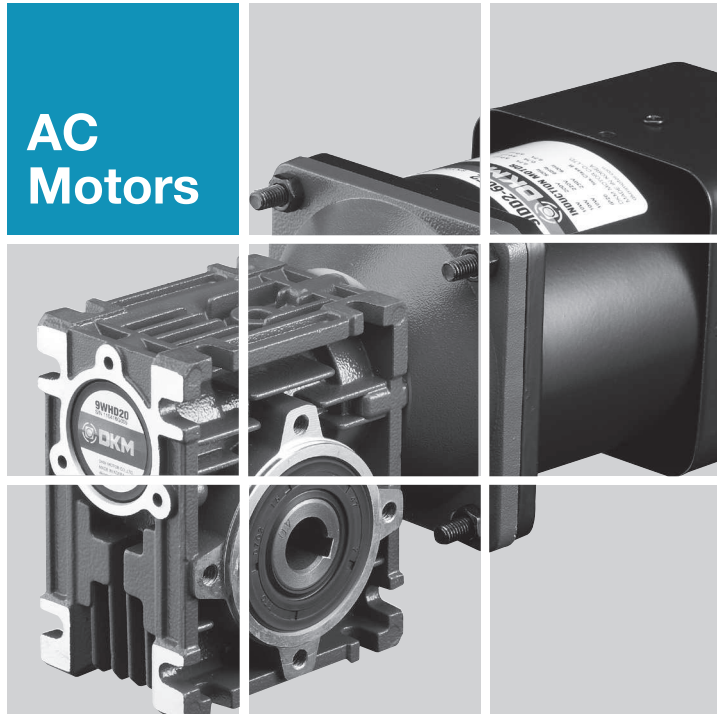


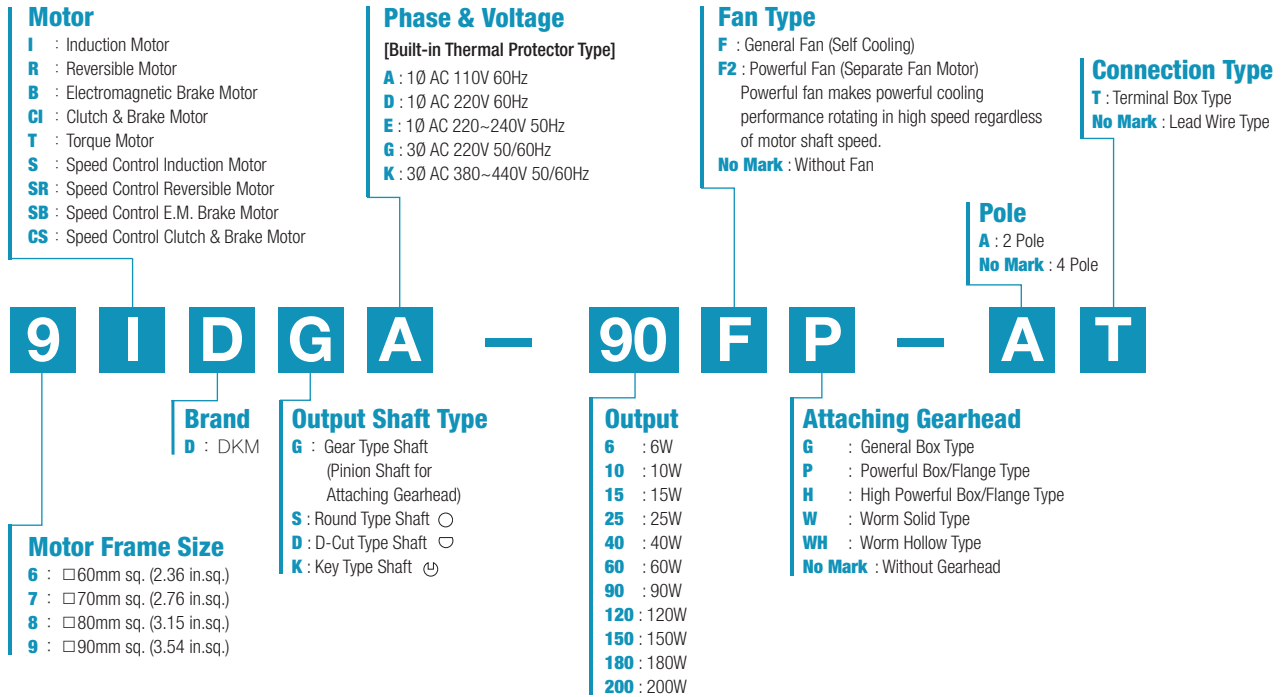
**AC
Motors**



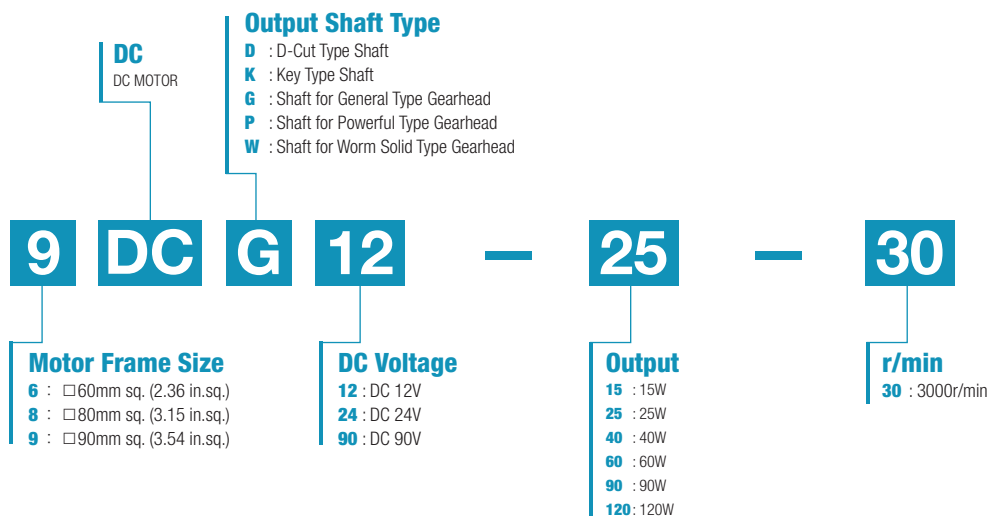
A Information

Product Coding System

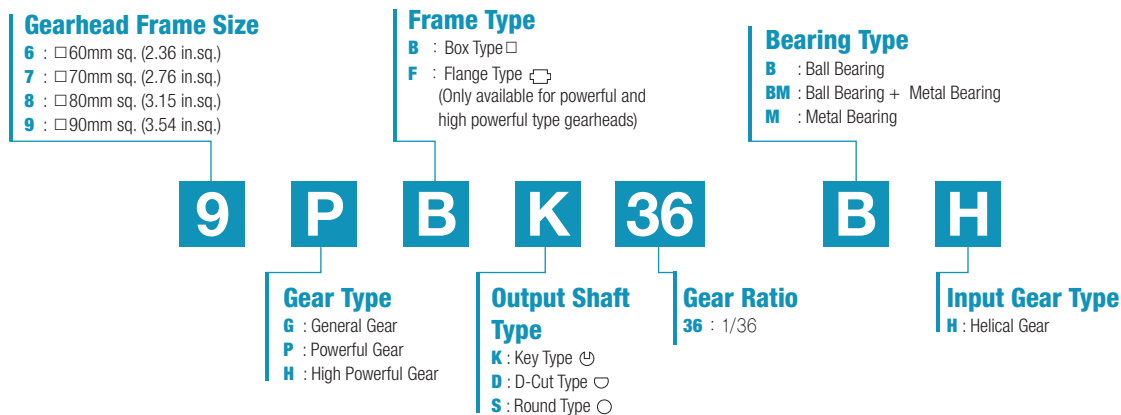
AC Motors



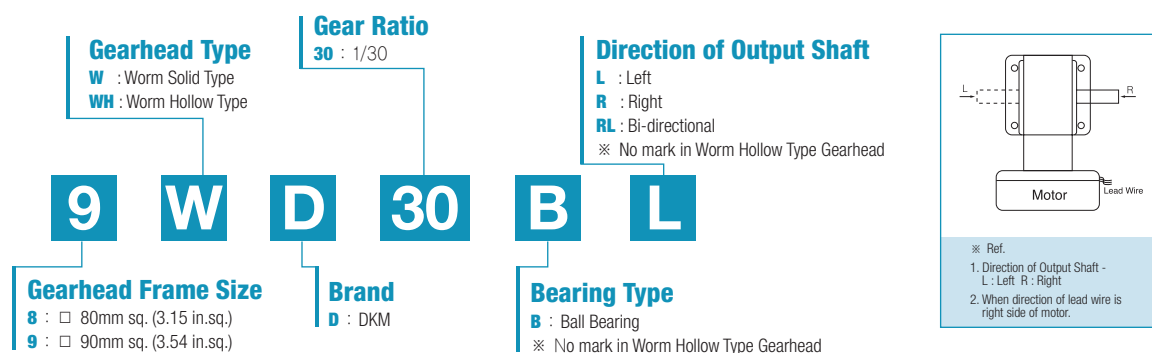
DC Motors



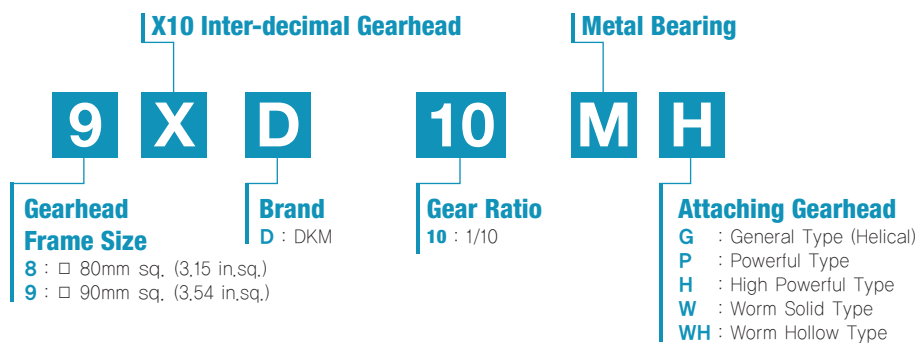
Parallel Gearhead



Worm Gearhead



Inter-decimal Gearhead



In case of requiring high gear reduction ratio that cannot be generated by single gearhead, please use Inter-decimal gearhead with general gearhead. And please be advised that in this case only revolution speed of output shaft will reduce by 10:1 without increasing of maximum permissible torque.

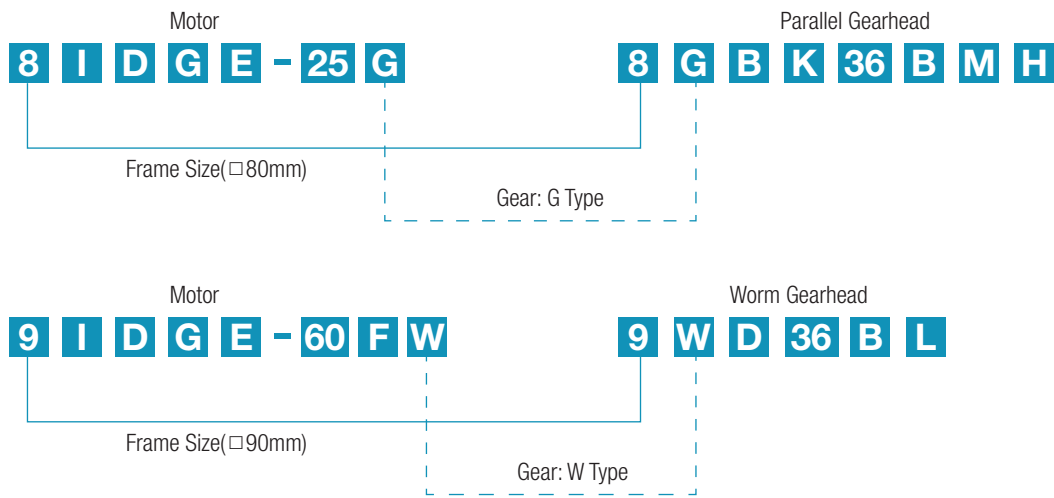
A Information

Product Coding System

Assembly of Motor and Gearhead

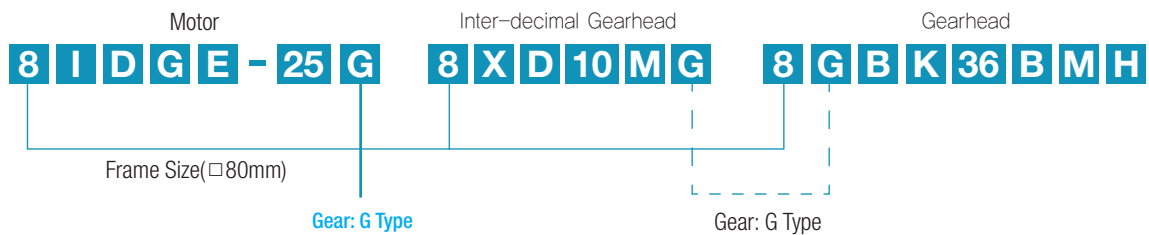
Motor + Gearhead

- As shown in the following scheme, motor and gearhead which have same frame size and gear type could be assembled.

