DC- und AC-Motoren

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Produktgruppe 355

10/2009

Product Coding System

■ Motor

9 I D G A – 90 F P – A T

Brand
D :

Output
6 : 6W
10 : 10W
15 : 15W
25 : 25W
40 : 40W
60 : 60W
90 : 90W
120 : 120W
150 : 150W
180 : 180W
200 : 200W

Pole
A : 2 pole
No mork : 4 pole

Connection type
T : Terminal Box Type
No mark : Lead Wire Type

Attaching Gearhead Type
G : General Gearhead (6~60W) & X 10 Inter-decimal Gearhead
P : Powerful Gearhead (over 60W, 15mm shaft)
H : High Powerful (18mm shaft)
W : Worm Solid type gear
WH : Worm Hollow type gearhead

Shaft Type
G : Pinion Shaft (For GEARHEAD)
S : Round Shaft
D : D-Cut Shaft
K : Key Type Shaft

Phase & Voltage

For Korean domestic market:
1 : Single phase 110V 60Hz
2 : Single phase 220V 60Hz
3 : Three phase 220V 60Hz
4 : Three phase 380V 60Hz
5 : Three phase 440V 60Hz
6 : Three phase 220V/380V 60Hz
7 : Three phase 220V/440V 60Hz

For overseas market:
A : Single phase 110V 60Hz
B : Single phase 115V 60Hz
C : Single phase 220V 50Hz
D : Single phase 220V 60Hz
E : Single phase 230V 50Hz
F : Single phase 230V 60Hz
G : Three phase 220V 50Hz
H : Three phase 220V 60Hz
I : Three phase 230V 50Hz
J : Three phase 230V 60Hz
K : Three phase 380V 50Hz
L : Three phase 380V 60Hz
M : Three phase 400V 50Hz
N : Three phase 440V 50Hz
O : Three phase 440V 60Hz
P : Three phase 220V/380V 50Hz
Q : Three phase 220V/440V 50Hz
R : Three phase 220V/380V 60Hz
S : Three phase 220V/240V 60Hz
T : Single phase 110V 50Hz

Fan Type
F : General Fan (self cooling)
F2 : Powerful Fan (separate fan motor) Separate from motor shaft with powrful cooling effect. Attachment is available in all kind of motors.
No mark : No fan

Motor
I : Induction motor
R : Reversible motor
S : Speed control motor
SR : Speed control Reversible motor
SB : Speed control Brake motor
B : Electro magnetic Brake motor
T : Torque motor
CI : Clutch&brake type Induction motor
CS : Clutch&brake type Speed control motor
V : Inverter Motor

Motor Frame Size
6 : □60mm sq. (2.36 in.sq.) (6W)
7 : □70mm sq. (2.76 in.sq.) (6~15W)
8 : □80mm sq. (3.15 in.sq.) (15~25W)
9 : □90mm sq. (3.54 in.sq.) (40~200W)

■ Parallel Gearhead

9 P B K 36 B H

Gear Ratio (36 : 1/36)

Input Gear Type
H : Helical Gear

Bearing Type
B : Ball Bearing
BM : Ball Bearing + Metal Bearing
M : Metal Bearing

Output Shaft Type
K : Key Type
D : D-cut Type
S : Round Type

Frame Type (G, P, H type gear)
B : Box Type(Square Box type) □
F : Flange Type(only available in 'P' type ≥ '9PF-~'

Gear Type
G : General Gear (for 6 ~ 40W) (permissible torque : 100Kgfcm)
P : Powerful gear (for 60 ~ 200W) (permissible torque : 200Kgfcm)
H : High powerful gear (for 90~200W) (permissible torque : 300Kgfcm)

Frame Size
6 : □60mm sq. (2.36 in.sq.) (6W)
7 : □ 70mm square (2.76 in.sq.) (6~15W)
8 : □ 80mm square (3.15 in.sq.) (15~25W)
9 : □ 90mm square (3.54 in.sq.) (40~200W)

■ Worm Gearhead

9 W D 30 B L

Gear Ratio (30 : 1/30)

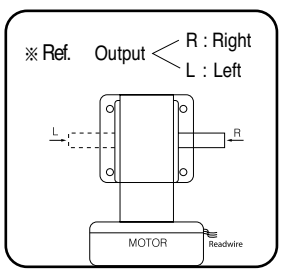
Direction of output
L : Left
R : Right
L/R : Bi-directional
※ No mark in Worm Hollow type

Bearing TYPE
B : Ball Bearing
※ No mark in Worm Hollow type

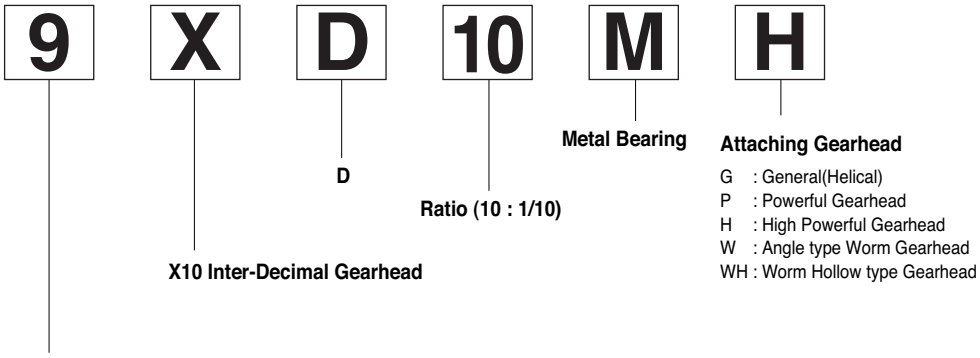
BRAND
D : DKM

Gearhead Type
W : Worm Solid type (6~60W)
WH : Worm Hollow type (60~200W)

Frame Size
8 : □ 80mm square (3.15 in.sq.) (15~25W)
9 : □ 90mm square (3.54 in.sq.) (40~200W)
※ Worm Hollow Gearhead is 90mm.



■ X10 Inter - Decimal Gearhead

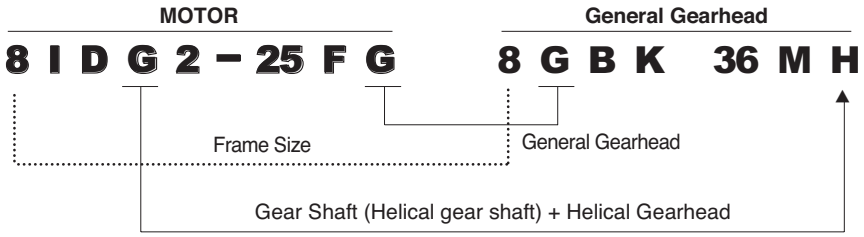


- In case of exceeding 200:1 ratio, please use X10 Inter-decimal gearhead with general gearhead. And please be advised that in this case only speed will reduce by 10:1 without torque increasing.

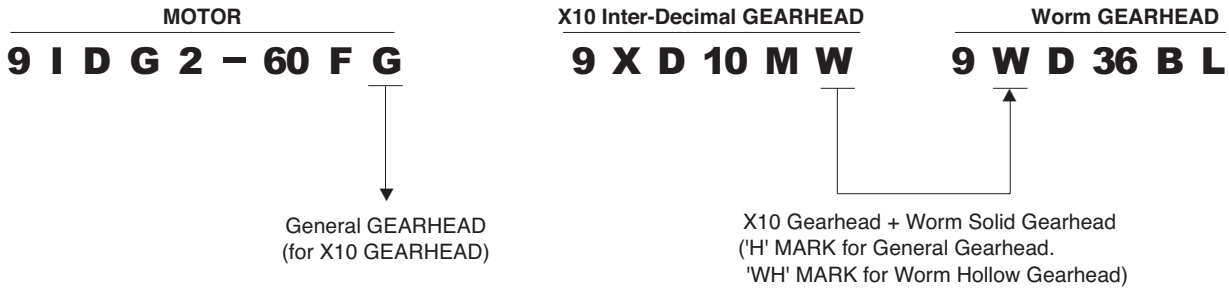
■ ASSEMBLY of MOTOR and GEARHEAD

Like below MOTOR and GEARHEAD could be assembled.
Same frame size's motor and gearhead could be assembled.

① MOTOR + General GEARHEAD



② MOTOR + X10 Inter-Decimal GEARHEAD + GEARHEAD (General, Worm Solid, Worm Hollow)



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AC Motors

DC Motors

Accessories

* Please be informed that the contents could be changed
  Without any information for improvement

Features of DKM AC Motors

• Easy-to-use and Reliable

Just the connection of power supply and capacitor is needed for operating standard compact AC motors. Three-phase motors do not even require a capacitor. DKM developed small standard AC motors first time in Korea in 1987 so it has high reliability and service life.

• Conform to Safety Standards and Globalization

Many of DKM Motors have CE, TUV, CCC Marking and conform UL/EN standards in accordance with the low voltage directives. DKM Motors are available in power supply voltages that meet the requirements of the world. (50/60Hz, 100~440VAC)

• Variety of Functions

DKM Motors have very various specs ; Induction motors that run continuously and Reversible motors that allow for bi-directional operation. Additional functionality is available. Electromagnetic brake motors to hold loads in a power-off situation ; Clutch and brake motors for quick starts and stops ; torque motors for tension control and winding applications. And the combination of above functions is available.

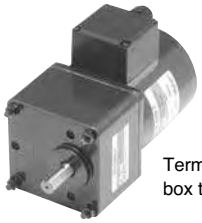
• JIT (Just-In-Time) System

JIT System is available in DKM Motor for the best delivery time. DKM Motor realized user' s satisfaction with the world best delivery time.

Induction Motors for Continuous operation (Page 15)

Capacitor-run, single-phase and three-phase motors are available. Lead wire type, terminal box type (TB type) motors are available. They are depending on how the power source and the motors are connected.

Lead wire type



Terminal box type

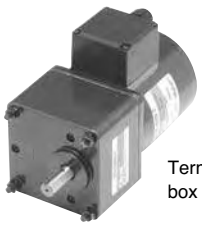
2 pole Motors (Page 45)

Capacitor-run, single-phase motors are available.
Lead wire type is available.
Rated speed is 3,200 rpm.

Reversible Motors for Bi-directional operation (Page 63)

These are capacitor-run, single-phase motors.
The outward appearance is the same as that of induction motors. These motors are suited for applications where the motor must frequently switch direction.

Lead wire type



Terminal box type

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Electromagnetic Brake Motors for load holding (Page 85)

This product is a load-holding brake motor with a power off activated type electromagnetic brake.

Clutch and Brake Motors for high frequency starting and stop (Page 113)

This motor combines a clutch and brake mechanism with a induction motor. It is ideal for high frequency start and stop.

Torque Motors (Page 129)

This motor is suitable for controlling tension and pushing in winding operations. Torque can be set to any desired level by changing the Input voltage.

Speed control System (Page 143)

Speed control System allow you to easily set and adjust the speed of a motor.

Gearhead (Page 195)

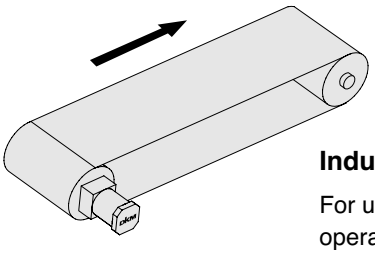
There are 3 kinds of Gearheads.
; Parallel type, Worm Solid type and Worm Hollow type.

Parallel type

Worm Solid type

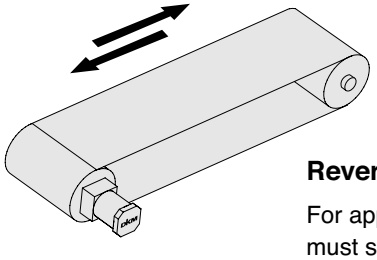
Worm Hollow type

Applications for AC Motors



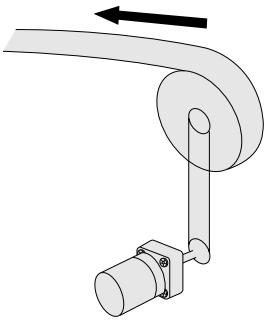
Induction Motors

For uni-directional continuous operation



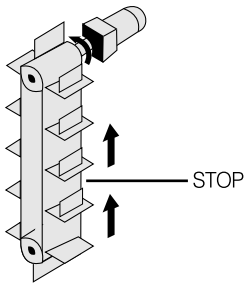
Reversible Motors

For applications where the motor must switch frequently from one direction to the next



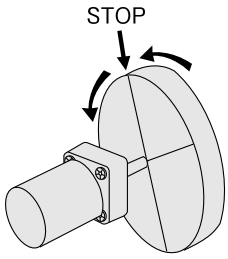
Torque Motors

For applications where a rolled object is released according to the amount of tension.



Electromagnetic Brake Motors

For applications in which loads must be held.



Clutch and Brake Motors(C-B Motors)

For applications where the motor must repeat frequent starting and stopping.

Product Line

(● = Available)

Frame Size	□60mm (□2.36in.)	□ 70 mm (□ 2.76 in.)			□ 80 mm (□ 3.15 in.)		□ 90 mm (□ 3.54 in.)						
Output	6W (1/125HP)	6W (1/125HP)	10W (1/75HP)	15W (1/50HP)	15W (1/50HP)	25W (1/30HP)	40W (1/19HP)	60W (1/12HP)	90W (1/8HP)	120W (1/6.25HP)	150W (1/5HP)	180W (1/4HP)	200W (1/3.75HP)
Induction Motors	●	●	●	●	●	●	●	●	●	●	●	●	●
Reversible Motors		●	●		●	●	●	●	●	●			
Torque Motors		●			●(10W)		●(20W)	●(30W)	●(40W)				
Electromagnetic Brake Motors		●	●		●	●	●	●	●	●	●	●	●
Clutch and Brake Motors					●	●	●	●	●	●			
Speed control Motors		●	●		●	●	●	●	●	●		●	
Inverter Motors								●	●	●	●		●
2 pole Motors					●	●	●	●	●	●	●		●

How to Read Motor Specifications

Motor Specifications Table (Example)

Model Upper Model Name:Pinion Shaft Type Lower Model Name( ):Round Shaft Type		① Output Power		Voltage	Freq.	② Current	③ Starting Torque		④ Rated Torque		⑤ Rated speed	Capacitor	
Lead Wire Type Dimension	Terminal Box Type Dimension	HP	W	VAC	Hz	A	mN.m	gfcm	mN.m	gfcm	r/min	㎌	VAC
9IDGA-90FP **(9IDSA-90FP)**	**9IDGA-90FP-T** **(9IDSA-90FP-T)**	1/8	90	"Single phase 110	50/60	2.0	4.5	4500	5.7	5700	50Hz:1350 60Hz:1550	20	250
9IDGC-90FP **(9IDSC-90FP)**	**9IDGC-90FP-T** **(9IDSC-90FP-T)**	1/8	90	Single phase 220	50/60	1.0	4.5	4500	5.7	5700	50Hz:1350 60Hz:1550	5.0	400
9IDGD-90FP **(9IDSD-90FP)**	**9IDGD-90FP-T** **(9IDSD-90FP-T)**	1/8	90	Three phase 220	50/60	0.8	7.0	7000	5.7	5700	50Hz:1350 60Hz:1550	-	-

① Output Power : The amount of work that can be performed in a given period of time. It can be used as a criteria for motor capability.

② Current : The current value used by a motor when the motor is producing rated torque.

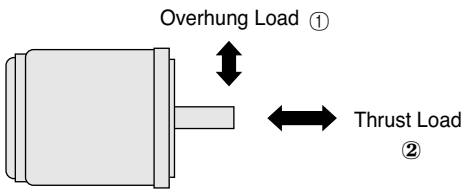
③ Starting Torque : This term refers to the torque generated the instant the motor starts.
If the motor is subjected to a friction load smaller than this torque, it will operate.

④ Rated Torque : This is the torque created when the motor is operating most efficiently. Though the maximum torque is far greater, rated torque should, from the stanpoint of utility, be the highest torque.

⑤ Rated Speed : This is the speed of the motor when the motor is producing rated torque

Motor Specifications for Permissible Overhung Load and Permissible Thrust Load

Motor		① Permissible Overhung Load N (kgf) lb.					
Frame Size □mm (inch)	Output Shaft Diameter ø mm (inch)	Distance from shaft end mm (inch)					
		10 (0.39)			20 (0.79)		
60 (2.36)	6 (0.24)	50	(5)	11.2	110	(11)	24.7
70 (2.76)	6 (0.24)	40	(4)	9	60	(6)	13.5
80 (3.15)	8 (0.31)	90	(9)	20	140	(14)	31
90 (3.54)	10 (0.39)	140	(14)	31	200	(20)	45
	12 (0.47)	240	(24)	54	270	(27)	60



① Permissible Overhung Load : The value ① shown in the table above is the value for the permissible overhung load. As shown in the figure above, permissible overhung load is the permissible value of the load applied in a direction perpendicular to the gearhead output shaft.

② Permissible Thrust Load : As shown in the figure above, this term refers to the permissible value of load applied in the axial direction to the gearhead ouput shaft. Keep the thrust load to no more than half the motor weight.

The calculating method of overhung load applied on the output shaft is the same as for a gearhead.

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How to Read Gearhead Specifications

Torque table ; 60Hz (Example)

Unit : Upper values : N.m / Middle : kgfcm / Lower : lb-in

Model	speed RPM (r/min)	500	300	200	120	100	60	50	30	20	15	10	unit
Motor/ Gearhead	Gear Ratio	3.6	6	9	15	18	30	36	60	90	120	180	
9IDG2-90FP	**9PBK□BH**	17	28	41	62	75	112	134	200	200	200	200	kgfcm
	9PFK□BH	1.7	2.8	4.1	6.2	7.5	11.2	13.4	20	20	20	20	N.m
		15	25	36	55	66	99	118	177	177	177	177	lb-in

① Permissible Torque : It refers to the value of load torque driven by the gearhead's output shaft. Each value is shown for the corresponding gear ratio.

Permissible torque when a gearhead is connected can be calculated with the equation below.

Permissible Torque TG = TM X i X n

TG = Permissible Torque of Gearhead

TM = Motor Torque

i = Gear Ratio of Gearhead

n = Gearhead Efficiency

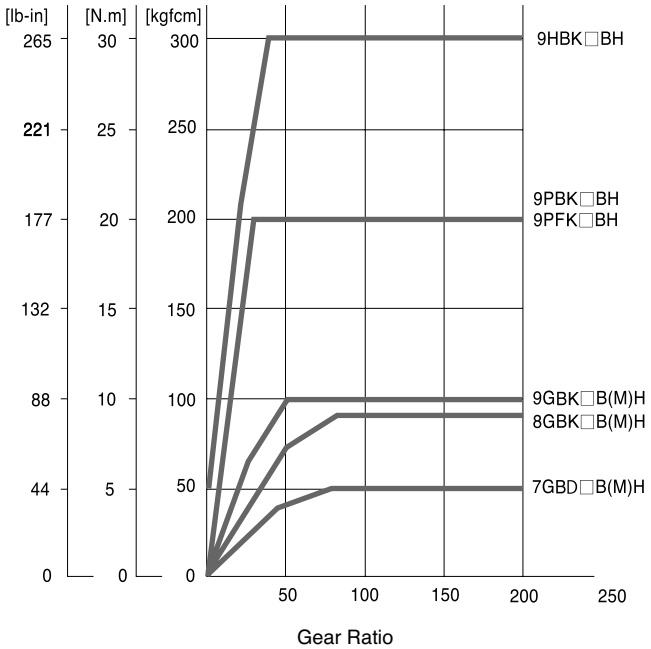
Gearhead Efficiency

Model \ Ratio	3	3.6	5	6	7.5	9	10	13	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180	200	250
6GBD□B(M)H	81%										73%					66%									
7GBK□B(M)H																									
8GBK□B(M)H																									
9GBK□B(M)H																									
9PBK□BH	81%							73%				66%					59%								
9PFK□BH																									
9HBK□BH																									

- The efficiency of decimal gearhead is 81%.
- In case of worm gearhead, please refer to their pages. (Page 189)

Maximum Permissible Torque

The gearhead output torque increases proportionally as the gear ratio increases. But, factors affecting the gearhead mechanical strength such as gear construction and materials etc., limit size of the load which can be applied to the gearhead.
This torque is called the maximum permissible torque.
The maximum permissible torques of typical gearheads are shown in the figure to the right.



Torque table ; 60Hz (Example)

Model	Speed RPM (r/min)	① 500	300	200	120	100	60	50	30	20	15	10	unit
Motor/ Gearhead	Gear Ratio	3.6	6	9	15	18	30	36	60	90	120	180	
9IDG2-90FP	**9PBK□BH**	17	28	41	62	75	112	134	200	200	200	200	kgfcm
	9PFK□BH	1.7	2.8	4.1	6.2	7.5	11.2	13.4	20	20	20	20	N.m
		15	25	36	55	66	99	118	177	177	177	177	lb-in

① Speed : This refers to the speed of rotation in the gearhead ouput shaft. The speeds, depending on gear ratio, are shown in the permissible torque table when the gearhead is attached. The speed is calculated by dividing the motor's synchronous speed by the gear ratio. The actual speed, according to the load condition, is 2~20% less than the displayed value.

The speed is calculated with the foollowing equation.

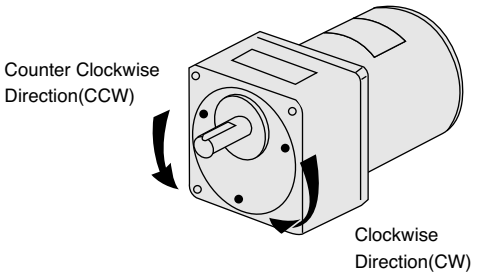
$$\text{Speed NG} = \frac{NM}{i}$$

NG : Speed of Gearhead [r/min]

NM : Speed of Motor [r/min]

i : Gear Ration of Gearhead

② Direction of rotation : This refers to the direction of rotation viewed from the output shaft. The colored background areas indicate rotation in the same direction as the motor shaft, while the others rotate in the opposite direction. The direction of gearhead shaft rotation may differ from motor shaft rotation depending on the gear ratio of the gearhead. The gear ratio and rotation direction of each gearhead is shown in the table below.



GEARHEAD LINE-UP

(● = Available)

ITEM		WATT	MODEL	RATIO																										
				2	3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	40	50	60	75	80	90	100	120	150	180	250	300	360
PARRALLEL TYPE	G TYPE	6W	**6GBD□BMH**	×	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	×	●	●	●	●	●	●	×	×
		6,10 15W	**7GBD□BMH**	×	×	●	×	●	×	●	×	●	●	●	×	●	●	●	●	●	●	●	×	●	●	●	●	●	×	×	×
		15, 25W	**8GBK□BMH**	×	×	●	●	●	●	●	×	●	●	●	×	●	●	●	●	●	●	●	×	●	●	●	●	●	●	●	●
		40W	**9GBK□BMH**	●	×	●	●	●	●	●	●	●	●	●	×	●	●	●	●	●	●	●	×	●	●	●	●	●	×	×	×
	P TYPE	60~200W	**9PBK□BH**	●	×	●	●	●	●	●	×	●	●	●	●	●	●	●	●	●	●	●	×	●	●	●	●	●	×	×	×
			9PFK□BH	●	×	●	●	●	●	●	×	●	●	●	●	●	●	●	●	●	●	●	×	●	●	●	●	●	×	×	×
	H TYPE	90~200W	**9HBK□BH**	×	×	●	×	●	×	●	×	●	●	●	×	●	●	●	×	●	●	●	×	●	●	●	●	●	×	×	×
WORM TYPE	SOLID	25~60W	**8/9WD□BL**	×	×	×	×	×	×	×	●	●(12)	●	●	×	●	●	●	×	●	●	×	×	×	×	×	×	×	×	×	×
			8/9WD□BR	×	×	×	×	×	×	×	●	●(12)	●	●	×	●	●	●	×	●	●	×	×	×	×	×	×	×	×	×	×
	HOLLOW	60~200W	**9WHD□**	×	×	×	×	×	●	×	●	×	●	×	●	●	●	×	●	●	●	×	●	×	×	×	×	×	×	×	×

- Enter the gear ratio in the box(□) within the model name. A colored background indicates gear shaft rotation in the same direction as the motor shaft ; white background indicates rotation in the opposite direction.
- For exceeding above ratio, use inter-decimal gearhead of ratio 10:1 ; 8XD10BMH, 9XD10BMH.

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Product Coding System

■ Motor

9 I D G A – 90 F P – A T

Motor Frame Size
6 : □60mm sq. (2.36 in.sq.) (6W)
7 : □70mm sq. (2.76 in.sq.) (6~15W)
8 : □80mm sq. (3.15 in.sq.) (15~25W)
9 : □90mm sq. (3.54 in.sq.) (40~200W)

Motor
I : Induction motor
R : Reversible motor
S : Speed control motor
SR : Speed control Reversible motor
SB : Speed control Brake motor
B : Electro magnetic Brake motor
T : Torque motor
CI : Clutch&brake type Induction motor
CS : Clutch&brake type Speed control motor
V : Inverter Motor

Brand
D :

Shaft Type
G : Pinion Shaft (For GEARHEAD)
S : Round Shaft
D : D-Cut Shaft
K : Key Type Shaft

Output

6 : 6W	90 : 90W
10 : 10W	120 : 120W
15 : 15W	150 : 150W
25 : 25W	180 : 180W
40 : 40W	200 : 200W
60 : 60W	

Phase & Voltage

For Korean domestic market
1 : Single phase 110V 60Hz
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For overseas market
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Q : Three phase 220V/440V 50Hz
R : Three phase 220V/380V 60Hz
S : Three phase 220V/240V 60Hz
T : Single phase 110V 50Hz

Fan Type
F : General Fan (self cooling)
F2 : Powerful Fan (separate fan motor)
Separate from motor shaft with powrful cooling effect. Attachment is available in all kind of motors.
No mark : No fan

Attaching Gearhead Type
G : General Gearhead (6~60W) & X 10 Inter-decimal Gearhead
P : Powerful Gearhead (over 60W, 15mm shaft)
H : High Powerful (18mm shaft)
W : Worm Solid type gear
WH : Worm Hollow type gearhead

Pole
A : 2 pole
No mork : 4 pole

Connection type
T : Terminal Box Type
No mark : Lead Wire Type

■ Parallel Gearhead

9 P B K 36 B H

Frame Size
6 : □ 60mm sq. (2.36 in.sq.) (6W)
7 : □ 70mm square (2.76 in.sq.) (6~15W)
8 : □ 80mm square (3.15 in.sq.) (15~25W)
9 : □ 90mm square (3.54 in.sq.) (40~200W)

Gear Type
G : General Gear (for 6 ~ 40W) (permissible torque : 100Kgfcm)
P : Powerful gear (for 60 ~ 200W) (permissible torque : 200Kgfcm)
H : High powerful gear (for 90~200W) (permissible torque : 300Kgfcm)

Frame Type (G, P, H type gear)
B : Box Type(Square Box type)
F : Flange Type(only available in 'P' type ≥ '9PF~'

Output Shaft Type
K : Key Type
D : D-cut Type
S : Round Type

Gear Ratio (36 : 1/36)

Bearing Type
B : Ball Bearing
BM : Ball Bearing + Metal Bearing
M : Metal Bearing

Input Gear Type
H : Helical Gear

■ Worm Gearhead

9 W D 30 B L

Frame Size
8 : □ 80mm square (3.15 in.sq.) (15~25W)
9 : □ 90mm square (3.54 in.sq.) (40~200W)
※ Worm Hollow Gearhead is 90mm.

Gearhead Type
W : Worm Solid type (6~60W)
WH : Worm Hollow type (60~200W)

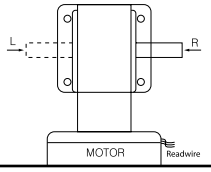
BRAND
D : DKM

Gear Ratio (30 : 1/30)

Bearing TYPE
B : Ball Bearing
※ No mark in Worm Hollow type

Direction of output
L : Left
R : Right
L/R : Bi-directional
※ No mark in Worm Hollow type

※ Ref. Output < R : Right / L : Left



X10 Inter - Decimal Gearhead

9 X D 10 M H

Frame Size
8 : □ 80mm sq. (3.15 in.sq.) (15~25W)
9 : □ 90mm sq. (3.54 in.sq.) (40~200W)

X10 Inter-Decimal Gearhead

D

Ratio (10 : 1/10)

Metal Bearing

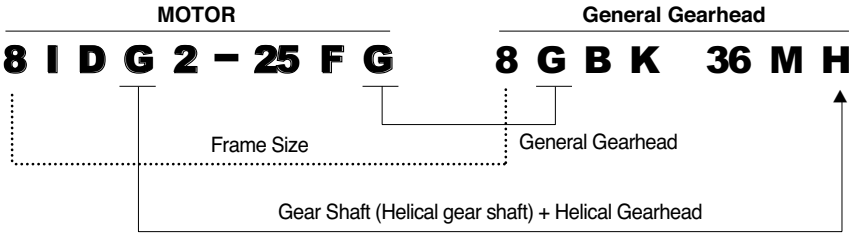
Attaching Gearhead
G : General(Helical)
P : Powerful Gearhead
H : High Powerful Gearhead
W : Angle type Worm Gearhead
WH: Worm Hollow type Gearhead

- In case of exceeding 200:1 ratio, please use X10 Inter-decimal gearhead with general gearhead. And please be advised that in this case only speed will reduce by 10:1 without torque increasing.

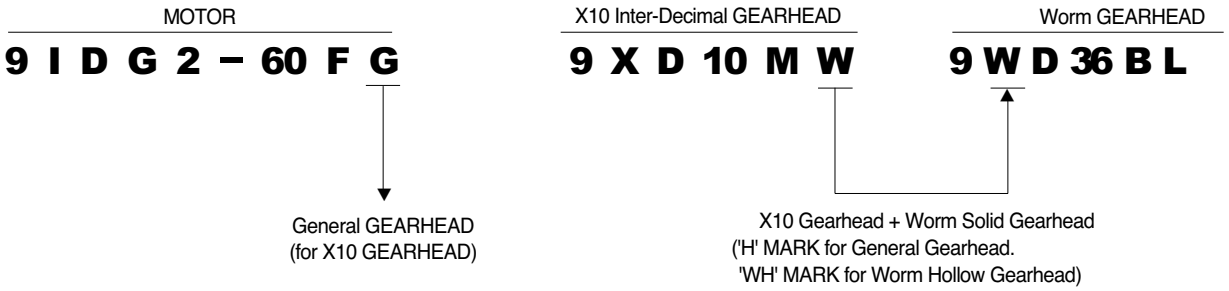
ASSEMBLY of MOTOR and GEARHEAD

Like below MOTOR and GEARHEAD could be assembled.
Same frame size's motor and gearhead could be assembled.

① MOTOR + General GEARHEAD



② MOTOR + X10 Inter-Decimal GEARHEAD + GEARHEAD (General, Worm Solid, Worm Hollow)



CAUTION FOR USING

Before using, make sure to use it after reading the Instruction Manual closely.
For the suggestions on using, they are classified as caution and warning

CAUTION

- Use only according to the specifiation of speed controller. If not, there will be dangerous fire, electric shock, iniury and damage of the unit.
- Do not put the fingers or things into the outlet of the unit. There may be the electric shock, injury or danger of fire.
- Do not operate with the wet hands. The electric shock may occur.
- In case of moving, do not catch the output shaft, connecting part or the lead wire.There may be the injury by the drop.
- Make sure to check whether the things are what you ordered. If you install the other thing, there may occur the injury and the fire.
- The motor should be used after it is fixed tightly. If not, there may occur the injury and the damage of the unit.
- Make sure to install the cover not to touch the rotatory part. If not, there will be injury.
- Make sure to check the rotatory direction before connecting the machine. If not, there may occur the injury and the damage of the unit.
- Do not touch the side of the motor output shaft (key way. cutting part) with the naked hands. If not, there may occur the injury.
- Make sure to install the overload device, for the protection device is not attached to the motor.
  It is desirable to install the promotion device leakage shorter electricity except the overload protection device. If not, the fire may occur.
- In case of putting out power plug, do not draw with grasping the plug for the electric shock and fire may occur.
- The motor and the controlling unit should be used only by the designated compounding. If not, the fire may occur.
- Before connecting with the machine and beginning to operate, make sure to install the parameter for the machine. If not, the damage may take place.
- In case of connecting with the machine and beginning to operate, do in the state of emergency stop anytime. If not, the damage will occur.
- If there are abnormal cases, turn off the power at once. If not, there will be the electric shock, injury and the damage.
- In operating do not touch the rotor(output shaft). If not, the damage will take place because of winding.
- In operating and right after the operation, do not touch the controlling device by your hands or body. The fire will occur.

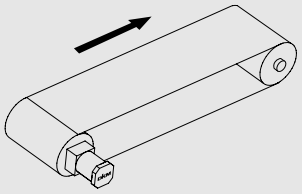
WARNING

- Never put around the explosive atmosphere, gas to be burnt, corrosive air, the location to be wet and combustibles. If not, there may occur the electric shock and the fire.
- In case of movement, connection and checking of motor, please turn off the electric power.
- Make sure to connect motor and speed controller based on the specification. If not, there may occur the electric shock and the fire.
- The power cable and the lead line should not be bent, pulled and inserted by force. If not, the electric shock and the fire may occur.
- In case the motor and controlling unit are attached to the machine, never touch by hand or connect with the earth. If not, the electric shock may take place.
- Never operate in the state of exposing the flowing current. If not, the electric shock may take place.
- In case of interruption of electric power and wiring the protection of overheat, please turn off the power. When motors are working continuously, there may be injury and damage of the unti.
- Within the 30 seconds after the power off, do not touch the output terminal of the controlling unit. If not, the electric shock may occur because of the residual volts.

INDUCTION MOTORS

Lead wire type

Terminal Box type



INDEX

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Features

• Suitable for Uni-directional Continuous Operation

Induction motors are for uni-directional continuous operation such as conveyor belt system.

• Meet Safety Standards and Global Power Supply Voltages

The most part of models conform to KS/UL standards and CE Marking. And meets power supply voltages of North America, Asia and Europe. ; 100V, 110V, 200V, 220V, 230V, 380V, 400V, 440V

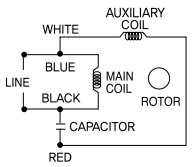
• Single Phase run

For a single phase motor run, please use the condenser complying with the capacity of that motor.
For a single-phase induction motor, it is not possible to reverse the direction within a short time during operation.
So stop the motor first and change the direction next. (Figure 1.)

• Three Phase run

Three phase induction motor has relative higher starting torque comparing single phase and has high reliability because it can be operated by a three-phase power source directly. (Figure 2.)

CIRCUIT DIAGRAM(C.W)



SPEED-TORQUE CURVE

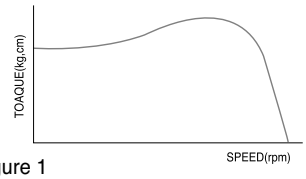
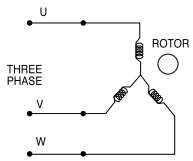


Figure 1

CIRCUIT DIAGRAM(C.W)



SPEED-TORQUE CURVE

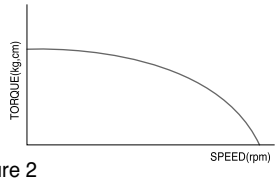


Figure 2

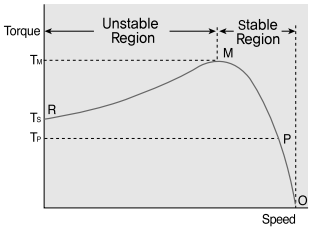
• The Relation between Speed and Torque

In a condition of constant power voltage, the relation between speed and torque is like right figure.

Under the condition of no-load, the number of rotation roughly is same as the number of synchronous rotation. But if the load increases, the number of rotation decreases and approaches to the speed (rpm) indicated by the point P where the torque Tp horizontally meets the load curve.

When the load further increases and reaches the point M, the motor stops at the point R because the motor no longer generates further torque.

Therefore, the leg R-M is referred to as an unstable zone and the leg O-M is a stable zone for operation.

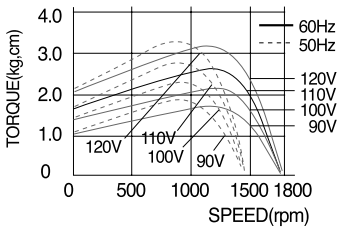


• Feature of Voltage and Condenser

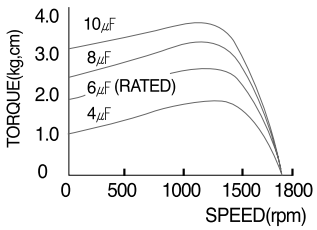
Generally the torque of induction motor changes in proportion to the value of two times the voltage. And it also changes according the capacity of the condenser.

If the condenser capacity increases, the starting torque and rated torque will increase.
But if the capacity increases by over 2 times, the rated torque decreases and starting torque do not increase.
When the induction motor is short on torque, it is possible to increase the torque by increasing the voltage or the condenser capacity to continue the operation.
But please be informed that in this case the loss input of the motor increases and the rapid rise of temperature would be. However, if the motor must be run with insufficient torque, take measures to let the motor release heat as much as possible by installing separate fan as a example and operate the motor so that the temperature of the motor's housing keep below 90℃ .

VOLTAGE CHARACTERISTICS
8IDG1-25G(60Hz)㎌



CONDENSER CHARACTERISTICS
8IDG1-25G(60Hz)㎌



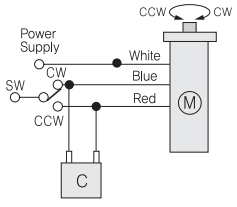
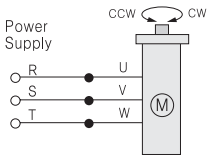
INDUCTION MOTOR LINE-UP

Frame size □mm (in.)	Output W	Type	Power (Voltage)					Page
			Single phase		Three phase			
			100/110/115V	200/220/230V	200/220/230V	380 V	440V	
60 (2.36)	6	Lead Wire	●	●	-	-	-	17-1
70 (2.76)	6	Lead Wire	●	●	-	-	-	18
	10	Lead Wire	●	●	-	-	-	20
	15	Lead Wire	●	●	-	-	-	21-1
80 (3.15)	15	Lead Wire Terminal box	● ●	● ●	● ●	● ●	● ●	22
	25	Lead Wire Terminal box	● ●	● ●	● ●	● ●	● ●	24
90 (3.54)	40	Lead Wire Terminal box	● ●	● ●	● ●	● ●	● ●	26
	60	Lead Wire Terminal box	● ●	● ●	● ●	● ●	● ●	28
	90	Lead Wire Terminal box	● ●	● ●	● ●	● ●	● ●	31
	120	Lead Wire Terminal box	● ●	● ●	● ●	● ●	● ●	34
	150	Lead Wire Terminal box	- -	- -	● ●	● ●	● ●	37
	180	Lead Wire Terminal box	- -	● ●	- -	- -	- -	40
	200	Lead Wire Terminal box	- -	- -	● ●	● ●	● ●	43

General Specifications

Item	Specifications
Insulation Resistance	100 ㏁ or more when 500 VDC is applied between the windings and the frame after rated motor opeation under normal ambient temperature and humidity.
Dielectric Strength	Sufficient to withstand 1.5 KV at 50 Hz and 60 Hz 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℃ (144°F) or less measured by the resistance change method after rated motor operation with connecting a gearhead or equivalent heat radiation plate. [Three-Phase 6W type : 70℃ (126°F)]
Insulation Class	Class B [130℃ (266°F)]
Overheat Protection	Operating temperature, open : 130℃ ± 5℃ (266℃ ±9°F) close : 82℃ ± 15℃ (179.6°F ± 27°F)
Ambient Temperture Range	-10℃ ~ + 40℃ (14°F ~ 104°F) [Three-phase 200VAC : -10℃ ~ +50℃ (14°F ~ 122°F)] (nonfreezing)
Ambient Humidity	85% maximum (noncondensing)

Connection Diagrams

Single phase (CW, CCW)	Three phase (CW, CCW)
	
CW : To rotate the motor in a clockwise(CW) direction, flip switch SW to CW. CCW : To rotate it in a countercloc kwise (CCW) direction, flip switch SW to CCW.	CCW : To change the rotation direction, change any connections between U,V and W.

- 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.
- Connection diagrams are also valid for the equivalent round shaft type.
- 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.

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INDUCTION MOTOR
6W

□60mm(2.36in.)
LEAD WIRE TYPE

LEAD선 TYPE MOTOR
+BOX TYPE GEARHEAD

■ Motor Specification

CE

Model 6IDG□-6G : Pinion Shaft Type 6IDG□-6 : Round Shaft Type		Output		Voltage	Freq.	Freq.	Starting Torque			Rated Torque			Rated Speed	Capacitor	
Lead Wire Type	Terminal Box Type	HP	W	VAC	Hz	A	gfcm	mN.m	oz-in	gfcm	mN.m	oz-in	r/min	μF	VAC
(TP) **6IDG(S)A-6G**	-	1/125	6	Single Phase110	60	0.2	400	40	5.6	400	40	5.8	1550	2.5	250
(TP) **6IDG(S)B-6G**	-			Single Phase115	60										
(TP) **6IDG(S)C-6G**	-			Single Phase 220	50	0.1	400	40	5.6	490	49	6.9	1300	0.7	400
(TP) **6IDG(S)D-6G**	-			Single Phase 220	60					400	40	5.8	1550		
(TP) **6IDG(S)E-6G**	-			Single Phase 230	50					490	49	6.9	1300		
(TP) **6IDG(S)F-6G**	-			Single Phase 230	60					400	40	5.8	1550		

* Enter the 'Phase & Voltage' code in the box(□) within the motor model name.
* 'Pinion Shaft' is for attaching gearhead and 'Round Shaft' is for using motor only.
(TP) : Contains a built-in thermal protector. If a motor overheats for any reason the thermal protector opened and the motor stops. When the motor temperature drops, the thermal protector closes and the motor restarts. Be sure to turn the motor off before inspecting.

■ Permissible Torque When using gearhead

60Hz

Model	speed RPM (r/min)		600	500	360	300	240	200	180	144	120	100	90	72	60	50	45	36	30	24	20	18	15	12	10	9	7.2
Motor/Gearhead	Gear Ratio		**3**	**3.6**	**5**	**6**	**7.5**	**9**	**10**	**12.5**	**15**	**18**	**20**	**25**	**30**	**36**	**40**	**50**	**60**	**75**	**90**	**100**	**120**	**150**	**180**	**200**	**250**
6IDG□-6G	**6GBD□BMH**	kgf cm	1.0	1.2	1.7	2.0	2.5	3.0	3.4	4.2	5.0	6.0	6.0	7.5	9.0	11	12.5	14	16	20	24	27	30	30	30	30	30
		N.m	0.10	0.12	0.17	0.20	0.25	0.30	0.34	0.42	0.50	0.60	0.60	0.75	0.89	1.1	1.2	1.4	1.6	2.0	2.4	2.7	3	3	3	3	3
		lb-in	0.88	1.06	1.50	1.77	2.2	2.6	3.0	3.7	4.4	5.3	5.3	6.6	7.9	9.7	10.6	12.4	14	18	21	24	26	26	26	26	26

50Hz

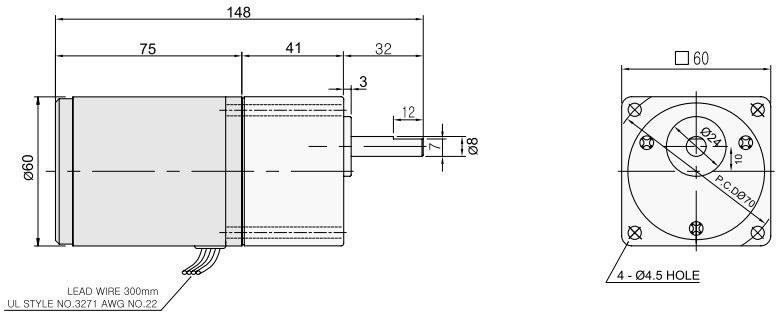
Model	speed RPM (r/min)		500	417	300	250	200	166	150	120	100	83	75	60	50	41	37	30	25	20	16	15	12	10	8	7.5	6
Motor/Gearhead	Gear Ratio		**3**	**3.6**	**5**	**6**	**7.5**	**9**	**10**	**12.5**	**15**	**18**	**20**	**25**	**30**	**36**	**40**	**50**	**60**	**75**	**90**	**100**	**120**	**150**	**180**	**200**	**250**
6IDG□-6G	**6GBD□BMH**	kgf cm	1.2	1.4	2.0	2.4	3.0	3.6	4.0	5.0	6.0	7.1	7.1	8.9	11	13	15	16	19	24	29	30	30	30	30	30	30
		N.m	0.12	0.14	0.20	0.24	0.30	0.36	0.40	0.50	0.60	0.71	0.71	0.89	1.1	1.3	1.5	1.6	1.9	2.4	2.9	3	3	3	3	3	3
		lb-in	1.06	1.24	1.77	2.1	2.6	3.2	3.5	4.4	5.3	6.3	6.3	7.9	9.7	11	13	14	17	21	26	26	26	26	26	26	26

* Enter the gear ratio in the box (□) within the gearhead model name. A colored background indicates gear shaft rotation in the same direction as the motor shaft ; a white background indicates rotation in the opposite direction.
* The speed is calculated by dividing the motor's synchronous speed (50Hz : 1500 r/min, 60 Hz : 1800 r/min) by the gear ratio.
* The actual speed is 2~20% less than the displayed value, depending on the size of the load.

Dimension

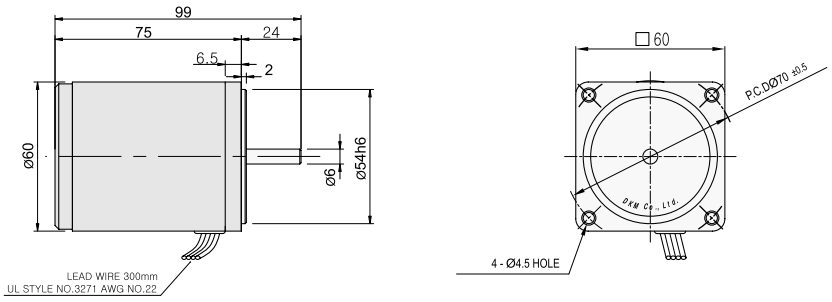
◆ GEARED MOTOR

* MOTOR MODEL : 6IDG□-6G(NO FAN)
* GEARHEAD MODEL : 6GBD 3BMH - 6GBD 250BMH

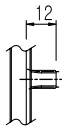
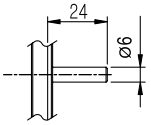


◆ MOTOR ONLY

* MOTOR MODEL : 6ID□□-6(NO FAN)



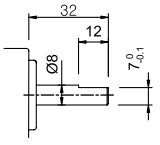
◆ MOTOR OUTPUT

MODEL	SHAFT
GEAR TYPE	
6IDG -□6G	
ROUND TYPE	
6IDS□-6	

◆ WEIGHT

PART		WEIGHT(Kg)
MOTOR		0.7
GEAR HEAD	6GBD3BMH - 6GBD18BMH	0.3
	6GBD25BMH - 6GBD 30BMH	0.32
	6GBD36BMH - 6GBD250BMH	0.34

◆ GEARHEAD OUTPUT

MODEL	SHAFT
D-CUT TYPE	
6GBD3BMH ~6GBD250BMH	

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INDUCTION MOTOR
6W

□70mm(2.76in.)
LEAD WIRE TYPE

LEAD WIRE TYPE MOTOR
+BOX TYPE GEARHEAD

Motor Specification

CE

Model 7IDG□-6G : Pinion Shaft Type 7IDS□-6 : Round Shaft Type		Output		Voltage	Freq.	Freq.	Starting Torque			Rated Torque			Rated Speed	Capacitor	
Lead Wire Type	Terminal Box Type	HP	W	VAC	Hz	A	gfcm	mN.m	oz-in	gfcm	mN.m	oz-in	r/min	μF	VAC
(TP) **7IDG(S)A-6G**	-	1/125	6	Single Phase 110	60	0.25	400	40	5.6	400	40	5.8	1550	2.5	250
(TP) **7IDG(S)B-6G**	-			Single Phase 115	60										
(TP) **7IDG(S)C-6G**	-			Single Phase 220	50	0.15	400	40	5.6	490	49	6.9	1350	0.7	400
(TP) **7IDG(S)D-6G**	-			Single Phase 220	60					400	40	5.8	1550		
(TP) **7IDG(S)E-6G**	-			Single Phase 230	50					490	49	6.9	1350		
(TP) **7IDG(S)F-6G**	-			Single Phase 230	60					400	40	5.8	1550		

* Enter the 'Phase & Voltage' code in the box(□) within the motor model name.
* 'Pinion Shaft' is for attaching gearhead and 'Round Shaft' is for using motor only.
(TP) : Contains a built-in thermal protector. If a motor overheats for any reason the thermal protector opened and the motor stops. When the motor temperature drops, the thermal protector closes and the motor restarts. Be sure to turn the motor off before inspecting.

Permissible Torque When using gearhead

60Hz

Model	speed RPM (r/min)		600	500	360	300	240	200	144	120	100	72	60	50	45	36	30	24	20	18	15	12	10
Motor/Gearhead	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**
7IDG□-6G / **7GBD□BMH**		kgf cm	1.0	1.2	1.7	2.0	2.5	3.0	4.2	5.1	6.1	7.5	9.1	11	12.5	14	16	20	24	27	30	30	30
		N.m	0.10	0.12	0.17	0.20	0.25	0.30	0.42	0.50	0.60	0.75	0.89	1.1	1.2	1.4	1.6	2.0	2.4	2.7	3	3	3
		lb-in	0.88	1.06	1.50	1.77	2.2	2.6	3.7	4.4	5.3	6.6	7.9	9.7	10.6	12.4	14	18	21	24	26	26	26

50Hz

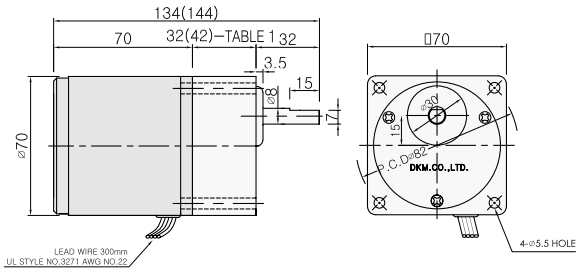
Model	speed RPM (r/min)		500	416	300	250	200	166	120	100	83	60	50	41	38	30	25	20	16	15	15	10	8.3
Motor/Gearhead	Gear Ratio		**3**	**3.6**	**5**	**6**	**7.5**	**9**	**12.5**	**15**	**18**	**25**	**30**	**36**	**40**	**50**	**60**	**75**	**90**	**100**	**120**	**150**	**180**
7IDG□-6G / **7GBD□BMH**		kgf cm	1.2	1.4	2.0	2.4	3.0	3.6	5.1	6.1	7.1	8.9	11	13	15	16	19	24	29	30	30	30	30
		N.m	0.12	0.14	0.20	0.24	0.30	0.36	0.50	0.60	0.71	0.89	1.1	1.3	1.5	1.6	1.9	2.4	2.9	3	3	3	3
		lb-in	1.06	1.24	1.77	2.1	2.6	3.2	4.4	5.3	6.3	7.9	9.7	11	13	14	17	21	26	26	26	26	26

* Enter the gear ratio in the box (□) within the gearhead model name. A colored background indicates gear shaft rotation in the same direction as the motor shaft ; a white background indicates rotation in the opposite direction.
* The speed is calculated by dividing the motor's synchronous speed (50Hz : 1500 r/min, 60 Hz : 1800 r/min) by the gear ratio.
* The actual speed is 2~20% less than the displayed value, depending on the size of the load.

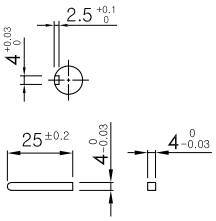
Dimension

◆ GEARED MOTOR

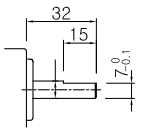
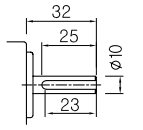
* MOTOR MODEL : 7IDG□-6G (NO FAN)
* GEARHEAD MODEL : 7GB□3BMH - 7GB □180BMH



◆ KEY SPEC

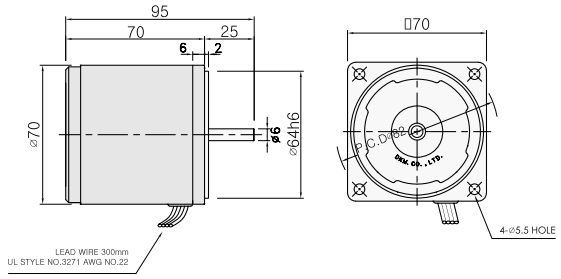


◆ GEARHEAD 출력축 사양

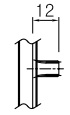
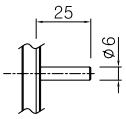
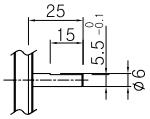
MODEL	출력축 구분
D-CUT TYPE 7GBD3BMH ~7GBD180BMH	
KEY TYPE 7GBK3BMH ~7GBK180BMH	

◆ MOTOR ONLY

* MOTOR MODEL : 7ID□□-6 (NO FAN)



◆ MOTOR OUTPUT

MODEL	SHAFT
GEAR TYPE 7IDG□-6G	
ROUND TYPE 7IDS□-6	
D-CUT TYPE 7IDD□-6	

* Note : Above table indicates output shaft dimension made by user' s request and ★ indicates the basic dimension in factory shipping.

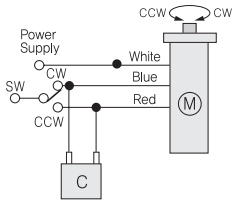
◆ WEIGHT

PART		WEIGHT(Kg)
MOTOR		0.84
GEAR HEAD	7GB□ 3BMH - 7GB □18BMH	0.36
	7GB□ 25BMH - 7GB □ 30BMH	0.44
	7GB□36BMH - 7GB □180BMH	0.5

◆ 32(42)-TABLE1

SIZE(mm)	GEAR RATIO
32	7GB□ 3BMH - 7GB □ 18BMH
42	7GB□25BMH - 7GB □180BMH

Connection Diagrams

Single phase (CW, CCW)	Three phase (CW, CCW)
	Not Available

CW : To rotate the motor in a clockwise(CW) direction, flip switch SW to CW.
CCW : To rotate it in a countercloc kwise (CCW) direction, flip switch SW to CCW.

- 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.
- Connection diagrams are also valid for the equivalent round shaft type.
- 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.

