200B	1,45

K9IP60F□ + K9P□BF



DIMENSION TABLE

PART No	Application Model	Mounting BOLT
01	K9P3~200BF	M6 P1,0 X 20
02	K9P10BX	M6 P1,0 X 65

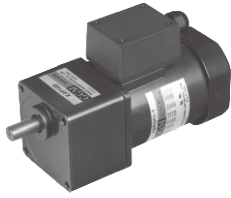
WEIGHT

PART	WEIGHT(kg)	
MOTOR	3,00	
DECIMAL GEARHEAD	0,62	
GEAR HEAD	K9P3~10BF	1,22
	K9P12.5~20BF	1,30
	K9P25~60BF	1,42
	K9P75~200BF	1,44

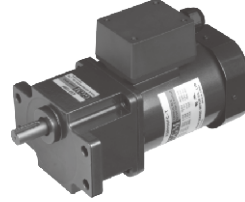
## GEARHEAD

### DIMENSIONS

K9IP60F□-T + K9P□B



K9IP60F□-T + K9P□BF



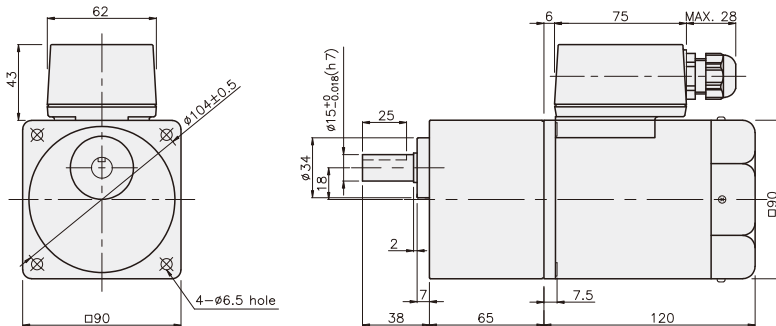
#### DIMENSION TABLE

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

#### WEIGHT

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

K9IP60F□-T + K9P□B



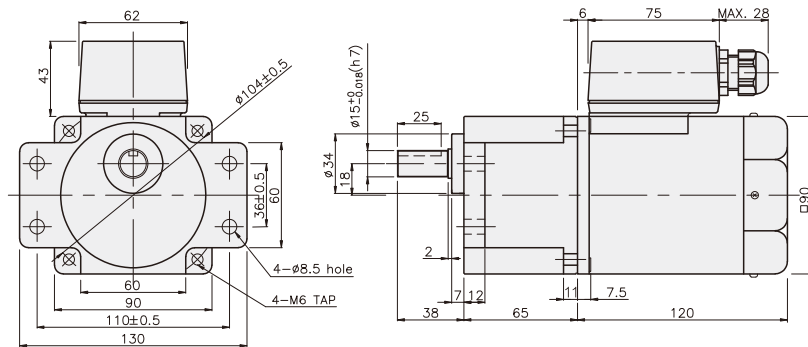
#### DIMENSION TABLE

PART No	Application Model	Mounting BOLT
01	K9P3~200BF	M6 P1,0 X 20
02	K9P10BX	M6 P1,0 X 65

#### WEIGHT

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

K9IP60F□-T + K9P□BF

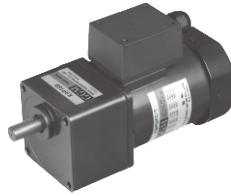




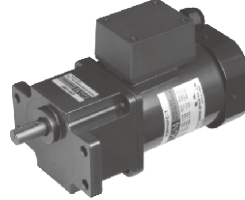
## GEARHEAD

### DIMENSIONS

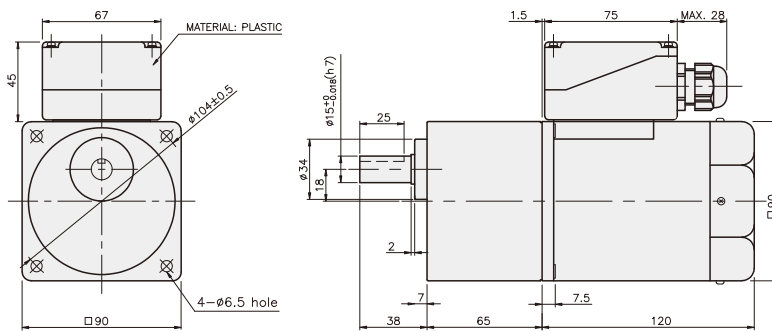
K9IP60F□-T5 + K9P□B



K9IP60F□-T5 + K9P□BF



K9IP60F□-T5 + K9P□B



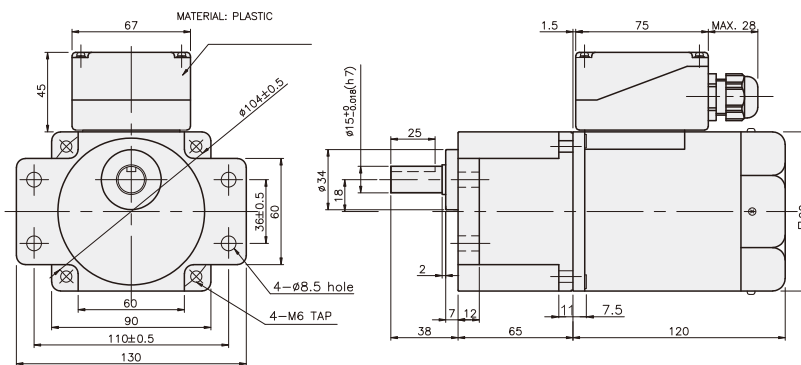
DIMENSION TABLE

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

WEIGHT

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

K9IP60F□-T5 + K9P□BF



DIMENSION TABLE

PART No	Application Model	Mounting BOLT
01	K9P3~200BF	M6 P1,0 X 20
02	K9P10BX	M6 P1,0 X 65

WEIGHT

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

## INDUCTION MOTOR

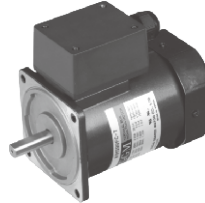
**90W**

**□90mm** **LEAD WIRE TYPE**  
**TERMINAL BOX TYPE**

K9IS90F□



K9IS90F□-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)	
K9I□90FJ(-T, -T5)	single-phase	100	50	2.07	0.55/5.5	0.675/6.75	1300	30	
			60	1.97		0.55/5.5	1600		
K9I□90FU(-T, -T5)		110	60	50	1.47	0.44/4.4	0.55/5.5	1600	20
				60	1.52				
K9I□90FL(-T, -T5)		200	50	50	0.75	0.5/5	0.675/6.75	1300	7
				60	0.97		0.57/5.7	1550	
K9I□90FC(-T, -T5)		220	50	50	0.8	0.45/4.5	0.675/6.75	1300	6
				60	0.9		0.57/5.7	1550	
			230	50	0.87	0.675/6.75	1300		
				60	0.93		0.57/5.7	1550	
K9I□90FD(-T, -T5)	240	50	0.85	0.5/5	0.675/6.75	1300	5		
K9I□90FT(-T, -T5)	three-phase	200	50	0.79	2.25/22.5	0.65/6.5	1350	-	
			60	0.72	1.75/17.5	0.55/5.5	1600		
K9I□90FH(-T, -T5)		220	50	0.72	2.35/23.5	0.65/6.5	1350	-	
			60	0.63	1.8/18	0.55/5.5	1600		
K9I□90FH(-T, -T5)		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(-T, -T5)		380	50	0.43	2.35/23.5	0.65/6.5	1350	-	
			60	0.37	1.7/17	0.55/5.5	1600		
K9I□90FV(-T, -T5)		400	50	0.52	2.65/26.5	0.65/6.5	1350	-	
			60	0.45	2.1/21	0.55/5.5	1600		
K9I□90FQ(-T, -T5)	415	50	0.39	2/20	0.68/6.8	1300	-		
		60	0.31	1.5/15	0.55/5.5	1600			
K9I□90FZ(-T, -T5)	440	50	0.45	2.1/21	0.68/6.8	1300	-		
		60	0.39	1.7/17	0.55/5.5	1600			

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

\* 3 phase motor for over 380voltage can't be used with inverter. Motor winding insulation can be damaged.

### RATED TORQUE OF GEARHEAD

#### ● 50Hz

unit = above : N·m / below : Kgf·cm

Model Motor/ Gearhead	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
	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
K9I□90F□(-T, -T5) K9P□B, BF	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	20
	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	200

#### ● 60Hz

unit = above : N·m / below : Kgf·cm

Model Motor/ Gearhead	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
	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
K9I□90F□(-T, -T5) K9P□B, BF	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	20	20	20	20	20	20	20	20	20
	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	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.

## GEARHEAD

### RATED TORQUE OF GEARHEAD

● 50Hz

unit = above : N·m / below : Kg·cm

Model Motor/ Gearhead	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
	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
K9I□90F□(-T, T5) K9P□BU, BUF		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
		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

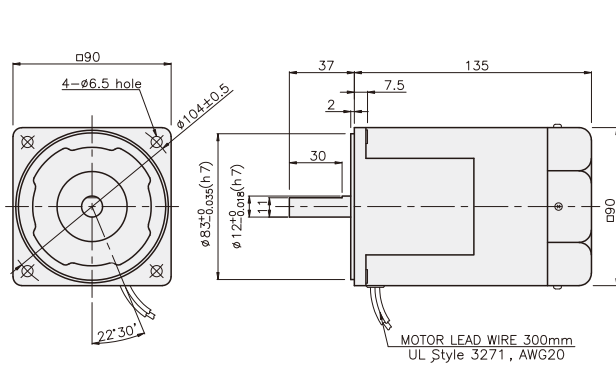
unit = above : N·m / below : Kg·cm

Model Motor/ Gearhead	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
	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
K9I□90F□(-T, T5) K9P□BU, BUF		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	29,23	30	30	30	30	30
		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	292,3	300	300	300	300	300

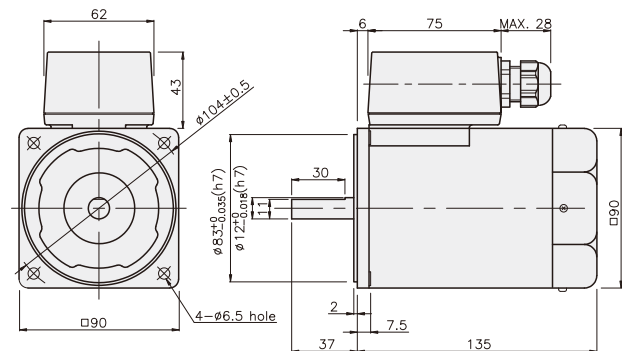
- \* Gearhead and decimal gearhead are sold separately.
- \* The code in □ of gearhead model is for gear ratio.
- \*  color indicates that the output shaft of the geared motor rotates in the same direction as the output shaft of the motor. Others indicate rotation in the opposite direction.
- \* If you 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 / 300kg·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.

## DIMENSIONS

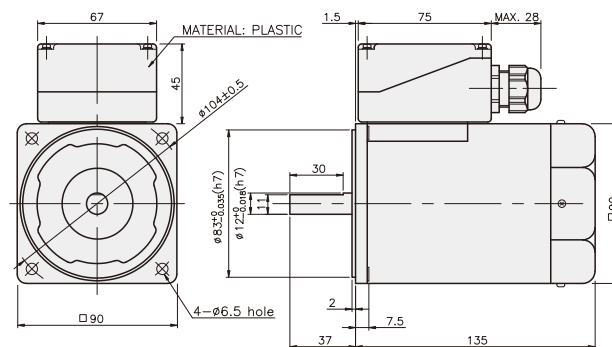
K9IS90F□



K9IS90F□-T



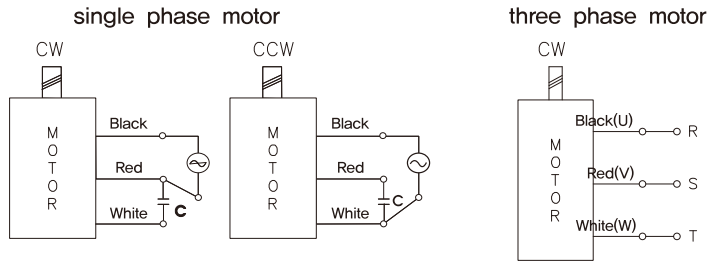
K9IS90F□-T5



## GEARHEAD

### CONNECTION DIAGRAMS

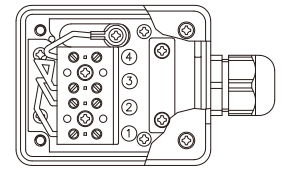
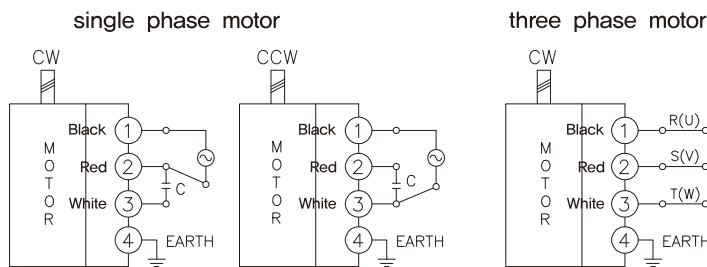
K9IS90F □



connecting two leadwires of U,V,W in turns

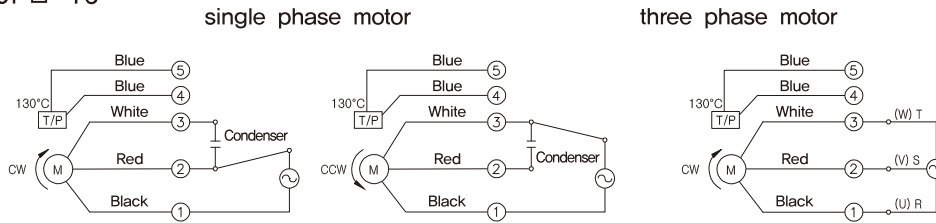
※The direction of motor rotation is as viewed from the front shaft end of the motor

K9IS90F □-T



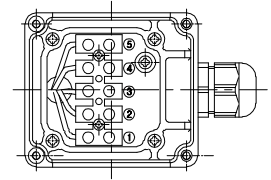
※The direction of motor rotation is as viewed from the front shaft end of the motor

K9IS90F □-T5



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



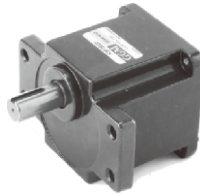
## GEARHEAD

### DIMENSIONS

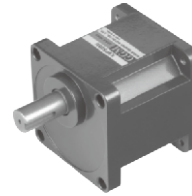
K9P□B



K9P□BF, BUF

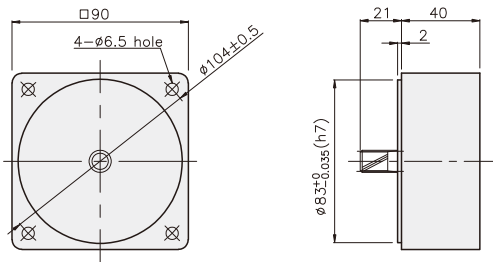


K9P□BU

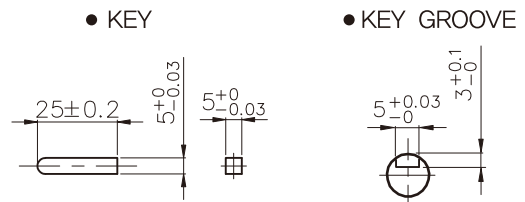


### DECIMAL GEARHEAD

K9P10BX

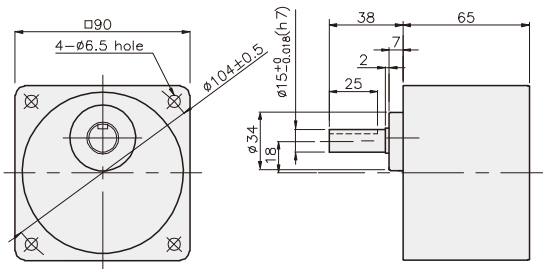


KEY SPEC

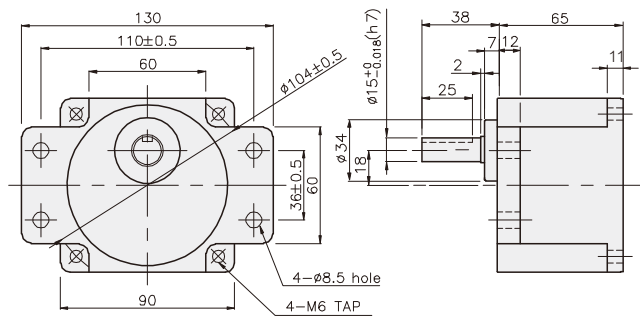


### GEARHEAD

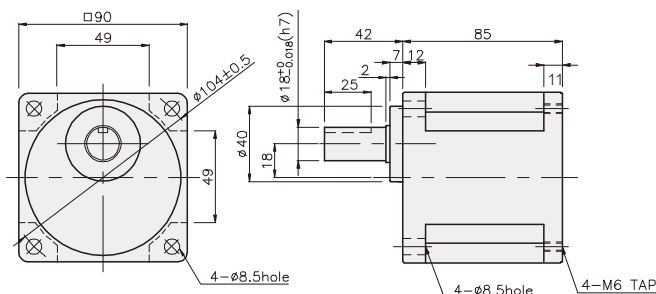
K9P□B



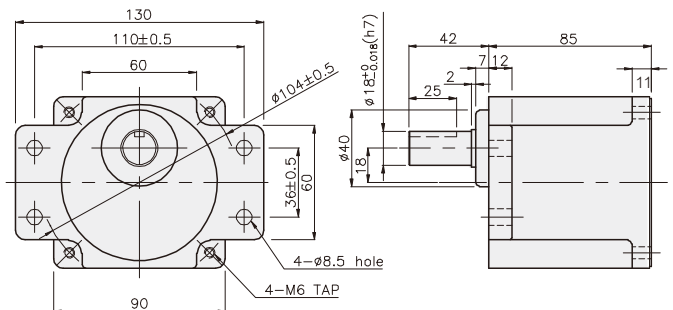
K9P□BF



K9P□BU



K9P□BUF



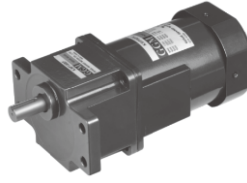
## GEARHEAD

### DIMENSIONS

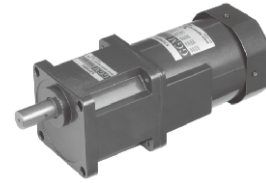
K9IP90F□ + K9P□B



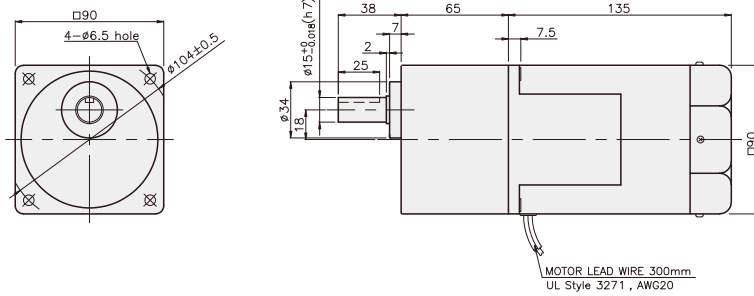
K9IP90F□ + K9P□BF, BUF



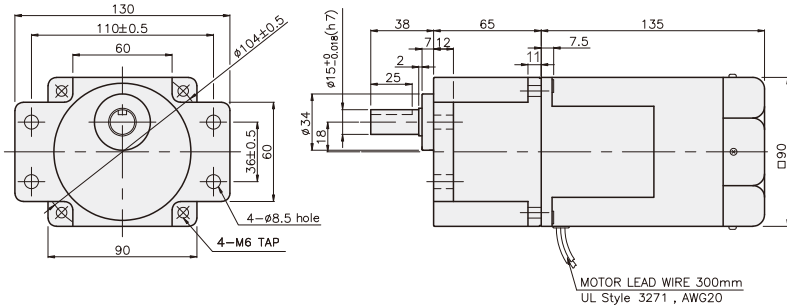
K9IP90F□ + K9P□BU



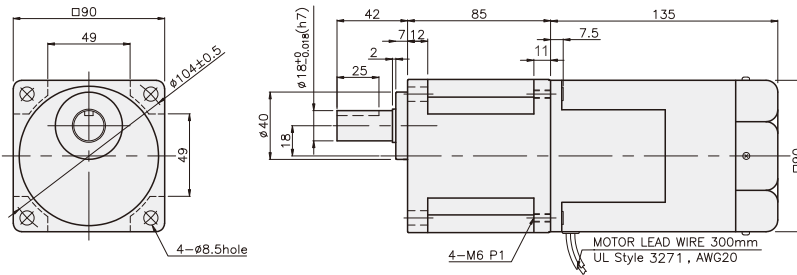
K9IP90F□ + K9P□B



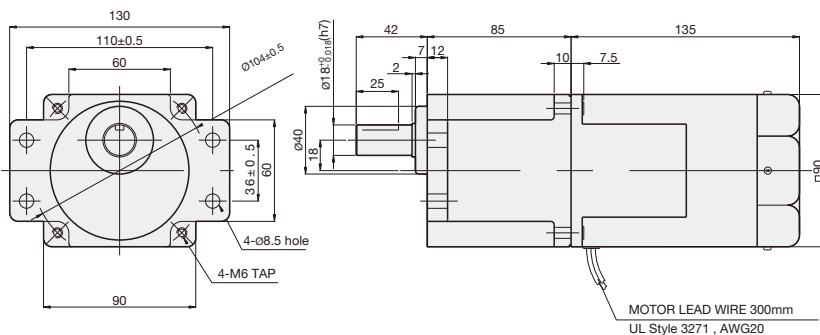
K9IP90F□ + K9P□BF



K9IP90F□ + K9P□BU



K9IP90F□ + K9P□BUF



#### WEIGHT

PART	WEIGHT(kg)
MOTOR	3,00
DECIMAL GEARHEAD	0,62

#### DIMENSION TABLE

PART No	Application Model	Mounting BOLT
01	K9P3~200B	M6 P1,0 X 95
02	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	Application Model	Mounting BOLT
01	K9P3~200BF	M6 P1,0 X 20
02	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	Application Model	Mounting BOLT
01	K9P3~200BU	M6 P1,0 X 20
02	K9P10BX	M6 P1,0 X 65

#### 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	Application Model	Mounting BOLT
01	K9P3~200BUF	M6 P1,0 X 20
02	K9P10BX	M6 P1,0 X 65

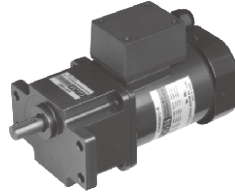
#### WEIGHT

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

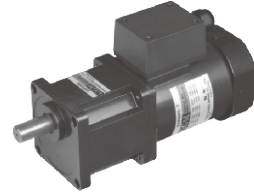
K9IP90F□-T + K9P□B



K9IP90F□-T + K9P□BF, BUF



K9IP90F□-T + K9P□BU



**WEIGHT**

PART	WEIGHT(kg)
MOTOR	3,18
DECIMAL GEARHEAD	0,62

**DIMENSION TABLE**

PART No	Application Model	Mounting BOLT
01	K9P3~200B	M6 P1,0 X 95
02	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	Application Model	Mounting BOLT
01	K9P3~200BF	M6 P1,0 X 20
02	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	Application Model	Mounting BOLT
01	K9P3~200BU	M6 P1,0 X 20
02	K9P10BX	M6 P1,0 X 65

**WEIGHT**

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

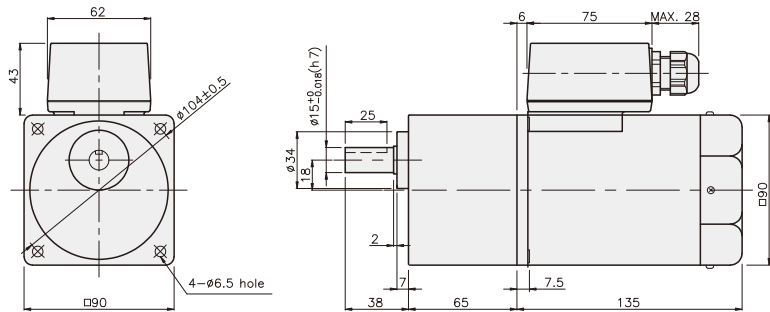
**DIMENSION TABLE**

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

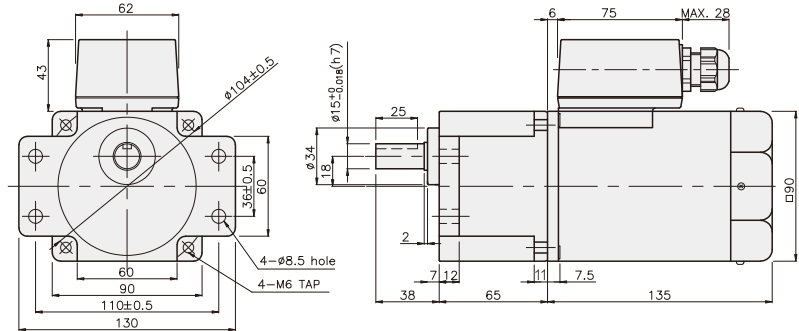
**WEIGHT**

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

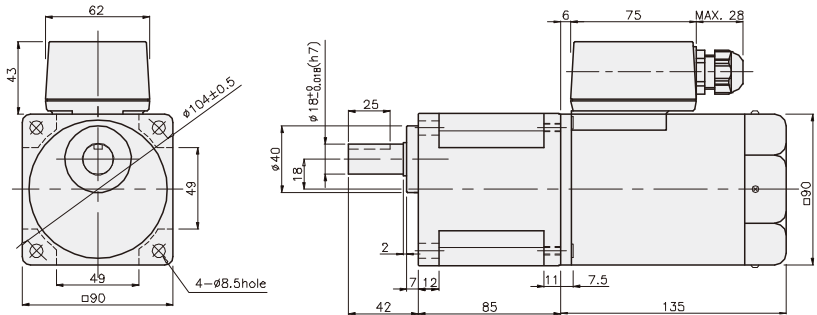
K9IP90F□-T + K9P□B



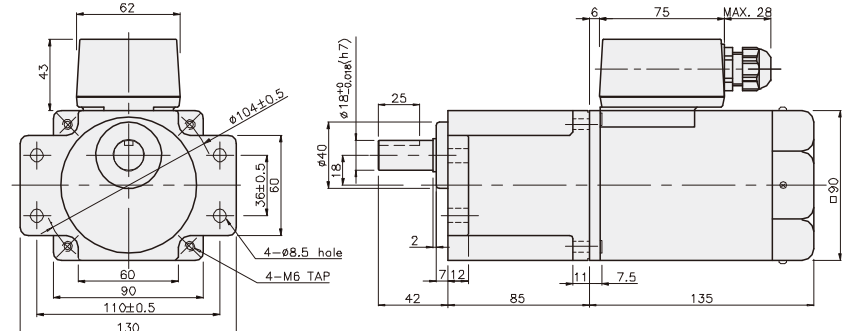
K9IP90F□-T + K9P□BF



K9IP90F□-T + K9P□BU



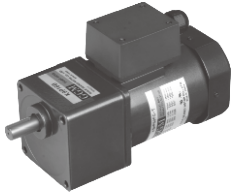
K9IP90F□-T + K9P□BUF



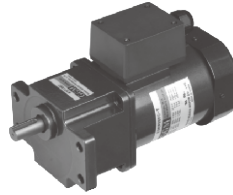
## GEARHEAD

### DIMENSIONS

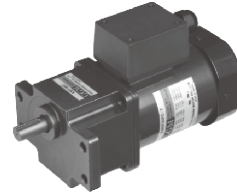
K9IP90F□-T5 + K9P□B



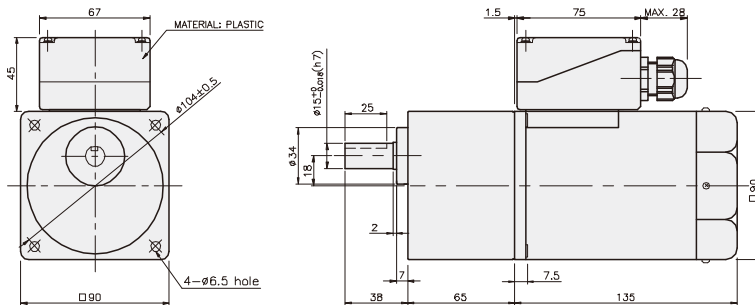
K9IP90F□-T5 + K9P□BF, BUF



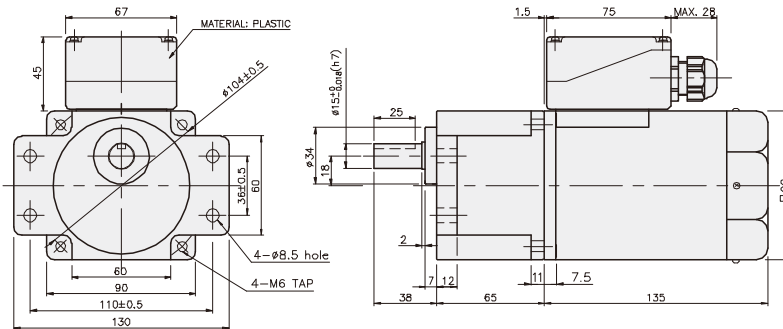
K9IP90F□-T5 + K9P□BU



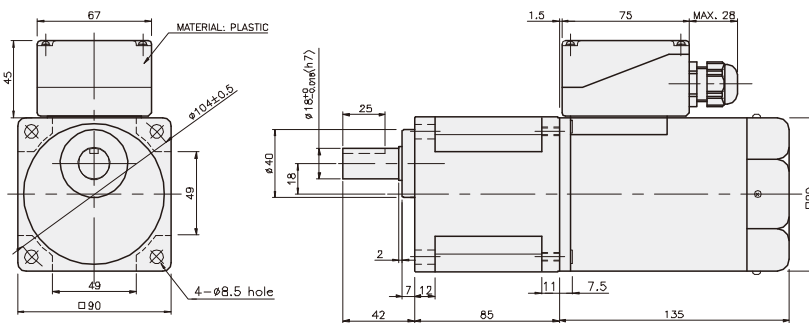
K9IP90F□-T5 + K9P□B



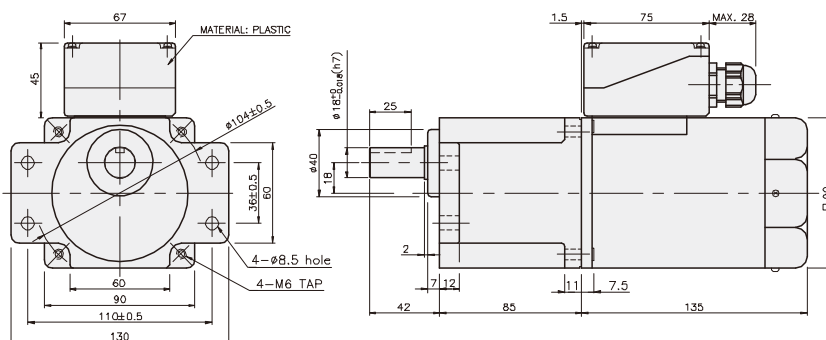
K9IP90F□-T5 + K9P□BF



K9IP90F□-T5 + K9P□BU



K9IP90F□-T5 + K9P□BUF



#### WEIGHT

PART	WEIGHT(kg)
MOTOR	3,18
DECIMAL GEARHEAD	0,62

#### DIMENSION TABLE

PART No	Application Model	Mounting BOLT
01	K9P3~200B	M6 P1,0 X 95
02	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	Application Model	Mounting BOLT
01	K9P3~200BF	M6 P1,0 X 20
02	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	Application Model	Mounting BOLT
01	K9P3~200BU	M6 P1,0 X 20
02	K9P10BX	M6 P1,0 X 65

#### 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	Application Model	Mounting BOLT
01	K9P3~200BUF	M6 P1,0 X 20
02	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



## INDUCTION MOTOR

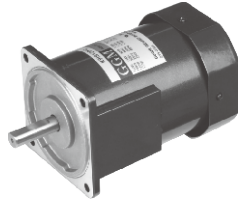
**120W**

**□90mm**

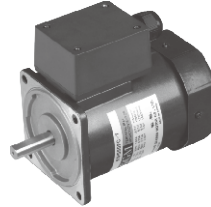
LEAD WIRE TYPE  
TERMINAL BOX TYPE

INDUCTION MOTOR

K9IS120F□



K9IS120F□-T, T5



### SPECIFICATIONS

120W 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)
K9I□120FJ(-T, -T5)	100	50	2.2	0.6/6	0.9/9	1300	35
		60		0.65/6.5	0.735/7.35	1600	
K9I□120FU(-T, -T5)	110	60	2.13	0.65/6.5		1600	20
	115		2.3	0.735/7.35			
K9I□120FL(-T, -T5)	200	50	1.07	0.65/6.5	0.9/9	1300	8.5
		60	1.22	0.6/6	0.755/7.55	1550	8
K9I□120FC(-T, -T5)	220	50	0.82	0.55/5.5	0.9/9	1300	6
		60	1	0.6/6	0.735/7.35	1600	7
	230	50	0.85	0.6/6	0.9/9	1300	6
		60	1.1	0.65/6.5	0.735/7.35	1600	7
K9I□120FD(-T, -T5)	240	50	0.9	0.6/6	0.9/9	1300	6

single-phase

\* □ : 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	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
K9I□120F□(-T, -T5) 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	17.7	20	20	20	20	20	20	20	20	20	20	20
		219	262	365	437	547	656	729	820	984	1181	1312	1476	177	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
K9I□120F□(-T, -T5) 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	14.5	17.4	19.3	20	20	20	20	20	20	20	20	20
		179	214	298	357	447	536	595	670	804	964	1072	1206	145	174	193	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.

## GEARHEAD

### RATED TORQUE OF GEARHEAD

#### ● 50Hz

unit = above : N·m / below : Kg·cm

Model Motor/ Gearhead	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
	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
K9I□120F□(-T, -T5) K9P□BU, BUF		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	29,52	30	30	30	30	30	30	30	30
		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	212,6	236,2	295,2	300	300	300	300	300	300	300	300

#### ● 60Hz

unit = above : N·m / below : Kg·cm

Model Motor/ Gearhead	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
	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
K9I□120F□(-T, -T5) K9P□BU, BUF		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
		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.

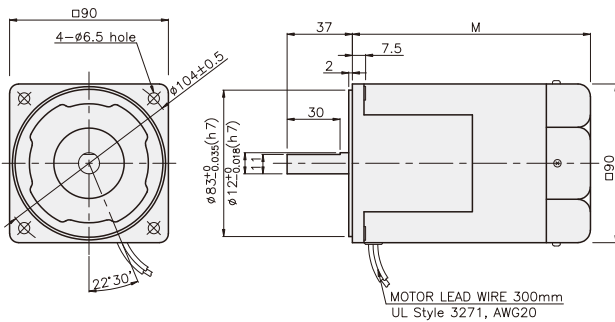
\*   color indicates that the output shaft of the geared motor rotates in the same direction as the output shaft of the motor. Others indicate rotation in the opposite direction.

\* 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/300kgf·cm.

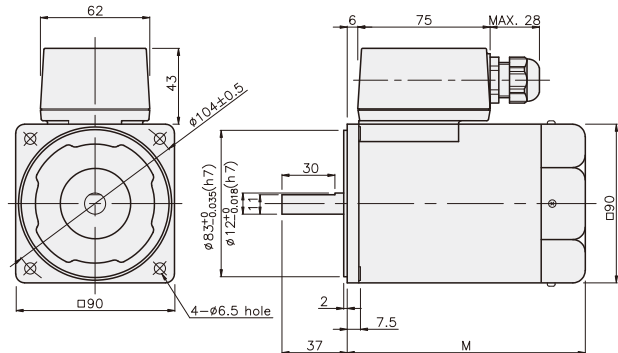
\* RPM is based on motor's synchronous rpm (50Hz:1500rpm, 60Hz:1800rpm) and calculated by dividing gear ratio. Actual rpm is 2~20% less than indicating rpm according to load size.

### DIMENSIONS

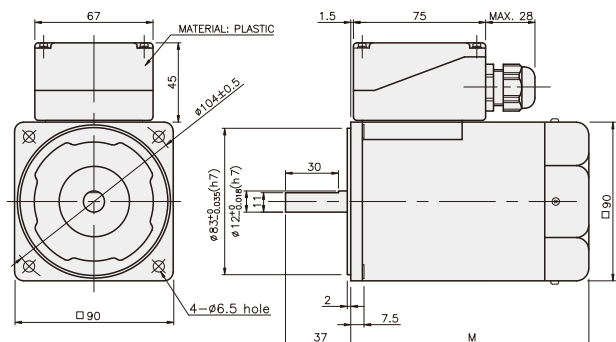
K9IS120F□



K9IS120F□-T



K9IS120F□-T5



DIMENSION TABLE

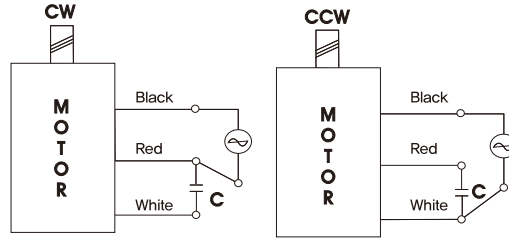
PART No	M	Application Model
01	155	50Hz
02	135	60Hz

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

## GEARHEAD

### CONNECTION DIAGRAMS

K9IS120F□

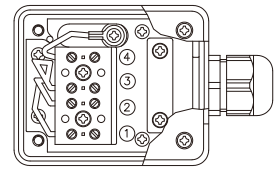
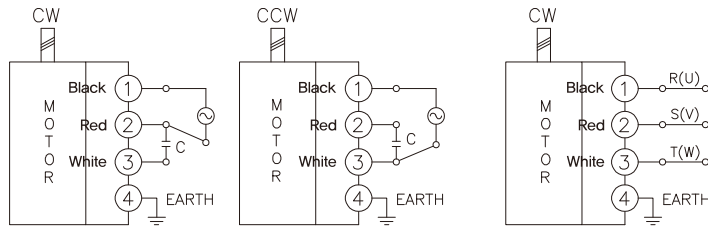


The direction of motor rotation is as viewed from the front shaft end of the motor

K9IS120F□-T

single phase motor

three phase motor

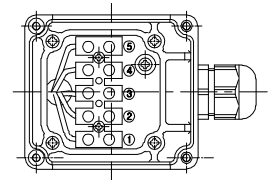
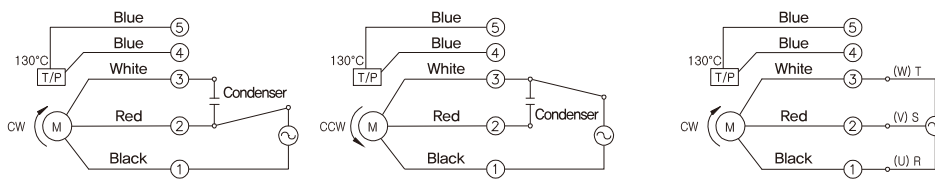


※The direction of motor rotation is as viewed from the front shaft end of the motor

K9IS120F□-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

## GEARHEAD

### DIMENSIONS

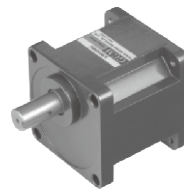
K9P□B



K9P□BF, BUF

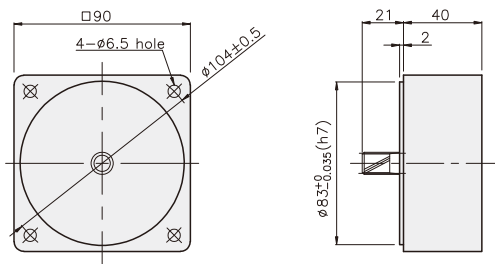


K9P□BU

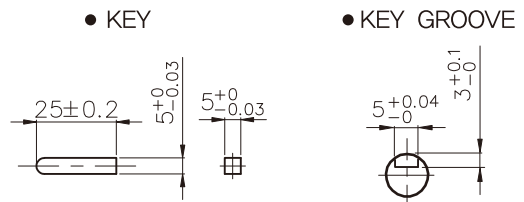


### DECIMAL GEARHEAD

K9P10BX

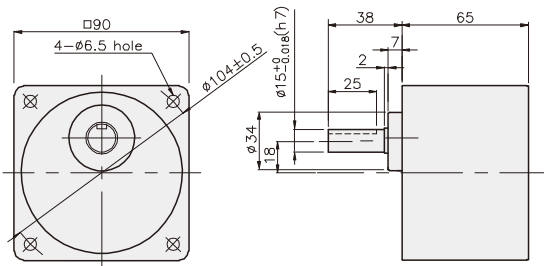


### KEY SPEC

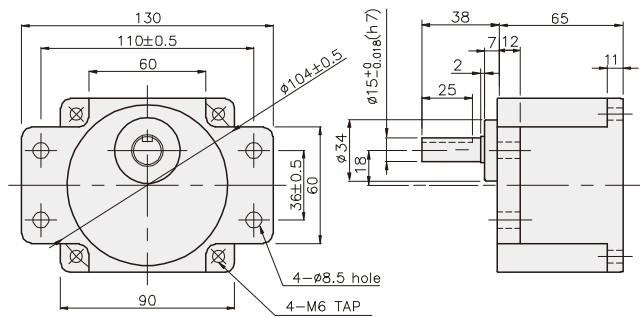


### GEARHEAD

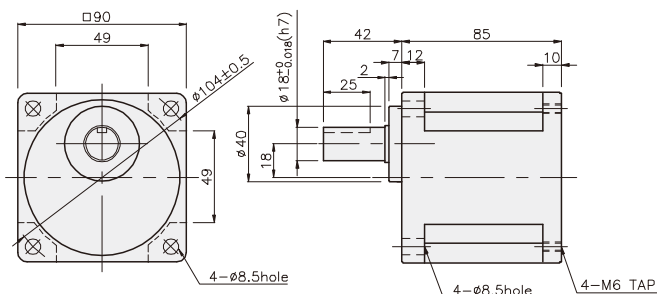
K9P□B



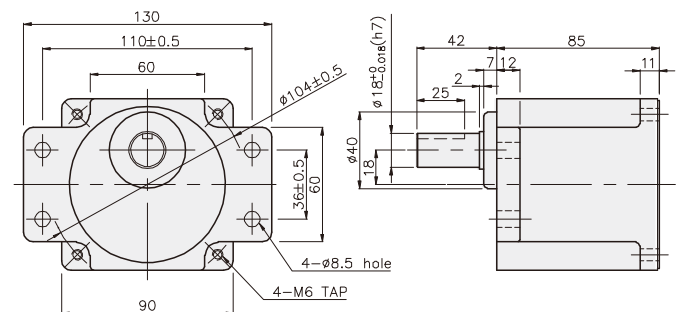
K9P□BF



K9P□BU



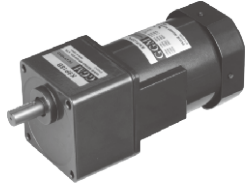
K9P□BUF



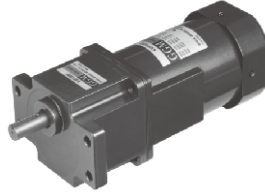
## GEARHEAD

### DIMENSIONS

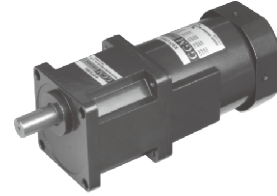
K9IP120F□ + K9P□B



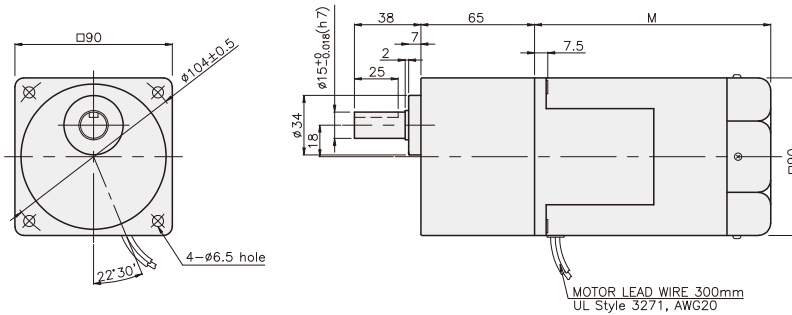
K9IP120F□ + K9P□BF, BUF



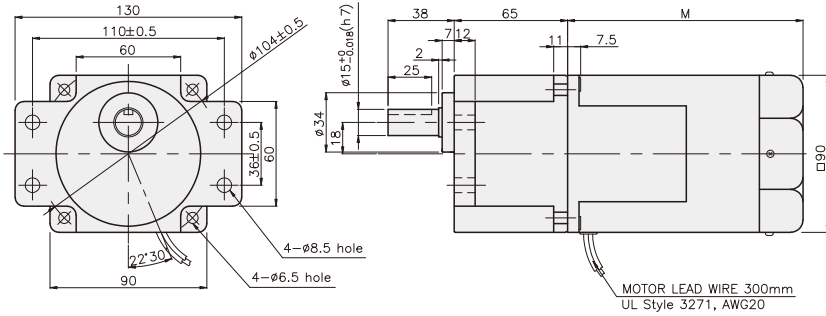
K9IP120F□ + K9P□BU



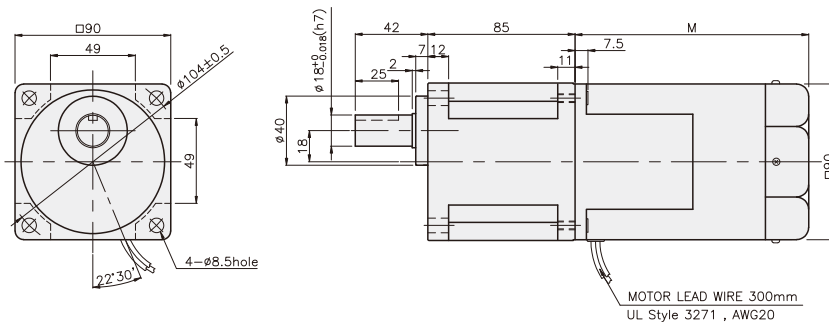
K9IP120F□ + K9P□B



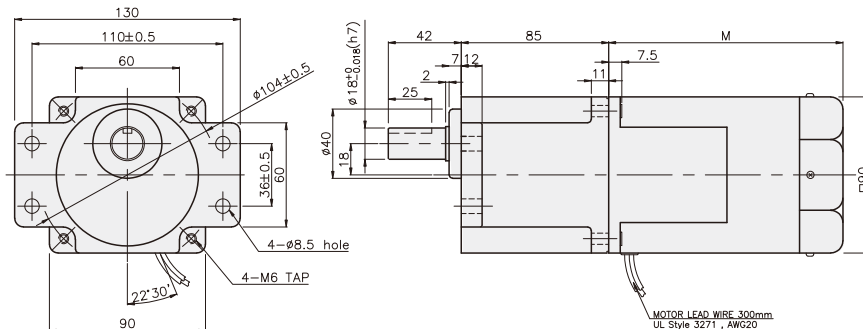
K9IP120F□ + K9P□BF



K9IP120F□ + K9P□BU



K9IP120F□ + K9P□BUF



#### WEIGHT

PART	WEIGHT(kg)
MOTOR	3,72
DECIMAL GEARHEAD	0,62

#### DIMENSION TABLE

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

#### DIMENSION TABLE

PART No	Application Model	Mounting BOLT
01	K9P3~200B	M6 P1,0 X 95
02	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	Application Model	Mounting BOLT
01	K9P3~200BF	M6 P1,0 X 20
02	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	Application Model	Mounting BOLT
01	K9P3~200BU	M6 P1,0 X 20
02	K9P10BX	M6 P1,0 X 65

#### 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	Application Model	Mounting BOLT
01	K9P3~200BUF	M6 P1,0 X 20
02	K9P10BX	M6 P1,0 X 65

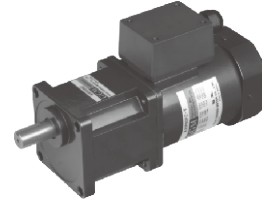
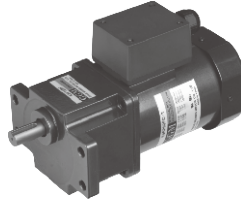
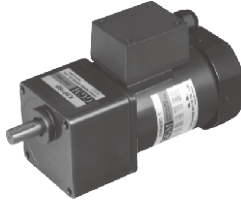
#### WEIGHT

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

## GEARHEAD

### DIMENSIONS

K9IP120F□-T + K9P□B    K9IP120F□-T + K9P□BF, BUF    K9IP120F□-T + K9P□BU



#### WEIGHT

PART	WEIGHT(kg)
MOTOR	3,90(50Hz)
	3,20(60Hz)
DECIMAL GEARHEAD	0,62

#### DIMENSION TABLE

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

#### DIMENSION TABLE

PART No	Application Model	Mounting BOLT
01	K9P3~200B	M6 P1,0 X 95
02	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	Application Model	Mounting BOLT
01	K9P3~200BF	M6 P1,0 X 20
02	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	Application Model	Mounting BOLT
01	K9P3~200BU	M6 P1,0 X 20
02	K9P10BX	M6 P1,0 X 65

#### WEIGHT

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

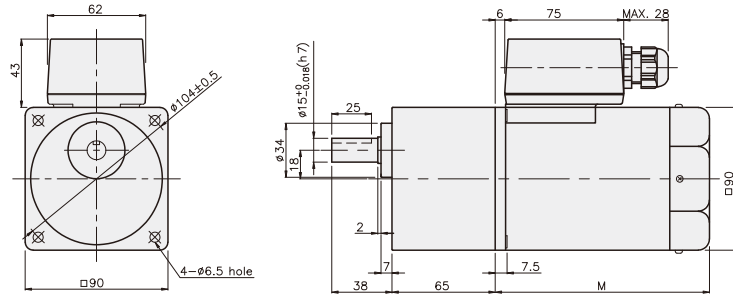
#### DIMENSION TABLE

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

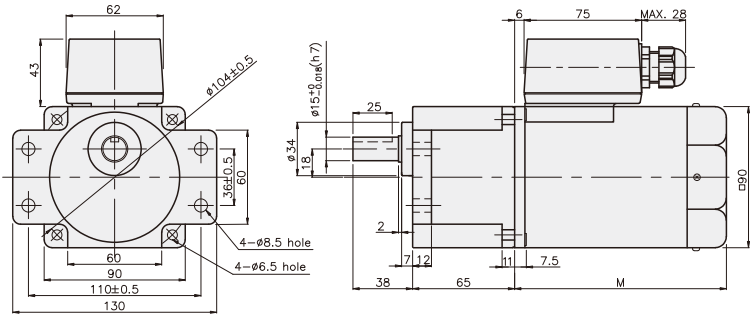
#### WEIGHT

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

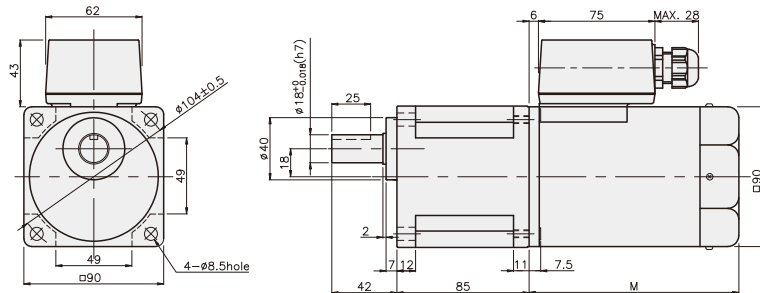
#### K9IP120F□-T + K9P□B



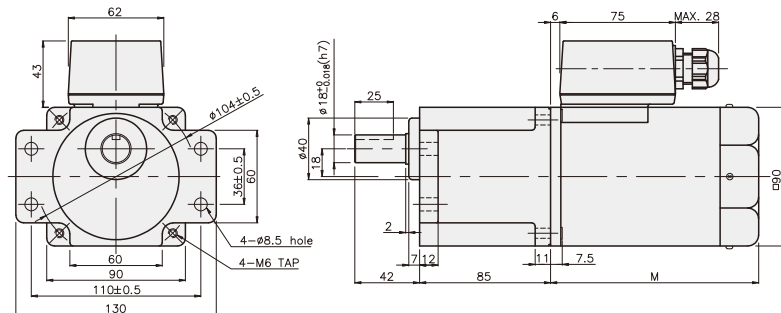
#### K9IP120F□-T + K9P□BF



#### K9IP120F□-T + K9P□BU



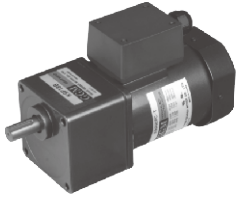
#### K9IP120F□-T + K9P□BUF



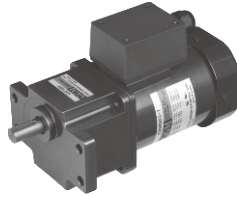
## GEARHEAD

### DIMENSIONS

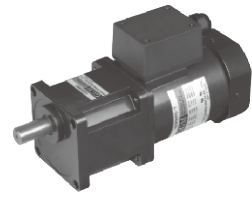
K9IP120F□-T5 + K9P□B



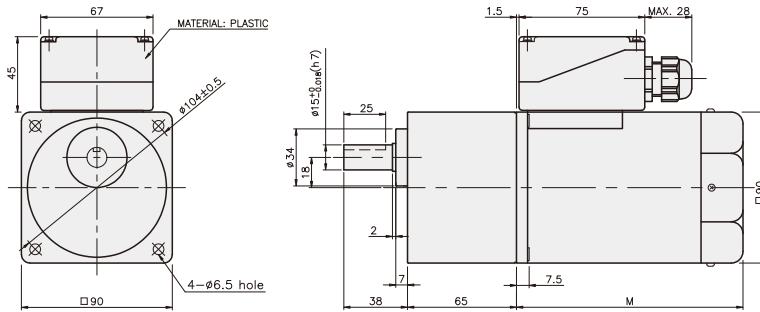
K9IP120F□-T5 + K9P□BF, BUF



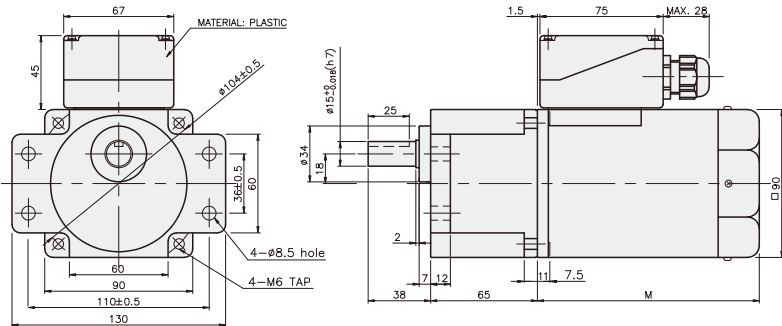
K9IP120F□-T5 + K9P□BU



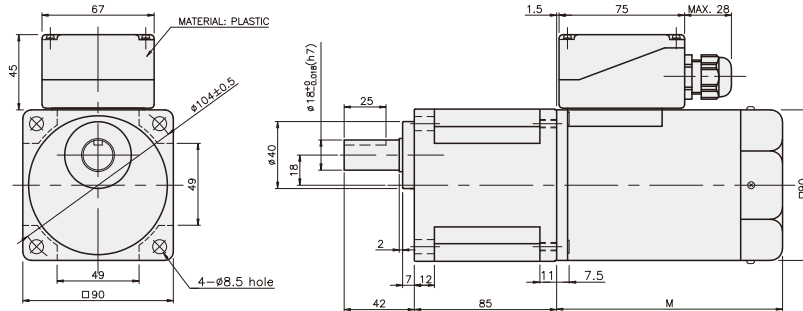
K9IP120F□-T5 + K9P□B



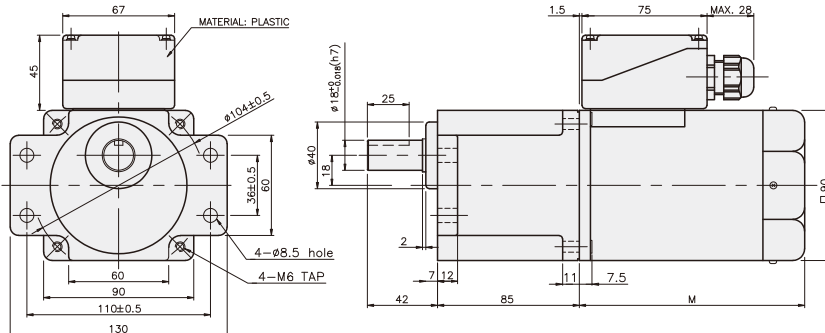
K9IP120F□-T5 + K9P□BF



K9IP120F□-T5 + K9P□BU



K9IP120F□-T5 + K9P□BUF



#### WEIGHT

PART	WEIGHT(kg)
MOTOR	3,90(50Hz)
	3,20(60Hz)
DECIMAL GEARHEAD	0,62

#### DIMENSION TABLE

PART No	M	Mounting BOLT
01	155	50Hz
02	135	60Hz

#### DIMENSION TABLE

PART No	Application Model	Mounting BOLT
01	K9P3~200B	M6 P1,0 X 95
02	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	Application Model	Mounting BOLT
01	K9P3~200BF	M6 P1,0 X 20
02	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	Application Model	Mounting BOLT
01	K9P3~200BU	M6 P1,0 X 20
02	K9P10BX	M6 P1,0 X 65

#### 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	Application Model	Mounting BOLT
01	K9P3~200BUF	M6 P1,0 X 20
02	K9P10BX	M6 P1,0 X 65

#### WEIGHT

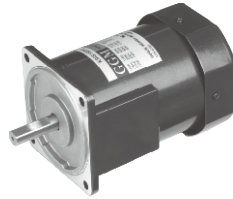
PART	WEIGHT(kg)
K9P3~10BUF	1,50
K9P12,5~20BUF	1,62
K9P25~60BUF	1,76
K9P75~200BUF	1,82

## INDUCTION MOTOR

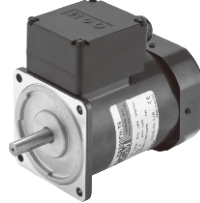
**150W**

□ 90mm LEAD WIRE TYPE  
TERMINAL BOX TYPE

K9IS150FH



K9IS150F□-T, T5



### SPECIFICATIONS

150W 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)
K9I□150FT(-T, -T5)	200	50	1.2	3.5/35	1.13/11.3	1300	-
		60	0.95	2.65/26.5	0.915/9.15	1600	
K9I□150FH(-T, -T5)	220	50	0.99	2.95/29.5	1.13/11.3	1300	-
		60	0.97	2.5/25	0.915/9.15	1600	
	230	50	1.1	3/30	1.13/11.3	1300	-
		60	1.02	2.7/27	0.915/9.15	1600	
K9I□150FM(-T, -T5)	380	50	0.57	3/30	1.13/11.3	1300	-
		60		2.25/22.5	0.915/9.15	1600	
K9I□150FV(-T, -T5)	400	50	0.6	3.5/35	1.13/11.3	1300	-
		60		2.5/25	0.915/9.15	1600	
K9I□150FQ(-T, -T5)	415	50	0.57	3.15/31.5	1.13/11.3	1300	-
		60	0.42	2.35/23.5	0.915/9.15	1600	
K9I□150FZ(-T, -T5)	440	50	0.53	3.3/33	1.085/10.85	1350	-
		60	0.44	2.6/26	0.915/9.15	1600	

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

\*3 phase motor for over 380voltage can't be used with inverter. Motor winding insulation can be damaged.

### RATED TORQUE OF GEARHEAD

● 50Hz

unit = above : N·m / below : Kgf·cm

Model Motor/ Gearhead	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
	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
K9I□150F□(-T, -T5) 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 Motor/ Gearhead	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
	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
K9I□150F□(-T, -T5) 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

ⓑ-38 indicating rpm according to load size.



## GEARHEAD

### RATED TORQUE OF GEARHEAD

#### ● 50Hz

unit = above : N·m / below : Kgf·cm

Model Motor/ Gearhead	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
	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
K9I□150F□(-T, -T5) K9P□BU, BUF		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
		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

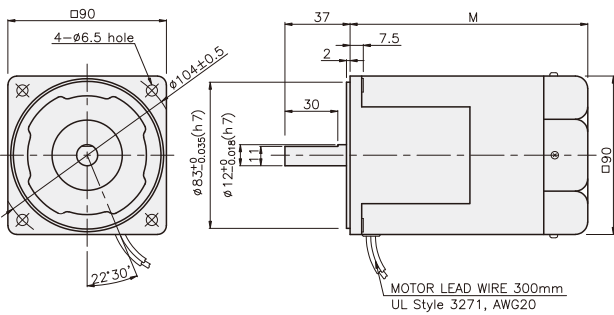
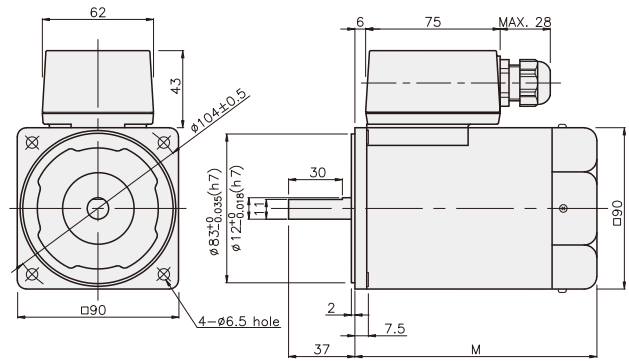
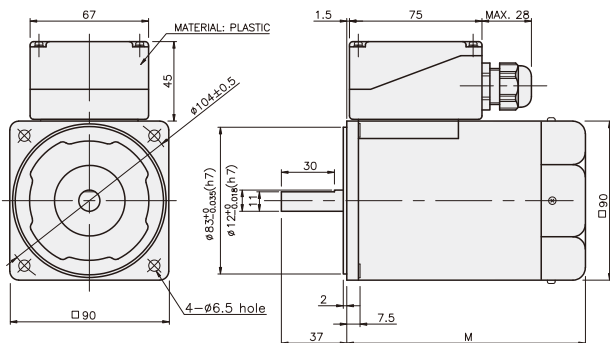
#### ● 60Hz

unit = above : N·m / below : Kgf·cm

Model Motor/ Gearhead	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
	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
K9I□150F□(-T, -T5) K9P□BU, BUF		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
		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/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.

## DIMENSIONS

**K9IS150FH**

**K9IS150F□-T**

**K9IS150F□-T5**

**DIMENSION TABLE**

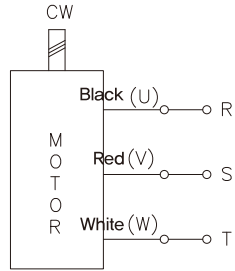
PART No	M	Application Model
01	155	50Hz
02	135	60Hz

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

## GEARHEAD

### CONNECTION DIAGRAMS

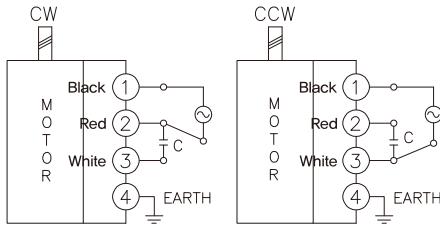
K9IS150F □



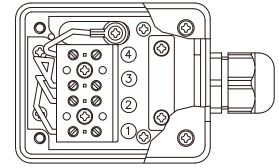
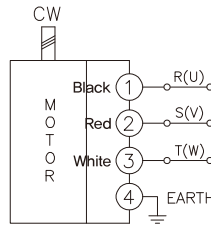
connecting two leadwires of U,V,W in turns  
The direction of motor rotation is as viewed from the front shaft end of the motor

K9IS150F □-T

single phase motor



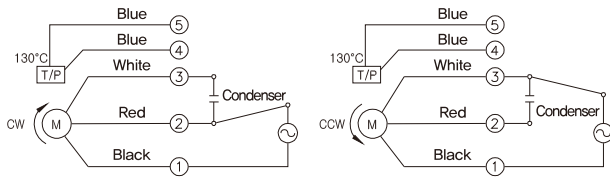
three phase motor



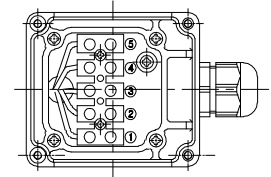
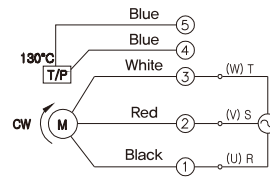
※The direction of motor rotation is as viewed from the front shaft end of the motor

K9IS150F □-T5

single phase motor



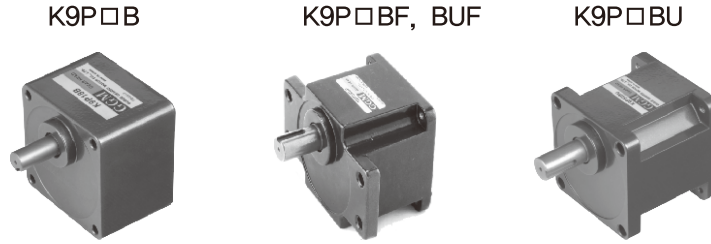
three phase motor



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

## GEARHEAD

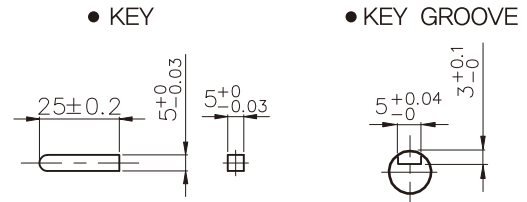
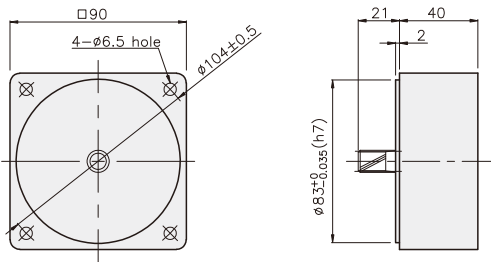
### DIMENSIONS



#### DECIMAL GEARHEAD

K9P10BX

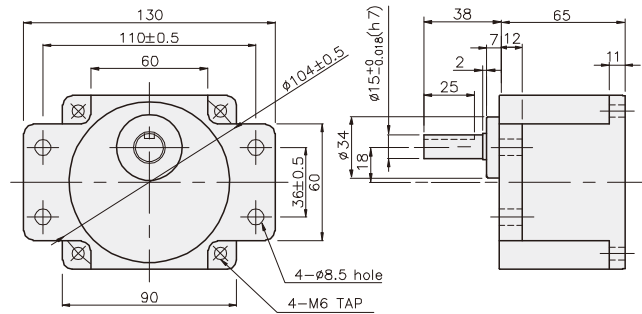
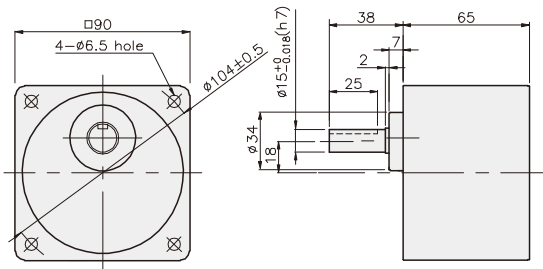
KEY SPEC



#### GEARHEAD

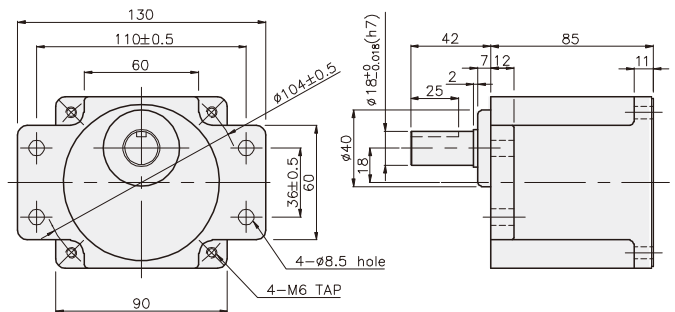
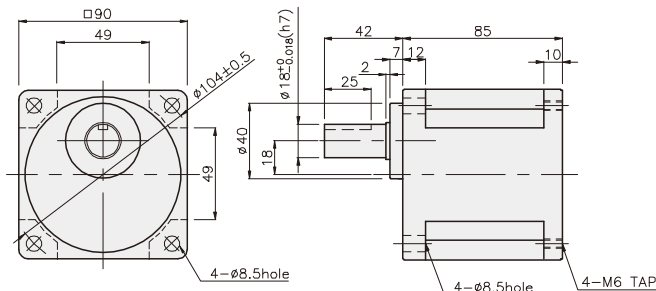
K9P□B

K9P□BF



K9P□BU

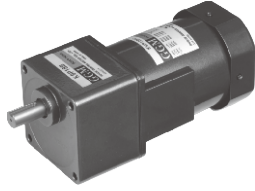
K9P□BUF



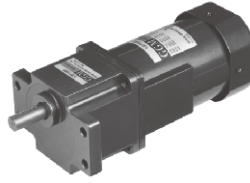
## GEARHEAD

### DIMENSIONS

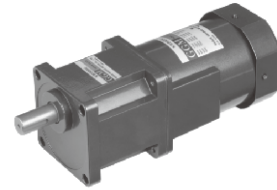
K9IP150F□ + K9P□B



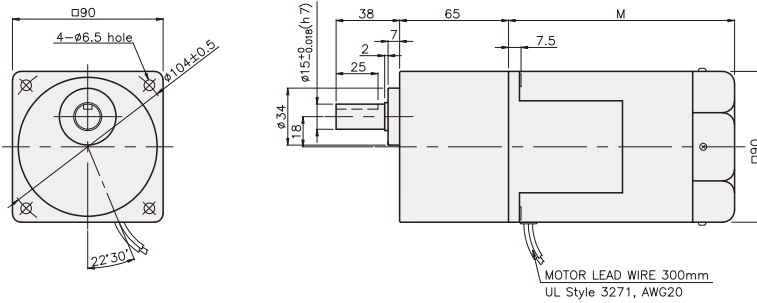
K9IP150F□ + K9P□BF, BUF



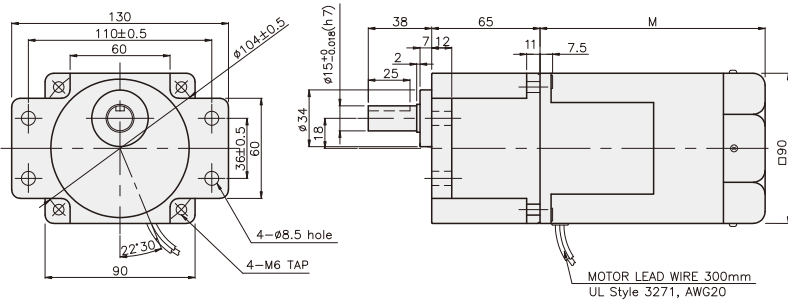
K9IP150F□ + K9P□BU



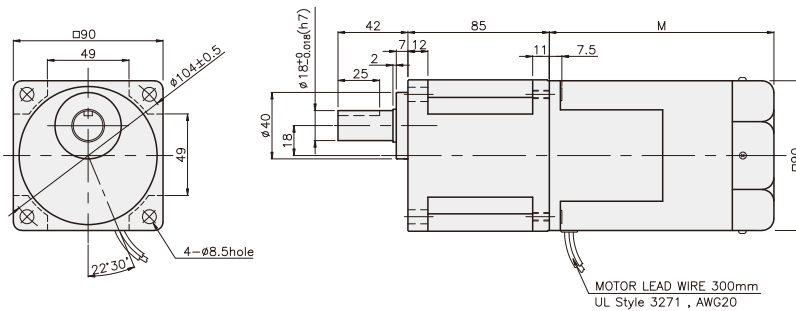
K9IP150F□ + K9P□B



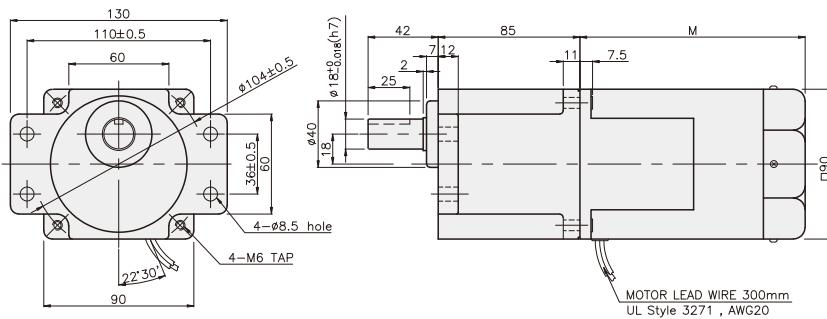
K9IP150F□ + K9P□BF



K9IP150F□ + K9P□BU



K9IP150F□ + K9P□BUF



#### WEIGHT

PART	WEIGHT(kg)
MOTOR	3,82
DECIMAL GEARHEAD	0,62

#### DIMENSION TABLE

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

#### DIMENSION TABLE

PART No	Application Model	Mounting BOLT
01	K9P3~200B	M6 P1,0 X 95
02	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	Application Model	Mounting BOLT
01	K9P3~200BF	M6 P1,0 X 20
02	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	Application Model	Mounting BOLT
01	K9P3~200BU	M6 P1,0 X 20
02	K9P10BX	M6 P1,0 X 65

#### 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	Application Model	Mounting BOLT
01	K9P3~200BUF	M6 P1,0 X 20
02	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

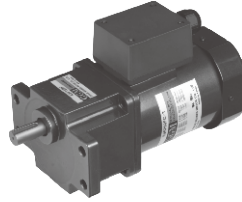
## GEARHEAD

### DIMENSIONS

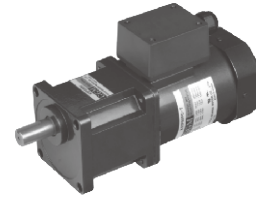
K9IP150F□-T + K9P□B



K9IP150F□-T + K9P□BF, BUF



K9IP150F□-T + K9P□BU



#### WEIGHT

PART	WEIGHT(kg)
MOTOR	3,24(3,90)
DECIMAL GEARHEAD	0,62

#### DIMENSION TABLE

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

#### DIMENSION TABLE

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

#### WEIGHT

PART	WEIGHT(kg)
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K9P25~60B	1,42
K9P75~200B	1,45

#### DIMENSION TABLE

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#### WEIGHT

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

#### DIMENSION TABLE

PART No	Application Model	Mounting BOLT
01	K9P3~200BU	M6 P1,0 X 20
02	K9P10BX	M6 P1,0 X 65

#### WEIGHT

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

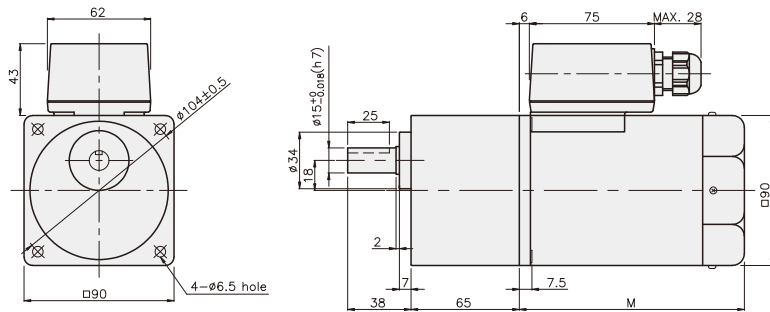
#### DIMENSION TABLE

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

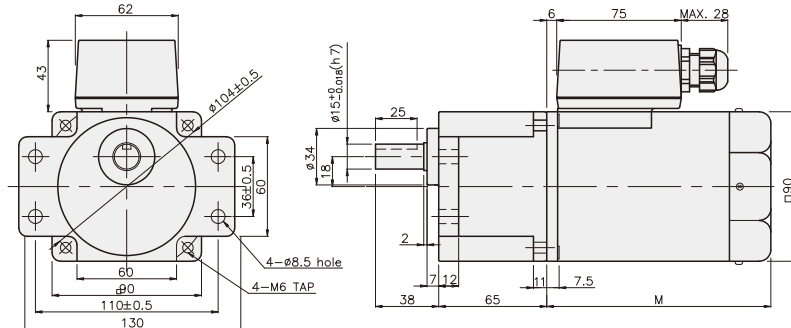
#### WEIGHT

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

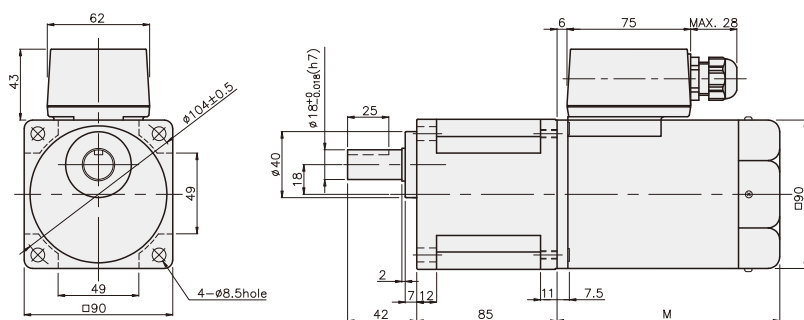
K9IP150F□-T + K9P□B



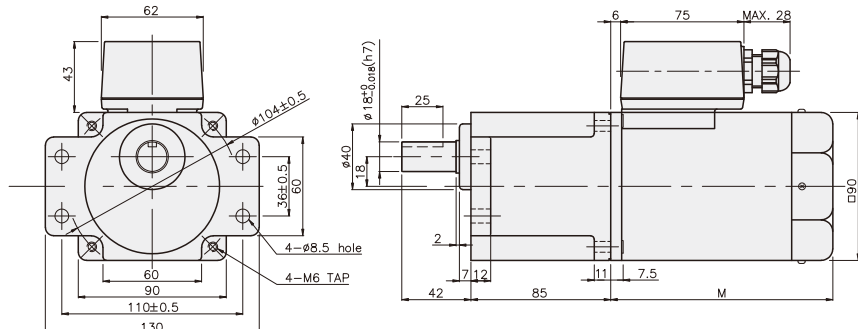
K9IP150F□-T + K9P□BF



K9IP150F□-T + K9P□BU



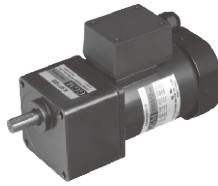
K9IP150F□-T + K9P□BUF



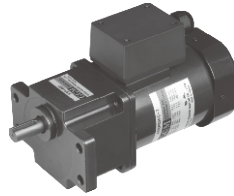
## GEARHEAD

### DIMENSIONS

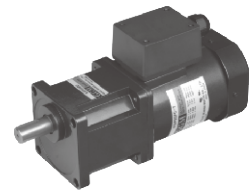
K9IP150F□-T5 + K9P□B



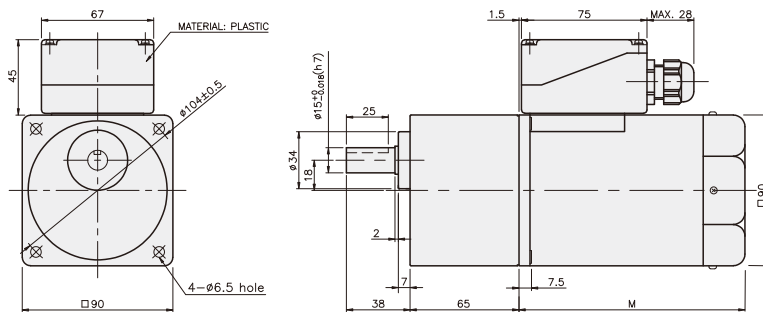
K9IP150F□-T5 + K9P□BF, BUF



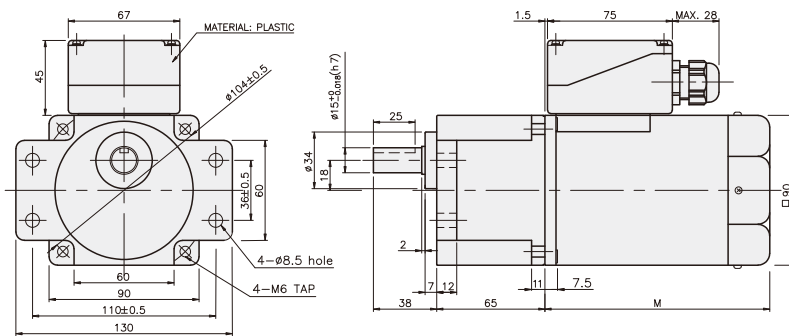
K9IP150F□-T5 + K9P□BU



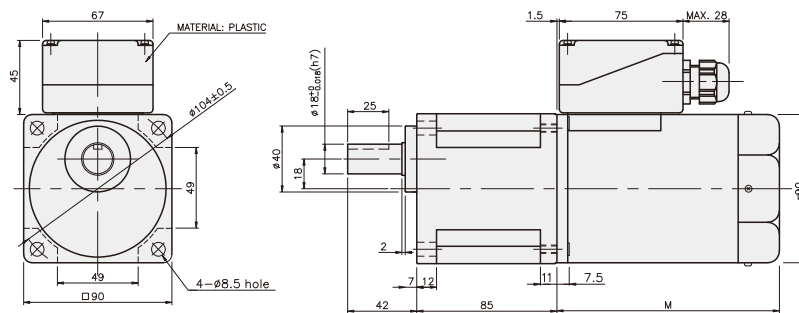
K9IP150F□-T5 + K9P□B



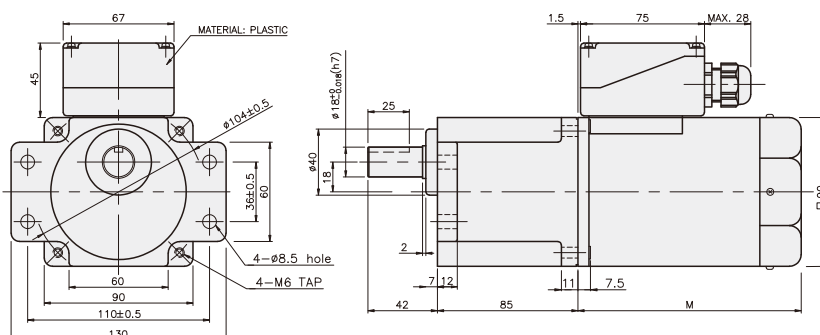
K9IP150F□-T5 + K9P□BF



K9IP150F□-T5 + K9P□BU



K9IP150F□-T5 + K9P□BUF



#### WEIGHT

PART	WEIGHT(kg)
MOTOR	3,24(3,90)
DECIMAL GEARHEAD	0,62

#### DIMENSION TABLE

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

#### DIMENSION TABLE

PART No	Application Model	Mounting BOLT
01	K9P3~200B	M6 P1,0 X 95
02	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	Application Model	Mounting BOLT
01	K9P3~200BF	M6 P1,0 X 20
02	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	Application Model	Mounting BOLT
01	K9P3~200BU	M6 P1,0 X 20
02	K9P10BX	M6 P1,0 X 65

#### 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	Application Model	Mounting BOLT
01	K9P3~200BUF	M6 P1,0 X 20
02	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

## INDUCTION MOTOR

**180W**

□90mm

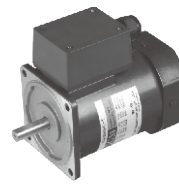
LEAD WIRE TYPE  
TERMINAL BOX TYPE

INDUCTION MOTOR

K9IS180F□



K9IS180F□-T, T5



### SPECIFICATIONS

180W 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)
K9I□180FJ(-T, -T5)	100	50	3,43	0,9/9	1,35/13,5	1300	50
		60	3,7	1/10	1,1/11	1600	
K9I□180FU(-T, -T5)	110	60	2,85	0,8/8	1,1/11	1600	35
	115		3,06				
K9I□180FL(-T, -T5)	200	50	1,47	0,73/7,3	1,35/13,5	1300	12
		60	1,43	0,65/6,5	1,1/11	1600	
K9I□180FC(-T, -T5)	220	50	1,58	0,7/7	1,35/13,5	1300	8
		60	1,38	0,65/6,5	1,1/11	1600	
	230	50	1,7	0,75/7,5	1,35/13,5	1300	
		60	1,54	0,7/7	1,1/11	1600	
K9I□180FD(-T, -T5)	240	50	1,2	0,8/8	1,35/13,5	1300	8

\* □ : 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
K9I□180F□(-T, -T5) K9P□BU, BUF		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
		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

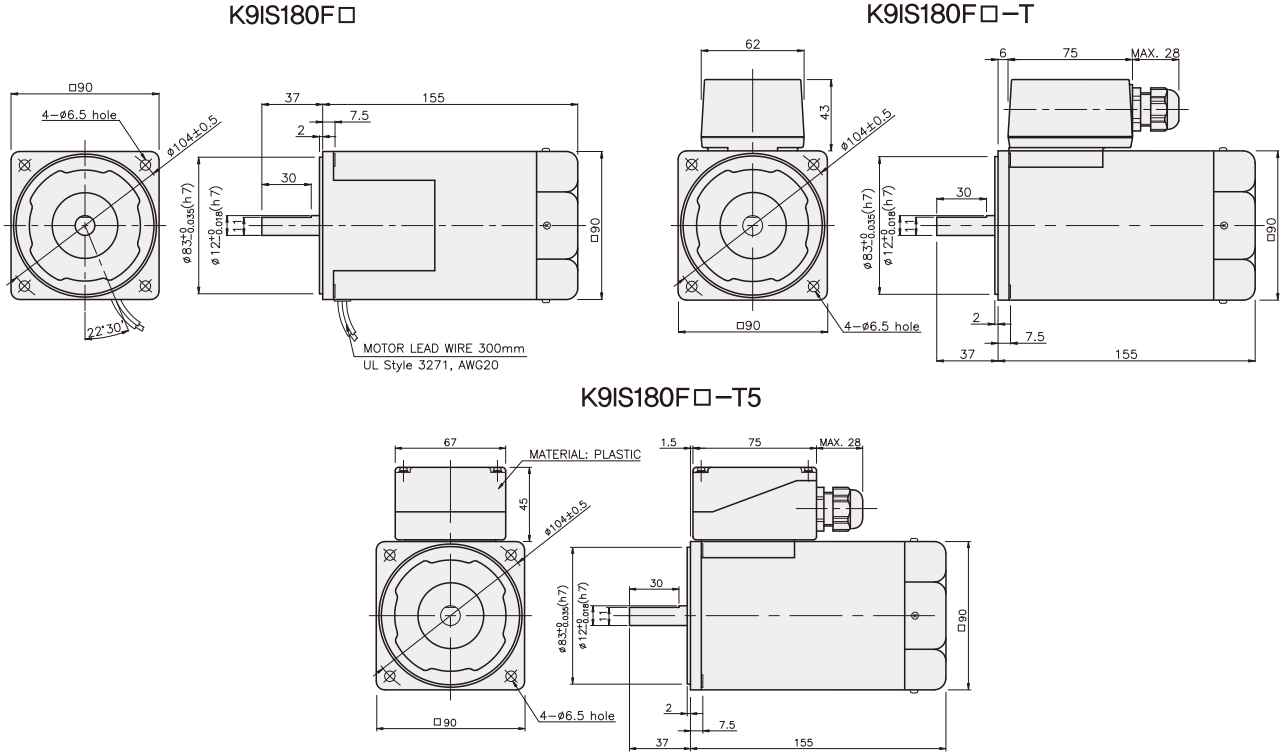
unit = above : N·m / below : Kgf·cm

Model	Speed(rpm)	600	500	360	300	240	200	180	144	120	100	90	72	60	50	45	36	30	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
K9I□180F□(-T, -T5) K9P□BU, BUF		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
		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.

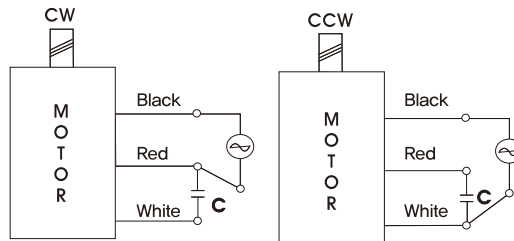
## GEARHEAD

### DIMENSIONS



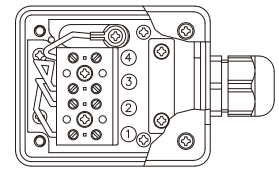
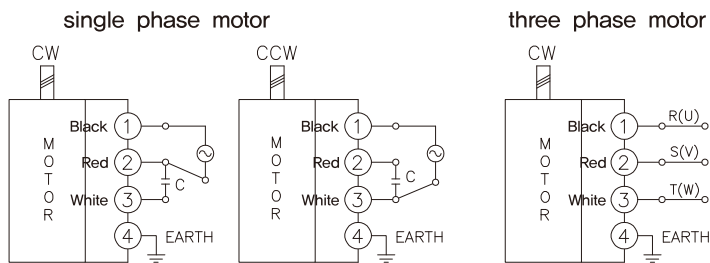
### CONNECTION DIAGRAMS

K9IS180F□



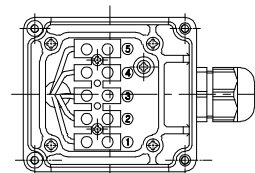
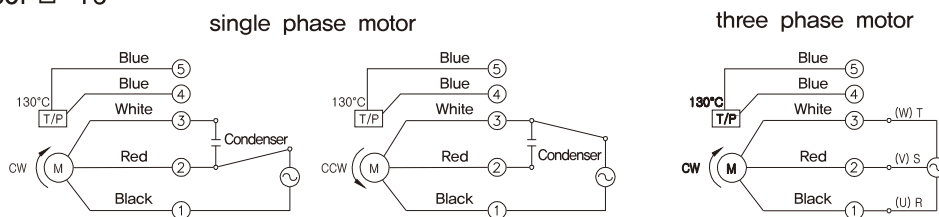
※The direction of motor rotation is as viewed from the front shaft end of the motor

K9IS180F□-T



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

K9IS180F□-T5



connecting two leadwires of U,V,W in turns from the front shaft end of the motor

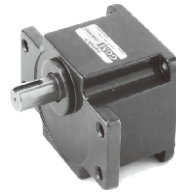
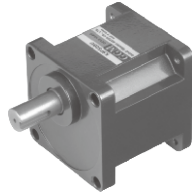


**GEARHEAD**

**DIMENSIONS**

K9P□BU

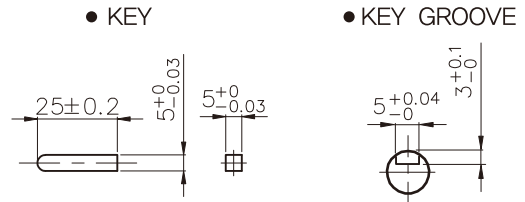
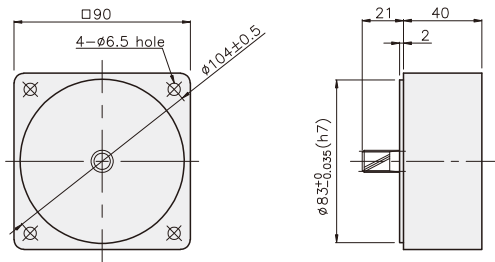
K9P□BUF



DECIMAL GEARHEAD

K9P10BX

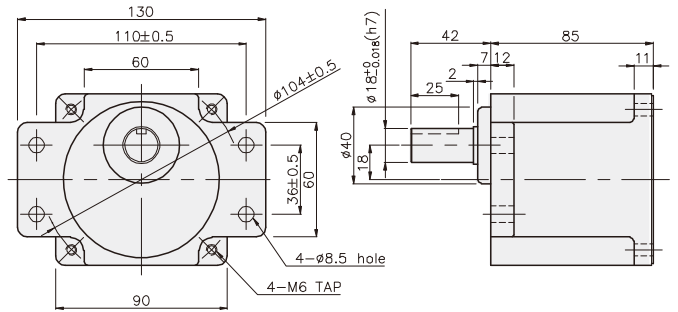
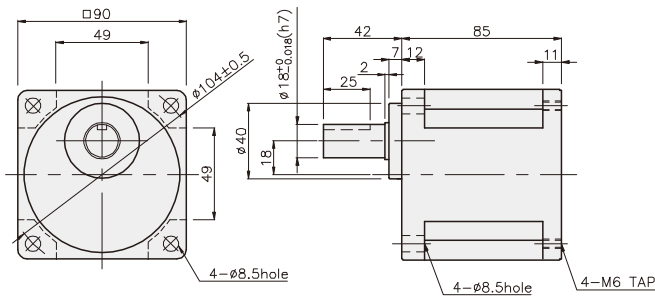
KEY SPEC



GEARHEAD

K9P□BU

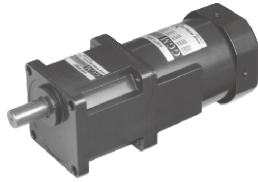
K9P□BUF



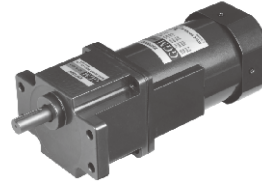
## GEARHEAD

### DIMENSIONS

K9IP180F□ + K9P□BU



K9IP180F□ + K9P□BUF



**DIMENSION TABLE**

PART	WEIGHT(kg)
MOTOR	3,72
DECIMAL GEARHEAD	0,62

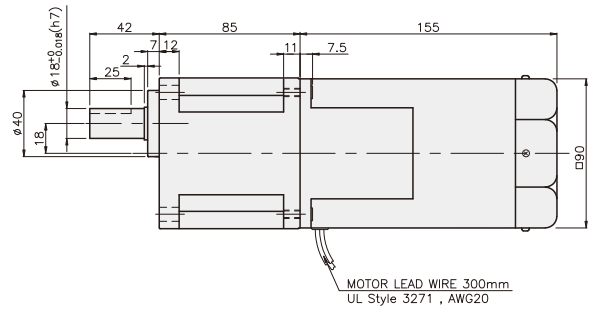
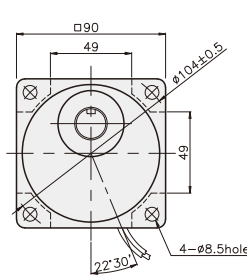
**DIMENSION TABLE**

PART No	Application Model	Mounting BOLT
O1	K9P3~200BU	M6 P1,0 X 20
O2	K9P10BX	M6 P1,0 X 65

**WEIGHT**

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

K9IP180F□ + K9P□BU



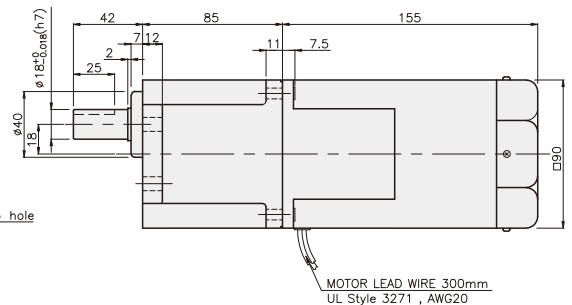
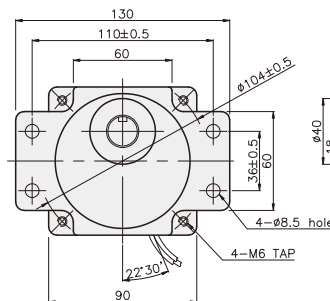
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O2	K9P10BX	M6 P1,0 X 65

**WEIGHT**

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

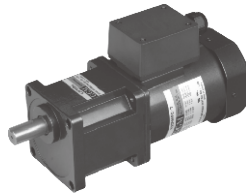
K9IP180F□ + K9P□BUF



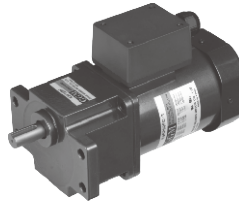
## GEARHEAD

### DIMENSIONS

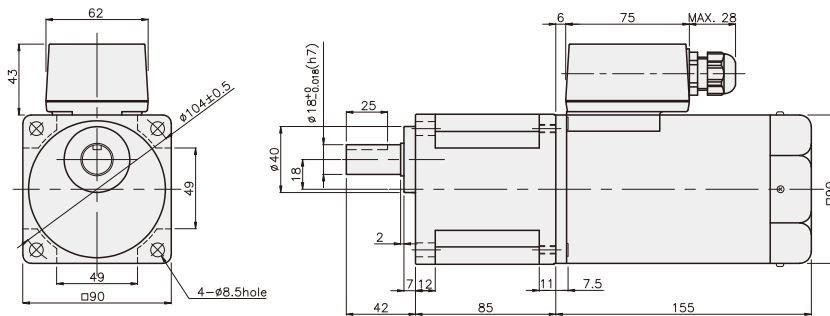
K9IP180F□-T + K9P□BU



K9IP180F□-T + K9P□BUF



K9IP180F□-T + K9P□BU



**WEIGHT**

PART	WEIGHT(kg)
MOTOR	3,90
DECIMAL GEARHEAD	0,62

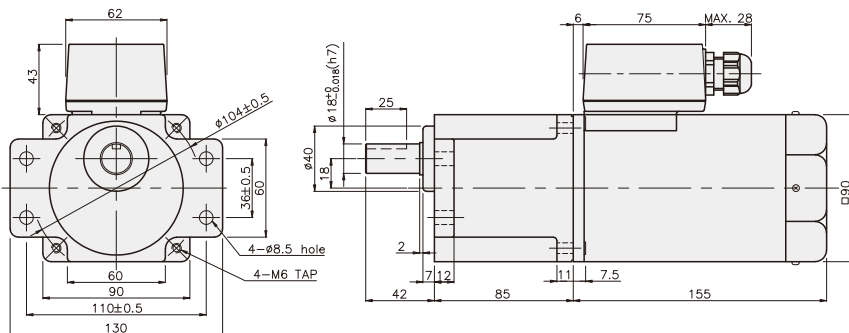
**DIMENSION TABLE**

PART No	Application Model	Mounting BOLT
01	K9P3~200BU	M6 P1,0 X 20
02	K9P10BX	M6 P1,0 X 65

**WEIGHT**

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

K9IP180F□-T + K9P□BUF



**DIMENSION TABLE**

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

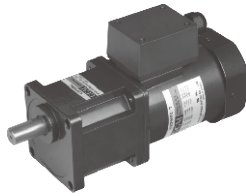
**WEIGHT**

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

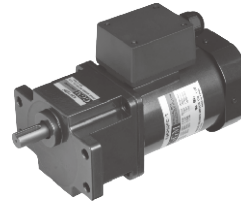
## GEARHEAD

### DIMENSIONS

K9IP180F□-T5 + K9P□BU



K9IP180F□-T5 + K9P□BUF



#### WEIGHT

PART	WEIGHT(kg)
MOTOR	3,90
DECIMAL GEARHEAD	0,62

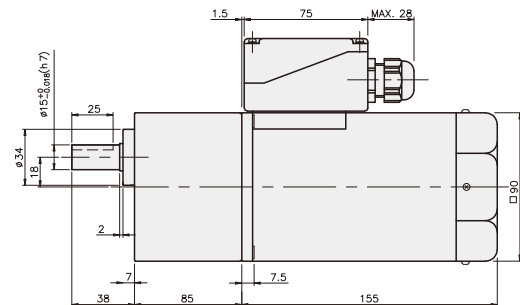
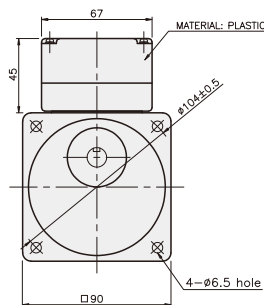
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K9P75~200BU	1,74

K9IP180F□-T5 + K9P□BU



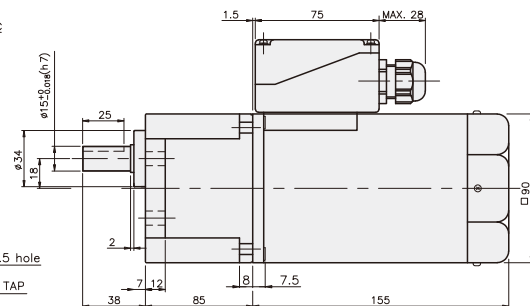
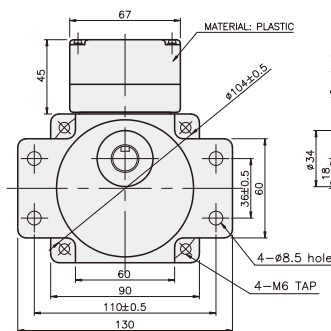
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K9P25~60BUF	1,76
K9P75~200BUF	1,82

K9IP180F□-T5 + K9P□BUF



## INDUCTION MOTOR

**200W**

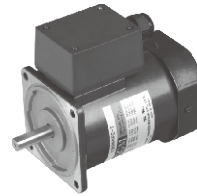
□90mm

LEAD WIRE TYPE  
TERMINAL BOX TYPE

INDUCTION MOTOR

K9IS200FH

K9IS200F□-T, T5



### SPECIFICATIONS

200W 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)
K9I□200FT(-T, -T5)	200	50	1,62	4/40	1,5/15	1300	-
		60	1,29	3,15/31,5	1,22/12,2	1600	
K9I□200FH(-T, -T5)	220	50	1,36	4,25/42,5	1,45/14,5	1350	-
		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(-T, -T5)	380	50	0,81	4,3/43	1,45/14,5	1350	-
		60	0,58	3,6/36	1,22/12,2	1600	
K9I□200FV(-T, -T5)	400	50	0,91	4,5/45	1,45/14,5	1350	-
		60	0,67	4/40	1,22/12,2	1600	
K9I□200FQ(-T, -T5)	415	50	0,62	3,8/38	1,5/15	1300	-
		60	0,58	3/30	1,26/12,6	1550	
K9I□200FZ(-T, -T5)	440	50	0,68	4,1/41	1,5/15	1300	-
		60	0,54	3/30	1,22/12,2	1600	

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

\* 3 phase motor for over 380voltage can't be used with inverter. Motor winding insulation can be damaged.

### RATED TORQUE OF GEARHEAD

#### ● 50Hz

unit = above : N·m / below : Kgf·cm

Model Motor/ Gearhead	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
	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
K9I□200F□(-T, -T5) 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 Motor/ Gearhead	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
	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
K9I□200F□(-T, -T5) 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.

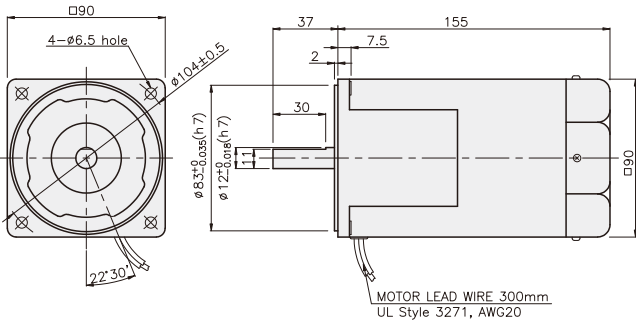
\* If you are to have less ratio than the ratio in the table, you can install the decimal gearhead, which has one tenth of the ratio, between the gearhead and the motor. In this case, the permissible torque is 30N·m/300kgf·cm.

\* 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.

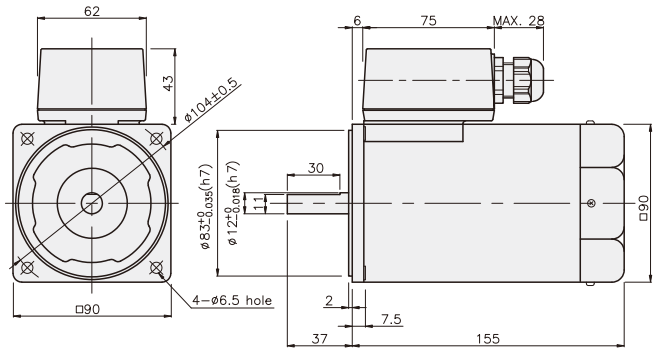
## GEARHEAD

### DIMENSIONS

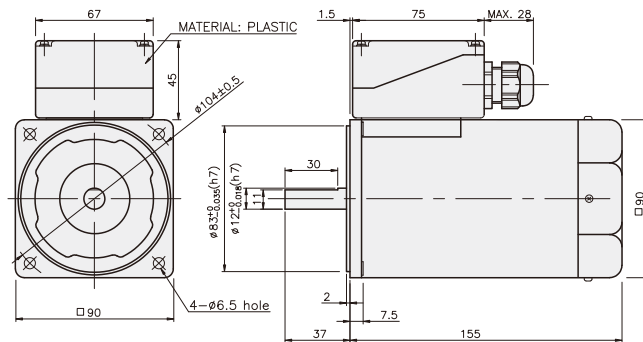
K9IS200FH



K9IS200F□-T

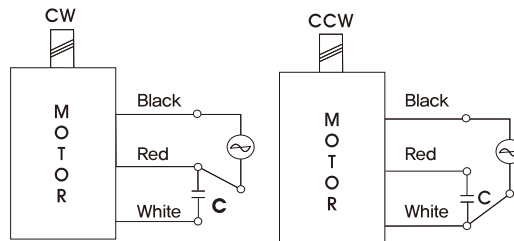


K9IS200F□-T5



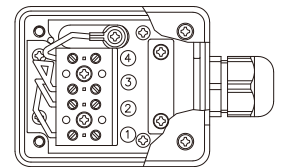
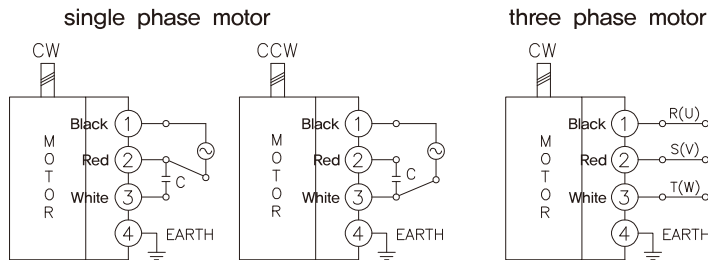
### CONNECTION DIAGRAMS

K9IS200F□



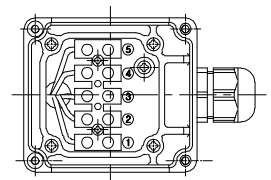
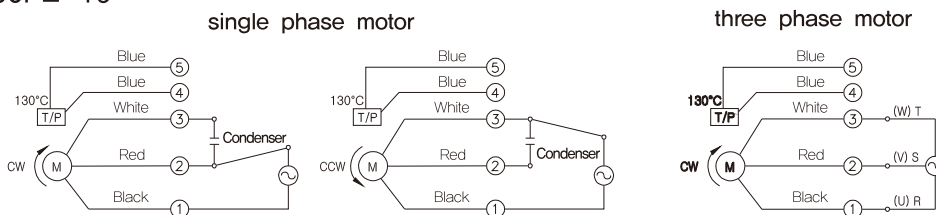
※The direction of motor rotation is as viewed from the front shaft end of the motor

K9IS200F□-T



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

K9IS200F□-T5

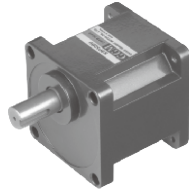


※The direction of motor rotation is as viewed from the front shaft end of the motor connecting two leadwires of U,V,W in turns

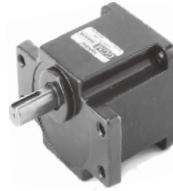
**GEARHEAD**

**DIMENSIONS**

K9P□BU



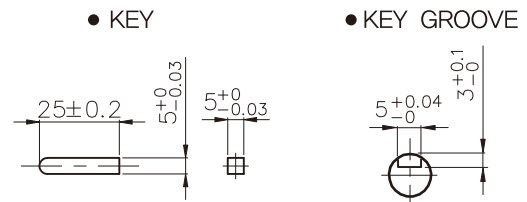
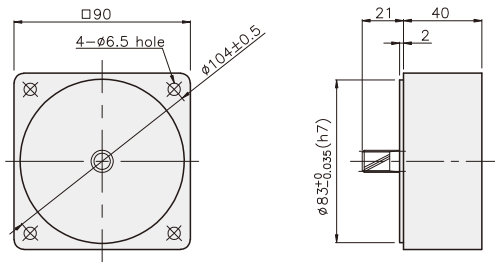
K9P□BUF



DECIMAL GEARHEAD

K9P10BX

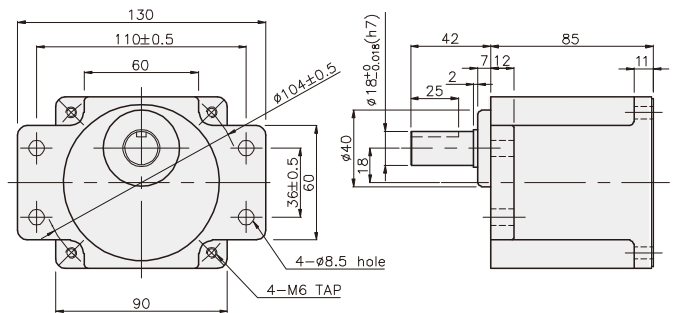
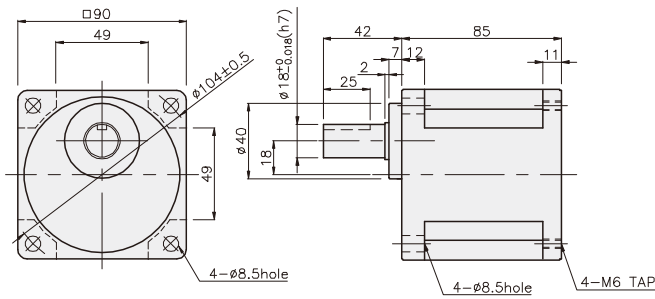
KEY SPEC



GEARHEAD

K9P□BU

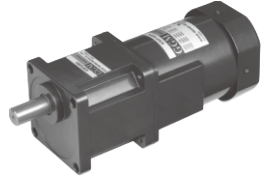
K9P□BUF



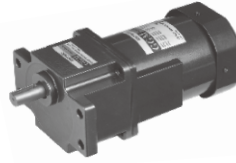
## GEARHEAD

### DIMENSIONS

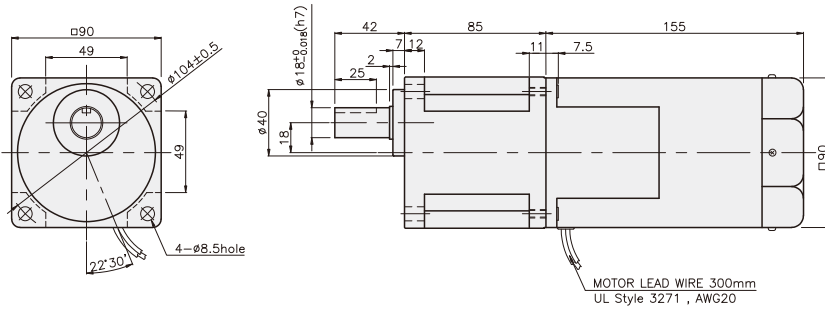
K9IP200F□ + K9P□BU



K9IP200F□ + K9P□BUF



K9IP200F□ + K9P□BU



#### WEIGHT

PART	WEIGHT(kg)
MOTOR	3.82
DECIMAL GEARHEAD	0.62

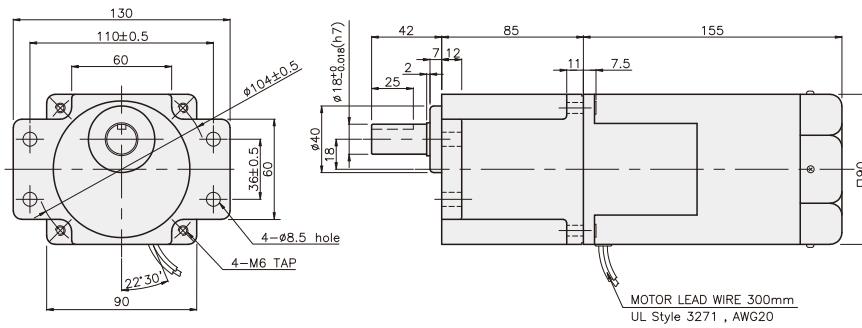
#### DIMENSION TABLE

PART No	Application Model	Mounting BOLT
01	K9P3~200BU	M6 P1,0 X 20
02	K9P10BX	M6 P1,0 X 65

#### WEIGHT

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

K9IP200F□ + K9P□BUF



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PART No	Application Model	Mounting BOLT
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#### WEIGHT

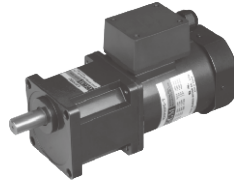
PART	WEIGHT(kg)
K9P3~10BUF	1.50
K9P12,5~20BUF	1.62
K9P25~60BUF	1.76
K9P75~200BUF	1.82



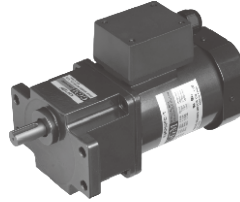
## GEARHEAD

### DIMENSIONS

K9IP200F□-T + K9P□BU



K9IP200F□-T + K9P□BUF



#### WEIGHT

PART	WEIGHT(kg)
MOTOR	4,00
DECIMAL GEARHEAD	0,62

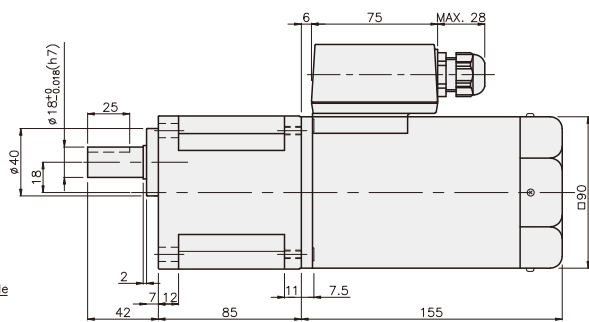
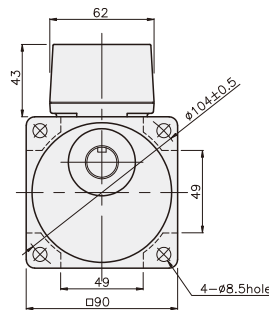
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K9IP200F□-T + K9P□BU



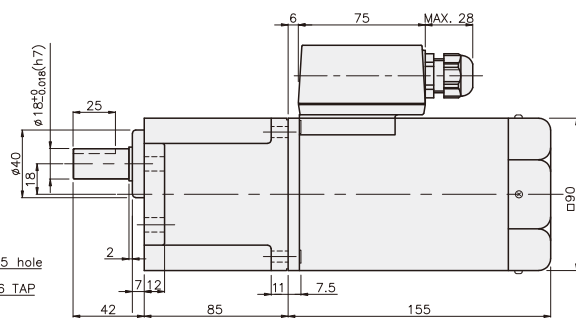
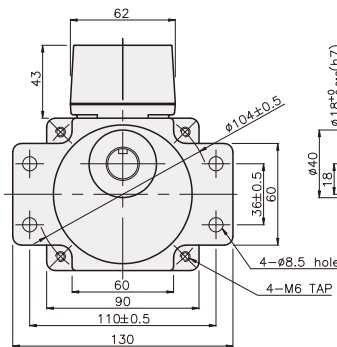
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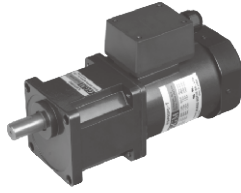
K9IP200F□-T + K9P□BUF



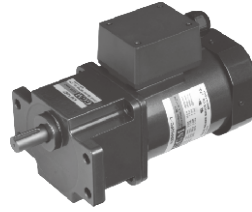
## GEARHEAD

### DIMENSIONS

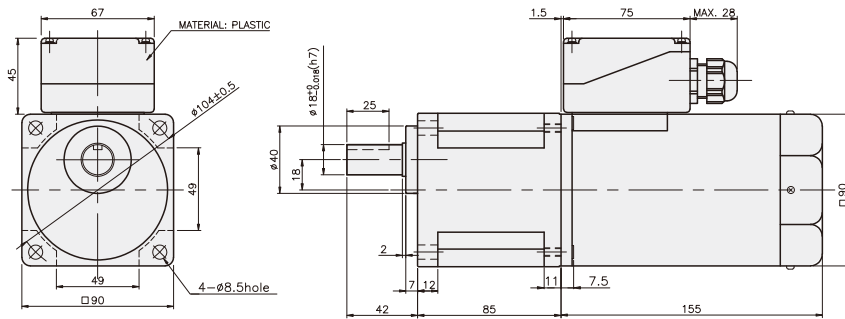
K9IP200F□-T5 + K9P□BU



K9IP200F□-T5 + K9P□BUF



K9IP200F□-T5 + K9P□BU



#### WEIGHT

PART	WEIGHT(kg)
MOTOR	4.00
DECIMAL GEARHEAD	0.62

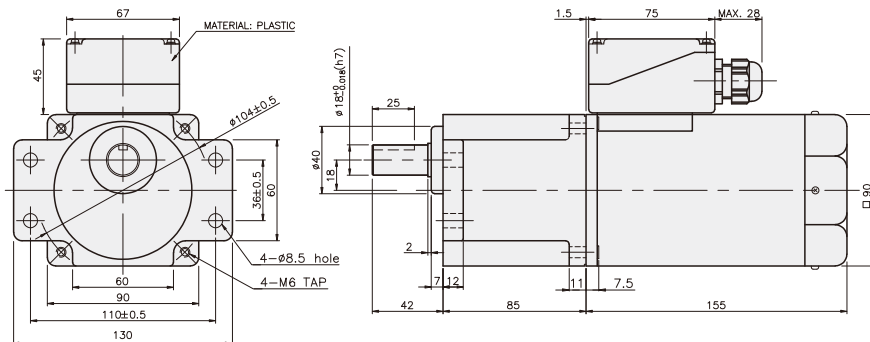
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K9P75~200BU	1.74

K9IP200F□-T5 + K9P□BUF



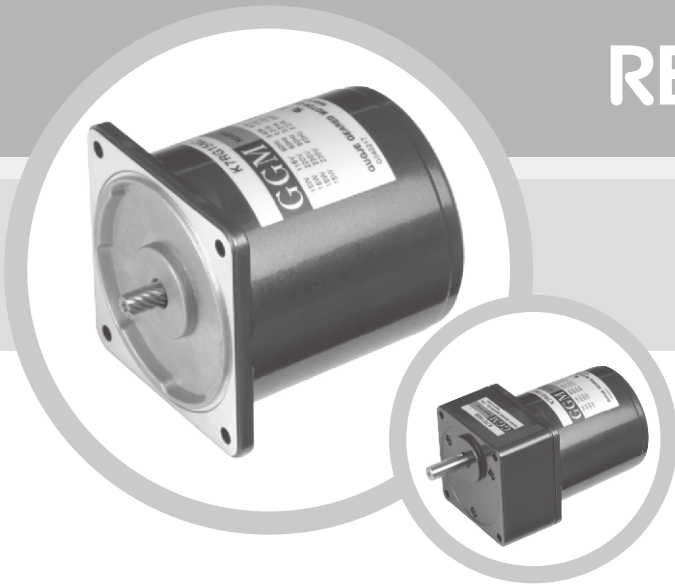
#### DIMENSION TABLE

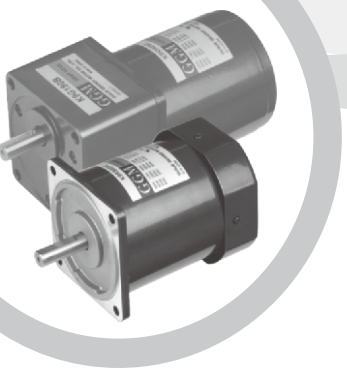
PART No	Application Model	Mounting BOLT
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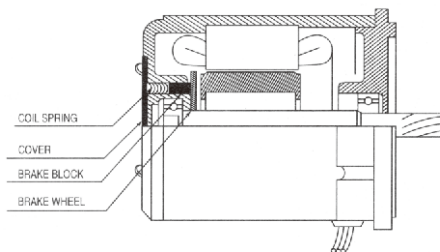
# REVERSIBLE MOTOR





# [ Characteristic of Reversible Motor ]

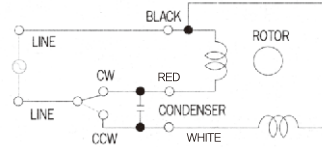
## 1. Characteristic of Reversible Motor



(Fig. 1)

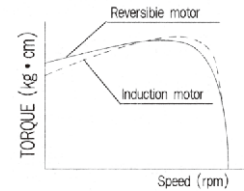
- The reversible motor is a condenser type single-phase induction motor. Therefore, its general characteristics are as same as those of the induction motor.
- It is possible for the motor to operate in rotational direction from normal – stop – to reverse.
- The reversible motor has a temporary brake device built inside the motor to facilitate the operation in normal as well as reverse direction. Also, the main 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°C.
- 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



(Fig 2)

SPEED- TORQUE CURVE



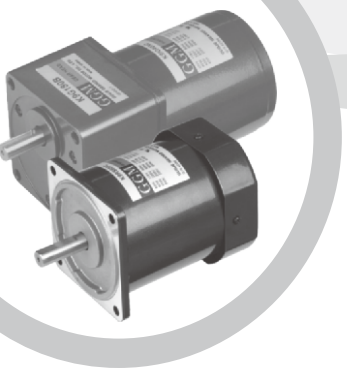
(Fig 3)

## 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 torque may fall below the figures of (Table 1) in the initial phase of operation.

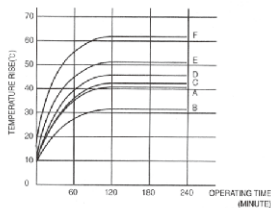
PHASE	SIZE	OUTPUT (W)	MOTOR MODEL	HOLDING TORQUE		OVER RUN
				(g · cm)	(N · cm)	
SINGLE PHASE	60mm	6	K6RG6N□	50	0.5	4
	70mm	15	K7RG15N□	130	1.3	5
	80mm	25	K8RGP5N□	150	1.5	5
	90mm	40	K9RG40N□	400	4.0	6
		60	K9RP60F□			
	90	K9RP90F□				

(Table 1)

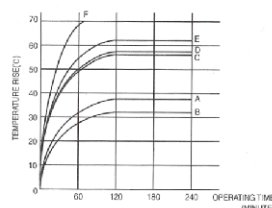


### 3. Operating Time and Temperature Rise

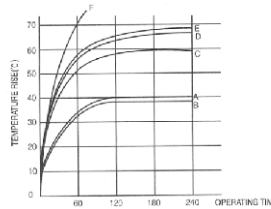
- Although 30 minutes of rated operating time is specified for the reversible motor, the rated operating time may change depending on the operation conditions if the operation frequently repeats stop and run (On-Off) within a short period of time.
- If the reversible motor frequently repeats stop and 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.