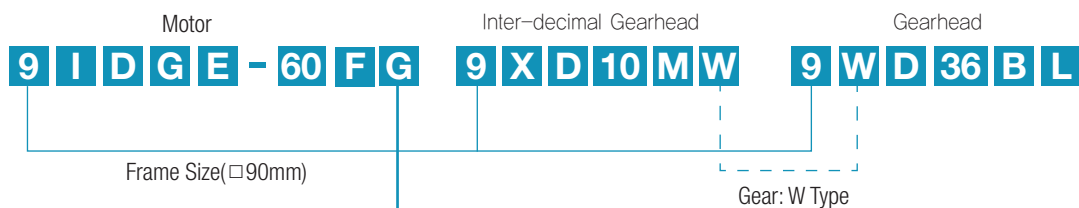


Motor + Inter-decimal Gearhead + Gearhead

- When using an inter-decimal gearhead together, give attention to the gear types of motor, gearhead and inter-decimal gearhead.



- When attaching inter-decimal gearhead, the output shaft type of the motor is always G Type. For example, when using P/H/W/WH type gearhead, only the gear type of inter-decimal gearhead is identical with attached gearhead and the output shaft type of the motor is G type. (Refer to the scheme below.)



Gear types of gearhead and inter-decimal gearhead have to be identical.
The output shaft type of motor is always G type regardless of gear type of gearhead.

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Definition of Motor

Motor is a machine to get a driving force for rotation or straight movement by converting the electrical energy into mechanical energy and the light-weighted motor which enables to select the model suitable for the load, has less noise and vibration as well as no exhaust pollution.

Features of DKM AC Motor

DKM AC geared motor was developed first in Korea in 1987 and has been used in a good reputation throughout the whole areas of domestic/overseas industry up to know. Our AC geared motor is proud of various and wide range of specification which satisfies various electrical requirements from all over the world.

Various and Abundant Models

- There are various and abundant models in frame size covering □ 60/70/80/90mm such as Induction Motor, 2 Pole Motor, Reversible Motor, E.M. Brake Motor, Clutch & Brake Motor, Torque Motor and Speed Control Motor.
- For use voltage, we have various voltage specification covering all areas in the globe: 100V 50/60Hz(Japan), 200V 50/60Hz(Japan), 110V 60Hz(Taiwan), 220V 60Hz(Korea, Taiwan), 115V 60Hz(North America), 230V 50Hz(Europe, Oceania), 220V/240V 50Hz(South-East Asia)

Low Noise and Low Vibration

- Due to the enhancement of quality standard such as places and conditions for motors to use, the low noise and low vibration are required.
- To satisfy these conditions, we employed high precision of gear processing and skiving cutting method and we are making a rotor which is the root cause of vibration by verifying with balance machine for low noise and low vibration.

Easy to Use

- Easy and safe to use as motor and gearhead are sold according to the requirements so that it can be designed and manufactured optimally.
- It is easy to drive to get a driving force by connecting capacitor to the commercial power available to be used anywhere and anytime. As capacitor is not needed for three phase power, it is available to get a driving force easily by connecting three phase power to the motor directly.

Just-In-Time System

- Just-In-Time system is available in DKM Motor Co., Ltd. for the best delivery system. DKM realized user's satisfaction with the world best delivery system.

Types of Motor

Classification by Power

- **AC motor:** A motor operated by AC power. For example, inductive motor, synchronous motor, AC commutator motor etc.

1) Single Phase Motor

- Single phase power is composed of one phase as commercial power for home.
- As power itself does not make motor rotate, capacitor is connected to auxiliary coil to start.

2) Three Phase Motor

- Three phase motor stands for electrical power and it is consisted of three electrical sources with a phase offset of 120° in voltage.
- Connect the power to motor to start and the rotor will start to run easily.
- The efficiency of motor is high and the starting torque is relatively big.

- **DC motor:** A motor which rotates by supplying the direct current to the armature. The torque generated by placing the coil between magnetic poles N and S and applying the current to this coil rotates the motor. Whenever this coil passes the neutral shaft, it turns the direction of current reversely and rotates continuously

Classification by Function

● Motor with Constant Speed

1) Induction Motor: An induction motor is a type of AC motor where power is supplied to the rotor by means of electromagnetic induction. These motors are widely used in industrial drives, particularly polyphase induction motors, because they are rugged and have no brushes. Their speed is determined by the frequency of the supply current, so they are most widely used in constant-speed applications, although variable speed versions, using variable frequency drives are becoming more common.

2) Reversible Motor: A kind of induction motor and a motor having the same characteristic in any direction such as left turn or right turn. In principle, it is same as induction motor but there is no relation of main coil and auxiliary coil like general induction motor in order to stand frequent normal/reverse rotation and get a big starting torque.

● Electromagnetic Brake Motor

It is a motor embedded with fail-safe electromagnetic brake. Perfect braking enables to get a staying power. Brake runs only when the power is shutdown, so this is suitable as a brake for safe use.

※ DKM has 'A Type' electronic brake motor which runs when the power is applied. (Customized specification)

● Clutch & Brake Motor

DKM Clutch & Brake motor is equipped with Clutch & Brake mechanism available to be used with gearhead. As the continuously rotating induction motor and Clutch & Brake are combined, this can be used for frequent start/stop, position control, index operation and relative value feeding operation etc.

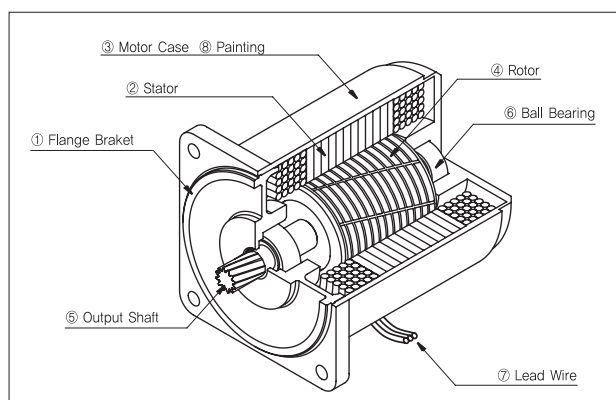
● Torque Motor

DKM torque motor has big starting torque and sloping characteristics. It runs safely over the whole area of rotation speed-torque characteristics. (Torque is highest at zero speed and decreases steadily with increasing speed.) With these characteristics, this can be used for more application as a winding or tension motor.

● Speed Control Motor

User can easily set and adjust the motor speed. There are three kinds of speed controller for AC speed motors. Select the best system depending upon your application.

Structure of AC Motor



① Flange Bracket

Die-cast aluminum bracket is press-fitted into the motor case. The flange and the housing are a single body type which plays an important part to attach the motor alone or combine the gearhead.

② Stator

This is comprised of a stator core made from laminated silicon/steel plates, a polyester-coated copper coil and insulation film. The roles are to generate magnetic field, form the rotation and run the rotor.

③ Motor Case

Die-cast aluminum with a machined finish inside

④ Rotor

It is comprised of laminated silicon/steel plates with die-cast aluminum. Rotor plays the part to change the electric energy to mechanical energy and transfer it to outside through shaft.

⑤ Output Shaft

There are round type shaft, D-cut type shaft, key type shaft which are for using by motor itself and gear type shaft (pinion shaft) which is for attaching gearhead. It is made by S45C with a machined finish.

⑥ Ball Bearing

It ensures that the rotor remains at the right position for the reliability and fast rotational motion.

⑦ Lead Wire

Lead wires with heat-resistant polyethylene coating

⑧ Painting

Backed finish of acrylic resin and melamine resin with beautiful look

Temperature Rise of AC Motor

Temperature Rise

- In operation of motor, the loss inside of motor is changed to heat causing the motor's temperature to rise.
 - Induction Motor (for continuous duty) reaches the saturation point of temperature rise in about two or three hours of operation and temperature stabilizes.
 - Reversible Motor (30 minutes rating) reaches their limit of temperature rise in about 30 minutes of operation. If operation continues as it is, the temperature will increase further.

Measuring Temperature Rise

- DKM uses the following methods for temperature measurement and for the determination of a motor's allowable temperature rise.
 - Thermometer Method: The temperature rise at which the temperature rise becomes saturated during motor operation is measured by using a thermometer or thermocouple installed in the center of the motor case. The temperature rise is the difference between the ambient temperature and measured temperature during motor operation.
 - Resistance Method: This is the way of measuring the winding temperature according to the change in resistance value. The motor's winding resistance and ambient temperature is measured by using a resistance meter and thermostat.

Overheating Protection Device

- In case of that a running motor locks due to overload or the input current increases due to any reason or ambient temperature increases suddenly, the motor's temperature rises abruptly. If this state continues, the insulation performance may deteriorate and, in extreme cases, it may cause a fire. To avoid this case, DKM employs the following overheating protection devices.
 - Thermal Protector (TP)**
DKM installs the thermal protector for overheating protection of the motor. The TP employs a bimetal contact with pure silver used in the contacts. Pure silver has the lowest electrical resistance of all materials and has thermal conductivity second only to copper. (Operating Temperature: Open 120°C±5°C / Close 90 °C±5°C)
 - Impedance Protection**
Impedance-protected motor has higher impedance in the motor windings so although the motor locks, the increase in input current is minimized and temperature will not rise.

Insulation Class

- DKM Motor's insulation class is B class. Insulation class is according to heat-resistance class. According to JIS C4003(IEC60085), it is defined as below. It is also available to use other materials for some particular insulation class according to operating conditions or user's request. (Customized specification)

| Insulation Class | Max. Permissible Temp. |
|------------------|------------------------|
| Y | 90°C |
| A | 105°C |
| E | 120°C |
| B | 130°C |
| F | 155°C |
| H | 180°C |

FAN

- It is available to attach two kinds of fan to the DKM's motor; 'General Fan (F type)' and 'Powerful Fan (F2 type)'.
General fan is attached to motor shaft rotating in same speed as that of motor shaft. (1,800r/min in 60Hz, 1,500r/min in 50Hz) Powerful fan makes powerful cooling performance rotating in high speed regardless of motor shaft speed. (3,200r/min in 60Hz. Temperature reducing over 10°C is available comparing general fan.)
DKM employs general fan to the motors with continuous speed and employs powerful fan by customers' special order to the continuous speed's motor. But in case of speed control motor in which speed control is needed, powerful fan is employed basically because there is little cooling effect in low speed if general fan is used.

Equipment Protection Structure (IP Code)

- The IP code is one of the equipment protection structures and indicates the dust-resistance and waterproofing degrees of protection for the equipment.
- The code consists of the first number and the second number.