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INDUCTION MOTOR
10W

□70mm(2.76in.)
LEAD WIRE TYPE

LEAD WIRE TYPE MOTOR
+BOX TYPE GEARHEAD

■ Motor Specification

CE

Model 7IDG□-10G : Pinion Shaft Type 7IDS□-10 : Round Shaft Type		Output	Voltage	Freq.	Current	Starting Torque			Rated Torque			Rated Speed	Capacitor	
Lead Wire Type	Terminal Box Type	HP W	VAC	Hz	A	gfcm	mN.m	oz-in	gfcm	mN.m	oz-in	r/min	μF	VAC
(TP) **7IDG(S)A-10G**	-	1/75 10	Single Phase 110	60	0.3	500	50	7.1	700	70	9.9	1550	3.0	250
(TP) **7IDG(S)B-10G**	-		Single Phase 115	60										
(TP) **7IDG(S)C-10G**	-		Single Phase 220	50	0.18	500	50	7.1	840	84	11.9	1300	1.0	400
(TP) **7IDG(S)D-10G**	-		Single Phase 220	60					700	70	9.9	1550		
(TP) **7IDG(S)E-10G**	-		Single Phase 230	50					840	84	11.9	1300		
(TP) **7IDG(S)F-10G**	-		Single Phase 230	60					700	70	9.9	1550		

* Enter the 'Phase & Voltage' code in the box(□) within the motor model name.
* 'Pinion Shaft' is for attaching gearhead and 'Round Shaft' is for using motor only.
(TP) : Contains a built-in thermal protector. If a motor overheats for any reason the thermal protector opened and the motor stops. When the motor temperature drops, the thermal protector closes and the motor restarts. Be sure to turn the motor off before inspecting.

■ Permissible Torque When using gearhead

60Hz

Model	speed RPM (r/min)		600	500	360	300	240	200	144	120	100	72	60	50	45	36	30	24	20	18	15	12	10
Motor/Gearhead	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**
7IDG□-10G / **7GBD□BMH**		kgf cm	1.5	1.9	2.5	3.2	4.0	4.9	6.7	8.0	9.7	12	15	18	20	22	26	32	40	40	40	40	40
		N.m	0.15	0.19	0.25	0.32	0.40	0.49	0.67	0.80	0.97	1.2	1.5	1.8	2.0	2.2	2.6	3.2	4	4	4	4	4
		lb-in	1.32	1.68	2.21	2.83	3.5	4.3	5.9	7.1	8.6	10.6	13.2	15.9	17.7	20	23	28	35	35	35	35	35

50Hz

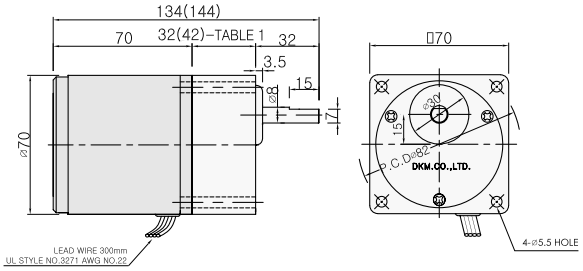
Model	speed RPM (r/min)		500	416	300	250	200	166	120	100	83	60	50	41	38	30	25	20	16	15	12.5	10	8.3
Motor/Gearhead	Gear Ratio		**3**	**3.6**	**5**	**6**	**7.5**	**9**	**12.5**	**15**	**18**	**25**	**30**	**36**	**40**	**50**	**60**	**75**	**90**	**100**	**120**	**150**	**180**
7IDG□-10G / **7GBD□BMH**		kgf cm	1.8	2.3	3.0	3.8	4.8	5.9	8.1	9.6	11.6	14	18	22	24	27	31	38	40	40	40	40	40
		N.m	0.18	0.23	0.3	0.38	0.48	0.59	0.81	0.96	1.16	1.4	1.8	2.2	2.4	2.7	3.1	3.8	4	4	4	4	4
		lb-in	1.59	2.01	2.65	3.39	4.2	5.2	7.1	8.5	10.3	12.7	15.9	19.1	21.2	24	28	34	35	35	35	35	35

* Enter the gear ratio in the box (□) within the model name. A colored background indicates gear shaft rotation in the same direction as the motor shaft ; a white background indicates rotation in the opposite direction.
* The speed is calculated by dividing the motor's synchronous speed (50Hz : 1500 r/min, 60 Hz : 1800 r/min) by the gear ratio.
* The actual speed is 2~20% less than the displayed value, depending on the size of the load.

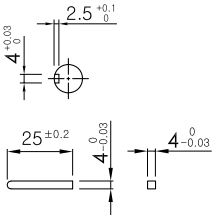
Dimension

◆ GEARED MOTOR

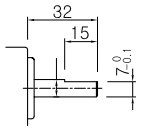
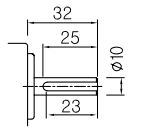
* MOTOR MODEL : 7IDG□-10G (NO FAN)
* GEARHEAD MODEL : 7GB☐3BMH - 7GB☐180BMH



◆ KEY SPEC

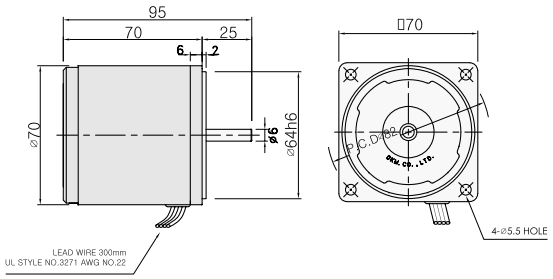


◆ GEARHEAD 출력축 사양

MODEL	출력축 구분
D-CUT TYPE 7GBD3BMH ~7GBD180BMH	 ★
KEY TYPE 7GBK3BMH ~7GBK180BMH	

◆ MOTOR ONLY

* MOTOR MODEL : 7ID□□-10 (NO FAN)



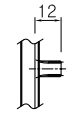
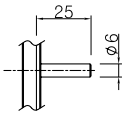
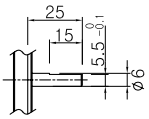
◆ WEIGHT

PART		WEIGHT(Kg)
MOTOR		0.84
GEAR HEAD	7GB☐ 3BMH - 7GB☐18BMH	0.36
	7GB☐ 25BMH - 7GB☐ 30BMH	0.44
	7GB☐36BMH - 7GB☐180BMH	0.5

◆ 32(42)-TABLE1

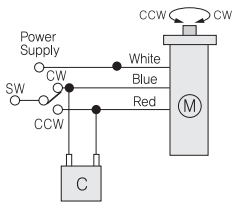
SIZE(mm)	GEAR RATIO
32	7GB☐ 3BMH - 7GB☐18BMH
42	7GB☐25BMH - 7GB☐180BMH

◆ MOTOR OUTPUT

MODEL	SHAFT
GEAR TYPE 7IDG□-10G	
ROUND TYPE 7IDS□-10	 ★
D-CUT TYPE 7IDD□-10	

* Note : Above table indicates output shaft dimension made by user' s request and ★ indicates the basic dimension in factory shipping.

Connection Diagrams

Single phase (CW, CCW)	Three phase (CW, CCW)
	Not Available

CW : To rotate the motor in a clockwise(CW) direction, flip switch SW to CW.

CCW : To rotate it in a countercloc kwise (CCW) direction, flip switch SW to CCW.

- 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.
- Connection diagrams are also valid for the equivalent round shaft type.
- 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.

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INDUCTION MOTOR
15W

□70mm(2.76in.)
LEAD WIRE TYPE

LEAD선 TYPE MOTOR
+ BOX TYPE GEARHEAD

■ Motor Specification

CE

Model 7IDG□-15G : Pinion Shaft Type 7IDG□-15 : Round Shaft Type		Output		Voltage	Freq.	Current	Starting Torque			Rated Torque			Rated Speed	Capacitor	
Lead Wire Type	Terminal Box Type	HP	W	VAC	Hz	A	gfcm	mN.m	oz-in	gfcm	mN.m	oz-in	r/min	μF	VAC
(TP) **7IDG(S)1-15G**	-	1/50	15	Single Phase 110	60	0.34	650	65	9.2	950	95	13.48	1550	5.0	250
(TP) **7IDG(S)B-15G**	-			Single Phase115	60										
(TP) **7IDG(S)C-15G**	-			Single Phase 220	50	0.2	700	70	9.9	1120	112	15.9	1300	1.2	400
(TP) **7IDG(S)2-15G**	-			Single Phase 220	60		650	65	9.2	1000	100	14.2	1550		
(TP) **7IDG(S)E-15G**	-			Single Phase 230	50		750	75	10.6	1120	112	15.9	1300		
(TP) **7IDG(S)F-15G**	-			Single Phase 230	60		650	65	9.2	1000	100	14.2	1550		

* Enter the 'Phase & Voltage' code in the box(□) within the motor model name.
* 'Pinion Shaft' is for attaching gearhead and 'Round Shaft' is for using motor only.
(TP) : Contains a built-in thermal protector. If a motor overheats for any reason the thermal protector opened and the motor stops. When the motor temperature drops, the thermal protector closes and the motor restarts. Be sure to turn the motor off before inspecting.

■ Permissible Torque When using gearhead

60Hz

Model	speed RPM (r/min)		600	500	360	300	240	200	144	120	100	72	60	50	45	36	30	24	20	18	15	12	10
Motor/Gearhead	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**
7IDG□-7G	**7GBK□BMH**	kgf cm	2.6	3.1	4.3	5.1	6.4	7.7	11	13	15	19	23	28	31	35	42	50	50	50	50	50	50
		N.m	0.26	0.31	0.43	0.51	0.64	0.77	1.1	1.3	1.5	1.9	2.3	2.8	3.1	3.5	4.2	5	5	5	5	5	5
		lb-in	2.3	2.7	3.8	4.5	5.6	6.8	9.7	11	13	17	20	25	27	31	37	44	44	44	44	44	44

50Hz

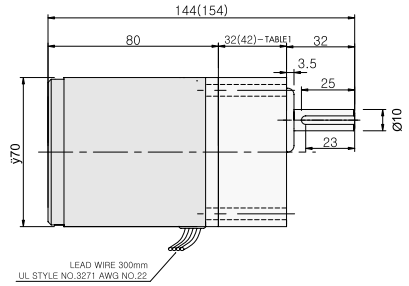
Model	speed RPM (r/min)		500	417	300	250	200	167	120	100	83	60	50	41	37.5	30	25	20	16	15	13	10	8
Motor/Gearhead	Gear Ratio		**3**	**3.6**	**5**	**6**	**7.5**	**9**	**12.5**	**15**	**18**	**25**	**30**	**36**	**40**	**50**	**60**	**75**	**90**	**100**	**120**	**150**	**180**
7IDG□-7G	**7GBK□BMH**	kgf cm	3.0	3.6	5.1	6.1	7.6	9.1	13	15	18	23	27	33	36	41	50	50	50	50	50	50	50
		N.m	0.30	0.36	0.51	0.61	0.76	0.91	1.30	1.50	1.80	2.30	2.7	3.3	3.6	4.1	5	5	5	5	5	5	5
		lb-in	2.6	3.2	4.5	5.4	6.7	8.0	11	13	16	20	24	29	32	36	44	44	44	44	44	44	44

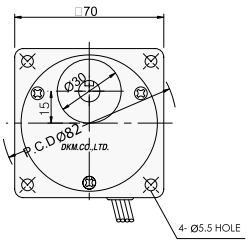
* Enter the gear ratio in the box (□) within the model name. A colored background indicates gear shaft rotation in the same direction as the motor shaft ; a white background indicates rotation in the opposite direction.
* The speed is calculated by dividing the motor's synchronous speed (50Hz : 1500 r/min, 60 Hz : 1800 r/min) by the gear ratio.
* The actual speed is 2~20% less than the displayed value, depending on the size of the load.

Dimension

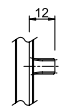
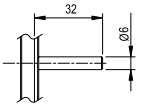
◆ GEARED MOTOR

* MOTOR MODEL : 7IDG□-15G(NO FAN)
* GEARHEAD MODEL : 7GBK3BMH - 7GBK180BMH



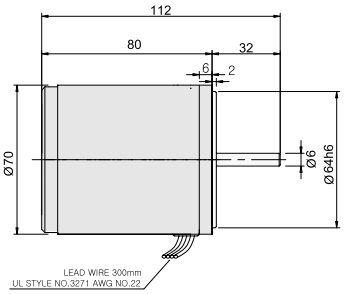


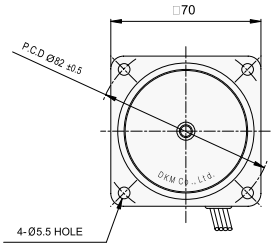
◆ MOTOR OUTPUT

MODEL	SHAFT
GEAR TYPE 7IDG□-15G	
ROUND TYPE 7IDS□-15	

◆ MOTOR ONLY

* MOTOR MODEL : 7ID□□-15(NO FAN)

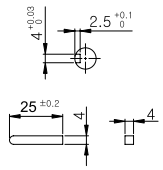




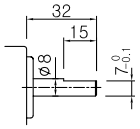
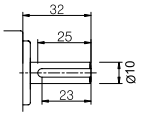
◆ 32(42)-TABLE1

SIZE(mm)	GEAR RATIO
32	7GB□3BMH - 7GB□180BMH
42	7GB□25BMH - 7GB□180BMH

◆ KEY SPEC



◆ GEARHEAD OUTPUT

MODEL	SHAFT
D-CUT TYPE	
7GBD3BMH ~7GBD180BMH	
KEY TYPE	 ★
7GBK3BMH ~7GBK180BMH	

◆ WEIGHT

PART		WEIGHT(Kg)
MOTOR		1.04
GEAR HEAD	7GB□3BMH - 7GB□18BMH	0.36
	7GB□25BMH - 7GB□30BMH	0.44
	7GB□36BMH - 7GB□250BMH	0.5

* Note : Above table indicates output shaft dimension made by user' s request and ★ indicates the basic dimension in factory shipping.

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INDUCTION MOTOR
15W

□80mm(3.15in.)

LEAD WIRE TYPE MOTOR
+ BOX TYPE GEARHEAD

TERMINAL BOX TYPE MOTOR
+ BOX TYPE GEARHEAD

Motor Specification

CE

Model 8IDG□-15G : Pinion Shaft Type 8IDS□-15 : Round Shaft Type		Output		Voltage	Freq.	Current	Starting Torque			Rated Torque			Rated Speed	Capacitor	
Lead Wire Type	Terminal Box Type	HP	W	VAC	Hz	A	gfcm	mN.m	oz-in	gfcm	mN.m	oz-in	r/min	μF	VAC
(TP) **8IDG(S)A-15G**	**8IDG(S)A-15G-T**	1/50	15	Single Phase 110	60	0.4	650	65	9.2	950	95	13.48	1550	3.5	250
(TP) **8IDG(S)B-15G**	**8IDG(S)B-15G-T**			Single Phase 115	60										
(TP) **8IDG(S)C-15G**	**8IDG(S)C-15G-T**			Single Phase 220	50	0.25	700	70	9.9	1120	112	15.9	1300	1.5	400
(TP) **8IDG(S)D-15G**	**8IDG(S)D-15G-T**			Single Phase 220	60		650	65	9.2	1000	100	14.2	1550		
(TP) **8IDG(S)E-15G**	**8IDG(S)E-15G-T**			Single Phase 230	50		750	75	10.6	1120	112	15.9	1300		
(TP) **8IDG(S)F-15G**	**8IDG(S)F-15G-T**			Single Phase 230	60		650	65	9.2	1000	100	14.2	1550		
(TP) **8IDG(S)G-15G**	**8IDG(S)G-15G-T**			Three Phase 220	50	0.25	1300	130	18.5	1200	120	17	1300	-	-
(TP) **8IDG(S)H-15G**	**8IDG(S)H-15G-T**			Three Phase 220	60					1000	100	14.2	1550		
(TP) **8IDG(S)I-15G**	**8IDG(S)i-15G-T**			Three Phase 230	50					1200	120	17	1300		
(TP) **8IDG(S)J-15G**	**8IDG(S)J-15G-T**			Three Phase 230	60					1000	100	14.2	1550		
(TP) **8IDG(S)K-15G**	**8IDG(S)K-15G-T**			Three Phase 380	50	0.14	1300	130	18.5	1200	120	17	1300		
(TP) **8IDG(S)L-15G**	**8IDG(S)L-15G-T**			Three Phase 380	60					1000	100	14.2	1550		
(TP) **8IDG(S)M-15G**	**8IDG(S)M-15G-T**			Three Phase 400	50	0.11	1300	130	18.5	1200	120	17	1300		
(TP) **8IDG(S)N-15G**	**8IDG(S)N-15G-T**			Three Phase 440	50					1000	100	14.2	1550		
(TP) **8IDG(S)O-15G**	**8IDG(S)O-15G-T**			Three Phase 440	60					1000	100	14.2	1550		

* Enter the 'Phase & Voltage' code in the box(□) within the motor model name.
* 'Pinion Shaft' is for attaching gearhead and 'Round Shaft' is for using motor only.
(TP) : Contains a built-in thermal protector. If a motor overheats for any reason the thermal protector opened and the motor stops. When the motor temperature drops, the thermal protector closes and the motor restarts. Be sure to turn the motor off before inspecting.

Permissible Torque When using gearhead

60Hz

Model	speed RPM (r/min)		600	500	360	300	240	200	144	120	100	72	60	50	45	36	30	24	20	18	15	12	10	7	6	5
Motor/Gearhead	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**	**250**	**300**	**360**
8IDG□-15G / **8GBK□BMH**	kgf cm		2.9	3.5	4.9	5.8	7.3	8.7	12.2	14.6	17.5	21.9	26.3	31.5	36.5	39.6	47.5	59.4	71.3	79.2	80	80	80	80	80	80
	N.m		0.29	0.35	0.49	0.58	0.73	0.87	1.2	1.5	1.8	2.2	2.6	3.2	3.6	4.0	4.8	5.9	7.1	7.9	8	8	8	8	8	8
	lb-in		2.6	3.1	4.3	5.1	6.4	7.7	11	13	15	19	23	28	32	35	42	52	63	70	71	71	71	71	71	71

50Hz

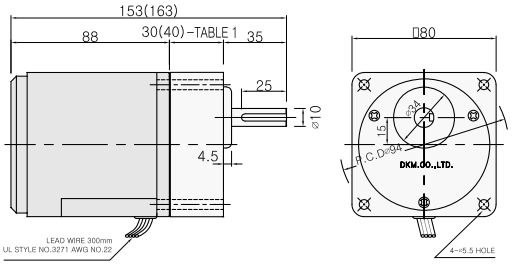
Model	speed RPM (r/min)		500	417	300	250	200	167	120	100	83	60	50	42	38	30	25	20	17	15	13	10	8	6	5	5
Motor/Gearhead	Gear Ratio		**3**	**3.6**	**5**	**6**	**7.5**	**9**	**12.5**	**15**	**18**	**25**	**30**	**36**	**40**	**50**	**60**	**75**	**90**	**100**	**120**	**150**	**180**	**250**	**300**	**360**
8IDG□-15G / **8GBK□BMH**	kgf cm		3.4	4.1	5.7	6.8	8.5	10.2	14.2	17.0	20.4	25.6	30.7	36.8	38.8	46.2	55.4	69.2	80	80	80	80	80	80	80	80
	N.m		0.34	0.41	0.57	0.68	0.85	1.02	1.4	1.7	2.0	2.6	3.1	3.7	3.8	4.6	5.5	6.9	8	8	8	8	8	8	8	8
	lb-in		3.0	3.6	5.0	6.0	7.5	9.0	13	15	18	23	27	32	34	41	49	61	71	71	71	71	71	71	71	71

* Enter the gear ratio in the box (□) within the model name. A colored background indicates gear shaft rotation in the same direction as the motor shaft ; a white background indicates rotation in the opposite direction.
* The speed is calculated by dividing the motor's synchronous speed (50Hz : 1500 r/min, 60 Hz : 1800 r/min) by the gear ratio.
* The actual speed is 2~20% less than the displayed value, depending on the size of the load.
* If more slow speed is needed than above value, use decimal gearhead with a gear ratio of 10:1 could be used between general gearhead and motor. Even in this case, just speed will be reduced without increase in permissible torque; the maximum permissible torque is 80kgfcm (8N.m, 71lb-in).

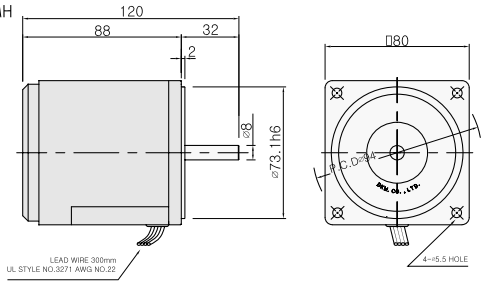
Dimension

LEAD WIRE TYPE

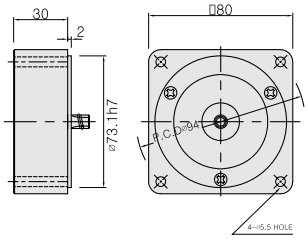
◆ GEARED MOTOR * MOTOR MODEL : 8IDG□-15G(NO FAN)
* GEARHEAD MODEL : 8GB □3BMH - 8GB□360BMH



◆ MOTOR ONLY
* MOTOR MODEL : 8ID□□-15 (NO FAN)

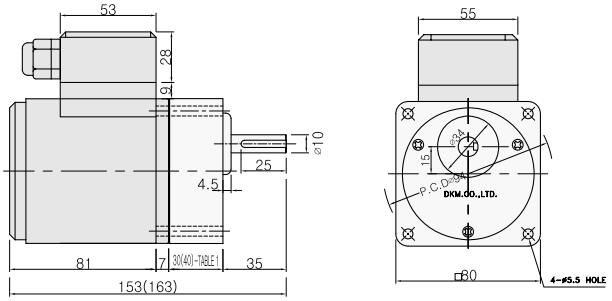


◆ INTER-DECIMAL GEARHEAD
* MODEL : 8XD10M□



TERMINAL BOX TYPE

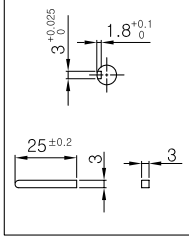
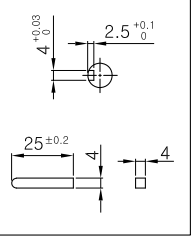
* MOTOR MODEL : 8IDG□-15G(NO FAN)



◆ 30(40)-TABLE1

SIZE(mm)	GEAR RATIO
30	8GB□ 3BMH - 8GB□ 18BMH
40	8GB□25BMH - 8GB□360BMH

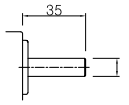
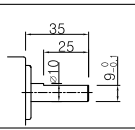
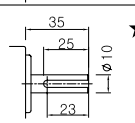
◆ KEY SPEC

MOTOR	GEARHEAD
	

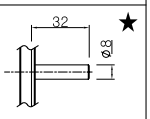
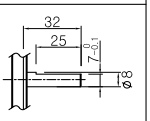
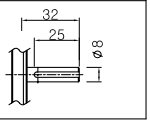
◆ WEIGHT

PART		WEIGHT(Kg)
MOTOR		1.6
DECIMAL GEARHEAD		0.44
GEAR HEAD	8GB□3BMH - 8GB□18BMH	0.48
	8GB□25BMH - 8GB□30BMH	0.61
	8GB□36BMH - 8GB□180BMH	0.67
	8GB□200BMH - 8GB□360BMH	0.63

◆ GEARHEAD OUTPUT

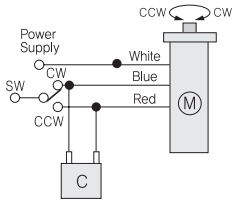
MODEL	SHAFT
ROUND TYPE 8GBS3BMH ~8GBS360BMH	
D-CUT TYPE 8GBD3BMH ~8GBD360BMH	
KEY TYPE 8GBK3BMH ~8GBK360BMH	

◆ MOTOR OUTPUT

MODEL	SHAFT
GEAR TYPE 8IDG□-15G	
ROUND TYPE 8IDS□-15	
D-CUT TYPE 8IDD□-15	
KEY TYPE 8IDK□-15	

* Note : Above table indicates output shaft dimension made by user's request and ★ indicates the basic dimension in factory shipping.

Connection Diagrams

Single phase (CW, CCW)	Three phase (CW, CCW)
	Not Available

CW : To rotate the motor in a clockwise(CW) direction, flip switch SW to CW.
CCW : To rotate it in a countercloc kwise (CCW) direction, flip switch SW to CCW.

- 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.
- Connection diagrams are also valid for the equivalent round shaft type.
- 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.

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INDUCTION MOTOR
25W

□80mm(3.15in.)

LEAD WIRE TYPE MOTOR
+ BOX TYPE GEARHEAD

TERMINAL BOX TYPE MOTOR
+ BOX TYPE GEARHEAD

Motor Specification

CE

Model 8IDG□-25G : Pinion Shaft Type 8IDS□-25 : Round Shaft Type		Output		Voltage	Freq.	Current	Starting Torque			Rated Torque			Rated Speed	Capacitor	
Lead Wire Type	Terminal Box Type	HP	W	VAC	Hz	A	gfcm	mN.m	oz-in	gfcm	mN.m	oz-in	r/min	μF	VAC
(TP) **8IDG(S)A-25G**	**8IDG(S)A-25G-T**	1/30	25	Single Phase 110	60	0.6	1100	110	16	1600	160	23	1550	6.0	250
(TP) **8IDG(S)B-25G**	**8IDG(S)B-25G-T**			Single Phase 115	60										
(TP) **8IDG(S)C-25G**	**8IDG(S)C-25G-T**			Single Phase 220	50	0.3	1000	100	14	1900	190	27	1300	2.0	400
(TP) **8IDG(S)D-25G**	**8IDG(S)D-25G-T**			Single Phase 220	60					1600	160	23	1550		
(TP) **8IDG(S)E-25G**	**8IDG(S)E-25G-T**			Single Phase 230	50					1900	190	27	1300		
(TP) **8IDG(S)F-25G**	**8IDG(S)F-25G-T**			Single Phase 230	60					1600	160	23	1550		
(TP) **8IDG(S)G-25G**	**8IDG(S)G-25G-T**			Three phase 220	50	0.25	1500	150	21	1800	180	25	1300	-	-
(TP) **8IDG(S)H-25G**	**8IDG(S)H-25G-T**			Three phase 220	60					1500	150	21	1550		
(TP) **8IDG(S)I-25G**	**8IDG(S)I-25G-T**			Three phase 230	50					1800	180	25	1300		
(TP) **8IDG(S)J-25G**	**8IDG(S)J-25G-T**			Three phase 230	60					1500	150	21	1550		
(TP) **8IDG(S)K-25G**	**8IDG(S)K-25G-T**			Three phase 380	50	0.14	1500	150	21	1800	180	25	1300	-	-
(TP) **8IDG(S)L-25G**	**8IDG(S)L-25G-T**			Three phase 380	60					1500	150	21	1550		
(TP) **8IDG(S)M-25G**	**8IDG(S)M-25G-T**			Three phase 400	50	0.11	1500	150	21	1800	180	25	1300	-	-
(TP) **8IDG(S)N-25G**	**8IDG(S)N-25G-T**			Three phase 440	50					1800	180	25	1300		
(TP) **8IDG(S)O-25G**	**8IDG(S)O-25G-T**			Three phase 440	60					1500	150	21	1550		

* Enter the 'Phase & Voltage' code in the box(□) within the motor model name.
* 'Pinion Shaft' is for attaching gearhead and 'Round Shaft' is for using motor only.
(TP) : Contains a built-in thermal protector. If a motor overheats for any reason the thermal protector opened and the motor stops. When the motor temperature drops, the thermal protector closes and the motor restarts. Be sure to turn the motor off before inspecting.

Permissible Torque When using gearhead

60Hz

Model	speed RPM (r/min)		600	500	360	300	240	200	144	120	100	72	60	50	45	36	30	24	20	18	15	12	10	7	6	5
Motor/Gearhead	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**	**250**	**300**	**360**
8IDG□-25G / **8GBK□BMH**		kgf cm	4.4	5.2	7.3	8.7	10.9	13.1	18.2	21.9	26.2	32.9	39.4	47.3	52.6	59.4	71.3	80	80	80	80	80	80	80	80	80
		N.m	0.44	0.52	0.73	0.87	1.09	1.31	1.82	2.19	2.62	3.29	3.9	4.7	5.2	5.9	7.1	8	8	8	8	8	8	8	8	8
		lb-in	3.9	4.6	6.4	7.7	9.6	12	16	19	23	29	35	42	46	52	63	71	71	71	71	71	71	71	71	71

50Hz

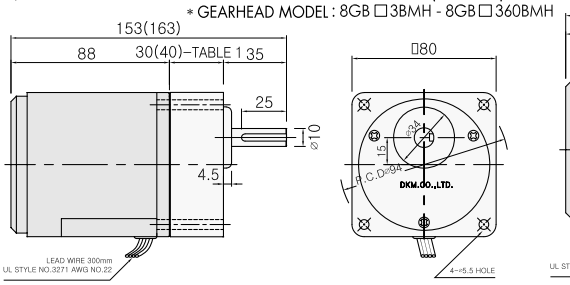
Model	speed RPM (r/min)		500	417	300	250	200	167	120	100	83	60	50	42	38	30	25	20	17	15	13	10	8	6	5	5
Motor/Gearhead	Gear Ratio		**3**	**3.6**	**5**	**6**	**7.5**	**9**	**12.5**	**15**	**18**	**25**	**30**	**36**	**40**	**50**	**60**	**75**	**90**	**100**	**120**	**150**	**180**	**250**	**300**	**360**
8IDG□-25G / **8GBK□BMH**		kgf cm	5.3	6.4	8.9	10.7	13.4	16.0	22.3	26.7	32.1	40.2	48.2	57.8	64.2	72.6	80	80	80	80	80	80	80	80	80	80
		N.m	0.53	0.64	0.89	1.07	1.34	1.60	2.23	2.67	3.21	4.02	4.8	5.8	6.4	7.3	8	8	8	8	8	8	8	8	8	8
		lb-in	4.7	5.7	7.9	9.4	11.8	14	20	24	28	35	43	51	57	64	71	71	71	71	71	71	71	71	71	71

* Enter the gear ratio in the box (□) within the model name. A colored background indicates gear shaft rotation in the same direction as the motor shaft ; a white background indicates rotation in the opposite direction.
* The speed is calculated by dividing the motor's synchronous speed (50Hz : 1500 r/min, 60 Hz : 1800 r/min) by the gear ratio.
* The actual speed is 2~20% less than the displayed value, depending on the size of the load.
* If more slow speed is needed than above value, use decimal gearhead with a gear ratio of 10:1 could be used between general gearhead and motor. Even in this case, just speed will be reduced without increase in permissible torque; the maximum permissible torque is 80kgfcm (8N.m, 71lb-in).

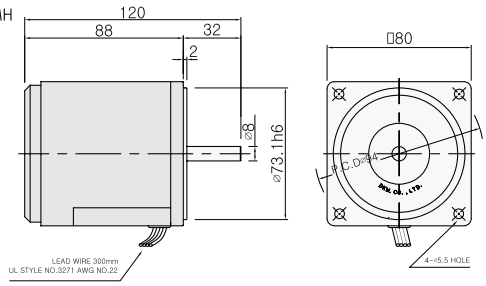
Dimension

LEAD WIRE TYPE

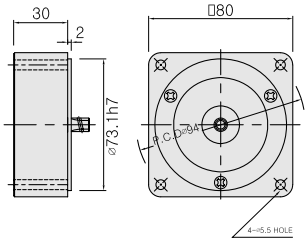
◆ GEARED MOTOR * MOTOR MODEL : 8IDG□-25G (NO FAN)
* GEARHEAD MODEL : 8GB □3BMH - 8GB□360BMH



◆ MOTOR ONLY
* MOTOR MODEL : 8ID□□-25 (NO FAN)

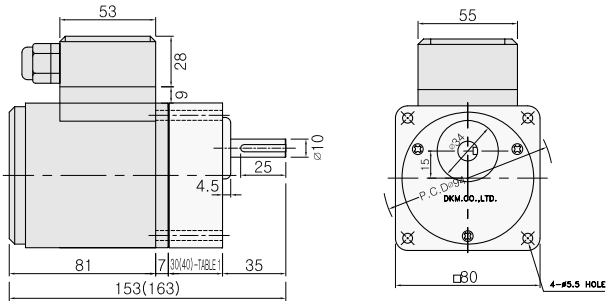


◆ INTER-DECIMAL GEARHEAD
* MODEL : 8XD10M□



TERMINAL BOX TYPE

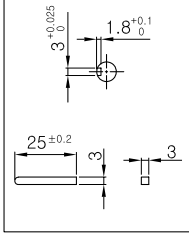
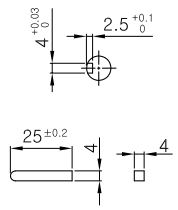
* MOTOR MODEL : 8IDG□-25(NO FAN)



◆ 30(40)-TABLE1

SIZE(mm)	GEAR RATIO
30	8GB□ 3BMH - 8GB □ 18BMH
40	8GB□25BMH - 8GB□360BMH

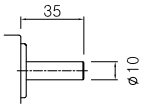
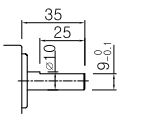
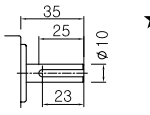
◆ KEY SPEC

MOTOR	GEARHEAD
	

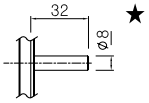
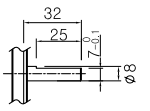
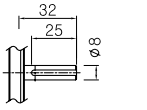
◆ WEIGHT

PART		WEIGHT(Kg)
MOTOR		1.6
DECIMAL GEARHEAD		0.44
GEAR HEAD	8GB□3BMH - 8GB□18BMH	0.48
	8GB□25BMH - 8GB □30BMH	0.61
	8GB□36BMH - 8GB □180BMH	0.67
	8GB□200BMH - 8GB □360BMH	0.63

◆ GEARHEAD OUTPUT

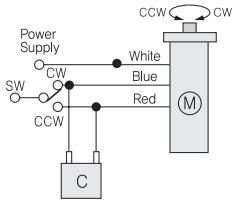
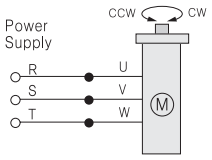
MODEL	SHAFT
ROUND TYPE 8GBS3BMH ~8GBS360BMH	
D-CUT TYPE 8GBD3BMH ~8GBD360BMH	
KEY TYPE ★ 8GBK3BMH ~8GBK360BMH	

◆ MOTOR OUTPUT

MODEL	SHAFT
GEAR TYPE 8IDG□-25G	
ROUND TYPE ★ 8IDS□-25	
D-CUT TYPE 8IDD□-25	
KEY TYPE 8IDK□-25	

* Note : Above table indicates output shaft dimension made by user' s request and ★ indicates the basic dimension in factory shipping.

Connection Diagrams

Single phase (CW, CCW)	Three phase (CW, CCW)
	

CW : To rotate the motor in a clockwise(CW) direction, flip switch SW to CW.
CCW : To rotate it in a countercloc kwise (CCW) direction, flip switch SW to CCW.

CCW : To change the rotation direction, change any connections between U,V and W.

- 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.
- Connection diagrams are also valid for the equivalent round shaft type.
- 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.

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INDUCTION MOTOR
40W

□90mm(3.54in.)

LEAD WIRE TYPE MOTOR
+ BOX TYPE GEARHEAD

TERMINAL BOX TYPE MOTOR
+ BOX TYPE GEARHEAD

Motor Specification

CE

Model 9IDG□-40G : Pinion Shaft Type 9IDD□-40 : D-Cut Shaft Type		Output		Voltage	Freq.	Current	Starting Torque			Rated Torque			Rated Speed	Capacitor	
Lead Wire Type	Terminal Box Type	HP	W	VAC	Hz	A	gfcm	mN.m	oz-in	gfcm	mN.m	oz-in	r/min	μF	VAC
(TP) **9IDG(D)A-40G**	**9IDG(D)A-40G-T**	1/15	40	Single Phase 110	60	0.9	2000	200	28	2600	260	37	1550	10	250
(TP) **9IDG(D)B-40G**	**9IDG(D)B-40G-T**			Single Phase 115	60										
(TP) **9IDG(D)C-40G**	**9IDG(D)C-40G-T**			Single Phase 220	50	0.45	2000	200	28	3000	300	42	1300	2.5	400
(TP) **9IDG(D)D-40G**	**9IDG(D)D-40G-T**			Single Phase 220	60					2600	260	37	1550		
(TP) **9IDG(D)E-40G**	**9IDG(D)E-40G-T**			Single Phase 230	50					3000	300	42	1300		
(TP) **9IDG(D)F-40G**	**9IDG(D)F-40G-T**			Single Phase 230	60					2600	260	37	1550		
(TP) **9IDG(D)G-40G**	**9IDG(D)G-40G-T**			Three phase 220	50	0.4	2600	260	37	3000	300	42	1300	-	-
(TP) **9IDG(D)H-40G**	**9IDG(D)H-40G-T**			Three phase 220	60					2600	260	37	1550		
(TP) **9IDG(D)I-40G**	**9IDG(D)I-40G-T**			Three phase 230	50					3000	300	42	1300		
(TP) **9IDG(D)J-40G**	**9IDG(D)J-40G-T**			Three phase 230	60					2600	260	37	1550		
(TP) **9IDG(D)K-40G**	**9IDG(D)K-40G-T**			Three phase 380	50	0.22	2600	260	37	3000	300	42	1300	-	-
(TP) **9IDG(D)L-40G**	**9IDG(D)L-40G-T**			Three phase 380	60					2600	260	37	1550		
(TP) **9IDG(D)M-40G**	**9IDG(D)M-40G-T**			Three phase 400	50	0.18	2600	260	37	3000	300	42	1300	-	-
(TP) **9IDG(D)N-40G**	**9IDG(D)N-40G-T**			Three phase 440	50					3000	300	42	1300		
(TP) **9IDG(D)O-40G**	**9IDG(D)O-40G-T**			Three phase 440	60					2600	260	37	1550		

* Enter the 'Phase & Voltage' code in the box(□) within the motor model name.
* 'Pinion Shaft' is for attaching gearhead and 'D-Cut Shaft' is for using motor only.
(TP) : Contains a built-in thermal protector. If a motor overheats for any reason the thermal protector opened and the motor stops. When the motor temperature drops, the thermal protector closes and the motor restarts. Be sure to turn the motor off before inspecting.

Permissible Torque When using gearhead

60Hz

Model	speed RPM (r/min)		900	600	500	360	300	240	200	180	144	120	100	72	60	50	45	36	30	24	20	18	15	12	10
Motor/Gearhead	Gear Ratio		**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**
9IDG□-40G	**9GBK□MH**	kgf cm	5.0	6.8	8.2	11.3	13.6	17.0	20.4	22.7	28.4	34.0	40.8	51.1	61.3	73.6	81.5	100	100	100	100	100	100	100	100
		N.m	0.50	0.68	0.82	1.13	1.36	1.70	2.04	2.27	2.84	3.40	4.08	5.11	6.1	7.4	8.2	10	10	10	10	10	10	10	10
		lb-in	4.4	6.0	7.2	10.0	12.0	15.0	18.0	20.0	25.1	30.0	36.0	45.1	54.1	65.0	72.0	88	88	88	88	88	88	88	88

50Hz

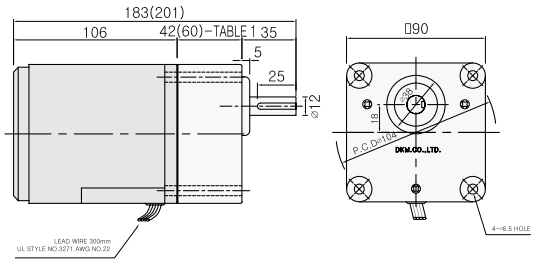
Model	speed RPM (r/min)		750	500	417	300	250	200	167	150	120	100	83	60	50	42	38	30	25	20	17	15	13	10	8
Motor/Gearhead	Gear Ratio		**2**	**3**	**3.6**	**5**	**6**	**7.5**	**9**	**10**	**12.5**	**15**	**18**	**25**	**30**	**36**	**40**	**50**	**60**	**75**	**90**	**100**	**120**	**150**	**180**
9IDG□-40G	**9GBK□MH**	kgf cm	6.0	8.3	9.9	13.8	16.5	20.7	24.8	27.5	34.4	41.3	49.6	62.1	74.5	89.4	99.1	100	100	100	100	100	100	100	100
		N.m	0.60	0.83	0.99	1.38	1.65	2.07	2.48	2.75	3.44	4.13	4.96	6.21	7.5	8.9	9.9	10	10	10	10	10	10	10	10
		lb-in	5.3	7.3	8.7	12.2	14.6	18.3	21.9	24.3	30.4	36.5	43.8	54.8	65.8	78.9	87.5	88	88	88	88	88	88	88	88

* Enter the gear ratio in the box (□) within the model name. A colored background indicates gear shaft rotation in the same direction as the motor shaft ; a white background indicates rotation in the opposite direction.
* The speed is calculated by dividing the motor's synchronous speed (50Hz : 1500 r/min, 60 Hz : 1800 r/min) by the gear ratio.
* If more slow speed is needed than above value, use decimal gearhead with a gear ratio of 10:1 could be used between general gearhead and motor. Even in this case, just speed will be reduced without increase in permissible torque; the maximum permissible torque is 100kgfcm (10N.m, 88lb-in).

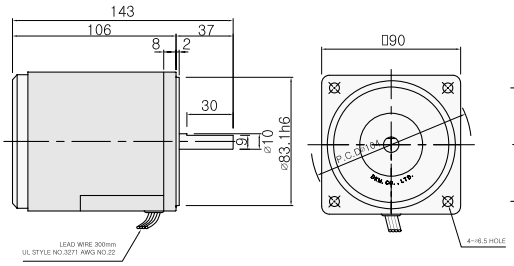
Dimension

LEAD WIRE TYPE

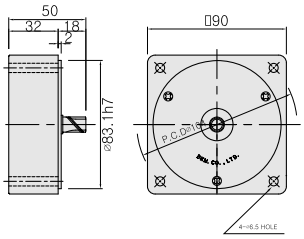
◆ GEARED MOTOR ＊MOTOR MODEL : 9IDG□-40G(NO FAN)
＊GEARHEAD MODEL : 9GB□3MH - 9GB□180MH



◆ MOTOR ONLY
＊MOTOR MODEL : 9ID□□-40 (NO FAN)

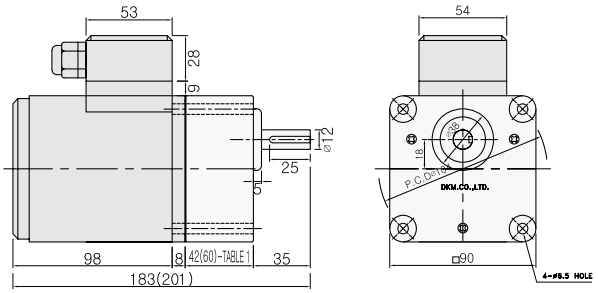


◆ INTER-DECIMAL GEARHEAD
＊MODEL : 9XD10M□

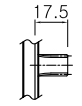
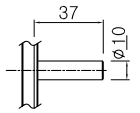
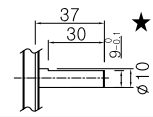
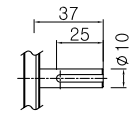


TERMINAL BOX TYPE

＊MOTOR MODEL : 9IDG□-40G(NO FAN)



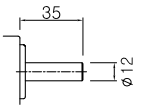
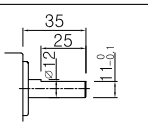
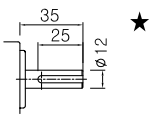
◆ MOTOR OUTPUT

MODEL	SHAFT
GEAR TYPE 9IDG□-40G	
ROUND TYPE 9IDS□-40	
D-CUT TYPE 9IDD□-40	
KEY TYPE 9IDK□-40	

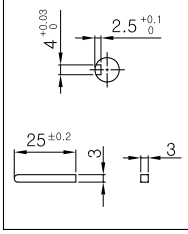
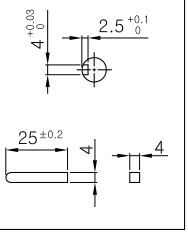
◆ 42(60)-TABLE1

SIZE(mm)	GEAR RATIO
42	9GB□3MH - 9GB□15MH
60	9GB□18MH - 9GB□180MH

◆ GEARHEAD OUTPUT

MODEL	SHAFT
ROUND TYPE 9GBS3MH ~9GBS180MH	
D-CUT TYPE 9GBD3MH ~9GBD180MH	
KEY TYPE 9GBK3MH ~9GBK180MH	

◆ KEY SPEC

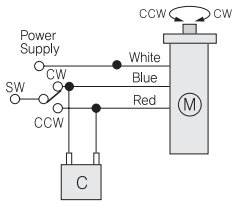
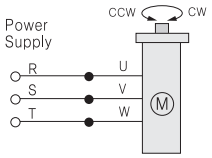
MOTOR	GEARHEAD
	

◆ WEIGHT

PART		WEIGHT(Kg)
MOTOR		2.4
DECIMAL GEARHEAD		0.5
GEAR HEAD	9GB□3MH - 9GB□15MH	0.67
	9GB□18MH - 9GB□30MH	0.96
	9GB□36MH - 9GB□180MH	1.07

＊Note : Above table indicates output shaft dimension made by user's request and ★ indicates the basic dimension in factory shipping.

Connection Diagrams

Single phase (CW, CCW)	Three phase (CW, CCW)
	
CW : To rotate the motor in a clockwise(CW) direction, flip switch SW to CW. CCW : To rotate it in a counterclockwise (CCW) direction, flip switch SW to CCW.	CCW : To change the rotation direction, change any connections between U,V and W.

- 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.
- Connection diagrams are also valid for the equivalent round shaft type.
- 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.

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INDUCTION MOTOR
60W

□90mm(3.54in.)

LEAD WIRE TYPE MOTOR
+ PB TYPE GEARHEAD

LEAD WIRE TYPE MOTOR
+ PF TYPE GEARHEAD

TERMINAL BOX TYPE MOTOR
+ PF TYPE GEARHEAD

Motor Specification

CE

Model 9IDG□-60FP : Pinion Shaft Type 9IDD□-60F : D-Cut Shaft Type		Output		Voltage	Freq.	Current	Starting Torque			Rated Torque			Rated Speed	Capacitor	
Lead Wire Type	Terminal Box Type	HP	W	VAC	Hz	A	gfcm	mN.m	oz-in	gfcm	mN.m	oz-in	r/min	μF	VAC
(TP) **9IDG(D)A-60FP**	**9IDG(D)A-60FP-T**	1/12	60	Single Phase 110	60	1.20	3000	300	42	3800	380	54	1550	16	250
(TP) **9IDG(D)B-60FP**	**9IDG(D)B-60FP-T**			Single Phase 115	60										
(TP) **9IDG(D)C-60FP**	**9IDG(D)C-60FP-T**			Single Phase 220	50	0.60	3000	300	42	4560	456	65	1300	4.0	400
(TP) **9IDG(D)D-60FP**	**9IDG(D)D-60FP-T**			Single Phase 220	60					3800	380	54	1550		
(TP) **9IDG(D)E-60FP**	**9IDG(D)E-60FP-T**			Single Phase 230	50					4560	456	65	1300		
(TP) **9IDG(D)F-60FP**	**9IDG(D)F-60FP-T**			Single Phase 230	60					3800	380	54	1550		
(TP) **9IDG(D)G-60FP**	**9IDG(D)G-60FP-T**			Three phase 220	50	0.60	5000	500	71	4560	456	65	1300	-	-
(TP) **9IDG(D)H-60FP**	**9IDG(D)H-60FP-T**			Three phase 220	60					3800	380	54	1550		
(TP) **9IDG(D)I-60FP**	**9IDG(D)I-60FP-T**			Three phase 230	50					4560	456	65	1300		
(TP) **9IDG(D)J-60FP**	**9IDG(D)J-60FP-T**			Three phase 230	60					3800	380	54	1550		
(TP) **9IDG(D)K-60FP**	**9IDG(D)K-60FP-T**			Three phase 380	50	0.38	5000	500	71	4560	456	65	1300	-	-
(TP) **9IDG(D)L-60FP**	**9IDG(D)L-60FP-T**			Three phase 380	60					3800	380	54	1550		
(TP) **9IDG(D)M-60FP**	**9IDG(D)M-60FP-T**			Three phase 400	50	0.27	5000	500	71	4560	456	65	1300	-	-
(TP) **9IDG(D)N-60FP**	**9IDG(D)N-60FP-T**			Three phase 440	50					4560	456	65	1300		
(TP) **9IDG(D)O-60FP**	**9IDG(D)O-60FP-T**			Three phase 440	60					3800	380	54	1550		

* Enter the 'Phase & Voltage' code in the box(□) within the motor model name.
* 'Pinion Shaft' is for attaching gearhead and 'D-Cut Shaft' is for using motor only.
(TP) : Contains a built-in thermal protector. If a motor overheats for any reason the thermal protector opened and the motor stops. When the motor temperature drops, the thermal protector closes and the motor restarts. Be sure to turn the motor off before inspecting.

Permissible Torque When using gearhead

60Hz

Model	speed RPM (r/min)		900	600	500	360	300	240	200	144	120	100	90	72	60	50	45	36	30	24	20	18	15	12	10
Motor/Gearhead	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**
9IDG□-60FP	**9PBK□BH** / **9PFK□BH**	kgf cm	7.5	9.7	11.7	16.2	19.4	24.3	29.2	36.5	43.8	52.6	59.0	66.0	79.2	95	106	132	158	177	200	200	200	200	200
		N.m	0.8	1.0	1.2	1.6	1.9	2.4	2.9	3.7	4.4	5.3	5.9	6.6	7.9	9.5	10.6	13.2	15.8	17.7	20	20	20	20	20
		lb-in	6.6	8.6	10	14	17	21	26	32	39	46	52	58	70	84	94	117	140	156	177	177	177	177	177

50Hz

Model	speed RPM (r/min)		750	500	417	300	250	200	167	120	100	83	75	60	50	42	38	30	25	20	17	15	13	10	8
Motor/Gearhead	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**
9IDG□-60FP	**9PBK□BH** / **9PFK□BH**	kgf cm	10.0	12.2	14.6	20.3	24	30	37	46	55	66	72	83	99	119	132	165	198	200	200	200	200	200	200
		N.m	1.0	1.2	1.5	2.0	2.4	3.0	3.7	4.6	5.5	6.6	7.2	8.3	9.9	11.9	13.2	16.5	20	20	20	20	20	20	20
		lb-in	8.8	10.8	12.9	17.9	21.5	26.8	32.2	40.3	48.4	58.0	63.6	72.8	87	105	117	146	175	177	177	177	177	177	177

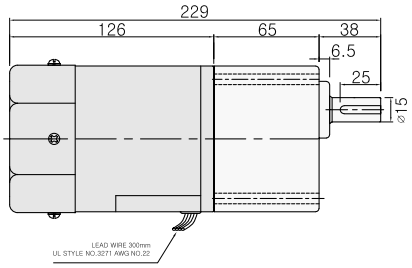
* Enter the gear ratio in the box (□) within the model name. A colored background indicates gear shaft rotation in the same direction as the motor shaft ; a white background indicates rotation in the opposite direction.
* The speed is calculated by dividing the motor's synchronous speed (50Hz : 1500 r/min, 60 Hz : 1800 r/min) by the gear ratio.
* The actual speed is 2~20% less than the displayed value, depending on the size of the load.
* If more slow speed is needed than above value, use decimal gearhead with a gear ratio of 10:1 could be used between general gearhead and motor. Even in this case, just speed will be reduced without increase in permissible torque; the maximum permissible torque is 200kgfcm (20N.m, 177lb-in).

Dimension

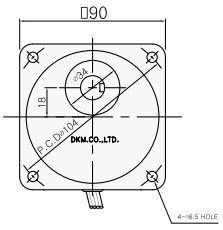
LEAD WIRE TYPE

◆ GEARED MOTOR

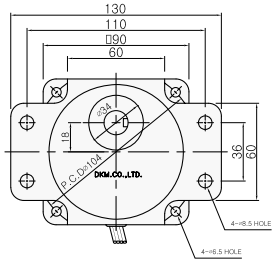
* MOTOR MODEL : 9IDG□-60FP (GENERAL FAN)



* GEARHEAD MODEL :
9PB□ 3BH - 9PB□180BH

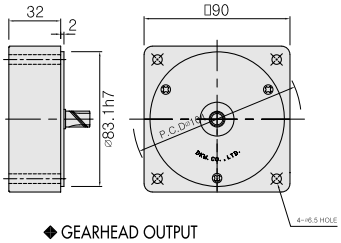


* GEARHEAD MODEL :
9PF□ 3BH - 9PF□180BH



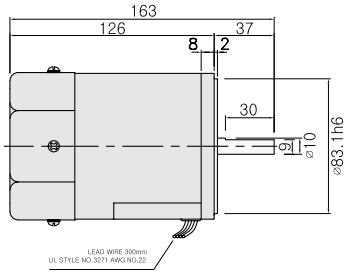
◆ INTER-DECIMAL GEARHEAD

* MODEL : 9XD10M□

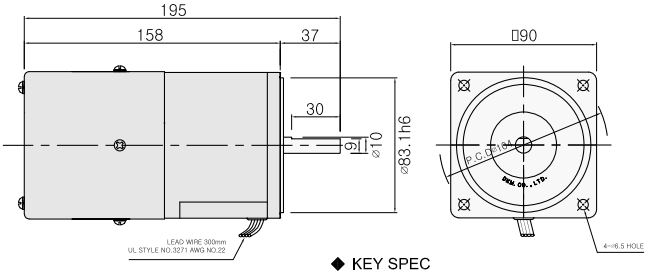


◆ MOTOR ONLY

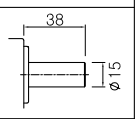
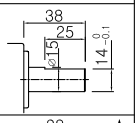
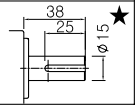
* MOTOR MODEL : 9ID□□-60F (GENERAL FAN)



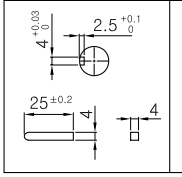
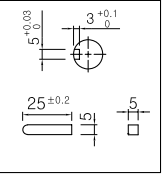
* MOTOR MODEL : 9ID□□-60F2 (POWERFUL FAN)



◆ GEARHEAD OUTPUT

MODEL	SHAFT
ROUND TYPE 9P□S3BH ~9P□S180BH	
D-CUT TYPE 9P□D3BH ~9P□D180BH	
KEY TYPE 9P□K3BH ~9P□K180BH	

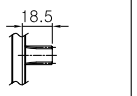
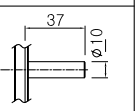
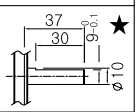
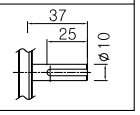
◆ KEY SPEC

MOTOR	GEARHEAD
	

◆ WEIGHT

PART		WEIGHT(Kg)
MOTOR		2.6
DECIMAL GEARHEAD		0.5
GEAR HEAD	9P□□ 3BH - 9P□□9BH	1.3
	9P□□ 12.5BH - 9P□□18BH	1.3
	9P□□ 25BH - 9P□□60BH	1.4
	9P□□ 90BH - 9P□□180BH	1.4

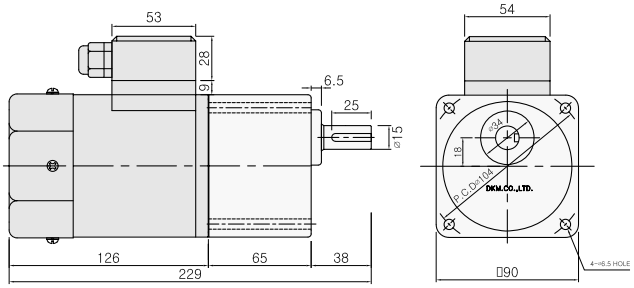
◆ MOTOR OUTPUT

MODEL	SHAFT
GEAR TYPE 9IDG□-60□ P	
ROUND TYPE 9IDS□-60□	
D-CUT TYPE 9IDD□-60□	
KEY TYPE 9IDK□-60□	

* Note : Above table indicates output shaft dimension made by user' s request and ★ indicates the basic dimension in factory shipping.