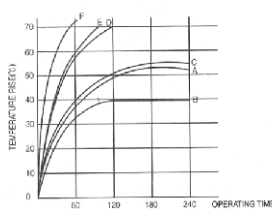
(Fig. 4)



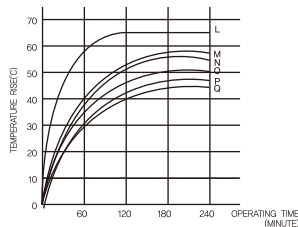
(Fig. 5)



(Fig. 6)



(Fig. 7)



(Fig. 8)

	RUN	STOP					
A	1SEC	1SEC	1SEC				
B							
C							
D							
E							
F							

Operation for 1 second, Stop for 1 second (One direction operation)

Operation for 2 second, Stop for 2 second (One direction operation)

Operation for 2 second, Stop for 2 second

CW Operation for 1 second, CCW Operation for 1 second stop for 1 second

CW Operation for 2 second, CCW Operation for 2 second stop for 1 second

Continuous 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 from 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°C ( $\Delta T$  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°C 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°C 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°C. The temperature of the motor varies depending on the load, operating cycle, motor's mounting method, and ambient temperature.

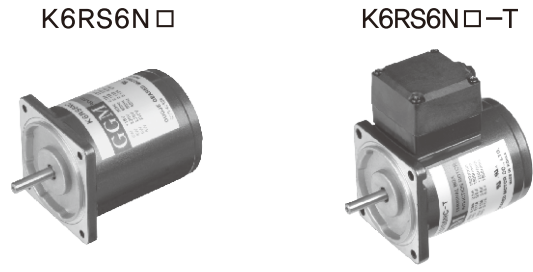
#### GENERAL SPECIFICATION OF REVERSIBLE MOTORS

Item	Specification
Insulation Resistance	100M $\Omega$ 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°C) or class E (75°C) or less increase measured by thermometer after rated operation
Insulation Class	Class E(120°C), UL approval motor class A (105°C)
Overheat Protection Device	Built-in thermal protector (automatic return type) :Open 130°C $\pm$ 5°C Close 82°C $\pm$ 15°C
Ambient Temperature	-10°C~50°C (with UL, CE marked motors: -10°C~40°C)
Ambient Humidity	85% maximum (non condensing)

## REVERSIBLE MOTOR

**6W**

□ 60mm LEAD WIRE TYPE  
TERMINAL BOX TYPE



### SPECIFICATIONS

6W 30 minutes 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)	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

\* □ : SHAFT SHAPE (S : STRAIGHT, G : 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	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

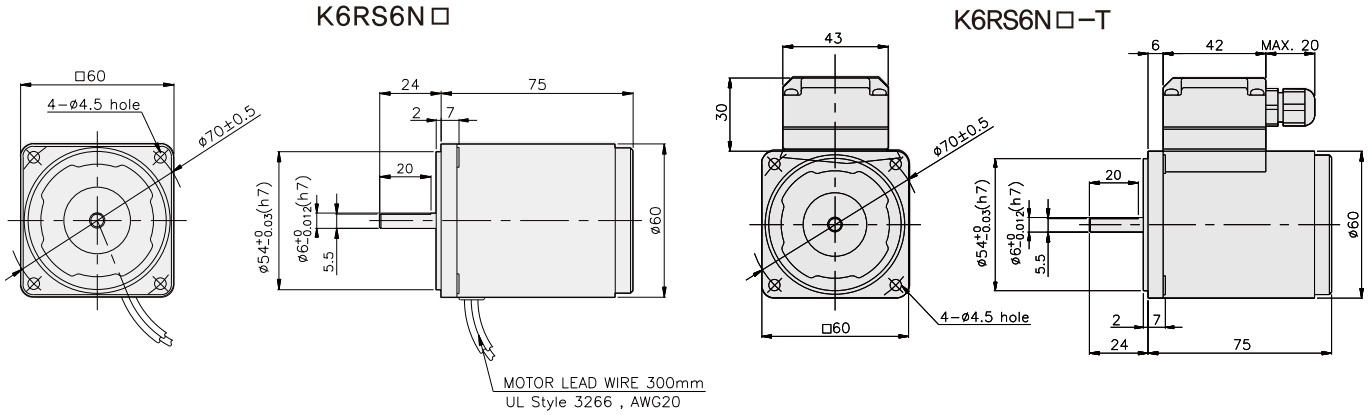
● 60Hz unit = above : N·m / below : Kgf·cm

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□(-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/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.

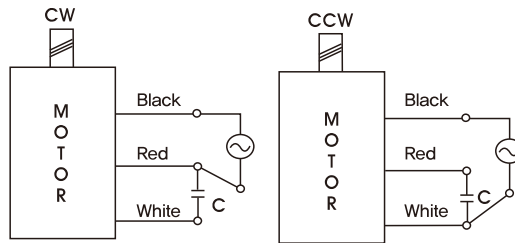
## GEARHEADS

### DIMENSIONS



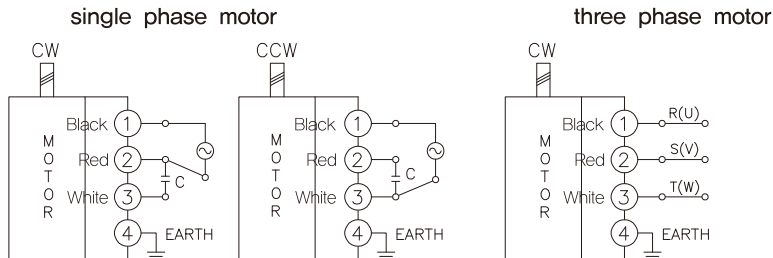
### CONNECTION DIAGRAMS

K6RS6N□



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

K6RS6N□-T



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

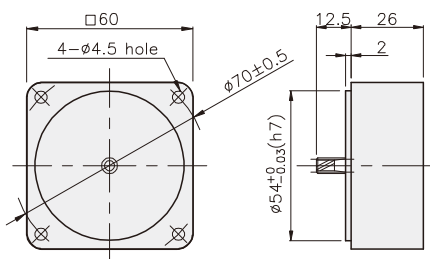
### DIMENSIONS

K6G□B(C)



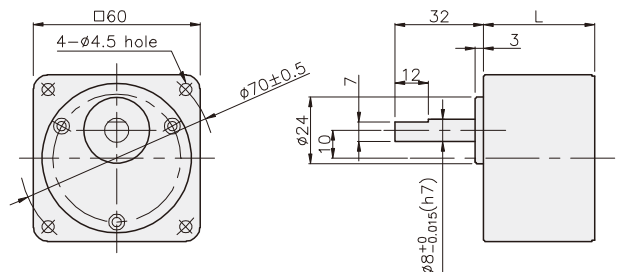
DECIMAL GEARHEAD

K6G10BX□



GEARHEAD

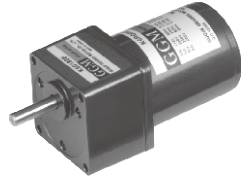
K6G□B(C)



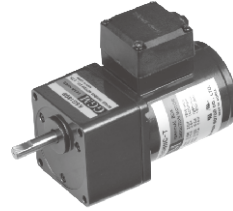
## GEARHEADS

### DIMENSIONS

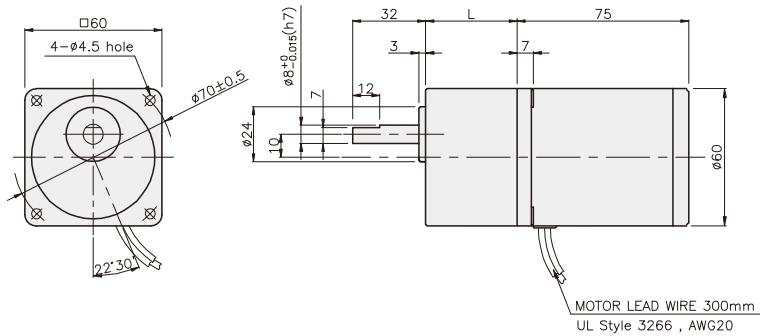
K6RG6N□ + K6G□B(C)



K6RG6N□-T + K6G□B(C)



K6RG6N□ + K6G□B(C)



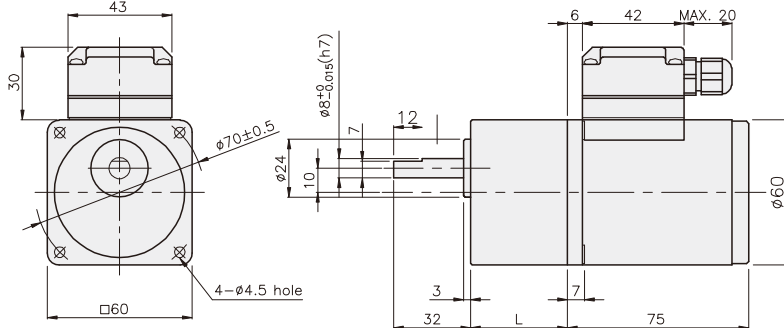
DIMENSION TABLE

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	0,72	
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

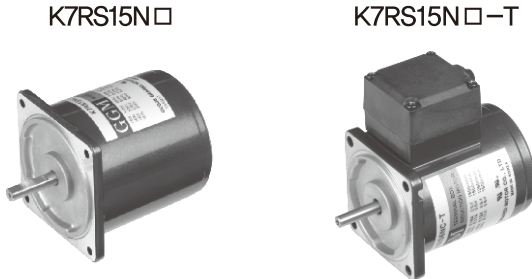
PART	WEIGHT(kg)	
MOTOR	0,76	
DECIMAL GEAR HEAD	0,22	
GEAR HEAD	K6G3~18B(C)	0,26
	K6G20~40B(C)	0,33
	K6G50~250B(C)	0,36



## REVERSIBLE MOTOR

**15W**

□70mm LEAD WIRE TYPE  
TERMINAL BOX TYPE



REVERSIBLE MOTORS

### SPECIFICATIONS

15W 30 minutes 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)	100	50	0.46	0.115/1.15	0.12/1.2	1250	7
		60	0.48			1500	
K7R□15NU(-T)	110	60	0.47	0.12/1.2	0.1/1	1500	6
	115		0.49				
K7R□15NL(-T)	200	50	0.23	0.115/1.15	0.12/1.2	1250	2
		60	0.28			1500	
K7R□15NC(-T)	220	50	0.21	0.115/1.15	0.12/1.2	1250	1.5
		60	0.24			1500	
	230	50	0.25	0.125/1.25	0.12/1.2	1250	
		60	0.24	0.125/1.25		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 : 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	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) K7G□B(C)	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	
	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

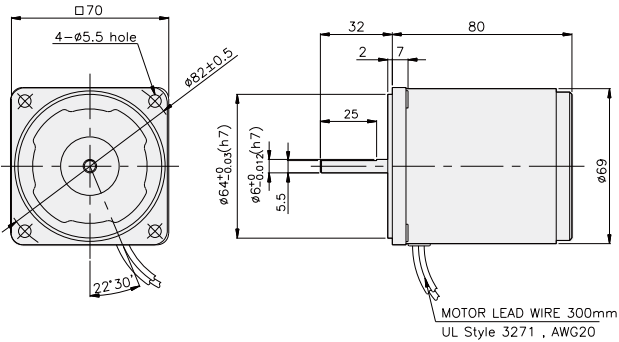
Model	Speed(rpm)	600	500	360	300	240	200	180	144	120	100	90	72	60	50	45	36	30	24	20	18	15	12	10	9
Motor/ Gearhead	Ratio	3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180	200
K7R□15N□(-T) K7G□B(C)	0.24	0.29	0.41	0.49	0.61	0.73	0.81	1.01	1.22	1.46	1.46	1.82	2.19	2.26	2.92	3.28	3.94	4.92	5	5	5	5	5	5	
	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.

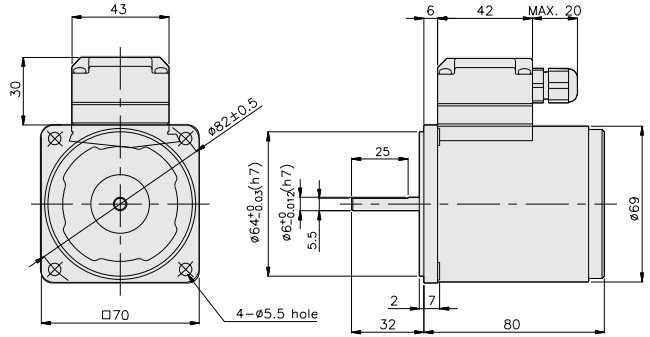
## GEARHEADS

### DIMENSIONS

K7RS15N□

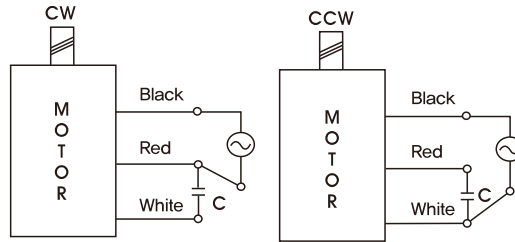


K7RS15N□-T



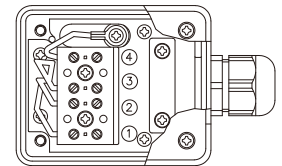
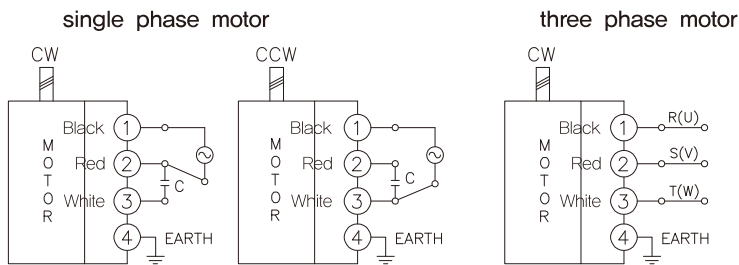
### CONNECTION DIAGRAMS

K7RS15N□



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

K7RS15N□-T



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

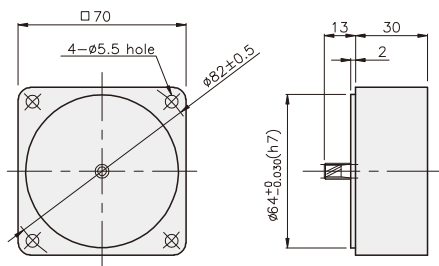
### DIMENSIONS

K7G□B(C)



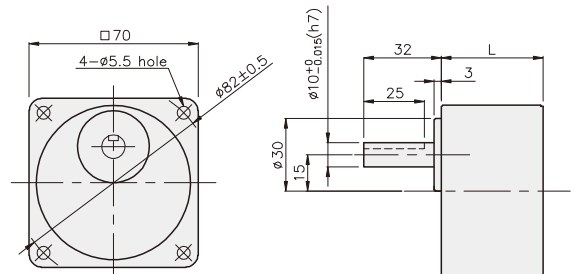
DECIMAL GEARHEAD

K7G10BX



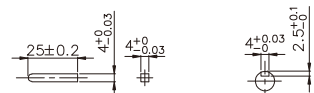
GEARHEAD

K7G□B(C)



• KEY

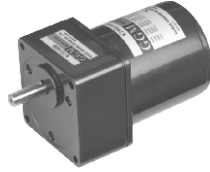
• KEY GROOVE



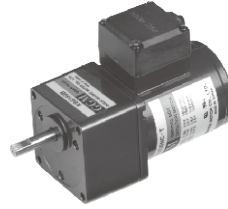
## GEARHEADS

### DIMENSIONS

K7RG15N□ + K7G□B(C)



K7RG15N□-T + K7G□B(C)



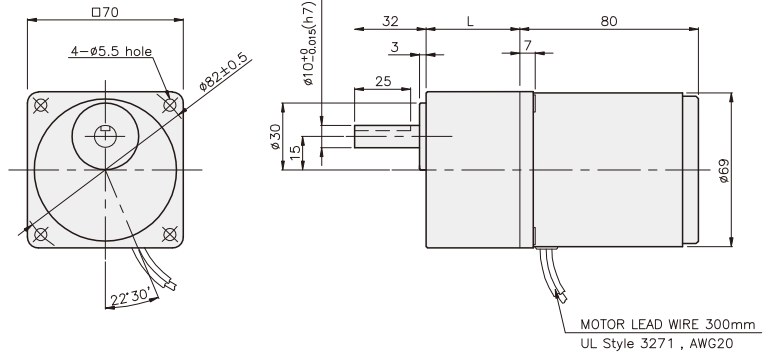
#### DIMENSION TABLE

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	1,07	
DECIMAL GEAR HEAD	0,32	
GEAR HEAD	K7G3~18B(C)	0,38
	K7G20~40B(C)	0,46
	K7G50~200B(C)	0,51

K7RG15N□ + K7G□B(C)



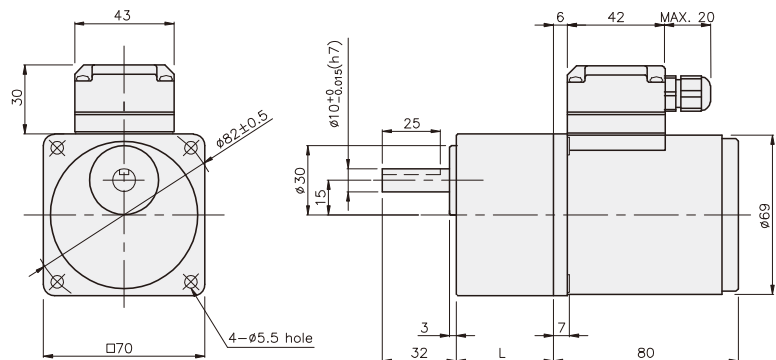
#### DIMENSION TABLE

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	1,10	
DECIMAL GEAR HEAD	0,32	
GEAR HEAD	K7G3~18B(C)	0,38
	K7G20~40B(C)	0,46
	K7G50~200B(C)	0,51

K7RG15N□-T + K7G□B(C)



## REVERSIBLE MOTOR

25W

□ 80mm LEAD WIRE TYPE  
TERMINAL BOX TYPE

K8RS25N□



K8RS25N□-T, T5



### SPECIFICATIONS

25W 30 minutes 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			1500	
K8R□25NU(-T, -T5)	110	60	0,51	0,13/1,3	0,165/1,65	1500	6
	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			1550	
K8R□25NC(-T, -T5)	220	50	0,29	0,15/1,5	0,195/1,95	1250	2
		60	0,34			1500	
	230	50	0,35	0,165/1,65	0,195/1,95	1250	
		60	0,34			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 : 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	
K8R□25N□(-T, -T5) K8G□B(C)		0,46 4,6	0,55 5,5	0,77 7,7	0,92 9,2	1,15 11,5	1,39 13,9	1,54 15,4	1,92 19,2	2,31 23,1	2,77 27,7	2,77 27,7	3,46 34,6	4,16 41,6	4,99 49,9	5,54 55,4	6,23 62,3	7,48 74,8	8	8	8	8	8	8	8	8	8

#### ● 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	
K8R□25N□(-T, -T5) K8G□B(C)		0,39 3,9	0,47 4,7	0,65 6,5	0,78 7,8	0,97 9,7	1,17 11,7	1,30 13,0	1,62 16,2	1,94 19,4	2,33 23,3	2,33 23,3	2,92 29,2	3,50 35,0	4,20 42,0	4,67 46,7	5,25 52,5	6,30 63,0	7,87 78,7	8	8	8	8	8	8	8	8

\* Gearhead and decimal gearhead are sold separately.

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

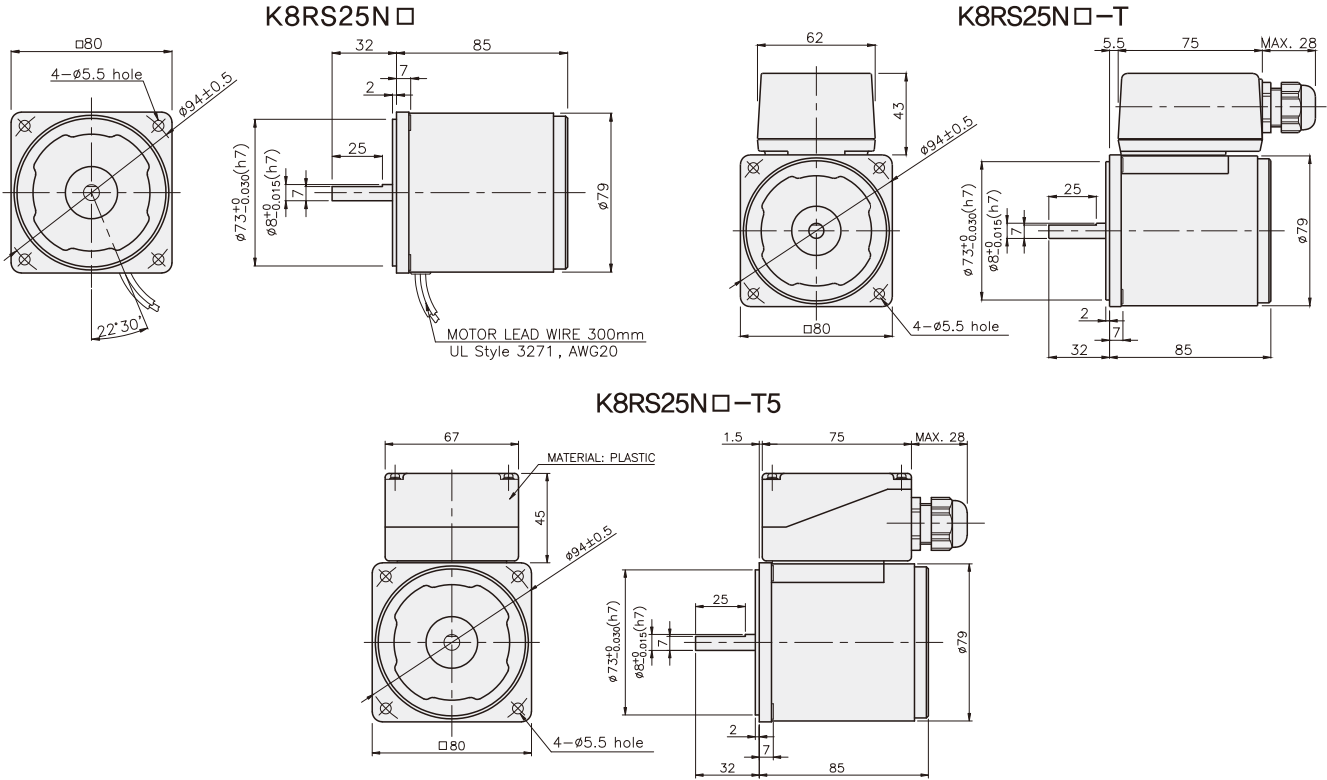
\* ■ color indicates that the output shaft of the geared motor rotates in the same direction as the output shaft of the motor. Others indicate rotation in the opposite direction.

\* 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/60kgf·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.

## GEARHEADS

### DIMENSIONS

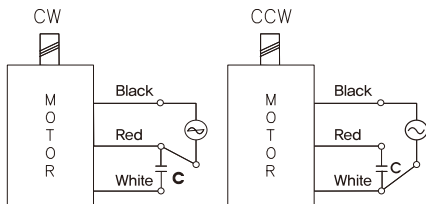


REVERSIBLE MOTORS

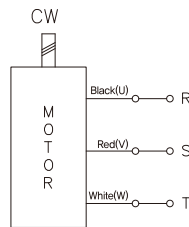
### CONNECTION DIAGRAMS

K8RS25N□

single phase motor



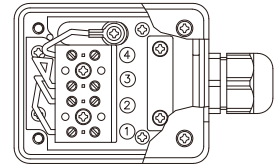
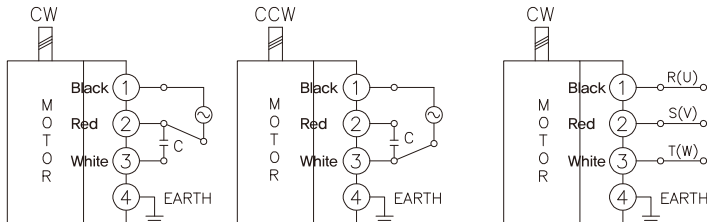
three phase motor



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

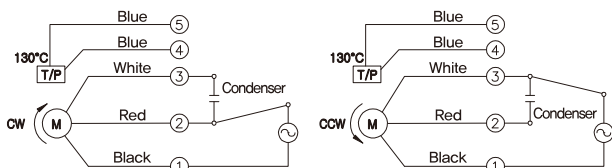
K8RS25N□-T



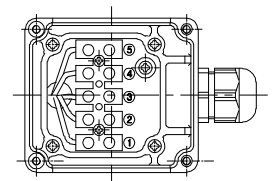
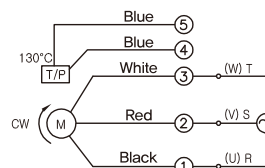
※The direction of motor rotation is as viewed from the front shaft end of the motor

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

## GEARHEADS

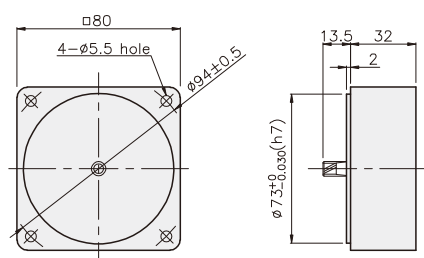
### DIMENSIONS

K8G□B(C)



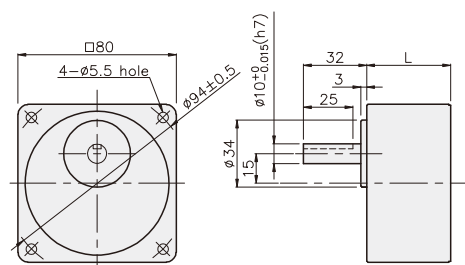
DECIMAL GEARHEAD

K8G10BX

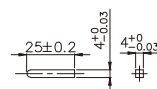


GEAR HEAD

K8G□B(C)



• KEY



• KEY GROOVE



## GEARHEADS

### DIMENSIONS

K8RG25N□ + K8G□B(C)



K8RG25N□-T(-T5) + K8G□B(C)



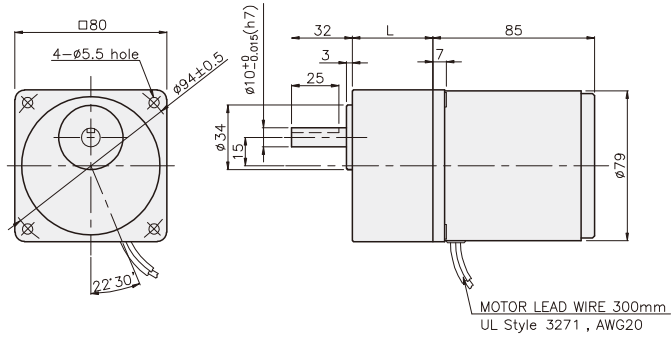
#### DIMENSION TABLE

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)



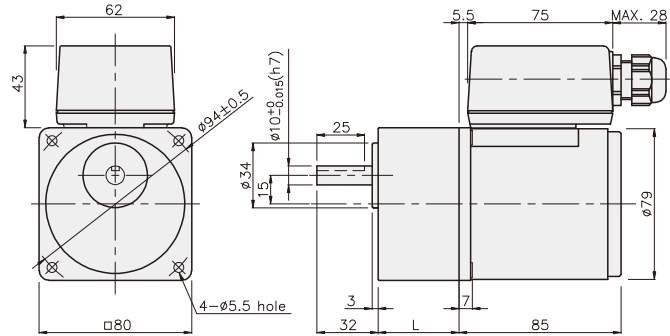
#### DIMENSION TABLE

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)



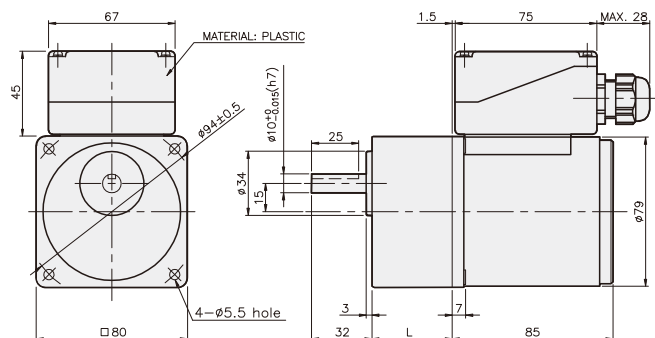
#### DIMENSION TABLE

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)

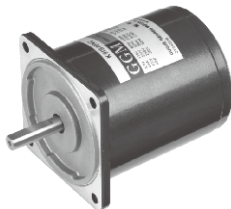


## REVERSIBLE MOTOR

**40W**

□ 90mm LEAD WIRE TYPE  
TERMINAL BOX TYPE

K9RS40N□



K9RS40N□-T, T5



### SPECIFICATIONS

40W 30 minutes 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)	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 : Kg·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
K9R□40N□(-T, -T5) K9G□B(C)	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	10
	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	100

● 60Hz

unit = above : N·m / below : Kg·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
K9R□40N□(-T, -T5) K9G□B(C)	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	10
	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	100

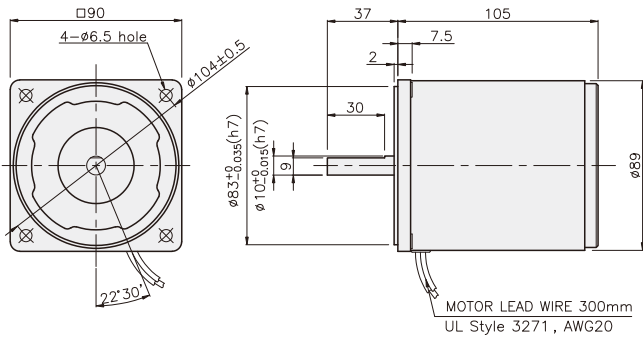
- \* Gearhead and decimal gearhead are sold separately.
- \* The code in □ of gearhead model is for gear ratio.
- \* ■ color indicates that the output shaft of the geared motor rotates in the same direction as the output shaft of the motor. Others indicate rotation in the opposite direction.
- \* If 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.



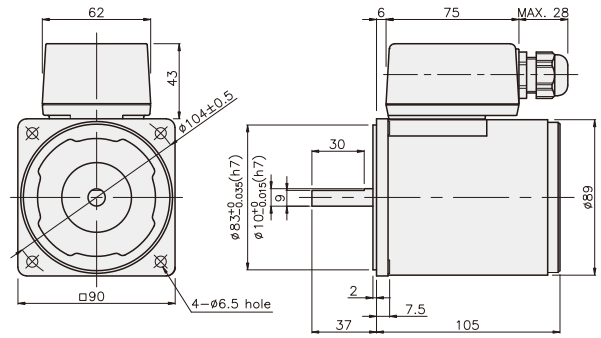
## GEARHEADS

### DIMENSIONS

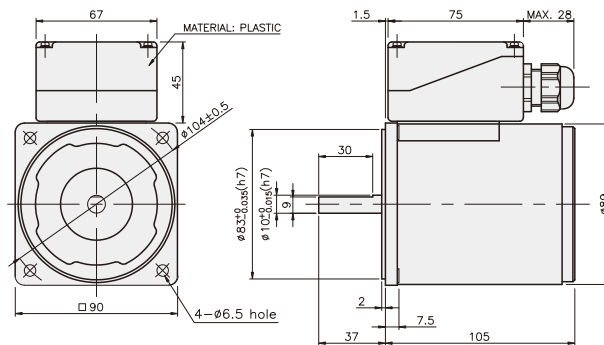
K9RS40N□



K9RS40N□-T



K9RS40N□-T5

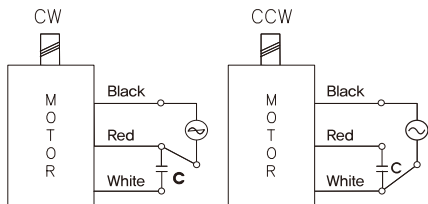


REVERSIBLE MOTORS

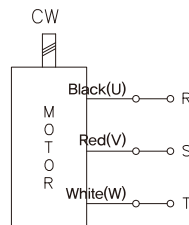
### CONNECTION DIAGRAMS

K9RS40N□

single phase motor



three phase motor

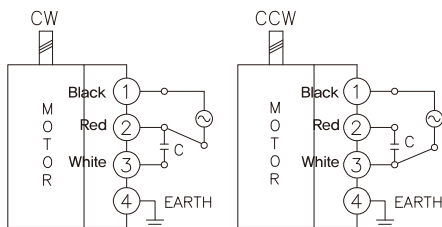


connecting two leadwires of U,V,W in turns

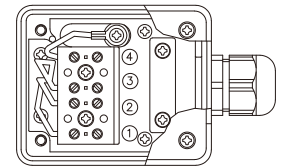
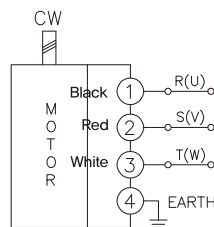
※The direction of motor rotation is as viewed from the front shaft end of the motor

K9RS40N□-T

single phase motor



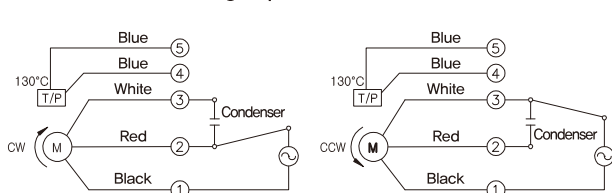
three phase motor



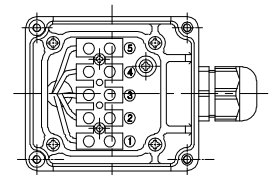
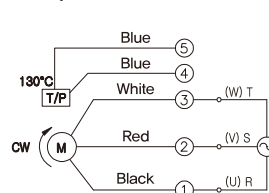
※The direction of motor rotation is as viewed from the front shaft end of the motor

K9RS40N□-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

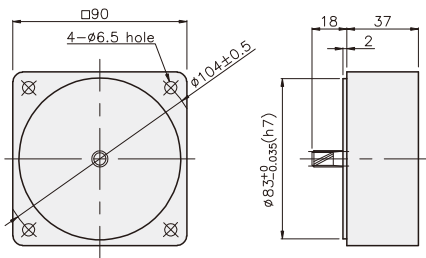
**GEARHEADS**

DIMENSIONS

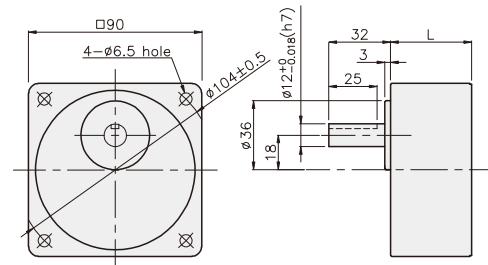
K9G□B(C)



DECIMAL GEARHEAD  
K9G10BX

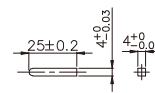


GEAR HEAD  
K9G□B(C)



• KEY

• KEY GROOVE



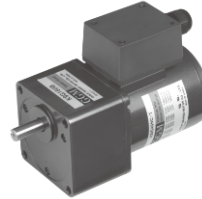
## GEARHEADS

### DIMENSIONS

K9RG40N□ + K9G□B(C)



K9RG40N□-T(-T5) + K9G□B(C)



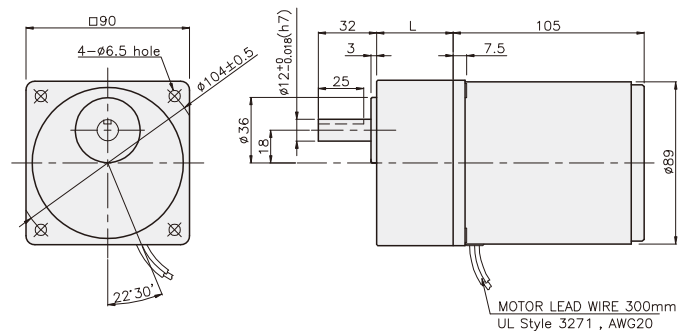
#### DIMENSION TABLE

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

K9RG40N□ + K9G□B(C)



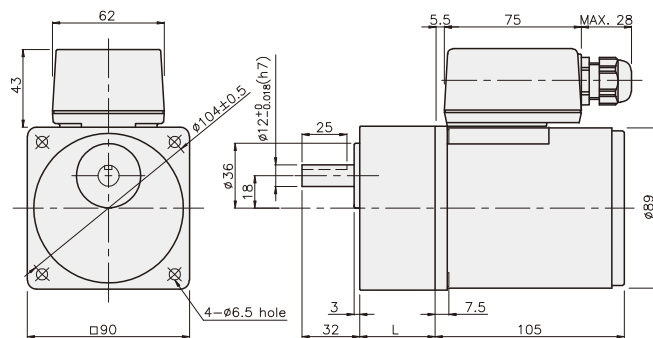
#### DIMENSION TABLE

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

K9RG40N□-T + K9G□B(C)



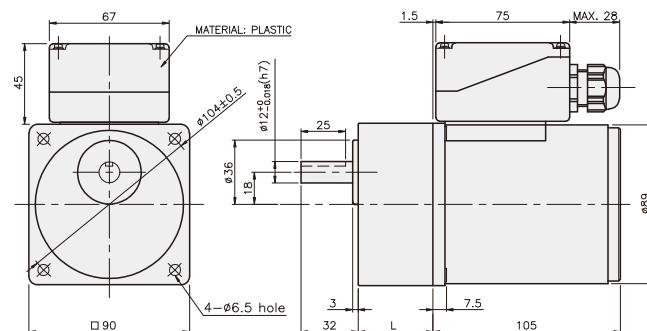
#### DIMENSION TABLE

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

K9RG40N□-T5 + K9G□B(C)



## REVERSIBLE MOTOR

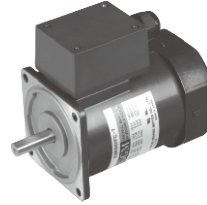
**60W**

□ 90mm LEAD WIRE TYPE  
TERMINAL BOX TYPE

K9RS60F□



K9RS60F□-T, T5



### SPECIFICATIONS

60W 30 minutes 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)
single-phase							
K9R□60FJ(-T, -T5)	100	50	1.48	0.48/4.8	0.47/4.7	1250	25
			60				
K9R□60FU(-T, -T5)	110	60	1.25	0.4/4	0.38/3.8	1550	17
	115		1.31				
K9R□60FL(-T, -T5)	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, P : PINION)

### RATED TORQUE OF GEARHEAD

● 50Hz

unit = above : N·m / below : Kg·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
K9R□60F□(-T, -T5) K9P□B, BF		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
		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

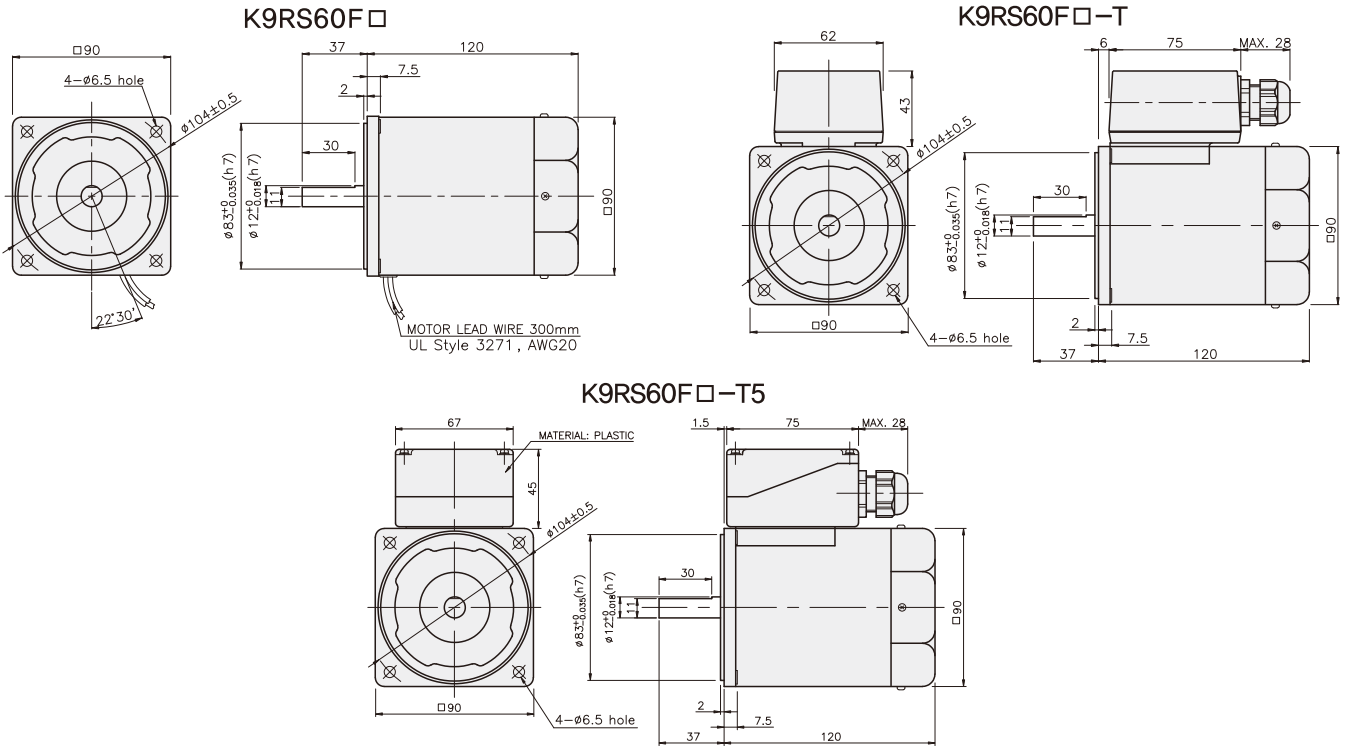
unit = above : N·m / below : Kg·cm

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
K9R□60F□(-T, -T5) K9P□B, BF		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
		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/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.

## GEARHEADS

### DIMENSIONS



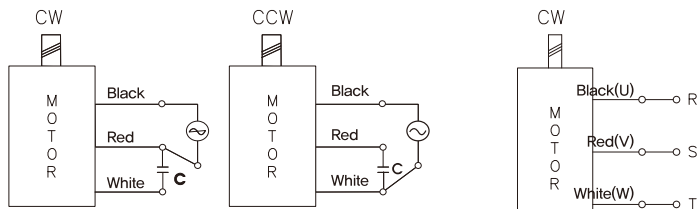
REVERSIBLE MOTORS

### CONNECTION DIAGRAMS

**K9RS60F□**

single phase motor

three phase motor



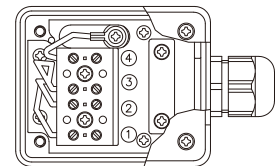
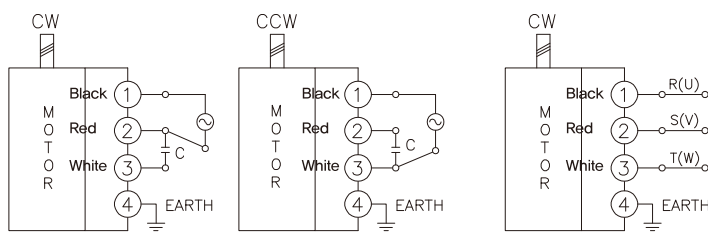
connecting two leadwires of U,V,W in turns

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

**K9RS60F□-T**

single phase motor

three phase motor

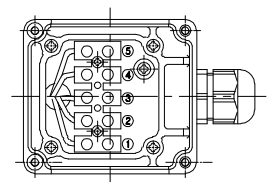
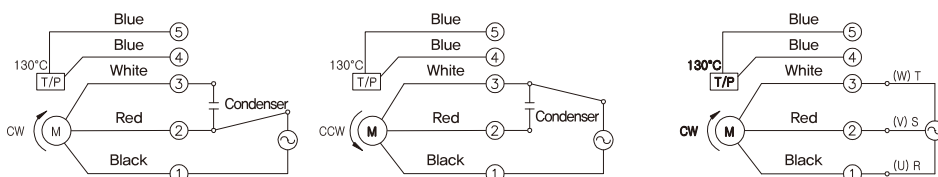


※The direction of motor rotation is as viewed from the front shaft end of the motor

**K9RS60F□-T5**

single phase motor

three phase motor

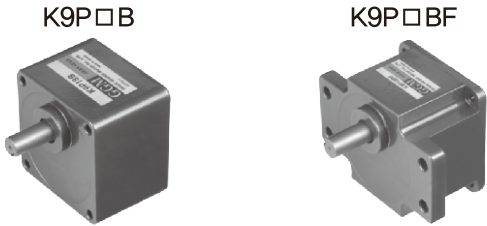


connecting two leadwires of U,V,W in turns

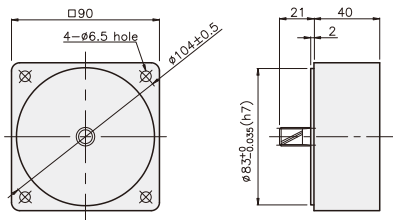
※The direction of motor rotation is as viewed from the front shaft end of the motor

## GEARHEADS

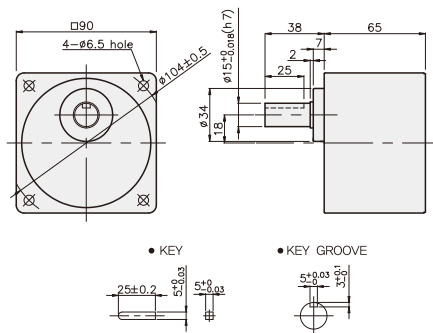
### DIMENSIONS



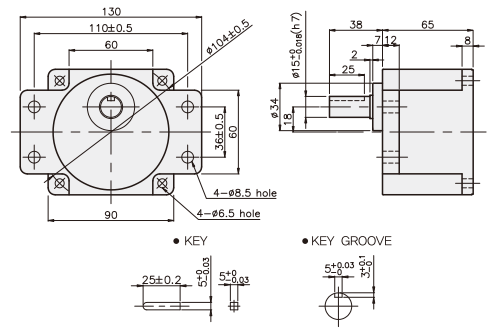
DECIMAL GEARHEAD  
K9P10BX



GEAR HEAD  
K9P□B



GEARHEAD  
K9P□BF



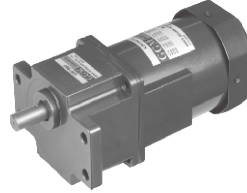
## GEARHEADS

### DIMENSIONS

K9RP60F□ + K9P□B



K9RP60F□ + K9P□BF



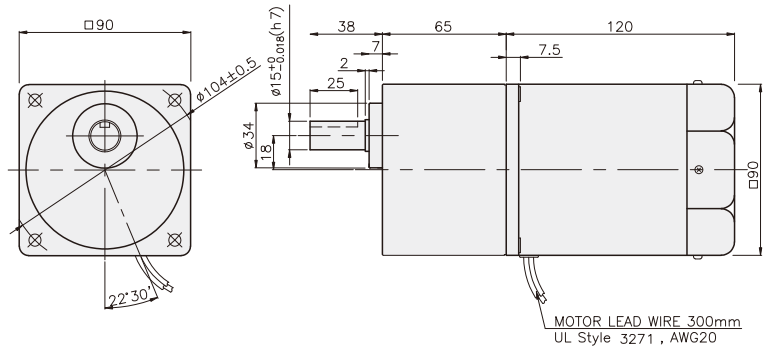
#### DIMENSION TABLE

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

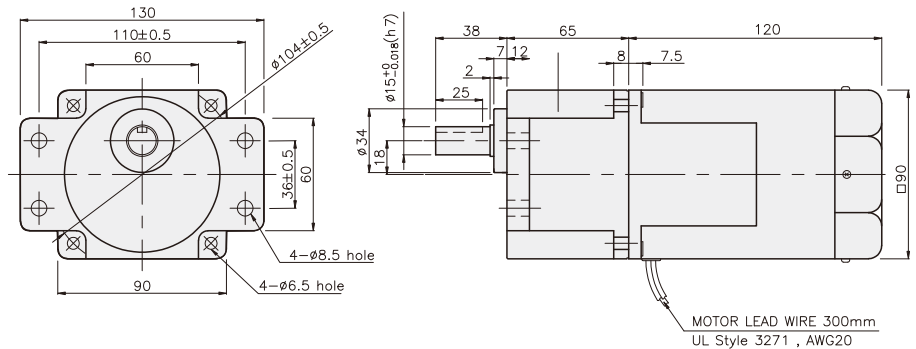
#### WEIGHT

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



K9RP60F□ + 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

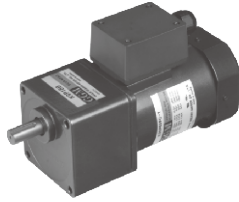
#### WEIGHT

PART	WEIGHT(kg)	
MOTOR	3,00	
DECIMAL GEAR HEAD	0,62	
GEAR HEAD	K9P3~10BF	1,22
	K9P12,5~20BF	1,30
	K9P25~60BF	1,42
	K9P75~200BF	1,44

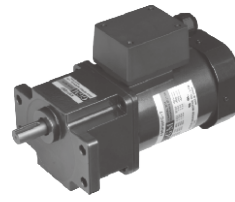
## GEARHEADS

### DIMENSIONS

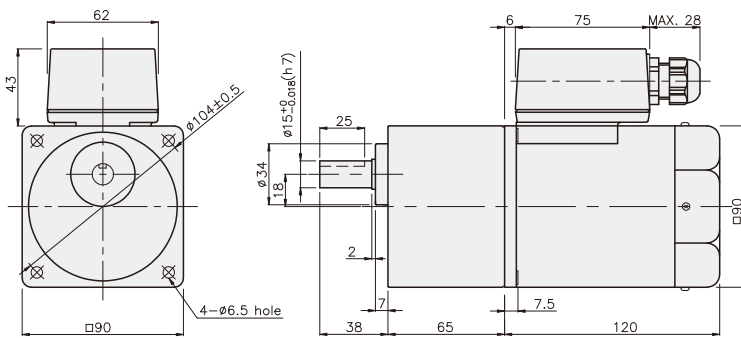
K9RP60F□-T + K9P□B



K9RP60F□-T + K9P□BF



K9RP60F□-T + K9P□B



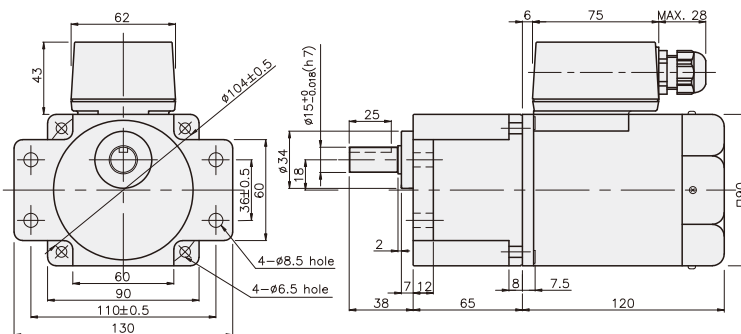
DIMENSION TABLE

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

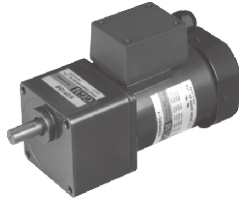
PART	WEIGHT(kg)	
MOTOR	2,68	
DECIMAL GEAR HEAD	0,62	
GEAR HEAD	K9P3~10BF	1,22
	K9P12,5~20BF	1,32
	K9P25~60BF	1,42
	K9P75~200BF	1,45



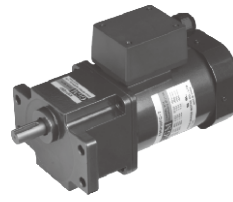
## GEARHEADS

### DIMENSIONS

K9RP60F□-T5 + K9P□B



K9RP60F□-T5 + K9P□BF



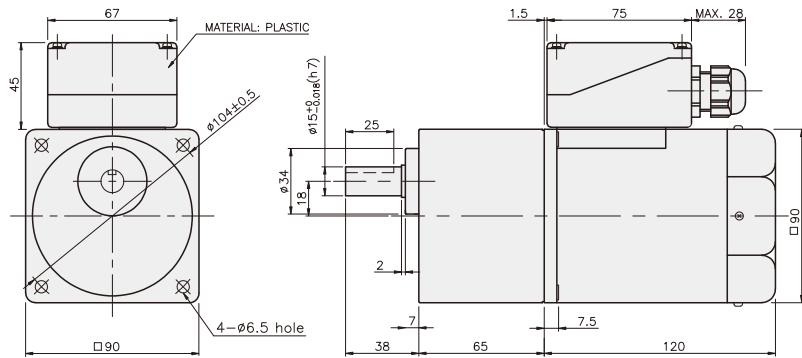
**DIMENSION TABLE**

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

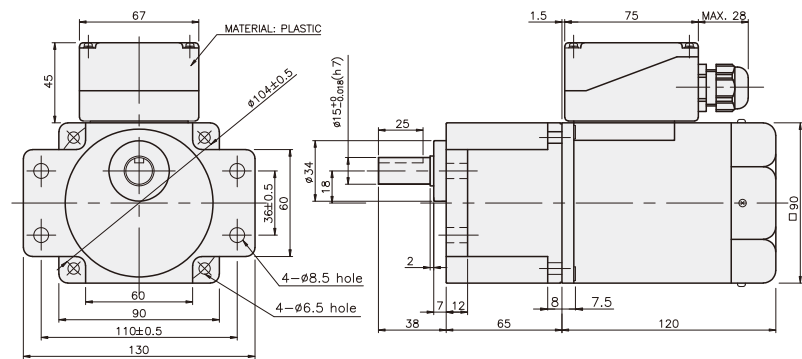
**WEIGHT**

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

K9RP60F□-T5 + K9P□B



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

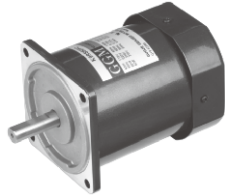
REVERSIBLE MOTORS

## REVERSIBLE MOTOR

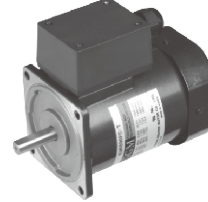
**90W**

□ 90mm LEAD WIRE TYPE  
TERMINAL BOX TYPE

K9RS90F□



K9RS90F□-T, T5



### SPECIFICATIONS

90W 30 minutes 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			1550	
K9R□90FU(-T, -T5)	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			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	
K9R□90FD(-T, -T5)	240	50	0,94	0,55/5,5	0,705/7,05	1250	6

\* □ : 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	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) K9P□B, BF	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	20
	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	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
K9R□90F□(-T, -T5) K9P□B, BF	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	20
	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	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.

## GEARHEADS

### 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
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	18,50	23,13	27,75	30	30	30	30	30	30	30
K9RP□BU, BUF		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

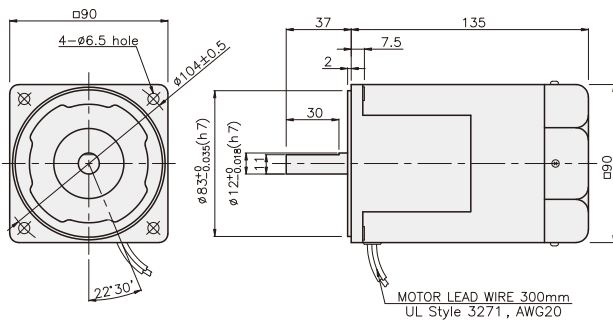
unit = above : N·m / below : Kgf·cm

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
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	18,70	22,44	25,24	30	30	30	30	30	30
K9RP□BU, BUF		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

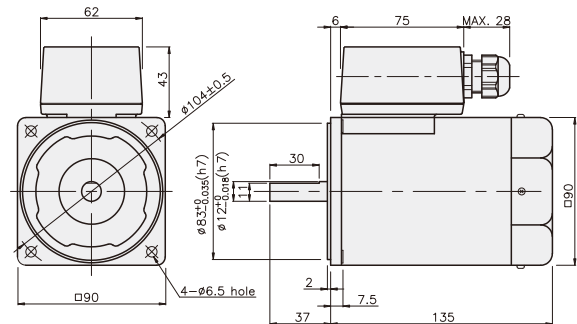
- \* Gearhead and decimal gearhead are sold separately.
- \* The code in □ of gearhead model is for gear ratio.
- \*  color indicates that the output shaft of the geared motor rotates in the same direction as the output shaft of the motor. Others indicate rotation in the opposite direction.
- \* If you 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/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.

### DIMENSIONS

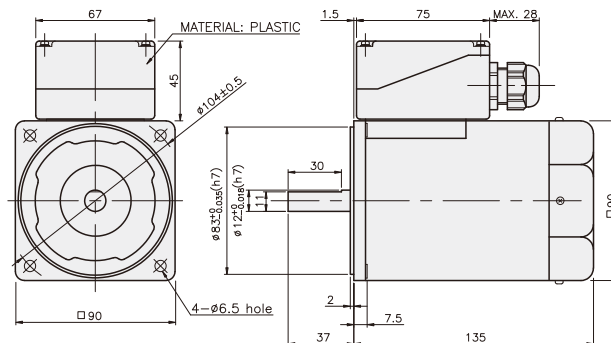
K9RS90F□



K9RS90F□-T



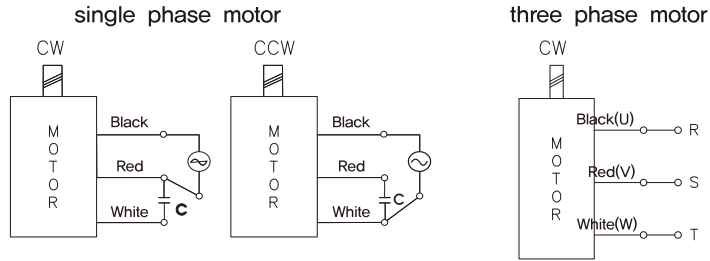
K9RS90F□-T5



## GEARHEADS

### CONNECTION DIAGRAMS

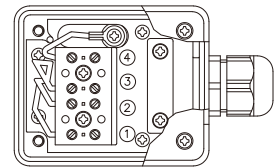
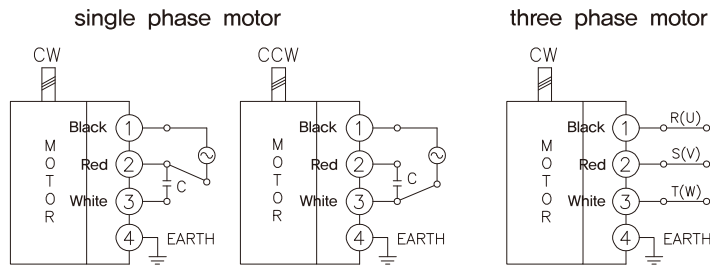
K9RS90F□



connecting two leadwires of U,V,W in turns

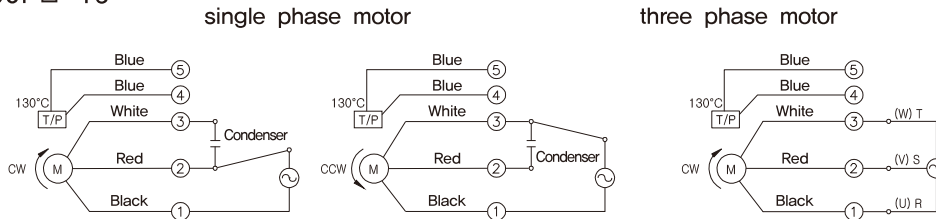
※The direction of motor rotation is as viewed from the front shaft end of the motor

K9RS90F□-T

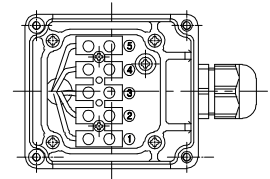


※The direction of motor rotation is as viewed from the front shaft end of the motor

K9RS90F□-T5



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

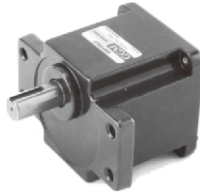
## GEARHEADS

### DIMENSIONS

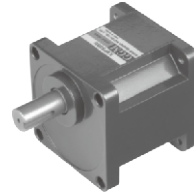
K9P□B



K9P□BF, BUF

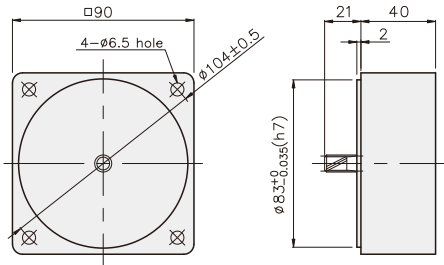


K9P□BU



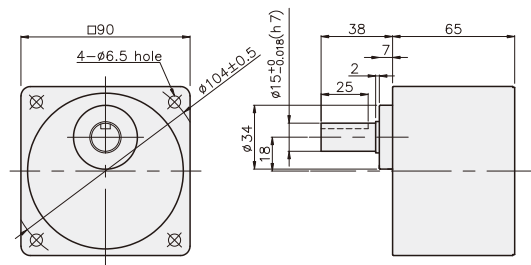
#### DECIMAL GEARHEAD

K9P10BX



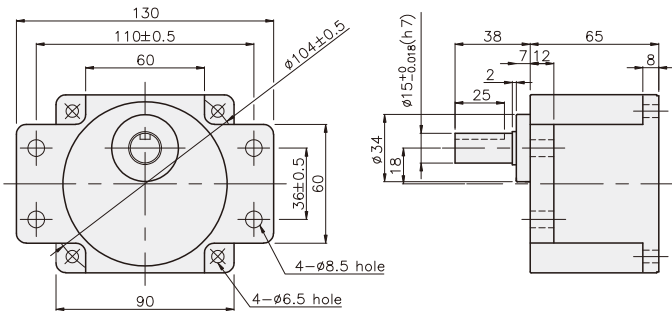
#### GEAR HEAD

K9P□B



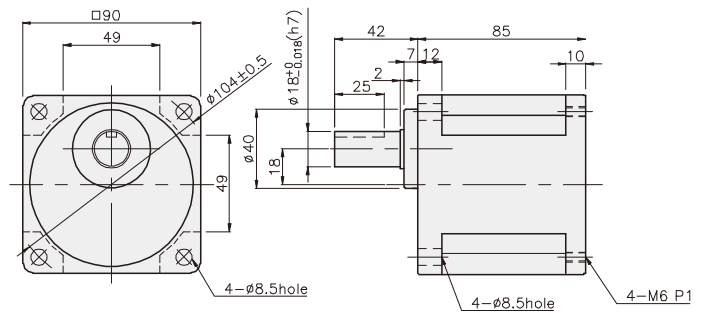
#### GEARHEAD

K9P□BF



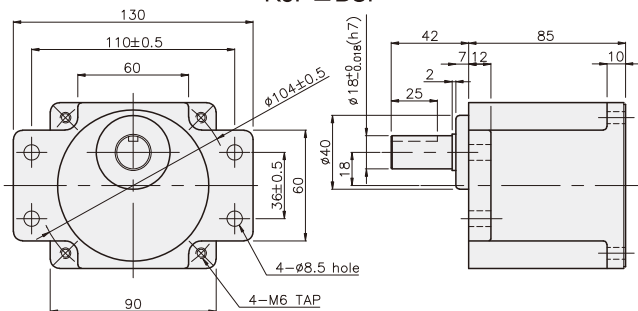
#### GEARHEAD

K9P□BU

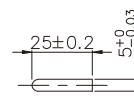


#### GEARHEAD

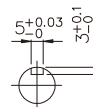
K9P□BUF



• KEY



• KEY GROOVE



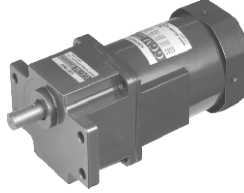
## GEARHEADS

### DIMENSIONS

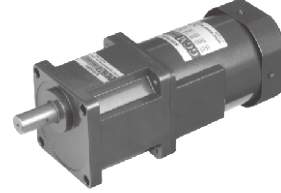
K9RP90F□ + K9P□B



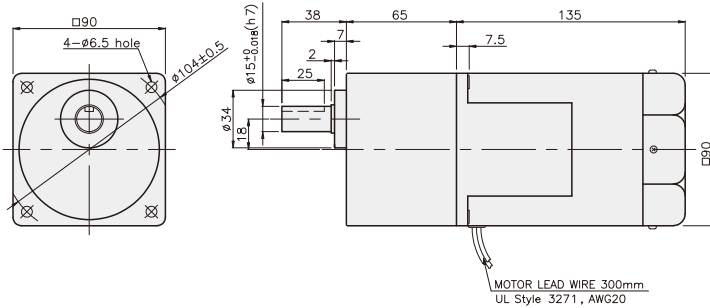
K9RP90F□ + K9P□BF, BUF



K9RP90F□ + K9P□BU



K9RP90F□ + K9P□B



#### WEIGHT

PART	WEIGHT(kg)
MOTOR	3,00
DECIMAL GEAR HEAD	0,62

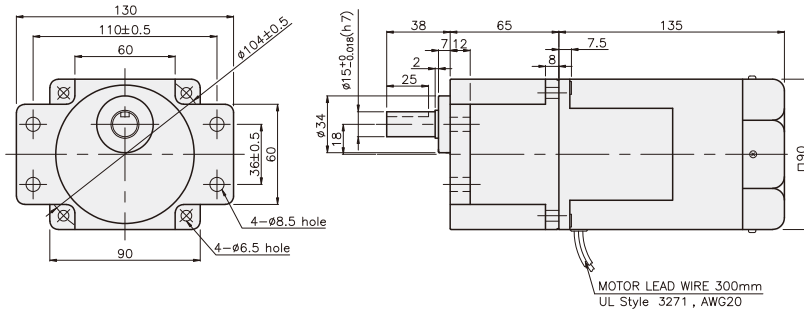
#### DIMENSION TABLE

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



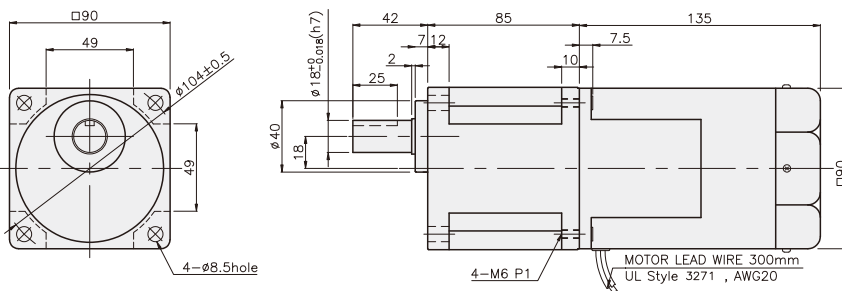
#### DIMENSION TABLE

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



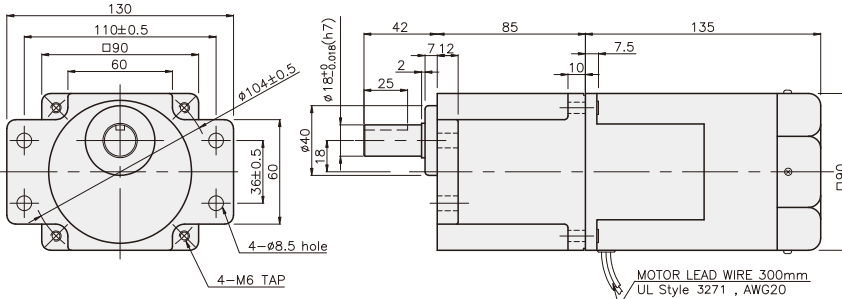
#### DIMENSION TABLE

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

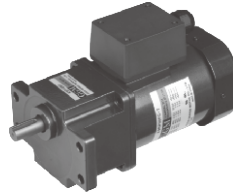
## GEARHEADS

### DIMENSIONS

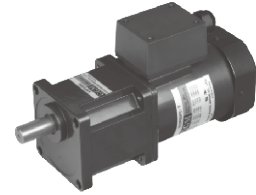
K9RP90F□-T + K9P□B



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

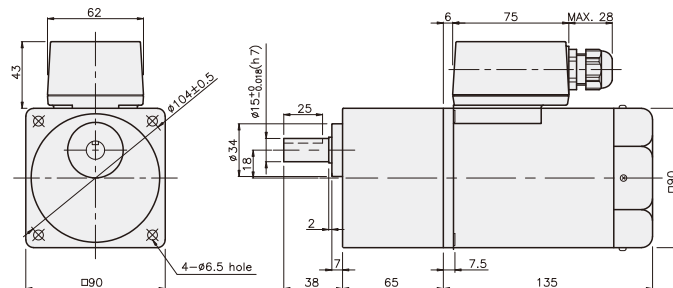
#### DIMENSION TABLE

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

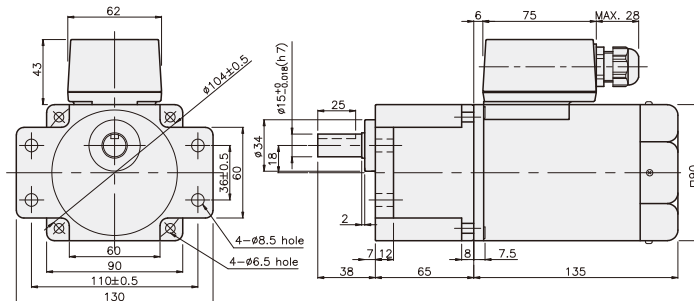
#### WEIGHT

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

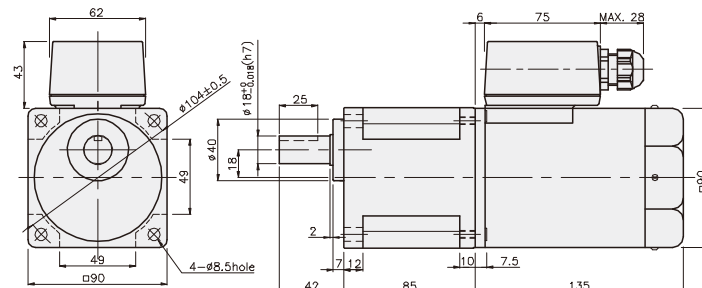
K9RP90F□-T + K9P□B



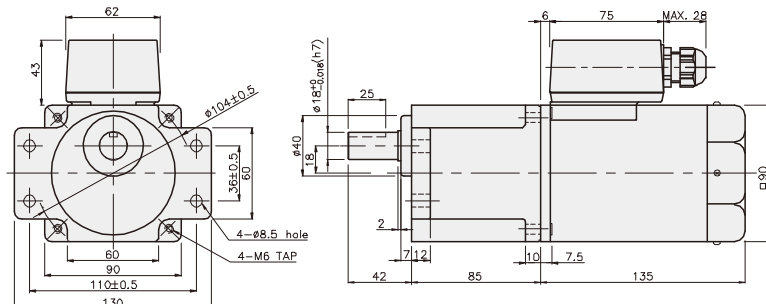
K9RP90F□-T + K9P□BF



K9RP90F□-T + K9P□BU



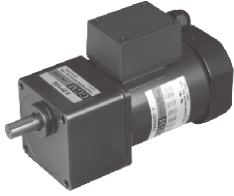
K9RP90F□-T + K9P□BUF



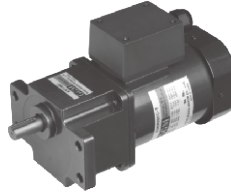
## GEARHEADS

### DIMENSIONS

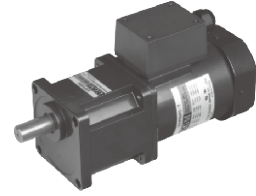
K9RP90F□-T5 + K9P□B



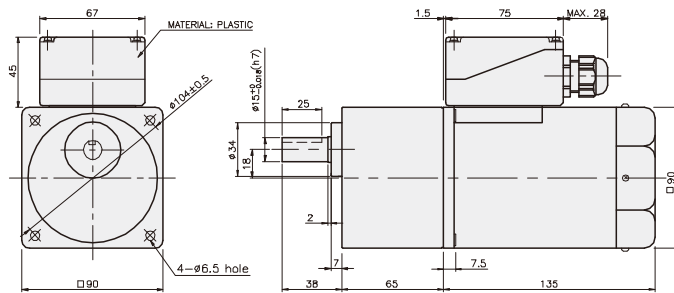
K9RP90F□-T5 + K9P□BF, BUF



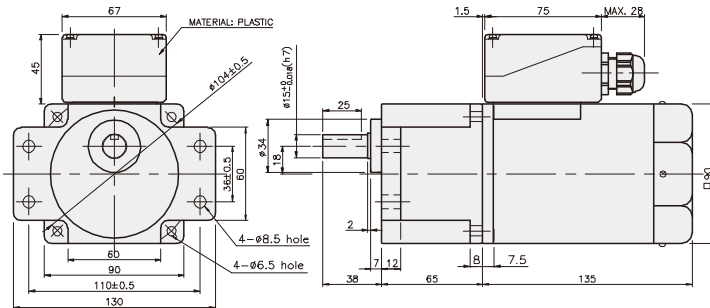
K9RP90F□-T5 + K9P□BU



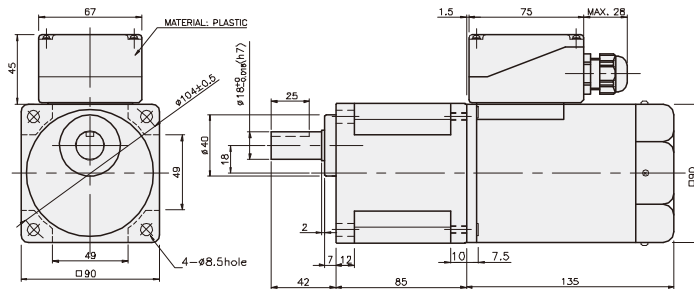
K9RP90F□-T5 + K9P□B



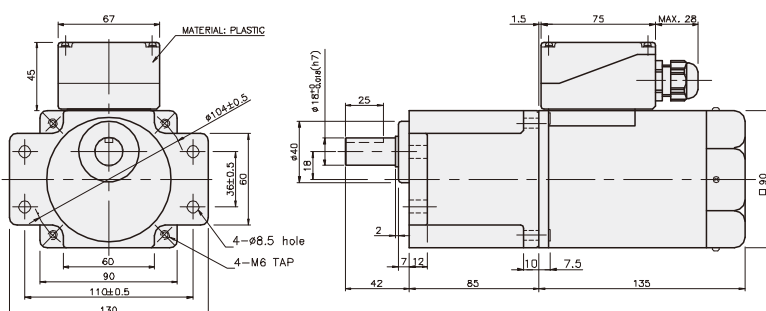
K9RP90F□-T5 + K9P□BF



K9RP90F□-T5 + K9P□BU



K9RP90F□-T5 + K9P□BUF



#### 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



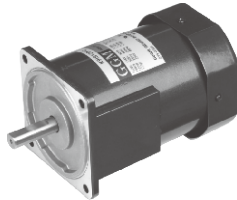
## REVERSIBLE MOTOR

### 120W

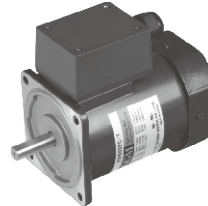
### □90mm

LEAD WIRE TYPE  
TERMINAL BOX TYPE

K9RS120F□



K9RS120F□-T, T5



### SPECIFICATIONS

120W 30 minutes rating, four poles

Model	Out Put (W)	Voltage (V)	Frequency (Hz)	Current (A)	Start T. (N·m/kgf·cm)	Rated T. (N·m/kgf·cm)	Speed (rpm)	Condenser (μF)
K9R□120FJ-C50(-T, -T5)	120	100	50	2.4	0.65/6.5	0.9/9	1300	40
K9R□120FJ(-T, -T5)			60	2.61	0.7/7	0.755/7.55	1550	
K9R□120FU(-T, -T5)	120	110	60	1.93	0.6/6	0.755/7.55	1550	25
		115		1.88	0.62/6.2			
K9R□120FC-C50(-T, -T5)	120	200	50	1.07	0.6/6	0.9/9	1300	8.5
K9R□120FL(-T, -T5)			60	1.22	0.58/5.8	0.755/7.55	1550	8
K9R□120FD-C50(-T, -T5)	120	220	50	0.82	0.53/5.3	0.9/9	1300	6
		230		0.85	0.58/5.8			
K9R□120FC(-T, -T5)	120	220	60	1	0.63/6.3	0.735/7.35	1600	7
		230		1.1				

\* □ : SHAFT SHAPE ( S: STRAIGHT, G: 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	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□120F□(-T, -T5) 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	17.7	20	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	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
K9R□120F□(-T, -T5) 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	14.5	17.4	19.3	20	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	96.4	107.2	120.6	145	174	193	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.

## GEARHEAD

### RATED TORQUE OF GEARHEAD

#### ● 50Hz

unit = above : N·m / below : Kgf·cm

Model Motor/ Gearhead	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
	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□120F□(-T -5) K9P□BU, BUF		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	29,52	30	30	30	30	30	30	30	30
		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	212,6	236,2	295,2	300	300	300	300	300	300	300	300

#### ● 60Hz

unit = above : N·m / below : Kgf·cm

Model Motor/ Gearhead	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
	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□120F□(-T -5) K9P□BU, BUF		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
		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.

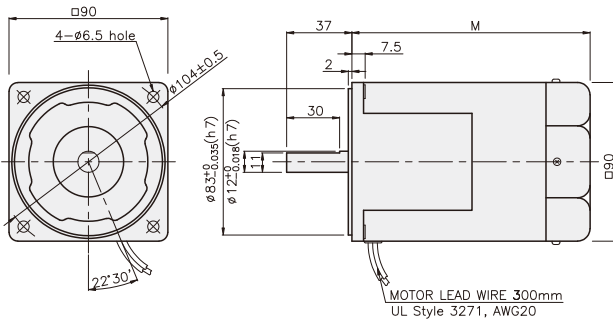
\*  color indicates that the output shaft of the geared motor rotates in the same direction as the output shaft of the motor. Others indicate rotation in the opposite direction.

\* 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 20N·m/200kgf·cm.

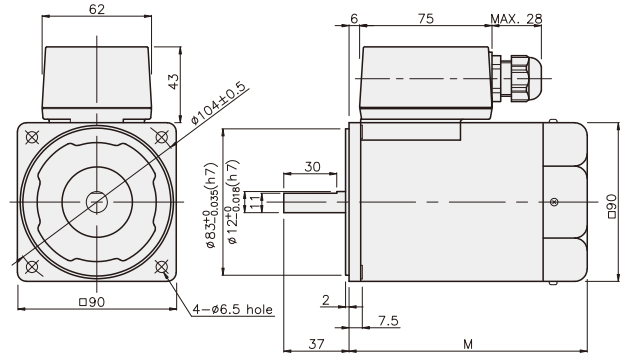
\* RPM is based on motor's synchronous rpm (50HZ:1500rpm, 60HZ:1800rpm) and calculated by dividing gear ratio. Actual rpm is 2~20% less than indicating rpm according to load size.

### DIMENSIONS

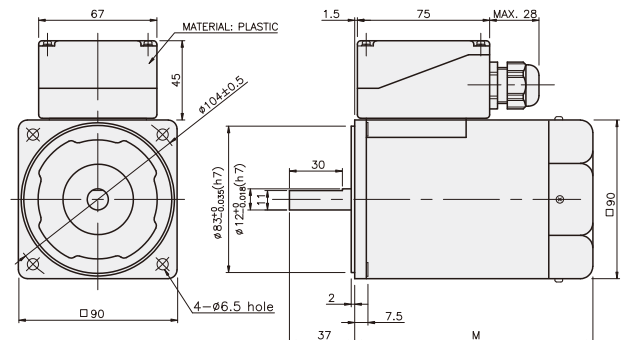
K9RS120F□



K9RS120F□-T



K9RS120F□-T5



DIMENSION TABLE

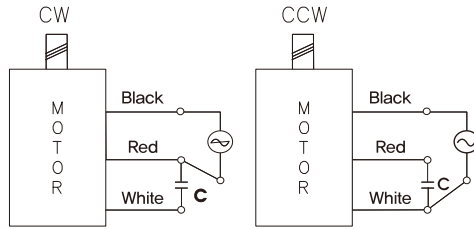
PART No	M	Application Model
01	155	50Hz
02	135	60Hz

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

## GEARHEAD

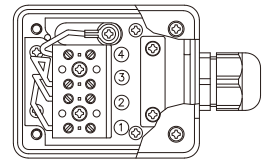
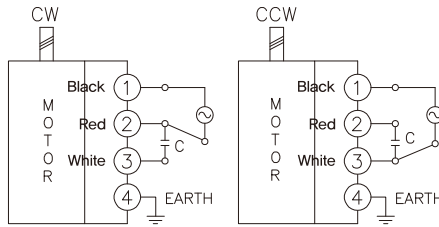
### CONNECTION DIAGRAMS

K9RS120F□



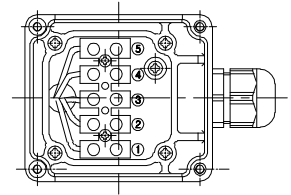
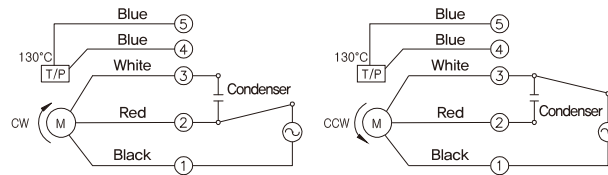
※ The direction of motor rotation is as viewed from the front shaft end of the motor

K9RS120F□-T



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

K9RS120F□-T5



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

## GEARHEAD

### DIMENSIONS

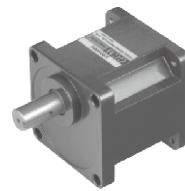
K9P□B



K9P□BF, BUF

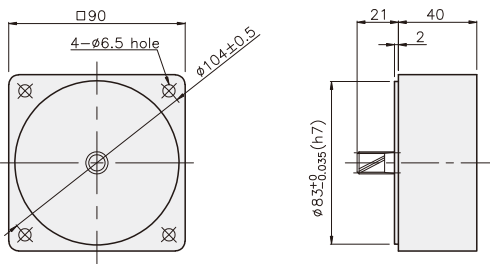


K9P□BU

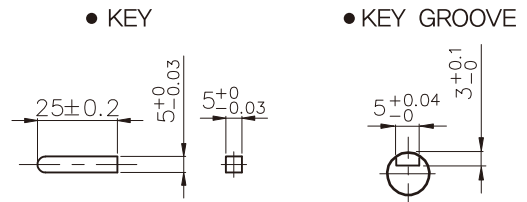


### DECIMAL GEARHEAD

K9P10BX

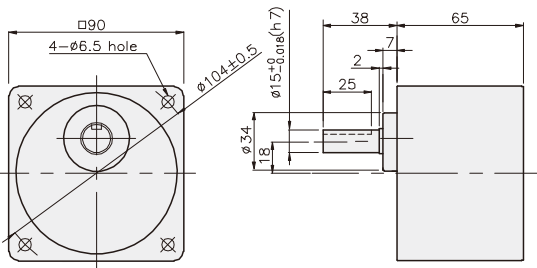


### KEY SPEC

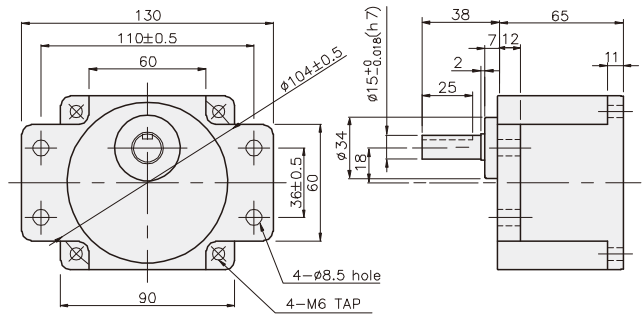


### GEARHEAD

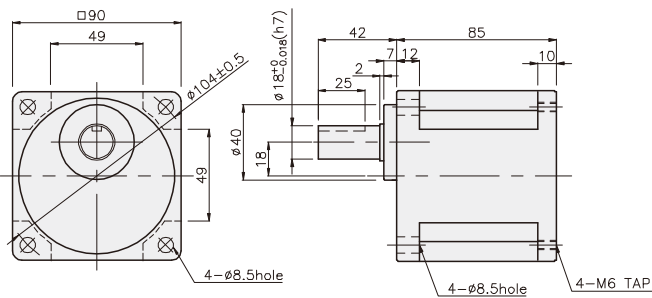
K9P□B



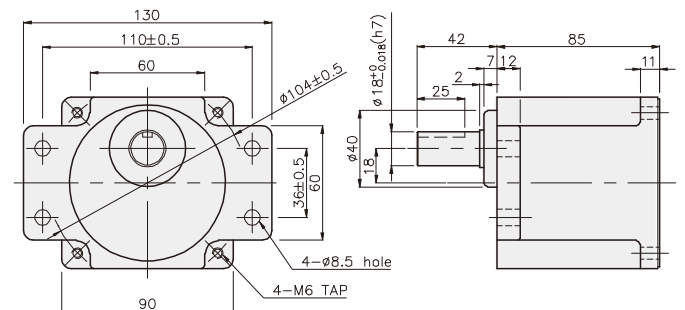
K9P□BF



K9P□BU



K9P□BUF



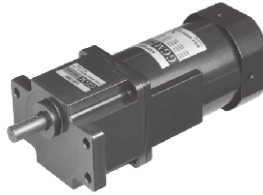
## GEARHEAD

### DIMENSIONS

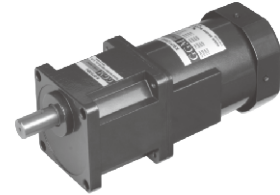
K9RP120F□ + K9P□B



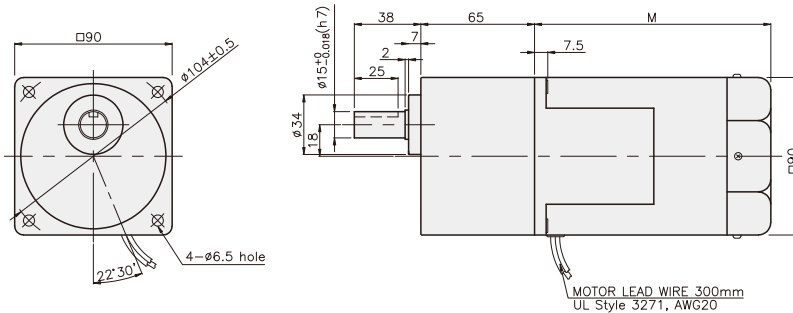
K9RP120F□ + K9P□BF, BUF



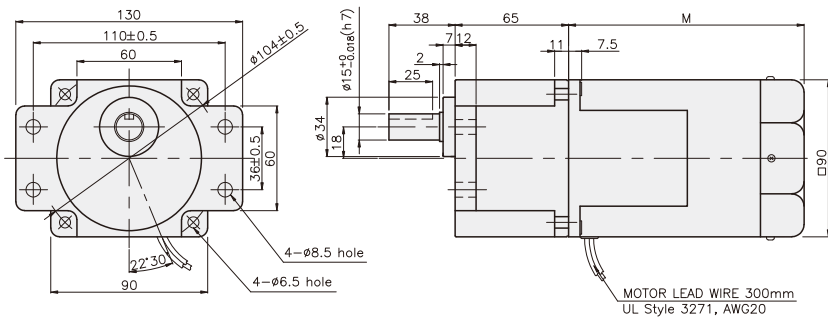
K9RP120F□ + K9P□BU



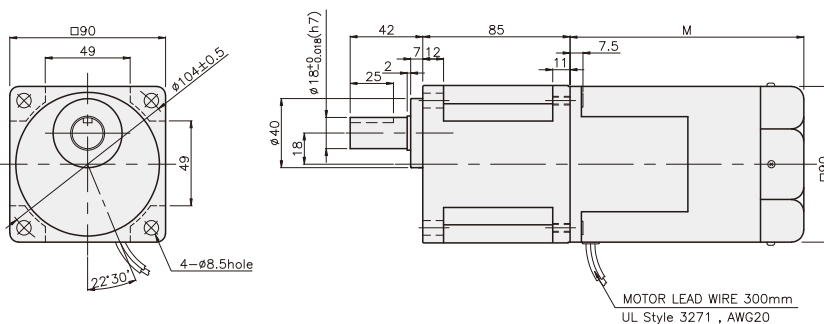
K9RP120F□ + K9P□B



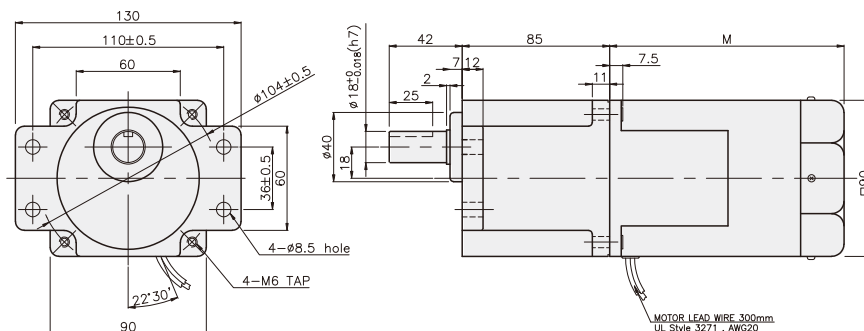
K9RP120F□ + K9P□BF



K9RP120F□ + K9P□BU



K9RP120F□ + K9P□BUF



#### WEIGHT

PART	WEIGHT(kg)
MOTOR	3,72
DECIMAL GEARHEAD	0,62

#### DIMENSION TABLE

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

#### DIMENSION TABLE

PART No	Application Model	Mounting BOLT
01	K9P3~200B	M6 P1,0 X 95
02	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	Application Model	Mounting BOLT
01	K9P3~200BF	M6 P1,0 X 20
02	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	Application Model	Mounting BOLT
01	K9P3~200BU	M6 P1,0 X 20
02	K9P10BX	M6 P1,0 X 65

#### 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	Application Model	Mounting BOLT
01	K9P3~200BUF	M6 P1,0 X 20
02	K9P10BX	M6 P1,0 X 65

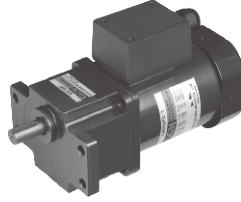
#### WEIGHT

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

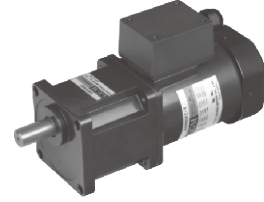
K9RP120F□ - T + K9P□B



K9RP120F□ - T + K9P□BF, BUF



K9RP120F□ - T + K9P□BU



#### WEIGHT

PART	WEIGHT(kg)
MOTOR	3,90(50Hz)
	3,20(60Hz)
DECIMAL GEARHEAD	0,62

#### DIMENSION TABLE

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

#### DIMENSION TABLE

PART No	Application Model	Mounting BOLT
01	K9P3~200B	M6 P1,0 X 95
02	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	Application Model	Mounting BOLT
01	K9P3~200BF	M6 P1,0 X 20
02	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	Application Model	Mounting BOLT
01	K9P3~200BU	M6 P1,0 X 20
02	K9P10BX	M6 P1,0 X 65

#### WEIGHT

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

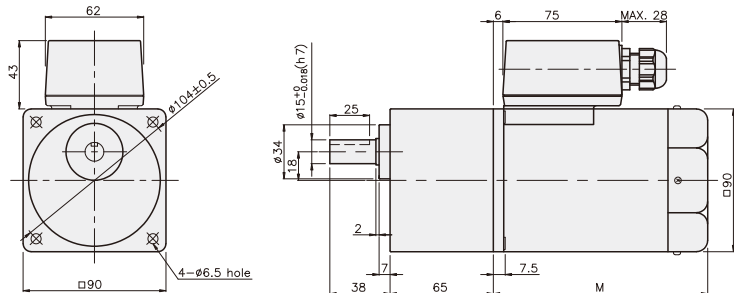
#### DIMENSION TABLE

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

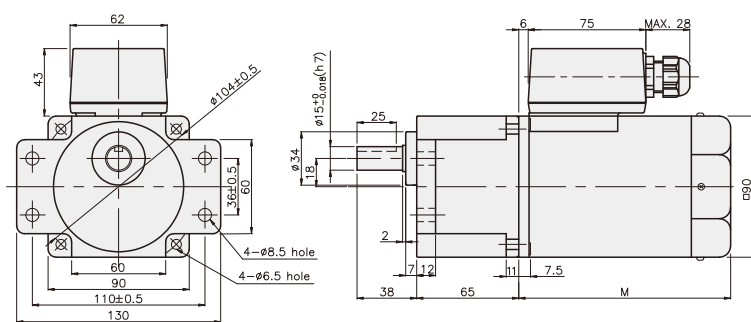
#### WEIGHT

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

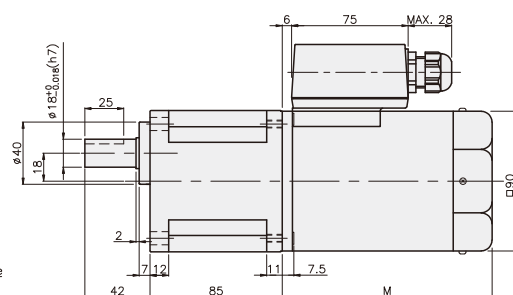
K9RP120F□ - T + K9P□B



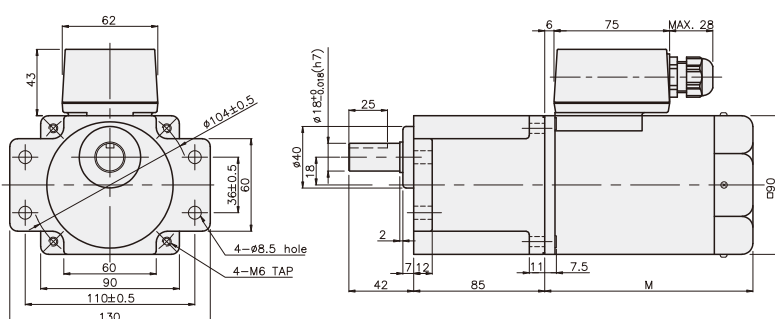
K9RP120F□ - T + K9P□BF



K9RP120F□ - T + K9P□BU



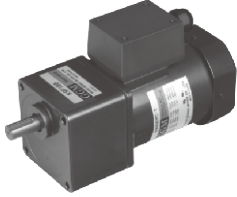
K9RP120F□ - T + K9P□BUF



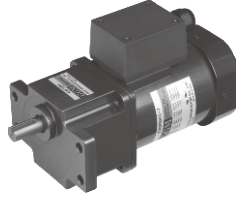
## GEARHEAD

### DIMENSIONS

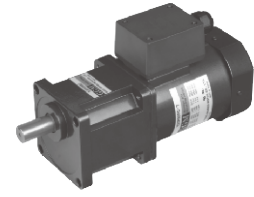
K9RP120F□ - T5 + K9P□B



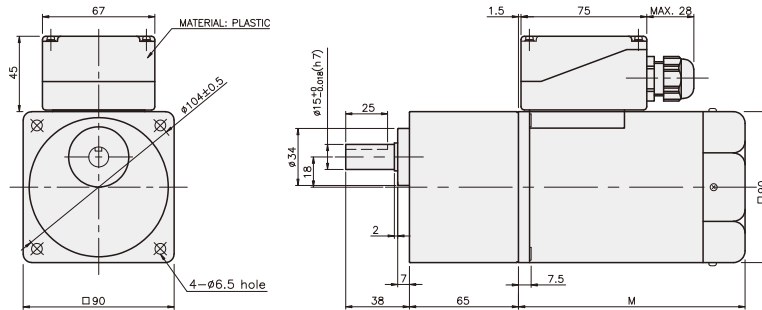
K9RP120F□ - T5 + K9P□BF, BU



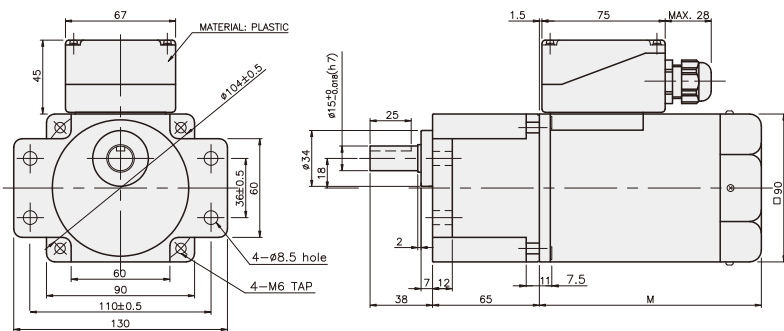
K9RP120F□ - T5 + K9P□BU



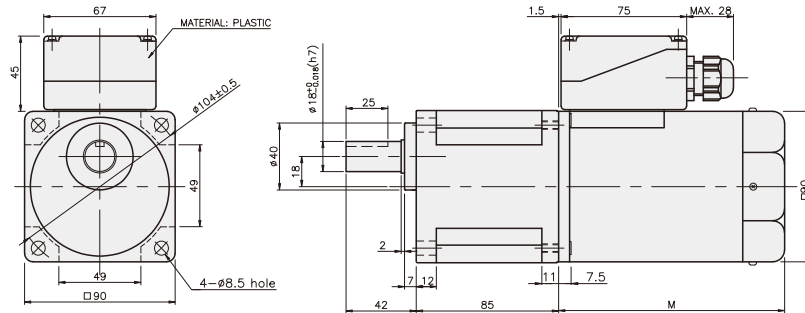
K9RP120F□ - T5 + K9P□B



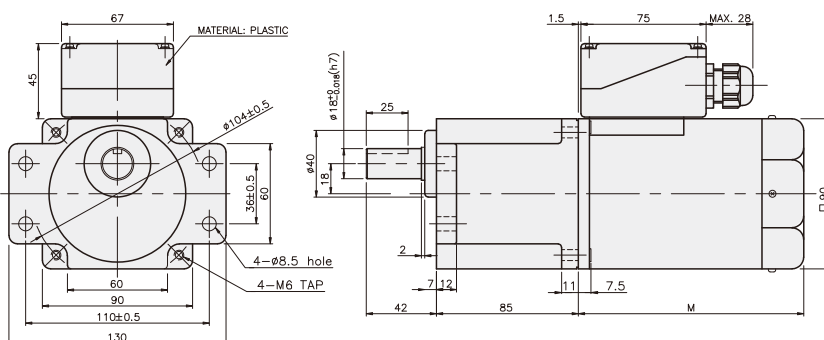
K9RP120F□ - T5 + K9P□BF



K9RP120F□ - T5 + K9P□BU



K9RP120F□ - T5 + K9P□BUF



#### WEIGHT

PART	WEIGHT(kg)
MOTOR	3,90(50Hz) 3,20(60Hz)
DECIMAL GEARHEAD	0,62

#### DIMENSION TABLE

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

#### DIMENSION TABLE

PART No	Application Model	Mounting BOLT
01	K9P3~200B	M6 P1,0 X 95
02	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	Application Model	Mounting BOLT
01	K9P3~200BF	M6 P1,0 X 20
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#### 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	Application Model	Mounting BOLT
01	K9P3~200BU	M6 P1,0 X 20
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#### WEIGHT

PART	WEIGHT(kg)
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K9P25~60BU	1,69
K9P75~200BU	1,74

#### DIMENSION TABLE

PART No	Application Model	Mounting BOLT
01	K9P3~200BUF	M6 P1,0 X 20
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#### WEIGHT

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

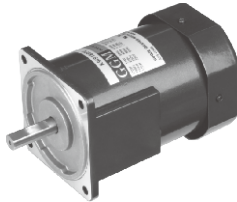
## REVERSIBLE MOTOR

### 180W

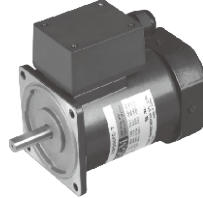
□ 90mm

LEAD WIRE TYPE  
TERMINAL BOX TYPE

K9RS180F□



K9RS180F□-T, T5



### SPECIFICATIONS

180W 30 minutes rating, four poles

Model	Out Put (W)	Voltage (V)	Frequency (Hz)	Current (A)	Start T. (N·m/kgf·cm)	Rated T. (N·m/kgf·cm)	Speed (rpm)	Condenser (μF)
K9R□180FJ(-T, -T5)	180	100	50	3.1	0.7/7	1.35/13.5	1300	40
			60	2.95	0.75/7.5	1.1/11	1600	
K9R□180FU(-T, -T5)	180	110	60	2.9	0.85/8.5	1.1/11	1600	40
		115		3.1				
K9R□180FL(-T, -T5)	180	200	50	1.47	0.65/6.5	1.35/13.5	1300	12
			60	1.43	0.55/5.5	1.1/11	1600	
K9R□180FC(-T, -T5)	180	220	50	1.58	0.65/6.5	1.35/13.5	1300	8
			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	

\* □ : SHAFT SHAPE ( S : STRAIGHT, G : 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
K9R□180F□(-T, -T5) K9P□B, BF		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
		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	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□180F□(-T, -T5) K9P□BU, BUF		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
		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.

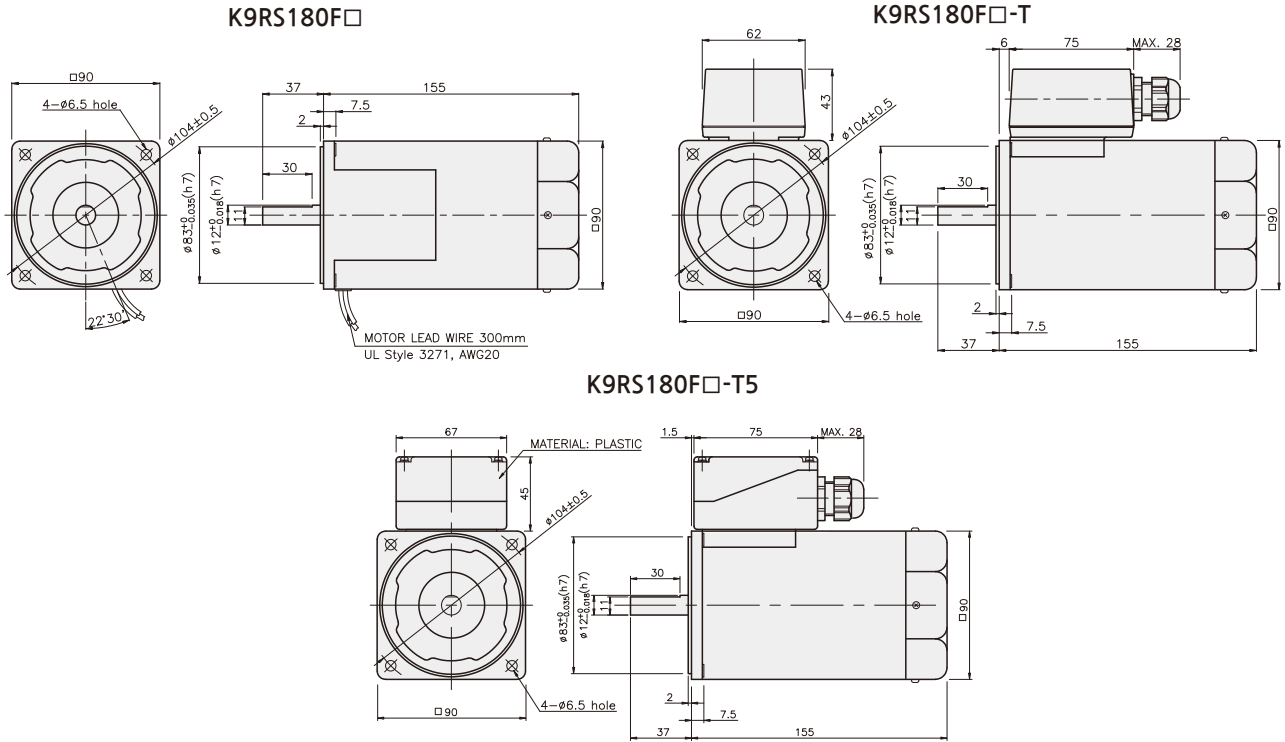
\* If you are to have less ratio than the ratio in the table, you can install the decimal gearhead, which has one tenth of the ratio, between the gearhead and the motor. In this case, the permissible torque is 20N·m/200kgf·cm.

\* 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.



## GEARHEAD

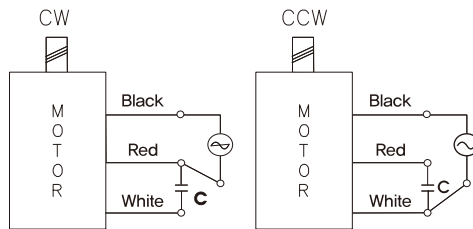
### DIMENSIONS



REVERSIBLE MOTOR

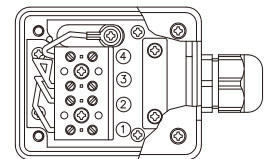
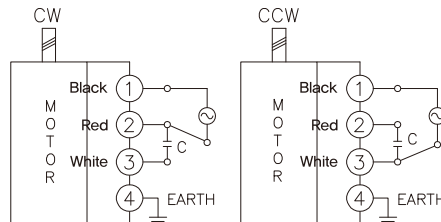
### CONNECTION DIAGRAMS

#### K9RS180F□



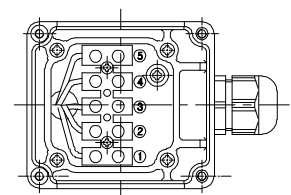
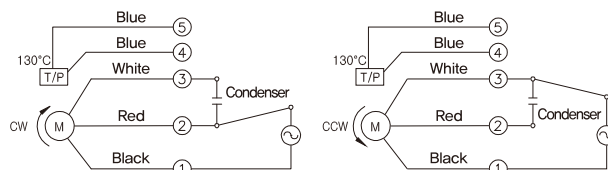
※ The direction of motor rotation is as viewed from the front shaft end of the motor

#### K9RS180F□-T



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

#### K9RS180F□-T5



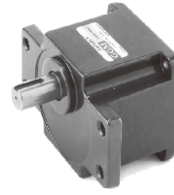
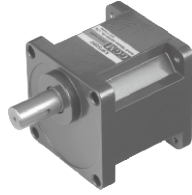
※ The direction of motor rotation is as viewed from the front shaft end of the motor

## GEARHEAD

### DIMENSIONS

K9P□BU

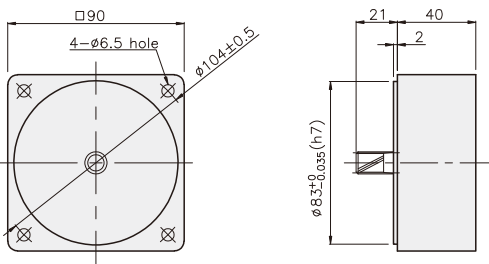
K9P□BUF



### DECIMAL GEARHEAD

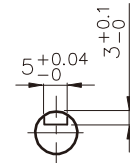
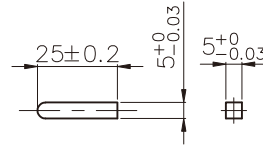
K9P10BX

### KEY SPEC



● KEY

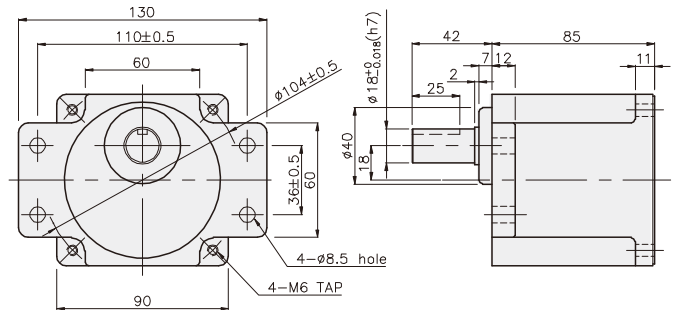
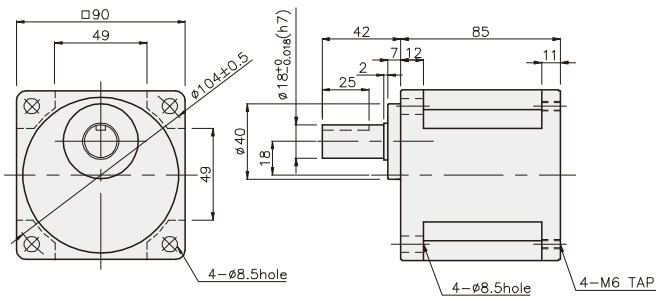
● KEY GROOVE



### GEARHEAD

K9P□BU

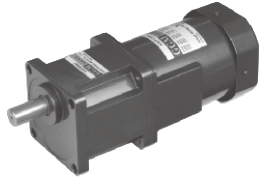
K9P□BUF



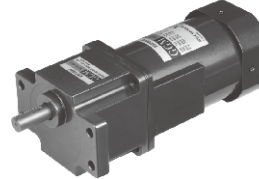
## GEARHEAD

### DIMENSIONS

K9RP180F□ + K9P□BU



K9RP180F□ + K9P□BUF



#### WEIGHT

PART	WEIGHT(kg)
MOTOR	3,72
DECIMAL GEARHEAD	0,62

#### DIMENSION TABLE

PART No	Application Model	Mounting BOLT
01	K9P3~200BU	M6 P1,0 X 20
02	K9P10BX	M6 P1,0 X 65

#### WEIGHT

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

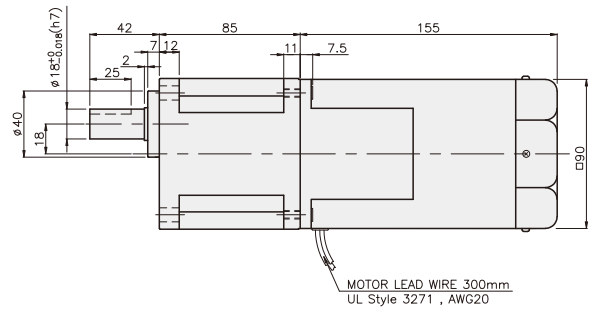
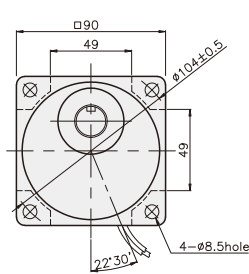
#### DIMENSION TABLE

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

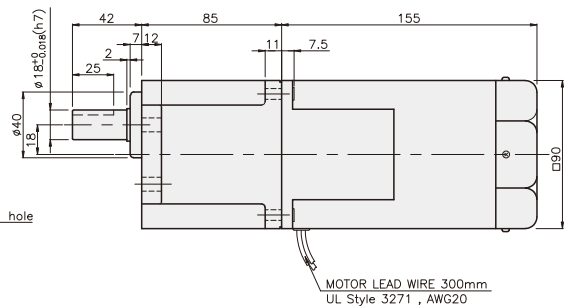
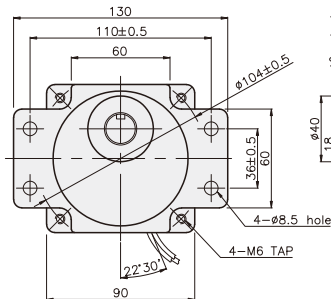
#### WEIGHT

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

K9RP180F□ + K9P□BU



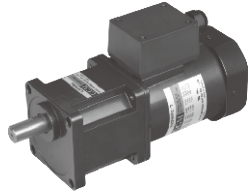
K9RP180F□ + K9P□BUF



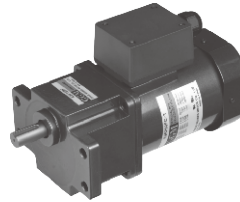
## GEARHEAD

### DIMENSIONS

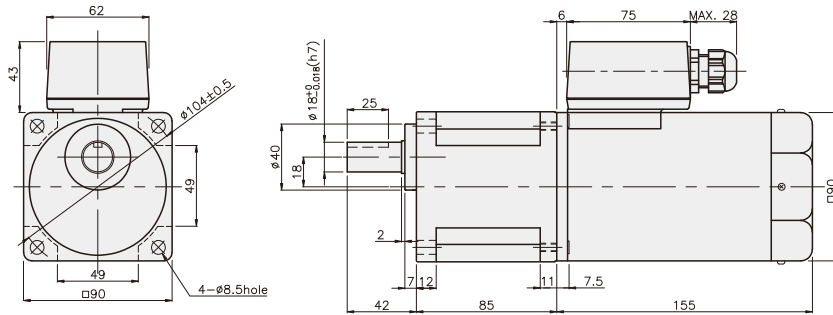
K9RP180F□ - T + K9P□BU



K9RP180F□ - T + K9P□BUF



K9RP180F□ - T + K9P□BU



#### WEIGHT

PART	WEIGHT(kg)
MOTOR	3,90
DECIMAL GEARHEAD	0,62

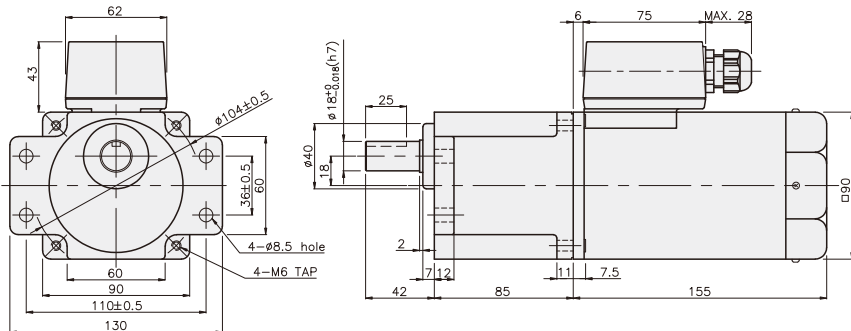
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PART No	Application Model	Mounting BOLT
01	K9P3~200BU	M6 P1,0 X 20
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#### WEIGHT

PART	WEIGHT(kg)
K9P3~10BU	1,44
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K9RP180F□ - T + K9P□BUF



#### DIMENSION TABLE

PART No	Application Model	Mounting BOLT
01	K9P3~200BUF	M6 P1,0 X 20
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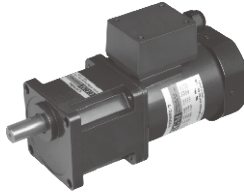
#### WEIGHT

PART	WEIGHT(kg)
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K9P25~60BUF	1,76
K9P75~200BUF	1,82

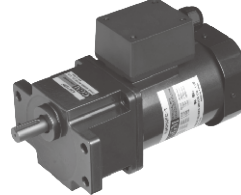
## GEARHEAD

### DIMENSIONS

K9RP180F□ - T5 + K9P□BU



K9RP180F□ - T5 + K9P□BUF



#### WEIGHT

PART	WEIGHT(kg)
MOTOR	3,90
DECIMAL GEARHEAD	0,62

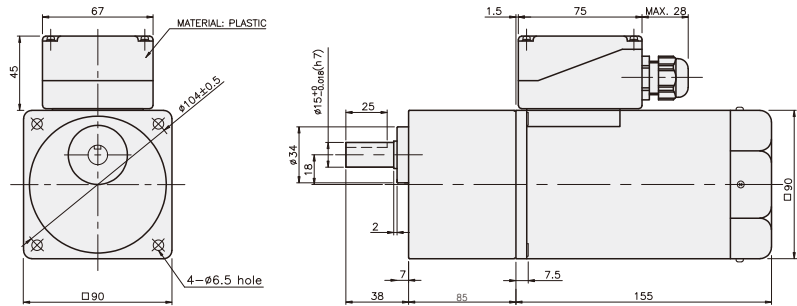
#### DIMENSION TABLE

PART No.	Application Model	Mounting BOLT
01	K9P3~200BU	M6 P1,0 X 20
02	K9P10BX	M6 P1,0 X 65

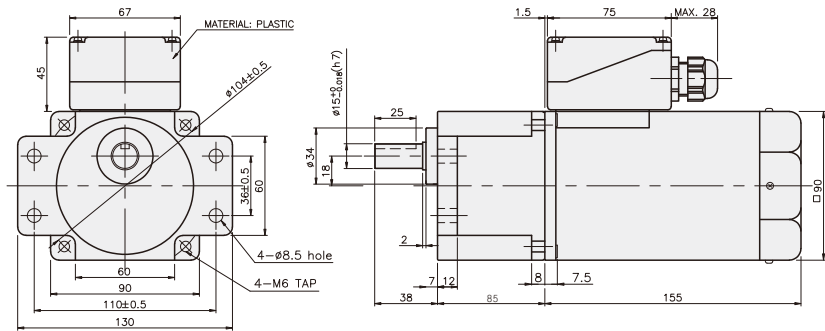
#### WEIGHT

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

K9RP180F□ - T5 + K9P□BU



K9RP180F□ - T5 + K9P□BUF



#### DIMENSION TABLE

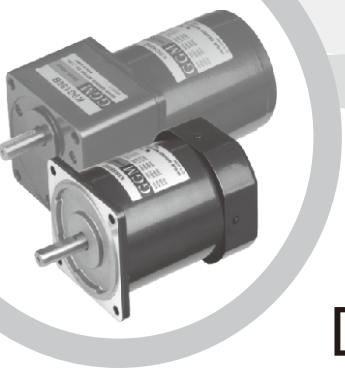
PART No.	Application Model	Mounting BOLT
01	K9P3~200BUF	M6 P1,0 X 20
02	K9P10BX	M6 P1,0 X 65

#### WEIGHT

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

# 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-load.)
- 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.

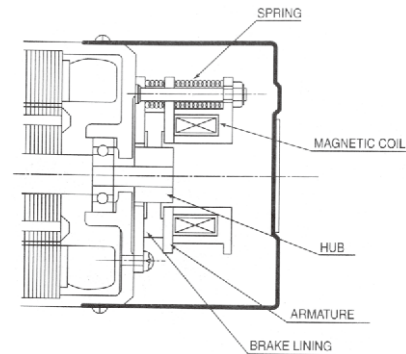
## 2. Electromagnetic Brake of Non-excitation Run Type

### (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

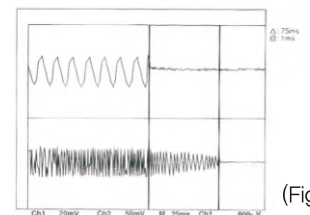
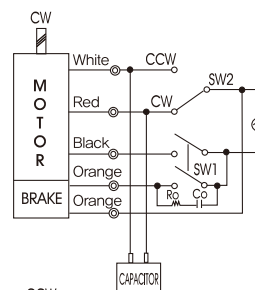
- This is the electromagnetic brake of AC non-excitation run type and can be connected directly to the motor. When the power source is turned off, the motor stops instantaneously and the load is maintained. The retention force is 2 kgf · cm ~ 10 kgf · cm. This type of brake is best suited if a safer 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

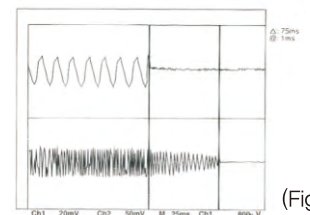
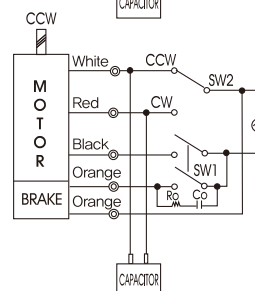
### (3) Braking Time Difference by Connection Method

- 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.)

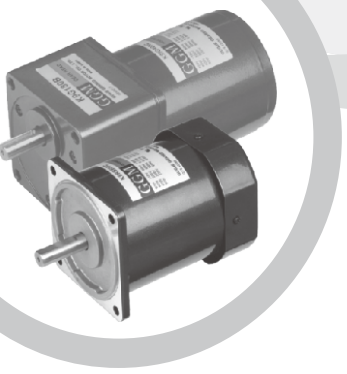


(Fig. 3)

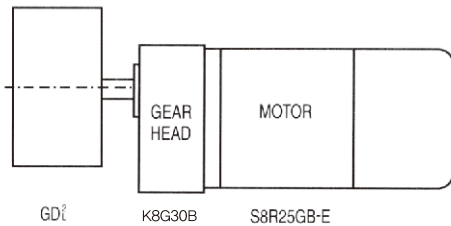
(Stop time is about 124.50msec, SLIP is about 2.1 revolutions, Model K8RG25NU-B is used for measurement.)