- “X” is used when one of the two protection classes is not specified in the name. (e.g. IPX5, IP4X)
- Meanings of IP code and testing conditions are as below;

1) The Classification of Dustproof

| IP Code | Protection Specifications for Dustproof | |
|--------------|--|--|
| First Number | Protection Level | Test Condition |
| IP0□ | None | None |
| IP1□ | Protection against approach by hands | Solid objects with a diameter of 50mm or more do not enter. |
| IP2□ | Protection against approach by fingers | Solid objects with a diameter of 12mm or more do not enter. |
| IP3□ | Protection against tips of tools etc. | Solid objects with a diameter of 2.5mm or more do not enter. |
| IP4□ | Protection against ingress of wires etc. | Solid objects with a diameter of 1.0mm or more do not enter. |
| IP5□ | Protection against powdery dust | Powdery dust that may inhibit normal operation does not enter. |
| IP6□ | Completely dustproof design | Cannot be penetrated by powdery dust. |

2) The Classification of Waterproof

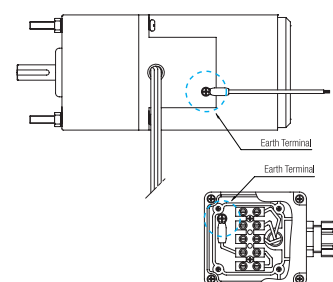
| IP Code | Protection Specifications for Waterproof | |
|---------------|---|--|
| Second Number | Protection Level | Test Condition |
| IP□0 | None | None |
| IP□1 | Protection against water drops falling vertically | Water drops at a rate of 3 to 5L/min. for 10 minutes from a height of 200mm |
| IP□2 | Protection against water drops from directions within a range of 15° relative to the vertical plane | Water drops at a rate of 3 to 5L/min. for 10 minutes from directions within 15° from a height of 200mm |
| IP□3 | Protection against raindrops from directions within a range of 60° relative to the vertical plane | Sprayed water at a rate of 10L/min. for 10 minutes from directions within 60° from a height of 200mm |
| IP□4 | Protection against ingress of splashes from all directions | Sprayed water at a rate of 10L/min. for 10 minutes from all directions at a distance of 300 to 500mm |
| IP□5 | Protection against water jet from all directions | Sprayed water jet of 30kPa at a rate of 12.5L/min. for 3 minutes from all directions at a distance of 3m |
| IP□6 | Protection against strong water jet such as ocean waves | Sprayed water jet of 100kPa at a rate of 100L/min. for 3 minutes from all directions at a distance of 3m |
| IP□7 | Usable after immersion in water under specified conditions | Immersion to a depth of 1m for 30 minutes |
| IP□8 | Usable under water | Determined through cooperation between user and manufacturer. |

- The IP code of DKM's motor is indicated in the name plate (motor label).

Earth Method

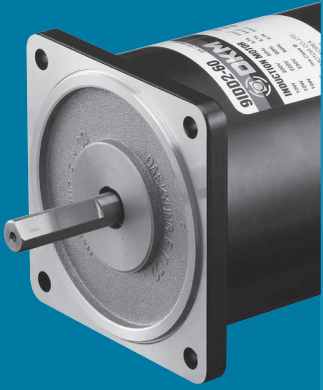
Lead Wire Type

- As shown in the figure, connect the earth wire to the earth hole in the side of the motor.
Screw the earth wire to the earth hole. (Sequence: earth hole → washer → earth wire → screw bolt)

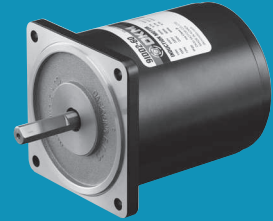


Terminal Box Type

- Connect the earth wire to the earth terminal in the terminal box.



2 Pole Motor



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| 2 Pole Motor 25W (□ 80mm) | B-51 |
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| 2 Pole Motor 60W (□ 90mm) | B-55 |
| 2 Pole Motor 90W (□ 90mm) | B-57 |
| 2 Pole Motor 120W (□ 90mm) | B-59 |
| 2 Pole Motor 150W (□ 90mm) | B-61 |
| 2 Pole Motor 200W (□ 90mm) | B-63 |

B AC Motors

2 Pole Motor 15W(□80mm)

15W

2 Pole Motor
15W(□80mm)

Motor Specification

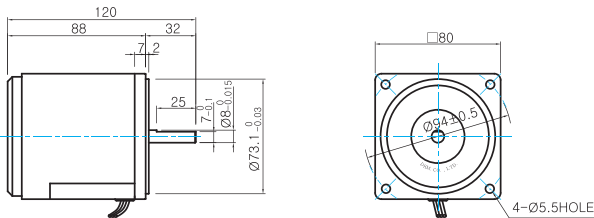
| Model 8IDD□-15-A(T): D-Cut Type Shaft | | Output W | Voltage V | Frequency Hz | Poles | Duty | Starting Torque kgfcm N.m | | Rated Load | | | Capacitor μF / VAC | |
|--|-------------------|-------------|--------------|-----------------|-------|-------|------------------------------|-------|----------------|--------------|---------------------|-----------------------|-----------|
| | | | | | | | | | Speed r/min | Current A | Torque kgfcm N.m | | |
| Lead Wire Type | Terminal Box Type | | | | | | | | | | | | |
| 8IDDA-15-A | 8IDDA-15-AT | 15 | 1∅110 | 60 | 2 | Cont. | 0.60 | 0.060 | 3250 | 0.41 | 0.46 | 0.046 | 6.0 / 250 |
| 8IDDD-15-A | 8IDDD-15-AT | 15 | 1∅220 | 60 | 2 | Cont. | 0.60 | 0.060 | 3200 | 0.26 | 0.46 | 0.046 | 2.0 / 250 |
| 8IDDE-15-A | 8IDDE-15-AT | 15 | 1∅220 | 50 | 2 | Cont. | 0.60 | 0.060 | 2550 | 0.28 | 0.60 | 0.060 | 2.0 / 450 |
| | | | 1∅240 | | | | 0.80 | 0.080 | | 0.30 | 0.70 | 0.070 | |
| 8IDDG-15-A | 8IDDG-15-AT | 15 | 3∅220 | 50 | 2 | Cont. | 1.30 | 0.130 | 2600 | 0.27 | 0.60 | 0.060 | - |
| | | | | 60 | | | 1.20 | 0.120 | 3200 | 0.25 | 0.46 | 0.046 | |

- 1) Enter the phase & voltage code in the box (□) within the motor model name.
2) All models contain a built-in thermal protector.

Dimensions

LEAD WIRE TYPE

- MOTOR MODEL: 8IDD□-15-A (NO FAN)



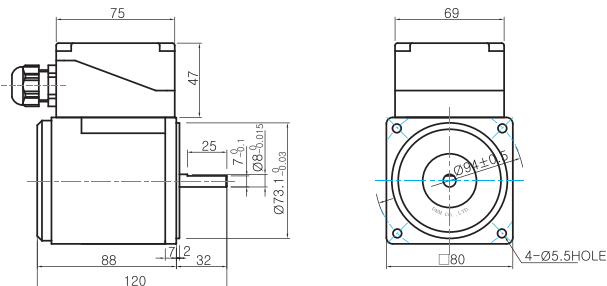
LEAD WIRE 300mm
UL STYLE NO.3271 AWG NO.22

MOTOR OUTPUT SHAFT

| MODEL | SPEC |
|------------|------|
| D-CUT TYPE | |

TERMINAL BOX TYPE

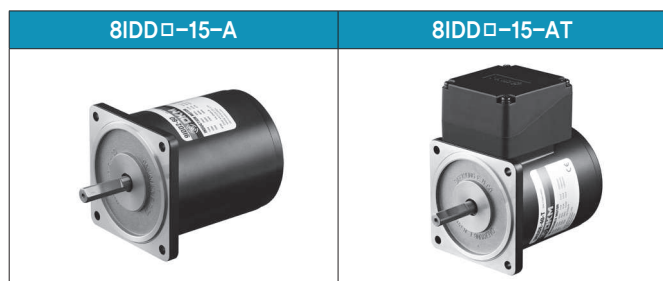
- MOTOR MODEL: 8IDD□-15-AT (NO FAN)



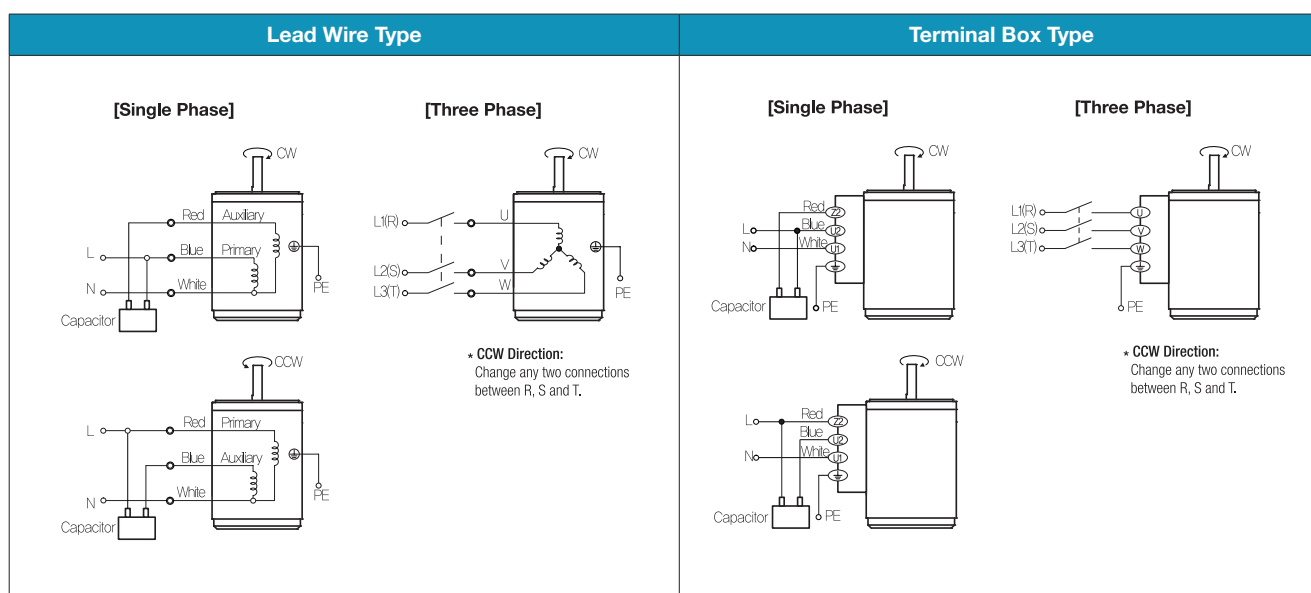
WEIGHT

| PART | WEIGHT(Kg) |
|-------|------------|
| MOTOR | 1.6 |

Motor Images



Connection Diagrams



- 1) The direction of motor rotation is as viewed from the shaft end of the motor.
- 2) CW represents the clockwise direction, while CCW represents the counterclockwise direction.
- 3) Change the direction of single phase motor rotation only after bringing the motor to a stop. If an attempt is made to change the direction of rotation while the motor is rotating, the motor may ignore the reversing command or change its direction after some delay.