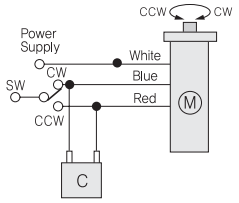
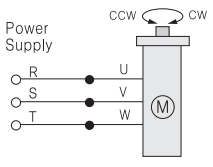
TERMINAL BOX TYPE

* MOTOR MODEL : 9IDG□-60FP-T (GENERAL FAN)



* Note : There are 2 kinds of fan type (General Fan / Powerful Fan).
Customer can choose fan type according to wanted rating time.

Connection Diagrams

Single phase (CW, CCW)	Three phase (CW, CCW)
	
CW : To rotate the motor in a clockwise(CW) direction, flip switch SW to CW. CCW : To rotate it in a counterclockwise (CCW) direction, flip switch SW to CCW.	CCW : To change the rotation direction, change any connections between U,V and W.

- 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.
- Connection diagrams are also valid for the equivalent round shaft type.
- 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.

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INDUCTION MOTOR
90W

□90mm(3.54in.)

LEAD WIRE TYPE MOTOR
+ PB TYPE GEARHEAD

LEAD WIRE TYPE MOTOR
+ PF TYPE GEARHEAD

TERMINAL BOX TYPE MOTOR
+ PF TYPE GEARHEAD

LEAD WIRE TYPE MOTOR
+ HB TYPE GEARHEAD

Motor Specification

Model 9IDG□-90FP(H) : Pinion Shaft Type 9IDD□-90F : D-Cut Shaft Type		Output	Voltage	Freq.	Current	Starting Torque			Rated Torque			Rated Speed	Capacitor	
Lead Wire Type	Terminal Box Type	HP W	VAC	Hz	A	gfcm	mN.m	oz-in	gfcm	mN.m	oz-in	r/min	μF	VAC
(TP) **9IDG(D)A-90FP(H)**	**9IDG(D)A-90FP(H)-T**	1/8 90	Single Phase 110	60	2.00	4500	450	64	5700	570	81	1550	20	250
(TP) **9IDG(D)B-90FP(H)**	**9IDG(D)B-90FP(H)-T**		Single Phase 115	60										
(TP) **9IDG(D)C-90FP(H)**	**9IDG(D)C-90FP(H)-T**		Single Phase 220	50	1.00	4500	450	64	6840	684	97	1300	5.0	400
(TP) **9IDG(D)D-90FP(H)**	**9IDG(D)D-90FP(H)-T**		Single Phase 220	60					5700	570	81	1550		
(TP) **9IDG(D)E-90FP(H)**	**9IDG(D)E-90FP(H)-T**		Single Phase 230	50					6840	684	97	1300		
(TP) **9IDG(D)F-90FP(H)**	**9IDG(D)F-90FP(H)-T**		Single Phase 230	60					5700	570	81	1550		
(TP) **9IDG(D)G-90FP(H)**	**9IDG(D)G-90FP(H)-T**		Three phase 220	50	0.80	7000	700	99	6840	684	97	1300	-	-
(TP) **9IDG(D)H-90FP(H)**	**9IDG(D)H-90FP(H)-T**		Three phase 220	60					5700	570	81	1550		
(TP) **9IDG(D)I-90FP(H)**	**9IDG(D)I-90FP(H)-T**		Three phase 230	50					6840	684	97	1300		
(TP) **9IDG(D)J-90FP(H)**	**9IDG(D)J-90FP(H)-T**		Three phase 230	60					5700	570	81	1550		
(TP) **9IDG(D)K-90FP(H)**	**9IDG(D)K-90FP(H)-T**		Three phase 380	50	0.44	7000	700	99	6840	684	97	1300	-	-
(TP) **9IDG(D)L-90FP(H)**	**9IDG(D)L-90FP(H)-T**		Three phase 380	60					5700	570	81	1550		
(TP) **9IDG(D)M-90FP(H)**	**9IDG(D)M-90FP(H)-T**		Three phase 400	50	0.36	7000	700	99	6840	684	97	1300	-	-
(TP) **9IDG(D)N-90FP(H)**	**9IDG(D)N-90FP(H)-T**		Three phase 440	50					6840	684	97	1300		
(TP) **9IDG(D)O-90FP(H)**	**9IDG(D)O-90FP(H)-T**		Three phase 440	60					5700	570	81	1550		

* Enter the 'Phase & Voltage' code in the box(□) within the motor model name.
* 'Pinion Shaft' is for attaching gearhead and 'D-Cut Shaft' is for using motor only.

(TP) : Contains a built-in thermal protector. If a motor overheats for any reason the thermal protector opened and the motor stops. When the motor temperature drops, the thermal protector closes and the motor restarts. Be sure to turn the motor off before inspecting.

Permissible Torque When using gearhead

60Hz

Model	speed RPM (r/min)		900	600	500	360	300	240	200	144	120	100	90	72	60	50	45	36	30	24	20	18	15	12	10
Motor/Gearhead	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**
9IDG□-90FP / **9PBK□BH** **9PFK□BH**		kgf cm	12	14.6	17.5	24.3	29.2	36.5	43.7	54.8	65.7	78.8	88.0	99	119	143	158	198	200	200	200	200	200	200	200
		N.m	1.2	1.5	1.8	2.4	2.9	3.7	4.4	5.5	6.6	7.9	8.8	9.9	12	14	16	20	20	20	20	20	20	20	20
		lb-in	10.6	12.9	15.5	21.5	25.8	32.2	38.6	48.4	58.0	69.6	77.7	87.4	105	126	140	175	177	177	177	177	177	177	177
9IDG□-90FH / **9HBK□BH**		kgf cm																198	232	259	300	300	300	300	300
		N.m	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20	23	26	30	30	30	30	30
		lb-in																175	205	229	265	265	265	265	265

50Hz

Model	speed RPM (r/min)		750	500	417	300	250	200	167	120	100	83	75	60	50	42	38	30	25	20	17	15	13	10	8
Motor/Gearhead	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**
9IDG□-90FP / **9PBK□BH** **9PFK□BH**		kgf cm	15	18.2	21.9	30.4	36.5	45.6	54.7	68.4	82.1	98.6	110	124	150	180	199	200	200	200	200	200	200	200	200
		N.m	1.5	1.8	2.2	3.0	3.7	4.6	5.5	6.8	8.2	9.9	11	12	15	18	20	20	20	20	20	20	20	20	20
		lb-in	13.2	16.1	19.3	26.8	32.2	40.3	48.3	60	72	87	97	109	132	159	176	177	177	177	177	177	177	177	177
9IDG□-90FH / **9HBK□BH**		kgf cm																241	289	300	300	300	300	300	300
		N.m	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24	29	30	30	30	30	30	30
		lb-in																213	255	265	265	265	265	265	265

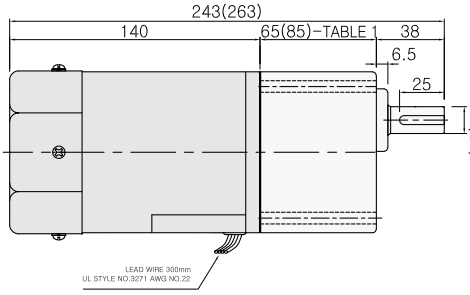
* Enter the gear ratio in the box (□) within the gearhead model name. A colored background indicates gear shaft rotation in the same direction as the motor shaft ; a white background indicates rotation in the opposite direction.
* The speed is calculated by dividing the motor' s synchronous speed (50Hz : 1500 r/min, 60 Hz : 1800 r/min) by the gear ratio.
* The actual speed is 2~20% less than the displayed value, depending on the size of the load.
* If more slow speed is needed than above value, use decimal gearhead with a gear ratio of 10:1 could be used between general gearhead and motor. Even in this case, just speed will be reduced without increase in permissible torque; the maximum permissible torque is 200kgfcm (P type) / 300kgfcm (H type).

Dimension

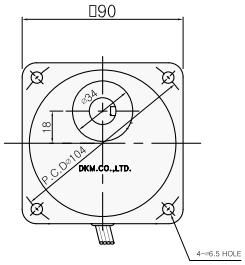
LEAD WIRE TYPE

◆ GEARED MOTOR

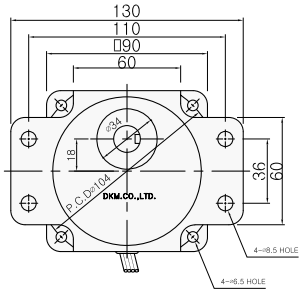
* MOTOR MODEL : 9IDG□-90FP(H)(GENERAL FAN)



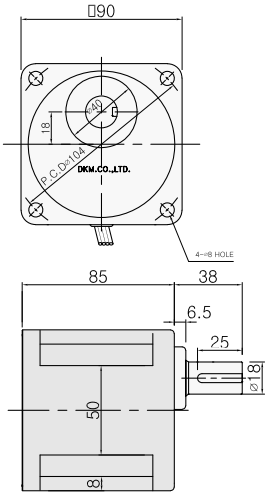
* GEARHEAD MODEL :
9PB□3BH - 9PB□180BH



* GEARHEAD MODEL :
9PF□3BH - 9PF□180BH

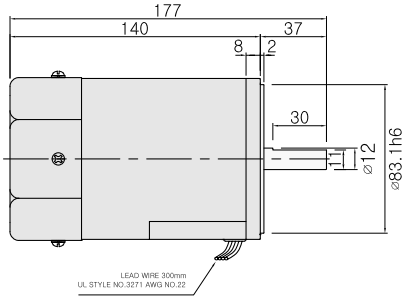


* GEARHEAD MODEL :
9HB□3BH - 9HB□180BH

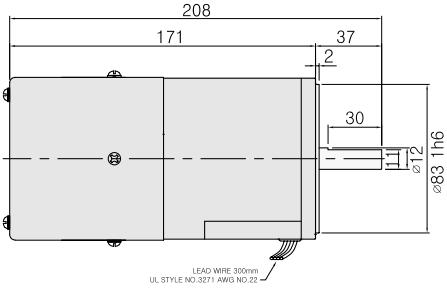


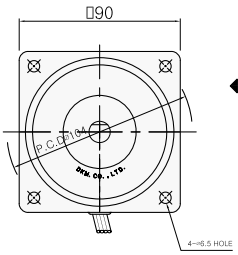
◆ MOTOR ONLY

* MOTOR MODEL : 9ID□□-90F(GENERAL FAN)



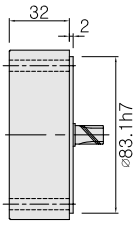
* MOTOR MODEL : 9ID□□-90F2 (POWERFUL FAN)

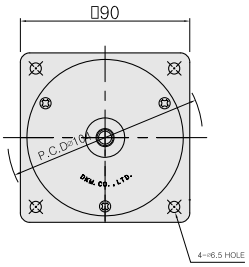




◆ INTER-DECIMAL GEARHEAD

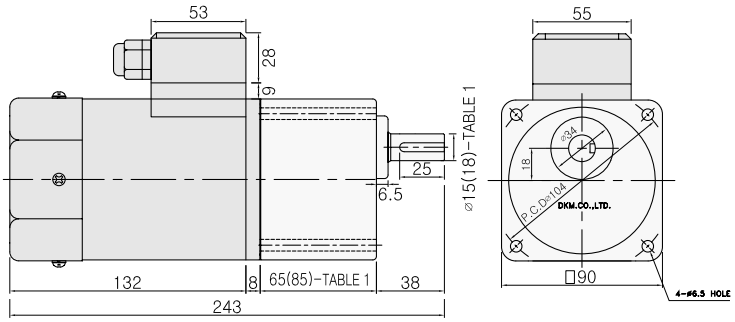
* MODEL : 9XD10M□





TERMINAL BOX TYPE

* MOTOR MODEL :
9IDG□-90FP(H)-T (GENERAL FAN)

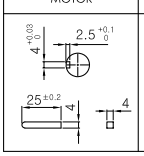
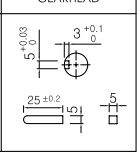


* Note : There are 2 kinds of fan type (General Fan / Powerful Fan). Customer can choose fan type according to wanted rating time.

◆ 65(85)-TABLE1

SIZE(mm)	GEARHEAD TYPE
65 – ø15	P TYPE GEARHEAD
85 – ø18	H TYPE GEARHEAD

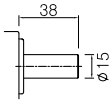
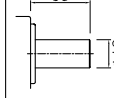
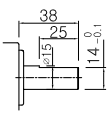
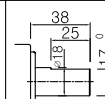
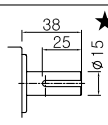
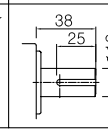
◆ KEY SPEC

MOTOR	GEARHEAD
	

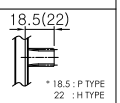
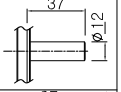
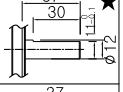
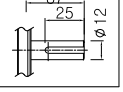
◆ WEIGHT

PART		WEIGHT(Kg)	
MOTOR		3.0	
DECIMAL GEARHEAD		0.5	
GEAR HEAD	GEARHEAD TYPE	P TYPE	H TYPE
	9P(H)□□ 3BH - 9P(H)□□9BH	1.3	1.45
	9P(H)□□ 12.5BH - 9P(H)□□18BH	1.3	1.5
	9P(H)□□ 25BH - 9P(H)□□60BH	1.4	1.7
	9P(H)□□ 90BH - 9P(H)□□180BH	1.4	1.8

◆ GEARHEAD OUTPUT

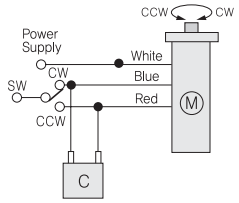
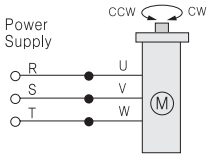
MODEL	P TYPE	H TYPE
ROUND TYPE 9P(H)□S3BH ~9P(H)□S180BH		
D-CUT TYPE 9P(H)□D3BH ~9P(H)□D180BH		
KEY TYPE 9P(H)□K3BH ~9P(H)□K180BH		

◆ MOTOR OUTPUT

MODEL	SHAFT
GEAR TYPE 9IDG□-90□P(H)	
ROUND TYPE 9IDS□-90□	
D-CUT TYPE 9IDD□-90□	
KEY TYPE 9IDK□-90□	

* Note : Above table indicates output shaft dimension made by user's request and ★ indicates the basic dimension in factory shipping.

Connection Diagrams

Single phase (CW, CCW)	Three phase (CW, CCW)
	
CW : To rotate the motor in a clockwise(CW) direction, flip switch SW to CW. CCW : To rotate it in a countercloc kwise (CCW) direction, flip switch SW to CCW.	CCW : To change the rotation direction, change any connections between U,V and W.

- 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.
- Connection diagrams are also valid for the equivalent round shaft type.
- 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.

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INDUCTION MOTOR
120W

□90mm(3.54in.)

LEAD WIRE TYPE MOTOR
+ PB TYPE GEARHEAD

LEAD WIRE TYPE MOTOR
+ PF TYPE GEARHEAD

TERMINAL BOX TYPE MOTOR
+ PF TYPE GEARHEAD

LEAD WIRE TYPE MOTOR
+ HB TYPE GEARHEAD

Motor Specification

CE

Model (9IDG□-120FP(H) : Pinion Shaft Type, 9IDD□-120F : D-Cut Shaft Type)		Output		Voltage	Freq.	Current	Starting Torque			Rated Torque			Rated Speed	Capacitor	
Lead Wire Type	Terminal Box Type	HP	W	VAC	Hz	A	gfcm	mN.m	oz-in	gfcm	mN.m	oz-in	r/min	μF	VAC
(TP) **9IDG(D)A-120FP(H)**	**9IDG(D)A-120FP(H)-T**	1/6	120	Single Phase 110	60	2.50	5900	590	83	7600	760	108	1550	25	250
(TP) **9IDG(D)B-120FP(H)**	**9IDG(D)B-120FP(H)-T**			Single Phase 115	60										
(TP) **9IDG(D)C-120FP(H)**	**9IDG(D)C-120FP(H)-T**			Single Phase 220	50	1.20	5900	590	83	9100	910	129	1300	6	400
(TP) **9IDG(D)D-120FP(H)**	**9IDG(D)D-120FP(H)-T**			Single Phase 220	60					7600	760	108	1550		
(TP) **9IDG(D)E-120FP(H)**	**9IDG(D)E-120FP(H)-T**			Single Phase 230	50					9100	910	129	1300		
(TP) **9IDG(D)F-120FP(H)**	**9IDG(D)F-120FP(H)-T**			Single Phase 230	60					7600	760	108	1550		
(TP) **9IDG(D)G-120FP(H)**	**9IDG(D)G-120FP(H)-T**			Three phase 220	50	1.00	9300	930	132	9100	910	129	1300	-	-
(TP) **9IDG(D)H-120FP(H)**	**9IDG(D)H-120FP(H)-T**			Three phase 220	60					7600	760	108	1550		
(TP) **9IDG(D)I-120FP(H)**	**9IDG(D)I-120FP(H)-T**			Three phase 230	50					9100	910	129	1300		
(TP) **9IDG(D)J-120FP(H)**	**9IDG(D)J-120FP(H)-T**			Three phase 230	60					7600	760	108	1550		
(TP) **9IDG(D)K-120FP(H)**	**9IDG(D)K-120FP(H)-T**			Three phase 380	50	0.55	9300	930	132	9100	910	129	1300	-	-
(TP) **9IDG(D)L-120FP(H)**	**9IDG(D)L-120FP(H)-T**			Three phase 380	60					7600	760	108	1550		
(TP) **9IDG(D)M-120FP(H)**	**9IDG(D)M-120FP(H)-T**			Three phase 400	50	0.54	9300	930	132	9100	910	129	1300	-	-
(TP) **9IDG(D)N-120FP(H)**	**9IDG(D)N-120FP(H)-T**			Three phase 440	50					9100	910	129	1300		
(TP) **9IDG(D)O-120FP(H)**	**9IDG(D)O-120FP(H)-T**			Three phase 440	60					7600	760	108	1550		

* Enter the 'Phase & Voltage' code in the box(□) within the motor model name.
* 'Pinion Shaft' is for attaching gearhead and 'D-Cut Shaft' is for using motor only.
(TP) : Contains a built-in thermal protector. If a motor overheats for any reason the thermal protector opened and the motor stops. When the motor temperature drops, the thermal protector closes and the motor restarts. Be sure to turn the motor off before inspecting.

Permissible Torque When using gearhead

60Hz

Model	speed RPM (r/min)		900	600	500	360	300	240	200	144	120	100	90	72	60	50	45	36	30	24	20	18	15	12	10
Motor/Gearhead	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**
9IDG□-120FP / **9PBK□BH** **9PFK□BH**		kgf cm	17.5	18.7	22.5	31.2	37.4	46.8	56.1	70.2	84.2	101	114	126	152	182	200	200	200	200	200	200	200	200	200
		N.m	1.8	1.9	2.3	3.1	3.7	4.7	5.6	7.0	8.4	10.1	11.4	12.6	15	18	20	20	20	20	20	20	20	20	20
		lb-in	15.5	16.5	19.9	27.5	33.2	41.3	49.5	62.0	74	89	101	111	134	161	177	177	177	177	177	177	177	177	177
9IDG□-120FH / **9HBK□BH**		kgf cm	-	20.6	24.8	-	41.1	-	61.7	77.2	93	111	-	139	167	200	-	220	240	300	300	300	300	300	300
		N.m	-	2.1	2.5	-	4.1	-	6.2	7.7	9.3	11.1	-	13.9	16.7	20.0	-	22	24	30	30	30	30	30	30
		lb-in	-	18.2	21.9	-	36.3	-	54.5	68.2	81.8	98.1	-	122	148	177	-	194	212	265	265	265	265	265	265

50Hz

Model	speed RPM (r/min)		750	500	417	300	250	200	167	120	100	83	75	60	50	42	38	30	25	20	17	15	13	10	8
Motor/Gearhead	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**
9IDG□-120FP / **9PBK□BH** **9PFK□BH**		kgf cm	22.0	23.2	27.8	37.8	46.4	58.0	69.6	87.0	104	125	140	156	188	200	200	200	200	200	200	200	200	200	200
		N.m	2.20	2.32	2.78	3.87	4.64	5.80	6.96	8.7	10.4	12.5	14.0	15.6	19	20	20	20	20	20	20	20	20	20	20
		lb-in	19.4	20.5	24.5	34.2	41.0	51.2	61.5	76.8	92	110	124	138	166	177	177	177	177	177	177	177	177	177	177
9IDG□-120FH / **9HBK□BH**		kgf cm	-	25.5	30.6	-	51.0	-	76.6	95.7	114	138	-	172	207	220	-	240	260	300	300	300	300	300	300
		N.m	-	2.6	3.1	-	5.1	-	7.7	9.6	11.4	13.8	-	17.2	20.7	22	-	24	26	30	30	30	30	30	30
		lb-in	-	22.5	27.0	-	45.1	-	67.6	84.5	101	121	-	152	182	194	-	212	230	265	265	265	265	265	265

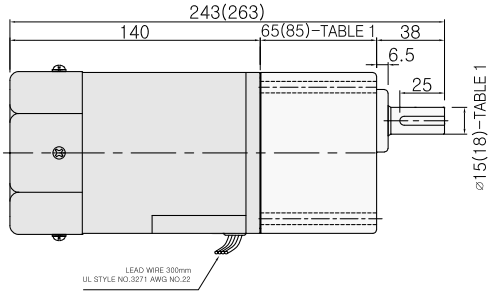
* Enter the gear ratio in the box (□) within the gearhead model name. A colored background indicates gear shaft rotation in the same direction as the motor shaft ; a white background indicates rotation in the opposite direction.
* The speed is calculated by dividing the motor' s synchronous speed (50Hz : 1500 r/min, 60 Hz : 1800 r/min) by the gear ratio.
* The actual speed is 2~20% less than the displayed value, depending on the size of the load.
* If more slow speed is needed than above value, use decimal gearhead with a gear ratio of 10:1 could be used between general gearhead and motor. Even in this case, just speed will be reduced without increase in permissible torque; the maximum permissible torque is 200kgfcm (P type) / 300kgfcm (H type).

Dimension

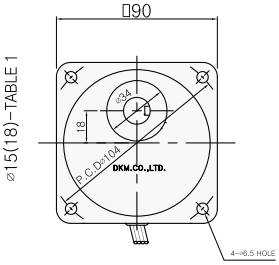
LEAD WIRE TYPE

◆ GEARED MOTOR

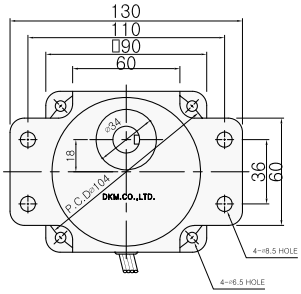
* MOTOR MODEL : 9IDG□-120FP(H) (GENERAL FAN)



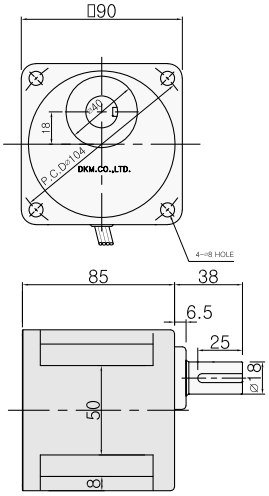
* GEARHEAD MODEL :
9PB □ 3BH - 9PB □180BH



* GEARHEAD MODEL :
9PF □ 3BH - 9PF □180BH

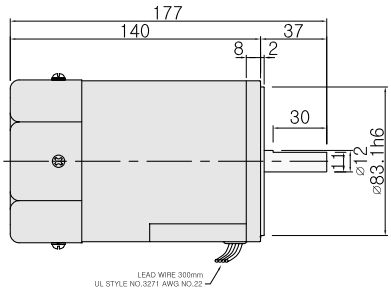


* GEARHEAD MODEL :
9HB □ 3BH - 9HB □180BH

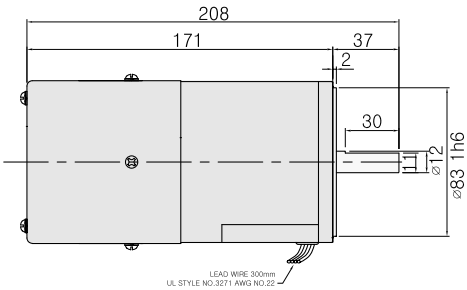


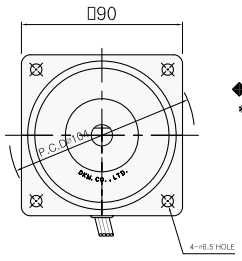
◆ MOTOR ONLY

* MOTOR MODEL : 9ID□□-120F (GENERAL FAN)



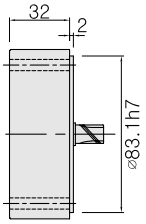
* MOTOR MODEL : 9ID□□-120F2 (POWERFUL FAN)





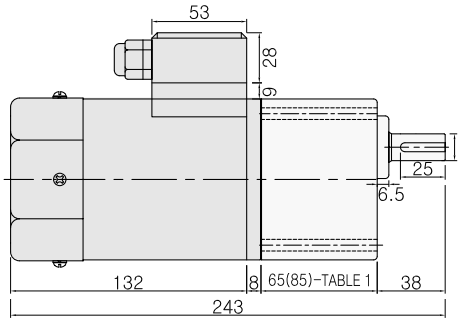
◆ INTER-DECIMAL GEARHEAD

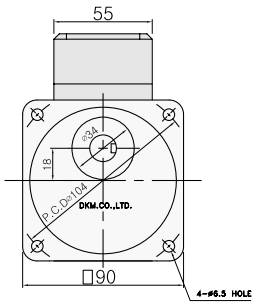
* MODEL : 9XD10M□

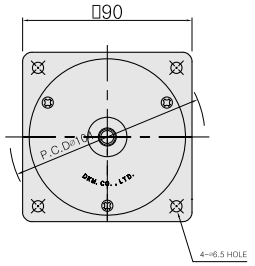


TERMINAL BOX TYPE

* MOTOR MODEL :
9IDG□-120FP(H)-T (GENERAL FAN)





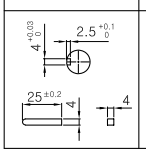
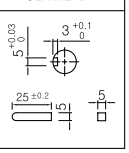


* Note : There are 2 kinds of fan type (General Fan / Powerful Fan). Customer can choose fan type according to wanted rating time.

◆ 65(85)-TABLE1

SIZE(mm)	GEARHEAD TYPE
65 – ø15	P TYPE GEARHEAD
85 – ø18	H TYPE GEARHEAD

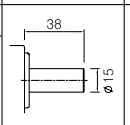
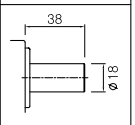
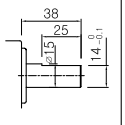
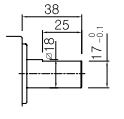
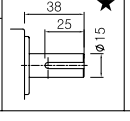
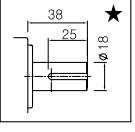
◆ KEY SPEC

MOTOR	GEARHEAD
	

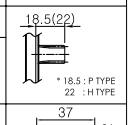
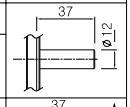
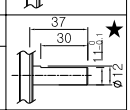
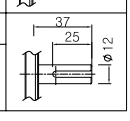
◆ WEIGHT

PART		WEIGHT(Kg)	
MOTOR		3.0	
DECIMAL GEARHEAD		0.5	
GEAR HEAD	GEARHEAD TYPE	P TYPE	H TYPE
	9P(H)□□ 3BH - 9P(H)□□9BH	1.3	1.45
	9P(H)□□ 12.5BH - 9P(H)□□18BH	1.3	1.5
	9P(H)□□ 25BH - 9P(H)□□60BH	1.4	1.7
	9P(H)□□ 90BH - 9P(H)□□180BH	1.4	1.8

◆ GEARHEAD OUTPUT

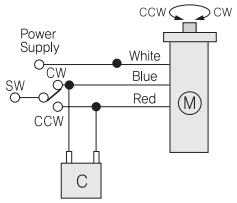
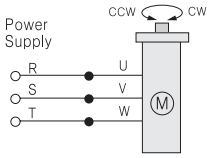
MODEL	P TYPE	H TYPE
ROUND TYPE 9P(H)□S3BH ~9P(H)□S180BH		
D-CUT TYPE 9P(H)□D3BH ~9P(H)□D180BH		
KEY TYPE 9P(H)□K3BH ~9P(H)□K180BH		

◆ MOTOR OUTPUT

MODEL	SHAFT
GEAR TYPE 9IDG□-120□ P(H)	
ROUND TYPE 9IDS□-120□	
D-CUT TYPE 9IDD□-120□	
KEY TYPE 9IDK□-120□	

* Note : Above table indicates output shaft dimension made by user' s request and ★ indicates the basic dimension in factory shipping.

Connection Diagrams

Single phase (CW, CCW)	Three phase (CW, CCW)
	
CW : To rotate the motor in a clockwise(CW) direction, flip switch SW to CW. CCW : To rotate it in a countercloc kwise (CCW) direction, flip switch SW to CCW.	CCW : To change the rotation direction, change any connections between U,V and W.

- 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.
- Connection diagrams are also valid for the equivalent round shaft type.
- 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.

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INDUCTION MOTOR
150W

□90mm(3.54in.)

LEAD WIRE TYPE MOTOR
+ PB TYPE GEARHEAD

LEAD WIRE TYPE MOTOR
+ PF TYPE GEARHEAD

TERMINAL BOX TYPE MOTOR
+ PF TYPE GEARHEAD

LEAD WIRE TYPE MOTOR
+ HB TYPE GEARHEAD

Motor Specification

CE

Model 9IDG□-150FP(H) : Pinion Shaft Type 9IDD□-150F : D-Cut Shaft Type		Output		Voltage	Freq.	Current	Starting Torque			Rated Torque			Rated Speed	Capacitor	
Lead Wire Type	Terminal Box Type	HP	W	VAC	Hz	A	gfcm	mN.m	oz-in	gfcm	mN.m	oz-in	r/min	μF	VAC
(TP) **9IDG(D)G-150FP(H)**	**9IDG(D)G-150FP(H)-T**	1/5	150	Three phase 220	50	1.02	11400	1140	161	11000	1100	156	1300	–	–
(TP) **9IDG(D)H-150FP(H)**	**9IDG(D)H-150FP(H)-T**			Three phase 220	60					9300	930	132	1550		
(TP) **9IDG(D)I-150FP(H)**	**9IDG(D)I-150FP(H)-T**			Three phase 230	50					11000	1100	156	1300		
(TP) **9IDG(D)J-150FP(H)**	**9IDG(D)J-150FP(H)-T**			Three phase 230	60					9300	930	132	1550		
(TP) **9IDG(D)K-150FP(H)**	**9IDG(D)K-150FP(H)-T**			Three phase 380	50	0.66	11400	1140	161	11000	1100	156	1300	–	–
(TP) **9IDG(D)L-150FP(H)**	**9IDG(D)L-150FP(H)-T**			Three phase 380	60					9300	930	132	1550		
(TP) **9IDG(D)M-150FP(H)**	**9IDG(D)M-150FP(H)-T**			Three phase 400	50	0.54	11400	1140	161	11000	1100	156	1300	–	–
(TP) **9IDG(D)N-150FP(H)**	**9IDG(D)N-150FP(H)-T**			Three phase 440	50					11000	1100	156	1300		
(TP) **9IDG(D)O-150FP(H)**	**9IDG(D)O-150FP(H)-T**			Three phase 440	60					9300	930	132	1550		

* Enter the 'Phase & Voltage' code in the box(□) within the motor model name.
* 'Pinion Shaft' is for attaching gearhead and 'D-Cut Shaft' is for using motor only.
(TP) : Contains a built-in thermal protector. If a motor overheats for any reason the thermal protector opened and the motor stops. When the motor temperature drops, the thermal protector closes and the motor restarts. Be sure to turn the motor off before inspecting.

Permissible Torque When using gearhead

60Hz

Model	speed RPM (r/min)		900	600	500	360	300	240	200	144	120	100	90	72	60	50	45	36	30	24	20	18	15	12	10
Motor/Gearhead	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**
9IDG□-150FP / **9PBK□BH** **9PFK□BH**		kgf cm	19	23.2	27.8	38.7	46.4	58.0	69.6	87	104	125	135	156	188	200	200	200	200	200	200	200	200	200	200
		N.m	1.9	2.3	2.8	3.9	4.6	5.8	7.0	8.7	10.4	12.5	13.5	15.6	19	20	20	20	20	20	20	20	20	20	20
		lb-in	17	20	25	34	41	51	61	77	92	110	119	138	166	177	177	177	177	177	177	177	177	177	177
9IDG□-150FH / **9HBK□BH**		kgf cm	-	25.5	30.6	-	51.0	-	76.6	96	114	138	-	172	207	225	-	300	300	300	300	300	300	300	300
		N.m	-	2.6	3.1	-	5.1	-	7.7	9.6	11.4	13.8	-	17.2	20.7	23	-	30	30	30	30	30	30	30	30
		lb-in	-	23	27	-	45	-	68	85	101	121	-	152	183	199	-	265	265	265	265	265	265	265	265

50Hz

Model	speed RPM (r/min)		750	500	417	300	250	200	167	120	100	83	75	60	50	42	38	30	25	20	17	15	13	10	8
Motor/Gearhead	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**
9IDG□-150FP / **9PBK□BH** **9PFK□BH**		kgf cm	24	29	34	48	58	72	86	108	129	155	167	193	200	200	200	200	200	200	200	200	200	200	200
		N.m	2.4	2.9	3.4	4.8	5.8	7.2	8.6	10.8	12.9	15.5	16.7	19.3	20	20	20	20	20	20	20	20	20	20	20
		lb-in	21	25	30	42	51	64	76	95	114	137	148	171	177	177	177	177	177	177	177	177	177	177	177
9IDG□-150FH / **9HBK□BH**		kgf cm	-	31.6	37.9	-	63.3	-	94.9	119	142	171	-	213	220	250	-	300	300	300	300	300	300	300	300
		N.m	-	3.2	3.8	-	6.3	-	9.5	11.9	14.2	17.1	-	21	22	25	-	30	30	30	30	30	30	30	30
		lb-in	-	28	33	-	56	-	84	105	125	151	-	188	194	221	-	265	265	265	265	265	265	265	265

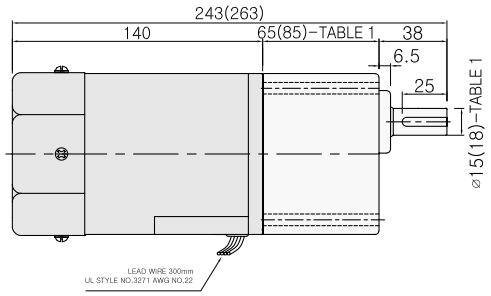
* Enter the gear ratio in the box (□) within the gearhead model name. A colored background indicates gear shaft rotation in the same direction as the motor shaft ; a white background indicates rotation in the opposite direction.
* The speed is calculated by dividing the motor' s synchronous speed (50Hz : 1500 r/min, 60 Hz : 1800 r/min) by the gear ratio.
* The actual speed is 2~20% less than the displayed value, depending on the size of the load.
* If more slow speed is needed than above value, use decimal gearhead with a gear ratio of 10:1 could be used between general gearhead and motor. Even in this case, just speed will be reduced without increase in permissible torque; the maximum permissible torque is 200kgfcm (P type) / 300kgfcm (H type).

Dimension

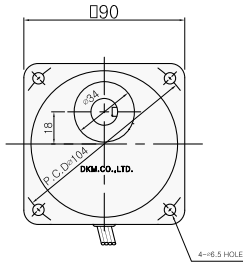
LEAD WIRE TYPE

◆ GEARED MOTOR

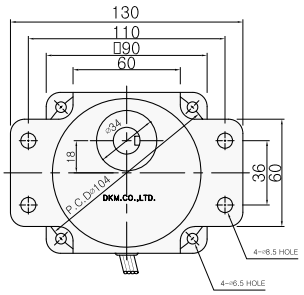
* MOTOR MODEL : 9IDG□-150FP(H) (GENERAL FAN)



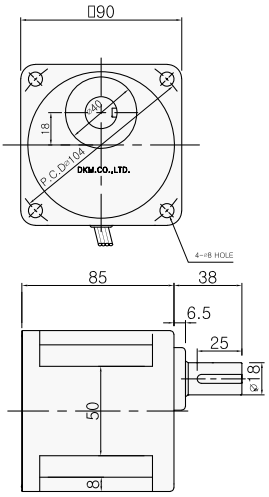
* GEARHEAD MODEL :
9PB □ 3BH - 9PB □180BH



* GEARHEAD MODEL :
9PF □ 3BH - 9PF □180BH

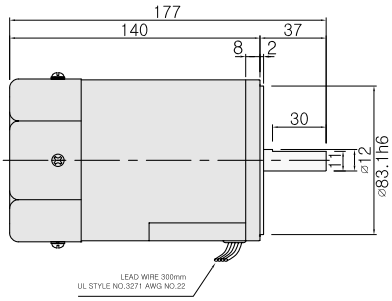


* GEARHEAD MODEL :
9HB □ 3BH - 9HB □180BH

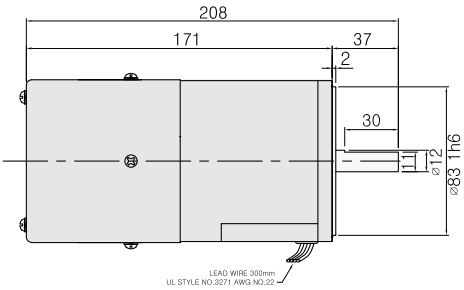


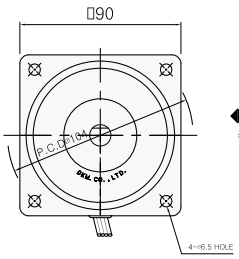
◆ MOTOR ONLY

* MOTOR MODEL : 9ID□□-150F (GENERAL FAN)



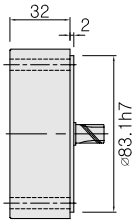
* MOTOR MODEL : 9ID□□-150F2 (POWERFUL FAN)





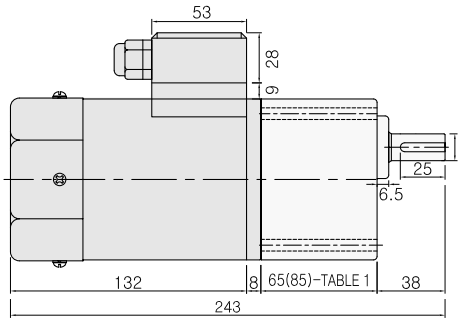
◆ INTER-DECIMAL GEARHEAD

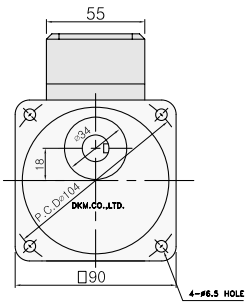
* MODEL : 9XD10M□

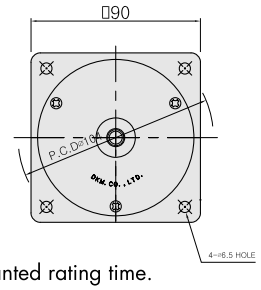


TERMINAL BOX TYPE

* MOTOR MODEL :
9IDG□-150FP(H)-T (GENERAL FAN)





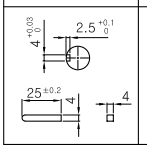
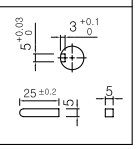


* Note : There are 2 kinds of fan type (General Fan / Powerful Fan). Customer can choose fan type according to wanted rating time.

◆ 65(85)-TABLE1

SIZE(mm)	GEARHEAD TYPE
65 – ø15	P TYPE GEARHEAD
85 – ø18	H TYPE GEARHEAD

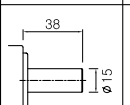
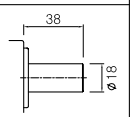
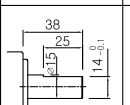
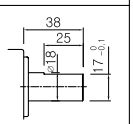
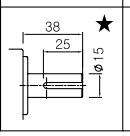
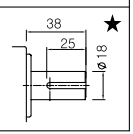
◆ KEY SPEC

MOTOR	GEARHEAD
	

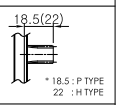
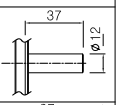
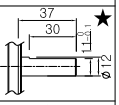
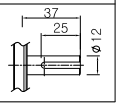
◆ WEIGHT

PART		WEIGHT(Kg)	
MOTOR		3.0	
DECIMAL GEARHEAD		0.5	
GEAR HEAD	GEARHEAD TYPE	P TYPE	H TYPE
	9P(H)□□ 3BH - 9P(H)□□9BH	1.3	1.45
	9P(H)□□ 12.5BH - 9P(H)□□18BH	1.3	1.5
	9P(H)□□ 25BH - 9P(H)□□60BH	1.4	1.7
	9P(H)□□ 90BH - 9P(H)□□180BH	1.4	1.8

◆ GEARHEAD OUTPUT

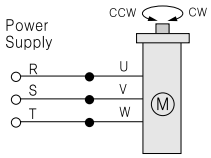
MODEL	P TYPE	H TYPE
ROUND TYPE 9P(H)□S3BH ~9P(H)□S180BH		
D-CUT TYPE 9P(H)□D3BH ~9P(H)□D180BH		
KEY TYPE 9P(H)□K3BH ~9P(H)□K180BH		

◆ MOTOR OUTPUT

MODEL	SHAFT
GEAR TYPE 9IDG□-150□P(H)	
ROUND TYPE 9IDS□-150□	
D-CUT TYPE 9IDD□-150□	
KEY TYPE 9IDK□-150□	

* Note : Above table indicates output shaft dimension made by user' s request and ★ indicates the basic dimension in factory shipping.

Connection Diagrams



CCW : To change the rotation direction, change any connections between U,V and W.

- 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.

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INDUCTION MOTOR
180W

□90mm(3.54in.)

LEAD WIRE TYPE MOTOR
+ PB TYPE GEARHEAD

LEAD WIRE TYPE MOTOR
+ PF TYPE GEARHEAD

TERMINAL BOX TYPE MOTOR
+ PF TYPE GEARHEAD

LEAD WIRE TYPE MOTOR
+ HB TYPE GEARHEAD

Motor Specification

CE

Model 9IDG□-180FP(H) : Pinion Shaft Type 9IDD□-180F : D-Cut Shaft Type		Output		Voltage	Freq.	Current	Starting Torque			Rated Torque			Rated Speed	Capacitor	
Lead Wire Type	Terminal Box Type	HP	W	VAC	Hz	A	gfcm	mN.m	oz-in	gfcm	mN.m	oz-in	r/min	μF	VAC
(TP) **9IDG(D)C-180FP(H)**	**9IDG(D)C-180FP(H)-T**	1/4	180	Single Phase 220	50	1.40	7000	700	99	13500	1350	191	1300	6.5	400
(TP) **9IDG(D)D-180FP(H)**	**9IDG(D)D-180FP(H)-T**			Single Phase 220	60					11300	1130	108	1550		
(TP) **9IDG(D)E-180FP(H)**	**9IDG(D)E-180FP(H)-T**			Single Phase 230	50					13500	1350	191	1300		
(TP) **9IDG(D)F-180FP(H)**	**9IDG(D)F-180FP(H)-T**			Single Phase 230	60					11300	1130	108	1550		

* Enter the 'Phase & Voltage' code in the box(□) within the motor model name.
* 'Pinion Shaft' is for attaching gearhead and 'D-Cut Shaft' is for using motor only.
(TP) : Contains a built-in thermal protector. If a motor overheats for any reason the thermal protector opened and the motor stops. When the motor temperature drops, the thermal protector closes and the motor restarts. Be sure to turn the motor off before inspecting.

Permissible Torque When using gearhead

60Hz

Model	speed RPM (r/min)		900	600	500	360	300	240	200	144	120	100	90	72	60	50	45	36	30	24	20	18	15	12	10
Motor/Gearhead	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**
9IDG2-180FP	**9PBK□BH** / **9PFK□BH**	kgf cm	22	27	32	45	54	67	80	100	120	152	171	189	200	200	200	200	200	200	200	200	200	200	200
		N.m	2.2	2.7	3.2	4.5	5.4	6.7	8.0	10	12	15	17	19	20	20	20	20	20	20	20	20	20	20	20
		lb-in	19	24	29	39	48	60	71	88	106	134	151	167	177	177	177	177	177	177	177	177	177	177	177
9IDG2-180FH	**9HBK□BH**	kgf cm	-	28	34	-	57	-	84	105	126	160	-	210	227	273	-	300	300	300	300	300	300	300	300
		N.m	-	2.8	3.4	-	5.7	-	8.4	11	13	16	-	21	23	27	-	30	30	30	30	30	30	30	30
		lb-in	-	25	30	-	50	-	74	93	111	141	-	185	200	241	-	265	265	265	265	265	265	265	265

50Hz

Model	speed RPM (r/min)		750	500	417	300	250	200	167	120	100	83	75	60	50	42	38	30	25	20	17	15	13	10	8
Motor/Gearhead	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**
9IDGC-180FP	**9PBK□BH** / **9PFK□BH**	kgf cm	25	32	39	54	65	81	97	122	145	200	200	200	200	200	200	200	200	200	200	200	200	200	200
		N.m	2.5	3.2	3.9	5.4	6.5	8.1	9.7	12	15	19	20	20	20	20	20	20	20	20	20	20	20	20	20
		lb-in	22	29	34	48	57	71	86	107	128	168	177	177	177	177	177	177	177	177	177	177	177	177	177
9IDGC-180FH	**9HBK□BH**	kgf cm	-	34	41	-	68	-	105	128	153	200	-	230	287	300	-	300	300	300	300	300	300	300	300
		N.m	-	3.4	4.1	-	6.8	-	10.5	13	15	20	-	23	28	30	-	30	30	30	30	30	30	30	30
		lb-in	-	30	36	-	60	-	90	113	135	177	-	203	245	265	-	265	265	265	265	265	265	265	265

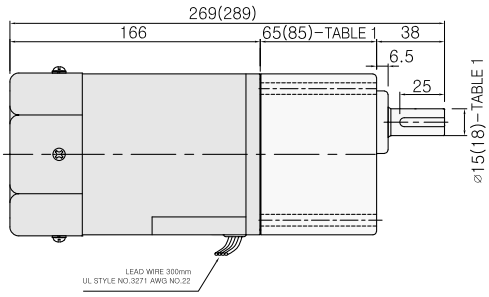
* Enter the gear ratio in the box (□) within the gearhead model name. A colored background indicates gear shaft rotation in the same direction as the motor shaft ; a white background indicates rotation in the opposite direction.
* The speed is calculated by dividing the motor' s synchronous speed (50Hz : 1500 r/min, 60 Hz : 1800 r/min) by the gear ratio.
* The actual speed is 2~20% less than the displayed value, depending on the size of the load.
* If more slow speed is needed than above value, use decimal gearhead with a gear ratio of 10:1 could be used between general gearhead and motor. Even in this case, just speed will be reduced without increase in permissible torque; the maximum permissible torque is 200kgfcm (P type) / 300kgfcm (H type).

Dimension

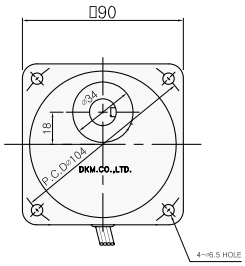
LEAD WIRE TYPE

◆ GEARED MOTOR

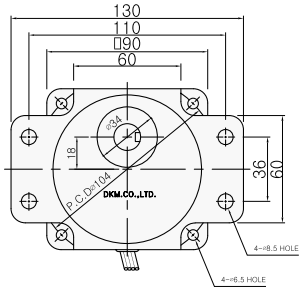
* MOTOR MODEL : 9IDG□-180FP(H)(GENERAL FAN)



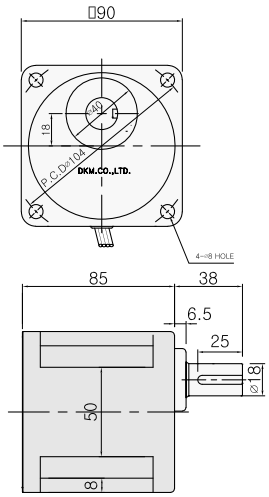
* GEARHEAD MODEL :
9PB□3BH - 9PB□180BH



* GEARHEAD MODEL :
9PF□3BH - 9PF□180BH

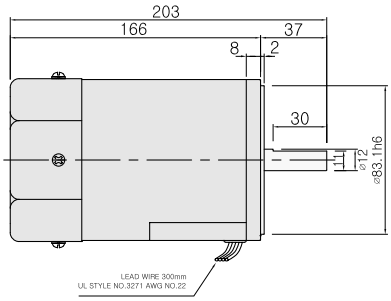


* GEARHEAD MODEL :
9HB□3BH - 9HB□180BH

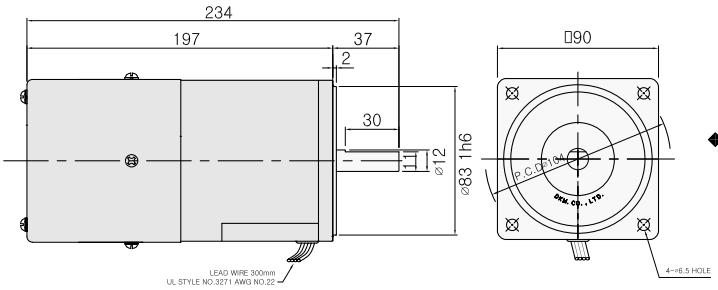


◆ MOTOR ONLY

* MOTOR MODEL : 9ID□□-180F(GENERAL FAN)

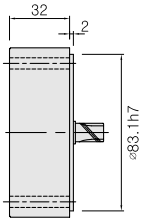


* MOTOR MODEL : 9ID□□-180F2 (POWERFUL FAN)



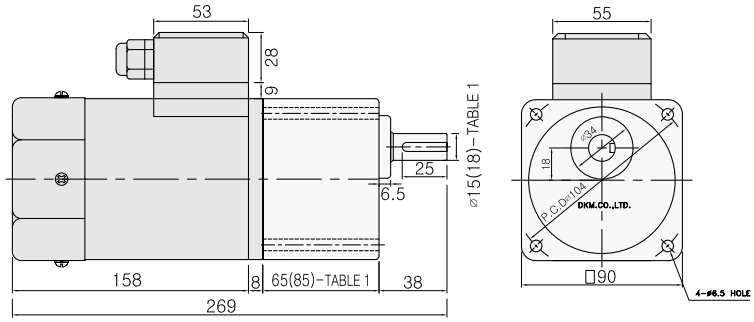
◆ INTER-DECIMAL GEARHEAD

* MODEL : 9XD10M□



TERMINAL BOX TYPE

* MOTOR MODEL :
9IDG□-180FP(H)-T(GENERAL FAN)

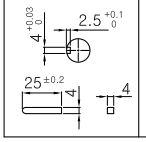
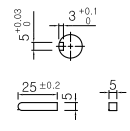


* Note : There are 2 kinds of fan type (General Fan / Powerful Fan). Customer can choose fan type according to wanted rating time.

◆ 65(85)-TABLE1

SIZE(mm)	GEARHEAD TYPE
65 – ø15	P TYPE GEARHEAD
85 – ø18	H TYPE GEARHEAD

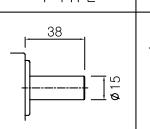
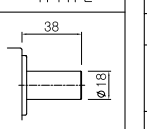
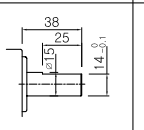
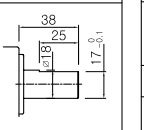
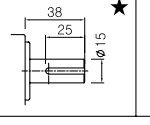
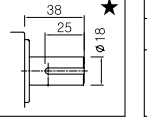
◆ KEY SPEC

MOTOR	GEARHEAD
	

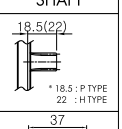
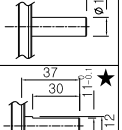
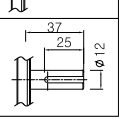
◆ WEIGHT

PART		WEIGHT(Kg)	
MOTOR		3.8	
DECIMAL GEARHEAD		0.5	
GEAR HEAD	GEARHEAD TYPE	P TYPE	H TYPE
	9P(H)□□ 3BH - 9P(H)□□9BH	1.3	1.45
	9P(H)□□ 12.5BH - 9P(H)□□18BH	1.3	1.5
	9P(H)□□ 25BH - 9P(H)□□60BH	1.4	1.7
	9P(H)□□ 90BH - 9P(H)□□180BH	1.4	1.8

◆ GEARHEAD OUTPUT

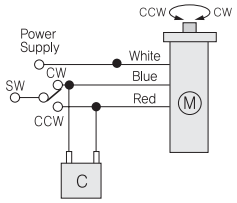
MODEL	P TYPE	H TYPE
ROUND TYPE 9P(H)□S3BH ~9P(H)□S180BH		
D-CUT TYPE 9P(H)□D3BH ~9P(H)□D180BH		
KEY TYPE 9P(H)□K3BH ~9P(H)□K180BH		

◆ MOTOR OUTPUT

MODEL	SHAFT
GEAR TYPE 9IDG□-180□P(H)	
ROUND TYPE 9IDS□-180□	
D-CUT TYPE 9IDD□-180□	
KEY TYPE 9IDK□-180□	

* Note : Above table indicates output shaft dimension made by user' s request and ★ indicates the basic dimension in factory shipping.

Connection Diagrams

Single phase (CW, CCW)	Three phase (CW, CCW)
 CW : To rotate the motor in a clockwise(CW) direction, flip switch SW to CW. CCW : To rotate it in a countercloc kwise (CCW) direction, flip switch SW to CCW.	Not Available

- 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.
- Connection diagrams are also valid for the equivalent round shaft type.
- 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.

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INDUCTION MOTOR
200W

□90mm(3.54in.)