### 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
		40					
	90	60	50/60	0.100	10.0	10	1.00
90	90						



### 3. Operating Time and Braking Characteristics



(1) Take K8RG25NC-B as an example and let it be combined with K8G30B to drive the inertia body ( $GDL2 = 1000\text{kgf} \cdot \text{cm}^2$ ). 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.

$$GDM^2 = \frac{GD_L^2}{i^2} [\text{Kgf} \cdot \text{cm}^2] = \frac{1000}{30^2} = 1.1 [\text{kgf} \cdot \text{cm}^2]$$

$GDL^2$  : Fly wheel effect of load [ $\text{kgf} \cdot \text{cm}^2$ ]

$GDM^2$  : Fly wheel effect at motor shaft  $\text{kgf} \cdot \text{cm}^2$

$i$  : Ratio of gearhead

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

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

$g$  :  $9.80665[\text{m}/\text{s}^2]$

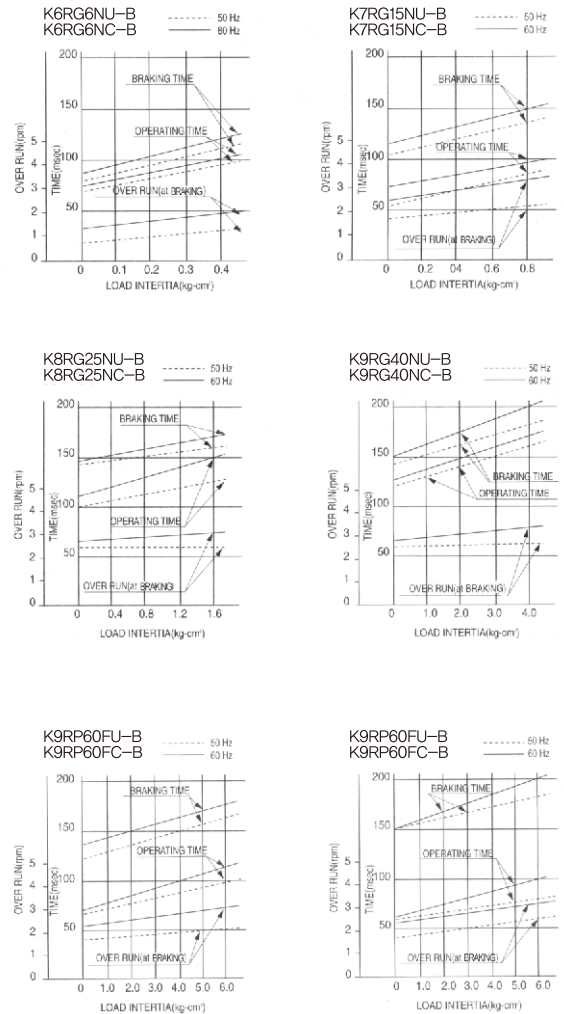
#### (2) OVER RUN

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

$$NG = \frac{N_M}{i} = \frac{2.5}{30} = 0.08 \text{ revolution } (28.8^\circ)$$

#### (3) Operating Time and Braking Time

- As shown in (Fig. 5), the operating time  $t_1 \approx 130[\text{msec}]$ , and the braking time  $t_2 \approx 170[\text{msec}]$ .
- 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 brake 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°C) or class E (75°C) or less increase measured by thermometer after rated operation
Insulation Class	Class E(120°C), UL approval motor class A (105°C)
Overheat Protection Device	Built-in thermal protector (automatic return type) : Open 130°C±5°C Close 82°C±15°C
Ambient Temperature	-10°C~40°C
Ambient Humidity	85% maximum (non condensing)

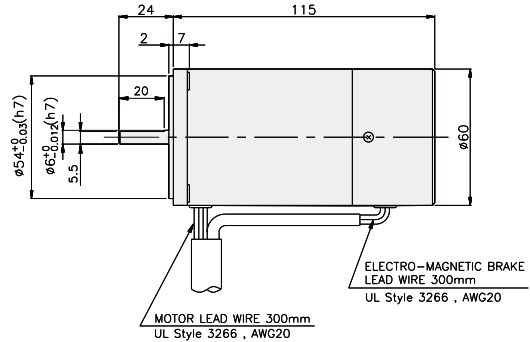
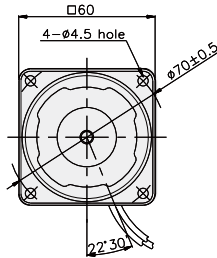


## BRAKE MOTOR

### 6W

### □60mm

K6RS6N□-B



### SPECIFICATIONS

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	single-phase 30 minutes	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		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		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)

### RATED TORQUE OF GEARHEAD

#### ● 50Hz

unit = above : N·m / below : Kgf·cm

Model Motor/ Gearhead	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
	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 K6G□B(C)	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	
	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

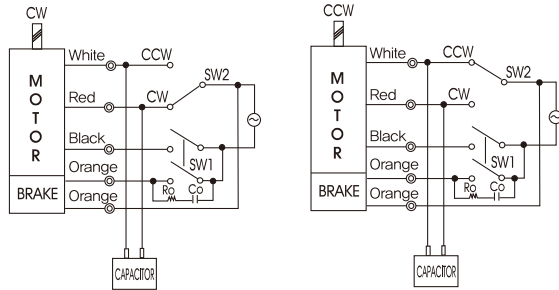
Model Motor/ Gearhead	Speed(rpm)	600	500	360	300	240	200	180	144	120	100	90	72	60	50	45	36	30	24	20	18	15	12	10	9	7.2
	Ratio	3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180	200	250
K6R□6N□-B K6G□B(C)	0.10	0.12	0.16	0.19	0.24	0.29	0.32	0.41	0.49	0.58	0.58	0.73	0.87	1.05	1.17	1.31	1.57	1.97	2.36	2.62	3	3	3	3	3	
	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.

## GEARHEADS

### CONNECTION DIAGRAMS

Connect Cr circuit for absorbing surge voltage as connection diagram to protect contact point.  
 $R_o = 5 - 200\Omega$   
 $C_o = 0,1 \sim 0,2\mu F$  200WV(400WV)



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

### DIMENSIONS

K6G□B(C)

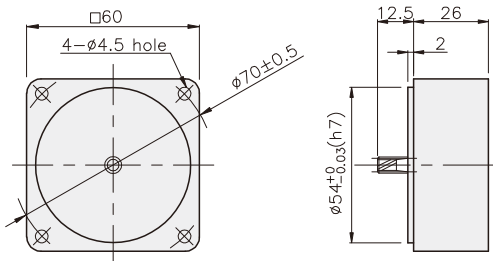


K6RG6N□-B + K6G□B(C)



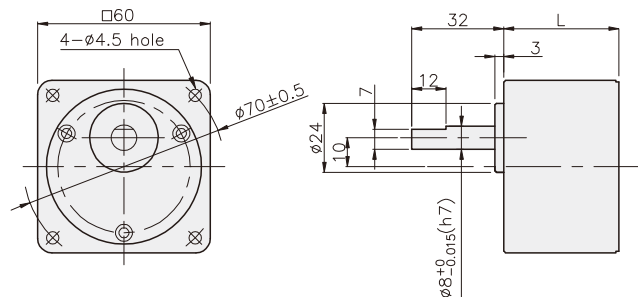
DECIMAL GEARHEAD

K6G10BX



GEARHEAD

K6G□B(C)



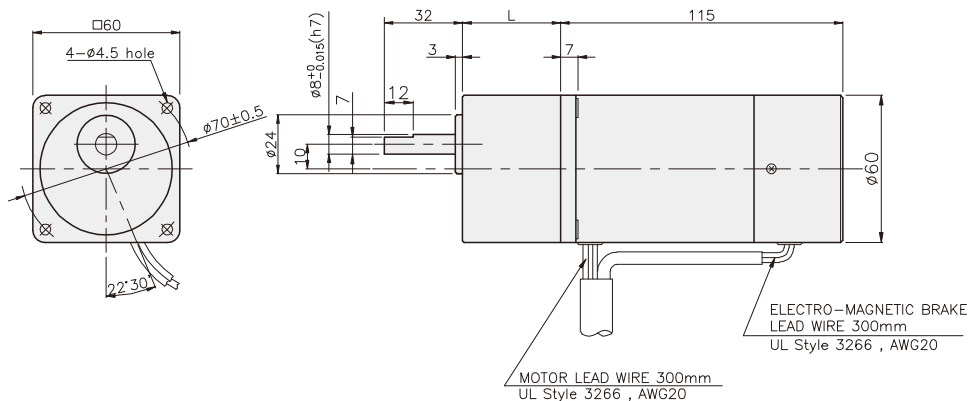
#### DIMENSION TABLE

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)

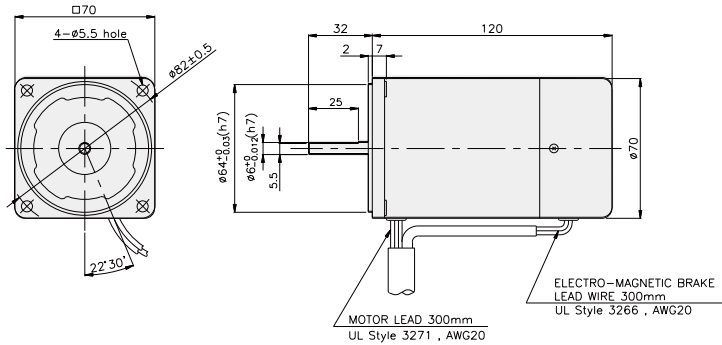


## BRAKE MOTOR

### 15W

### □70mm

K7RS15N□-B



### SPECIFICATIONS

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 30 minutes	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					
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)

### 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
K7R□15N□-B K7G□B(C)	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	5
	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	50

#### ● 60Hz

unit = above : N·m / below : Kgf·cm

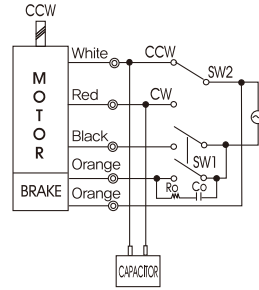
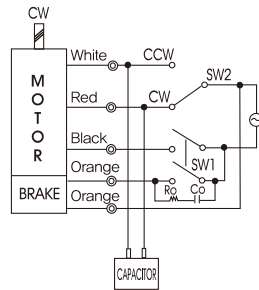
Model	Speed(rpm)	600	500	360	300	240	200	180	144	120	100	90	72	60	50	45	36	30	24	20	18	15	12	10	9
Motor/ Gearhead	Ratio	3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180	200
K7R□15N□-B K7G□B(C)	0.24	0.29	0.41	0.49	0.61	0.73	0.81	1.01	1.22	1.46	1.46	1.82	2.19	2.62	2.92	3.28	3.94	4.92	5	5	5	5	5	5	5
	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	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.

## GEARHEADS

### CONNECTION DIAGRAMS

Connect Cr circuit for absorbing surge voltage as connection diagram to protect contact point.  
 $R_o = 5 - 200\Omega$   
 $C_o = 0.1 \sim 0.2\mu F$  200WV(400WV)



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

### DIMENSIONS

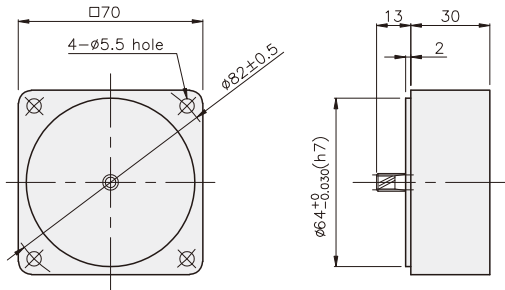
K7G□B(C)

K7RG15N□-B + K7G□B(C)



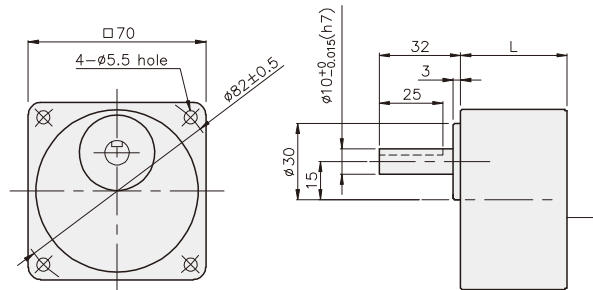
DECIMAL GEARHEAD

K7G10BX



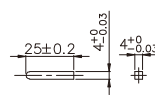
GEARHEAD

K7G□B(C)



• KEY

• KEY GROOVE



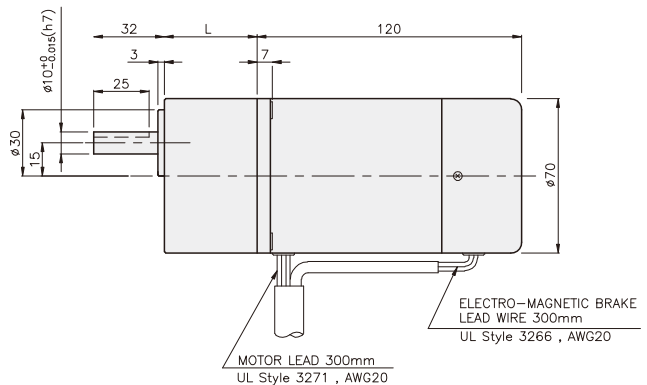
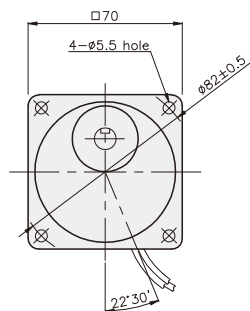
#### DIMENSION TABLE

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)

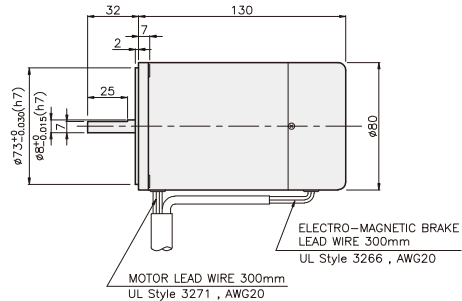
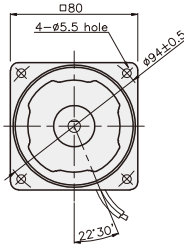


## BRAKE MOTOR

### 25W

### □80mm

K8□S25N□-B



### SPECIFICATIONS

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	single-phase	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			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		three-phase	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				
K8I□25NH-B	230			50	0.29	0.65/6.5	0.185/1.85	1350			-	0.4/4
				60	0.25	0.52/5.2	0.155/1.55	1600				
K8I□25NM-B	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.

### RATED TORQUE OF GEARHEAD

#### ● 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 K8G□B(C)		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
		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 K8G□B(C)		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
		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.

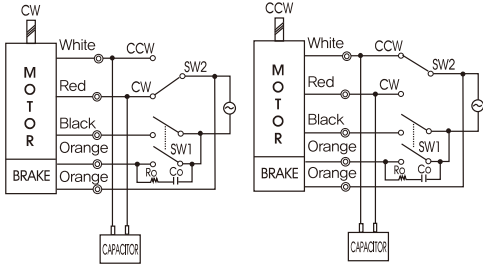
\* If you are to have less ratio than the ratio in the table, you can install the decimal gearhead, which has one tenth of the ratio, between the gearhead and the motor. In this case, the permissible torque is 8N·m/80kgf·cm. But, if you install 1/25~1/40 gearhead, the permissible torque is 6N·m/60kgf·cm.

\* 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.

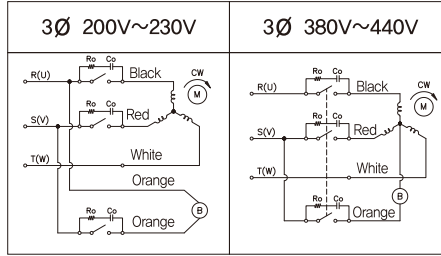
## GEARHEADS

### 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 surge voltage as connection diagram to protect contact point.  
 $R_o = 5 - 200\Omega$   
 $C_o = 0.1 \sim 0.2\mu F$  200WV(400WV)

### DIMENSIONS

K8G□B(C)

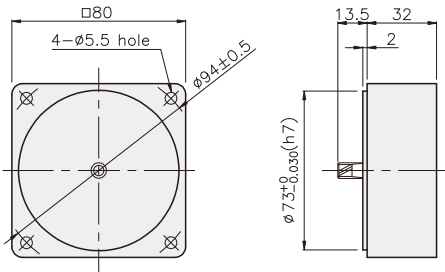


K8□G25N□-B + K8G□B(C)



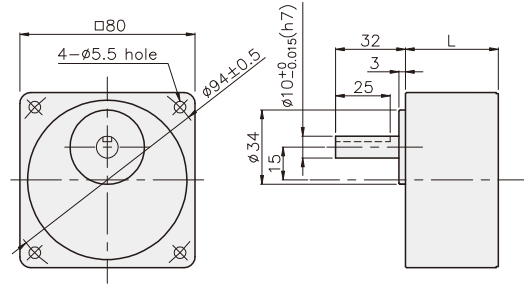
DECIMAL GEARHEAD

K8G10BX



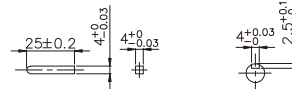
GEARHEAD

K8G□B(C)



• KEY

• KEY GROOVE



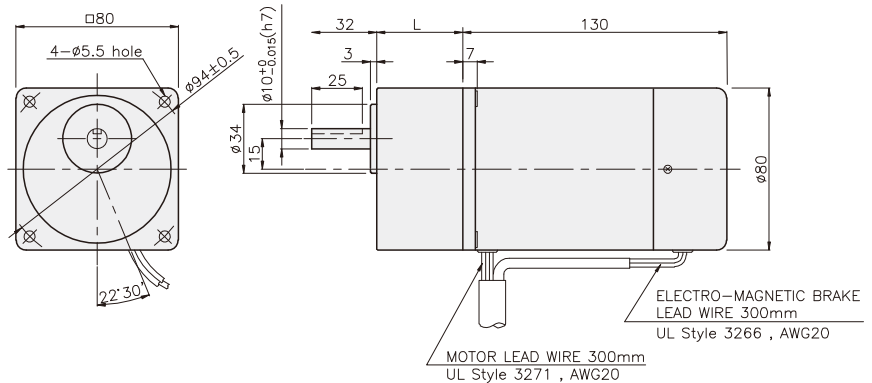
#### DIMENSION TABLE

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)

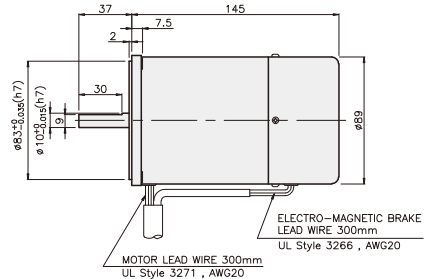
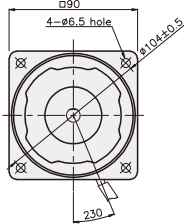


## BRAKE MOTOR

40W

□90mm

K9□S40N□-B



### 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	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			30 minutes	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				
K9R□40ND-B		230		50	0,55	0,4/4	0,315/3,15	1250	3	1/10		
				60	0,58	0,36/3,6	0,26/2,6	1500				
K9I□40NT-B		three-phase	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				
K9I□40NM-B	continuous			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 K9G□B(C)	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	10
	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	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 K9G□B(C)	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	10
	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	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.

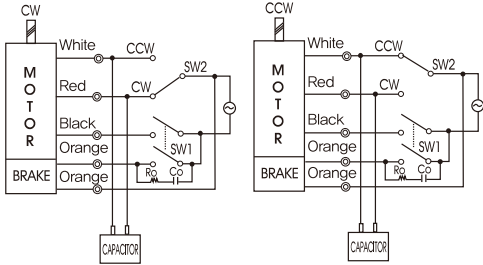
\* If you are to have less ratio than the ratio in the table, you can install the decimal gearhead, which has one tenth of the ratio, between the gearhead and the motor. In this case, the permissible torque is 10N·m/100kgf·cm.

\* 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.

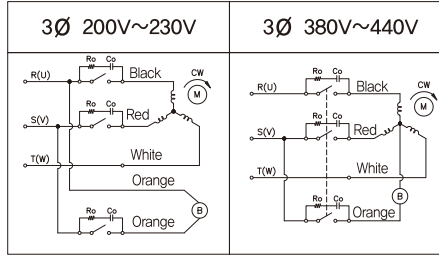
## GEARHEADS

### 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 surge voltage as connection diagram to protect contact point.  
 $R_o = 5 - 200\Omega$   
 $C_o = 0.1 \sim 0.2\mu F$  200WV(400WV)

### DIMENSIONS

K9G□B(C)

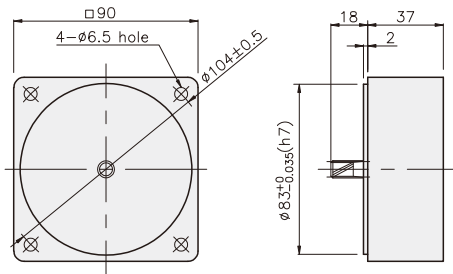


K9□G40N□-B + K9G□B(C)



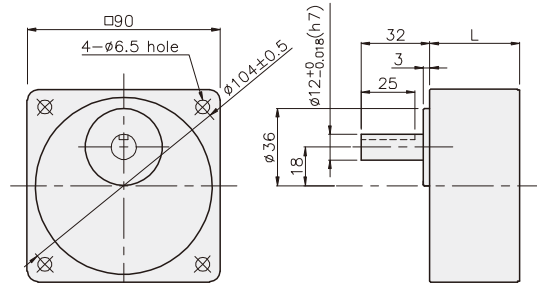
DECIMAL GEARHEAD

K9G10BX



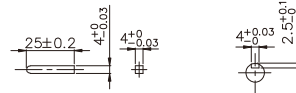
GEARHEAD

K9G□B(C)



• KEY

• KEY GROOVE



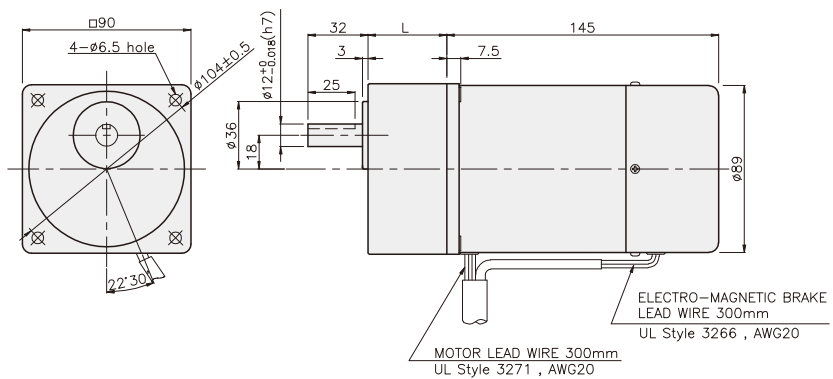
### DIMENSION TABLE

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)

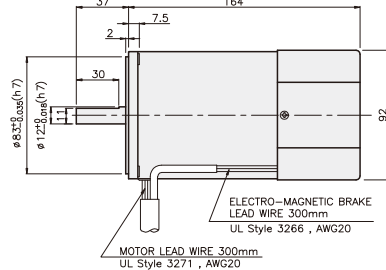
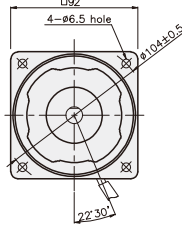




## BRAKE MOTOR

**60W** □90mm

K9□P60F□-B



### 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	100	50	1.48	0.48/4.8	0.47/4.7	1250	25	1/10		
			60	1.66		0.38/3.8	1550				
110			60	1.25	0.4/4	0.38/3.8	1550	17			
				1.31	0.425/4.25						
K9R□60FU-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□60FL-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				
K9R□60FC-B		230	50	0.77	0.5/5	0.47/4.7	1250	5	1/10		
			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	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			
K9I□60FM-B			230	50	0.6	1.65/16.5	0.435/4.35	1350	-	1/10	
				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 K9P□B, BF	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	20
	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	200

#### ● 60Hz

unit = above : N·m / below : Kgf·cm

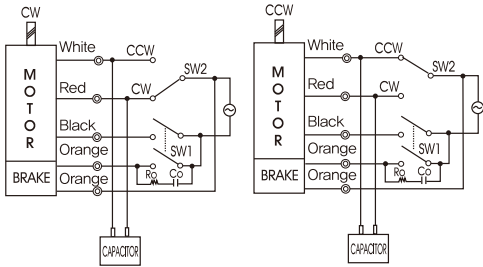
Model	Speed(rpm)	600	500	360	300	240	200	180	144	120	100	90	72	60	50	45	36	30	24	20	18	15	12	10	9
Motor/ Gearhead	Ratio	3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180	200
K9□60F□-B K9P□B, BF	0.90	1.08	1.50	1.80	2.25	2.70	3.00	3.37	4.05	4.86	5.39	6.07	7.28	8.74	9.71	12.14	14.57	16.39	19.66	20	20	20	20	20	20
	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	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.

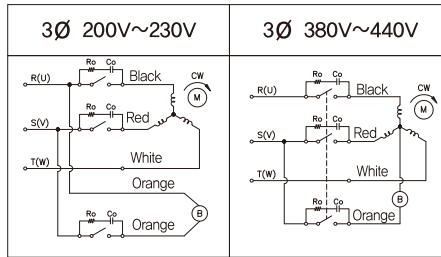
## GEARHEADS

### 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

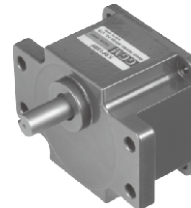
Connect Cr circuit for absorbing surge voltage as connection diagram to protect contact point.  
 $R_o = 5 - 200\Omega$   
 $C_o = 0.1 \sim 0.2\mu F$  200WV(400WV)

### DIMENSIONS

K9P□B

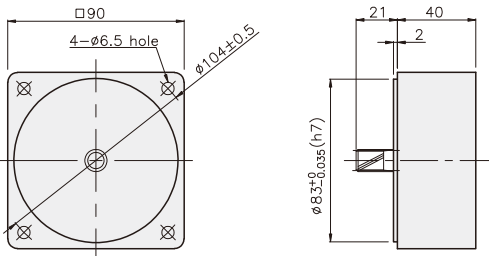


K9P□BF



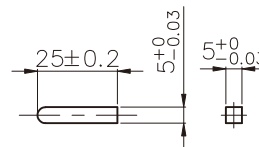
### DECIMAL GEARHEAD

K9P10BX

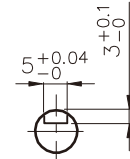


### KEY SPEC

● KEY

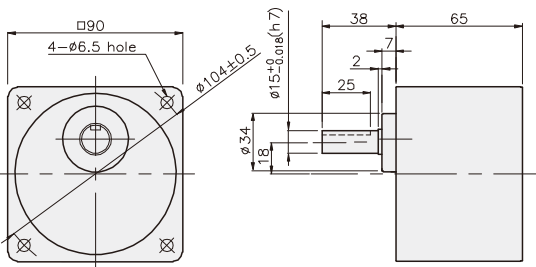


● KEY GROOVE

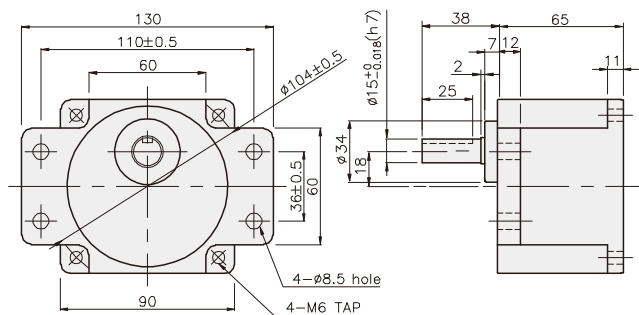


### GEARHEAD

K9P□B



K9P□BF



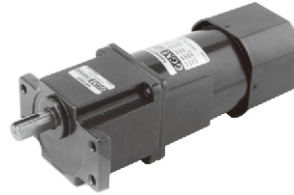
## GEARHEADS

### DIMENSIONS

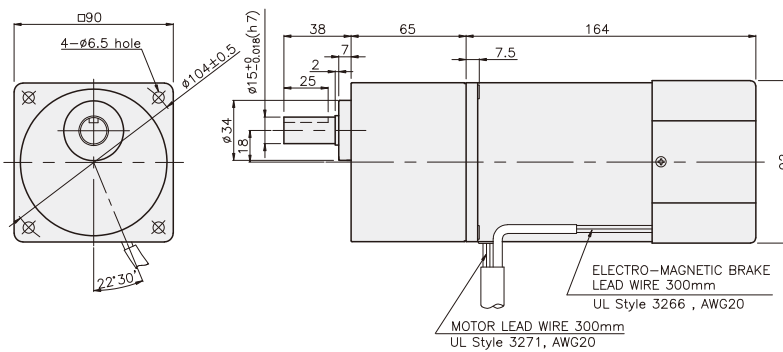
K9□P60F□-B + K9P□B



K9□P60F□-B + K9P□BF



K9□P60F□-B + K9P□B



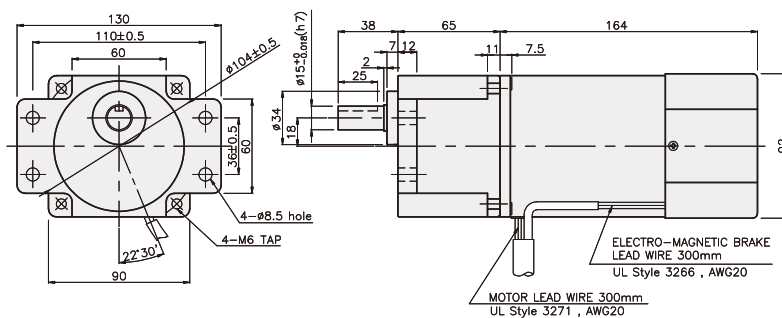
**DIMENSION TABLE**

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**

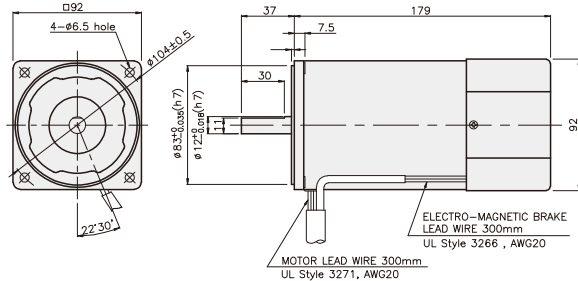
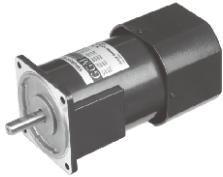
PART	WEIGHT(kg)	
MOTOR	3,08	
DECIMAL GEAR HEAD	0,62	
GEAR HEAD	K9P3~10BF	1,22
	K9P12,5~20BF	1,30
	K9P25~60BF	1,42
	K9P75~200BF	1,44

## 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	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	
				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			
K9R□90FD-B		230	50	1.3	0.6/6	0.705/7.05	1250	6	1/10	
			60	1.1		0.57/5.7	1550			
K9I□90FT-B		three-phase	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			
K9I□90FM-B	230		50	0.86	2.45/24.5	0.65/6.5	1350	-	1/10	
			60	0.66	1.95/19.5	0.55/5.5	1600			
K9I□90FV-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 K9P□B, BF	158	190	263	316	395	474	527	592	711	853	948	1066	1279	1535	1706	20	20	20	20	20	20	20	20	20	20
	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	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 K9P□B, BF	134	160	223	267	334	401	446	501	601	722	802	902	1083	1299	1443	180	20	20	20	20	20	20	20	20	20
	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	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.

## 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

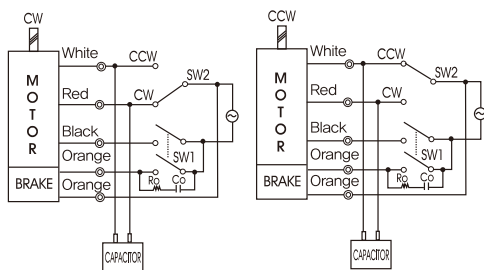
unit = above : N · m / below : kgfcm

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

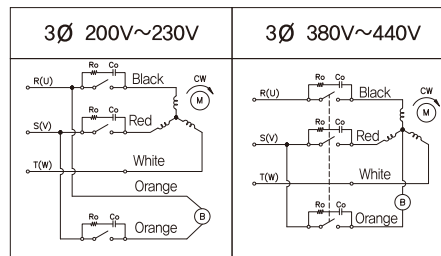
- \* Gearhead and decimal gearhead are sold separately.
- \* The code in □ of gearhead model is for gear ratio.
- \*  color indicates that the output shaft of the geared motor rotates in the same direction as the output shaft of the motor. Others indicate rotation in the opposite direction.
- \* If you 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 surge voltage as connection diagram to protect contact point.  
 $R_o = 5 - 200\Omega$   
 $C_o = 0,1 \sim 0,2\mu F$  200WV(400WV)

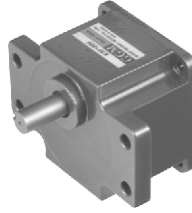
## GEARHEADS

### DIMENSIONS

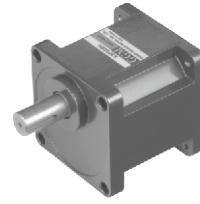
K9P□B



K9P□BF, BUF

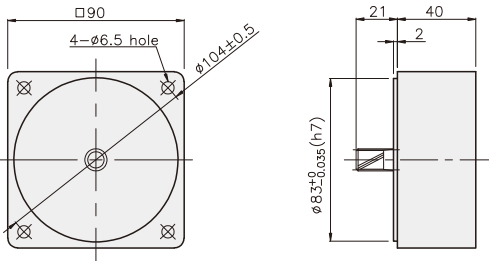


K9P□BU

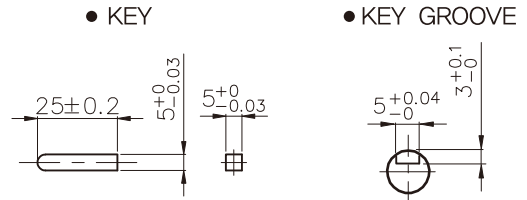


### DECIMAL GEARHEAD

K9P10BX

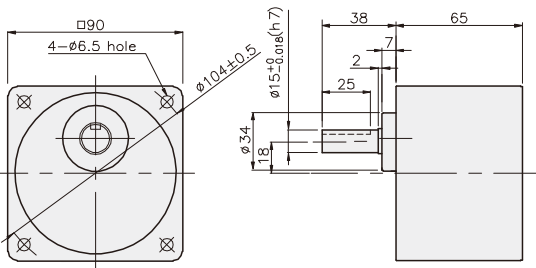


### KEY SPEC

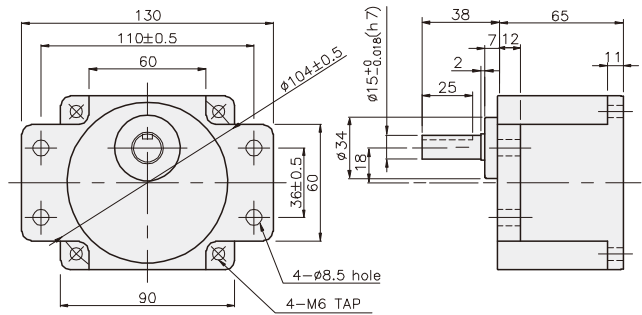


### GEARHEAD

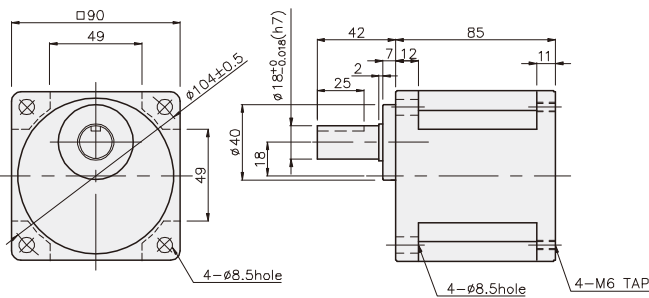
K9P□B



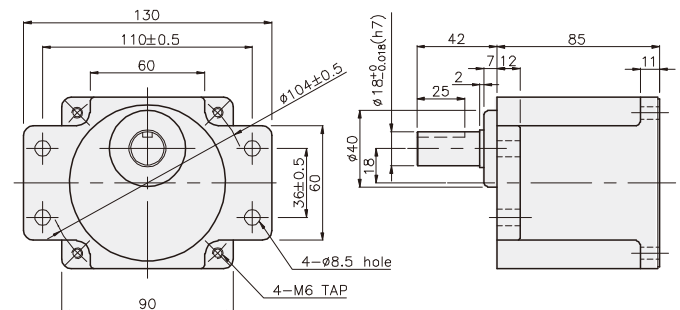
K9P□BF



K9P□BU



K9P□BUF



BRAKE MOTOR

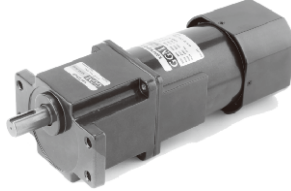
## GEARHEADS

### DIMENSIONS

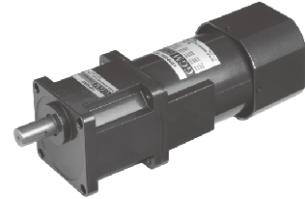
K9□P90F□-B + K9P□B



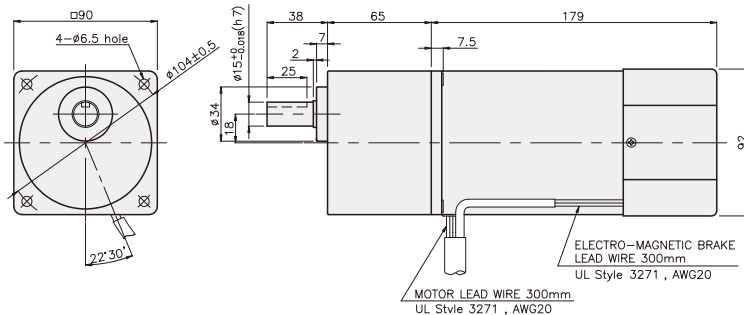
K9□P90F-B + K9P□BF, BUF



K9□P90F□-B + K9P□BU



K9□P90F□-B + K9P□B



#### WEIGHT

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

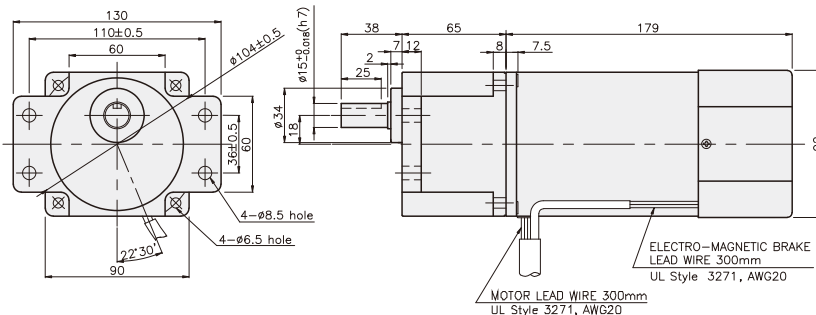
#### DIMENSION TABLE

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



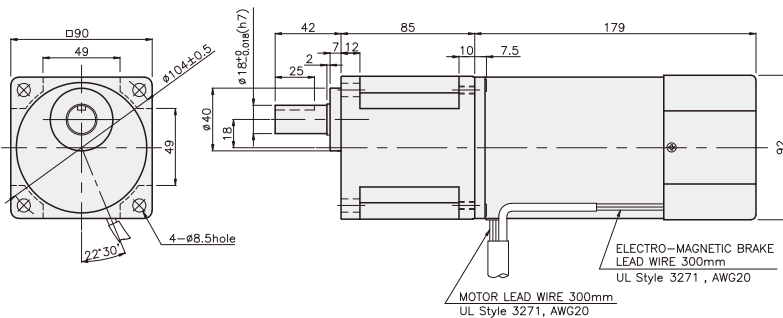
#### DIMENSION TABLE

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



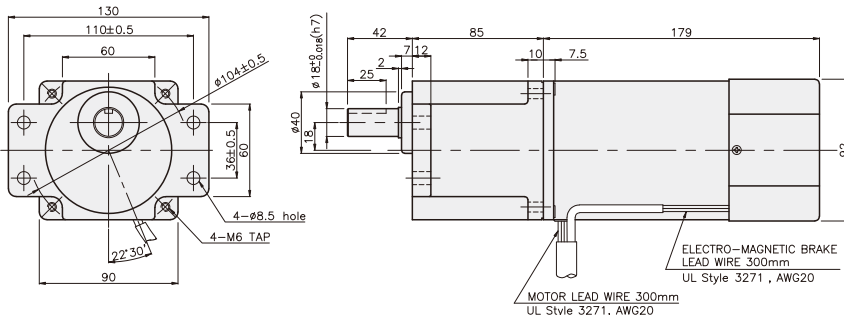
#### DIMENSION TABLE

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



#### 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

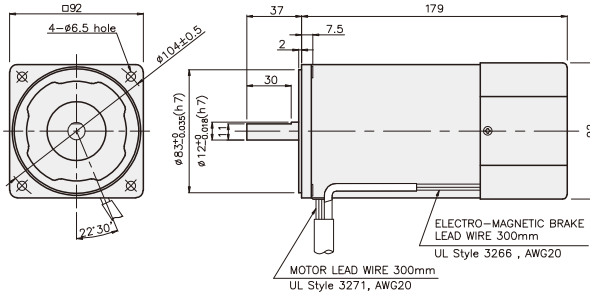
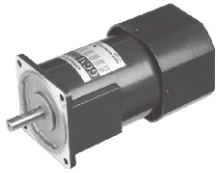
PART	WEIGHT(kg)
K9P3~10BUF	1,50
K9P12,5~20BUF	1,62
K9P25~60BUF	1,76
K9P75~200BUF	1,82

## 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/ Kg*cm)	Rated T. (N*m/ Kg*cm)	Speed (rpm)	Condenser (μF)	Friction T. (N*m/ Kg*cm)
K9R□120FJ-B	single-phase 30 minutes	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				
K9R□120FL-B		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				
			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 : Kg·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	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	200

#### ● 60Hz

unit = above : N·m / below : Kg·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	20
	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	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.



## 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

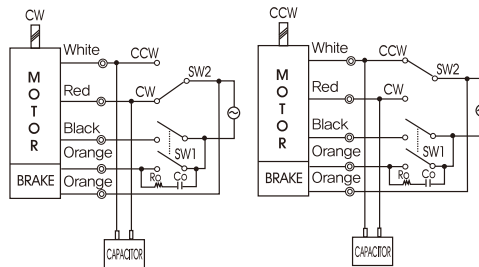
unit = above : N · m / below : kgfcm

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 surge voltage as connection diagram to protect contact point.  
 $R_o = 5 - 200\Omega$   
 $C_o = 0,1 \sim 0,2\mu F \ 200WV(400WV)$



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

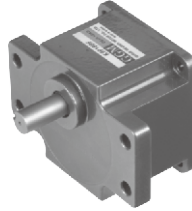
## GEARHEADS

### DIMENSIONS

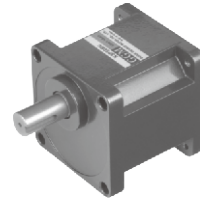
K9P□B



K9P□BF, BUF

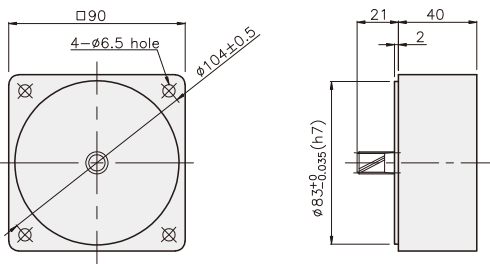


K9P□BU

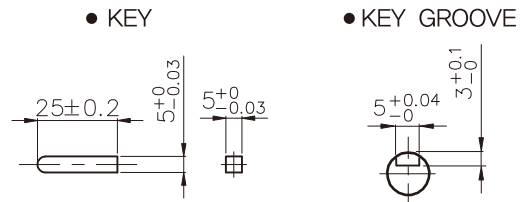


### DECIMAL GEARHEAD

K9P10BX

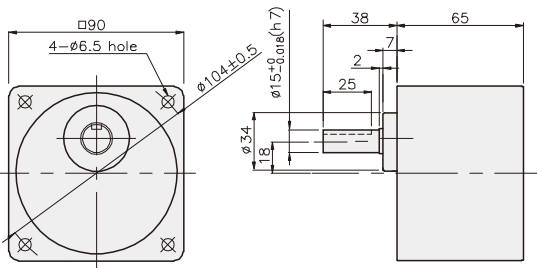


### KEY SPEC

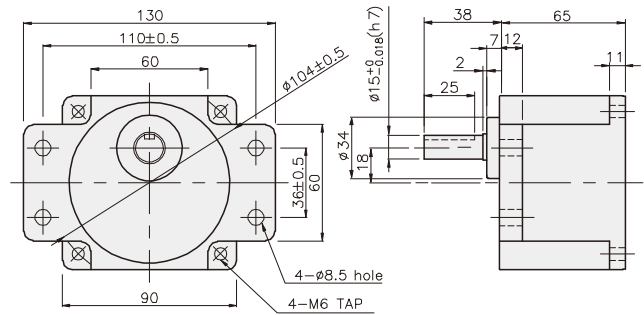


### GEARHEAD

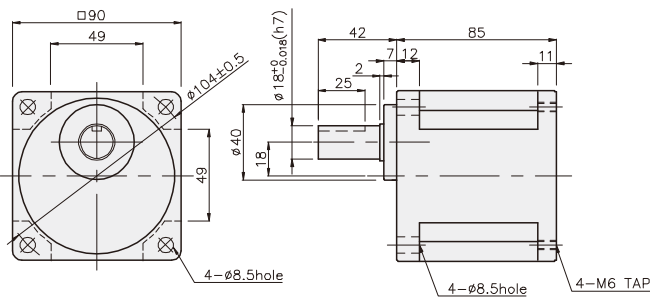
K9P□B



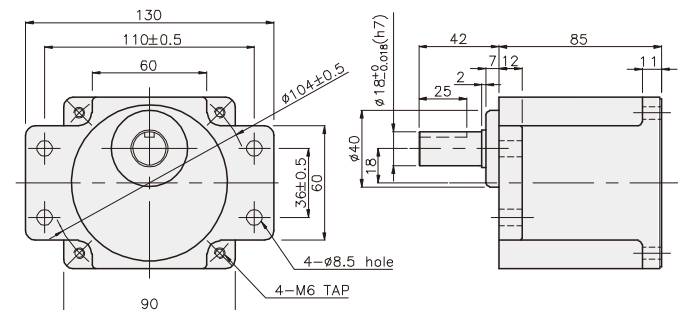
K9P□BF



K9P□BU



K9P□BUF

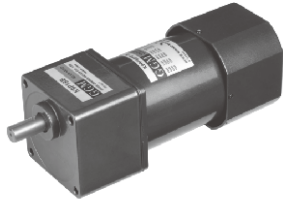


BRAKE MOTOR

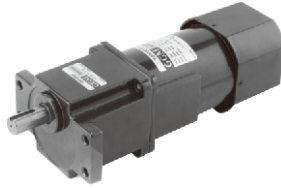
## GEARHEADS

### DIMENSIONS

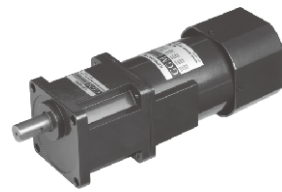
K9□P120F□-B + K9P□B



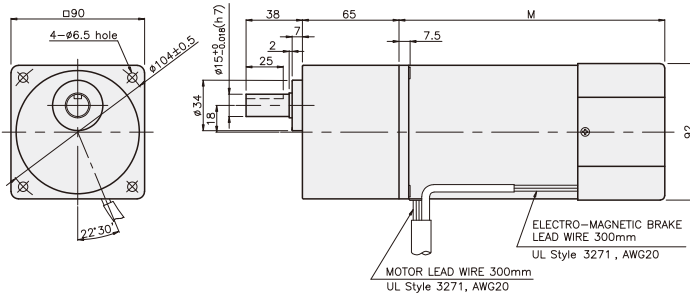
K9□P120F□-B + K9P□BF, BUF



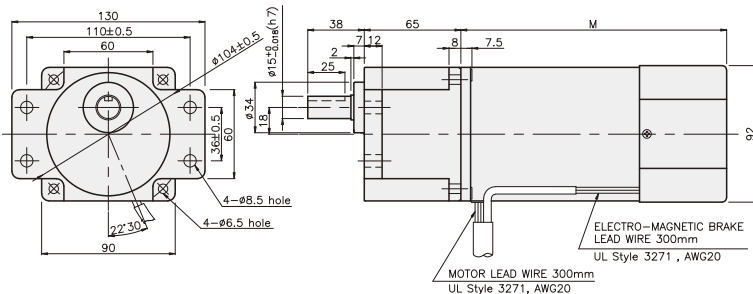
K9□P120F□-B + K9P□BU



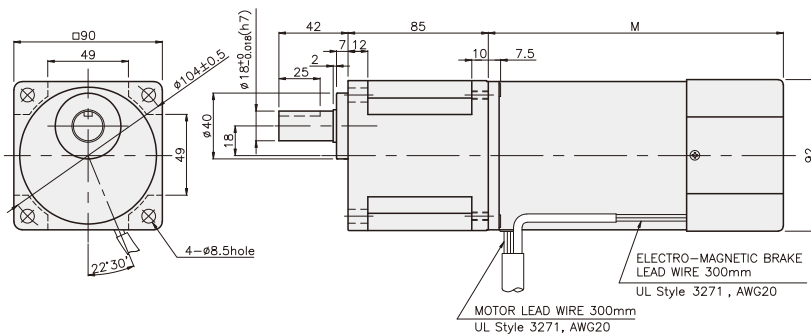
K9P120F□-B + K9P□B



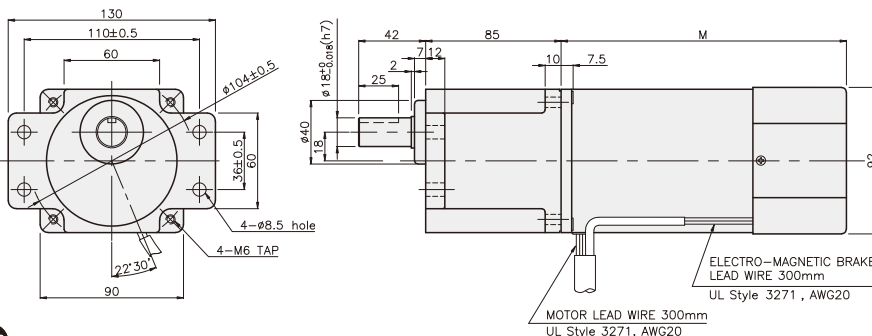
K9□P120F□-B + K9P□BF



K9□P120F□-B + K9P□BU



K9P120F□-B + K9P□BUF



#### 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

#### 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

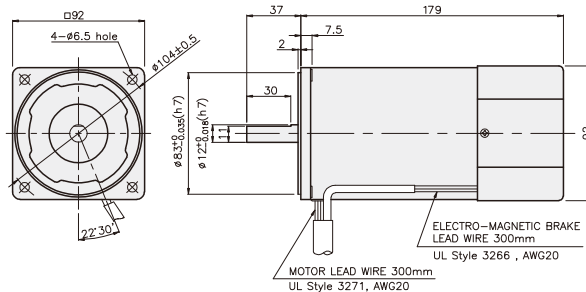
PART	WEIGHT(kg)
K9P3~10BUF	1,50
K9P12,5~20BUF	1,62
K9P25~60BUF	1,76
K9P75~200BUF	1,82

## BRAKE 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.

### 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	three-phase continuous	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				
		220	60	0,97	2,5/25	0,915/9,15	1600	-	
				230	1,02				
K9I□150FM-B		380	50	0,57	3/30	1,13/11,3	1300	-	1/10
			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	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	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	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	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
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

unit = above : N · m / below : kgfcm

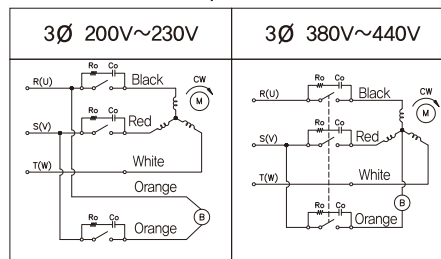
Model	Speed(rpm)	600	500	360	300	240	200	180	144	120	100	90	72	60	50	45	36	30	24	20	18	15	12	10	9
Motor/ Gearhead	Ratio	3	3,6	5	6	7,5	9	10	12,5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180	200
K9IP150F□-B		2,22	2,67	3,71	4,45	5,56	6,67	7,41	8,34	10,01	12,01	13,34	15,01	18,01	21,61	24,01	30	30	30	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 surge voltage as connection diagram to protect contact point.  
 $R_o = 5 - 200\Omega$   
 $C_o = 0,1 \sim 0,2\mu F$  200WV(400WV)



※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

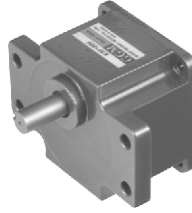
## GEARHEADS

### DIMENSIONS

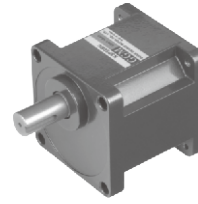
K9P□B



K9P□BF, BUF

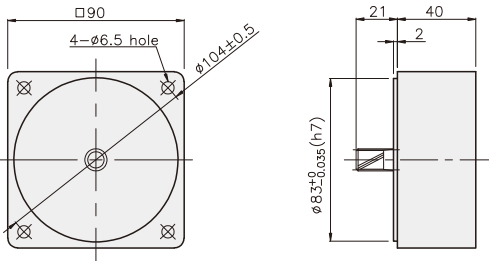


K9P□BU

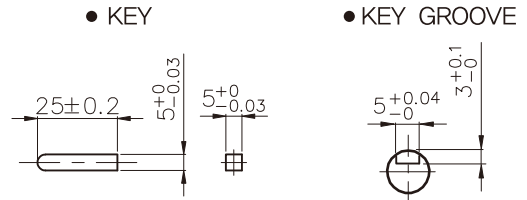


### DECIMAL GEARHEAD

K9P10BX

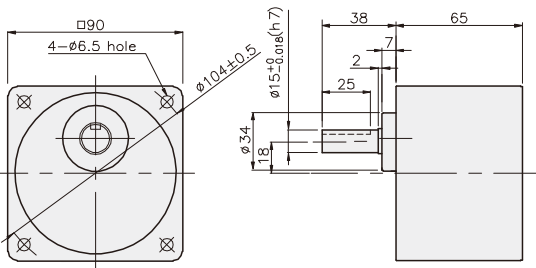


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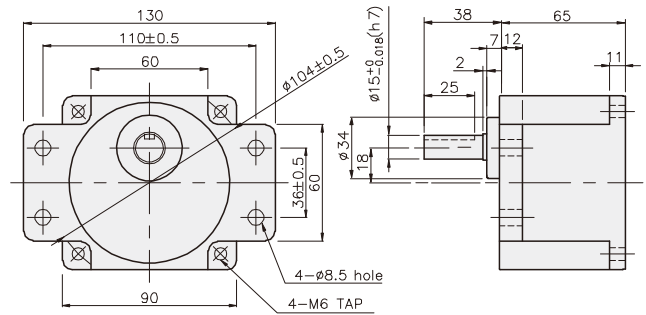


### GEARHEAD

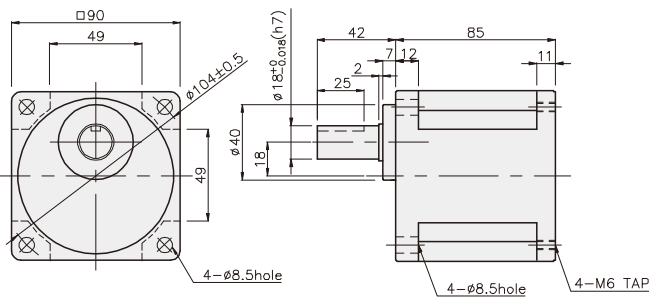
K9P□B



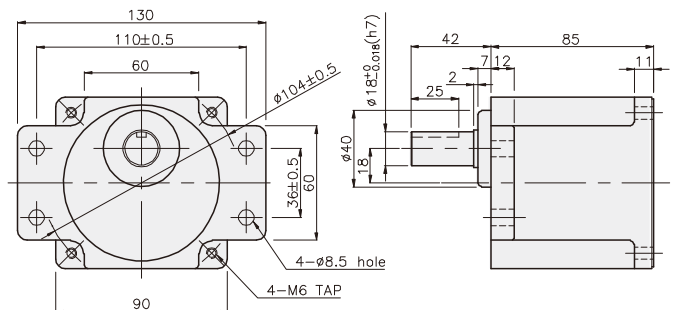
K9P□BF



K9P□BU



K9P□BUF

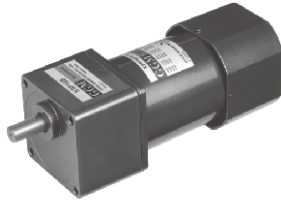


BRAKE MOTOR

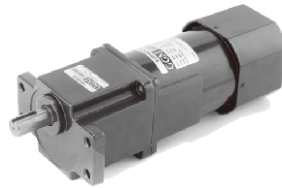
## GEARHEADS

### DIMENSIONS

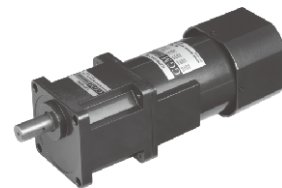
K9□P150F□-B + K9P□B



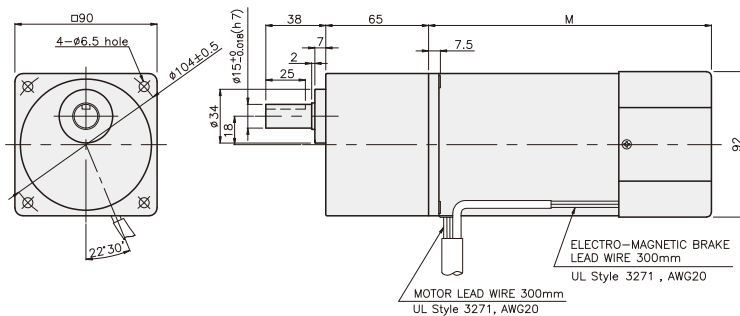
K9□P150F□-B + K9P□BF, BUF



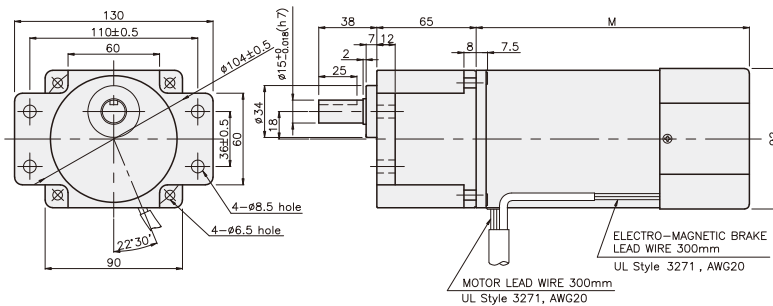
K9□P150F□-B + K9P□BU



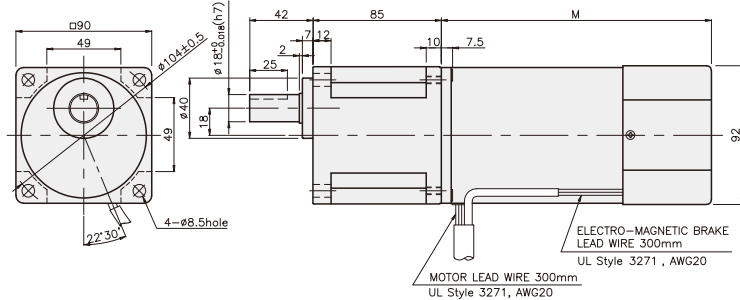
K9IP150F□-B + K9P□B



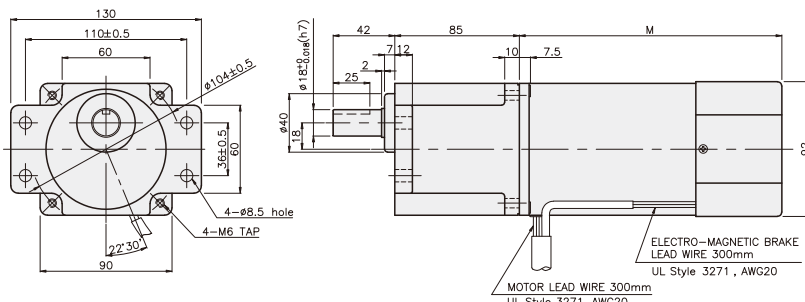
K9IP150F□-B + K9P□BF



K9IP150F□-B + K9P□BU



K9IP150F□-B + K9P□BUF



#### WEIGHT

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

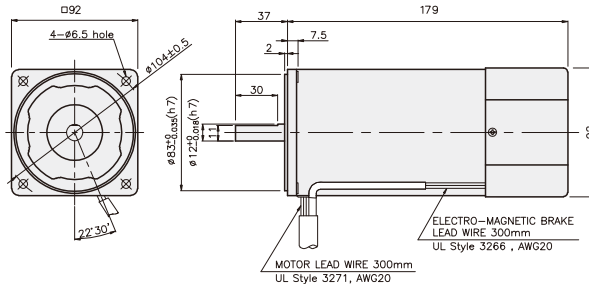
PART	WEIGHT(kg)
K9P3~10BUF	1,50
K9P12,5~20BUF	1,62
K9P25~60BUF	1,76
K9P75~200BUF	1,82

## BRAKE 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	single-phase 30 minutes	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
		115							
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	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		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

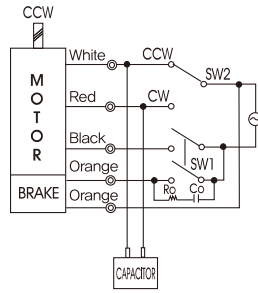
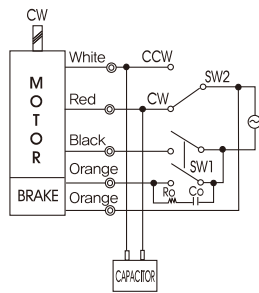
- \* Gearhead and decimal gearhead are sold separately.
- \* The code in □ of gearhead model is for gear ratio.
- \*    color indicates that the output shaft of the geared motor rotates in the same direction as the output shaft of the motor. Others indicate rotation in the opposite direction.
- \* If 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.



## GEARHEADS

### CONNECTION DIAGRAMS

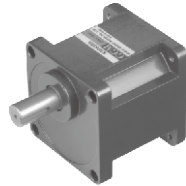
Connect Cr circuit for absorbing surge voltage as connection diagram to protect contact point.  
 $R_o = 5 - 200\Omega$   
 $C_o = 0.1 \sim 0.2\mu F$  200WV(400WV)



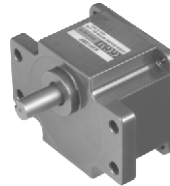
※The direction of motor rotation is as viewed from the front shaft end of the motor

### DIMENSIONS

K9P□BU

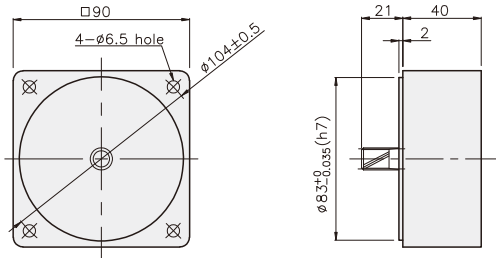


K9P□BUF

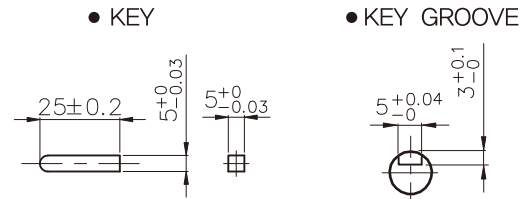


### DECIMAL GEARHEAD

K9P10BX

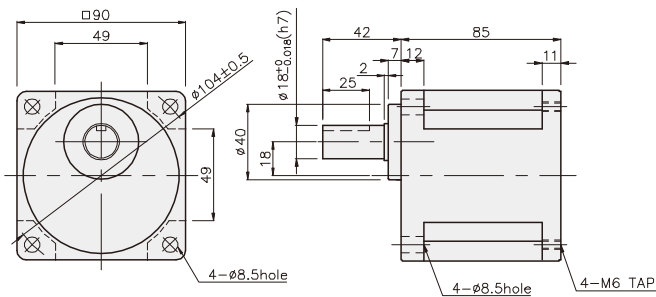


### KEY SPEC

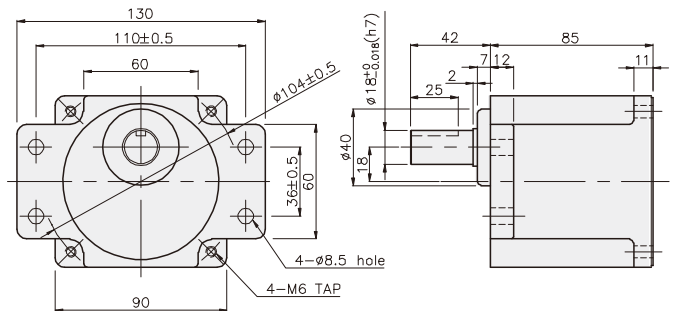


### GEARHEAD

K9P□BU



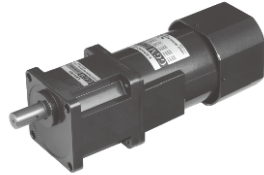
K9P□BUF



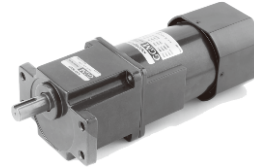
## GEARHEADS

### 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

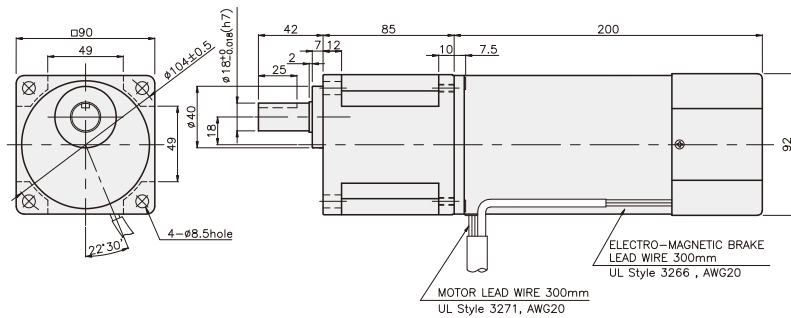
#### DIMENSION TABLE

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

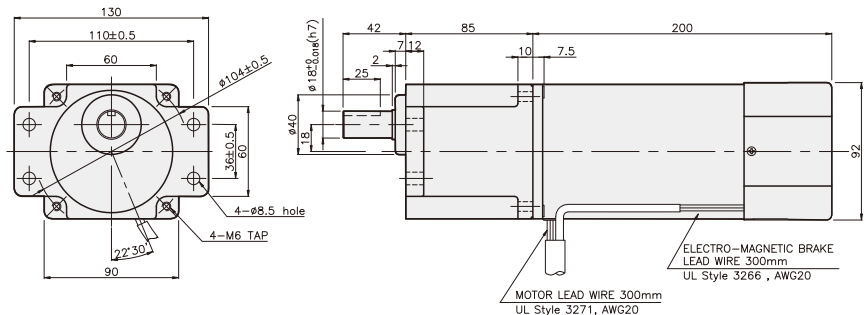
#### WEIGHT

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



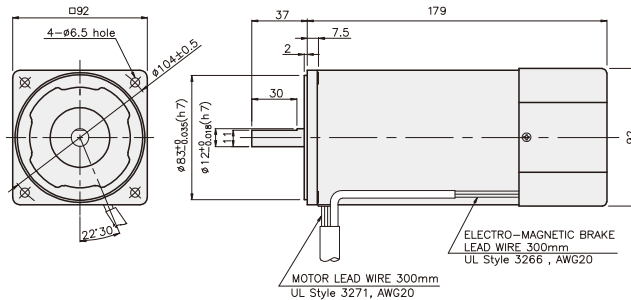
BRAKE MOTOR

## BRAKE MOTOR

### 200W

### □90mm

K9□S200F□-B



### 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	continuous	200	50	1.62	4/40	1.5/15	-	1/10
				60	1.29	3.15/31.5	1.22/12.1		
K9I□200FH-B			220	50	1.36	4.25/42.5	1.45/14.5	-	1/10
				60	1.06	3.4/34	1.22/12.2		
			230	50	1.51	4.3/43	1.45/14.5	-	
				60	1.15	3.5/35	1.22/12.2		
K9I□200FM-B			380	50	0.81	4.3/43	1.45/14.5	-	1/10
				60	0.58	3.6/36	1.22/12.2		
K9I□200FV-B			400	50	0.91	4.5/45	1.45/14.5	-	1/10
				60	0.67	4/40	1.22/12.2		
K9I□200FQ-B	415	50	0.62	3.8/38	1.5/15	-	1/10		
		60	0.58	3/30	1.26/12.6				
K9I□200FZ-B	440	50	0.68	4.1/41	1.5/15	-	1/10		
		60	0.54	3/30	1.22/12.2				

\* □ : 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

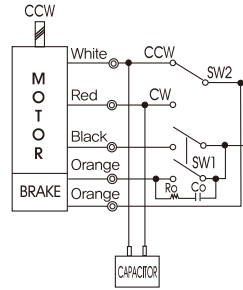
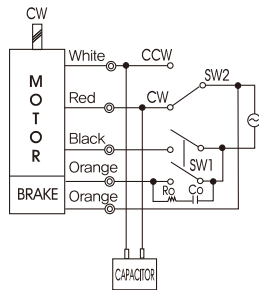
Model	Speed(rpm)	600	500	360	300	240	200	180	144	120	100	90	72	60	50	45	36	30	24	20	18	15	12	10	9
Motor/ Gearhead	Ratio	3	3,6	5	6	7,5	9	10	12,5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180	200
K9IP200F□-B K9P□BU, BUF		2,96	3,56	4,94	5,93	7,41	8,89	9,88	11,12	13,34	16,01	17,79	20,01	24,01	28,82	30	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.

## GEARHEADS

### CONNECTION DIAGRAMS

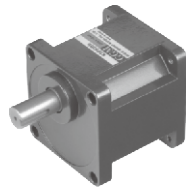
Connect Cr circuit for absorbing surge voltage as connection diagram to protect contact point.  
 $R_o = 5 - 200\Omega$   
 $C_o = 0.1 \sim 0.2\mu F$  200WV(400WV)



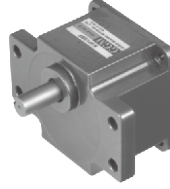
※The direction of motor rotation is as viewed from the front shaft end of the motor

### DIMENSIONS

K9P□BU

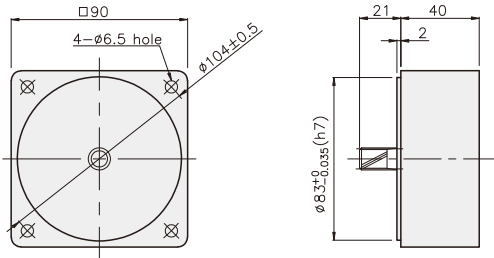


K9P□BUF



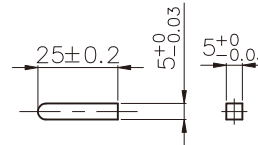
### DECIMAL GEARHEAD

K9P10BX

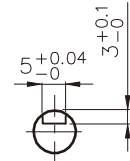


### KEY SPEC

• KEY

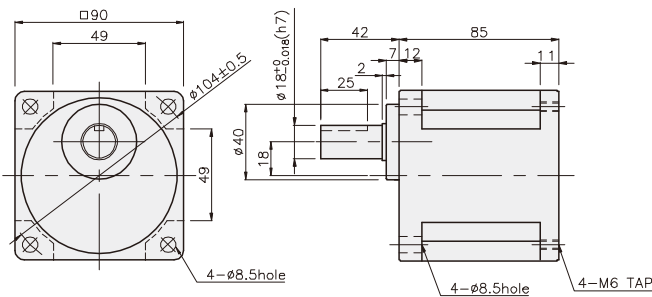


• KEY GROOVE

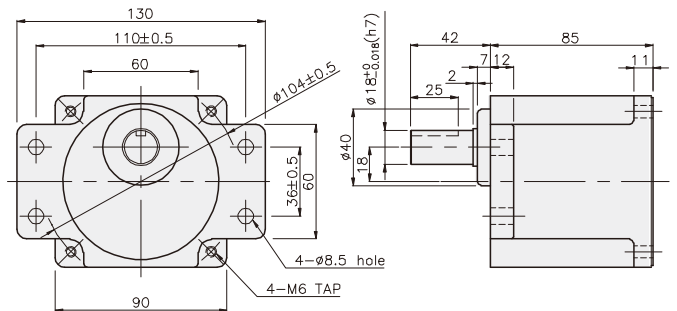


### GEARHEAD

K9P□BU



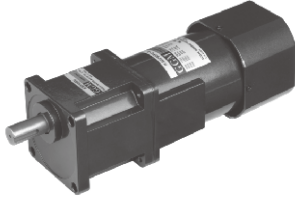
K9P□BUF



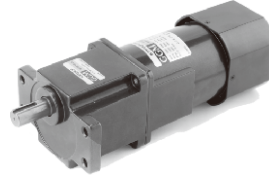
## GEARHEADS

### DIMENSIONS

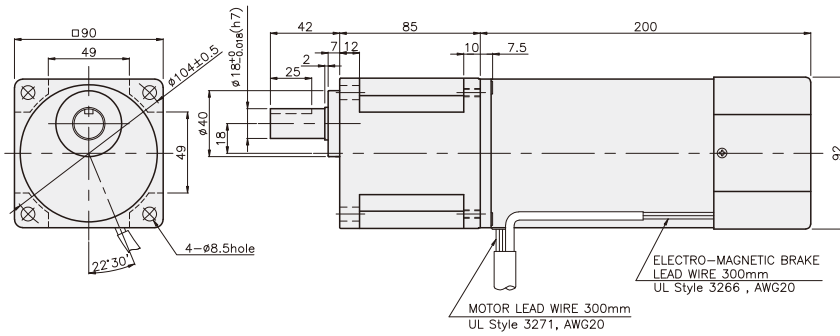
K9□P200F□ + K9P□BU



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

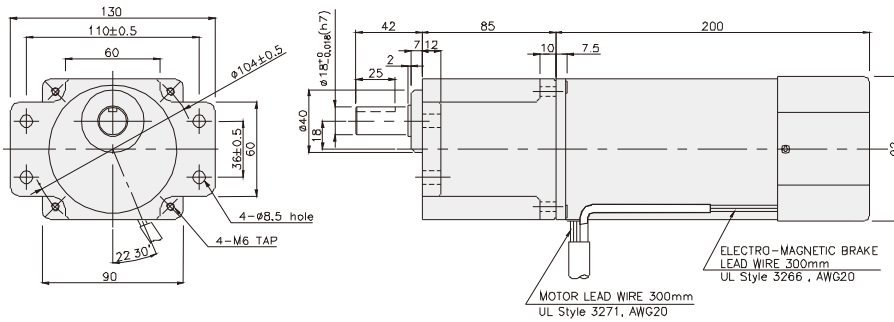
#### DIMENSION TABLE

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

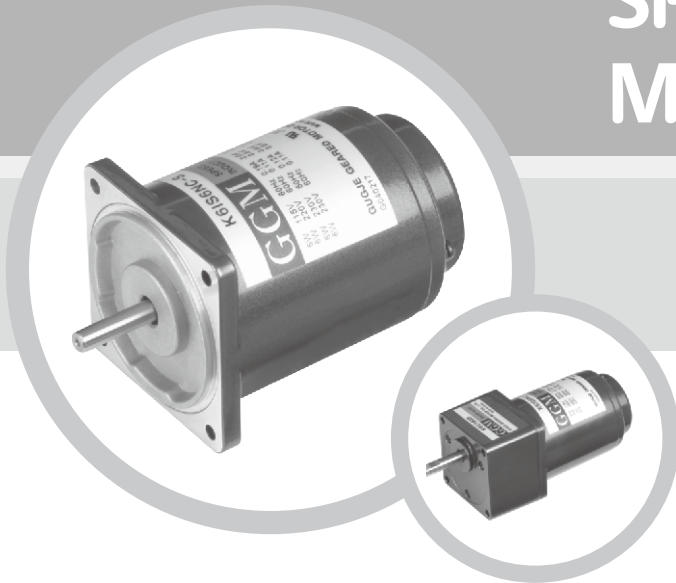
#### WEIGHT

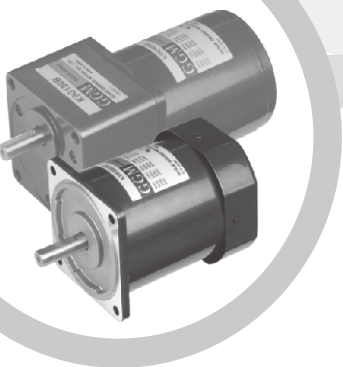
PART	WEIGHT(kg)
K9P3~10BUF	1,50
K9P12,5~20BUF	1,62
K9P25~60BUF	1,76
K9P75~200BUF	1,82

K9IP200F□-B + K9P□BUF



# SPEED CONTROL MOTORS(SU)





## [Characteristics of Speed Control Motor]

### 1. Characteristics of Speed Control Motor

- By using it with the speed controller, a wide range of speed can be controlled (50Hz : 90~1400rpm, 60Hz : 90~1700rpm). The speed can be controlled easily with the speed controller.
- Depending on the type of speed controller, it can be combined with the motor for various purposes such as speed-control, braking, slow run, slow stop, etc.
- Built in T.G. (Tacho Generator) to control the feedback. Thus, even if the power frequency is changed but the rotating numbers does not change.
- When the speed control motor with an electronic brake is used with the speed controller, instantaneous braking and electronic braking operate simultaneously for strong braking power.
- The speed control motor with an electronic brake also has a non-excitation run type of electronic brake. Even if the power is off, braking is operated to maintain braking of a load.
- Speed control motors are consisted of the induction motor the reversible motor and the speed control motor with an electronic brake which are small AC motor. The applicable motor should be selected for appropriate uses.
- Output range of the induction motor is 6W~90W (unit types are 6W~180W). The reversible motor has an output range of 6W~40W and the electronic brake motor has an output range of 6W~40W. (However, SR types are 6W~90W.)

### 2. Selection Method

#### (1) Selection of motor and controller

- Is speed control needed only?
- Is instantaneous braking needed?
- Is maintenance of braking power needed?
- How much is the output of the applicable motor?
- Are the slow run, slow stop functions needed?

According to the above conditions, the types of speed control motors and speed controllers are selected.

#### (2) Selection of gear ratio of gearhead

- When the number of rotations of the output shaft of the gear requires A rpm to B rpm, the gear ratio is calculated by using the higher number of rotations (B rpm). For the AC speed control motor, the number of rotations for the motor is calculated with 1300 rpm. (This is the reason for the output torque and the range of use are large at 1300 rpm.)

$$\text{deceleration ratio } i = \frac{1300[\text{rpm}]}{N^2[\text{rpm}]}$$

#### (3) Highest number of rotations and lowest number of rotations of the motor shaft

- When the highest number of rotations is NH and the lowest number of rotations is NL, they are as follows.
- Highest number of rotations of the required motor:  
NH = B x i [rpm]
- Lowest number of rotations of the required motor:  
NL = A x i [rpm]

#### (4) Required torque of the motor

$$T_M = \frac{T_L}{i \times \eta} = [\text{gf} \cdot \text{cm}]$$

The required torque of the motor is found as follows.

$T_M$  : Required torque of the motor [g · cm]

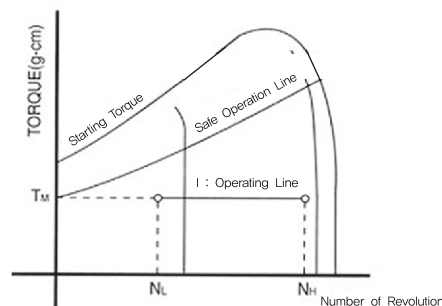
$T_L$  : Torque necessary to operate actual load [g · cm]

$i$  : Reduction ratio

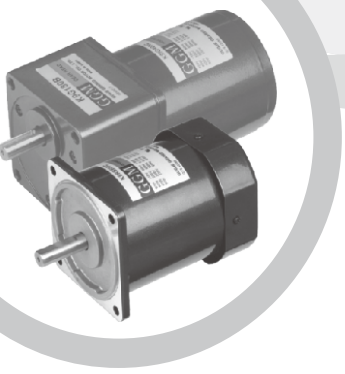
$\eta$  : Efficiency of the gearhead

#### (5) Selection of the motor

- The motor is decided by the required torque  $T_M$ , rotational frequencies NL~NH and the torque-number of rotations curve (hereafter, N-T curve).
- In the case of the AC speed control motor (Fig. 1) of the curves, the moment curve (i curve) selects the motor below the limit curve. (Even in the area above the limit curve, if the surface temperature of the motor is less than 90°C, then there are no problems with use.)



(Fig. 1) Torque-Number of Revolutions (N-T) Curve

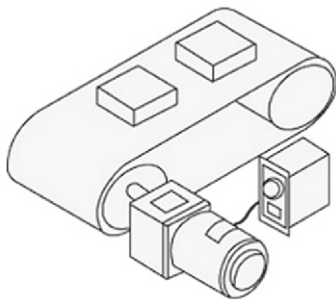


## (6) Selection of gearhead

- After the motor is selected in the above manner, the gearhead is decided with consideration of the torque size of the load. Confirm that the torque of the load is within the torque allowable by the gearhead.

### 3. Sample Calculation for Selection (Fig.2)

With single direction rotation of the belt conveyor, change the speed of the item being transported to 1m/minute, 2m/minute, and 4m/minute.



Drum diameter : 10cm  
 Operating torque : 30kg · cm  
 Power : Single phase 110V 60Hz  
 Instantaneous braking in emergencies, but no holding power.

#### (1) Motor and controller

- Rotation is in one direction and there is no holding power. Therefore, the induction motor is selected.

#### (2) Revolutions of output shaft of gearhead

- The number of rotations of the gearhead shaft when the belt conveyor speed is 1m/minute.

$$\text{Number of rotations} = \frac{\text{Speed of belt conveyor}}{\text{Outer diameter of drum}} = \frac{100}{10 \pi} = 3.18[\text{rpm}]$$

- Number of rotations of the gearhead shaft when the belt conveyor speed is 2m/minute.

$$\text{Number of rotations} = \frac{\text{Speed of belt conveyor}}{\text{Outer diameter of drum}} = \frac{200}{10 \pi} = 6.37[\text{rpm}]$$

- Number of rotations of the gearhead shaft when the belt conveyor speed is 4m/minute.

$$\text{Number of rotations} = \frac{\text{Speed of belt conveyor}}{\text{Outer diameter of drum}} = \frac{400}{10 \pi} = 12.74[\text{rpm}]$$

#### (3) Gear ratio

- The gear ratio is calculated using the higher number of rotations of the gearhead.

$$\frac{\text{Number of rotations of the motor}}{\text{Number of rotations of the gearhead}} = \frac{1300}{12.74} = 102$$

Using 102, since there is no such reduction ratio as 1/102, 1/100 is selected.

#### (4) Number of rotations of motor shaft

- The number of rotations of the motor shaft is calculated by the number of rotations of the gearhead shaft x reduction ratio for each speed of the belt conveyor to get the following.
  - 3.18 x 100 = 318 [rpm]
  - 6.37 x 100 = 637 [rpm]
  - 12.74 x 100 = 1274 [rpm]

#### (5) Required torque of motor

The transfer efficiency of a gearhead with gear ratio 100 is 66%, so the required torque of the motor is

$$\frac{\text{Operating torque}}{\text{Gear ratio x Efficiency}} = \frac{30}{100 \times 0.66} = 0.45[\text{kg} \cdot \text{cm}]$$

#### (6) Selection of motor

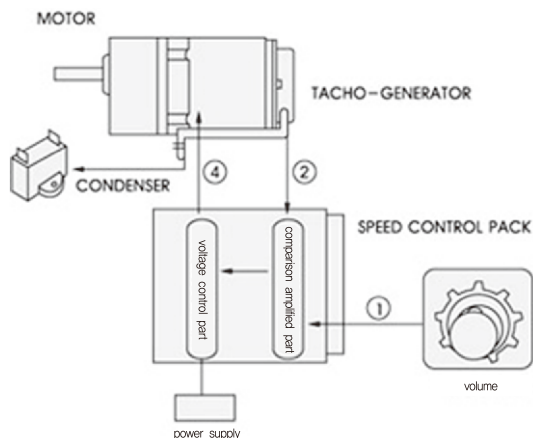
- From the N-T curve of the induction motor, it can be seen that the K8IG25NC-S motor and the K8G100B gearhead can be combined to use. However, in such a case, make sure that the inertia load should fall within the specification of the selected motor.



## 4. The Principle of Speed Control

### (1) The principle of speed control

- (Fig. 3) is the basic speed control structure of the close loop current control method. The following are explanations of close loop speed control.

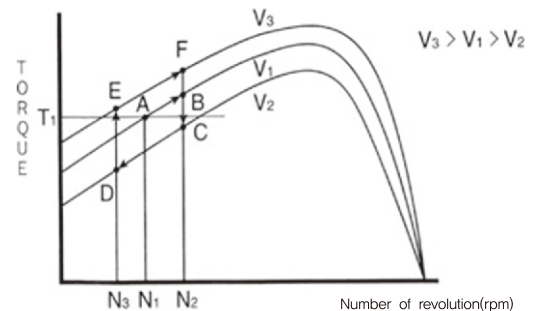


(Fig. 3) Basic structure of speed control for the close loop voltage control method

- If Tacho-Generator changes the voltage that is proportional to the rotations, make comparison between the number of rotations of the motor and the voltage preset by the volume.
- This difference in voltage is called "comparative voltage".
- Comparative voltage operates the motor through the voltage amplifier and the voltage controller.
- Comparative voltage is mostly controlled by zero-crossing. Number of rotations is decided by the value that the speed controller selects.
- Even when the load changes, the number of rotations does not change. When the Tacho-Generator changes, the number of rotations immediately changes with the value.
- Accordingly, close loop speed control detects the number of rotations of the motor and controls the operating voltage to maintain it constantly.

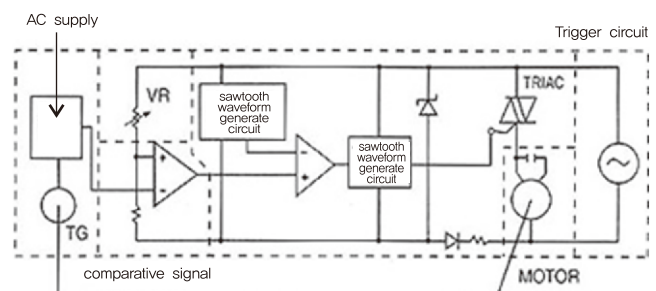
### (2) Primary voltage control by close loop

- The relationship between the torque of the induction motor and the number of rotations is as follows (Fig. 4) when the applied voltage (primary voltage) of the motor is changed.



(Fig. 4)

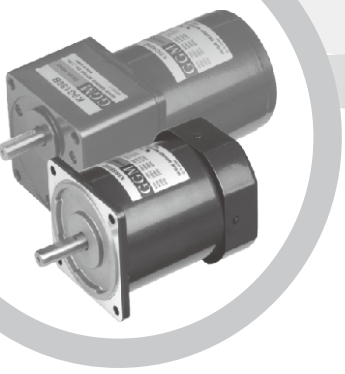
- The current voltage is  $V_1$ , the torque of the load is  $T_1$  and the number of rotations is  $N_1$ . That point is A. Speed is increased to B and when the voltage is changed from  $V_1$  to  $V_2$ , then it moves to C.
- At C, the torque of the load  $T_1$  is larger than the torque of the motor, thus the number of rotations are lower than  $N_2$ .
- When the number of rotations becomes  $N_3$  and the voltage is raised to  $V_3$ , then the generated torque becomes larger than the torque of the load to move to E, and then the speed increases again toward F.
- To stabilize the number of rotations, it has to make loop smaller like  $C \rightarrow D \rightarrow E \rightarrow F$  by controlling the primary voltage.
- During the primary voltage control by close loop, to meet the changes according to the number of rotations of the motor, it should have the primary voltage controlled and maintain the number of rotations constant.



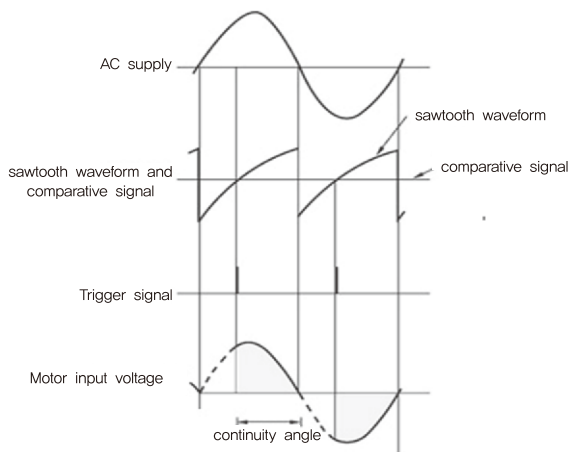
(Fig. 5)

### (3) Operation of speed controller

- The speed controller is explained in (Fig. 5).
- Number of rotations of the motor comes from the Tacho-Generator through feedback voltage through the rectifying circuit.
- The difference between the selected voltage of the speed controller which was controlled in the VR and the feedback voltage is amplified in the comparative amplifier.



- A trigger signal is generated from the sawtooth waveform which comes from the sawtooth waveform generator, comparator from the comparative signal and triac from the trigger circuit.
- The angle of the triac is controlled with the trigger signal to control voltage in the motor.
- This makes the number of rotations of the motor constant, thereby controlling it. Refer to (Fig. 6).

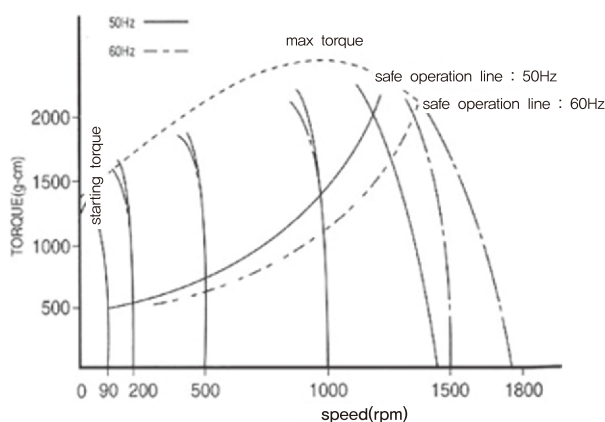


(Fig. 6)

## 5. Limit of Use

### (1) Limit curve

- In the AC speed control motor N-T graph (Fig. 7), the area below the limit curve is called the continuous operation area.
- The limit curve does not go beyond the highest temperature allowed by the motor (continuous for induction motors and 30 minutes rating for reversible motors) and because continuous operation is possible, it is decided by the temperature of the motor.



(Fig. 7) Torque-number of revolutions N-T curve

- Our speed control motor has a class E insulation and the permitted temperature of the winding section is 120°C. Therefore, if the temperature of the winding section is less than 120°C, continuous operation is possible, but it is difficult or the user to measure the temperature of the winding section, continuous operation is generally possible when the surface temperature of the motor housing is less than 90°C. The difference between the winding section of the motor and the housing surface is generally between 10°C~20°C.

### (2) The meaning of for less than 90°C surface temperature of the motor housing

- The highest part of the motor's rising temperature is the winding section. Thus, the highest allowable temperature is decided by the insulation level of the winding section. (Our small AC motor has a class E insulation and the highest allowable temperature is 120°C.)
- The difference between the temperature of the surface of the motor and the winding section is about 10°C~20°C. (A motor with a cooling fan has about 30°C because the cooling fan cools the surface of the motor.)
- When the temperature of the winding section is 120°C, the surface temperature is about 100°C. Therefore, 90°C is the sufficient value.

### (3) Range of use according to instantaneous braking

- Instantaneous braking uses direct current which is half-wave rectified current in the motor thus causing the temperature of the motor to rise rapidly.
- In the N-T graph, the limit curve is in the case of continuous operation, therefore, if instantaneous braking is applied often, the range of the limit decreases.
- For instantaneous braking, temperature rises by frequent braking, thus care should be taken so that the surface temperature of the motor does not exceed 90°C.

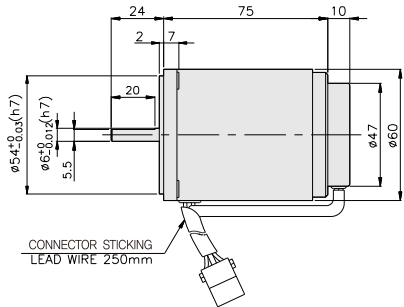
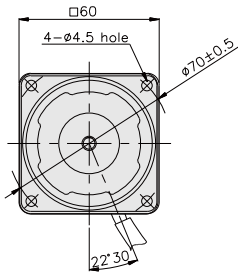
## SPEED CONTROL MOTOR - SU SERIES

**6W**

□60mm

**INDUCTION MOTOR**

K6IS6N□-SU



### SPECIFICATIONS

6W continuous rating, four poles

Model	Voltage (V)	Frequency (Hz)	Speed Range (rpm)	Permissible Torque		Start T. (N·m/Kgf·Cm)	Current (A)	Condenser (μF)
				1200rpm (N·m/Kgf·Cm)	90rpm (N·m/Kgf·Cm)			
K6I□6NJ-SU	100	50	90 ~ 1400	0.05/0.5	0.03/0.3	0.029/0.29	0.28	3
		60	90 ~ 1700					
K6I□6NU-SU	110	60	90 ~ 1700	0.05/0.5	0.03/0.3	0.03/0.3	0.24	2
	115							
K6I□6NL-SU	200	50	90 ~ 1400	0.05/0.5	0.029/0.29	0.03/0.3	0.19	0.8
		60	90 ~ 1700					
K6I□6NC-SU	220	50	90 ~ 1400	0.05/0.5	0.029/0.29	0.029/0.29	0.2	0.6
		60	90 ~ 1700					
	230	50	90 ~ 1400					
		60	90 ~ 1700					
K6I□6ND-SU	240	50	90 ~ 1400	0.05/0.5	0.029/0.29	0.03/0.3	0.21	0.5

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

### RATED TORQUE OF GEARHEAD

● Single-phase 100V/115V

unit = above : N·m / below : Kgf·cm

Model	Ratio	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
K6I□6N□-SU K6G□B(C)	1200	0.12 1.2	0.15 1.5	0.20 2.0	0.24 2.4	0.30 3.0	0.36 3.6	0.41 4.1	0.51 5.1	0.61 6.1	0.73 7.3	0.73 7.3	0.91 9.1	1.09 10.9	1.31 13.1	1.46 14.6	1.64 16.4	1.97 19.7	2.46 24.6	2.95 29.5	3 30	3 30	3 30	3 30	3 30	3 30
	90	0.07 0.7	0.08 0.8	0.12 1.2	0.14 1.4	0.18 1.8	0.21 2.1	0.23 2.3	0.26 2.6	0.32 3.2	0.42 4.2	0.42 4.2	0.53 5.3	0.63 6.3	0.76 7.6	0.85 8.5	0.95 9.5	1.14 11.4	1.43 14.3	1.71 17.1	1.90 19.0	2.28 22.8	2.85 28.5	3 30	3 30	3 30

● Single-phase 200V/240V

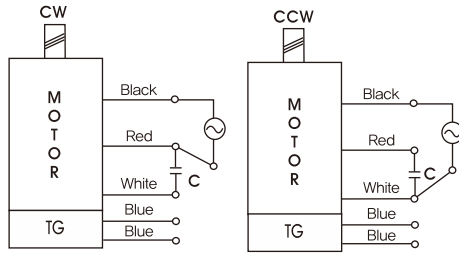
unit = above : N·m / below : Kgf·cm

Model	Ratio	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
K6I□6N□-SU K6G□B(C)	1200	0.12 1.2	0.15 1.5	0.20 2.0	0.24 2.4	0.30 3.0	0.36 3.6	0.41 4.1	0.51 5.1	0.61 6.1	0.73 7.3	0.73 7.3	0.91 9.1	1.09 10.9	1.31 13.1	1.46 14.6	1.64 16.4	1.97 19.7	2.46 24.6	2.95 29.5	3 30	3 30	3 30	3 30	3 30	3 30
	90	0.07 0.7	0.08 0.8	0.12 1.2	0.14 1.4	0.18 1.8	0.21 2.1	0.23 2.3	0.29 2.9	0.35 3.5	0.42 4.2	0.42 4.2	0.53 5.3	0.63 6.3	0.76 7.6	0.85 8.5	0.95 9.5	1.14 11.4	1.43 14.3	1.71 17.1	1.90 19.0	2.28 22.8	2.85 28.5	3 30	3 30	3 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.

## GEARHEADS

### CONNECTION DIAGRAMS



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

### DIMENSIONS

K6G□B(C)

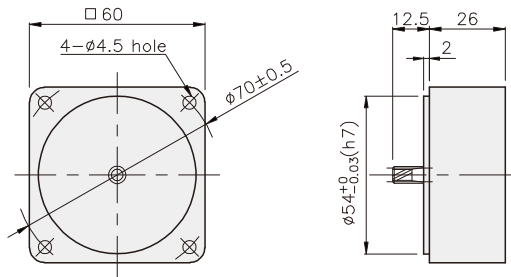


K6IG6N□-SU + K6G□B(C)



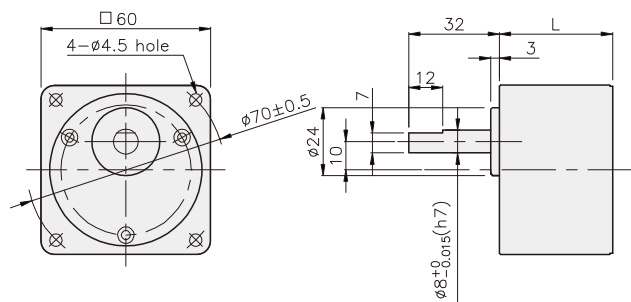
DECIMAL GEARHEAD

K6G10BX



GEARHEAD

K6G□B(C)



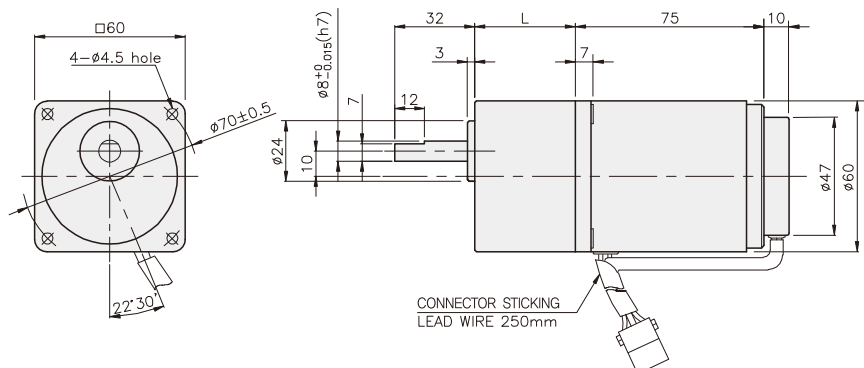
#### DIMENSION TABLE

PART No.	L	Application Model	Mounting BOLT
01	32	K6G3~18B(C)	M4 P0,7 X 50
02	40	K6G20~250B(C)	M4 P0,7 X 60
03	32	K6G10BX	M4 P0,7 X 85

#### WEIGHT

PART	WEIGHT(kg)	
MOTOR	0,79	
DECIMAL GEAR HEAD	0,22	
GEAR HEAD	K6G3~18B(C)	0,26
	K6G20~40B(C)	0,33
	K6G50~250B(C)	0,36

K6IG6N□-SU + K6G□B(C)



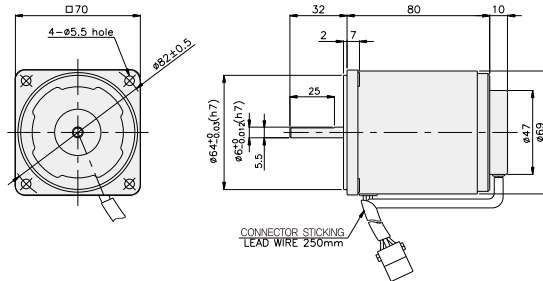
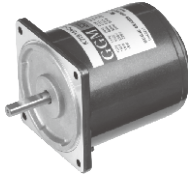
## SPEED CONTROL MOTOR - SU SERIES

### 15W

### □70mm

### INDUCTION MOTOR

K7IS15N□-SU



### SPECIFICATIONS

15W continuous rating, four poles

Model	Voltage (V)	Frequency (Hz)	Speed Range (rpm)	Permissible Torque		Start T. (N*m/Kgf*cm)	Current (A)	Condenser (μF)
				1200rpm (N*m/Kgf*cm)	90rpm (N*m/Kgf*cm)			
K7I□15NJ-SU	100	50	90 ~ 1400	0.125/1.25	0.045/0.45	0.07/0.7	0.55	5
		60	90 ~ 1700					
K7I□15NU-SU	110	60	90 ~ 1700	0.125/1.25	0.045/0.45	0.07/0.7	0.47	4.5
	115					0.075/0.75	0.5	
K7I□15NL-SU	200	50	90 ~ 1400	0.125/1.25	0.04/0.4	0.08/0.8	0.3	1.5
		60	90 ~ 1700			0.085/0.85	0.31	
K7I□15NC-SU	220	50	90 ~ 1400	0.125/1.25	0.04/0.4	0.06/0.6	0.29	1
		60	90 ~ 1700				0.105/1.05	
		50	90 ~ 1400	0.125/1.25		0.065/0.65	0.3	
		60	90 ~ 1700				0.105/1.05	
K7I□15ND-SU	240	50	90 ~ 1400	0.125/1.25	0.04/0.4	0.07/0.7	0.32	1

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

### RATED TORQUE OF GEARHEAD

#### ● Single-phase 100V/115V

unit = above : N·m / below : Kgf·cm

Model	Ratio	Speed(rpm)																							
		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
K7I□15N□-SU K7G□B(C)	1200	0.30 3.0	0.36 3.6	0.51 5.1	0.61 6.1	0.76 7.6	0.91 9.1	1.01 10.1	1.27 12.7	1.52 15.2	1.82 18.2	1.82 18.2	2.28 22.8	2.73 27.3	3.28 32.8	3.65 36.5	4.10 41.0	4.92 49.2	5 50	5 50	5 50	5 50	5 50	5 50	5 50
	90	0.11 1.1	0.13 1.3	0.18 1.8	0.22 2.2	0.27 2.7	0.33 3.3	0.36 3.6	0.46 4.6	0.55 5.5	0.66 6.6	0.66 6.6	0.82 8.2	0.98 9.8	1.18 11.8	1.31 13.1	1.48 14.8	1.77 17.7	2.21 22.1	2.66 26.6	2.95 29.5	3.54 35.4	4.43 44.3	5 50	5 50

#### ● Single-phase 200V/240V

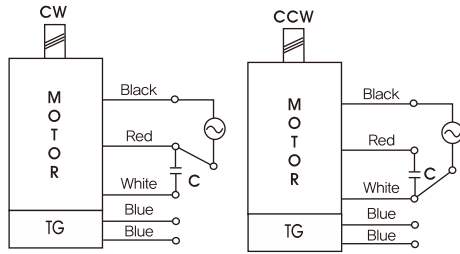
unit = above : N·m / below : Kgf·cm

Model	Ratio	Speed(rpm)																								
		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	
K7I□15N□-SU K7G□B(C)	1200	200V/220V/ 230V/240V/ 50Hz	0.30 3.0	0.36 3.6	0.51 5.1	0.61 6.1	0.76 7.6	0.91 9.1	1.01 10.1	1.27 12.7	1.52 15.2	1.82 18.2	1.82 18.2	2.28 22.8	2.73 27.3	3.28 32.8	3.65 36.5	4.10 41.0	4.92 49.2	6.15 61.5	5 50	5 50	5 50	5 50	5 50	5 50
		200V/220V/ 230V/60Hz	0.26 2.6	0.31 3.1	0.43 4.3	0.51 5.1	0.64 6.4	0.77 7.7	0.85 8.5	1.06 10.6	1.28 12.8	1.53 15.3	1.53 15.3	1.91 19.1	2.30 23.0	2.76 27.6	3.06 30.6	3.44 34.4	4.13 41.3	5 50	5 50	5 50	5 50	5 50	5 50	5 50
	90	0.10 1.0	0.12 1.2	0.16 1.6	0.19 1.9	0.24 2.4	0.29 2.9	0.32 3.2	0.41 4.1	0.49 4.9	0.58 5.8	0.58 5.8	0.73 7.3	0.87 8.7	1.05 10.5	1.17 11.7	1.31 13.1	1.57 15.7	1.97 19.7	2.36 23.6	2.62 26.2	3.15 31.5	3.94 39.4	4.72 47.2	5 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.

## GEARHEADS

### CONNECTION DIAGRAMS

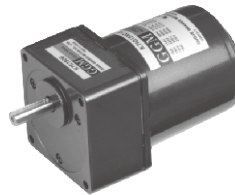


※The direction of motor rotation is as viewed from the front shaft end of the motor

### DIMENSIONS

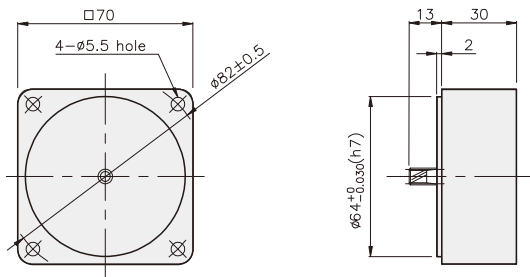
K7G□B(C)

K7IG15N□-SU + K7G□B(C)



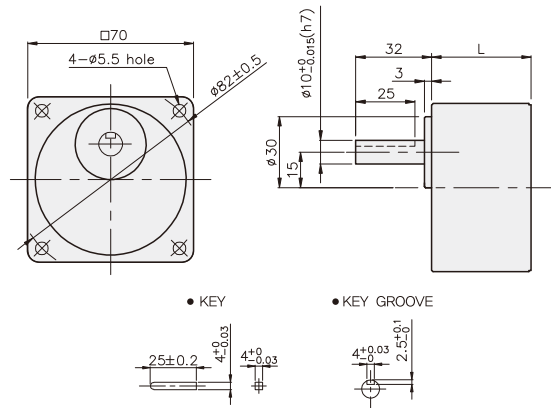
DECIMAL GEARHEAD

K7G10BX



GEARHEAD

K7G□B(C)



SPEED CONTROL MOTOR - SU SERIES

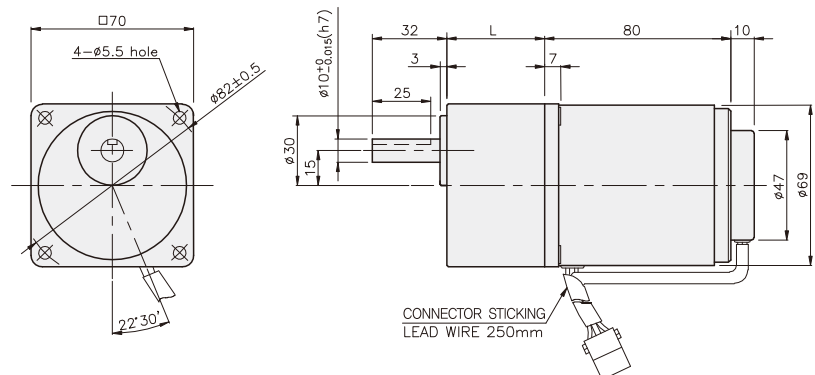
#### DIMENSION TABLE

PART No.	L	Application Model	Mounting BOLT
01	32	K7G3~18B(C)	M5 P0,8 X 50
02	40	K7G20~200B(C)	M5 P0,8 X 65
03	32	K7G10BX	M5 P0,8 X 90

#### WEIGHT

PART	WEIGHT(kg)	
MOTOR	1,16	
DECIMAL GEAR HEAD	0,32	
GEAR HEAD	K7G3~18B(C)	0,36
	K7G20~40B(C)	0,46
	K7G50~200B(C)	0,51

K7IG15N□-SU + K7G□B(C)



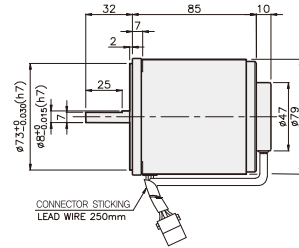
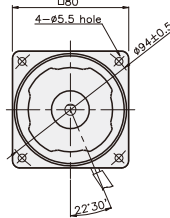
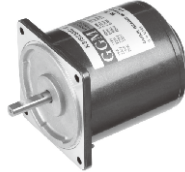
## SPEED CONTROL MOTOR - SU SERIES

### 25W

### □80mm

### INDUCTION MOTOR

K8IS25N□-SU



### SPECIFICATIONS

25W continuous rating, four poles

Model	Voltage (V)	Frequency (Hz)	Speed Range (rpm)	Permissible Torque		Start T. (N*m / Kgf*cm)	Current (A)	Condenser (μF)
				1200rpm (N*m / Kgf*cm)	90rpm (N*m / Kgf*cm)			
K8I□25NJ-SU	100	50	90 ~ 1400	0.2/2	0.05/0.5	0.08 0.8	0.8	7
			90 ~ 1700					
K8I□25NU-SU	110	60	90 ~ 1700	0.2/2	0.05/0.5	0.08 0.8	0.67	5
	115						0.68	
K8I□25NL-SU	200	50	90 ~ 1400	0.19/1.9	0.047/0.47	0.085 0.085	0.36	1.8
		60	90 ~ 1700	0.13/1.3	0.043/0.43		0.38	
K8I□25NC-SU	220	50	90 ~ 1400	0.19/1.9	0.047/0.47	0.08 0.8	0.38	1.5
		60	90 ~ 1700	0.13/1.3	0.043/0.43		0.35	
	230	50	90 ~ 1400	0.19/1.9	0.047/0.47	0.087 0.87	0.4	
		60	90 ~ 1700	0.13/1.3	0.043/0.43		0.36	
K8I□25ND-SU	240	50	90 ~ 1400	0.19/1.9	0.047/0.47	0.08 0.8	0.42	1.2

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

### RATED TORQUE OF GEARHEAD

#### ● Single-phase 100V/115V

unit = above : N·m / below : Kgf·cm

Model	Ratio	Speed(rpm)																									
		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	
K8I□25N□-SU K8G□B(C)	1200	0.49 4.9	0.58 5.8	0.81 8.1	0.97 9.7	1.22 12.2	1.46 14.6	1.62 16.2	2.03 20.3	2.43 24.3	2.92 29.2	2.92 29.2	3.65 36.5	4.37 43.7	5.25 52.5	5.83 58.3	6.56 65.6	7.87 78.7	8 80	8 80	8 80	8 80	8 80	8 80	8 80	8 80	8 80
	90	0.12 1.2	0.15 1.5	0.20 2.0	0.24 2.4	0.30 3.0	0.36 3.6	0.41 4.1	0.51 5.1	0.61 6.1	0.73 7.3	0.73 7.3	0.91 9.1	1.09 10.9	1.31 13.1	1.46 14.6	1.64 16.4	1.97 19.7	2.46 24.6	2.95 29.5	3.28 32.8	3.94 39.4	4.92 49.2	5.90 59.0	6.56 65.6	8 80	

#### ● Single-phase 200V/240V

unit = above : N·m / below : Kgf·cm

Model	Ratio	Speed(rpm)																									
		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	
K8I□25N□-SU K8G□B(C)	1200	200V/220V/230V 240V/50Hz	0.46 4.6	0.55 5.5	0.77 7.7	0.92 9.2	1.15 11.5	1.39 13.9	1.54 15.4	1.92 19.2	2.31 23.1	2.77 27.7	2.77 27.7	3.46 34.6	4.16 41.6	4.99 49.9	5.54 55.4	6.23 62.3	7.48 74.8	9.35 93.5	11.22 112.2	8 80	8 80	8 80	8 80	8 80	8 80
		200V/220V/230V 240V/60Hz	0.32 3.2	0.38 3.8	0.53 5.3	0.63 6.3	0.79 7.9	0.95 9.5	1.05 10.5	1.32 13.2	1.58 15.8	1.90 19.0	1.90 19.0	2.37 23.7	2.84 28.4	3.41 34.1	3.79 37.9	4.26 42.6	5.12 51.2	6.40 64.0	7.68 76.8	8 80	8 80	8 80	8 80	8 80	8 80
	90	200V/220V/230V 240V/50Hz	0.11 1.1	0.14 1.4	0.19 1.9	0.23 2.3	0.29 2.9	0.34 3.4	0.38 3.8	0.48 4.8	0.57 5.7	0.69 6.9	0.69 6.9	0.86 8.6	1.03 10.3	1.23 12.3	1.37 13.7	1.54 15.4	1.85 18.5	2.31 23.1	2.78 27.8	3.08 30.8	3.70 37.0	4.63 46.3	5.55 55.5	6.17 61.7	7.71 77.1
		200V/220V/230V 240V/60Hz	0.10 1.0	0.13 1.3	0.17 1.7	0.21 2.1	0.26 2.6	0.31 3.1	0.35 3.5	0.44 4.4	0.52 5.2	0.63 6.3	0.63 6.3	0.78 7.8	0.94 9.4	1.13 11.3	1.25 12.5	1.41 14.1	1.69 16.9	2.12 21.2	2.54 25.4	2.82 28.2	3.39 33.9	4.23 42.3	5.08 50.8	5.64 56.4	7.05 70.5

\* Gearhead and decimal gearhead are sold separately.

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

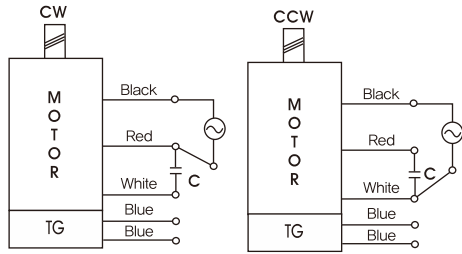
\* ■ color indicates that the output shaft of the geared motor rotates in the same direction as the output shaft of the motor. Others indicate rotation in the opposite direction.

\* 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/60kgf·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.

## GEARHEADS

### CONNECTION DIAGRAMS



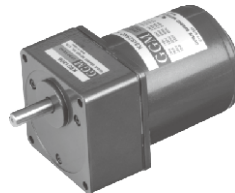
※The direction of motor rotation is as viewed from the front shaft end of the motor

### DIMENSIONS

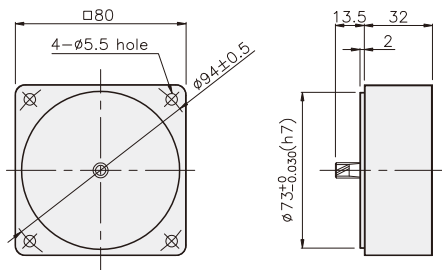
K8G□B(C)



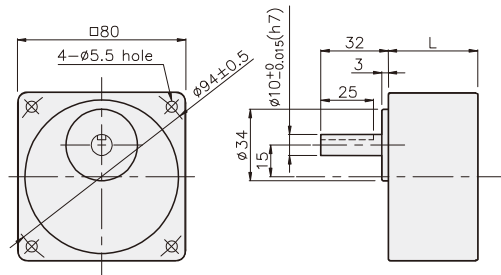
K8IG25N□-SU + K8G□B(C)



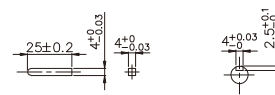
DECIMAL GEARHEAD  
K8G10BX



GEARHEAD  
K8G□B(C)



• KEY      • KEY GROOVE



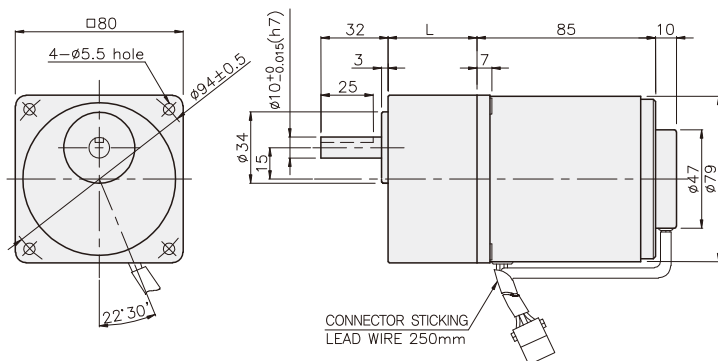
#### DIMENSION TABLE

PART No.	L	Application Model	Mounting BOLT
01	32	K8G3~18B(C)	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	1,60	
DECIMAL GEAR HEAD	0,46	
GEAR HEAD	K8G3~18B(C)	0,51
	K8G20~40B(C)	0,64
	K8G50~250B(C)	0,70

K8IG25N□-SU + K8G□B(C)





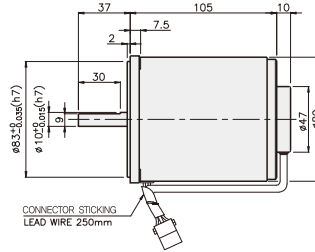
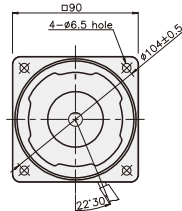
## SPEED CONTROL MOTOR - SU SERIES

**40W**

□90mm

**INDUCTION MOTOR**

**K9IS40N□-SU**



### SPECIFICATIONS

40W continuous rating, four poles

Model	Voltage (V)	Frequency (Hz)	Speed Range (rpm)	Permissible Torque		Start T. (N*m/Kgf*cm)	Current (A)	Condenser (μF)
				1200rpm (N*m/Kgf*cm)	90rpm (N*m/Kgf*cm)			
K9I□40NJ-SU	100	50	90 ~ 1400	0.26/2.6	0.07/0.7	0.14/1.4	1.3	12
		60	90 ~ 1700					
K9I□40NU-SU	110	60	90 ~ 1700	0.26/2.6	0.07/0.7	0.13/1.3	1.1	8
	115							
K9I□40NL-SU	200	50	90 ~ 1400	0.3/3	0.063/0.63	0.14/1.4	0.6	3
		60	90 ~ 1700	0.23/2.3			0.62	
K9I□40NC-SU	220	50	90 ~ 1400	0.3/3	0.063/0.63	0.14/1.4	0.58	2.5
		60	90 ~ 1700	0.23/2.3		0.13/1.3	0.62	
	230	50	90 ~ 1400	0.3/3		0.14/1.4	0.6	
		60	90 ~ 1700	0.23/2.3		0.13/1.3	0.62	
K9I□40ND-SU	240	50	90 ~ 1400	0.3/3	0.063/6.3	0.13/1.3	0.6	2

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

### RATED TORQUE OF GEARHEAD

#### ● Single-phase 100V/115V

unit : above : N·m / below : Kgf·cm

Model	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
Motor/Gearhead	Speed(rpm)																								
K9I□40N□-SU K9G□B(C)	1200	0.63 6.3	0.76 7.6	1.05 10.5	1.26 12.6	1.58 15.8	1.90 19.0	2.11 21.1	2.63 26.3	3.16 31.6	3.79 37.9	3.79 37.9	4.74 47.7	5.69 56.9	6.82 68.2	7.58 75.8	8.53 85.3	10 100	10 100	10 100	10 100	10 100	10 100	10 100	10 100
	90	0.17 1.7	0.20 2.0	0.28 2.8	0.34 3.4	0.43 4.3	0.51 5.1	0.57 5.7	0.71 7.1	0.85 8.5	1.02 10.2	1.02 10.2	1.28 12.8	1.53 15.3	1.84 18.4	2.04 20.4	2.30 23.0	2.76 27.6	3.44 34.4	4.13 41.3	4.59 45.9	5.51 55.1	6.89 68.9	8.27 82.7	9.19 91.9

#### ● Single-phase 200V/240V

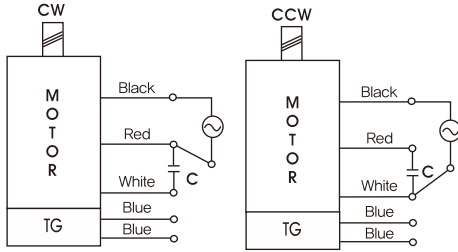
unit : above : N·m / below : Kgf·cm

Model	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
Motor/Gearhead	Speed(rpm)																								
K9I□40N□-SU K9G□B(C)	1200	200V/220V/ 230V/240V/50Hz	0.73 7.3	0.87 8.7	1.22 12.2	1.46 14.6	1.82 18.2	2.19 21.9	2.43 24.3	3.04 30.4	3.65 36.5	4.37 43.7	4.37 43.7	5.47 54.7	6.56 65.6	7.87 78.7	8.75 87.5	10 100	10 100	10 100	10 100	10 100	10 100	10 100	10 100
		200V/220V/ 230V/60Hz	0.56 5.6	0.67 6.7	0.93 9.3	1.12 11.2	1.40 14.0	1.68 16.8	1.86 18.6	2.33 23.3	2.79 27.9	3.35 33.5	3.35 33.5	4.19 41.9	5.03 50.3	6.04 60.4	6.71 67.1	8.38 83.8	10 100	10 100	10 100	10 100	10 100	10 100	10 100
	90	0.15 1.5	0.18 1.8	0.26 2.6	0.31 3.1	0.38 3.8	0.46 4.6	0.51 5.1	0.64 6.4	0.77 7.7	0.92 9.2	0.92 9.2	1.15 11.5	1.38 13.8	1.65 16.5	1.84 18.4	2.07 20.7	2.48 24.8	3.10 31.0	3.72 37.2	4.13 41.3	4.96 49.6	6.20 62.0	7.44 74.4	8.27 82.7

- \* 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.