B AC Motors

2 Pole Motor 25W(□80mm)

25W

2 Pole Motor
25W(□80mm)

Motor Specification

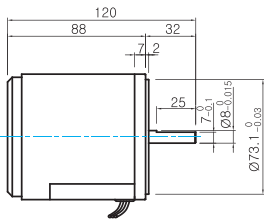
| Model | | Output | Voltage | Frequency | Poles | Duty | Starting Torque | | Rated Load | | | Capacitor | |
|---------------------------------|-------------------|--------|---------|-----------|-------|-------|-----------------|-------|----------------|--------------|--------|-----------|-----------|
| 8IDD□-25-A(T): D-Cut Type Shaft | | | | | | | kgfcm | N.m | Speed r/min | Current A | Torque | | μF / VAC |
| Lead Wire Type | Terminal Box Type | W | V | Hz | | kgfcm | | | | | N.m | | |
| 8IDDA-25-A | 8IDDA-25-AT | 25 | 1∅110 | 60 | 2 | Cont. | 0.80 | 0.080 | 3200 | 0.44 | 0.76 | 0.076 | 6.0 / 250 |
| 8IDDD-25-A | 8IDDD-25-AT | 25 | 1∅220 | 60 | 2 | Cont. | 0.80 | 0.080 | 3200 | 0.31 | 0.77 | 0.077 | 2.5 / 250 |
| 8IDDE-25-A | 8IDDE-25-AT | 25 | 1∅220 | 50 | 2 | Cont. | 1.00 | 0.100 | 2500 | 0.33 | 1.00 | 0.100 | 2.5 / 450 |
| | | | 1∅240 | | | | 1.20 | 0.120 | | 0.36 | 1.10 | 0.110 | |
| 8IDDG-25-A | 8IDDG-25-AT | 25 | 3∅220 | 50 | 2 | Cont. | 1.40 | 0.140 | 2600 | 0.28 | 0.78 | 0.078 | - |
| | | | | 60 | | | 1.30 | 0.130 | 3200 | 0.26 | 0.77 | 0.077 | |

- 1) Enter the phase & voltage code in the box (□) within the motor model name.
2) All models contain a built-in thermal protector.

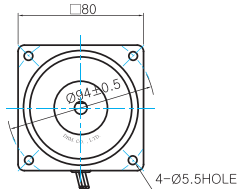
Dimensions

LEAD WIRE TYPE

- MOTOR MODEL: 8IDD□-25-A (NO FAN)



LEAD WIRE 300mm
UL STYLE NO.3271 AWG NO.22

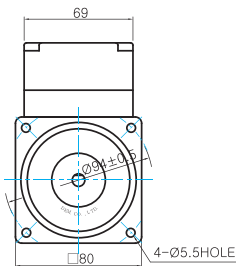
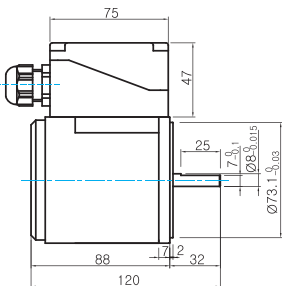


MOTOR OUTPUT SHAFT

| MODEL | SPEC |
|------------|------|
| D-CUT TYPE | |

TERMINAL BOX TYPE

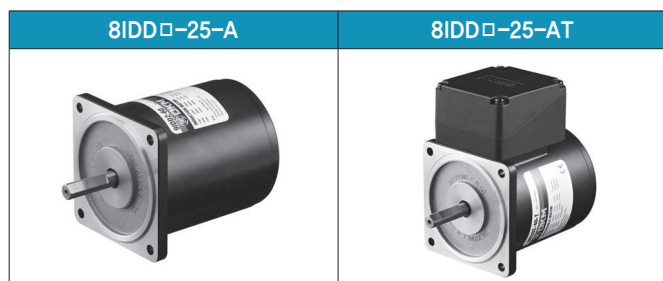
- MOTOR MODEL: 8IDD□-25-AT (NO FAN)



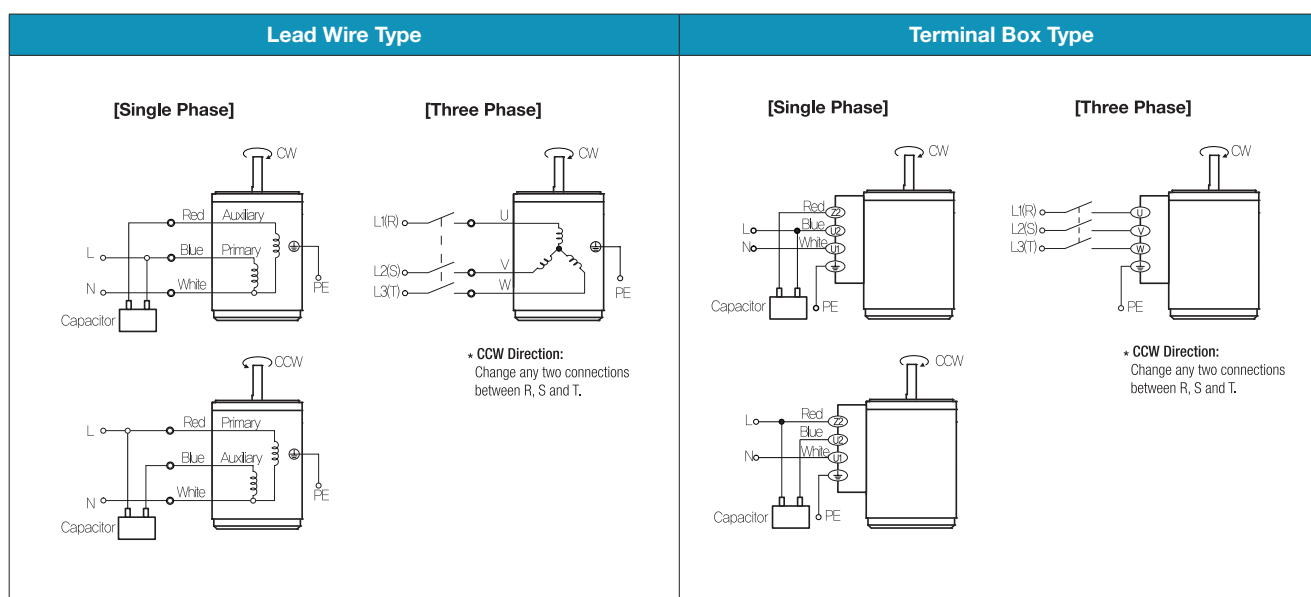
WEIGHT

| PART | WEIGHT(Kg) |
|-------|------------|
| MOTOR | 1.6 |

Motor Images



Connection Diagrams



- 1) The direction of motor rotation is as viewed from the shaft end of the motor.
- 2) CW represents the clockwise direction, while CCW represents the counterclockwise direction.
- 3) Change the direction of single phase motor rotation only after bringing the motor to a stop. If an attempt is made to change the direction of rotation while the motor is rotating, the motor may ignore the reversing command or change its direction after some delay.

B AC Motors

2 Pole Motor 40W(□90mm)

40W

2 Pole Motor
40W(□90mm)

Motor Specification

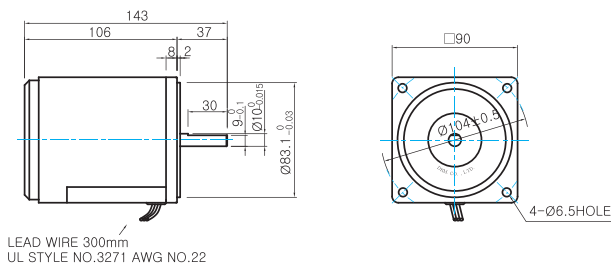
| Model | | Output W | Voltage V | Frequency Hz | Poles | Duty | Starting Torque | | Rated Load | | | Capacitor μF / VAC | |
|--|----------------|-------------|--------------|-----------------|-------|-------|-------------------|-------|------------|----------------|--------------|-----------------------|---------------------|
| 91DD□-40-A(T): D-Cut Type Shaft 91DK□-40-A(T): Key Type Shaft | Lead Wire Type | | | | | | Terminal Box Type | kgfcm | N.m | Speed r/min | Current A | | Torque kgfcm N.m |
| 91DDA-40-A | 91DDA-40-AT | 40 | 1∅110 | 60 | 2 | Cont. | 1.60 | 0.160 | 3200 | 1.20 | 1.30 | 0.130 | 12.0 / 250 |
| 91DDD-40-A | 91DDD-40-AT | 40 | 1∅220 | 60 | 2 | Cont. | 1.60 | 0.160 | 3200 | 0.45 | 1.30 | 0.130 | 4.0 / 250 |
| 91DDE-40-A | 91DDE-40-AT | 40 | 1∅220 | 50 | 2 | Cont. | 1.60 | 0.160 | 2650 | 0.54 | 1.50 | 0.150 | 4.0 / 450 |
| | | | 1∅240 | | | | 1.80 | 0.180 | | 0.55 | 1.70 | 0.170 | |
| 91DDG-40-A | 91DDG-40-AT | 40 | 3∅220 | 50 | 2 | Cont. | 4.00 | 0.400 | 2700 | 0.55 | 1.45 | 0.145 | - |
| | | | | 60 | | | 3.00 | 0.300 | 3300 | 0.40 | 1.20 | 0.120 | |
| 91DDK-40-A | 91DDK-40-AT | 40 | 3∅380 | 50 | 2 | Cont. | 3.00 | 0.300 | 2700 | 0.32 | 1.45 | 0.145 | - |
| | | | | 60 | | | 2.80 | 0.280 | 3300 | 0.23 | 1.20 | 0.120 | |
| | | | 3∅400 | 50 | 2 | Cont. | 3.20 | 0.320 | 2750 | 0.37 | 1.45 | 0.145 | |
| | | | | 60 | | | 3.00 | 0.300 | 3300 | 0.26 | 1.40 | 0.140 | |
| | | | 3∅415 | 50 | 2 | Cont. | 3.40 | 0.340 | 2750 | 0.41 | 1.60 | 0.160 | |
| | | | | 60 | | | 3.20 | 0.320 | 3350 | 0.27 | 1.30 | 0.130 | |
| | | | 3∅440 | 50 | 2 | Cont. | 3.70 | 0.370 | 2750 | 0.48 | 2.00 | 0.200 | |
| | | | | 60 | | | 3.50 | 0.350 | 3350 | 0.29 | 1.70 | 0.170 | |

- 1) Enter the phase & voltage code in the box (□) within the motor model name.
- 2) All models contain a built-in thermal protector.

Dimensions

LEAD WIRE TYPE

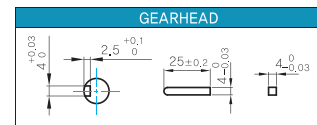
- MOTOR MODEL: 91DD□-40-A (NO FAN)



MOTOR OUTPUT SHAFT

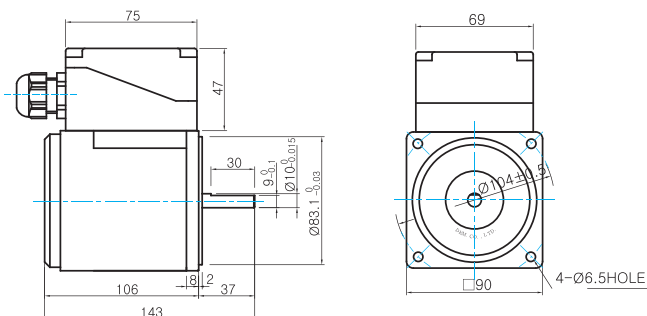
| MODEL | SPEC |
|------------|------|
| D-CUT TYPE | |
| 91DD□-40-A | |
| KEY TYPE | |
| 91DK□-40-A | |

KEY SPEC



TERMINAL BOX TYPE

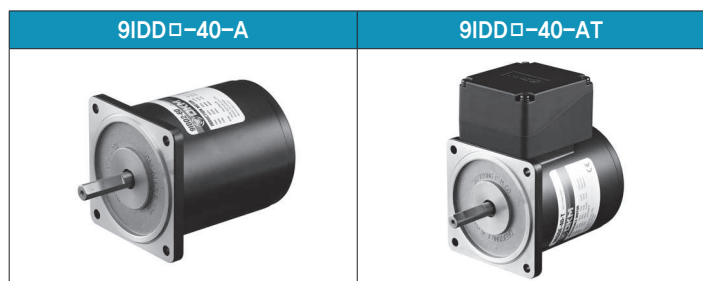
- MOTOR MODEL: 91DD□-40-AT (NO FAN)



