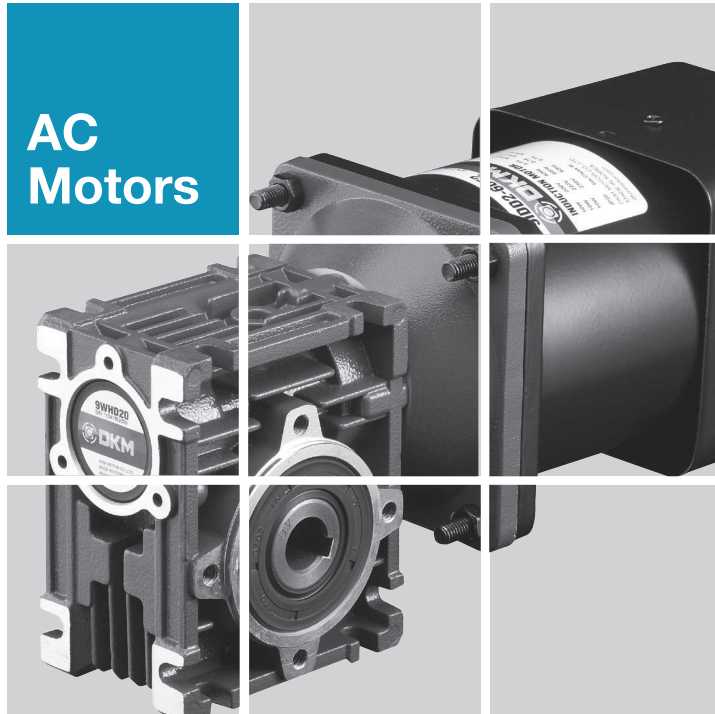


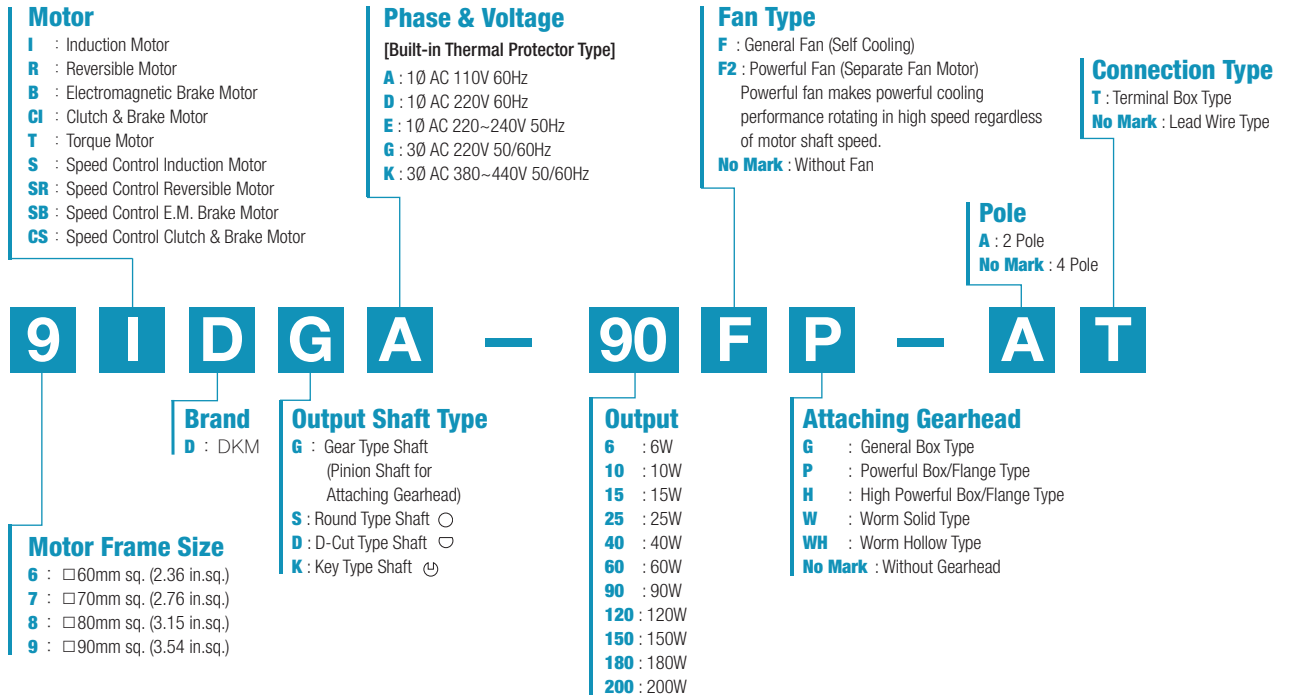
**AC
Motors**



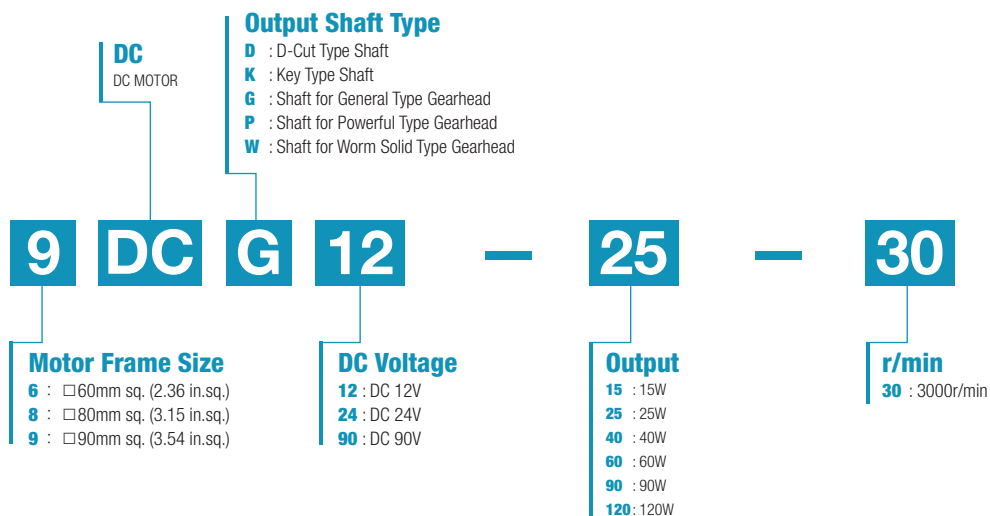
A Information

Product Coding System

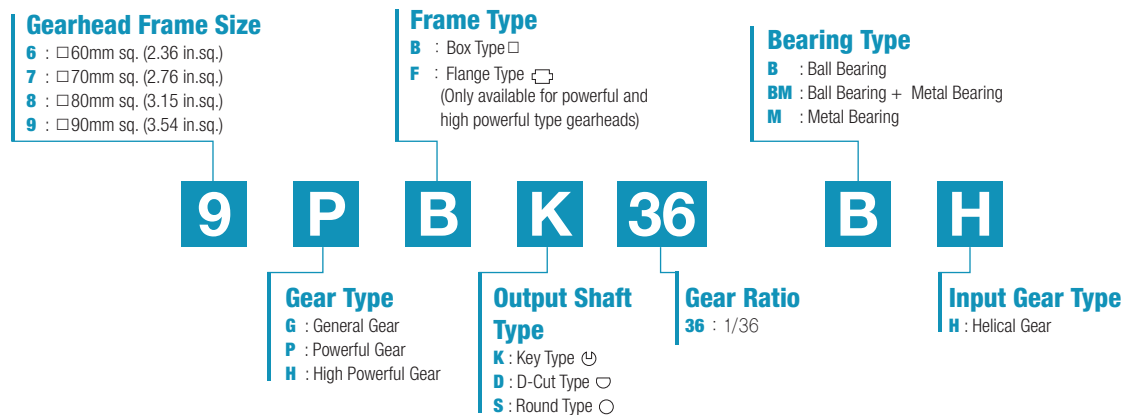
AC Motors



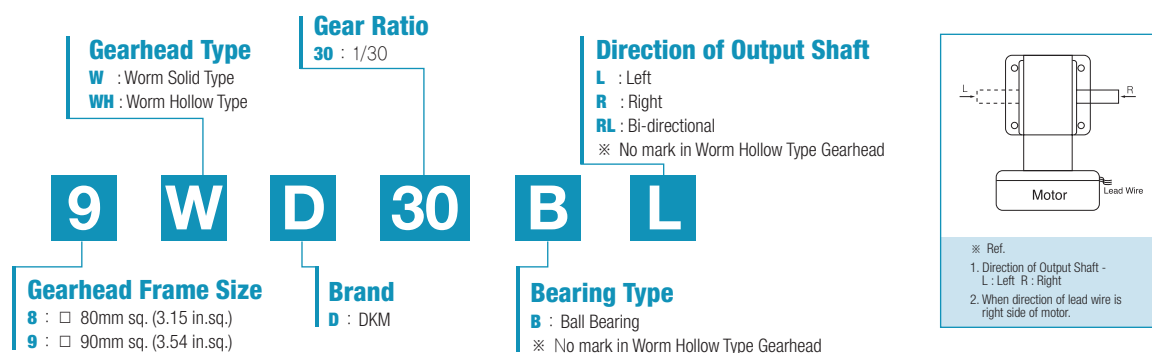
DC Motors



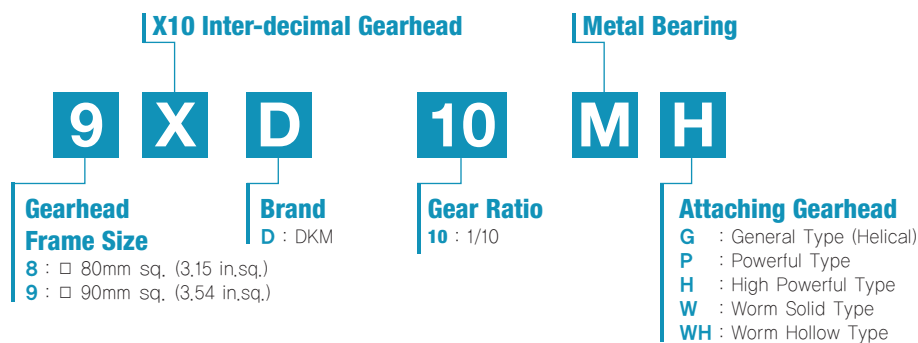
Parallel Gearhead



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.