## GEARHEADS

### CONNECTION DIAGRAMS

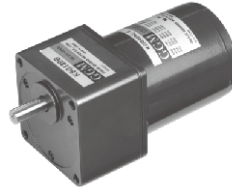


※The direction of motor rotation is as viewed from the front shaft end of the motor

### DIMENSIONS

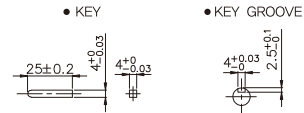
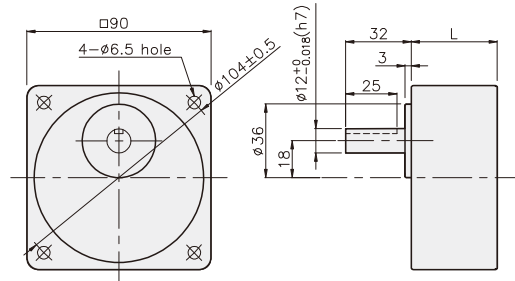
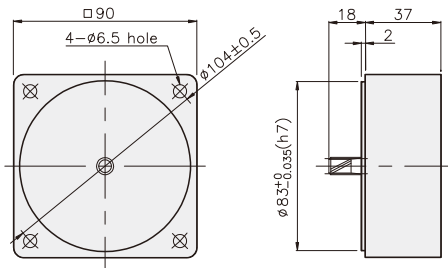
K9G□B(C)

K9IG40N□-SU + K9G□B(C)



DECIMAL GEARHEAD  
K9G10BX

GEARHEAD  
K9G□B(C)



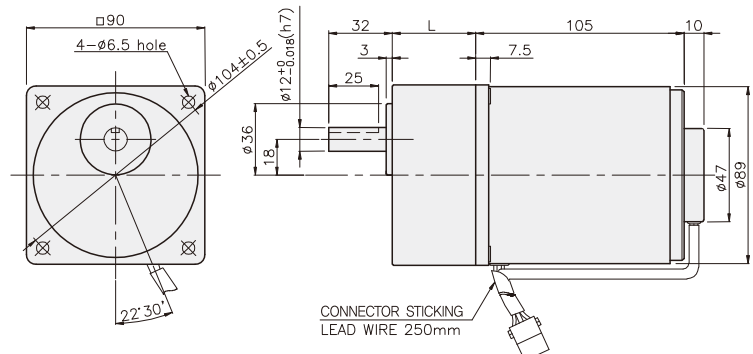
#### DIMENSION TABLE

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	2,48	
DECIMAL GEAR HEAD	0,60	
GEAR HEAD	K9G3~18B(C)	0,78
	K9G20~40B(C)	1,04
	K9G50~200B(C)	1,14

K9IG40N□-SU + K9G□B(C)



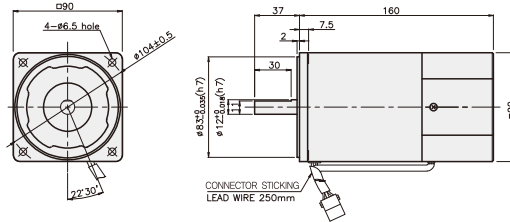
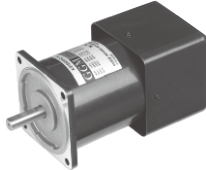
## SPEED CONTROL MOTOR - SU SERIES

**60W**

□90mm

**INDUCTION MOTOR**

**K9IS60F□-SU**



### SPECIFICATIONS

60W continuous rating, four poles

Model	Voltage (V)	Frequency (Hz)	Speed Range (rpm)	Permissible Torque		Start T. (N*m/Kgf*cm)	Current (A)	Condenser (μF)
				1200rpm (N*m/Kgf*cm)	90rpm (N*m/Kgf*cm)			
K9I□60FJ-SU	100	50	90 ~ 1400	0.45/4.5	0.15/1.5	0.24/2.4	2.3	20
			90 ~ 1700					
K9I□60FU-SU	110	60	90 ~ 1700	0.45/4.5	0.15/1.5	0.285/2.85	2	16
	115						2.1	
K9I□60FL-SU	200	50	90 ~ 1400	0.49/4.9	0.14/1.4	0.24/2.4	1.2	5
		60	90 ~ 1700	0.45/4.5	0.16/1.6	0.21/2.1		
K9I□60FC-SU	220	50	90 ~ 1400	0.49/4.9	0.14/1.4	0.24/2.4	0.91	4
		60	90 ~ 1700	0.45/4.5	0.16/1.6	0.21/2.1	0.9	
	230	50	90 ~ 1400	0.49/4.9	0.14/1.4	0.24/2.4	1	
		60	90 ~ 1700	0.45/4.5	0.16/1.6	0.24/2.4		
K9I□60FD-SU	240	50	90 ~ 1400	0.49/4.9	0.14/1.4	0.28/2.8	1.1	4

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

### RATED TORQUE OF GEARHEAD

● **Single-phase 100V/115V**

unit = above : N·m / below : Kgf·cm

Model	Ratio	Speed(rpm)																							
		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
K9I□60F□-SU K9P□B, BF	1200	1.09 10.9	1.31 13.1	1.82 18.2	2.19 21.9	2.73 27.3	3.28 32.8	3.65 36.5	4.10 41.0	4.92 49.2	5.90 59.0	6.56 65.6	7.38 73.8	8.86 88.6	10.63 106.3	11.81 118.1	14.76 147.6	17.71 177.1	20 200	20 200	20 200	20 200	20 200	20 200	20 200
	90	0.36 3.6	0.44 4.4	0.61 6.1	0.73 7.3	0.91 9.1	1.09 10.9	1.22 12.2	1.37 13.7	1.64 16.4	1.97 19.7	2.19 21.9	2.46 24.6	2.95 29.5	3.54 35.4	3.94 39.4	4.92 49.2	5.90 59.0	6.64 66.4	7.97 79.7	8.86 88.6	10.63 106.3	13.29 132.9	15.94 159.4	17.71 177.1

● **Single-phase 200V/240V**

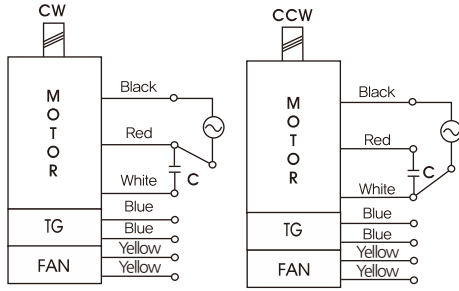
unit = above : N·m / below : Kgf·cm

Model	Ratio	Speed(rpm)																								
		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	
K9I□60F□-SU K9P□B, BF	1200	200V/220V/230V 240V/50Hz	1.19 11.9	1.43 14.3	1.98 19.8	2.38 23.8	2.98 29.8	3.57 35.7	3.97 39.7	4.47 44.7	5.36 53.6	6.43 64.3	7.14 71.4	8.04 80.4	9.64 96.4	11.57 115.7	12.86 128.6	16.07 160.7	19.29 192.9	20 200	20 200	20 200	20 200	20 200	20 200	
		200V/220V 230V/60Hz	1.09 10.9	1.31 13.1	1.82 18.2	2.19 21.9	2.73 27.3	3.28 32.8	3.65 36.5	4.10 41.0	4.92 49.2	5.90 59.0	6.56 65.6	7.38 73.8	8.86 88.6	10.63 106.3	11.81 118.1	14.76 147.6	17.71 177.1	20 200	20 200	20 200	20 200	20 200	20 200	
	90	200V/220V/230V 240V/50Hz	0.34 3.4	0.41 4.1	0.57 5.7	0.68 6.8	0.85 8.5	1.02 10.2	1.13 11.3	1.28 12.8	1.53 15.3	1.84 18.4	2.04 20.4	2.30 23.0	2.76 27.6	3.31 33.1	3.67 36.7	4.59 45.9	5.51 55.1	6.20 62.0	7.44 74.4	8.27 82.7	9.92 99.2	12.40 124.0	14.88 148.8	16.53 165.3
		200V/220V 230V/60Hz	0.39 3.9	0.47 4.7	0.65 6.5	0.78 7.8	0.97 9.7	1.17 11.7	1.30 13.0	1.46 14.6	1.75 17.5	2.10 21.0	2.33 23.3	2.62 26.2	3.15 31.5	3.78 37.8	4.20 42.0	5.25 52.5	6.30 63.0	7.09 70.9	8.50 85.0	9.45 94.5	11.34 113.4	14.17 141.7	17.01 170.1	18.90 189.0

- \* 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.

## GEARHEADS

### CONNECTION DIAGRAMS



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

### DIMENSIONS

K9P□B

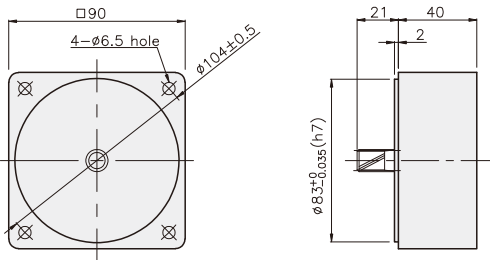


K9P□BF

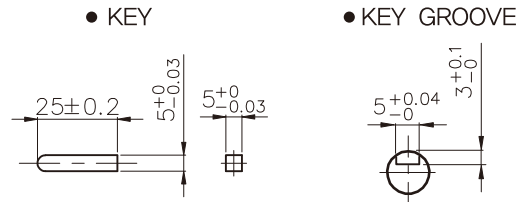


### DECIMAL GEARHEAD

K9P10BX

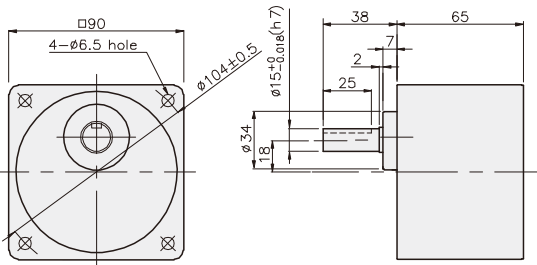


### KEY SPEC

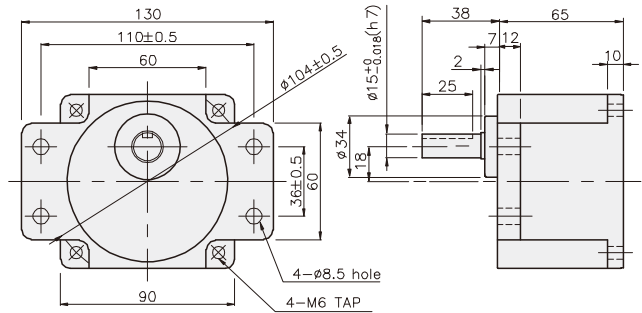


### GEARHEAD

K9P□B



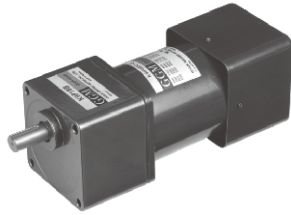
K9P□BF



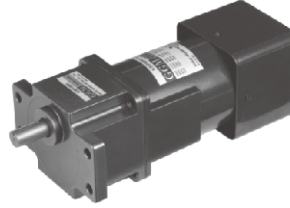
## GEARHEADS

### DIMENSIONS

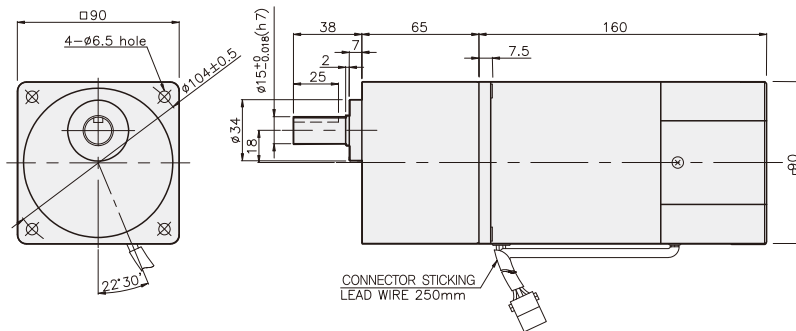
K9IP60F□-SU + K9P□B



K9IP60F□-SU + K9P□BF



K9IP60F□-SU + K9P□B



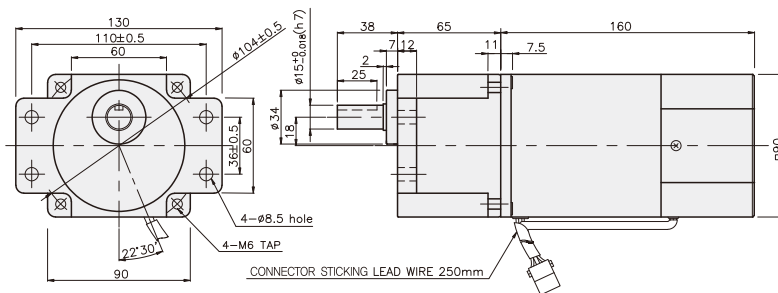
#### DIMENSION TABLE

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	3,06	
DECIMAL GEAR HEAD	0,62	
GEAR HEAD	K9P3~10B	1,22
	K9P12,5~20B	1,32
	K9P25~60B	1,42
	K9P75~200B	1,45

K9IP60F□-SU + 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	3,58	
DECIMAL GEAR HEAD	0,62	
GEAR HEAD	K9P3~10BF	1,22
	K9P12,5~20BF	1,30
	K9P25~60BF	1,42
	K9P75~200BF	1,44

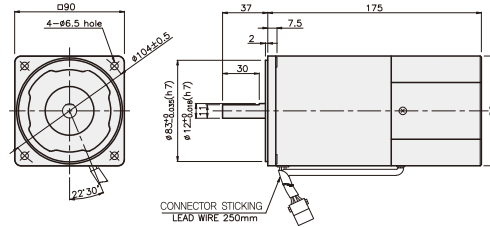
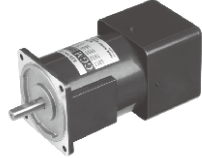
## SPEED CONTROL MOTOR - SU SERIES

### 90W

### □90mm

### INDUCTION MOTOR

K9IS90F□-SU



### SPECIFICATIONS

90W continuous rating, four poles

Model	Voltage (V)	Frequency (Hz)	Speed Range (rpm)	Permissible Torque		Start T. (N*m/Kgf*cm)	Current (A)	Condenser (μF)
				1200rpm (N*m/Kgf*cm)	90rpm (N*m/Kgf*cm)			
K9I□90FJ-SU	100	50	90 ~ 1400	0.7/7	0.23/2.3	0.36/3.6	3.2	30
			90 ~ 1700					
K9I□90FU-SU	110	60	90 ~ 1700	0.7/7	0.23/2.3	0.35/3.5	2.6	20
	115							
K9I□90FL-SU	200	50	90 ~ 1400	0.73/7.3	0.23/2.3	0.36/3.6	1.3	7
		60	90 ~ 1700		0.26/2.6			
K9I□90FC-SU	220	50	90 ~ 1400	0.73/7.3	0.23/2.3	0.36/3.6	1.1	6
		60	90 ~ 1700		0.26/2.6			
	230	50	90 ~ 1400		0.23/2.3	0.4/4	1.2	
		60	90 ~ 1700		0.26/2.6			
K9I□90FD-SU	240	50	90 ~ 1400	0.73/7.3	0.23/2.3	0.36/3.6	1.2	5

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

### RATED TORQUE OF GEARHEAD

#### ● Single-phase 100V/115V

unit = above : N·m / below : Kgf·cm

Model	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
Motor/Gearhead	Speed(rpm)																								
K9I□90F□-SU K9P□B, BF	1200	1.70 17.0	2.04 20.4	2.84 28.4	3.40 34.0	4.25 42.5	5.10 51.0	5.67 56.7	6.38 63.8	7.65 76.5	9.19 91.9	10.21 102.1	11.48 114.8	13.78 137.8	16.53 165.3	18.37 183.7	20 200	20 200	20 200	20 200	20 200	20 200	20 200	20 200	20 200
	90	0.56 5.6	0.67 6.7	0.93 9.3	1.12 11.2	1.40 14.0	1.68 16.8	1.86 18.6	2.10 21.0	2.52 25.2	3.02 30.2	3.35 33.5	3.77 37.7	4.53 45.3	5.43 54.3	6.04 60.4	7.55 75.5	9.05 90.5	10.19 101.9	12.22 122.2	13.58 135.8	16.30 163.0	20 200	20 200	20 200

#### ● Single-phase 200V/240V

unit = above : N·m / below : Kgf·cm

Model	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	
Motor/Gearhead	Speed(rpm)																									
K9I□90F□-SU K9P□B, BF	1200	1.77 17.7	2.13 21.3	2.96 29.6	3.55 35.5	4.43 44.3	5.32 53.2	5.91 59.1	6.65 66.5	7.98 79.8	9.58 95.8	10.64 106.4	11.97 119.7	14.37 143.7	17.24 172.4	19.16 191.6	20 200	20 200	20 200	20 200	20 200	20 200	20 200	20 200	20 200	
	90	200V/220V/ 230V/240V/50Hz	0.56 5.6	0.67 6.7	0.93 9.3	1.12 11.2	1.40 14.0	1.68 16.8	1.86 18.6	2.10 21.0	2.52 25.2	3.02 30.2	3.35 33.5	3.77 37.7	4.53 45.3	5.43 54.3	6.04 60.4	7.55 75.5	9.05 90.5	10.19 101.9	12.22 122.2	13.58 135.8	16.30 163.0	20 200	20 200	20 200
		200V/220V/ 230V/60Hz	0.63 6.3	0.76 7.6	1.05 10.5	1.26 12.6	1.58 15.8	1.90 19.0	2.11 21.1	2.37 23.7	2.84 28.4	3.41 34.1	3.79 37.9	4.26 42.6	5.12 51.2	6.14 61.4	6.82 68.2	8.53 85.3	10.24 102.4	11.51 115.1	13.82 138.2	15.35 153.5	18.42 184.2	20 200	20 200	20 200

- \* 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.

## GEARHEADS

### RATED TORQUE OF GEARHEAD

#### ● Single-phase 100V/115V

unit = above : N·m / below : Kgf·cm

Model	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
	Motor/Gearhead	Speed(rpm)																								
K9I□90F□-SU K9P□BU, BUF	1200		1.70 17.0	2.04 20.4	2.84 28.4	3.40 34.0	4.25 42.5	5.10 51.0	5.67 56.7	6.38 63.8	7.65 76.5	9.19 91.9	10.21 102.1	11.48 114.8	13.78 137.8	16.53 165.3	18.37 183.7	22.96 229.6	27.56 275.6	30 300	30 300	30 300	30 300	30 300	30 300	30 300
		90	0.56 5.6	0.67 6.7	0.93 9.3	1.12 11.2	1.40 14.0	1.68 16.8	1.86 18.6	2.10 21.0	2.52 25.2	3.02 30.2	3.35 33.5	3.77 37.7	4.53 45.3	5.43 54.3	6.04 60.4	7.55 75.5	9.05 90.5	10.19 101.9	12.22 122.2	13.58 135.8	16.30 163.0	20.37 203.7	24.45 244.5	27.16 271.6

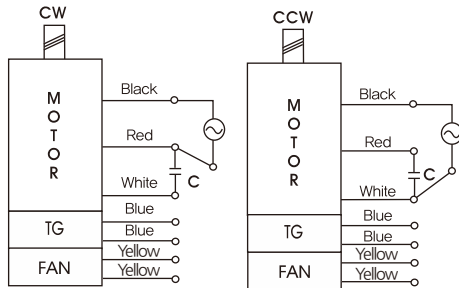
#### ● Single-phase 200V/240V

unit = above : N·m / below : Kgf·cm

Model	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	
	Motor/Gearhead	Speed(rpm)																									
K9I□90F□-SU K9P□BU, BUF	90	1200	1.77 17.7	2.13 21.3	2.96 29.6	3.55 35.5	4.43 44.3	5.32 53.2	5.91 59.1	6.65 66.5	7.98 79.8	9.58 95.8	10.64 106.4	11.97 119.7	14.37 143.7	17.24 172.4	19.16 191.6	23.95 239.5	28.74 287.4	30 300	30 300	30 300	30 300	30 300	30 300	30 300	30 300
		200V/220V/ 230V/240V/ 50Hz	0.56 5.6	0.67 6.7	0.93 9.3	1.12 11.2	1.40 14.0	1.68 16.8	1.86 18.6	2.10 21.0	2.52 25.2	3.02 30.2	3.35 33.5	3.77 37.7	4.53 45.3	5.43 54.3	6.04 60.4	7.55 75.5	9.05 90.5	10.19 101.9	12.22 122.2	13.58 135.8	16.30 163.0	20.37 203.7	24.45 244.5	27.16 271.6	
		200V/220V/ 230V/60Hz	0.63 6.3	0.76 7.6	1.05 10.5	1.26 12.6	1.58 15.8	1.90 19.0	2.11 21.1	2.37 23.7	2.84 28.4	3.41 34.1	3.79 37.9	4.26 42.6	5.12 51.2	6.14 61.4	6.82 68.2	8.53 85.3	10.24 102.4	11.51 115.1	13.82 138.2	15.35 153.5	18.42 184.2	23.03 230.3	27.63 276.3	30 300	

- \* 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.

### CONNECTION DIAGRAMS



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

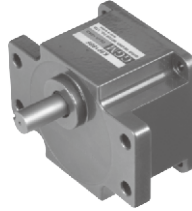
## GEARHEADS

### DIMENSIONS

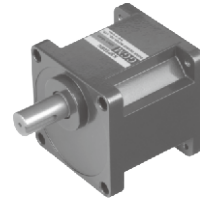
K9P□B



K9P□BF, BUF

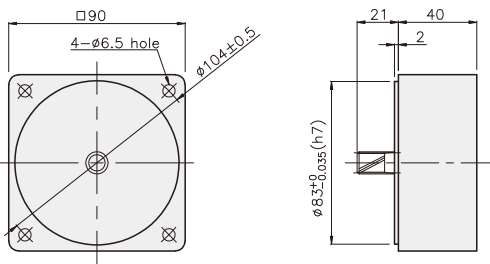


K9P□BU



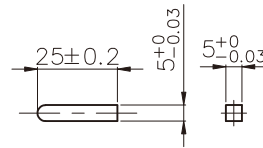
### DECIMAL GEARHEAD

K9P10BX

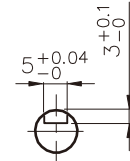


### KEY SPEC

● KEY

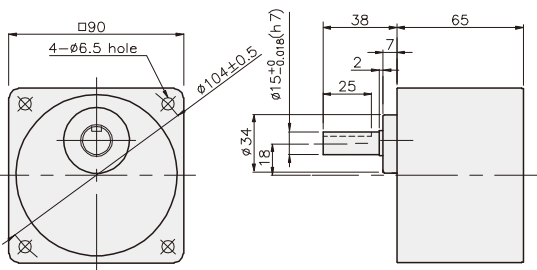


● KEY GROOVE

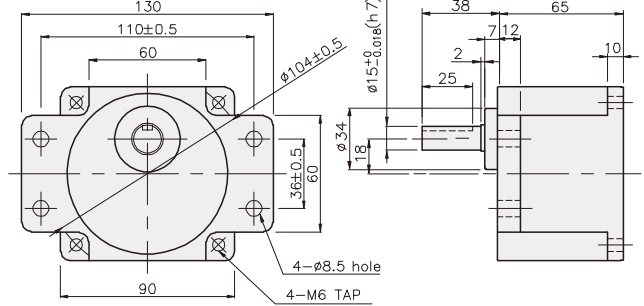


### GEARHEAD

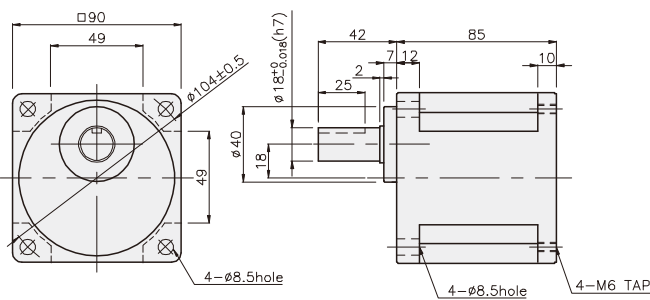
K9P□B



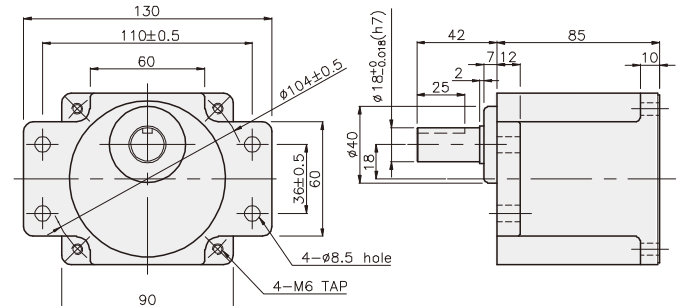
K9P□BF



K9P□BU



K9P□BUF





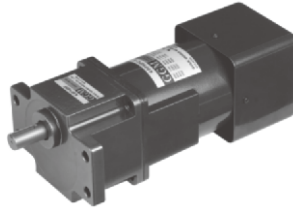
## GEARHEADS

### DIMENSIONS

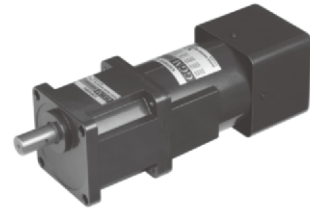
K9IP90F□-SU + K9P□B



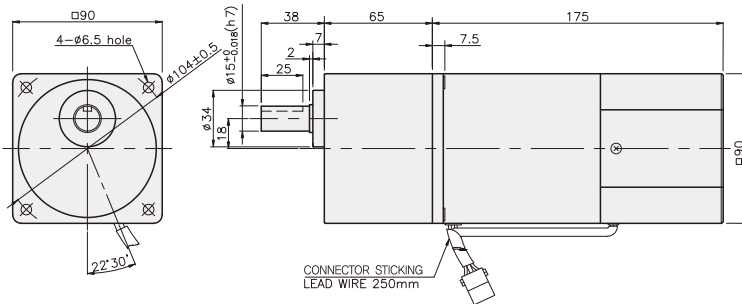
K9IP90F□-SU + K9P□BF, BUF



K9IP90F□-SU + K9P□BU



K9IP90F□-SU + K9P□B



#### WEIGHT

PART	WEIGHT(kg)
MOTOR	3,06
DECIMAL GEAR HEAD	0,62

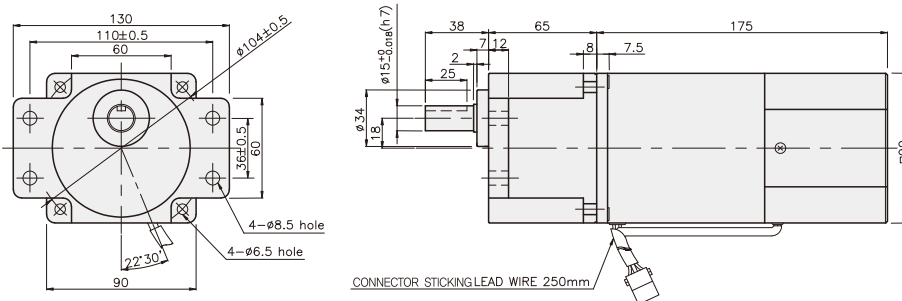
#### DIMENSION TABLE

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

K9IP90F□-SU + K9P□BF



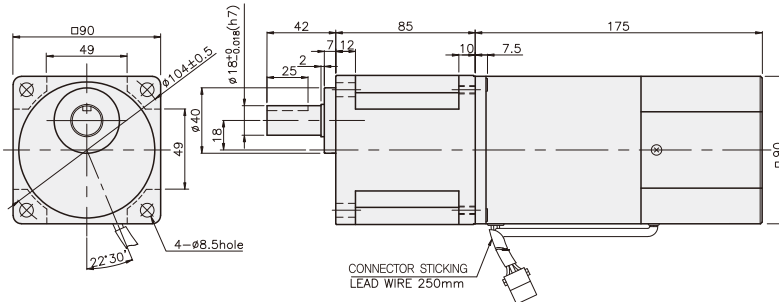
#### DIMENSION TABLE

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

K9IP90F□-SU + K9P□BU



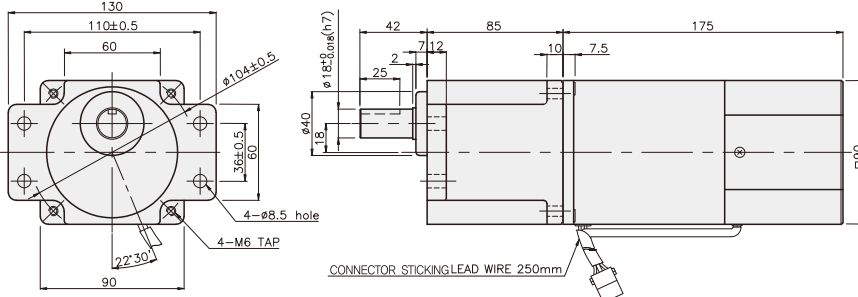
#### DIMENSION TABLE

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

K9IP90F□-SU + 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

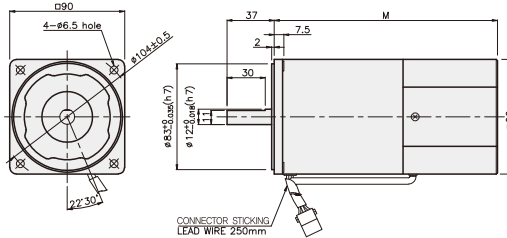
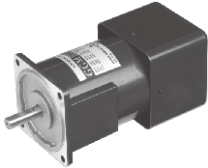
## SPEED CONTROL MOTOR - SU SERIES

### 120W

### □90mm

### INDUCTION MOTOR

K9IS120F□-SU



DIMENSION TABLE

PART No	M	Application Model
01	195	50Hz
02	175	60Hz

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

### SPECIFICATIONS

120W continuous rating, four poles

Model	Voltage (V)	Frequency (Hz)	Speed Range (rpm)	Permissible Torque		Start T. (N*m/Kgf*cm)	Current (A)	Condenser (μF)
				1200rpm (N*m/Kgf*cm)	90rpm (N*m/Kgf*cm)			
K9I□120FJ-SU	100	50	90 ~ 1400	0.83/8.3	0.3/3	0.4/4	3.4	35
		60	90 ~ 1700					
K9I□120FU-SU	110	60	90 ~ 1700	0.83/8.3	0.3/3	0.45/4.5	3.2	30
	115							
K9I□120FL-SU	200	50	90 ~ 1400	0.83/8.3	0.28/2.8	0.4/4	1.4	8.5
		60	90 ~ 1700	0.8/8	0.3/3		1.5	8
K9I□120FC-SU	220	50	90 ~ 1400	0.83/8.3	0.28/2.8	0.4/4	1.2	6
			90 ~ 1700					
	230	60	90 ~ 1400	0.8/8	0.3/3	0.45/4.5	1.4	7
			90 ~ 1700					
K9I□120FD-SU	240	50	90 ~ 1400	0.83/8.3	0.28/2.8	0.4/4	1.3	6

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

### RATED TORQUE OF GEARHEAD

#### ● Single-phase 100V/115V

unit = above : N·m / below : Kgf·cm

Motor/Gearhead	Ratio Speed(rpm)	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
K9I□120F□-SU K9P□B, BF	1200	2.02	2.42	3.36	4.03	5.04	6.05	6.72	7.56	9.08	10.89	12.10	13.61	16.34	19.60	20	20	20	20	20	20	20	20	20	20
	90	0.73	0.87	1.22	1.46	1.82	2.19	2.43	2.73	3.28	3.94	4.37	4.92	5.90	7.09	7.87	9.84	11.81	13.29	15.94	17.71	20	20	20	20

#### ● Single-phase 200V/240V

unit = above : N·m / below : Kgf·cm

Motor/Gearhead	Ratio Speed(rpm)	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	
K9I□120F□-SU K9P□B, BF	1200	200V/220V/230V 240V/50Hz	2.02	2.42	3.36	4.03	5.04	6.05	6.72	7.56	9.08	10.89	12.10	13.61	16.34	19.60	20	20	20	20	20	20	20	20	20	20
		200V/220V 230V/60Hz	1.94	2.33	3.24	3.89	4.86	5.83	6.48	7.29	8.75	10.50	11.66	13.12	15.75	18.90	20	20	20	20	20	20	20	20	20	20
	90	200V/220V/230V 240V/50Hz	0.68	0.82	1.13	1.36	1.70	2.04	2.27	2.55	3.06	3.67	4.08	4.59	5.51	6.61	7.35	9.19	11.02	12.40	14.88	16.53	19.84	20	20	20
		200V/220V 230V/50Hz	0.73	0.87	1.22	1.46	1.82	2.19	2.43	2.73	3.28	3.94	4.37	4.92	5.90	7.09	7.87	9.84	11.81	13.29	15.94	17.71	20	20	20	20

\* 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.

## GEARHEADS

### RATED TORQUE OF GEARHEAD

#### ● Single-phase 100V/115V

unit = above : N·m / below : Kgf·cm

Model	Ratio																									
	Motor/Gearhead	Speed(rpm)	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
K9I□120F□-SU K9P□BU, BUF	1200	2.02 20.2	2.42 24.2	3.36 33.6	4.03 40.3	5.04 50.4	6.05 60.5	6.72 67.2	7.56 75.6	9.08 90.8	10.89 108.9	12.10 121.0	13.61 136.1	16.34 163.4	19.60 196.0	21.78 217.8	27.23 272.3	30 300	30 300	30 300	30 300	30 300	30 300	30 300	30 300	30 300
	90	0.73 7.3	0.87 8.7	1.22 12.2	1.46 14.6	1.82 18.2	2.19 21.9	2.43 24.3	2.73 27.3	3.28 32.8	3.94 39.4	4.37 43.7	4.92 49.2	5.90 59.0	7.09 70.9	7.87 78.7	9.84 98.4	11.81 118.1	13.29 132.9	15.94 159.4	17.71 177.1	21.26 212.6	26.57 265.7	30 300	30 300	30 300

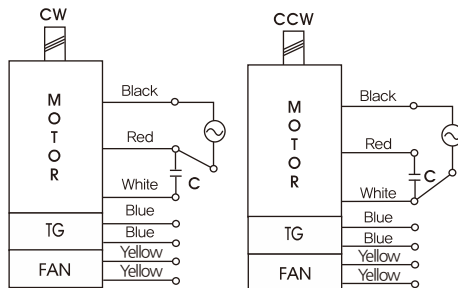
#### ● Single-phase 200V/240V

unit = above : N·m / below : Kgf·cm

Model	Ratio																									
	Motor/Gearhead	Speed(rpm)	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
K9I□120F□-SU K9P□BU, BUF	1200	200V/220V/230V 240V/50HZ	2.02 20.2	2.42 24.2	3.36 33.6	4.03 40.3	5.04 50.4	6.05 60.5	6.72 67.2	7.56 75.6	9.08 90.8	10.89 108.9	12.10 121.0	13.61 136.1	16.34 163.4	19.60 196.0	21.78 217.8	27.23 272.3	30 300	30 300	30 300	30 300	30 300	30 300	30 300	30 300
		200V/220V 230V/60HZ	1.94 19.4	2.33 23.3	3.24 32.4	3.89 38.9	4.86 48.6	5.83 58.3	6.48 64.8	7.29 72.9	8.75 87.5	10.50 105.0	11.66 116.6	13.12 131.2	15.75 157.5	18.90 189.0	21.00 210.0	26.24 262.4	30 300	30 300	30 300	30 300	30 300	30 300	30 300	30 300
	90	200V/220V/230V 240V/50HZ	0.68 6.8	0.82 8.2	1.13 11.3	1.36 13.6	1.70 17.0	2.04 20.4	2.27 22.7	2.55 25.5	3.06 30.6	3.67 36.7	4.08 40.8	4.59 45.9	5.51 55.1	6.61 66.1	7.35 73.5	9.19 91.9	11.02 110.2	12.40 124.0	14.88 148.8	16.53 165.3	19.84 198.4	24.80 248.0	29.76 297.6	30 300
		200V/220V 230V/60HZ	0.73 7.3	0.87 8.7	1.22 12.2	1.46 14.6	1.82 18.2	2.19 21.9	2.43 24.3	2.73 27.3	3.28 32.8	3.94 39.4	4.37 43.7	4.92 49.2	5.90 59.0	7.09 70.9	7.87 78.7	9.84 98.4	11.81 118.1	13.29 132.9	15.94 159.4	17.71 177.1	21.26 212.6	26.57 265.7	30 300	30 300

- \* 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.

### CONNECTION DIAGRAMS



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

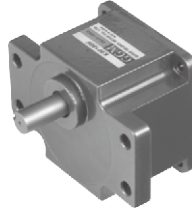
## GEARHEADS

### DIMENSIONS

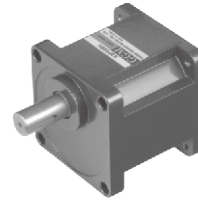
K9P□B



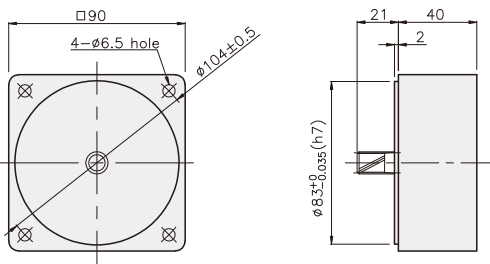
K9P□BF, BUF



K9P□BU

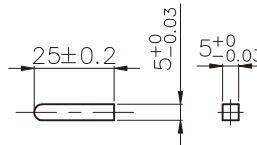


DECIMAL GEARHEAD  
K9P10BX

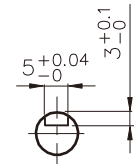


KEY SPEC

● KEY

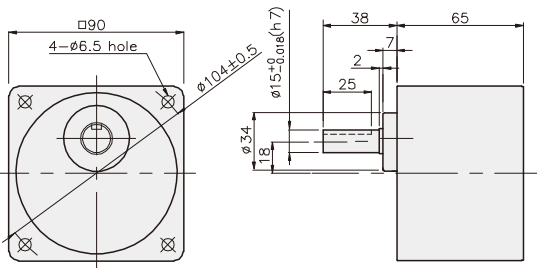


● KEY GROOVE

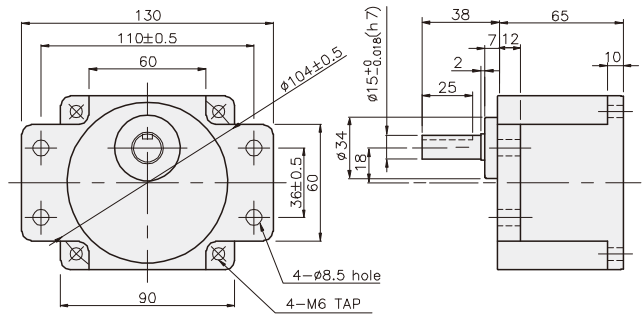


### GEARHEAD

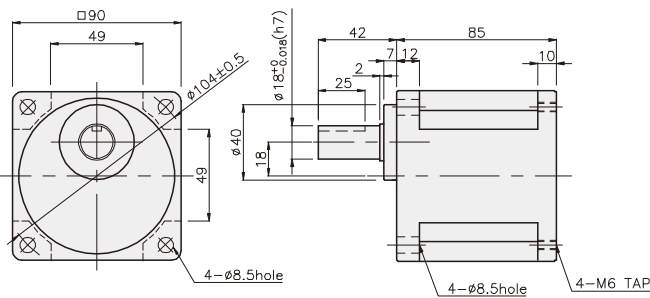
K9P□B



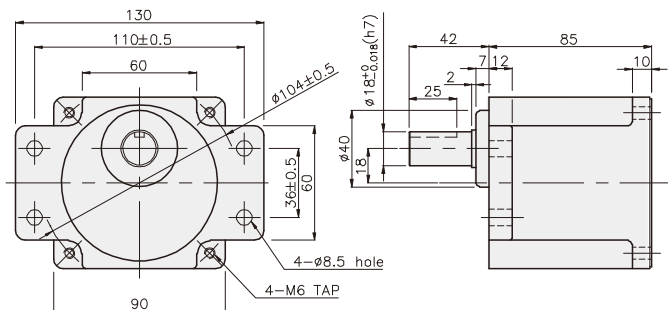
K9P□BF



K9P□BU



K9P□BUF



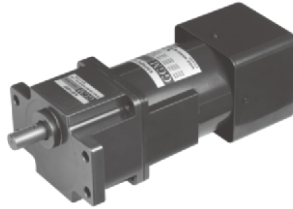
## GEARHEADS

### DIMENSIONS

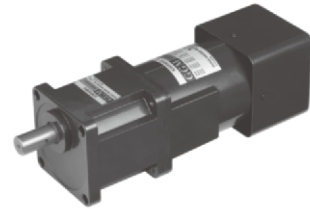
K9IP120F□-SU + K9P□B



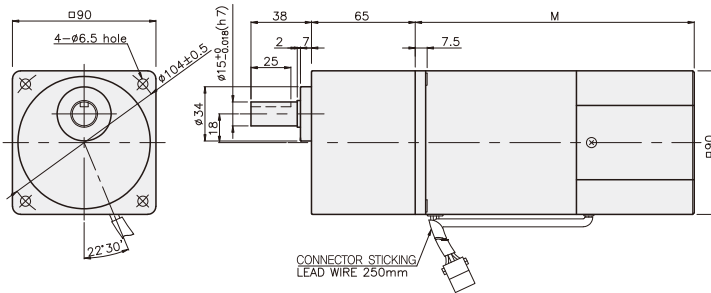
K9IP120F□-SU + K9P□BF, BUF



K9IP120F□-SU + K9P□BU



K9IP120F□-SU + K9P□B



#### WEIGHT

PART	WEIGHT(kg)
MOTOR	3,54
DECIMAL GEAR HEAD	0,62

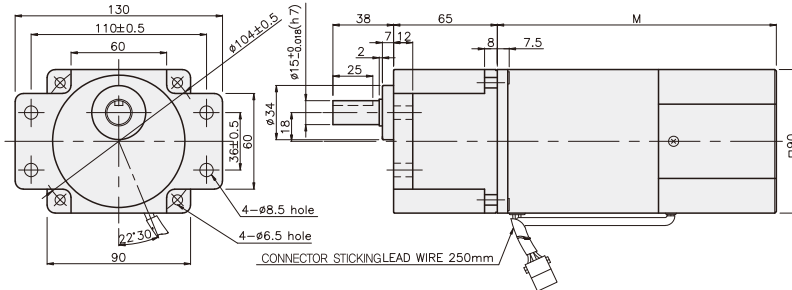
#### DIMENSION TABLE

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

K9IP120F□-SU + K9P□BF



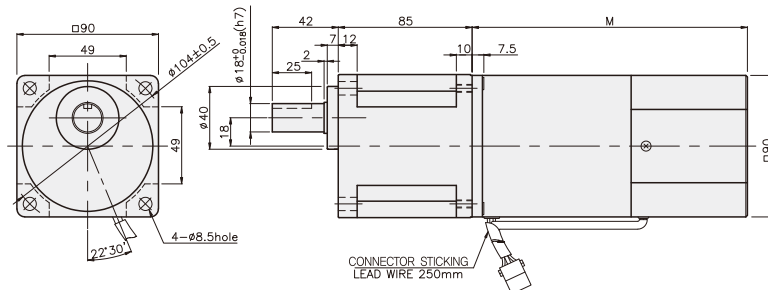
#### WEIGHT

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

K9IP120F□-SU + K9P□BU



#### WEIGHT

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

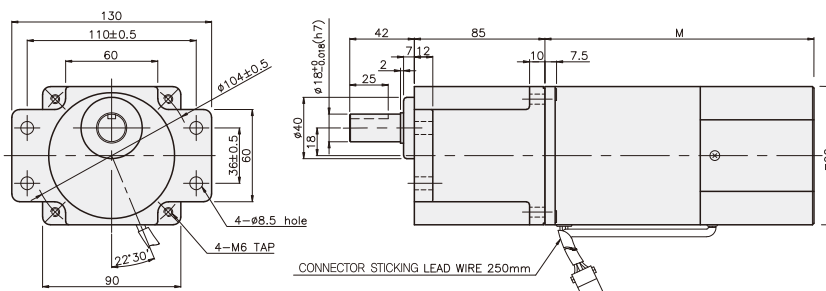
#### DIMENSION TABLE

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

K9IP120F□-SU + 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

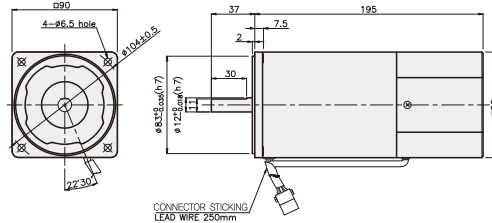
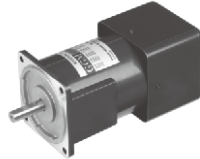
## SPEED CONTROL MOTOR - SU SERIES

### 180W

### □90mm

### INDUCTION MOTOR

K9IS180F□-SU



### SPECIFICATIONS

180W continuous rating, four poles

Model	Voltage (V)	Frequency (Hz)	Speed Range (rpm)	Permissible Torque		Start T. (N*m/Kgf*cm)	Current (A)	Condenser (μF)
				1200rpm (N*m/Kgf*cm)	90rpm (N*m/Kgf*cm)			
K9I□180FJ-SU	100	50	90 ~ 1400	0.9/9	0.35/3.5	0.6/6	5.2	50
		60	90 ~ 1700			0.65/6.5		
K9I□180FU-SU	110	60	90 ~ 1700	0.9/9	0.35/3.5	0.52/5.2	4.8	35
	115					0.55/5.5		
K9I□180FL-SU	200	50	90 ~ 1400	0.9/9	0.3/3	0.5/5	2.2	12
		60	90 ~ 1700			0.42/4.2		
K9I□180FC-SU	220	50	90 ~ 1400	0.9/9	0.3/3	0.45/4.5	2.2	8
		60	90 ~ 1700			0.42/4.2		
	230	50	90 ~ 1400	1/10	0.33/3.3	0.53/5.3	2.4	
		60	90 ~ 1700			0.5/5		
K9I□180FD-SU	240	50	90 ~ 1400	1/10	0.33/3.3	0.6/6	2	8

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

### RATED TORQUE OF GEARHEAD

#### ● Single-phase 100V/115V

unit = above : N·m / below : Kgf·cm

Model	Ratio	Speed(rpm)																							
		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
K9I□180F□-SU K9P□BU, BUF	1200	2.19 21.9	2.62 26.2	3.65 36.5	4.37 43.7	5.47 54.7	6.56 65.6	7.29 72.9	8.20 82.0	9.84 98.4	11.81 118.1	13.12 131.2	14.76 147.6	17.71 177.1	21.26 212.6	23.62 236.2	29.52 295.2	30 300	30 300	30 300	30 300	30 300	30 300	30 300	30 300
	90	0.85 8.5	1.02 10.2	1.42 14.2	1.70 17.0	2.13 21.3	2.55 25.5	2.84 28.4	3.19 31.9	3.83 38.3	4.59 45.9	5.10 51.0	5.74 57.4	6.89 68.9	8.27 82.7	9.19 91.9	11.48 114.8	13.78 137.8	15.50 155.0	18.60 186.0	20.67 206.7	24.80 248.0	30 300	30 300	30 300

#### ● Single-phase 200V/240V

unit = above : N·m / below : Kgf·cm

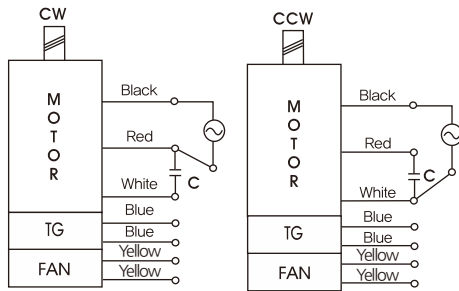
Model	Ratio	Speed(rpm)																							
		3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180	200
K9I□180F□-SU K9P□BU, BUF	1200	200V/220V 50Hz/60Hz	2.19 21.9	2.62 26.2	3.65 36.5	4.37 43.7	5.47 54.7	6.56 65.6	7.29 72.9	8.20 82.0	9.84 98.4	11.81 118.1	13.12 131.2	14.76 147.6	17.71 177.1	21.26 212.6	23.62 236.2	29.52 295.2	30 300	30 300	30 300	30 300	30 300	30 300	30 300
		230V/50Hz/60Hz 240/50Hz	2.43 24.3	2.92 29.2	4.05 40.5	4.86 48.6	6.08 60.8	7.29 72.9	8.10 81.0	3.19 31.9	10.94 109.4	13.12 131.2	14.58 145.8	16.40 164.0	19.68 197	23.62 236	26.24 262	30 300	30 300	30 300	30 300	30 300	30 300	30 300	30 300
	90	200V/220V 50Hz/60Hz	0.73 7.3	0.87 8.7	1.22 12.2	1.46 14.6	1.82 18.2	2.19 21.9	2.43 24.3	2.73 27.3	3.28 32.8	3.94 39.4	4.37 43.7	4.92 49.2	5.90 59.0	7.09 70.9	7.87 78.7	9.84 98.4	11.81 118.1	13.29 132.9	15.94 159.4	17.71 177.1	21.26 212.6	26.57 265.7	30 300
		230V/50Hz/60Hz 240/50Hz	0.80 8.0	0.96 9.6	1.34 13.4	1.60 16.0	2.00 20.0	2.41 24.1	2.41 24.1	3.34 33.4	4.01 40.1	4.81 48.1	5.35 53.5	5.41 54.1	6.50 65.0	7.79 77.9	8.66 86.6	10.83 108.3	12.99 129.2	14.61 146.1	17.54 175.4	19.49 194.9	23.38 233.8	29.23 292.3	30 300

- \* 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.

SPEED CONTROL MOTOR - SU SERIES

## GEARHEADS

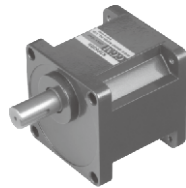
### CONNECTION DIAGRAMS



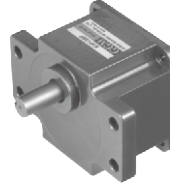
※The direction of motor rotation is as viewed from the front shaft end of the motor

### DIMENSIONS

K9P□BU



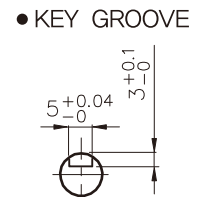
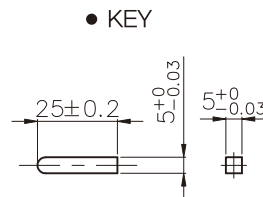
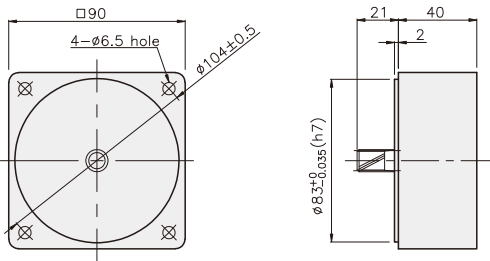
K9P□BUF



### DECIMAL GEARHEAD

K9P10BX

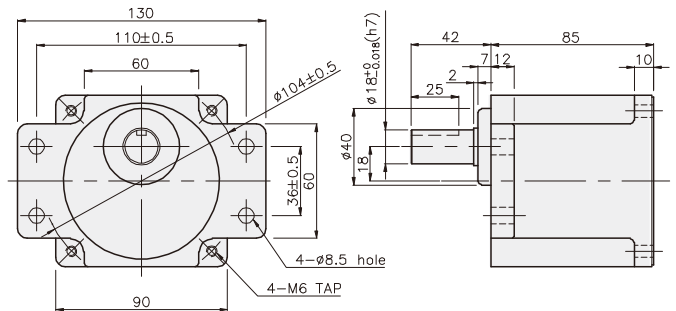
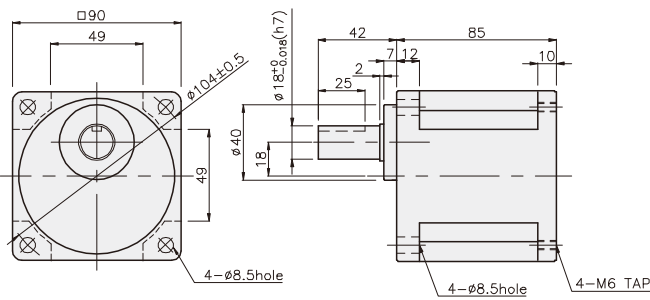
### KEY SPEC



### GEARHEAD

K9P□BU

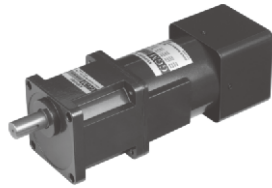
K9P□BUF



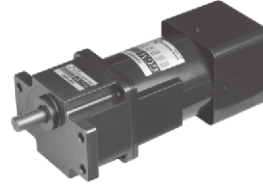
## GEARHEADS

### DIMENSIONS

K9IP180F□-SU + K9P□BU



K9IP180F□-SU + K9P□BUF



#### WEIGHT

PART	WEIGHT(kg)
MOTOR	4,24
DECIMAL GEAR HEAD	0,62

#### DIMENSION TABLE

PART No.	L	Application Model	Mounting BOLT
01	85	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

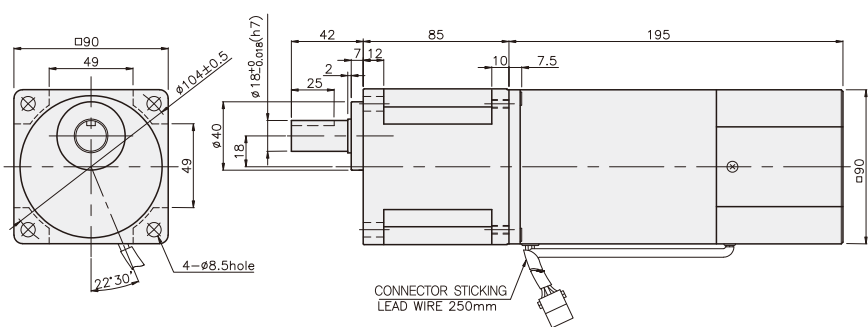
#### DIMENSION TABLE

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

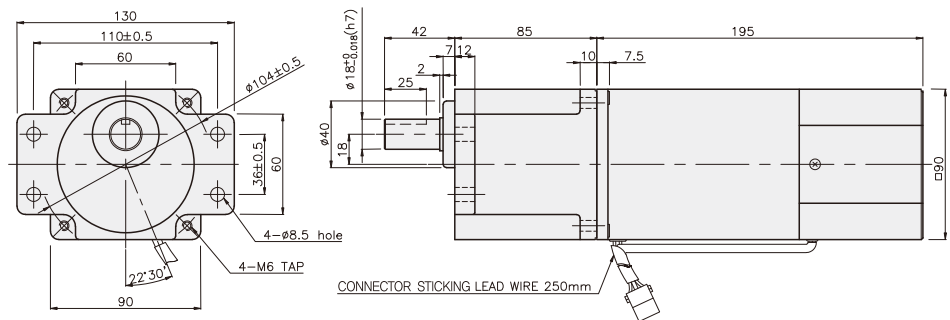
#### WEIGHT

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

K9IP180F□-SU + K9P□BU



K9IP180F□-SU + K9P□BUF





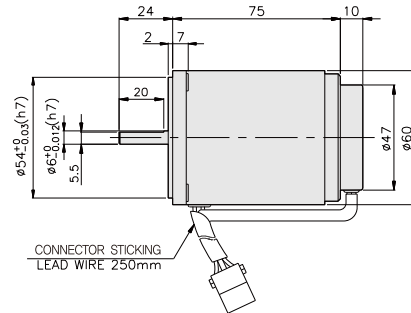
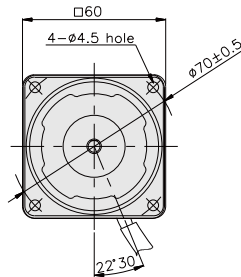
## SPEED CONTROL MOTOR - SU SERIES

### 6W

### □60mm

### REVERSIBLE MOTOR

K6RS6N□-SU



### SPECIFICATIONS

6W 30 minutes rating, four poles

Model	Voltage (V)	Frequency (Hz)	Speed (rpm)	Permissible Torque		Start T. (N·m/kgf·cm)	Current (A)	Condenser (μF)
				1200rpm	90rpm			
				(N·m/kgf·cm)	(N·m/kgf·cm)			
K6R□6NJ-SU	100	50	90 ~ 1400	0.052/0.52	0.035/0.35	0.027/0.27	0.28	3
		60	90 ~ 1700					
K6R□6NU-SU	110	60	90 ~ 1700	0.052/0.52	0.035/0.35	0.035/0.35	0.32	2.5
	115							
K6R□6NL-SU	200	50	90 ~ 1400	0.06/0.6	0.038/0.38	0.037/0.37	0.2	1
		60	90 ~ 1700					
K6R□6NC-SU	220	50	90 ~ 1400	0.052/0.52	0.03/0.3	0.035/0.35	0.2	0.8
		60	90 ~ 1700			0.033/0.33		
	230	50	90 ~ 1400	0.06/0.6	0.038/0.38	0.035/0.35	0.2	
		60	90 ~ 1700			0.033/0.33		
K6R□6ND-SU	240	50	90 ~ 1400	0.052/0.52	0.03/0.3	0.035/0.35	0.22	0.6

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

### RATED TORQUE OF GEARHEAD

#### ● Single-phase 100V/115V

unit = above : N·m / below : kgf·cm

Model	Ratio	Speed(rpm)																									
		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□-SU K6G□B(C)	1200	0.13 1.3	0.15 1.5	0.21 2.1	0.25 2.5	0.32 3.2	0.38 3.8	0.42 4.2	0.53 5.3	0.63 6.3	0.76 7.6	0.76 7.6	0.95 9.5	1.14 11.4	1.36 13.6	1.52 15.2	1.71 17.1	2.05 20.5	2.56 25.6	2.95 29.5	3	3	3	3	3	3	3
	90	0.09 0.9	0.10 1.0	0.14 1.4	0.17 1.7	0.21 2.1	0.26 2.6	0.28 2.8	0.35 3.5	0.43 4.3	0.51 5.1	0.51 5.1	0.64 6.4	0.77 7.7	0.92 9.2	1.02 10.2	1.15 11.5	1.38 13.8	1.72 17.2	2.07 20.7	2.30 23.0	2.76 27.6	3	3	3	3	3

#### ● Single-phase 200V/240V

unit = above : N·m / below : kgf·cm

Model	Ratio	Speed(rpm)																									
		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□-SU K6G□B(C)	1200	200V/230V 50Hz/60Hz	0.15 1.5	0.17 1.7	0.24 2.4	0.29 2.9	0.36 3.6	0.44 4.4	0.49 4.9	0.61 6.1	0.73 7.3	0.87 8.7	0.87 8.7	1.09 10.9	1.31 13.1	1.57 15.7	1.75 17.5	1.97 19.7	2.36 23.6	2.95 29.5	3	3	3	3	3	3	3
		200V 50Hz/60Hz 240V/50Hz	0.13 1.3	0.15 1.5	0.21 2.1	0.25 2.5	0.32 3.2	0.38 3.8	0.42 4.2	0.53 5.3	0.63 6.3	0.76 7.6	0.76 7.6	0.95 9.5	1.14 11.4	1.36 13.6	1.52 15.2	1.71 17.1	2.05 20.5	2.56 25.6	2.95 29.5	3	3	3	3	3	3
	90	200V/230V 50Hz/60Hz	0.09 0.9	0.11 1.1	0.15 1.5	0.18 1.8	0.23 2.3	0.28 2.8	0.31 3.1	0.38 3.8	0.46 4.6	0.55 5.5	0.55 5.5	0.69 6.9	0.83 8.3	1.00 10.0	1.11 11.1	1.25 12.5	1.50 15.0	1.87 18.7	2.24 22.4	2.49 24.9	2.99 29.9	3	3	3	3
		220V 50Hz/60Hz 240V/50Hz	0.07 0.7	0.09 0.9	0.12 1.2	0.15 1.5	0.18 1.8	0.22 2.2	0.24 2.4	0.30 3.0	0.36 3.6	0.44 4.4	0.44 4.4	0.55 5.5	0.66 6.6	0.79 7.9	0.87 8.7	0.98 9.8	1.18 11.8	1.48 14.8	1.77 17.7	1.97 19.7	2.36 23.6	2.95 29.5	3	3	3

\* Gearhead and decimal gearhead are sold separately.

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

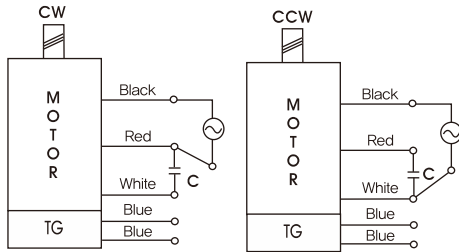
\*   color indicates that the output shaft of the geared motor rotates in the same direction as the output shaft of the motor. Others indicate rotation in the opposite direction.

\* 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.

## GEARHEAD

### CONNECTION DIAGRAMS



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

### DIMENSIONS

K6G□B(C)

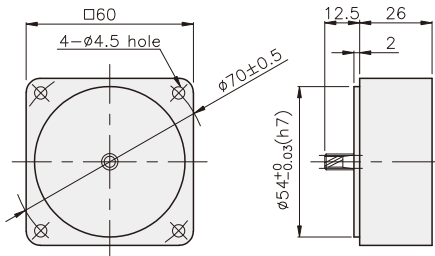


K6RG6N□-SU + K6G□B(C)



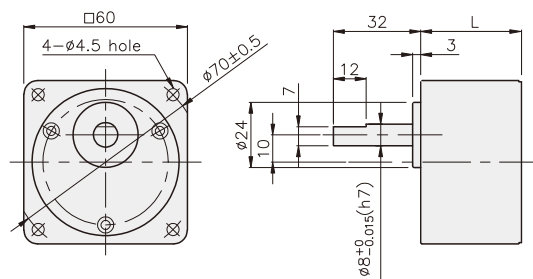
DECIMAL GEARHEAD

K6G10BX



GEARHEAD

K6G□B(C)



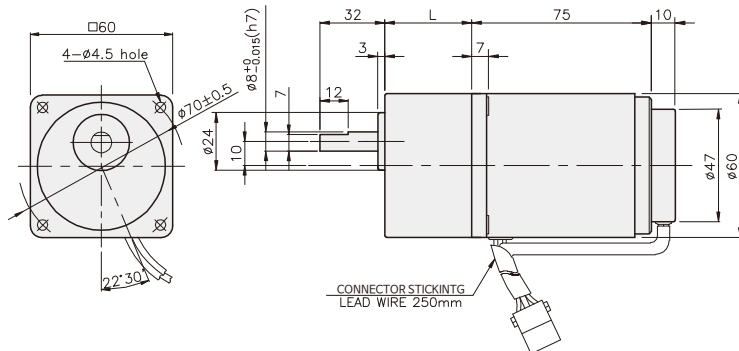
#### DIMENSION TABLE

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

#### WEIGHT

PART	WEIGHT(kg)	
MOTOR	0.79	
DECIMAL GEARHEAD	0.22	
GEAR HEAD	K6G3~18B(C)	0.26
	K6G20~40B(C)	0.33
	K6G50~250B(C)	0.36

K6RG6N□-SU + K6G□B(C)



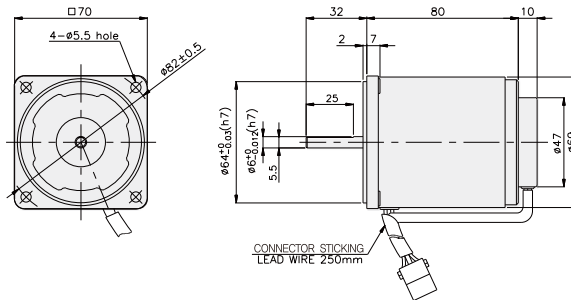
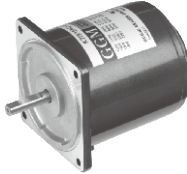
## SPEED CONTROL MOTOR - SU SERIES

15W

□70mm

REVERSIBLE MOTOR

K7RS15N□-SU



### SPECIFICATIONS

15W 30 minutes rating, four poles

Model	Voltage (V)	Frequency (Hz)	Speed (rpm)	Permissible Torque		Start T. (N·m/kgf·cm)	Current (A)	Condenser (μF)
				1200rpm (N·m/kgf·cm)	90rpm (N·m/kgf·cm)			
K7R□15NJ-SU	100	50	90 ~ 1400	0.14/1.4	0.05/0.5	0.085/0.85	0.56	7
			90 ~ 1700					
K7R□15NU-SU	110	60	90 ~ 1700	0.14/1.4	0.05/0.5	0.085/0.85	0.58	6
	115							
K7R□15NL-SU	200	50	90 ~ 1400	0.135/1.35	0.055/0.55	0.09/0.9	0.31	2
			90 ~ 1700					
K7R□15NC-SU	220	50	90 ~ 1400	0.135/1.35	0.05/0.5	0.08/0.8	0.3	1.5
			90 ~ 1700					
		50	90 ~ 1400	0.135/1.35	0.055/0.55	0.085/0.85	0.3	
			90 ~ 1700					
240	50	90 ~ 1400	0.135/1.35	0.05/0.5	0.09/0.9	0.34		

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

### RATED TORQUE OF GEARHEAD

#### ● Single-phase 100V/115V

unit = above : N·m / below : kgf·cm

Model Motor/Gearhead	Ratio Speed(rpm)																								
		3	36	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□-SU K7G□B(C)	1200	0.34 3.4	0.41 4.1	0.57 5.7	0.68 6.8	0.85 8.5	1.02 10.2	1.13 11.3	1.42 14.2	1.70 17.0	2.04 20.4	2.04 20.4	2.55 25.5	3.06 30.6	3.67 36.7	4.08 40.8	4.59 45.9	5 50	5 50	5 50	5 50	5 50	5 50	5 50	5 50
	90	0.12 1.2	0.15 1.5	0.20 2.0	0.24 2.4	0.30 3.0	0.36 3.6	0.41 4.1	0.51 5.1	0.61 6.1	0.73 7.3	0.73 7.3	0.91 9.1	1.09 10.9	1.31 13.1	1.46 14.6	1.64 16.4	1.97 19.7	2.46 24.6	2.95 29.5	3.28 32.8	3.94 39.4	4.92 49.2	5 50	5 50

#### ● Single-phase 200V/240V

unit = above : N·m / below : kgf·cm

Model Motor/Gearhead	Ratio Speed(rpm)																									
		3	36	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□-SU K7G□B(C)	1200	200V/230V 50Hz/60Hz	0.33 3.3	0.39 3.9	0.55 5.5	0.66 6.6	0.82 8.2	0.98 9.8	1.09 10.9	1.37 13.7	1.64 16.4	1.97 19.7	1.97 19.7	2.46 24.6	2.95 29.5	3.54 35.4	3.94 39.4	4.43 44.3	5 50	5 50	5 50	5 50	5 50	5 50	5 50	5 50
		200V 50Hz/60Hz 240V/50Hz	0.28 2.8	0.34 3.4	0.47 4.7	0.56 5.6	0.70 7.0	0.84 8.4	0.93 9.3	1.16 11.6	1.40 14.0	1.68 16.8	1.68 16.8	2.10 21.0	2.52 25.2	3.02 30.2	3.35 33.5	3.77 37.7	4.53 45.3	5 50	5 50	5 50	5 50	5 50	5 50	5 50
	90	200V/230V 50Hz/60Hz	0.13 1.3	0.16 1.6	0.22 2.2	0.27 2.7	0.33 3.3	0.40 4.0	0.45 4.5	0.56 5.6	0.67 6.7	0.80 8.0	0.80 8.0	1.00 10.0	1.20 12.0	1.44 14.4	1.60 16.0	1.80 18.0	2.17 21.7	2.71 27.1	3.25 32.5	3.61 36.1	4.33 43.3	5 50	5 50	
		220V 50Hz/60Hz 240V/50Hz	0.12 1.2	0.15 1.5	0.20 2.0	0.24 2.4	0.30 3.0	0.36 3.6	0.41 4.1	0.51 5.1	0.61 6.1	0.73 7.3	0.73 7.3	0.91 9.1	1.09 10.9	1.31 13.1	1.46 14.6	1.64 16.4	1.97 19.7	2.46 24.6	2.95 29.5	3.28 32.8	3.94 39.4	4.92 49.2	5 50	

\* Gearhead and decimal gearhead are sold separately.

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

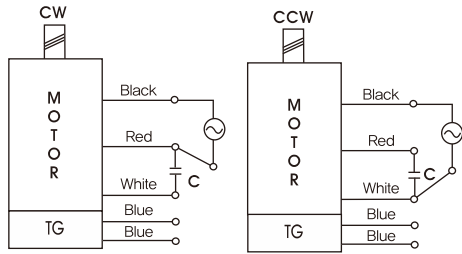
\* ■ color indicates that the output shaft of the geared motor rotates in the same direction as the output shaft of the motor. Others indicate rotation in the opposite direction.

\* 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 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.

## GEARHEAD

### CONNECTION DIAGRAMS



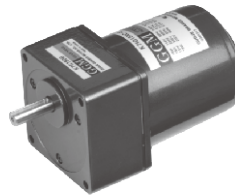
※The direction of motor rotation is as viewed from the front shaft end of the motor

### DIMENSIONS

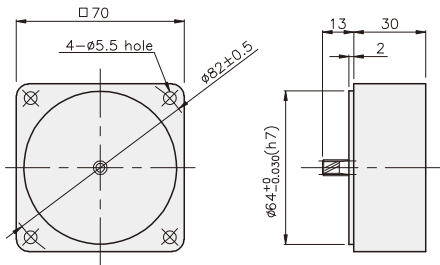
K7G□B(C)



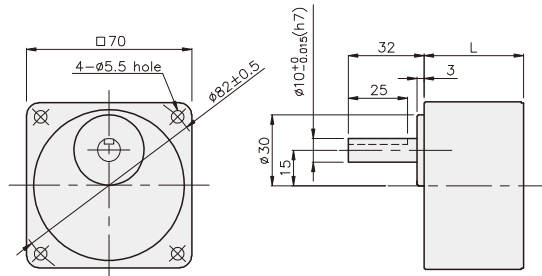
K7RG15N□-SU + K7G□B(C)



DECIMAL GEARHEAD  
K7G10BX

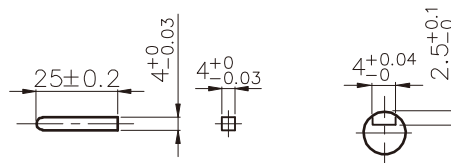


GEARHEAD  
K7G□B(C)



### KEY SPEC

- KEY
- KEY GROOVE



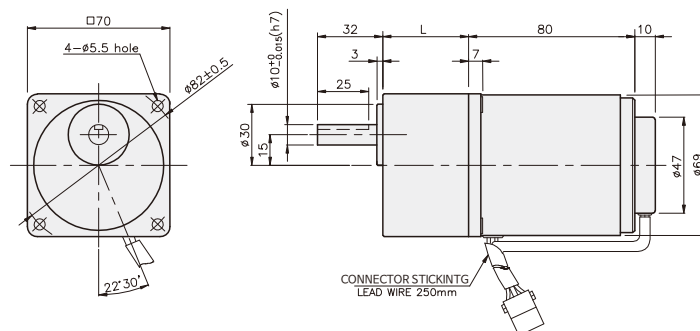
### DIMENSION TABLE

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

### WEIGHT

PART	WEIGHT(kg)	
MOTOR	1.16	
DECIMAL GEARHEAD	0.32	
GEAR HEAD	K7G3~18B(C)	0.36
	K7G20~40B(C)	0.46
	K7G50~200B(C)	0.51

K7RG15N□-SU + K7G□B(C)



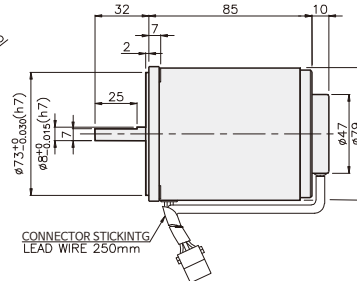
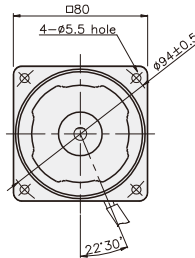
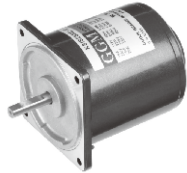
## SPEED CONTROL MOTOR - SU SERIES

### 25W

### □80mm

### REVERSIBLE MOTOR

K8RS25N□-SU



### SPECIFICATIONS

25W 30 minutes rating, four poles

Model	Voltage (V)	Frequency (Hz)	Speed (rpm)	Permissible Torque		Start T. (N·m/kgf·cm)	Current (A)	Condenser (μF)
				1200rpm (N·m/kgf·cm)	90rpm (N·m/kgf·cm)			
K8R□25NJ-SU	100	50	90 ~ 1400	0.22/2.2	0.06/0.6	0.105/1.05	0.85	10
		60	90 ~ 1700					
K8R□25NU-SU	110	60	90 ~ 1700	0.22/2.2	0.06/0.6	0.1/1	0.7	6
	115						0.75	
K8R□25NL-SU	200	50	90 ~ 1400	0.21/2.1	0.055/0.55	0.11/1.1	0.4	2.5
		60	90 ~ 1700	0.16/1.6	0.048/0.48		0.43	
K8R□25NC-SU	220	50	90 ~ 1400	0.21/2.1	0.055/0.55	0.09/0.9	0.4	2
		60	90 ~ 1700	0.16/1.6	0.048/0.48			
	230	50	90 ~ 1400	0.21/2.1	0.055/0.55	0.1/1		
		60	90 ~ 1700	0.16/1.6	0.048/0.48			
K8R□25ND-SU	240	50	90 ~ 1400	0.21/2.1	0.055/0.55	0.09/0.9	0.43	1.5

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

### RATED TORQUE OF GEARHEAD

#### ● Single-phase 100V/115V

unit = above : N·m / below : kgf·cm

Model Motor/Gearhead	Ratio Speed(rpm)																										
		3	36	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□-SU K8G□B(C)	1200	0.53 5.3	0.64 6.4	0.89 8.9	1.07 10.7	1.34 13.4	1.60 16.0	1.78 17.8	2.23 22.3	2.67 26.7	3.21 32.1	3.21 32.1	4.01 40.1	4.81 48.1	5.77 57.7	6.42 64.2	7.22 72.2	8 80	8 80	8 80	8 80	8 80	8 80	8 80	8 80	8 80	8 80
	90	0.15 1.5	0.17 1.7	0.24 2.4	0.29 2.9	0.36 3.6	0.44 4.4	0.49 4.9	0.61 6.1	0.73 7.3	0.87 8.7	0.87 8.7	1.09 10.9	1.31 13.1	1.57 15.7	1.75 17.5	1.97 19.7	2.36 23.6	2.95 29.5	3.54 35.4	3.94 39.4	4.72 47.2	5.90 59.0	7.09 70.9	8 80	8 80	8 80

#### ● Single-phase 200V/240V

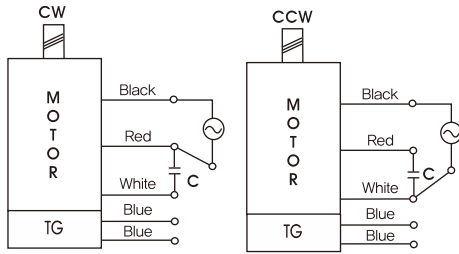
unit = above : N·m / below : kgf·cm

Model Motor/Gearhead	Ratio Speed(rpm)																											
		3	36	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□-SU K8G□B(C)	1200	200V/220V 230V/240V 50Hz	0.51 5.1	0.61 6.1	0.85 8.5	1.02 10.2	1.28 12.8	1.53 15.3	1.70 17.0	2.13 21.3	2.55 25.5	3.06 30.6	3.06 30.6	3.83 38.3	4.59 45.9	5.51 55.1	6.12 61.2	6.89 68.9	8 80	8 80	8 80	8 80	8 80	8 80	8 80	8 80	8 80	8 80
		200V/220V 230V/240V 60Hz	0.39 3.9	0.47 4.7	0.65 6.5	0.78 7.8	0.97 9.7	1.17 11.7	1.30 13.0	1.62 16.2	1.94 19.4	2.33 23.3	2.33 23.3	2.92 29.2	3.50 35.0	4.20 42.0	4.67 46.7	5.25 52.5	6.30 63.0	7.87 78.7	8 80	8 80	8 80	8 80	8 80	8 80	8 80	8 80
	90	200V/220V 230V/240V 50Hz	0.13 1.3	0.16 1.6	0.22 2.2	0.27 2.7	0.33 3.3	0.40 4.0	0.45 4.5	0.56 5.6	0.67 6.7	0.80 8.0	0.80 8.0	1.00 10.0	1.20 12.0	1.44 14.4	1.60 16.0	1.80 18.0	2.17 21.7	2.71 27.1	3.25 32.5	3.61 36.1	4.33 43.3	5.41 54.1	6.50 65.0	7.22 72.2	8 80	
		200V/220V 230V/240V 60Hz	0.12 1.2	0.14 1.4	0.19 1.9	0.23 2.3	0.29 2.9	0.35 3.5	0.39 3.9	0.49 4.9	0.58 5.8	0.70 7.0	0.70 7.0	0.87 8.7	1.05 10.5	1.26 12.6	1.40 14.0	1.57 15.7	1.89 18.9	2.36 23.6	2.83 28.3	3.15 31.5	3.78 37.8	4.72 47.2	5.67 56.7	6.30 63.0	7.87 78.7	

- \* 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.

## GEARHEAD

### CONNECTION DIAGRAMS



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

### DIMENSIONS

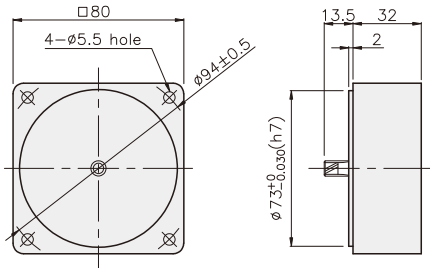
K8G□B(C)



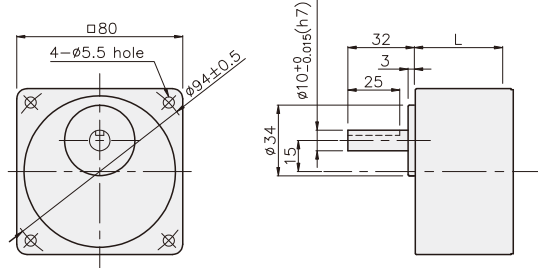
K8RG25N□-SU + K8G□B(C)



DECIMAL GEARHEAD  
K8G10BX



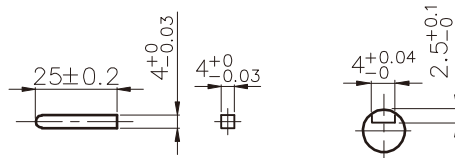
GEARHEAD  
K8G□B(C)



### KEY SPEC

● KEY

● KEY GROOVE



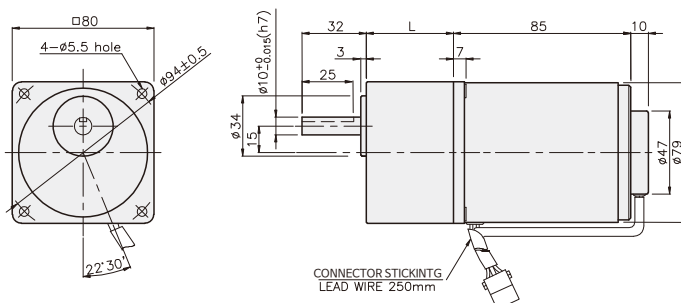
### DIMENSION TABLE

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

### WEIGHT

PART	WEIGHT(kg)	
MOTOR	1.60	
DECIMAL GEARHEAD	0.46	
GEAR HEAD	K8G3~18B(C)	0.51
	K8G20~40B(C)	0.64
	K8G50~250B(C)	0.70

K8RG25N□-SU + K8G□B(C)



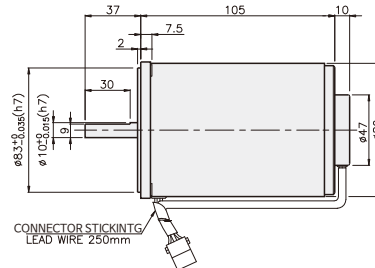
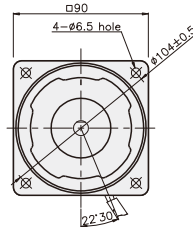
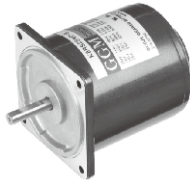
## SPEED CONTROL MOTOR - SU SERIES

### 40W

### □90mm

### REVERSIBLE MOTOR

K9RS40N□-SU



## SPECIFICATIONS

40W 30 minutes rating, four poles

Model	Voltage (V)	Frequency (Hz)	Speed (rpm)	Permissible Torque		Start T. (N·m/kgf·cm)	Current (A)	Condenser (μF)
				1200rpm (N·m/kgf·cm)	90rpm (N·m/kgf·cm)			
K9R□40NJ-SU	100	50	90 ~ 1400	0.3/3	0.075/0.75	0.17/1.7	1.5	16
		60	90 ~ 1700			0.18/1.8	1.6	
K9R□40NU-SU	110	60	90 ~ 1700	0.3/3	0.075/0.75	0.14/1.4	1.5	10
	115					0.13/1.3	1.3	
K9R□40NL-SU	200	50	90 ~ 1400	0.33/3.3	0.07/0.7	0.17/1.7	0.65	4
		60	90 ~ 1700	0.26/2.6		0.72		
K9R□40NC-SU	220	50	90 ~ 1400	0.33/3.3	0.07/0.7	0.17/1.7	0.6	3.5
		60	90 ~ 1700	0.26/2.6		0.16/1.6	0.64	
	230	50	90 ~ 1400	0.33/3.3	0.17/1.7	0.6		
		60	90 ~ 1700	0.26/2.6	0.16/1.6	0.64		
K9R□40ND-SU	240	50	90 ~ 1400	0.33/3.3	0.16/1.6	0.63	3	

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

## RATED TORQUE OF GEARHEAD

### ● Single-phase 100V/115V

unit = above : N·m / below : kgf·cm

Model Motor/Gearhead	Ratio Speed(rpm)																								
		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□-SU K9G□B(C)	1200	0.63 6.3	0.76 7.6	1.05 10.5	1.26 12.6	1.58 15.8	1.90 19.0	2.11 21.1	2.63 26.3	3.16 31.6	3.79 37.9	4.74 47.4	5.69 56.9	6.82 68.2	7.58 75.8	8.53 85.3	10 100	10 100	10 100	10 100	10 100	10 100	10 100	10 100	10 100
	90	0.17 1.7	0.20 2.0	0.28 2.8	0.34 3.4	0.43 4.3	0.51 5.1	0.57 5.7	0.71 7.1	0.85 8.5	1.02 10.2	1.02 10.2	1.28 12.8	1.53 15.3	1.84 18.4	2.04 20.4	2.30 23.0	2.76 27.6	3.44 34.4	4.13 41.3	4.59 45.9	5.51 55.1	6.89 68.9	8.27 82.7	9.19 91.9

### ● Single-phase 200V/240V

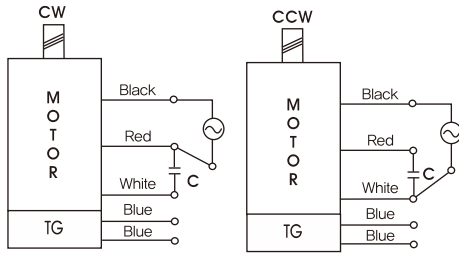
unit = above : N·m / below : kgf·cm

Model Motor/Gearhead	Ratio Speed(rpm)																									
		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□-SU K9G□B(C)	1200	200V/220V	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
		230V/240V	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
	50Hz	0.56	0.67	0.93	1.12	1.40	1.68	1.86	2.33	2.79	3.35	3.35	4.19	5.03	6.04	6.71	8.38	10	10	10	10	10	10	10	10	
	230V/60Hz	5.6	6.7	9.3	11.2	14.0	16.8	18.6	23.3	27.9	33.5	33.5	41.9	50.3	60.4	67.1	83.8	100	100	100	100	100	100	100	100	
90	0.15	0.18	0.26	0.31	0.38	0.46	0.51	0.64	0.77	0.92	0.92	1.15	1.38	1.65	1.84	2.07	2.48	3.10	3.72	4.13	4.96	6.20	7.44	8.27		
	1.5	1.8	2.6	3.1	3.8	4.6	5.1	6.4	7.7	9.2	9.2	11.5	13.8	16.5	18.4	20.7	24.8	31.0	37.2	41.3	49.6	62.0	74.4	82.7		

- \* 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.

## GEARHEAD

### CONNECTION DIAGRAMS



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

### DIMENSIONS

K9G□B(C)

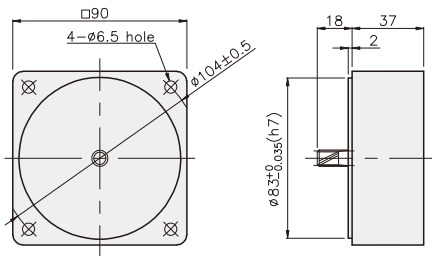


K9RG40N□-SU + K9G□B(C)



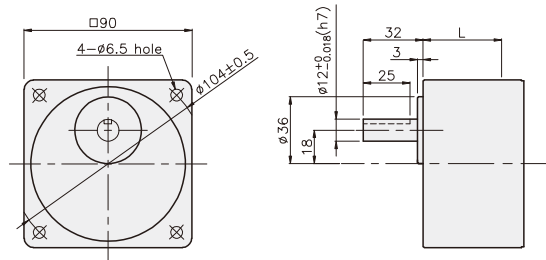
DECIMAL GEARHEAD

K9G10BX



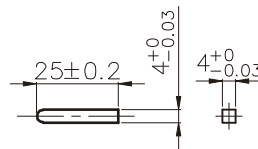
GEARHEAD

K9G□B(C)

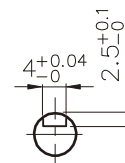


### KEY SPEC

• KEY



• KEY GROOVE



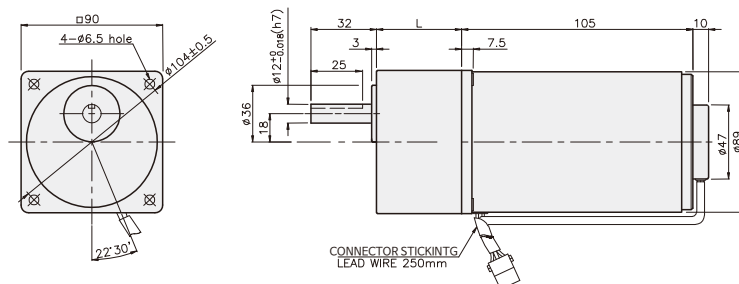
### DIMENSION TABLE

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

### WEIGHT

PART	WEIGHT(kg)	
MOTOR	2.48	
DECIMAL GEARHEAD	0.60	
GEAR HEAD	K9G3~18B(C)	0.78
	K9G20~40B(C)	1.04
	K9G50~200B(C)	1.14

K9RG40N□-SU + K9G□B(C)





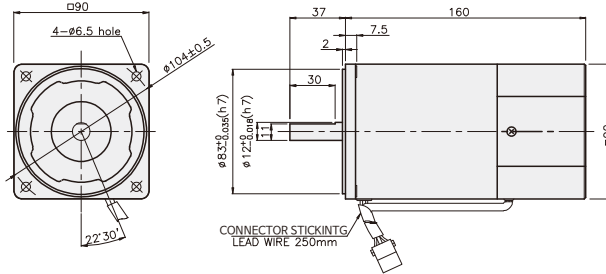
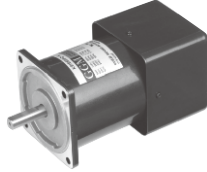
## SPEED CONTROL MOTOR - SU SERIES

### 60W

### □90mm

### REVERSIBLE MOTOR

K9RS60F□-SU



### SPECIFICATIONS

60W 30 minutes rating, four poles

Model	Voltage (V)	Frequency (Hz)	Speed (rpm)	Permissible Torque		Start T. (N·m/kgf·cm)	Current (A)	Condenser (μF)
				1200rpm (N·m/kgf·cm)	90rpm (N·m/kgf·cm)			
K9R□60FJ-SU	100	50	90 ~ 1400	0.5/5	0.17/1.7	0.3/3	2.5	25
		60	90 ~ 1700					
K9R□60FU-SU	110	60	90 ~ 1700	0.5/5	0.17/1.7	0.295/2.95	2.1	17
	115						2.2	
K9R□60FL-SU	200	50	90 ~ 1400	0.5/5	0.15/1.5	0.26/2.6	0.72	6
		60	90 ~ 1700	0.48/4.8	0.17/1.7	0.23/2.3	0.76	
K9R□60FC-SU	220	50	90 ~ 1400	0.5/5	0.15/1.5	0.3/3	0.95	5
		60	90 ~ 1700	0.48/4.8	0.17/1.7	0.26/2.6	0.94	
	230	50	90 ~ 1400	0.5/5	0.15/1.5	0.3	1	
		60	90 ~ 1700	0.48/4.8	0.17/1.7	0.26/2.6	1.2	
K9R□60FD-SU	240	50	90 ~ 1400	0.5/5	0.15/1.5	0.32/3.2	1.2	

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

### RATED TORQUE OF GEARHEAD

#### ● Single-phase 100V/115V

unit = above : N·m / below : kgf·cm

Model	Ratio																								
Motor/Gearhead	Speed(rpm)	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□-SU K9P□B, BF	1200	1.22	1.46	2.03	2.43	3.04	3.65	4.05	4.56	5.47	6.56	7.29	8.20	9.84	11.81	13.12	16.40	19.68	20	20	20	20	20	20	20
	90	0.41	0.50	0.69	0.83	1.03	1.24	1.38	1.55	1.86	2.23	2.48	2.79	3.35	4.02	4.46	5.58	6.69	7.53	9.03	10.04	12.05	15.06	18.07	20

#### ● Single-phase 200V/240V

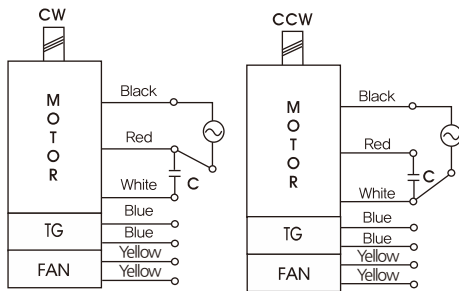
unit = above : N·m / below : kgf·cm

Model	Ratio																									
Motor/Gearhead	Speed(rpm)	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□-SU K9P□B, BF	1200	200V/220V 230V/240V 50Hz	1.22	1.46	2.03	2.43	3.04	3.65	4.05	4.56	5.47	6.56	7.29	8.20	9.84	11.81	13.12	16.40	19.68	20	20	20	20	20	20	
		200V/220V 230V/60Hz	1.17	1.40	1.94	2.33	2.92	3.50	3.89	4.37	5.25	6.30	7.00	7.87	9.45	11.34	12.60	15.75	18.90	20	20	20	20	20	20	
	90	200V/220V 230V/240V 50Hz	0.36	0.44	0.61	0.73	0.91	1.09	1.22	1.37	1.64	1.97	2.19	2.46	2.95	3.54	3.94	4.92	5.90	6.64	7.97	8.86	10.63	13.29	15.94	17.71
		200V/220V 230V/60Hz	0.41	0.50	0.69	0.83	1.03	1.24	1.38	1.55	1.86	2.23	2.48	2.79	3.35	4.02	4.46	5.58	6.69	7.53	9.03	10.04	12.05	15.06	18.07	20

- \* 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.

## GEARHEAD

### CONNECTION DIAGRAMS



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

### DIMENSIONS

K9P□B

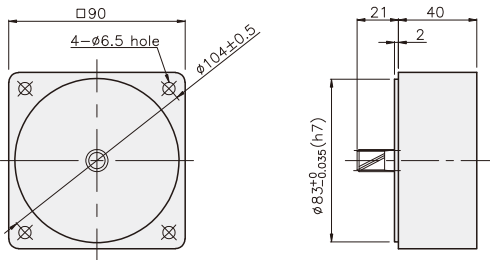


K9P□BF

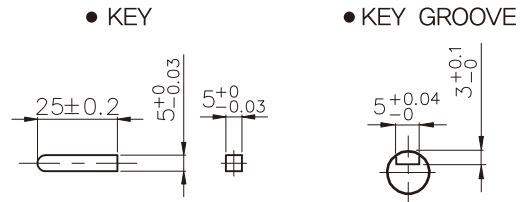


### DECIMAL GEARHEAD

K9P10BX

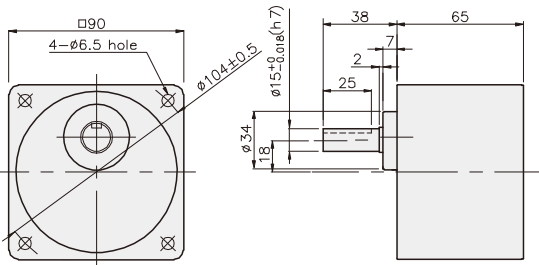


### KEY SPEC

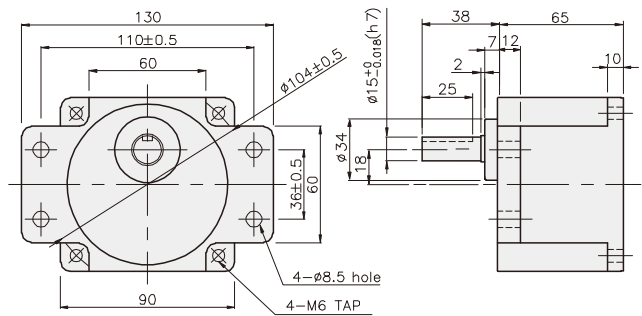


### GEARHEAD

K9P□B



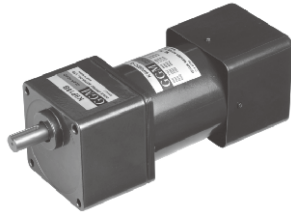
K9P□BF



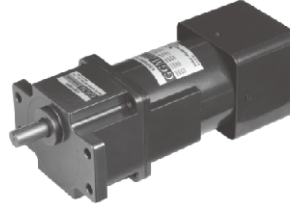
## GEARHEAD

### DIMENSIONS

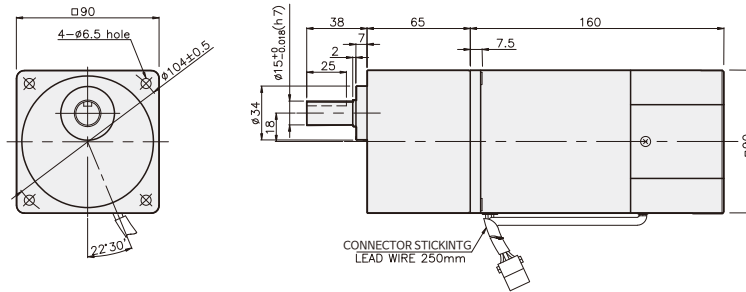
K9RP60F□-SU + K9P□B



K9RP60F□-SU + K9P□BF



K9RP60F□-SU + K9P□B



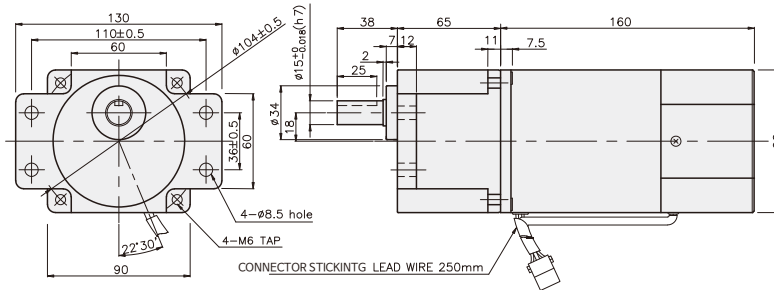
DIMENSION TABLE

PART No.	Application Model	Mounting BOLT
01	K9P3~200B	M6 P1.0 × 95
02	K9P10BX	M6 P1.0 × 140

WEIGHT

PART	WEIGHT(kg)	
MOTOR	3.06	
DECIMAL GEARHEAD	0.62	
GEAR HEAD	K9P3~10B	1.22
	K9P12.5~20B	1.32
	K9P25~60B	1.42
	K9P75~200B	1.45

K9RP60F□-SU + K9P□BF



DIMENSION TABLE

PART No.	Application Model	Mounting BOLT
01	K9P3~200BF	M6 P1.0 × 20
02	K9P10BX	M6 P1.0 × 65

WEIGHT

PART	WEIGHT(kg)	
MOTOR	3.58	
DECIMAL GEARHEAD	0.62	
GEAR HEAD	K9P3~10BF	1.22
	K9P12.5~20BF	1.30
	K9P25~60BF	1.42
	K9P75~200BF	1.44

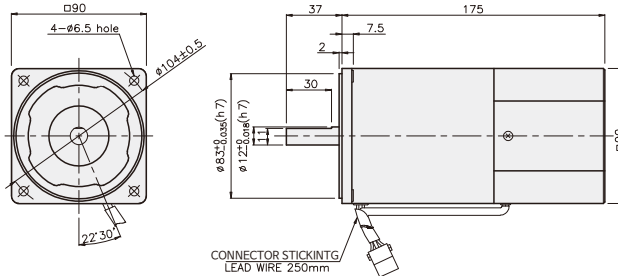
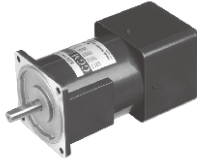
## SPEED CONTROL MOTOR - SU SERIES

### 90W

### □90mm

### REVERSIBLE MOTOR

K9RS90F□-SU



### SPECIFICATIONS

90W 30 minutes rating, four poles

Model	Voltage (V)	Frequency (Hz)	Speed (rpm)	Permissible Torque		Start T. (N·m/kgf·cm)	Current (A)	Condenser (μF)				
				1200rpm	90rpm							
				(N·m/kgf·cm)	(N·m/kgf·cm)							
K9R□90FJ-SU	100	50	90 ~ 1400	0.75/7.5	0.25/2.5	0.4/4	3.6	35				
			90 ~ 1700						3.4			
K9R□90FU-SU	110	60	90 ~ 1700			0.38/3.8	3	25				
	115								3.2			
K9R□90FL-SU	200	50	90 ~ 1400			0.25/2.5	0.4/4	1.4		8		
		60	90 ~ 1700						1.5			
K9R□90FC-SU	220	50	90 ~ 1400			0.25/2.5	0.43/4.3	1.2		7		
		60	90 ~ 1700						1.4			
		230	50								90 ~ 1400	0.25/2.5
			60						90 ~ 1700		1.4	
K9R□90FD-SU	240	50	90 ~ 1400	0.25/2.5	0.4/4	1.3	6					

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

### RATED TORQUE OF GEARHEAD

#### ● Single-phase 100V/115V

unit = above : N·m / below : kgf·cm

Model Motor/Gearhead	Ratio Speed(rpm)	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□-SU K9P□B, BF	1200	1.82 182	2.04 204	3.04 304	3.65 365	4.56 456	5.47 547	6.08 608	6.83 683	8.20 820	9.84 984	10.94 1094	12.30 1230	14.76 1476	17.71 1771	19.68 1968	20 200	20 200	20 200	20 200	20 200	20 200	20 200
90	0.61 6.1		0.73 7.3	1.01 10.1	1.22 12.2	1.52 15.2	1.82 18.2	2.03 20.3	2.28 22.8	2.73 27.3	3.28 32.8	3.65 36.5	4.10 41.0	4.92 49.2	5.90 59.0	6.56 65.6	8.20 82.0	9.84 98.4	11.07 110.7	13.29 132.9	14.76 147.6	17.71 177.1	20 200	20 200	20 200

#### ● Single-phase 200V/240V

unit = above : N·m / below : kgf·cm

Model Motor/Gearhead	Ratio Speed(rpm)	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□-SU K9P□B, BF	1200	1.82 182	2.19 219	3.04 304	3.65 365	4.56 456	5.47 547	6.08 608	6.83 683	8.20 820	9.84 984	10.94 1094	12.30 1230	14.76 1476	17.71 1771	19.68 1968	20 200	20 200	20 200	20 200	20 200	20 200	20 200	20 200
90	200V/220V 230V/240V 50Hz		0.61 6.1	0.73 7.3	1.01 10.1	1.22 12.2	1.52 15.2	1.82 18.2	2.03 20.3	2.28 22.8	2.73 27.3	3.28 32.8	3.65 36.5	4.10 41.0	4.92 49.2	5.90 59.0	6.56 65.6	8.20 82.0	9.84 98.4	11.07 110.7	13.29 132.9	14.76 147.6	17.71 177.1	20 200	20 200	20 200
	200V/220V 230V/60Hz		0.68 6.8	0.82 8.2	1.13 11.3	1.36 13.6	1.70 17.0	2.04 20.4	2.27 22.7	2.55 25.5	3.06 30.6	3.67 36.7	4.08 40.8	4.59 45.9	5.51 55.1	6.61 66.1	7.35 73.5	9.19 91.9	11.02 110.2	12.40 124.0	14.88 148.8	16.53 165.3	19.84 198.4	20 200	20 200	20 200

- \* 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 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.

## GEARHEAD

### RATED TORQUE OF GEARHEAD

#### ● Single-phase 100V/115V

unit = above : N·m / below : kgf·cm

Model Motor/Gearhead	Ratio Speed(rpm)	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□-SU K9P□BU, BUF	1200	1.82 18.2	2.19 21.9	3.04 30.4	3.65 36.5	4.56 45.6	5.47 54.7	6.08 60.8	6.83 68.3	8.20 82.0	9.84 98.4	10.94 109.4	12.30 123.0	14.76 147.6	17.71 177.1	19.68 196.8	24.60 246	29.52 295	30 300	30 300	30 300	30 300	30 300
90	0.61 6.1		0.73 7.3	1.01 10.1	1.22 12.2	1.52 15.2	1.82 18.2	2.03 20.3	2.28 22.8	2.73 27.3	3.28 32.8	3.65 36.5	4.10 41.0	4.92 49.2	5.90 59.0	6.56 65.6	8.20 82.0	9.84 98.4	11.07 110.7	13.29 132.9	14.76 147.6	17.71 177.1	22.14 221.4	26.57 265.7	29.52 295.2

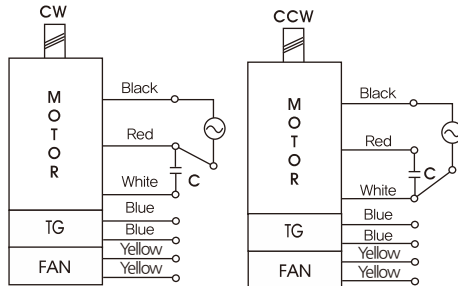
#### ● Single-phase 200V/240V

unit = above : N·m / below : kgf·cm

Model Motor/Gearhead	Ratio Speed(rpm)	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□-SU K9P□BU, BUF	1200	1.82 18.2	2.19 21.9	3.04 30.4	3.65 36.5	4.56 45.6	5.47 54.7	6.08 60.8	6.83 68.3	8.20 82.0	9.84 98.4	10.94 109.4	12.30 123.0	14.76 147.6	17.71 177.1	19.68 196.8	24.60 246	29.52 295	30 300	30 300	30 300	30 300	30 300	30 300
90	200V/220V 230V/240V 50Hz		0.61 6.1	0.73 7.3	1.01 10.1	1.22 12.2	1.52 15.2	1.82 18.2	2.03 20.3	2.28 22.8	2.73 27.3	3.28 32.8	3.65 36.5	4.10 41.0	4.92 49.2	5.90 59.0	6.56 65.6	8.20 82.0	9.84 98.4	11.07 110.7	13.29 132.9	14.76 147.6	17.71 177.1	22.14 221.4	26.57 265.7	29.52 295.2
	200V/220V 230V/60Hz		0.68 6.8	0.82 8.2	1.13 11.3	1.36 13.6	1.70 17.0	2.04 20.4	2.27 22.7	2.55 25.5	3.06 30.6	3.67 36.7	4.08 40.8	4.59 45.9	5.51 55.1	6.61 66.1	7.35 73.5	9.19 91.9	11.02 110.2	12.40 124.0	14.88 148.8	16.53 165.3	19.84 198.4	24.80 248.0	29.76 297.6	30 300

- \* 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 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.

### CONNECTION DIAGRAMS



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

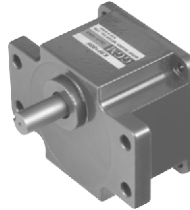
## GEARHEAD

### DIMENSIONS

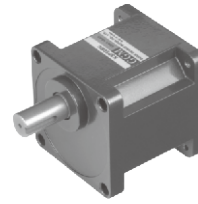
K9P□B



K9P□BF, BUF

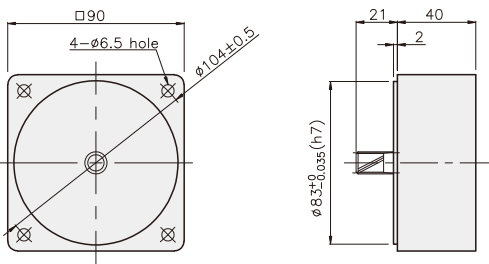


K9P□BU

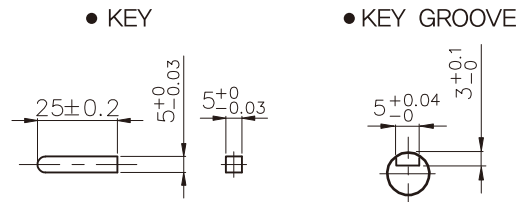


### DECIMAL GEARHEAD

K9P10BX

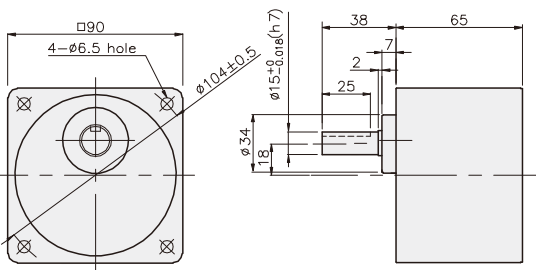


### KEY SPEC

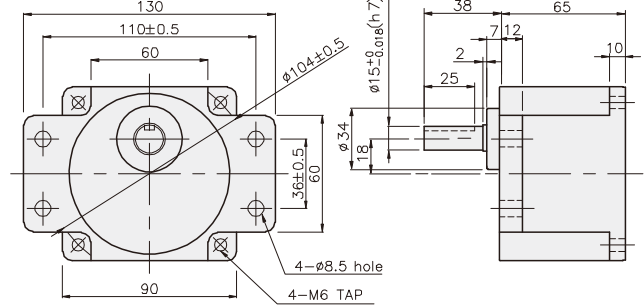


### GEARHEAD

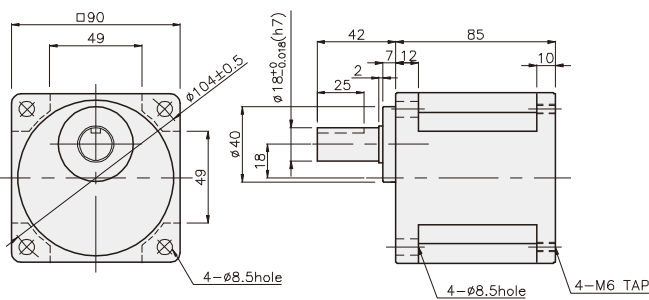
K9P□B



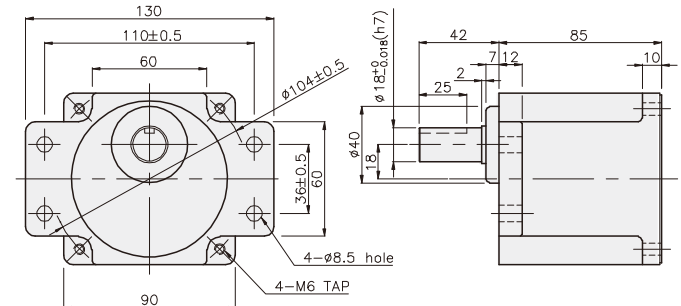
K9P□BF



K9P□BU



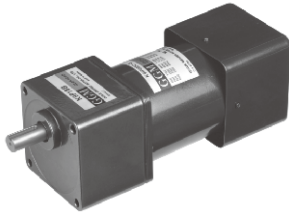
K9P□BUF



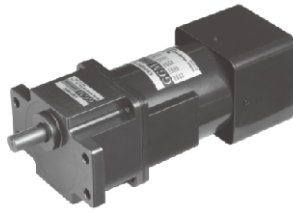
## GEARHEAD

### DIMENSIONS

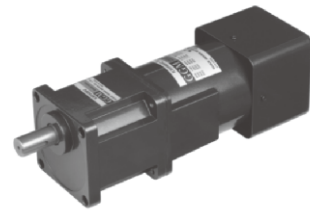
K9RP90F□-SU + K9P□B



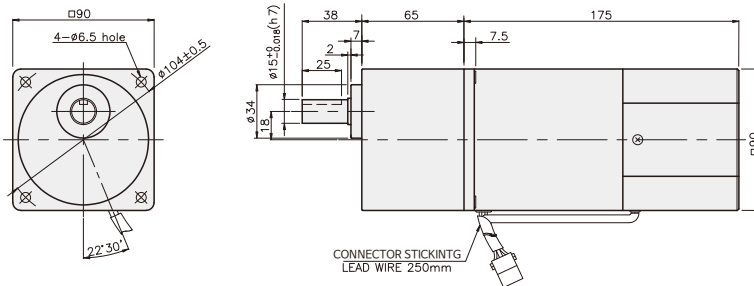
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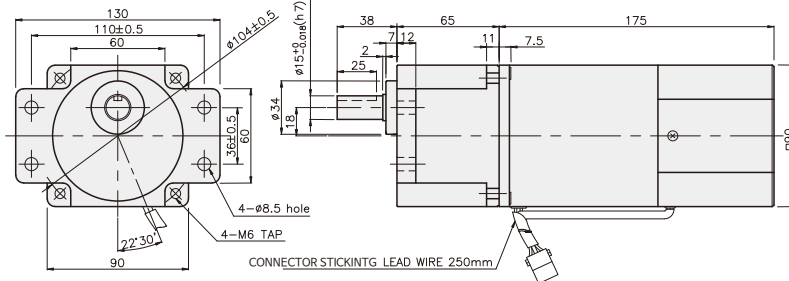
K9RP90F□-SU + K9P□BU



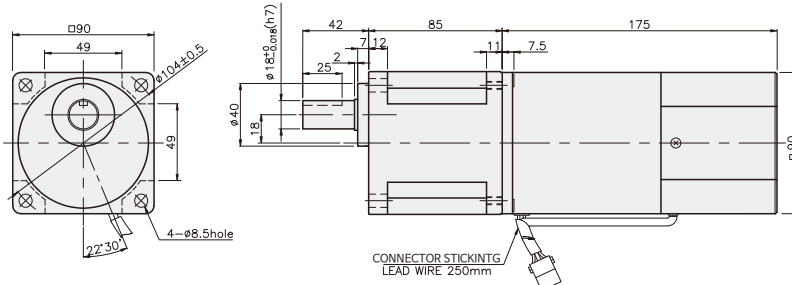
K9RP90F□-SU + K9P□B



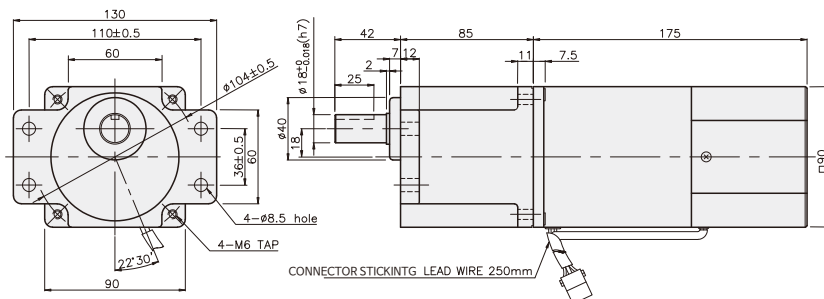
K9RP90F□-SU + K9P□BF



K9RP90F□-SU + K9P□BU



K9RP90F□-SU + K9P□BUF



#### WEIGHT

PART	WEIGHT(kg)
MOTOR	3.06
DECIMAL GEARHEAD	0.62

#### DIMENSION TABLE

PART No.	Application Model	Mounting BOLT
01	K9P3~200B	M6 P1.0 × 95
02	K9P10BX	M6 P1.0 × 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.	Application Model	Mounting BOLT
01	K9P3~200BF	M6 P1.0 × 20
02	K9P10BX	M6 P1.0 × 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.	Application Model	Mounting BOLT
01	K9P3~200BU	M6 P1.0 × 20
02	K9P10BX	M6 P1.0 × 65

#### 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.	Application Model	Mounting BOLT
01	K9P3~200BUF	M6 P1.0 × 20
02	K9P10BX	M6 P1.0 × 65

#### WEIGHT

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

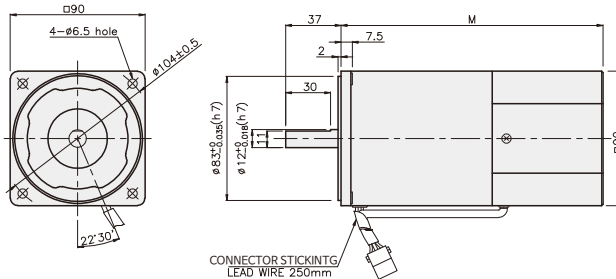
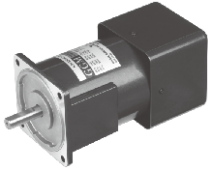
## SPEED CONTROL MOTOR - SU SERIES

### 120W

### □90mm

### REVERSIBLE MOTOR

K9RS120F□-SU



DIMENSION TABLE

PART No	M	Application Model
01	195	50Hz
02	175	60Hz

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

## SPECIFICATIONS

120W 30 minutes rating, four poles

Model	Maximum Out Put (w)	Voltage (V)	Frequency (Hz)	Speed Range (rpm)	Permissible Torque		Start T. (N·m/kgf·cm)	Current (A)	Condenser (μF)
					1200rpm	90rpm			
					(N·m/kgf·cm)	(N·m/kgf·cm)			
K9RP120FJ-SU K9RS120FJ-SU	120	100	50	90~1400	0.85	0.31	0.45/4.5	3.6	40
			60	90~1700	8.5	3.1			
K9RP120FU-SU K9RS120FU-SU	120	110	60	90~1700	0.8	0.28	0.4	3	25
		115							
K9RP120FL-SU K9RS120FL-SU	200	200	50	90~1400	0.8/8	0.27/2.7	0.37	1.4	8.5
			60	90~1700	0.78/7.8	0.29/2.9			
K9RP120FC-SU K9RS120FC-SU	120	220	50	90~1400	0.8	0.27	0.37	1.2	6
		230		90~1700					
		220	60	90~1400	0.78	0.29	0.42	1.4	7
		230		90~1700					
K9RP120FD-SU	120	240	50	90~1400	0.8/8	0.27/2.7	0.37/3.7	1.3	6

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

## RATED TORQUE OF GEARHEAD

### ● Single-phase 100V/115V

unit = above : N·m / below : kgf·cm

Model	Ratio	Speed(rpm)																								
		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□120F□-SU K9P□B, BF	1200	100V/50/60Hz	2.07	2.48	3.44	4.13	5.16	6.20	6.89	7.75	9.29	11.15	12.39	13.94	16.73	20	20	20	20	20	20	20	20	20	20	20
		110V/115V/60Hz	1.94	2.33	3.24	3.89	4.86	5.83	6.48	7.29	8.75	10.50	11.66	13.12	15.75	18.90	20	20	20	20	20	20	20	20	20	20
	90	100V/50/60Hz	0.75	0.90	1.26	1.51	1.88	2.26	2.51	2.82	3.39	4.07	4.52	5.08	6.10	7.32	8.14	10.17	12.20	13.73	16.47	18.31	20	20	20	20
		110V/115V/60Hz	0.68	0.82	1.13	1.36	1.70	2.04	2.27	2.55	3.06	3.67	4.08	4.59	5.51	6.61	7.35	9.19	11.02	12.40	14.88	16.53	19.84	20	20	20

\* 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.

SPEED CONTROL MOTOR - SU SERIES



## GEARHEAD

### RATED TORQUE OF GEARHEAD

#### ● Single-phase 200V/240V

unit = above : N·m / below : kgf·cm

Model Motor/Gearhead	Ratio Speed(rpm)	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□120F□-SU K9P□B, BF	1200	200V/220V/ 230V/240V 50Hz	1.94 19.4	2.33 23.3	3.24 32.4	3.89 38.9	4.86 48.6	5.38 53.8	6.48 64.8	7.29 72.9	8.75 87.5	10.50 105.0	11.66 116.6	13.12 131.2	15.75 157.5	18.90 189.0	20	20	20	20	20	20	20	20
200V/220V/ 230V/240V 60Hz	1.90 19.0			2.27 22.7	3.16 31.6	3.79 37.9	4.74 47.4	5.69 56.9	6.32 63.2	7.11 71.1	8.53 85.3	10.24 102.4	11.37 113.7	12.79 127.9	15.35 153.5	18.42 184.2	20	20	20	20	20	20	20	20	20	20
90	200V/220V/ 230V/240V 50Hz		0.66 6.6	0.79 7.9	1.09 10.9	1.31 13.1	1.64 16.4	1.97 19.7	2.19 21.9	2.46 24.6	2.95 29.5	3.54 35.4	3.94 39.4	4.43 44.3	5.31 53.1	6.38 63.8	7.09 70.9	8.86 88.6	10.63 106.3	11.96 119.6	14.35 143.5	15.94 159.4	19.13 191.3	20	20	20
	200V/220V/ 230V/240V 60Hz		0.70 7.0	0.85 8.5	1.17 11.7	1.41 14.1	1.76 17.6	2.11 21.1	2.35 23.5	2.64 26.4	3.17 31.7	3.81 38.1	4.23 42.3	4.76 47.6	5.71 57.1	6.85 68.5	7.61 76.1	9.51 95.1	11.42 114.2	12.84 128.4	15.41 154.1	17.12 171.2	20	20	20	20

#### ● Single-phase 100V/115V

unit = above : N·m / below : kgf·cm

Model Motor/Gearhead	Ratio Speed(rpm)	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□120F□-SU K9P□BU, BUF	1200	100V/ 50/60Hz	2.07 20.7	2.48 24.8	3.44 34.4	4.13 41.3	5.16 51.6	6.20 62.0	6.89 68.9	7.75 77.5	9.29 92.9	11.15 111.5	12.39 123.9	13.94 139.4	16.73 167.3	20.08 201	22.31 223	27.88 279	30	30	30	30	30	30
110V/115V/ 60Hz	1.94 19.4			2.33 23.3	3.24 32.4	3.89 38.9	4.86 48.6	5.83 58.3	6.48 64.8	7.29 72.9	8.75 87.5	10.50 105.0	11.66 116.6	13.12 131.2	15.75 157.5	18.90 189.0	21.00 210	26.24 262	30	30	30	30	30	30	30	30
90	100V/ 50/60Hz		0.75 7.5	0.90 9.0	1.26 12.6	1.51 15.1	1.88 18.8	2.26 22.6	2.51 25.1	2.82 28.2	3.39 33.9	4.07 40.7	4.52 45.2	5.08 50.8	6.10 61.0	7.32 73.2	8.14 81.4	10.17 101.7	12.20 122.0	13.73 137.3	16.47 164.7	18.31 183.1	21.97 219.7	27.46 274.6	30	30
	110V/115V/ 60Hz		0.68 6.8	0.82 8.2	1.13 11.3	1.36 13.6	1.70 17.0	2.04 20.4	2.27 22.7	2.55 25.5	3.06 30.6	3.67 36.7	4.08 40.8	4.59 45.9	5.51 55.1	6.61 66.1	7.35 73.5	9.19 91.9	11.02 110.2	12.40 124.0	14.88 148.8	16.53 165.3	19.84 198.4	24.80 248.0	29.76 297.6	30

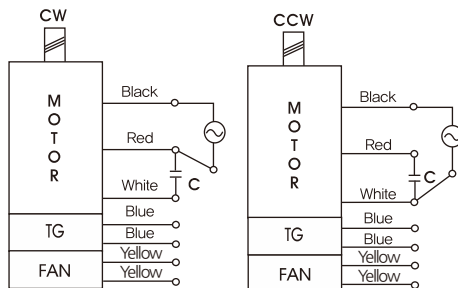
#### ● Single-phase 200V/240V

unit = above : N·m / below : kgf·cm

Model Motor/Gearhead	Ratio Speed(rpm)	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□120F□-SU K9P□BU, BUF	1200	200V/220V/ 230V/240V 50Hz	1.94 19.4	2.33 23.3	3.24 32.4	3.89 38.9	4.86 48.6	5.83 58.3	6.48 64.8	7.29 72.9	8.75 87.5	10.50 105.0	11.66 116.6	13.12 131.2	15.75 157.5	18.90 189.0	21.00 210.0	26.24 262.4	30	30	30	30	30	30
200V/220V/ 230V/240V 60Hz	1.90 19.0			2.27 22.7	3.16 31.6	3.79 37.9	4.74 47.4	5.69 56.9	6.32 63.2	7.11 71.1	8.53 85.3	10.24 102.4	11.37 113.7	12.79 127.9	15.35 153.5	18.42 184.2	20.47 204.7	25.59 255.9	30	30	30	30	30	30	30	30
90	200V/220V/ 230V/240V 50Hz		0.66 6.6	0.79 7.9	1.09 10.9	1.31 13.1	1.64 16.4	1.97 19.7	2.19 21.9	2.46 24.6	2.95 29.5	3.54 35.4	3.94 39.4	4.43 44.3	5.31 53.1	6.38 63.8	7.09 70.9	8.86 88.6	10.63 106.3	11.96 119.6	14.35 143.5	15.94 159.4	19.13 191.3	23.91 239.1	28.70 287.0	30
	200V/220V/ 230V/240V 60Hz		0.70 7.0	0.85 8.5	1.17 11.7	1.41 14.1	1.76 17.6	2.11 21.1	2.35 23.5	2.64 26.4	3.17 31.7	3.81 38.1	4.23 42.3	4.76 47.6	5.71 57.1	6.85 68.5	7.61 76.1	9.51 95.1	11.42 114.2	12.84 128.4	15.41 154.1	17.12 171.2	20.55 205.5	25.69 256.9	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.