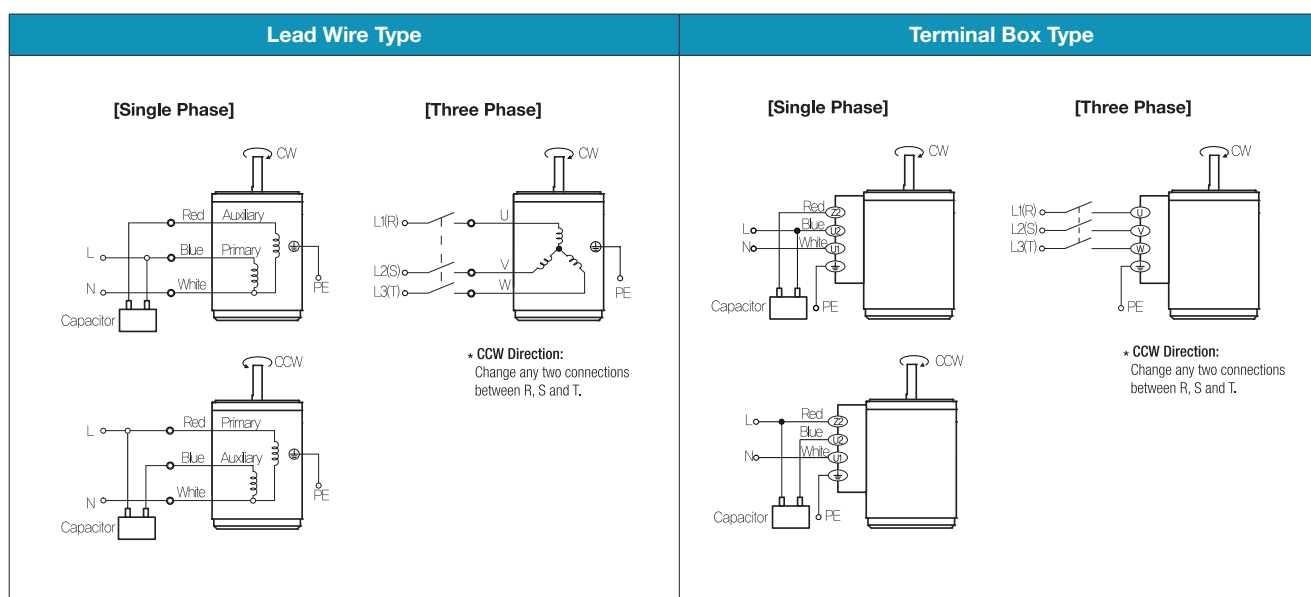
WEIGHT

| PART | WEIGHT(Kg) |
|-------|------------|
| MOTOR | 2,4 |

Motor Images



Connection Diagrams



- 1) The direction of motor rotation is as viewed from the shaft end of the motor.
- 2) CW represents the clockwise direction, while CCW represents the counterclockwise direction.
- 3) Change the direction of single phase motor rotation only after bringing the motor to a stop. If an attempt is made to change the direction of rotation while the motor is rotating, the motor may ignore the reversing command or change its direction after some delay.

B AC Motors

2 Pole Motor 60W(□90mm)

60W 2 Pole Motor 60W(□90mm)

Motor Specification

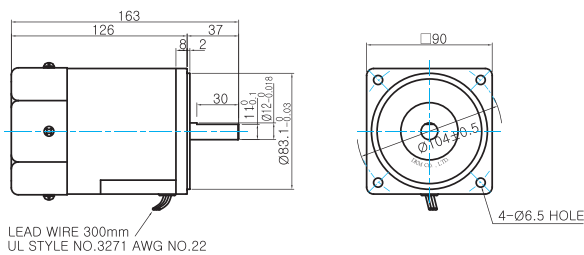
| Model | | Output | Voltage | Frequency | Poles | Duty | Starting Torque | | Rated Load | | | Capacitor | |
|----------------------------------|--------------------------------|--------|---------|-----------|-------|-------|-----------------|-------|------------|---------|--------|-----------|------------|
| 9IDD□-60F-A(T): D-Cut Type Shaft | 9IDK□-60F-A(T): Key Type Shaft | | | | | | kgfcm | N.m | Speed | Current | Torque | | |
| Lead Wire Type | Terminal Box Type | W | V | Hz | | | | | r/min | A | kgfcm | N.m | μF / VAC |
| 9IDDA-60F-A | 9IDDA-60F-AT | 60 | 1ϕ110 | 60 | 2 | Cont. | 2.00 | 0.200 | 3200 | 1.20 | 1.84 | 0.184 | 16.0 / 250 |
| 9IDDD-60F-A | 9IDDD-60F-AT | 60 | 1ϕ220 | 60 | 2 | Cont. | 2.00 | 0.200 | 3200 | 0.65 | 1.84 | 0.184 | 5.0 / 450 |
| 9IDDE-60F-A | 9IDDE-60F-AT | 60 | 1ϕ220 | 50 | 2 | Cont. | 2.40 | 0.240 | 2700 | 0.89 | 2.20 | 0.220 | 5.0 / 450 |
| | | | 1ϕ240 | | | | 2.80 | 0.280 | | 1.10 | 2.40 | 0.240 | |
| 9IDDG-60F-A | 9IDDG-60F-AT | 60 | 3ϕ220 | 50 | 2 | Cont. | 8.00 | 0.800 | 2750 | 0.59 | 2.20 | 0.220 | - |
| | | | | 60 | | | 6.00 | 0.600 | 3300 | 0.41 | 1.80 | 0.180 | |
| 9IDDK-60F-A | 9IDDK-60F-AT | 60 | 3ϕ380 | 50 | 2 | Cont. | 8.00 | 0.800 | 2700 | 0.34 | 2.20 | 0.220 | - |
| | | | | 60 | | | 6.00 | 0.600 | 3250 | 0.26 | 1.80 | 0.180 | |
| | | | 3ϕ400 | 50 | 2 | Cont. | 9.00 | 0.900 | 2700 | 0.40 | 2.40 | 0.240 | |
| | | | | 60 | | | 7.00 | 0.700 | 3250 | 0.27 | 2.00 | 0.200 | |
| | | | 3ϕ415 | 50 | 2 | Cont. | 10.00 | 1.000 | 2750 | 0.46 | 2.20 | 0.220 | |
| | | | | 60 | | | 8.00 | 0.800 | 3300 | 0.29 | 1.80 | 0.180 | |
| | | | 3ϕ440 | 50 | 2 | Cont. | 12.00 | 1.200 | 2800 | 0.53 | 2.20 | 0.220 | |
| | | | | 60 | | | 10.00 | 1.000 | 3350 | 0.31 | 1.80 | 0.180 | |

- 1) Enter the phase & voltage code in the box (□) within the motor model name.
- 2) All models contain a built-in thermal protector.

Dimensions

LEAD WIRE TYPE

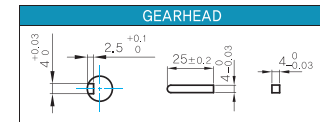
- MOTOR MODEL: 9IDD□-60F-A (GENERAL FAN)



MOTOR OUTPUT SHAFT

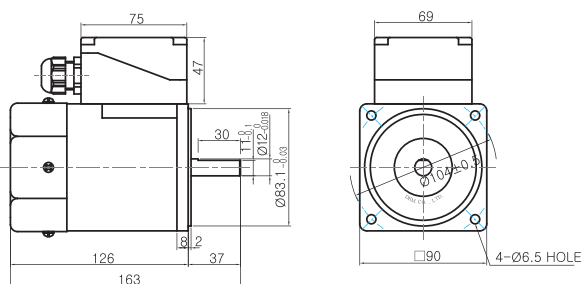
| MODEL | SPEC |
|-------------|------|
| D-CUT TYPE | |
| 9IDD□-60F-A | |
| KEY TYPE | |
| 9IDK□-60F-A | |

KEY SPEC



TERMINAL BOX TYPE

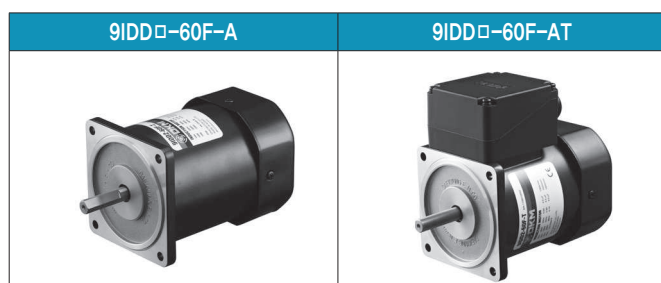
- MOTOR MODEL: 9IDD□-60F-AT (GENERAL FAN)



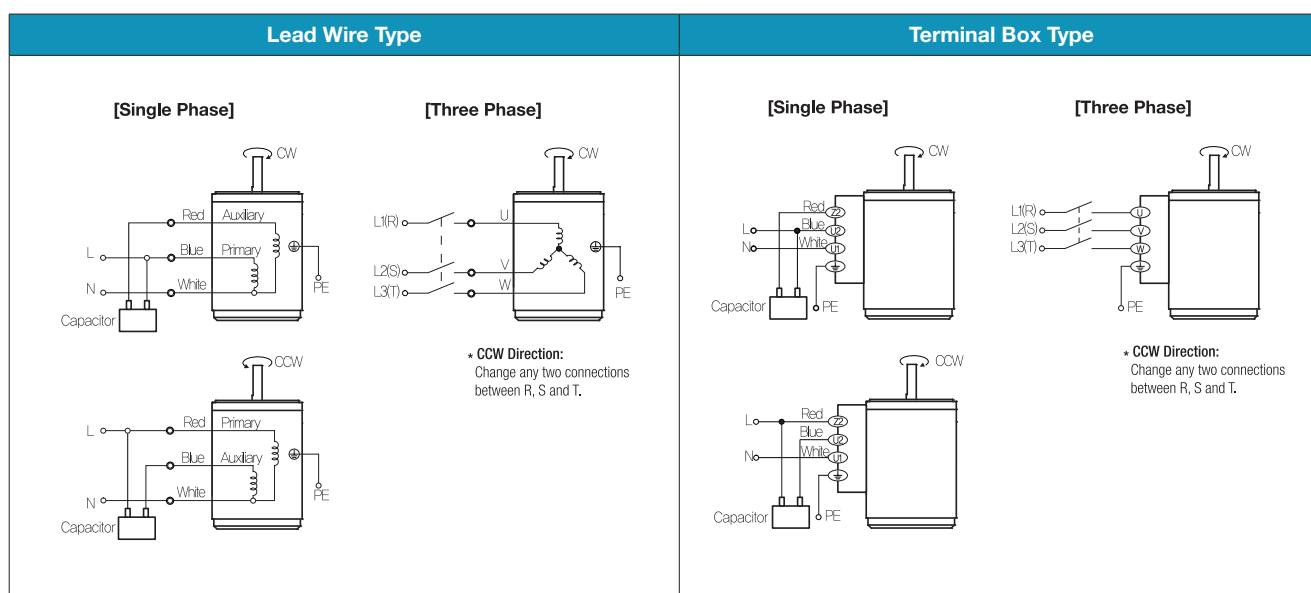
WEIGHT

| PART | WEIGHT(Kg) |
|-------|------------|
| MOTOR | 2.6 |

Motor Images



Connection Diagrams



- 1) The direction of motor rotation is as viewed from the shaft end of the motor.
- 2) CW represents the clockwise direction, while CCW represents the counterclockwise direction.
- 3) Change the direction of single phase motor rotation only after bringing the motor to a stop. If an attempt is made to change the direction of rotation while the motor is rotating, the motor may ignore the reversing command or change its direction after some delay.