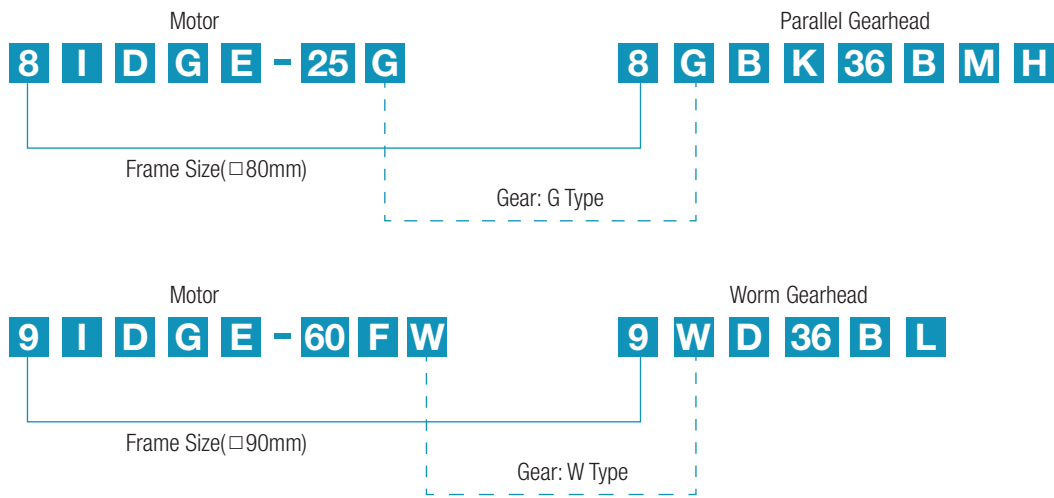
A Information

Product Coding System

Assembly of Motor and Gearhead

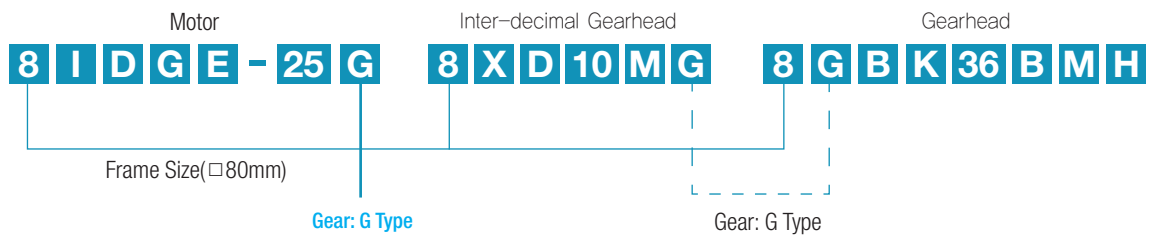
Motor + Gearhead

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

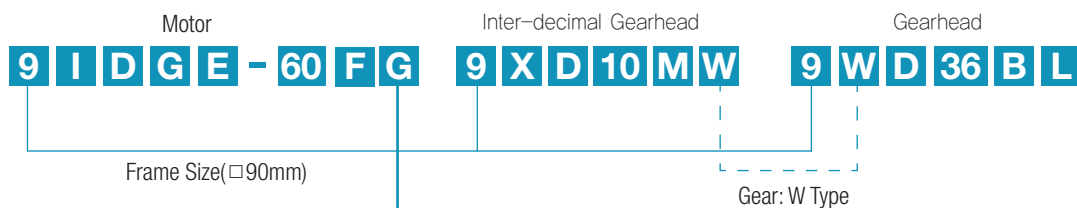


Motor + Inter-decimal Gearhead + Gearhead

- 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.

Contents ▶▶

A Information

- A-01 Product Coding System
- A-04 Products Lineup
- A-08 General Information
- A-12 Terminology
- A-15 Caution for Using

B AC Motors

- B-01 Technical Data of AC Motor
- B-06 Induction Motor
- B-48 2 Pole Motor
- B-66 Reversible Motor
- B-98 Electromagnetic Brake Motor
- B-138 Clutch & Brake Motor
- B-154 Torque Motor
- B-168 Speed Control System
 - B-171 Speed Controller FX1000A
 - B-173 Speed Controller DSK
 - B-175 Speed Controller DSKS
 - B-178 Speed Control Induction Motor
 - B-212 Speed Control Reversible Motor
 - B-240 Speed Control E.M. Brake Motor
 - B-266 Speed Control Clutch & Brake Motor

C DC Motors

- 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

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.

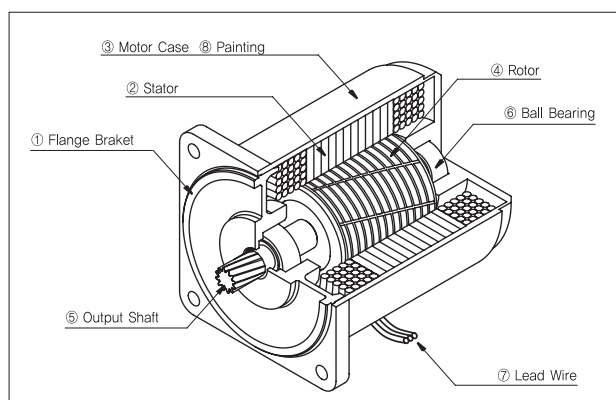
● Torque Motor

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)

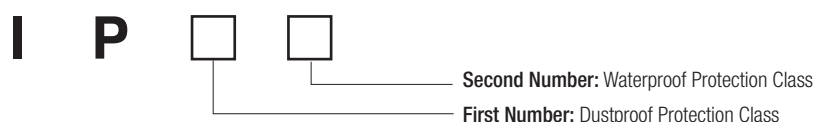
Insulation Class	Max. Permissible Temp.
Y	90°C
A	105°C
E	120°C
B	130°C
F	155°C
H	180°C

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

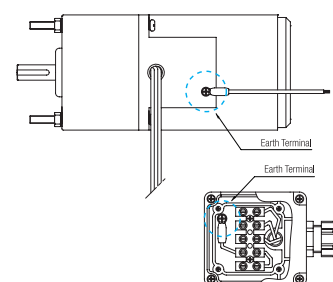
IP Code	Protection Specifications for Waterproof	
Second Number	Protection Level	Test Condition
IP□0	None	None
IP□1	Protection against water drops falling vertically	Water drops at a rate of 3 to 5L/min. for 10 minutes from a height of 200mm
IP□2	Protection against water drops from directions within 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

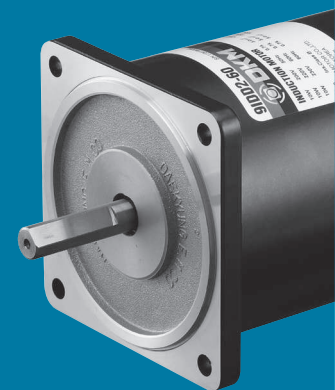
Lead Wire Type

- 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)

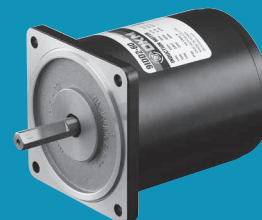


Terminal Box Type

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



Torque Motor



Index

Outline of Torque Motor	B-155
Torque Motor 6W (□70mm)	B-157
Torque Motor 15W (□80mm)	B-159
Torque Motor 20W (□90mm)	B-161
Torque Motor 30W (□90mm)	B-163
Torque Motor 40W (□90mm)	B-165

B AC Motors

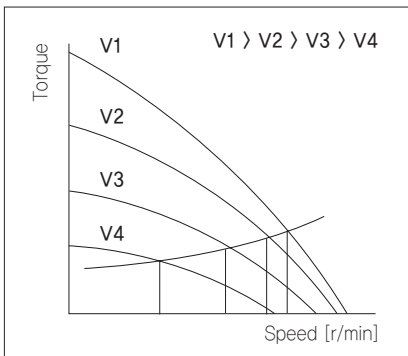
Outline of Torque Motor

Features

Torque motors are designed for providing high torque and sloping characteristics. (Torque is highest at zero speed and decreases steadily as speed increases.)

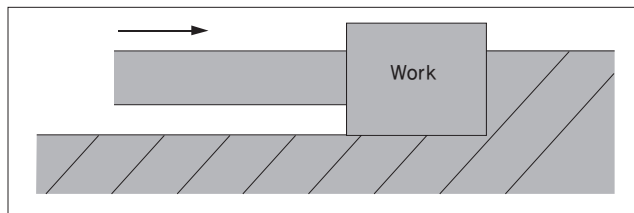
Various Speed over a Wide Range

The torque is approximately in proportion to the square of the voltage. Easy speed control is available by changing the voltage of the power supply.



Locked Operation

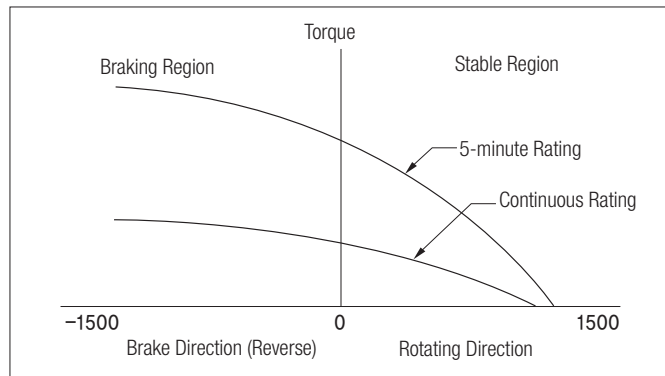
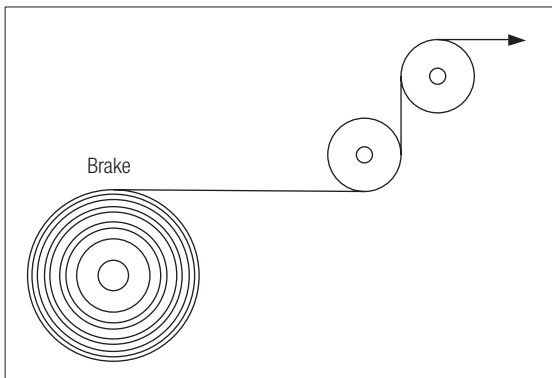
Torque motors are designed to provide stable torque even under stall conditions or at very low speeds (nearly stop). It is available only in torque motors not in induction or reversible motors. They are suitable for pushing applications that require static torque, or for loads that are usually under a locked rotor condition and are under stall conditions at the end of processes. At 60VAC or less the continuous operation is possible but when it is used at voltages above 60VAC, the motors are rated for limited duty. The motor has a about 5-minute rating at 115VAC or 220 VAC.