### CONNECTION DIAGRAMS



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

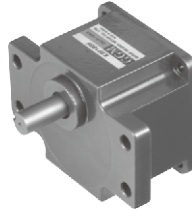
## GEARHEAD

### DIMENSIONS

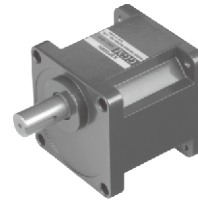
K9P□B



K9P□BF, BUF

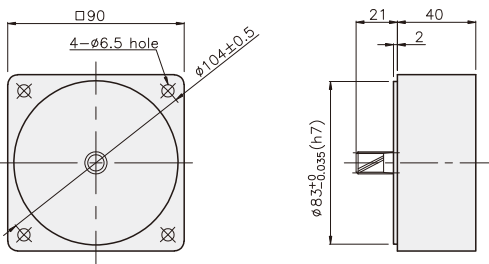


K9P□BU



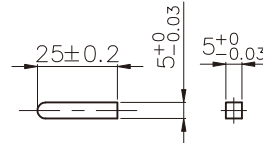
#### DECIMAL GEARHEAD

K9P10BX

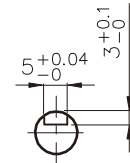


#### KEY SPEC

● KEY

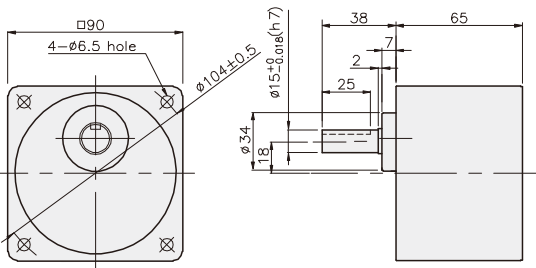


● KEY GROOVE

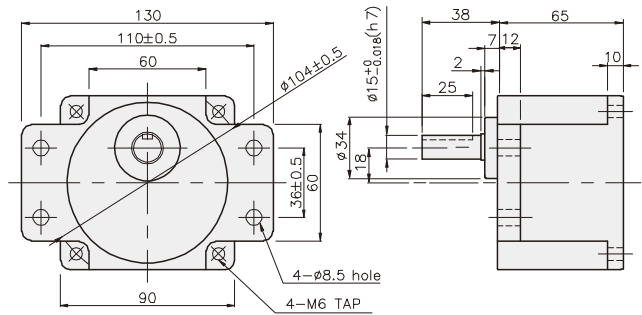


#### GEARHEAD

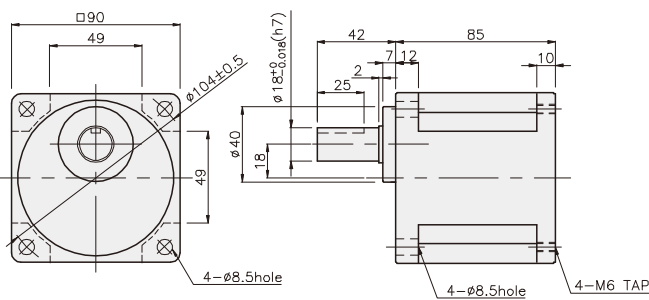
K9P□B



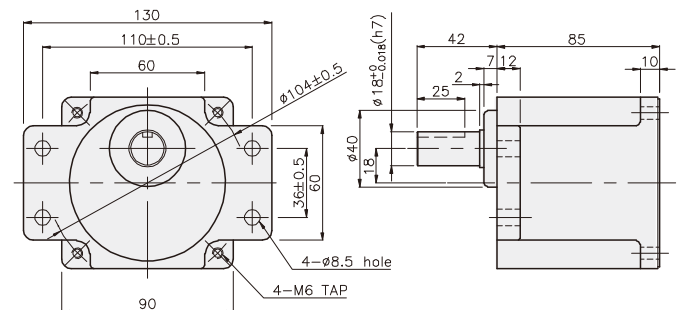
K9P□BF



K9P□BU



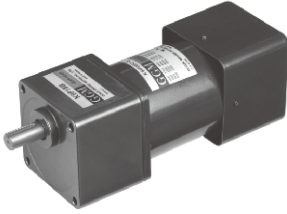
K9P□BUF



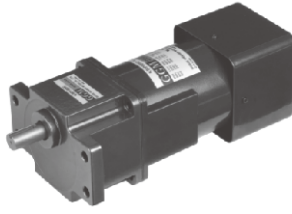
## GEARHEAD

### DIMENSIONS

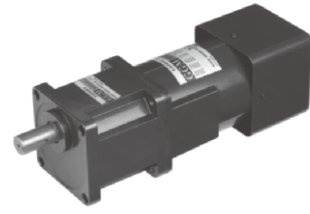
K9RP120F□-SU + K9P□B



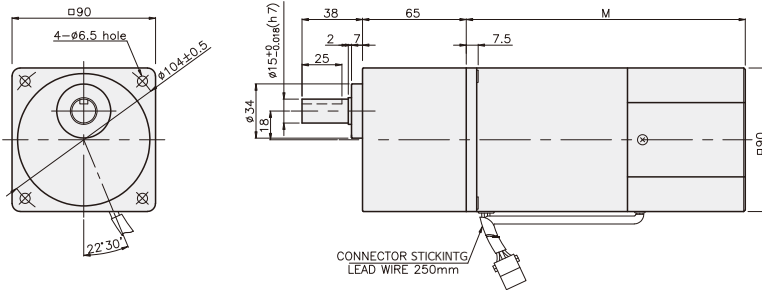
K9RP120F□-SU + K9P□BF, BUF



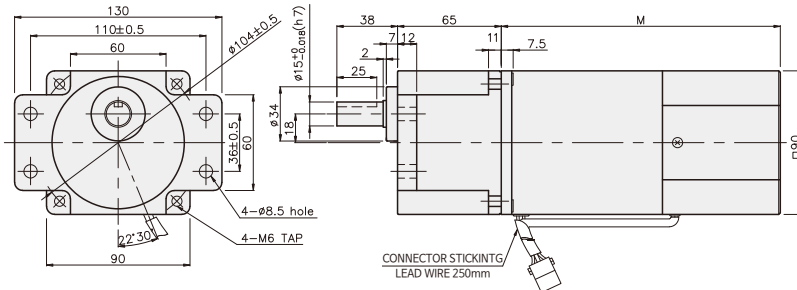
K9RP120F□-SU + K9P□BU



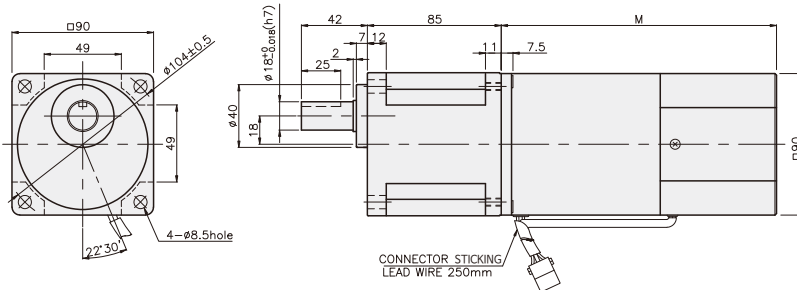
K9RP120F□-SU + K9P□B



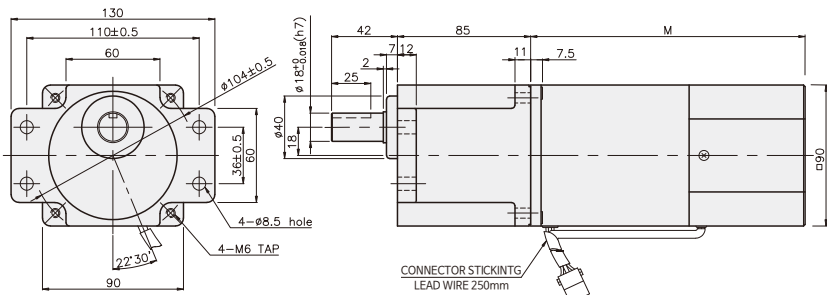
K9RP120F□-SU + K9P□BF



K9RP120F□-SU + K9P□BU



K9RP120F□-SU + K9P□BUF



#### WEIGHT

PART	WEIGHT(kg)
MOTOR	3.54
DECIMAL GEARHEAD	0.62

#### DIMENSION TABLE

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

#### DIMENSION TABLE

PART No.	Application Model	Mounting BOLT
01	K9P3~200B	M6 P1.0 × 95
02	K9P10BX	M6 P1.0 × 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.	Application Model	Mounting BOLT
01	K9P3~200BF	M6 P1.0 × 20
02	K9P10BX	M6 P1.0 × 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.	Application Model	Mounting BOLT
01	K9P3~200BU	M6 P1.0 × 20
02	K9P10BX	M6 P1.0 × 65

#### 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.	Application Model	Mounting BOLT
01	K9P3~200BUF	M6 P1.0 × 20
02	K9P10BX	M6 P1.0 × 65

#### WEIGHT

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

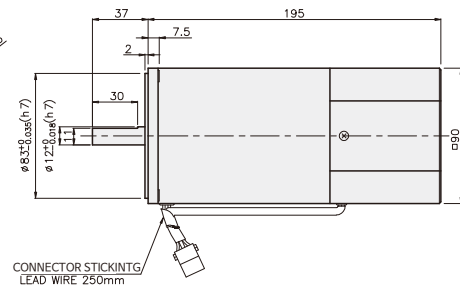
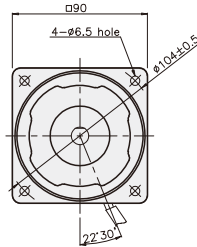
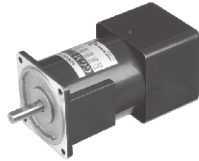
## SPEED CONTROL MOTOR - SU SERIES

180W

□90mm

REVERSIBLE MOTOR

K9R180F□-SU



CONNECTOR STICKING LEAD WIRE 250mm

### SPECIFICATIONS

180W 30 minutes rating, four poles

Model	Maximum Out Put (W)	Voltage (V)	Frequency (Hz)	Speed Range (rpm)	Permissible Torque		Start T. (N·m/kgf·cm)	Current (A)	Condenser (μF)
					1200rpm (N·m/kgf·cm)	90rpm (N·m/kgf·cm)			
K9RP180FJ-SU K9RS180FJ-SU	180	100	50	90~1400	0.88	0.33	0.5	5	40
			60	90~1700	8.8	3.3	5	4.8	
K9RP180FU-SU K9RS180FU-SU	180	110	60	90~1700	1.1	0.38	0.58	5	40
		115			11	3.8	5.8	5.2	
K9RP180FL-SU K9RS180FL-SU	180	200	50	90~1400	0.88	0.3	0.45/4.5	2.2	12
			60	90~1700	8.8	3	0.38/3.8		
K9RP180FC-SU K9RS180FC-SU	180	220	50	90~1400	0.88	0.3	0.42/4.2	2.2	8
			60	90~1700	8.8	3	0.38/3.8	2	
		230	50	90~1400	0.95	0.32	0.48/4.8	2.4	
			60	90~1700	9.5	3.2	0.45/4.5	2.2	
K9RP180FD-SU K9RS180FD-SU	180	240	50	90~1400	0.95	0.32	0.55/5.5	2	8

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

### RATED TORQUE OF GEARHEAD

#### ● Single-phase 100V/115V

unit = above : N·m / below : kgf·cm

Model	Ratio	Speed(rpm)																								
		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□180F□-SU	1200	100V/50/60Hz	2.14	2.57	3.56	4.28	5.35	6.42	7.13	8.02	9.62	11.55	12.83	14.43	17.32	20.79	23.09	28.87	30	30	30	30	30	30	30	30
		110V/115V/60Hz	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	90	100V/50/60Hz	0.80	0.96	1.34	1.60	2.00	2.41	2.67	3.01	3.61	4.33	4.81	5.41	6.50	7.79	8.66	10.83	12.99	14.61	17.54	19.49	23.38	29.23	30	30
		110V/115V/60Hz	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	20.19	22.44	26.93	30	30	30

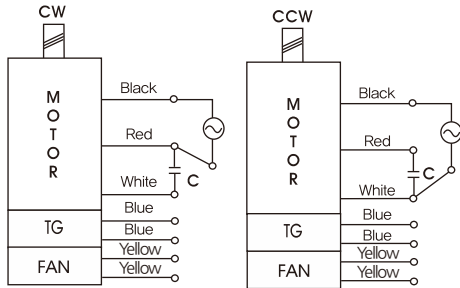
- \* Gearhead and decimal gearhead are sold separately.
- \* The code in □ of gearhead model is for gear ratio.
- \* ■ color indicates that the output shaft of the geared motor rotates in the same direction as the output shaft of the motor. Others indicate rotation in the opposite direction.
- \* If 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.

SPEED CONTROL MOTOR - SU SERIES



## GEARHEAD

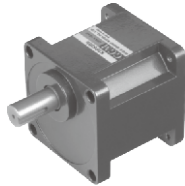
### CONNECTION DIAGRAMS



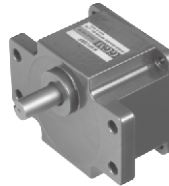
※The direction of motor rotation is as viewed from the front shaft end of the motor

### DIMENSIONS

K9P□BU

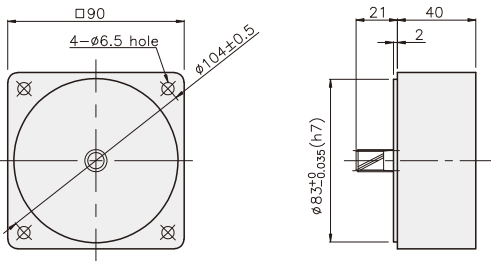


K9P□BUF



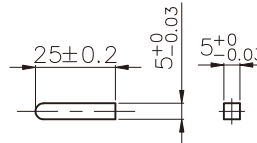
#### DECIMAL GEARHEAD

K9P10BX

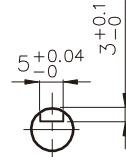


#### KEY SPEC

● KEY

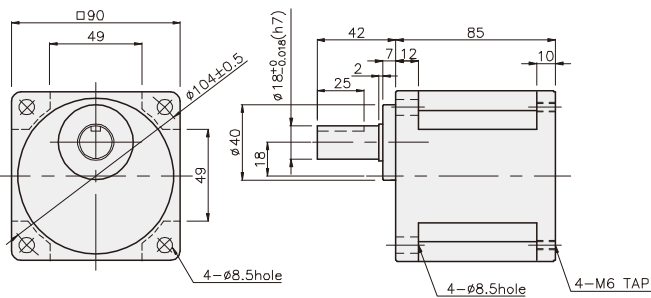


● KEY GROOVE

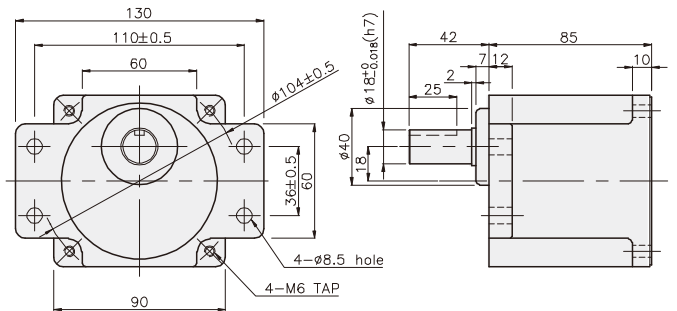


#### GEARHEAD

K9P□BU



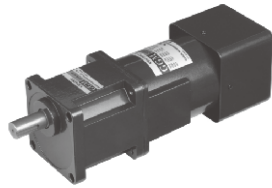
K9P□BUF



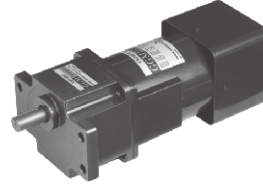
## GEARHEAD

### DIMENSIONS

K9RP180F□-SU + K9P□BU



K9RP180F□-SU + K9P□BUF



#### WEIGHT

PART	WEIGHT(kg)
MOTOR	4.24
DECIMAL GEARHEAD	0.62

#### DIMENSION TABLE

PART No.	Application Model	Mounting BOLT
01	K9P3~200BU	M6 P1.0 × 20
02	K9P10BX	M6 P1.0 × 65

#### WEIGHT

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

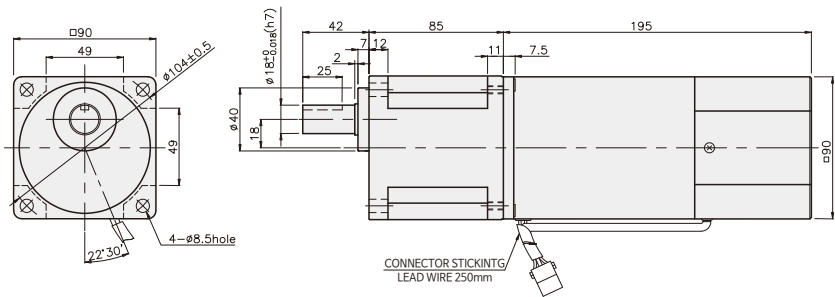
#### DIMENSION TABLE

PART No.	Application Model	Mounting BOLT
01	K9P3~200BUF	M6 P1.0 × 20
02	K9P10BX	M6 P1.0 × 65

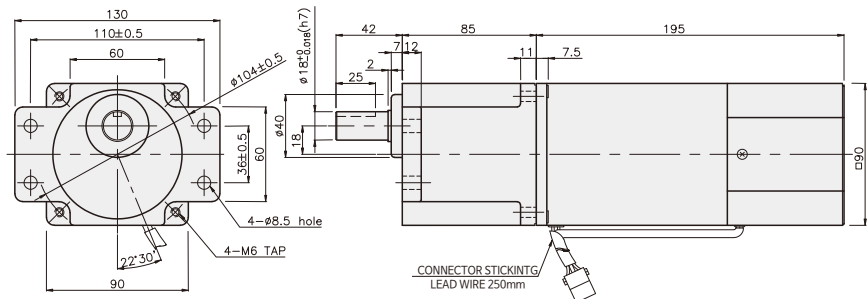
#### WEIGHT

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

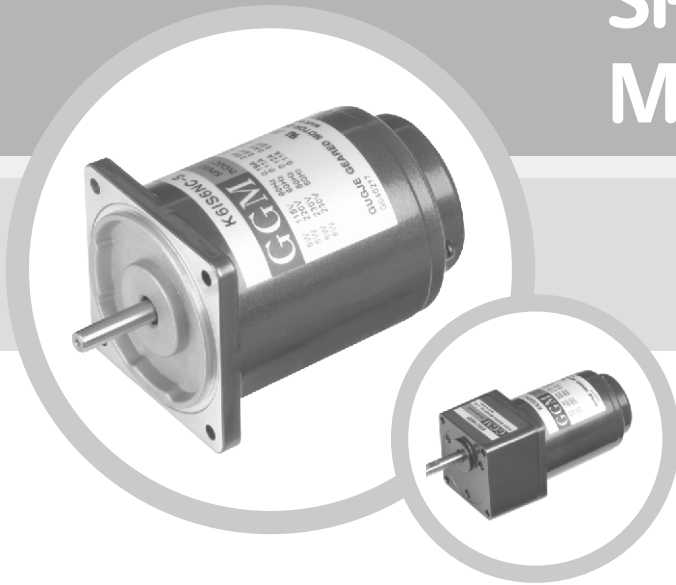
K9RP180F□-SU + K9P□BU



K9RP180F□-SU + K9P□BUF



# SPEED CONTROL MOTORS(SP)



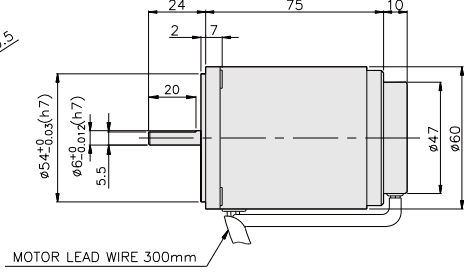
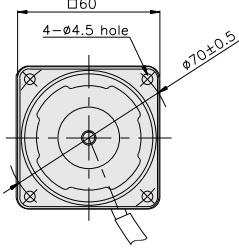


## SPEED CONTROL MOTOR - SP SERIES

**6W**

□60mm

INDUCTION MOTOR



### SPECIFICATIONS

6W continuous rating, four poles

Model	Voltage(V)	Frequency (Hz)	Speed Range (rpm)	Permissible Torque		Start T. (N*m/Kgf*cm)	Current (A)	Condenser (μF)
				1200rpm (N*m/kgf*cm)	90rpm (N*m/kgf*cm)			
K6I□6NJ-SP	100	50	90 ~ 1400	0.05/0.5	0.03/0.3	0.029/0.29	0.28	3
		60	90 ~ 1700					
K6I□6NU-SP	110	60	90 ~ 1700	0.05/0.5	0.03/0.3	0.03/0.3	0.24	2
	115							
K6I□6NL-SP	200	50	90 ~ 1400	0.05/0.5	0.029/0.29	0.03/0.3	0.19	0.8
		60	90 ~ 1700					
K6I□6NC-SP	220	50	90 ~ 1400	0.05/0.5	0.029/0.29	0.029/0.29	0.2	0.6
		60	90 ~ 1700					
		50	90 ~ 1400					
		60	90 ~ 1700					
K6I□6ND-SP	240	50	90 ~ 1400	0.05/0.5	0.029/0.29	0.03/0.3	0.21	0.5

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

### RATED TORQUE OF GEARHEAD

#### ● Single-phase 100V/115V

unit = above : N·m / below : Kgf·cm

Model	Ratio	Speed(rpm)																								
		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
K6I□6N□-SP K6G□B(C)	1200	0.12 1.2	0.15 1.5	0.20 2.0	0.24 2.4	0.30 3.0	0.36 3.6	0.41 4.1	0.51 5.1	0.61 6.1	0.73 7.3	0.73 7.3	0.91 9.1	1.09 10.9	1.31 13.1	1.46 14.6	1.64 16.4	1.97 19.7	2.46 24.6	2.95 29.5	3 30	3 30	3 30	3 30	3 30	3 30
	90	0.07 0.7	0.08 0.8	0.12 1.2	0.14 1.4	0.18 1.8	0.21 2.1	0.23 2.3	0.26 2.6	0.32 3.2	0.42 4.2	0.42 4.2	0.53 5.3	0.63 6.3	0.76 7.6	0.85 8.5	0.95 9.5	1.14 11.4	1.43 14.3	1.71 17.1	1.90 19.0	2.28 22.8	2.85 28.5	3 30	3 30	3 30

#### ● Single-phase 200V/240V

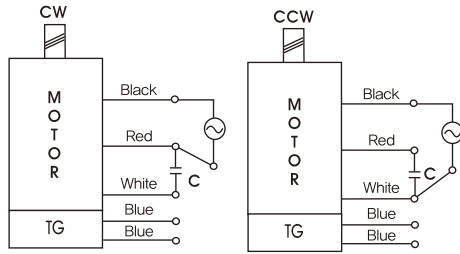
unit = above : N·m / below : Kgf·cm

Model	Ratio	Speed(rpm)																								
		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
K6I□6N□-SP K6G□B(C)	1200	0.12 1.2	0.15 1.5	0.20 2.0	0.24 2.4	0.30 3.0	0.36 3.6	0.41 4.1	0.51 5.1	0.61 6.1	0.73 7.3	0.73 7.3	0.91 9.1	1.09 10.9	1.31 13.1	1.46 14.6	1.64 16.4	1.97 19.7	2.46 24.6	2.95 29.5	3 30	3 30	3 30	3 30	3 30	3 30
	90	0.07 0.7	0.08 0.8	0.12 1.2	0.14 1.4	0.18 1.8	0.21 2.1	0.23 2.3	0.29 2.9	0.35 3.5	0.42 4.2	0.42 4.2	0.53 5.3	0.63 6.3	0.76 7.6	0.85 8.5	0.95 9.5	1.14 11.4	1.43 14.3	1.71 17.1	1.90 19.0	2.28 22.8	2.85 28.5	3 30	3 30	3 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.

## GEARHEADS

### CONNECTION DIAGRAMS



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

### DIMENSIONS

K6G□B(C)

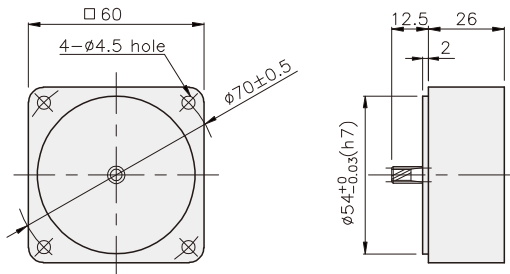


K6IG6N□-SP + K6G□B(C)



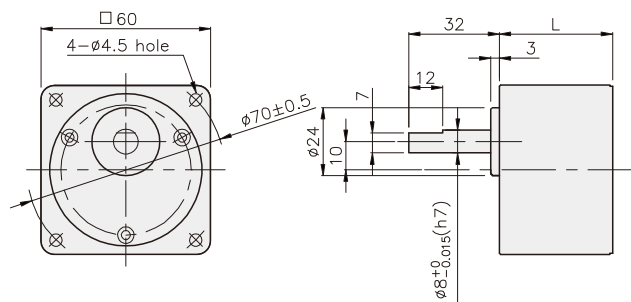
DECIMAL GEARHEAD

K6G10BX



GEARHEAD

K6G□B(C)



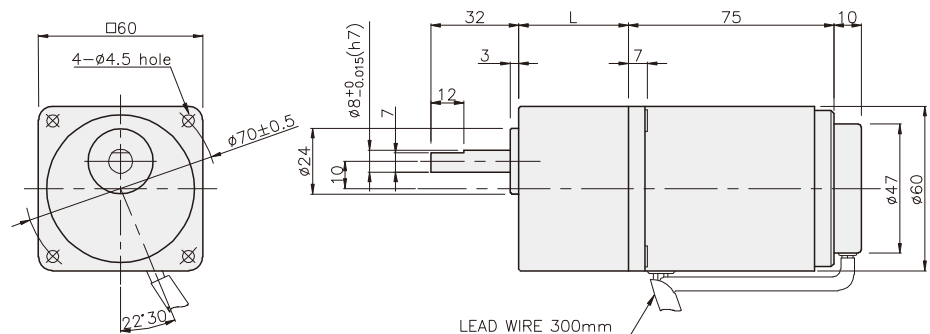
#### DIMENSION TABLE

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	0,79	
DECIMAL GEAR HEAD	0,22	
GEAR HEAD	K6G3~18B(C)	0,26
	K6G20~40B(C)	0,33
	K6G50~250B(C)	0,36

K6IG6N□-SP + K6G□B(C)



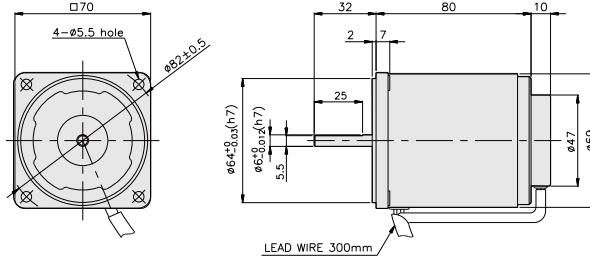
## SPEED CONTROL MOTOR - SP SERIES

### 15W

### □70mm

### INDUCTION MOTOR

K7IS15N□-SP



### SPECIFICATIONS

15W continuous rating, four poles

Model	Voltage(V)	Frequency (Hz)	Speed Range (rpm)	Permissible Torque		Start T. (N*m/ Kgf*cm)	Current (A)	Condenser (μF)
				1200rpm (N*m/ kgf*cm)	90rpm (N*m/ kgf*cm)			
K7I□15NJ-SP	100	50	90 ~ 1400	0.125/1.25	0.045/0.45	0.07/0.7	0.55	5
		60	90 ~ 1700					
K7I□15NU-SP	110	60	90 ~ 1700	0.125/1.25	0.045/0.45	0.07/0.7	0.47	4.5
	115					0.075/0.75		
K7I□15NL-SP	200	50	90 ~ 1400	0.125/1.25	0.04/0.4	0.08/0.8	0.3	1.5
		60	90 ~ 1700			0.085/0.85		
K7I□15NC-SP	220	50	90 ~ 1400	0.125/1.25	0.04/0.4	0.06/0.6	0.29	1
		60	90 ~ 1700			0.105/1.05		
		50	90 ~ 1400	0.125/1.25		0.065/0.65	0.3	
			60	90 ~ 1700			0.105/1.05	
K7I□15ND-SP	240	50	90 ~ 1400	0.125/1.25	0.04/0.4	0.07/0.7	0.32	1

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

### RATED TORQUE OF GEARHEAD

#### ● Single-phase 100V/115V

unit = above : N·m / below : Kgf·cm

Model	Ratio	Speed(rpm)																							
		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
K7I□15N□-SP K7G□B(C)	1200	0.30 3.0	0.36 3.6	0.51 5.1	0.61 6.1	0.76 7.6	0.91 9.1	1.01 10.1	1.27 12.7	1.52 15.2	1.82 18.2	1.82 18.2	2.28 22.8	2.73 27.3	3.28 32.8	3.65 36.5	4.10 41.0	4.92 49.2	5 50	5 50	5 50	5 50	5 50	5 50	5 50
	90	0.11 1.1	0.13 1.3	0.18 1.8	0.22 2.2	0.27 2.7	0.33 3.3	0.36 3.6	0.46 4.6	0.55 5.5	0.66 6.6	0.66 6.6	0.82 8.2	0.98 9.8	1.18 11.8	1.31 13.1	1.48 14.8	1.77 17.7	2.21 22.1	2.66 26.6	2.95 29.5	3.54 35.4	4.43 44.3	5 50	5 50

#### ● Single-phase 200V/240V

unit = above : N·m / below : Kgf·cm

Model	Ratio	Speed(rpm)																								
		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	
K7I□15N□-SP K7G□B(C)	1200	200V/220V/ 230V/240V 50Hz	0.30 3.0	0.36 3.6	0.51 5.1	0.61 6.1	0.76 7.6	0.91 9.1	1.01 10.1	1.27 12.7	1.52 15.2	1.82 18.2	1.82 18.2	2.28 22.8	2.73 27.3	3.28 32.8	3.65 36.5	4.10 41.0	4.92 49.2	6.15 61.5	5 50	5 50	5 50	5 50	5 50	5 50
		200V/220V/ 230V/60Hz	0.26 2.6	0.31 3.1	0.43 4.3	0.51 5.1	0.64 6.4	0.77 7.7	0.85 8.5	1.06 10.6	1.28 12.8	1.53 15.3	1.53 15.3	1.91 19.1	2.30 23.0	2.76 27.6	3.06 30.6	3.44 34.4	4.13 41.3	5 50	5 50	5 50	5 50	5 50	5 50	5 50
	90	0.10 1.0	0.12 1.2	0.16 1.6	0.19 1.9	0.24 2.4	0.29 2.9	0.32 3.2	0.41 4.1	0.49 4.9	0.58 5.8	0.58 5.8	0.73 7.3	0.87 8.7	1.05 10.5	1.17 11.7	1.31 13.1	1.57 15.7	1.97 19.7	2.36 23.6	2.62 26.2	3.15 31.5	3.94 39.4	4.72 47.2	5 50	

\* Gearhead and decimal gearhead are sold separately.

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

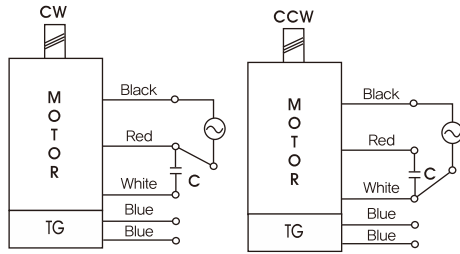
\* ■ color indicates that the output shaft of the geared motor rotates in the same direction as the output shaft of the motor, Others indicate rotation in the opposite direction.

\* 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.

## GEARHEADS

### CONNECTION DIAGRAMS



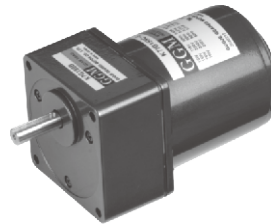
※The direction of motor rotation is as viewed from the front shaft end of the motor

### DIMENSIONS

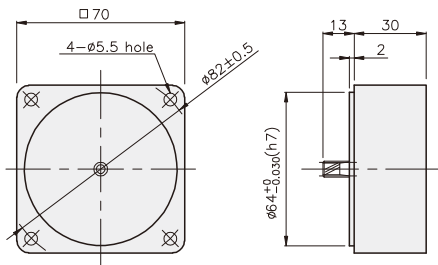
K7G□B(C)



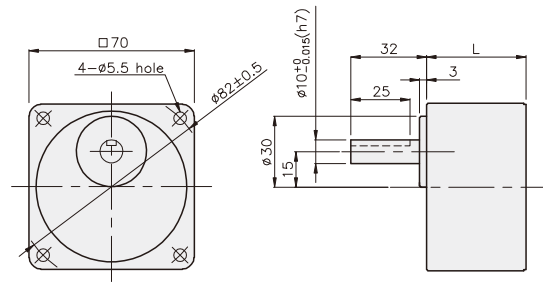
K7IG15N□-SP + K7G□B(C)



DECIMAL GEARHEAD  
K7G10BX

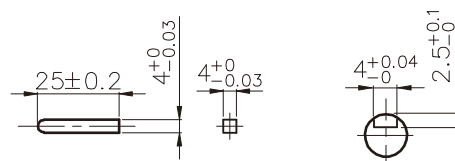


GEARHEAD  
K7G□B(C)



### KEY SPEC

- KEY
- KEY GROOVE



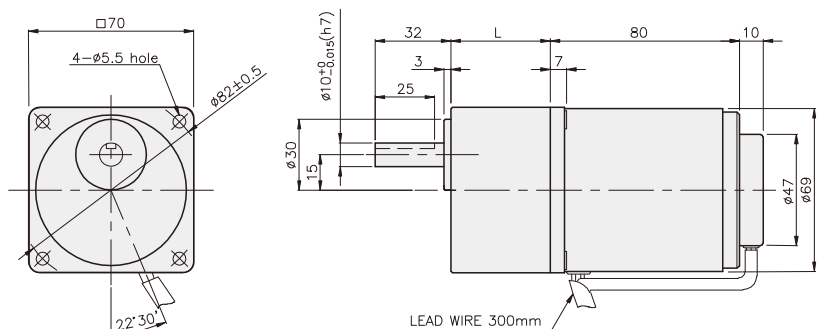
### DIMENSION TABLE

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	1,16	
DECIMAL GEAR HEAD	0,32	
GEAR HEAD	K7G3~18B(C)	0,38
	K7G20~40B(C)	0,46
	K7G50~200B(C)	0,51

K7IG15N□-SP + K7G□B(C)

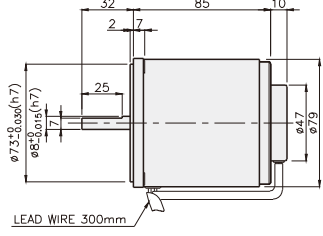
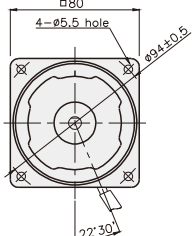


## SPEED CONTROL MOTOR - SP SERIES

**25W**

**□80mm**

**INDUCTION MOTOR**



### SPECIFICATIONS

25W continuous rating, four poles

Model	Maximum Output(W)	Voltage(V)	Frequency (Hz)	Speed Range (rpm)	Permissible Torque		Start T. (N*m/Kgf*cm)	Current (A)	Condenser (μF)
					1200rpm (N*m/kgf*cm)	90rpm (N*m/kgf*cm)			
K8I□25NJ-SP	25	100	50	90 ~ 1400	0,2/2	0,05/0,5	0,08/0,8	0,8	7
				60					
K8I□25NU-SP	25	110	60	90 ~ 1700	0,2/2	0,05/0,5	0,08/0,8	0,67	5
		115							
K8I□25NL-SP	25	200	50	90 ~ 1400	0,19/1,9	0,047/0,47	0,085/0,085	0,36	1,8
				60					
K8I□25NC-SP	25	220	50	90 ~ 1400	0,19/1,9	0,047/0,47	0,08/0,8	0,38	1,5
				60					
		230	50	90 ~ 1400	0,19/1,9	0,047/0,47	0,087/0,87	0,4	
				60					
K8I□25ND-SP	25	240	50	90 ~ 1400	0,19/1,9	0,047/0,47	0,08/0,8	0,42	1,2

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

### RATED TORQUE OF GEARHEAD

#### ● Single-phase 100V/115V

unit = above : N·m / below : Kgf·cm

Model Motor/Gearhead	Ratio Speed(rpm)	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
		K8IG25N□-SP K8G□B(C)	1200	0,49 4,9	0,58 5,8	0,81 8,1	0,97 9,7	1,22 12,2	1,46 14,6	1,62 16,2	2,03 20,3	2,43 24,3	2,92 29,2	2,92 29,2	3,65 36,5	4,37 43,7	5,25 52,5	5,83 58,3	6,56 65,6	7,87 78,7	8 80	8 80	8 80	8 80	8 80	8 80
90	0,12 1,2		0,15 1,5	0,20 2,0	0,24 2,4	0,30 3,0	0,36 3,6	0,41 4,1	0,51 5,1	0,61 6,1	0,73 7,3	0,73 7,3	0,91 9,1	1,09 10,9	1,31 13,1	1,46 14,6	1,64 16,4	1,97 19,7	2,46 24,6	2,95 29,5	3,28 32,8	3,94 39,4	4,92 49,2	5,90 59,0	6,56 65,6	8 80

#### ● Single-phase 200V/240V

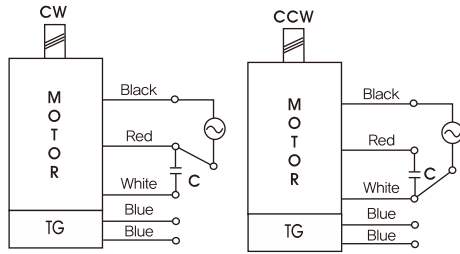
unit = above : N·m / below : Kgf·cm

Model Motor/Gearhead	Ratio Speed(rpm)	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	
		K8IG25N□-SP K8G□B(C)	1200	200V/220V/230V 240V/50Hz	0,46 4,6	0,55 5,5	0,77 7,7	0,92 9,2	1,15 11,5	1,39 13,9	1,54 15,4	1,92 19,2	2,31 23,1	2,77 27,7	2,77 27,7	3,46 34,6	4,16 41,6	4,99 49,9	5,54 55,4	6,23 62,3	7,48 74,8	9,35 93,5	11,22 112,2	8 80	8 80	8 80	8 80
200V/220V 230V/60Hz	0,32 3,2			0,38 3,8	0,53 5,3	0,63 6,3	0,79 7,9	0,95 9,5	1,05 10,5	1,32 13,2	1,58 15,8	1,90 19,0	1,90 19,0	2,37 23,7	2,84 28,4	3,41 34,1	3,79 37,9	4,26 42,6	5,12 51,2	6,40 64,0	7,68 76,8	8 80	8 80	8 80	8 80	8 80	8 80
90	200V/220V/230V 240V/50Hz		0,11 1,1	0,14 1,4	0,19 1,9	0,23 2,3	0,29 2,9	0,34 3,4	0,38 3,8	0,48 4,8	0,57 5,7	0,69 6,9	0,69 6,9	0,86 8,6	1,03 10,3	1,23 12,3	1,37 13,7	1,54 15,4	1,85 18,5	2,31 23,1	2,78 27,8	3,08 30,8	3,70 37,0	4,63 46,3	5,55 55,5	6,17 61,7	7,71 77,1
	200V/220V 230V/60Hz		0,10 1,0	0,13 1,3	0,17 1,7	0,21 2,1	0,26 2,6	0,31 3,1	0,35 3,5	0,44 4,4	0,52 5,2	0,63 6,3	0,63 6,3	0,78 7,8	0,94 9,4	1,13 11,3	1,25 12,5	1,41 14,1	1,69 16,9	2,12 21,2	2,54 25,4	2,82 28,2	3,39 33,9	4,23 42,3	5,08 50,8	5,64 56,4	7,05 70,5

- \* 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/60kgf·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.

## GEARHEADS

### CONNECTION DIAGRAMS



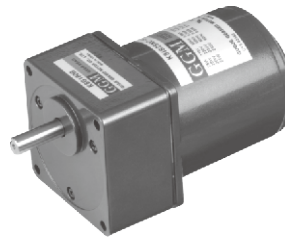
※The direction of motor rotation is as viewed from the front shaft end of the motor

### DIMENSIONS

K8G□B(C)

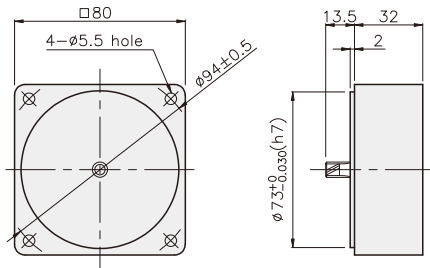


K8IG25N□-SP + K8G□B(C)



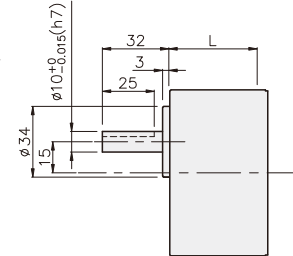
#### DECIMAL GEARHEAD

K8G10BX



#### GEARHEAD

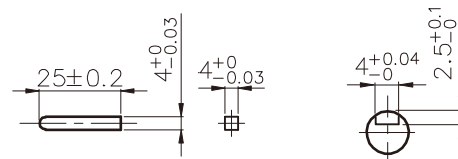
K8G□B(C)



#### KEY SPEC

● KEY

● KEY GROOVE



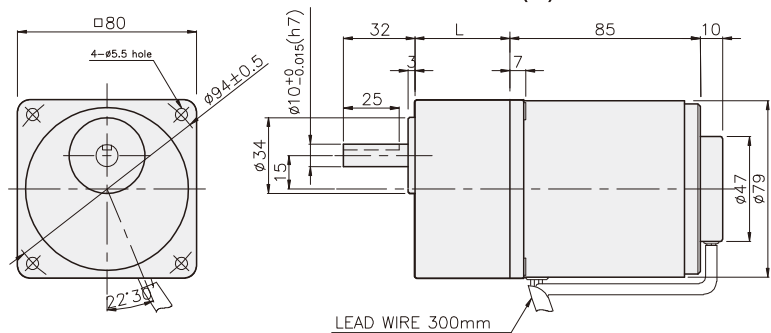
#### DIMENSION TABLE

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	1,60	
DECIMAL GEAR HEAD	0,46	
GEAR HEAD	K8G3~18B(C)	0,51
	K8G20~40B(C)	0,64
	K8G50~250B(C)	0,70

K8IG25N□-SP + K8G□B(C)



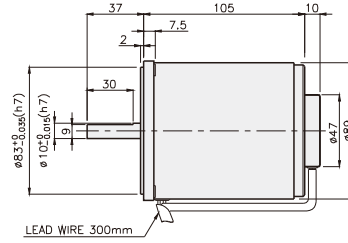
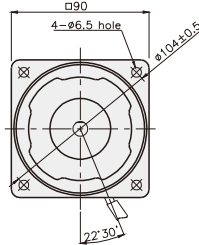
## SPEED CONTROL MOTOR - SP SERIES

**40W**

**□90mm**

**INDUCTION MOTOR**

K9IS40N□-SP



### SPECIFICATIONS

40W continuous rating, four poles

Model	Voltage (V)	Frequency (Hz)	Speed Range (rpm)	Permissible Torque		Start T. (N*m/Kgf*Cm)	Current (A)	Condenser (μF)
				1200rpm (N*m/kgf*Cm)	90rpm (N*m/kgf*Cm)			
K9I□40NJ-SP	100	50	90 ~ 1400	0.26/2.6	0.07/0.7	0.14/1.4	1.3	12
		60	90 ~ 1700					
K9I□40NU-SP	110	60	90 ~ 1700	0.26/2.6	0.07/0.7	0.13/1.3	1.1	8
	115							
K9I□40NL-SP	200	50	90 ~ 1400	0.3/3	0.063/0.63	0.14/1.4	0.6	3
		60	90 ~ 1700	0.23/2.3			0.62	
K9I□40NC-SP	220	50	90 ~ 1400	0.3/3	0.063/0.63	0.14/1.4	0.58	2.5
		60	90 ~ 1700	0.23/2.3		0.13/1.3	0.62	
	230	50	90 ~ 1400	0.3/3		0.14/1.4	0.6	
		60	90 ~ 1700	0.23/2.3		0.13/1.3	0.62	
K9I□40ND-SP	240	50	90 ~ 1400	0.3/3	0.063/0.63	0.13/1.3	0.6	2

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

### RATED TORQUE OF GEARHEAD

● Single-phase 100V/115V

unit = above : N·m / below : Kgf·cm

Model	Ratio	Speed(rpm)																							
		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
K9I□40N□-SP K9G□B(C)	1200	0.63 6.3	0.76 7.6	1.05 10.5	1.26 12.6	1.58 15.8	1.90 19.0	2.11 21.1	2.63 26.3	3.16 31.6	3.79 37.9	3.79 37.9	4.74 47.4	5.69 56.9	6.82 68.2	7.58 75.8	8.53 85.3	10 100	10 100	10 100	10 100	10 100	10 100	10 100	10 100
	90	0.17 1.7	0.20 2.0	0.28 2.8	0.34 3.4	0.43 4.3	0.51 5.1	0.57 5.7	0.71 7.1	0.85 8.5	1.02 10.2	1.02 10.2	1.28 12.8	1.53 15.3	1.84 18.4	2.04 20.4	2.30 23.0	2.76 27.6	3.44 34.4	4.13 41.3	4.59 45.9	5.51 55.1	6.89 68.9	8.27 82.7	9.19 91.9

● Single-phase 200V/240V

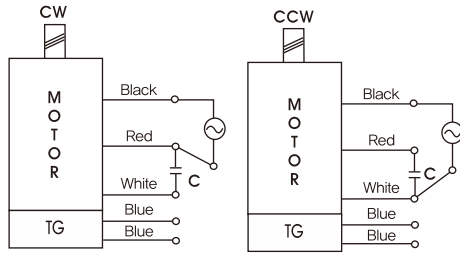
unit = above : N·m / below : Kgf·cm

Model	Ratio	Speed(rpm)																							
		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
K9I□40N□-SP K9G□B(C)	1200	200V/220V/ 230V/240V 50Hz	0.73 7.3	0.87 8.7	1.22 12.2	1.46 14.6	1.82 18.2	2.19 21.9	2.43 24.3	3.04 30.4	3.65 36.5	4.37 43.7	4.37 43.7	5.47 54.7	6.56 65.6	7.87 78.7	8.75 87.5	10 100	10 100	10 100	10 100	10 100	10 100	10 100	10 100
		200V/220V/ 230V/240V 60Hz	0.56 5.6	0.67 6.7	0.93 9.3	1.12 11.2	1.40 14.0	1.68 16.8	1.86 18.6	2.33 23.3	2.79 27.9	3.35 33.5	3.35 33.5	4.19 41.9	5.03 50.3	6.04 60.4	6.71 67.1	8.38 83.8	10 100	10 100	10 100	10 100	10 100	10 100	10 100
	90	0.15 1.5	0.18 1.8	0.26 2.6	0.31 3.1	0.38 3.8	0.46 4.6	0.51 5.1	0.64 6.4	0.77 7.7	0.92 9.2	0.92 9.2	1.15 11.5	1.38 13.8	1.65 16.5	1.84 18.4	2.07 20.7	2.48 24.8	3.10 31.0	3.72 37.2	4.13 41.3	4.96 49.6	6.20 62.0	7.44 74.4	8.27 82.7

- \* 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.

## GEARHEADS

### CONNECTION DIAGRAMS



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

### DIMENSIONS

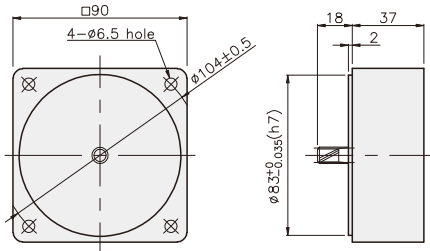
K9G□B(C)



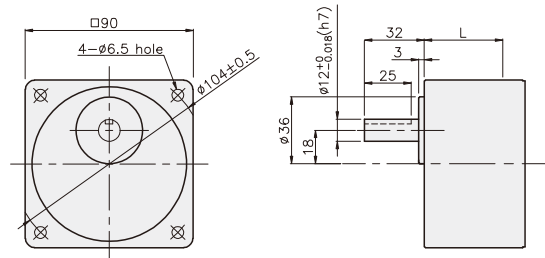
K9IG40N□-SP + K9G□B(C)



DECIMAL GEARHEAD  
K9G10BX



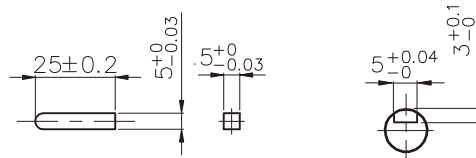
GEARHEAD  
K9G□B(C)



### KEY SPEC

● KEY

● KEY GROOVE



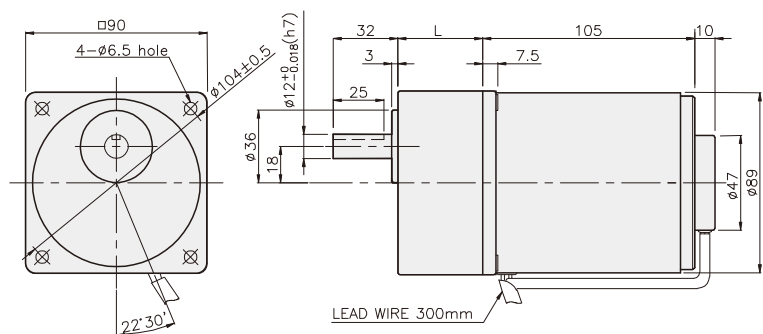
### DIMENSION TABLE

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	2,48	
DECIMAL GEAR HEAD	0,60	
GEAR HEAD	K9G3~18B(C)	0,78
	K9G20~40B(C)	1,04
	K9G50~200B(C)	1,14

K9IG40N□-SP + K9G□B(C)



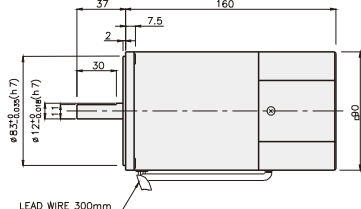
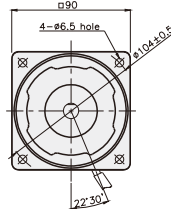
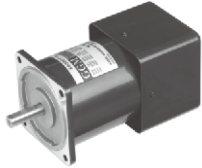


## SPEED CONTROL MOTOR - SP SERIES

### 60W

### INDUCTION MOTOR

K9IS60F□-SP



### SPECIFICATIONS

60W continuous rating, four poles

Model	Voltage(V)	Frequency (Hz)	Speed Range (rpm)	Permissible Torque		Start T. (N*m/ Kgf*cm)	Current (A)	Condenser (μF)
				1200rpm (N*m/ kgf*cm)	90rpm (N*m/ kgf*cm)			
K9I□60FJ-SP	100	50	90 ~ 1400	0.45/4.5	0.15/1.5	0.24/2.4	2.3	20
			90 ~ 1700			0.21/2.1		
K9I□60FU-SP	110	60	90 ~ 1700	0.45/4.5	0.15/1.5	0.285/2.85	2	16
	115					2.1		
K9I□60FL-SP	200	50	90 ~ 1400	0.49/4.9	0.14/1.4	0.24/2.4	1.2	5
			90 ~ 1700			0.21/2.1		
K9I□60FC-SP	220	50	90 ~ 1400	0.49/4.9	0.14/1.4	0.24/2.4	0.91	4
			90 ~ 1700			0.21/2.1		
	230	50	90 ~ 1400	0.49/4.9	0.14/1.4	0.24/2.4	1	
			90 ~ 1700			0.24/2.4		
K9I□60FD-SP	240	50	90 ~ 1400	0.49/4.9	0.14/1.4	0.28/2.8	1.1	4

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

### RATED TORQUE OF GEARHEAD

#### ● Single-phase 100V/115V

unit = above : N·m / below : Kg·cm

Model	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
Motor/Gearhead	Speed(rpm)																								
K9I□60F□-SP K9P□B, BF	1200	1.09 10.9	1.31 13.1	1.82 18.2	2.19 21.9	2.73 27.3	3.28 32.8	3.65 36.5	4.10 41.0	4.92 49.2	5.90 59.0	6.56 65.6	7.38 73.8	8.86 88.6	10.63 106.3	11.81 118.1	14.76 147.6	17.71 177.1	20 200	20 200	20 200	20 200	20 200	20 200	20 200
	90	0.36 3.6	0.44 4.4	0.61 6.1	0.73 7.3	0.91 9.1	1.09 10.9	1.22 12.2	1.37 13.7	1.64 16.4	1.97 19.7	2.19 21.9	2.46 24.6	2.95 29.5	3.54 35.4	3.94 39.4	4.92 49.2	5.90 59.0	6.64 66.4	7.97 79.7	8.86 88.6	10.63 106.3	13.29 132.9	15.94 159.4	17.71 177.1

#### ● Single-phase 200V/240V

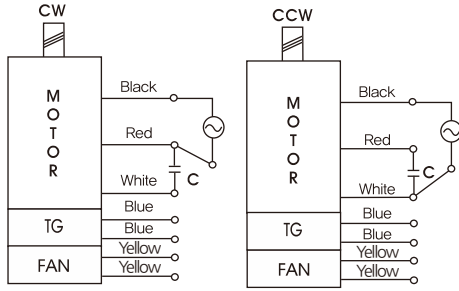
unit = above : N·m / below : Kg·cm

Model	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	
Motor/Gearhead	Speed(rpm)																									
K9I□60F□-SP K9P□B, BF	1200	200V/220V/230V/240V/50Hz	1.19 11.9	1.43 14.3	1.98 19.8	2.38 23.8	2.98 29.8	3.57 35.7	3.97 39.7	4.47 44.7	5.36 53.6	6.43 64.3	7.14 71.4	8.04 80.4	9.64 96.4	11.57 115.7	12.86 128.6	16.07 160.7	19.29 192.9	20 200	20 200	20 200	20 200	20 200	20 200	
		200V/220V/230V/60Hz	1.09 10.9	1.31 13.1	1.82 18.2	2.19 21.9	2.73 27.3	3.28 32.8	3.65 36.5	4.10 41.0	4.92 49.2	5.90 59.0	6.56 65.6	7.38 73.8	8.86 88.6	10.63 106.3	11.81 118.1	14.76 147.6	17.71 177.1	20 200	20 200	20 200	20 200	20 200	20 200	
	90	200V/220V/230V/240V/50Hz	0.34 3.4	0.41 4.1	0.57 5.7	0.68 6.8	0.85 8.5	1.02 10.2	1.13 11.3	1.28 12.8	1.53 15.3	1.84 18.4	2.04 20.4	2.30 23.0	2.76 27.6	3.31 33.1	3.67 36.7	4.59 45.9	5.51 55.1	6.20 62.0	7.44 74.4	8.27 82.7	9.92 99.2	12.40 124.0	14.88 148.8	16.53 165.3
		200V/220V/230V/60Hz	0.39 3.9	0.47 4.7	0.65 6.5	0.78 7.8	0.97 9.7	1.17 11.7	1.30 13.0	1.46 14.6	1.75 17.5	2.10 21.0	2.33 23.3	2.62 26.2	3.15 31.5	3.78 37.8	4.20 42.0	5.25 52.5	6.30 63.0	7.09 70.9	8.50 85.0	9.45 94.5	11.34 113.4	14.17 141.7	17.01 170.1	18.90 189.0

- \* 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.

## GEARHEADS

### CONNECTION DIAGRAMS



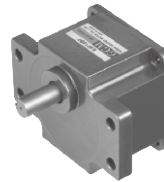
※The direction of motor rotation is as viewed from the front shaft end of the motor

### DIMENSIONS

K9P□B



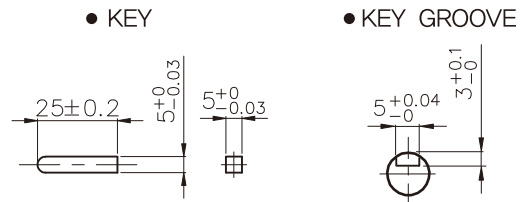
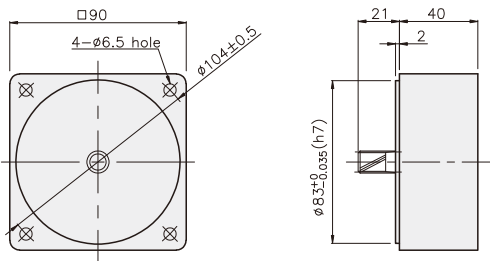
K9P□BF



### DECIMAL GEARHEAD

K9P10BX

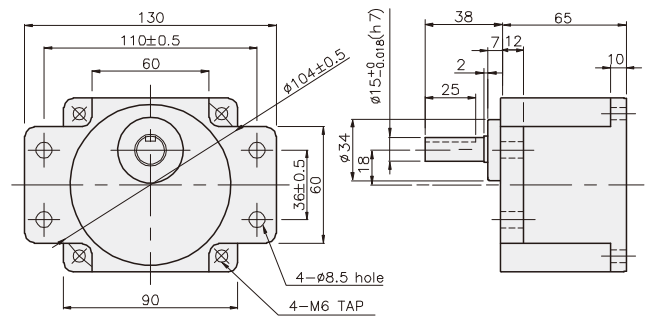
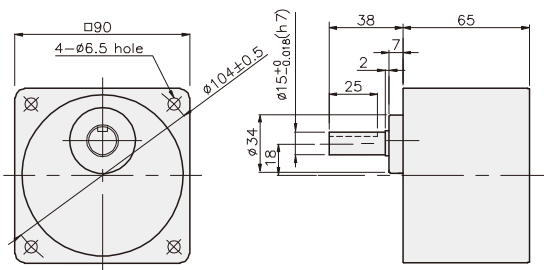
### KEY SPEC



### GEARHEAD

K9P□B

K9P□BF

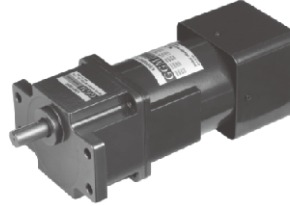


## GEARHEADS

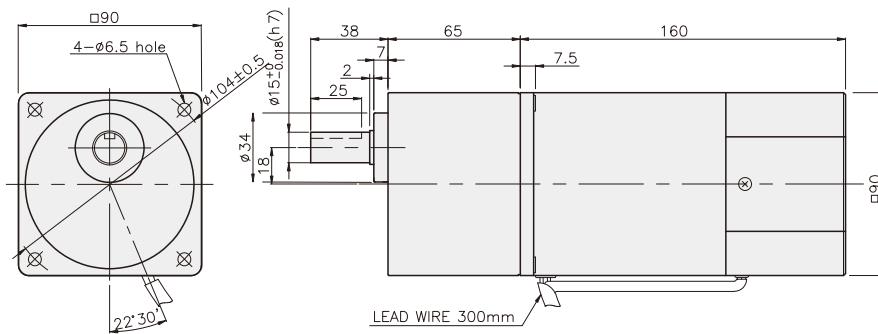
### DIMENSIONS

K9IP60F□-SP + K9P□B

K9IP60F□-SP + K9P□BF



K9IP60F□-SP + K9P□B



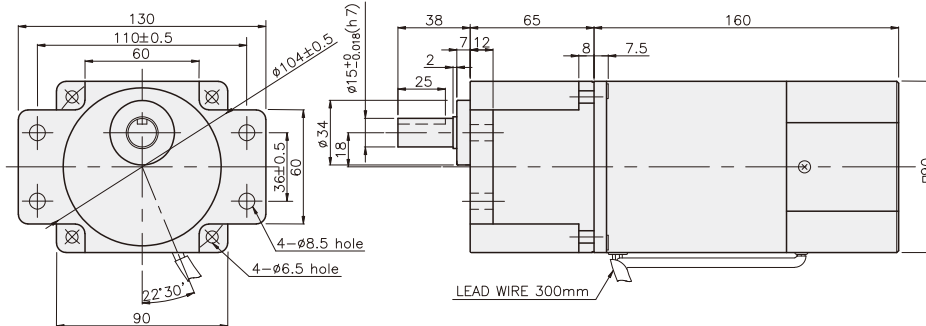
DIMENSION TABLE

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	3,06	
DECIMAL GEAR HEAD	0,62	
GEAR HEAD	K9P3~10B	1,22
	K9P12,5~20B	1,32
	K9P25~60B	1,42
	K9P75~200B	1,45

K9IP60F□-SP + 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

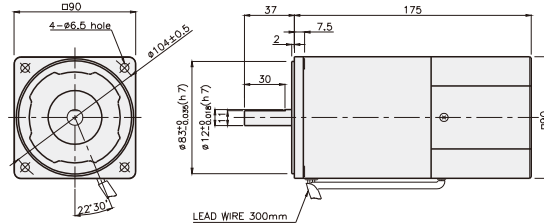
PART	WEIGHT(kg)	
MOTOR	3,06	
DECIMAL GEAR HEAD	0,62	
GEAR HEAD	K9P3~10BF	1,22
	K9P12,5~18BF	1,30
	K9P20~60BF	1,42
	K9P75~200BF	1,44

## SPEED CONTROL MOTOR - SP SERIES

90W

□90mm

INDUCTION MOTOR



### SPECIFICATIONS

90W continuous rating, four poles

Model	Voltage (V)	Frequency (Hz)	Speed Range (rpm)	Permissible Torque		Start T. (N*m/Kgf*cm)	Current (A)	Condenser (μF)
				1200rpm (N*m/Kgf*cm)	90rpm (N*m/Kgf*cm)			
K9I□90FJ-SP	100	50	90 ~ 1400	0.7/7	0.23/2.3	0.36/3.6	3.2	30
			90 ~ 1700					
K9I□90FU-SP	110	60	90 ~ 1700	0.7/7	0.23/2.3	0.35/3.5	2.6	20
			115					
K9I□90FL-SP	200	50	90 ~ 1400	0.73/7.3	0.23/2.3	0.36/3.6	1.3	7
			90 ~ 1700					
K9I□90FC-SP	220	50	90 ~ 1400	0.73/7.3	0.23/2.3	0.36/3.6	1.1	6
			90 ~ 1700					
	230	50	90 ~ 1400		0.23/2.3	0.4/4	1.2	
			90 ~ 1700					
K9I□90FD-SP	240	50	90 ~ 1400	0.73/7.3	0.23/2.3	0.36/3.6	1.2	5

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

### RATED TORQUE OF GEARHEAD

#### ● Single-phase 100V/115V

unit = above : N·m / below : Kgf·cm

Model/Gearhead	Ratio Speed(rpm)	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
K9I□90F□-SP K9P□B, BF	1200	1.70 17.0	2.04 20.4	2.84 28.4	3.40 34.0	4.25 42.5	5.10 51.0	5.67 56.7	6.38 63.8	7.65 76.5	9.19 91.9	10.21 102.1	11.48 114.8	13.78 137.8	16.53 165.3	18.37 183.7	20 200	20 200	20 200	20 200	20 200	20 200	20 200	20 200	20 200
	90	0.56 5.6	0.67 6.7	0.93 9.3	1.12 11.2	1.40 14.0	1.68 16.8	1.86 18.6	2.10 21.0	2.52 25.2	3.02 30.2	3.35 33.5	3.77 37.7	4.53 45.3	5.43 54.3	6.04 60.4	7.55 75.5	9.05 90.5	10.19 101.9	12.22 122.2	13.58 135.8	16.30 163.0	20 200	20 200	20 200

#### ● Single-phase 200V/240V

unit = above : N·m / below : Kgf·cm

Model/Gearhead	Ratio Speed(rpm)	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	
K9I□90F□-SP K9P□B, BF	1200	1.77 17.7	2.13 21.3	2.96 29.6	3.55 35.5	4.43 44.3	5.32 53.2	5.91 59.1	6.65 66.5	7.98 79.8	9.58 95.8	10.64 106.4	11.97 119.7	14.37 143.7	17.24 172.4	19.16 191.6	20 200	20 200	20 200	20 200	20 200	20 200	20 200	20 200	20 200	
	90	200V/220V/230V 240V/50Hz	0.56 5.6	0.67 6.7	0.93 9.3	1.12 11.2	1.40 14.0	1.68 16.8	1.86 18.6	2.10 21.0	2.52 25.2	3.02 30.2	3.35 33.5	3.77 37.7	4.53 45.3	5.43 54.3	6.04 60.4	7.55 75.5	9.05 90.5	10.19 101.9	12.22 122.2	13.58 135.8	16.30 163.0	20 200	20 200	20 200
		200V/220V 230V/60Hz	0.63 6.3	0.76 7.6	1.05 10.5	1.26 12.6	1.58 15.8	1.90 19.0	2.11 21.1	2.37 23.7	2.84 28.4	3.41 34.1	3.79 37.9	4.26 42.6	5.12 51.2	6.14 61.4	6.82 68.2	8.53 85.3	10.24 102.4	11.51 115.1	13.82 138.2	15.35 153.5	18.42 184.2	20 200	20 200	20 200

- \* 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.

SPEED CONTROL MOTOR - SP SERIES

## GEARHEADS

### RATED TORQUE OF GEARHEAD

#### ● Single-phase 100V/115V

unit = above : N · m / below : kgfcm

Model Motor/Gearhead	Ratio Speed(rpm)	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
		K9I□90F□-SP K9P□BU, BUF	1200	1,70 17,0	2,04 20,4	2,84 28,4	3,40 34,0	4,25 42,5	5,10 51,0	5,67 56,7	6,38 63,8	7,65 76,5	9,91 99,1	10,21 102,1	11,48 114,8	13,78 137,8	16,53 165,3	18,37 183,7	22,96 229,6	27,56 275,6	30 300	30 300	30 300	30 300	30 300
90	0,56 5,6		0,67 6,7	0,93 9,3	1,12 11,2	1,40 14,0	1,68 16,8	1,86 18,6	2,10 21,0	2,52 25,2	3,02 30,2	3,35 33,5	3,77 37,7	4,53 45,3	5,43 54,3	6,04 60,4	7,55 75,5	9,05 90,5	10,19 101,9	12,22 122,2	13,58 135,8	16,30 163,0	20,37 203,7	24,45 244,5	27,16 271,6

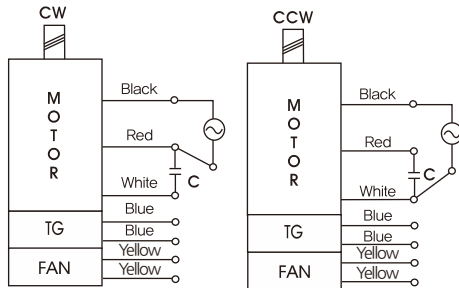
#### ● Single-phase 200V/240V

unit = above : N · m / below : kgfcm

Model Motor/Gearhead	Ratio Speed(rpm)	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	
		K9I□90F□-SP K9P□BU, BUF	1200	1,77 17,7	2,13 21,3	2,96 29,6	3,55 35,5	4,43 44,3	5,32 53,2	5,91 59,1	6,65 66,5	7,98 79,8	9,58 95,8	10,64 106,4	11,97 119,7	14,37 143,7	17,24 172,4	19,16 191,6	23,95 239,5	28,74 287,4	30 300	30 300	30 300	30 300	30 300	30 300
90	200V/220V/230V 240V/50Hz		0,56 5,6	0,67 6,7	0,93 9,3	1,12 11,2	1,40 14,0	1,68 16,8	1,86 18,6	2,10 21,0	2,52 25,2	3,02 30,2	3,35 33,5	3,77 37,7	4,53 45,3	5,43 54,3	6,04 60,4	7,55 75,5	9,05 90,5	10,19 101,9	12,22 122,2	13,58 135,8	16,30 163,0	20,37 203,7	24,45 244,5	27,16 271,6
	200V/220V 230V/60Hz		0,63 6,3	0,76 7,6	1,05 10,5	1,26 12,6	1,58 15,8	1,90 19,0	2,11 21,1	2,37 23,7	2,84 28,4	3,41 34,1	3,79 37,9	4,26 42,6	5,12 51,2	6,14 61,4	6,82 68,2	8,53 85,3	10,24 102,4	11,51 115,1	13,82 138,2	15,35 153,5	18,42 184,2	23,03 230,3	27,63 276,3	30 300

- \* 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



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

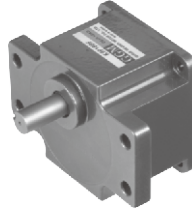
## GEARHEADS

### DIMENSIONS

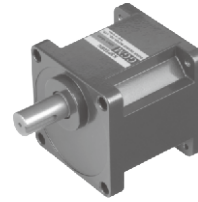
K9P□B



K9P□BF, BUF

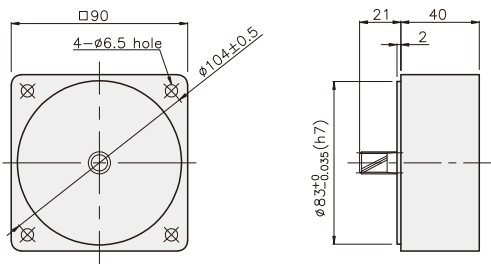


K9P□BU

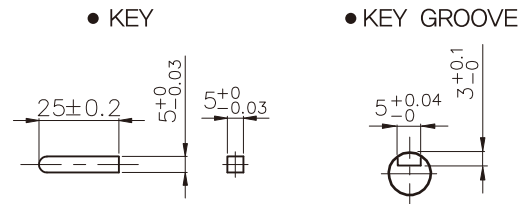


### DECIMAL GEARHEAD

K9P10BX

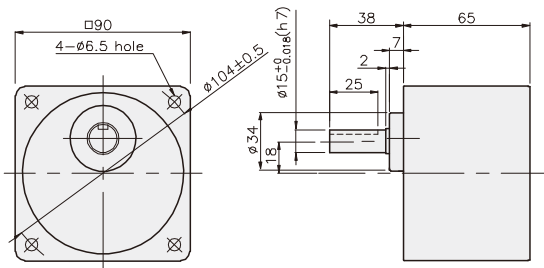


### KEY SPEC

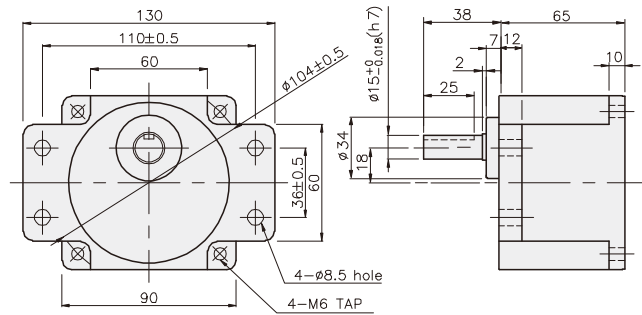


### GEARHEAD

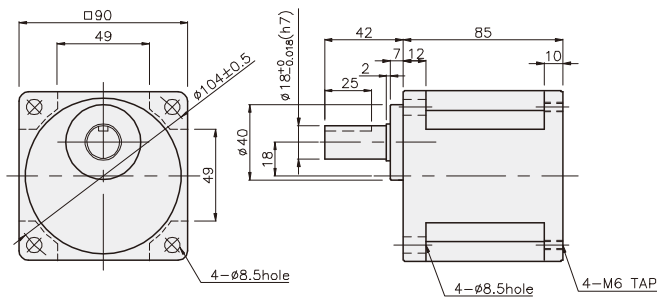
K9P□B



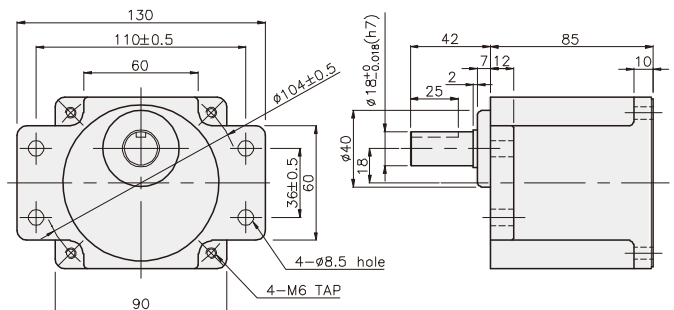
K9P□BF



K9P□BU



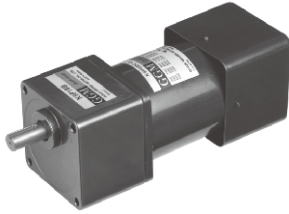
K9P□BUF



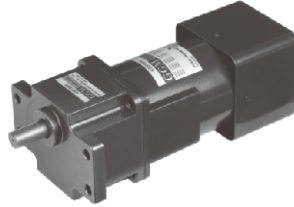
## GEARHEADS

### DIMENSIONS

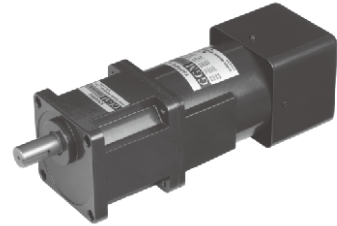
K9IP90F□-SP + K9P□B



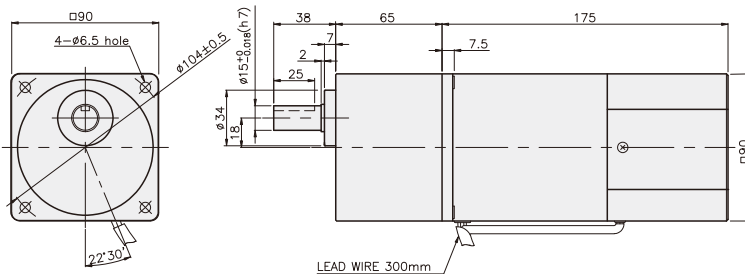
K9IP90F□-SP + K9P□BF, BUF



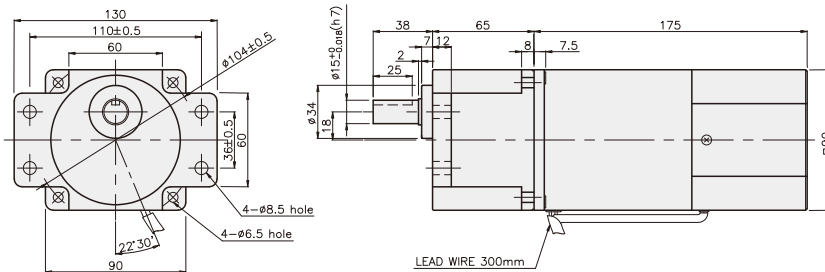
K9IP90F□-SP + K9P□BU



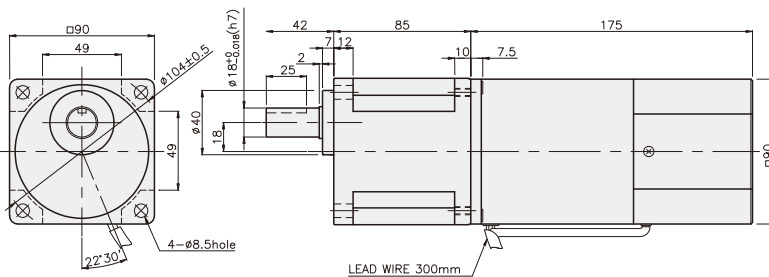
K9IP90F□-SP + K9P□B



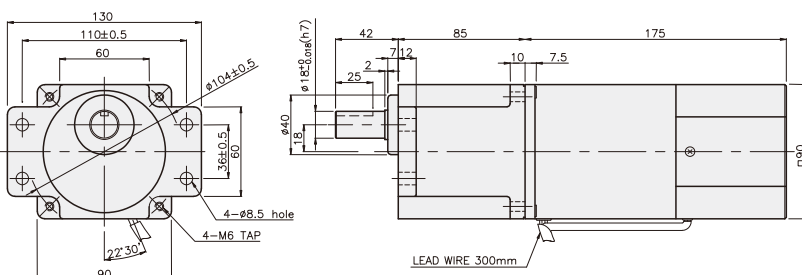
K9IP90F□-SP + K9P□BF



K9IP90F□-SP + K9P□BU



K9IP90F□-SP + K9P□BUF



### WEIGHT

PART	WEIGHT(kg)
MOTOR	3.58
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

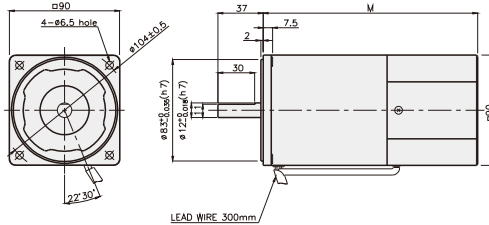
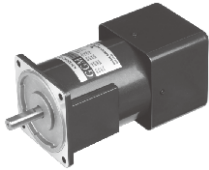
## SPEED CONTROL MOTOR - SP SERIES

### 120W

### □90mm

### INDUCTION MOTOR

K9□S120F□-SP



DIMENSION TABLE

PART No	M	Application Model
01	195	50Hz
02	175	60Hz

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

### SPECIFICATIONS

120W continuous rating, four poles

Model	Voltage (V)	Frequency (Hz)	Speed Range (rpm)	Permissible Torque		Start T. (N*m/Kgf*cm)	Current (A)	Condenser (μF)
				1200rpm (N*m/Kgf*cm)	90rpm (N*m/Kgf*cm)			
K9I□120FJ-SP	100	50	90 ~ 1400	0.83/8.3	0.3/3	0.4/4	3.4	35
		60	90 ~ 1700					
K9I□120FU-SP	110	60	90 ~ 1700	0.83/8.3	0.3/3	0.45/4.5	3.2	30
	115							
K9I□120FL-SP	200	50	90 ~ 1400	0.83/8.3	0.28/2.8	0.4/4	1.4	8.5
		60	90 ~ 1700	0.8/8	0.3/3		1.5	8
K9I□120FC-SP	220	50	90 ~ 1400	0.83/8.3	0.28/2.8	0.4/4	1.2	6
			90 ~ 1700					
	230	60	90 ~ 1400	0.8/8	0.3/3	0.45/4.5	1.4	7
			90 ~ 1700					
K9I□120FD-SP	240	50	90 ~ 1400	0.83/8.3	0.28/2.8	0.4/4	1.3	6

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

### RATED TORQUE OF GEARHEAD

#### ● Single-phase 100V/115V

unit = above : N·m / below : Kgf·cm

Model/Gearhead	Ratio Speed(rpm)	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
K9I□120F□-SP K9P□B, BF	1200	2.02 20.2	2.42 24.2	3.36 33.6	4.03 40.3	5.04 50.4	6.05 60.5	6.72 67.2	7.56 75.6	9.08 90.8	10.89 108.9	12.10 121.0	13.61 136.1	16.34 163.4	19.60 196	20	20	20	20	20	20	20	20	20	20
	90	0.73 7.3	0.87 8.7	1.22 12.2	1.46 14.6	1.82 18.2	2.19 21.9	2.43 24.3	2.73 27.3	3.28 32.8	3.94 39.4	4.37 43.7	4.92 49.2	5.90 59.0	7.09 70.9	7.87 78.7	9.84 98.4	11.81 118.1	13.29 132.9	15.94 159.4	17.71 177.1	20	20	20	20

#### ● Single-phase 200V/240V

unit = above : N·m / below : Kgf·cm

Model/Gearhead	Ratio Speed(rpm)	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	
K9I□120F□-SP K9P□B, BF	1200	200V/220V/230V 240V/50Hz	2.02 20.2	2.42 24.2	3.36 33.6	4.03 40.3	5.04 50.4	6.05 60.5	6.72 67.2	7.56 75.6	9.08 90.8	10.89 108.9	12.10 121.0	13.61 136.1	16.34 163.4	19.60 196	20	20	20	20	20	20	20	20	20	20
		200V/220V 230V/60Hz	1.94 19.4	2.33 23.3	3.24 32.4	3.89 38.9	4.86 48.6	5.83 58.3	6.48 64.8	7.29 72.9	8.75 87.5	10.50 105.0	11.66 116.6	13.12 131.2	15.75 157.5	18.90 189.0	20	20	20	20	20	20	20	20	20	20
	90	200V/220V/230V 240V/50Hz	0.68 6.8	0.82 8.2	1.13 11.3	1.36 13.6	1.70 17.0	2.04 20.4	2.27 22.7	2.55 25.5	3.06 30.6	3.67 36.7	4.08 40.8	4.59 45.9	5.51 55.1	6.61 66.1	7.35 73.5	9.19 91.9	11.02 110.2	12.40 124.0	14.88 148.8	16.53 165.3	19.84 198.4	20	20	20
		200V/220V 230V/60Hz	0.73 7.3	0.87 8.7	1.22 12.2	1.46 14.6	1.82 18.2	2.19 21.9	2.43 24.3	2.73 27.3	3.28 32.8	3.94 39.4	4.37 43.7	4.92 49.2	5.90 59.0	7.09 70.9	7.87 78.7	9.84 98.4	11.81 118.1	13.29 132.9	15.94 159.4	17.71 177.1	20	20	20	20

- \* 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.

SPEED CONTROL MOTOR - SP SERIES



## GEARHEADS

### RATED TORQUE OF GEARHEAD

#### ● Single-phase 100V/115V

unit = above : N · m / below : kgfcm

Model Motor/Gearhead	Ratio Speed(rpm)	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
		K9I□120F□-SP K9P□BU, BUF	1200	2,02 20,2	2,42 24,2	3,36 33,6	4,03 40,3	5,04 50,4	6,05 60,5	6,72 67,2	7,56 75,6	9,08 90,8	10,89 108,9	12,10 121,0	13,61 136,1	16,34 163,4	19,60 196,0	21,78 217,8	27,23 272,3	30 300	30 300	30 300	30 300	30 300	30 300
90	0,73 7,3		0,87 8,7	1,22 12,2	1,46 14,6	1,82 18,2	2,19 21,9	2,43 24,3	2,73 27,3	3,28 32,8	3,94 39,4	4,37 43,7	4,92 49,2	5,90 59,0	7,09 70,9	7,87 78,7	9,84 98,4	11,81 118,1	13,29 132,9	15,94 159,4	17,71 177,1	21,26 212,6	26,57 265,7	30 300	30 300

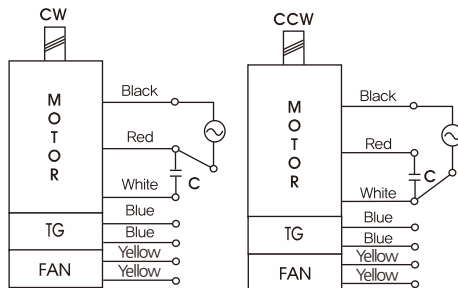
#### ● Single-phase 200V/240V

unit = above : N · m / below : kgfcm

Model Motor/Gearhead	Ratio Speed(rpm)	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	
		K9I□120F□-SP K9P□BU, BUF	1200	200V/220V/230V 240V/50Hz	2,02 20,2	2,42 24,2	3,36 33,6	4,03 40,3	5,04 50,4	6,05 60,5	6,72 67,2	7,56 75,6	9,08 90,8	10,89 108,9	12,10 120,1	13,61 136,1	16,34 163,4	19,60 196,0	21,78 217,8	27,23 272,3	30 300	30 300	30 300	30 300	30 300	30 300
200V/220V 230V/60Hz	1,94 19,4			2,33 23,3	3,24 32,4	3,89 38,9	4,86 48,6	5,83 58,3	6,48 64,8	7,29 72,9	8,75 87,5	10,50 105,0	11,66 116,6	13,12 131,2	15,75 157,5	18,90 189,0	21,00 210,0	26,24 262,4	30 300	30 300	30 300	30 300	30 300	30 300	30 300	30 300
90	200V/220V/230V 240V/50Hz		0,68 6,8	0,82 8,2	1,13 11,3	1,36 13,6	1,70 17,0	2,04 20,4	2,27 22,7	2,55 25,5	3,06 30,6	3,67 36,7	4,08 40,8	4,59 45,9	5,51 55,1	6,61 66,1	7,35 73,5	9,19 91,9	11,02 110,2	12,40 124,0	14,88 148,8	16,53 165,3	19,84 198,4	24,80 248,0	29,76 297,6	30 300
	200V/220V 230V/60Hz		0,73 7,3	0,87 8,7	1,22 12,2	1,46 14,6	1,82 18,2	2,19 21,9	2,43 24,3	2,73 27,3	3,28 32,8	3,94 39,4	4,37 43,7	4,92 49,2	5,90 59,0	7,09 70,9	7,87 78,7	9,84 98,4	11,81 118,1	13,29 132,9	15,94 159,4	17,71 177,1	21,26 212,6	26,57 265,7	30 300	30 300

- \* 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



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

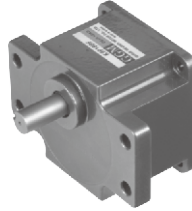
## GEARHEADS

### DIMENSIONS

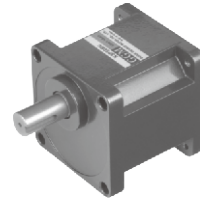
K9P□B



K9P□BF, BUF

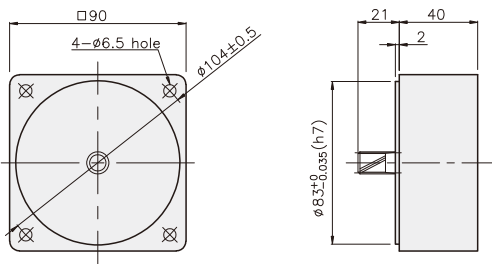


K9P□BU



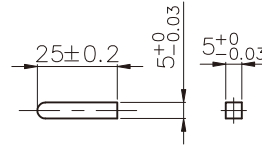
### DECIMAL GEARHEAD

K9P10BX

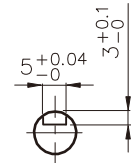


### KEY SPEC

● KEY

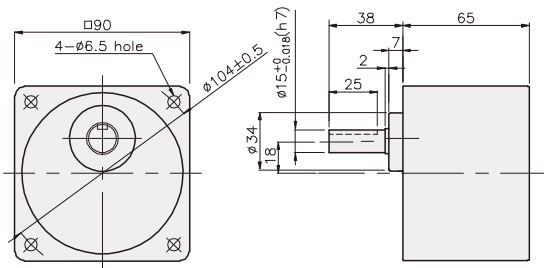


● KEY GROOVE

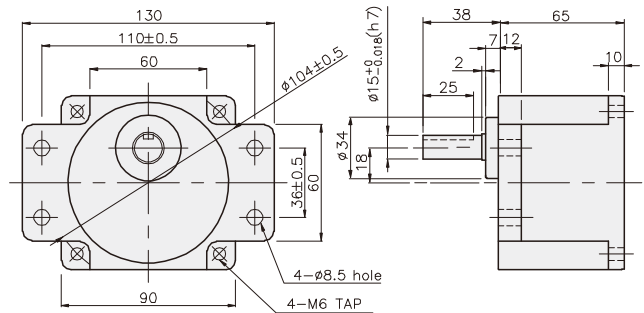


### GEARHEAD

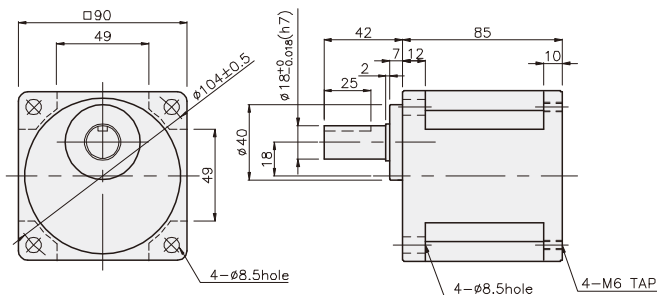
K9P□B



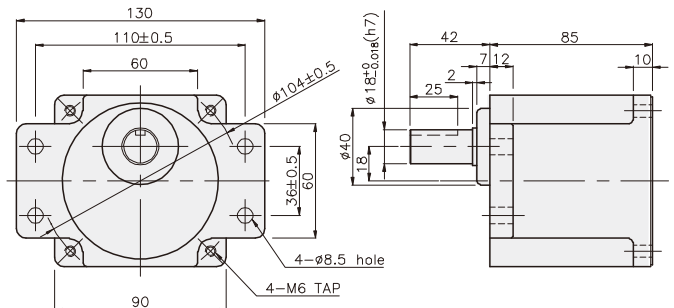
K9P□BF



K9P□BU



K9P□BUF



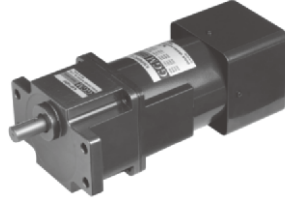
## GEARHEADS

### DIMENSIONS

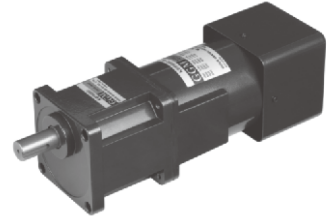
K9IP120F□-SP + K9P□B



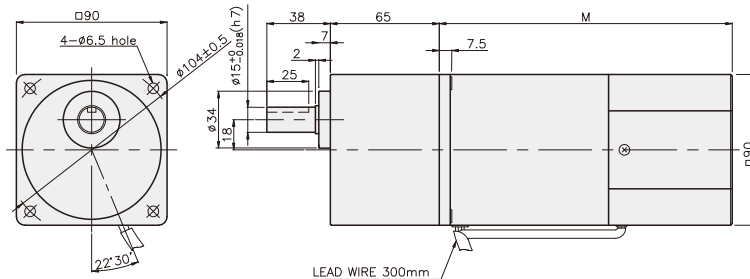
K9IP120F□-SP + K9P□BF, BUF



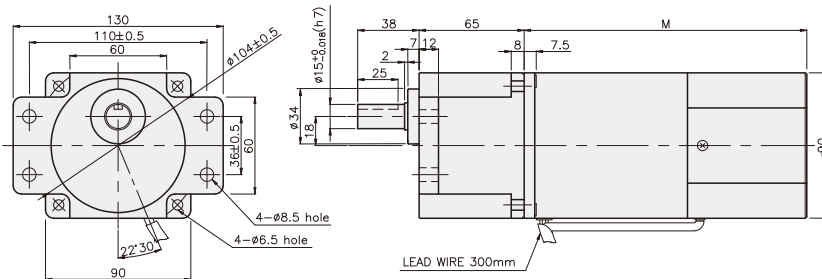
K9IP120F□-SP + K9P□BU



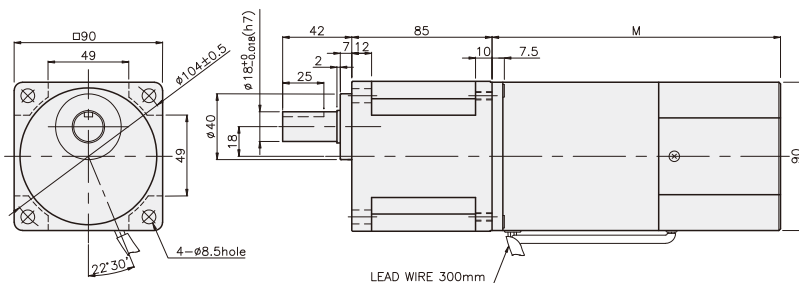
K9IP120F□-SP + K9P□B



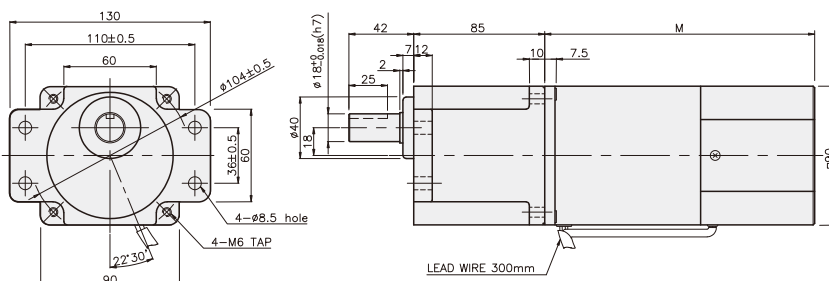
K9IP120F□-SP + K9P□BF



K9IP120F□-SP + K9P□BU



K9IP120F□-SP + K9P□BUF



#### WEIGHT

PART	WEIGHT(kg)
MOTOR	3,54
DECIMAL GEAR HEAD	0,62

#### DIMENSION TABLE

품번	M	적용기종
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

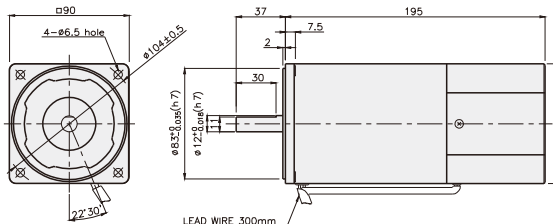
## SPEED CONTROL MOTOR - SP SERIES

### 180W

### □90mm

### INDUCTION MOTOR

K9□S180F□-SP



### SPECIFICATIONS

180W continuous rating, four poles

Model	Voltage (V)	Frequency (Hz)	Speed Range (rpm)	Permissible Torque		Start T. (N*m/Kgf*cm)	Current (A)	Condenser (μF)
				1200rpm (N*m/Kgf*cm)	90rpm (N*m/Kgf*cm)			
K9□180FJ-SP	100	50	90 ~ 1400	0.9/9	0.35/3.5	0.6/6	5.2	50
		60	90 ~ 1700			0.65/6.5		
K9□180FU-SP	110	60	90 ~ 1700	0.9/9	0.35/3.5	0.52/5.2	4.8	35
	115					0.55/5.5		
K9□180FL-SP	200	50	90 ~ 1400	0.9/9	0.3/3	0.5/5	2.2	12
		60	90 ~ 1700			0.42/4.2		
K9□180FC-SP	220	50	90 ~ 1400	0.9/9	0.3/3	0.45/4.5	2.2	7
		60	90 ~ 1700			0.42/4.2		
	230	50	90 ~ 1400	1/10	0.33/3.3	0.53/5.3	2.4	
		60	90 ~ 1700			0.5/5		
K9□180FD-SP	240	50	90 ~ 1400	1/10	0.33/3.3	0.6/6	2	8

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

### RATED TORQUE OF GEARHEAD

#### ● Single-phase 100V/115V

unit = above : N·m / below : Kg·cm

Model	Ratio	Speed(rpm)																							
		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□180F□-SP K9P□BU, BUF	1200	2.19 21.9	2.62 26.2	3.65 36.5	4.37 43.7	5.47 54.7	6.56 65.6	7.29 72.9	8.20 82.0	9.84 98.4	11.81 118.1	13.12 131.2	14.76 147.6	17.71 177.1	21.26 212.6	23.62 236.2	29.52 295.2	30 300	30 300	30 300	30 300	30 300	30 300	30 300	30 300
	90	0.85 8.5	1.02 10.2	1.42 14.2	1.70 17.0	2.13 21.3	2.55 25.5	2.84 28.4	3.19 31.9	3.83 38.3	4.59 45.9	5.10 51.0	5.74 57.4	6.89 68.9	8.27 82.7	9.19 91.9	11.48 114.8	13.78 137.8	15.50 155.0	18.60 186.0	20.67 206.7	24.80 248.0	30 300	30 300	30 300

#### ● Single-phase 200V/240V

unit = above : N·m / below : Kg·cm

Model	Ratio	Speed(rpm)																							
		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□180F□-SP K9P□BU, BUF	1200	200V/220V 50V/60Hz	2.19 21.9	2.62 26.2	3.65 36.5	4.37 43.7	5.47 54.7	6.56 65.6	7.29 72.9	8.20 82.0	9.84 98.4	11.81 118.1	13.12 131.2	14.76 147.6	17.71 177.1	21.26 212.6	23.62 236.2	29.52 295.2	30 300	30 300	30 300	30 300	30 300	30 300	30 300
		230V/50Hz/60Hz 240V/50Hz	2.43 24.3	2.92 29.2	4.05 40.5	4.86 48.6	6.08 60.8	7.29 72.9	8.10 81.0	9.11 91.1	10.94 109.4	13.12 132.2	14.58 145.8	16.40 164.0	19.68 197	23.62 236	26.24 262	30 300	30 300	30 300	30 300	30 300	30 300	30 300	30 300
	90	200V/220V 50Hz/60Hz	0.73 7.3	0.87 8.7	1.22 12.2	1.46 14.6	1.82 18.2	2.19 21.9	2.43 24.3	2.73 27.3	3.28 32.8	3.94 39.4	4.37 43.7	4.92 49.2	5.90 59.0	7.09 70.9	7.87 78.7	9.84 98.4	11.81 118.1	13.29 132.9	15.94 159.4	17.71 177.1	21.26 212.6	26.57 265.7	30 300
		230Hz/50Hz/60Hz 240V/50Hz	0.80 8.0	0.96 9.6	1.34 13.4	1.60 16.0	2.00 20.2	2.41 24.1	2.41 24.1	3.34 33.4	4.01 40.1	4.81 48.1	5.35 53.5	5.41 54.1	6.50 65.0	7.79 77.9	8.66 86.6	10.83 108.3	12.99 129.9	14.61 146.1	17.54 175.4	19.49 194.9	23.38 233.8	29.23 292.3	30 300

\* Gearhead and decimal gearhead are sold separately.

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

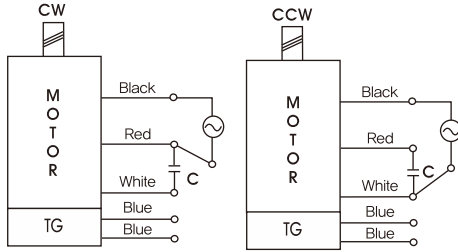
\* ■ color indicates that the output shaft of the geared motor rotates in the same direction as the output shaft of the motor. Others indicate rotation in the opposite direction.

\* 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.

## GEARHEADS

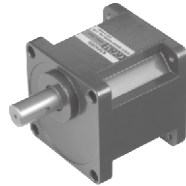
### CONNECTION DIAGRAMS



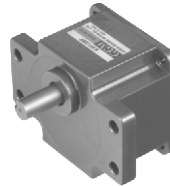
※The direction of motor rotation is as viewed from the front shaft end of the motor

### DIMENSIONS

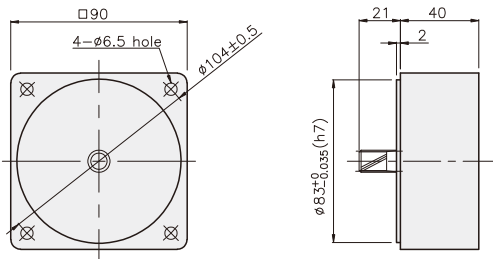
K9P□BU



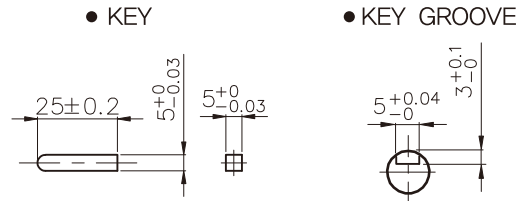
K9P□BUF



DECIMAL GEARHEAD  
K9P10BX

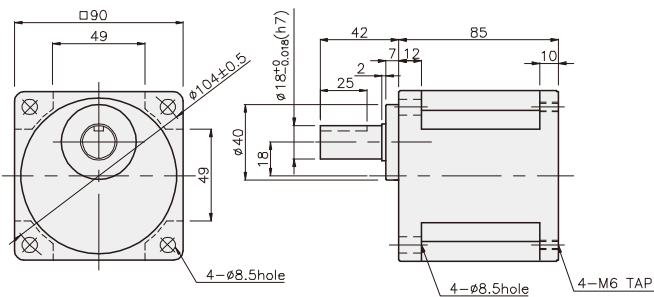


KEY SPEC

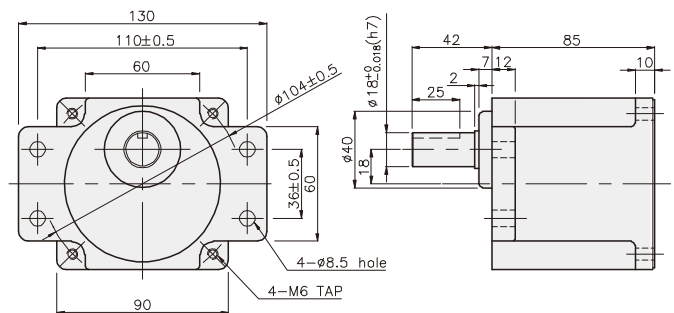


GEARHEAD

K9P□BU



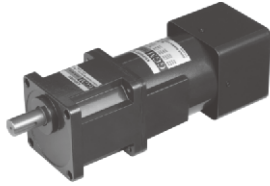
K9P□BUF



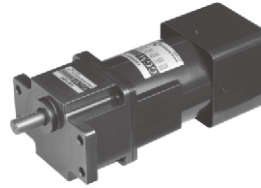
## GEARHEADS

### DIMENSIONS

K9IP180F□-SP + K9P□BU



K9IP180F□-SP + K9P□BUF



#### WEIGHT

PART	WEIGHT(kg)
MOTOR	4,24
DECIMAL GEAR HEAD	0,62

#### DIMENSION TABLE

PART No.	L	Application Model	Mounting BOLT
01	85	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

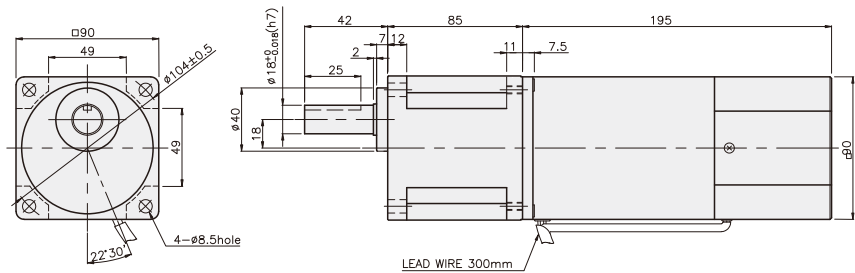
#### DIMENSION TABLE

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

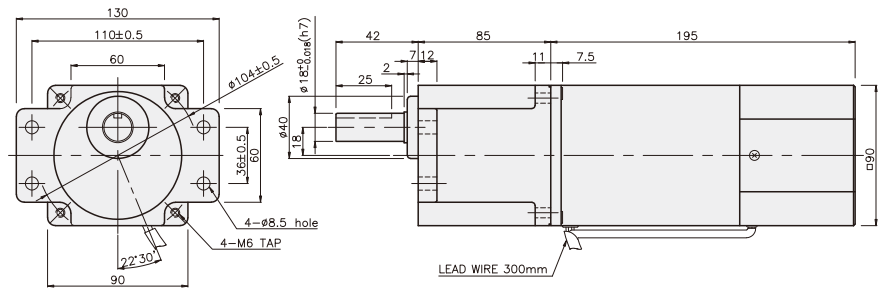
#### WEIGHT

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

K9IP180F□-SP + K9P□BU



K9IP180F□-SP + K9P□BUF

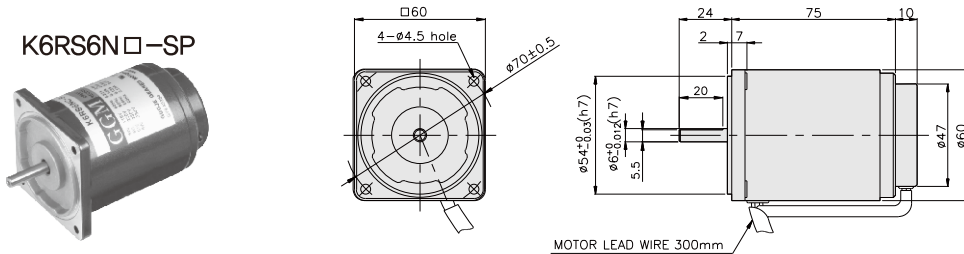


## SPEED CONTROL MOTOR - SP SERIES

### 6W

### □60mm

### REVERSIBLE MOTOR



### SPECIFICATIONS

6W 30 minutes rating, four poles

Model	Voltage (V)	Frequency (Hz)	Speed Range (rpm)	Permissible Torque		Start T. (N·m/Kgf·Cm)	Current (A)	Condenser (μF)
				1200rpm (N·m/kgf·Cm)	90rpm (N·m/kgf·Cm)			
K6R□6NJ-SP	100	50	90 ~ 1400	0,052/0,52	0,035/0,35	0,027/0,27	0,28	3
		60	90 ~ 1700					
K6R□6NU-SP	110	60	90 ~ 1700	0,052/0,52	0,035/0,35	0,035/0,35	0,32	2,5
	115							
K6R□6NL-SP	200	50	90 ~ 1400	0,06/0,6	0,038/0,38	0,037/0,37	0,2	1
		60	90 ~ 1700					
K6R□6NC-SP	220	50	90 ~ 1400	0,052/0,52	0,03/0,3	0,035/0,35	0,2	0,8
		60	90 ~ 1700			0,033/0,33		
	230	50	90 ~ 1400	0,06/0,6	0,038/0,38	0,035/0,35	0,2	
		60	90 ~ 1700			0,033/0,33		
K6R□6ND-SP	240	50	90 ~ 1400	0,052/0,52	0,03/0,3	0,035/0,35	0,22	0,6

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

### RATED TORQUE OF GEARHEAD

#### ● Single-phase 100V/115V

unit = above : N·m / below : Kgf·cm

Model	Ratio	Speed (rpm)																								
		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□-SP K6G□B(C)	1200	0,13 1,3	0,15 1,5	0,21 2,1	0,25 2,5	0,32 3,2	0,38 3,8	0,42 4,2	0,53 5,3	0,63 6,3	0,76 7,6	0,76 7,6	0,95 9,5	1,14 11,4	1,36 13,6	1,52 15,2	1,71 17,1	2,05 20,5	2,56 25,6	3 30	3 30	3 30	3 30	3 30	3 30	3 30
	90	0,09 0,9	0,10 1,0	0,14 1,4	0,17 1,7	0,21 2,1	0,26 2,6	0,28 2,8	0,35 3,5	0,43 4,3	0,51 5,1	0,51 5,1	0,64 6,4	0,77 7,7	0,92 9,2	1,02 10,2	1,15 11,5	1,38 13,8	1,72 17,2	2,07 20,7	2,30 23,0	2,76 27,6	3 30	3 30	3 30	3 30

#### ● Single-phase 200V/240V

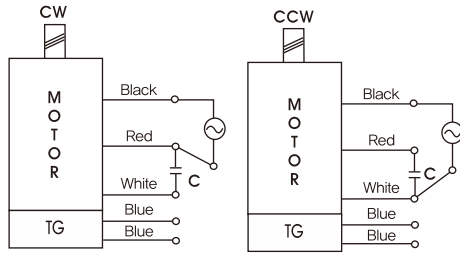
unit = above : N·m / below : Kgf·cm

Model	Ratio	Speed (rpm)																									
		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□-SP K6G□B(C)	1200	200V/230V 50Hz/60Hz	0,15 1,5	0,17 1,7	0,24 2,4	0,29 2,9	0,36 3,6	0,44 4,4	0,49 4,9	0,61 6,1	0,73 7,3	0,87 8,7	0,87 8,7	1,09 10,9	1,31 13,1	1,57 15,7	1,75 17,5	1,97 19,7	2,36 23,6	2,95 29,5	3 30	3 30	3 30	3 30	3 30	3 30	3 30
		220V/50Hz/60Hz 240V/50Hz	0,13 1,3	0,15 1,5	0,21 2,1	0,25 2,5	0,32 3,2	0,38 3,8	0,42 4,2	0,53 5,3	0,63 6,3	0,76 7,6	0,76 7,6	0,95 9,5	1,14 11,4	1,36 13,6	1,52 15,2	1,71 17,1	2,05 20,5	2,56 25,6	3 30	3 30	3 30	3 30	3 30	3 30	3 30
	90	200V/230V 50Hz/60Hz	0,09 0,9	0,11 1,1	0,15 1,5	0,18 1,8	0,23 2,3	0,28 2,8	0,31 3,1	0,38 3,8	0,46 4,6	0,55 5,5	0,55 5,5	0,69 6,9	0,83 8,3	1,00 10,0	1,11 11,1	1,25 12,5	1,50 15,0	1,87 18,7	2,24 22,4	2,49 24,9	2,99 29,9	3 30	3 30	3 30	3 30
		220V/50Hz/60Hz 240V/50Hz	0,07 0,7	0,09 0,9	0,12 1,2	0,15 1,5	0,18 1,8	0,22 2,2	0,24 2,4	0,30 3,0	0,36 3,6	0,44 4,4	0,44 4,4	0,55 5,5	0,66 6,6	0,79 7,9	0,87 8,7	0,98 9,8	1,18 11,8	1,48 14,8	1,77 17,7	1,97 19,7	2,36 23,6	2,95 29,5	3 30	3 30	3 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.

## GEARHEADS

### CONNECTION DIAGRAMS



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

### DIMENSIONS

K6G□B(C)

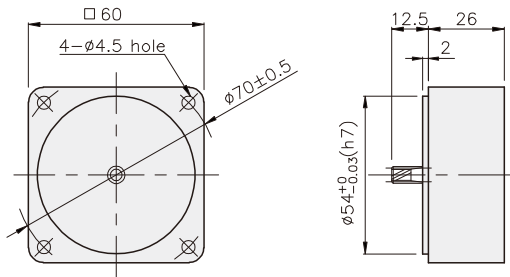


K6RG6N□-SP + K6G□B(C)



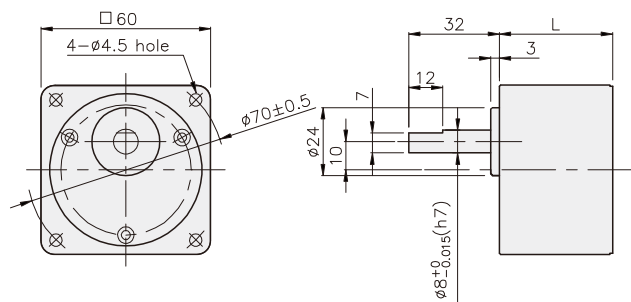
DECIMAL GEARHEAD

K6G10BX



GEARHEAD

K6G□B(C)



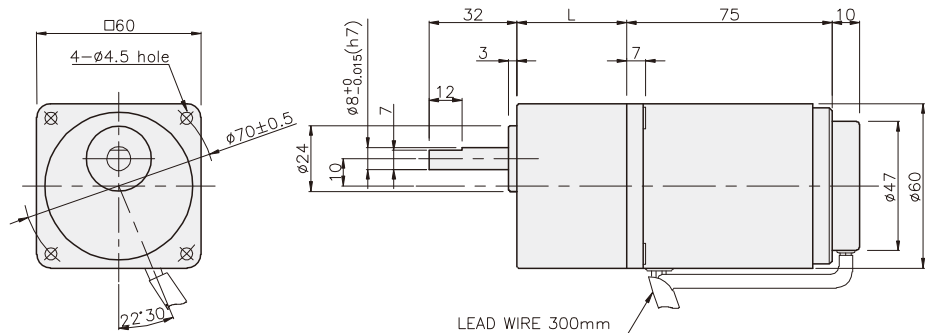
#### DIMENSION TABLE

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	0,79	
DECIMAL GEAR HEAD	0,22	
GEAR HEAD	K6G3~18B(C)	0,26
	K6G20~40B(C)	0,33
	K6G50~250B(C)	0,36

K6RG6N□-SP + K6G□B(C)





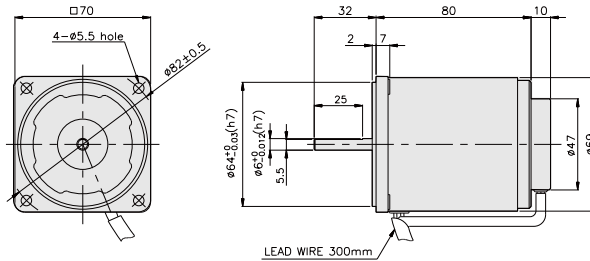
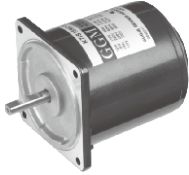
## SPEED CONTROL MOTOR - SP SERIES

### 15W

### □70mm

### REVERSIBLE MOTOR

K7RS15N□-SP



### SPECIFICATIONS

15W 30 minutes rating, four poles

Model	Voltage (V)	Frequency (Hz)	Speed Range (rpm)	Permissible Torque		Start T. (N*m/Kgf*Cm)	Current (A)	Condenser (μF)
				1200rpm (N*m/kgf*Cm)	90rpm (N*m/kgf*Cm)			
K7R□15NJ-SP	100	50	90 ~ 1400	0.14/1.4	0.05/0.5	0.085/0.85	0.56	7
			60					
K7R□15NU-SP	110	60	90 ~ 1700	0.14/1.4	0.05/0.5	0.085/0.85	0.58	6
			115					
K7R□15NL-SP	200	50	90 ~ 1400	0.135/1.35	0.055/0.55	0.09/0.9	0.31	2
			60					
K7R□15NC-SP	220	50	90 ~ 1400	0.135/1.35	0.05/0.5	0.08/0.8	0.3	1.5
			60					
	230	50	90 ~ 1400	0.135/1.35	0.055/0.55	0.085/0.85	0.3	
			60					
K7R□15ND-SP	240	50	90 ~ 1400	0.135/1.35	0.05/0.5	0.09/0.9	0.34	1.5

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

### RATED TORQUE OF GEARHEAD

#### ● Single-phase 100V/115V

unit = above : N·m / below : Kgf·cm

Model	Ratio	Speed (rpm)																							
		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□-SP K7G□B(C)	1200	0.34 3.4	0.41 4.1	0.57 5.7	0.68 6.8	0.85 8.5	1.02 10.2	1.13 11.3	1.42 14.2	1.70 17.0	2.04 20.4	2.04 20.4	2.55 25.5	3.06 30.6	3.67 36.7	4.08 40.8	4.59 45.9	5 50	5 50	5 50	5 50	5 50	5 50	5 50	5 50
	90	0.12 1.2	0.15 1.5	0.20 2.0	0.24 2.4	0.30 3.0	0.36 3.6	0.41 4.1	0.51 5.1	0.61 6.1	0.73 7.3	0.73 7.3	0.91 9.1	1.09 10.9	1.31 13.1	1.46 14.6	1.64 16.4	1.97 19.7	2.46 24.6	2.95 29.5	3.28 32.8	3.94 39.4	4.92 49.2	5 50	5 50

#### ● Single-phase 200V/240V

unit = above : N·m / below : Kgf·cm

Model	Ratio	Speed (rpm)																								
		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□-SP K7G□B(C)	1200	200V/220V/230V 240V/50Hz	0.33 3.3	0.39 3.9	0.55 5.5	0.66 6.6	0.82 8.2	0.98 9.8	1.09 10.9	1.37 13.7	1.64 16.4	1.97 19.7	1.97 19.7	2.46 24.6	2.95 29.5	3.54 35.4	3.94 39.4	4.43 44.3	5 50	5 50	5 50	5 50	5 50	5 50	5 50	5 50
		200V/220V 230V/60Hz	0.28 2.8	0.34 3.4	0.47 4.7	0.56 5.6	0.70 7.0	0.84 8.4	0.93 9.3	1.16 11.6	1.40 14.0	1.68 16.8	1.68 16.8	2.10 21.0	2.52 25.2	3.02 30.2	3.35 33.5	3.77 37.7	4.53 45.3	5 50	5 50	5 50	5 50	5 50	5 50	5 50
	90	220V/230V 50Hz/60Hz	0.13 1.3	0.16 1.6	0.22 2.2	0.27 2.7	0.33 3.3	0.40 4.0	0.45 4.5	0.56 5.6	0.67 6.7	0.80 8.0	0.80 8.0	1.00 10.0	1.20 12.0	1.44 14.4	1.60 16.0	1.80 18.0	2.17 21.7	2.71 27.1	3.25 32.5	3.61 36.1	4.33 43.3	5 50	5 50	5 50
		220V/50Hz/60Hz 240V/50Hz	0.12 1.2	0.15 1.5	0.20 2.0	0.24 2.4	0.30 3.0	0.36 3.6	0.41 4.1	0.51 5.1	0.61 6.1	0.73 7.3	0.73 7.3	0.91 9.1	1.09 10.9	1.31 13.1	1.46 14.6	1.64 16.4	1.97 19.7	2.46 24.6	2.95 29.5	3.28 32.8	3.94 39.4	4.92 49.2	5 50	5 50

\* Gearhead and decimal gearhead are sold separately.

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

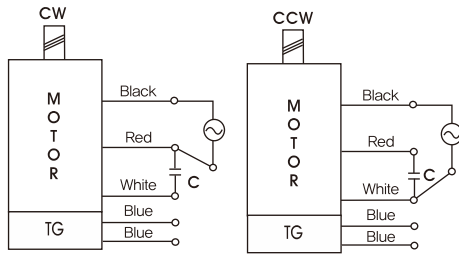
\* ■ color indicates that the output shaft of the geared motor rotates in the same direction as the output shaft of the motor. Others indicate rotation in the opposite direction.

\* 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.

## GEARHEADS

### CONNECTION DIAGRAMS



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

### DIMENSIONS

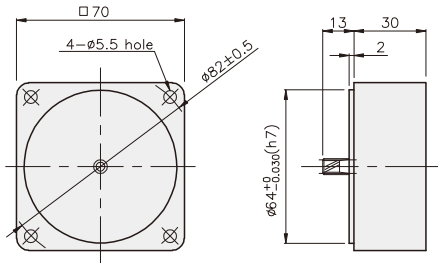
K7G□B(C)



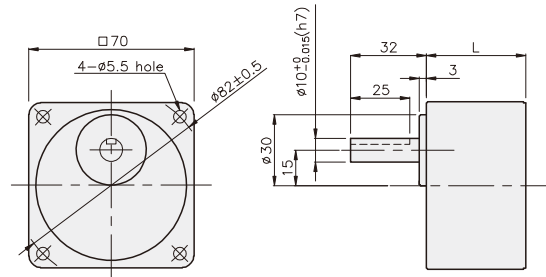
K7RG15N□-SP + K7G□B(C)



DECIMAL GEARHEAD  
K7G10BX

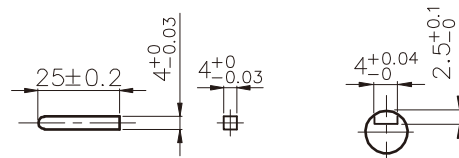


GEARHEAD  
K7G□B(C)



### KEY SPEC

- KEY
- KEY GROOVE



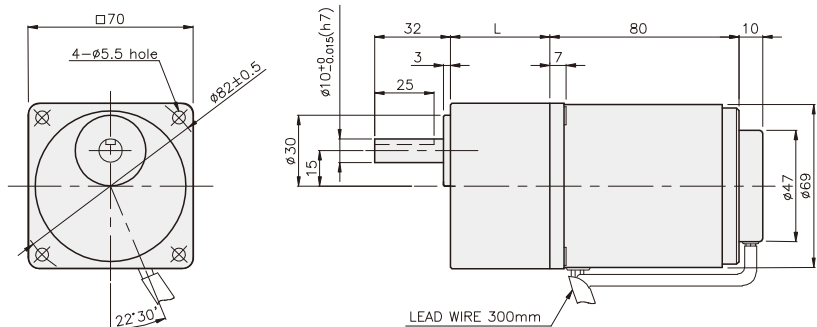
### DIMENSION TABLE

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	1.16	
DECIMAL GEAR HEAD	0.32	
GEAR HEAD	K7G3~18B(C)	0.38
	K7G20~40B(C)	0.46
	K7G50~200B(C)	0.51

K7RG15N□-SP + K7G□B(C)



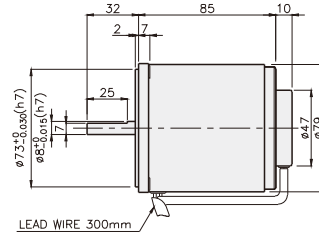
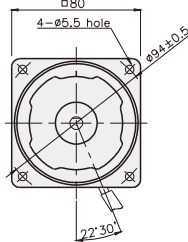
## SPEED CONTROL MOTOR - SP SERIES

**25W**

**□80mm**

**REVERSIBLE MOTOR**

K8IS25N□-SP



### SPECIFICATIONS

25W 30 minutes rating, four poles

Model	Voltage (V)	Frequency (Hz)	Speed Range (rpm)	Permissible Torque		Start T. (N·m/Kgf·Cm)	Current (A)	Condenser (μF)
				1200rpm (N·m/Kgf·Cm)	90rpm (N·m/Kgf·Cm)			
K8R□25NJ-SP	100	50	90 ~ 1400	0.22/2.2	0.06/0.6	0.105/1.05	0.85	10
		60	90 ~ 1700					
K8R□25NU-SP	110	60	90 ~ 1700	0.22/2.2	0.06/0.6	0.1/1	0.7	6
	115						0.75	
K8R□25NL-SP	200	50	90 ~ 1400	0.21/2.1	0.055/0.55	0.11,1.1	0.4	2.5
		60	90 ~ 1700	0.16/1.6	0.048/0.48		0.43	
K8R□25NC-SP	220	50	90 ~ 1400	0.21/2.1	0.055/0.55	0.09/0.9	0.4	2
		60	90 ~ 1700	0.16/1.6	0.048/0.48			
	230	50	90 ~ 1400	0.21/2.1	0.055/0.55	0.1/1		
		60	90 ~ 1700	0.16/1.6	0.048/0.48			
K8R□25ND-SP	240	50	90 ~ 1400	0.21,2.1	0.055/0.55	0.09/0.9	0.43	1.5

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

### RATED TORQUE OF GEARHEAD

#### ● Single-phase 100V/115V

unit = above : N·m / below : Kgf·cm

Model	Ratio	Speed(rpm)																								
		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□-SP K8G□B(C)	1200	0.53 5.3	0.64 6.4	0.89 8.9	1.07 10.7	1.34 13.4	1.60 16.0	1.78 17.8	2.23 22.3	2.67 26.7	3.21 32.1	3.21 32.1	4.01 40.1	4.81 48.1	5.77 57.7	6.42 64.2	7.22 72.2	8 80	8 80	8 80	8 80	8 80	8 80	8 80	8 80	8 80
	90	0.15 1.5	0.17 1.7	0.24 2.4	0.29 2.9	0.36 3.6	0.44 4.4	0.49 4.9	0.61 6.1	0.73 7.3	0.87 8.7	0.87 8.7	1.09 10.9	1.31 13.1	1.57 15.7	1.75 17.5	1.97 19.7	2.36 23.6	2.95 29.5	3.54 35.4	3.94 39.4	4.72 47.2	5.90 59.0	7.09 70.9	8 80	8 80

#### ● Single-phase 200V/240V

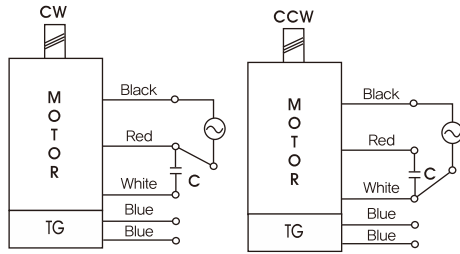
unit = above : N·m / below : Kgf·cm

Model	Ratio	Speed(rpm)																								
		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□-SP K8G□B(C)	1200	200V/220V/230V 240V/50Hz	0.51 5.1	0.61 6.1	0.85 8.5	1.02 10.2	1.28 12.8	1.53 15.3	1.70 17.0	2.13 21.3	2.55 25.5	3.06 30.6	3.06 30.6	3.83 38.3	4.59 45.9	5.51 55.1	6.12 61.2	6.89 68.9	8 80	8 80	8 80	8 80	8 80	8 80	8 80	8 80
		200V/220V 230V/60Hz	0.39 3.9	0.47 4.7	0.65 6.5	0.78 7.8	0.97 9.7	1.17 11.7	1.30 13.0	1.62 16.2	1.94 19.4	2.33 23.3	2.33 23.3	2.92 29.2	3.50 35.0	4.20 42.0	4.67 46.7	5.25 52.5	6.30 63.0	7.87 78.7	8 80	8 80	8 80	8 80	8 80	8 80
	90	200V/220V/230V 240V/50Hz	0.13 1.3	0.16 1.6	0.22 2.2	0.27 2.7	0.33 3.3	0.40 4.0	0.45 4.5	0.56 5.6	0.67 6.7	0.80 8.0	0.80 8.0	1.00 10.0	1.20 12.0	1.44 14.4	1.60 16.0	1.80 18.0	2.17 21.7	2.71 27.1	3.25 32.5	3.61 36.1	4.33 43.3	5.41 54.1	6.50 65.0	7.22 72.2
		200V/220V 230V/60Hz	0.12 1.2	0.14 1.4	0.19 1.9	0.23 2.3	0.29 2.9	0.35 3.5	0.39 3.9	0.49 4.9	0.58 5.8	0.70 7.0	0.70 7.0	0.87 8.7	1.05 10.5	1.26 12.6	1.40 14.0	1.57 15.7	1.89 18.9	2.36 23.6	2.83 28.3	3.15 31.5	3.78 37.8	4.72 47.2	5.67 56.7	6.30 63.0

- \* 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/60kgf·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.