B AC Motors

2 Pole Motor 90W(□90mm)

90W

2 Pole Motor
90W(□90mm)

Motor Specification

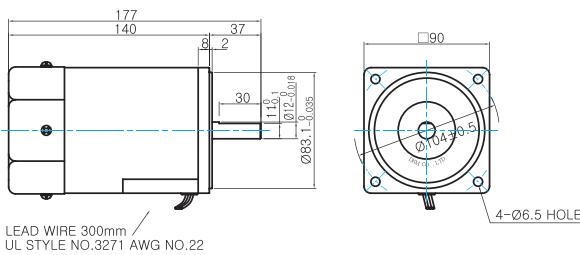
| Model | | Output W | Voltage V | Frequency Hz | Poles | Duty | Starting Torque | | Rated Load | | | Capacitor μF / VAC | | |
|--|----------------|-------------|----------------|-----------------|-------|-------|-------------------|-------|------------|----------------|--------------|-----------------------|---------------------|-------|
| 9IDD□-90F-A(T): D-Cut Type Shaft 9IDK□-90F-A(T): Key Type Shaft | Lead Wire Type | | | | | | Terminal Box Type | kgfcm | N.m | Speed r/min | Current A | | Torque kgfcm N.m | |
| 9IDDA-90F-A | 9IDDA-90F-AT | 90 | 1φ110 | 60 | 2 | Cont. | 2.60 | 0.260 | 3200 | 1.80 | 2.80 | 0.280 | 20.0 / 250 | |
| 9IDDD-90F-A | 9IDDD-90F-AT | 90 | 1φ220 | 60 | 2 | Cont. | 2.60 | 0.260 | 3200 | 1.00 | 2.80 | 0.280 | 6.0 / 450 | |
| 9IDDE-90F-A | 9IDDE-90F-AT | 90 | 1φ220 1φ240 | 50 | 2 | Cont. | 3.00 | 0.300 | 2600 | 0.89 | 3.40 | 0.340 | 6.0 / 450 | |
| | | | | | | | 3.60 | 0.360 | | 1.00 | 3.80 | 0.380 | | |
| 9IDDG-90F-A | 9IDDG-90F-AT | 90 | 3φ220 | 50 | 2 | Cont. | 10.00 | 1.000 | 2750 | 0.80 | 3.20 | 0.320 | - | |
| | | | | 60 | | | 8.00 | 0.800 | 3300 | 0.56 | 2.80 | 0.280 | | |
| 9IDDK-90F-A | 9IDDK-90F-AT | 90 | 3φ380 | 50 | 2 | Cont. | 10.00 | 1.000 | 2750 | 0.43 | 3.20 | 0.320 | - | |
| | | | | 60 | | | 8.00 | 0.800 | 3300 | 0.34 | 2.70 | 0.270 | | |
| | | | | 50 | 2 | Cont. | 11.00 | 1.100 | 2750 | 0.50 | 3.40 | 0.340 | | |
| | | | | 60 | | | 9.00 | 0.900 | 3300 | 0.36 | 3.00 | 0.300 | | |
| | | | 3φ415 | 50 | 2 | Cont. | 12.00 | 1.200 | 2800 | 0.57 | 3.60 | 0.360 | | |
| | | | | 60 | | | 10.00 | 1.000 | 3350 | 0.38 | 3.30 | 0.330 | | |
| | | | | 3φ440 | 50 | 2 | Cont. | 14.00 | 1.400 | 2800 | 0.67 | 3.80 | | 0.380 |
| | | | | | 60 | | | 12.00 | 1.200 | 3350 | 0.40 | 3.20 | | 0.320 |

- 1) Enter the phase & voltage code in the box (□) within the motor model name.
- 2) All models contain a built-in thermal protector.

Dimensions

LEAD WIRE TYPE

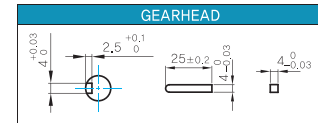
- MOTOR MODEL: 9IDD□-90F-A (GENERAL FAN)



MOTOR OUTPUT SHAFT

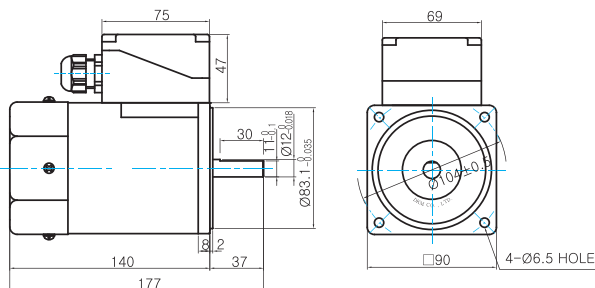
| MODEL | SPEC |
|---------------------------|------|
| D-CUT TYPE 9IDD□-90F-A | |
| KEY TYPE 9IDK□-90F-A | |

KEY SPEC



TERMINAL BOX TYPE

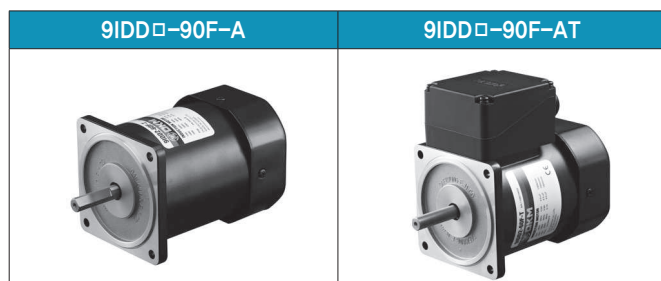
- MOTOR MODEL: 9IDD□-90F-AT (GENERAL FAN)



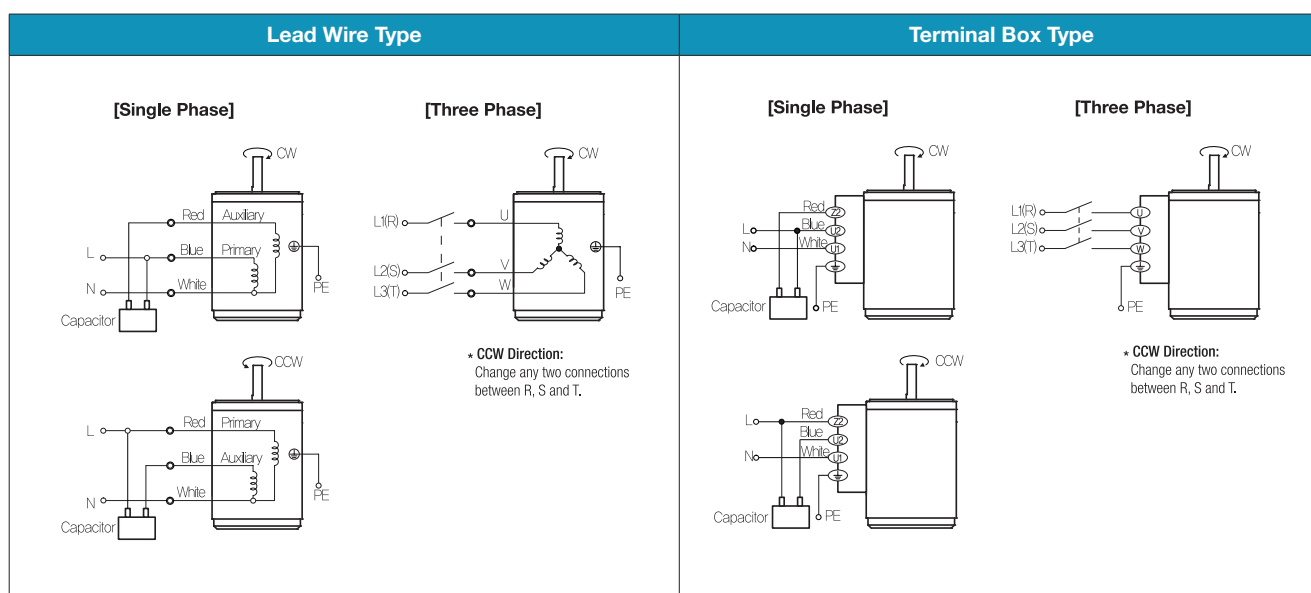
WEIGHT

| PART | WEIGHT(Kg) |
|-------|------------|
| MOTOR | 2.6 |

Motor Images



Connection Diagrams



- 1) The direction of motor rotation is as viewed from the shaft end of the motor.
- 2) CW represents the clockwise direction, while CCW represents the counterclockwise direction.
- 3) Change the direction of single phase motor rotation only after bringing the motor to a stop. If an attempt is made to change the direction of rotation while the motor is rotating, the motor may ignore the reversing command or change its direction after some delay.

B AC Motors

2 Pole Motor 120W(□90mm)

120W

2 Pole Motor
120W(□90mm)

Motor Specification

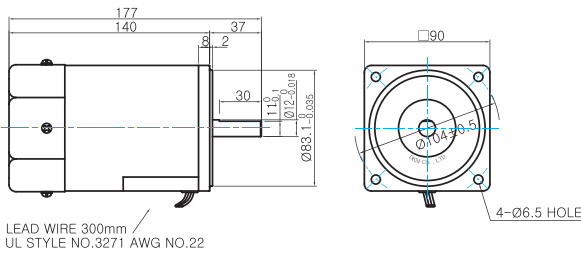
| Model | | Output | Voltage | Frequency | Poles | Duty | Starting Torque | | Rated Load | | | Capacitor | | |
|--|-------------------|---------------|---------|-----------|-------|------|-----------------|-------|------------|---------|--------|-----------|----------|------------|
| Lead Wire Type | Terminal Box Type | | | | | | kgfcm | N.m | Speed | Current | Torque | | μF / VAC | |
| 9IDD□-120F-A(T): D-Cut Type Shaft 9IDK□-120F-A(T): Key Type Shaft | | W | V | Hz | | | | | r/min | A | kgfcm | N.m | | |
| | 9IDDA-120F-A | 9IDDA-120F-AT | 120 | 1φ110 | 60 | 2 | Cont. | 3.00 | 0.300 | 3100 | 2.40 | 3.80 | 0.380 | 25.0 / 250 |
| | 9IDDD-120F-A | 9IDDD-120F-AT | 120 | 1φ220 | 60 | 2 | Cont. | 3.00 | 0.300 | 3100 | 1.40 | 3.80 | 0.380 | 6.5 / 450 |
| | 9IDDE-120F-A | 9IDDE-120F-AT | 120 | 1φ220 | 50 | 2 | Cont. | 3.20 | 0.320 | 2500 | 1.20 | 4.70 | 0.470 | 6.5 / 450 |
| | | | | 1φ240 | | | | | | | | | | |
| | 9IDDG-120F-A | 9IDDG-120F-AT | 120 | 3φ220 | 50 | 2 | Cont. | 12.00 | 1.200 | 2650 | 0.82 | 4.45 | 0.445 | - |
| | | | | | 60 | | | 10.00 | 1.000 | 3250 | 0.60 | 3.60 | 0.360 | |
| | 9IDDK-120F-A | 9IDDK-120F-AT | 120 | 3φ380 | 50 | 2 | Cont. | 12.00 | 1.200 | 2650 | 0.46 | 4.60 | 0.460 | - |
| | | | | | 60 | | | 10.00 | 1.000 | 3200 | 0.35 | 3.65 | 0.365 | |
| | | | | 3φ400 | 50 | 2 | Cont. | 13.00 | 1.300 | 2700 | 0.53 | 4.40 | 0.440 | |
| | | | | | 60 | | | 11.00 | 1.100 | 3200 | 0.38 | 3.85 | 0.385 | |
| | | | | 3φ415 | 50 | 2 | Cont. | 14.00 | 1.400 | 2700 | 0.60 | 4.60 | 0.460 | |
| | | | | | 60 | | | 12.00 | 1.200 | 3250 | 0.41 | 3.65 | 0.365 | |
| | | | | 3φ440 | 50 | 2 | Cont. | 16.00 | 1.600 | 2750 | 0.68 | 4.30 | 0.430 | |
| | | | | | 60 | | | 14.00 | 1.400 | 3250 | 0.45 | 3.80 | 0.380 | |

- 1) Enter the phase & voltage code in the box (□) within the motor model name.
- 2) All models contain a built-in thermal protector.