LEAD WIRE TYPE MOTOR
+ PB TYPE GEARHEAD

LEAD WIRE TYPE MOTOR
+ PF TYPE GEARHEAD

TERMINAL BOX TYPE MOTOR
+ PF TYPE GEARHEAD

LEAD WIRE TYPE MOTOR
+ HB TYPE GEARHEAD

Motor Specification

CE

Model 9IDG□-200FP(H) : Pinion Shaft Type 9IDD□-200F : D-Cut Shaft Type		Output		Voltage	Freq.	Current	Starting Torque			Rated Torque			Rated Speed	Capacitor	
Lead Wire Type	Terminal Box Type	HP	W	VAC	Hz	A	gfcm	mN.m	oz-in	gfcm	mN.m	oz-in	r/min	㎌	VAC
(TP) **9IDG(D)G-200FP(H)**	**9IDG(D)G-200FP(H)-T**	1/4	200	Three phase 220	50	1.60	14500	1450	205	15000	1500	212	1300	–	–
(TP) **9IDG(D)H-200FP(H)**	**9IDG(D)H-200FP(H)-T**			Three phase 220	60					12500	1250	177	1550		
(TP) **9IDG(D)I-200FP(H)**	**9IDG(D)I-200FP(H)-T**			Three phase 230	50					15000	1500	212	1300		
(TP) **9IDG(D)J-200FP(H)**	**9IDG(D)J-200FP(H)-T**			Three phase 230	60					12500	1250	177	1550		
(TP) **9IDG(D)K-200FP(H)**	**9IDG(D)K-200FP(H)-T**			Three phase 380	50	0.90	14500	1450	205	15000	1500	212	1300	–	–
(TP) **9IDG(D)L-200FP(H)**	**9IDG(D)L-200FP(H)-T**			Three phase 380	60					12500	1250	177	1550		
(TP) **9IDG(D)M-200FP(H)**	**9IDG(D)M-200FP(H)-T**			Three phase 400	50	0.68	14500	1450	205	15000	1500	212	1300	–	–
(TP) **9IDG(D)N-200FP(H)**	**9IDG(D)N-200FP(H)-T**			Three phase 440	50					15000	1500	212	1300		
(TP) **9IDG(D)O-200FP(H)**	**9IDG(D)O-200FP(H)-T**			Three phase 440	60					12500	1250	177	1550		

* Enter the 'Phase & Voltage' code in the box(□) within the motor model name.
* 'Pinion Shaft' is for attaching gearhead and 'D-Cut Shaft' is ffor using motor only.
(TP) : Contains a built-in thermal protector. If a motor overheats for any reason the thermal protector opened and the motor stops. When the motor temperature drops, the thermal protector closes and the motor restarts. Be sure to turn the motor off before inspecting.

Permissible Torque When using gearhead

60Hz

Model	speed RPM (r/min)		900	600	500	360	300	240	200	144	120	100	90	72	60	50	45	36	30	24	20	18	15	12	10
Motor/Gearhead	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**
9IDG□-200FP	**9PBK□BH** / **9PFK□BH**	kgf cm	28	30	36	51	61	76	91	114	137	164	200	200	200	200	200	200	200	200	200	200	200	200	200
		N.m	2.8	3	4	5	6	8	9	11	14	16	20	20	20	20	20	20	20	20	20	20	20	20	20
		lb-in	25	27	32	45	54	67	81	101	121	145	177	177	177	177	177	177	177	177	177	177	177	177	177
9IDG□-200FH	**9HBK□BH**	kgf cm	-	32	38.3	-	64	-	96	120	144	173	-	216	259	300	-	300	300	300	300	300	300	300	300
		N.m	-	3	4	-	6	-	10	12	14	17	-	22	26	30	-	30	30	30	30	30	30	30	30
		lb-in	-	28	34	-	57	-	85	106	127	153	-	191	229	265	-	265	265	265	265	265	265	265	265

50Hz

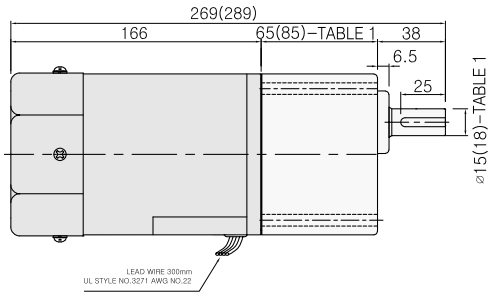
Model	speed RPM (r/min)		750	500	417	300	250	200	167	120	100	83	75	60	50	42	38	30	25	20	17	15	13	10	8
Motor/Gearhead	Gear Ratio		**2**	**3**	**3.6**	**5**	**6**	**7.5**	**9**	**12.5**	**15**	**18**	**20**	**25**	**30**	**36**	**40**	**50**	**60**	**75**	**90**	**100**	**120**	**150**	**180**
9IDG□-200FP	**9PBK□BH** / **9PFK□BH**	kgf cm	33	37	45	62	74	92	111	139	166	200	200	200	200	200	200	200	200	200	200	200	200	200	200
		N.m	3.3	4	4	6	7	9	11	14	17	20	20	20	20	20	20	20	20	20	20	20	20	20	20
		lb-in	29	33	39	54	65	82	98	122	147	176	177	177	177	177	177	177	177	177	177	177	177	177	177
9IDG□-200FH	**9HBK□BH**	kgf cm	-	39	47	-	78	-	117	146	175	210	-	262	300	300	-	300	300	300	300	300	300	300	300
		N.m	-	4	5	-	8	-	12	15	18	21	-	26	30	30	-	30	30	30	30	30	30	30	30
		lb-in	-	34	42	-	69	-	103	129	155	185	-	231	265	265	-	265	265	265	265	265	265	265	265

* Enter the gear ratio in the box (□) within the gearhead model name. A colored background indicates gear shaft rotation in the same direction as the motor shaft ; a white background indicates rotation in the opposite direction.
* The speed is calculated by dividing the motor' s synchronous speed (50Hz : 1500 r/min, 60 Hz : 1800 r/min) by the gear ratio.
* The actual speed is 2~20% less than the displayed value, depending on the size of the load.
* If more slow speed is needed than above value, use decimal gearhead with a gear ratio of 10:1 could be used between general gearhead and motor. Even in this case, just speed will be reduced without increase in permissible torque; the maximum permissible torque is 200kgfcm (P type) / 300kgfcm (H type).

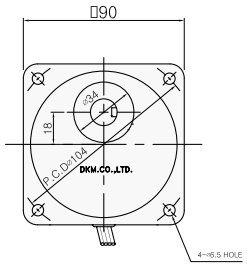
Dimension

LEAD WIRE TYPE

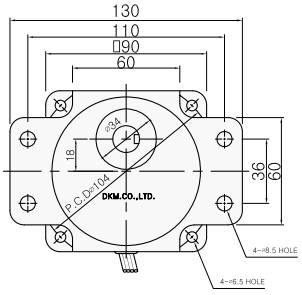
◆ GEARED MOTOR
* MOTOR MODEL : 9IDG□-200FP(H) (GENERAL FAN)



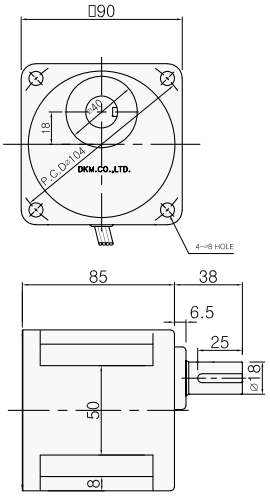
* GEARHEAD MODEL :
9PB□3BH - 9PB□180BH



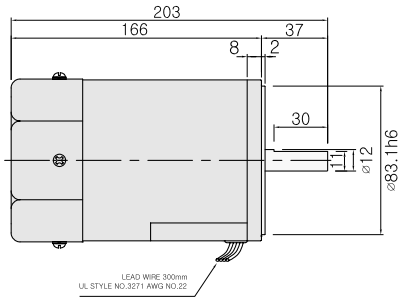
* GEARHEAD MODEL :
9PF□3BH - 9PF□180BH



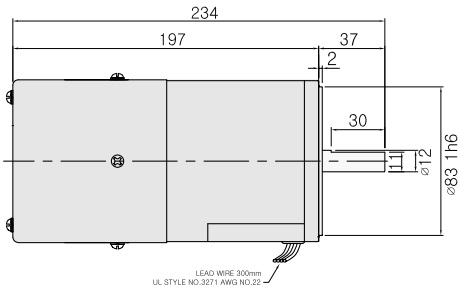
* GEARHEAD MODEL :
9HB□3BH - 9HB□180BH

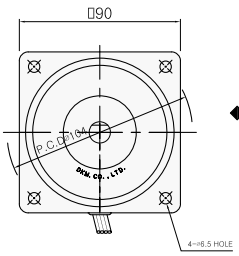


◆ MOTOR ONLY
* MOTOR MODEL : 9ID□□-200F (GENERAL FAN)

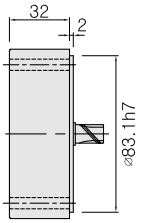


* MOTOR MODEL : 9ID□□-200F2 (POWERFUL FAN)



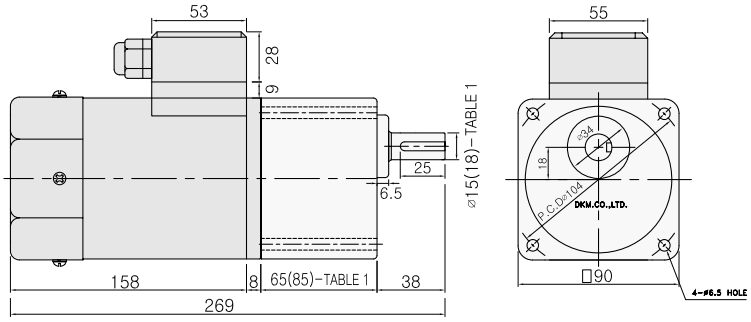


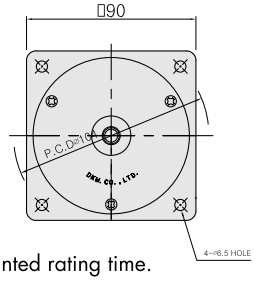
◆ INTER-DECIMAL GEARHEAD
* MODEL : 9XD10M□



TERMINAL BOX TYPE

* MOTOR MODEL :
9IDG□-200FP(H)-T (GENERAL FAN)



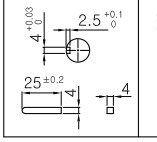
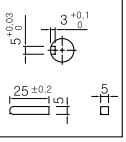


* Note : There are 2 kinds of fan type (General Fan / Powerful Fan). Customer can choose fan type according to wanted rating time.

◆ 65(85)-TABLE1

SIZE(mm)	GEARHEAD TYPE
65 – ø15	P TYPE GEARHEAD
85 – ø18	H TYPE GEARHEAD

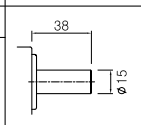
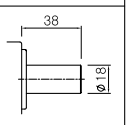
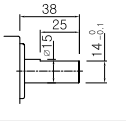
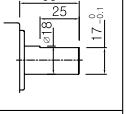
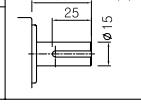
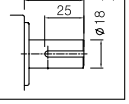
◆ KEY SPEC

MOTOR	GEARHEAD
	

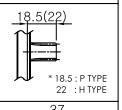
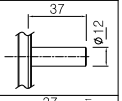
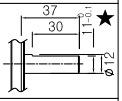
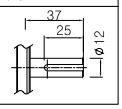
◆ WEIGHT

PART		WEIGHT(Kg)	
MOTOR		3.8	
DECIMAL GEARHEAD		0.5	
GEAR HEAD	GEARHEAD TYPE	P TYPE	H TYPE
	9P(H)□□ 3BH - 9P(H)□□9BH	1.3	1.45
	9P(H)□□ 12.5BH - 9P(H)□□18BH	1.3	1.5
	9P(H)□□ 25BH - 9P(H)□□60BH	1.4	1.7
	9P(H)□□ 90BH - 9P(H)□□180BH	1.4	1.8

◆ GEARHEAD OUTPUT

MODEL	P TYPE	H TYPE
ROUND TYPE 9P(H)□S3BH ~9P(H)□S180BH		
D-CUT TYPE 9P(H)□D3BH ~9P(H)□D180BH		
KEY TYPE 9P(H)□K3BH ~9P(H)□K180BH		

◆ MOTOR OUTPUT

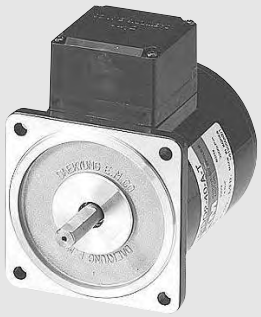
MODEL	SHAFT
GEAR TYPE 9IDG□-200□ P(H)	
ROUND TYPE 9IDS□-200□	
D-CUT TYPE 9IDD□-200□	
KEY TYPE 9IDK□-200□	

* Note : Above table indicates output shaft dimension made by user' s request and ★ indicates the basic dimension in factory shipping.

Connection Diagrams

Please refer to page 38.

2 POLE MOTOR



INDEX

2 POLE MOTOR

15W

□80mm(3.12in.)

LEAD WIRE TYPE MOTOR

TERMINAL BOX TYPE MOTOR

■ Motor Specification

Model 8IDS□-15-A : Round Shaft Type		Output		Voltage	Freq.	Current	Starting Torque			Rated Torque			Rated Speed	Capacitor	
Lead Wire Type	Terminal Box Type	HP	W	VAC	Hz	A	gfcm	mN.m	oz-in	gfcm	mN.m	oz-in	r/min	μF	VAC
(TP) **8IDSA-15-A**	**8IDSA-15-A-T**	1/50	15	Single Phase 110	60	0.40	500	50	7	700	70	10	3200	6.0	250
(TP) **8IDSB-15-A**	**8IDSB-15-A-T**			Single Phase 115	60										
(TP) **8IDSC-15-A**	**8IDSC-15-A-T**			Single Phase 220	50	0.25	500	50	7	840	84	72	2600	2.0	400
(TP) **8IDSD-15-A**	**8IDSD-15-A-T**			Single Phase 220	60					700	70	10	3200		
(TP) **8IDSE-15-A**	**8IDSE-15-A-T**			Single Phase 230	50					840	84	12	2600		
(TP) **8IDSF-15-A**	**8IDSF-15-A-T**			Single Phase 230	60					700	70	10	3200		
(TP) **8IDSG-15-A**	**8IDSG-15-A-T**			Three Phase 220	50	0.25	600	60	8.5	700	70	10	2600	–	
(TP) **8IDSH-15-A**	**8IDSH-15-A-T**			Three Phase 220	60								3200		
(TP) **8IDSI-15-A**	**8IDSI-15-A-T**			Three Phase 230	50								2600		
(TP) **8IDSJ-15-A**	**8IDSJ-15-A-T**			Three Phase 230	60								3200		

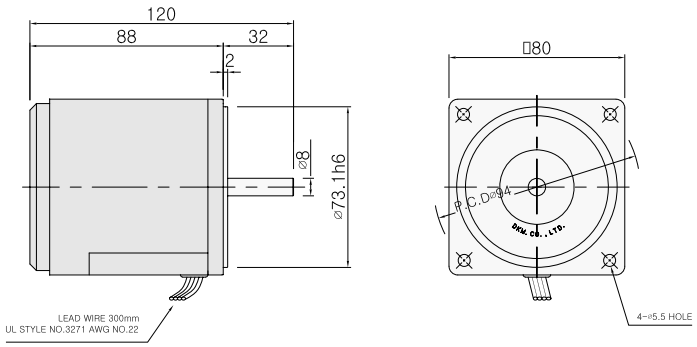
* Enter the 'Phase & Voltage' code in the box(□) within the motor model name.
* 'Round Shaft' is for using motor only.

(TP) : Contains a built-in thermal protector. If a motor overheats for any reason the thermal protector opened and the motor stops. When the motor temperature drops, the thermal protector closes and the motor restarts. Be sure to turn the motor off before inspecting.

Dimension

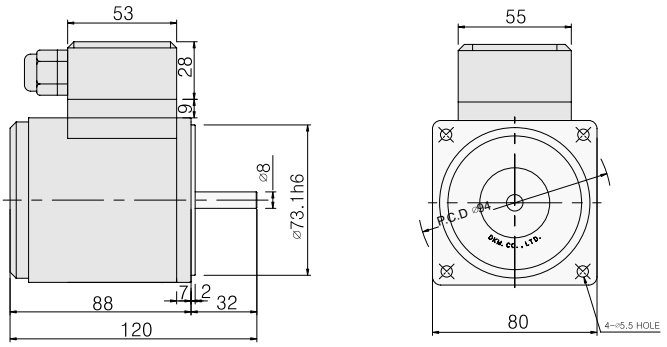
● LEAD WIRE TYPE

* MOTOR MODEL : 8ID□□-15-A (NO FAN)

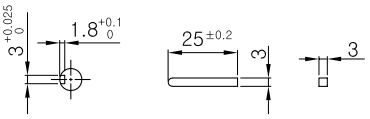


● TERMINAL BOX TYPE

* MOTOR MODEL : 8ID □□ -15-AT(NO FAN)



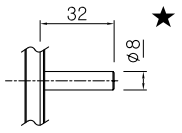
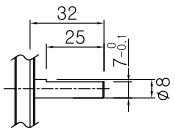
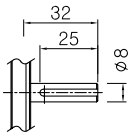
◆ KEY SPEC



◆ WEIGHT

PART	WEIGHT(Kg)
MOTOR	1.6

◆ MOTOR OUTPUT

MODEL	SHAFT
ROUND TYPE	
8IDS□-15-A	
D-CUT TYPE	
8IDD□-15-A	
KEY TYPE	
8IDK□-15-A	

* Note : Above table indicates output shaft dimension made by user' s request and ★ indicates the basic dimension in factory shipping.

Connection Diagrams

Please refer to page 53.

2 POLE MOTOR

25W

□80mm(3.12in.)

LEAD WIRE TYPE MOTOR

TERMINAL BOX TYPE MOTOR

■ Motor Specification

CE

Model 8IDS□-25-A : Round Shaft Type		Output		Voltage	Freq.	Current	Starting Torque			Rated Torque			Rated Speed	Capacitor	
Lead Wire Type	Terminal Box Type	HP	W	VAC	Hz	A	gfcm	mN.m	oz-in	gfcm	mN.m	oz-in	r/min	μF	VAC
(TP) **8IDSA-25-A**	**8IDSA-25-A-T**	1/30	25	Single Phase 110	60	0.50	600	60	8	900	90	13	3200	6.0	250
(TP) **8IDSB-25-A**	**8IDSB-25-A-T**			Single Phase 115	60										
(TP) **8IDSC-25-A**	**8IDSC-25-A-T**			Single Phase 220	50	0.30	600	60	8	1000	100	14	2600	2.5	400
(TP) **8IDSD-25-A**	**8IDSD-25-A-T**			Single Phase 220	60					900	90	13	3200		
(TP) **8IDSE-25-A**	**8IDSE-25-A-T**			Single Phase 230	50					1000	100	14	2600		
(TP) **8IDSF-25-A**	**8IDSF-25-A-T**			Single Phase 230	60					900	90	13	3200		
(TP) **8IDSG-25-A**	**8IDSG-25-A-T**			Three Phase 220	50	0.30	70	70	10	1000	100	14	2600	-	
(TP) **8IDSH-25-A**	**8IDSH-25-A-T**			Three Phase 220	60								3200		
(TP) **8IDSI-25-A**	**8IDSI-25-A-T**			Three Phase 230	50								2600		
(TP) **8IDSJ-25-A**	**8IDSJ-25-A-T**			Three Phase 230	60								3200		

* Enter the 'Phase & Voltage' code in the box(□) within the motor model name.

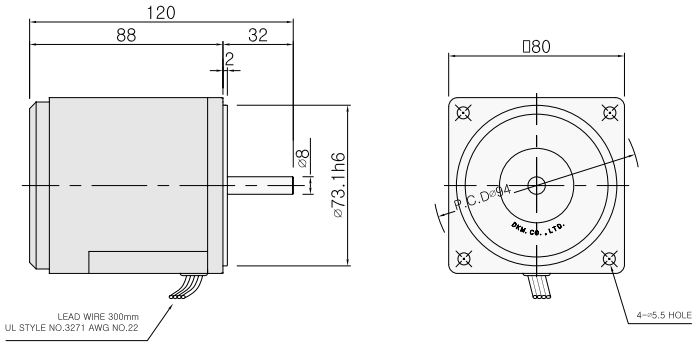
* 'Round Shaft' is for using motor only.

(TP) : Contains a built-in thermal protector. If a motor overheats for any reason the thermal protector opened and the motor stops. When the motor temperature drops, the thermal protector closes and the motor restarts. Be sure to turn the motor off before inspecting.

Dimension

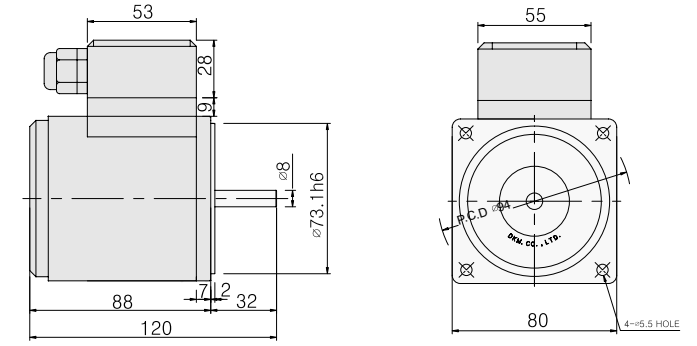
- LEAD WIRE TYPE

* MOTOR MODEL : 8ID□□-25-A (NO FAN)

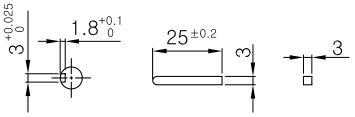


- TERMINAL BOX TYPE

* MOTOR MODEL : 8ID□□-25-AT(NO FAN)



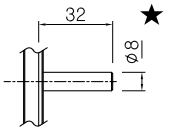
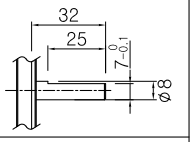
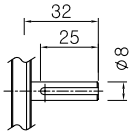
◆ KEY SPEC



◆ WEIGHT

PART	WEIGHT(Kg)
MOTOR	1.6

◆ MOTOR OUTPUT

MODEL	SHAFT
ROUND TYPE 8IDS□-25-A	
D-CUT TYPE 8IDD□-25-A	
KEY TYPE 8IDK□-25-A	

* Note : Above table indicates output shaft dimension made by user' s request and ★ indicates the basic dimension in factory shipping.

Connection Diagrams

Please refer to page 53.

2 POLE MOTOR

40W

□90mm(3.54in.)

LEAD WIRE TYPE MOTOR

TERMINAL BOX TYPE MOTOR

Motor Specification

Model 9IDD□-40-A : D-Cut Shaft Type		Output	Voltage	Freq.	Current	Starting Torque			Rated Torque			Rated Speed	Capacitor	
Lead Wire Type	Terminal Box Type	HP W	VAC	Hz	A	gfcm	mN.m	oz-in	gfcm	mN.m	oz-in	r/min	㎌	VAC
(TP) **9IDDA-40-A**	**9IDDA-40-A-T**	1/15 40	Single Phase 110	60	0.8	900	90	13	1350	135	19	3200	16	250
(TP) **9IDDB-40-A**	**9IDDB-40-A-T**		Single Phase 115	60										
(TP) **9IDDC-40-A**	**9IDDC-40-A-T**		Single Phase 220	50	0.4	900	90	13	1620	162	23	2600	4.0	400
(TP) **9IDDD-40-A**	**9IDDD-40-A-T**		Single Phase 220	60					1350	135	19	3200		
(TP) **9IDDE-40-A**	**9IDDE-40-A-T**		Single Phase 230	50					1620	162	23	2600		
(TP) **9IDDF-40-A**	**9IDDF-40-A-T**		Single Phase 230	60					1350	135	19	3200		
(TP) **9IDDG-40-A**	**9IDDG-40-A-T**		Three Phase 220	50	0.40	1350	135	19	1620	162	23	2600	-	-
(TP) **9IDDH-40-A**	**9IDDH-40-A-T**		Three Phase 220	60					1350	135	19	3200		
(TP) **9IDDI-40-A**	**9IDDI-40-A-T**		Three Phase 230	50					1620	162	23	2600		
(TP) **9IDDJ-40-A**	**9IDDJ-40-A-T**		Three Phase 230	60					1350	135	19	3200		
(TP) **9IDDK-40-A**	**9IDDK-40-A-T**		Three Phase 380	50	0.22	1350	135	19	1620	162	23	2600	-	-
(TP) **9IDDL-40-A**	**9IDDL-40-A-T**		Three Phase 380	60					1350	135	19	3200		
(TP) **9IDDM-40-A**	**9IDDM-40-A-T**		Three Phase 400	50	0.18	1350	135	19	1620	162	23	2600	-	-
(TP) **9IDDN-40-A**	**9IDDN-40-A-T**		Three Phase 440	50					1620	162	23	2600		
(TP) **9IDDO-40-A**	**9IDDO-40-A-T**		Three Phase 440	60					1350	135	19	3200		

* Enter the 'Phase & Voltage' code in the box(□) within the motor model name.

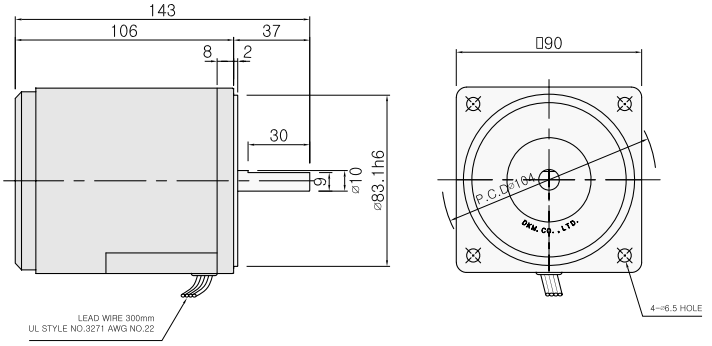
* 'D-Cut Shaft' is for using motor only.

(TP) : Contains a built-in thermal protector. If a motor overheats for any reason the thermal protector opened and the motor stops. When the motor temperature drops, the thermal protector closes and the motor restarts. Be sure to turn the motor off before inspecting.

Dimension

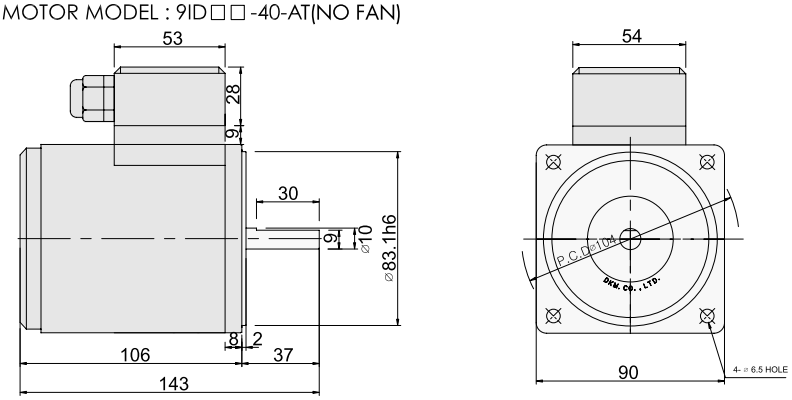
LEAD WIRE TYPE

* MOTOR MODEL : 9ID□□-40-A (NO FAN)

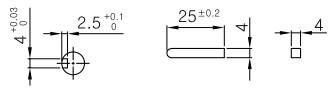


TERMINAL BOX TYPE

* MOTOR MODEL : 9ID□□-40-AT(NO FAN)



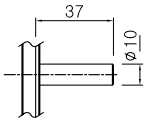
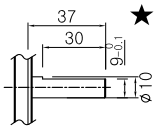
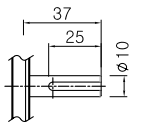
◆ KEY SPEC



◆ WEIGHT

PART	WEIGHT(Kg)
MOTOR	2.4

◆ MOTOR OUTPUT

MODEL	SHAFT
ROUND TYPE	
9IDS□-40-A	
D-CUT TYPE	
9IDD□-40-A	
KEY TYPE	
9IDK□-40-A	

* Note : Above table indicates output shaft dimension made by user' s request and ★ indicates the basic dimension in factory shipping.

Connection Diagrams

Please refer to page 53.

2 POLE MOTOR

60W

□90mm(3.54in.)

LEAD WIRE TYPE MOTOR

TERMINAL BOX TYPE MOTOR

■ Motor Specification

Model 9IDD□-60F-A : D-Cut Shaft Type		Output		Voltage	Freq.	Current	Starting Torque			Rated Torque			Rated Speed	Capacitor	
Lead Wire Type	Terminal Box Type	HP	W	VAC	Hz	A	gfcm	mN.m	oz-in	gfcm	mN.m	oz-in	r/min	㎌	VAC
(TP) **9IDDA-60F-A**	**9IDDA-60F-A-T**	1/12	60	Single Phase 110	60	1.20	1200	120	17	1900	190	27	3200	20	250
(TP) **9IDDB-60F-A**	**9IDDB-60F-A-T**			Single Phase 115	60										
(TP) **9IDDC-60F-A**	**9IDDC-60F-A-T**			Single Phase 220	50	0.60	1200	120	17	2200	220	31	2600	5.0	400
(TP) **9IDDD-60F-A**	**9IDDD-60F-A-T**			Single Phase 220	60					1900	190	27	3200		
(TP) **9IDDE-60F-A**	**9IDDE-60F-A-T**			Single Phase 230	50					2200	220	31	2600		
(TP) **9IDDF-60F-A**	**9IDDF-60F-A-T**			Single Phase 230	60					1900	190	27	3200		
(TP) **9IDDG-60F-A**	**9IDDG-60F-A-T**			Three Phase 220	50	0.60	1800	180	25	2200	220	31	2600	-	-
(TP) **9IDDH-60F-A**	**9IDDH-60F-A-T**			Three Phase 220	60					1900	190	27	3200		
(TP) **9IDDI-60F-A**	**9IDDI-60F-A-T**			Three Phase 230	50					2200	220	31	2600		
(TP) **9IDDJ-60F-A**	**9IDDJ-60F-A-T**			Three Phase 230	60					1900	190	27	3200		
(TP) **9IDDK-60F-A**	**9IDDK-60F-A-T**			Three Phase 380	50	0.38	1800	180	25	2200	220	31	2600	-	-
(TP) **9IDDL-60F-A**	**9IDDL-60F-A-T**			Three Phase 380	60					1900	190	27	3200		
(TP) **9IDDM-60F-A**	**9IDDM-60F-A-T**			Three Phase 400	50	0.27	1800	180	25	2200	220	31	2600	-	-
(TP) **9IDDN-60F-A**	**9IDDN-60F-A-T**			Three Phase 440	50					1900	190	27	2600		
(TP) **9IDDO-60F-A**	**9IDDO-60F-A-T**			Three Phase 440	60					2200	220	31	3200		

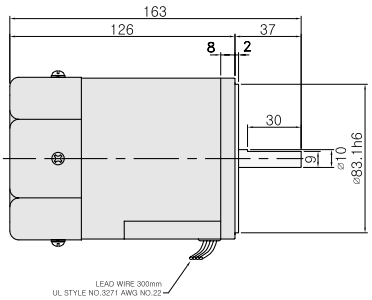
* Enter the 'Phase & Voltage' code in the box(□) within the motor model name.
* 'D-Cut Shaft' is for using motor only.

(TP) : Contains a built-in thermal protector. If a motor overheats for any reason the thermal protector opened and the motor stops. When the motor temperature drops, the thermal protector closes and the motor restarts. Be sure to turn the motor off before inspecting.

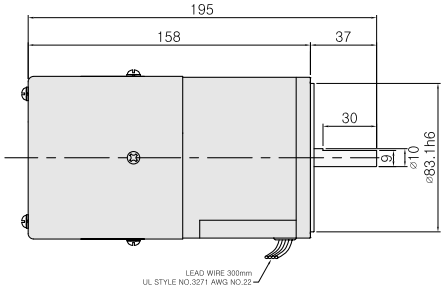
Dimension

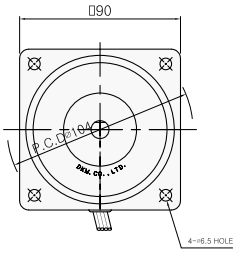
LEAD WIRE TYPE

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



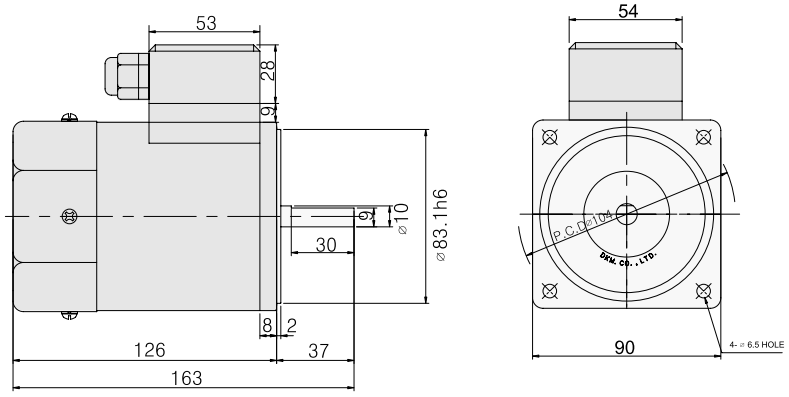
* MOTOR MODEL : 9ID□□-60F2-A (POWERFUL FAN)





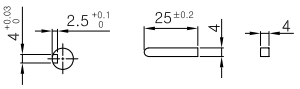
TERMINAL BOX TYPE

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



* Note : There are 2 kinds of fan type (General Fan / Powerful Fan).
Customer can choose fan type according to wanted rating time.

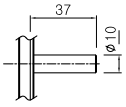
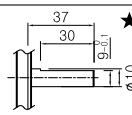
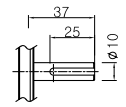
◆ KEY SPEC



◆ WEIGHT

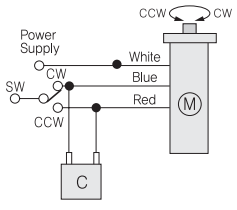
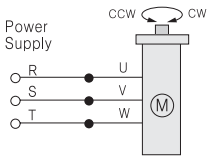
PART	WEIGHT(Kg)
MOTOR	2.6

◆ MOTOR OUTPUT

MODEL	SHAFT
ROUND TYPE 9IDS□-60□-A	
D-CUT TYPE 9IDD□-60□-A	
KEY TYPE 9IDK□-60□-A	

* Note : Above table indicates output shaft dimension made by user' s request and ★ indicates the basic dimension in factory shipping.

Connection Diagrams

Single phase (CW, CCW)	Three phase (CW, CCW)
	
CW : To rotate the motor in a clockwise(CW) direction, flip switch SW to CW. CCW : To rotate it in a countercloc kwise (CCW) direction, flip switch SW to CCW.	CCW : To change the rotation direction, change any connections between U,V and W.

- 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.
- Connection diagrams are also valid for the equivalent round shaft type.
- 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.

2 POLE MOTOR

90W

□90mm(3.54in.)

LEAD WIRE TYPE MOTOR

TERMINAL BOX TYPE MOTOR

Motor Specification

Model 9IDD□-90F-A : D-Cut Shaft Type		Output		Voltage	Freq.	Current	Starting Torque			Rated Torque			Rated Speed	Capacitor	
Lead Wire Type	Terminal Box Type	HP	W	VAC	Hz	A	gfcm	mN.m	oz-in	gfcm	mN.m	oz-in	r/min	μF	VAC
(TP) **9IDDA-90F-A**	**9IDDA-90F-A-T**	1/8	90	Single Phase 110	60	2.00	2200	220	31	2800	280	40	3200	25	250
(TP) **9IDDB-90F-A**	**9IDDB-90F-A-T**			Single Phase 115	60										
(TP) **9IDDC-90F-A**	**9IDDC-90F-A-T**			Single Phase 220	50	1.00	2200	220	31	3420	342	48	2600	6.0	400
(TP) **9IDDD-90F-A**	**9IDDD-90F-A-T**			Single Phase 220	60					2850	285	40	3200		
(TP) **9IDDE-90F-A**	**9IDDE-90F-A-T**			Single Phase 230	50					3420	342	48	2600		
(TP) **9IDDF-90F-A**	**9IDDF-90F-A-T**			Single Phase 230	60					2850	285	40	3200		
(TP) **9IDDG-90F-A**	**9IDDG-90F-A-T**			Three Phase 220	50	0.90	2700	270	38	3420	342	48	2600	-	-
(TP) **9IDDH-90F-A**	**9IDDH-90F-A-T**			Three Phase 220	60					2850	285	40	3200		
(TP) **9IDDI-90F-A**	**9IDDI-90F-A-T**			Three Phase 230	50					3420	342	48	2600		
(TP) **9IDDJ-90F-A**	**9IDDJ-90F-A-T**			Three Phase 230	60					2850	285	40	3200		
(TP) **9IDDK-90F-A**	**9IDDK-90F-A-T**			Three Phase 380	50	0.5	2700	270	38	3420	342	48	2600	-	-
(TP) **9IDDL-90F-A**	**9IDDL-90F-A-T**			Three Phase 380	60					2850	285	40	3200		
(TP) **9IDDM-90F-A**	**9IDDM-90F-A-T**			Three Phase 400	50	0.4	2700	270	38	3420	342	48	2600	-	-
(TP) **9IDDN-90F-A**	**9IDDN-90F-A-T**			Three Phase 440	50					2850	285	40	2600		
(TP) **9IDDO-90F-A**	**9IDDO-90F-A-T**			Three Phase 440	60					3420	342	48	3200		

* Enter the 'Phase & Voltage' code in the box(□) within the motor model name.

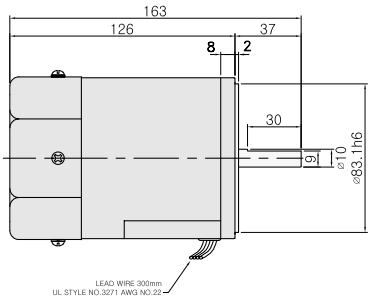
* 'D-Cut Shaft' is for using motor only.

(TP) : Contains a built-in thermal protector. If a motor overheats for any reason the thermal protector opened and the motor stops. When the motor temperature drops, the thermal protector closes and the motor restarts. Be sure to turn the motor off before inspecting.

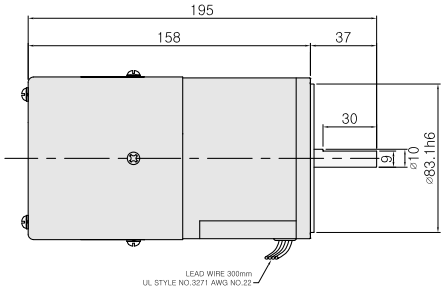
Dimension

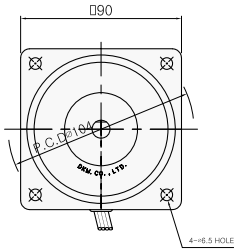
LEAD WIRE TYPE

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



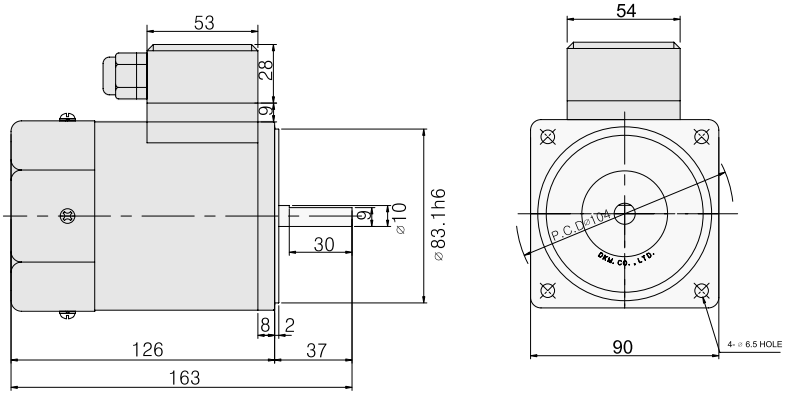
* MOTOR MODEL : 9ID□□-90F2-A (POWERFUL FAN)





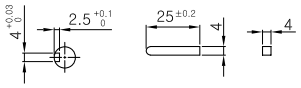
TERMINAL BOX TYPE

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



* Note : There are 2 kinds of fan type (General Fan / Powerful Fan).
Customer can choose fan type according to wanted rating time.

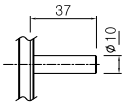
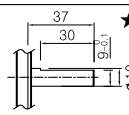
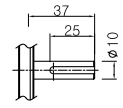
◆ KEY SPEC



◆ WEIGHT

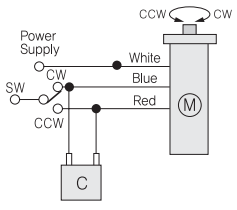
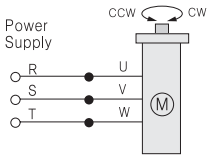
PART	WEIGHT(Kg)
MOTOR	2.6

◆ MOTOR OUTPUT

MODEL	SHAFT
ROUND TYPE 9IDS□-90□-A	
D-CUT TYPE 9IDD□-90□-A	
KEY TYPE 9IDK□-90□-A	

* Note : Above table indicates output shaft dimension made by user' s request and ★ indicates the basic dimension in factory shipping.

Connection Diagrams

Single phase (CW, CCW)	Three phase (CW, CCW)
	
CW : To rotate the motor in a clockwise(CW) direction, flip switch SW to CW. CCW : To rotate it in a countercloc kwise (CCW) direction, flip switch SW to CCW.	CCW : To change the rotation direction, change any connections between U,V and W.

- 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.
- Connection diagrams are also valid for the equivalent round shaft type.
- 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.

2 POLE MOTOR
120W

□90mm(3.54in.)

LEAD WIRE TYPE MOTOR

TERMINAL BOX TYPE MOTOR

Motor Specification

CE

Model 9IDD□-120F-A : D-Cut Shaft Type		Output		Voltage	Freq.	Current	Starting Torque			Rated Torque			Rated Speed	Capacitor	
Lead Wire Type	Terminal Box Type	HP	W	VAC	Hz	A	gfcm	mN.m	oz-in	gfcm	mN.m	oz-in	r/min	μF	VAC
(TP) **9IDDA-120F-A**	**9IDDA-120F-A-T**	1/6	120	Single Phase110	60	2.5	2700	270	38	3700	370	52.8	3200	30	250
(TP) **9IDDB-120F-A**	**9IDDB-120F-A-T**			Single Phase 115	60										
(TP) **9IDDC-120F-A**	**9IDDC-120F-A-T**			Single Phase 220	50	1.2	2700	270	38	4500	450	64.2	2600	6.5	400
(TP) **9IDDD-120F-A**	**9IDDD-120F-A-T**			Single Phase 220	60					3700	370	52.8	3200		
(TP) **9IDDE-120F-A**	**9IDDE-120F-A-T**			Single Phase 230	50					4500	450	64.2	2600		
(TP) **9IDDF-120F-A**	**9IDDF-120F-A-T**			Single Phase 230	60					3700	370	52.8	3200		
(TP) **9IDDG-120F-A**	**9IDDG-120F-A-T**			Three Phase 220	50	1.2	4500	450	64	4500	450	64.2	2600	-	-
(TP) **9IDDH-120F-A**	**9IDDG-120F-A-T**			Three Phase 220	60					3700	370	52.8	3200		
(TP) **9IDDI-120F-A**	**9IDDI-120F-A-T**			Three Phase 230	50					4500	450	64.2	2600		
(TP) **9IDDJ-120F-A**	**9IDDJ-120F-A-T**			Three Phase 230	60					3700	370	52.8	3200		
(TP) **9IDDK-120F-A**	**9IDDK-120F-A-T**			Three Phase 380	50	0.6	4500	450	64	4500	450	64.2	2600	-	-
(TP) **9IDDL-120F-A**	**9IDDL-120F-A-T**			Three Phase 380	60					3700	370	52.8	3200		
(TP) **9IDDM-120F-A**	**9IDDM-120F-A-T**			Three Phase 400	50	0.5	4500	450	64	4500	450	64.2	2600	-	-
(TP) **9IDDN-120F-A**	**9IDDN-120F-A-T**			Three Phase 440	50					4500	450	64.2	2600		
(TP) **9IDDO-120F-A**	**9IDDO-120F-A-T**			Three Phase 440	60					3700	370	52.8	3200		

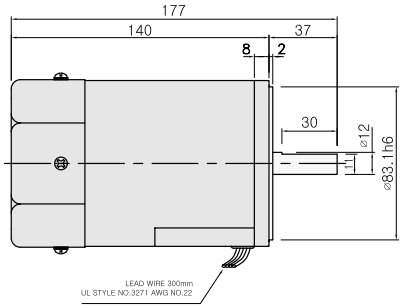
* Enter the 'Phase & Voltage' code in the box(□) within the motor model name.
* 'D-Cut Shaft' is for using motor only.

(TP) : Contains a built-in thermal protector. If a motor overheats for any reason the thermal protector opened and the motor stops. When the motor temperature drops, the thermal protector closes and the motor restarts. Be sure to turn the motor off before inspecting.

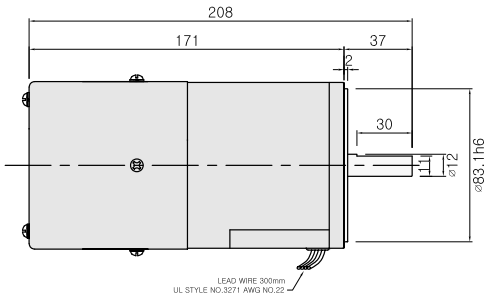
Dimension

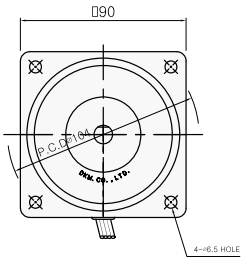
LEAD WIRE TYPE

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



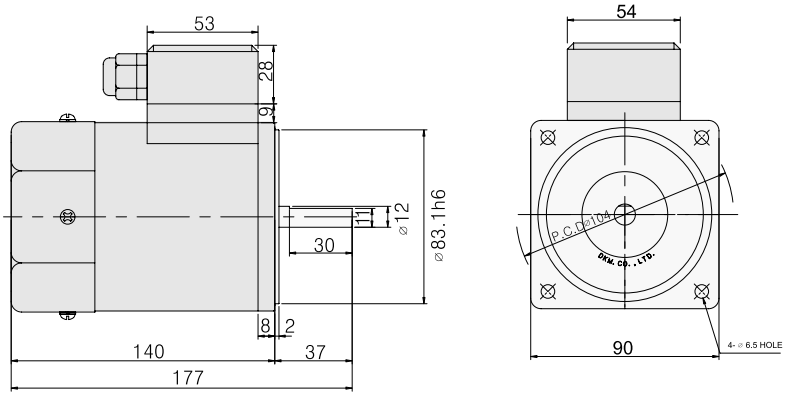
* MOTOR MODEL : 9ID□□-120F2-A (POWERFUL FAN)





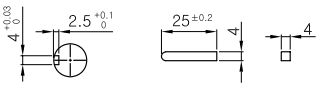
TERMINAL BOX TYPE

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



* Note : There are 2 kinds of fan type (General Fan / Powerful Fan).
Customer can choose fan type according to wanted rating time.

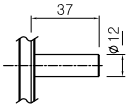
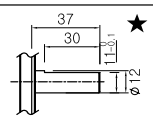
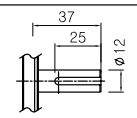
◆ KEY SPEC



◆ WEIGHT

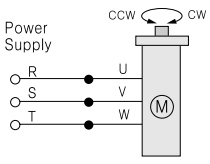
PART	WEIGHT(Kg)
MOTOR	3.0

◆ MOTOR OUTPUT

MODEL	SHAFT
ROUND TYPE 9IDS□-120□-A	
D-CUT TYPE 9IDD□-120□-A	
KEY TYPE 9IDK□-120□-A	

* Note : Above table indicates output shaft dimension made by user' s request and ★ indicates the basic dimension in factory shipping.

Connection Diagrams



CCW : To change the rotation direction, change any connections between U,V and W.

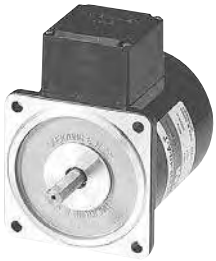
- The direction of motor rotation is as viewed from the shaft end of the motor.
- CW represents the clockwise direction, while CCW represents the counterclockwise direction.

2 POLE MOTOR

150W

□90mm(3.54in.)

LEAD WIRE TYPE MOTOR



TERMINAL BOX TYPE MOTOR

Motor Specification

Model 9IDD□-150F-A : D-Cut Shaft Type		Output		Voltage	Freq.	Current	Starting Torque			Rated Torque			Rated Speed	Capacitor	
Lead Wire Type	Terminal Box Type	HP	W	VAC	Hz	A	gfcm	mN.m	oz-in	gfcm	mN.m	oz-in	r/min	㎌	VAC
(TP) **9IDDG-150F-A**	**9IDDG-150F-A-T**	1/5	150	Three Phase 220	50	1.40	5700	570	81	5520	552	78	2600	-	-
(TP) **9IDDH-150F-A**	**9IDDH-150F-A-T**			Three Phase 220	60					4600	460	65	3200		
(TP) **9IDDI-150F-A**	**9IDDI-150F-A-T**			Three Phase 230	50					5520	552	78	2600		
(TP) **9IDDJ-150F-A**	**9IDDJ-150F-A-T**			Three Phase 230	60					4600	460	65	3200		
(TP) **9IDDK-150F-A**	**9IDDK-150F-A-T**			Three Phase 380	50	0.66	5700	570	81	5520	552	78	2600	-	-
(TP) **9IDDL-150F-A**	**9IDDL-150F-A-T**			Three Phase 380	60					4600	460	65	3200		
(TP) **9IDDM-150F-A**	**9IDDM-150F-A-T**			Three Phase 400	50	0.54	5700	570	81	5520	552	78	2600	-	-
(TP) **9IDDN-150F-A**	**9IDDN-150F-A-T**			Three Phase 440	50					5520	552	78	2600		
(TP) **9IDDO-150F-A**	**9IDDO-150F-A-T**			Three Phase 440	60					4600	460	65	3200		

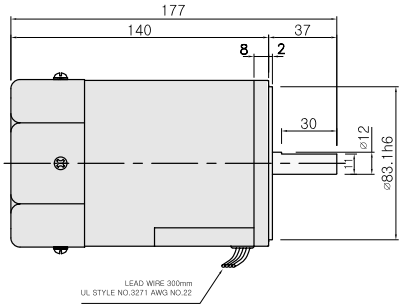
* Enter the 'Phase & Voltage' code in the box(□) within the motor model name.
* 'D-Cut Shaft' is for using motor only.

(TP) : Contains a built-in thermal protector. If a motor overheats for any reason the thermal protector opened and the motor stops. When the motor temperature drops, the thermal protector closes and the motor restarts. Be sure to turn the motor off before inspecting.

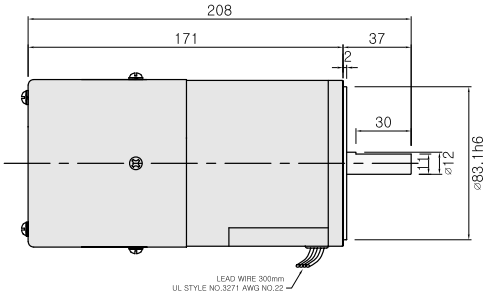
Dimension

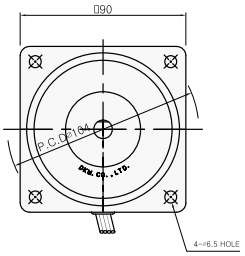
LEAD WIRE TYPE

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



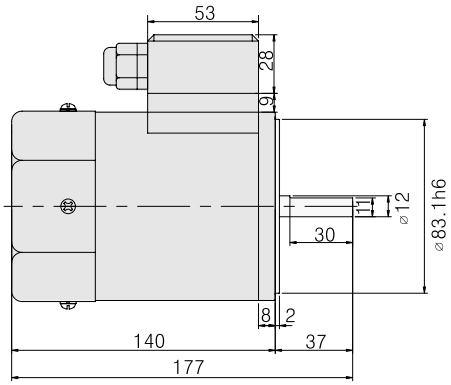
* MOTOR MODEL : 9ID□□-150F2-A (POWERFUL FAN)

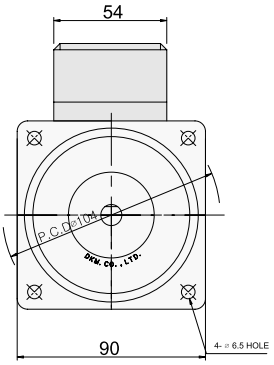




TERMINAL BOX TYPE

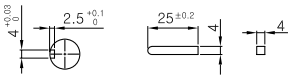
* MOTOR MODEL : 9ID□□-150F-AT(GENERAL FAN)





* Note : There are 2 kinds of fan type (General Fan / Powerful Fan).
Customer can choose fan type according to wanted rating time.

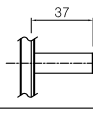
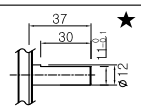
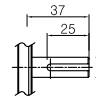
◆ KEY SPEC



◆ WEIGHT

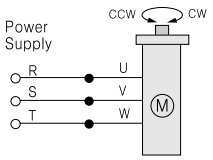
PART	WEIGHT(Kg)
MOTOR	3.0

◆ MOTOR OUTPUT

MODEL	SHAFT
ROUND TYPE 9IDS□-150□-A	
D-CUT TYPE 9IDD□-150□-A	
KEY TYPE 9IDK□-150□-A	

* Note : Above table indicates output shaft dimension made by user's request and ★ indicates the basic dimension in factory shipping.

Connection Diagrams



CCW : To change the rotation direction, change any connections between U,V and W.

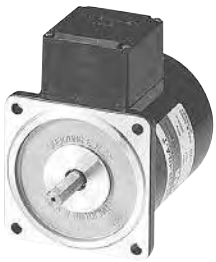
- The direction of motor rotation is as viewed from the shaft end of the motor.
- CW represents the clockwise direction, while CCW represents the counterclockwise direction.

2 POLE MOTOR

200W

☐90mm(3.54in.)

LEAD WIRE TYPE MOTOR



TERMINAL BOX TYPE MOTOR

Motor Specification

Model 9IDD☐-200F-A : D-Cut Shaft Type		Output		Voltage	Freq.	Current	Starting Torque			Rated Torque			Rated Speed	Capacitor	
Lead Wire Type	Terminal Box Type	HP	W	VAC	Hz	A	gfcm	mN.m	oz-in	gfcm	mN.m	oz-in	r/min	㎌	VAC
(TP) **9IDDG-200F-A**	**9IDDG-200F-A-T**	1/4	200	Three Phase 220	50	2.00	7500	750	106	7200	720	102	2600	-	-
(TP) **9IDDH-200F-A**	**9IDDH-200F-A-T**			Three Phase 220	60					6000	600	85	3200		
(TP) **9IDDI-200F-A**	**9IDDI-200F-A-T**			Three Phase 230	50					7200	720	102	2600		
(TP) **9IDDJ-200F-A**	**9IDDJ-200F-A-T**			Three Phase 230	60					6000	600	85	3200		
(TP) **9IDDK-200F-A**	**9IDDK-200F-A-T**			Three Phase 380	50	0.90	7500	750	106	7200	720	102	2600	-	-
(TP) **9IDDL-200F-A**	**9IDDL-200F-A-T**			Three Phase 380	60					6000	600	85	3200		
(TP) **9IDDM-200F-A**	**9IDDM-200F-A-T**			Three Phase 400	50	0.68	7500	750	106	7200	720	102	2600	-	-
(TP) **9IDDN-200F-A**	**9IDDN-200F-A-T**			Three Phase 440	50					7200	720	102	2600		
(TP) **9IDDO-200F-A**	**9IDDO-200F-A-T**			Three Phase 440	60					6000	600	78	3200		

* Enter the 'Phase & Voltage' code in the box(☐) within the motor model name.