***Note:** When using a motor in locked rotor condition, the output torque becomes very large. The output torque of the gearhead must be lower than the maximum permissible torque. Also ensure that the load does not hit an object and stop, since this can cause damage to the gearhead due to the shock.

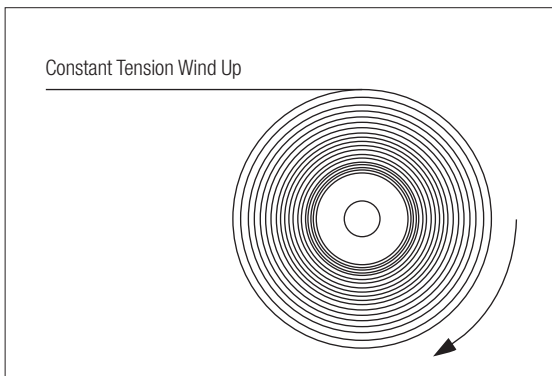
Use as a Brake

By using the motor in the braking region of the speed-torque characteristics, it can serve as a brake. Constant tension control can be achieved by applying a DC voltage.



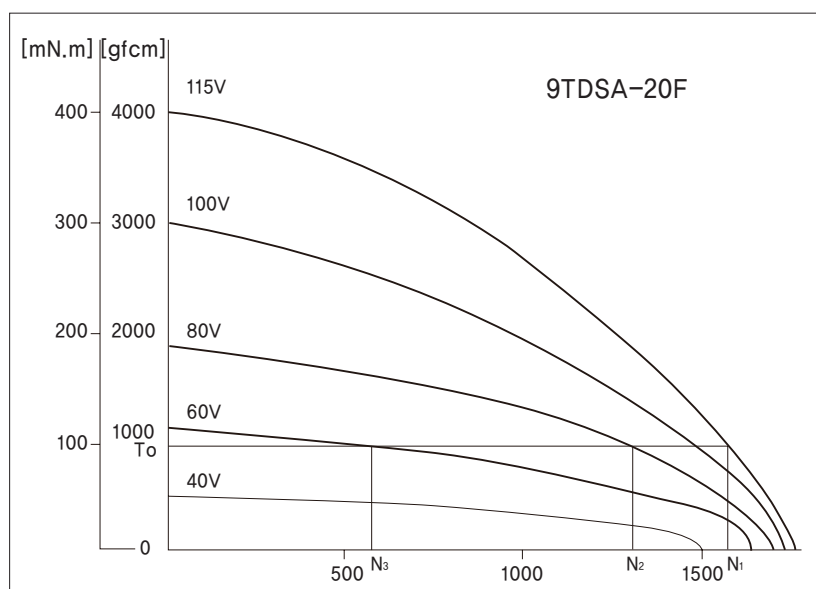
Suitable for Winding Applications

In an application where an object is released continuously at a constant speed and wound up with constant tension, the torque must be doubled and the speed must be halved if the diameter of the winding spool is doubled.



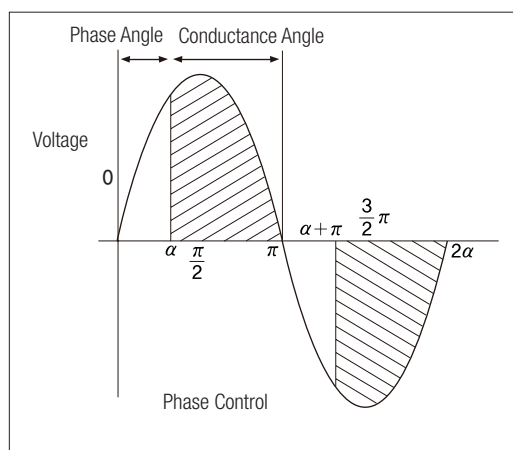
Speed-Torque Characteristics

- The torque of torque motor is approximately in proportion to the square of the voltage. When the voltage supplied to the motor is changed, speed-torque curves with sloping characteristics (torque is highest at zero speed and decreases steadily as speed increases) will be corresponding voltage. If the voltage is changed to 115VAC, 80VAC and 60VAC while the load torque is T_0 , the motor rotates at the speeds N_1 , N_2 and N_3 respectively. That is to say, the speed can be changed easily by varying the voltage. In choosing a torque motor, first determine the required torque and speed and then select a motor using the speed-torque characteristics curves to determine whether the motors should be operated under continuous duty or limited duty. In using motor under locked rotor conditions, only the torque factor is considered.



Voltage Control of Torque Motor

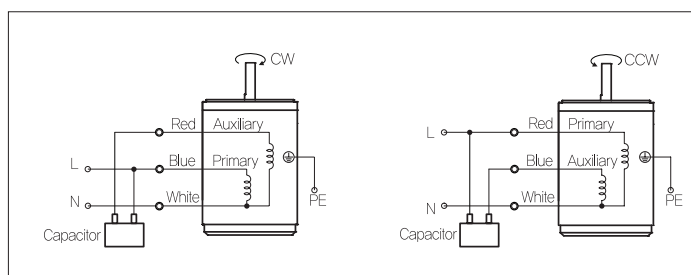
- As shown in the graph, as the phase angle "alpha" at which the triac switches changes, the input voltage is controlled as represented by the phase angle areas of the graph. When changing the speed or the torque, an external voltage controller is needed.



General Specifications

Item	Specification
Insulation Resistance	100MΩ or more when DC500V MEGA is applied between the windings and the frame after rated motor operation under normal ambient temperature and humidity.
Dielectric Strength	Sufficient to withstand 1.5KV at 50Hz and 60Hz applied between the windings and the frame for 1 minute after rated motor operation under normal ambient temperature and humidity.
Temperature Rise	Temperature rise of windings are 80°C or less measured by the resistance change method after rated motor operation with connecting a gearhead or equivalent heat radiation plate.
Insulation Class	Class B [130°C]
Overheat Protection	Operating temperature (Built-in thermal protector type motor): Open 120°C±5°C, Close 90°C±5°C
Ambient Temperature	-10°C ~ +40°C (Three phase 220VAC: -10°C ~ +50°C)
Ambient Humidity	85% maximum

Connection Diagrams



B AC Motors

Torque Motor 6W(□70mm)

6W

 Torque Motor
6W(□70mm)

Motor Specification

Model 7TDG□-6G: Gear Type Shaft 7TDD□-6: D-Cut Type Shaft	Rating at Locked Rotor	Voltage V	Frequency Hz	Poles	Starting Torque		Output Hz	At max. Output Power				Capacitor μF / VAC		
					kgfcm	N.m		Speed r/min	Torque kgfcm N.m	Current A	Input W			
7TDGA-6G	5min.	1∅ 110	60	4	1.20	0.120	8	900	0.70	0.070	0.60	57	10.0 / 250	
	Cont.	1∅ 60			0.42	0.042	2.5		0.23	0.023	0.21	17		
7TDGD-6G	5min.	1∅ 220	60	4	1.20	0.120	8		0.70	0.070	0.18	57		1.5 / 450
	Cont.	1∅ 140			0.42	0.042	2.5		0.23	0.023	0.09	17		
7TDGE-6G	5min.	1∅ 220~240	50	4	1.40	0.140	6	750	0.80	0.080	0.18	55	1.5 / 450	
	Cont.	1∅ 140			0.54	0.054	2.3		0.30	0.030	0.09	19		

- 1) Enter the phase & voltage code in the in the box (□) within the motor model name.
- 2) All models contain a built-in thermal protector.
- 3) Gear Type Shaft is for attaching gearhead and D-Cut Type Shaft is for using motor only.

Max. Permissible Torque at Output Shaft of Gearhead

60Hz

Motor Model	Gearhead Model	Gear Ratio	Gear Ratio																			
			3	3.6	6	7.5	9	12.5	15	18	25	30	36	50	60	75	90	100	120	150	180	
7TDG□-6G	7GBK□BMH	5min.	kgfcm	1.7	2.1	3.5	4.4	5.2	7.3	8.7	10.5	13.1	15.8	17.1	23.8	28.6	35.7	42.8	47.6	50.0	50.0	50.0
		N.m	0.17	0.20	0.34	0.43	0.51	0.71	0.85	1.02	1.29	1.54	1.68	2.33	2.80	3.50	4.20	4.66	4.90	4.90	4.90	4.90
		Cont.	kgfcm	0.6	0.7	1.1	1.4	1.7	2.4	2.9	3.4	4.3	5.2	5.6	7.8	9.4	11.7	14.1	15.6	18.8	23.5	28.2
			N.m	0.06	0.07	0.11	0.14	0.17	0.23	0.28	0.34	0.42	0.51	0.55	0.77	0.92	1.15	1.38	1.53	1.84	2.30	2.76

50Hz

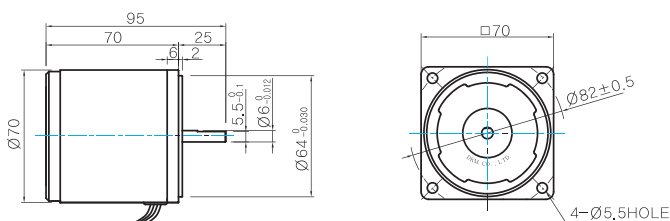
Motor Model	Gearhead Model	Gear Ratio	Gear Ratio																			
			3	3.6	6	7.5	9	12.5	15	18	25	30	36	50	60	75	90	100	120	150	180	
7TDG□-6G	7GBK□BMH	5min.	kgfcm	2.0	2.4	4.0	5.0	6.0	8.3	10.0	12.0	15.0	18.0	19.6	27.2	32.6	40.8	49.0	50.0	50.0	50.0	50.0
		N.m	0.20	0.23	0.39	0.49	0.59	0.81	0.98	1.17	1.47	1.76	1.92	2.67	3.20	4.00	4.80	4.90	4.90	4.90	4.90	4.90
		Cont.	kgfcm	0.7	0.9	1.5	1.9	2.2	3.1	3.7	4.5	5.6	6.8	7.3	10.2	12.2	15.3	18.4	20.4	24.5	30.6	36.7
			N.m	0.07	0.09	0.15	0.18	0.22	0.31	0.37	0.44	0.55	0.66	0.72	1.00	1.20	1.50	1.80	2.00	2.40	3.00	3.60

- 1) Enter the phase & voltage code in the box (□) within the motor model name.
- 2) Enter the gear ratio in the box (□) within the gearhead model name.
- 3) A colored background indicates gear shaft rotation in the same direction as the motor shaft; a white background indicates rotation in the opposite direction.
- 4) The rotating speed is calculated by dividing the motor's synchronous speed (50Hz: 1,500r/min, 60Hz: 1,800r/min) by the gear ratio.
The actual speed is 2~20% less than the displayed value, depending on the size of the load.