Dimensions

LEAD WIRE TYPE

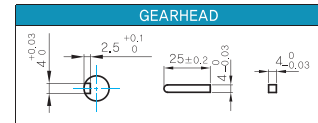
- MOTOR MODEL: 9IDD□-120F-A (GENERAL FAN)



MOTOR OUTPUT SHAFT

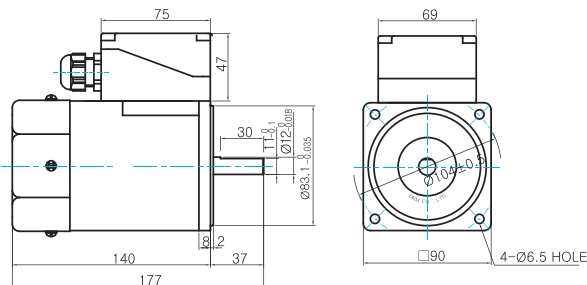
| MODEL | SPEC |
|------------|------|
| D-CUT TYPE | |
| KEY TYPE | |

KEY SPEC



TERMINAL BOX TYPE

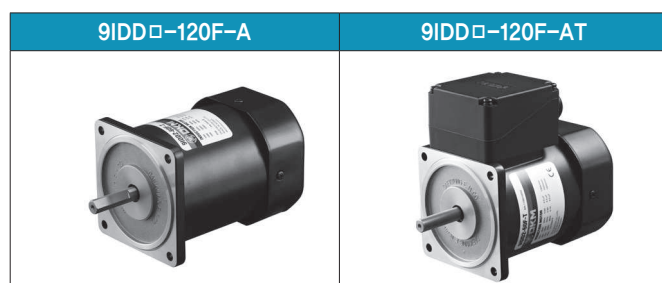
- MOTOR MODEL: 9IDDD□-120F-AT (GENERAL FAN)



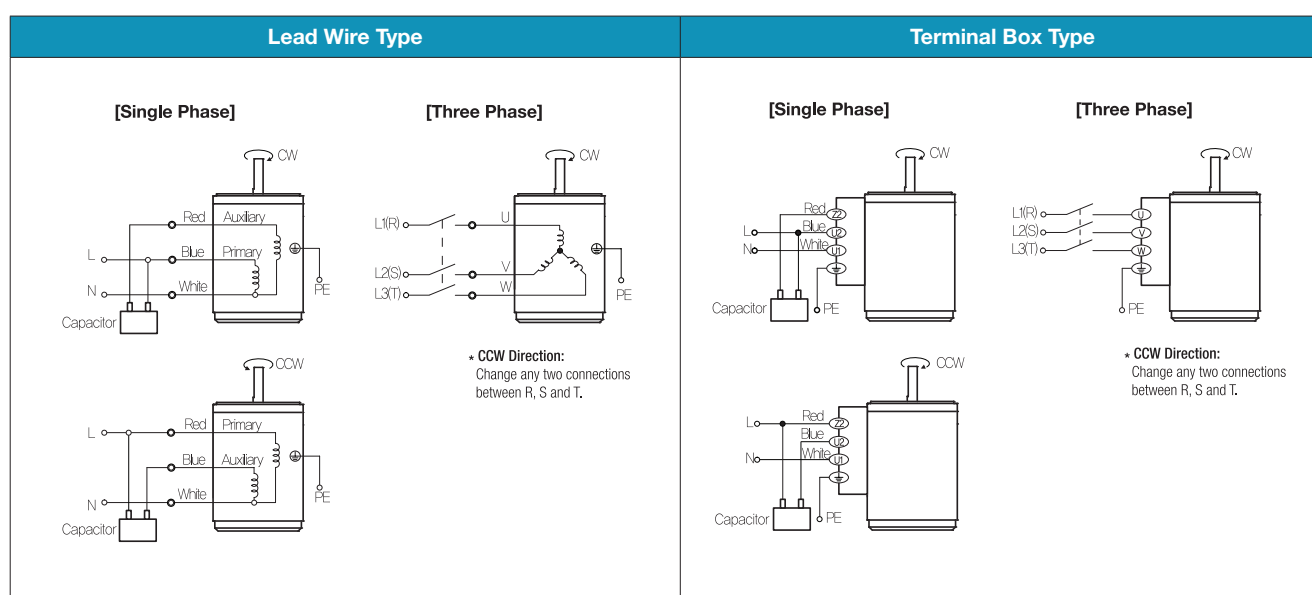
WEIGHT

| PART | WEIGHT(Kg) |
|-------|------------|
| MOTOR | 3.0 |

Motor Images



Connection Diagrams



- 1) The direction of motor rotation is as viewed from the shaft end of the motor.
- 2) CW represents the clockwise direction, while CCW represents the counterclockwise direction.
- 3) Change the direction of single phase motor rotation only after bringing the motor to a stop. If an attempt is made to change the direction of rotation while the motor is rotating, the motor may ignore the reversing command or change its direction after some delay.

B AC Motors

2 Pole Motor 150W(□90mm)

150W

2 Pole Motor
150W(□90mm)

Motor Specification

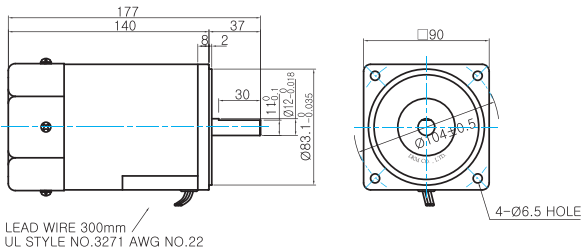
| Model | | Output W | Voltage V | Frequency Hz | Poles | Duty | Starting Torque | | Rated Load | | | Capacitor μF / VAC |
|----------------|-------------------|-------------|--------------|-----------------|-------|-------|-----------------|-------|----------------|--------------|---------------------|-----------------------|
| Lead Wire Type | Terminal Box Type | | | | | | kgfcm | N.m | Speed r/min | Current A | Torque kgfcm N.m | |
| 9IDDG-150F-A | 9IDDG-150F-AT | 150 | 3∅220 | 50 | 2 | Cont. | 14.00 | 1.400 | 2650 | 1.40 | 5.60 | 0.560 |
| | | | | 60 | | | 12.00 | 1.200 | | | | |
| 9IDDK-150F-A | 9IDDK-150F-AT | 150 | 3∅380 | 50 | 2 | Cont. | 1.40 | 0.140 | 2600 | 0.52 | 5.70 | 0.570 |
| | | | | 60 | | | 1.20 | 0.120 | | | | |
| | | | 3∅400 | 50 | 2 | Cont. | 1.50 | 0.150 | 2600 | 0.60 | 5.90 | 0.590 |
| | | | | 60 | | | 1.30 | 0.130 | | | | |
| | | | 3∅415 | 50 | 2 | Cont. | 1.60 | 0.160 | 2700 | 0.60 | 5.60 | 0.560 |
| | | | | 60 | | | 1.40 | 0.140 | | | | |
| | | | 3∅440 | 50 | 2 | Cont. | 1.80 | 0.180 | 2700 | 0.68 | 5.80 | 0.580 |
| | | | | 60 | | | 1.60 | 0.160 | | | | |

- 1) Enter the phase & voltage code in the box (□) within the motor model name.
- 2) All models contain a built-in thermal protector.

Dimensions

LEAD WIRE TYPE

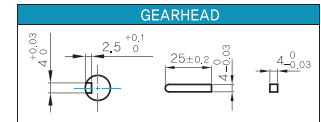
- MOTOR MODEL: 9IDD□-150F-A (GENERAL FAN)



MOTOR OUTPUT SHAFT

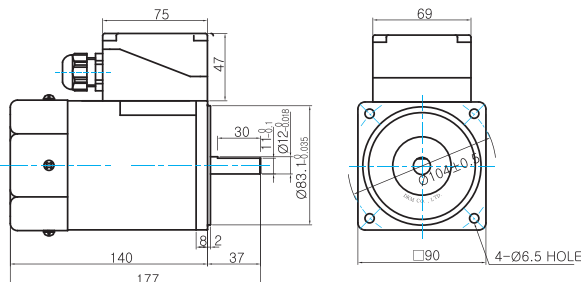
| MODEL | SPEC |
|----------------------------|------|
| D-CUT TYPE 9IDD□-150F-A | |
| KEY TYPE 9IDDK□-150F-A | |

KEY SPEC



TERMINAL BOX TYPE

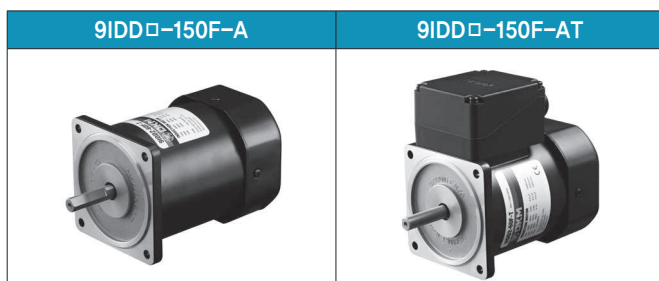
- MOTOR MODEL: 9IDD□-150F-AT (GENERAL FAN)



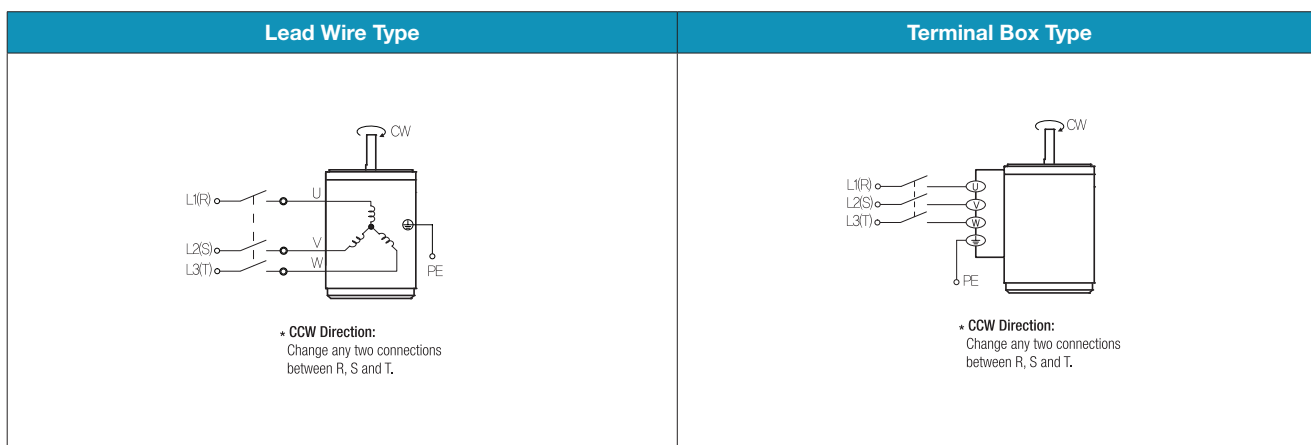
WEIGHT

| PART | WEIGHT(Kg) |
|-------|------------|
| MOTOR | 3.0 |

Motor Images



Connection Diagrams



- 1) The direction of motor rotation is as viewed from the shaft end of the motor.
- 2) CW represents the clockwise direction, while CCW represents the counterclockwise direction.

B AC Motors

2 Pole Motor 200W(□90mm)

200W

2 Pole Motor
200W(□90mm)

Motor Specification

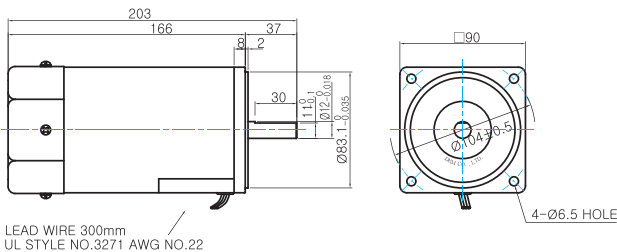
| Model | | Output W | Voltage V | Frequency Hz | Poles | Duty | Starting Torque | | Rated Load | | | Capacitor μF / VAC | |
|----------------|-------------------|-------------|--------------|-----------------|-------|-------|-----------------|-------|----------------|--------------|-----------------|-----------------------|-----|
| Lead Wire Type | Terminal Box Type | | | | | | kgfcm | N.m | Speed r/min | Current A | Torque kgfcm | | N.m |
| 9IDDG-200F-A | 9IDDG-200F-AT | 200 | 3∅220 | 50 | 2 | Cont. | 20.00 | 2.000 | 2700 | 1.30 | 7.30 | 0.730 | - |
| | | | | 60 | | | 16.00 | 1.600 | 3200 | 0.90 | 6.10 | 0.610 | |
| 9IDDK-200F-A | 9IDDK-200F-AT | 200 | 3∅380 | 50 | 2 | Cont. | 19.00 | 1.900 | 2700 | 0.70 | 7.40 | 0.740 | - |
| | | | | 60 | | | 16.00 | 1.600 | 3250 | 0.52 | 6.00 | 0.600 | |
| | | | 3∅400 | 50 | 2 | Cont. | 20.00 | 2.000 | 2700 | 0.72 | 7.60 | 0.760 | |
| | | | | 60 | | | 17.00 | 1.700 | 3250 | 0.57 | 6.20 | 0.620 | |

- 1) Enter the phase & voltage code in the box (□) within the motor model name.
- 2) All models contain a built-in thermal protector.