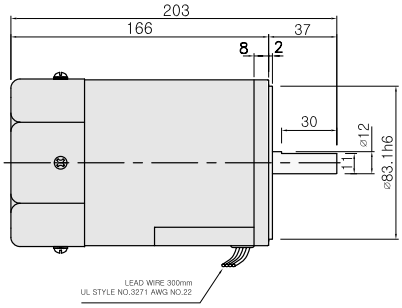
* 'D-Cut Shaft' is for using motor only.

(TP) : Contains a built-in thermal protector. If a motor overheats for any reason the thermal protector opened and the motor stops. When the motor temperature drops, the thermal protector closes and the motor restarts. Be sure to turn the motor off before inspecting.

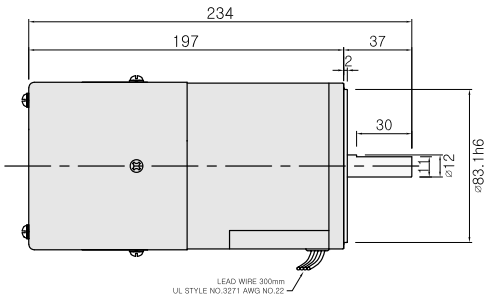
Dimension

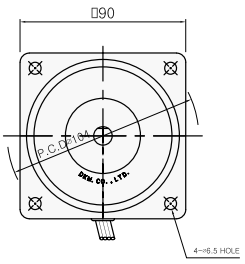
LEAD WIRE TYPE

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

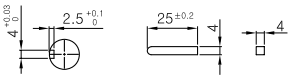


* MOTOR MODEL : 9ID□□-200F2-A (POWERFUL FAN)



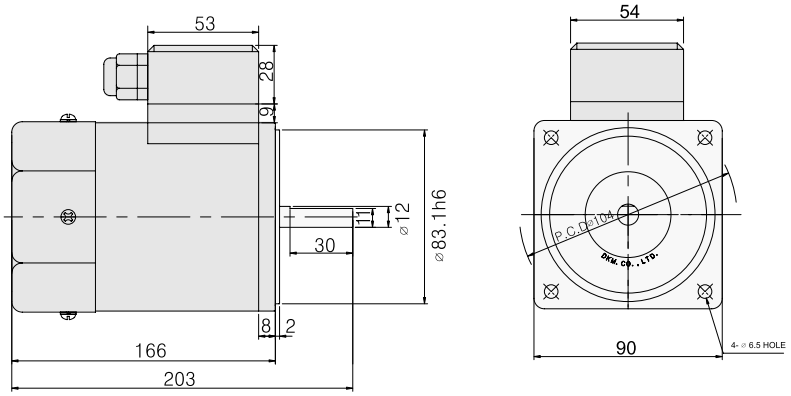


◆ KEY SPEC



TERMINAL BOX TYPE

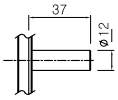
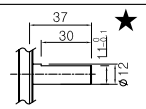
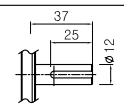
* MOTOR MODEL : 9ID□□-200F-AT (GENERAL FAN)



◆ WEIGHT

PART	WEIGHT(Kg)
MOTOR	3.8

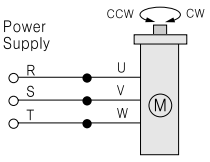
◆ MOTOR OUTPUT

MODEL	SHAFT
ROUND TYPE 9IDS□-200□-A	
D-CUT TYPE 9IDD□-200□-A	
KEY TYPE 9IDK□-200□-A	

* Note : There are 2 kinds of fan type (General Fan / Powerful Fan). Customer can choose fan type according to wanted rating time.

* Note : Above table indicates output shaft dimension made by user's request and ★ indicates the basic dimension in factory shipping.

Connection Diagrams



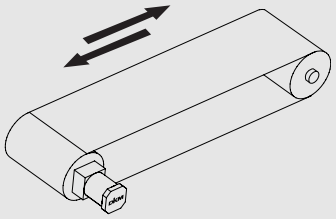
CCW : To change the rotation direction, change any connections between U,V and W.

- 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.

REVERSIBLE MOTORS

Lead wire type

Terminal box type



INDEX

Features

• Suitable for Bi-directional Continuous Operation

Reversible motors are designed for applications where frequent switch of direction is required.
It is condenser run type and single-phase induction motor. So its basic features including speed, torque and voltage are same with that of induction motors.
For the function of frequent bi-directional operation within short time, the temporary brake is employed.

• The Rating time ; 30-Minutes

Reversible motors are designed for bi-directional operation within short time so it can't avoid very high loss of input.

So generally its temperature rising could be more severe than induction motor. As a result, the rated operating time could be limited to 30 minutes.

But please be informed that depending on operating condition, they can be operated for more 30 minutes if it is operated intermittently.

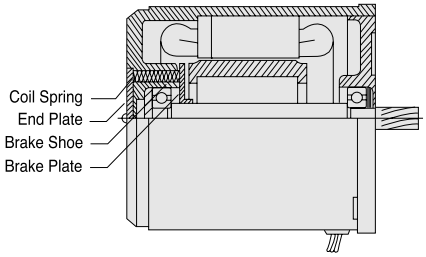
• Brake Mechanism of the Reversible Motor

A reversible motor employed a simple and built-in brake mechanism for the following purposes. :

ⓐ To improve the frequent and instant reversing function by applying a friction load.

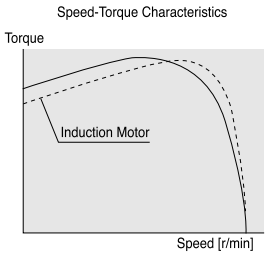
ⓑ To reduce overrun

The coil spring applies constant pressure so that the brake shoe slide toward the brake plate.
This mechanism provides some degree of holding brake force, but there is limit in the force due to the mechanism's structure as described below. The brake force is approximately 10% of the motor's output.



• Speed -Torque Characteristics

The reversible motor is a single-phase induction motor of capacitor run type which has the same characteristics as an induction motor.
The reversible motor has a higher starting torque than an induction motor in order to improve the instant reversing characteristics.



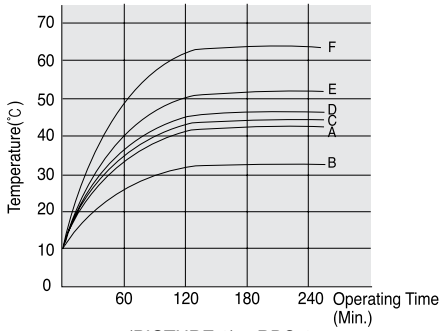
• Operation Time and Temperature Rise

The rating time of reversible motor is 30 minutes. But when the motor is operated intermittently for a short period of time, the operation time may vary depending on the operating conditions. The intermittent operation for a short period of time will cause a considerable flow of electric current in starting or reversing causing greater heat generation.
But the motor's temperature rise can be controlled by keeping the motor at rest without using for a longer time by enhancing its natural cooling capability. Generally if the temperature of motor case remains below 90℃(144℉) constantly, the continuous operation is possible under unchanged condition considering insulation class of coil winding. But the life time of bearing grease will be more longer, the lower temperature.

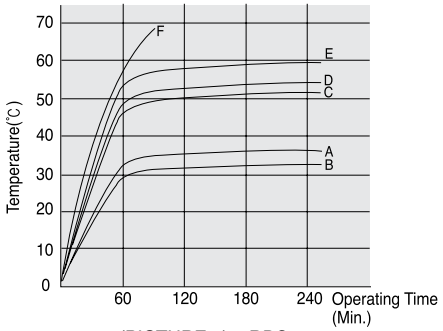
Operating time and Temperature rising

	RUN	STOP							
A									1sec run, 1sec stop
	1sec	1sec	1sec						
B									2sec run, 2sec stop
C									2sec run, 1sec stop
D									1sec CW run, 1sec CCW run
									1sec stop
E									2sec CW run, 1sec CCW run
									1sec stop
F									Continuous run

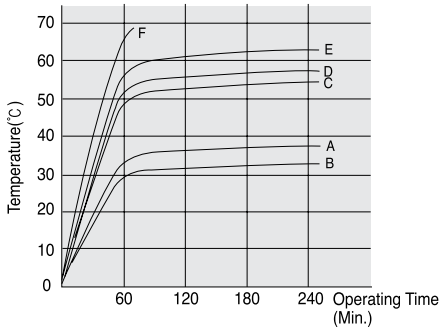
(PICTURE 1) RUN CYCLE



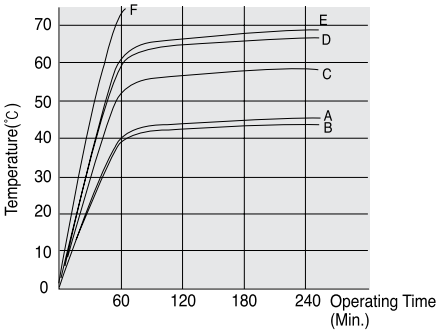
(PICTURE 2) 7RDS-6



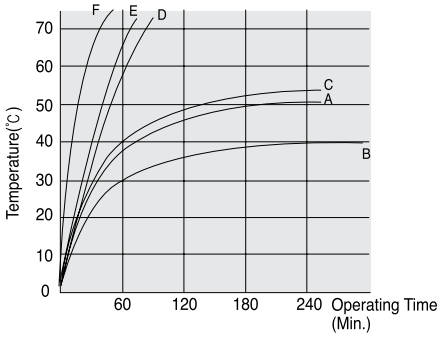
(PICTURE 3) 7RDS-10



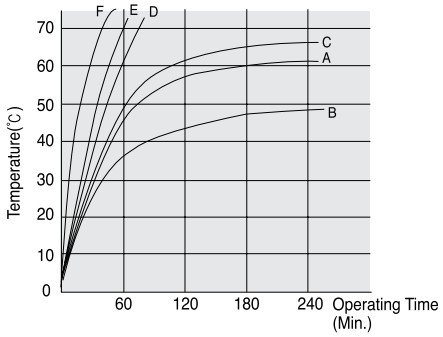
(PICTURE 4) 8RDD-15



(PICTURE 5) 8RDD-25



(PICTURE 6) 9RDD-40



(PICTURE 7) 9RDD-60F

Reversible Motor Line-Up

Frame size □mm (in.)	Output W	Type	Power (Voltage)					Page
			Single phase		Three phase			
			100/110/115V	200/220/230V	200/220/230V	380 V	440V	
70(2.76)	6	Lead Wire Terminal box	● -	● -	- -	- -	- -	67
	10	Lead Wire Terminal box	● -	● -	- -	- -	- -	69
80(3.15)	15	Lead Wire Terminal box	● ●	● ●	- -	- -	- -	71
	25	Lead Wire Terminal box	● ●	● ●	- -	- -	- -	73
90(3.54)	40	Lead Wire Terminal box	● ●	● ●	- -	- -	- -	75
	60	Lead Wire Terminal box	● ●	● ●	- -	- -	- -	78
	90	Lead Wire Terminal box	● ●	● ●	- -	- -	- -	81
	120	Lead Wire Terminal box	● ●	● ●	- -	- -	- -	83

General Specifications

Item	Specifications
Insulation Resistance	100 ㏁ or more when 500 VDC is applied between the windings and the frame after rated motor opeation under normal ambient temperature and humidity.
Dielectric Strength	Sufficient to withstand 1.5 KV at 50 Hz and 60 Hz 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℃ (144˚F) or less measured by the resistance change method after rated motor operation with connecting a gearhead or equivalent heat radiation plate. [Three-Phase 6W type : 70℃ (126˚F)]
Insulation Class	Class B [130℃ (266˚F)]
Overheat Protection	Operating temperature, open : 130℃ ± 5℃ (266℃ ±9˚F) close : 82℃ ± 15℃ (179.6˚F ± 27˚F)
Ambient Temperture Range	-10℃ ~ + 40℃ (14˚F ~ 104˚F) (nonfreezing)
Ambient Humidity	85% maximum (noncondensing)

REVERSIBLE MOTOR
6W

□70mm(3.54in.)
LEAD WIRE TYPE

LEAD WIRE TYPE MOTOR

■ Motor Specification - 30min. Rating

Model 7RDG□-6G : Pinion Shaft Type 7RDS□-6 : Round Shaft Type		Output		Voltage	Freq.	Current	Starting Torque			Rated Torque			Rated Speed	Capacitor	
Lead Wire Type	Terminal Box Type	HP	W	VAC	Hz	A	gfcm	mN.m	oz-in	gfcm	mN.m	oz-in	r/min	μF	VAC
(TP) **7RDG(S)A-6G**	-	1/125	6	Single Phase 110	60	0.35	480	48	7	600	60	8.5	1550	3.0	250
(TP) **7RDG(S)B-6G**	-			Single Phase 115	60										
(TP) **7RDG(S)C-6G**	-			Single Phase 220	50	0.19	3000	300	42	490	49	6.9	1300	1.0	400
(TP) **7RDG(S)D-6G**	-			Single Phase 220	60					600	60	8.5	1300		
(TP) **7RDG(S)E-6G**	-			Single Phase 230	50					490	49	6.9	1300		
(TP) **7RDG(S)F-6G**	-			Single Phase 230	60					600	60	8.5	1550		

* Enter the 'Phase & Voltage' code in the box(□) within the motor model name.
* 'Pinion Shaft' is for attaching gearhead and 'Round Shaft' is for using motor only.
(TP) : Contains a built-in thermal protector. If a motor overheats for any reason the thermal protector opened and the motor stops. When the motor temperature drops, the thermal protector closes and the motor restarts. Be sure to turn the motor off before inspecting. By attaching F2 FAN additionally, temperature reducing of over 10℃ could be available.

■ Permissible Torque When using gearhead

60Hz

Model	speed RPM (r/min)		600	500	360	300	240	200	144	120	100	72	60	50	45	36	30	24	20	18	15	12	10
Motor/Gearhead	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**
7RDG□-6G / **7GBD□BMH**		kgf cm	1.0	1.2	1.7	2.0	2.5	3.0	4.2	5.1	6.1	7.5	9.1	11	12.5	14	16	20	24	27	30	30	30
		N.m	0.10	0.12	0.17	0.20	0.25	0.30	0.42	0.50	0.60	0.75	0.89	1.1	1.2	1.4	1.6	2.0	2.4	2.7	3	3	3
		lb-in	0.88	1.06	1.50	1.77	2.2	2.6	3.7	4.4	5.3	6.6	7.9	9.7	10.6	12.4	14	18	21	24	26	26	26

50Hz

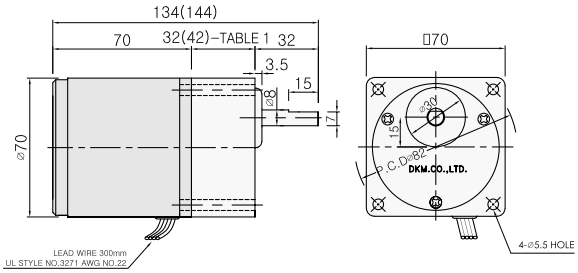
Model	speed RPM (r/min)		500	416	300	250	200	166	120	100	83	60	50	41	38	30	25	20	16	15	15	10	8.3
Motor/Gearhead	Gear Ratio		**3**	**3.6**	**5**	**6**	**7.5**	**9**	**12.5**	**15**	**18**	**25**	**30**	**36**	**40**	**50**	**60**	**75**	**90**	**100**	**120**	**150**	**180**
7RDG□-6G / **7GBD□BMH**		kgf cm	1.2	1.4	2.0	2.4	3.0	3.6	5.1	6.1	7.1	8.9	11	13	15	16	19	24	29	30	30	30	30
		N.m	0.12	0.14	0.20	0.24	0.30	0.36	0.50	0.60	0.71	0.89	1.1	1.3	1.5	1.6	1.9	2.4	2.9	3	3	3	3
		lb-in	1.06	1.24	1.77	2.1	2.6	3.2	4.4	5.3	6.3	7.9	9.7	11	13	14	17	21	26	26	26	26	26

* Enter the gear ratio in the box (□) within the model name. A colored background indicates gear shaft rotation in the same direction as the motor shaft ; a white background indicates rotation in the opposite direction.
* The speed is calculated by dividing the motor's synchronous speed (50Hz : 1500 r/min, 60 Hz : 1800 r/min) by the gear ratio.
* The actual speed is 2~20% less than the displayed value, depending on the size of the load.

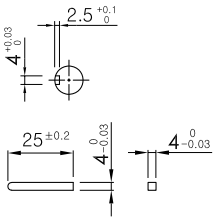
Dimension

◆ GEARED MOTOR

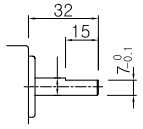
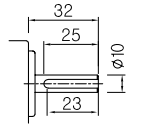
* MOTOR MODEL : 7RDG□-6G (NO FAN)
* HEAD MODEL : 7GB□3BMH - 7GB□180BMH



◆ KEY SPEC

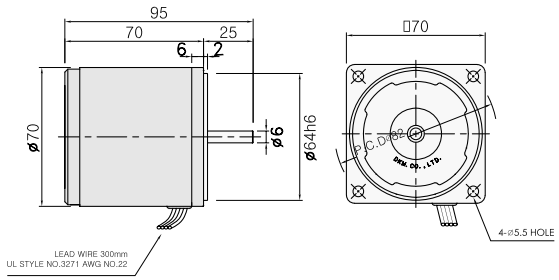


◆ GEARHEAD 출력축 사양

MODEL	출력축 구분
D-CUT TYPE 7GBD3BMH ~7GBD180BMH	 ★
KEY TYPE 7GBK3BMH ~7GBK180BMH	

◆ MOTOR ONLY

* MOTOR MODEL : 7RD□□-6 (NO FAN)



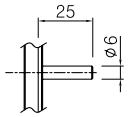
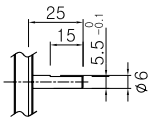
◆ WEIGHT

PART		WEIGHT(Kg)
MOTOR		0.84
GEAR HEAD	7GB□3BMH - 7GB□18BMH	0.36
	7GB□25BMH - 7GB□30BMH	0.44
	7GB□36BMH - 7GB□180BMH	0.5

◆ 32(42)-TABLE1

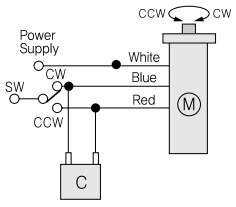
SIZE(mm)	GEAR RATIO
32	7GB□3BMH - 7GB□18BMH
42	7GB□25BMH - 7GB□180BMH

◆ MOTOR OUTPUT

MODEL	SHAFT
GEAR TYPE 7RDG□-6G	
ROUND TYPE 7RDS□-6	 ★
D-CUT TYPE 7RDD□-6	

* Note : Above table indicates output shaft dimension made by user' s request and ★ indicates the basic dimension in factory shipping.

Connection Diagrams

Single phase (CW, CCW)	Three phase (CW, CCW)
 CW : To rotate the motor in a clockwise(CW) direction, flip switch SW to CW. CCW : To rotate it in a countercloc kwise (CCW) direction, flip switch SW to	Not Available

- 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.
- Connection diagrams are also valid for the equivalent round shaft type.
- 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.

REVERSIBLE MOTOR
10W

□70mm(2.76in.)
LEAD WIRE TYPE

LEAD WIRE TYPE MOTOR

■ Motor Specification - 30min. Rating

Model 7RDG□-10G : Pinion Shaft Type 7RDS□-10 : Round Shaft Type		Output		Voltage	Freq.	Current	Starting Torque			Rated Torque			Rated Speed	Capacitor	
Lead Wire Type	Terminal Box Type	HP	W	VAC	Hz	A	gfcm	mN.m	oz-in	gfcm	mN.m	oz-in	r/min	μF	VAC
(TP) **7RDG(S)A-10G**	-	1/75	10	Single Phase 110	60	0.4	600	60	8.5	800	80	11.3	1550	3.5	250
(TP) **7RDG(S)B-10G**	-			Single Phase 115	60										
(TP) **7RDG(S)C-10G**	-			Single Phase 220	50	0.25	600	60	8.5	960	96	13.6	1350	1.5	400
(TP) **7RDG(S)D-10G**	-			Single Phase 220	60					800	80	11.3	1550		
(TP) **7RDG(S)E-10G**	-			Single Phase 230	50					960	96	13.6	1350		
(TP) **7RDG(S)F-10G**	-			Single Phase 230	60					800	80	11.3	1550		

* Enter the 'Phase & Voltage' code in the box(□) within the motor model name.
* 'Pinion Shaft' is for attaching gearhead and 'Round Shaft' is for using motor only.

(TP) : Contains a built-in thermal protector. If a motor overheats for any reason the thermal protector opened and the motor stops. When the motor temperature drops, the thermal protector closes and the motor restarts. Be sure to turn the motor off before inspecting. By attaching F2 FAN additionally, temperature reducing of over 10℃ could be available.

■ Permissible Torque When using gearhead

60Hz

Model	speed RPM (r/min)		600	500	360	300	240	200	144	120	100	72	60	50	45	36	30	24	20	18	15	12	10
Motor/Gearhead	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**
7RDG□-10G / **7GBD□BMH**		kgf cm	1.5	1.9	2.5	3.2	4.0	4.9	6.7	8.0	9.7	1.2	15	18	20	22	26	32	40	40	40	40	40
		N.m	0.15	0.19	0.25	0.32	0.40	0.49	0.67	0.80	0.97	1.2	1.5	1.8	2.0	2.2	2.6	3.2	4	4	4	4	4
		lb-in	1.32	1.68	2.21	2.83	3.5	4.3	5.9	7.1	8.6	10.6	13.2	15.9	17.7	20	23	28	35	35	35	35	35

50Hz

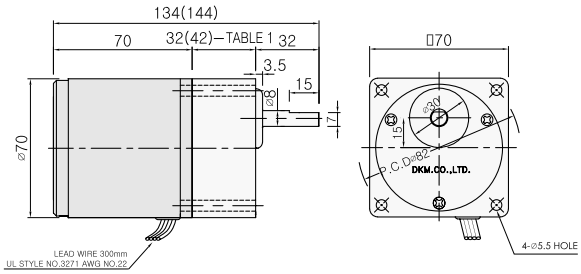
Model	speed RPM (r/min)		500	416	300	250	200	166	120	100	83	60	50	41	38	30	25	20	16	15	15	10	8.3
Motor/Gearhead	Gear Ratio		**3**	**3.6**	**5**	**6**	**7.5**	**9**	**12.5**	**15**	**18**	**25**	**30**	**36**	**40**	**50**	**60**	**75**	**90**	**100**	**120**	**150**	**180**
7RDG□-10G / **7GBD□BMH**		kgf cm	1.8	2.3	3.0	3.8	4.8	5.9	8.1	9.6	11.6	14	18	22	24	27	31	38	40	40	40	40	40
		N.m	0.18	0.23	0.3	0.38	0.48	0.59	0.81	0.96	1.16	1.4	1.8	2.2	2.4	2.7	3.1	3.8	4	4	4	4	4
		lb-in	1.59	2.01	2.65	3.39	4.2	5.2	7.1	8.5	10.3	12.7	15.9	19.1	21.2	24	28	34	35	35	35	35	35

* Enter the gear ratio in the box (□) within the model name. A colored background indicates gear shaft rotation in the same direction as the motor shaft ; a white background indicates rotation in the opposite direction.
* The speed is calculated by dividing the motor's synchronous speed (50Hz : 1500 r/min, 60 Hz : 1800 r/min) by the gear ratio.
* The actual speed is 2~20% less than the displayed value, depending on the size of the load.

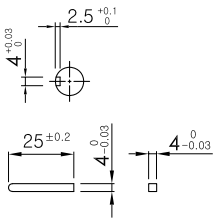
Dimension

◆ GEARED MOTOR

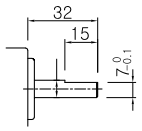
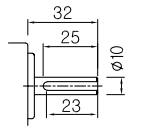
* MOTOR MODEL : 7RDG□-10G (NO FAN)
* HEAD MODEL : 7GB□3BMH - 7GB□180BMH



◆ KEY SPEC

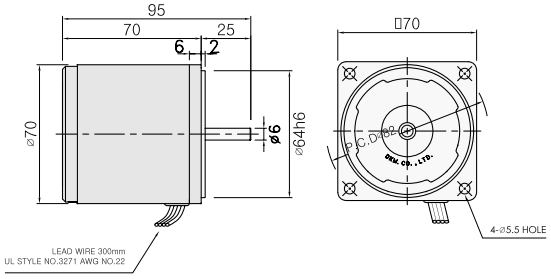


◆ GEARHEAD 출력축 사양

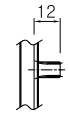
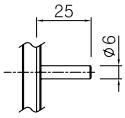
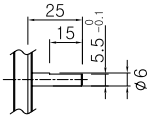
MODEL	출력축 구분
D-CUT TYPE	
7GBD3BMH ~7GBD180BMH	
KEY TYPE	
7GBK3BMH ~7GBK180BMH	

◆ MOTOR ONLY

* MOTOR MODEL : 7RD□□-10 (NO FAN)



◆ MOTOR OUTPUT

MODEL	SHAFT
GEAR TYPE	
7RDG□-10G	
ROUND TYPE	
7RDS□-10	
D-CUT TYPE	
7RDD□-10	

◆ WEIGHT

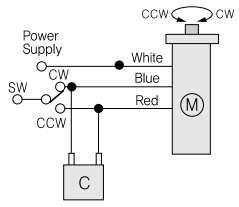
PART		WEIGHT(Kg)
MOTOR		0.84
GEAR HEAD	7GB□ 3BMH - 7GB□18BMH	0.36
	7GB□ 25BMH - 7GB□ 30BMH	0.44
	7GB□36BMH - 7GB□180BMH	0.5

◆ 32(42)-TABLE1

SIZE(mm)	GEAR RATIO
32	7GB□ 3BMH - 7GB□18BMH
42	7GB□25BMH - 7GB□180BMH

* Note : Above table indicates output shaft dimension made by user' s request and ★ indicates the basic dimension in factory shipping.

Connection Diagrams

Single phase (CW, CCW)	Three phase (CW, CCW)
	Not Available

CW : To rotate the motor in a clockwise(CW) direction, flip switch SW to CW.
CCW : To rotate it in a countercloc kwise (CCW) direction, flip switch SW to

- 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.
- Connection diagrams are also valid for the equivalent round shaft type.
- 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.

REVERSIBLE MOTOR
15W

□80mm(3.15in.)

LEAD WIRE TYPE MOTOR

TERMINAL BOX TYPE MOTOR

■ Motor Specification - 30min. Rating

Model 8RDG□-15G : Pinion Shaft Type 8RDS□-15 : Round Shaft Type		Output		Voltage	Freq.	Current	Starting Torque			Rated Torque			Rated Speed	Capacitor	
Lead Wire Type	Terminal Box Type	HP	W	VAC	Hz	A	gfcm	mN.m	oz-in	gfcm	mN.m	oz-in	r/min	μF	VAC
(TP) **8RDG(S)A-15G**	**8RDG(S)A-15G-T**	1/50	15	Single Phase 110	60	0.45	800	80	11.3	1000	100	14.1	1500	6.0	250
(TP) **8RDG(S)B-15G**	**8RDG(S)B-15G-T**			Single Phase 115	60										
(TP) **8RDG(S)C-15G**	**8RDG(S)C-15G-T**			Single Phase 220	50	0.28	800	80	11.3	1200	120	17.0	1300	2.0	400
(TP) **8RDG(S)D-15G**	**8RDG(S)D-15G-T**			Single Phase 220	60					1000	100	14.1	1500		
(TP) **8RDG(S)E-15G**	**8RDG(S)E-15G-T**			Single Phase 230	50					1200	120	17.0	1300		
(TP) **8RDG(S)F-15G**	**8RDG(S)F-15G-T**			Single Phase 230	60					1000	100	14.1	1500		

* Enter the 'Phase & Voltage' code in the box(□) within the motor model name.
* 'Pinion Shaft' is for attaching gearhead and 'Round Shaft' is for using motor only.
(TP) : Contains a built-in thermal protector. If a motor overheats for any reason the thermal protector opened and the motor stops. When the motor temperature drops, the thermal protector closes and the motor restarts. Be sure to turn the motor off before inspecting. By attaching F2 FAN additionally, temperature reducing of over 10℃ could be available.

■ Permissible Torque When using gearhead

60Hz

Model	speed RPM (r/min)		600	500	360	300	240	200	144	120	100	72	60	50	45	36	30	24	20	18	15	12	10	7	6	5
Motor/Gearhead	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**	**250**	**300**	**360**
8RDG□-15G / **8GBK□BMH**		kgf cm	2.9	3.5	4.9	5.8	7.3	8.7	12.2	14.6	17.5	21.9	26.3	31.5	36.5	39.6	47.5	59.4	71.3	79.2	80	80	80	80	80	80
		N.m	0.29	0.35	0.49	0.58	0.73	0.87	1.2	1.5	1.8	2.2	2.6	3.2	4.0	4.8	5.9	7.1	7.9	8	8	8	8	8	8	8
		lb-in	2.6	3.1	4.3	5.1	6.4	7.7	11	13	15	19	23	28	32	35	42	52	63	70	71	71	71	71	71	71

50Hz

Model	speed RPM (r/min)		500	417	300	250	200	167	120	100	83	60	50	42	38	30	25	20	17	15	13	10	8	6	5	5
Motor/Gearhead	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**	**250**	**300**	**360**
8RDG□-15G / **8GBK□BMH**		kgf cm	3.4	4.1	5.7	6.8	8.5	10.2	14.2	17.0	20.4	25.6	30.7	36.8	38.8	46.2	55.4	69.2	80	80	80	80	80	80	80	80
		N.m	0.34	0.41	0.57	0.68	0.85	1.02	1.4	1.7	2.0	2.6	3.1	3.7	3.8	4.6	5.5	6.9	8	8	8	8	8	8	8	8
		lb-in	3.0	3.6	5.0	6.0	7.5	9.0	13	15	18	23	27	32	34	41	49	61	71	71	71	71	71	71	71	71

* Enter the gear ratio in the box (□) within the model name. A colored background indicates gear shaft rotation in the same direction as the motor shaft ; a white background indicates rotation in the opposite direction.
* The speed is calculated by dividing the motor's synchronous speed (50Hz : 1500 r/min, 60 Hz : 1800 r/min) by the gear ratio.
* The actual speed is 2~20% less than the displayed value, depending on the size of the load.
* If more slow speed is needed than above value, use decimal gearhead with a gear ratio of 10:1 could be used between general gearhead and motor. Even in this case, just speed will be reduced without increase in permissible torque; the maximum permissible torque is 80kgfcm (8N.m, 71lb-in).

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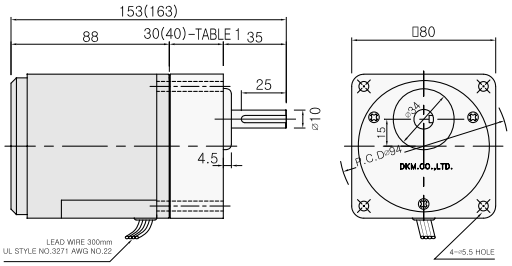
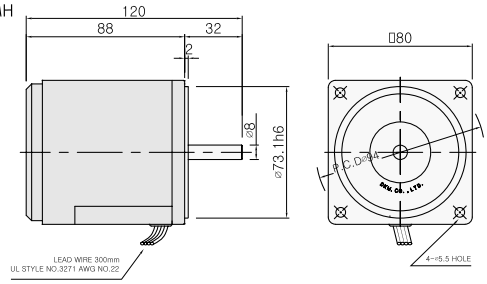
Dimension

LEAD WIRE TYPE

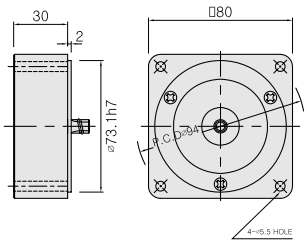
◆ GEARED MOTOR * MOTOR MODEL : 8RDG□-15G (NO FAN)
* HEAD MODEL : 8GB □3BMH - 8GB □360BMH



◆ MOTOR ONLY
* MOTOR MODEL : 8RD□□-15 (NO FAN)

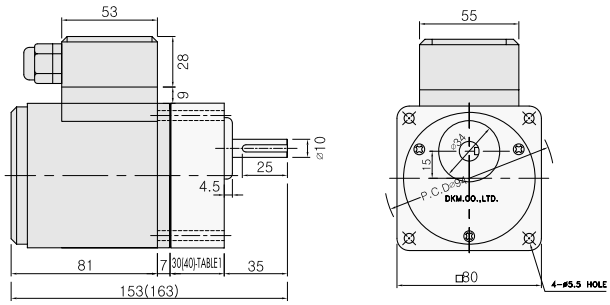


◆ INTER-DECIMAL GEARHEAD
* MODEL : 8XD10M□

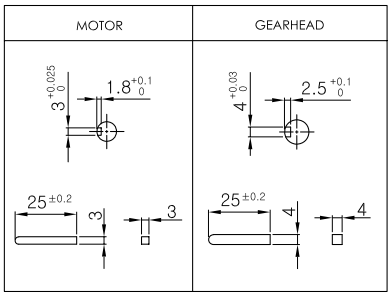


TERMINAL BOX TYPE

* MOTOR MODEL :
8RDG□-15G (NO FAN)



◆ KEY SPEC



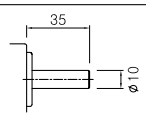
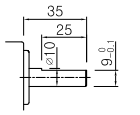
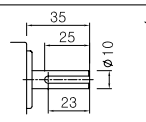
◆ 30(40)-TABLE1

SIZE(mm)	GEAR RATIO
30	8GB□ 3BMH - 8GB□ 18BMH
40	8GB□25BMH - 8GB□360BMH

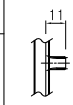
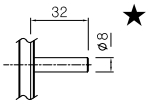
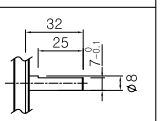
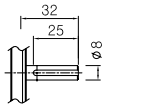
◆ WEIGHT

PART		WEIGHT(Kg)
MOTOR		1.6
DECIMAL GEARHEAD		0.44
GEAR HEAD	8GB□3BMH - 8GB□18BMH	0.48
	8GB□25BMH - 8GB□30BMH	0.61
	8GB□36BMH - 8GB□180BMH	0.67
	8GB□200BMH - 8GB□360BMH	0.63

◆ GEARHEAD OUTPUT

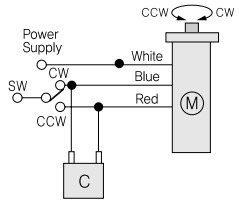
MODEL	SHAFT
ROUND TYPE 8GBS3BMH ~8GBS360BMH	
D-CUT TYPE 8GBD3BMH ~8GBD360BMH	
KEY TYPE 8GBK3BMH ~8GBK360BMH	

◆ MOTOR OUTPUT

MODEL	SHAFT
GEAR TYPE 8RDG□-15G	
ROUND TYPE 8RDS□-15	
D-CUT TYPE 8RDD□-15	
KEY TYPE 8RDK□-15	

* Note : Above table indicates output shaft dimension made by user' s request and ★ indicates the basic dimension in factory shipping.

Connection Diagrams

Single phase (CW, CCW)	Three phase (CW, CCW)
	Not Available

CW : To rotate the motor in a clockwise(CW) direction, flip switch SW to CW.
CCW : To rotate it in a countercloc kwise (CCW) direction, flip switch SW to CCW.

- 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.
- Connection diagrams are also valid for the equivalent round shaft type.
- 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.

REVERSIBLE MOTOR
25W

□80mm(3.15in.)

LEAD WIRE TYPE MOTOR

TERMINAL BOX TYPE MOTOR

Motor Specification - 30min. Rating

Model 8RDG□-25G : Pinion Shaft Type 8RDS□-25 : Round Shaft Type		Output		Voltage	Freq.	Current	Starting Torque			Rated Torque			Rated Speed	Capacitor	
Lead Wire Type	Terminal Box Type	HP	W	VAC	Hz	A	gfcm	mN.m	oz-in	gfcm	mN.m	oz-in	r/min	μF	VAC
(TP) **8RDG(S)A-25G**	**8RDG(S)A-25G-T**	1/30	25	Single Phase 110	60	0.75	1400	140	20	1700	170	24	1550	10.0	250
(TP) **8RDG(S)B-25G**	**8RDG(S)B-25G-T**			Single Phase 115	60										
(TP) **8RDG(S)C-25G**	**8RDG(S)C-25G-T**			Single Phase 220	50	0.35	1400	140	20	1920	192	27	1300	2.5	400
(TP) **8RDG(S)D-25G**	**8RDG(S)D-25G-T**			Single Phase 220	60					1600	160	23	1550		
(TP) **8RDG(S)E-25G**	**8RDG(S)E-25G-T**			Single Phase 230	50					1920	192	27	1300		
(TP) **8RDG(S)F-25G**	**8RDG(S)F-25G-T**			Single Phase 230	60					1600	160	23	1550		

* Enter the 'Phase & Voltage' code in the box(□) within the motor model name.
* 'Pinion Shaft' is for attaching gearhead and 'Round Shaft' is for using motor only.
(TP): Contains a built-in thermal protector. If a motor overheats for any reason the thermal protector opened and the motor stops. When the motor temperature drops, the thermal protector closes and the motor restarts. Be sure to turn the motor off before inspecting. By attaching F2 FAN additionally, temperature reducing of over 10℃ could be available.

Permissible Torque When using gearhead

60Hz

Model	speed RPM (r/min)		600	500	360	300	240	200	144	120	100	72	60	50	45	36	30	24	20	18	15	12	10	7	6	5
Motor/Gearhead	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**	**250**	**300**	**360**
8RDG□-25G / **8GBK□ BMH**		kgf cm	4.4	5.2	7.3	8.7	10.9	13.1	18.2	21.9	26.2	32.9	39.4	47.3	52.6	59.4	71.3	80	80	80	80	80	80	80	80	80
		N.m	0.44	0.52	0.73	0.87	1.09	1.31	1.82	2.19	2.62	3.29	3.9	4.7	5.2	5.9	7.1	8	8	8	8	8	8	8	8	8
		lb-in	3.9	4.6	6.4	7.7	9.6	12	16	19	23	29	35	42	46	52	63	71	71	71	71	71	71	71	71	71

50Hz

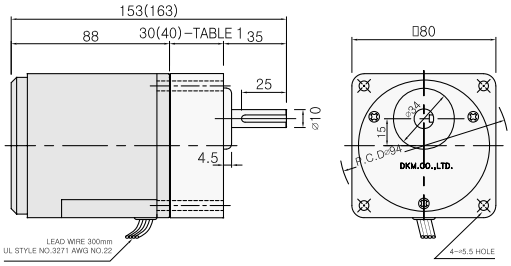
Model	speed RPM (r/min)		500	417	300	250	200	167	120	100	83	60	50	42	38	30	25	20	17	15	13	10	8	6	5	4
Motor/Gearhead	Gear Ratio		**3**	**3.6**	**5**	**6**	**7.5**	**9**	**12.5**	**15**	**18**	**25**	**30**	**36**	**40**	**50**	**60**	**75**	**90**	**100**	**120**	**150**	**180**	**250**	**300**	**360**
8RDG□-25G / **8GBK□BMH**		kgf cm	5.3	6.4	8.9	10.7	13.4	16.0	22.3	26.7	32.1	40.2	48.2	57.8	64.2	72.6	80	80	80	80	80	80	80	80	80	80
		N.m	0.53	0.64	0.89	1.07	1.34	1.60	2.23	2.67	3.21	4.02	4.8	5.8	6.4	7.3	8	8	8	8	8	8	8	8	8	8
		lb-in	4.7	5.7	7.9	9.4	11.8	14	20	24	28	35	43	51	57	64	71	71	71	71	71	71	71	71	71	71

* Enter the gear ratio in the box (□) within the model name. A colored background indicates gear shaft rotation in the same direction as the motor shaft ; a white background indicates rotation in the opposite direction.
* The speed is calculated by dividing the motor's synchronous speed (50Hz : 1500 r/min, 60 Hz : 1800 r/min) by the gear ratio.
* The actual speed is 2~20% less than the displayed value, depending on the size of the load.
* If more slow speed is needed than above value, use decimal gearhead with a gear ratio of 10:1 could be used between general gearhead and motor. Even in this case, just speed will be reduced without increase in permissible torque; the maximum permissible torque is 80kgfcm (8N.m, 71lb-in).

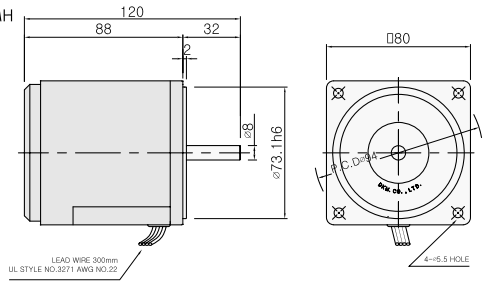
Dimension

LEAD WIRE TYPE

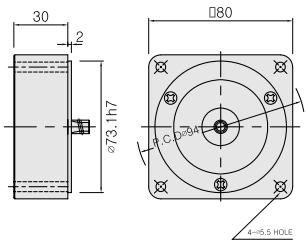
◆ GEARED MOTOR * MOTOR MODEL : 8RDG□-25G (NO FAN)
* HEAD MODEL : 8GB □3BMH - 8GB □360BMH



◆ MOTOR ONLY
* MOTOR MODEL : 8RD□□-25 (NO FAN)

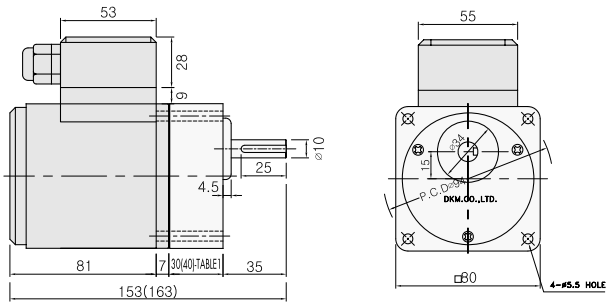


◆ INTER-DECIMAL GEARHEAD
* MODEL : 8XD10M □

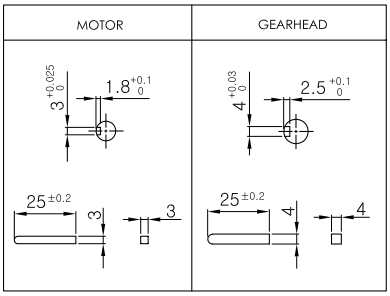


TERMINAL BOX TYPE

* MOTOR MODEL :
8RDG□-25G (NO FAN)



◆ KEY SPEC



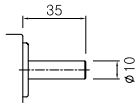
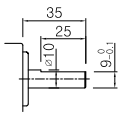
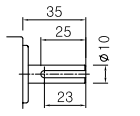
◆ 30(40)-TABLE1

SIZE(mm)	GEAR RATIO
30	8GB□3BMH - 8GB□18BMH
40	8GB□25BMH - 8GB□360BMH

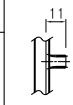
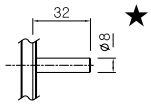
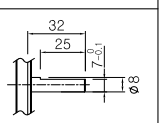
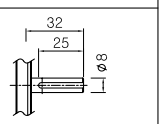
◆ WEIGHT

PART		WEIGHT(Kg)
MOTOR		1.6
DECIMAL GEARHEAD		0.44
GEAR HEAD	8GB□3BMH - 8GB□18BMH	0.48
	8GB□25BMH - 8GB□30BMH	0.61
	8GB□36BMH - 8GB□180BMH	0.67
	8GB□200BMH - 8GB□360BMH	0.63

◆ GEARHEAD OUTPUT

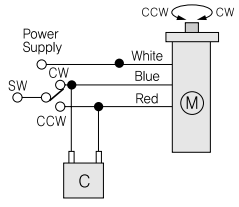
MODEL	SHAFT
ROUND TYPE 8GBS3BMH ~8GBS360BMH	
D-CUT TYPE 8GBD3BMH ~8GBD360BMH	
KEY TYPE 8GBK3BMH ~8GBK360BMH	

◆ MOTOR OUTPUT

MODEL	SHAFT
GEAR TYPE 8RDG□-25G	
ROUND TYPE 8RDS□-25	
D-CUT TYPE 8RDD□-25	
KEY TYPE 8RDK□-25	

* Note : Above table indicates output shaft dimension made by user' s request and ★ indicates the basic dimension in factory shipping.

Connection Diagrams

Single phase (CW, CCW)	Three phase (CW, CCW)
	Not Available

CW : To rotate the motor in a clockwise(CW) direction, flip switch SW to CW.
CCW : To rotate it in a countercloc kwise (CCW) direction, flip switch SW to CCW.

- 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.
- Connection diagrams are also valid for the equivalent round shaft type.
- 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.

REVERSIBLE MOTOR
40W

□90mm(3.54in.)

LEAD WIRE TYPE MOTOR

TERMINAL BOX TYPE MOTOR

■ Motor Specification - 30min. Rating (Continuous : F2 fan)

Model 9RDG□-40G : Pinion Shaft Type 9RDD□-40 : D-Cut Shaft Type		Output		Voltage	Freq.	Current	Starting Torque			Rated Torque			Rated Speed	Capacitor	
Lead Wire Type	Terminal Box Type	HP	W	VAC	Hz	A	gfcm	mN.m	oz-in	gfcm	mN.m	oz-in	r/min	μF	VAC
(TP) **9RDG(D)A-40G**	**9RDG(D)A-40G-T**	1/15	40	Single Phase 110	60	1.0	2600	260	37	2600	260	37	1550	16.0	250
(TP) **9RDG(D)B-40G**	**9RDG(D)B-40G-T**			Single Phase 115	60										
(TP) **9RDG(D)C-40G**	**9RDG(D)C-40G-T**			Single Phase 220	50	0.5	2600	260	37	3000	300	42	1350	4.0	400
(TP) **9RDG(D)D-40G**	**9RDG(D)D-40G-T**			Single Phase 220	60					2600	260	37	1550		
(TP) **9RDG(D)E-40G**	**9RDG(D)E-40G-T**			Single Phase 230	50					3000	300	42	1350		
(TP) **9RDG(D)F-40G**	**9RDG(D)F-40G-T**			Single Phase 230	60					2600	260	37	1550		

* Enter the 'Phase & Voltage' code in the box(□) within the motor model name.
* 'Pinion Shaft' is for attaching gearhead and 'D-Cut Shaft' is for using motor only.

(TP) : Contains a built-in thermal protector. If a motor overheats for any reason the thermal protector opened and the motor stops. When the motor temperature drops, the thermal protector closes and the motor restarts. Be sure to turn the motor off before inspecting. By attaching F2 FAN additionally, temperature reducing of over 10℃ could be available.

■ Permissible Torque When using gearhead

60Hz

Model	speed RPM (r/min)		900	600	500	360	300	240	200	180	144	120	100	72	60	50	45	36	30	24	20	18	15	12	10
Motor/Gearhead	Gear Ratio		**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**
9RDG□-40G	**9GBK□MH**	kgf cm	5.0	6.8	8.2	11.3	13.6	17.0	20.4	22.7	28.4	34.0	40.8	51.1	61.3	73.6	81.5	100	100	100	100	100	100	100	100
		N.m	0.50	0.68	0.82	1.13	1.36	1.70	2.04	2.27	2.84	3.40	4.08	5.11	6.1	7.4	8.2	10	10	10	10	10	10	10	10
		lb-in	4.4	6.0	7.2	10.0	12.0	15.0	18.0	20.0	25.1	30.0	36.0	45.1	54.1	65.0	72.0	88	88	88	88	88	88	88	88

50Hz

Model	speed RPM (r/min)		750	500	417	300	250	200	167	150	120	100	83	60	50	42	38	30	25	20	17	15	13	10	8
Motor/Gearhead	Gear Ratio		**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**
9RDG□-40G	**9GBK□MH**	kgf cm	6.0	8.3	9.9	13.8	16.5	20.7	24.8	27.5	34.4	41.3	49.6	62.1	74.5	89.4	99.1	100	100	100	100	100	100	100	100
		N.m	0.60	0.38	0.99	1.38	1.65	2.07	2.48	2.75	344	4.13	4.96	6.21	7.5	8.9	9.9	10	10	10	10	10	10	10	10
		lb-in	5.3	7.3	8.7	12.2	14.6	18.3	21.9	24.3	30.4	36.5	43.8	54.8	65.8	78.9	87.5	88	88	88	88	88	88	88	88

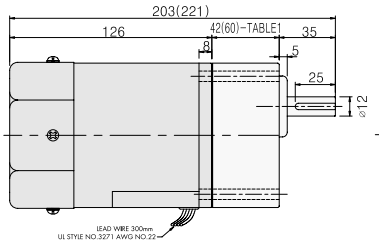
* Enter the gear ratio in the box (□) within the gearhead model name. A colored background indicates gear shaft rotation in the same direction as the motor shaft ; a white background indicates rotation in the opposite direction.
* The speed is calculated by dividing the motor' s synchronous speed (50Hz : 1500 r/min, 60 Hz : 1800 r/min) by the gear ratio.
* The actual speed is 2~20% less than the displayed value, depending on the size of the load.
* If more slow speed is needed than above value, use decimal gearhead with a gear ratio of 10:1 could be used between general gearhead and motor. Even in this case, just speed will be reduced without increase in permissible torque; the maximum permissible torque is 100kgfcm (10N.m, 88lb-in).

Dimension

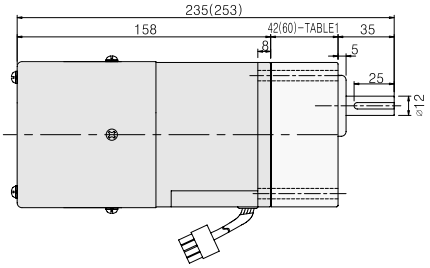
LEAD WIRE TYPE

◆ GEARED MOTOR

* MOTOR MODEL : 9RDG□-40FG (GENERAL FAN)
* GEARHEAD MODEL : 9GB□3MH - 9GB□180MH

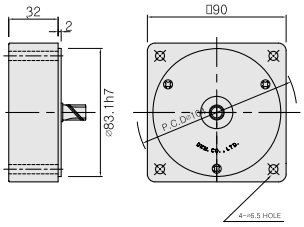


*MOTOR MODEL : 9RDG□-40F2G (POWERFUL FAN)
*GEARHEAD MODEL : 9GB□3BH - 9GB□180BH



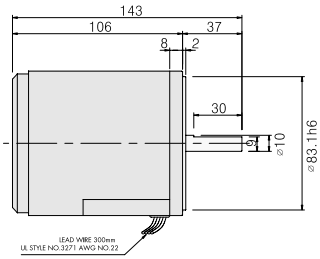
◆ INTER-DECIMAL GEARHEAD

* MODEL : 9XD10M□

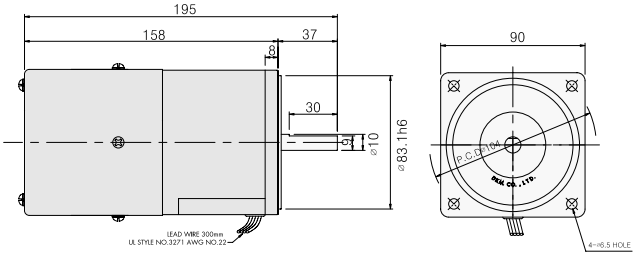


◆ MOTOR ONLY

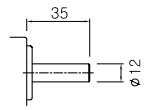
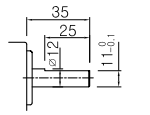
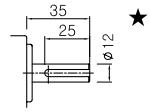
* MOTOR MODEL : 9RD□□-40 (NO FAN)



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

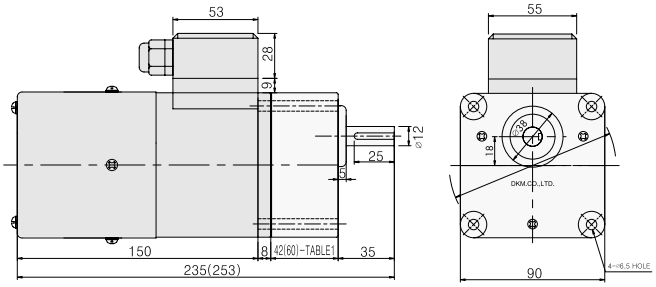


◆ GEARHEAD OUTPUT

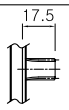
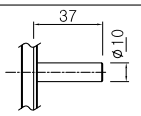
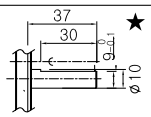
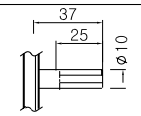
MODEL	SHAFT
ROUND TYPE 9GBS3MH ~9GBS180MH	
D-CUT TYPE 9GBD3MH ~9GBD180MH	
KEY TYPE 9GBK3MH ~9GBK180MH	 ★

TERMINAL BOX TYPE

* MOTOR MODEL :
9RDG□-40F2G-T (POWERFUL FAN)



◆ MOTOR OUTPUT

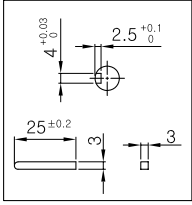
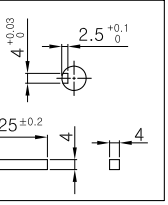
MODEL	SHAFT
GEAR TYPE 9RDG□-40G	
ROUND TYPE 9RDS□-40	
D-CUT TYPE 9RDD□-40	 ★
KEY TYPE 9RDK□-40	

* Note : There are 3 kinds of fan type (No Fan / General Fan / Powerful Fan).
Customer can choose fan type according to wanted rating time.

◆ 42(60)-TABLE1

SIZE(mm)	GEAR RATIO
42	9GB□3MH - 9GB□15MH
60	9GB□18MH - 9GB□180MH

◆ KEY SPEC

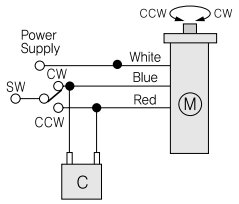
MOTOR	GEARHEAD
	

◆ WEIGHT

PART		WEIGHT(Kg)
MOTOR		2.4
DECIMAL GEARHEAD		0.5
GEAR HEAD	9GB□3MH - 9GB□15MH	0.67
	9GB□18MH - 9GB□30MH	0.96
	9GB□36MH - 9GB□180MH	1.07

* Note : Above table indicates output shaft dimension made by user' s request and ★ indicates the basic dimension in factory shipping.