Dimensions

MOTOR ONLY

- MOTOR MODEL: 7TDD□-6(-T) (NO FAN)



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

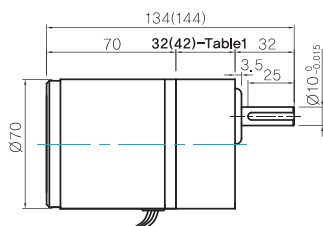
MOTOR OUTPUT SHAFT

MODEL	SPEC
D-CUT TYPE	

GEARED MOTOR

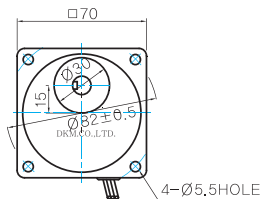
G TYPE GEARHEAD

- MOTOR MODEL:
7TDG□-6G (NO FAN)



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

- GEARHEAD MODEL:
7GBK□BMH



GEARHEAD OUTPUT SHAFT

MODEL	SPEC
KEY TYPE	

KEY SPEC

GEARHEAD	

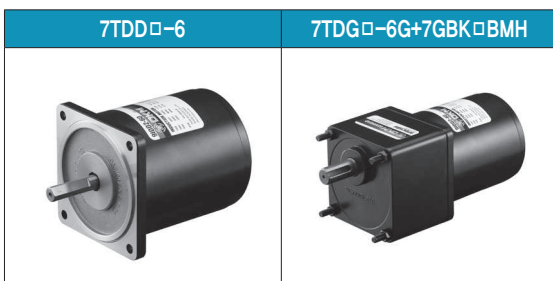
WEIGHT

PART	WEIGHT(Kg)
MOTOR	0,94
GEAR HEAD	
7GBK3BMH - 7GBK18BMH	0,36
7GBK25BMH - 7GBK30BMH	0,44
7GBK36BMH - 7GBK180BMH	0,5

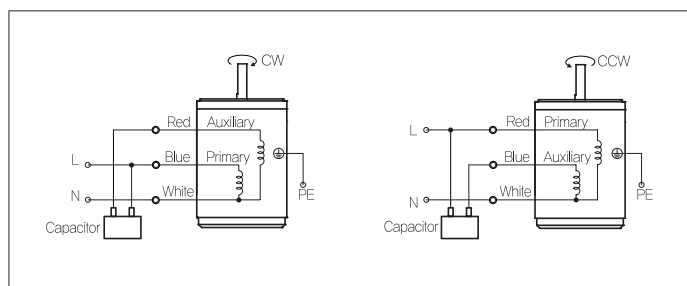
32(42)-Table1

SIZE(mm)	GEAR RATIO
32	7GBK3BMH - 7GBK18BMH
42	7GBK25BMH - 7GBK180BMH

Motor Images



Connection Diagrams



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

Torque Motor 10W(□80mm)

10W

Torque Motor
10W(□80mm)

Motor Specification

Model 8TDG□-10G: Gear Type Shaft 8TDD□-10: D-Cut Type Shaft	Rating at Locked Rotor	Voltage V	Frequency Hz	Poles	Starting Torque		Output Hz	At max. Output Power				Capacitor μF / VAC	
					kgfcm	N.m		Speed r/min	Torque kgfcm	N.m	Current A		Input W
8TDGA-10G	5min.	1∅ 110	60	4	2.10	0.200	12	900	1.00	0.010	0.80	67	10.0 / 250
	Cont.	1∅ 60			0.70	0.070	3.5		0.38	0.038	0.50	19	
8TDGD-10G	5min.	1∅ 220	60	4	2.20	0.220	10	900	1.00	0.010	0.40	67	2.0 / 450
	Cont.	1∅ 140			0.75	0.075	3.5		0.38	0.038	0.25	19	
8TDGE-10G	5min.	1∅ 220~240	50	4	2.30	0.023	12	750	1.30	0.013	0.40	63	2.0 / 450
	Cont.	1∅ 140			0.75	0.075	3.5		0.46	0.046	0.25	24	

- 1) Enter the phase & voltage code in the in the box (□) within the motor model name.
- 2) All models contain a built-in thermal protector.
- 3) Gear Type Shaft is for attaching gearhead and D-Cut Type Shaft is for using motor only.

Max. Permissible Torque at Output Shaft of Gearhead

60Hz

Motor Model	Gearhead Model	Gear Ratio	3	3.6	5	6	7.5	9	12.5	15	18	25	30	36	40	50	60	75	90	100	120	150	180	200	250	300	360
8TDG□ -10G	8GBK□ BMH	5min.	kgfcm N.m	2.5 0.24	3.0 0.29	4.2 0.41	5.0 0.49	6.2 0.61	7.5 0.73	10.4 1.02	12.5 1.22	14.9 1.46	18.8 1.84	22.5 2.21	24.5 2.40	27.2 2.67	34.0 3.33	40.8 4.00	50.0 4.90	50.0 4.90	50.0 4.90	50.0 4.90	50.0 4.90	50.0 4.90	50.0 4.90	50.0 4.90	50.0 4.90
		Cont.	kgfcm N.m	0.9 0.09	1.1 0.11	1.6 0.15	1.9 0.19	2.4 0.23	2.8 0.28	3.9 0.39	4.7 0.46	5.7 0.56	7.1 0.70	8.6 0.84	11.4 1.11	12.6 1.24	15.8 1.55	18.9 1.85	23.7 2.32	28.4 2.78	31.5 3.09	37.8 3.71	47.3 4.64	50.0 4.90	50.0 4.90	50.0 4.90	50.0 4.90

50Hz

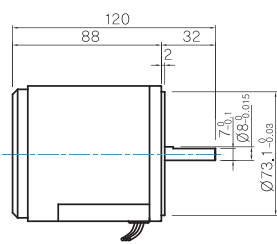
Motor Model	Gearhead Model	Gear Ratio	3	3.6	5	6	7.5	9	12.5	15	18	25	30	36	40	50	60	75	90	100	120	150	180	200	250	300	360
8TDG□ -10G	8GBK□ BMH	5min.	kgfcm N.m	3.2 0.32	3.9 0.38	5.4 0.53	6.5 0.63	8.1 0.79	9.7 0.95	13.5 1.32	16.2 1.59	19.4 1.90	24.4 2.39	29.3 2.87	31.8 3.12	35.4 3.47	44.2 4.33	50.0 4.90	50.0 4.90	50.0 4.90	50.0 4.90	50.0 4.90	50.0 4.90	50.0 4.90	50.0 4.90	50.0 4.90	50.0 4.90
		Cont.	kgfcm N.m	1.1 0.11	1.4 0.13	1.9 0.19	2.3 0.22	2.9 0.28	3.4 0.34	4.8 0.47	5.7 0.56	6.9 0.67	8.6 0.85	10.4 1.01	11.3 1.10	12.5 1.23	15.6 1.53	18.8 1.84	23.5 2.30	28.2 2.76	31.3 3.07	37.5 3.68	46.9 4.60	50.0 4.90	50.0 4.90	50.0 4.90	50.0 4.90

- 1) Enter the phase & voltage code in the box (□) within the motor model name.
- 2) Enter the gear ratio in the box (□) within the gearhead model name.
- 3) A colored background indicates gear shaft rotation in the same direction as the motor shaft; a white background indicates rotation in the opposite direction.
- 4) The rotating speed is calculated by dividing the motor's synchronous speed (50Hz: 1,500r/min, 60Hz: 1,800r/min) by the gear ratio.
The actual speed is 2~20% less than the displayed value, depending on the size of the load.