## GEARHEADS

### CONNECTION DIAGRAMS



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

### DIMENSIONS

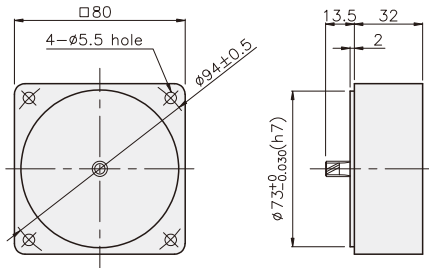
K8G□B(C)



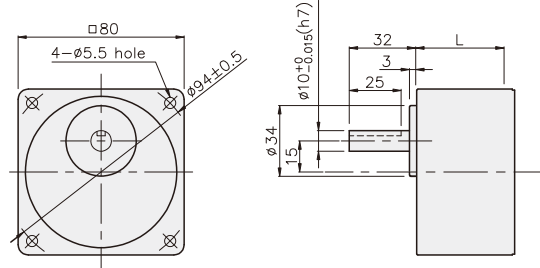
K8RG25N□-SP + K8G□B(C)



DECIMAL GEARHEAD  
K8G10BX

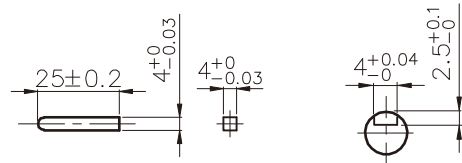


GEARHEAD  
K8G□B(C)



### KEY SPEC

- KEY
- KEY GROOVE



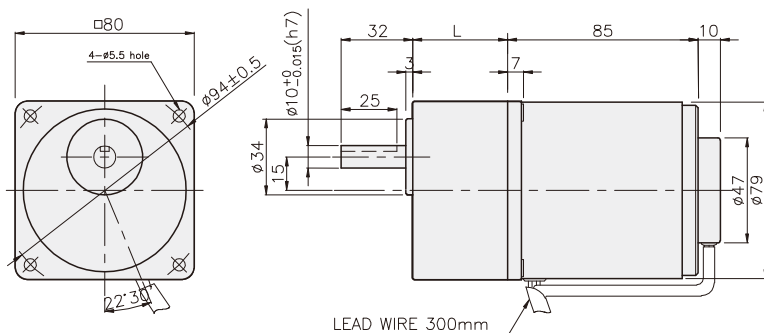
### DIMENSION TABLE

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	1,60
DECIMAL GEAR HEAD	0,46
GEAR HEAD	
K8G3~18B(C)	0,51
K8G20~40B(C)	0,64
K8G50~250B(C)	0,70

K8RG25N□-SP + K8G□B(C)



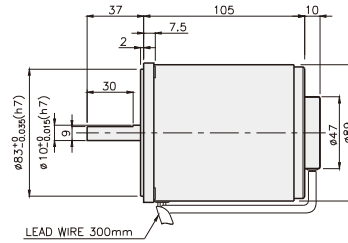
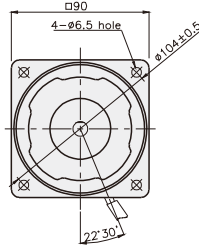
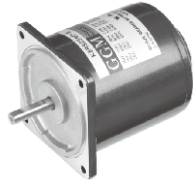
## SPEED CONTROL MOTOR - SP SERIES

**40W**

**□90mm**

**REVERSIBLE MOTOR**

**K9RS40N□-SP**



### SPECIFICATIONS

40W 30 minutes rating, four poles

Model	Voltage (V)	Frequency (Hz)	Speed Range (rpm)	Permissible Torque		Start T. (N*m/Kgf*cm)	Current (A)	Condenser (μF)
				1200rpm (N*m/kgf*cm)	90rpm (N*m/kgf*cm)			
K9R□40NJ-SP	100	50	90 ~ 1400	0.3/3	0.075/0.75	0.17/1.7	1.5	16
		60	90 ~ 1700			0.18/1.8	1.6	
K9R□40NU-SP	110	60	90 ~ 1700	0.3/3	0.070/75	0.14/1.4	1.5	10
	115					1.3		
K9R□40NL-SP	200	50	90 ~ 1400	0.33/3.3	0.07/0.7	0.17/1.7	0.65	4
		60	90 ~ 1700	0.26/2.6		0.72		
K9R□40NC-SP	220	50	90 ~ 1400	0.33/3.3	0.07/0.7	0.17/1.7	0.6	3.5
		60	90 ~ 1700	0.26/2.6		0.16/1.6	0.64	
	230	50	90 ~ 1400	0.33/3.3		0.17/1.7	0.6	
		60	90 ~ 1700	0.26/2.6		0.16/1.6	0.64	
K9R□40ND-SP	240	50	90 ~ 1400	0.33/3.3	0.07/0.7	0.16/1.6	0.63	3

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

### RATED TORQUE OF GEARHEAD

#### ● Single-phase 100V/115V

unit = above : N·m / below : Kgf·cm

Model	Ratio	Speed (rpm)																							
		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□-SP K9G□B(C)	1200	0.73 7.3	0.87 8.7	1.22 12.2	1.46 14.6	1.82 18.2	2.19 21.9	2.43 24.3	3.04 30.4	3.65 36.5	4.37 43.7	4.37 43.7	5.47 54.7	6.56 65.6	7.87 78.7	8.75 87.5	9.84 98.4	10 100	10 100	10 100	10 100	10 100	10 100	10 100	10 100
	90	0.18 1.8	0.22 2.2	0.30 3.0	0.36 3.6	0.46 4.6	0.55 5.5	0.61 6.1	0.76 7.6	0.91 9.1	1.09 10.9	1.09 10.9	1.37 13.7	1.64 16.4	1.97 19.7	2.19 21.9	2.46 24.6	2.95 29.5	3.69 36.9	4.43 44.3	4.92 49.2	5.90 59.0	7.38 73.8	8.86 88.6	10 100

#### ● Single-phase 200V/240V

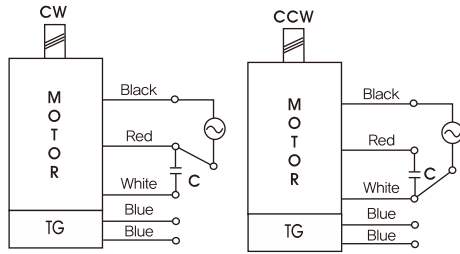
unit = above : N·m / below : Kgf·cm

Model	Ratio	Speed (rpm)																							
		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□-SP K9G□B(C)	1200	200V/220V/230V 240V/50Hz	0.80 8.0	0.96 9.6	1.34 13.4	1.60 16.0	2.00 20.0	2.41 24.1	2.67 26.7	3.34 33.4	4.01 40.1	4.81 48.1	4.81 48.1	6.01 60.1	7.22 72.2	8.66 86.6	9.62 96.2	10 100	10 100	10 100	10 100	10 100	10 100	10 100	10 100
		200V/220V 230V/60Hz	0.63 6.3	0.76 7.6	1.05 10.5	1.26 12.6	1.58 15.8	1.90 19.0	2.11 21.1	2.63 26.3	3.16 31.6	3.79 37.9	3.79 37.9	4.74 47.4	5.69 56.9	6.82 68.2	7.58 75.8	8.53 85.3	10 100	10 100	10 100	10 100	10 100	10 100	10 100
	90	0.17 1.7	0.20 2.0	0.28 2.8	0.34 3.4	0.43 4.3	0.51 5.1	0.57 5.7	0.71 7.1	0.85 8.5	1.02 10.2	1.02 10.2	1.28 12.8	1.53 15.3	1.84 18.4	2.04 20.4	2.30 23.0	2.76 27.6	3.44 34.4	4.13 41.3	4.59 45.9	5.51 55.1	6.89 68.9	8.27 82.7	9.19 91.9

- \* 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.

## GEARHEADS

### CONNECTION DIAGRAMS



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

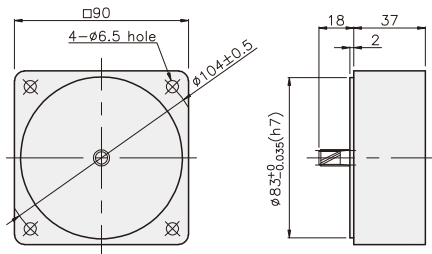
### DIMENSIONS

K9G□B(C)

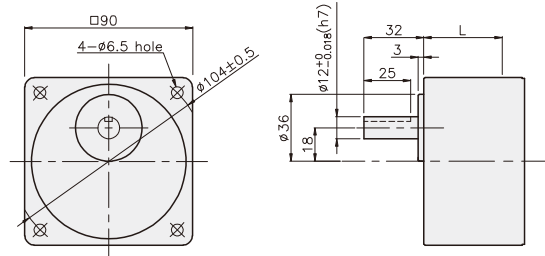
K9RG40N□-SP + K9G□B(C)



DECIMAL GEARHEAD  
K9G10BX



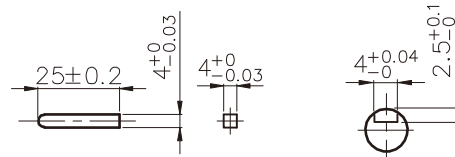
GEARHEAD  
K9G□B(C)



### KEY SPEC

● KEY

● KEY GROOVE



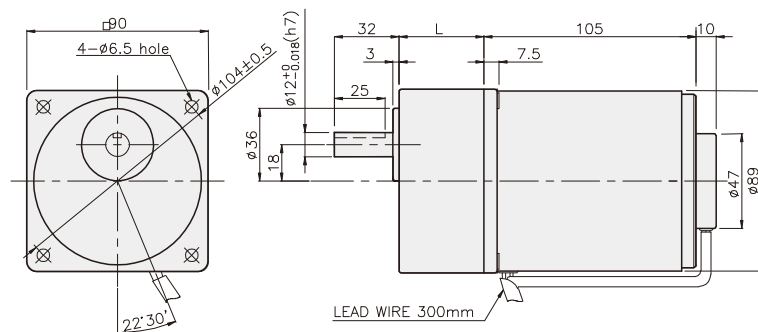
### DIMENSION TABLE

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	2.48	
DECIMAL GEAR HEAD	0.60	
GEAR HEAD	K9G3~18B(C)	0.78
	K9G20~40B(C)	1.04
	K9G50~200B(C)	1.14

K9RG40N□-SP + K9G□B(C)



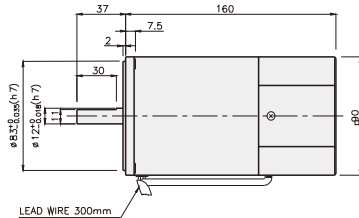
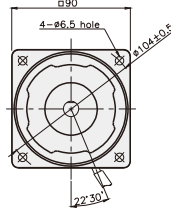
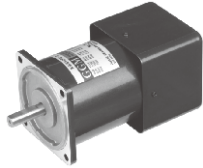
## SPEED CONTROL MOTOR - SP SERIES

**60W**

**□90mm**

**REVERSIBLE MOTOR**

K9RS60F□-SP



### SPECIFICATIONS

60W 30 minutes rating, four poles

Model	Voltage (V)	Frequency (Hz)	Speed Range (rpm)	Permissible Torque		Start T. (N*m/ Kgf*cm)	Current (A)	Condenser (μF)
				1200rpm (N*m/ kgf*cm)	90rpm (N*m/ kgf*cm)			
K9R□60FJ-SP	100	50	90 ~ 1400	0.5/5	0.17/1.7	0.3/3	2.5	25
			60					
K9R□60FU-SP	110	60	90 ~ 1700	0.5/5	0.17/1.7	0.295/2.95	2.1	17
K9R□60FL-SP	200	50	90 ~ 1400	0.5/5	0.15/1.5	0.26/2.6	0.72	6
K9R□60FC-SP	220	50	90 ~ 1400	0.5/5	0.15/1.5	0.3/3	0.95	5
	50	90 ~ 1400	0.5/5	0.15/1.5	0.3/3	1		
							60	
240	50	90 ~ 1400	0.5/5	0.15/1.5	0.32/3.2	1.2		5

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

### RATED TORQUE OF GEARHEAD

#### ● Single-phase 100V/115V

unit = above : N·m / below : Kgf·cm

Model	Ratio	Speed(rpm)																								
		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□-SP K9P□B, BF	1200	1.22 12.2	1.46 14.6	2.03 20.3	2.43 24.3	3.04 30.4	3.65 36.5	4.05 40.5	4.56 45.6	5.47 54.7	6.56 65.6	7.29 72.9	8.20 82.0	9.84 98.4	11.81 118.1	13.12 131.2	16.40 164.0	19.68 196.8	20	20	20	20	20	20	20	20
	90	0.41 4.1	0.50 5.0	0.69 6.9	0.83 8.3	1.03 10.3	1.24 12.4	1.38 13.8	1.55 15.5	1.86 18.6	2.23 22.3	2.48 24.8	2.79 27.9	3.35 33.5	4.02 40.2	4.46 44.6	5.58 55.8	6.69 66.9	7.53 75.3	9.03 90.3	10.04 100.4	12.5 120.5	15.06 150.6	18.07 180.7	20	200

#### ● Single-phase 200V/240V

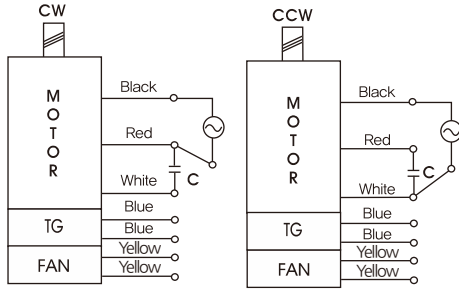
unit = above : N·m / below : Kgf·cm

Model	Ratio	Speed(rpm)																									
		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□-SP K9P□B, BF	1200	200V/220V/230V/240V/50Hz	1.22 12.2	1.46 14.6	2.03 20.3	2.43 24.3	3.04 30.4	3.65 36.5	4.05 40.5	4.56 45.6	5.47 54.7	6.56 65.6	7.29 72.9	8.20 82.0	9.84 98.4	11.81 118.1	13.12 131.2	16.40 164.0	19.68 196.8	20	20	20	20	20	20	20	122
		200V/220V/230V/60Hz	1.17 11.7	1.40 14.0	1.94 19.4	2.33 23.3	2.92 29.2	3.50 35.0	3.89 38.9	4.37 43.7	5.25 52.5	6.30 63.0	7.00 70.0	7.87 78.7	9.45 94.5	11.34 113.4	12.60 126.0	15.75 157.5	18.90 189.0	20	20	20	20	20	20	20	12.2
	90	200V/220V/230V/240V/50Hz	0.36 3.6	0.44 4.4	0.61 6.1	0.73 7.3	0.91 9.1	1.09 10.9	1.22 12.2	1.37 13.7	1.64 16.4	1.97 19.7	2.19 21.9	2.46 24.6	2.95 29.5	3.54 35.4	3.94 39.4	4.92 49.2	5.90 59.0	6.64 66.4	7.97 79.7	8.86 88.6	10.63 106.3	13.29 132.9	15.94 159.4	17.71 177.1	
		200V/220V/230V/60Hz	0.41 4.1	0.50 5.0	0.69 6.9	0.83 8.3	1.03 10.3	1.24 12.4	1.38 13.8	1.55 15.5	1.86 18.6	2.23 22.3	2.48 24.8	2.79 27.9	3.35 33.5	4.02 40.2	4.46 44.6	5.58 55.8	6.69 66.9	7.53 75.3	9.03 90.3	10.04 100.4	12.05 120.5	15.06 150.6	18.07 180.7	20	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.

## GEARHEADS

### CONNECTION DIAGRAMS



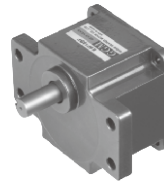
※The direction of motor rotation is as viewed from the front shaft end of the motor

### DIMENSIONS

K9P□B

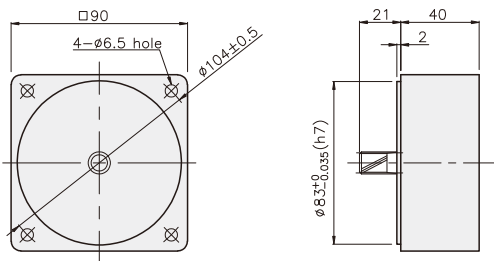


K9P□BF



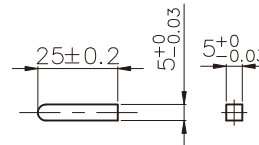
### DECIMAL GEARHEAD

K9P10BX

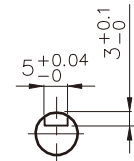


### KEY SPEC

● KEY

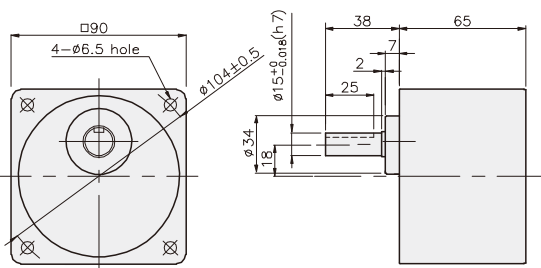


● KEY GROOVE

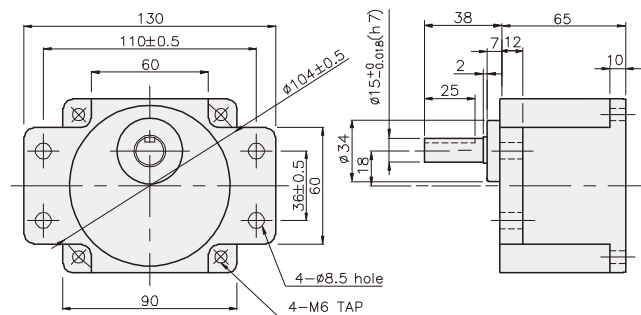


### GEARHEAD

K9P□B



K9P□BF





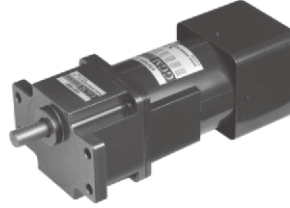
## GEARHEADS

### DIMENSIONS

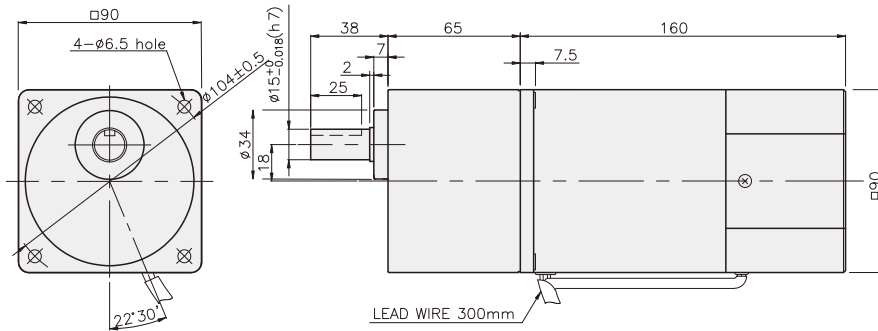
K9RP60F□-SP + K9P□B



K9RP60F□-SP + K9P□BF



K9RP60F□-SP + K9P□B



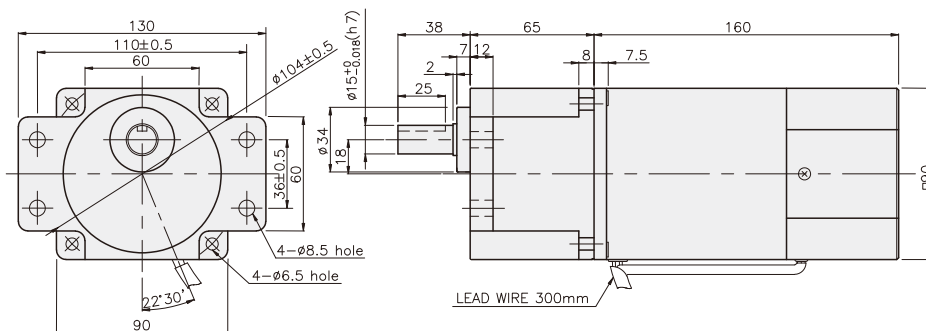
#### DIMENSION TABLE

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	3,06	
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□-SP + 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	3,06	
DECIMAL GEAR HEAD	0,62	
GEAR HEAD	K9P3~10BF	1,22
	K9P12,5~20BF	1,32
	K9P25~60BF	1,42
	K9P75~200BF	1,45

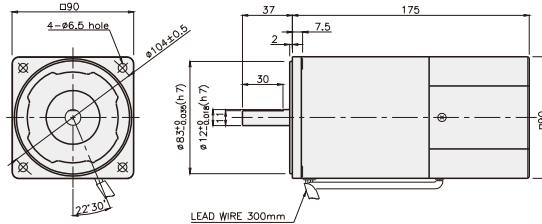
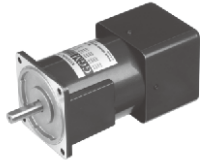
## SPEED CONTROL MOTOR - SP SERIES

**90W**

**□90mm**

**REVERSIBLE MOTOR**

K9RS90F□-SP



### SPECIFICATIONS

90W 30 minutes rating, four poles

Model	Voltage (V)	Frequency (Hz)	Speed Range (rpm)	Permissible Torque		Start T. (N·m/Kgf·Cm)	Current (A)	Condenser (μF)		
				1200rpm (N·m/Kgf·Cm)	90rpm (N·m/Kgf·Cm)					
K9R□90FJ-SP	100	50	90 ~ 1400	0.75/7.5	0.25/2.5	0.4/4	3.6	35		
			90 ~ 1700							
K9R□90FU-SP	110	60	90 ~ 1700	0.75/7.5	0.25/2.5	0.38/3.8	3	25		
	115						3.2			
K9R□90FL-SP	200	50	90 ~ 1400	0.75/7.5	0.25/2.5	0.4/4	1.4	8		
			90 ~ 1700				1.5			
K9R□90FC-SP	220	50	90 ~ 1400	0.75/7.5	0.25/2.5	0.4/4	1.2	7		
			90 ~ 1700				1.4			
		50	90 ~ 1400				0.25/2.5		0.43/4.3	1.2
			90 ~ 1700							1.4
K9R□90FD-SP	240	50	90 ~ 1400	0.75/7.5	0.25/2.5	0.4/4	1.3	6		

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

### RATED TORQUE OF GEARHEAD

● Single-phase 100V/115V

unit = above : N·m / below : Kgf·cm

Model	Ratio	Speed(rpm)																								
		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□-SP K9P□B, BF	1200	1.82 18.2	2.19 21.9	3.04 30.4	3.65 36.5	4.56 45.6	5.47 54.7	6.08 60.8	6.83 68.3	8.20 82.0	9.84 98.4	10.94 109.4	12.30 123.0	14.76 147.6	17.71 177.1	19.68 196.8	20 200	20 200	20 200	20 200	20 200	20 200	20 200	20 200	20 200	20 200
	90	0.61 6.1	0.73 7.3	1.01 10.1	1.22 12.2	1.52 15.2	1.82 18.2	2.03 20.3	2.28 22.8	2.73 27.3	3.28 32.8	3.65 36.5	4.10 41.0	4.92 49.2	5.90 59.0	6.56 65.6	8.20 82.0	9.84 98.4	11.07 110.7	13.29 132.9	14.76 147.6	17.71 177.1	20 200	20 200	20 200	20 200

● Single-phase 200V/240V

unit = above : N·m / below : Kgf·cm

Model	Ratio	Speed(rpm)																								
		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□-SP K9P□B, BF	1200	1.82 18.2	2.19 21.9	3.04 30.4	3.65 36.5	4.56 45.6	5.47 54.7	6.08 60.8	6.83 68.3	8.20 82.0	9.84 98.4	10.94 109.4	12.30 123.0	14.76 147.6	17.71 177.1	19.68 196.8	20 200	20 200	20 200	20 200	20 200	20 200	20 200	20 200	20 200	20 200
	90	200V/220V/230V 240V/50Hz	0.61 6.1	0.73 7.3	1.01 10.1	1.22 12.2	1.52 15.2	1.82 18.2	2.03 20.3	2.28 22.8	2.73 27.3	3.28 32.8	3.65 36.5	4.10 41.0	4.92 49.2	5.90 59.0	6.56 65.6	8.20 82.0	9.84 98.4	11.07 110.7	13.29 132.9	14.76 147.6	17.71 177.1	20 200	20 200	20 200
		200V/220V 230V/60Hz	0.68 6.8	0.82 8.2	1.13 11.3	1.36 13.6	1.70 17.0	2.04 20.4	2.27 22.7	2.55 25.5	3.06 30.6	3.67 36.7	4.08 40.8	4.59 45.9	5.51 55.1	6.61 66.1	7.35 73.5	9.19 91.9	11.02 110.2	12.40 124.0	14.88 148.8	16.53 165.3	19.84 198.4	20 200	20 200	20 200

- \* 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.

SPEED CONTROL MOTOR - SP SERIES

## GEARHEADS

### RATED TORQUE OF GEARHEAD

#### ● Single-phase 100V/115V

unit = above : N · m / below : kgfcm

Model Motor/Gearhead	Ratio Speed(rpm)	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□-SP K9P□BU, BUF	1200	1,82 18,2	2,19 21,9	3,04 30,4	3,65 36,5	4,56 45,6	5,47 54,7	6,08 60,8	6,83 68,3	8,20 82,0	9,84 98,4	10,94 109,4	12,30 123,0	14,76 147,6	17,71 177,1	19,68 196,8	24,60 246	29,52 295	30 300	30 300	30 300	30 300	30 300
	90	0,61 6,1	0,73 7,3	1,01 10,1	1,22 12,2	1,52 15,2	1,82 18,2	2,03 20,3	2,28 22,8	2,73 27,3	3,28 32,8	3,65 36,5	4,10 41,0	4,92 49,2	5,90 59,0	6,56 65,6	8,20 82,0	9,84 98,4	11,07 110,7	13,29 132,9	14,76 147,6	17,71 177,1	22,14 221,4	26,57 265,7	29,52 295,2

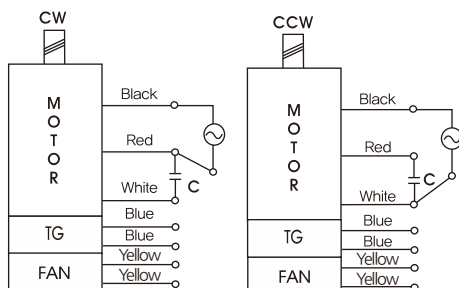
#### ● Single-phase 200V/240V

unit = above : N · m / below : kgfcm

Model Motor/Gearhead	Ratio Speed(rpm)	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□-SP K9P□BU, BUF	1200	1,82 18,2	2,19 21,9	3,04 30,4	3,65 36,5	4,56 45,6	5,47 54,7	6,08 60,8	6,83 68,3	8,20 82,0	9,84 98,4	10,94 109,4	12,30 123,0	14,76 147,6	17,71 177,1	19,68 196,8	24,60 246	29,52 295	30 300	30 300	30 300	30 300	30 300	30 300
	90	200V/220V/230V 240V/50Hz	0,61 6,1	0,73 7,3	1,01 10,1	1,22 12,2	1,52 15,2	1,82 18,2	2,03 20,3	2,28 22,8	2,73 27,3	3,28 32,8	3,65 36,5	4,10 41,0	4,92 49,2	5,90 59,0	6,56 65,6	8,20 82,0	9,84 98,4	11,07 110,7	13,29 132,9	14,76 147,6	17,71 177,1	22,14 221,4	26,57 265,7	29,52 295,2
		200V/220V 230V/60Hz	0,68 6,8	0,82 8,2	1,13 11,3	1,36 13,6	1,70 17,0	2,04 20,4	2,27 22,7	2,55 25,5	3,06 30,6	3,67 36,7	4,08 40,8	4,59 45,9	5,51 55,1	6,61 66,1	7,35 73,5	9,19 91,9	11,02 110,2	12,40 124,0	14,88 148,8	16,53 165,3	19,84 198,4	24,80 248,0	29,76 297,6	30 300

- \* 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



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

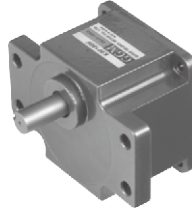
## GEARHEADS

### DIMENSIONS

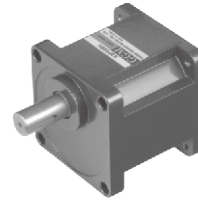
K9P□B



K9P□BF, BUF

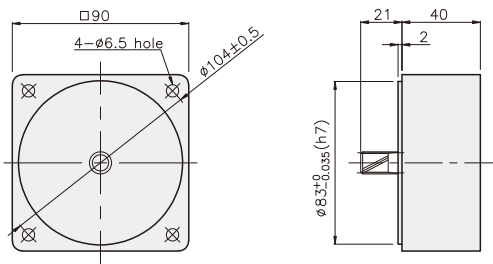


K9P□BU

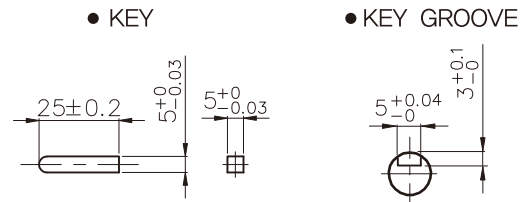


### DECIMAL GEARHEAD

K9P10BX

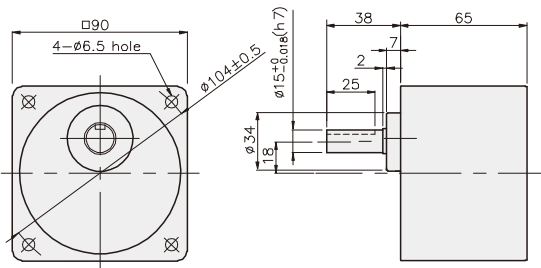


### KEY SPEC

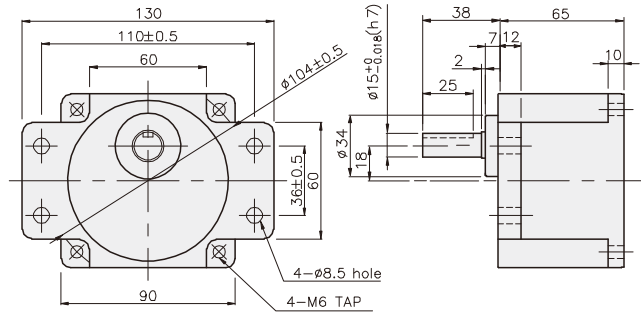


### GEARHEAD

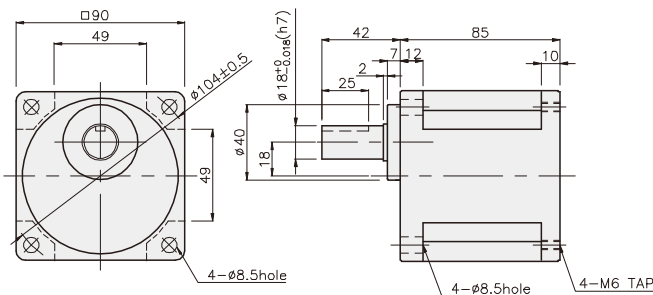
K9P□B



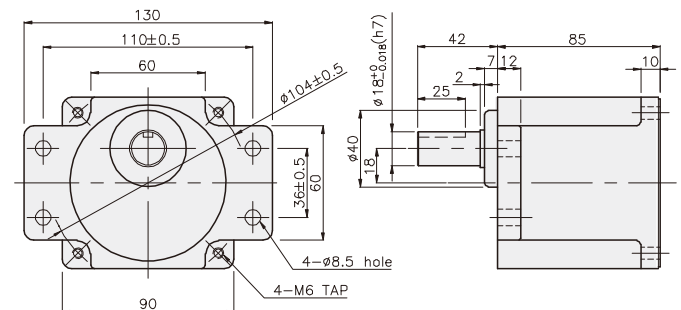
K9P□BF



K9P□BU



K9P□BUF



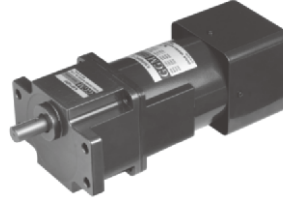
## GEARHEADS

### DIMENSIONS

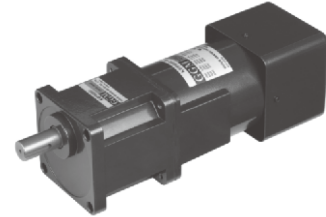
K9RP90F□-SP + K9P□B



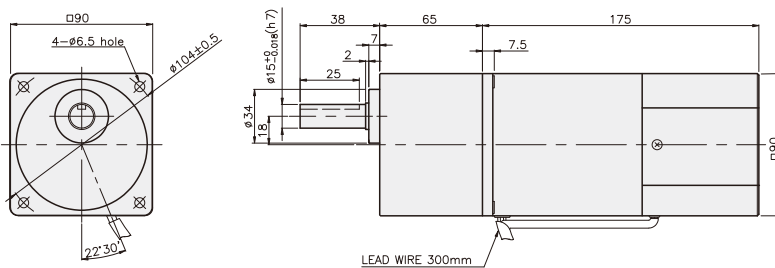
K9RP90F□-SP + K9P□BF, BUF



K9RP90F□-SP + K9P□BU



K9RP90F□-SP + K9P□B



#### WEIGHT

PART	WEIGHT(kg)
MOTOR	3,06
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

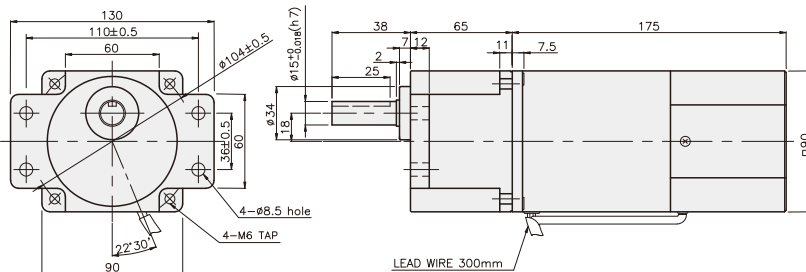
#### DIMENSION TABLE

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

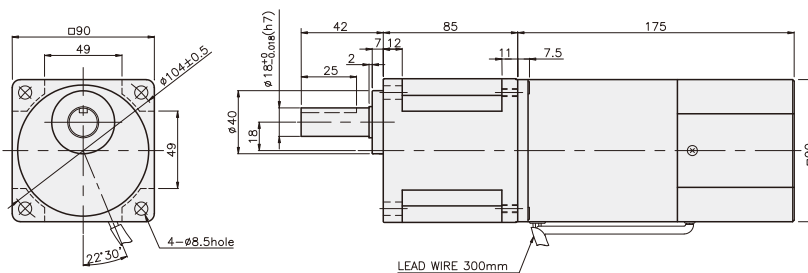
#### WEIGHT

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

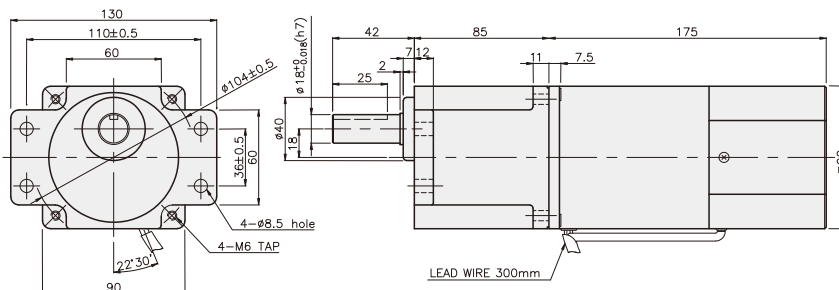
K9RP90F□-SP + K9P□BF



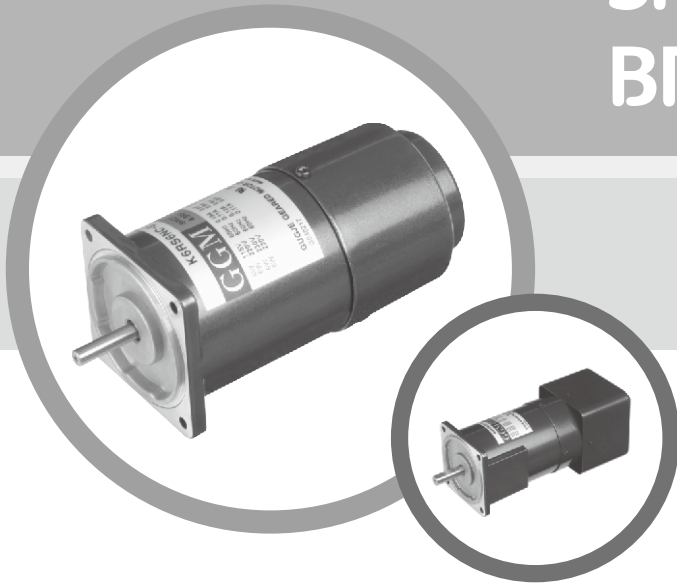
K9RP90F□-SP + K9P□BU



K9RP90F□-SP + K9P□BUF



# SPEED CONTROL & BRAKE MOTORS

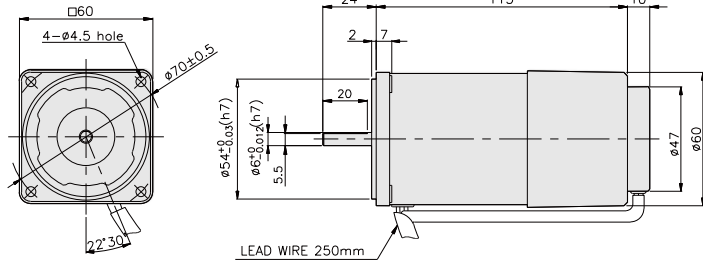


## SPEED CONTROL & BRAKE MOTOR

### 6W

### □60mm

K6RS6N□-D



### SPECIFICATIONS

6W 30 minutes rating, four poles

Model	Voltage (V)	Frequency (Hz)	Speed Range (rpm)	Permissible Torque		Start T. (N*m/Kgf*cm)	Current (A)	Condenser (μF)	Friction T. (N*m/Kgf*cm)
				1200rpm (N*m/Kgf*cm)	90rpm (N*m/Kgf*cm)				
K6R□6NJ-D	100	50	90 ~ 1400	0.052/0.52	0.035/0.35	0.027/0.27	0.28	3	0.2/2
		60	90 ~ 1700				0.26		
K6R□6NU-D	110	60	90 ~ 1700	0.052/0.52	0.035/0.35	0.035/0.35	0.32	2.5	0.2/2
	115								
K6R□6NL-D	200	50	90 ~ 1400	0.06/0.6	0.038/0.38	0.037/0.37	0.2	1	0.2/2
		60	90 ~ 1700						
K6R□6NC-D	220	50	90 ~ 1400	0.052/0.52	0.03/0.3	0.035/0.35	0.2	0.8	0.2/2
		60	90 ~ 1700			0.033/0.33			
	230	50	90 ~ 1400	0.06/0.6	0.038/0.38	0.035/0.35	0.2		
		60	90 ~ 1700			0.033/0.33			
K6R□6ND-D	240	50	90 ~ 1400	0.052/0.52	0.03/0.3	0.035/0.35	0.22	0.6	0.2/2

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

### RATED TORQUE OF GEARHEAD

#### ● Single-phase 100V/115V

unit = above : N·m / below : Kgf·cm

Model	Ratio	Speed(rpm)																									
		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□-D K6G□B(C)	1200	0.13 1.3	0.15 1.5	0.21 2.1	0.25 2.5	0.32 3.2	0.38 3.8	0.42 4.2	0.53 5.3	0.63 6.3	0.76 7.6	0.76 7.6	0.95 9.5	1.14 11.4	1.36 13.6	1.52 15.2	1.71 17.1	2.05 20.5	2.56 25.6	3 30	3 30	3 30	3 30	3 30	3 30	3 30	3 30
	90	0.09 0.9	0.10 1.0	0.14 1.4	0.17 1.7	0.21 2.1	0.26 2.6	0.28 2.8	0.35 3.5	0.43 4.3	0.51 5.1	0.51 5.1	0.64 6.4	0.77 7.7	0.92 9.2	1.02 10.2	1.15 11.5	1.38 13.8	1.72 17.2	2.07 20.7	2.30 23.0	2.76 27.6	3 30	3 30	3 30	3 30	3 30

#### ● Single-phase 200V/240V

unit = above : N·m / below : Kgf·cm

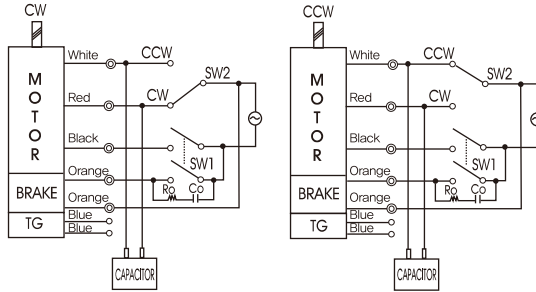
Model	Ratio	Speed(rpm)																									
		3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180	200	250	
K6R□6N□-D K6G□B(C)	1200	200V/230V 50Hz/60Hz	0.15 1.5	0.17 1.7	0.24 2.4	0.29 2.9	0.36 3.6	0.44 4.4	0.49 4.9	0.61 6.1	0.73 7.3	0.87 8.7	0.87 8.7	1.09 10.9	1.31 13.1	1.57 15.7	1.75 17.5	1.97 19.7	2.36 23.6	2.95 29.5	3 30	3 30	3 30	3 30	3 30	3 30	3 30
		220V/50Hz/60Hz 240V/50Hz	0.13 1.3	0.15 1.5	0.21 2.1	0.25 2.5	0.32 3.2	0.38 3.8	0.42 4.2	0.53 5.3	0.63 6.3	0.76 7.6	0.76 7.6	0.95 9.5	1.14 11.4	1.36 13.6	1.52 15.2	1.71 17.1	2.05 20.5	2.56 25.6	3 30	3 30	3 30	3 30	3 30	3 30	3 30
	90	200V/230V 50Hz/60Hz	0.09 0.9	0.11 1.1	0.15 1.5	0.18 1.8	0.23 2.3	0.28 2.8	0.31 3.1	0.38 3.8	0.46 4.6	0.55 5.5	0.55 5.5	0.69 6.9	0.83 8.3	1.00 10.0	1.11 11.1	1.25 12.5	1.50 15.0	1.87 18.7	2.24 22.4	2.49 24.9	2.99 29.9	3 30	3 30	3 30	3 30
		220V/50Hz/60Hz 240V/50Hz	0.07 0.7	0.09 0.9	0.12 1.2	0.15 1.5	0.18 1.8	0.22 2.2	0.24 2.4	0.30 3.0	0.36 3.6	0.44 4.4	0.44 4.4	0.55 5.5	0.66 6.6	0.79 7.9	0.87 8.7	0.98 9.8	1.18 11.8	1.48 14.8	1.77 17.7	1.97 19.7	2.36 23.6	2.95 29.5	3 30	3 30	3 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.

## GEARHEADS

### CONNECTION DIAGRAMS

Connect Cr circuit for absorbing surge voltage as connection diagram to protect contact point.  
 $R_o = 5 - 200\Omega$   
 $C_o = 0.1 \sim 0.2\mu F$  200WV(400WV)



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

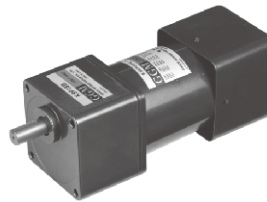
SPEED CONTROL & BRAKE MOTOR

### DIMENSIONS

K6G□B(C)

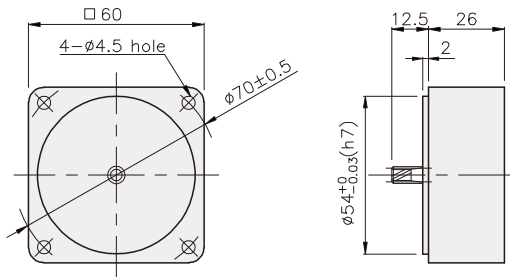


K6RG6N□-D + K6G□B(C)



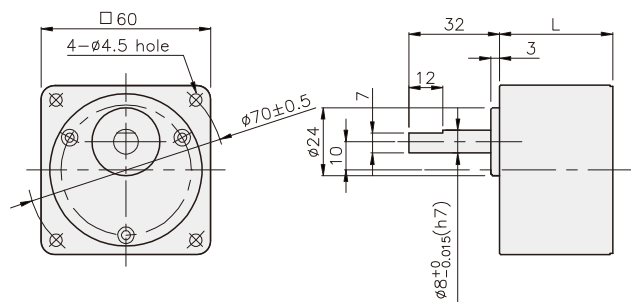
DECIMAL GEARHEAD

K6G10BX



GEARHEAD

K6G□B(C)



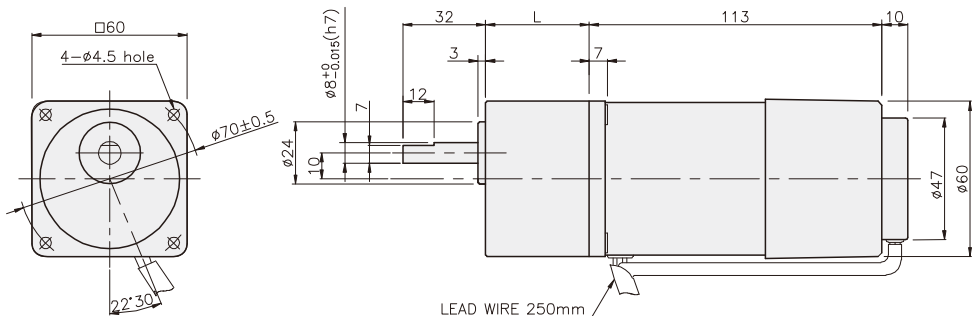
#### DIMENSION TABLE

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	1,00	
DECIMAL GEAR HEAD	0,22	
GEAR HEAD	K6G3~18B(C)	0,26
	K6G20~40B(C)	0,33
	K6G50~250B(C)	0,36

K6RG6N□-D + K6G□B(C)

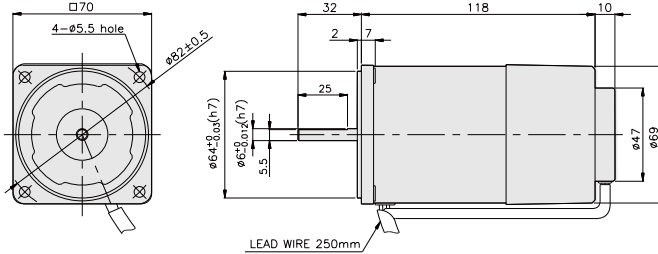




## SPEED CONTROL & BRAKE MOTOR

**15W** □70mm

K7RS15N□-D



### SPECIFICATIONS

15W 30 minutes rating, four poles

Model	Voltage (V)	Frequency (Hz)	Speed Range (rpm)	Permissible Torque		Start T. (N*m/Kgf*cm)	Current (A)	Condenser (μF)	Friction T. (N*m/Kgf*cm)
				1200rpm (N*m/Kgf*cm)	90rpm (N*m/Kgf*cm)				
K7R□15NJ-D	100	50	90 ~ 1400	0.14/1.4	0.05/0.5	0.085/0.85	0.56	7	0.2/2
		60	90 ~ 1700						
K7R□15NU-D	110	60	90 ~ 1700	0.14/1.4	0.05/0.5	0.085/0.85	0.58	6	0.2/2
	115								
K7R□15NL-D	200	50	90 ~ 1400	0.135/1.35	0.055/0.55	0.09/0.9	0.31	2	0.2/2
		60	90 ~ 1700	0.115/1.15			0.33		
K7R□15NC-D	220	50	90 ~ 1400	0.135/1.35	0.05/0.5	0.08/0.8	0.3	1.5	0.2/2
		60	90 ~ 1700	0.115/1.15			0.33		
	230	50	90 ~ 1400	0.135/1.35	0.055/0.55	0.085/0.85	0.3		
		60	90 ~ 1700	0.115/1.15			0.33		
K7R□15ND-D	240	50	90 ~ 1400	0.135/1.35	0.05/0.5	0.09/0.9	0.34	1.5	0.2/2

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

### RATED TORQUE OF GEARHEAD

#### ● Single-phase 100V/115V

unit = above : N·m / below : Kgf·cm

Model	Ratio	Speed (rpm)																							
		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□-D K7G□B(C)	1200	0.34 3.4	0.41 4.1	0.57 5.7	0.68 6.8	0.85 8.5	1.02 10.2	1.13 11.3	1.42 14.2	1.70 17.0	2.04 20.4	2.04 20.4	2.25 22.5	3.06 30.6	3.67 36.7	4.08 40.8	4.59 45.9	5 50	5 50	5 50	5 50	5 50	5 50	5 50	5 50
	90	0.12 1.2	0.15 1.5	0.20 2.0	0.24 2.4	0.30 3.0	0.36 3.6	0.41 4.1	0.51 5.1	0.61 6.1	0.73 7.3	0.73 7.3	0.91 9.1	1.09 10.9	1.31 13.1	1.46 14.6	1.64 16.4	1.97 19.7	2.46 24.6	2.95 29.5	3.28 32.8	3.94 39.4	4.92 49.2	5 50	5 50

#### ● Single-phase 200V/240V

unit = above : N·m / below : Kgf·cm

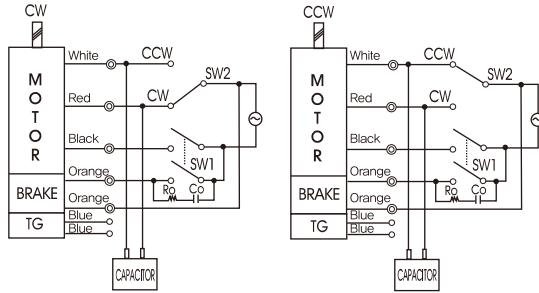
Model	Ratio	Speed (rpm)																							
		3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180	200
K7R□15N□-D K7G□B(C)	1200	200V/220V/230V/ 240V/50Hz	0.33 3.3	0.39 3.9	0.55 5.5	0.66 6.6	0.82 8.2	0.98 9.8	1.09 10.9	1.37 13.7	1.64 16.4	1.97 19.7	2.46 24.6	2.95 29.5	3.54 35.4	3.94 39.4	4.43 44.3	5 50	5 50	5 50	5 50	5 50	5 50	5 50	5 50
		200V/220V/ 230V/60Hz	0.28 2.8	0.34 3.4	0.47 4.7	0.56 5.6	0.70 7.0	0.84 8.4	0.93 9.3	1.16 11.6	1.40 14.0	1.68 16.8	2.10 21.0	2.52 25.2	3.02 30.2	3.35 33.5	3.77 37.7	4.53 45.3	5 50	5 50	5 50	5 50	5 50	5 50	5 50
	90	200V/230V/ 50Hz/60Hz	0.13 1.3	0.16 1.6	0.22 2.2	0.27 2.7	0.33 3.3	0.40 4.0	0.45 4.5	0.56 5.6	0.67 6.7	0.80 8.0	0.80 8.0	1.00 10.0	1.20 12.0	1.44 14.4	1.60 16.0	1.80 18.0	2.17 21.7	2.71 27.1	3.25 32.5	3.61 36.1	4.33 43.3	5 50	5 50
		220V/50Hz/60Hz/ 240V/50Hz	0.12 1.2	0.15 1.5	0.20 2.0	0.24 2.4	0.30 3.0	0.36 3.6	0.41 4.1	0.51 5.1	0.61 6.1	0.73 7.3	0.73 7.3	0.91 9.1	1.09 10.9	1.31 13.1	1.46 14.6	1.64 16.4	1.97 19.7	2.46 24.6	2.95 29.5	3.28 32.8	3.94 39.4	4.92 49.2	5 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.

## GEARHEADS

### CONNECTION DIAGRAMS

Connect Cr circuit for absorbing surge voltage as connection diagram to protect contact point.  
 $R_o = 5 - 200\Omega$   
 $C_o = 0.1 \sim 0.2\mu F$  200WV(400WV)



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

SPEED CONTROL & BRAKE MOTOR

### DIMENSIONS

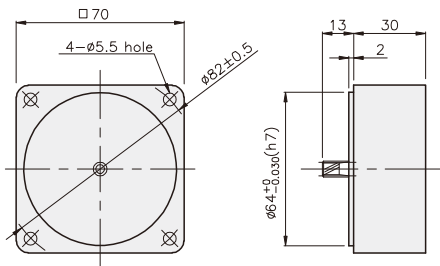
K7G□B(C)



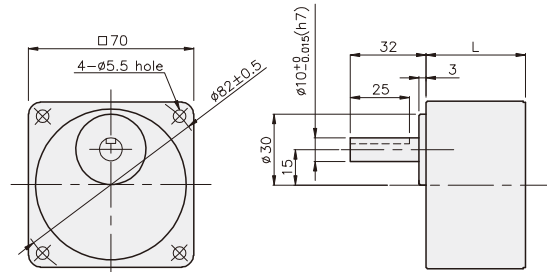
K7RG15N□-D + K7G□B(C)



DECIMAL GEARHEAD  
K7G10BX

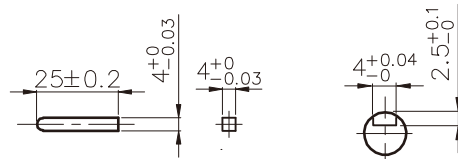


GEARHEAD  
K7G□B(C)



#### KEY SPEC

- KEY
- KEY GROOVE

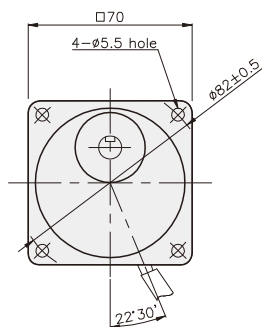


#### DIMENSION TABLE

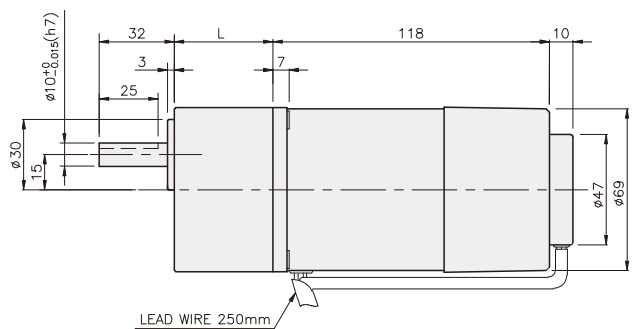
PART No.	L	Application Model	Mounting BOLT
01	32	K7G3~18B(C)	M5 P0,8 X 50
02	42	K7G20~200B(C)	M5 P0,8 X 65
03	30	K7G10BX	M5 P0,8 X 90

#### WEIGHT

PART	WEIGHT(kg)	
MOTOR	1,42	
DECIMAL GEAR HEAD	0,32	
GEAR HEAD	K7G3~18B(C)	0,38
	K7G20~40B(C)	0,46
	K7G50~200B(C)	0,51



K7RG15N□-D + K7G□B(C)

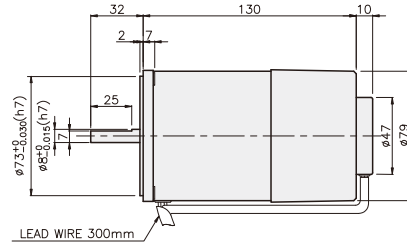
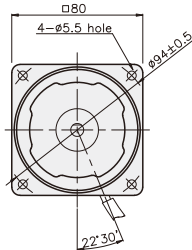


## SPEED CONTROL & BRAKE MOTOR

### 25W

### □80mm

K8RS25N□-D



### SPECIFICATIONS

25W 30 minutes rating, four poles

Model	Voltage (V)	Frequency (Hz)	Speed Range (rpm)	Permissible Torque		Start T. (N*m/Kgf*cm)	Current (A)	Condenser (μF)	Friction T. (N*m/Kgf*cm)
				1200rpm (N*m/Kgf*cm)	90rpm (N*m/Kgf*cm)				
K8R□25NJ-D	100	50	90 ~ 1400	0.22/2.2	0.06/0.6	0.105/1.05	0.85	10	0.4/4
		60	90 ~ 1700						
K8R□25NU-D	110	60	90 ~ 1700	0.22/2.2	0.06/0.6	0.1/1	0.7	6	0.4/4
	115						0.75		
K8R□25NL-D	200	50	90 ~ 1400	0.21/2.1	0.055/0.55	0.11/1.1	0.4	2.5	0.4/4
		60	90 ~ 1700	0.16/1.6	0.048/0.48		0.43		
K8R□25NC-D	220	50	90 ~ 1400	0.21/2.1	0.055/0.55	0.09/0.9	0.4	2	0.4/4
		60	90 ~ 1700	0.16/1.6	0.048/0.48				
	230	50	90 ~ 1400	0.21/2.1	0.055/0.55	0.1/1	0.4	2	0.4/4
		60	90 ~ 1700	0.16/1.6	0.048/0.48				
K8R□25ND-D	240	50	90 ~ 1400	0.21/2.1	0.05/0.55	0.09/0.9	0.43	1.5	0.4/4

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

### RATED TORQUE OF GEARHEAD

#### ● Single-phase 100V/115V

unit = above : N·m / below : Kgf·cm

Model	Ratio	Speed(rpm)																								
		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□-D K8G□B(C)	1200	0.53 5.3	0.64 6.4	0.89 8.9	1.07 10.7	1.34 13.4	1.60 16.0	1.78 17.8	2.23 22.3	2.67 26.7	3.21 32.1	3.21 32.1	4.01 40.1	4.81 48.1	5.77 57.7	6.42 64.2	7.22 72.2	8 80	8 80	8 80	8 80	8 80	8 80	8 80	8 80	8 80
	90	0.15 1.5	0.17 1.7	0.24 2.4	0.29 2.9	0.36 3.6	0.44 4.4	0.49 4.9	0.61 6.1	0.73 7.3	0.87 8.7	0.87 8.7	1.09 10.9	1.31 13.1	1.57 15.7	1.75 17.5	1.97 19.7	2.36 23.6	2.95 29.5	3.54 35.4	3.94 39.4	4.72 47.2	5.90 59.0	7.09 70.9	8 80	8 80

#### ● Single-phase 200V/240V

unit = above : N·m / below : Kgf·cm

Model	Ratio	Speed(rpm)																								
		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□-D K8G□B(C)	1200	200V/220V/230V 240V/50Hz	0.51 5.1	0.61 6.1	0.85 8.5	1.02 10.2	1.28 12.8	1.53 15.3	1.70 17.0	2.13 21.3	2.55 25.5	3.06 30.6	3.06 30.6	3.83 38.3	4.59 45.9	5.51 55.1	6.12 61.2	6.89 68.9	8 80	8 80	8 80	8 80	8 80	8 80	8 80	8 80
		200V/220V 230V/60Hz	0.39 3.9	0.47 4.7	0.65 6.5	0.78 7.8	0.97 9.7	1.17 11.7	1.30 13.0	1.62 16.2	1.94 19.4	2.33 23.3	2.33 23.3	2.92 29.2	3.50 35.0	4.20 42.0	4.67 46.7	5.25 52.5	6.30 63.0	7.87 78.7	8 80	8 80	8 80	8 80	8 80	8 80
	90	200V/220V/230V 240V/50Hz	0.13 1.3	0.16 1.6	0.22 2.2	0.27 2.7	0.33 3.3	0.40 4.0	0.45 4.5	0.56 5.6	0.67 6.7	0.80 8.0	0.80 8.0	1.00 10.0	1.20 12.0	1.44 14.4	1.60 16.0	1.80 18.0	2.17 21.7	2.71 27.1	3.25 32.5	3.61 36.1	4.43 44.3	5.41 54.1	6.50 65.0	7.22 72.2
		200V/220V 230V/60Hz	0.12 1.2	0.14 1.4	0.19 1.9	0.23 2.3	0.29 2.9	0.35 3.5	0.39 3.9	0.49 4.9	0.58 5.8	0.70 7.0	0.70 7.0	0.87 8.7	1.05 10.5	1.26 12.6	1.40 14.0	1.57 15.7	1.89 18.9	2.36 23.6	2.83 28.3	3.15 31.5	3.78 37.8	4.72 47.2	5.67 56.7	6.30 63.0

\* 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.

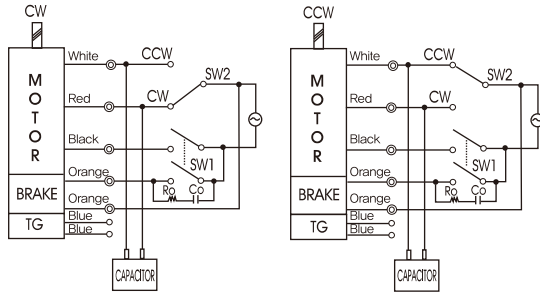
\* If you are to have less ratio than the ratio in the table, you can install the decimal gearhead, which has one tenth of the ratio, between the gearhead and the motor. In this case, the permissible torque is 8N·m/80kgf·cm. But, if you install 1/25~1/40 gearhead, the permissible torque is 6N·m/60kgf·cm.

\* 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.

## GEARHEADS

### CONNECTION DIAGRAMS

Connect Cr circuit for absorbing surge voltage as connection diagram to protect contact point.  
 $R_o = 5 - 200\Omega$   
 $C_o = 0.1 \sim 0.2\mu F$  200WV(400WV)



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

SPEED CONTROL & BRAKE MOTOR

### DIMENSIONS

K8G□B(C)

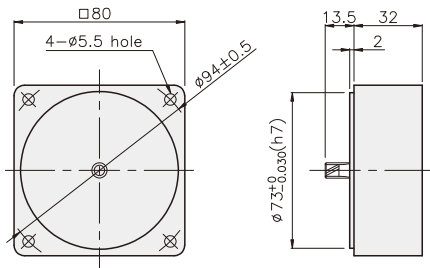


K8RG25N□-D + K8G□B(C)



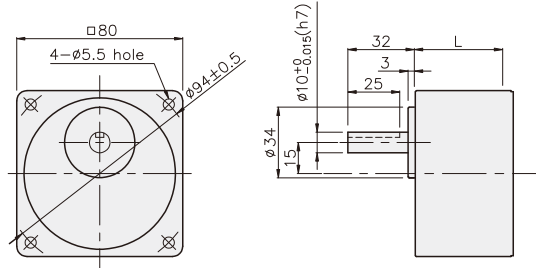
#### DECIMAL GEARHEAD

K8G10BX

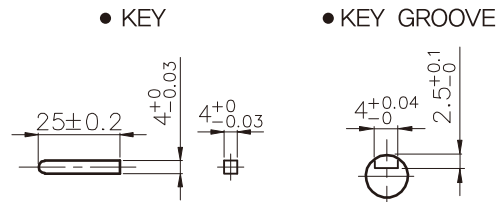


#### GEARHEAD

K8G□B(C)



#### KEY SPEC



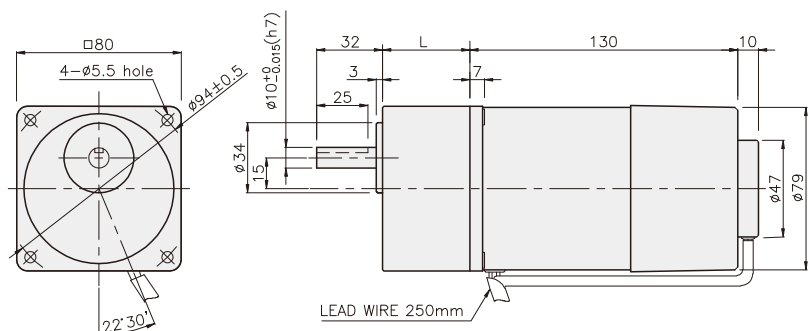
#### DIMENSION TABLE

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	1.94	
DECIMAL GEAR HEAD	0.46	
GEAR HEAD	K8G3~18B(C)	0.51
	K8G20~40B(C)	0.64
	K8G50~250B(C)	0.70

K8RG25N□-D + K8G□B(C)

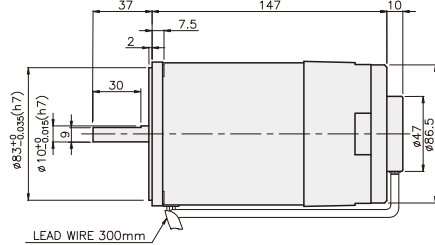
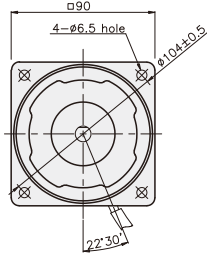


## SPEED CONTROL & BRAKE MOTOR

**40W**

**□90mm**

**K9RS40N□-D**



### SPECIFICATIONS

40W 30 minutes rating, four poles

Model	Voltage (V)	Frequency (Hz)	Speed Range (rpm)	Permissible Torque		Start T. (N*m/Kgf*cm)	Current (A)	Condenser (μF)	Friction T. (N*m/Kgf*cm)
				1200rpm (N*m/Kgf*cm)	90rpm (N*m/Kgf*cm)				
K9R□40NJ-D	100	50	90 ~ 1400	0.3/3	0.075/0.75	0.17/1.7	1.5	16	1/10
		60	90 ~ 1700			0.18/1.8			
K9R□40NU-D	110	60	90 ~ 1700	0.3/3	0.075/0.75	0.14/1.4	1.5	10	1/10
	115					1.3			
K9R□40NL-D	200	50	90 ~ 1400	0.33/3.3	0.07/0.7	0.17/1.7	0.65	4	1/10
		60	90 ~ 1700	0.26/2.6			0.72		
K9R□40NC-D	220	50	90 ~ 1400	0.33/3.3	0.07/0.7	0.17/1.7	0.6	3.5	1/10
		60	90 ~ 1700	0.26/2.6			0.64		
	230	50	90 ~ 1400	0.33/3.3		0.17/1.7	0.6		
		60	90 ~ 1700	0.26/2.6		0.16/1.6	0.64		
K9R□40ND-D	240	50	90 ~ 1400	0.33/3.3	0.07/0.7	0.16/1.6	0.63	3	1/10

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

### RATED TORQUE OF GEARHEAD

#### ● Single-phase 100V/115V

unit = above : N·m / below : Kgf·cm

Model	Ratio	Speed (rpm)																							
		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□-D K9G□B(C)	1200	0.73 7.3	0.87 8.7	1.22 12.2	1.46 14.6	1.82 18.2	2.19 21.9	2.43 24.3	3.04 30.4	3.65 36.5	4.37 43.7	4.37 43.7	5.47 54.7	6.56 65.6	7.87 78.7	8.75 87.5	9.84 98.4	10 100	10 100	10 100	10 100	10 100	10 100	10 100	10 100
	90	0.18 1.8	0.22 2.2	0.30 3.0	0.36 3.6	0.46 4.6	0.55 5.5	0.61 6.1	0.76 7.6	0.91 9.1	1.09 10.9	1.09 10.9	1.37 13.7	1.64 16.4	1.97 19.7	2.19 21.9	2.46 24.6	2.95 29.5	3.69 36.9	4.43 44.3	4.92 49.2	5.90 59.0	7.38 73.8	8.86 88.6	10 100

#### ● Single-phase 200V/240V

unit = above : N·m / below : Kgf·cm

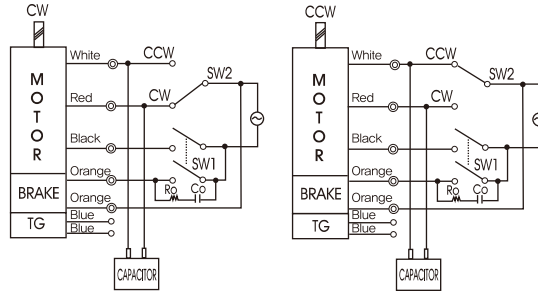
Model	Ratio	Speed (rpm)																							
		3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180	200
K9R□40N□-D K9G□B(C)	1200	200V/220V/230V/240V/50Hz	0.80 8.0	0.96 9.6	1.34 13.4	1.60 16.0	2.00 20.0	2.41 24.1	2.67 26.7	3.34 33.4	4.01 40.1	4.81 48.1	4.81 48.1	6.01 60.1	7.22 72.2	8.66 86.6	9.62 96.2	10 100	10 100	10 100	10 100	10 100	10 100	10 100	10 100
		200V/220V/230V/60Hz	0.63 6.3	0.76 7.6	1.05 10.5	1.26 12.6	1.58 15.8	1.90 19.0	2.11 21.1	2.63 26.3	3.16 31.6	3.79 37.9	3.79 37.9	4.74 47.4	5.69 56.9	6.82 68.2	7.58 75.8	8.53 85.3	10 100	10 100	10 100	10 100	10 100	10 100	10 100
	90	0.17 1.7	0.20 2.0	0.28 2.8	0.34 3.4	0.43 4.3	0.51 5.1	0.57 5.7	0.71 7.1	0.85 8.5	1.02 10.2	1.02 10.2	1.28 12.8	1.53 15.3	1.84 18.4	2.04 20.4	2.30 23.0	2.76 27.6	3.44 34.4	4.13 41.3	4.59 45.9	5.51 55.1	6.89 68.9	8.27 82.7	9.19 91.9

- \* 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.

## GEARHEADS

### CONNECTION DIAGRAMS

Connect Cr circuit for absorbing surge voltage as connection diagram to protect contact point.  
 $R_o = 5 - 200\Omega$   
 $C_o = 0.1 \sim 0.2\mu F$  200WV(400WV)



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

SPEED CONTROL & BRAKE MOTOR

### DIMENSIONS

K9G□B(C)

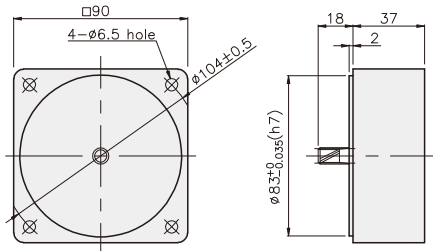


K9RG40N□-D + K9G□B(C)



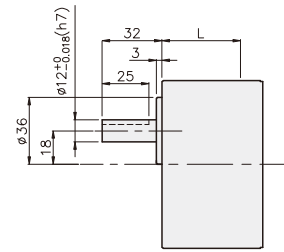
#### DECIMAL GEARHEAD

K9G10BX



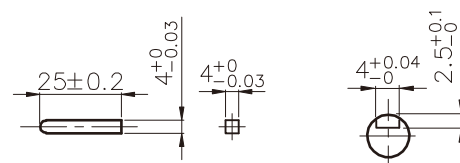
#### GEARHEAD

K9G□B(C)



#### KEY SPEC

- KEY
- KEY GROOVE



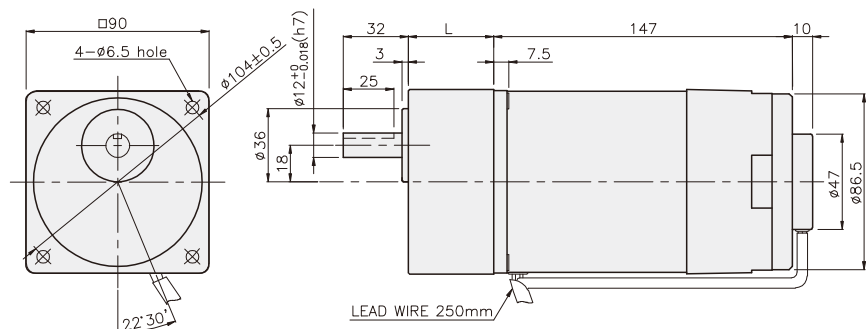
#### DIMENSION TABLE

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	2,98	
DECIMAL GEAR HEAD	0,60	
GEAR HEAD	K9G3~18B(C)	0,78
	K9G20~40B(C)	1,04
	K9G50~200B(C)	1,14

K9RG40N□-D + K9G□B(C)

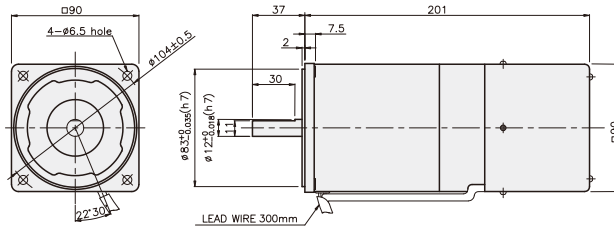


## SPEED CONTROL & BRAKE MOTOR

### 60W

### □90mm

K9RS60F□-D



### SPECIFICATIONS

60W 30 minutes rating, four poles

Model	Voltage (V)	Frequency (Hz)	Speed Range (rpm)	Permissible Torque		Start T. (N*m/Kgf*cm)	Current (A)	Condenser (μF)	Friction T. (N*m/Kgf*cm)
				1200rpm (N*m/Kgf*cm)	90rpm (N*m/Kgf*cm)				
K9R□60FJ-D	100	50	90 ~ 1400	0.5/5	0.17/1.7	0.3/3	2.5	25	1/10
		60	90 ~ 1700						
K9R□60FU-D	110	60	90 ~ 1700	0.5/5	0.17/1.7	0.295/2.95	2.1	17	1/10
	115						2.2		
K9R□60FL-D	200	50	90 ~ 1400	0.5/5	0.15/1.5	0.26/2.6	0.72	6	1/10
		60	90 ~ 1700	0.48/4.8	0.17/1.7	0.23/2.3	0.76		
K9R□60FC-D	220	50	90 ~ 1400	0.5/5	0.15/1.5	0.3/3	0.95	5	1/10
		60	90 ~ 1700	0.48/4.8	0.17/1.7	0.26/2.6	0.94		
	230	50	90 ~ 1400	0.5/5	0.15/1.5	0.3/3	1		
		60	90 ~ 1700	0.48/4.8	0.17/1.7	0.26/2.6	1.2		
K9R□60FD-D	240	50	90 ~ 1400	0.5/5	0.15/1.5	0.32/3.2	1.2	5	1/10

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

### RATED TORQUE OF GEARHEAD

#### ● Single-phase 100V/115V

unit = above : N·m / below : Kgf·cm

Model	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□-D	1200	1.22 12.2	1.46 14.6	2.03 20.3	2.43 24.3	3.04 30.4	3.65 36.5	4.05 40.5	4.56 45.6	5.47 54.7	6.56 65.6	7.29 72.9	8.20 82.0	9.84 98.4	11.81 118.1	13.12 131.2	16.40 164.0	19.68 196.8	20 200	20 200	20 200	20 200	20 200	20 200	20 200
	K9P□B, BF	90	0.41 4.1	0.50 5.0	0.69 6.9	0.83 8.3	1.03 10.3	1.24 12.4	1.38 13.8	1.55 15.5	1.86 18.6	2.23 22.3	2.48 24.8	2.79 27.9	3.35 33.5	4.02 40.2	4.46 44.6	5.58 55.8	6.69 66.9	7.53 75.3	9.03 90.3	10.04 100.4	12.05 120.5	15.06 150.6	18.07 180.7

#### ● Single-phase 200V/240V

unit = above : N·m / below : Kgf·cm

Model	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□-D	1200	200V/220V/230V/240V/50Hz	1.22 12.2	1.46 14.6	2.03 20.3	2.43 24.3	3.04 30.4	3.65 36.5	4.05 40.5	4.56 45.6	5.47 54.7	6.56 65.6	7.29 72.9	8.20 82.0	9.84 98.4	11.81 118.1	13.12 131.2	16.40 164.0	19.68 196.8	20 200	20 200	20 200	20 200	20 200	20 200	20 200
		200V/220V/230V/60Hz	1.17 11.7	1.40 14.0	1.94 19.4	2.33 23.3	2.92 29.2	3.50 35.0	3.89 38.9	4.37 43.7	5.25 52.5	6.30 63.0	7.00 70.0	7.87 78.7	8.94 89.4	10.45 104.5	11.34 113.4	12.60 126.0	15.75 157.5	18.90 189.0	20 200	20 200	20 200	20 200	20 200	20 200
	90	200V/220V/230V/240V/50Hz	0.36 3.6	0.44 4.4	0.61 6.1	0.73 7.3	0.91 9.1	1.09 10.9	1.22 12.2	1.37 13.7	1.64 16.4	1.97 19.7	2.19 21.9	2.46 24.6	2.95 29.5	3.54 35.4	3.94 39.4	4.92 49.2	5.90 59.0	6.64 66.4	7.97 79.7	8.86 88.6	10.63 106.3	13.29 132.9	15.94 159.4	17.71 177.1
		200V/220V/230V/60Hz	0.41 4.1	0.50 5.0	0.69 6.9	0.83 8.3	1.03 10.3	1.24 12.4	1.38 13.8	1.55 15.5	1.86 18.6	2.23 22.3	2.48 24.8	2.79 27.9	3.35 33.5	4.02 40.2	4.46 44.6	5.58 55.8	6.69 66.9	7.53 75.3	9.03 90.3	10.04 100.4	12.05 120.5	15.06 150.6	18.07 180.7	20 200

\* 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.

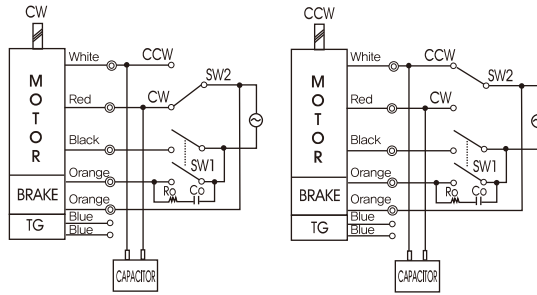
\* If you are to have less ratio than the ratio in the table, you can install the decimal gearhead, which has one tenth of the ratio, between the gearhead and the motor. In this case, the permissible torque is 20N·m/200kgf·cm.

\* 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.

## GEARHEADS

### CONNECTION DIAGRAMS

Connect Cr circuit for absorbing surge voltage as connection diagram to protect contact point.  
 $R_o = 5 - 200\Omega$   
 $C_o = 0.1 \sim 0.2\mu F$  200WV(400WV)



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

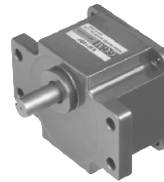
SPEED CONTROL & BRAKE MOTOR

### DIMENSIONS

K9P□B



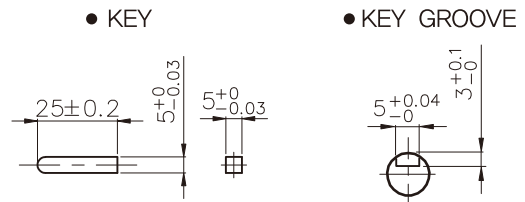
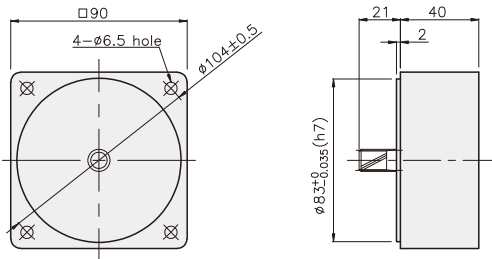
K9P□BF



### DECIMAL GEARHEAD

K9P10BX

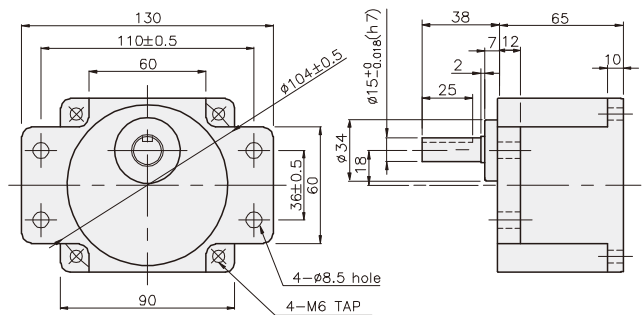
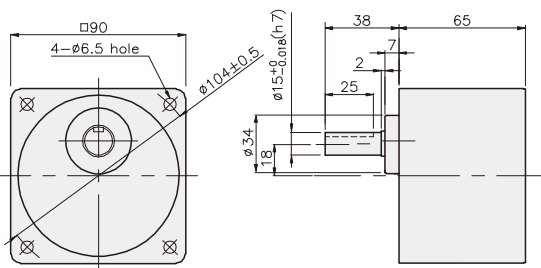
### KEY SPEC



### GEARHEAD

K9P□B

K9P□BF





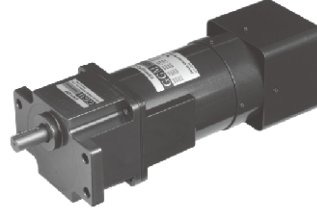
## GEARHEADS

### DIMENSIONS

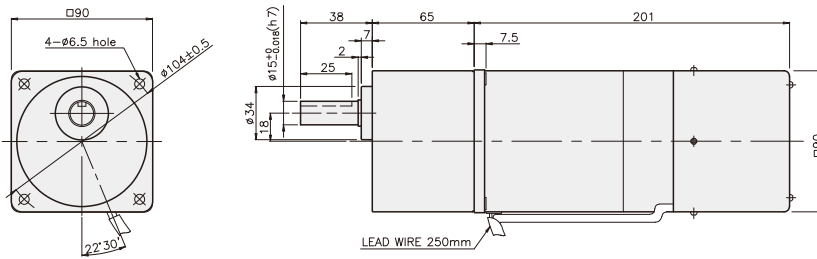
K9RP60F□-D + K9P□B



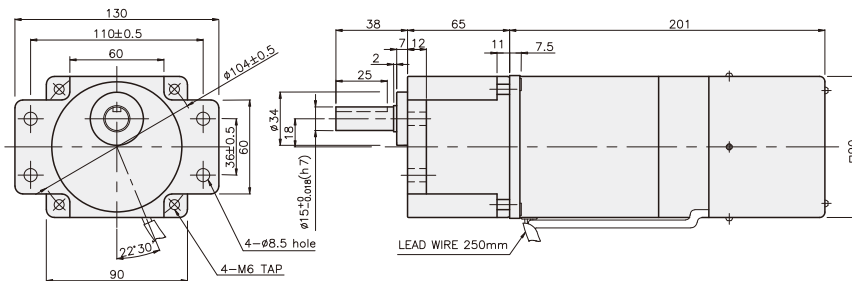
K9RP60F□-D + K9P□BF



K9RP60F□-D + K9P□B



K9RP60F□-D + 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	3,58	
DECIMAL GEAR HEAD	0,62	
GEAR HEAD	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

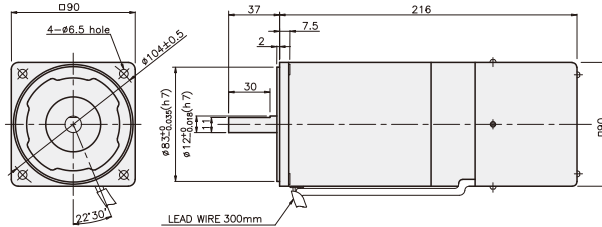
PART	WEIGHT(kg)	
MOTOR	3,58	
DECIMAL GEAR HEAD	0,62	
GEAR HEAD	K9P3~10BF	1,22
	K9P12,5~18BF	1,30
	K9P20~60BF	1,42
	K9P75~200BF	1,44

## SPEED CONTROL & BRAKE MOTOR

### 90W

### □90mm

K9RS90F□-D



### SPECIFICATIONS

90W 30 minutes rating, four poles

Model	Voltage (V)	Frequency (Hz)	Speed Range (rpm)	Permissible Torque		Start T. (N*m/Kgf*cm)	Current (A)	Condenser (μF)	Friction T. (N*m/Kgf*cm)
				1200rpm (N*m/Kgf*cm)	90rpm (N*m/Kgf*cm)				
K9R□90FJ-D	100	50	90 ~ 1400	0.75/7.5	0.25/2.5	0.4/4	3.6	35	1/10
		60	90 ~ 1700						
K9R□90FU-D	110	60	90 ~ 1700	0.75/7.5	0.25/2.5	0.38/3.8	3	25	1/10
	115						3.2		
K9R□90FL-D	200	50	90 ~ 1400	0.75/7.5	0.25/2.5	0.4/4	1.4	8	1/10
		60	90 ~ 1700		0.28/2.8		1.5		
K9R□90FC-D	220	50	90 ~ 1400	0.75/7.5	0.25/2.5	0.4/4	1.2	7	1/10
		60	90 ~ 1700		0.28/2.8		1.4		
	230	50	90 ~ 1400		0.25/2.5	0.43/4.3	1.2		
		60	90 ~ 1700		0.28/2.8		1.4		
K9R□90FD-D	240	50	90 ~ 1400	0.75/7.5	0.25/2.5	0.4/4	1.3	6	1/10

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

### RATED TORQUE OF GEARHEAD

#### ● Single-phase 100V/115V

unit = above : N·m / below : Kgf·cm

Model	Ratio	Speed(rpm)																								
		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□-D K9P□B, BF	1200	1.82 18.2	2.19 21.9	3.04 30.4	3.65 36.5	4.56 45.6	5.47 54.7	6.08 60.8	6.83 68.3	8.20 82.0	9.84 98.4	10.94 109.4	12.30 123.0	14.76 147.6	17.71 177.1	19.68 196.8	20 200	20 200	20 200	20 200	20 200	20 200	20 200	20 200	20 200	20 200
	90	0.61 6.1	0.73 7.3	1.01 10.1	1.22 12.2	1.52 15.2	1.82 18.2	2.03 20.3	2.28 22.8	2.73 27.3	3.28 32.8	3.65 36.5	4.10 41.0	4.92 49.2	5.90 59.0	6.56 65.6	8.20 82.0	9.84 98.4	11.07 110.7	13.29 132.9	14.76 147.6	17.71 177.1	20 200	20 200	20 200	20 200

#### ● Single-phase 200V/240V

unit = above : N·m / below : Kgf·cm

Model	Ratio	Speed(rpm)																								
		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□-D K9P□B, BF	90	1200	1.82 18.2	2.19 21.9	3.04 30.4	3.65 36.5	4.56 45.6	5.47 54.7	6.08 60.8	6.83 68.3	8.20 82.0	9.84 98.4	10.94 109.4	12.30 123.0	14.76 147.6	17.71 177.1	19.68 196.8	20 200	20 200	20 200	20 200	20 200	20 200	20 200	20 200	20 200
		200V/220V/230V 240V/50Hz	0.61 6.1	0.73 7.3	1.01 10.1	1.22 12.2	1.52 15.2	1.82 18.2	2.03 20.3	2.28 22.8	2.73 27.3	3.28 32.8	3.65 36.5	4.10 41.0	4.92 49.2	5.90 59.0	6.56 65.6	8.20 82.0	9.84 98.4	11.07 110.7	13.29 132.9	14.76 147.6	17.71 177.1	20 200	20 200	20 200
		200V/220V 230V/50Hz	0.68 6.8	0.82 8.2	1.13 11.3	1.36 13.6	1.70 17.0	2.04 20.4	2.27 22.7	2.55 25.5	3.06 30.6	3.67 36.7	4.08 40.8	4.59 45.9	5.51 55.1	6.61 66.1	7.35 73.5	9.19 91.9	11.02 110.2	12.40 124.0	14.88 148.8	16.53 165.3	19.84 198.4	20 200	20 200	20 200

- \* 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.

## GEARHEADS

### RATED TORQUE OF GEARHEAD

#### ● Single-phase 100V/115V

unit = above : N · m / below : kgfcm

Model Motor/ Gearhead	Ratio Speed(rpm)	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□-D K9P□BU, BUF	1200	1,82 18,2	2,19 21,9	3,04 30,4	3,65 36,5	4,56 45,6	5,47 54,7	6,08 60,8	6,83 68,3	8,20 82,0	9,84 98,4	10,94 109,4	12,30 123,0	14,76 147,6	17,71 177,1	19,68 196,8	24,60 246	29,52 295	30 300	30 300	30 300	30 300	30 300
90	0,61 6,1		0,73 7,3	1,01 10,1	1,22 12,2	1,52 15,2	1,82 18,2	2,03 20,3	2,28 22,8	2,73 27,3	3,28 32,8	3,65 36,5	4,10 41,0	4,92 49,2	5,90 59,0	6,56 65,6	8,20 82,0	9,84 98,4	11,07 110,7	13,29 132,9	14,76 147,6	17,71 177,1	22,14 221,4	26,57 265,7	29,52 295,2

#### ● Single-phase 200V/240V

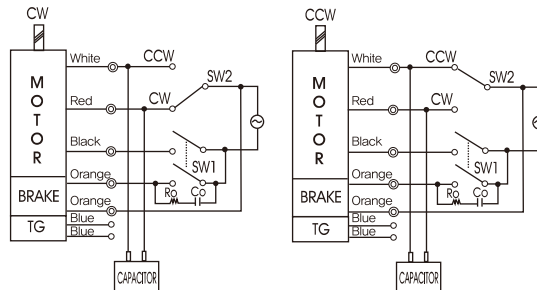
unit = above : N · m / below : kgfcm

Model Motor/ Gearhead	Ratio Speed(rpm)	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□-D K9P□BU, BUF	1200	1,82 18,2	2,19 21,9	3,04 30,4	3,65 36,5	4,56 45,6	5,47 54,7	6,08 60,8	6,83 68,3	8,20 82,0	9,84 98,4	10,94 109,4	12,30 123,0	14,76 147,6	17,71 177,1	19,68 196,8	24,60 246	29,52 295	30 300	30 300	30 300	30 300	30 300	30 300
90	200V/220V/230V 240V/50Hz		0,61 6,1	0,73 7,3	1,01 10,1	1,22 12,2	1,52 15,2	1,82 18,2	2,03 20,3	2,28 22,8	2,73 27,3	3,28 32,8	3,65 36,5	4,10 41,0	4,92 49,2	5,90 59,0	6,56 65,6	8,20 82,0	9,84 98,4	11,07 110,7	13,29 132,9	14,76 147,6	17,71 177,1	22,14 221,4	26,57 265,7	29,52 295,2
	200V/220V 230V/60Hz		0,68 6,8	0,82 8,2	1,13 11,3	1,36 13,6	1,70 17,0	2,04 20,4	2,27 22,7	2,55 25,5	3,06 30,6	3,67 36,7	4,08 40,8	4,59 45,9	5,51 55,1	6,61 66,1	7,35 73,5	9,19 91,9	11,02 110,2	12,40 124,0	14,88 148,8	16,53 165,3	19,84 198,4	24,80 248,0	29,76 297,6	30 300

- \* 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 surge voltage as connection diagram to protect contact point.  
 $R_o = 5 - 200\Omega$   
 $C_o = 0,1 \sim 0,2\mu F \ 200WV(400WV)$



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

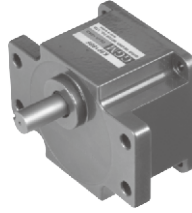
## GEARHEADS

### DIMENSIONS

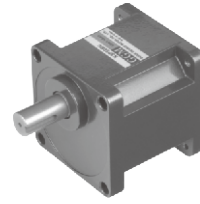
K9P□B



K9P□BF, BUF



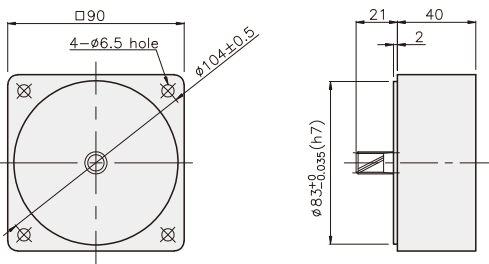
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### DECIMAL GEARHEAD

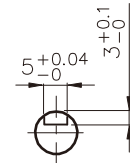
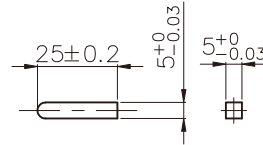
K9P10BX

### KEY SPEC



● KEY

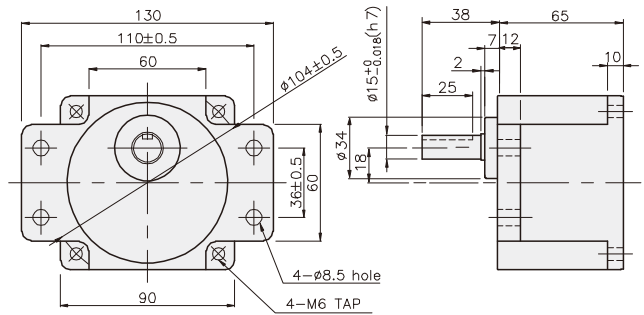
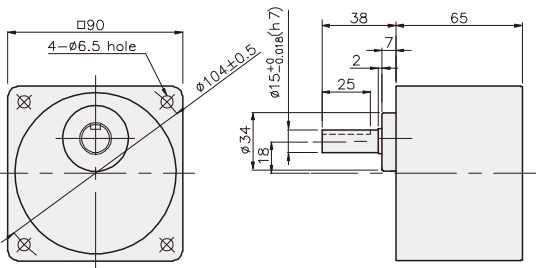
● KEY GROOVE



### GEARHEAD

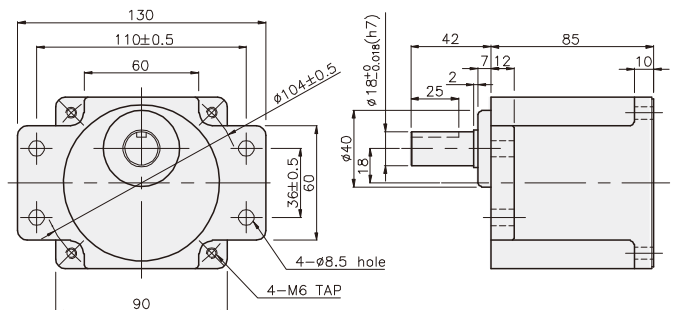
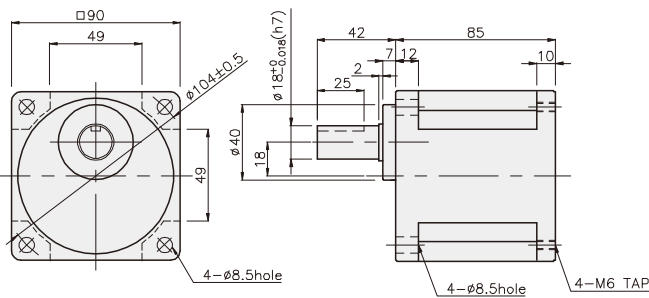
K9P□B

K9P□BF



K9P□BU

K9P□BUF



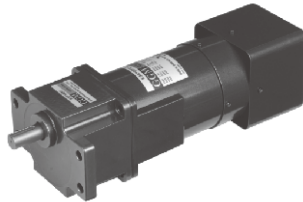
## GEARHEADS

### DIMENSIONS

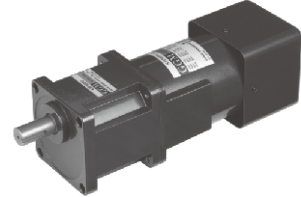
K9RP90F□-D + K9P□B



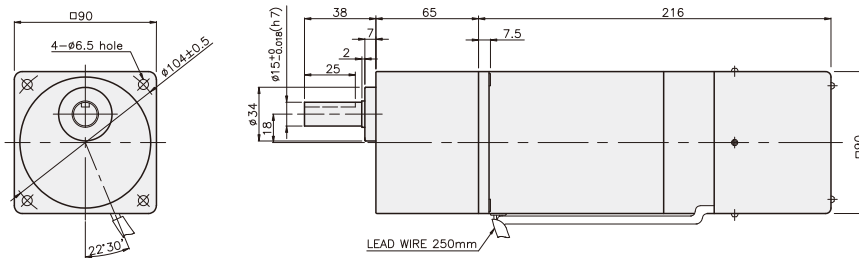
K9RP90F□-D + K9P□BF, BUF



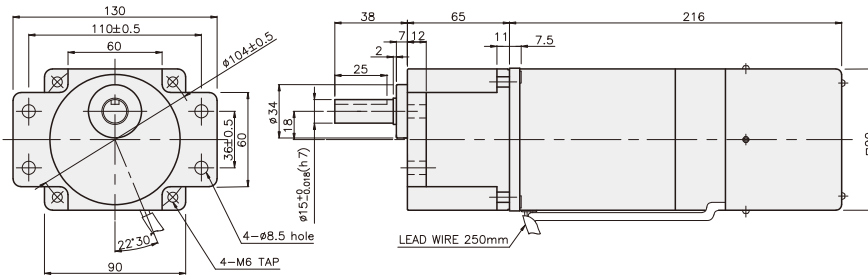
K9RP90F□-D + K9P□BU



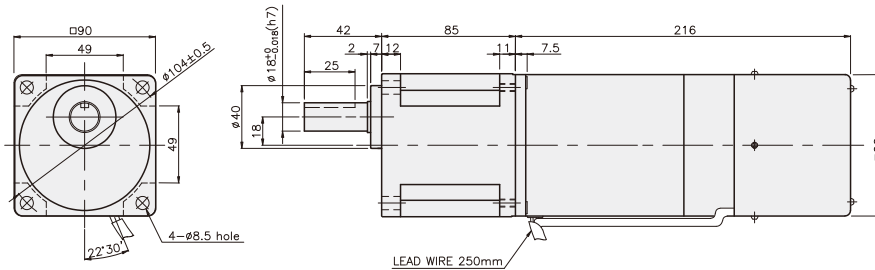
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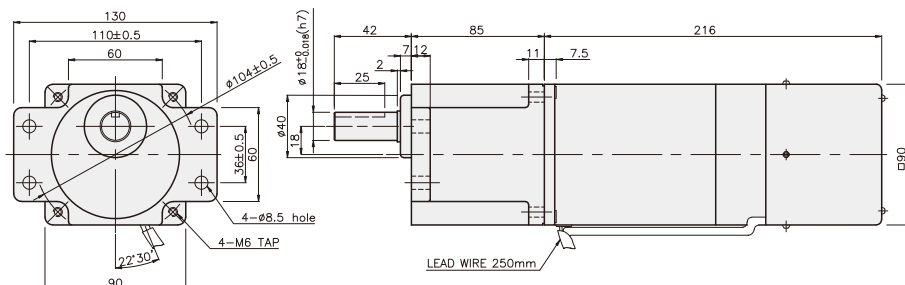
K9RP90F□-D + K9P□BF



K9RP90F□-D + K9P□BU



K9RP90F□-D + K9P□BUF



### WEIGHT

PART	WEIGHT(kg)
MOTOR	4.06
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

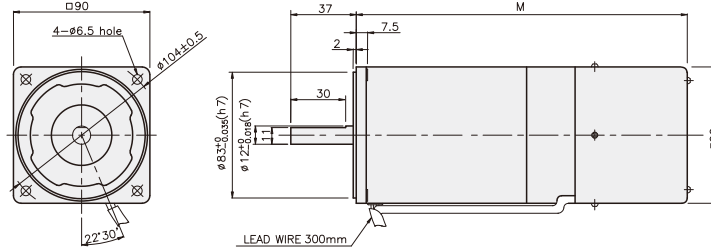
## SPEED CONTROL & BRAKE MOTOR

### 120W

### □90mm

SPEED CONTROL & BRAKE MOTOR

K9RS120F□-D



#### DIMENSION TABLE

PART No	M	Application Model
01	236	50Hz
02	216	60Hz

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

### SPECIFICATIONS

120W 30 minutes rating, four poles

Model	Voltage (V)	Frequency (Hz)	Speed Range (rpm)	Permissible Torque		Start T. (N*m/Kgf*cm)	Current (A)	Condenser (μF)	Friction T. (N*m/Kgf*cm)
				1200rpm (N*m/Kgf*cm)	90rpm (N*m/Kgf*cm)				
K9R□120FJ-D	100	50	90 ~ 1400	0.85/8.5	0.31/3.1	0.45/4.5	3.6	40	1/10
		60	90 ~ 1700			0.5/5			
K9R□120FU-D	110	60	90 ~ 1700	0.8/8	0.28/2.8	0.4/4	3	25	1/10
	115								
K9R□120FL-D	200	50	90 ~ 1400	0.8/8	0.27/2.7	0.37/3.7	1.4	8.5	1/10
		60	90 ~ 1700				1.5		
K9R□120FC-D	220	50	90 ~ 1400	0.8/8	0.27/2.7	0.37/3.7	1.2	6	1/10
			90 ~ 1700						
	230	60	90 ~ 1400	0.78/7.8	0.29/2.9	0.42/4.2	1.4	7	
			90 ~ 1700						
K9R□120FD-D	240	50	90 ~ 1400	0.8/8	0.27/2.7	0.37/3.7	1.3	6	1/10

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

### RATED TORQUE OF GEARHEAD

#### ● Single-phase 100V/115V

unit = above : N·m / below : Kgf·cm

Model	Ratio	Speed(rpm)																								
		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□120F□-D K9P□B, BF	1200	100V/50/60Hz	2.07	2.48	3.44	4.13	5.16	6.20	6.89	7.75	9.29	11.15	12.39	13.94	16.73	20	20	20	20	20	20	20	20	20	20	20
		110V/60Hz	1.94	2.33	3.24	3.89	4.86	5.83	6.48	7.29	8.75	10.50	11.66	13.12	15.75	18.90	20	20	20	20	20	20	20	20	20	20
	90	100V/50/60Hz	0.75	0.90	1.26	1.51	1.88	2.26	2.51	2.82	3.39	4.07	4.52	5.08	6.10	7.32	8.14	10.17	12.20	13.73	16.47	18.31	20	20	20	20
		110V/60Hz	0.68	0.82	1.13	1.36	1.70	2.04	2.27	2.55	3.06	3.67	4.08	4.59	5.51	6.61	7.35	9.19	11.02	12.40	14.88	16.53	19.84	20	20	20

#### ● Single-phase 200V/240V

unit = above : N·m / below : Kgf·cm

Model	Ratio	Speed(rpm)																								
		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□120F□-D K9P□B, BF	1200	200V/220V/230V/240V/50Hz	1.94	2.33	3.24	3.89	4.86	5.83	6.48	7.29	8.75	10.50	11.66	13.12	15.75	18.90	20	20	20	20	20	20	20	20	20	20
		230V/60Hz	1.90	2.27	3.16	3.79	4.74	5.69	6.32	7.11	8.53	10.24	11.37	12.79	15.35	18.42	20	20	20	20	20	20	20	20	20	20
	90	200V/220V/230V/240V/50Hz	0.66	0.79	1.09	1.31	1.64	1.97	2.19	2.46	2.95	3.54	3.94	4.43	5.31	6.38	7.09	8.86	10.63	11.96	14.35	15.94	19.13	20	20	20
		230V/60Hz	0.70	0.85	1.17	1.41	1.76	2.11	2.35	2.64	3.17	3.81	4.23	4.76	5.71	6.85	7.61	9.51	11.42	12.84	15.41	17.12	20	20	20	20

- \* 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.

## GEARHEADS

### RATED TORQUE OF GEARHEAD

#### ● Single-phase 100V/115V

unit : above : N · m / below : kgfcm

Model Motor/ Gearhead	Ratio Speed(rpm)	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□120F□-D K9P□BU, BUF	1200	100V 50/60HZ	2.07 20.7	2.48 24.8	3.44 34.4	4.13 41.3	5.16 51.6	6.20 62.0	6.89 68.9	7.75 77.5	9.29 92.9	11.15 111.5	12.39 123.9	13.94 139.4	16.73 167.3	20.08 201	22.31 223	27.88 279	30 300	30 300	30 300	30 300	30 300	30 300	30 300	30 300
		100V/115V 60HZ	1.94 19.4	2.33 23.3	3.24 32.4	3.89 38.9	4.86 48.6	5.83 58.3	6.48 64.8	7.29 72.9	8.75 87.5	10.50 105.0	11.66 116.6	13.12 131.2	15.75 157.5	18.90 189.0	21.00 210	26.24 262	30 300	30 300	30 300	30 300	30 300	30 300	30 300	30 300
	90	100V 50/60HZ	0.75 7.5	0.90 9.0	1.26 12.6	1.51 15.1	1.88 18.8	2.26 22.6	2.51 25.1	2.82 28.2	3.39 33.9	4.07 40.7	4.52 45.2	5.08 50.8	6.10 61.0	7.32 73.2	8.14 81.4	10.17 101.7	12.20 122.0	13.73 137.3	16.47 164.7	18.31 183.1	21.97 219.7	27.46 274.6	30 300	30 300
		110V/115V 60HZ	0.68 6.8	0.82 8.2	1.13 11.3	1.36 13.6	1.70 17.0	2.04 20.4	2.27 22.7	2.55 25.5	3.06 30.6	3.67 36.7	4.08 40.8	4.59 45.9	5.51 55.1	6.61 66.1	7.35 73.5	9.19 91.9	11.02 110.2	12.40 124.0	14.88 148.8	16.53 165.3	19.84 198.4	24.80 248.0	29.76 297.6	30 300

#### ● Single-phase 200V/240V

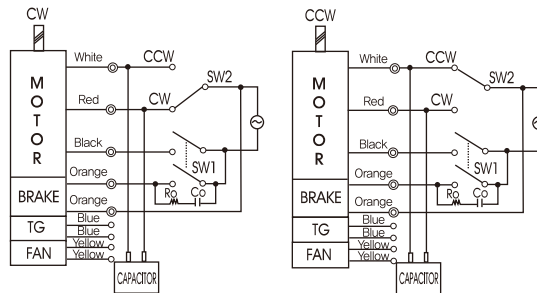
unit : above : N · m / below : kgfcm

Model Motor/ Gearhead	Ratio Speed(rpm)	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□120F□-D K9P□BU, BUF	1200	200V/220V/230V 240V 50Hz	1.94 19.4	2.33 23.3	3.24 32.4	3.89 38.9	4.86 48.6	5.83 58.3	6.48 64.8	7.29 72.9	8.75 87.5	10.50 105.0	11.66 116.6	13.12 131.2	15.75 157.5	18.90 189.0	21.00 210.0	26.24 262.4	30 300	30 300	30 300	30 300	30 300	30 300	30 300	30 300
		200V/220V 230V 60Hz	1.90 19.0	2.27 22.7	3.16 31.6	3.79 37.9	4.74 47.4	5.69 56.9	6.32 63.2	7.11 71.1	8.53 85.3	10.24 102.4	11.37 113.7	12.79 127.9	15.35 153.5	18.42 184.2	20.47 204.7	25.59 255.9	30 300	30 300	30 300	30 300	30 300	30 300	30 300	30 3000
	90	200V/220V/230V 240V 50Hz	0.66 6.6	0.79 7.9	1.09 10.9	1.31 13.1	1.64 16.4	1.97 19.7	2.19 21.9	2.46 24.6	2.95 29.5	3.54 35.4	3.94 39.4	4.43 44.3	5.31 53.1	6.38 63.8	7.09 70.9	8.86 88.6	10.63 106.3	11.96 119.6	14.35 143.5	15.94 159.4	19.13 191.3	23.91 239.1	28.70 287.0	30 300
		200V/220V 230V 60Hz	0.70 7.0	0.85 8.5	1.17 11.7	1.41 14.1	1.76 17.6	2.11 21.1	2.35 23.5	2.64 26.4	3.17 31.7	3.81 38.1	4.23 42.3	4.76 47.6	5.71 57.1	6.85 68.5	7.61 76.1	9.51 95.1	11.42 114.2	12.84 128.4	15.41 154.1	17.12 171.2	20.55 205.5	25.69 256.9	30 300	30 300

- \* 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 surge voltage as connection diagram to protect contact point.  
 $R_o = 5 - 200\Omega$   
 $C_o = 0.1 \sim 0.2\mu F$  200WV(400WV)



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

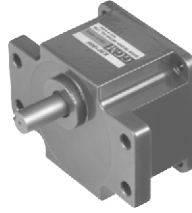
## GEARHEADS

### DIMENSIONS

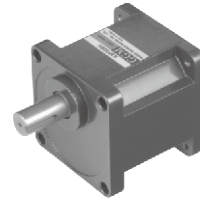
K9P□B



K9P□BF, BUF



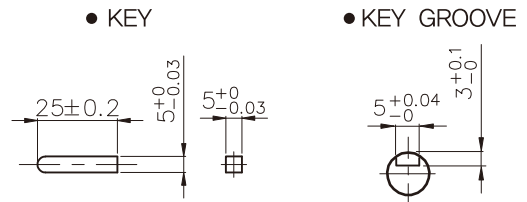
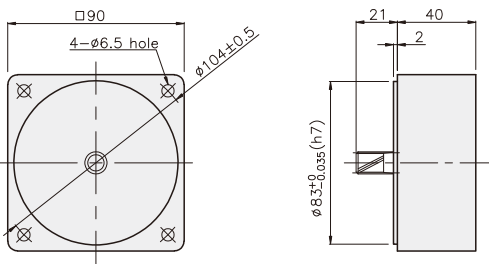
K9P□BU



### DECIMAL GEARHEAD

K9P10BX

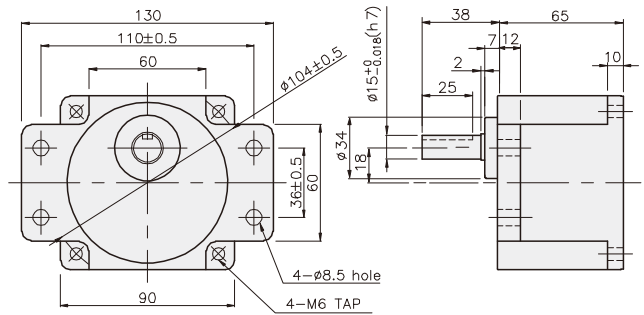
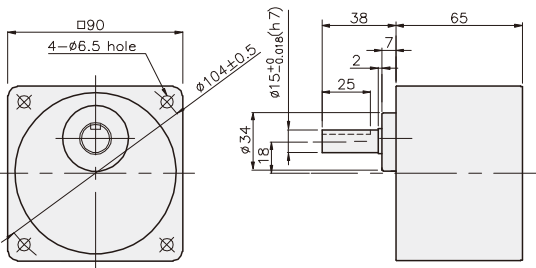
### KEY SPEC



### GEARHEAD

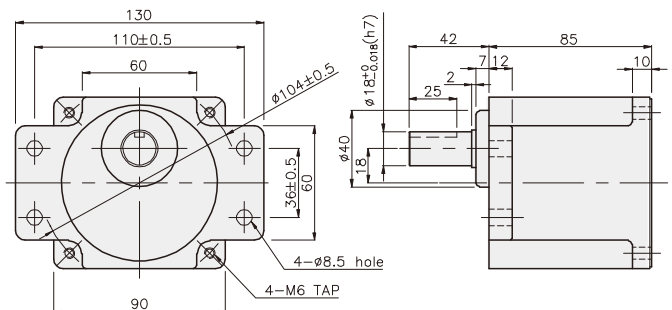
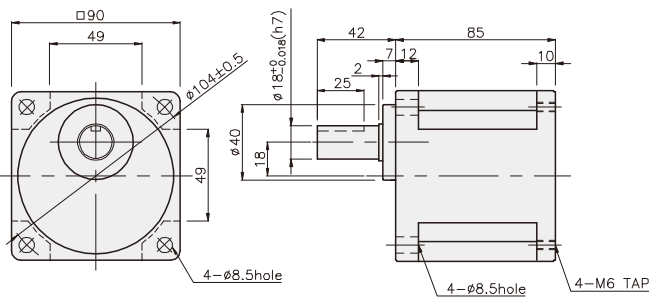
K9P□B

K9P□BF



K9P□BU

K9P□BUF





## GEARHEADS

### DIMENSIONS

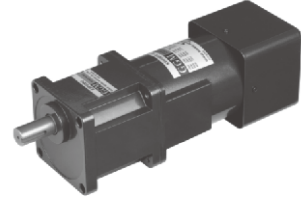
K9RP120F□-D + K9P□B



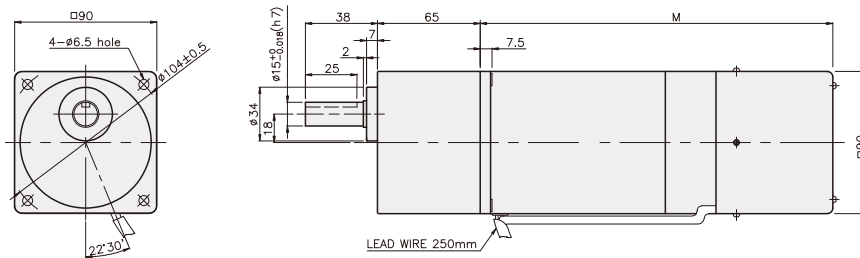
K9RP120F□-D + K9P□BF, BUF



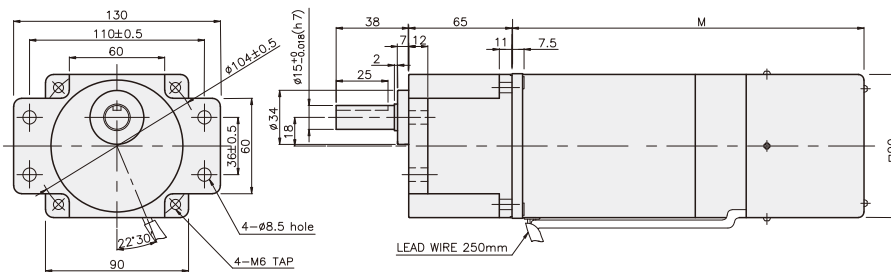
K9RP120F□-D + K9P□BU



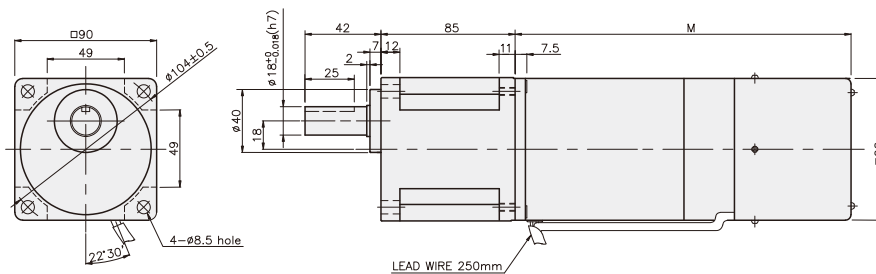
K9RP120F□-D + K9P□B



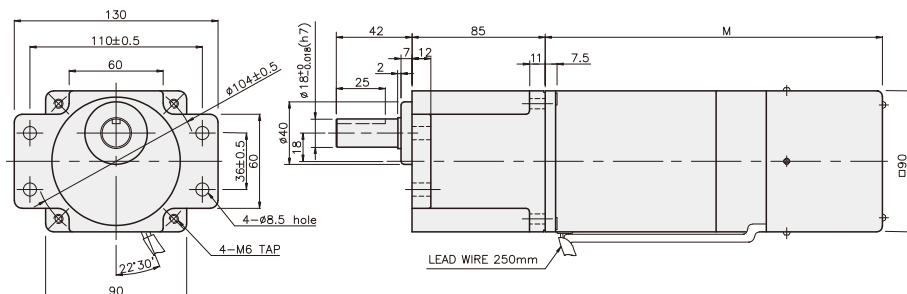
K9RP120F□-D + K9P□BF



K9RP120F□-D + K9P□BU



K9RP120F□-D + K9P□BUF



#### WEIGHT

PART	WEIGHT(kg)
MOTOR	3,54
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

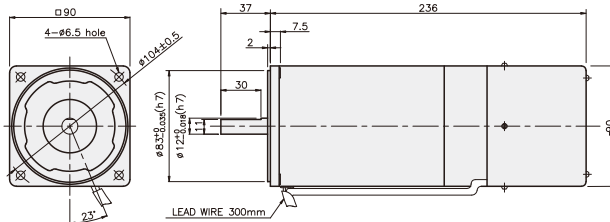
PART	WEIGHT(kg)
K9P3~10BUF	1,50
K9P12,5~20BUF	1,62
K9P25~60BUF	1,76
K9P75~200BUF	1,82

## SPEED CONTROL & BRAKE MOTOR

# 180W

# □90mm

K9RS180F□-D



### SPECIFICATIONS

180W 30 minutes rating, four poles

Model	Voltage (V)	Frequency (Hz)	Speed Range (rpm)	Permissible Torque		Start T. (N*m / Kg*cm)	Current (A)	Condenser (μF)	Friction T. (N*m / Kg*cm)
				1200rpm (N*m / Kg*cm)	90rpm (N*m / Kg*cm)				
K9R□180FJ-D	100	50	90 ~ 1400	0.88/8.8	0.33/3.3	0.5/5	5	40	1/10
		60	90 ~ 1700						
K9R□180FU-D	110	60	90 ~ 1700	1.1/11	0.38/3.8	0.58/5.8	5	40	1/10
	115						5.2		
K9R□180FL-D	200	50	90 ~ 1400	0.88/8.8	0.3/3	0.45/4.5	2.2	12	1/10
		60	90 ~ 1700			0.38/3.8			
K9R□180FC-D	220	50	90 ~ 1400	0.88/8.8	0.3/3	0.42/4.2	2.2	8	1/10
			90 ~ 1700			0.38/3.8			
		50	90 ~ 1400			0.48/4.8	2.4		
			90 ~ 1700			0.45/4.5			
K9R□180FD-D	240	50	90 ~ 1400	0.95/9.5	0.32/3.2	0.55/5.5	2	8	1/10

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

### RATED TORQUE OF GEARHEAD

#### ● Single-phase 100V/115V

unit = above : N·m / below : Kg·cm

Model	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□180F□-D K9P□BU, BUF	1200	100V/50/60HZ	2.14	2.57	3.56	4.28	5.35	6.42	7.13	8.02	9.62	11.55	12.83	14.43	17.32	20.79	23.09	28.87	30	30	30	30	30	30	30	30
		110V/60HZ	2.67	3.21	4.46	5.35	6.68	8.02	8.91	10.02	12.03	14.43	16.04	21.65	25.98	28.87	30	30	30	30	30	30	30	30	30	30
	90	100V/50/60HZ	0.80	0.96	1.34	1.60	2.00	2.41	2.67	3.01	3.61	4.33	4.81	5.41	6.50	7.79	8.66	10.83	12.99	14.61	17.54	19.49	23.38	29.23	30	30
		110V/60HZ	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	20.19	22.44	26.93	30	30	30

#### ● Single-phase 200V/240V

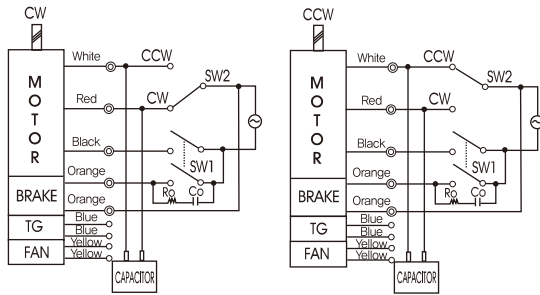
unit = above : N·m / below : Kg·cm

Model	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□180F□-D K9P□BU, BUF	1200	200V/220V/50-HZ/60-HZ	2.14	2.57	3.56	4.28	5.35	6.42	7.13	8.02	9.62	11.55	12.83	14.43	17.32	20.79	23.09	28.87	30	30	30	30	30	30	30	30
		230V/50-HZ/60-HZ/240V/50-HZ	2.31	2.77	3.85	4.62	5.77	6.93	7.70	8.66	10.39	12.47	13.85	15.58	18.70	22.44	24.93	30	30	30	30	30	30	30	30	30
	90	200V/220V/50-HZ/60-HZ	0.73	0.87	1.22	1.46	1.82	2.19	2.43	2.73	3.28	3.94	4.37	4.92	5.90	7.09	7.87	9.84	11.81	13.29	15.94	17.71	21.26	26.57	30	30
		230V/50-HZ/60-HZ/240V/50-HZ	0.78	0.93	1.30	1.56	1.94	2.33	2.59	2.92	3.50	4.20	4.67	5.25	6.30	7.56	8.40	10.50	12.60	14.17	17.01	18.90	22.67	28.34	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 30N·m/300kg·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.