Connection Diagrams

Single phase (CW, CCW)	Three phase (CW, CCW)
 CW : To rotate the motor in a clockwise(CW) direction, flip switch SW to CW. CCW : To rotate it in a countercloc kwise (CCW) direction, flip switch SW to CCW.	Not Available

- 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.
- Connection diagrams are also valid for the equivalent round shaft type.
- 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.

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REVERSIBLE MOTOR
60W

□90mm(3.54in.)

LEAD WIRE TYPE MOTOR
+ PB TYPE GEARHEAD

LEAD WIRE TYPE MOTOR
+ PF TYPE GEARHEAD

TERMINAL BOX TYPE MOTOR
+ PF TYPE GEARHEAD

Motor Specification - 30min. Rating (Continuous : F2 fan)

CE

Model 9RDG□-60FP : Pinion Shaft Type 9RDD□-60F : D-Cut Shaft Type		Output		Voltage	Freq.	Current	Starting Torque			Rated Torque			Rated Speed	Capacitor	
Lead Wire Type	Terminal Box Type	HP	W	VAC	Hz	A	gfcm	mN.m	oz-in	gfcm	mN.m	oz-in	r/min	μF	VAC
(TP) **9RDG(D)A-60FP**	**9RDG(D)A-60FP-T**	1/12	60	Single Phase 110	60	1.40	4000	400	57	3800	380	54	1550	20	250
(TP) **9RDG(D)B-60FP**	**9RDG(D)B-60FP-T**			Single Phase 115	60										
(TP) **9RDG(D)C-60FP**	**9RDG(D)C-60FP-T**			Single Phase 220	50	0.70	4000	400	57	4560	456	65	1350	5.0	400
(TP) **9RDG(D)D-60FP**	**9RDG(D)D-60FP-T**			Single Phase 220	60					3800	380	54	1550		
(TP) **9RDG(D)E-60FP**	**9RDG(D)E-60FP-T**			Single Phase 230	50					4560	456	65	1350		
(TP) **9RDG(D)F-60FP**	**9RDG(D)F-60FP-T**			Single Phase 230	60					3800	380	54	1550		

* Enter the 'Phase & Voltage' code in the box(□) within the motor model name.
* 'Pinion Shaft' is for attaching gearhead and 'D-Cut Shaft' is for using motor only.

(TP) : Contains a built-in thermal protector. If a motor overheats for any reason the thermal protector opened and the motor stops. When the motor temperature drops, the thermal protector closes and the motor restarts. Be sure to turn the motor off before inspecting. By attaching F2 FAN additionally, temperature reducing of over 10℃ could be available.

Permissible Torque When using gearhead

60Hz

Model	speed RPM (r/min)		900	600	500	360	300	240	200	144	120	100	90	72	60	50	45	36	30	24	20	18	15	12	10
Motor/Gearhead	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**
9RDG□-60P	**9PBK□BH** / **9PFK□BH**	kgf cm	7.5	9.7	11.7	16.2	19.4	24.3	29.2	36.5	43.8	52.6	59.0	66.0	79.2	95	106	132	158	177	200	200	200	200	200
		N.m	0.8	1.0	1.2	1.6	1.9	2.4	2.9	3.7	4.4	5.3	5.9	6.6	7.9	9.5	10.6	13.2	15.8	17.7	20	20	20	20	20
		lb-in	6.6	8.6	10	14	17	21	26	32	39	46	52	58	70	84	94	117	140	156	177	177	177	177	177

50Hz

Model	speed RPM (r/min)		750	500	417	300	250	200	167	120	100	83	90	60	50	42	38	30	25	20	17	15	13	10	8
Motor/Gearhead	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**
9RDG□-60P	**9PBK□BH** / **9PFK□BH**	kgf cm	10.0	12.2	14.6	20.3	24	30	37	46	55	66	72	83	99	119	132	165	198	200	200	200	200	200	200
		N.m	1.0	1.2	1.5	2.0	2.4	3.0	3.7	4.6	5.5	6.6	7.2	8.3	9.9	11.9	13.2	16.5	20	20	20	20	20	20	20
		lb-in	8.8	10.5	12.9	17.9	21.5	26.8	32.2	40.3	48.4	58.0	63.6	72.8	87	105	117	146	175	177	177	177	177	177	177

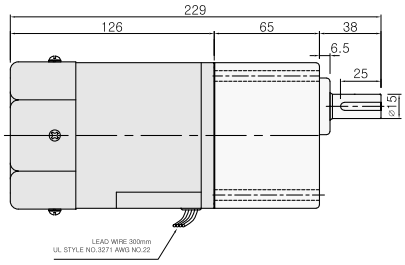
* Enter the gear ratio in the box (□) within the gearhead model name. A colored background indicates gear shaft rotation in the same direction as the motor shaft ; a white background indicates rotation in the opposite direction.
* The speed is calculated by dividing the motor' s synchronous speed (50Hz : 1500 r/min, 60 Hz : 1800 r/min) by the gear ratio.
* The actual speed is 2~20% less than the displayed value, depending on the size of the load.
* If more slow speed is needed than above value, use decimal gearhead with a gear ratio of 10:1 could be used between general gearhead and motor. Even in this case, just speed will be reduced without increase in permissible torque; the maximum permissible torque is 200kgfcm (20N.m, 177lb-in).

Dimension

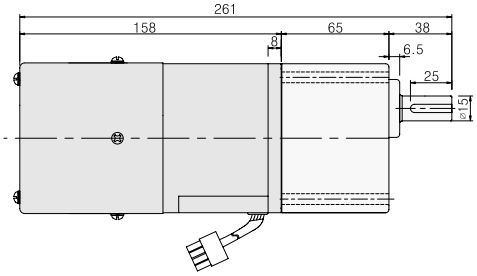
LEAD WIRE TYPE

◆ GEARED MOTOR

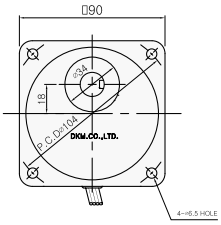
* MOTOR MODEL : 9RDG□-60FP (GENERAL FAN)



* MOTOR MODEL : 9RDG□-60F2P (POWERFUL FAN)

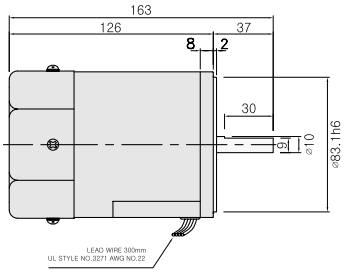


* GEARHEAD MODEL :
9PB□3BH - 9PB□180BH

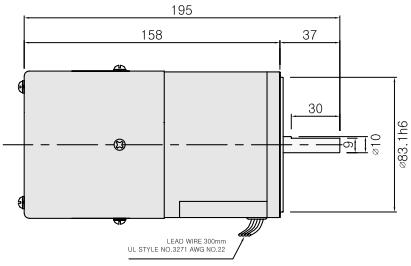


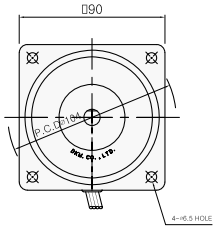
◆ MOTOR ONLY

* MOTOR MODEL : 9RD□□-60F (GENERAL FAN)

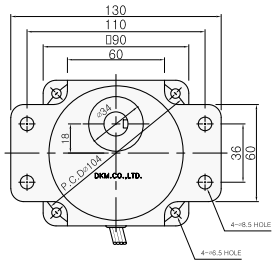


* MOTOR MODEL : 9RD□□-60F2 (POWERFUL FAN)



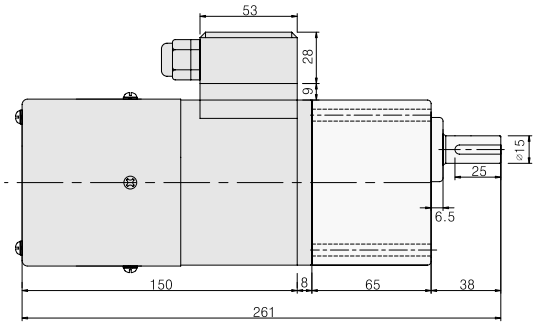


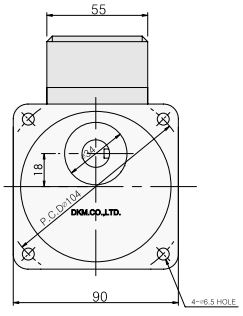
* GEARHEAD MODEL :
9PF□3BH - 9PF□180BH



TERMINAL BOX TYPE

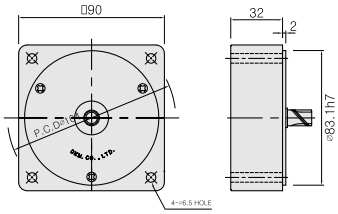
* MOTOR MODEL : 9RDG□-60F2P-T (POWERFUL FAN)



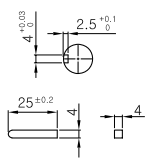
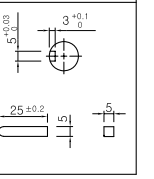


◆ INTER-DECIMAL GEARHEAD

* MODEL : 9XD10M□



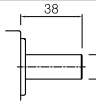
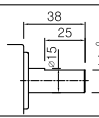
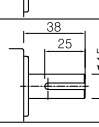
◆ KEY SPEC

MOTOR	GEARHEAD
	

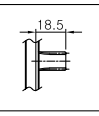
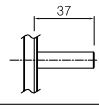
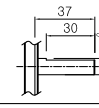
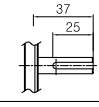
◆ WEIGHT

PART		WEIGHT(Kg)
MOTOR		2.6
DECIMAL GEARHEAD		0.5
GEAR HEAD	9P□□3BH - 9P□□9BH	1.3
	9P□□12.5BH - 9P□□18BH	1.3
	9P□□25BH - 9P□□60BH	1.4
	9P□□90BH - 9P□□180BH	1.4

◆ GEARHEAD OUTPUT

MODEL	SHAFT
ROUND TYPE 9P□S3BH ~9P□S180BH	
D-CUT TYPE 9P□D3BH ~9P□D180BH	
KEY TYPE 9P□K3BH ~9P□K180BH	 ★

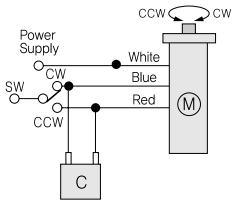
◆ MOTOR OUTPUT

MODEL	SHAFT
GEAR TYPE 9RDG□-60□ P	
ROUND TYPE 9RDS□-60□	
D-CUT TYPE 9RDD□-60□	 ★
KEY TYPE 9RDK□-60□	

* Note : There are 2 kinds of fan type (General Fan / Powerful Fan).
Customer can choose fan type according to wanted rating time.

* Note : Above table indicates output shaft dimension made by user' s request and ★ indicates the basic dimension in factory shipping.

Connection Diagrams

Single phase (CW, CCW)	Three phase (CW, CCW)
 CW : To rotate the motor in a clockwise(CW) direction, flip switch SW to CW. CCW : To rotate it in a countercloc kwise (CCW) direction, flip switch SW to CCW.	Not Available

- 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.
- Connection diagrams are also valid for the equivalent round shaft type.
- 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.

REVERSIBLE MOTOR
90W

□90mm(3.54in.)

LEAD WIRE TYPE MOTOR
+ PB TYPE GEARHEAD

LEAD WIRE TYPE MOTOR
+ PF TYPE GEARHEAD

TERMINAL BOX TYPE MOTOR
+ PF TYPE GEARHEAD

LEAD WIRE TYPE MOTOR
+ HB TYPE GEARHEAD

Motor Specification - 30min. Rating (Continuous : F2 fan)

Model 9RDG□-90FP : Pinion Shaft Type 9RDD□-90F : D-Cut Shaft Type		Output		Voltage	Freq.	Current	Starting Torque			Rated Torque			Rated Speed	Capacitor	
Lead Wire Type	Terminal Box Type	HP	W	VAC	Hz	A	gfcm	mN.m	oz-in	gfcm	mN.m	oz-in	r/min	μF	VAC
(TP) **9RDG(D)A-90FP(H)**	**9RDG(D)A-90FP(H)-T**	1/8	90	Single Phase 110	60	2.2	5500	550	78	5700	570	81	1500	25	250
(TP) **9RDG(D)B-90FP(H)**	**9RDG(D)B-90FP(H)-T**			Single Phase 115	60										
(TP) **9RDG(D)C-90FP(H)**	**9RDG(D)C-90FP(H)-T**			Single Phase 220	50	1.2	5500	550	78	6840	684	97	1300	6.0	400
(TP) **9RDG(D)D-90FP(H)**	**9RDG(D)D-90FP(H)-T**			Single Phase 220	60					5700	570	81	1500		
(TP) **9RDG(D)E-90FP(H)**	**9RDG(D)E-90FP(H)-T**			Single Phase 230	50					6840	684	97	1300		
(TP) **9RDG(D)F-90FP(H)**	**9RDG(D)F-90FP(H)-T**			Single Phase 230	60					5700	570	81	1500		

* Enter the 'Phase & Voltage' code in the box(□) within the motor model name.
* 'Pinion Shaft' is for attaching gearhead and 'D-Cut Shaft' is for using motor only.
(TP) : Contains a built-in thermal protector. If a motor overheats for any reason the thermal protector opened and the motor stops. When the motor temperature drops, the thermal protector closes and the motor restarts. Be sure to turn the motor off before inspecting. By attaching F2 FAN additionally, temperature reducing of over 10℃ could be available.

Permissible Torque When using gearhead

60Hz

Model	speed RPM (r/min)		900	600	500	360	300	240	200	144	120	100	90	72	60	50	45	36	30	24	20	18	15	12	10
Motor/Gearhead	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**
9RDG□-90FP / **9PBK□BH** **9PFK□BH**		kgf cm	12	14.6	17.5	24.3	29.2	36.5	43.7	54.8	65.7	78.8	88.0	99	119	143	158	198	200	200	200	200	200	200	200
		N.m	1.2	1.5	1.8	2.4	2.9	3.7	4.4	5.5	6.6	7.9	8.8	9.9	12	14	16	20	20	20	20	20	20	20	20
		lb-in	10.6	12.9	15.5	21.5	25.8	32.2	38.6	48.4	58.0	69.6	77.7	87.4	105	126	140	175	177	177	177	177	177	177	177
9RDG□-90FH / **9HBK□BH**		kgf cm																198	232	259	300	300	300	300	300
		N.m	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20	23	26	30	30	30	30	30
		lb-in																175	205	229	265	265	265	265	265

50Hz

Model	speed RPM (r/min)		750	500	417	300	250	200	167	120	100	83	75	60	50	42	38	30	25	20	17	15	13	10	8
Motor/Gearhead	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**
9RDG□-90FP / **9PBK□BH** **9PFK□BH**		kgf cm	15	18.2	21.9	30.4	36.5	45.6	54.7	68.4	82.1	98.6	110	124	150	180	199	200	200	200	200	200	200	200	200
		N.m	1.5	1.8	2.2	3.0	3.7	4.6	5.5	6.8	8.2	9.9	11	12	15	18	20	20	20	20	20	20	20	20	20
		lb-in	13.2	16.1	19.3	26.8	32.2	40.3	48.3	60	72	87	91	109	132	159	176	177	177	177	177	177	177	177	177
9RDG□-90FH / **9HBK□BH**		kgf cm																241	289	300	300	300	300	300	300
		N.m	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24	29	30	30	30	30	30	30
		lb-in																213	255	265	265	265	265	265	265

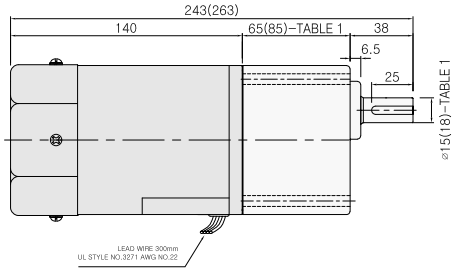
* Enter the gear ratio in the box (□) within the gearhead model name. A colored background indicates gear shaft rotation in the same direction as the motor shaft ; a white background indicates rotation in the opposite direction.
* The speed is calculated by dividing the motor' s synchronous speed (50Hz : 1500 r/min, 60 Hz : 1800 r/min) by the gear ratio.
* The actual speed is 2~20% less than the displayed value, depending on the size of the load.
* If more slow speed is needed than above value, use decimal gearhead with a gear ratio of 10:1 could be used between general gearhead and motor. Even in this case, just speed will be reduced without increase in permissible torque; the maximum permissible torque is 200kgfcm (P type) / 300kgfcm (H type).

Dimension

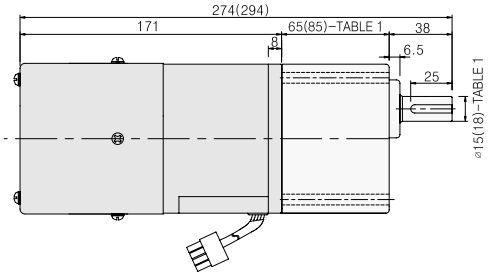
LEAD WIRE TYPE

◆ GEARED MOTOR

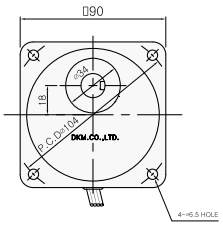
* MOTOR MODEL : 9RDG□ -90FP(H)(GENERAL FAN)



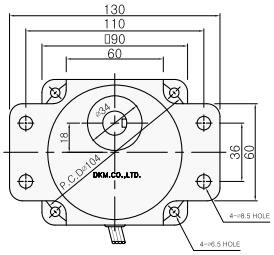
* MOTOR MODEL : 9RDG□-90F2P (POWERFUL FAN)



* GEARHEAD MODEL :
9PB □ 3BH - 9PB □180BH

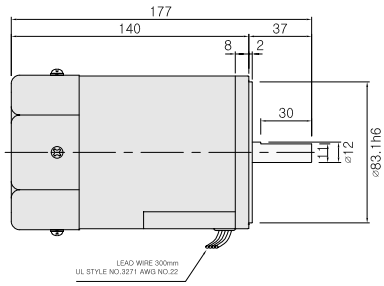


* GEARHEAD MODEL :
9PF □ 3BH - 9PF □180BH

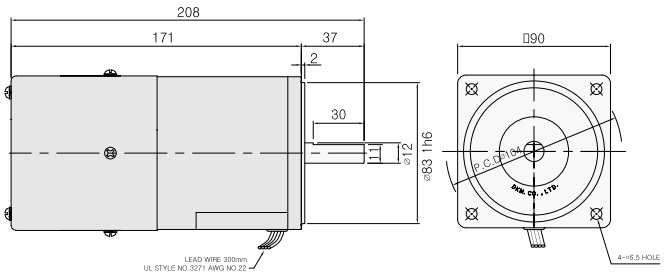


◆ MOTOR ONLY

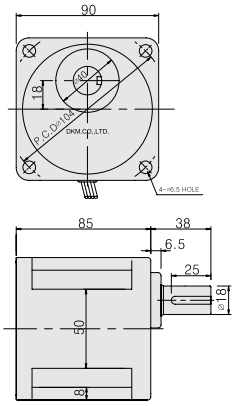
* MOTOR MODEL : 9RD□□ -90F (GENERAL FAN)



* MOTOR MODEL : 9RD□□ -90F2 (POWERFUL FAN)

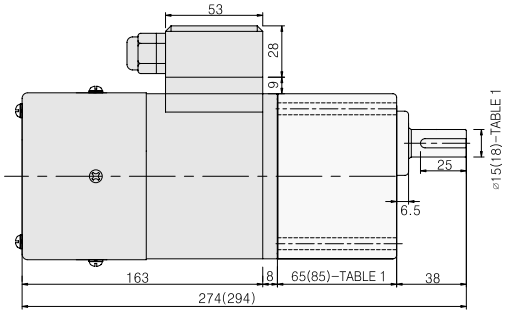


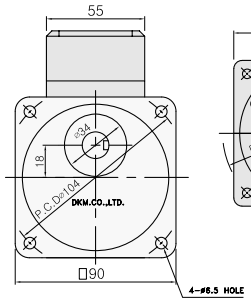
* GEARHEAD MODEL :
9HB □ 3BH - 9HB □ 180BH



TERMINAL BOX TYPE

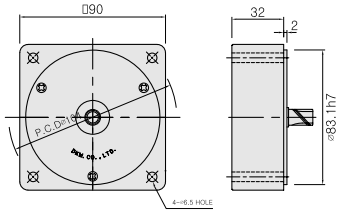
* MOTOR MODEL : 9RDG□-90F2P-T (POWERFUL FAN)





◆ INTER-DECIMAL GEARHEAD

* MODEL : 9XD10M□

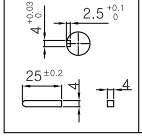
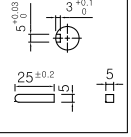


* Note : There are 2 kinds of fan type (General Fan / Powerful Fan). Customer can choose fan type according to wanted rating time.

◆ 65(85)-TABLE1

SIZE(mm)	GEARHEAD TYPE
65 ~ ø15	P TYPE GEARHEAD
85 ~ ø18	H TYPE GEARHEAD

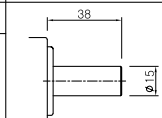
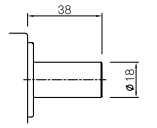
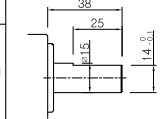
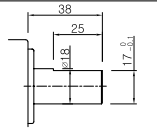
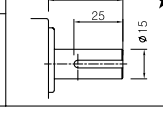
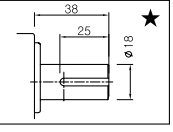
◆ KEY SPEC

MOTOR	GEARHEAD
	

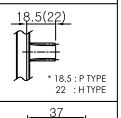
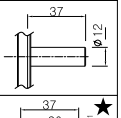
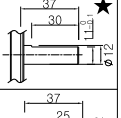
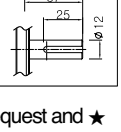
◆ WEIGHT

PART		WEIGHT(Kg)	
MOTOR		3.0	
DECIMAL GEARHEAD		0.5	
GEAR HEAD	GEARHEAD TYPE	P TYPE	H TYPE
	9P(H)□□ 3BH - 9P(H)□□9BH	1.3	1.45
	9P(H)□□ 12.5BH - 9P(H)□□18BH	1.3	1.5
	9P(H)□□ 25BH - 9P(H)□□60BH	1.4	1.7
	9P(H)□□ 90BH - 9P(H)□□180BH	1.4	1.8

◆ GEARHEAD OUTPUT

MODEL	P TYPE	H TYPE
ROUND TYPE 9P(H)□S3BH ~9P(H)□S180BH		
D-CUT TYPE 9P(H)□D3BH ~9P(H)□D180BH		
KEY TYPE 9P(H)□K3BH ~9P(H)□K180BH		

◆ MOTOR OUTPUT

MODEL	SHAFT
GEAR TYPE 9RDG□-90□ P(H)	
ROUND TYPE 9RDS□-90□	
D-CUT TYPE 9RDD□-90□	
KEY TYPE 9RDK□-90□	

* Note : Above table indicates output shaft dimension made by user' s request and ★ indicates the basic dimension in factory shipping.

Connection Diagrams

Please refer to page 80.

REVERSIBLE MOTOR
120W

□90mm(3.54in.)

LEAD WIRE TYPE MOTOR
+ PB TYPE GEARHEAD

LEAD WIRE TYPE MOTOR
+ PF TYPE GEARHEAD

TERMINAL BOX TYPE MOTOR
+ PF TYPE GEARHEAD

LEAD WIRE TYPE MOTOR
+ HB TYPE GEARHEAD

Motor Specification - 30min. Rating (Continuous : F2 fan)

Model 9RDG□-120FP(H) : Pinion Shaft Type 9RDD□-120F : D-Cut Shaft Type		Output		Voltage	Freq.	Current	Starting Torque			Rated Torque			Rated Speed	Capacitor	
Lead Wire Type	Terminal Box Type	HP	W	VAC	Hz	A	gfcm	mN.m	oz-in	gfcm	mN.m	oz-in	r/min	μF	VAC
(TP) **9RDG(D)A-120FP(H)**	**9RDG(D)A-120FP(H)-T**	1/6	120	Single Phase 110	60	2.5	7000	700	99	7600	760	108	1500	30	250
(TP) **9RDG(D)B-120FP(H)**	**9RDG(D)B-120FP(H)-T**			Single Phase 115	60										
(TP) **9RDG(D)C-120FP(H)**	**9RDG(D)C-120FP(H)-T**			Single Phase 220	50	1.3	7000	700	99	9120	912	129	1300	6.5	400
(TP) **9RDG(D)D-120FP(H)**	**9RDG(D)D-120FP(H)-T**			Single Phase 220	60					7600	760	108	1500		
(TP) **9RDG(D)E-120FP(H)**	**9RDG(D)E-120FP(H)-T**			Single Phase 230	50					9120	912	129	1300		
(TP) **9RDG(D)F-120FP(H)**	**9RDG(D)F-120FP(H)-T**			Single Phase 230	60					7600	760	108	1500		

* Enter the 'Phase & Voltage' code in the box(□) within the motor model name.
* 'Pinion Shaft' is for attaching gearhead and 'D-Cut Shaft' is for using motor only.
(TP) : Contains a built-in thermal protector. If a motor overheats for any reason the thermal protector opened and the motor stops. When the motor temperature drops, the thermal protector closes and the motor restarts. Be sure to turn the motor off before inspecting. By attaching F2 FAN additionally, temperature reducing of over 10℃ could be available.

Permissible Torque When using gearhead

60Hz

Model	speed RPM (r/min)		900	600	500	360	300	240	200	144	120	100	90	72	60	50	45	36	30	24	20	18	15	12	10
Motor/Gearhead	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**
9RDG□-120FP / **9PBK□BH** **9PFK□BH**		kgf cm	17.5	18.7	22.5	31.2	37.4	46.8	56.1	70.2	84.2	101	114	126	152	182	200	200	200	200	200	200	200	200	200
		N.m	1.8	1.9	2.3	3.1	3.7	4.7	5.6	7.0	8.4	10.1	11.4	12.6	15	18	20	20	20	20	20	20	20	20	20
		lb-in	15.5	16.5	19.9	27.5	33.0	41.3	49.5	62.0	74	89	101	111	134	161	177	177	177	177	177	177	177	177	177
9RDG□-120FH / **9HBK□BH**		kgf cm	-	20.6	24.8	-	41.1	-	61.7	77.2	93	111	-	139	167	200	-	220	240	300	300	300	300	300	300
		N.m	-	2.1	2.5	-	4.1	-	6.2	7.7	9.3	11.1	-	13.9	16.7	20.2	-	22	24	30	30	30	30	30	30
		lb-in	-	18.2	21.9	-	36.3	-	54.5	68.2	81.8	98.1	-	122	148	177	-	194	212	265	265	265	265	265	265

50Hz

Model	speed RPM (r/min)		750	500	417	300	250	200	167	120	100	83	75	60	50	42	38	30	25	20	17	15	13	10	8
Motor/Gearhead	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**
9RDG□-120FP / **9PBK□BH** **9PFK□BH**		kgf cm	22.0	23.2	27.8	38.7	46.4	58.0	69.6	87.0	104	125	140	156	188	200	200	200	200	200	200	200	200	200	200
		N.m	2.20	2.32	2.78	3.87	4.64	5.80	6.96	8.7	10.4	12.5	14.0	15.6	19	20	20	20	20	20	20	20	20	20	20
		lb-in	19.4	20.5	24.5	34.2	41.0	51.2	61.5	76.8	92	110	124	138	166	177	177	177	177	177	177	177	177	177	177
9RDG□-120FH / **9HBK□BH**		kgf cm	-	25.5	30.6	-	51.0	-	76.6	95.7	114	138	-	172	207	220	-	240	260	300	300	300	300	300	300
		N.m	-	2.6	3.1	-	5.1	-	7.7	9.6	11.4	13.8	-	17.2	20.7	22	-	24	26	30	30	30	30	30	30
		lb-in	-	22.5	27.0	-	45.1	-	67.6	84.5	101	121	-	152	183	194	-	212	230	265	265	265	265	265	265

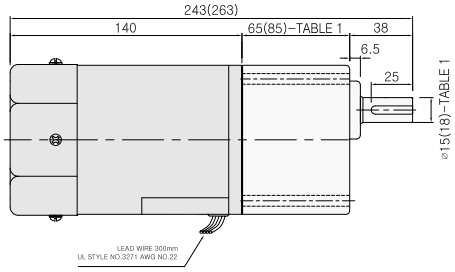
* Enter the gear ratio in the box (□) within the gearhead model name. A colored background indicates gear shaft rotation in the same direction as the motor shaft ; a white background indicates rotation in the opposite direction.
* The speed is calculated by dividing the motor' s synchronous speed (50Hz : 1500 r/min, 60 Hz : 1800 r/min) by the gear ratio.
* The actual speed is 2~20% less than the displayed value, depending on the size of the load.
* If more slow speed is needed than above value, use decimal gearhead with a gear ratio of 10:1 could be used between general gearhead and motor. Even in this case, just speed will be reduced without increase in permissible torque; the maximum permissible torque is 200kgfcm (P type) / 300kgfcm (H type).

Dimension

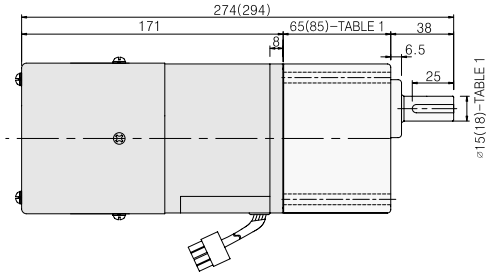
LEAD WIRE TYPE

◆ GEARED MOTOR

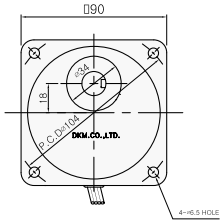
* MOTOR MODEL : 9RDG□-120FP(H)(GENERAL FAN)



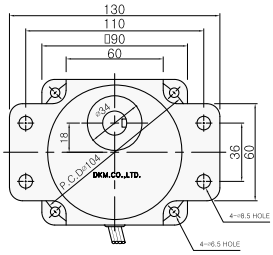
* MOTOR MODEL : 9RDG□-120F2P (POWERFUL FAN)



* GEARHEAD MODEL :
9PB □ 3BH - 9PB □180BH

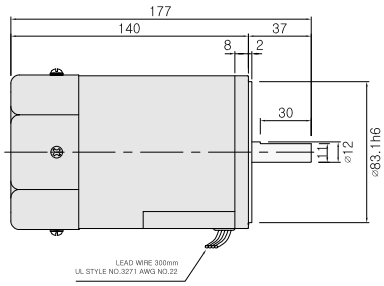


* GEARHEAD MODEL :
9PF □ 3BH - 9PF □180BH

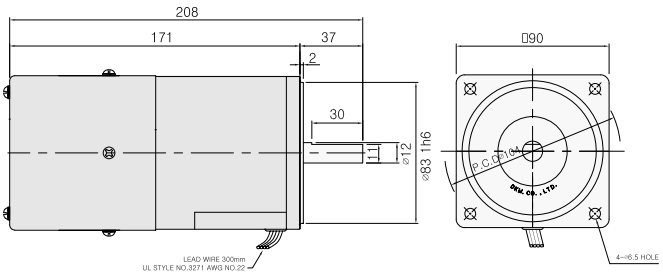


◆ MOTOR ONLY

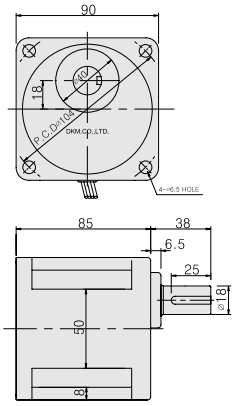
* MOTOR MODEL : 9RD□□-120F(GENERAL FAN)



* MOTOR MODEL : 9RD□□-120F2(POWERFUL FAN)

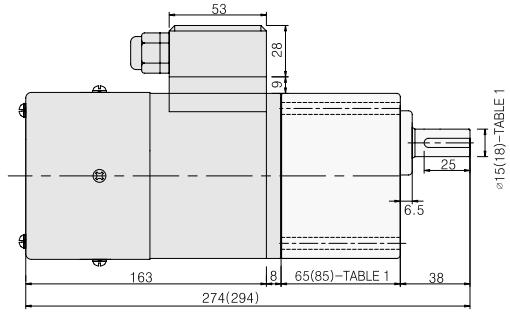


*GEARHEAD MODEL :
9HB □ 3BH - 9HB □ 180BH



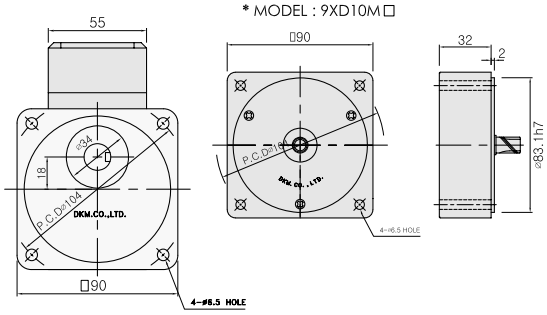
TERMINAL BOX TYPE

* MOTOR MODEL : 9RDG□-120F2P(H)-T (POWERFUL FAN)



◆ INTER-DECIMAL GEARHEAD

* MODEL : 9XD10M□

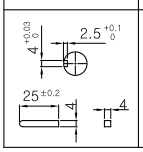
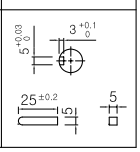


* Note : There are 2 kinds of fan type (General Fan / Powerful Fan). Customer can choose fan type according to wanted rating time.

◆ 65(85)-TABLE1

SIZE(mm)	GEARHEAD TYPE
65 ~ ø15	P TYPE GEARHEAD
85 ~ ø18	H TYPE GEARHEAD

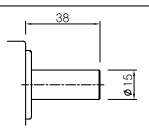
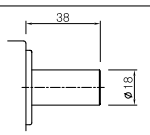
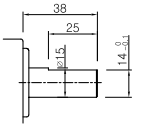
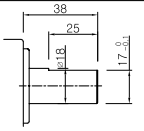
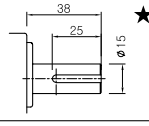
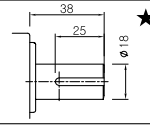
◆ KEY SPEC

MOTOR	GEARHEAD
	

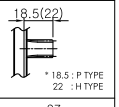
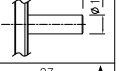
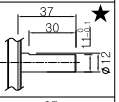
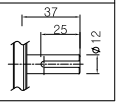
◆ WEIGHT

PART	WEIGHT(Kg)	
MOTOR	3.0	
DECIMAL GEARHEAD	0.5	
GEAR HEAD	GEARHEAD TYPE	P TYPE	H TYPE
	9P(H)□□ 3BH - 9P(H)□□9BH	1.3	1.45
	9P(H)□□ 12.5BH - 9P(H)□□18BH	1.3	1.5
	9P(H)□□ 25BH - 9P(H)□□60BH	1.4	1.7
	9P(H)□□ 90BH - 9P(H)□□180BH	1.4	1.8

◆ GEARHEAD OUTPUT

MODEL	P TYPE	H TYPE
ROUND TYPE		
9P(H)□S3BH ~9P(H)□S180BH		
D-CUT TYPE		
9P(H)□D3BH ~9P(H)□D180BH		
KEY TYPE		
9P(H)□K3BH ~9P(H)□K180BH		

◆ MOTOR OUTPUT

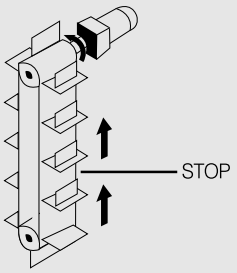
MODEL	SHAFT
GEAR TYPE 9RDG□-120□ P(H)	
ROUND TYPE 9RDS□-120□	
D-CUT TYPE 9RDD□-120□	
KEY TYPE 9RDK□-120□	

* Note : Above table indicates output shaft dimension made by user's request and ★ indicates the basic dimension in factory shipping.

Connection Diagrams

Please refer to page 80.

ELECTROMAGNETIC BRAKE MOTOR (Power off activated type)



INDEX

Features

• Power Off Activated Type Electromagnetic Brake

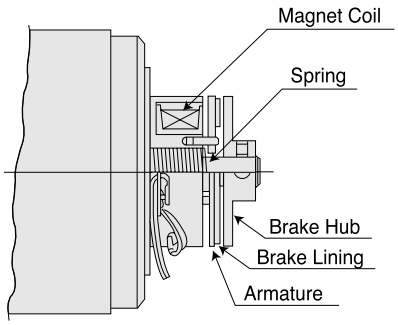
AC electromagnetic brake is employed in electromagnetic brake motors. When the power source is turned off, the brake is activated and the motor stops instantaneously and holds the load. The electromagnetic brake has holding power in power-off, so it is optimal for emergency brakes and vertical load applications.

• Operation

- There is 1-4 times of over run rotation at the time the power is turned off as individual motor.
  (Induction motor : 30~40 times over run, Reversible motor : 5~6 times over run)
- The frequent and instantaneous directional changes are possible. By a simple control, it is possible to make 6 stops per minute with more than 3 seconds of stoppage. Roughly the operating cycle is 50cylces per minute or less.
  (Note : This value is based merely on brake response. And this value is maximum, so it may not be possible to repeat braking operation at this frequency. Please make the treatment so that the surface of the motor case remains below 90℃(144℉).
- The motor and the brake use the same power source. (For example, if motor voltage is 110V, that of brake is 110V.)

• Structure

When the voltage is applied to the coil, the spring attracts the armature and the brake lining is pulled away from the brake hub.
Then the motor is able to rotate freely. Please refer to right figure.



Electromagnetic Brake Motor Line-Up

Frame size □mm (in.)	Output W	Type	Power (Voltage)					Page
			Single phase		Three phase			
			100/110/115V	200/220/230V	200/220/230V	380 V	440V	
70 (2.76)	6	Lead Wire Terminal box	● -	● -				88
	10	Lead Wire Terminal box	● -	● -				91
80 (3.15)	15	Lead Wire Terminal box	● ●	● ●	● ●	● ●	● ●	93
	25	Lead Wire Terminal box	● ●	● ●	● ●	● ●	● ●	95
90 (3.54)	40	Lead Wire Terminal box	● ●	● ●	● ●	● ●	● ●	97
	60	Lead Wire Terminal box	● ●	● ●	● ●	● ●	● ●	100
	90	Lead Wire Terminal box	● ●	● ●	● ●	● ●	● ●	102
	120	Lead Wire Terminal box	● ●	● ●	● ●	● ●	● ●	104
	150	Lead Wire Terminal box	- -	- -	● ●	● ●	● ●	106
	180	Lead Wire Terminal box	- -	● ●	- -	- -	- -	108
	200	Lead Wire Terminal box	- -	- -	● ●	● ●	● ●	110

General Specifications

Item	Specifications
Insulation Resistance	100 ㏁ or more when 500 VDC is applied between the windings and the frame after rated motor opeation under normal ambient temperature and humidity.
Dielectric Strength	Sufficient to withstand 1.5 KV at 50 Hz and 60 Hz 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℃ (144°F) or less measured by the resistance change method after rated motor operation with connecting a gearhead or equivalent heat radiation plate. [Three-Phase 6W type : 70℃ (126°F)]
Insulation Class	Class B [130℃ (266°F)]
Overheat Protection	Operating temperature, open : 130℃ ± 5℃ (266℃ ±9°F) close : 82℃ ± 15℃ (179.6°F ± 27°F)
Ambient Temperture Range	-10℃ ~ + 40℃ (14°F ~ 104°F) (nonfreezing)
Ambient Humidity	85% maximum (noncondensing)

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ELECTROMAGNETIC BRAKE MOTOR

(Power off activated type)

6W

□70mm(2.76in.)
LEAD WIRE TYPE

LEAD WIRE TYPE MOTOR

■ Motor Specification - 30min. Rating

CE

Model 7BDG□-6G : Pinion Shaft Type 7BDS□-6 : Round Shaft Type		Starting Time	Output		Voltage	Freq.	Current	Starting Torque			Rated Torque			Rated Speed	Capacitor	
Lead Wire Type	Terminal Box Type		HP	W	VAC	Hz	A	gfcm	mN.m	oz-in	gfcm	mN.m	oz-in	r/min	μF	VAC
(TP) **7BDG(S)A-6G**	-	30min	1/125	6	Single Phase 110	60	0.35	500	50	7	620	62	9	1400	3.0	250
(TP) **7BDG(S)B-6G**	-				Single Phase 115	60										
(TP) **7BDG(S)C-6G**	-	30min			Single Phase 220	50	0.19	500	50	7	744	74	11	1300	1.0	400
(TP) **7BDG(S)D-6G**	-				Single Phase 220	60					620	62	9	1450		
(TP) **7BDG(S)E-6G**	-				Single Phase 230	50					744	74	11	1300		
(TP) **7BDG(S)F-6G**	-				Single Phase 230	60					620	62	9	1450		

* Enter the 'Phase & Voltage' code in the box(□) within the motor model name.
* 'Pinion Shaft' is for attaching gearhead and 'Round Shaft' is for using motor only.
(TP) : Contains a built-in thermal protector. If a motor overheats for any reason the thermal protector opened and the motor stops. When the motor temperature drops, the thermal protector closes and the motor restarts. Be sure to turn the motor off before inspecting. By attaching F2 FAN additionally, temperature reducing of over 10℃ could be available.

■ Permissible Torque When using gearhead

60Hz

Model	speed RPM (r/min)		600	500	360	300	240	200	144	120	100	72	60	50	45	36	30	24	20	18	15	12	10
Motor/Gearhead	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**
7BDG□-6G / **7GBD□BMH**		kgf cm	1.0	1.2	1.7	2.0	2.5	3.0	4.2	5.1	6.1	7.5	9.1	11	12.5	14	16	20	24	27	30	30	30
		N.m	0.10	0.12	0.17	0.20	0.25	0.30	0.42	0.50	0.60	0.75	0.89	1.1	1.2	1.4	1.6	2.0	2.4	2.7	3	3	3
		lb-in	0.88	1.06	1.50	1.77	2.2	2.6	3.7	4.4	5.3	6.6	7.9	9.7	10.6	12.4	14	18	21	24	26	26	26

50Hz

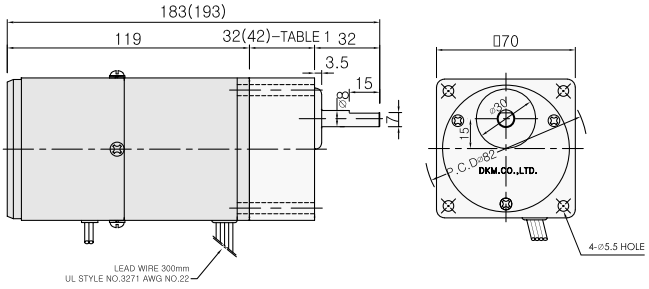
Model	speed RPM (r/min)		500	416	300	250	200	166	120	100	83	60	50	41	38	30	25	20	16	15	15	10	8.3
Motor/Gearhead	Gear Ratio		**3**	**3.6**	**5**	**6**	**7.5**	**9**	**12.5**	**15**	**18**	**25**	**30**	**36**	**40**	**50**	**60**	**75**	**90**	**100**	**120**	**150**	**180**
7BDG□-6G / **7GBD□BMH**		kgf cm	1.2	1.4	2.0	2.4	3.0	3.6	5.1	6.1	7.1	8.9	11	13	15	16	19	24	29	30	30	30	30
		N.m	0.12	0.14	0.20	0.24	0.30	0.36	0.50	0.60	0.71	0.89	1.1	1.3	1.5	1.6	1.9	2.4	2.9	3	3	3	3
		lb-in	1.06	1.24	1.77	2.1	2.6	3.2	4.4	5.3	6.3	7.9	9.7	11	13	14	17	21	26	26	26	26	26

* Enter the gear ratio in the box (□) within the model name. A colored background indicates gear shaft rotation in the same direction as the motor shaft ; a white background indicates rotation in the opposite direction.
* The speed is calculated by dividing the motor's synchronous speed (50Hz : 1500 r/min, 60 Hz : 1800 r/min) by the gear ratio.
* The actual speed is 2~20% less than the displayed value, depending on the size of the load.

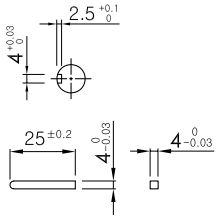
Dimension

◆ GEARED MOTOR

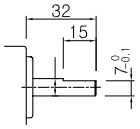
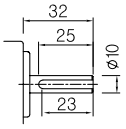
* MOTOR MODEL : 7BDG□-6G (NO FAN)
* HEAD MODEL : 7GB□3BMH - 7GB□180BMH



◆ KEY SPEC



◆ GEARHEAD 출력축 사양

MODEL	출력축 구분
D-CUT TYPE	 ★
7GBD3BMH ~7GBD180BMH	
KEY TYPE	
7GBK3BMH ~7GBK180BMH	

◆ 32(42)-TABLE1

SIZE(mm)	GEAR RATIO
32	7GB□3BMH - 7GB□18BMH
42	7GB□25BMH - 7GB□180BMH

◆ WEIGHT

PART		WEIGHT(Kg)
MOTOR		1.3
GEAR HEAD	7GB□3BMH - 7GB□18BMH	0.36
	7GB□25BMH - 7GB□30BMH	0.44
	7GB□36BMH - 7GB□180BMH	0.5

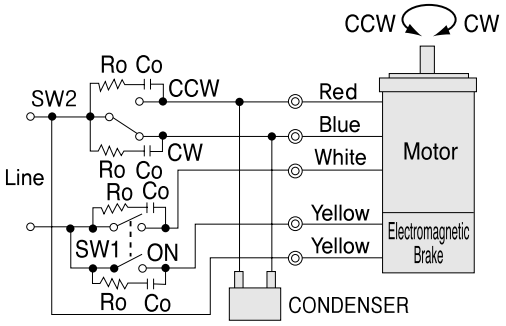
◆ MOTOR OUTPUT

MODEL	SHAFT
GEAR TYPE	 ★
7BDG□-6G	

* Note : Above table indicates output shaft dimension made by user' s request and ★ indicates the basic dimension in factory shipping.

Connection Diagrams

Single Phase

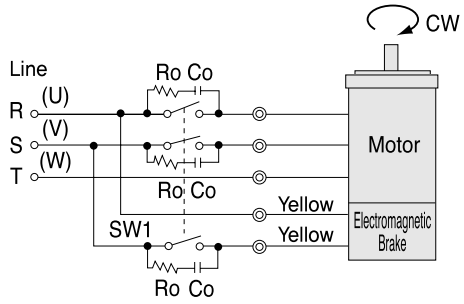


SW1 operates both motor and electromagnetic brake action. The motor will rotate when SW1 is switched simultaneously to ON (short circuit). When SW1 is switched simultaneously with the electromagnetic brake and holds the load.
(To release the brake while the motor is stopped, apply voltage between the two brake lead wires (yellow).)

Direction of Rotation
For CW direction, flip SW2 to CW.
For CCW direction, flip SW2 to CCW.

Switch	Specifications		Note
	Single phase 110VAC, Single phase 115VAC Input	Single phase 220VAC, Single phase 230VAC Input	
SW1	125 VAC 3A minimum (inductive Load)	250 VAC 1.5A minimum (inductive Load)	Switched simultaneously
SW2			-

Three Phase



SW1 operates both motor and electromagnetic brake action. The motor will rotate when SW1 is switched simultaneously to ON (short circuit). When SW1 is switched simultaneously with the electromagnetic brake and holds the load.
(To release the brake while the motor is stopped, apply voltage between the two brake lead wires (yellow).)

Direction of Rotation
To rotate the motor in a CCW direction, change any two connections between U, V and W.

Switch	Specifications	Note
SW1	250 VAC 1.5A minimum (inductive Load)	Switched simultaneously

- 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.
- Connection diagrams are also valid for the equivalent round shaft motors.
- Ro and Co indicates surge absorber circuit. [Ro=5~200Ω, Co=0.1~0.2㎌, 200WV (400WV)]

ELECTROMAGNETIC BRAKE MOTOR

(Power off activated type)

10W

□70mm(2.76in.)
LEAD WIRE TYPE

LEAD WIRE TYPE MOTOR

■ Motor Specification - 30min. Rating

Model 7BDG□-10G : Pinion Shaft Type 7BDS□-10 : Round Shaft Type		Starting Time	Output		Voltage	Freq.	Current	Starting Torque			Rated Torque			Rated Speed	Capacitor	
Lead Wire Type	Terminal Box Type		HP	W	VAC	Hz	A	gfcm	mN.m	oz-in	gfcm	mN.m	oz-in	r/min	μF	VAC
(TP) **7BDG(S)A-10G**	-	30min	1/75	10	Single Phase 110	60	0.40	650	65	9	850	85	12	1400	3.5	250
(TP) **7BDG(S)B-10G**	-				Single Phase 115	60										
(TP) **7BDG(S)C-10G**	-	30min			Single Phase 220	50	0.27	650	65	9	1020	102	14	1300	1.5	400
(TP) **7BDG(S)D-10G**	-				Single Phase 220	60	0.25				850	85	12	1450		
(TP) **7BDG(S)E-10G**	-				Single Phase 230	50	0.27				1020	102	14	1300		
(TP) **7BDG(S)F-10G**	-				Single Phase 230	60	0.25				850	85	12	1450		

* Enter the 'Phase & Voltage' code in the box(□) within the motor model name.
* 'Pinion Shaft' is for attaching gearhead and 'Round Shaft' is for using motor only.
(TP) : Contains a built-in thermal protector. If a motor overheats for any reason the thermal protector opened and the motor stops. When the motor temperature drops, the thermal protector closes and the motor restarts. Be sure to turn the motor off before inspecting. By attaching F2 FAN additionally, temperature reducing of over 10℃ could be available.

■ Permissible Torque When using gearhead

60Hz

Model	speed RPM (r/min)		600	500	360	300	240	200	144	120	100	72	60	50	45	36	30	24	20	18	15	12	10
Motor/Gearhead	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**
7BDG□-10G / **7GBD□BMH**		kgf cm	1.5	1.9	2.5	3.2	4.0	4.9	6.7	8.0	9.7	1.2	15	18	20	22	26	32	40	40	40	40	40
		N.m	0.15	0.19	0.25	0.32	0.40	0.49	0.67	0.80	0.97	1.2	1.5	1.8	2.0	2.2	2.6	3.2	4	4	4	4	4
		lb-in	1.32	1.68	2.21	2.83	3.5	4.3	5.9	7.1	8.6	10.6	13.2	15.9	17.7	20	23	28	35	35	35	35	35

50Hz

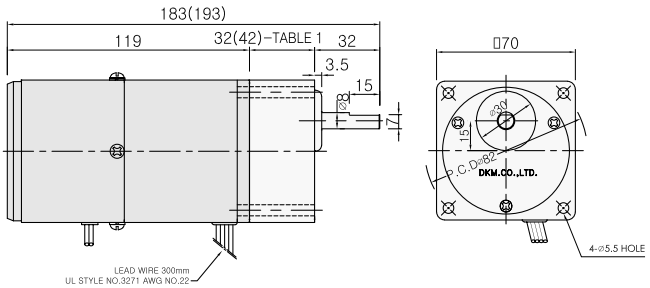
Model	speed RPM (r/min)		500	416	300	250	200	166	120	100	83	60	50	41	38	30	25	20	16	15	15	10	8.3
Motor/Gearhead	Gear Ratio		**3**	**3.6**	**5**	**6**	**7.5**	**9**	**12.5**	**15**	**18**	**25**	**30**	**36**	**40**	**50**	**60**	**75**	**90**	**100**	**120**	**150**	**180**
7BDG□-10G / **7GBD□BMH**		kgf cm	1.8	2.3	3.0	3.8	4.8	5.9	8.1	9.6	11.6	14	18	22	24	27	31	38	40	40	40	40	40
		N.m	0.18	0.23	0.3	0.38	0.48	0.59	0.81	0.96	1.16	1.4	1.8	2.2	2.4	2.7	3.1	3.8	4	4	4	4	4
		lb-in	1.59	2.01	2.65	3.39	4.2	5.2	7.1	8.5	10.3	12.7	15.9	19.1	21.2	24	28	34	35	35	35	35	35

* Enter the gear ratio in the box (□) within the model name. A colored background indicates gear shaft rotation in the same direction as the motor shaft ; a white background indicates rotation in the opposite direction.
* The speed is calculated by dividing the motor's synchronous speed (50Hz : 1500 r/min, 60 Hz : 1800 r/min) by the gear ratio.
* The actual speed is 2~20% less than the displayed value, depending on the size of the load.

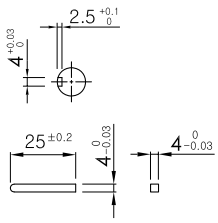
Dimension

◆ GEARED MOTOR

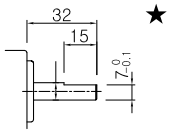
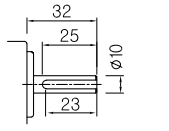
* MOTOR MODEL : 7BDG□-10G (NO FAN)
* HEAD MODEL : 7GB □ 3BMH - 7GB □ 180BMH



◆ KEY SPEC



◆ GEARHEAD 출력축 사양

MODEL	출력축 구분
D-CUT TYPE 7GBD3BMH ~7GBD180BMH	
KEY TYPE 7GBK3BMH ~7GBK180BMH	

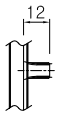
◆ WEIGHT

PART		WEIGHT(Kg)
MOTOR		1.3
GEAR HEAD	7GB□ 3BMH - 7GB □ 18BMH	0.36
	7GB□ 25BMH - 7GB □ 30BMH	0.44
	7GB□36BMH - 7GB □180BMH	0.5

◆ 32(42)-TABLE1

SIZE(mm)	GEAR RATIO
32	7GB□ 3BMH - 7GB □ 18BMH
42	7GB□25BMH - 7GB □180BMH

◆ MOTOR OUTPUT

MODEL	SHAFT
GEAR TYPE 7BDG□-10G	 ★

* Note : Above table indicates output shaft dimension made by user' s request and ★ indicates the basic dimension in factory shipping.

Connection Diagrams Please refer to page 90.

ELECTROMAGNETIC BRAKE MOTOR

(Power off activated type)

15W

□80mm(3.15in.)