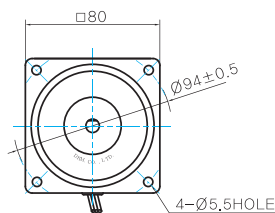
Dimensions

MOTOR ONLY

- MOTOR MODEL: 8TDD□-10 (NO FAN)



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

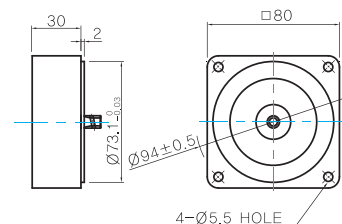


MOTOR OUTPUT SHAFT

MODEL	SPEC
D-CUT TYPE	

INTER-DECIMAL GEARHEAD

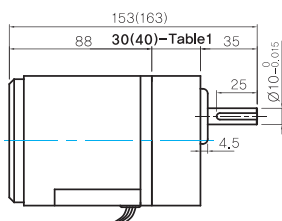
- MODEL: 8XD10M□



GEARED MOTOR

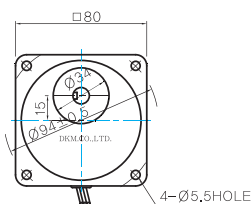
G TYPE GEARHEAD

- MOTOR MODEL: 8TDG□-10G (NO FAN)



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

- GEARHEAD MODEL: 8GBK□BMH



GEARHEAD OUTPUT SHAFT

MODEL	SPEC
KEY TYPE	

KEY SPEC

GEARHEAD	

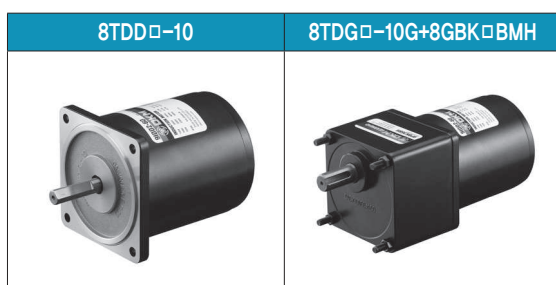
WEIGHT

PART		WEIGHT(Kg)
MOTOR		1,6
GEAR HEAD	8GBK3BMH - 8GBK18BMH	0,48
	8GBK25BMH - 8GBK30BMH	0,61
	8GBK36BMH - 8GBK180BMH	0,67
	8GBK200BMH - 8GBK360BMH	0,63
	8XD10M□	0,44

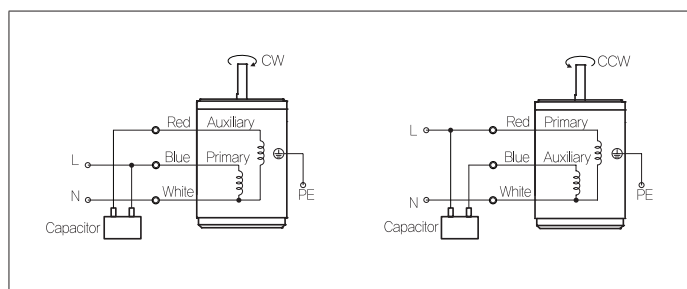
30(40)-Table1

SIZE(mm)	GEAR RATIO
30	8GBK3BMH - 8GBK18BMH
40	8GBK25BMH - 8GBK360BMH

Motor Images



Connection Diagrams



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

Torque Motor 20W(□90mm)

20W Torque Motor 20W(□90mm)

Motor Specification

Model 9TDG□-20F2G: Gear Type Shaft 9TDD□-20F2: D-Cut Type Shaft 9TDK□-20F2: Key Type Shaft	Rating at Locked Rotor	Voltage V	Frequency Hz	Poles	Starting Torque		Output Hz	At max. Output Power				Capacitor μF / VAC	
					kgfcm	N.m		Speed r/min	Torque kgfcm N.m	Current A	Input W		
9TDGA-20F2G	5min.	1∅ 110	60	4	3.00	0.300	20	900	2.20	0.220	1.00	110	16.0 / 250
	Cont.	1∅ 60			0.90	0.090	6		0.65	0.065	0.70	29	
9TDGD-20F2G	5min.	1∅ 220	60	4	3.00	0.300	20	900	2.20	0.220	0.60	110	4.0 / 450
	Cont.	1∅ 140			0.90	0.090	6		0.65	0.065	0.35	29	
9TDGE-20F2G	5min.	1∅ 220~240	50	4	3.20	0.320	20	750	2.20	0.220	0.60	96	4.0 / 450
	Cont.	1∅ 140			1.00	0.100	6		0.65	0.065	0.35	32	

- 1) Enter the phase & voltage code in the in the box (□) within the motor model name.
- 2) All models contain a built-in thermal protector.
- 3) Gear Type Shaft is for attaching gearhead and D-Cut & Key Type Shafts are for using motor only.

Max. Permissible Torque at Output Shaft of Gearhead

60Hz

Motor Model	Gearhead Model	Gear Ratio	Torque (kgfcm / N.m)																							
			2	3	3.6	5	6	7.5	9	10	12.5	15	18	25	30	36	40	50	60	75	90	100	120	150	180	
9TDG□-20F2G	9GBK□BMH	5min.	kgfcm	3.7	5.5	6.6	9.1	11.0	13.7	16.4	18.3	22.8	27.4	29.7	41.3	49.5	53.9	59.8	74.8	89.8	100.0	100.0	100.0	100.0	100.0	100.0
		N.m	0.36	0.54	0.64	0.89	1.07	1.34	1.61	1.79	2.24	2.68	2.91	4.04	4.85	5.28	5.86	7.33	8.80	9.80	9.80	9.80	9.80	9.80	9.80	9.80
		Cont.	kgfcm	1.1	1.6	1.9	2.7	3.2	4.0	4.9	5.4	6.7	8.1	8.8	12.2	14.6	15.9	17.7	22.1	26.5	33.2	39.8	44.2	53.0	66.3	79.6
		N.m	0.11	0.16	0.19	0.26	0.32	0.40	0.48	0.53	0.66	0.79	0.86	1.19	1.43	1.56	1.73	2.17	2.60	3.25	3.90	4.33	5.20	6.50	7.80	

50Hz

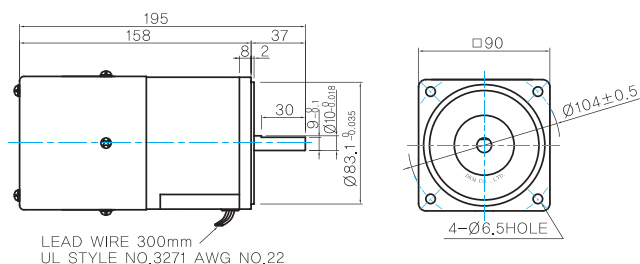
Motor Model	Gearhead Model	Gear Ratio	Torque (kgfcm / N.m)																							
			2	3	3.6	5	6	7.5	9	10	12.5	15	18	25	30	36	40	50	60	75	90	100	120	150	180	
9TDG□-20F2G	9GBK□BMH	5min.	kgfcm	3.7	5.5	6.6	9.1	11.0	13.7	16.4	18.3	22.8	27.4	29.7	41.3	49.5	53.9	59.8	74.8	89.8	100.0	100.0	100.0	100.0	100.0	100.0
		N.m	0.36	0.54	0.64	0.89	1.07	1.34	1.61	1.79	2.24	2.68	2.91	4.04	4.85	5.28	5.86	7.33	8.80	9.80	9.80	9.80	9.80	9.80	9.80	9.80
		Cont.	kgfcm	1.1	1.6	1.9	2.7	3.2	4.0	4.9	5.4	6.7	8.1	8.8	12.2	14.6	15.9	17.7	22.1	26.5	33.2	39.8	44.2	53.0	66.3	79.6
		N.m	0.11	0.16	0.19	0.26	0.32	0.40	0.48	0.53	0.66	0.79	0.86	1.19	1.43	1.56	1.73	2.17	2.60	3.25	3.90	4.33	5.20	6.50	7.80	

- 1) Enter the phase & voltage code in the box (□) within the motor model name.
- 2) Enter the gear ratio in the box (□) within the gearhead model name.
- 3) A colored background indicates gear shaft rotation in the same direction as the motor shaft; a white background indicates rotation in the opposite direction.
- 4) The rotating speed is calculated by dividing the motor's synchronous speed (50Hz: 1,500r/min, 60Hz: 1,800r/min) by the gear ratio.
The actual speed is 2~20% less than the displayed value, depending on the size of the load.

Dimensions

MOTOR ONLY

- MOTOR MODEL: 9TDD□-20F2 (POWERFUL FAN)

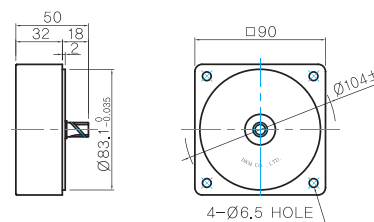


MOTOR OUTPUT SHAFT

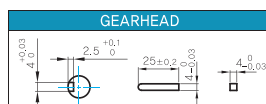
MODEL	SPEC
D-CUT TYPE	
9TDD□-20F2	
KEY TYPE	
9TDK□-20F2	

INTER-DECIMAL GEARHEAD

- MODEL: 9XD10M□



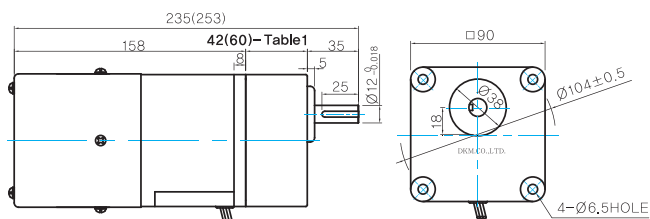
KEY SPEC



GEARED MOTOR

G TYPE GEARHEAD

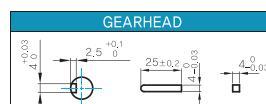
- MOTOR MODEL: 9TDG□-20F2G (POWERFUL FAN)
- GEARHEAD MODEL: 9GBK□BMH



GEARHEAD OUTPUT SHAFT

MODEL	SPEC
KEY TYPE	

KEY SPEC



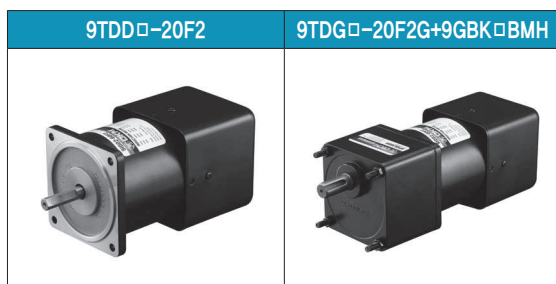
WEIGHT

PART	WEIGHT(Kg)	
MOTOR	2.4	
GEAR HEAD	9GBK2BMH ~ 9GBK15BMH	0.67
	9GBK18BMH ~ 9GBK30BMH	0.96
	9GBK36BMH ~ 9GBK180BMH	1.07
	9WD□BL/BR/BRL	1.0
	9XD10M□	0.5