## GEARHEADS

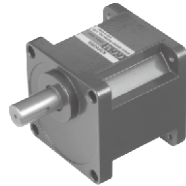
### CONNECTION DIAGRAMS



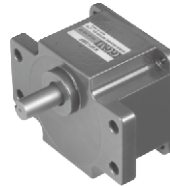
※The direction of motor rotation is as viewed from the front shaft end of the motor

### DIMENSIONS

K9P□BU

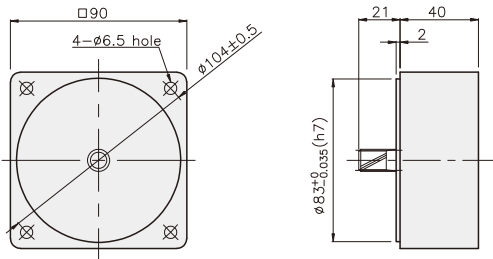


K9P□BUF

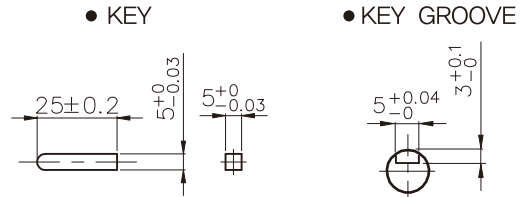


### DECIMAL GEARHEAD

K9P10BX

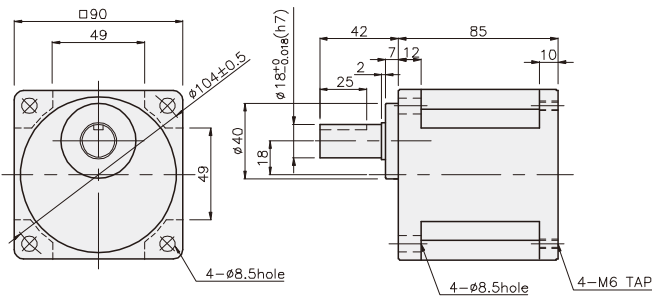


### KEY SPEC

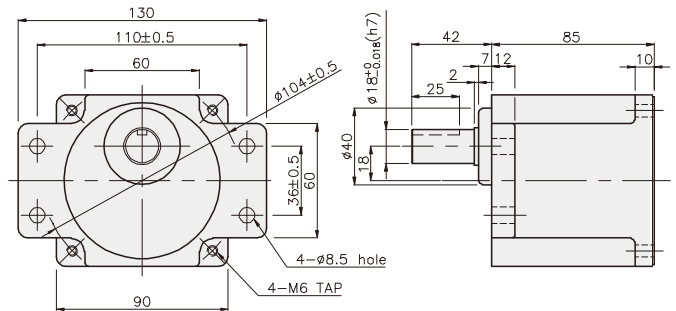


### GEARHEAD

K9P□BU



K9P□BUF

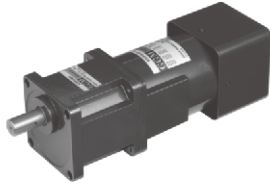


## GEARHEADS

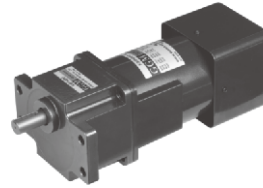
### DIMENSIONS

SPEED CONTROL & BRAKE MOTOR

K9RP180F□-D + K9P□BU



K9RP180F□-D + K9P□BUF



#### WEIGHT

PART	WEIGHT(kg)
MOTOR	4.70
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

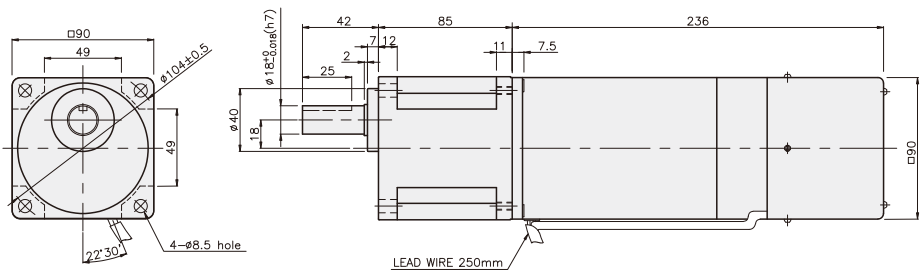
#### DIMENSION TABLE

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

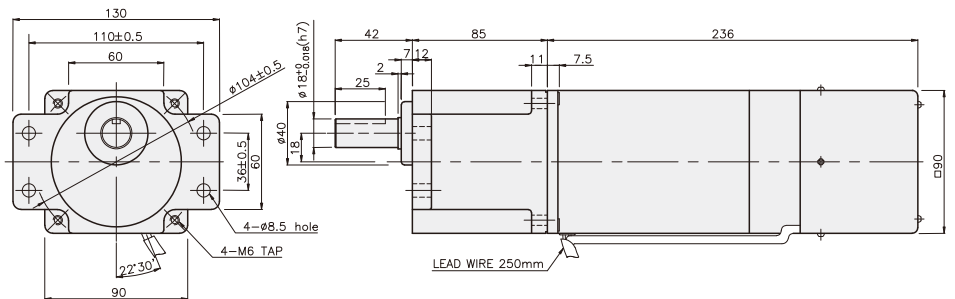
#### WEIGHT

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

K9RP180F□-D + K9P□BU



K9RP180F□-D + K9P□BUF





# SPEED CONTROL UNIT



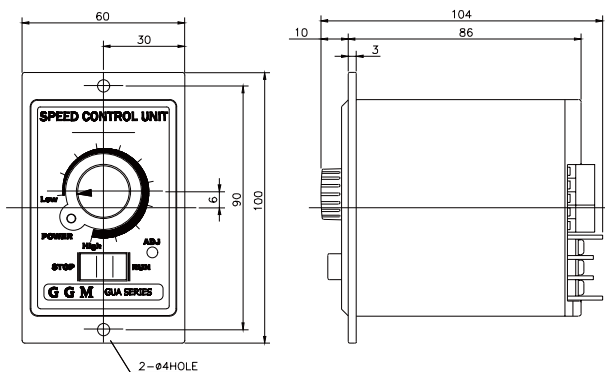
## SPEED CONTROL UNIT

● GUA

Diagram and general contents



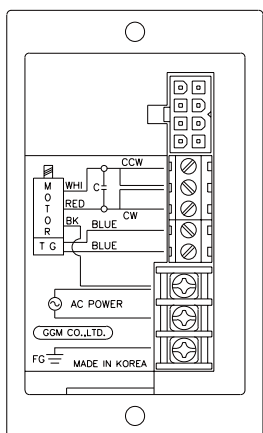
### Appearance of Products



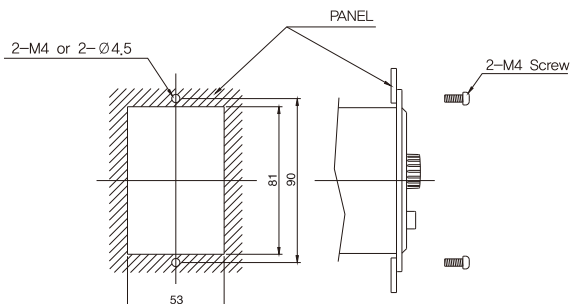
### Specification

Model	GUA-U	GUA-J	GUA-C	GUA-L
Characteristics				
Rated voltage and power Frequency	Single Phase AC110V 60Hz Single Phase AC115V 60Hz	Single Phase AC110V 50/60Hz	Single Phase AC220V 50/60Hz Single Phase AC230V 50/60Hz Single Phase AC240V 50Hz	Single Phase AC200V 50/60Hz
Operating Voltage Range	± 10% (compared to the lightning voltage)			
Application MOTOR output	INDUCTION : 6~180W REVERSIBLE : 6~ 90W			
Speed control range	60Hz : 90~1700rpm, 50Hz : 90~1400rpm			
Speed regulation	5% (standard)			
Speed setter	Setting by VOLUME			
Operating temperature range	-10~40°C			
Storage temperature range	-20~60°C			
Operating humidity range	Below 85% (where is no condensation)			

### Wiring Diagram



### Panel Processing

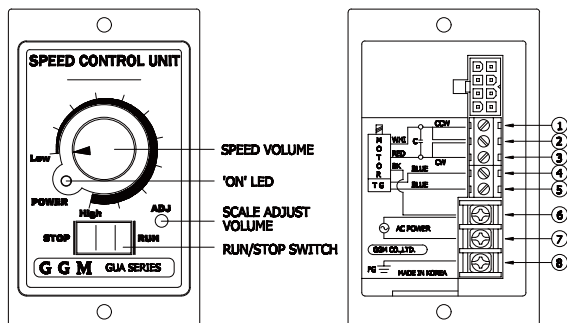


### Product Features

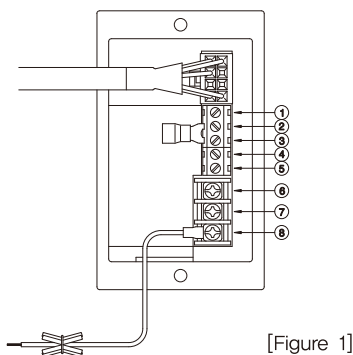
1. It is an UNIT product of detachable CONTROL MOTOR and CONTROL MOTOR.  
CONNECTOR is connected with the ONE TOUCH. It is most suitable in usage that remote control need, (There is not Moment stop function.)
2. There are assembled all needed devices of Speed control circuit, MOTOR CONDENSER, speed setter etc. in CONTROL UNIT.  
(There is also an external mounting type CONDENSER.)  
Connect together MOTOR and CONTROL UNIT by exclusive use CONNECTOR and can control the speed of MOTOR simply by connection AC terminals to POWER SOURCE.
3. If use an extension cord for the CONNECTOR OPTION, can be controlled speed by apart MOTOR and MOTOR CONTROL UNIT part maximum up to 2,0m.
4. Variable speed range is widely available by 50Hz: 90~1400rpm, 60Hz: 90~1700rpm speed widely available.

## SPEED CONTROL UNIT

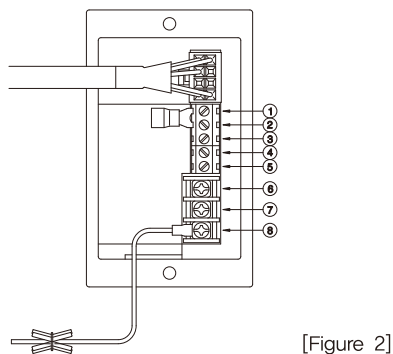
### How to Use



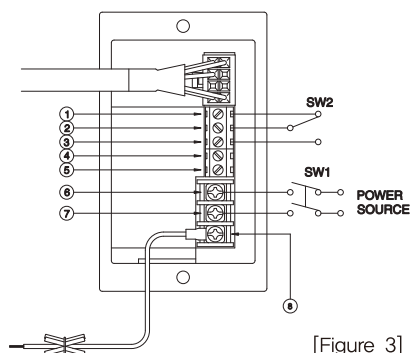
▶ When driving forward



▶ When driving backward



▶ When driving two-way



### SWITCH Specification

SWITCH Number	SWITCH contact capacity
SW1	AC125V or AC250V More than 5A
SW2	AC125V or AC250V More than 5A

#### ■ Operation

Connects LEAD line CONNECTOR of CONTROLLER UNIT and MOTOR, and connect AC terminal to AC power.

If set RUN/STOP SWITCH of CONTROL UNIT by RUN side, MOTOR rotates clockwise direction when view at output side, (It is SET to rotate clockwise when shipping.)

#### ■ Transmission

If turn handle of SPEED VOLUME of CONTROLLER UNIT to clockwise number of MOTOR rotation becomes rapid and the speed is delayed if turn in contrary. It is possible to control and set the MOTOR SPEED.

#### ■ Stop

This is not ON/OFF SWITCH that please equip separate power SWITCH in case of stop MOTOR long hours,

#### ■ Switching the direction of rotation

1. Case of continuous operation

In case of set inverse the rotational direction of motor in transmission device such as GEAR HEAD, please exchange position of terminals to be connected terminal position of ② COM and ③ CW attached to CONTROL UNIT backside to position of ② COM and ① CCW.

Please connect always power cord terminal to ⑥ AC, ⑦ AC. This time, please exchange and access after turning OFF the power.

2. In case of control Normal/Reverse rotation

As like [Figure3] in left, please exchange the direction of rotation by install SWITCH(SW1) for power and Normal/Reverse exchange SWITCH(SW2). It is impossible moment Normal/Reverse rotation, Exchange SWITCH(SW2) after stop motor completely after turn off power SWITCH(SW1) firstly.

#### ■ SPEED OUT

④,⑤ is terminal which is used connecting revolution-indicator by SPEED OUT.

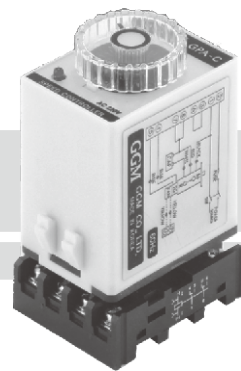
\* Can see number of rotation by connecting DIGITAL indication type revolution-indicator.



## SPEED CONTROL UNIT

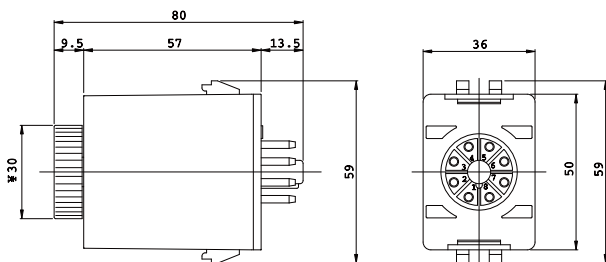
● GPA

Diagram and general contents

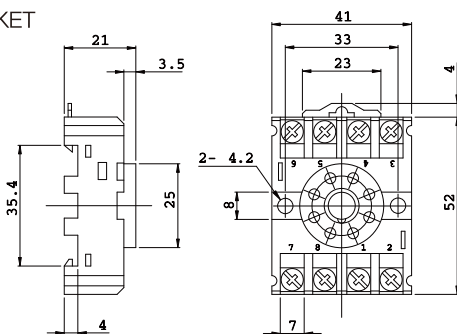


### Appearance of Products

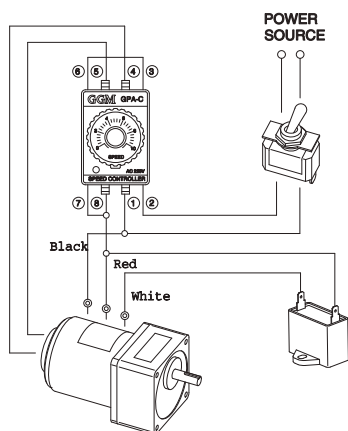
#### ■ Main Body



#### ■ SOCKET



### Main Body Wiring Diagram



- Motor rotation speed of motor is available to change by speed setter on top of main body..
- In case of wire of Speed Signal Generator (TG) is long (More than 1m), connect to ④,⑤ terminals using TWIST SHIELD WIRE with 2-cored. (Do not ground SHIELD part.)
- The thick solid line shows the power circuit, please use about 0.75 mm<sup>2</sup> wires.

### Specification

- \* 1. Application MOTOR is SPEED CONTROL MOTOR (SP TYPE) and SPEED CONTROL & BRAKE MOTOR (D TYPE).
- \* 2. There is no preservation power in electricity BRAKE.
- \* 3. Buy our company products 'GSA' SERIES CONTROLLER in case of need SLOW RUN, SLOW STOP function.

Model	GPA-U	GPA-J	GPA-C	GPA-L
Characteristics				
Rated voltage and power Frequency	Single Phase AC110V 60Hz Single Phase AC115V 60Hz	Single Phase AC100V 50/60Hz	Single Phase AC220V 50/60Hz Single Phase AC230V 50/60Hz Single Phase AC240V 50Hz	Single Phase AC200V 50/60Hz
Operating Voltage Range	±10%(Compared with Rated voltage)			
Applied MOTOR output *1	INDUCTION : 6~180W REVERSIBLE : 6~90W SPEED & BRAKE : 6~180W			
Speed control range	60Hz : 90~1700 rpm 50Hz : 90~1400 rpm			
Speed regulation	5%(Standard value)			
Speed setter	Built-in (can be installed outside setter : special order)			
Braking *2	Electric motor brake for a period of time Braking through Current			
ELECTRICAL BRAKE hours	0.5 seconds Standard values			
SLOW RUN*3 SLOW STOP	No function			
Ambient temperature	-10°C ~ 40°C			
Storage temperature	-20°C ~ 60°C			

### Application Motor

REVERSIBLE SPEED CONTROL & BRAKE MOTOR	AC110V 60Hz	AC220V 50/60Hz	AC230V 50/60Hz	AC240V 50Hz
K6R□6N□-SP, D	GPA-U	GPA-C	GPA-C	GPA-C
K7R□15N□-SP, D				
K8R□25N□-SP, D				
K9R□40N□-SP, D				
K9R□60F□-SP, D				
K9R□90F□-SP, D				
K9R□120F□-D				
K9R□180F□-D				

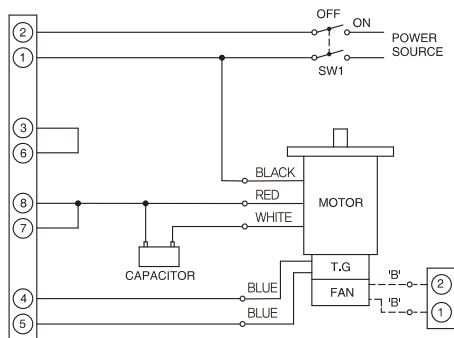
INDUCTION	AC110V 60Hz	AC220V 50/60Hz	AC230V 50/60Hz	AC240V 50Hz
K6I□6N□-SP	GPA-U	GPA-C	GPA-C	GPA-C
K7I□15N□-SP				
K8I□25N□-SP				
K9I□40N□-SP				
K9I□60F□-SP				
K9I□90F□-SP				
K9I□120F□-SP				
K9I□180F□-SP				

- marks SHAFT TYPE and voltage specification.
- SP which is SPEED CONTROL MOTOR PLUG-IN TYPE, and -D is a SPEED CONTROL & BRAKE MOTOR.

## SPEED CONTROL UNIT

### Main Body Electrical Wiring

#### 1. One-way operation + change of speed



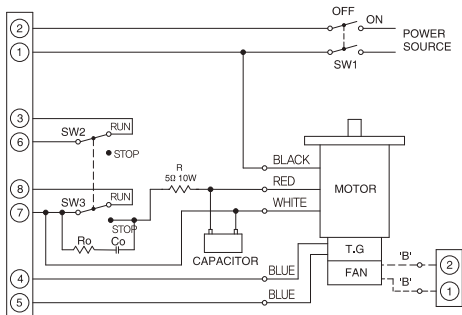
SW1	AC125V or more than AC250V 5A
-----	-------------------------------



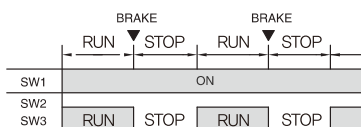
#### ■ Cautions

- MOTOR direction of rotation is clockwise (CW) seeing from axis side. When set Counter-clockwise (CCW), connect exchanging red line and white lines in the MOTOR.
- When wiring more than 60W, connect and use FAN MOTOR MOTOR leader (yellow line) to ②, ① ('B' part)

#### 2. One-way operation + change of speed + Braking



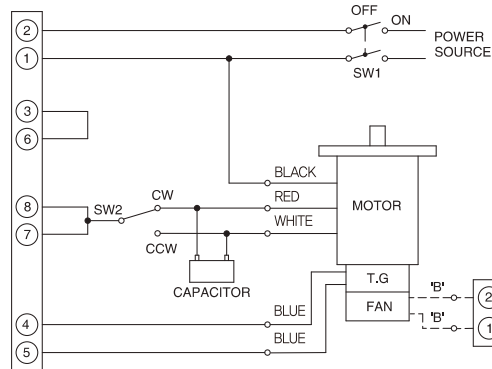
SW1, SW3	AC125V or more than AC250V 5A
SW2	DC20V 10mA
R0, C0	R0=10~200Ω (more than 1/4W) C0=0.1~0.33μF (200 or 400WVAC)
R	More than 4.7Ω ~6.8Ω 10W



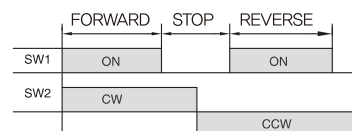
#### ■ Caution

- MOTOR direction of rotation is clockwise(CW) viewed from output shaft. In case of set Counter-clockwise (CCW), connect the red wire and white wire changing each other.
- When set SW3 from operation to stop, braking(electric brake) operates about 0.5 seconds and stop momentarily. (There is no retention.)
- When connect wiring motor more than 60W, use FAN MOTOR MOTOR leader wire(yellow line) connecting to ②, ①.(B' part)

#### 3. Normal/Reverse Operation + change of speed



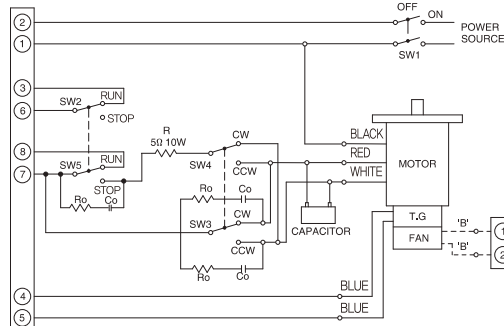
SW1, SW2	AC125V or more than AC250V 5A
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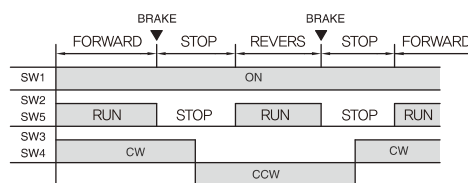
#### ■ Cautions

- For INDUCTION MOTOR, changeover SW2 after stop rotation by setting stop period. (set counterclockwise rotation after stop the run certainly)
- REVERSIBLE MOTOR does not require the rest period. It is safe to handle SW2 even in state ON of SW1.
- When wiring more than 60W FAN MOTOR, connect FAN MOTOR leader (yellow line) to ②, ① and use. ('B' part) Ω

#### 4. Normal/Reverse operation + change of speed + braking



SW1, SW3, SW4, SW5	AC125V or more than AC250V 5A
SW2	DC20V 10mA
R0, C0	R0=10~200Ω (more than 1/4W) C0=0.1~0.33μF (200 or 400WVAC)
R	more than 4.7Ω ~6.8Ω 10W



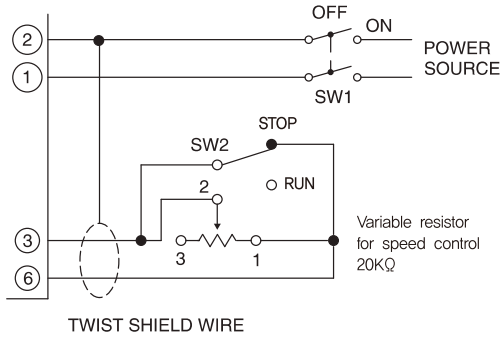
#### ■ Cautions

- If set SW5 from operation to stop, braking (electric brake) acts about 0.5 seconds and stops in moment.
- This time, do not operate SW3, SW4 for about 0.5 seconds.
- Set switching of SW3, SW4 quickly more than switching from stop to operation of SW2, SW5.

## SPEED CONTROL UNIT

### Application Electrical Wiring

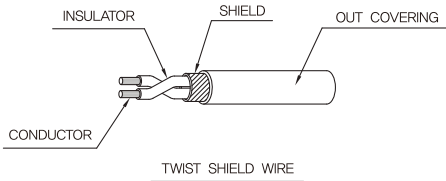
#### 1. External speed setter usage



\* Do not use #3 terminal of VR.  
VR : External speed setter (20KΩ 1/4W B (20KΩ 1/4W B attribute value))

#### ■ Caution

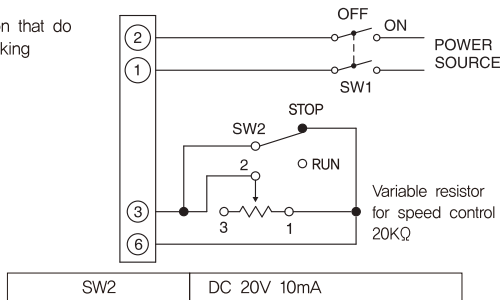
1. Set scale of the speed setter of main body by lowest (0).
2. Do wiring as short as possible. There is occasion of malfunction. Use TWIST SHIELD wire in case of malfunction.



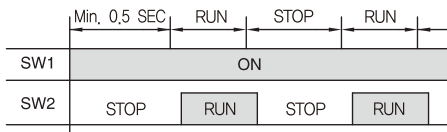
#### 2. How to make starting faster

When applied the starting signal in power SWITCH SW1 in case of MOTOR starting was late, operate Run/Stop in SW2 using external speed setter VR.

EX1) Occasion that do not braking



\* Do not use #3 terminal of VR.  
VR : External speed setter (20KΩ 1/4W B (20KΩ 1/4W B attribute value))

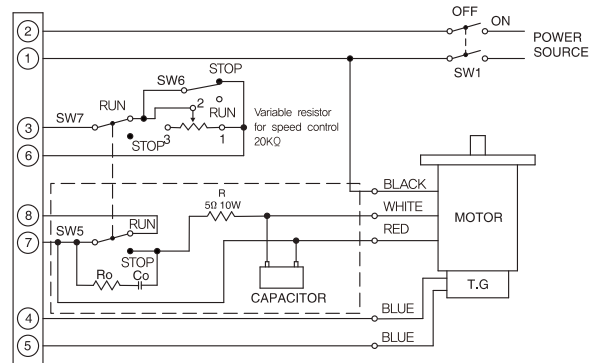


#### ■ Caution

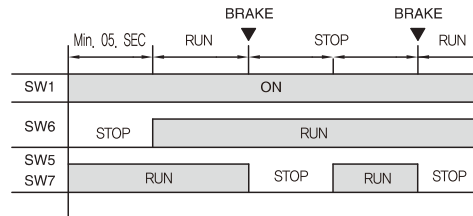
1. Make approve time of SWITCH SW1 faster 0.5 seconds than operation starting signal of SW2.
2. Set speed setter scale of main body by lowest (0), and control speed in external speed setter VR.
3. In case of do operation/stop, operate SW1 in ON state SW2, MOTOR can be controlled even a small signal.
4. Turn SW1 OFF in case of stop long hours.

#### 3. How to make faster starting time

EX2) Occasion that do braking



SW1, SW5	AC125V or more than AC250V 5A
SW6, SW7	DC20V 10mA
R0, C0	R0=10~200Ω (more than 1/4W ) C0=0.1~0.33μF (200 or 400WVAC)
R	more than 4,7Ω ~6,8Ω 10W



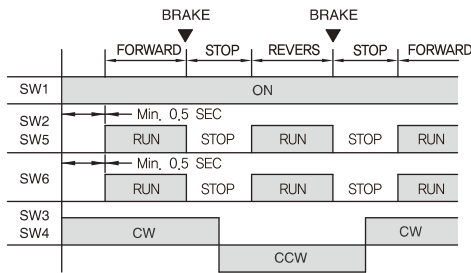
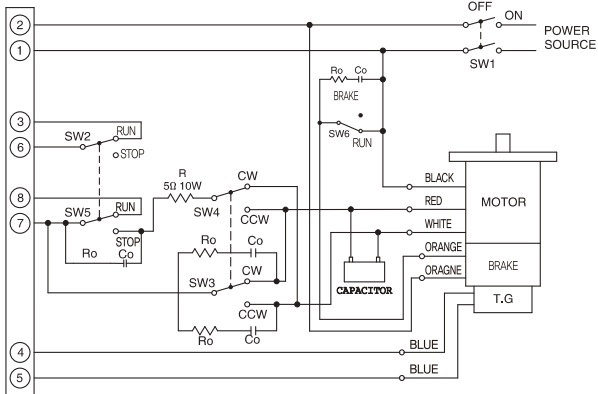
#### ■ Caution

1. Electrical wiring above is "one-way operation + change of speed + braking.
2. Operate power SWITCH SW1 faster more 0.5 seconds than SW6.
3. Set speed setter scale of main body by lowest (0), and control speed in external speed setter VR.
4. Turn SW1 OFF in case of stop long hours.

## SPEED CONTROL UNIT

### Electron BRAKE Attachment MOTOR Wiring

1. Occasion use jointly electricity BRAKE of CONTROLLER,

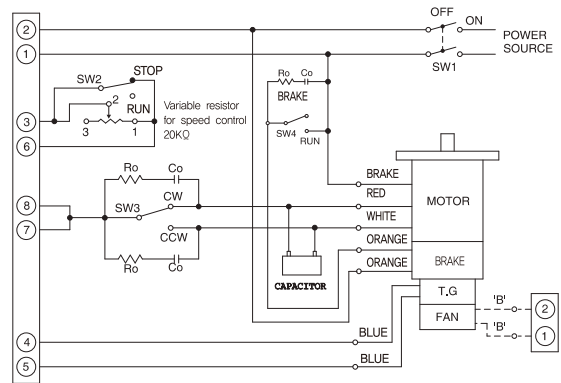


SW1, SW3, SW4, SW5, SW6	AC125V or more than AC250V 5A
SW2	DC20V 10mA
R0, C0	R0=10~200Ω (more than 1/4W ) C0=0.1~0.33μF (200 or 400WVAC)
R	more than 4.7Ω ~6.8Ω 10W

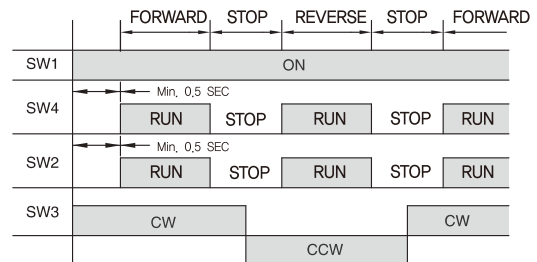
#### ■ Caution

1. If brake while operation, Motor stops in moment by action of Electronic Brake.
2. Operate SW3, SW4 after motor stops.
3. Do switching of SW3, SW4 faster than switching from stop to operation of SW2, SW5, SW6.
4. Do power approve time of SWITCH SW1 faster more 0.5 seconds than operation starting sign by SW2, SW5, SW6.
5. In case of operation/braking, operate in SW2, SW5, SW6 by ON state of SW1.

2. Occasion do not use jointly electricity BRAKE of CONTROLLER,



SW1, SW3, SW4	AC125V or more than AC250V 5A
SW2	DC20V 10mA
R0, C0	R0=10~200Ω (more than 1/4W ) C0=0.1~0.33μF (200 or 400WVAC)



#### ■ Caution

1. Make SW3 switching after rotation has stopped.
2. Set approval time of power switch SW1 faster more 0.5 seconds than signal of operation starting by SW2, SW4.
3. In case of set operation/stop, operate in SW2, SW4 in state of SW1 by ON, MOTOR can be controlled even a small signal.
4. Set speed setter scale of main body by lowest (0), and control speed in external speed setter VR.
5. Turn SW1 OFF in case of stop long hours.

## SPEED CONTROL UNIT

● GSA

● GNA



### Specification

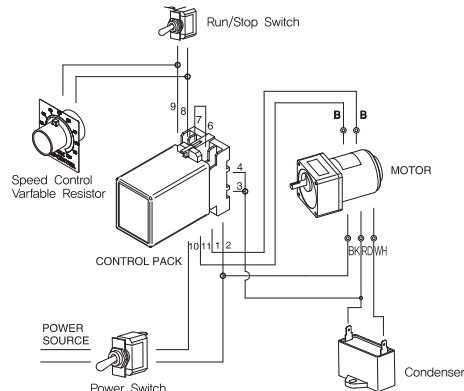
It is used to INDUCTION SPEED CONTROL MOTOR of 6W~180W and REVERSIBLE SPEED CONTROL MOTOR of 6W~90W and SPEED CONTROL & BRAKE MOTOR of 6 W~180 W.

Can control and set MOTOR speed of revolution by external speed setter. Moment stop function is possible by electricity BRAKE. It is COMPACT PLUG-IN (11 PINS) TYPE that hadling and install are easy. There is SLOW RUN, SLOW STOP function that starting and stop ares not attained rapidly and operate slowly. Time setting functions of SLOW RUN, SLOW STOP is built-in that control is simple. Parallel operation is possible. (Parallel operation means that can set and operate multi MOTOR CONTROL PACKs at the at the same time same speed by a external speed setters.)

Model	GSA-U	GNA-U	GSA-C	GNA-C
	GSA-J	GNA-J	GSA-L	GNA-L
Characteristics	Single Phase AC110V 60Hz Single Phase AC115V 60Hz		Single Phase AC220V 50/60Hz Single Phase AC230V 50/60Hz Single Phase AC240V 50Hz	
Rated voltage and Power Frequency	Single Phase AC100V 50/60Hz		Single Phase AC200V 50/60Hz	
Operating Voltage Range	±10% (Rated Voltage Contrast )			
Rated Current	3A			
Apply Motor Output	INDUCTION	6 ~ 180W		
	REVERSIBLE	6 ~ 90W		
	SPEED&BRAKE	6 ~ 180W		
Speed control range	60Hz : 90~1700RPM, 50Hz : 90~1400RPM			
Speed regulation	5%(standard)			
Speed setter	Speed can be adjusted by external speed setter			
Braking	Moment stop is available by electrical BRAKE.			
ELECTRICAL BRAKE Time	0,5 Seconds(standard)			
Parallel operation	has function	no function	has function	no function
SLOW RUN	Possible to rotate motor slowly acceleration, deceleration			
SLOW STOP				
Operating temperature range	-10°C~40°C			
Operating humidity range	86% or less (no condensation)			
Storage temperature	-20°C~60°C			
Insulation resistance	It is more than 100M Ω measured between CASE and PIN by DC 500V MEGGER in normal temperature and humidity.			
Isolation voltage	There is no singularity even if approved 1500V 50/60Hz for 1 minute in normal temperature and humidity between CASE and PIN.			

※ Application MOTOR is our SOCKET TYPE SPEED CONTROL MOTOR.(Use TG voltage MOTOR for 24V.) Electrical BRAKE has no retention.

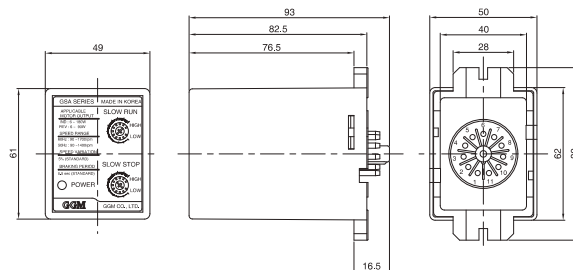
### Main Body Wiring Diagram



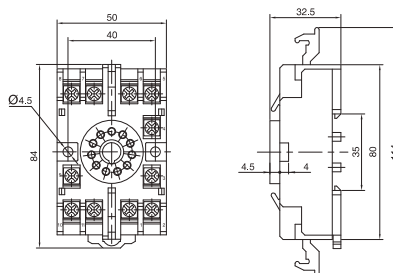
1. If turn power switch(SW1) ON, CONTROL PACK of the [POWER LAMP] is lit.
2. Motor speed is able to control by external speed setter without steos.
3. Operation current of motor is passing through the thick solid line. Use around 0,75 mm<sup>2</sup> of thick solid wires, thin solid wires around the 0,5 mm<sup>2</sup>.

### Product OUTLINE

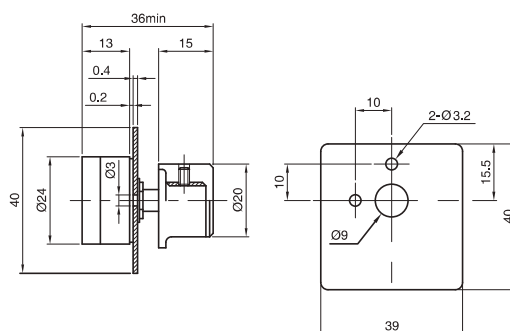
#### ■ CONTROL PACK



#### ■ 11 PIN SOCKET



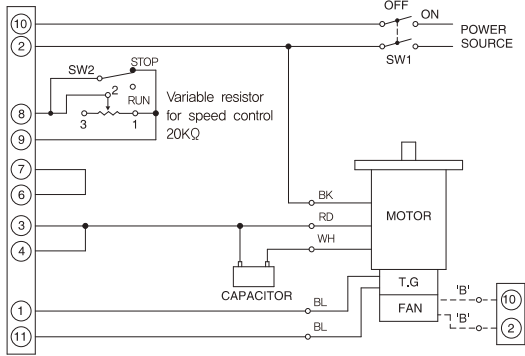
#### ■ External Speed Setter



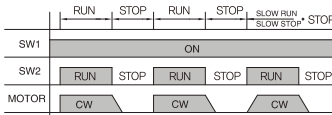
## SPEED CONTROL UNIT

### Basic Electrical Wiring(INDUCTION MOTOR)

1. When set 「one-way operation + change of speed」 operation in INDUCTION MOTOR (6W~180W)



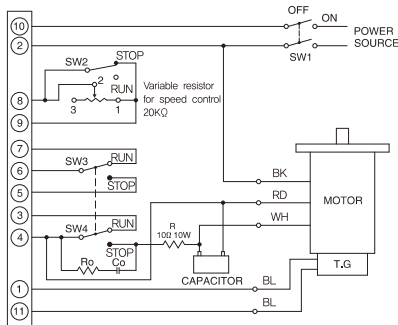
SW1	AC125V or more than AC250V 5A
SW2	DC20V 10mA



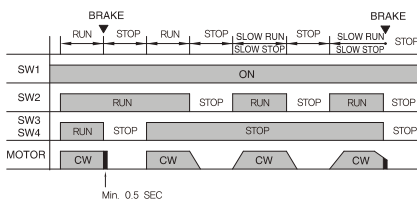
■ Caution

- Rotating direction of MOTOR is clockwise(CW) seeing from output shaft side. When set Counter-clockwise (CCW) please exchange the red and white among MOTOR LEADS.
- When wiring more than 60W FAN, please use connecting MOTOR MOTOR lead (yellow line) to ⑩, ②. ('B' part)

2. When set 「one-way operation + change of speed + braking」 operation in INDUCTION MOTOR (6 W~25 W)



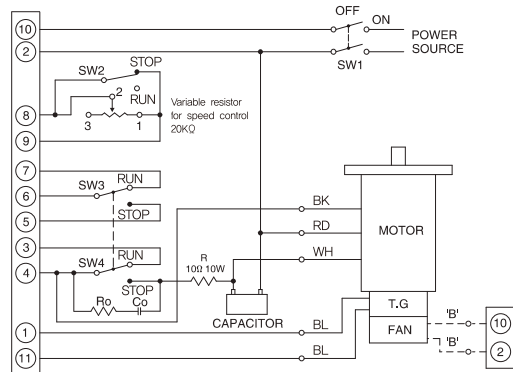
SW1, SW4	AC125V or more than AC250V 5A
SW2, SW3	DC20V 10mA
R <sub>o</sub> , C <sub>o</sub>	R <sub>o</sub> =10~200Ω (more than 1/4W) C <sub>o</sub> =0.1~0.2μF (AC125WV or AC250WV)
R : External resistance for braking	more than 10Ω 10W



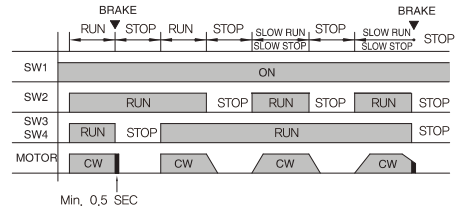
■ Caution

- MOTOR direction of rotation is clockwise (CW) seeing from axis. Exchange red and white color among MOTOR LEAD lines in case of set to counterclockwise (CCW).

3. When set 「one-way driving + change of speed + braking」 operation in INDUCTION MOTOR (40 W~180 W)



SW1, SW4	AC125V or more than AC250V 5A
SW2, SW3	DC20V 10mA
R <sub>o</sub> , C <sub>o</sub>	R <sub>o</sub> =10~200Ω (more than 1/4W) C <sub>o</sub> =0.1~0.2μF (AC125WV or AC250WV)
R : External resistance for braking	more than 10Ω 10W



■ Caution

- MOTOR direction of rotation is clockwise (CW) seeing from output shaft side. Exchange red and white color among MOTOR LEAD lines in case of set to counterclockwise (CCW).
- When wiring MOTOR more than 60 W FAN, use connecting MOTOR leader (Yellow line) to ⑩, ② ('B' part)

### 4. How to Use(INDUCTION MOTOR)

#### RUN/STOP Function

6-1, If set SW2 by operation side at basis electrical wiring of 2,3 clauses, MOTOR rotates at the speed set by external speed setter, and if set to STOP side, stops naturally by inertia.

#### RUN/BRAKING Function

6-2, At basis electrical wiring of 3 clauses, if set SW3, SW4 from OPERATION to braking side, MOTOR BRAKE acts about 0.5 seconds and stops in moment.

#### SLOW RUN. SLOW STOP

Can set MOTOR rotation to accelerate and decelerate slowly through SLOW RUN, SLOW STOP control volume of CONTROL PACK. Setting time increases as well as volume increment, it is set by SLOW RUN : about 30±5 seconds, SLOW STOP : about 35±5 seconds at Volume on MAX. (maximum 60Hz : 1700 rpm, 50Hz : 1400 rpm standard) MOTOR natural SLOW STOP is impossible by the time less than nature stop of MOTOR.

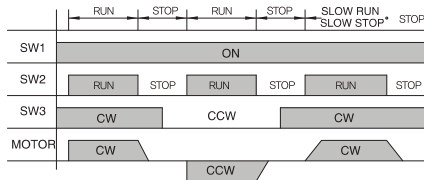
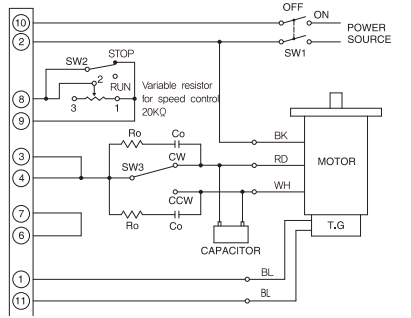
■ Caution

- Do not change direction of rotation for about 3 seconds after MOTOR stop when approve power and stop moment.
- When do not use long hours, set SW1 by OFF to prevent heating of CONTROL PACK.

## SPEED CONTROL UNIT

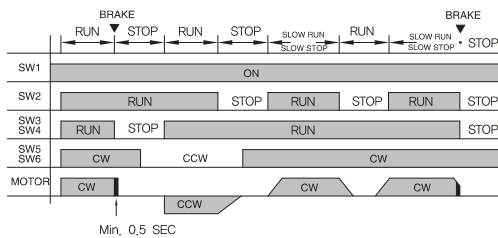
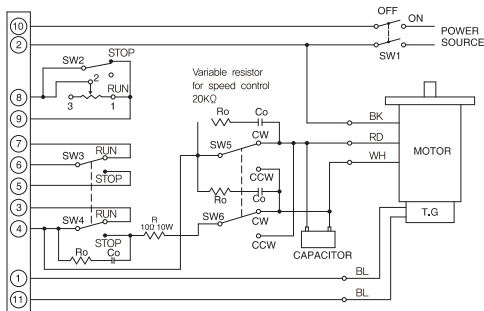
### Basic Electrical Wiring(REVERSIBLE MOTOR)

1. When operate 「normal/reversed operation + change of speed」 in REVERSIBLE MOTOR,(6W ~ 90W)



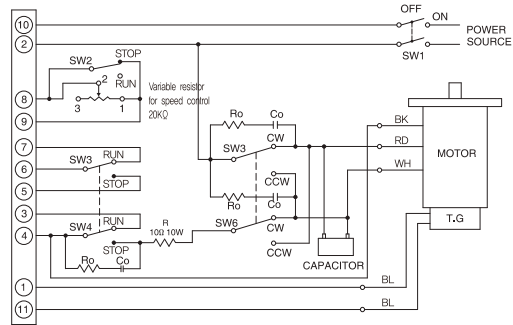
SW1, SW3	AC125V or more than AC250V 5A
SW2	DC20V 10mA
Ro, Co	Ro=10~200Ω (more than 1/4W) Co=0.1~0.2μF (AC125WV or AC250WV)
R : External resistance for braking	more than 10Ω 10W

2. When operate 「normal/reversed operation + change of speed + Braking」 in REVERSIBLE MOTOR,(6W~25W)

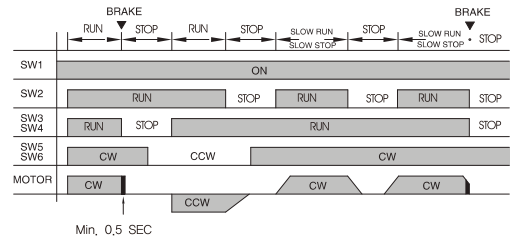


SW1, SW4 SW5, SW6	AC125V or more than AC250V 5A
SW2, SW3	DC 20V 10mA
Ro, Co	Ro=10~200Ω (more than 1/4W) Co=0.1~0.2μF (AC125WV or AC250WV)
R : External resistance for braking	more than 10Ω 10W

3. When operate 「normal/reversed operation + change of speed + Braking」 in REVERSIBLE MOTOR, (40W ~90W)



SW1, SW4, SW5, SW6	AC125V or more than AC250V 5A
SW2, SW3	DC 20V 10mA
Ro, Co	Ro=10~200Ω (more than 1/4W) Co=0.1~0.2μF (AC125WV or AC250WV)
R : External resistance for braking	more than 10Ω 10W



#### Caution

1. When wiring MOTOR more than 60 W FAN, use connecting MOTOR leader (Yellow line) to ⑩, ② ('B' part)

#### 4. How to Use(REVERSIBLE MOTOR)

##### RUN/STOP Function

7-1. If set SW2 by operation side at basis electrical wiring of 2,3 clauses, MOTOR rotates at the speed set by external speed setter, and if set to STOP side, stops naturally by inertia.

##### RUN/BRAKING Function

7-2. At basis electrical wiring of 3 clauses, if set SW3, SW4 from OPERATION to braking side, MOTOR BRAKE acts about 0.5 seconds and stops in moment.

##### SLOW RUN / SLOW STOP

Can set MOTOR rotation to accelerate and decelerate slowly through SLOW RUN, SLOW STOP control volume of CONTROL PACK. Setting time increases as well as volume increment, it is set by SLOW RUN : about 30±5 seconds, SLOW STOP : about 35±5 seconds at Volume on MAX.

(maximum 60Hz : 1700 rpm, 50Hz : 1400 rpm standard)

MOTOR natural SLOW STOP is impossible by the time less than nature stop of MOTOR.

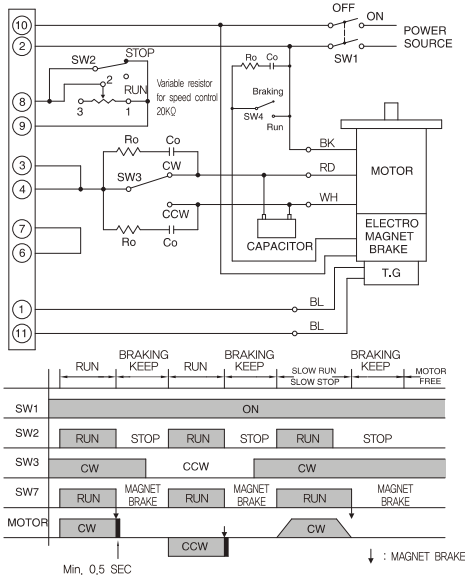
#### Caution

- Do not change direction of rotation for about 3 seconds after MOTOR stop when approve power and stop moment.
- When do not use long hours, set SW1 by OFF to prevent heating of CONTROL PACK.

## SPEED CONTROL UNIT

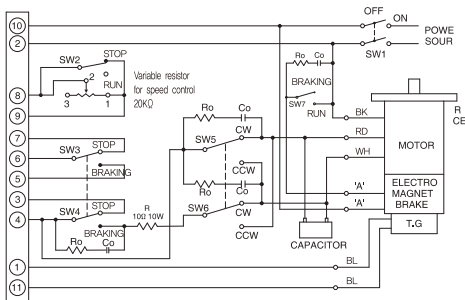
### Basic Electrical Wiring(SPEED CONTROL BRAKE MOTOR)

1. In case of set 「normal/reversed operation + change of speed + position retention operation」 in SPEED CONTROL BRAKE MOTOR(6 W~180 W)

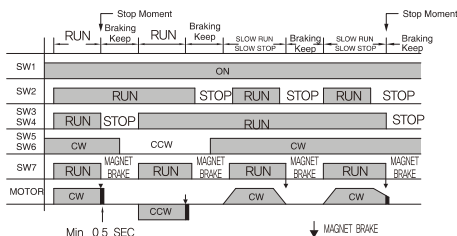


SW1, SW3, SW4	AC125V or more than AC250V 5A
SW2	DC 20V 10mA
Ro, Co	Ro=10~200Ω (more than 1/4W ) Co=0.1~0.2μF (AC125WV or AC250WV)

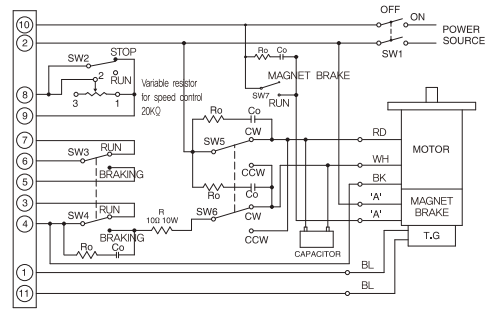
2. In case of set 「normal/reversed operation + change of speed + braking」 in SPEED CONTROL BRAKE MOTOR(6W~25W)



SW1, SW4, SW5, SW6, SW7	AC125V or more than AC250V 5A
SW2, SW3	DC 20V 10mA
Ro, Co	Ro=10~200Ω (more than 1/4W ) Co=0.1~0.2μF (AC125WV or AC250WV)

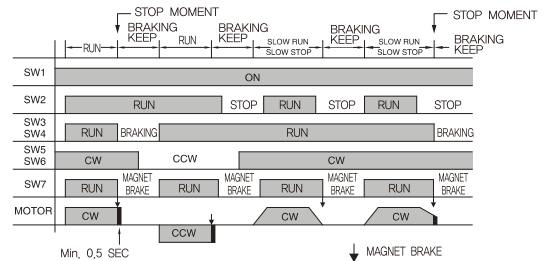


3. In case of set 「normal/reversed operation + change of speed + braking」 in SPEED CONTROL BRAKE MOTOR(40W ~180W)



SW1, SW4 SW5, SW6, SW7	AC125V or more than AC250V 5A
SW2, SW3	DC 20V 10mA
Ro, Co	Ro=10~200Ω (more than 1/4W ) Co=0.1~0.2μF (AC125WV or AC250WV)

R : External resistance for braking more than 10Ω 10W



### 4. HOW TO USE(INDUCTION MOTOR)

#### RUN/STOP Function

8-1, If set SW2 by RUN side in basis electricity wiring of 2,3 clauses, MOTOR rotates at the speed set by external speed setter, and if set STOP side it stops naturally by inertia.

#### RUN/Braking Function

8-2, In basis electrical wiring of 3 clause, when set SW3, SW4 from RUN to BRAKE side in state of SW2 by RUN side, MOTOR BRAKE acts about 0,5 seconds and stops in a moment.

#### SLOW RUN, SLOW STOP Function

MOTOR rotation can be set to accelerate and decelerate slow through control volume of SLOW RUN, SLOW STOP of CONTROL PACK. Setup time increases as raising volume and can be set SLOW RUN : about 30±5 seconds, SLOW STOP : about 35±5 seconds in volume MAX. (Up to 60Hz : 1700 rpm, 50Hz : 1400 rpm standard)

Time of SLOW STOP is impossible to be shorter than natural stop of MOTOR.

#### Caution

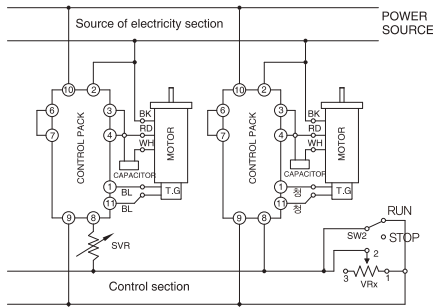
- Do not change direction of rotation for about 3 seconds after motor stopping when approve power and stops in moment.
- Turn SW1 OFF to prevent heating of CONTROL PACK when not in use for a long time.



## SPEED CONTROL UNIT

### Basic Electrical Wiring(Parallel Operation)

As like below wiring diagram, GSA high power TYPE is possible to operate parallel operation that can be controlled speed by set multi motors at same speed at same time by one variable resistor for speed control.



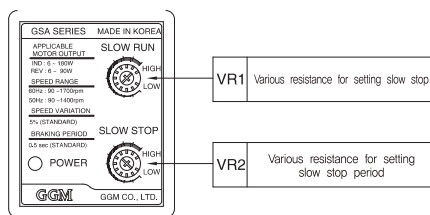
As like above wiring diagrams, connect power supply (terminal number ②, ⑩) and controls (terminal number ⑧, ⑨) to each wire the by same lines. Even in case of combination other motor with CONTROL PACK, parallel operation is possible making same power part and control part.

#### Caution

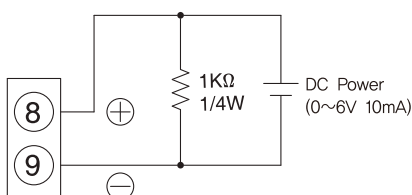
1. Make wiring same each PIN number for Power supply and control unit respectively.
2. Get capacity of variable resistor for speed control as following.  
 $VRx = 20/N K\Omega$ ,  $N/4 W$ (N: Number of MOTOR)  
 EX) In case of two MOTORS, it is  $10K\Omega$   $1/2W$ .
3. Each MOTOR rotates almost the same rate but will cause some errors by differences of load, variation of the product. To prevent such a phenomenon, prepare variable resistor for fine adjustment to be about 5~10% of variable resistor value for speed control(VRx) and 1/4W of capacity to terminals No. ⑧

### Application of electrical wiring

- Operation Panel



- In case of control number of rotation by external DC voltage  
 In case of set MOTOR speed by external DC power instead of variable resistor for external speed setting that is accessory, connect DC power and CONTROL PACK as follows: (However, use the DC power output isolated from the AC input, and note for changing polarity.)

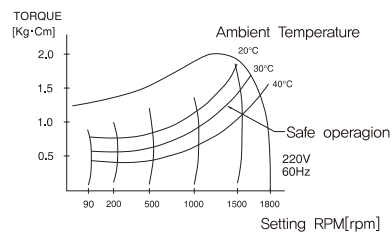


(Connection wiring diagram of control speed by external DC voltage)

### Temperature rise of MOTOR

AC SPEED CONTROL MOTOR is increased pressure according to amount of load so that the more rising load the more temperature of motor increases. Curved line that got MOTOR temperature rise, limit TORQUE and number of RPM is called use limit curve, and use motor in the range of TORQUE RPM of curve bottom. In following occasion, can use more TORQUES moving use limit curve upside.

- Occasion heat effect is good
- in case of cooling by FAN
- Occasion that ambient temperature is low

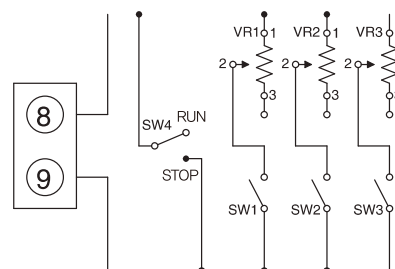


#### Caution

Should be used in less than 90 °C of surface temperature of the MOTOR case.

- Multistage switching of number of rotation

1. When needed multi-speed control, set VR1, VR2, VR3 respectively, and speed can be switched by SW1, SW2, SW3.  
 Set SWITCH changeover period by RELAY contact point switching time.



VR1, VR2, VR3	20KΩ 1/4W B Characteristic
SW1, SW2, SW3, SW4	DC 20V 10mA

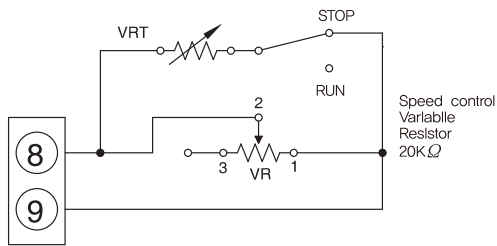
2. There is built-in one set of VOLUME for external external setting in packing box of CONTROL PACK.

When needed more, please purchase our products separately.

-How to set operating time quickly

Setting speed of motor becomes into slow speed, turn Run/Stop switch to Run side, and then time upto start of motor rotation will be longer. In case of operating time is issued when set Low Run, connect variable resistance VRT for controlling operation time, refer following circuit system.

## SPEED CONTROL UNIT



VRT	2K $\Omega$ 1/4W B Characteristics
SW2	DC 20V 10mA

\* In case of make stop in moment, use RUN/Braking switch linking with RUN/Stop switch of above circuit.

\* Adjust VRT just before motor starting, in state of set RUN/Stop switch to STOP side.

### Use of SLOW RUN, SLOW STOP

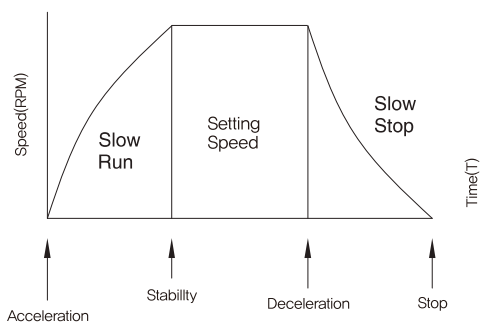
Functions of GSA TYPE are SLOW RUN that is accelerated the speed gradually until set speed and SLOW STOP that is decelerated the speed gradually until set speed.

Use this function when want soft acceleration, deceleration by easing against impact at starting and stop.

Time setting of SLOW RUN and SLOW STOP is possible in the range of SLOW RUN about  $30 \pm 5$  second, SLOW STOP : about  $35 \pm 5$  second/1700 rpm (60Hz), 1400 rpm (50Hz) by variable resistor inside CONTROL PACK.

It is impossible to stop in less time than nature stop of MOTOR.

In case of do not need SLOW operation, turn VOLUME until to end of left side (Counterclockwise).



### 13. Moment stop characteristics

There is electric brake function in CONTROL PACK that MOTOR can be stopped moment in a short time of 0,1 seconds while operation. Braking current will work about 0,5 seconds and thereafter will automatically turn off.

There is no retention power to catch MOTOR that can be adjusted to the desired location after stop. In case of need retention to stop object moving up and down, selected and use the CONTROL MOTOR mounted e-brake of our company.

### ■ Cautions

1. It takes about 0,5 seconds until MOTOR rotation after turning braking switch to operation side after operation for momentary stop in CONTROL PACK.

2. In CONTROL PACK, when operate variable resistor for speed setting  $0\Omega$  or operate momentary stop in state of turning RUN/STOP switch to stop side, then motor may run about one rotation when turn to operation side, so please do not do operation like this.

Also, in case of do RUN/STOP switch repeatedly within 0,5 seconds at AC power, MOTOR can rotate instantaneously that avoid RUN/STOP in AC Power Terminal. Necessary stop time takes longer than 3 seconds for stable restart after moment stop.



## 2. Specification

### 1. Check the product upon its arrival

#### 1. Check the product upon its arrival

- Please check the delivered product whether it is the same one as ordered,
- If different product from that of order is installed, then it may result in a risk of injury, fire,
- The product is well packed in paper box in order to protect from shock, and it contains following items,

Please check if it contains following items,

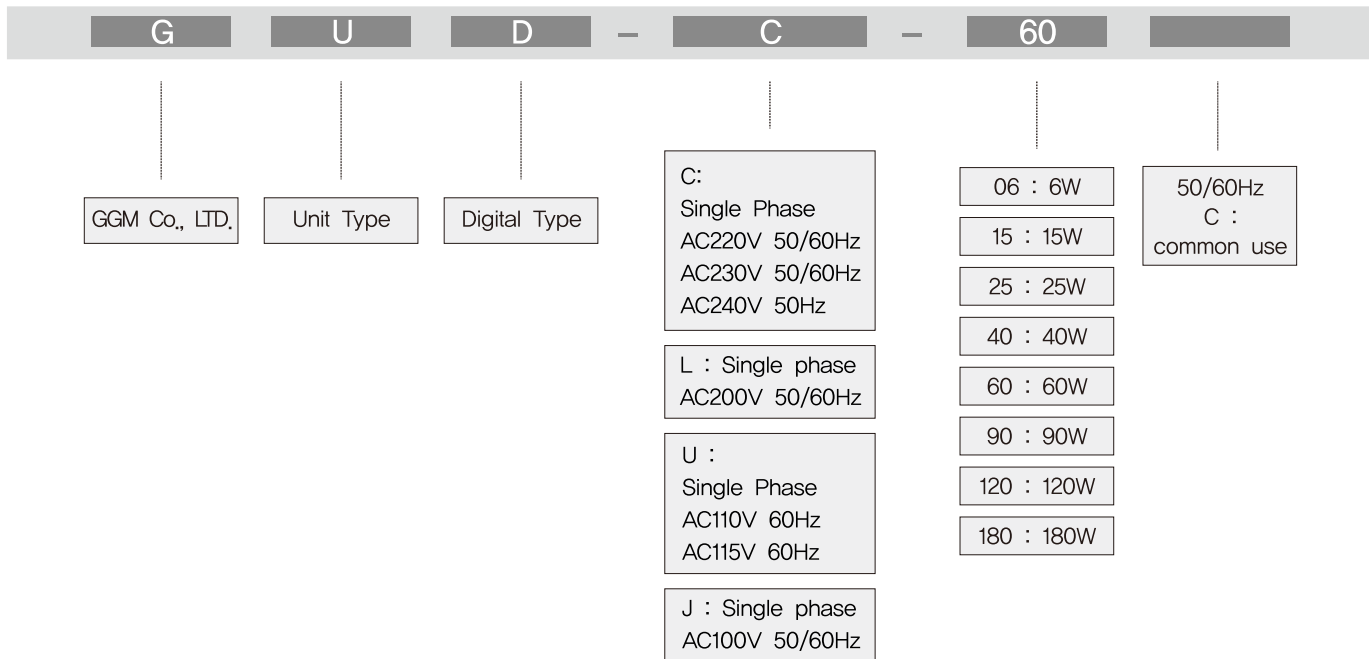
- 1) Controller.....1 piece
- 2) Extension wire(0.5m).....1 piece
- 3) User manual(This manual).....1 copy
- 4) Options(Extension lines)

Items	Lengths
KE - 10	1.0 m
KE - 15	1.5 m
KE - 20	2.0 m
KE - 40	4.0 m
KE - 50	5.0 m

Model Name	GUD-U	GUD-J	GUD-C	GUD-L
Input voltage	single phase AC110V/115V 50/60Hz ±10%	single phase AC100V 50/60Hz ±10%	single phase AC220V/AC230V AC240V 50/60Hz ±10%	single phase AC200V 50/60Hz ±10%
Output power and current of motor	6W-180W, AC SPEED CONTROL MOTOR / 3,0A			
REAL RPM	After green color LED ON of RUN/STOP, red color 7 SEGMENT 4 DIGIT			
RATIO RPM	After RATIO red color LED ON, Red color 7 SEGMENT 4 digit			
LED condition table	Input electric power (Stop)	RUN/STOP LED red color & REAL LED red color		
	Operation(RUN)	RUN/STOP LED green color & REAL LED red color		
	Error occurs	RUN/STOP LED red color is flickering		
	SLOW ON operation	Slow start LED red color		
	SLOW OFF operation	Slow stop LED red color		
	DATA LOCK	Lock LED red color		
Control method	AC Phase control method by MICOM			
Kind of controls	Speed control in proportion to measured value(automatic control by MICOM)			
Pulse input	Selectable from 1 to 99 pulses, GGM rated specification: 12 pulses			
Speed setting method	Increase or decrease by 5 by input setting			
Scope of control	50Hz = 90 ~ 1400rpm, 60Hz = 90 ~ 1700rpm			
Information function	MICOM self diagnosis function			
Power consumption	About 5W(10VA), excluding power consumption of motor			
Control error	Average +/-5%			
Setting key 4	1) RUN/STOP 2) MODE 3) UP 4) DOWN			
Measuring method	Pulse timing calculation measuring method by MICOM			
Remote RUN/STOP	Selected use of remote S/W			
Vibration resistance durability	2 hours for the direction to 0.7mm X, Y, Z, 10 ~ 55Hz			
Shock resistance durability	250m/s 6 directions for 3 times			
Noise resistance	1500V/ms for power lines, 500V/ms for TG lines			
Dielectric strength	It must stand for more than 1 minute at AC 1500V, 50/60Hz between power line terminals and earth,			
Life of controller	Semi-permanent at optimized condition to use			
Insulation resistance	Above than 100Mhom between TG terminal and earth measured with DC500V megger			
DIMENSION	60(W)x100(H)x100(D)			
Operation temperature	-10°C + 40°C			
Operation humidity	Below 85% RH(No dew)			

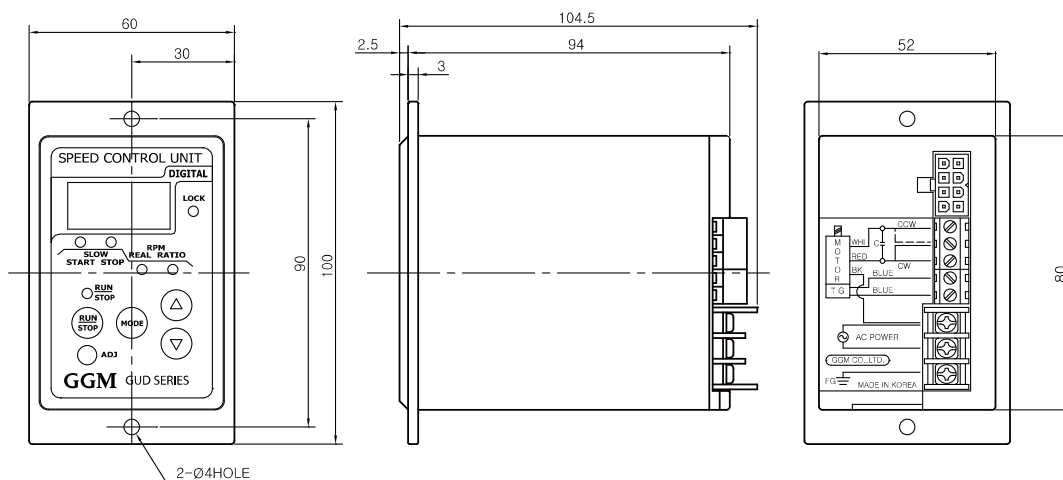
## SPEED CONTROL UNIT

### 3. CODING SYSTEM



SPEED CONTROL UNIT

### 4. Outline of Product



## SPEED CONTROL UNIT

### 5. Caution for Use

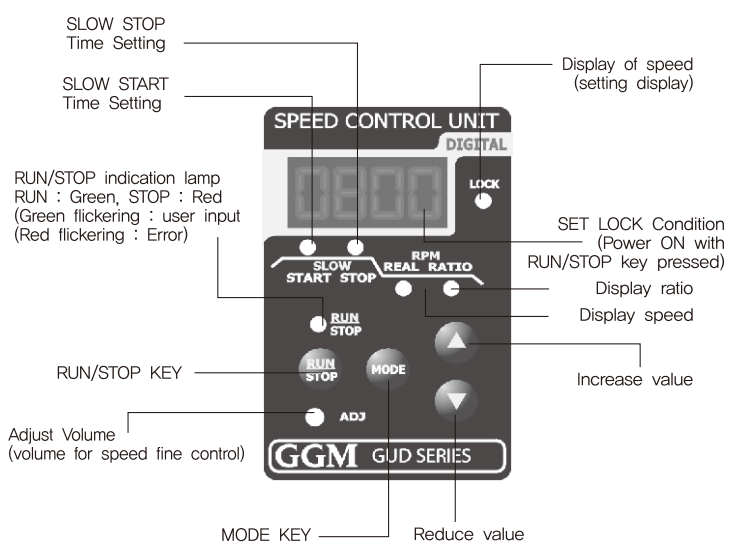
#### <warning>

- There are live electric parts at rear side of controller.  
Please install it in a box in order for 3rd person not to be easily contacted.
- Use it with 3P terminals covered. It may cause risk of electric shock. (It is basically equipped with this product)
- Do not contact it with wet hands. It may cause risk of electric shock. Switch it off during installation, transportation, wiring, checking. It may cause risk of electric shock.
- Be careful for water not to be splashed at a location of risk of water contact.
- Switch it off during interruption of electric power or when the thermal protector against overheat is operated. It may cause possible injury if it is restarted in a sudden.

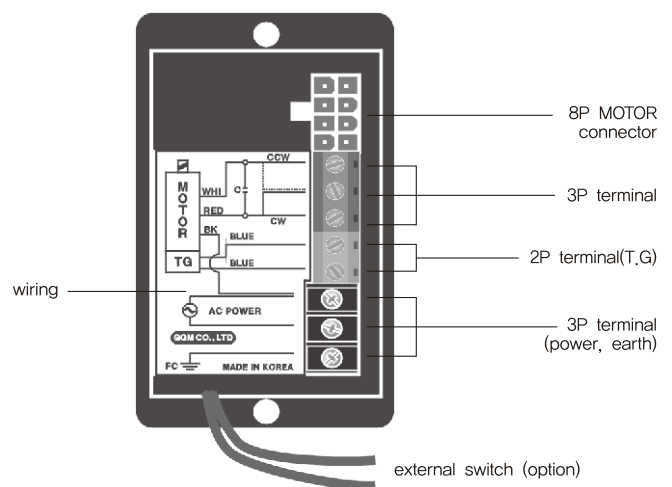
#### <Cautions>

- Please do not alter the product because it is outside our guarantee and it may cause risk of electric shock and/or fire.
- Please contact our company or our agent if repair is required.
- The controller does not have any protecting device. Therefore please install safety devices such as overcurrent protector, earth leakage breaker, thermal protector against overheated, etc.
- Do not use it at places of a lot of static electricity. It may cause risk of injury due to unexpected operation.
- Do not use damaged motor. It may cause risk of electric shock or injury.
- Please check the product upon delivery whether it is the same as you ordered. It may cause any risk of injury or fire.
- Do not place any inflammables around motor.
- Do not contact it with your hands or body during operation or immediately after stop of operation. It may cause risk of injury due to high temperature of motor surface.
- Do not use it at the place where inflammable gas and/or corrosive gas is generated. It may cause risk of fire.
- If you dispose of this product, then dispose of it as industrial waste.

### 6. Name and function of each part



<picture1 - Front>



<Picture 2 - Rear Part>

## SPEED CONTROL UNIT

### 7. How to set operation mode

If mode key is pressed, then the mode is changed in following sequence

RATE → TURN → S-ON → SOFF → TACH → LOCK

#### [RATIO MODE]

The rotating speed of motor is divided by magnification factor to display

Press mode key and then select "RATE" mode, If figures are flickering on the display screen, set reduction ratio of speed by pressing Δ, ∇ keys.

#### 1) Setting values of reduction ratio of gear speed

Real RPM = rotating speed of motor – Ratio value  
(adjustable by 0,1 unit between 1~999,9)

Nominal Reduction ratio	Actual reduction ratio				
	K6G□B(C)	K7G□B(C)	K8G□B(C)	K9G□B(C)	K9P□B(F) K9P□BU(F)
3	3	3	3	3	3
3,6	3,6	3,6	3,6	3,6	3,6
5	5	5	5	5	5
5	5	5	5	5	5
7,5	7,5	7,5	7,5	7,5	7,5
9	9	9	9	9	9
10	10	10	10	10	10
12,5	12,5	12,5	12,5	12,5	12,5
15	15	15	15	15	15
18	18	18	18	18	18
20	20	20	20	20	20
25	25	25	25	25	25
30	30	30	30	30	30
36	36	36	36	36	36
40	40	40	40	40	40
50	50	50	50	50	50
60	60	60	60	60	60
75	75	75	75	75	75
90	90	90	90	90	90
100	100	100	100	100	100
120	120	120	120	120	120
150	150	150	150	150	150
180	180	180	180	180	180
200	202,8	200	200	202,5	201,7
250	250,2	250	–	254,5	

ex) 1,0 1,1 1,2 ..... 2,0 ..... 999,9

If the rotating speed of motor is set at 1000rpm and its reduction ratio of speed is set at 2, 1000/2=500(REAL rpm)

#### 2) Setting value of multiplying magnification factor

REAL rpm = Rotating speed of motor / ratio value  
(Adjustable by 0,1 unit in the range of 0,2 ~ 0,9)

ex) 0,2 0,3 ..... 0,9

If motor rotating speed is set at 500rpm and multiplying magnification factor is set

$500 \div 0,5 = 500 \times 2 = 1000$  (REAL RPM)

#### [TURN MODE]

This mode is to set rotating speed.

If mode key is pressed and "TURN" mode is selected, then RUN/STOP LED is flickering in green color and then you may set the rotation speed of motor by pressing Δ, ∇ key.

In this case each time of Δ, ∇ key is pressed it moves by 5rpm unit and if it is pressed continuously then it is increased or decreased by 10rpm unit.

ex) If the frequency of electric power is 50Hz: 90 100 110 ..... 1400 ~ 1500rpm,  
If frequency of electric power is 60Hz: 90 100 110 ....1400 ~ 1800rpm

\* Note : This product is for both 50/60 Hz.

- If this product is being used at 1500 ~ 1800rpm 60Hz and it is changed to 50 Hz then it automatically changed to 1500rpm, (On the basis of magnification factor 1,0).
- If this product is being used at maximum RPM 1500rpm 50Hz and it is changed to 60Hz then it runs at 1500rpm without any change of the speed, and in this case speed can be set in range of 1500 ~ 1800rpm by increasing the turn setting value. (On the bases of magnification factor 1,0).
- Change of power frequency 50Hz (<-)60Hz below 1500rpm then the speed is almost the same.

#### [SLOW ON MODE]

This mode is to set to slowly increase the speed of motor.

Press MODE KEY and select "S-ON" MODE During flickering of figures on the display panel you can set SLOW operating time by pressing Δ, ∇ key.

You can set 0 ~ 30 seconds(In the unit of 0,1 second)

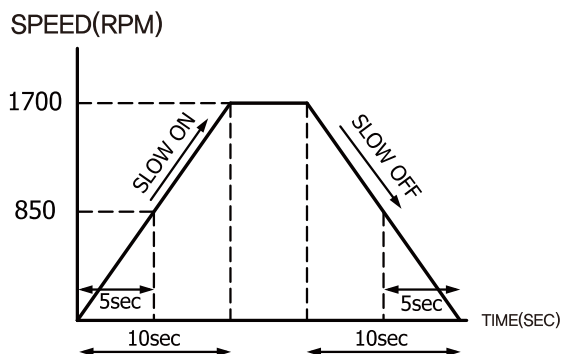
#### [SLOW OFF MODE]

This mode is to set to slowly decrease the speed of motor.

Press MODE KEY and select "S,OFF" Mode. While the figures on display panel is flickering, you can set SLOW stop time by pressing Δ, ∇ key.

It is adjustable in the range of 0 ~ 30 seconds(In 0,1 second unit)

## SPEED CONTROL UNIT



〈Figure 3〉 Graph showing motor speed changes according to SLOW ON/OFF item.

Example) After each time of SLOW ON/OFF set to 10 seconds, if the TURN setting is set to 1700rpm then it takes 10 seconds for it to reach from 0 to 1700rpm and likewise it takes 5 seconds for it to reach to 850rpm.(See figure 3)

\*\* If inertia of load is large, then it may take longer time.

### [TACHO MODE]

This mode is to adjust number of TACHO poles. The default value of this product at the time of release is set to "12" to fit to our motor.

(It is adjustable 1~99, but it is usually used at 12 or 24)

If the value of TACHO is set to too low or too high comparing with motor, it may not reach to the operating speed of motor or it may

### [LOCK MODE]

This mode is to prevent any change of the set operating condition by locking setting keys except RUN/STOP KEY

After setting the operating condition, press MODE key and then select "LOCK" MODE. While "LOCK" is flickering you may set it by pressing  $\Delta, \nabla$  key.(LOCK LED is lit).

Operations to be recognized in the LOCK MODE.

- ① RUN/STOP KEY
- ② ADJ VOLUME CONTROL
- ③ POWER ON/OFF

\* How to release LOCK MODE

It is released if electric power is switched ON with the RUN/STOP KEY pressed.

### [POWER ON CONDITION SETTING MODE]

This mode is to select operating condition of motor at the time of electric power being switched ON. There are 2 modes "YES", "NO" in the POWER ON CONDITION SETTING.

Press MODE KEY +  $\Delta$  or  $\nabla$  Key and then set to "YES" or "NO".

Set to YES		☞ Last condition before power switch OFF is "RUN" then if the power switched on then it is always "RUN" condition. Likewise if the last condition before power switch off is "STOP" then if the power is switched on then it becomes always "STOP".
Last condition before power switches OFF	If power is switched ON	
'RUN' condition	Start up	
'STOP' condition	Stop	
Set to NO		☞ Whether the last condition before power switch off is "RUN" or "STOP", If power is switched on then it becomes always "STOP"
Last condition before power switch OFF	If electric power is switched ON	
'RUN' condition	Stop	
'STOP' condition	Stop	

〈Table 1 – Description of POWER ON CONDITION MODE〉

\*It is set to "NO" at the time of release of the product.

(The reason why it is used in usually at "NO" set condition is that it can prevent any risk of sudden operation at the time of recovery of electric power interruption.)

## 8. Basic operation method

### 1) Preparation of operation

Switch on the power and set [POWER ON CONDITION SETTING MODE] to "YES" or "NO". (Default value set at the time of release of the product is 'NO')

\* [POWER ON CONDITION SETTING MODE]

### 2) Setting of rotation direction

After power switched off, if the terminals located at rear of controller is wired CW-COM then it rotates clockwise, and if terminals are wired CCW-COM then it rotates count clockwise.

Note) Rotation direction in the view from output side of motor

CW	Clockwise direction
CCW	Count clockwise direction

Caution)

\* [Figure 2—description of rear part]

### 3) Connection of motor

: Connect the connector for motor.

## SPEED CONTROL UNIT

### 4) POWER ON

: Switch ON electric power.

### 5) Selection of magnification factor

: Set the decrease or increase ratio of gear. (The default value is set at 1,0 at the time of release of the product)

\* [RATIO MODE]

### 6) Setting SLOW ON/OFF time

The default value for both ON/OFF is set to 0 second at the time of release of the product.

\* [SLOW ON], [SLOW OFF]

### 7) Operation

Select OPERATION with RUN/STOP KEY. The start of operation is indicated by RUN/STOP LED changed into green color. During operation, speed is adjustable by pressing  $\Delta$ ,  $\nabla$  key in TURN MODE. SLOW ON/OFF time is adjustable even during operation.

### 8) Change of rotating direction (CW $\leftrightarrow$ CCW)

After switched off the power, the rotating direction of motor can be changed by using direction change terminals located at rear part.

### 9) STOP

Select STOP with RUN/STOP KEY. STOP is indicated with RUN/STOP LED changed into red color.

### 10) Option (Use of external switch)

GUD is available with use of external switch. External Switch "ON" causes temporary stop during running. (External Switch "OFF" return to Running) During stop when changing external switch ON to OFF, start running with setting value..

\*Note :

External Switch OIN	External Switch Cable Connected
External Switch OFF	External Switch Cable Not Connected

RUN/STOP	External Switch	Running
RUN - LED Green	ON	Temporary Stop
	OFF	Run
STOP- LED Red	ON $\rightarrow$ OFF	Run (run with last setting value)
	OFF $\rightarrow$ ON	Stop

(Table 1)

※ Note : During External Switch ON, Mode & RUN/STOP button can't be worked.

## 9. Fine adjustment of rotating speed (Speed adjustment)

RPM value set in TURN MODE may be different from actual RPM according to the load condition. In this case it is adjustable with ADJ volume. You can do fine adjustment with small watch-driver.

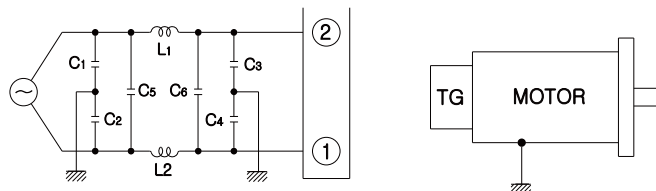
Note – ADJ volume shall not be turned by force or strongly pressed. The watch-driver shall be maintained at right angle to the ADJ volume hole during adjustment.



(Figure 5) ADJ Volume

## 10. Count measure against noise

If it makes error during operation due to noise from external lines then use following noise filter.



C1~C4 : 1000PF(2000VDC)  
L1~L2 : about 100uH

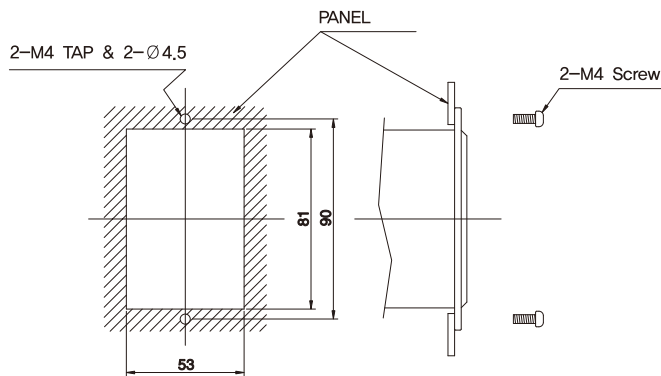
C5~C6 : 0,1uF~0,2uF  
(AC 125WV or AC 250WV)

- (Note) 1. L1 ~ L2 shall not be self saturated by motor current,  
2. The motor shall be grounded to the same position of the earth of condenser,  
3. The wiring shall be short in length and the thick in diameter for earthing.



## SPEED CONTROL UNIT

### 11. PANEL PROCESSING DIAGRAM



Method to fix by making holes at four faces.

### 12. Checking

Performance of parts may become bad and their life may make problems due to influence from operating environment(temperature, humidity, dust, vibration, etc), routine checking in advance is very important in order to prevent unexpected failure.

### 13. Causes and count measure of faults

If any abnormal condition occurs, "ERR,#(ERROR NUMBER)" is to be displayed.

〈List of error messages〉

Err.1	Frequency signal(50/60Hz signal pulse) are not inputted. Power connection is abnormal.
Err.2	T.G connection is abnormal or direction change terminals are not connected. Motor is not connected.
Err.3	Motor does not operate. Check the connection of starting condenser. T.G signal is abnormal

If electric power is switched on again then it may return to normal operation. (However, set value is the default value at the time of release of product.) If "Err.#" is still displayed even after power switch on again then fault may be considered in the internal circuit. (Please contact A/S section of our company)

Q-1) Display panel goes out and motor does not rotate.  
A-1) Check correct wiring.

Q-2) Speed of motor is not constant and unstable.  
A-2) Check setting of number of motor poles in correct setting in TACHO MODE.

Q-3) Display panel is out and even though RUN/STOP LED is in green color motor does not rotate.  
A-3) Check if it is overloaded. Reduce load or increase capacity of motor.

Q-4) The speed of motor is not adjustable  
A-4) If rotation speed setting is not possible in turn mode then check if T.G is disconnected. In this case error message 2(Err,2) may be mostly displayed.  
\* After disconnect of motor connector, test conductivity of T,G1, 2 blue-blue wire at rear part of controller.

Q-5) Even though it generates voltage\*of T.G, speed of motor is not adjustable. (If voltage of T,G is not generated, then it is fault in controller.)  
\* Measure the voltage between T,G 1, 2 blue wire-blue wire at the rear part of controller in the condition of separation of motor connector.  
A-5) Rotor is rotating without loaded. Check motor.

Q-6) Motor is abnormally heated during its rotation.  
A-6) It is normal heat generated due to internal loss of motor therefore some heat shall be considered as normal. However if it is highly heated during operation then its life may be decreased therefore surface temperature of motor is recommended to maintain at below 90°C.

\* Note: If motor has T,P(Thermally protector) in it motor circuit is automatically opened if it is abnormally heated. (It is indicated in the motor name plate)

# RIGHT ANGLE GEARHEAD



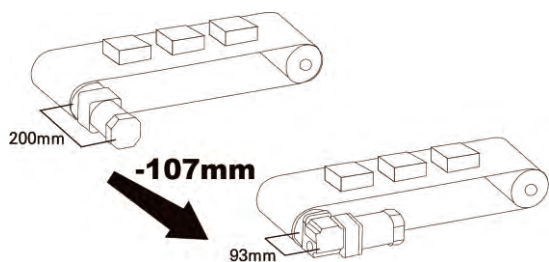


# [Characteristic of Right Angle]

## I. Product Features

### 1. Space saver

Space saving is possible because motor can be assembled rectangularly with gearbox.



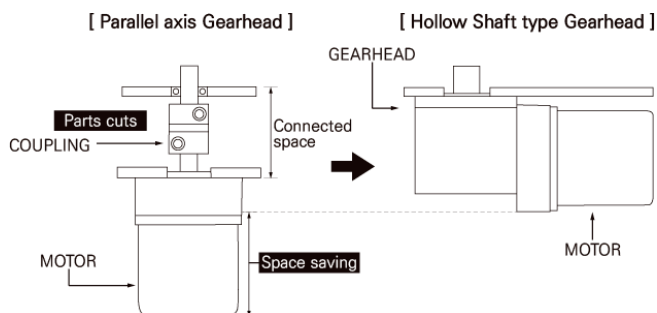
※ In case of mounting gear ratio 18:1 to K9IP90F□

### 2. Offering a wide range

20 kinds of wide range from 3 up to 180 gear ratio is supplied. You can choose optimum gear ratio like parallel gearhead. Max allowable torque is same as parallel gearhead.

### 3. Costs Saving

BRH gearhead contributes components cost saving, assembly process number saving by removing connected components.



## II. Item name and kind

■ Model name coding

**K 9 P 180 BRH**  
 ① ② ③ ④

①+②	Gearhead Installation size + PINION TYPE	
	8G : 80mm (G)GENERAL 9P : 90mm (P)POWERFUL	
③	Ratio	180 (180:1)
④	BRH : Right Angle Gearhead · Hollow Shaft type BRS : Right Angle Gearhead · Solid Shaft type	

■ kind

Hollow Shaft type (BTH)		Solid Shaft type (BRS)	
Gearhead Model	Ratio	Gearhead Model	Ratio
K8G□BRH	3~180	K8G□BRS	3~180
K9P□BRH	3~180	K9P□BRS	3~180

## III. Specification

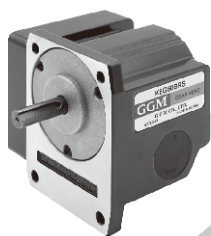
Model	Ratio	Maximum permissible Torque (N.m)	Permissible overhung load (N)		Permissible Thrust load (N)
			10mm from shaft end	20mm from shaft end	
K8G□BRH	3~180	8	250	220	100
K9P□BRH	3~180	20	560	500	250
K8G□BRS	3~18	8	100	150	100
	25~180		200	300	
K9P□BRS	3~18	10	250	350	200
	25~180		300	450	

※ Allowable overhung load in BRH type is distance value from flange surface

※ The code in □ of gearhead name is for gear ratio.

## IV. Transfer Efficiency of the Gearhead

RATIO		3	3.6	5	6	7.5	9	12.5	15	18	25	30	36	50	60	75	90	100	120	150	180
K8G□BRH	Rated	40%			50%			60%													
K9P□BRH		50%			68%						60%						50%				
K8G□BRS		40%			50%			60%													
K9P□BRS		68%						60%						50%							



## V. Allowable Overhung load calculation

Allowable overhung load which is not supporting load shaft with bearing unit is as below.  
(This product is most complicated in overhung load.)

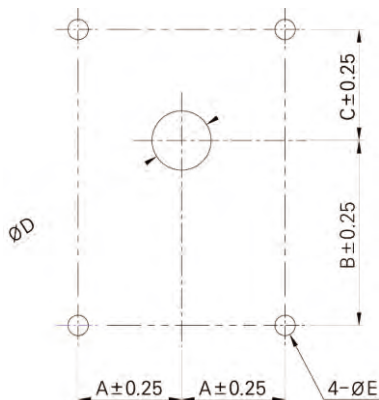
**■ K8G□BRH** Allowable overhung load  $W [N] = \frac{59.5}{59.5 + Lp} \times 295 [N]^*$   
※295 [N] : Allowable overhung load from flange surface

**■ K9P□BRH** Allowable overhung load  $W [N] = \frac{68.5}{68.5 + Lp} \times 645 [N]^*$   
※645 [N] : Allowable overhung load from flange surface

Lp[mm] : distance from flange installation surface to load point.

## VI. Installation method for BRH type gearhead

### ■ Mounting flange and dimensions



Unit : mm

Model	Bolt size	Installation holes dimensions					
		Thickness of flange	A	B	C	D	E
K8G□BRH	M5	9	28	55	25	Ø16	Ø5.5
K8G□BRS						Ø35	
K9P□BRH	M8	12	30	67	33	Ø18	Ø8.5
K9P□BRS						Ø35	

※The code in □ of gearhead name is for gear ratio.

### ■ Recommended Installation dimension of load shaft

Unit : mm

Item	K8G□BRH	K9P□BRH
Inner diameter of hollow shaft (H8)	Ø15 $^{+0.027}_0$	Ø17 $^{+0.027}_0$
Diameter of load shaft (h7)	Ø15 $^0_{-0.018}$	Ø17 $^0_{-0.018}$
Diameter for hole fixing ring	Ø15 C Type fixing ring	Ø17 C Type fixing ring
applicable bolt	M5	M5
Thickness of spacer	4	4
Outdiameter D of short load shaft	25	30
La dimension of short load shaft	58~60	68~70

※Do spacer thickness as dimension of table. Exceeded dimension can't put safe cover by bolt coming out.

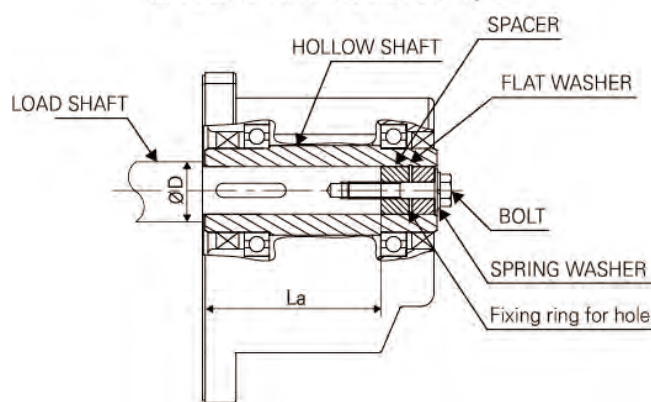
※Fixing Ring, Spacer, Bolt to install load shaft are not attached. Please arrange them by yourself.

## Example

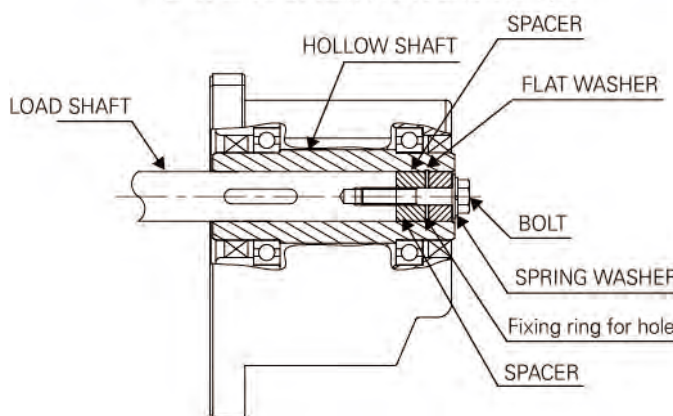
(Install as following picture according to shaft shape)

- When installing load shaft to hollow shaft, adjust center of hollow shaft and load shaft.
- There is key way in hollow shaft.
- Also there is key way in load shaft and fix with key.
- H7 is recommended as load shaft tolerance.
- In case of high impact by frequent instant stop and high overhung load, Short load shaft is recommended.

### ■ In case of short shaft shape



### ■ In case of non short shaft shape



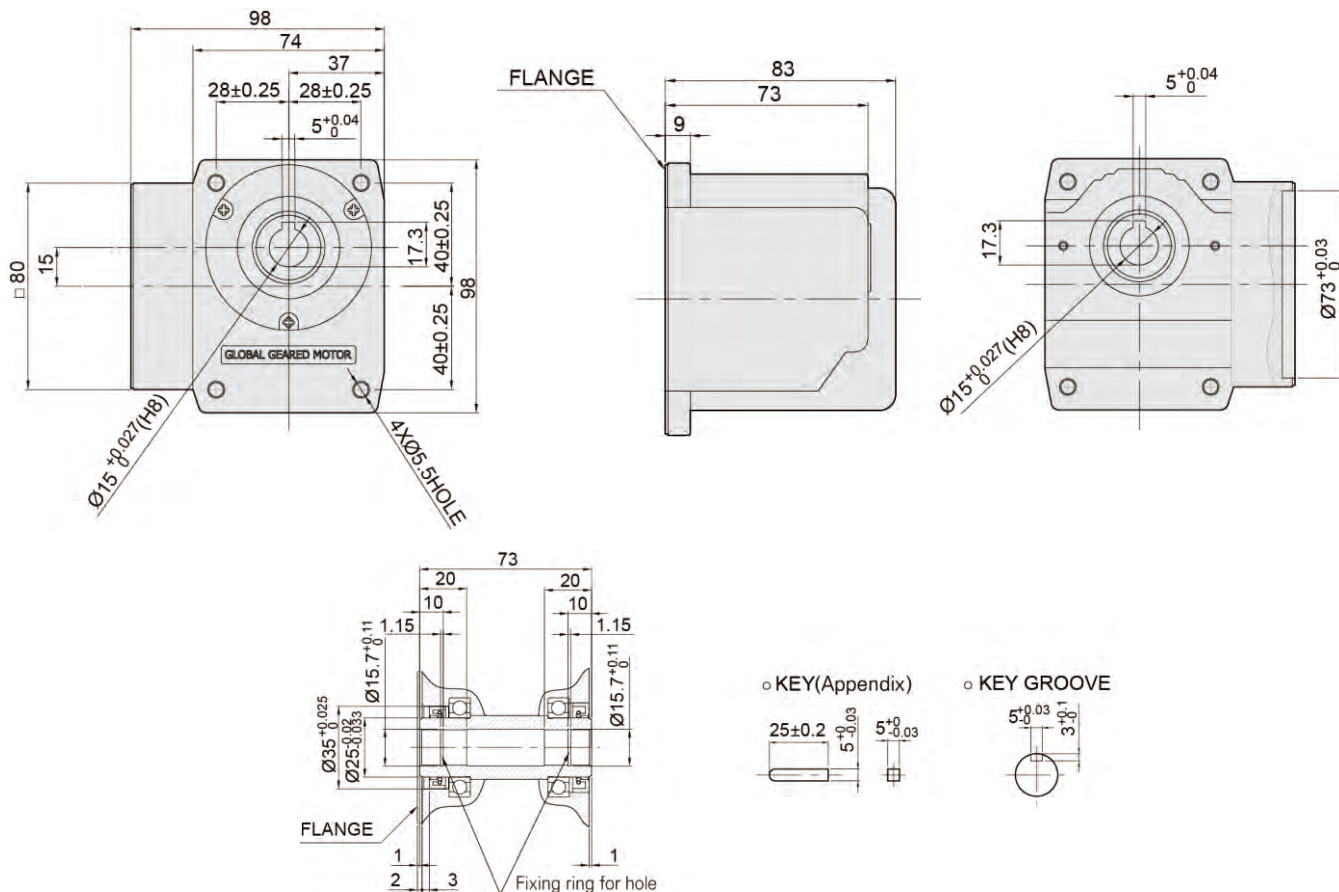
※Please put safe cover after inserting load shaft.

## K8G□BRH(Hollow Shaft Type)



Diagram and general contents

### Outline Drawing



### RATED TORQUE OF GEARHEAD

#### ● INDUCTION MOTOR / 50Hz

Unit = above : N · m / below : kgfcm

Model	Speed(rpm)	500	416	300	250	200	166	120	100	83	60	50	42	30	25	20	17	15	12.5	10	8.3
Motor/Gearhead	Ratio	3	3.6	5	6	7.5	9	12.5	15	18	25	30	36	50	60	75	90	100	120	150	180
K8I□25N□(-T,-T5) / K8G□BRH		0.22	0.27	0.37	0.44	0.69	0.83	1.39	1.67	2.00	2.78	3.33	4.00	5.55	6.66	8	8	8	8	8	8
		2.2	2.7	3.7	4.4	6.9	8.3	13.9	16.7	20	27.8	33.3	40	55.5	66.6	80	80	80	80	80	80

#### ● INDUCTION MOTOR / 60Hz

Unit = above : N · m / below : kgfcm

Model	Speed(rpm)	600	500	360	300	240	200	144	120	100	72	60	50	36	30	24	20	18	15.0	12	10.0
Motor/Gearhead	Ratio	3	3.6	5	6	7.5	9	12.5	15	18	25	30	36	50	60	75	90	100	120	150	180
K8I□25N□(-T,-T5) / K8G□BRH		0.19	0.22	0.31	0.37	0.58	0.70	1.16	1.40	1.67	2.33	2.79	3.35	4.65	5.58	8	8	8	8	8	8
		1.9	2.2	3.1	3.7	5.8	7.0	11.6	14.0	17	23.3	27.9	33	46.5	55.8	80	80	80	80	80	80

- \* The code in □ of gearhead model is for gear ratio.
- \* Output shaft of the geared motor rotates in the opposite direction of the motor. Others indicate rotation in the opposite direction.
- \* 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.
- \* Output torque become smaller during starting than rated because of low transferring efficiency.

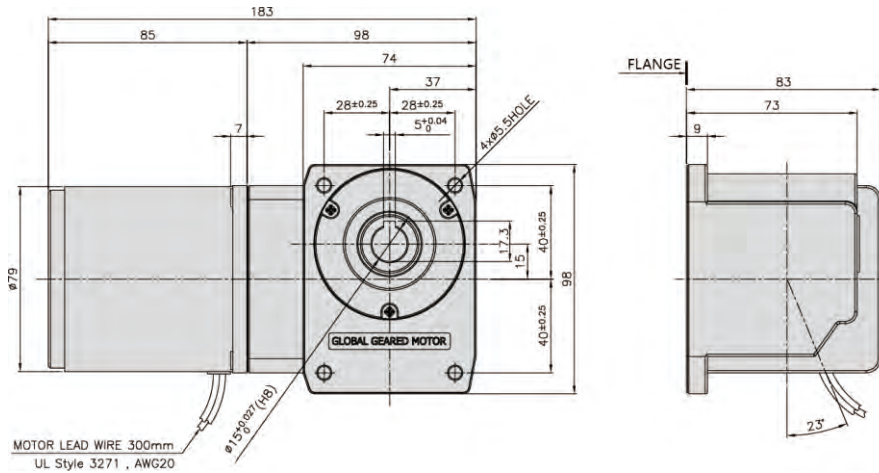
# K8G□BRH(Hollow Shaft Type)

## DIMENSIONS

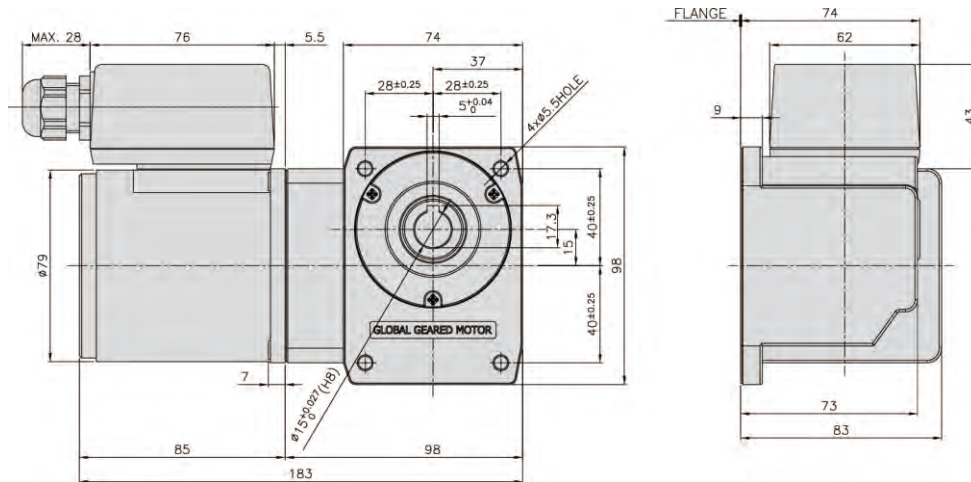
### RATED TORQUE A WEIGHT

PART	WEIGHT(kg)	MOUNTING BOLT
GEAR HEAD	1.60	M5 P0.8 X 15
MOTOR		
K8IG25N□	1.58	
K8IG25N□-T	1.76	
K8IG25N□-T5	1.76	

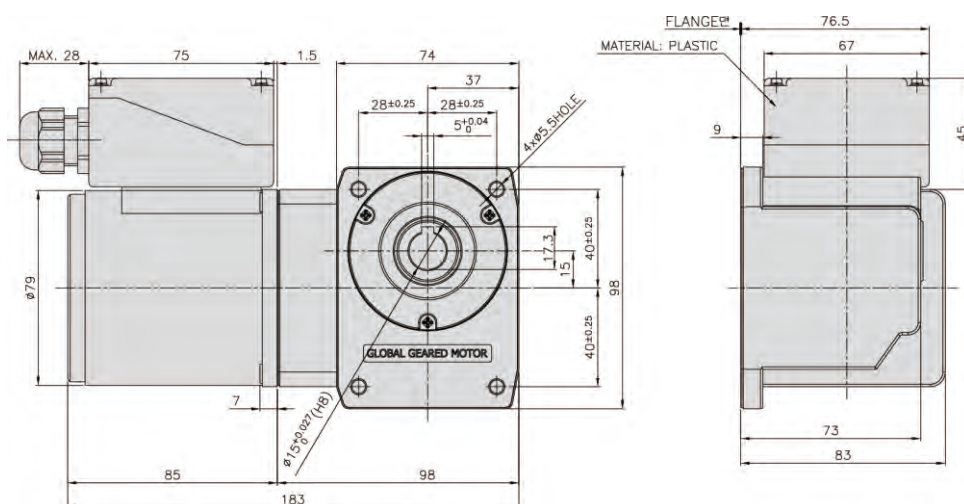
### K8□G25N□+K8G□BRH



### K8□G25N□-T+K8G□BRH



### K8□G25N□-T5+K8G□BRH

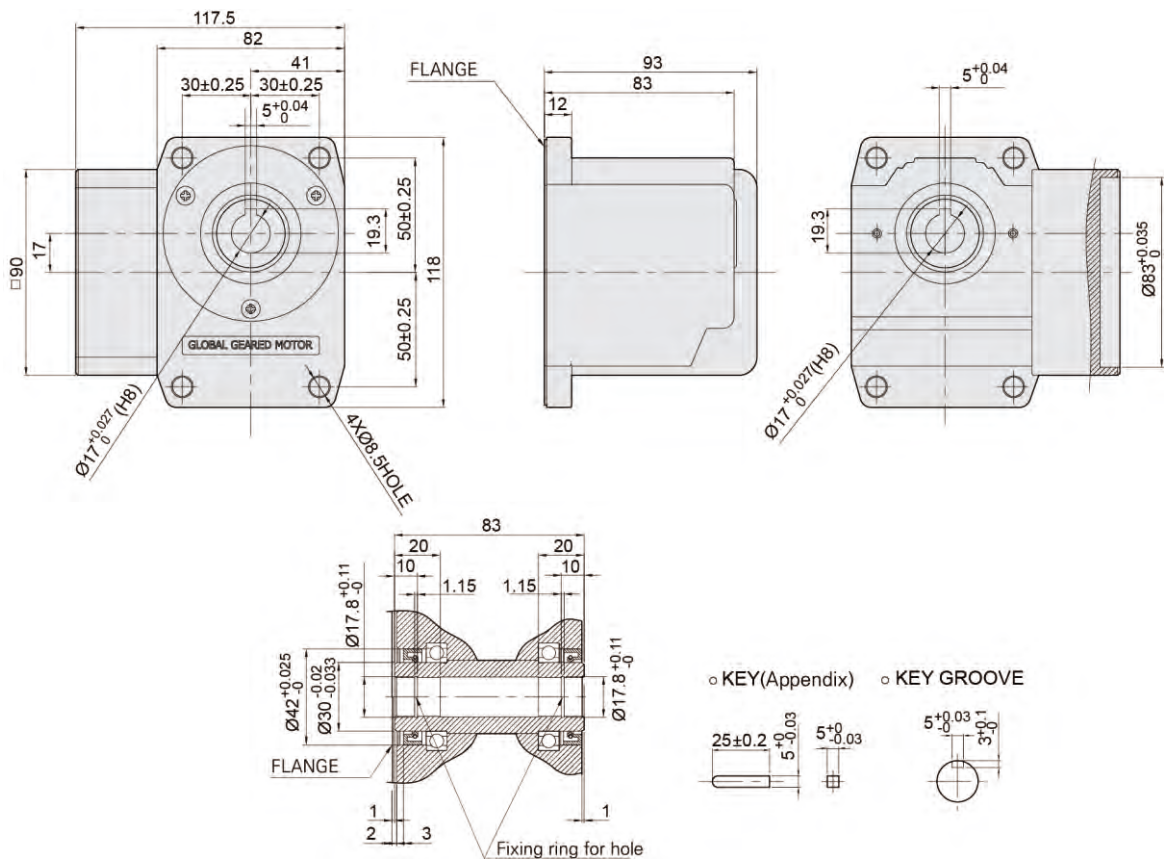


## K9P□BRH(Hollow Shaft Type)

Diagram and general contents



### Outline Drawing



### RATED TORQUE OF GEARHEAD

#### ● INDUCTION MOTOR / 50Hz

Unit = above : N · m / below : kgfcm

Model	Speed(rpm)	500	416	300	250	200	166	120	100	83	60	50	42	30	25	20	17	15	12.5	10	8.3
Motor/Gearhead	Ratio	3	3.6	5	6	7.5	9	12.5	15	18	25	30	36	50	60	75	90	100	120	150	180
K9I□60F□(-T,-T5) / K9P□BRH		0.65	0.78	1.09	1.31	2.22	2.66	3.70	4.44	5.32	7.40	7.83	9.40	13.05	15.66	20	20	20	20	20	20
		6.5	7.8	10.9	13.1	22.2	26.6	37.0	44.4	53	74.0	78.3	94	130.5	156.6	200	200	200	200	200	200
K9I□90F□(-T,-T5) / K9P□BRH		0.98	1.17	1.63	1.95	3.32	3.98	5.53	6.63	7.96	11.05	11.70	14.04	19.50	23.40	20	20	20	20	20	20
		9.8	11.7	16.3	19.5	33.2	39.8	55.3	66.3	80	110.5	117.0	140	195.0	234.0	200	200	200	200	200	200

#### ● INDUCTION MOTOR / 60Hz

Unit = above : N · m / below : kgfcm

Model	Speed(rpm)	600	500	360	300	240	200	144	120	100	72	60	50	36	30	24	20	18	15	12	10
Motor/Gearhead	Ratio	3	3.6	5	6	7.5	9	12.5	15	18	25	30	36	50	60	75	90	100	120	150	180
K9I□60F□(-T,-T5) / K9P□BRH		0.56	0.67	0.98	1.11	1.89	2.26	3.15	3.77	4.53	6.29	6.66	7.99	11.10	13.32	20	20	20	20	20	20
		5.6	6.7	9.3	11.1	18.9	22.6	31.5	37.7	45	62.9	66.6	80	111.0	133.2	200	200	200	200	200	200
K9I□90F□(-T,-T5) / K9P□BRH		0.83	0.99	1.38	1.65	2.81	3.37	4.68	5.61	6.73	9.35	9.90	11.88	16.50	19.80	20	20	20	20	20	20
		8.3	9.9	13.8	16.5	28.1	33.7	46.8	56.1	67	93.5	99.0	119	165.0	198.0	200	200	200	200	200	200

- \* The code in □ of gearhead model is for gear ratio.
- \* Output shaft of the geared motor rotates in the opposite direction of the motor. Others indicate rotation in the opposite direction.
- \* 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.
- \* Output torque become smaller during starting than rated because of low transferring efficiency.

# K9P□BRH(Hollow Shaft Type)

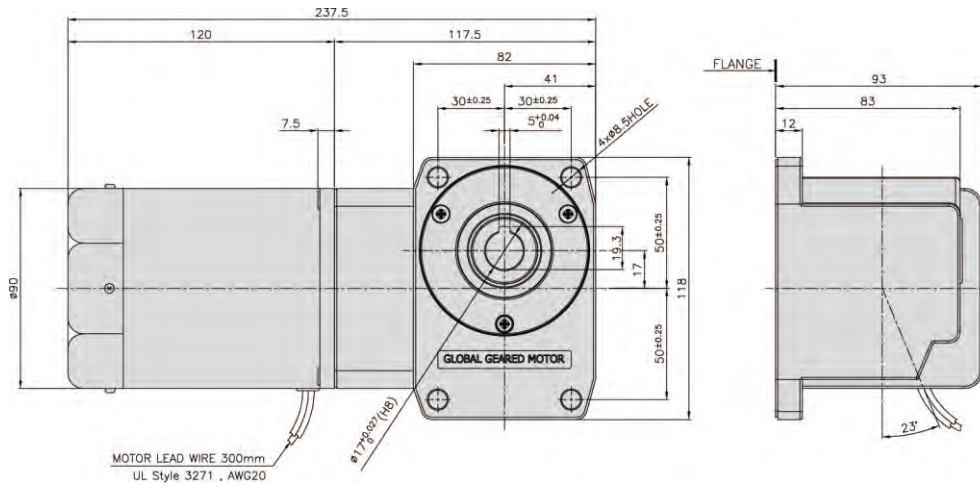
## DIMENSIONS

### RATED TORQUE A WEIGHT

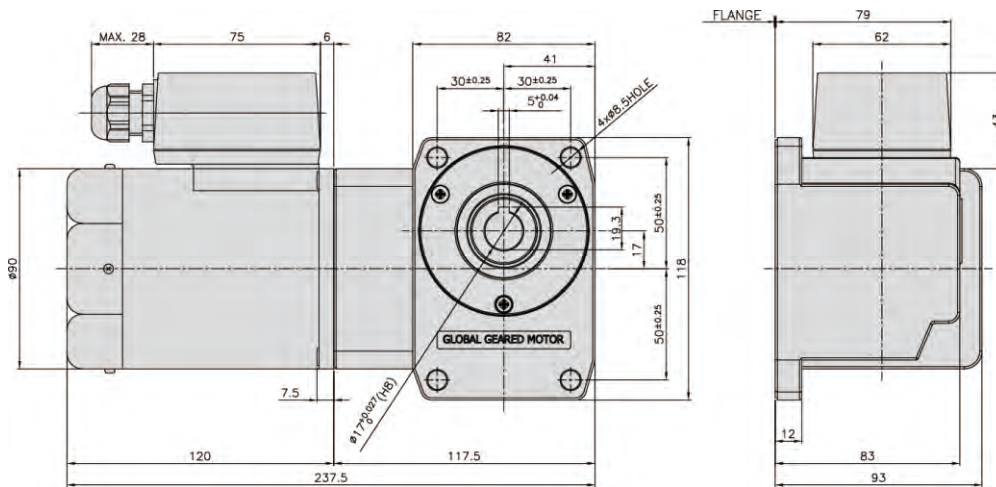
PART	WEIGHT(kg)	MOUNTING BOLT
GEAR HEAD	2.50	M6 P1,0 X 20
MOTOR	K9IP60F□	2.50
	K9IP60F□-T	2.68
	K9IP60F□-T5	2.68

PART	WEIGHT(kg)	MOUNTING BOLT
GEAR HEAD	2.50	M6 P1,0 X 20
MOTOR	K9IP90F□	3.00
	K9IP90F□-T	3.18
	K9IP90F□-T5	3.18

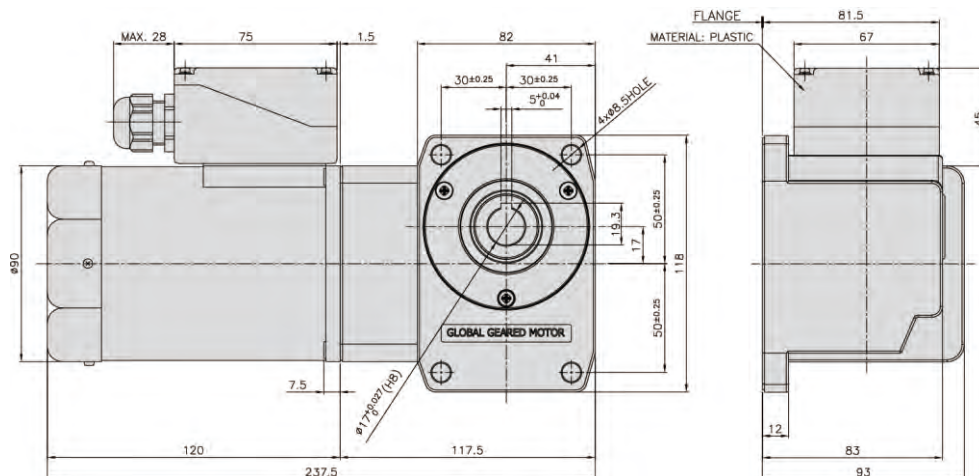
### K9□P60F□+K9P□BRH



### K9□P60F□-T+K9P□BRH



### K9□P60F□-T5+K9P□BRH

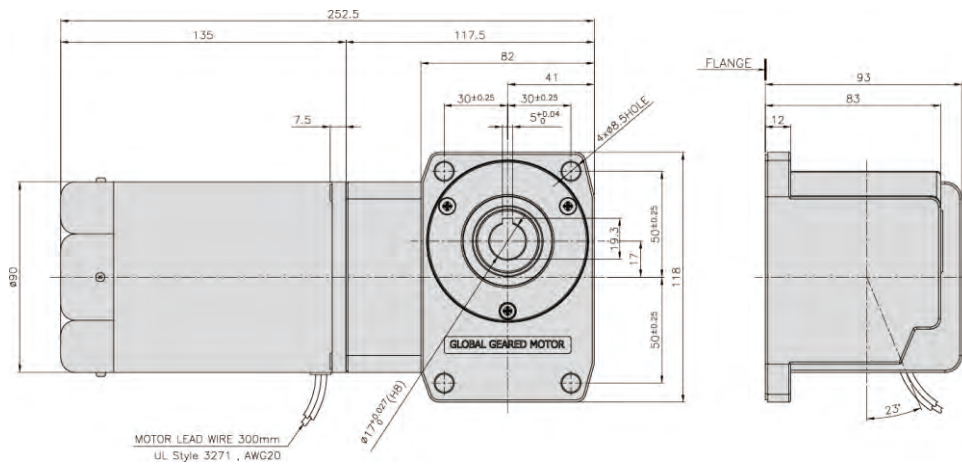




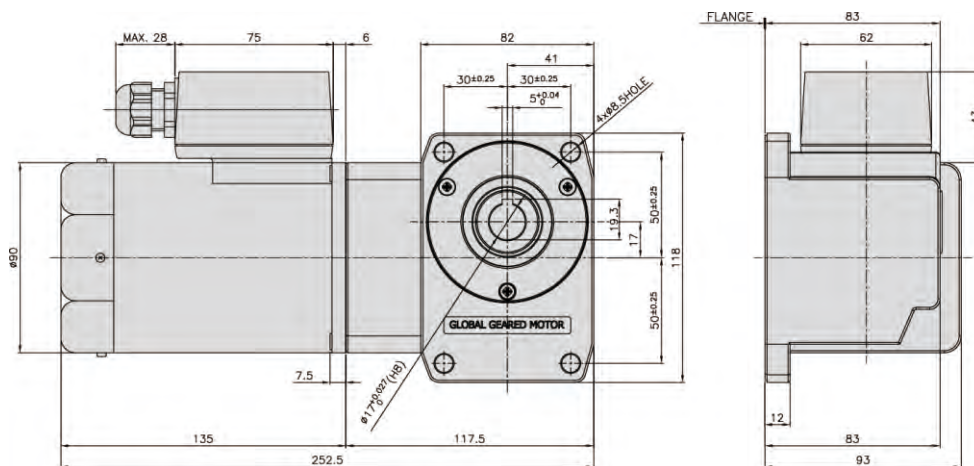
# K9P□BRH(Hollow Shaft Type)

## DIMENSIONS

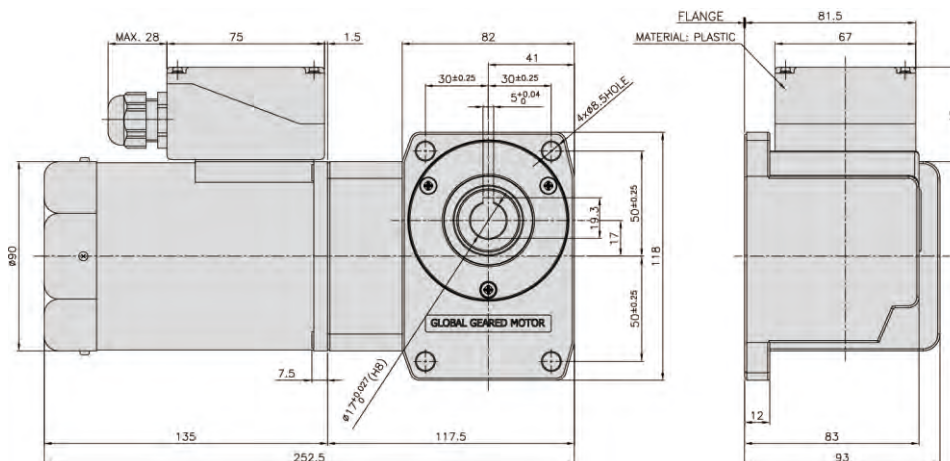
K9□P90F□+K9P□BRH



K9□P90F□-T+K9P□BRH



K9□P90F□-T5+K9P□BRH

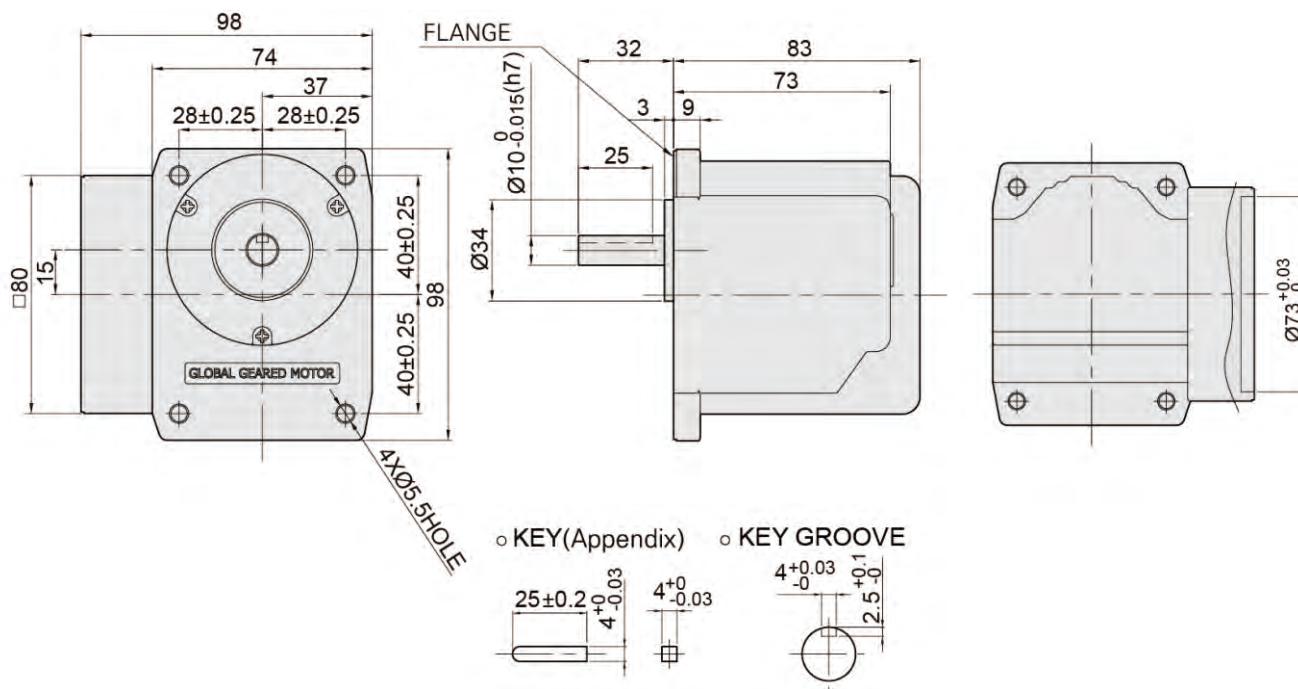


## K8G□BRS(Solid Shaft Type)



Diagram and general contents

### Outline Drawing



### RATED TORQUE OF GEARHEAD

#### ● INDUCTION MOTOR / 50Hz

Unit = above : N · m / below : kgfcm

Model	Speed(rpm)	500	416	300	250	200	166	120	100	83	60	50	42	30	25	20	17	15	12.5	10	8.3
Motor/Gearhead	Ratio	3	3.6	5	6	7.5	9	12.5	15	18	25	30	36	50	60	75	90	100	120	150	180
K8I□25N□(-T, -T5) / K8G□BRS		0.28	0.33	0.46	0.56	0.69	0.83	1.57	1.89	2.26	3.15	3.77	4.53	6.29	7.55	8	8	8	8	8	8
		2.8	3.3	4.6	5.6	6.9	8.3	15.7	18.9	23	31.5	37.7	45	62.9	75.5	80	80	80	80	80	80

#### ● INDUCTION MOTOR / 60Hz

Unit = above : N · m / below : kgfcm

Model	Speed(rpm)	600	500	360	300	240	200	144	120	100	72	60	50	36	30	24	20	18	15.0	12	10.0
Motor/Gearhead	Ratio	3	3.6	5	6	7.5	9	12.5	15	18	25	30	36	50	60	75	90	100	120	150	180
K8I□25N□(-T, -T5) / K8G□BRS		0.23	0.28	0.39	0.47	0.58	0.70	1.32	1.58	1.90	2.64	3.16	3.79	5.27	6.32	7.91	8	8	8	8	8
		2.3	2.8	3.9	4.7	5.8	7.0	13.2	15.8	19	26.4	31.6	38	52.7	63.2	79	80	80	80	80	80

- \* The code in □ of gearhead model is for gear ratio.
- \* Output shaft of the geared motor rotates in the opposite direction of the motor. Others indicate rotation in the opposite direction.
- \* 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.
- \* Output torque become smaller during starting than rated because of low transferring efficiency.