Dimensions

LEAD WIRE TYPE

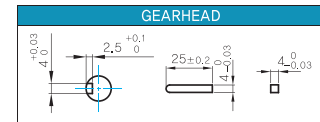
- MOTOR MODEL: 9IDD□-200F-A (GENERAL FAN)



- MOTOR OUTPUT SHAFT

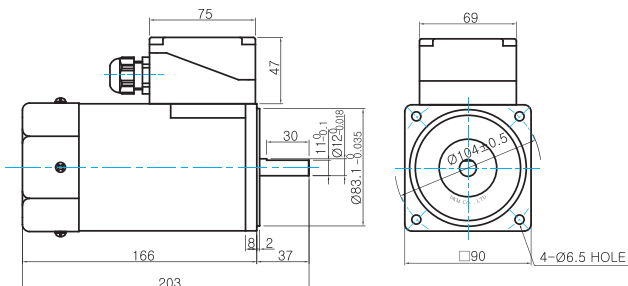
| MODEL | SPEC |
|--------------|------|
| D-CUT TYPE | |
| KEY TYPE | |
| 9IDD□-200F-A | |

- KEY SPEC



TERMINAL BOX TYPE

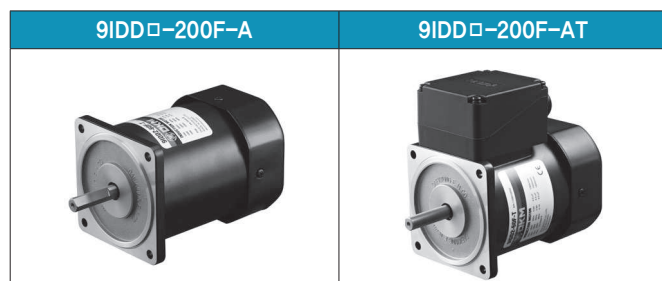
- MOTOR MODEL: 9IDD□-200F-AT (GENERAL FAN)



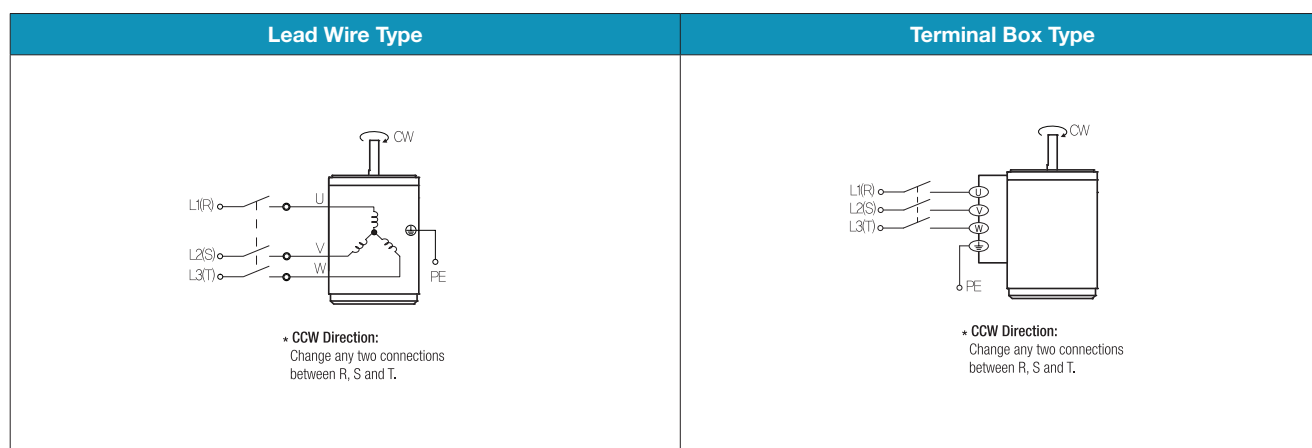
WEIGHT

| PART | WEIGHT(Kg) |
|-------|------------|
| MOTOR | 3.8 |

Motor Images



Connection Diagrams



- 1) The direction of motor rotation is as viewed from the shaft end of the motor.
- 2) CW represents the clockwise direction, while CCW represents the counterclockwise direction.



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- C-01** Technical Data of DC Motor
- C-04** DC Motor
- C-17** Speed Controller DSD-90

D Gearheads

- D-01** Technical Data of Gearhead
- D-07** Parallel Gearhead
- D-12** Worm Gearhead
- D-14** Inter-decimal Gearhead

E Options

- E-01** Mounting Plate
- E-02** Extension Cable
- E-03** Output Flange / Output Shaft

E Options

Mounting Plate

Mounting Plate

It enables motor/gearhead to be mounted on installation place.

There are mounting plates of frame size □70/80/90mm for motor and gearhead.



Product Code

D BK M - 70

Brand
D : DKM

Product
BK : Bracket

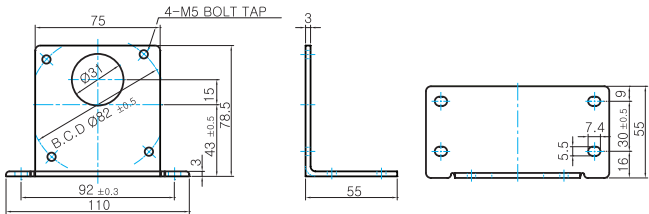
Attaching Item
M : Motor
G : Gearhead

Frame Size
70 : □70mm Motor / Gearhead
80 : □80mm Motor / Gearhead
90 : □90mm Motor / Gearhead

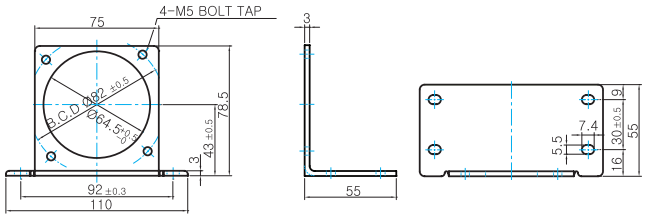
Dimensions

For Frame Size □70mm

● Model: DBKG-70

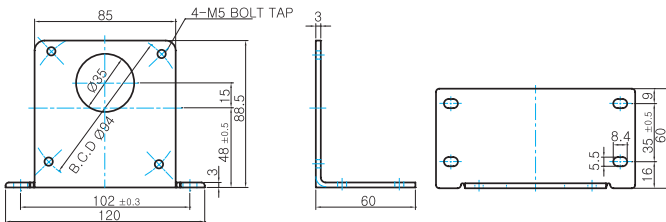


● Model: DBKM-70

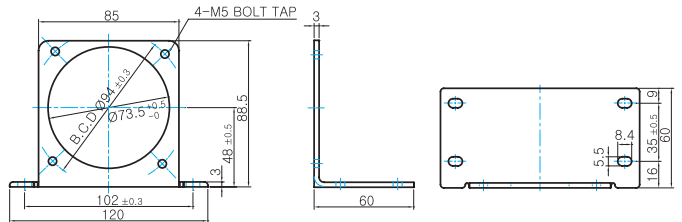


For Frame Size □80mm

● Model: DBKG-80

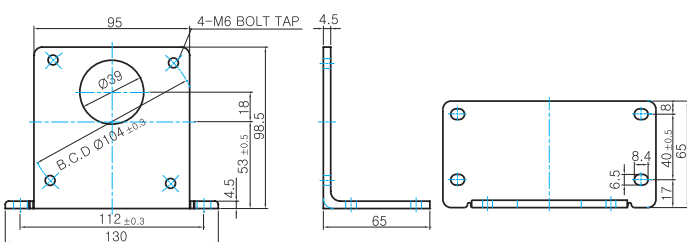


● Model: DBKM-80

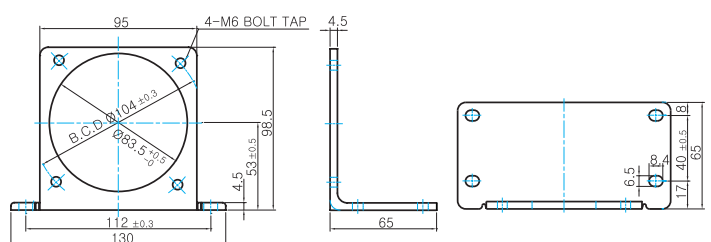


For Frame Size □90mm

● Model: DBKG-90



● Model: DBKM-90

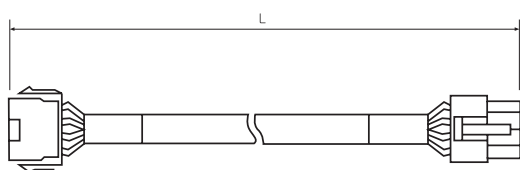


Extension Cable

This is for the connection between speed control motor and speed controller.
 The basic length of extension cable is 0.3m. So if longer needed,
 please order the cable additionally. There are 0.5/1.0/1.5/2.0/3.0/5.0m extension cables.



Dimension



| MODEL | Length of cable (L) |
|--------|---------------------|
| DEW-05 | 0.5m |
| DEW-10 | 1.0m |
| DEW-15 | 1.5m |
| DEW-20 | 2.0m |
| DEW-30 | 3.0m |
| DEW-50 | 5.0m |

E Options

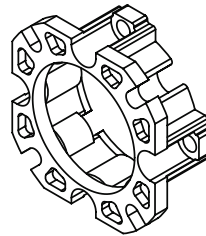
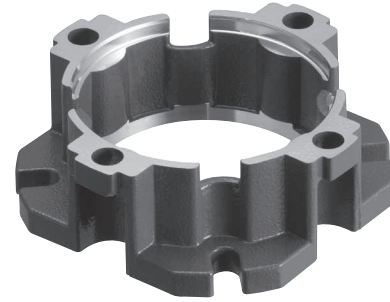
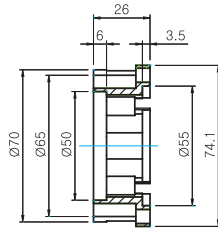
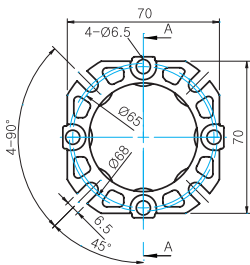
Output Flange / Output Shaft

Output Flange

It is available to fix/install worm hollow type gearhead by attaching output flange to the gearhead.

Dimensions

● MODEL: WHG-030-F

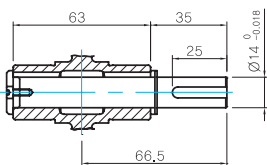


Output Shaft

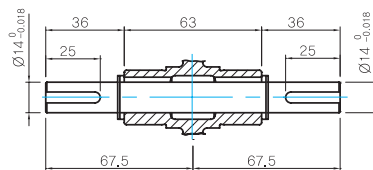
These are output shafts to be attached to worm hollow type gearhead. There are unidirectional output shaft and bi-directional output shaft.

Dimensions

● Unidirectional MODEL: 15X92L



● Bi-directional MODEL: 14X135L



● KEY SPEC