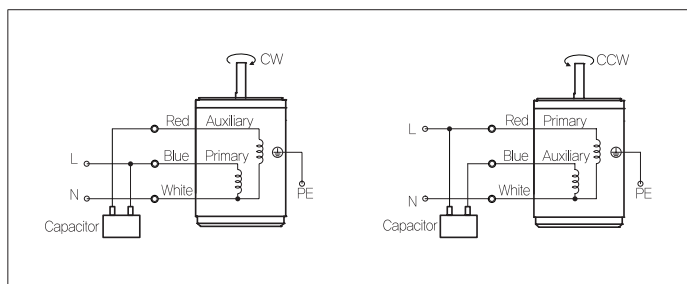
- 42(60)- Table1

SIZE(mm)	GEAR RATIO
42	9GBK2BMH - 9GBK15BMH
60	9GBK18BMH - 9GBK180BMH

Motor Images



Connection Diagrams



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

Torque Motor 30W(□90mm)

30W Torque Motor 30W(□90mm)

Motor Specification

Model 9TDG*-30F2□: Gear Type Shaft 9TDD*-30F2: D-Cut Type Shaft 9TDK*-30F2: Key Type Shaft	Rating at Locked Rotor	Voltage V	Frequency Hz	Poles	Starting Torque		Output Hz	At max. Output Power				Capacitor μF / VAC	
					kgfcm	N.m		Speed r/min	Torque kgfcm	N.m	Current A		Input W
9TDGA-30F2□	5min.	1φ 110	60	4	4.50	0.450	30	900	3.30	0.330	1.60	150	20.0 / 250
	Cont.	1φ 60			1.50	0.150	12		1.30	0.130	0.90	60	
9TDGD-30F2□	5min.	1φ 220	60	4	4.50	0.450	30		3.30	0.330	0.90	140	5.0 / 450
	Cont.	1φ 140			1.50	0.150	12		1.30	0.130	0.50	50	
9TDGE-30F2□	5min.	1φ 220~240	50	4	4.60	0.460	30	750	3.30	0.330	0.90	140	5.0 / 450
	Cont.	1φ 140			1.60	0.160	12		1.30	0.130	0.50	50	

- 1) Enter the phase & voltage code in the place * and enter the model type of attaching gearhead in the box (□) within the motor model name.
 2) All models contain a built-in thermal protector.. 3) Gear Type Shaft is for attaching gearhead and D-Cut & Key Type Shafts are for using motor only.

Max. Permissible Torque at Output Shaft of Gearhead

60Hz

Motor Model	Gearhead Model	Gear Ratio	2	3	3.6	5	6	7.5	9	12.5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180	
9TDG□ -30F2P	9PBK□BH 9PFK□BH	5min.	kgfcm	5.5	8.2	9.9	13.7	16.4	20.5	24.7	30.9	37.1	44.6	44.9	56.1	67.3	80.8	89.8	112.2	134.6	151.0	181.2	200.0	200.0	200.0	200.0
			N.m	0.54	0.81	0.97	1.34	1.61	2.01	2.42	3.03	3.64	4.37	4.40	5.50	6.60	7.92	8.80	11.00	13.19	14.80	17.75	19.60	19.60	19.60	19.60
		Cont.	kgfcm	2.2	3.2	3.9	5.4	6.5	8.1	9.7	12.2	14.6	17.6	17.7	22.1	26.5	31.8	35.4	44.2	53.0	59.5	71.4	79.3	95.2	119.0	142.7
			N.m	0.21	0.32	0.38	0.53	0.63	0.79	0.95	1.19	1.43	1.72	1.73	2.17	2.60	3.12	3.47	4.33	5.20	5.83	6.99	7.77	9.33	11.66	13.99
9TDG□ -30F2H	9HBK□BH 9HFK□BH	5min.	kgfcm	-	8.2	9.9	-	16.4	-	24.7	30.9	37.1	44.6	44.9	56.1	67.3	80.8	-	112.2	134.6	151.0	181.2	201.3	241.6	300.0	300.0
			N.m	-	0.81	0.97	-	1.61	-	2.42	3.03	3.64	4.37	4.40	5.50	6.60	7.92	-	11.00	13.19	14.80	17.75	19.73	23.67	29.40	29.40
		Cont.	kgfcm	-	3.2	3.9	-	6.5	-	9.7	12.2	14.6	17.6	17.7	22.1	26.5	31.8	-	44.2	53.0	59.5	71.4	79.3	95.2	119.0	142.7
			N.m	-	0.32	0.38	-	0.63	-	0.95	1.19	1.43	1.72	1.73	2.17	2.60	3.12	-	4.33	5.20	5.83	6.99	7.77	9.33	11.66	13.99

50Hz

Motor Model	Gearhead Model	Gear Ratio	2	3	3.6	5	6	7.5	9	12.5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180	
9TDG□ -30F2P	9PBK□BH 9PFK□BH	5min.	kgfcm	5.5	8.2	9.9	13.7	16.4	20.5	24.7	30.9	37.1	44.6	44.9	56.1	67.3	80.8	89.8	112.2	134.6	151.0	181.2	200.0	200.0	200.0	200.0
			N.m	0.54	0.81	0.97	1.34	1.61	2.01	2.42	3.03	3.64	4.37	4.40	5.50	6.60	7.92	8.80	11.00	13.19	14.80	17.75	19.60	19.60	19.60	19.60
		Cont.	kgfcm	2.2	3.2	3.9	5.4	6.5	8.1	9.7	12.2	14.6	17.6	17.7	22.1	26.5	31.8	35.4	44.2	53.0	59.5	71.4	79.3	95.2	119.0	142.7
			N.m	0.21	0.32	0.38	0.53	0.63	0.79	0.95	1.19	1.43	1.72	1.73	2.17	2.60	3.12	3.47	4.33	5.20	5.83	6.99	7.77	9.33	11.66	13.99
9TDG□ -30F2H	9HBK□BH 9HFK□BH	5min.	kgfcm	-	8.2	9.9	-	16.4	-	24.7	30.9	37.1	44.6	44.9	56.1	67.3	80.8	-	112.2	134.6	151.0	181.2	201.3	241.6	300.0	300.0
			N.m	-	0.81	0.97	-	1.61	-	2.42	3.03	3.64	4.37	4.40	5.50	6.60	7.92	-	11.00	13.19	14.80	17.75	19.73	23.67	29.40	29.40
		Cont.	kgfcm	-	3.2	3.9	-	6.5	-	9.7	12.2	14.6	17.6	17.7	22.1	26.5	31.8	-	44.2	53.0	59.5	71.4	79.3	95.2	119.0	142.7
			N.m	-	0.32	0.38	-	0.63	-	0.95	1.19	1.43	1.72	1.73	2.17	2.60	3.12	-	4.33	5.20	5.83	6.99	7.77	9.33	11.66	13.99

- 1) Enter the phase & voltage code in the box (□) within the motor model name. 2) Enter the gear ratio in the box (□) within the gearhead model name.
 3) A colored background indicates gear shaft rotation in the same direction as the motor shaft; a white background indicates rotation in the opposite direction.
 4) The rotating speed is calculated by dividing the motor's synchronous speed (50Hz: 1,500r/min, 60Hz: 1,800r/min) by the gear ratio.
 The actual speed is 2~20% less than the displayed value, depending on the size of the load.

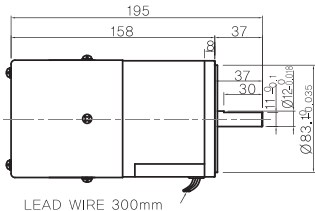
Motor Images



Dimensions

MOTOR ONLY

- MOTOR MODEL:
9TDD□-30F2 (POWERFUL FAN)



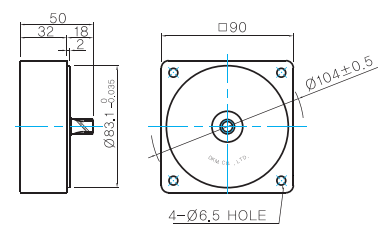
LEAD WIRE 300mm
UL STYLE NO.3271 AWG NO.22