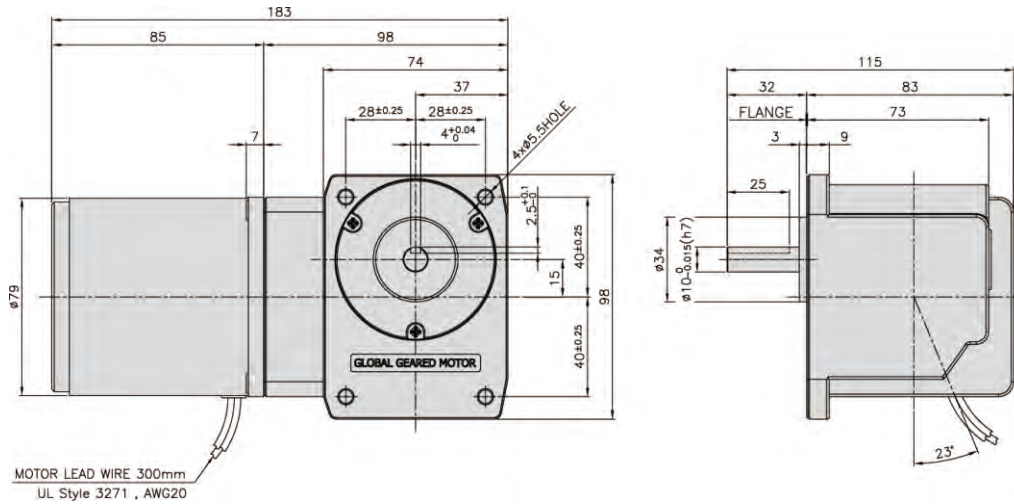
## K8G□BRS(Solid Shaft Type)

### DIMENSIONS

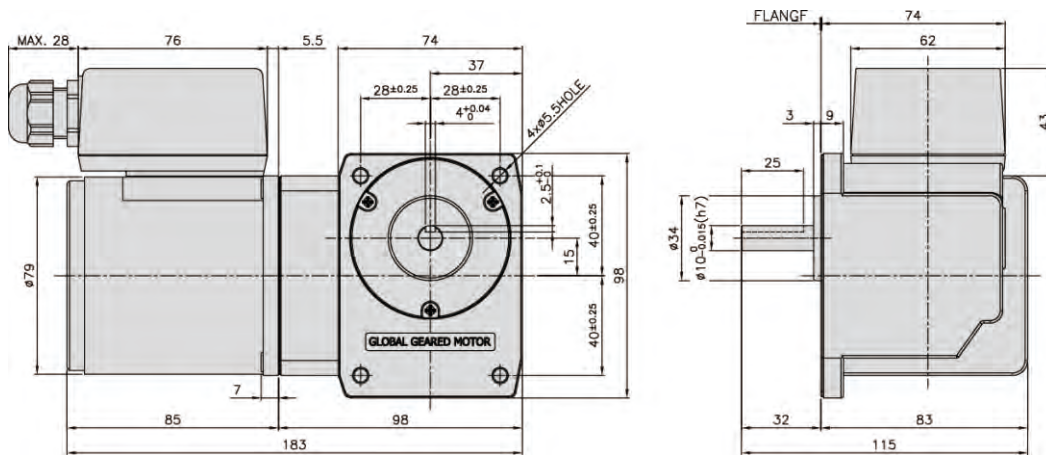
#### RATED TORQUE A WEIGHT

	PART	WEIGHT(kg)	MOUNTING BOLT
	GEAR HEAD	1.60	M5 P0.8 X 15
MOTOR	K8IG25N□	1.58	/
	K8IG25N□-T	1.76	
	K8IG25N□-T5	1.76	

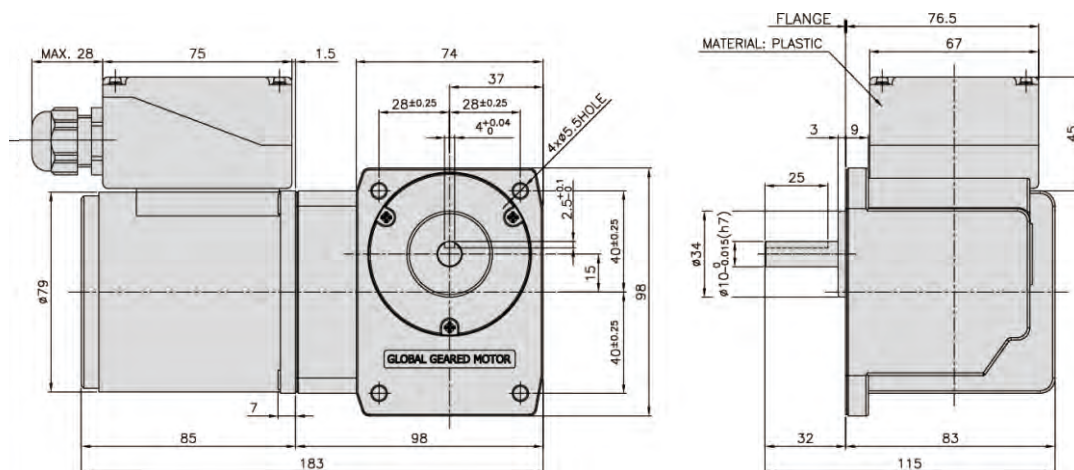
#### K8□G25N□+K8G□BRS



#### K8□G25N□-T+K8G□BRS



#### K8□G25N□-T5+K8G□BRS



## K9P□BRS(Solid Shaft Type)

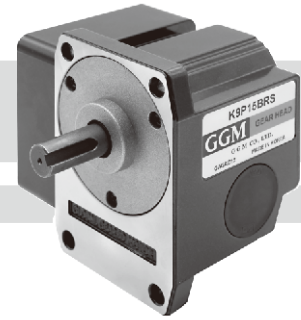
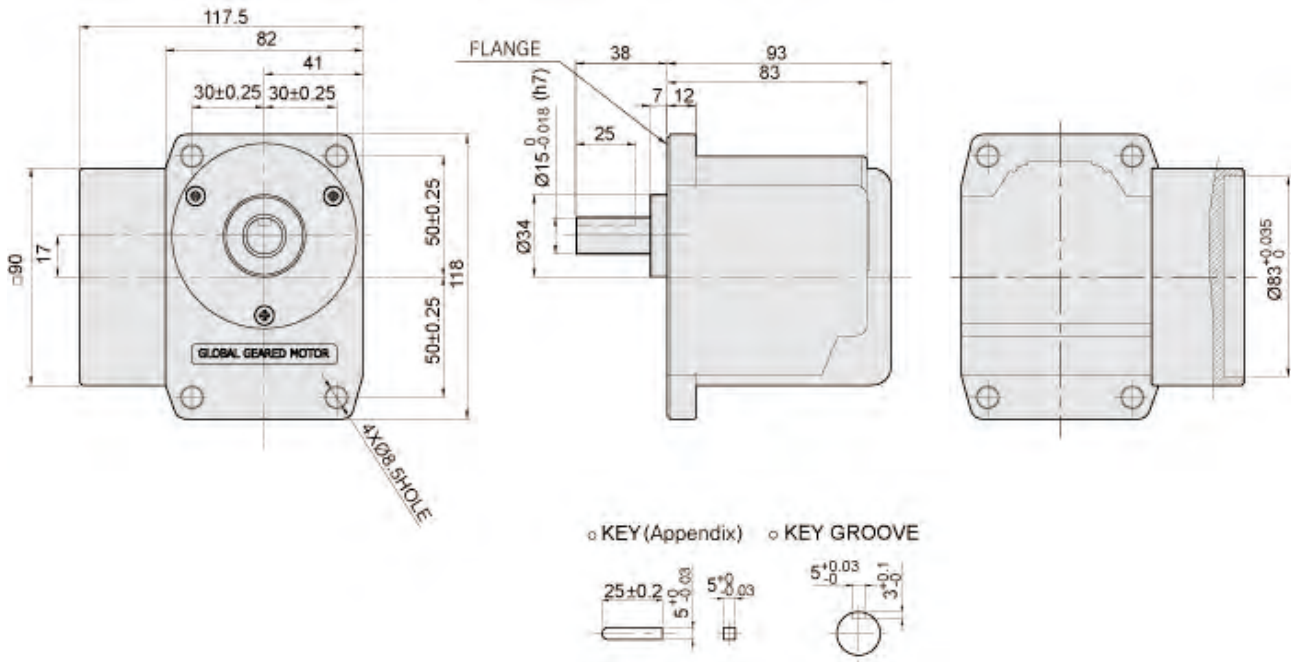


Diagram and general contents

### Outline Drawing



### RATED TORQUE OF GEARHEAD

#### ● INDUCTION MOTOR / 50Hz

Unit = above : N · m / below : kgfcm

Model	Speed(rpm)	500	416	300	250	200	166	120	100	83	60	50	42	30	25	20	17	15	12.5	10	8.3
Motor/Gearhead	Ratio	3	3.6	5	6	7.5	9	12.5	15	18	25	30	36	50	60	75	90	100	120	150	180
K9I□60F□(-T, -T5) / K9P□BRS		0.89	1.06	1.48	1.77	2.22	2.66	3.70	4.44	5.32	7.40	7.83	9.40	13.05	15.66	19.58	20	20	20	20	20
		8.9	10.6	14.8	17.7	22.2	26.6	37.0	44.4	53	74.0	78.3	94	130.5	156.6	196	200	200	200	200	200
K9I□90F□(-T, -T5) / K9P□BRS		1.33	1.59	2.21	2.65	3.32	3.98	5.53	6.63	7.96	11.05	11.70	14.04	19.50	23.40	29.25	20	20	20	20	20
		13.3	15.9	22.1	26.5	33.2	39.8	55.3	66.3	80	110.5	117.0	140	195.0	234.0	293	200	200	200	200	200

#### ● INDUCTION MOTOR / 60Hz

Unit = above : N · m / below : kgfcm

Model	Speed(rpm)	600	500	360	300	240	200	144	120	100	72	60	50	36	30	24	20	18	15	12	10
Motor/Gearhead	Ratio	3	3.6	5	6	7.5	9	12.5	15	18	25	30	36	50	60	75	90	100	120	150	180
K9I□60F□(-T, -T5) / K9P□BRS		0.75	0.91	1.26	1.51	1.89	2.26	3.15	3.77	4.53	6.29	6.66	7.99	11.10	20.00	20.00	20	20	20	20	20
		7.5	9.1	12.6	15.1	18.9	22.6	31.5	37.7	45	62.9	66.6	80	111.0	200.0	200	200	200	200	200	200
K9I□90F□(-T, -T5) / K9P□BRS		1.12	1.35	1.87	2.24	2.81	3.37	4.68	5.61	6.73	9.35	9.90	11.88	16.50	19.80	20.00	20	20	20	20	20
		11.2	13.5	18.7	22.4	28.1	33.7	46.8	56.1	67	93.5	99.0	119	165.0	198.0	200	200	200	200	200	200

- \* The code in □ of gearhead model is for gear ratio.
- \* Output shaft of the geared motor rotates in the opposite direction of the motor. Others indicate rotation in the opposite direction.
- \* 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.
- \* Output torque become smaller during starting than rated because of low transferring efficiency.

# K9P□BRS(Solid Shaft Type)

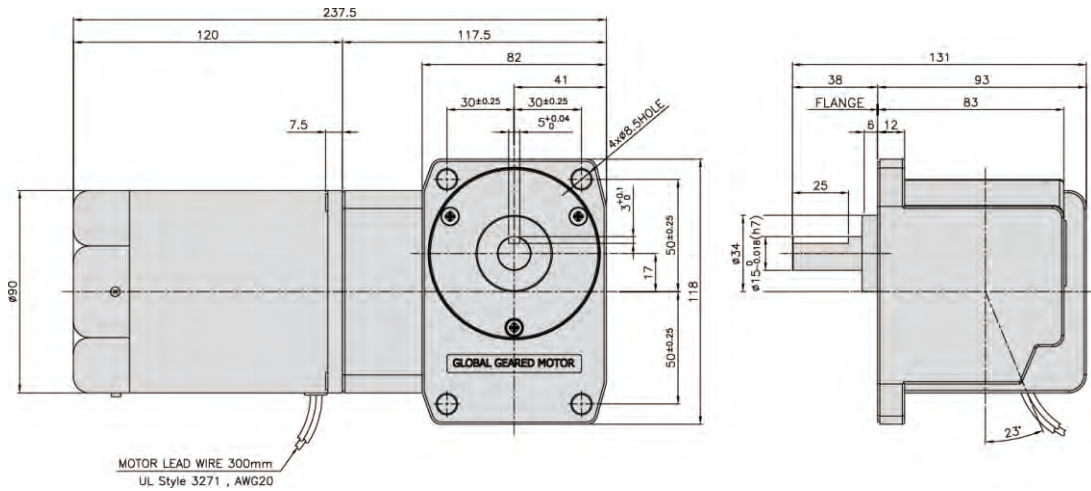
## DIMENSIONS

### RATED TORQUE A WEIGHT

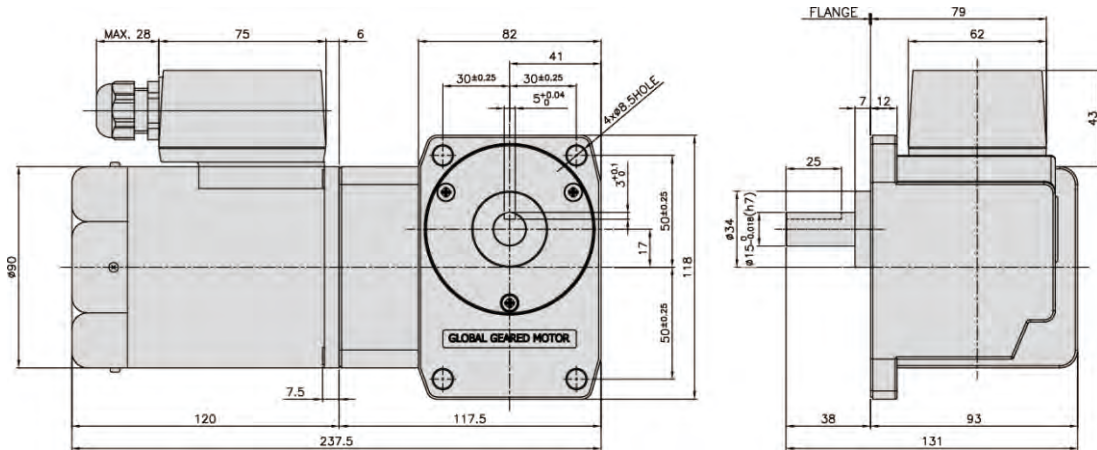
PART	WEIGHT(kg)	MOUNTING BOLT
GEAR HEAD	2.50	M6 P1.0 X 20
MOTOR	K9IP60F□	
	K9IP60F□-T	
	K9IP60F□-T5	

PART	WEIGHT(kg)	MOUNTING BOLT
GEAR HEAD	2.50	M6 P1.0 X 20
MOTOR	K9IP90F□	
	K9IP90F□-T	
	K9IP90F□-T5	

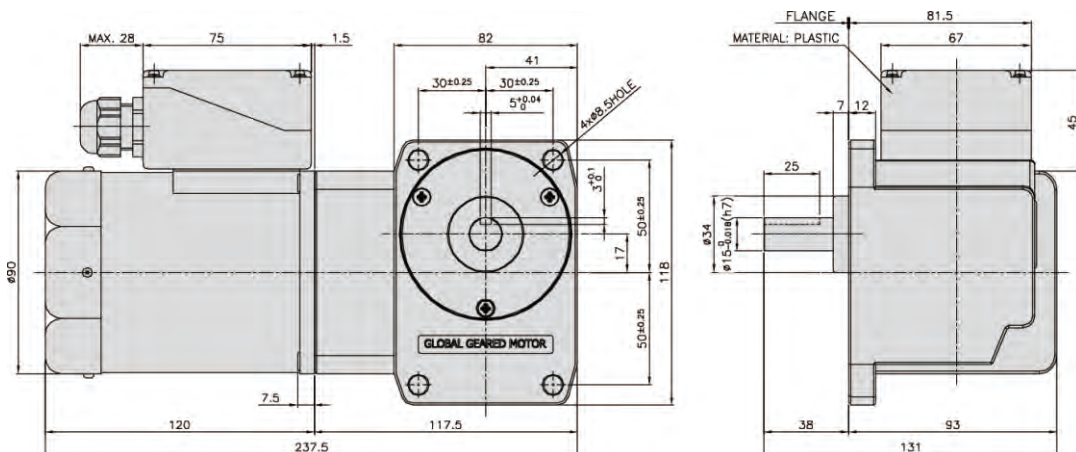
### K9□P60F□+K9P□BRS



### K9□P60F□-T+K9P□BRS



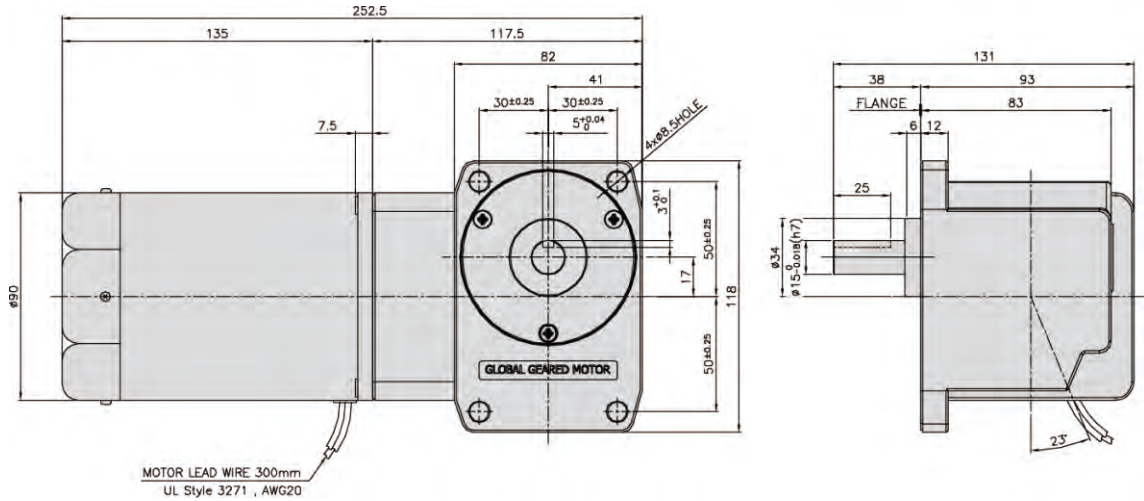
### K9□P60F□-T5+K9P□BRS



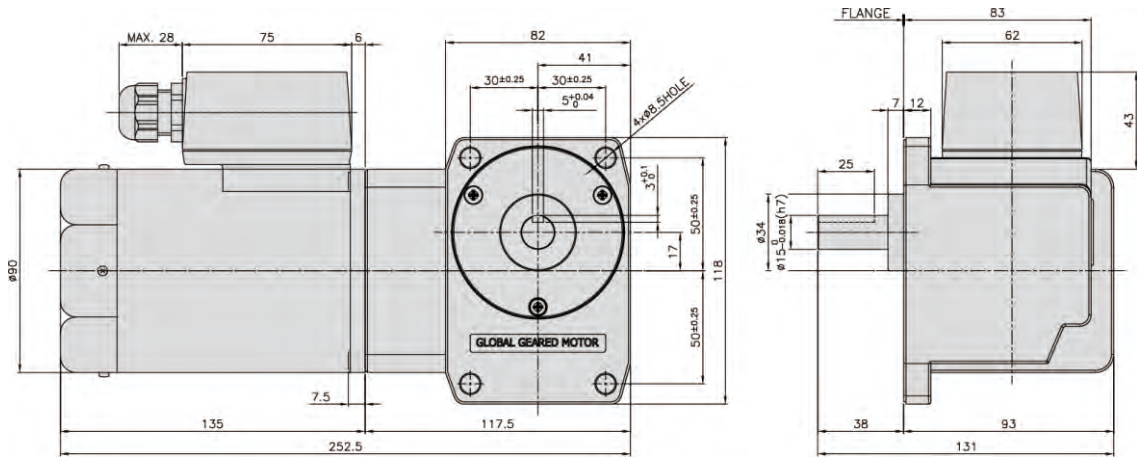
# K9P□BRS(Solid Shaft Type)

## DIMENSIONS

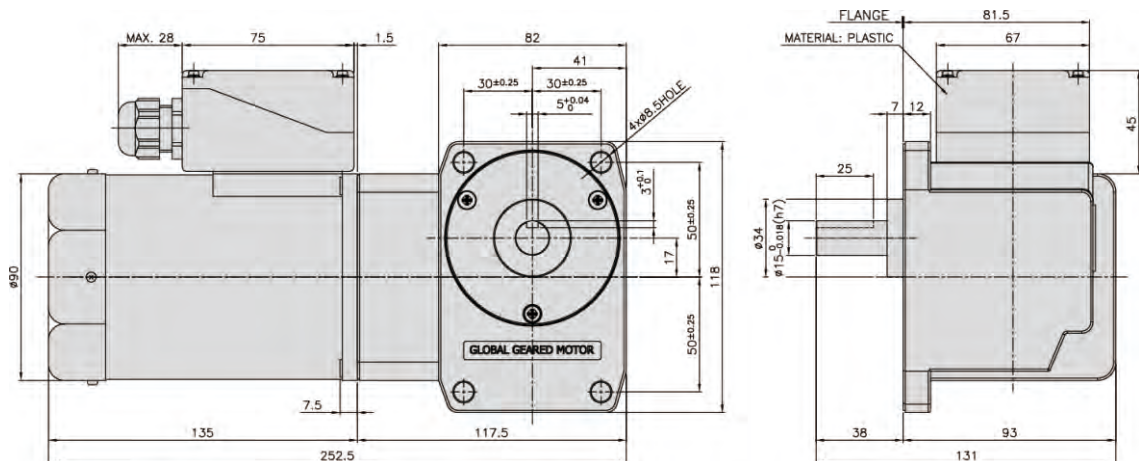
K9□P90F□K9P□BRS



K9□P90F□-T+□K9P□BRS

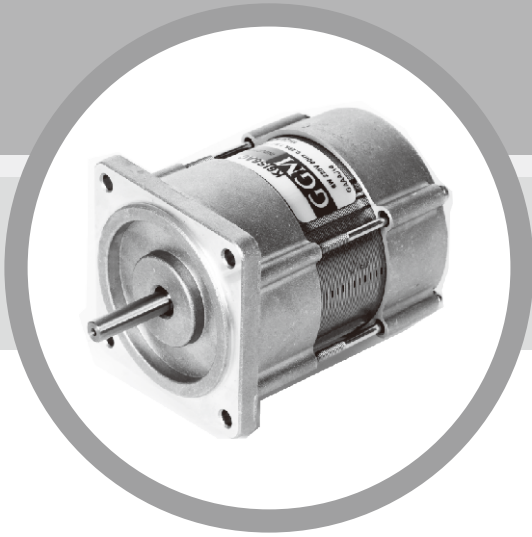


K9□P90F□-T5+□K9P□BRS





# OPEN MOTORS





## OPEN TYPE MOTOR

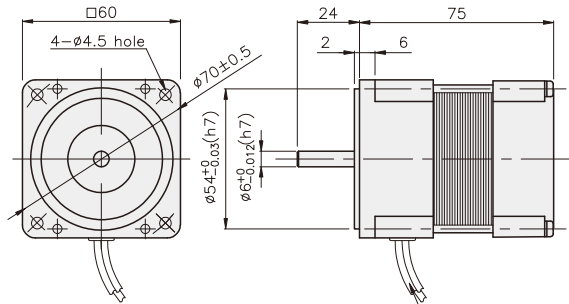
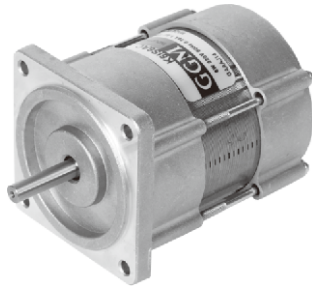
### 6W

### □60mm

### LEAD WIRE TYPE

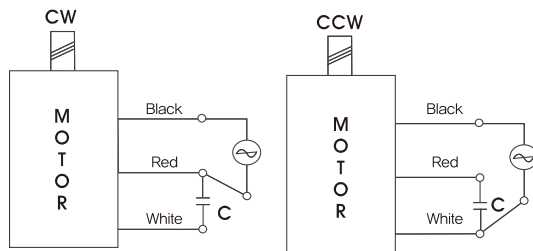
#### DIMENSIONS

K6I□6A□



MOTOR LEAD WIRE 300mm  
UL Style 3266 , AWG20

#### CONNECTION DIAGRAMS



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

#### 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)
K6I□6AJ	single-phase	100	50	0.25	0.04/0.4	0.049/0.49	1200	3
			60	0.23		0.04/0.4	1500	
K6I□6AU		110	60	0.18	0.035/0.35	0.04/0.4	1500	2
		115		0.19	0.04/0.4			
K6I□6AL		200	50	0.11	0.045/0.45	0.049/0.49	1200	0.8
			60			0.04/0.4	1500	
K6I□6AC		220	50	0.11	0.04/0.4	0.047/0.47	1250	0.6
			60	0.1	0.035/0.35	0.04/0.4	1500	
		230	50	0.12	0.045/0.45	0.047/0.47	1250	
			60	0.11	0.04/0.4	0.04/0.4	1500	
K6I□6AD	240	50	0.12	0.045/0.45	0.047/0.47	1250	0.5	

Motor spec is same as induction motor's, Applied gear head is K6G□B(C) Series, Identify rated torque of gearhead in induction motor in order to find out the torque value of gearhead per gear ratios,

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

## OPEN TYPE MOTOR

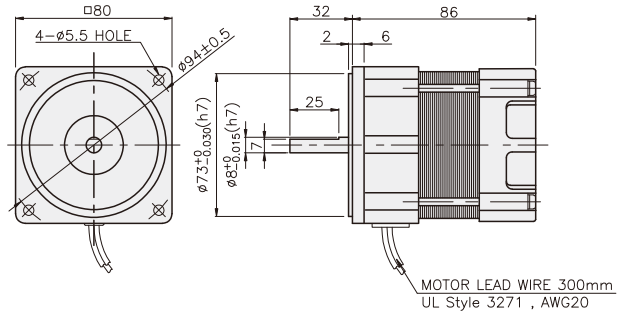
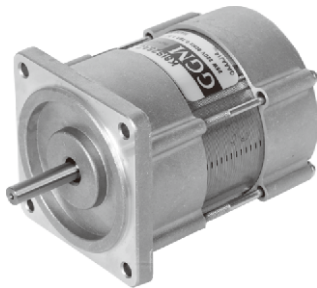
### 25W

### □80mm

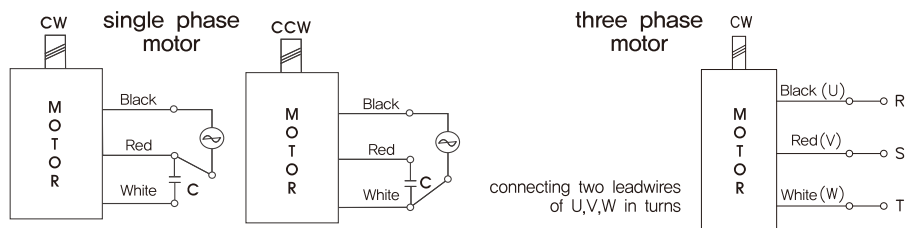
### LEAD WIRE TYPE

#### DIMENSIONS

K8I□25A□



#### CONNECTION DIAGRAMS



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

#### 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)		
K8I□25AJ	single-phase	100	50	0.59	0.11/1.1	0.195/1.95	1250	7		
			60	0.54		0.16/1.6	1550			
K8I□25AU		110	60	0.48	0.09/0.9	0.165/1.65	1500	5		
				0.5	0.095/0.95					
K8I□25AL		200	50	0.26	0.115/1.15	0.195/1.95	1250	1.8		
				60		0.28	0.16/1.6		1550	
K8I□25AC		220	50	0.28	0.11/1.1	0.195/1.95	1250	1.5		
				60		0.25	0.16/1.6		1550	
				230	50	0.29	0.12/1.2		0.195/1.95	1250
					60	0.26			0.16/1.6	1550
K8I□25AD	240	50	0.3	0.11/1.1	0.195/1.95	1250	1.2			
K8I□25AT	200	50	0.27	0.5/5	0.19/1.9	1300	-			
			60	0.24	0.4/4	0.16/1.6		1550		
K8I□25AH	220	50	0.28	0.6/6	0.185/1.85	1350	-			
			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□25AM	380	50	0.17	0.6/6	0.19/1.9	1300	-			
			60	0.14	0.48/4.8	0.155/1.55		1600		
K8I□25AV	400	50	0.17	0.73/7.3	0.19/1.9	1300	-			
			60	0.15	0.6/6	0.155/1.55		1600		
K8I□25AQ	415	50	0.13	0.55/5.5	0.19/1.9	1300	-			
			60	0.11	0.4/4	0.155/1.55		1600		
K8I□25AZ	440	50	0.14	0.63/6.3	0.19/1.9	1300	-			
			60	0.12	0.5/5	0.155/1.55		1600		

Motor spec is same as induction motor's. Applied gear head is K6G□B(C) Series.

Identify rated torque of gearhead in induction motor in order to find out the torque value of gearhead per gear ratios.

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

OPEN TYPE MOTOR

## OPEN TYPE MOTOR

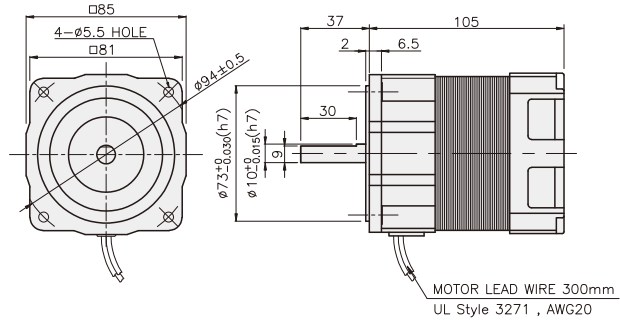
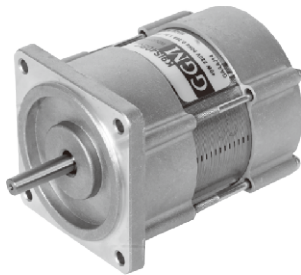
### 40W

□80mm – 83MM

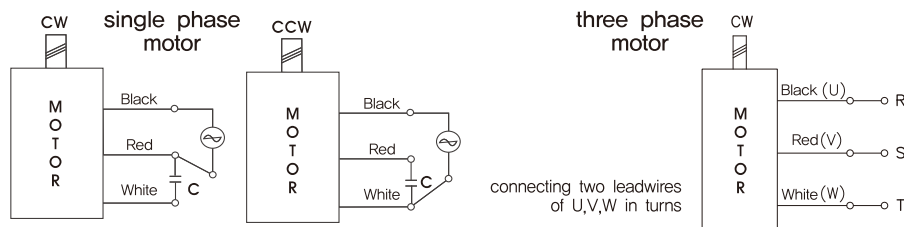
LEAD WIRE TYPE

### DIMENSIONS

K8I□40A□



### CONNECTION DIAGRAMS



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

### 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)	
K8I□40AJ	single-phase	100	50	0.86	0,21/2,1	0,315/3,15	1250	12	
K8I□40AU			60	0.84	0,22/2,2	0,255/2,55	1550		
K8I□40AL		200	50	0.4	0,22/2,2	0,315/3,15	1250	3	
			60	0.41		0,255/2,55	1550		
K8I□40AC		220	50	0.38	0,24/2,4	0,315/3,15	1250	2.5	
			60	0.37		0,255/2,55	1550		
			230	50	0.4	0,26/2,6	0,315/3,15		1250
K8I□40AD			240	50	0.37	0,2/2	0,3/3	1300	2
K8I□40AT		200	50	0.39	1/10	0,3/3	1300	-	
			60	0.32	0,78/7,8	0,245/2,45	1600		
K8I□40AH	220	50	0.33	0,95/9,5	0,29/2,9	1350	-		
		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			
K8I□40AM	380	50	0.18	1/10	0,29/2,9	1350	-		
60		0,78/7,8		0,245/2,45	1600				
K8I□40AV	400	50	0.18	1,15/11,5	0,29/2,9	1350	-		
		60	0.19	0,88/8,8	0,245/2,45	1600			
K8I□40AQ	415	50	0.16	0,95/9,5	0,29/2,9	1350	-		
		60	0.14	0,72/7,2	0,245/2,45	1600			
K8I□40AZ	440	50	0.19	1/10	0,29/2,9	1350	-		
		60	0.16	0,79/7,9	0,245/2,45	1600			

Motor spec is same as induction motor's, Applied gear head is K6G□B(C) Series.

Identify rated torque of gearhead in induction motor in order to find out the torque value of gearhead per gear ratios.

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

## OPEN TYPE MOTOR

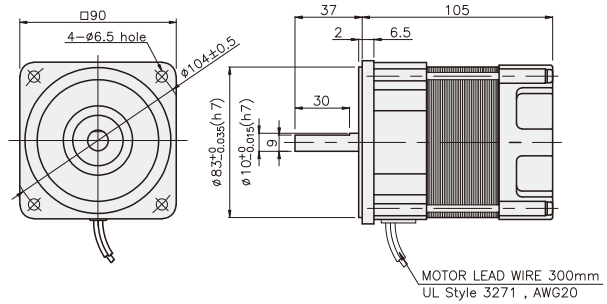
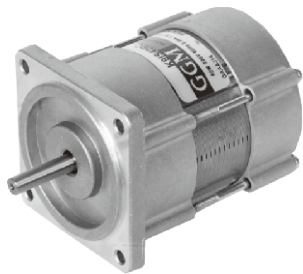
### 40W

### □90mm

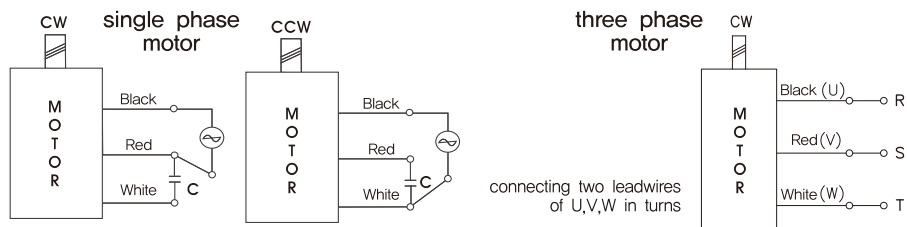
### LEAD WIRE TYPE

#### DIMENSIONS

K9I□40A□



#### CONNECTION DIAGRAMS



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

#### SPECIFICATIONS

40W continuous rating, four poles

60W

Model	Voltage (V)	Frequency (Hz)	Current (A)	Start T. (N-m/kgf-cm)	Rated T. (N-m/kgf-cm)	Speed (rpm)	Condenser (μF)
K9I□40AJ	100	50	0.86	0.21/2.1	0.315/3.15	1250	12
		60	0.84	0.22/2.2	0.255/2.55	1550	
K9I□40AU	115	60	0.65	0.19/1.9	0.255/2.55	1550	8
			0.68	0.2/2			
K9I□40AL	200	50	0.4	0.22/2.2	0.315/3.15	1250	3
		60	0.41		0.255/2.55	1550	
K9I□40AC	220	50	0.38	0.24/2.4	0.315/3.15	1250	2.5
		60	0.37		0.255/2.55	1550	
	230	50	0.4	0.26/2.6	0.315/3.15	1250	
		60	0.38		0.255/2.55	1550	
K9I□40AD	240	50	0.39	0.2/2	0.3/3	1300	2
K9I□40AT	200	50	0.39	1/10	0.3/3	1300	-
		60	0.32	0.78/7.8	0.245/2.45	1600	
K9I□40AH	220	50	0.33	0.95/9.5	0.29/2.9	1350	-
		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□40AM	380	50	0.18	1/10	0.29/2.9	1350	-
		60		0.78/7.8	0.245/2.45	1600	
K9I□40AV	400	50	0.18	1.15/11.5	0.29/2.9	1350	-
		60	0.19	0.88/8.8	0.245/2.45	1600	
K9I□40AQ	415	50	0.16	0.95/9.5	0.29/2.9	1350	-
		60	0.14	0.72/7.2	0.245/2.45	1600	
K9I□40AZ	440	50	0.19	1/10	0.29/2.9	1350	-
		60	0.16	0.79/7.9	0.245/2.45	1600	

Motor spec is same as induction motor's, Applied gear head is K6G□B(C) Series.

Identify rated torque of gearhead in induction motor in order to find out the torque value of gearhead per gear ratios.

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

OPEN TYPE MOTOR

## OPEN TYPE MOTOR

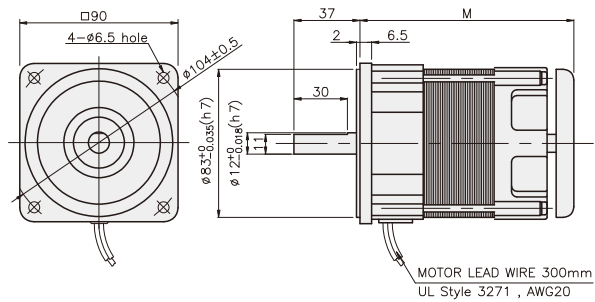
60W  
~200W

□90mm

LEAD WIRE TYPE

### DIMENSIONS

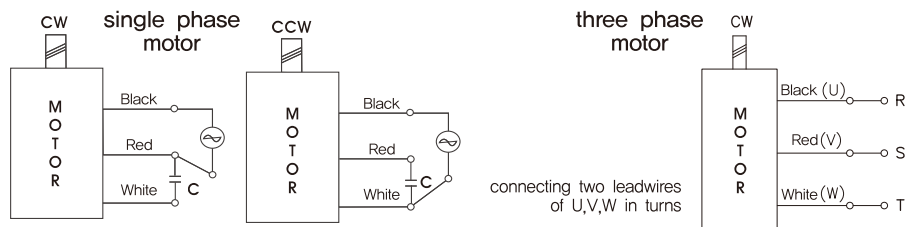
K9I□60B□~K9I□200B□



### CONNECTION DIAGRAMS

#### DIMENSION TABLE

M	MOTOR
120	K9I□60B□
135	K9I□90B□, K9I□120B□ (60Hz)~K9I□150B□ (60Hz)
165	K9I□120B□ (50Hz)~K9I□150B□ (50Hz) K9I□180B□~K9I□200B□



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

### SPECIFICATIONS

60W

Model		Voltage (V)	Frequency (Hz)	Current (A)	Start T. (N-m/kgf-cm)	Rated T. (N-m/kgf-cm)	Speed (rpm)	Condenser (μF)
K9I□60BJ	single-phase	100	50	1,36	0,38/3,8	0,47/4,7	1250	20
			60	1,37		0,38/3,8		
K9I□60BU	single-phase	110	60	1,21	0,37/3,7	0,38/3,8	1550	16
				1,27				
K9I□60BL	single-phase	200	50	0,67	0,4/4	0,47/4,7	1250	5
			60	0,69		0,38/3,8		
K9I□60BC	single-phase	220	50	0,58	0,38/3,8	0,47/4,7	1250	4
			60	0,57		0,38/3,8		
		230	50	0,63	0,4/4	0,47/4,7	1250	
			60			0,38/3,8		
K9I□60BD	single-phase	240	50	0,69	0,44/4,4	0,47/4,7	1250	4
K9I□60BT	single-phase	200	50	0,49	1,35/13,5	0,45/4,5	1300	-
			60	0,45	1,05/10,5	0,38/3,8	1550	
K9I□60BH	single-phase	220	50	0,55	1,6/16	0,435/4,35	1350	-
			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□60BM	three-phase	380	50	0,34	1,55/15,5	0,435/4,35	1350	-
			60	0,25	1,19/11,9	0,37/3,7	1600	
K9I□60BV	three-phase	400	50	0,37	1,85/18,5	0,435/4,35	1350	-
			60	0,28	1,42/14,2	0,37/3,7	1600	
K9I□60BQ	three-phase	415	50	0,26	1,45/14,5	0,45/4,5	1300	-
			60	0,21	1,15/11,5	0,37/3,7	1600	
K9I□60BZ	three-phase	440	50	0,28	1,6/16	0,45/4,5	1300	-
			60	0,23	1,25/12,5	0,37/3,7	1600	

Motor spec is same as induction motor's, Applied gear head is K6G□B(C) Series.

Identify rated torque of gearhead in induction motor in order to find out the torque value of gearhead per gear ratios.

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

## OPEN TYPE MOTOR

### SPECIFICATIONS

#### 90W

Model		Voltage (V)	Frequency (Hz)	Current (A)	Start T. (N·m/kgf·cm)	Rated T. (N·m/kgf·cm)	Speed (rpm)	Condenser (μF)
K9I□90BJ	single-phase	100	50	2,07	0,55/5,5	0,675/6,75	1300	30
			60	1,97		0,55/5,5	1600	
K9I□90BU		110	60	1,47	0,44/4,4	0,55/5,5	1600	20
				1,52				
K9I□90BL		200	50	0,75	0,5/5	0,675/6,75	1300	7
				0,97		0,57/5,7	1550	
K9I□90BC		220	50	0,8	0,45/4,5	0,675/6,75	1300	6
				0,9	0,5/5	0,57/5,7	1550	
		230	50	0,87	0,55/5,5	0,675/6,75	1300	
				0,93		0,57/5,7	1550	
K9I□90BD	240	50	0,85	0,5/5	0,675/6,75	1300	5	
K9I□90BT	three-phase	200	50	0,79	2,25/22,5	0,65/6,5	1350	-
			60	0,72	1,75/17,5	0,55/5,5	1600	
K9I□90BH		220	50	0,72	2,35/23,5	0,65/6,5	1350	-
				0,63	1,8/18	0,55/5,5	1600	
230		50	0,86	2,45/24,5	0,65/6,5	1350		
			0,66	1,95/19,5	0,55/5,5	1600		
K9I□90BM		380	50	0,43	2,35/23,5	0,65/6,5	1350	-
				0,37	1,7/17	0,55/5,5	1600	
K9I□90BV		400	50	0,52	2,65/26,5	0,65/6,5	1350	-
				0,45	2,1/21	0,55/5,5	1600	
K9I□90BQ	415	50	0,39	2/20	0,68/6,8	1300	-	
			0,31	1,5/15	0,55/5,5	1600		
K9I□90BZ	440	50	0,45	2,1/21	0,68/6,8	1300	-	
			0,39	1,7/17	0,55/5,5	1600		

#### 120W

Model		Voltage (V)	Frequency (Hz)	Current (A)	Start T. (N·m/kgf·cm)	Rated T. (N·m/kgf·cm)	Speed (rpm)	Condenser (μF)
K9I□120BJ	single-phase	100	50	2,2	0,6/6	0,9/9	1300	35
			60		0,65/6,5	0,735/7,35	1600	
K9I□120BU		110	60	2,13	0,65/6,6	0,735/7,35	1600	30
				2,3	0,7/7			
K9I□120BL		200	50	1,07	0,65/6,5	0,9/9	1300	8,5
				1,22	0,6/6	0,755/7,55	1550	8
K9I□120BC		220	50	0,82	0,55/5,5	0,9/9	1300	6
				0,85	0,6/6			
		230	60	1	0,6/6	0,735/7,35	1600	7
				1,1	0,65/6,5			
K9I□120BD	240	50	0,9	0,6/6	0,9/9	1300	6	

Motor spec is same as induction motor's, Applied gear head is K6G□B(C) Series,  
Identify rated torque of gearhead in induction motor in order to find out the torque value of gearhead per gear ratios,  
\* □ : SHAFT SHAPE (S : STRAIGHT, G : PINION)

## OPEN TYPE MOTOR

### SPECIFICATIONS

150W

Model		Voltage (V)	Frequency (Hz)	Current (A)	Start T. (N·m/kgf·cm)	Rated T. (N·m/kgf·cm)	Speed (rpm)	Condenser (μF)
K9I□150BT		200	50	1,2	3,5/35	1,13/11,3	1300	—
			60	0,95	2,65/26,5	0,915/9,15	1600	
K9I□150BH		220	50	0,99	2,95/29,5	1,13/11,3	1300	—
				1,1	3/30			
		230	60	0,97	2,5/25	0,915/9,15	1600	
				1,02	2,7/27			
K9I□150BM	three-phase	380	50	0,57	3/30	1,13/11,3	1300	—
			60		2,25/22,5	0,915/9,15	1600	
K9I□150BV		400	50	0,6	3,5/35	1,13/11,3	1300	—
			60		2,5/25	0,915/9,15	1600	
K9I□150BQ		415	50	0,57	3,15/31,5	1,13/11,3	1300	—
			60	0,42	2,35/23,5	0,915/9,15	1600	
K9I□150BZ		440	50	0,53	3,3/33	1,085/10,85	1350	—
			60	0,44	2,6/26	0,915/9,15	1600	

Motor spec is same as induction motor's, Applied gear head is K6G□B(C) Series.

Identify rated torque of gearhead in induction motor in order to find out the torque value of gearhead per gear ratios.

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

## OPEN TYPE MOTOR

### SPECIFICATIONS

#### 180W

Model		Voltage (V)	Frequency (Hz)	Current (A)	Start T. (N·m/kgf·cm)	Rated T. (N·m/kgf·cm)	Speed (rpm)	Condenser (μF)
K9I□180BJ	single-phase	100	50	3.43	0.9/9	1.35/13.5	1300	50
			60	3.7	1/10	1.1/11	1600	
K9I□180BU		110	60	2.85	0.8/8	1.1/11	1600	35
		115		3.06				
K9I□180BL		200	50	1.47	0.73/7.3	1.35/13.5	1300	12
			60	1.43	0.65/6.5	1.1/11	1600	
K9I□180BC		220	50	1.58	0.7/7	1.35/13.5	1300	8
			60	1.38	0.65/6.5	1.1/11	1600	
		230	50	1.7	0.75/7.5	1.35/13.5	1300	
			60	1.54	0.7/7	1.1/11	1600	
K9I□180BD	240	50	1.2	0.8/8	1.35/13.5	1300	8	

#### 200W

Model		Voltage (V)	Frequency (Hz)	Current (A)	Start T. (N·m/kgf·cm)	Rated T. (N·m/kgf·cm)	Speed (rpm)	Condenser (μF)
K9I□200BT	three-phase	200	50	1.62	4/40	1.5/15	1300	-
			60	1.29	3.15/31.5	1.22/12.2	1600	
K9I□200BH		220	50	1.36	4.25/42.5	1.45/14.5	1350	-
			60	1.06	3.4/34	1.22/12.2	1600	
K9I□200BM		230	50	1.51	4.3/43	1.45/14.5	1350	-
			60	1.15	3.5/35	1.22/12.2	1600	
K9I□200BM		380	50	0.81	4.3/43	1.45/14.5	1350	-
			60	0.58	3.6/36	1.22/12.2	1600	
K9I□200BV		400	50	0.91	4.5/45	1.45/14.5	1350	-
			60	0.67	4/40	1.22/12.2	1600	
K9I□200BQ	415	50	0.62	3.8/38	1.5/15	1300	-	
		60	0.58	3/30	1.26/12.6	1550		
K9I□200BZ	440	50	0.68	4.1/41	1.5/15	1300	-	
		60	0.54	3/30	1.22/12.2	1600		

Motor spec is same as induction motor's, Applied gear head is K6G□B(C) Series.

Identify rated torque of gearhead in induction motor in order to find out the torque value of gearhead per gear ratios.

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





# DC MOTOR



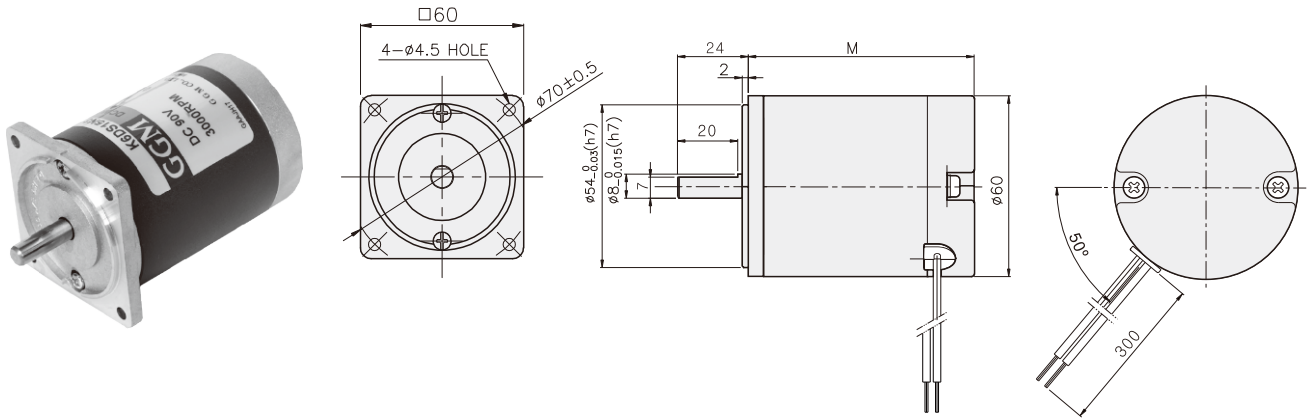
## DC MOTOR

6W  
~15W

□60mm

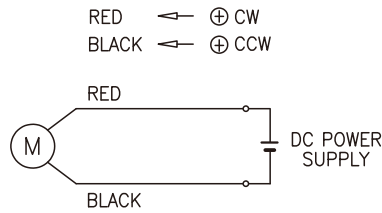
### DIMENSIONS

K6DS□□



### CONNECTION DIAGRAMS

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



#### DIMENSION TABLE

M	MOTOR
73	K6D□6N□
88	K6D□15N□

### SPECIFICATIONS

Model	Output (W)	Voltage (V)	RATED			Start T. (N·m/kgf·cm)	Starting Current (A)	
			Speed (rpm)	Torque (N·m/kgf·cm)	Current (A)			
K6D□6N1	6	12	3000	0.02/0.2	1.1	0.16/1.6	8	
K6D□6N2		24			0.6	0.17/1.7	5	
K6D□6N3		90			0.1	0.19/1.9	1	
K6D□15N1	15	12		3000	0.05/0.5	2.8	0.31/3.1	17
K6D□15N2		24				1.2	0.42/4.2	11
K6D□15N3		90				0.3	0.4/4	3

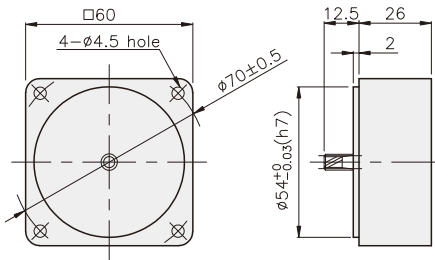
\* □ : SHAFT SHAPE (S : STRAIGHT, G : PINION)

## GEARHEAD

### DIMENSIONS

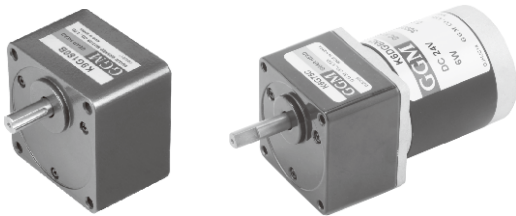
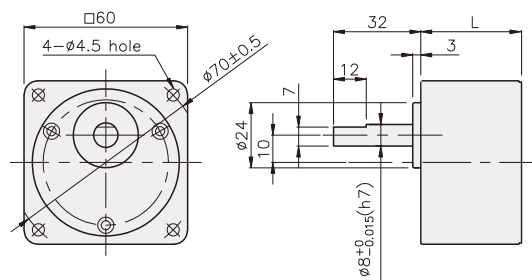
#### DECIMAL GEARHEAD

##### 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

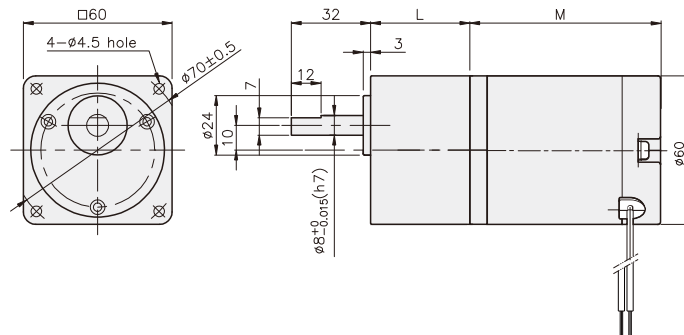
#### DIMENSION TABLE

M	MOTOR
73	K6D□6N□
88	K6D□15N□

#### WEIGHT

PART	WEIGHT(kg)	
MOTOR	0.62(6W)	
	0.73(15W)	
K6G10BX	0,22	
GEAR HEAD	K6G3~18B(C)	0,26
	K6G20~40B(C)	0,33
	K6G50~250B(C)	0,36

#### K6DG□N□ + K6G□B(C)



### RATED TORQUE OF GEARHEAD

#### ● K6G□B(C)

unit = above : N·m / below : Kgf·cm

Model Motor/ Gear head	Speed (rpm)	1000	833	600	500	400	333	300	240	200	167	150	120	100	83	75	60	50	40	33	30	25	20	17	15	12
		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
K6DG6N□	0,05	0,06	0,08	0,09	0,12	0,14	0,16	0,20	0,24	0,28	0,28	0,36	0,43	0,51	0,57	0,64	0,77	0,96	1,15	1,28	1,54	1,92	2,30	2,56	3	
	0,5	0,6	0,8	0,9	1,2	1,4	1,6	2,0	2,4	2,8	2,8	3,6	4,3	5,1	5,7	6,4	7,7	9,6	11,5	12,8	15,4	19,2	23,0	25,6	30	
K6DG15N□	0,12	0,14	0,20	0,24	0,30	0,36	0,39	0,49	0,59	0,71	0,71	0,89	1,07	1,28	1,42	1,60	1,92	2,40	2,88	3	3	3	3	3	3	
	1,2	1,4	2,0	2,4	3,0	3,6	3,9	4,9	5,9	7,1	7,1	8,9	10,7	12,8	14,2	16,0	19,2	24,0	28,8	30	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.

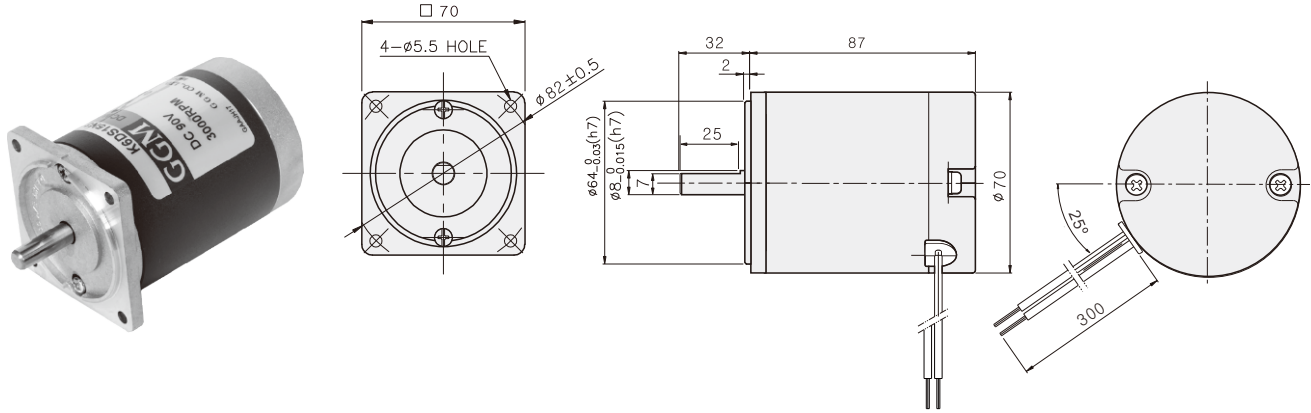
## DC MOTOR

### 15W

### □70mm

### DIMENSIONS

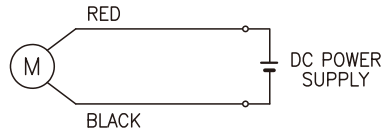
K7DS□□□



### CONNECTION DIAGRAMS

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

RED ← ⊕ CW  
BLACK ← ⊕ CCW



### SPECIFICATIONS

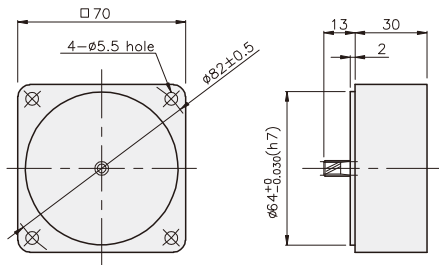
Model	Output (W)	Voltage (V)	RATED			Start T. (N·m/kgf·cm)	Starting Current (A)	
			Speed (rpm)	Torque (N·m/kgf·cm)	Current (A)			
K7D□15N1	15	12	3000	0.05/0.5	3.1	0.29/2.9	16	
K7D□15N2		24			1.4			0.35/3.5
K7D□15N3		90			0.3			

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

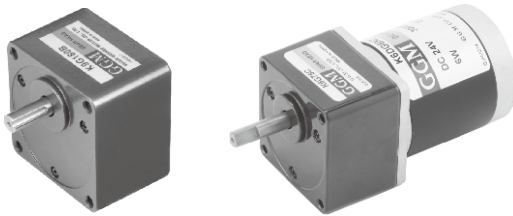
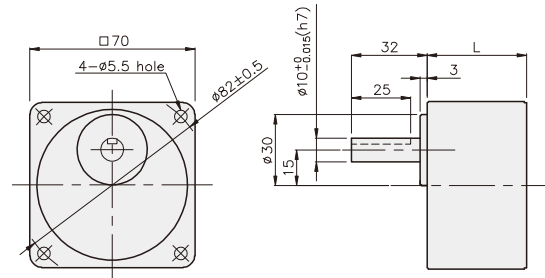
## GEARHEAD

### DIMENSIONS

DECIMAL GEARHEAD  
K7G10BX



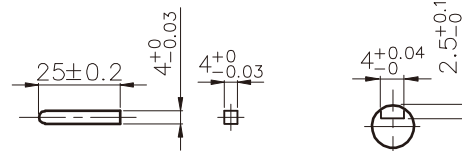
GEARHEAD  
K7G□B(C)



### KEY SPEC

● KEY

● KEY GROOVE



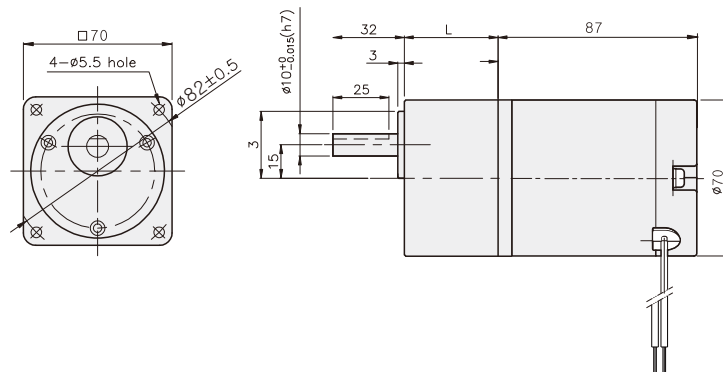
### DIMENSION TABLE

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	0.95	
K7G10BX	0.32	
GEAR HEAD	K7G3~18B(C)	0.38
	K7G20~40B(C)	0.46
	K7G50~200B(C)	0.51

K7DG15N□ + K7G□B(C)



### RATED TORQUE OF GEARHEAD

● K7G□B(C)

unit = above : N·m / below : Kgf·cm

Model	Speed (rpm)	1000	833	600	500	400	333	300	240	200	167	150	120	100	83	75	60	50	40	33	30	25	20	17	15
		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
K7DG15N□	0.12	0.14	0.20	0.24	0.30	0.36	0.39	0.49	0.59	0.71	0.71	0.89	1.07	1.28	1.42	1.60	1.92	2.40	2.88	3.20	3.83	4.79	5	5	
	1.2	1.4	2.0	2.4	3.0	3.6	3.9	4.9	5.9	7.1	7.1	8.9	10.7	12.8	14.2	16.0	19.2	24.0	28.8	32.0	38.3	47.9	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.

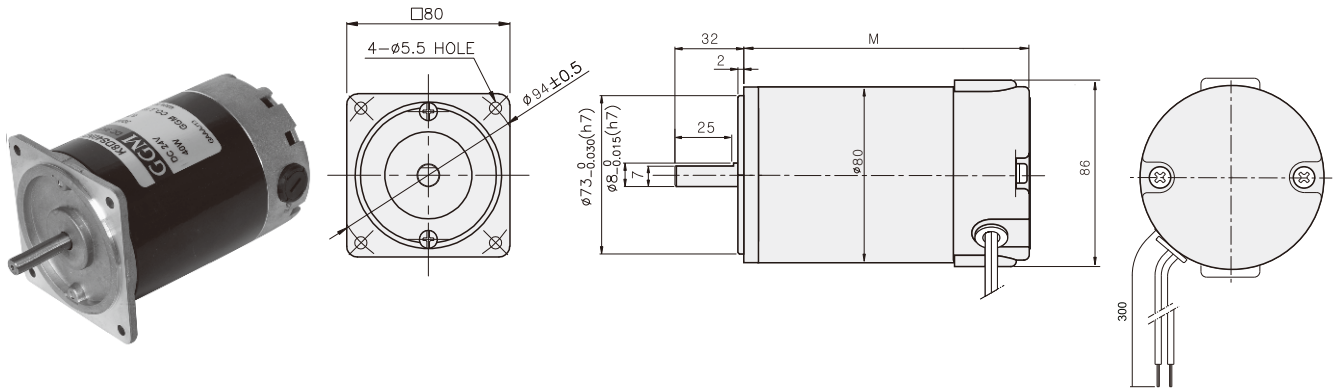
## DC MOTOR

25W  
~40W

□80mm

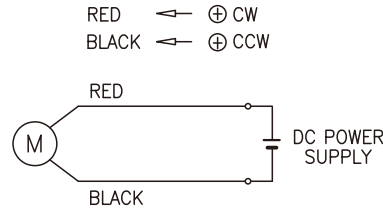
### DIMENSIONS

K8DS□N□



### CONNECTION DIAGRAMS

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



### DIMENSION TABLE

M	MOTOR
121.5	K8D□25N□
122	K8D□40N□

### SPECIFICATIONS

Model	Output (W)	Voltage (V)	RATED			Start T. (N·m/kgf·cm)	Starting Current (A)
			Speed (rpm)	Torque (N·m/kgf·cm)	Current (A)		
K8D□25N1	25	12	3000	0.08/0.8	5	1.2/12	55
K8D□25N2		24			2.3	1.3/13	28
K8D□25N3		90			0.6	0.8/8	5
K8D□40N1	40	12		0.13/1.3	6.1	1.43/14.3	64
K8D□40N2		24			3	1.82/18.2	40
K8D□40N3		90			0.9	1.44/14.4	9

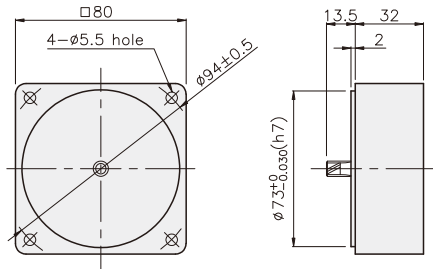
\* □ : SHAFT SHAPE (S : STRAIGHT, G : PINION)

## GEARHEAD

### DIMENSIONS

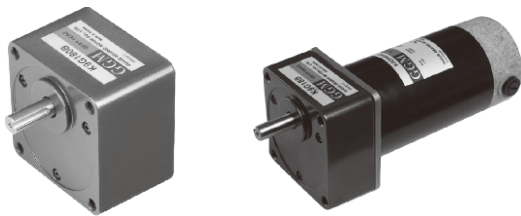
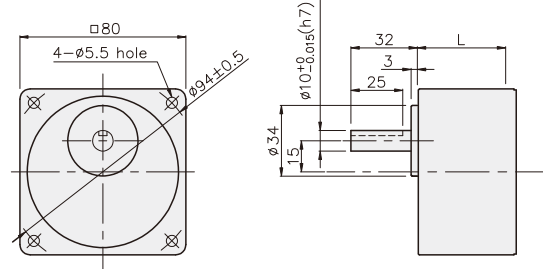
#### DECIMAL GEARHEAD

##### K8G10BX

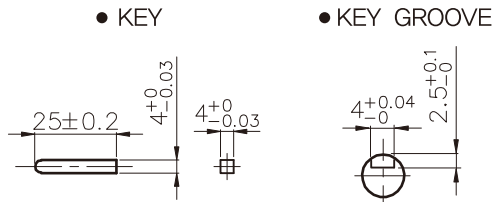


#### GEARHEAD

##### K8G□B(C)



#### KEY SPEC



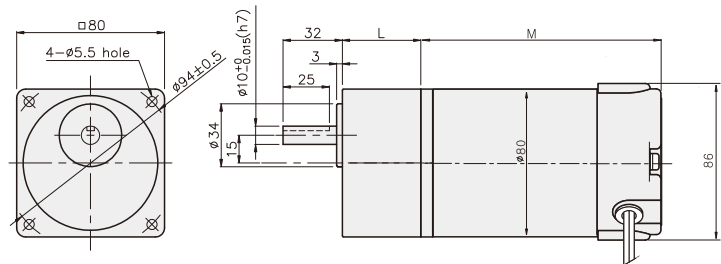
#### DIMENSION TABLE

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	1.76	
K8G10BX	0.46	
GEAR HEAD	K8G3~18B(C)	0.51
	K8G20~40B(C)	0.64
	K8G50~250B(C)	0.70

#### K8DG□N□ + K8G□B(C)



### RATED TORQUE OF GEARHEAD

#### ● K8G□B(C)

unit = above : N·m / below : Kgf·cm

Model MOTOR/GEAR HEAD	Speed (rpm)	Ratio																								
		1000	833	600	500	400	333	300	240	200	167	150	120	100	83	75	60	50	40	33	30	25	20	17	15	12
K8DG25N□	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
		0.20 2.0	0.24 2.4	0.33 3.3	0.39 3.9	0.49 4.9	0.59 5.9	0.66 6.6	0.82 8.2	0.99 9.9	1.18 11.8	1.18 11.8	1.48 14.8	1.77 17.7	2.13 21.3	2.36 23.6	2.66 26.6	3.19 31.9	3.99 39.9	4.79 47.9	5.32 53.2	6.39 63.9	7.98 79.8	8 80	8 80	8 80
K8DG40N□	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
		0.32 3.2	0.38 3.8	0.53 5.3	0.63 6.3	0.79 7.9	0.95 9.5	1.05 10.5	1.31 13.1	1.58 15.8	1.89 18.9	1.89 18.9	2.37 23.7	2.84 28.4	3.41 34.1	3.78 37.8	4.26 42.6	5.11 51.1	6.39 63.9	7.66 76.6	8 80	8 80	8 80	8 80	8 80	8 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 6N·m/60kgfcm.

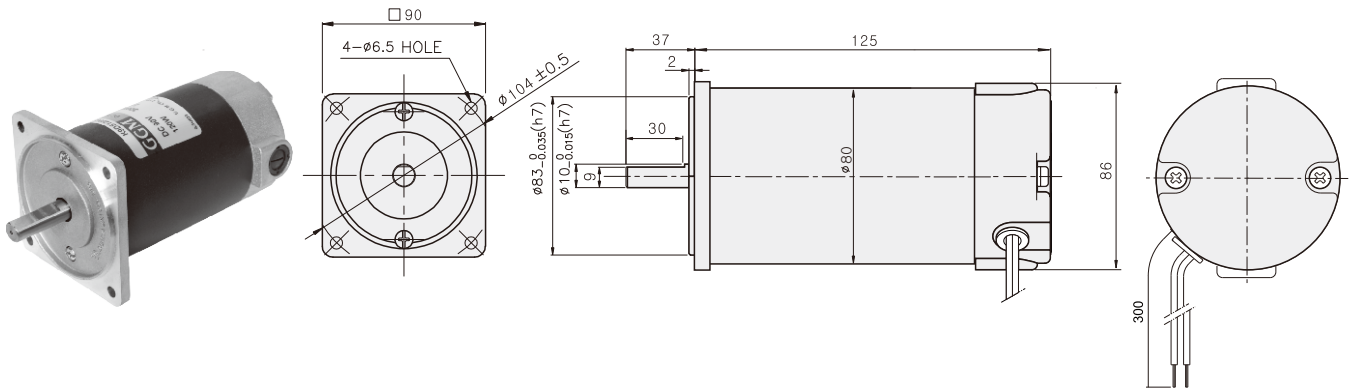


## DC MOTOR

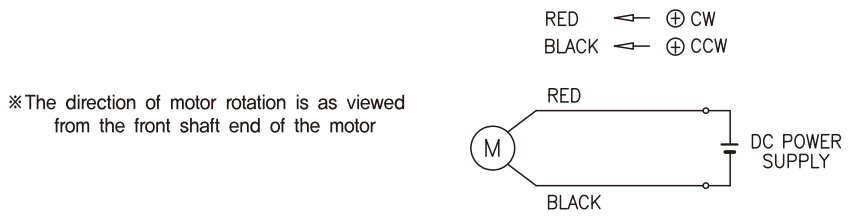
### 40W

### □90mm

### DIMENSIONS



### CONNECTION DIAGRAMS



### SPECIFICATIONS

Model	Output (W)	Voltage (V)	RATED			Start T. (N·m/kgf·cm)	Starting Current (A)
			Speed (rpm)	Torque (N·m/kgf·cm)	Current (A)		
K9D□40N1	40	12	3000	0.13/1.3	6.1	1.43/14.3	64
K9D□40N2		24					
K9D□40N3		90					

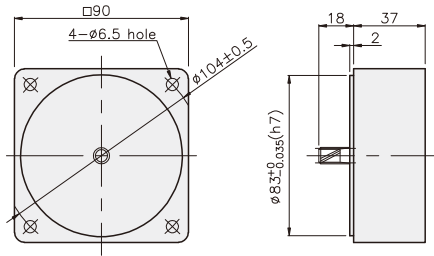
\* □ : SHAFT SHAPE (S : STRAIGHT, G : PINION)

## GEARHEAD

### DIMENSIONS

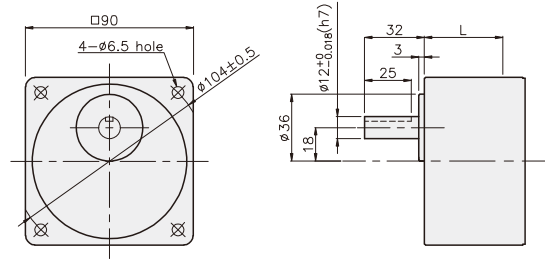
#### DECIMAL GEARHEAD

##### K9G10BX



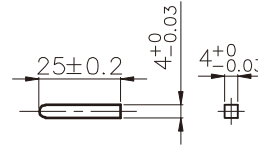
#### GEARHEAD

##### K9G□B(C)

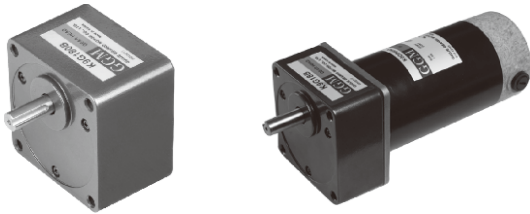
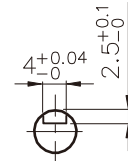


#### KEY SPEC

##### ● KEY



##### ● KEY GROOVE



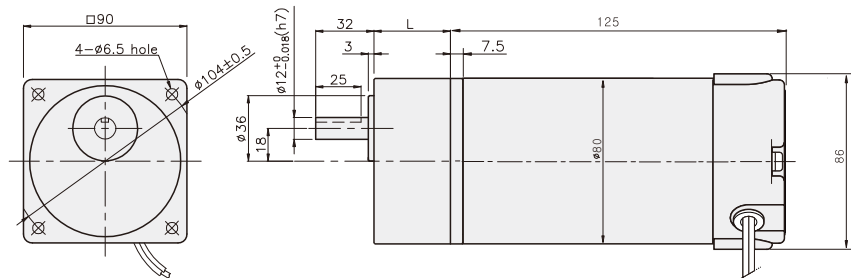
#### DIMENSION TABLE

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	1.88	
K9G10BX	0.60	
GEAR HEAD	K9G3~18B(C)	0.78
	K9G20~40B(C)	1.04
	K9G50~200B(C)	1.14

#### K9DG40N□ + K9G□B(C)



### RATED TORQUE OF GEARHEAD

#### ● K9G□B(C)

unit = above : N·m / below : Kgf·cm

Model	Speed (rpm)	1000	833	600	500	400	333	300	240	200	167	150	120	100	83	75	60	50	40	33	30	25	20	17	15
		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
K9DG40N□		0,32	0,38	0,53	0,63	0,79	0,95	1,05	1,31	1,58	1,89	1,89	2,37	2,84	3,41	3,78	4,26	5,11	6,39	7,66	8,52	10	10	10	10
		3,2	3,8	5,3	6,3	7,9	9,5	10,5	13,1	15,8	18,9	18,9	23,7	28,4	34,1	37,8	42,6	51,1	63,9	76,6	85,2	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.

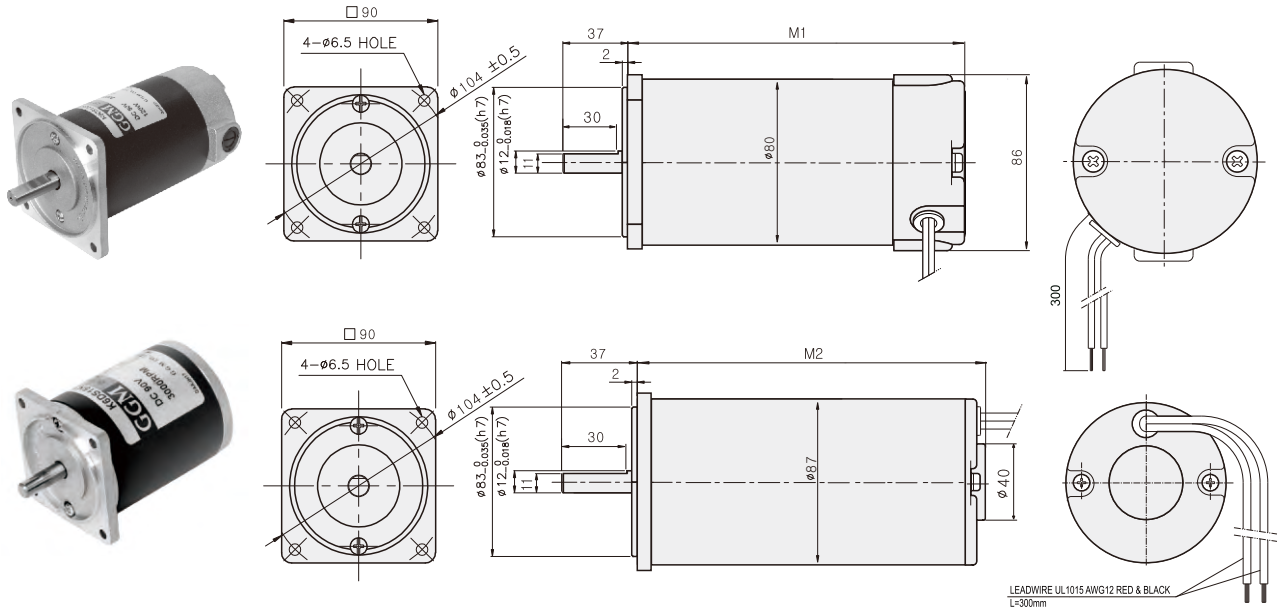
\* If you are to have less ratio than the ratio in the table, you can install the decimal gearhead, which has one tenth of the ratio, between the gearhead and the motor. In this case, the permissible torque is 10N·m/100kgfcm.

## DC MOTOR

60W  
~200W

□90mm

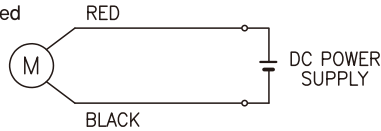
### DIMENSIONS



### CONNECTION DIAGRAMS

RED → ⊕ CW  
BLACK → ⊕ CCW

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



### DIMENSION TABLE

M1	∅	MOTOR	M2	∅	MOTOR
143	80	K9D□60N□ K9D□90N□	170	87	K9D□150N1 K9D□200N1 K9D□200N2
168		K9D□120N□ K9D□150N2 K9D□150N3 K9D□200N3			

### SPECIFICATIONS

Model	Output (W)	Voltage (V)	RATED			Start T. (N·m/kgf·cm)	Starting Current (A)
			Speed (rpm)	Torque (N·m/kgf·cm)	Current (A)		
K9D□60N1	60	12	3000	0.19/1.9	12	1.46/14.6	80
K9D□60N2		24			4.6	2.73/27.3	60
K9D□60N3		90			1.4	2.18/21.8	13
K9D□90N1	90	12		0.3/3	13.4	1.63/16.3	76
K9D□90N2		24			5.9	3/30	67
K9D□90N3		90			1.6	2.3/23	14
K9D□120N1	120	12		0.39/3.9	17.9	1.75/17.5	90
K9D□120N2		24			7.7	3.95/39.5	85
K9D□120N3		90			1.9	4.39/43.9	25
K9D□150N1	150	12		0.49/4.9	21.1	2.22/22.2	111
K9D□150N2		24			9	4.29/42.9	94
K9D□150N3		90			2.5	5/50	30
K9D□200N1	200	12	0.65/6.5	28	1.8/18	89	
K9D□200N2		24		18	5.2/52	124	
K9D□200N3		90		3.3	5.55/55.5	32	

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

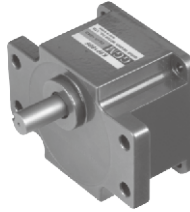
## GEARHEAD

### DIMENSIONS

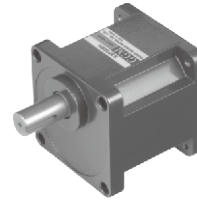
K9P□B



K9P□BF, BUF

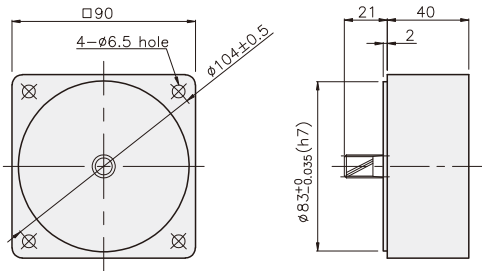


K9P□BU



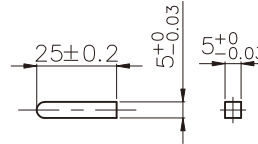
### DECIMAL GEARHEAD

K9P10BX

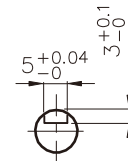


### KEY SPEC

● KEY

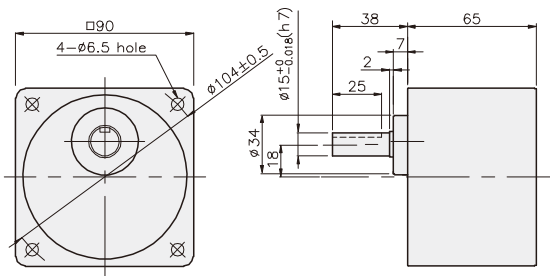


● KEY GROOVE

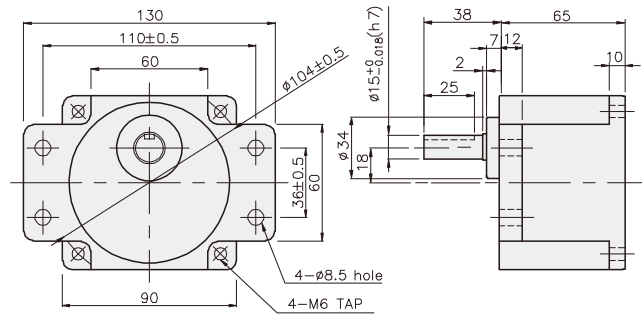


### GEARHEAD

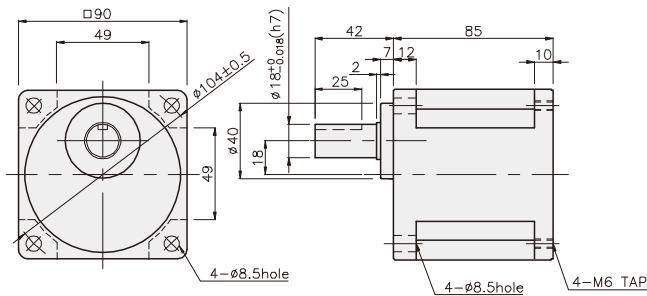
K9P□B



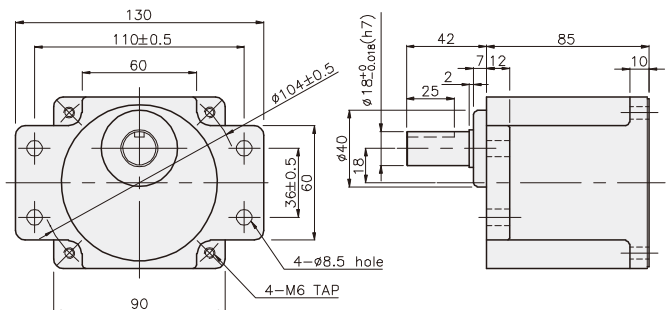
K9P□BF



K9P□BU



K9P□BUF



## GEARHEAD

### DIMENSIONS

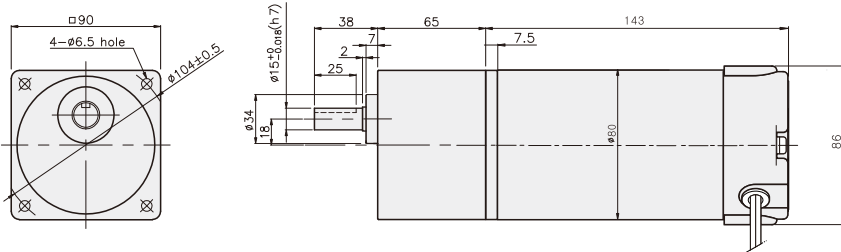
#### DIMENSION TABLE

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

#### WEIGHT

PART	WEIGHT(kg)
K9D□60N□ K9D□90N□	2.21
K9P10BX	0,62
K9P3~10B	1,22
K9P12,5~20B	1,32
K9P25~60B	1,42
K9P75~200B	1,45

#### K9DP□N□ + K9P□B



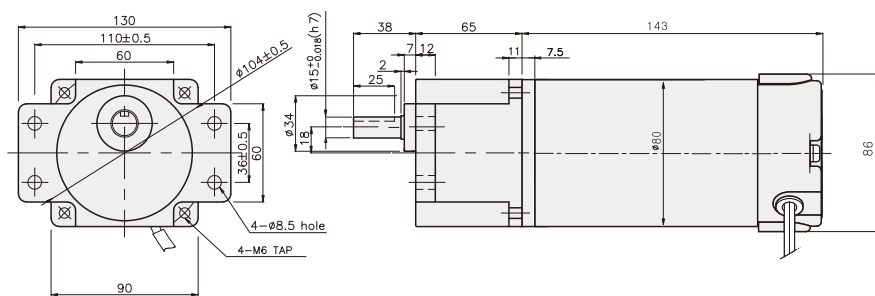
#### DIMENSION TABLE

PART No	Application Model	Mounting BOLT
01	K9P3~200BF	M6 P1,0 X 20
02	K9P10BX	M6 P1,0 X 65

#### WEIGHT

PART	WEIGHT(kg)
K9D□60N□ K9D□90N□	2.21
K9P10BX	0,62
K9P3~10BF	1,22
K9P12,5~20BF	1,30
K9P25~60BF	1,42
K9P75~200BF	1,44

#### K9DP□N□ + K9P□BF



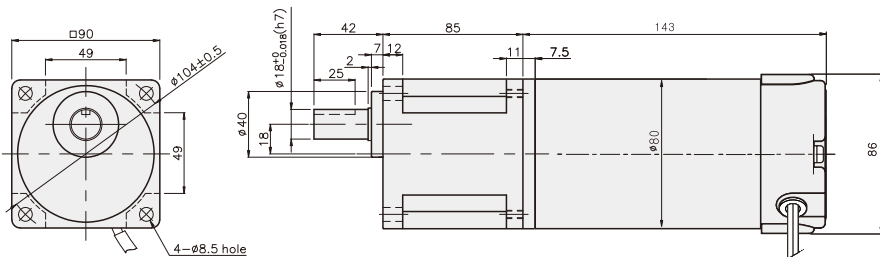
#### DIMENSION TABLE

PART No	Application Model	Mounting BOLT
01	K9P3~200BU	M6 P1,0 X 20
02	K9P10BX	M6 P1,0 X 65

#### WEIGHT

PART	WEIGHT(kg)
K9D□60N□ K9D□90N□	2.21
K9P10BX	0,62
K9P3~10BU	1,44
K9P12,5~20BU	1,55
K9P25~60BU	1,69
K9P75~200BU	1,74

#### K9DP□N□ + K9P□BU



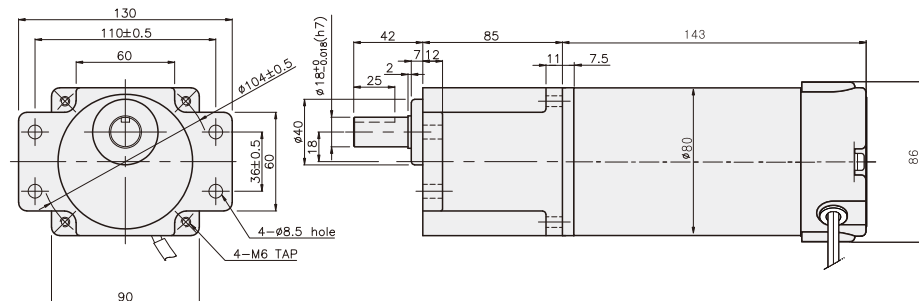
#### DIMENSION TABLE

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

#### WEIGHT

PART	WEIGHT(kg)
K9D□60N□ K9D□90N□	2.21
K9P10BX	0,62
K9P3~10BUF	1,50
K9P12,5~20BUF	1,62
K9P25~60BUF	1,76
K9P75~200BUF	1,82

#### K9DP□N□ + K9P□BUF



## GEARHEAD DIMENSIONS

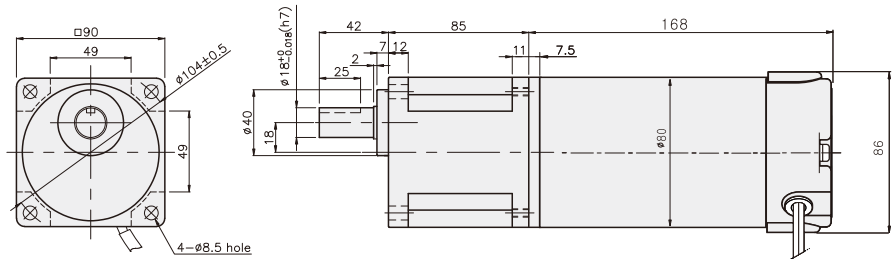
DIMENSION TABLE

PART No	Application Model	Mounting BOLT
01	K9P3~200BU	M6 P1,0 X 20
02	K9P10BX	M6 P1,0 X 65

WEIGHT

PART	WEIGHT(kg)
K9D□120N□ K9D□150N3	3.20
K9D□200N3	3.30
K9P10BX	0.62
K9P3~10BU	1.44
K9P12,5~20BU	1.55
K9P25~60BU	1.69
K9P75~200BU	1.74

K9DP□N□ + K9P□BU



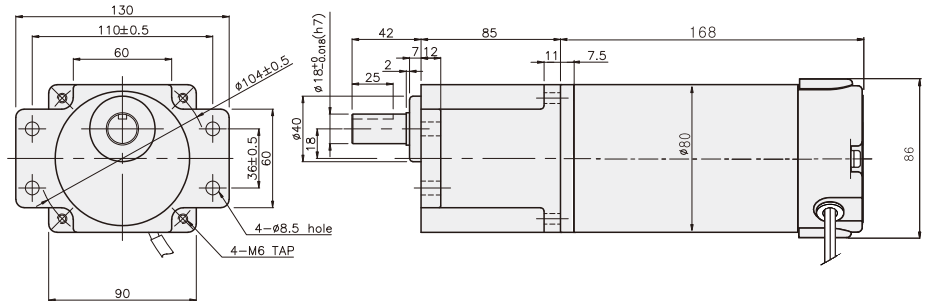
DIMENSION TABLE

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

WEIGHT

PART	WEIGHT(kg)
K9D□120N□ K9D□150N3	3.20
K9D□200N3	3.30
K9P10BX	0.62
K9P3~10BUF	1.50
K9P12,5~20BUF	1.62
K9P25~60BUF	1.76
K9P75~200BUF	1.82

K9DP□N□ + K9P□BUF



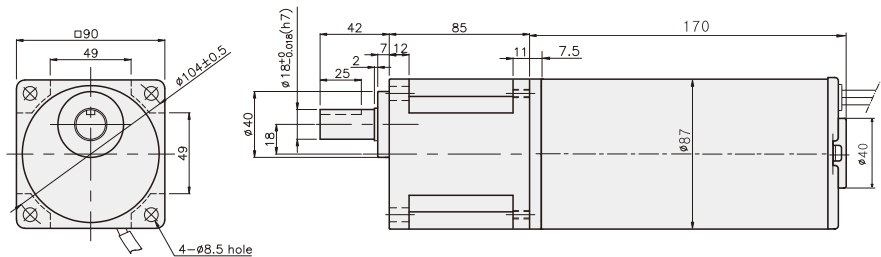
DIMENSION TABLE

PART No	Application Model	Mounting BOLT
01	K9P3~200BU	M6 P1,0 X 20
02	K9P10BX	M6 P1,0 X 65

WEIGHT

PART	WEIGHT(kg)
K9D□150N1	3.50
K9D□150N2	3.20
K9D□200N1	3.70
K9D□200N2	3.40
K9P10BX	0.62
K9P3~10BU	1.44
K9P12,5~20BU	1.55
K9P25~60BU	1.69
K9P75~200BU	1.74

K9DP□N□ + K9P□BU



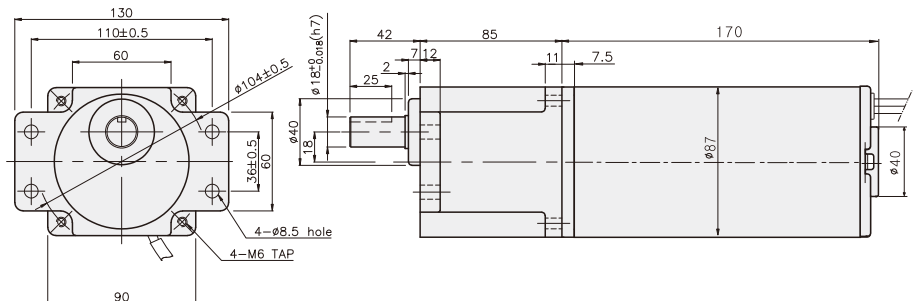
DIMENSION TABLE

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

WEIGHT

PART	WEIGHT(kg)
K9D□150N1	3.50
K9D□150N2	3.20
K9D□200N1	3.70
K9D□200N2	3.40
K9P10BX	0.62
K9P3~10BUF	1.50
K9P12,5~20BUF	1.62
K9P25~60BUF	1.76
K9P75~200BUF	1.82

K9DP□N□ + K9P□BUF



## DC MOTOR

### RATED TORQUE OF GEARHEAD

#### ● K9P□B, K9P□BF

unit = above : N·m / below : Kgf·cm

Model	Speed (rpm)	1000	833	600	500	400	333	300	240	200	167	150	120	100	83	75	60	50	40	33	30	25	20	17	15
		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
K9DP60N□	0,47 4,7	0,57 5,7	0,79 7,9	0,95 9,5	1,18 11,8	1,42 14,2	1,58 15,8	1,77 17,7	2,13 21,3	2,55 25,5	2,84 28,4	3,19 31,9	3,83 38,3	4,60 46,0	5,11 51,1	6,39 63,9	7,66 76,6	8,62 86,2	10,35 103,5	11,50 115,0	13,80 138,0	17,25 172,5	20 200	20 200	
K9DP90N□	0,71 7,1	0,85 8,5	1,18 11,8	1,42 14,2	1,77 17,7	2,13 21,3	2,37 23,7	2,66 26,6	3,19 31,9	3,83 38,3	4,26 42,6	4,79 47,9	5,75 57,5	6,90 69,0	7,67 76,7	9,58 95,8	11,50 115,0	12,94 129,4	15,52 155,2	17,25 172,5	20 200	20 200	20 200	20 200	

#### ● K9P□BU, K9P□BUF

unit = above : N·m / below : Kgf·cm

Model	Speed (rpm)	1000	833	600	500	400	333	300	240	200	167	150	120	100	83	75	60	50	40	33	30	25	20	17	15
		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
K9DP90N□	0,71 7,1	0,85 8,5	1,18 11,8	1,42 14,2	1,77 17,7	2,13 21,3	2,37 23,7	2,66 26,6	3,19 31,9	3,83 38,3	4,26 42,6	4,79 47,9	5,75 57,5	6,90 69,0	7,67 76,7	9,58 95,8	11,50 115,0	12,94 129,4	15,52 155,2	17,25 172,5	20,70 207,0	25,87 258,7	30 300	30 300	
K9DP120N□	0,95 9,5	1,14 11,4	1,58 15,8	1,89 18,9	2,37 23,7	2,84 28,4	3,15 31,5	3,55 35,5	4,26 42,6	5,11 51,1	5,68 56,8	6,39 63,9	7,67 76,7	9,20 92,0	10,22 102,2	12,78 127,8	15,33 153,3	17,25 172,5	20,70 207,0	23,00 230,0	27,60 276,0	30 300	30 300	30 300	
K9DP150N□	1,18 11,8	1,42 14,2	1,97 19,7	2,37 23,7	2,96 29,6	3,55 35,5	3,94 39,4	4,44 44,4	5,32 53,2	6,39 63,9	7,10 71,0	7,99 79,9	9,58 95,8	11,50 115,0	12,78 127,8	15,97 159,7	19,17 191,7	21,56 215,6	25,88 258,8	28,75 287,5	30 300	30 300	30 300	30 300	
K9DP200N□	1,58 15,8	1,89 18,9	2,63 26,3	3,15 31,5	3,94 39,4	4,73 47,3	5,26 52,6	5,91 59,1	7,10 71,0	8,52 85,2	9,46 94,6	10,65 106,5	12,78 127,8	15,33 153,3	17,03 170,3	21,29 212,9	25,55 255,5	28,75 287,5	30 300	30 300	30 300	30 300	30 300	30 300	

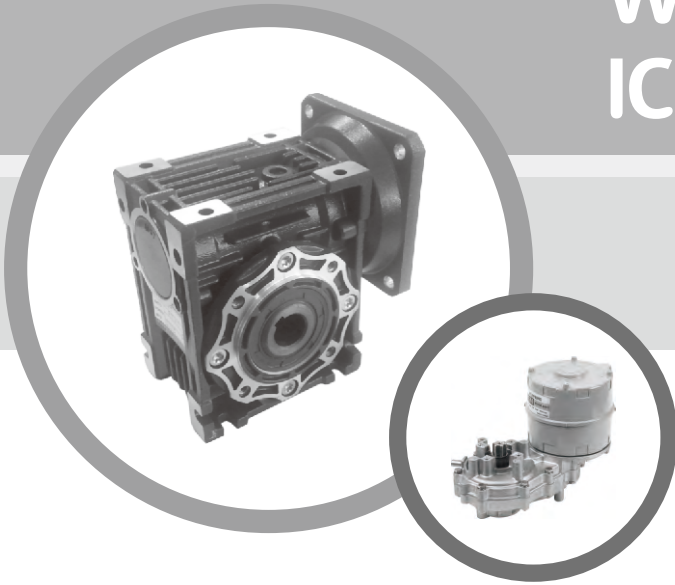
\* Gearhead and decimal gearhead are sold separately.

\* 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.

# WORM REDUCER/ ICE MAKER MOTOR



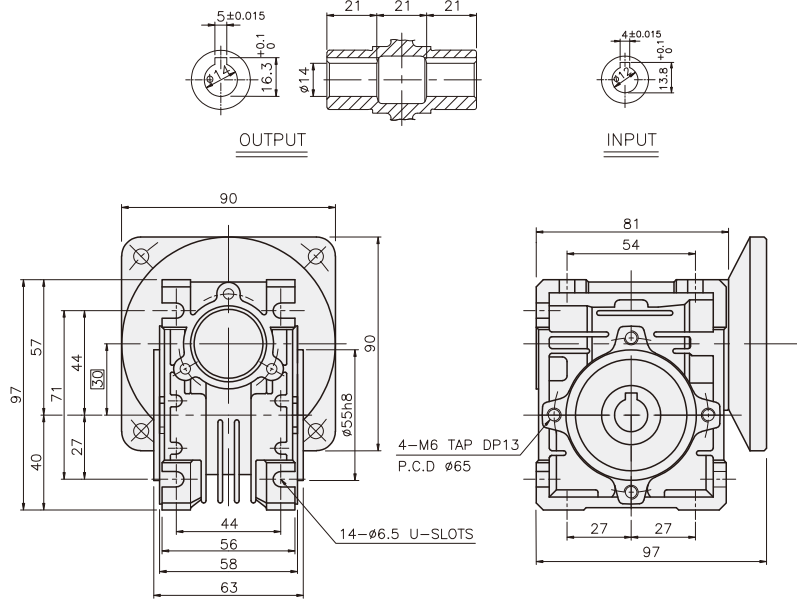
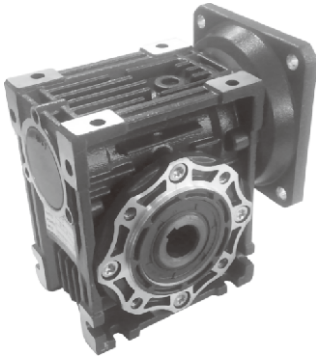


**WORM REDUCER**

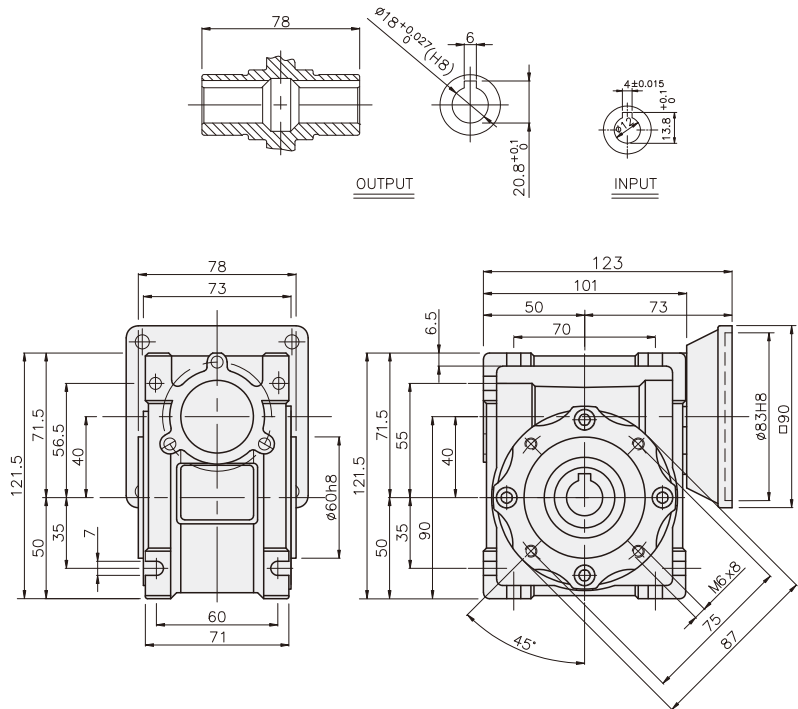
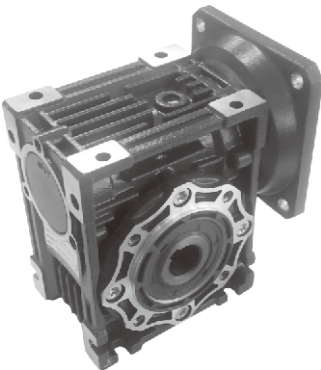
**NMRV**

DIMENSIONS

NMRV 030



NMRV 040

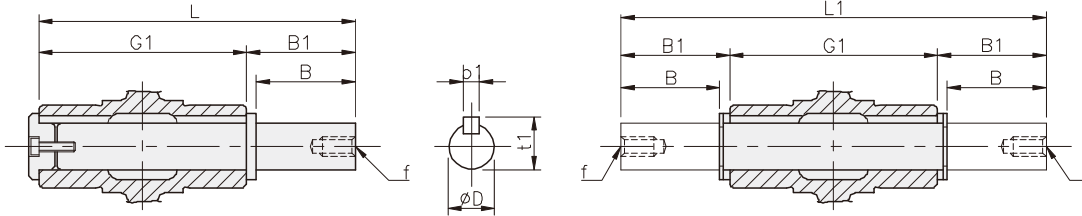


## WORM REDUCER

### Output Shaft (Option)

■ Single shaft

■ both shaft



### Output Shaft Spec

	d	B	B1	G1	L	L1	f	b1	t1
030	14h6	30	32.5	63	102	128	M6	5	16
040	18h6	40	43	78	128	164	M6	6	20.5

### Input Shaft

NMRV	D												
	RATIO	5	7.5	10	15	20	25	30	40	50	60	80	100
030		12	12	12	12	12	12	12	12	12	12	12	-
040		12	12	12	12	12	12	12	12	12	12	12	12

### Wormgear efficiency data

i = RATIO     $\eta_d$  = efficiency in no load     $\eta_s$  = efficiency in load    T = allowable torque

RV	i	5	7.5	10	15	20	25	30	40	50	60	80	100
30	$\eta_d$ (At 1400 RPM)	-	0.85	0.82	0.77	0.73	0.68	0.65	0.59	0.55	0.51	0.44	-
	$\eta_s$	-	0.67	0.63	0.55	0.5	0.43	0.39	0.35	0.31	0.27	0.23	-
	T(Nm)	-	15	15.3	14.9	15	17.5	16.6	15.3	13.8	14	10.5	-
40	$\eta_d$ (At 1400 RPM)	-	-	0.85	0.82	0.78	0.75	0.7	0.65	0.62	0.58	0.52	0.47
	$\eta_s$	-	-	0.67	0.6	0.55	0.51	0.45	0.4	0.36	0.32	0.28	0.24
	T(Nm)	-	-	33.2	33.6	32.5	31.3	36.8	33.2	31.6	30.3	28.3	25.3

## ICE MAKER MOTOR

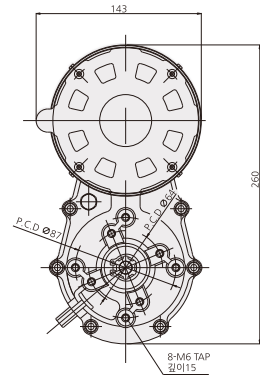
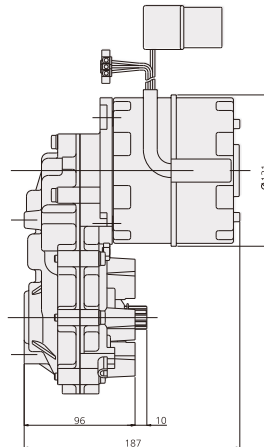
80W

Ø120mm

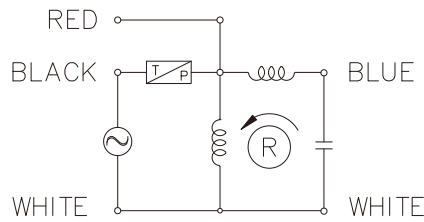
CONNECTOR TYPE

### DIMENSIONS

#### K121P80N□ + KGJ SERIES



### CONNECTION DIAGRAMS



※viewed from the end shaft of motor

### SPECIFICATIONS

80W 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)
K121P80NJ	single-phase	100	50	1.6	0.38/3.8	0.56/5.6	1400	25
			60			0.47/4.7	1670	
K121P80NC		220	50	0.8	0.38/3.8	0.56/5.6	1400	6
			60	0.75		0.47/4.7	1670	

AT Rated

FREQ(Hz)	50		60		50		60		50		60		50		60	
MODEL KGJ 207C	RPM	Kg · m	RPM	Kg · m	RPM	Kg · m	RPM	Kg · m	RPM	Kg · m	RPM	Kg · m	RPM	Kg · m	RPM	Kg · m
1/207	6.8	8.0	8.1	8.0												

## ICE MAKER MOTOR

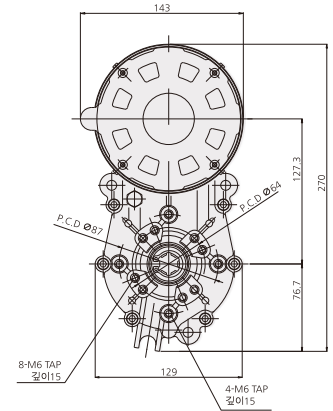
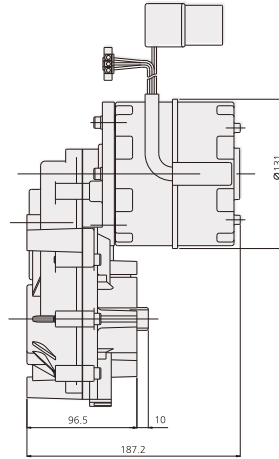
**80W**

Ø120mm

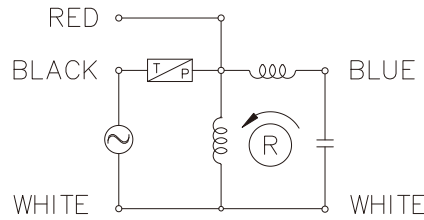
CONNECTOR TYPE

### DIMENSIONS

**K121P80N□ + KGO SERIES**



### CONNECTION DIAGRAMS



※viewed from the end shaft of motor

### SPECIFICATIONS

80W continuous rating, four poles

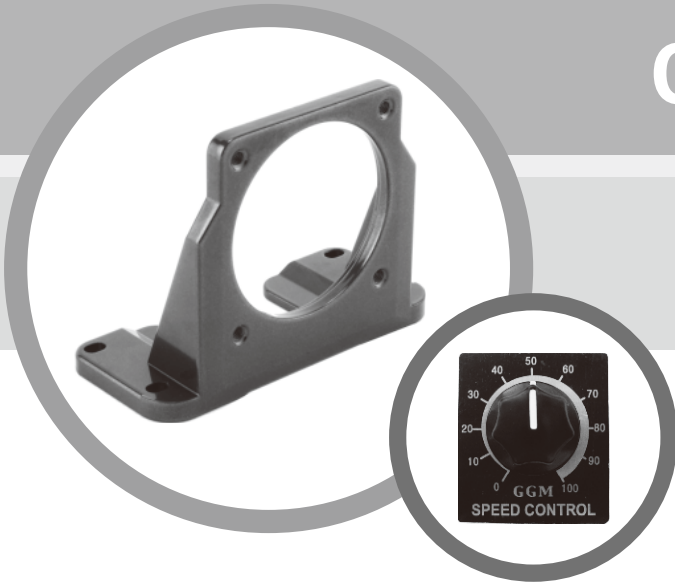
Model		Voltage (V)	Frequency (Hz)	Current (A)	Start T. (N*m/kgf*cm)	Rated T. (N*m/kgf*cm)	Speed (rpm)	Condenser (µF)
K121P80NJ	single-phase	100	50	1.6	0.38/3.8	0.56/5.6	1400	25
			60			0.47/4.7	1670	
K121P80NC		220	50	0.8	0.38/3.8	0.56/5.6	1400	6
			60			0.47/4.7	1670	

AT Rated

FREQ(Hz)	50		60		50		60		50		60		50		60	
MODEL KGO 207C	RPM	Kg · m	RPM	Kg · m	RPM	Kg · m	RPM	Kg · m	RPM	Kg · m	RPM	Kg · m	RPM	Kg · m	RPM	Kg · m
1/207	6.8	8.0	8.1	8.0												



# OPTION

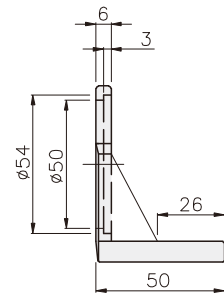
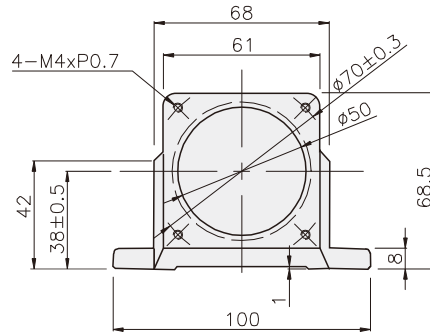
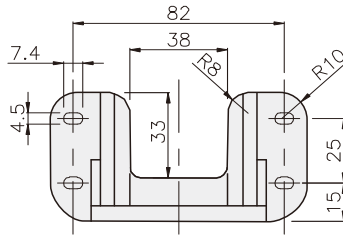


**OPTION**

**MOUNTING BRACKET FOR MOTOR GEARHEAD**

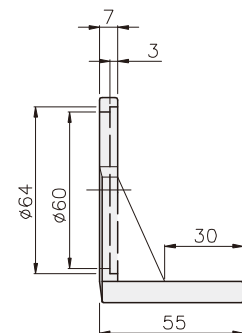
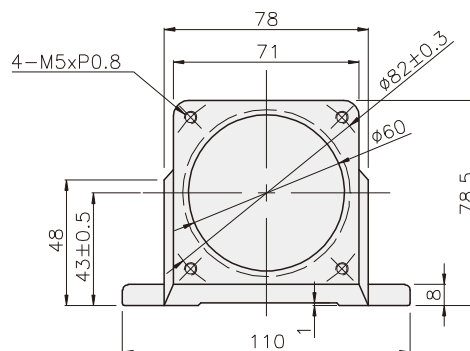
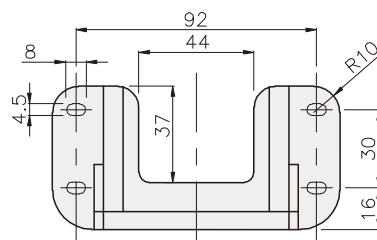
DIMENSIONS

**K6B(□60mm)**



applied product
MOTOR : K6□S6N□ GEARHEAD : K6G□B(C)
characteristics
Weight 45g, Materials AL

**K7B(□70mm)**



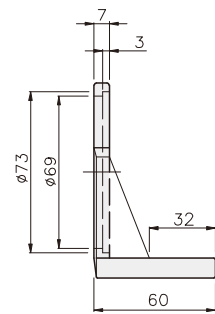
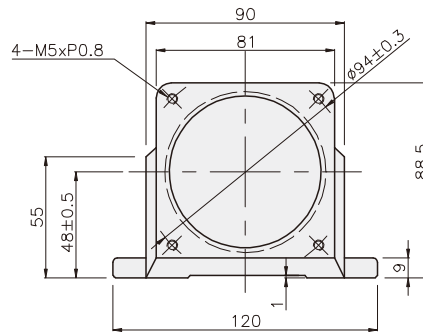
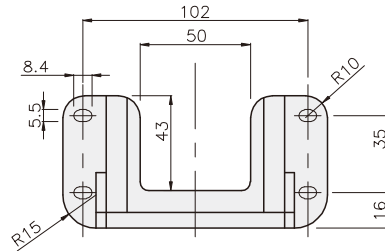
applied product
MOTOR : K7□S15N□ GEARHEAD : K7G□B(C)
characteristics
Weight 75g, Materials AL

**OPTION**

**MOUNTING BRACKET FOR MOTOR GEARHEAD**

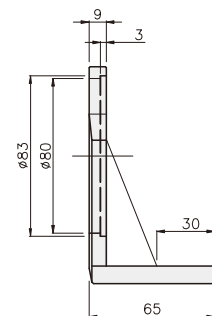
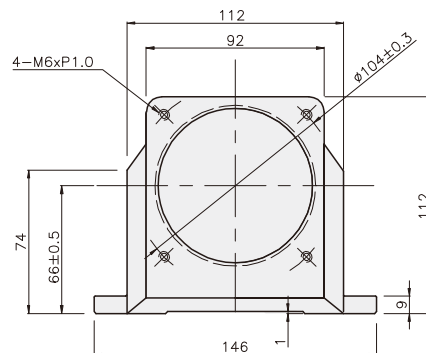
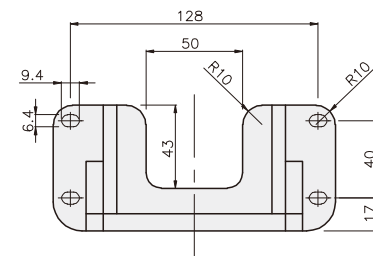
DIMENSIONS

**K8B(□80mm)**



applied product
MOTOR : K8□S25N□ GEARHEAD : K8G□B(C)
characteristics
Weight 120g, Materials AL

**K9B-M6(□90mm)**



applied product
MOTOR : K9□S□F□ GEARHEAD : K9G□B, K9P□B
characteristics
Weight 270g, Materials AL

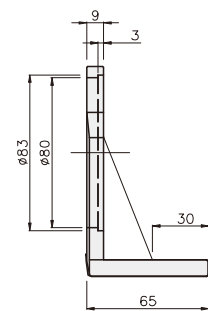
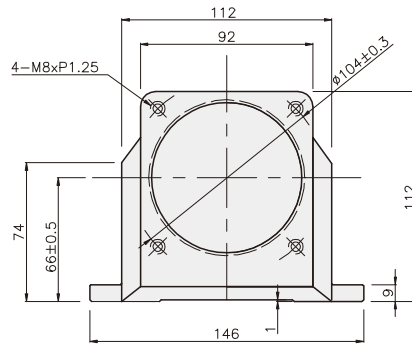
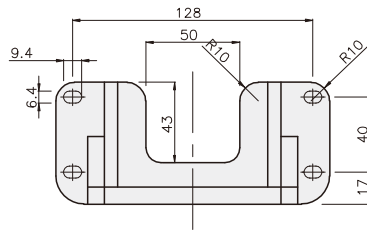


**OPTION**

**MOUNTING BRACKET FOR MOTOR GEARHEAD**

DIMENSIONS

K9B-M8(□90mm)



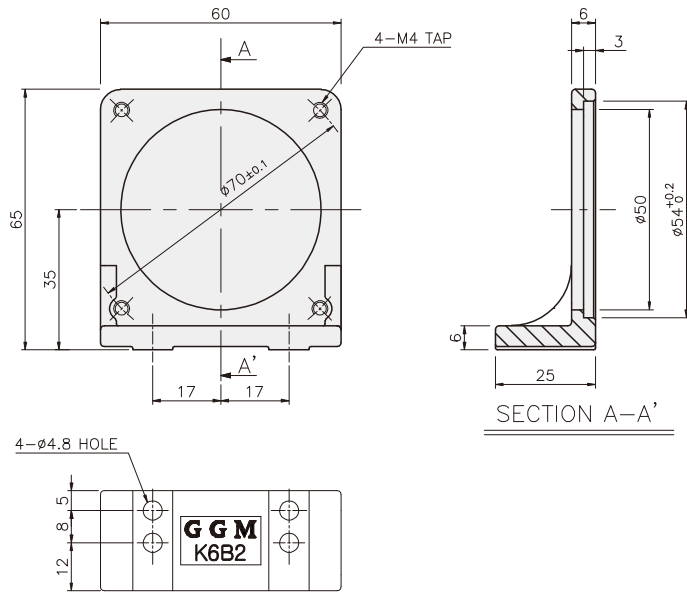
applied product
GEARHEAD : K9P□BU
characteristics
Weight 270g, Materials AL

**OPTION**

**MOUNTING BRACKET FOR MOTOR GEARHEAD**

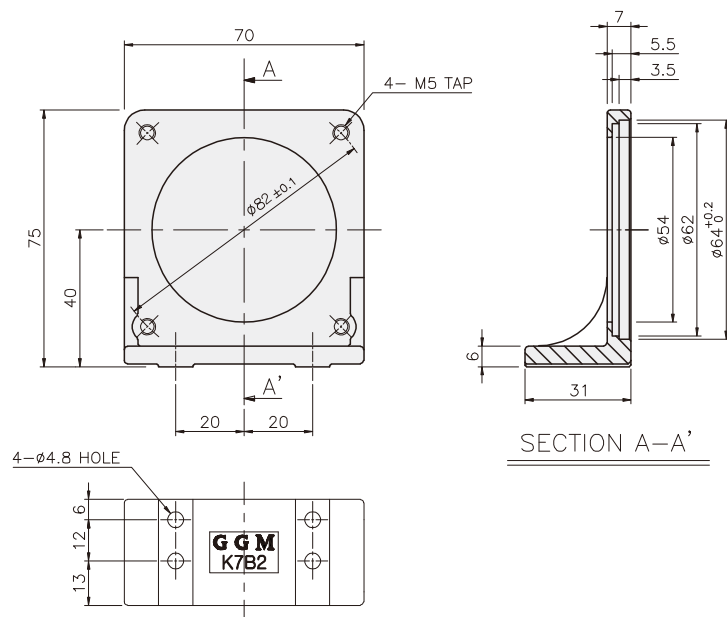
DIMENSIONS

K6B2(□60mm)



applied product
MOTOR : K6□S6N□ GEARHEAD : K6G□B(C)
characteristics
Weight 44g, Materials AL

K7B2(□70mm)



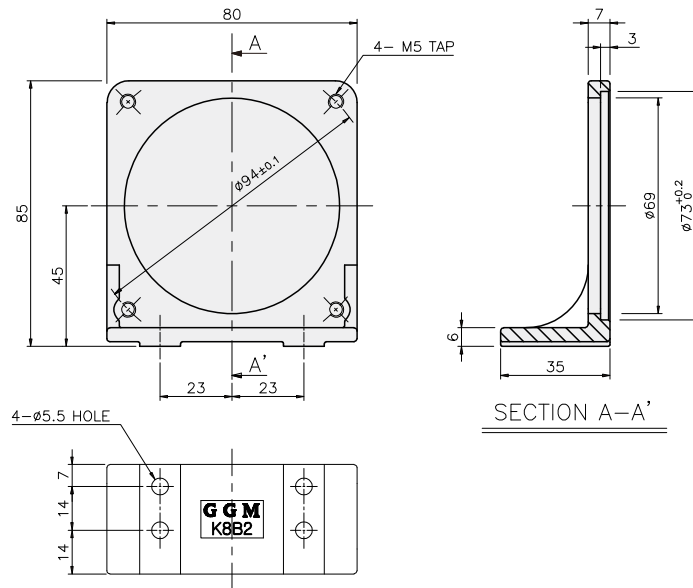
applied product
MOTOR : K7□S15N□ GEARHEAD : K7G□B(C)
characteristics
Weight 66g, Materials AL

**OPTION**

**MOUNTING BRACKET FOR MOTOR GEARHEAD**

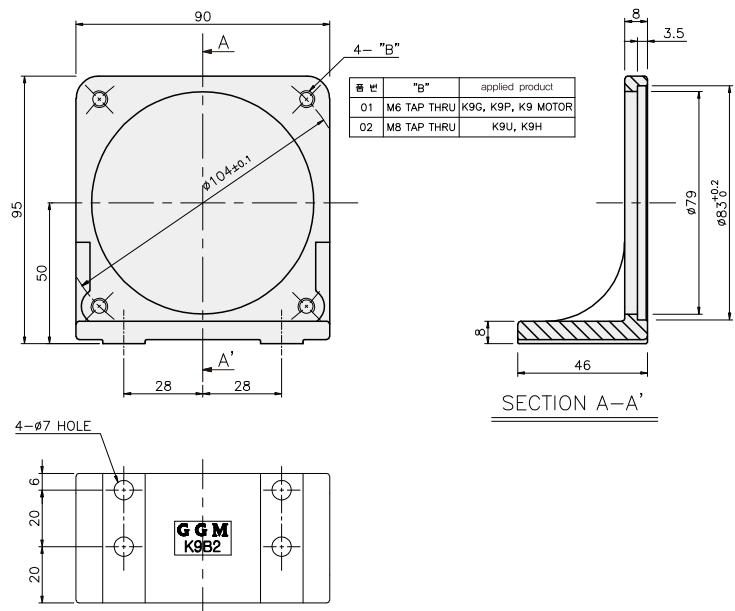
DIMENSIONS

**K8B2(□80mm)**



applied product
MOTOR : K8□S25N□ GEARHEAD : K8G□B(C)
characteristics
Weight 81g, Materials AL

**K9B2(□90mm)**



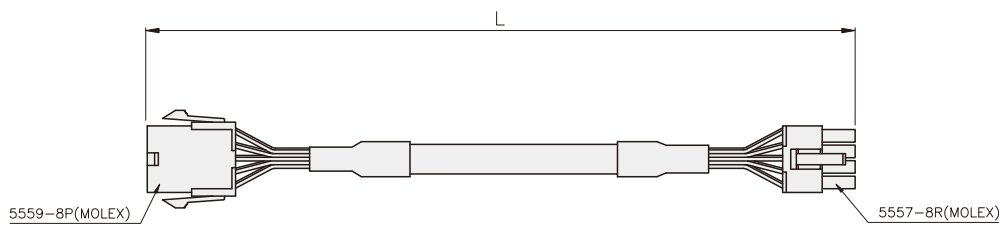
applied product
MOTOR : K9□S□F□ GEARHEAD : K9G□B, K9P□B
characteristics
Weight 134g, Materials AL

**OPTION**

**EXTENSION(LINE)**

DIMENSIONS

- It is an extension that is used between SPEED CONTROL MOTOR and CONTROL UNIT .
- CONTROL UNIT 0,5m extension cable is packaged basically when you purchase. Purchase additionally and use If you need to extend further. (Optional)
- Please, refer chart below for extension length and MODEL.



**DIMENSION TABLE**

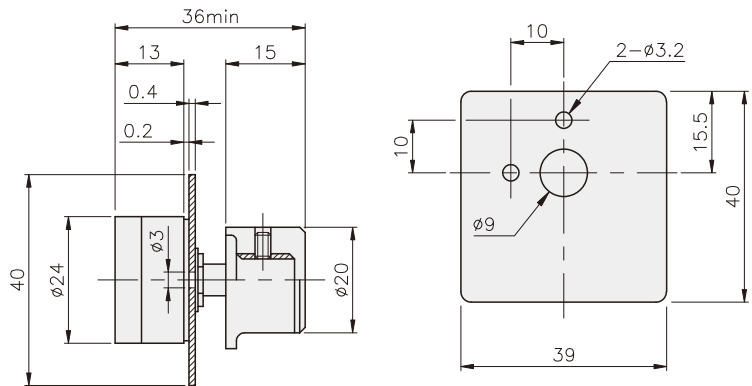
MODEL Name	L(extension length)
KE-05	0,5m
KE-10	1,0m
KE-15	1,5m
KE-20	2,0m

## OPTION

# EXTERNAL SPEED SETTER

### DIMENSIONS

- There is 1 SET of external speed setter as an accessory in GSA SERIES SPEED CONTROL UNIT.
- Attached speed setter to the machine itself in GPA SERIES SPEED CONTROL UNIT that is available to control speed and setting. Purchase and use separately, if you need remote control.
- Also, in case of setting multi-step speed, purchase separately for use the required quantity (Optional)



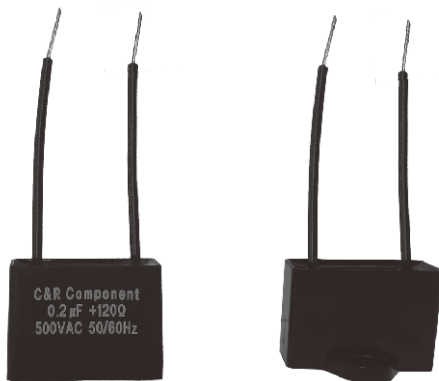
#### DIMENSION TABLE

MODEL Name	Feature
KVR20KH	20KΩ, 1/4W, B Feature

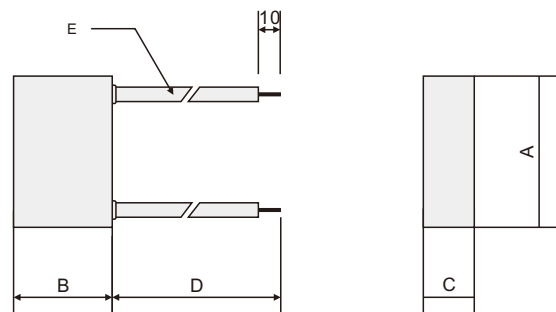
# CR Circuit for absorbing surge voltage

### DIMENSIONS

- Please use this for connecting point protection of Relay, Switch in running motor of normal, reverse direction rotation and sudden stop.
- Please connect this to protection point in a row.
- Sold separately.



#### DIMENSION [unit: mm]



#### DIMENSION TABLE

MODEL	Voltage	Resistance	Capacitor	Dimension (mm)				E (LEAD WIRE)
				A	B	C	D	
KSK1202	AC 500V	120Ω	0.2μF	36.0	25.0	16.0	200	UI1015 AWG #20

MEMO

Lined area for writing a memo.

MEMO

A series of horizontal dotted lines for writing.