LEAD WIRE TYPE MOTOR

TERMINAL BOX TYPE MOTOR

■ Motor Specification - 30min. Rating

Model (8BDG□-15G : Pinion Shaft Type, 8BDS□-15 : Round Shaft Type)		Starting Time	Output		Voltage	Freq.	Current	Starting Torque			Rated Torque			Rated Speed	Capacitor	
Lead Wire Type	Terminal Box Type		HP	W	VAC	Hz	A	gfcm	mN.m	oz-in	gfcm	mN.m	oz-in	r/min	μF	VAC
(TP) 8BDG(S)A-15G	9BDG(S)A-15G-T	30min	1/50	15	Single Phase 110	60	0.50	800	80	11	1000	100	14	1550	6.0	250
(TP) 8BDG(S)B-15G	9BDG(S)B-15G-T				Single Phase 115	60										
(TP) 8BDG(S)C-15G	9BDG(S)C-15G-T	30min			Single Phase 220	50	0.3	800	80	11	1200	120	17	1300	2.0	400
(TP) 8BDG(S)D-15G	9BDG(S)D-15G-T				Single Phase 220	60					1000	100	14	1550		
(TP) 8BDG(S)E-15G	9BDG(S)E-15G-T				Single Phase 230	50					1200	120	17	1300		
(TP) 8BDG(S)F-15G	9BDG(S)F-15G-T				Single Phase 230	60					1000	100	14	1550		
(TP) 8BDG(S)G-15G	9BDG(S)G-15G-T	30min			Three Phase220	50	0.25	1300	130	18.5	1200	120	17	1300	-	
(TP) 8BDG(S)H-15G	9BDG(S)H-15G-T				Three Phase220	60					1000	100	14.2	1550		
(TP) 8BDG(S)I-15G	9BDG(S)I-15G-T				Three Phase230	50					1200	120	17	1300		
(TP) 8BDG(S)J-15G	9BDG(S)J-15G-T				Three Phase230	60					1000	100	14.2	1550		
(TP) 8BDG(S)K-15G	9BDG(S)K-15G-T	30min			Three Phase380	50	0.14	1300	130	18.5	1200	120	17	1300		
(TP) 8BDG(S)L-15G	9BDG(S)L-15G-T				Three Phase380	60					1000	100	14.2	1550		
(TP) 8BDG(S)M-15G	9BDG(S)M-15G-T	30min			Three Phase400	50	0.11	1300	130	18.5	1200	120	17	1300		
(TP) 8BDG(S)N-15G	9BDG(S)N-15G-T				Three Phase440	50					1000	100	14.2	1550		
(TP) 8BDG(S)O-15G	9BDG(S)O-15G-T				Three Phase440	60					1000	100	14.2	1550		

* Enter the 'Phase & Voltage' code in the box(□) within the motor model name.
* 'Pinion Shaft' is for attaching gearhead and 'Round Shaft' is for using motor only.

(TP) : Contains a built-in thermal protector. If a motor overheats for any reason the thermal protector opened and the motor stops. When the motor temperature drops, the thermal protector closes and the motor restarts. Be sure to turn the motor off before inspecting. By attaching F2 FAN additionally, temperature reducing of over 10℃ could be available.

■ Permissible Torque When using gearhead

60Hz

Model	speed RPM (r/min)		600	500	360	300	240	200	144	120	100	72	60	50	45	36	30	24	20	18	15	12	10	7	6	5
Motor/Gearhead	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**	**250**	**300**	**360**
8BDG□-15G / **8GBK□BMH**	kgf cm		2.9	3.5	4.9	5.8	7.3	8.7	12.2	14.6	17.5	21.9	26.3	31.5	36.5	39.6	47.5	59.4	71.3	79.2	80	80	80	80	80	80
	N.m		0.29	0.35	0.49	0.58	0.73	0.87	1.2	1.5	1.8	2.2	2.6	3.2	3.6	4.0	4.8	5.9	7.1	7.9	8	8	8	8	8	8
	lb-in		2.6	3.1	4.3	5.1	6.4	7.7	11	13	15	19	23	28	32	35	42	52	63	70	71	71	71	71	71	71

50Hz

Model	speed RPM (r/min)		500	417	300	250	200	167	120	100	83	60	50	42	38	30	25	20	17	15	13	10	8	6	5	5
Motor/Gearhead	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**	**250**	**300**	**360**
8BDG□-15G / **8GBK□BMH**	kgf cm		3.4	4.1	5.7	6.8	8.5	10.2	14.2	17.0	20.4	25.6	30.7	36.8	38.8	46.2	55.4	69.2	80	80	80	80	80	80	80	80
	N.m		0.34	0.41	0.57	0.68	0.85	1.02	1.4	1.7	2.0	2.6	3.1	3.7	3.8	4.6	5.5	6.9	8	8	8	8	8	8	8	8
	lb-in		3.0	3.6	5.0	6.0	7.5	9.0	13	15	18	23	27	32	34	41	49	61	71	71	71	71	71	71	71	71

* Enter the gear ratio in the box (□) within the model name. A colored background indicates gear shaft rotation in the same direction as the motor shaft ; a white background indicates rotation in the opposite direction.
* The speed is calculated by dividing the motor's synchronous speed (50Hz : 1500 r/min, 60 Hz : 1800 r/min) by the gear ratio.
* The actual speed is 2~20% less than the displayed value, depending on the size of the load.
* If more slow speed is needed than above value, use decimal gearhead with a gear ratio of 10:1 could be used between general gearhead and motor. Even in this case, just speed will be reduced without increase in permissible torque; the maximum permissible torque is 80kgfcm (8N.m, 71lb-in).

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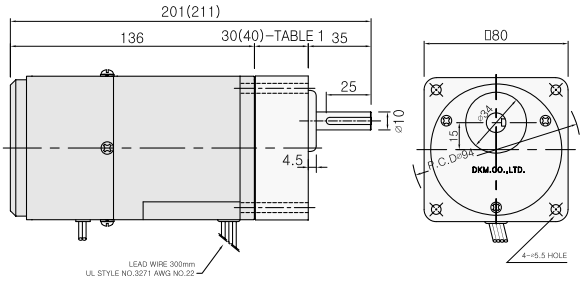
Dimension

LEAD WIRE TYPE

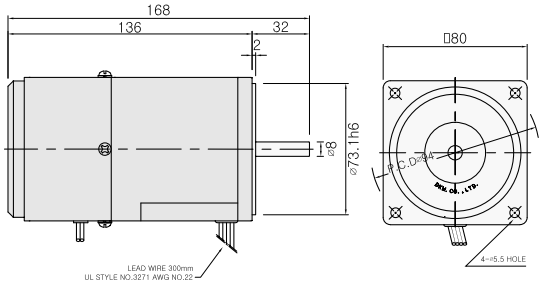
◆ GEARED MOTOR

* MOTOR MODEL : 8BDG□-15G (NO FAN)
* HEAD MODEL : 8GB □3BMH - 8GB □360BMH



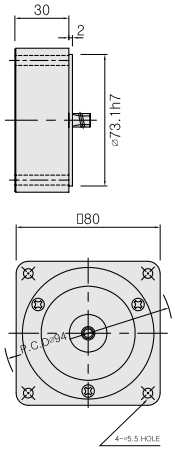
◆ MOTOR ONLY

* MOTOR MODEL : 8BD□□-15 (NO FAN)



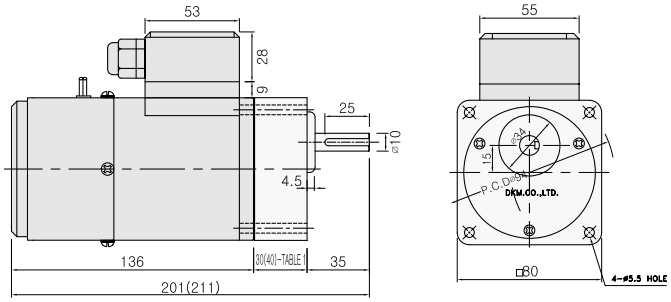
◆ INTER-DECIMAL GEARHEAD

* MODEL : 8XD10M□

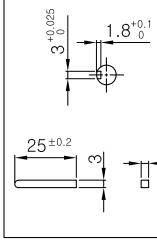
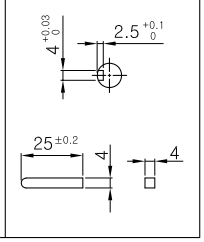


TERMINAL BOX TYPE

* MOTOR MODEL :
8BDG□-15G-T(NO FAN)



◆ KEY SPEC

MOTOR	GEARHEAD
	

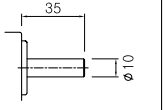
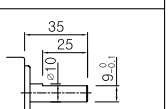
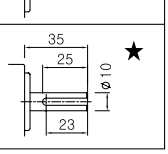
◆ 30(40)-TABLE1

SIZE(mm)	GEAR RATIO
30	8GB□ 3BMH - 8GB □ 18BMH
40	8GB□25BMH - 8GB□360BMH

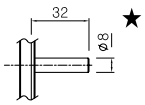
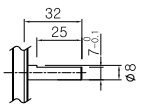
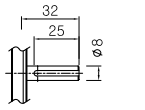
◆ WEIGHT

PART		WEIGHT(Kg)
MOTOR		2.0
DECIMAL GEARHEAD		0.44
GEAR HEAD	8GB□3BMH - 8GB□18BMH	0.48
	8GB□25BMH - 8GB □30BMH	0.61
	8GB□36BMH - 8GB □180BMH	0.67
	8GB□200BMH - 8GB □360BMH	0.63

◆ GEARHEAD OUTPUT

MODEL	SHAFT
ROUND TYPE 8GBS3BMH ~8GBS360BMH	
D-CUT TYPE 8GBD3BMH ~8GBD360BMH	
KEY TYPE 8GBK3BMH ~8GBK360BMH	

◆ MOTOR OUTPUT

MODEL	SHAFT
GEAR TYPE 8BDG□-15G	
ROUND TYPE 8BDS□-15	
D-CUT TYPE 8BDD□-15	
KEY TYPE 8BDK□-15	

* Note : Above table indicates output shaft dimension made by user' s request and ★ indicates the basic dimension in factory shipping.

Connection Diagrams

Please refer to page 90.

ELECTROMAGNETIC BRAKE MOTOR

(Power off activated type)

25W

□80mm(3.18in.)

LEAD WIRE TYPE MOTOR

TERMINAL BOX TYPE MOTOR

Motor Specification - 30min. Rating

Model 8BDG□-25G : Pinion Shaft Type 8BDS□-25 : Round Shaft Type		Starting Time	Output		Voltage	Freq.	Current	Starting Torque			Rated Torque			Rated Speed	Capacitor	
Lead Wire Type	Terminal Box Type		HP	W	VAC	Hz	A	gfcm	mN.m	oz-in	gfcm	mN.m	oz-in	r/min	μF	VAC
(TP) **8BDG(S)A-25G**	**8BDG(S)A-25G-T**	30min	1/30	25	Single Phase 110	60	0.75	1550	155	22	1700	170	9	1500	10	250
(TP) **8BDG(S)B-25G**	**8BDG(S)B-25G-T**				Single Phase 115	60										
(TP) **8BDG(S)C-25G**	**8BDG(S)C-25G-T**	30min			Single Phase 220	50	0.35	1550	155	22	2040	204	29	1300	2.5	400
(TP) **8BDG(S)D-25G**	**8BDG(S)D-25G-T**				Single Phase 220	60					1700	170	24	1500		
(TP) **8BDG(S)E-25G**	**8BDG(S)E-25G-T**				Single Phase 230	50					2040	204	29	1300		
(TP) **8BDG(S)F-25G**	**8BDG(S)F-25G-T**				Single Phase 230	60					1700	170	24	1500		
(TP) **8BDG(S)G-25G**	**8BDG(S)G-25G-T**	30min			Three Phase220	50	0.25	1500	150	21	1800	180	25	1300	-	
(TP) **8BDG(S)H-25G**	**8BDG(S)H-25G-T**				Three Phase220	60					1600	160	22.8	1550		
(TP) **8BDG(S)I-25G**	**8BDG(S)I-25G-T**				Three Phase230	50					1800	180	25	1300		
(TP) **8BDG(S)J-25G**	**8BDG(S)J-25G-T**				Three Phase230	60					1600	160	22.8	1550		
(TP) **8BDG(S)K-25G**	**8BDG(S)K-25G-T**	30min			Three Phase380	50	0.14	1500	150	21	1800	180	25	1300		
(TP) **8BDG(S)L-25G**	**8BDG(S)L-25G-T**				Three Phase380	60					1600	160	22.8	1550		
(TP) **8BDG(S)M-25G**	**8BDG(S)M-25G-T**	30min			Three Phase400	50	0.11	1500	150	21	1800	180	25	1300		
(TP) **8BDG(S)N-25G**	**8BDG(S)N-25G-T**				Three Phase440	60								1550		
(TP) **8BDG(S)O-25G**	**8BDG(S)O-25G-T**				Three Phase440	50								1550		

* Enter the 'Phase & Voltage' code in the box(□) within the motor model name.
* 'Pinion Shaft' is for attaching gearhead and 'Round Shaft' is for using motor only.

(TP) : Contains a built-in thermal protector. If a motor overheats for any reason the thermal protector opened and the motor stops. When the motor temperature drops, the thermal protector closes and the motor restarts. Be sure to turn the motor off before inspecting. By attaching F2 FAN additionally, temperature reducing of over 10℃ could be available.

Permissible Torque When using gearhead

60Hz

Model	speed RPM (r/min)		600	500	360	300	240	200	144	120	100	72	60	50	45	36	30	24	20	18	15	12	10	7	6	5
Motor/Gearhead	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**	**250**	**300**	**360**
8RDG□-25G / **8GBK□BMH**		kgf cm	4.4	5.2	7.3	8.7	10.9	13.1	18.2	21.9	26.2	32.9	39.4	47.3	52.6	59.4	71.3	80	80	80	80	80	80	80	80	80
		N.m	0.44	0.52	0.73	0.87	1.09	1.31	1.82	2.19	2.62	3.29	3.9	4.7	5.2	5.9	7.1	8	8	8	8	8	8	8	8	8
		lb-in	3.9	4.6	6.4	7.7	9.6	12	16	19	23	29	35	42	46	52	63	71	71	71	71	71	71	71	71	71

50Hz

Model	speed RPM (r/min)		500	417	300	250	200	167	120	100	83	60	50	42	38	30	25	20	17	15	13	10	8	6	5	4
Motor/Gearhead	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**	**250**	**300**	**360**
8RDG□-25G / **8GBK□BMH**		kgf cm	5.3	6.4	8.9	10.7	13.4	16.0	22.3	26.7	32.1	40.2	48.2	57.8	64.2	72.6	80	80	80	80	80	80	80	80	80	80
		N.m	0.53	0.64	0.89	1.07	1.34	1.60	2.23	2.67	3.21	4.02	4.8	5.8	6.4	7.3	8	8	8	8	8	8	8	8	8	8
		lb-in	4.7	5.7	7.9	9.4	11.8	14	20	24	28	35	43	51	57	64	71	71	71	71	71	71	71	71	71	71

* Enter the gear ratio in the box (□) within the model name. A colored background indicates gear shaft rotation in the same direction as the motor shaft ; a white background indicates rotation in the opposite direction.
* The speed is calculated by dividing the motor's synchronous speed (50Hz : 1500 r/min, 60 Hz : 1800 r/min) by the gear ratio.
* The actual speed is 2~20% less than the displayed value, depending on the size of the load.
* If more slow speed is needed than above value, use decimal gearhead with a gear ratio of 10:1 could be used between general gearhead and motor. Even in this case, just speed will be reduced without increase in permissible torque; the maximum permissible torque is 80kgfcm (8N.m, 71lb-in).

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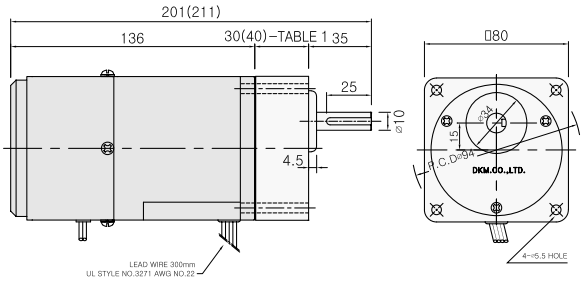
Dimension

LEAD WIRE TYPE

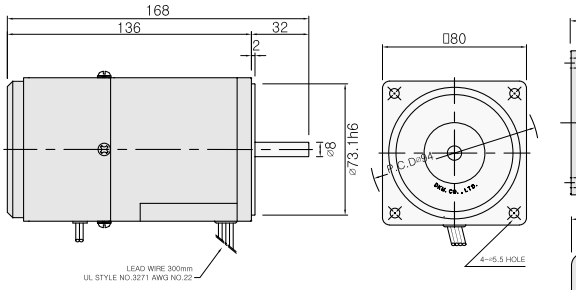
◆ GEARED MOTOR

* MOTOR MODEL : 8BDG□-25G (NO FAN)
* HEAD MODEL : 8GB □3BMH - 8GB □360BMH



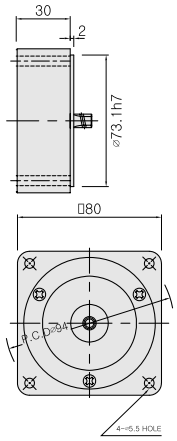
◆ MOTOR ONLY

* MOTOR MODEL : 8BD□□-25 (NO FAN)



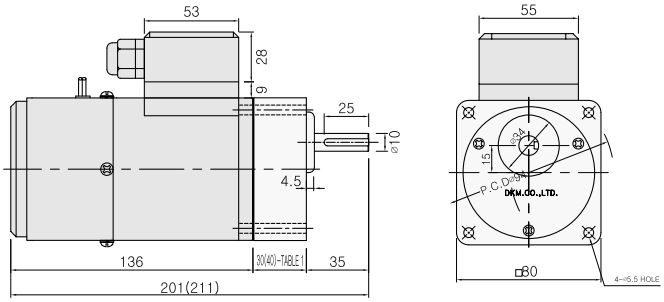
◆ INTER-DECIMAL GEARHEAD

* MODEL : 8XD10M□

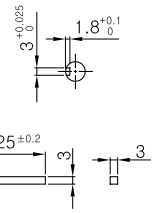
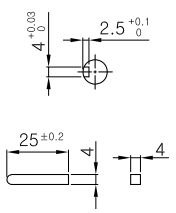


TERMINAL BOX TYPE

* MOTOR MODEL : 8BDG□-25G-T (NO FAN)



◆ KEY SPEC

MOTOR	GEARHEAD
	

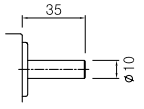
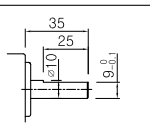
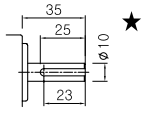
◆ 30(40)-TABLE1

SIZE(mm)	GEAR RATIO
30	8GB□3BMH - 8GB□18BMH
40	8GB□25BMH - 8GB□360BMH

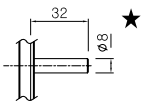
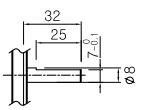
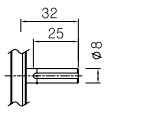
◆ WEIGHT

PART		WEIGHT(Kg)
MOTOR		2.0
DECIMAL GEARHEAD		0.44
GEAR HEAD	8GB□3BMH - 8GB□18BMH	0.48
	8GB□25BMH - 8GB□30BMH	0.61
	8GB□36BMH - 8GB□180BMH	0.67
	8GB□200BMH - 8GB□360BMH	0.63

◆ GEARHEAD OUTPUT

MODEL	SHAFT
ROUND TYPE 8GBS3BMH ~8GBS360BMH	
D-CUT TYPE 8GBD3BMH ~8GBD360BMH	
KEY TYPE 8GBK3BMH ~8GBK360BMH	

◆ MOTOR OUTPUT

MODEL	SHAFT
GEAR TYPE 8BDG□-25G	
ROUND TYPE 8BDS□-25	
D-CUT TYPE 8BDD□-25	
KEY TYPE 8BDK□-25	

* Note : Above table indicates output shaft dimension made by user' s request and ★ indicates the basic dimension in factory shipping.

Connection Diagrams Please refer to page 90.

ELECTROMAGNETIC BRAKE MOTOR

(Power off activated type)

40W

□90mm(3.54in.)

LEAD WIRE TYPE MOTOR

TERMINAL BOX TYPE MOTOR

Motor Specification - 30min. Rating (Continuous : F2 fan)

Model (9BDG□-40G : Pinion Shaft Type, 9BDD□-40 : D-Cut Shaft Type)		Starting Time	Output		Voltage	Freq.	Current	Starting Torque			Rated Torque			Rated Speed	Capacitor	
Lead Wire Type	Terminal Box Type		HP	W	VAC	Hz	A	gfcm	mN.m	oz-in	gfcm	mN.m	oz-in	r/min	μF	VAC
(TP) **9BDG(D)A-40G**	**9BDG(D)A-40G-T**	30min	1/19	40	Single Phase 110	60	1.0	1600	160	23	2600	260	37	1550	16	250
(TP) **9BDG(D)B-40G**	**9BDG(D)B-40G-T**				Single Phase 115	60										
(TP) **9BDG(D)C-40G**	**9BDG(D)C-40G-T**	30min			Single Phase 220	50	0.5	2000	200	28	3120	312	44	1300	4.0	400
(TP) **9BDG(D)D-40G**	**9BDG(D)D-40G-T**				Single Phase 220	60					2600	260	37	1550		
(TP) **9BDG(D)E-40G**	**9BDG(D)E-40G-T**				Single Phase 230	50					3120	312	44	1300		
(TP) **9BDG(D)F-40G**	**9BDG(D)F-40G-T**				Single Phase 230	60					2600	260	37	1550		
(TP) **9BDG(D)G-40G**	**9BDG(D)G-40G-T**	30min			Three phase 220	50	0.42	2600	260	37	3120	312	44	1300	-	-
(TP) **9BDG(D)H-40G**	**9BDG(D)H-40G-T**				Three phase 220	60					2600	260	37	1550		
(TP) **9BDG(D)I-40G**	**9BDG(D)I-40G-T**				Three phase 230	50					3120	312	44	1300		
(TP) **9BDG(D)J-40G**	**9BDG(D)J-40G-T**				Three phase 230	60					2600	260	37	1550		
(TP) **9BDG(D)K-40G**	**9BDG(D)K-40G-T**	30min			Three phase 380	50	0.22	2600	260	37	3120	312	44	1300	-	-
(TP) **9BDG(D)L-40G**	**9BDG(D)L-40G-T**				Three phase 380	60					2600	260	37	1550		
(TP) **9BDG(D)M-40G**	**9BDG(D)M-40G-T**	30min			Three phase 440	50	0.18	2600	260	37	3120	312	44	1300	-	-
(TP) **9BDG(D)N-40G**	**9BDG(D)N-40G-T**				Three phase 440	50					3120	312	44	1300		
(TP) **9BDG(D)O-40G**	**9BDG(D)O-40G-T**				Three phase 440	60					2600	260	37	1550		

* Enter the 'Phase & Voltage' code in the box(□) within the motor model name.
* 'Pinion Shaft' is for attaching gearhead and 'D-Cut Shaft' is for using motor only.
(TP): Contains a built-in thermal protector. If a motor overheats for any reason the thermal protector opened and the motor stops. When the motor temperature drops, the thermal protector closes and the motor restarts. Be sure to turn the motor off before inspecting. By attaching F2 FAN additionally, temperature reducing of over 10℃ could be available.

Permissible Torque When using gearhead

60Hz

Model	speed RPM (r/min)		900	600	500	360	300	240	200	180	144	120	100	72	60	50	45	36	30	24	20	18	15	12	10
Motor/Gearhead	Gear Ratio		**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**
9BDG□-40G / **9GBK□MH**		kgf cm	5.0	6.8	8.2	11.3	13.6	17.0	20.4	22.7	28.4	34.0	40.8	51.1	61.3	73.6	81.5	100	100	100	100	100	100	100	100
		N.m	0.50	0.68	0.82	1.13	1.36	1.70	2.04	2.27	2.84	3.40	4.08	5.11	6.1	7.4	8.2	10	10	10	10	10	10	10	10
		lb-in	4.4	6.0	7.2	10.0	12.0	15.0	18.0	20.0	25.1	30.0	36.0	45.1	54.1	65.0	72.0	88	88	88	88	88	88	88	88

50Hz

Model	speed RPM (r/min)		750	500	417	300	250	200	167	150	120	100	83	60	50	42	38	30	25	20	17	15	13	10	8
Motor/Gearhead	Gear Ratio		**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**
9BDG□-40G / **9GBK□MH**		kgf cm	6.0	8.3	9.9	13.8	16.5	20.7	24.8	27.5	34.4	41.3	49.6	62.1	74.5	89.4	99.1	100	100	100	100	100	100	100	100
		N.m	0.60	0.83	0.99	1.38	1.65	2.07	2.48	2.75	3.44	4.13	4.96	6.21	7.5	8.9	9.9	10	10	10	10	10	10	10	10
		lb-in	5.3	7.3	8.7	12.2	14.6	18.3	21.9	24.3	30.4	36.5	43.8	54.8	65.8	78.9	87.5	88	88	88	88	88	88	88	88

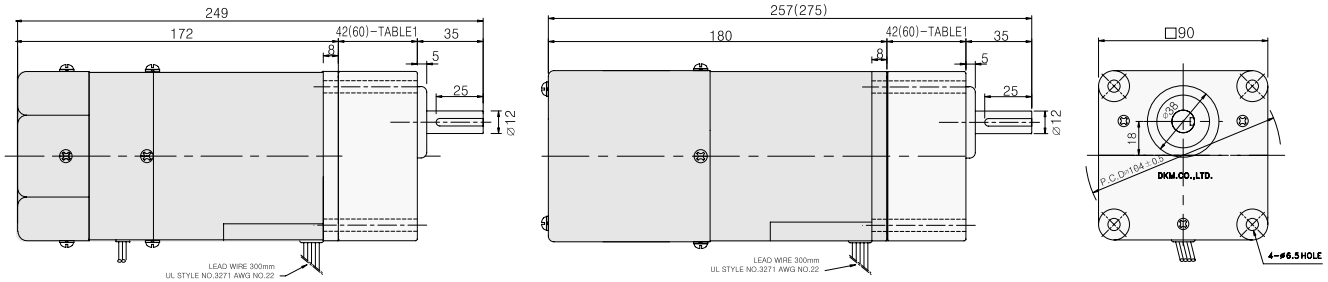
* Enter the gear ratio in the box (□) within the gearhead model name. A colored background indicates gear shaft rotation in the same direction as the motor shaft ; a white background indicates rotation in the opposite direction.
* The speed is calculated by dividing the motor' s synchronous speed (50Hz : 1500 r/min, 60 Hz : 1800 r/min) by the gear ratio.
* The actual speed is 2~20% less than the displayed value, depending on the size of the load.
* If more slow speed is needed than above value, use decimal gearhead with a gear ratio of 10:1 could be used between general gearhead and motor. Even in this case, just speed will be reduced without increase in permissible torque; the maximum permissible torque is 100kgfcm (10N.m, 88lb-in).

Dimension

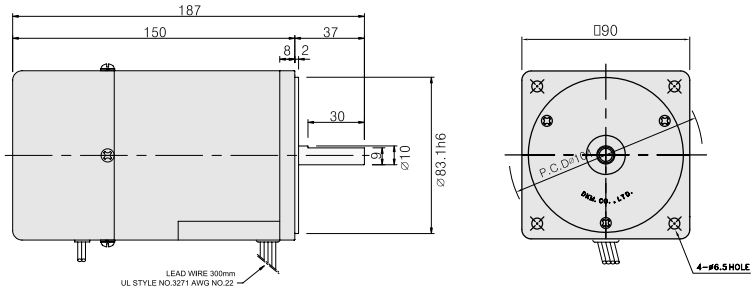
LEAD WIRE TYPE

◆ GEARED MOTOR
* MOTOR MODEL : 9BDG□-40FG (GENERAL FAN)
* HEAD MODEL : 9GB□3MH - 9GB□180MH

* MOTOR MODEL : 9BDG□-40F2G (POWERFUL FAN)
* GEARHEAD MODEL : 9GB □ 3BH - 9GB □180BH

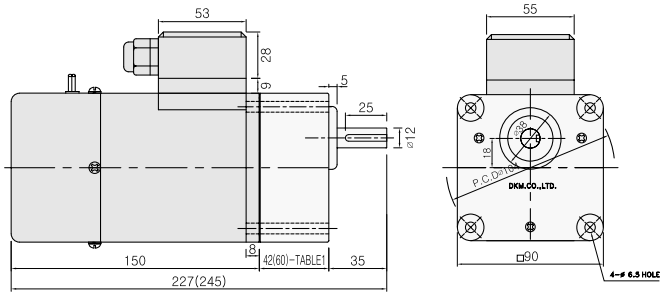


◆ MOTOR ONLY * MOTOR MODEL : 9BD□□ - 40 (NO FAN)



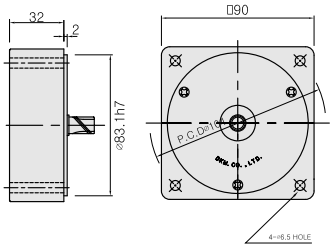
TERMINAL BOX TYPE

* MOTOR MODEL :
9BDG□-40G-T (NO FAN)



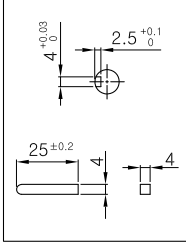
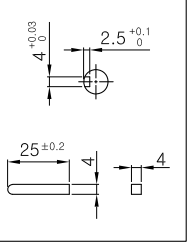
◆ INTER-DECIMAL GEARHEAD

* MODEL : 9XD10M□



* Note : There are 3 kinds of fan type (No Fan / General Fan / Powerful Fan).
Customer can choose fan type accor•ing to wante• rating time.

◆ KEY SPEC

MOTOR	GEARHEAD
	

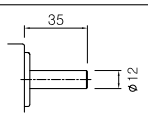
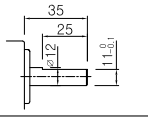
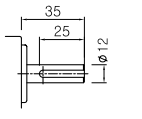
◆ 42(60)-TABLE1

SIZE(mm)	GEAR RATIO
42	9GB□3MH - 9GB□15MH
60	9GB□18MH - 9GB □ 180MH

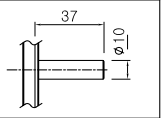
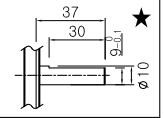
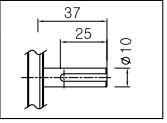
◆ WEIGHT

PART		WEIGHT(Kg)
MOTOR		3.0
DECIMAL GEARHEAD		0.5
GEAR HEAD	9GB□3MH - 9GB□15MH	0.67
	9GB□18MH - 9GB□30MH	0.96
	9GB□36MH - 9GB□180MH	1.07

◆ GEARHEAD OUTPUT

MODEL	SHAFT
ROUND TYPE 9GBS3MH ~9GBS180MH	
D-CUT TYPE 9GBD3MH ~9GBD180MH	
KEY TYPE 9GBK3MH ~9GBK180MH	 ★

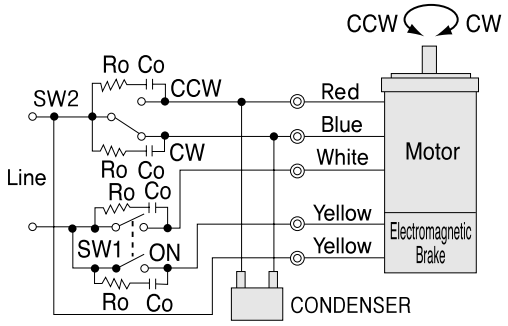
◆ MOTOR OUTPUT

MODEL	SHAFT
GEAR TYPE 9BDG□-40G	
ROUND TYPE 9BDS□-40	
D-CUT TYPE 9BDD□-40	 ★
KEY TYPE 9BDK□-40	

* Note : Above table indicates output shaft dimension made by user' s request and ★ indicates the basic dimension in factory shipping.

Connection Diagrams

Single Phase

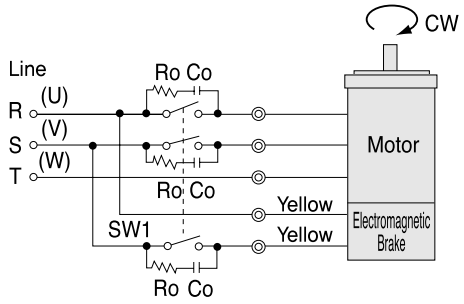


SW1 operates both motor and electromagnetic brake action. The motor will rotate when SW1 is switched simultaneously to ON (short circuit). When SW1 is switched simultaneously with the electromagnetic brake and holds the load.
(To release the brake while the motor is stopped, apply voltage between the two brake lead wires (yellow).)

Direction of Rotation
For CW direction, flip SW2 to CW.
For CCW direction, flip SW2 to CCW.

Switch	Specifications		Note
	Single phase 110VAC, Single phase 115VAC Input	Single phase 220VAC, Single phase 230VAC Input	
SW1	125 VAC 3A minimum (inductive Load)	250 VAC 1.5A minimum (inductive Load)	Switched simultaneously
SW2			-

Three Phase



SW1 operates both motor and electromagnetic brake action. The motor will rotate when SW1 is switched simultaneously to ON (short circuit). When SW1 is switched simultaneously with the electromagnetic brake and holds the load.
(To release the brake while the motor is stopped, apply voltage between the two brake lead wires (yellow).)

Direction of Rotation
To rotate the motor in a CCW direction, change any two connections between U, V and W.

Switch	Specifications	Note
SW1	250 VAC 1.5A minimum (inductive Load)	Switched simultaneously

- 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.
- Connection diagrams are also valid for the equivalent round shaft motors.
- Ro and Co indicates surge absorber circuit. [Ro=5~200Ω , Co=0.1~0.2μF , 200WV (400WV)]

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ELECTROMAGNETIC BRAKE MOTOR

(Power off activated type)

60W

□90mm(3.54in.)

LEAD WIRE TYPE MOTOR

TERMINAL BOX TYPE MOTOR

Motor Specification - 30min. Rating (Continuous : F2 fan)

CE

Model 9BDG□-60P : Pinion Shaft Type 9BDD□-60 : D-Cut Shaft Type		Starting Time	Output	Voltage	Freq.	Current	Starting Torque			Rated Torque			Rated Speed	Capacitor	
Lead Wire Type	Terminal Box Type		HP W	VAC	Hz	A	gfcm	mN.m	oz-in	gfcm	mN.m	oz-in	r/min	㎌	VAC
(TP) **9BDG(D)A-60P**	**9BDG(D)A-60P-T**	30min	1/12 60	Single Phase 110	60	1.2	3000	300	42	3800	380	37	1550	20	250
(TP) **9BDG(D)B-60P**	**9BDG(D)B-60P-T**			Single Phase 115	60										
(TP) **9BDG(D)C-60P**	**9BDG(D)C-60P-T**	30min		Single Phase 220	50	0.6	3000	300	42	4560	456	65	1300	5.0	400
(TP) **9BDG(D)D-60P**	**9BDG(D)D-60P-T**			Single Phase 220	60					3800	380	54	1550		
(TP) **9BDG(D)E-60P**	**9BDG(D)E-60P-T**			Single Phase 230	50					4560	456	65	1300		
(TP) **9BDG(D)F-60P**	**9BDG(D)F-60P-T**			Single Phase 230	60					3800	380	54	1550		
(TP) **9BDG(D)G-60P**	**9BDG(D)G-60P-T**	30min		Three phase 220	50	0.6	5000	500	71	4560	456	65	1300	-	-
(TP) **9BDG(D)H-60P**	**9BDG(D)H-60P-T**			Three phase 220	60					3800	380	54	1550		
(TP) **9BDG(D)I-60P**	**9BDG(D)I-60P-T**			Three phase 230	50					4560	456	65	1300		
(TP) **9BDG(D)J-60P**	**9BDG(D)J-60P-T**			Three phase 230	60					3800	380	54	1550		
(TP) **9BDG(D)K-60P**	**9BDG(D)K-60P-T**	30min		Three phase 380	50	0.38	5000	500	71	4560	456	65	1300	-	-
(TP) **9BDG(D)L-60P**	**9BDG(D)L-60P-T**			Three phase 380	60					3800	380	54	1550		
(TP) **9BDG(D)M-60P**	**9BDG(D)M-60P-T**	30min		Three phase 440	50	0.27	5000	500	71	4560	456	65	1300	-	-
(TP) **9BDG(D)N-60P**	**9BDG(D)N-60P-T**			Three phase 440	50					4560	456	65	1300		
(TP) **9BDG(D)O-60P**	**9BDG(D)O-60P-T**			Three phase 440	60					3800	380	54	1550		

* Enter the 'Phase & Voltage' code in the box(□) within the motor model name.
* 'Pinion Shaft' is for attaching gearhead and 'D-Cut Shaft' is for using motor only.

(TP) : Contains a built-in thermal protector. If a motor overheats for any reason the thermal protector opened and the motor stops. When the motor temperature drops, the thermal protector closes and the motor restarts. Be sure to turn the motor off before inspecting. By attaching F2 FAN additionally, temperature reducing of over 10℃ could be available.

Permissible Torque When using gearhead

60Hz

Model		speed RPM (r/min)	900	600	500	360	300	240	200	144	120	100	90	72	60	50	45	36	30	24	20	18	15	12	10
Motor/Gearhead		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**
9BDG□-60FP	**9PBK□BH** / **9PFK□BH**	kgf cm	7.5	9.7	11.7	16.2	19.4	24.3	29.2	36.5	43.8	52.6	59.0	66.0	79.2	95	106	132	158	177	200	200	200	200	200
		N.m	0.8	1.0	1.2	1.6	1.9	2.4	2.9	3.7	4.4	5.3	5.9	6.6	7.9	9.5	10.6	13.2	15.8	17.7	20	20	20	20	20
		lb-in	6.6	8.6	10	14	17	21	26	32	39	46	52	58	70	84	94	117	140	156	177	177	177	177	177

50Hz

Model		speed RPM (r/min)	750	500	417	300	250	200	167	120	100	83	75	60	50	42	38	30	25	20	17	15	13	10	8
Motor/Gearhead		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**
9BDG□-60FP	**9PBK□BH** / **9PFK□BH**	kgf cm	10.0	12.2	14.6	20.3	24	30	37	46	55	66	72	83	99	119	132	165	198	200	200	200	200	200	200
		N.m	1.0	1.2	1.5	2.0	2.4	3.0	3.7	4.6	5.5	6.6	7.2	8.3	9.9	11.9	13.2	16.5	20	20	20	20	20	20	20
		lb-in	8.8	10.8	12.9	17.9	21.5	26.8	32.2	40.3	48.4	58.0	63.6	72.8	87	105	117	146	175	177	177	177	177	177	177

* Enter the gear ratio in the box (□) within the gearhead model name. A colored background indicates gear shaft rotation in the same direction as the motor shaft ; a white background indicates rotation in the opposite direction.
* The speed is calculated by dividing the motor' s synchronous speed (50Hz : 1500 r/min, 60 Hz : 1800 r/min) by the gear ratio.
* The actual speed is 2~20% less than the displayed value, depending on the size of the load.
* If more slow speed is needed than above value, use decimal gearhead with a gear ratio of 10:1 could be used between general gearhead and motor. Even in this case, just speed will be reduced without increase in permissible torque; the maximum permissible torque is 200kgfcm (20N.m, 177lb-in).

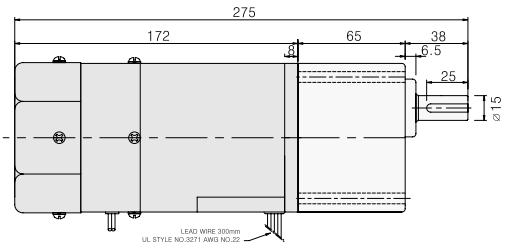
Dimension

LEAD WIRE TYPE

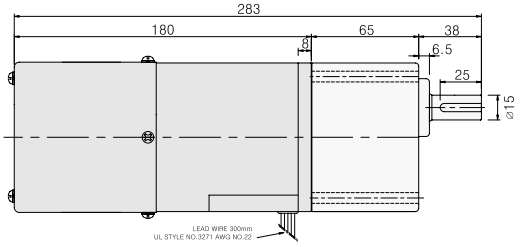
◆ GEARED MOTOR

* MOTOR MODEL : 9BDG□-60FP (GENERAL FAN)

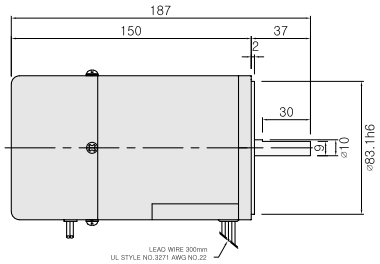
* GEARHEAD MODEL : 9PB□3BH - 9PB□180BH

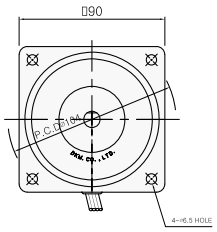


* MOTOR MODEL : 9BDG□-60F2P (POWERFUL FAN)

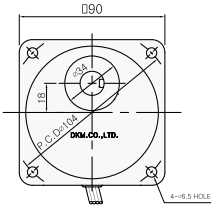


◆ MOTOR ONLY * MOTOR MODEL : 9BD□□-60 (NO FAN)

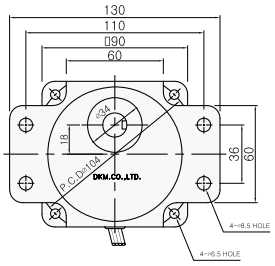




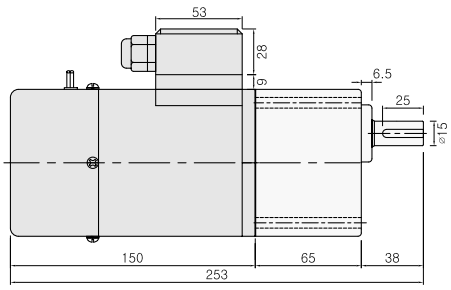
* GEARHEAD MODEL : 9PB□3BH - 9PB□180BH

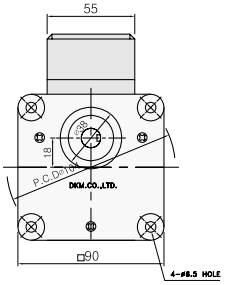


* GEARHEAD MODEL : 9PF□3BH - 9PF□180BH



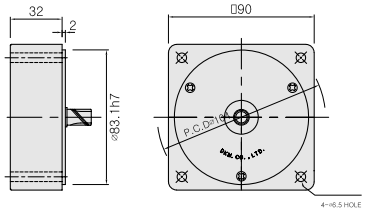
TERMINAL BOX TYPE * MOTOR MODEL : 9BDG□-60P-T (NO FAN)





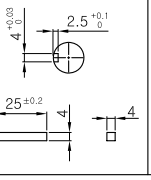
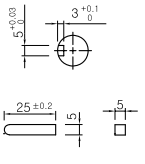
◆ INTER-DECIMAL GEARHEAD

* MODEL : 9XD10M□



* Note : There are 3 kinds of fan type (No Fan / General Fan / Powerful Fan).
Customer can choose fan type according to wanted rating time.

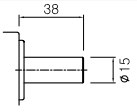
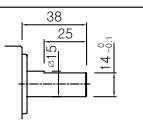
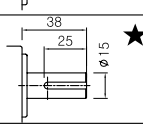
◆ KEY SPEC

MOTOR	GEARHEAD
	

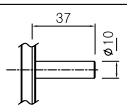
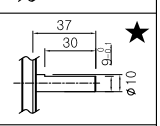
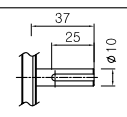
◆ WEIGHT

PART		WEIGHT(Kg)
MOTOR		3.0
DECIMAL GEARHEAD		0.5
GEAR HEAD	9P□□3BH - 9P□□9BH	1.3
	9P□□12.5BH - 9P□□18BH	1.3
	9P□□25BH - 9P□□60BH	1.4
	9P□□90BH - 9P□□180BH	1.4

◆ GEARHEAD OUTPUT

MODEL	SHAFT
ROUND TYPE 9P□S3BH ~9P□S180BH	
D-CUT TYPE 9P□D3BH ~9P□D180BH	
KEY TYPE 9P□K3BH ~9P□K180BH	

◆ MOTOR OUTPUT

MODEL	SHAFT
GEAR TYPE 9BDG□-60□P	
ROUND TYPE 9BDS□-60□	
D-CUT TYPE 9BDD□-60□	
KEY TYPE 9BDK□-60□	

* Note : Above table indicates output shaft dimension made by user' s request and ★ indicates the basic dimension in factory shipping.

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ELECTROMAGNETIC BRAKE MOTOR

(Power off activated type)

90W

□90mm(3.54in.)


LEAD WIRE TYPE MOTOR


LEAD WIRE TYPE MOTOR


TERMINAL BOX TYPE MOTOR


LEAD WIRE TYPE MOTOR

■ Motor Specification - 30min. Rating (Continuous : F2 fan)

CE

Model 9BDG□-90P(H) : Pinion Shaft Type 9BDD□-90 : D-Cut Shaft Type		Starting Time	Output		Voltage	Freq.	Current	Starting Torque			Rated Torque			Rated Speed	Capacitor	
Lead Wire Type	Terminal Box Type		HP	W	VAC	Hz	A	gfcm	mN.m	oz-in	gfcm	mN.m	oz-in	r/min	μF	VAC
(TP) **9BDG(D)A-90P(H)**	**9BDG(D)A-90P(H)-T**	30min	1/8	90	Single Phase 110	60	20.	4500	450	67	5700	570	81	1550	25	250
(TP) **9BDG(D)B-90P(H)**	**9BDG(D)B-90P(H)-T**				Single Phase 115	60										
(TP) **9BDG(D)C-90P(H)**	**9BDG(D)C-90P(H)-T**	30min			Single Phase 220	50	1.0	4500	450	64	6840	684	97	1300	6.0	400
(TP) **9BDG(D)D-90P(H)**	**9BDG(D)D-90P(H)-T**				Single Phase 220	60					5700	570	81	1550		
(TP) **9BDG(D)E-90P(H)**	**9BDG(D)E-90P(H)-T**				Single Phase 230	50					6840	684	97	1300		
(TP) **9BDG(D)F-90P(H)**	**9BDG(D)F-90P(H)-T**				Single Phase 230	60					5700	570	81	1550		
(TP) **9BDG(D)G-90P(H)**	**9BDG(D)G-90P(H)-T**	30min			Three phase 220	50	0.8	7000	700	99	6840	684	97	1300	-	-
(TP) **9BDG(D)H-90P(H)**	**9BDG(D)H-90P(H)-T**				Three phase 220	60					5700	570	81	1550		
(TP) **9BDG(D)I-90P(H)**	**9BDG(D)I-90P(H)-T**				Three phase 230	50					6840	684	97	1300		
(TP) **9BDG(D)J-90P(H)**	**9BDG(D)J-90P(H)-T**				Three phase 230	60					5700	570	81	1550		
(TP) **9BDG(D)K-90P(H)**	**9BDG(D)K-90P(H)-T**	30min			Three phase 380	50	0.44	7000	700	99	6840	684	97	1300	-	-
(TP) **9BDG(D)L-90P(H)**	**9BDG(D)L-90P(H)-T**				Three phase 380	60					5700	570	81	1550		
(TP) **9BDG(D)M-90P(H)**	**9BDG(D)M-90P(H)-T**	30min			Three phase 440	50	0.36	7000	700	99	6840	684	97	1300	-	-
(TP) **9BDG(D)N-90P(H)**	**9BDG(D)N-90P(H)-T**				Three phase 440	50					6840	684	97	1300		
(TP) **9BDG(D)O-90P(H)**	**9BDG(D)O-90P(H)-T**				Three phase 440	60					5700	570	81	1550		

* Enter the 'Phase & Voltage' code in the box(□) within the motor model name.
* 'Pinion Shaft' is for attaching gearhead and 'D-Cut Shaft' is for using motor only.
(TP) : Contains a built-in thermal protector. If a motor overheats for any reason the thermal protector opened and the motor stops. When the motor temperature drops, the thermal protector closes and the motor restarts. Be sure to turn the motor off before inspecting. By attaching F2 FAN additionally, temperature reducing of over 10℃ could be available.

■ Permissible Torque When using gearhead

60Hz

Model	speed RPM (r/min)		900	600	500	360	300	240	200	144	120	100	90	72	60	50	45	36	30	24	20	18	15	12	10
Motor/Gearhead	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**
9BDG□-90FP / **9PBK□BH** **9PFK□BH**	kgf cm	12	14.6	17.5	24.3	29.2	36.5	43.7	54.8	65.7	78.8	88.0	99	119	143	158	198	200	200	200	200	200	200	200
	N.m	1.2	1.5	1.8	2.4	2.9	3.7	4.4	5.5	6.6	7.9	8.8	9.9	12	14	16	20	20	20	20	20	20	20	20
	lb-in	10.6	12.9	15.5	21.5	25.8	32.2	38.6	48.4	58.0	69.6	77.7	87.4	105	126	140	175	177	177	177	177	177	177	177
9BDG□-90FH / **9HBK□BH**	kgf cm	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	198	232	259	300	300	300	300	300
	N.m																20	23	26	30	30	30	30	30
	lb-in																175	205	229	265	265	265	265	265

50Hz

Model	speed RPM (r/min)		750	500	417	300	250	200	167	120	100	83	75	60	50	42	38	30	25	20	17	15	13	10	8
Motor/Gearhead	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**
9BDG□-90FP / **9PBK□BH** **9PFK□BH**	kgf cm	15	18.2	21.9	30.4	36.5	45.6	54.7	68.4	82.1	98.6	110	124	150	180	199	200	200	200	200	200	200	200	200
	N.m	1.5	1.8	2.2	3.0	3.7	4.6	5.5	6.8	8.2	9.9	11	12	15	18	20	20	20	20	20	20	20	20	20
	lb-in	13.2	16.1	19.3	26.8	32.2	40.3	48.3	60	72	87	97	109	132	159	176	177	177	177	177	177	177	177	177
9BDG□-90FH / **9HBK□BH**	kgf cm	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	241	289	300	300	300	300	300	300
	N.m																24	29	30	30	30	30	30	30
	lb-in																213	255	265	265	265	265	265	265

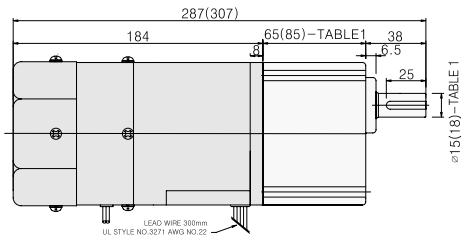
* Enter the gear ratio in the box (□) within the gearhead model name. A colored background indicates gear shaft rotation in the same direction as the motor shaft ; a white background indicates rotation in the opposite direction.
* The speed is calculated by dividing the motor' s synchronous speed (50Hz : 1500 r/min, 60 Hz : 1800 r/min) by the gear ratio.
* The actual speed is 2~20% less than the displayed value, depending on the size of the load.
* If more slow speed is needed than above value, use decimal gearhead with a gear ratio of 10:1 could be used between general gearhead and motor. Even in this case, just speed will be reduced without increase in permissible torque; the maximum permissible torque is 200kgfcm (P type) / 300kgfcm (H type).

Dimension

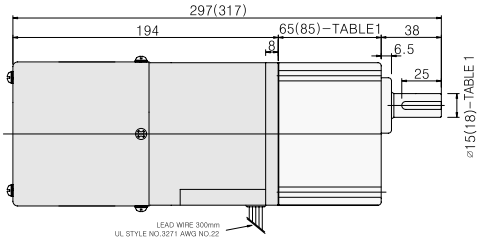
LEAD WIRE TYPE

◆ GEARED MOTOR

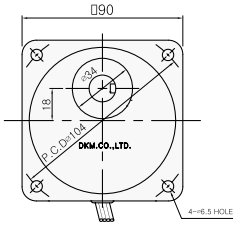
* MOTOR MODEL : 9BDG□-90FP(H) (GENERAL FAN)
* GEARHEAD MODEL : 9PB □ 3BH - 9PB □ 180BH



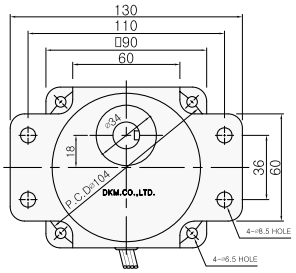
* MOTOR MODEL : 9BDG□-90F2P(H) (POWERFUL FAN)
* GEARHEAD MODEL : 9PB□ 3BH - 9PB□180BH



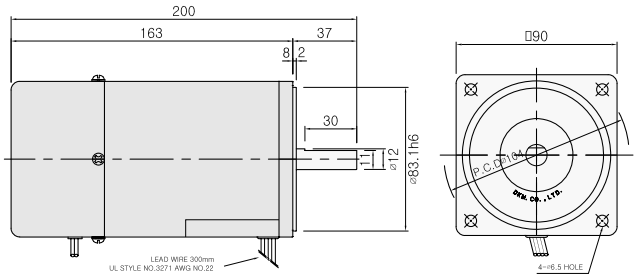
* GEARHEAD MODEL : 9PB □ 3BH - 9PB □180BH



* GEARHEAD MODEL : 9PF □ 3BH - 9PF □180BH

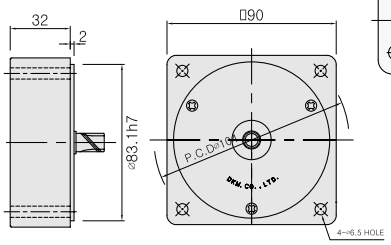


◆ MOTOR ONLY * MOTOR MODEL : 9BD□□-90 (NO FAN)

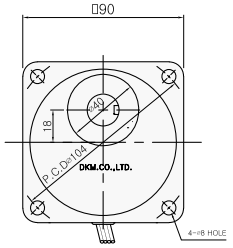


◆ INTER-DECIMAL GEARHEAD

* MODEL : 9XD10M□

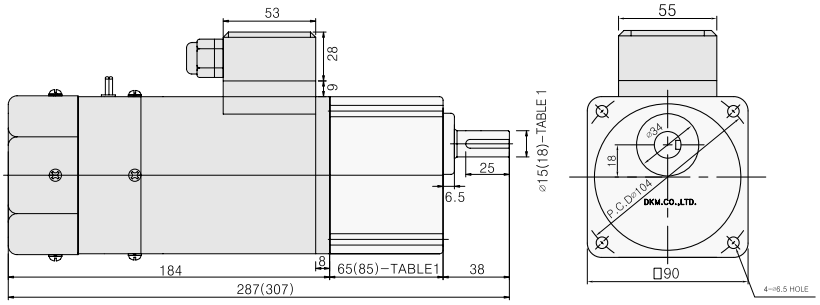


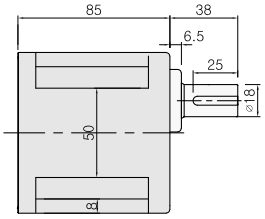
* GEARHEAD MODEL : 9HB □ 3BH - 9HB □180BH



TERMINAL BOX TYPE

* MOTOR MODEL : 9BDG□-90FP(H)-T (GENERAL FAN)



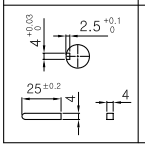
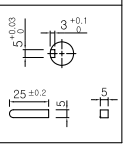


* Note : There are 3 kinds of fan type (No Fan / General Fan / Powerful Fan). Customer can choose fan type according to wanted rating time.