- MOTOR OUTPUT SHAFT
- KEY SPEC

MODEL	SPEC
D-CUT TYPE	
KEY TYPE	

INTER-DECIMAL GEARHEAD

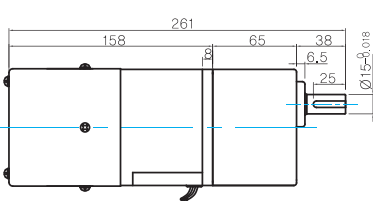
- MODEL:
9XD10M□



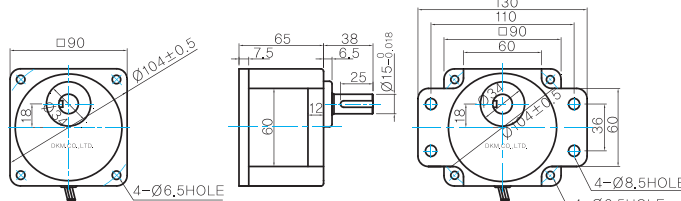
GEARED MOTOR

P TYPE GEARHEAD

- MOTOR MODEL:
9TDG□-30F2P (POWERFUL FAN)
- GEARHEAD MODEL:
9PBK□BH
- GEARHEAD MODEL:
9PFK□BH



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



GEARHEAD OUTPUT SHAFT

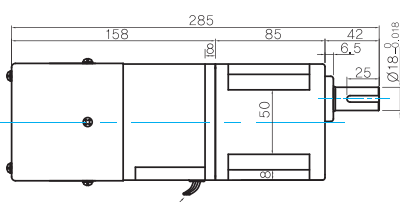
MODEL	SPEC
KEY TYPE	

KEY SPEC

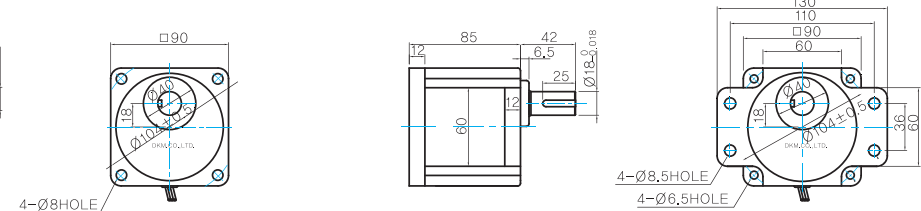
GEARHEAD	

H TYPE GEARHEAD

- MOTOR MODEL:
9TDG□-30F2H (POWERFUL FAN)
- GEARHEAD MODEL:
9HBK□BH
- GEARHEAD MODEL:
9HFK□BH



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



GEARHEAD OUTPUT SHAFT

MODEL	SPEC
KEY TYPE	

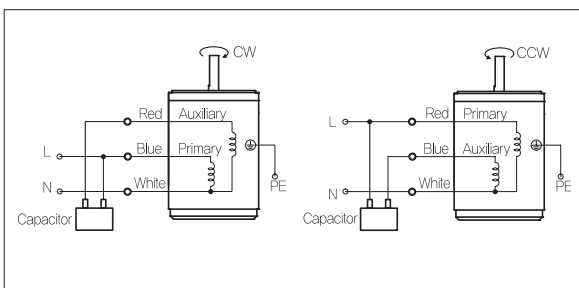
KEY SPEC

GEARHEAD	

WEIGHT

PART	WEIGHT(Kg)
MOTOR	2,7
9PB(F)K2BH ~ 9PB(F)K18BH	1,3
9PB(F)K20BH ~ 9PB(F)K180BH	1,4
9HB(F)K3BH ~ 9HB(F)K9BH	1,45
9HB(F)K12.5BH ~ 9HB(F)K18BH	1,5
9HB(F)K20BH ~ 9HB(F)K60BH	1,7
9HB(F)K75BH ~ 9HB(F)K180BH	1,8
9XD10M□	0,5

Connection Diagrams



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

Torque Motor 40W(□90mm)

40W Torque Motor 40W(□90mm)

Motor Specification

Model 9TDG*-40F2□: Gear Type Shaft 9TDD*-40F2: D-Cut Type Shaft 9TDK*-40F2: Key Type Shaft	Rating at Locked Rotor	Voltage V	Frequency Hz	Poles	Starting Torque		Output Hz	At max. Output Power				Capacitor μF / VAC	
					kgfcm	N.m		Speed r/min	Torque kgfcm N.m	Current A	Input W		
9TDGA-40F2□	5min.	1φ 110	60	4	6.00	0.600	40	900	4.50	0.450	2.40	200	25.0 / 250
	Cont.	1φ 60			2.00	0.200	17		1.80	0.180	1.60	85	
9TDGD-40F2□	5min.	1φ 220	60	4	6.00	0.600	40	900	4.50	0.450	1.20	200	6.5 / 450
	Cont.	1φ 140			2.00	0.200	17		1.80	0.180	0.80	85	
9TDGE-40F2□	5min.	1φ 220~240	50	4	6.10	0.610	40	750	4.50	0.450	1.20	190	6.5 / 450
	Cont.	1φ 140			2.10	0.210	17		1.80	0.180	0.80	80	

- 1) Enter the phase & voltage code in the place * and enter the model type of attaching gearhead in the box (□) within the motor model name.
 2) All models contain a built-in thermal protector. 3) Gear Type Shaft is for attaching gearhead and D-Cut & Key Type Shafts are for using motor only.

Max. Permissible Torque at Output Shaft of Gearhead

60Hz

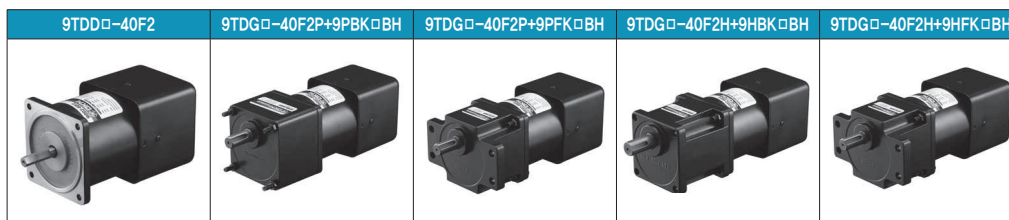
Motor Model	Gearhead Model	Gear Ratio	2	3	3.6	5	6	7.5	9	12.5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180	
9TDG□ -40F2P	9PBK□BH 9PFK□BH	5min.	kgfcm N.m	7.5 0.73	11.2 1.10	13.4 1.32	18.7 1.83	22.4 2.20	28.0 2.75	33.6 3.29	42.2 4.13	50.6 4.96	60.8 5.95	61.2 6.00	76.5 7.50	91.8 9.00	110.2 10.80	122.4 12.00	153.0 14.99	183.6 17.99	200.0 19.60	200.0 19.60	200.0 19.60	200.0 19.60	200.0 19.60	200.0 19.60
		Cont.	kgfcm N.m	3.0 0.29	4.5 0.44	5.4 0.53	7.5 0.73	9.0 0.88	11.2 1.10	13.4 1.32	16.9 1.65	20.3 1.98	24.3 2.38	24.5 2.40	30.6 3.00	36.7 3.60	44.1 4.32	49.0 4.80	61.2 6.00	73.4 7.20	82.4 8.07	98.8 9.68	109.8 10.76	131.8 12.91	164.7 16.14	197.6 19.37
9TDG□ -40F2H	9HBK□BH 9HFK□BH	5min.	kgfcm N.m	- 1.10	11.2 1.32	13.4 1.32	- 2.20	22.4 2.20	- 3.29	33.6 4.13	42.2 4.96	50.6 5.95	60.8 6.00	61.2 6.00	76.5 7.50	91.8 9.00	110.2 10.80	- 14.99	153.0 17.99	183.6 22.49	229.5 26.99	275.4 29.40	300.0 29.40	300.0 29.40	300.0 29.40	300.0 29.40
		Cont.	kgfcm N.m	- 0.44	4.5 0.53	5.4 0.53	- 0.88	9.0 0.88	- 1.32	13.4 1.65	16.9 1.98	20.3 2.38	24.3 2.40	24.5 2.40	30.6 3.00	36.7 3.60	44.1 4.32	- 6.00	61.2 6.00	73.4 7.20	82.4 8.07	98.8 9.68	109.8 10.76	131.8 12.91	164.7 16.14	197.6 19.37

50Hz

Motor Model	Gearhead Model	Gear Ratio	2	3	3.6	5	6	7.5	9	12.5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180	
9TDG□ -40F2P	9PBK□BH 9PFK□BH	5min.	kgfcm N.m	7.5 0.73	11.2 1.10	13.4 1.32	18.7 1.83	22.4 2.20	28.0 2.75	33.6 3.29	42.2 4.13	50.6 4.96	60.8 5.95	61.2 6.00	76.5 7.50	91.8 9.00	110.2 10.80	122.4 12.00	153.0 14.99	183.6 17.99	200.0 19.60	200.0 19.60	200.0 19.60	200.0 19.60	200.0 19.60	200.0 19.60
		Cont.	kgfcm N.m	3.0 0.29	4.5 0.44	5.4 0.53	7.5 0.73	9.0 0.88	11.2 1.10	13.4 1.32	16.9 1.65	20.3 1.98	24.3 2.38	24.5 2.40	30.6 3.00	36.7 3.60	44.1 4.32	49.0 4.80	61.2 6.00	73.4 7.20	82.4 8.07	98.8 9.68	109.8 10.76	131.8 12.91	164.7 16.14	197.6 19.37
9TDG□ -40F2H	9HBK□BH 9HFK□BH	5min.	kgfcm N.m	- 1.10	11.2 1.32	13.4 1.32	- 2.20	22.4 2.20	- 3.29	33.6 4.13	42.2 4.96	50.6 5.95	60.8 6.00	61.2 6.00	76.5 7.50	91.8 9.00	110.2 10.80	- 14.99	153.0 17.99	183.6 22.49	229.5 26.99	275.4 29.40	300.0 29.40	300.0 29.40	300.0 29.40	300.0 29.40
		Cont.	kgfcm N.m	- 0.44	4.5 0.53	5.4 0.53	- 0.88	9.0 0.88	- 1.32	13.4 1.65	16.9 1.98	20.3 2.38	24.3 2.40	24.5 2.40	30.6 3.00	36.7 3.60	44.1 4.32	- 6.00	61.2 6.00	73.4 7.20	82.4 8.07	98.8 9.68	109.8 10.76	131.8 12.91	164.7 16.14	197.6 19.37

- 1) Enter the phase & voltage code in the box (□) within the motor model name. 2) Enter the gear ratio in the box (□) within the gearhead model name.
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 The actual speed is 2~20% less than the displayed value, depending on the size of the load.

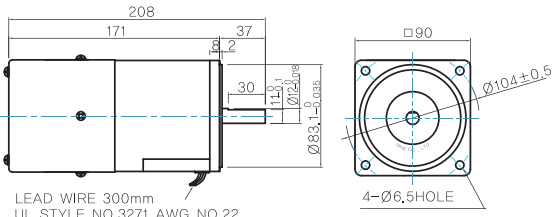
Motor Images



Dimensions

MOTOR ONLY

- MOTOR MODEL:
9TDD□-40F2 (POWERFUL FAN)

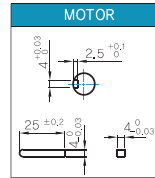


LEAD WIRE 300mm
UL STYLE NO.3271 AWG NO.22

MOTOR OUTPUT SHAFT

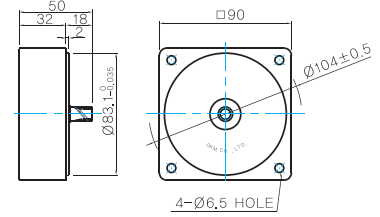
MODEL	SPEC
D-CUT TYPE	37 30 11.5 ^{+0.1} Ø12.0 ^{+0.018}
KEY TYPE	37 25 Ø12.0 ^{+0.018}
9TDD□-40F2	
9TDK□-40F2	

KEY SPEC



INTER-DECIMAL GEARHEAD

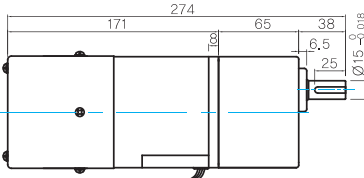
- MODEL:
9XD10M□



GEARED MOTOR

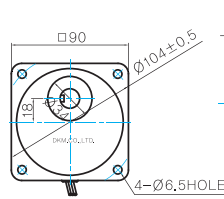
P TYPE GEARHEAD

- MOTOR MODEL:
9TDG□-40F2P (POWERFUL FAN)

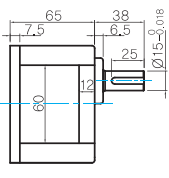


LEAD WIRE 300mm
UL STYLE NO.3271 AWG NO.22

- GEARHEAD MODEL:
9PBK□BH



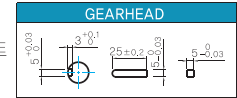
- GEARHEAD MODEL:
9PFK□BH



GEARHEAD OUTPUT SHAFT

MODEL	SPEC
KEY TYPE	38 25 Ø15.0 ^{+0.018}
9PBK□BH	
9PFK□BH	

KEY SPEC



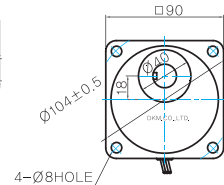
H TYPE GEARHEAD

- MOTOR MODEL:
9TDG□-40F2H (POWERFUL FAN)

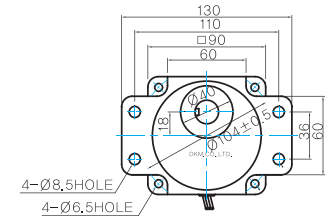
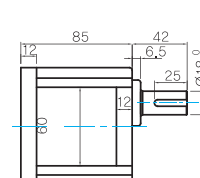


LEAD WIRE 300mm
UL STYLE NO.3271 AWG NO.22

- GEARHEAD MODEL:
9HBK□BH



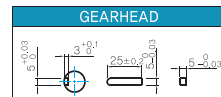
- GEARHEAD MODEL:
9HFK□BH



GEARHEAD OUTPUT SHAFT

MODEL	SPEC
KEY TYPE	42 25 Ø18.0 ^{+0.018}
9HBK□BH	
9HFK□BH	

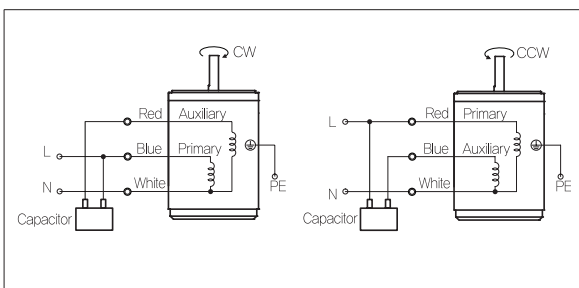
KEY SPEC



WEIGHT

PART	WEIGHT(Kg)
MOTOR	3.1
9PB(F)K2BH ~ 9PB(F)K18BH	1.3
9PB(F)K20BH ~ 9PB(F)K180BH	1.4
9HB(F)K3BH ~ 9HB(F)K9BH	1.45
9HB(F)K12.5BH ~ 9HB(F)K18BH	1.5
9HB(F)K20BH ~ 9HB(F)K60BH	1.7
9HB(F)K75BH ~ 9HB(F)K180BH	1.8
9XD10M□	0.5

Connection Diagrams



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



Contents ▶▶

A Information

- A-01 Product Coding System
- A-04 Products Lineup
- A-08 General Information
- A-12 Terminology
- A-15 Caution for Using

B AC Motors

- B-01 Technical Data of AC Motor
- B-06 Induction Motor
- B-48 2 Pole Motor
- B-66 Reversible Motor
- B-98 Electromagnetic Brake Motor
- B-138 Clutch & Brake Motor
- B-154 Torque Motor
- B-168 Speed Control System
 - B-171 Speed Controller FX1000A
 - B-173 Speed Controller DSK
 - B-175 Speed Controller DSKS
 - B-178 Speed Control Induction Motor
 - B-212 Speed Control Reversible Motor
 - B-240 Speed Control E.M. Brake Motor
 - B-266 Speed Control Clutch & Brake Motor

C DC Motors

- 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

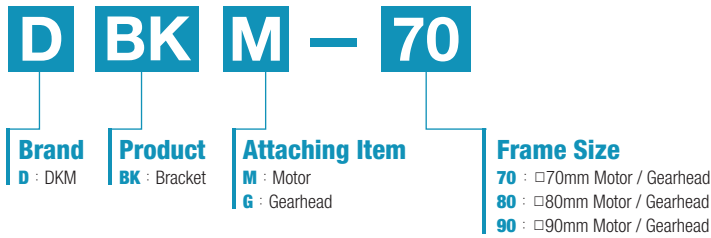
Mounting Plate

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.



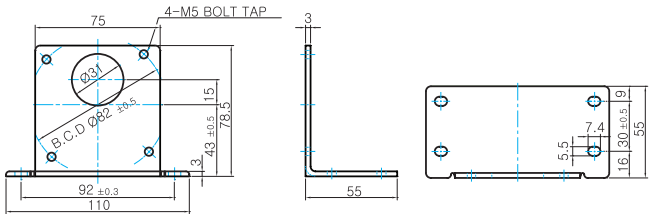
Product Code



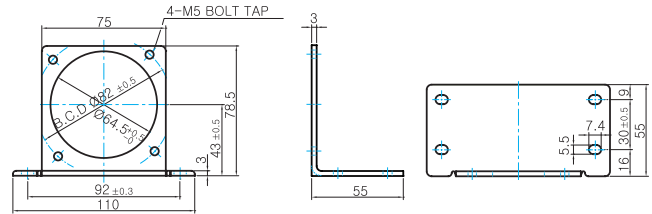
Dimensions

For Frame Size □70mm

● Model: DBKG-70

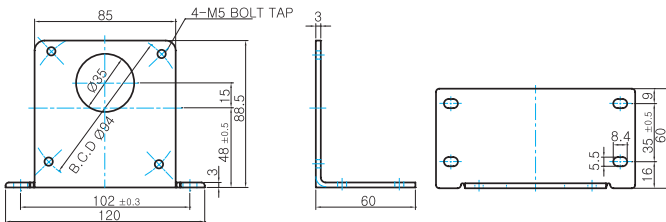


● Model: DBKM-70

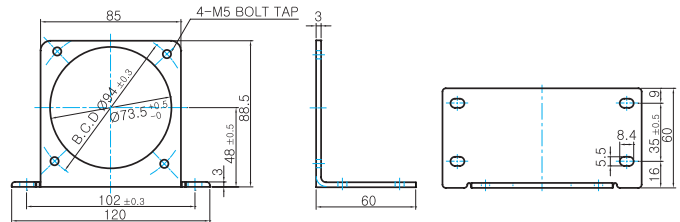


For Frame Size □80mm

● Model: DBKG-80

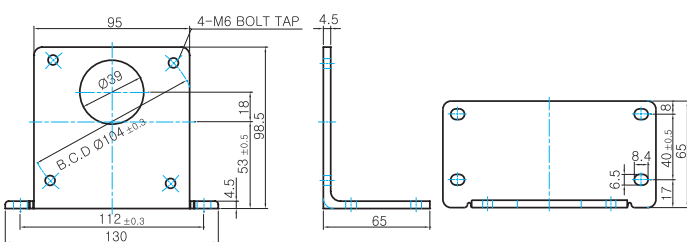


● Model: DBKM-80

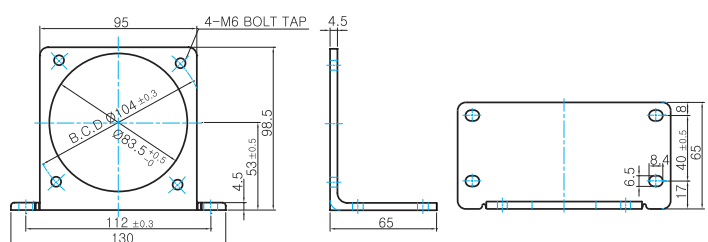


For Frame Size □90mm

● Model: DBKG-90



● Model: DBKM-90

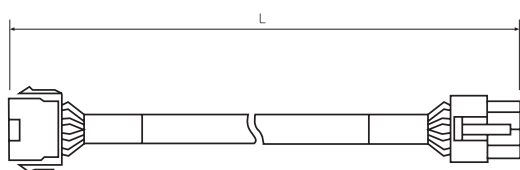


Extension Cable

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

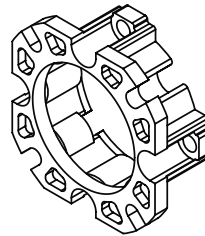
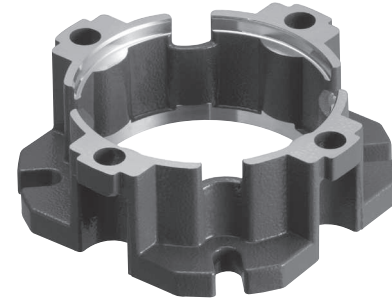
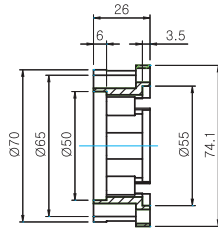
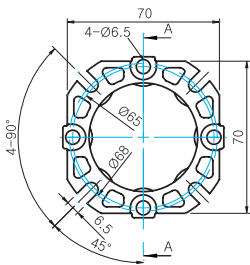
Output Flange / Output Shaft

Output Flange

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

Dimensions

● MODEL: WHG-030-F

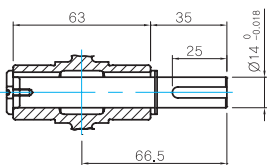


Output Shaft

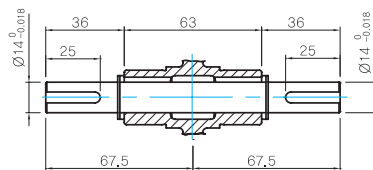
These are output shafts to be attached to worm hollow type gearhead. There are unidirectional output shaft and bi-directional output shaft.

Dimensions

● Unidirectional MODEL: 15X92L



● Bi-directional MODEL: 14X135L



● KEY SPEC