◆ 65(85)-TABLE1

SIZE(mm)	GEARHEAD TYPE
65 – ø15	P TYPE GEARHEAD
85 – ø18	H TYPE GEARHEAD

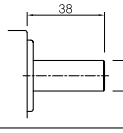
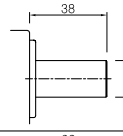
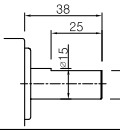
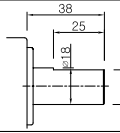
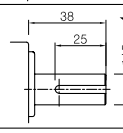
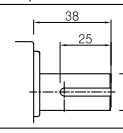
◆ KEY SPEC

MOTOR용	GEARHEAD용
	

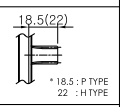
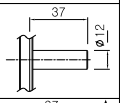
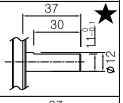
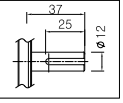
◆ WEIGHT

PART		WEIGHT(Kg)	
MOTOR		3.5	
DECIMAL GEARHEAD		0.5	
GEAR HEAD	GEARHEAD TYPE	P TYPE	H TYPE
	9P(H)□□ 3BH - 9P(H)□□9BH	1.3	1.45
	9P(H)□□ 12.5BH - 9P(H)□□18BH	1.3	1.5
	9P(H)□□ 25BH - 9P(H)□□60BH	1.4	1.7
	9P(H)□□ 90BH - 9P(H)□□180BH	1.4	1.8

◆ GEARHEAD OUTPUT

MODEL	P TYPE	H TYPE
ROUND TYPE 9P(H)□S3BH ~9P(H)□S180BH		
D-CUT TYPE 9P(H)□D3BH ~9P(H)□D180BH		
KEY TYPE 9P(H)□K3BH ~9P(H)□K180BH		

◆ MOTOR OUTPUT

MODEL	SHAFT
GEAR TYPE 9BDG□-90□ P(H)	
ROUND TYPE 9BDS□-90□	
D-CUT TYPE 9BDD□-90□	
KEY TYPE 9BDK□-90□	

* Note : Above table indicates output shaft dimension made by user' s request and ★ indicates the basic dimension in factory shipping.

Connection Diagrams Please refer to page 99.

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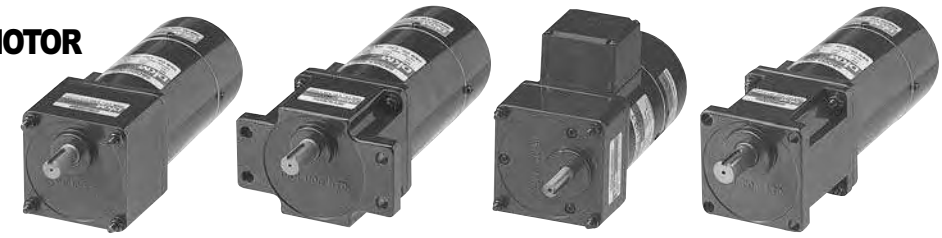
ELECTROMAGNETIC BRAKE MOTOR

(Power off activated type)

120W

□90mm(3.54in.)



LEAD WIRE TYPE MOTOR | LEAD WIRE TYPE MOTOR | TERMINAL BOX TYPE MOTOR | LEAD WIRE TYPE MOTOR

Motor Specification - 30min. Rating (Continuous : F2 fan)

Model 9BDG□-120P(H) : Pinion Shaft Type 9BDD□-120 : D-Cut Shaft Type		Starting Time	Output		Voltage	Freq.	Current	Starting Torque			Rated Torque			Rated Speed	Capacitor	
Lead Wire Type	Terminal Box Type		HP	W	VAC	Hz	A	gfcm	mN.m	oz-in	gfcm	mN.m	oz-in	r/min	μF	VAC
(TP) 9BDG(D)A-120P(H)	9BDG(D)A-120P(H)-T	30min	1/6	120	Single Phase 110	60	2.0	5900	590	83	7600	760	108	1550	30	250
(TP) 9BDG(D)B-120P(H)	9BDG(D)B-120P(H)-T				Single Phase 115	60										
(TP) 9BDG(D)C-120P(H)	9BDG(D)C-120P(H)-T	30min			Single Phase 220	50	1.0	5900	590	83	9120	912	129	1300	6.5	400
(TP) 9BDG(D)D-120P(H)	9BDG(D)D-120P(H)-T				Single Phase 220	60					7600	760	109	1550		
(TP) 9BDG(D)E-120P(H)	9BDG(D)E-120P(H)-T				Single Phase 230	50					9120	912	129	1300		
(TP) 9BDG(D)F-120P(H)	9BDG(D)F-120P(H)-T				Single Phase 230	60					7600	760	109	1550		
(TP) 9BDG(D)G-120P(H)	9BDG(D)G-120P(H)-T	30min			Three phase 220	50	0.8	9300	930	132	9120	912	129	1300	-	-
(TP) 9BDG(D)H-120P(H)	9BDG(D)H-120P(H)-T				Three phase 220	60					7600	760	109	1550		
(TP) 9BDG(D)I-120P(H)	9BDG(D)I-120P(H)-T				Three phase 230	50					9120	912	129	1300		
(TP) 9BDG(D)J-120P(H)	9BDG(D)J-120P(H)-T				Three phase 230	60					7600	760	109	1550		
(TP) 9BDG(D)K-120P(H)	9BDG(D)K-120P(H)-T	30min			Three phase 380	50	0.55	9300	930	132	9120	912	129	1300	-	-
(TP) 9BDG(D)L-120P(H)	9BDG(D)L-120P(H)-T				Three phase 380	60					7600	760	109	1550		
(TP) 9BDG(D)M-120P(H)	9BDG(D)M-120P(H)-T	30min			Three phase 440	50	0.54	9300	930	132	9120	912	129	1300	-	-
(TP) 9BDG(D)N-120P(H)	9BDG(D)N-120P(H)-T				Three phase 440	50					9120	912	129	1300		
(TP) 9BDG(D)O-120P(H)	9BDG(D)O-120P(H)-T				Three phase 440	60					7600	760	109	1550		

* Enter the 'Phase & Voltage' code in the box(□) within the motor model name.
* 'Pinion Shaft' is for attaching gearhead and 'D-Cut Shaft' is for using motor only.
(TP) : Contains a built-in thermal protector. If a motor overheats for any reason the thermal protector opened and the motor stops. When the motor temperature drops, the thermal protector closes and the motor restarts. Be sure to turn the motor off before inspecting. By attaching F2 FAN additionally, temperature reducing of over 10℃ could be available.

Permissible Torque When using gearhead

60Hz

Model	speed RPM (r/min)		900	600	500	360	300	240	200	144	120	100	90	72	60	50	45	36	30	24	20	18	15	12	10
Motor/Gearhead	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**
9BDG□-120FP / 9PBK□BH 9PFK□BH		kgf cm	17.5	18.7	22.5	31.2	37.4	46.8	56.1	70.2	84.2	101	114	126	152	182	200	200	200	200	200	200	200	200	200
		N.m	1.8	1.9	2.3	3.1	3.7	4.7	5.6	7.0	8.4	10.1	11.4	12.6	15	18	20	20	20	20	20	20	20	20	20
		lb-in	15.5	16.5	19.9	27.5	33.0	41.3	49.5	62.0	74	89	101	111	134	161	177	177	177	177	177	177	177	177	177
9BDG□-120FH / 9HBK□BH		kgf cm	-	20.6	24.8	-	41.1	-	61.7	77.2	93	111	-	139	167	200	-	220	240	300	300	300	300	300	300
		N.m	-	2.1	2.5	-	4.1	-	6.2	7.7	9.3	11.1	-	13.9	16.7	20.0	-	24	30	30	30	30	30	30	30
		lb-in	-	18.2	21.9	-	36.3	-	54.5	68.2	81.8	98.1	-	122	148	177	-	194	212	265	265	265	265	265	265

50Hz

Model	speed RPM (r/min)		750	500	417	300	250	200	167	120	100	83	75	60	50	42	38	30	25	20	17	15	13	10	8
Motor/Gearhead	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**
9BDG□-120FP / 9PBK□BH 9PFK□BH		kgf cm	22.0	23.2	27.8	38.7	46.4	58.0	69.6	87.0	104	125	140	156	188	200	200	200	200	200	200	200	200	200	200
		N.m	2.20	2.32	2.78	3.87	4.64	5.80	6.96	8.7	10.4	12.5	14.0	15.6	19	20	20	20	20	20	20	20	20	20	20
		lb-in	19.4	20.5	24.5	34.2	41.0	51.2	61.5	76.8	92	110	124	138	166	177	177	177	177	177	177	177	177	177	177
9BDG□-120FH / 9HBK□BH		kgf cm	-	25.5	30.6	-	51.0	-	76.6	95.7	114	138	-	172	207	220	-	240	260	300	300	300	300	300	300
		N.m	-	2.6	3.1	-	6.1	-	7.7	9.6	11.4	13.8	-	17.2	20.7	22	-	24	26	30	30	30	30	30	30
		lb-in	-	22.5	27.0	-	45.1	-	67.6	84.5	101	121	-	152	183	194	-	212	230	265	265	265	265	265	265

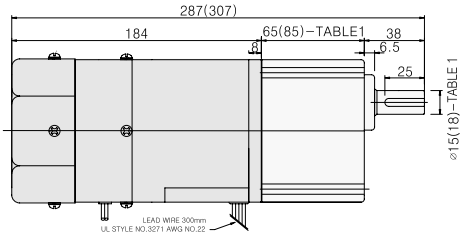
* Enter the gear ratio in the box (□) within the gearhead model name. A colored background indicates gear shaft rotation in the same direction as the motor shaft ; a white background indicates rotation in the opposite direction.
* The speed is calculated by dividing the motor' s synchronous speed (50Hz : 1500 r/min, 60 Hz : 1800 r/min) by the gear ratio.
* The actual speed is 2~20% less than the displayed value, depending on the size of the load.
* If more slow speed is needed than above value, use decimal gearhead with a gear ratio of 10:1 could be used between general gearhead and motor. Even in this case, just speed will be reduced without increase in permissible torque; the maximum permissible torque is 200kgfcm (P type) / 300kgfcm (H type).

Dimension

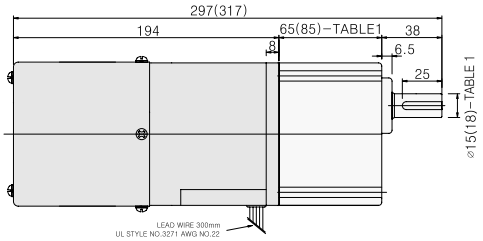
LEAD WIRE TYPE

◆ GEARED MOTOR

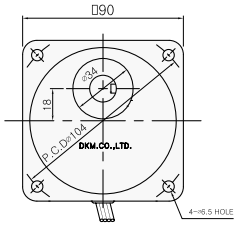
* MOTOR MODEL : 9BDG□-120FP(H) (GENERAL FAN)
* GEARHEAD MODEL : 9PB□3BH - 9PB□180BH



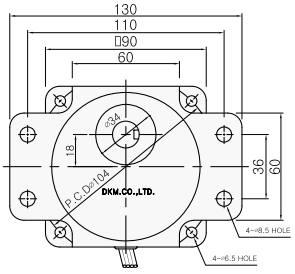
* MOTOR MODEL : 9BDG□-120F2P(H) (POWERFUL FAN)
* GEARHEAD MODEL : 9PB□3BH - 9PB□180BH



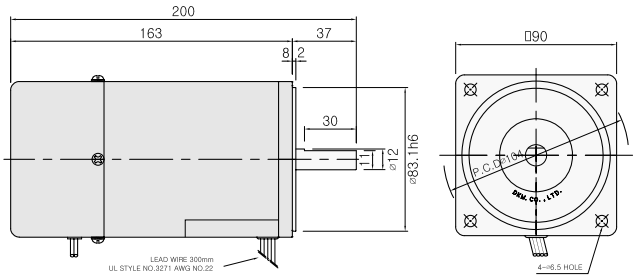
* GEARHEAD MODEL : 9PB□3BH - 9PB□180BH



* GEARHEAD MODEL : 9PF□3BH - 9PF□180BH

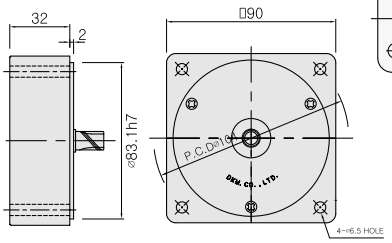


◆ MOTOR ONLY * MOTOR MODEL : 9BD□□-120(NO FAN)

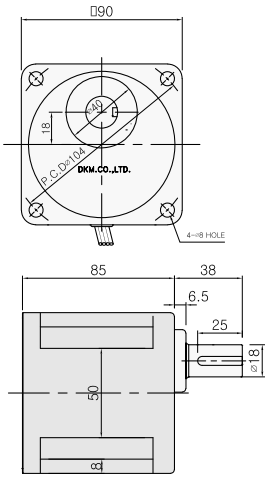


◆ INTER-DECIMAL GEARHEAD

* MODEL : 9XD10M□

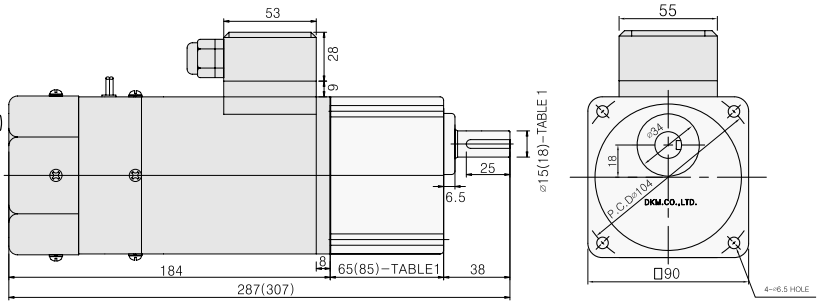


* GEARHEAD MODEL : 9HB□3BH - 9HB□180BH



TERMINAL BOX TYPE

* MOTOR MODEL : 9BDG□-120FP(H)-T (GENERAL FAN)

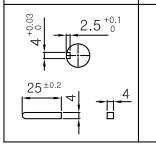
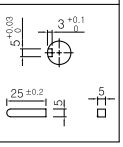


* Note : There are 3 kinds of fan type (No Fan / General Fan / Powerful Fan). Customer can choose fan type according to wanted rating time.

◆ 65(85)-TABLE1

SIZE(mm)	GEARHEAD TYPE
65 ~ ø15	P TYPE GEARHEAD
85 ~ ø18	H TYPE GEARHEAD

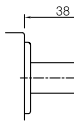
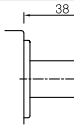
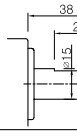
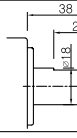
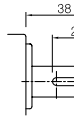
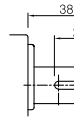
◆ KEY SPEC

MOTOR	GEARHEAD
	

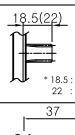
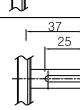
◆ WEIGHT

PART		WEIGHT(Kg)	
MOTOR		3.5	
DECIMAL GEARHEAD		0.5	
GEAR HEAD	GEARHEAD TYPE	P TYPE	H TYPE
	9P(H)□□ 3BH - 9P(H)□□9BH	1.3	1.45
	9P(H)□□ 12.5BH - 9P(H)□□18BH	1.3	1.5
	9P(H)□□ 25BH - 9P(H)□□60BH	1.4	1.7
	9P(H)□□ 90BH - 9P(H)□□180BH	1.4	1.8

◆ GEARHEAD OUTPUT

MODEL	P TYPE	H TYPE
ROUND TYPE 9P(H)□S3BH ~9P(H)□S180BH		
D-CUT TYPE 9P(H)□D3BH ~9P(H)□D180BH		
KEY TYPE 9P(H)□K3BH ~9P(H)□K180BH		

◆ MOTOR OUTPUT

MODEL	SHAFT
GEAR TYPE 9BDG□-120□P(H)	
ROUND TYPE 9BDS□-120□	
D-CUT TYPE 9BDD□-120□	
KEY TYPE 9BDK□-120□	

* Note : Above table indicates output shaft dimension made by user' s request and ★ indicates the basic dimension in factory shipping.

Connection Diagrams Please refer to page 99.

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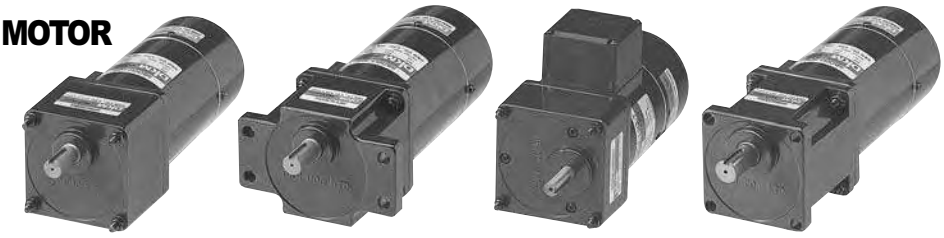
ELECTROMAGNETIC BRAKE MOTOR

(Power off activated type)

150W

□90mm(3.54in.)



LEAD WIRE TYPE MOTOR | LEAD WIRE TYPE MOTOR | TERMINAL BOX TYPE MOTOR | LEAD WIRE TYPE MOTOR

■ Motor Specification - 30min. Rating (Continuous : F2 fan)

CE

Model 9BDG□-150P(H) : Pinion Shaft Type 9BDD□-150 : D-Cut Shaft Type		Starting Time	Output		Voltage	Freq.	Current	Starting Torque			Rated Torque			Rated Speed	Capacitor	
Lead Wire Type	Terminal Box Type		HP	W	VAC	Hz	A	gfcm	mN.m	oz-in	gfcm	mN.m	oz-in	r/min	μF	VAC
(TP) **9BDG(D)G-150P(H)**	**9BDG(D)G-150P(H)-T**	30min	1/5	150	Three phase 220	50	1.2	11400	1140	161	11160	1116	158	1300	-	-
(TP) **9BDG(D)3-150P(H)**	**9BDG(D)3-150P(H)-T**				Three phase 220	60					9300	930	132	1550		
(TP) **9BDG(D)I-150P(H)**	**9BDG(D)I-150P(H)-T**				Three phase 230	50					11160	1116	158	1300		
(TP) **9BDG(D)J-150P(H)**	**9BDG(D)J-150P(H)-T**				Three phase 230	60					9300	930	132	1550		
(TP) **9BDG(D)K-150P(H)**	**9BDG(D)K-150P(H)-T**	30min			Three phase 380	50	0.66	11400	1140	161	11160	1116	158	1300	-	-
(TP) **9BDG(D)4-150P(H)**	**9BDG(D)4-150P(H)-T**				Three phase 380	60					9300	930	132	1550		
(TP) **9BDG(D)M-150P(H)**	**9BDG(D)M-150P(H)-T**	30min			Three phase 400	50	0.54	11400	1140	161	11160	1116	158	1300	-	-
(TP) **9BDG(D)N-150P(H)**	**9BDG(D)N-150P(H)-T**				Three phase 440	50					11160	1116	158	1300		
(TP) **9BDG(D)5-150P(H)**	**9BDG(D)4-150P(H)-T**				Three phase 440	60					9300	930	132	1550		

* Enter the 'Phase & Voltage' code in the box(□) within the motor model name.
* 'Pinion Shaft' is for attaching gearhead and 'D-Cut Shaft' is for using motor only.
(TP) : Contains a built-in thermal protector. If a motor overheats for any reason the thermal protector opened and the motor stops. When the motor temperature drops, the thermal protector closes and the motor restarts. Be sure to turn the motor off before inspecting. By attaching F2 FAN additionally, temperature reducing of over 10℃ could be available.

■ Permissible Torque When using gearhead

60Hz

Model	speed RPM (r/min)		900	600	500	360	300	240	200	144	120	100	90	72	60	50	45	36	30	24	20	18	15	12	10
Motor/Gearhead	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**
9BDG□-150FP / **9PBK□BH** **9PFK□BH**		kgf cm	19	23.2	27.8	38.7	46.4	58.0	69.6	87	104	125	135	156	188	200	200	200	200	200	200	200	200	200	200
		N.m	1.9	2.3	2.8	3.9	4.6	5.8	7.0	8.7	10.4	12.5	13.5	15.6	19	20	20	20	20	20	20	20	20	20	20
		lb-in	17	20	25	34	41	51	61	77	92	110	119	138	166	177	177	177	177	177	177	177	177	177	177
9BDG□-150FH / **9HBK□BH**		kgf cm	-	25.5	30.6	-	51.0	-	76.6	96	114	138	-	172	207	225	-	300	300	300	300	300	300	300	300
		N.m	-	2.6	3.1	-	5.1	-	7.7	9.6	11.4	13.8	-	17.2	20.7	23	-	30	30	30	30	30	30	30	30
		lb-in	-	23	27	-	45	-	68	85	101	121	-	152	183	199	-	265	265	265	265	265	265	265	265

50Hz

Model	speed RPM (r/min)		750	500	417	300	250	200	167	120	100	83	75	60	50	42	38	30	25	20	17	15	13	10	8
Motor/Gearhead	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**
9BDG□-150FP / **9PBK□BH** **9PFK□BH**		kgf cm	22	23.1	27.7	38.5	46.4	58.0	69.6	87	104	125	135	156	188	200	200	200	200	200	200	200	200	200	200
		N.m	2.2	2.3	2.8	3.9	4.6	5.8	7.0	8.7	10.4	12.5	13.5	16	19	20	20	20	20	20	20	20	20	20	20
		lb-in	19	20	24	34	41	51	61	77	92	110	119	138	166	177	177	177	177	177	177	177	177	177	177
9BDG□-150FH / **9HBK□BH**		kgf cm	-	25.4	30.5	-	51.0	-	76.6	96	114	138	-	172	207	225	-	300	300	300	300	300	300	300	300
		N.m	-	2.5	3.0	-	5.1	-	7.7	9.6	11.4	13.8	-	17	21	23	-	30	30	30	30	30	30	30	30
		lb-in	-	22	27	-	45	-	68	85	101	121	-	152	183	199	-	265	265	265	265	265	265	265	265

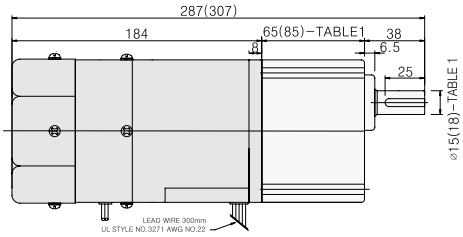
* Enter the gear ratio in the box (□) within the gearhead model name. A colored background indicates gear shaft rotation in the same direction as the motor shaft ; a white background indicates rotation in the opposite direction.
* The speed is calculated by dividing the motor' s synchronous speed (50Hz : 1500 r/min, 60 Hz : 1800 r/min) by the gear ratio.
* The actual speed is 2~20% less than the displayed value, depending on the size of the load.
* If more slow speed is needed than above value, use decimal gearhead with a gear ratio of 10:1 could be used between general gearhead and motor. Even in this case, just speed will be reduced without increase in permissible torque; the maximum permissible torque is 200kgfcm (P type) / 300kgfcm (H type).

Dimension

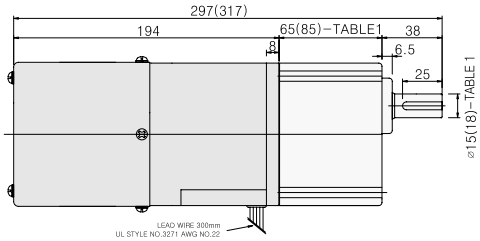
LEAD WIRE TYPE

◆ GEARED MOTOR

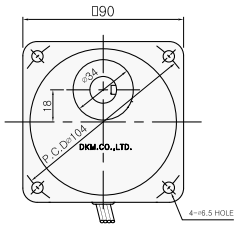
* MOTOR MODEL : 9BDG□-150FP(H) (GENERAL FAN)
* GEARHEAD MODEL : 9PB□3BH - 9PB□180BH



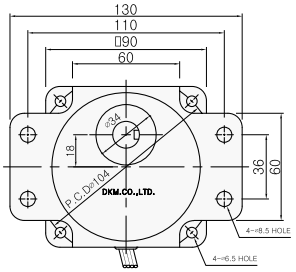
* MOTOR MODEL : 9BDG□-150F2P(H) (POWERFUL FAN)
* GEARHEAD MODEL : 9PB□3BH - 9PB□180BH



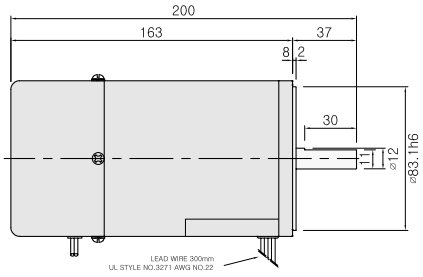
* GEARHEAD MODEL : 9PB□3BH - 9PB□180BH

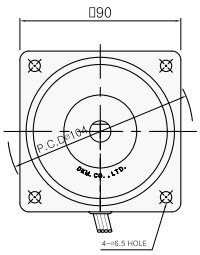


* GEARHEAD MODEL : 9PF□3BH - 9PF□180BH



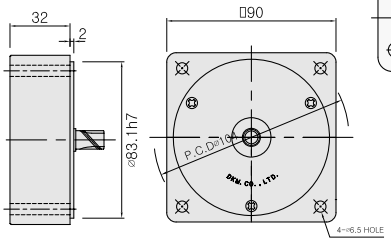
◆ MOTOR ONLY * MOTOR MODEL : 9BD□□-150(NO FAN)



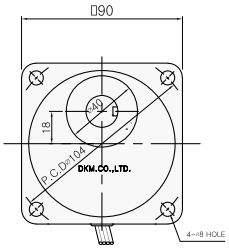


◆ INTER-DECIMAL GEARHEAD

* MODEL : 9XD10M□

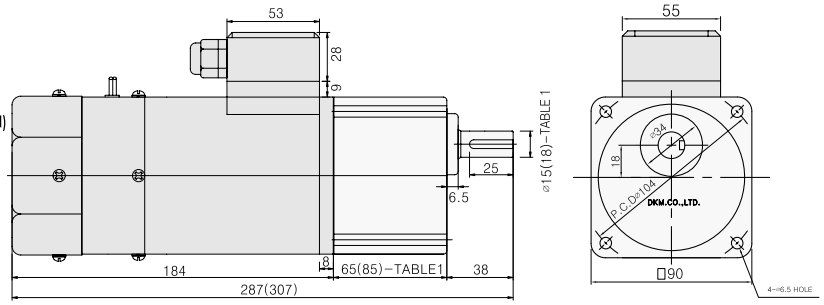


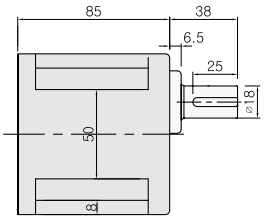
* GEARHEAD MODEL : 9HB□3BH - 9HB□180BH



TERMINAL BOX TYPE

* MOTOR MODEL : 9BDG□-150FP(H)-T(GENERAL FAN)



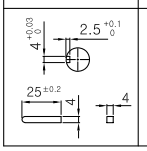
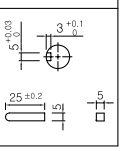


* Note : There are 3 kinds of fan type (No Fan / General Fan / Powerful Fan). Customer can choose fan type according to wanted rating time.

◆ 65(85)-TABLE1

SIZE(mm)	GEARHEAD TYPE
65 − ø15	P TYPE GEARHEAD
85 − ø18	H TYPE GEARHEAD

◆ KEY SPEC

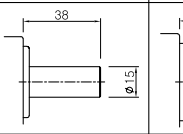
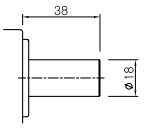
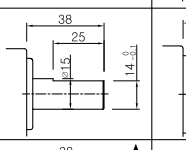
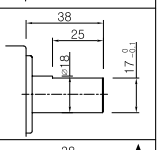
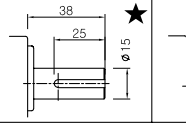
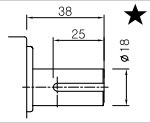
MOTOR	GEARHEAD
	

◆ WEIGHT

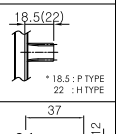
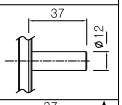
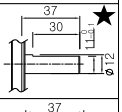
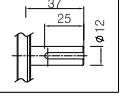
PART	WEIGHT(Kg)
MOTOR	3.5
DECIMAL GEARHEAD	0.5

GEAR HEAD	GEARHEAD TYPE	P TYPE	H TYPE
	9P(H)□□ 3BH - 9P(H)□□9BH	1.3	1.45
	9P(H)□□ 12.5BH - 9P(H)□□18BH	1.3	1.5
	9P(H)□□ 25BH - 9P(H)□□60BH	1.4	1.7
	9P(H)□□ 90BH - 9P(H)□□180BH	1.4	1.8

◆ GEARHEAD OUTPUT

MODEL	P TYPE	H TYPE
ROUND TYPE 9P(H)□S3BH ~9P(H)□S180BH		
D-CUT TYPE 9P(H)□D3BH ~9P(H)□D180BH		
KEY TYPE 9P(H)□K3BH ~9P(H)□K180BH		

◆ MOTOR OUTPUT

MODEL	SHAFT
GEAR TYPE 9BDG□-150□P(H)	
ROUND TYPE 9BDS□-150□	
D-CUT TYPE 9BDD□-150□	
KEY TYPE 9BDK□-150□	

* Note : Above table indicates output shaft dimension made by user' s request and ★ indicates the basic dimension in factory shipping.

Connection Diagrams Please refer to page 99.

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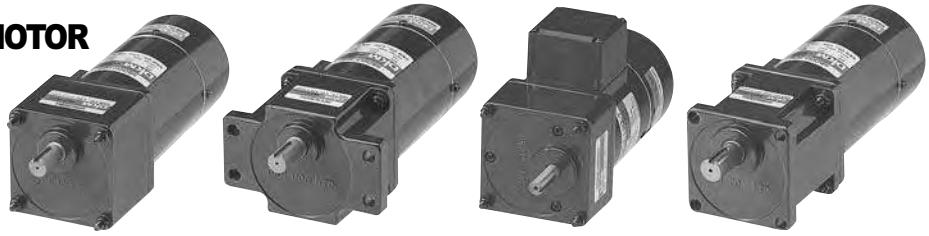
ELECTROMAGNETIC BRAKE MOTOR

(Power off activated type)

180W

□90mm(3.54in.)



LEAD WIRE TYPE MOTOR | LEAD WIRE TYPE MOTOR | TERMINAL BOX TYPE MOTOR | LEAD WIRE TYPE MOTOR

■ Motor Specification - 30min. Rating (Continuous : F2 fan)

CE

Model 9BDG□-180P(H) : Pinion Shaft Type 9BDD□-180 : D-Cut Shaft Type		Starting Time	Output		Voltage	Freq.	Current	Starting Torque			Rated Torque			Rated Speed	Capacitor	
Lead Wire Type	Terminal Box Type		HP	W	VAC	Hz	A	gfcm	mN.m	oz-in	gfcm	mN.m	oz-in	r/min	μF	VAC
(TP) **9BDG(D)C-180P(H)**	**9BDG(D)C-180P(H)-T**	30min	1/4	180	Single Phase 220	50	1.6	7000	700	99	13560	1356	192	1300	8	400
(TP) **9BDG(D)D-180P(H)**	**9BDG(D)D-180P(H)-T**				Single Phase 220	60					11300	1130	160	1550		
(TP) **9BDG(D)E-180P(H)**	**9BDG(D)E-180P(H)-T**				Single Phase 230	50					13560	1356	192	1300		
(TP) **9BDG(D)F-180P(H)**	**9BDG(D)F-180P(H)-T**				Single Phase 230	60					11300	1130	160	1550		

* Enter the 'Phase & Voltage' code in the box(□) within the motor model name.
* 'Pinion Shaft' is for attaching gearhead and 'D-Cut Shaft' is for using motor only.
(TP) : Contains a built-in thermal protector. If a motor overheats for any reason the thermal protector opened and the motor stops. When the motor temperature drops, the thermal protector closes and the motor restarts. Be sure to turn the motor off before inspecting. By attaching F2 FAN additionally, temperature reducing of over 10℃ could be available.

■ Permissible Torque When using gearhead

60Hz

Model	speed RPM (r/min)		900	600	500	360	300	240	200	144	120	100	90	72	60	50	45	36	30	24	20	18	15	12	10
Motor/Gearhead	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**
9BDG□-180FP	**9PBK□BH** / **9PFK□BH**	kgf cm	22	27	32	45	54	67	80	100	120	152	171	189	200	200	200	200	200	200	200	200	200	200	200
		N.m	2.2	2.7	3.2	4.5	5.4	6.7	8.0	10	12	15	17	19	20	20	20	20	20	20	20	20	20	20	20
		lb-in	19	24	29	39	48	60	71	88	106	134	151	167	177	177	177	177	177	177	177	177	177	177	177
9BDG□-180FH	**9HBK□BH**	kgf cm	-	28	34	-	54	-	84	105	126	160	-	210	227	273	-	240	300	300	300	300	300	300	300
		N.m	-	2.8	3.4	-	5.7	-	8.4	11	13	16	-	21	23	27	-	24	30	30	30	30	30	30	30
		lb-in	-	25	30	-	50	-	74	93	111	141	-	185	200	241	-	265	265	265	265	265	265	265	265

50Hz

Model	speed RPM (r/min)		750	500	417	300	250	200	167	120	100	83	75	60	50	42	38	30	25	20	17	15	13	10	8
Motor/Gearhead	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**
9BDG□-180FP	**9PBK□BH** / **9PFK□BH**	kgf cm	25	32	39	54	65	81	97	122	145	190	200	200	200	200	200	200	200	200	200	200	200	200	200
		N.m	2.5	3.2	3.9	5.4	6.5	8.1	9.7	12	15	19	20	20	20	20	20	20	20	20	20	20	20	20	20
		lb-in	22	29	34	48	57	71	86	107	128	168	177	177	177	177	177	177	177	177	177	177	177	177	177
9BDGC-180FH	**9HBK□BH**	kgf cm	-	34	41	-	68	-	102	128	153	200	-	230	278	300	-	300	300	300	300	300	300	300	300
		N.m	-	3.4	4.1	-	6.8	-	10.2	13	15	20	-	23	28	30	-	30	30	30	30	30	30	30	30
		lb-in	-	30	36	-	60	-	90	113	135	177	-	203	245	265	-	265	265	265	265	265	265	265	265

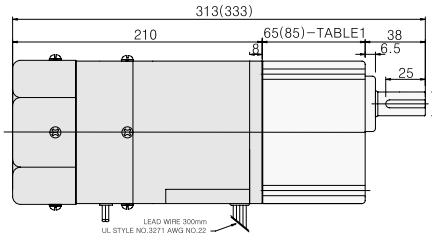
* Enter the gear ratio in the box (□) within the gearhead model name. A colored background indicates gear shaft rotation in the same direction as the motor shaft ; a white background indicates rotation in the opposite direction.
* The speed is calculated by dividing the motor' s synchronous speed (50Hz : 1500 r/min, 60 Hz : 1800 r/min) by the gear ratio.
* The actual speed is 2~20% less than the displayed value, depending on the size of the load.
* If more slow speed is needed than above value, use decimal gearhead with a gear ratio of 10:1 could be used between general gearhead and motor. Even in this case, just speed will be reduced without increase in permissible torque; the maximum permissible torque is 200kgfcm (P type) / 300kgfcm (H type).

Dimension

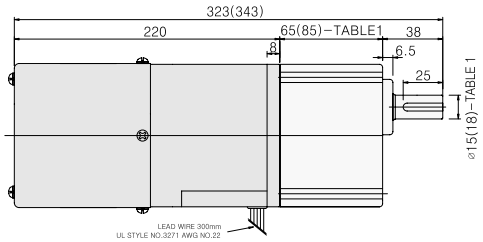
LEAD WIRE TYPE

◆ GEARED MOTOR

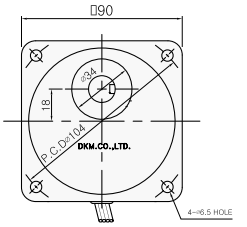
* MOTOR MODEL : 9BDG□-180FP(H) (GENERAL FAN)
* GEARHEAD MODEL : 9PB □3BH - 9PB □180BH



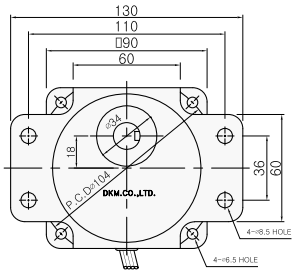
* MOTOR MODEL : 9BDG□-180F2P(H) (POWERFUL FAN)
* GEARHEAD MODEL : 9PB□ 3BH - 9PB□180BH



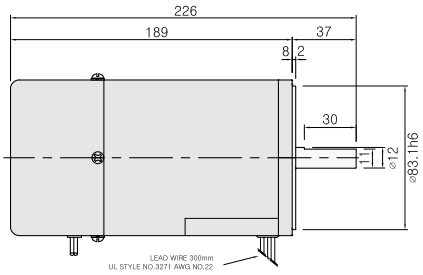
* GEARHEAD MODEL : 9PB □ 3BH - 9PB □180BH

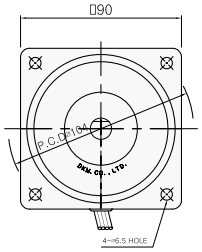


* GEARHEAD MODEL : 9PF □ 3BH - 9PF □180BH



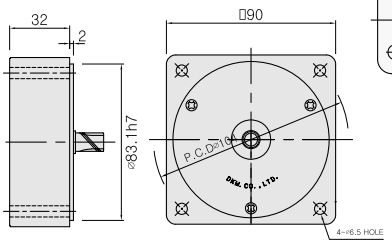
◆ MOTOR ONLY * MOTOR MODEL : 9BD□□-180 (NO FAN)



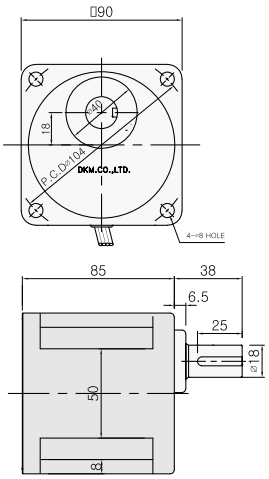


◆ INTER-DECIMAL GEARHEAD

* MODEL : 9XD10M□

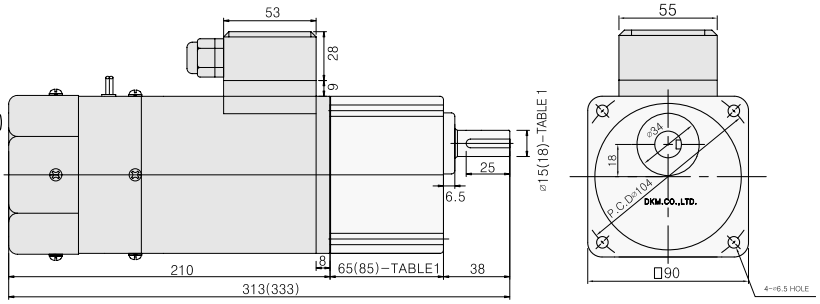


* GEARHEAD MODEL : 9HB □ 3BH - 9HB □180BH



TERMINAL BOX TYPE

* MOTOR MODEL : 9BDG□-180FP(H)-T (GENERAL FAN)

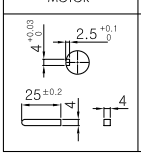
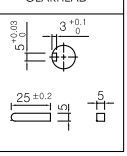


* Note : There are 3 kinds of fan type (No Fan / General Fan / Powerful Fan).
Customer can choose fan type according to wanted rating time.

◆ 65(85)-TABLE1

SIZE(mm)	GEARHEAD TYPE
65 – ø15	P TYPE GEARHEAD
85 – ø18	H TYPE GEARHEAD

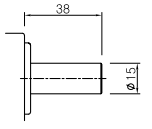
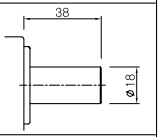
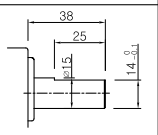
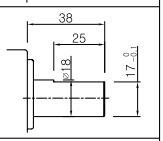
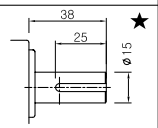
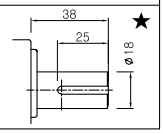
◆ KEY SPEC

MOTOR	GEARHEAD
	

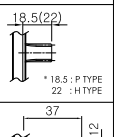
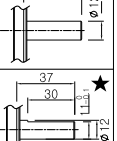
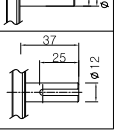
◆ WEIGHT

PART		WEIGHT(Kg)	
MOTOR		4.3	
DECIMAL GEARHEAD		0.5	
GEAR HEAD	GEARHEAD TYPE	P TYPE	H TYPE
	9P(H)□□ 3BH - 9P(H)□□9BH	1.3	1.45
	9P(H)□□ 12.5BH - 9P(H)□□18BH	1.3	1.5
	9P(H)□□ 25BH - 9P(H)□□60BH	1.4	1.7
	9P(H)□□ 90BH - 9P(H)□□180BH	1.4	1.8

◆ GEARHEAD OUTPUT

MODEL	P TYPE	H TYPE
ROUND TYPE		
9P(H)□S3BH ~9P(H)□S180BH		
D-CUT TYPE		
9P(H)□D3BH ~9P(H)□D180BH		
KEY TYPE		
9P(H)□K3BH ~9P(H)□K180BH		

◆ MOTOR OUTPUT

MODEL	SHAFT
GEAR TYPE	
9BDG□-180□ P(H)	
ROUND TYPE	
9BDS□-180□	
D-CUT TYPE	
9BDD□-180□	
KEY TYPE	
9BDK□-180□	

* Note : Above table indicates output shaft dimension made by user' s request and ★ indicates the basic dimension in factory shipping.

Connection Diagrams Please refer to page 99.

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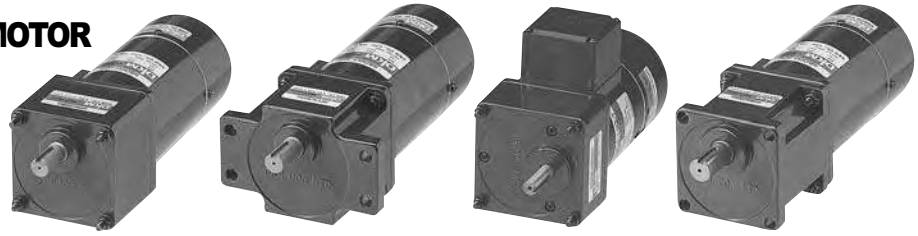
ELECTROMAGNETIC BRAKE MOTOR

(Power off activated type)

200W

□90mm(3.54in.)



LEAD WIRE TYPE MOTOR | LEAD WIRE TYPE MOTOR | TERMINAL BOX TYPE MOTOR | LEAD WIRE TYPE MOTOR

■ Motor Specification - 30min. Rating (Continuous : F2 fan)

CE

Model 9BDG□-200P(H) : Pinion Shaft Type 9BDD□-200 : D-Cut Shaft Type		Starting Time	Output		Voltage	Freq.	Current	Starting Torque			Rated Torque			Rated Speed	Capacitor	
Lead Wire Type	Terminal Box Type		HP	W	VAC	Hz	A	gfcm	mN.m	oz-in	gfcm	mN.m	oz-in	r/min	μF	VAC
(TP) **9BDG(D)G-200P(H)**	**9BDG(D)G-200P(H)-T**	30min	1/4	200	Three phase 220	50	1.80	14500	1450	205	15000	1500	212	1300	-	-
(TP) **9BDG(D)H-200P(H)**	**9BDG(D)H-200P(H)-T**				Three phase 220	60					12500	1250	177	1550		
(TP) **9BDG(D)I-200P(H)**	**9BDG(D)I-200P(H)-T**				Three phase 230	50					15000	1500	212	1300		
(TP) **9BDG(D)J-200P(H)**	**9BDG(D)J-200P(H)-T**				Three phase 230	60					12500	1250	177	1550		
(TP) **9BDG(D)K-200P(H)**	**9BDG(D)K-200P(H)-T**	30min			Three phase 380	50	0.90	14500	1450	205	15000	1500	212	1300	-	-
(TP) **9BDG(D)L-200P(H)**	**9BDG(D)L-200P(H)-T**				Three phase 380	60					12500	1250	177	1550		
(TP) **9BDG(D)M-200P(H)**	**9BDG(D)M-200P(H)-T**	30min			Three phase 400	50	0.68	14500	1450	205	15000	1500	212	1300	-	-
(TP) **9BDG(D)N-200P(H)**	**9BDG(D)N-200P(H)-T**				Three phase 440	50					15000	1500	212	1300		
(TP) **9BDG(D)O-200P(H)**	**9BDG(D)O-200P(H)-T**				Three phase 440	60					12500	1250	177	1550		

* Enter the 'Phase & Voltage' code in the box(□) within the motor model name.
* 'Pinion Shaft' is for attaching gearhead and 'D-Cut Shaft' is for using motor only.
(TP) : Contains a built-in thermal protector. If a motor overheats for any reason the thermal protector opened and the motor stops. When the motor temperature drops, the thermal protector closes and the motor restarts. Be sure to turn the motor off before inspecting. By attaching F2 FAN additionally, temperature reducing of over 10℃ could be available.

■ Permissible Torque When using gearhead

60Hz

Model	speed RPM (r/min)		900	600	500	360	300	240	200	144	120	100	90	72	60	50	45	36	30	24	20	18	15	12	10
Motor/Gearhead	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**
9BDG□-200FP / **9PBK□BH** **9PFK□BH**		kgf cm	28	30	36	51	61	76	91	114	137	164	200	200	200	200	200	200	200	200	200	200	200	200	200
		N.m	2.8	3	4	5	6	8	9	11	14	16	20	20	20	20	20	20	20	20	20	20	20	20	20
		lb-in	25	27	32	45	54	67	81	101	121	145	177	177	177	177	177	177	177	177	177	177	177	177	177
9BDG□-200FH / **9HBK□BH**		kgf cm	-	32	38.3	-	64	-	96	120	144	173	-	216	259	300	-	300	300	300	300	300	300	300	300
		N.m	-	3	4	-	6	-	10	12	14	17	-	22	26	30	-	30	30	30	30	30	30	30	30
		lb-in	-	28	34	-	57	-	85	106	127	153	-	191	229	265	-	265	265	265	265	265	265	265	265

50Hz

Model	speed RPM (r/min)		750	500	417	300	250	200	167	120	100	83	75	60	50	42	38	30	25	20	17	15	13	10	8
Motor/Gearhead	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**
9BDG□-200FP / **9PBK□BH** **9PFK□BH**		kgf cm	33	37	45	62	74	92	111	139	166	200	200	200	200	200	200	200	200	200	200	200	200	200	200
		N.m	3.3	4	4	6	7	9	11	14	17	20	20	20	20	20	20	20	20	20	20	20	20	20	20
		lb-in	29	33	39	54	65	82	98	122	147	176	177	177	177	177	177	177	177	177	177	177	177	177	177
9BDG□-200FH / **9HBK□BH**		kgf cm	-	39	47	-	78	-	117	146	175	210	-	262	300	300	-	300	300	300	300	300	300	300	300
		N.m	-	4	5	-	8	-	12	15	18	21	-	26	30	30	-	30	30	30	30	30	30	30	30
		lb-in	-	34	42	-	69	-	103	129	155	185	-	231	265	265	-	265	265	265	265	265	265	265	265

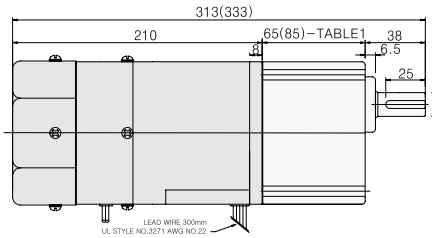
* Enter the gear ratio in the box (□) within the gearhead model name. A colored background indicates gear shaft rotation in the same direction as the motor shaft ; a white background indicates rotation in the opposite direction.
* The speed is calculated by dividing the motor' s synchronous speed (50Hz : 1500 r/min, 60 Hz : 1800 r/min) by the gear ratio.
* The actual speed is 2~20% less than the displayed value, depending on the size of the load.
* If more slow speed is needed than above value, use decimal gearhead with a gear ratio of 10:1 could be used between general gearhead and motor. Even in this case, just speed will be reduced without increase in permissible torque; the maximum permissible torque is 200kgfcm (P type) / 300kgfcm (H type).

Dimension

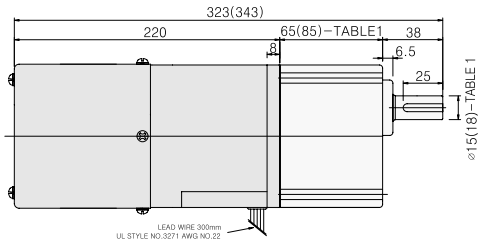
LEAD WIRE TYPE

◆ GEARED MOTOR

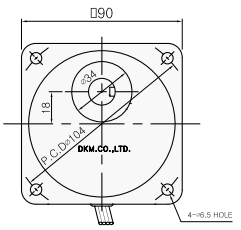
* MOTOR MODEL : 9BDG□-200FP(H) (GENERAL FAN)
* GEARHEAD MODEL : 9PB□3BH - 9PB□180BH



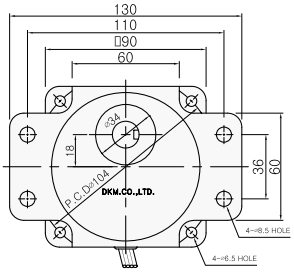
* MOTOR MODEL : 9BDG□-200F2P(H) (POWERFUL FAN)
* GEARHEAD MODEL : 9PB□3BH - 9PB□180BH



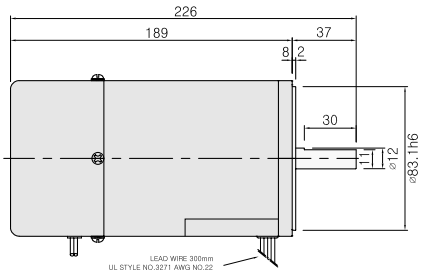
* GEARHEAD MODEL : 9PB□3BH - 9PB□180BH

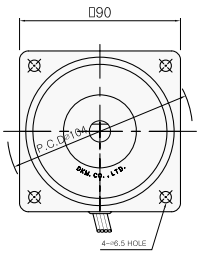


* GEARHEAD MODEL : 9PF□3BH - 9PF□180BH



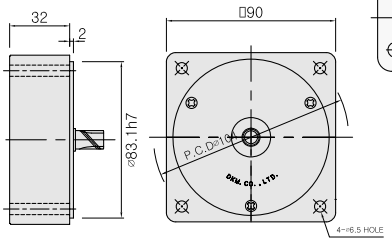
◆ MOTOR ONLY * MOTOR MODEL : 9BD□□-200(NO FAN)



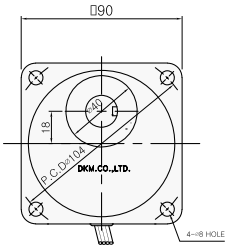


◆ INTER-DECIMAL GEARHEAD

* MODEL : 9XD10M□

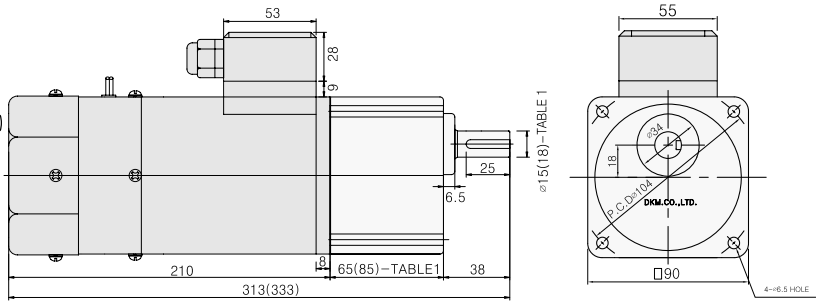


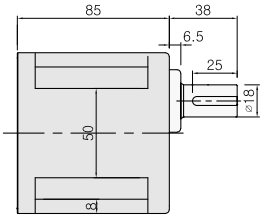
* GEARHEAD MODEL : 9HB□3BH - 9HB□180BH



TERMINAL BOX TYPE

* MOTOR MODEL : 9BDG□-200FP(H)-T (GENERAL FAN)



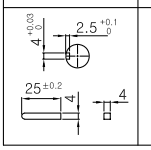
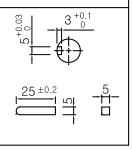


* Note : There are 3 kinds of fan type (No Fan / General Fan / Powerful Fan).
Customer can choose fan type according to wanted rating time.

◆ 65(85)-TABLE1

SIZE(mm)	GEARHEAD TYPE
65 – ø15	P TYPE GEARHEAD
85 – ø18	H TYPE GEARHEAD

◆ KEY SPEC

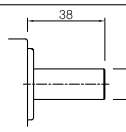
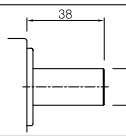
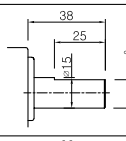
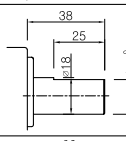
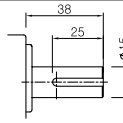
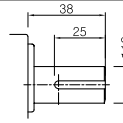
MOTOR	GEARHEAD
	

◆ WEIGHT

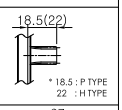
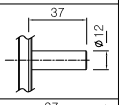
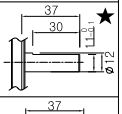
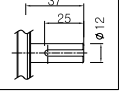
PART	WEIGHT(Kg)
MOTOR	4.3
DECIMAL GEARHEAD	0.5

	GEARHEAD TYPE	P TYPE	H TYPE
GEAR HEAD	9P(H)□□ 3BH - 9P(H)□□9BH	1.3	1.45
	9P(H)□□ 12.5BH - 9P(H)□□18BH	1.3	1.5
	9P(H)□□ 25BH - 9P(H)□□60BH	1.4	1.7
	9P(H)□□ 90BH - 9P(H)□□180BH	1.4	1.8

◆ GEARHEAD OUTPUT

MODEL	P TYPE	H TYPE
ROUND TYPE		
9P(H)□S3BH ~9P(H)□S180BH		
D-CUT TYPE		
9P(H)□D3BH ~9P(H)□D180BH		
KEY TYPE		
9P(H)□K3BH ~9P(H)□K180BH		

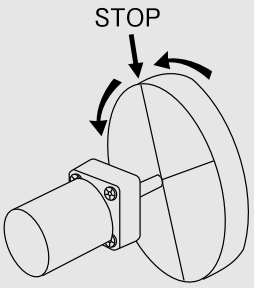
◆ MOTOR OUTPUT

MODEL	SHAFT
GEAR TYPE	
9BDG□-200□ P(H)	
ROUND TYPE	
9BDS□-200□	
D-CUT TYPE	
9BDD□-200□	
KEY TYPE	
9BDK□-200□	

* Note : Above table indicates output shaft dimension made by user' s request and ★ indicates the basic dimension in factory shipping.

Connection Diagrams Please refer to page 99.

CLUTCH & BRAKE MOTORS



INDEX

Features

• Suitable for High-frequency Operation

An internal clutch & brake mechanism for use with a gearhead is employed in DKM Clutch & Brake Motor. By the combination of a constantly rotating induction motor and a clutch and brake unit, the function of frequent start/stop, positioning, indexing, jogging and incremental feeding is available.

• Characteristics of C.B Motor

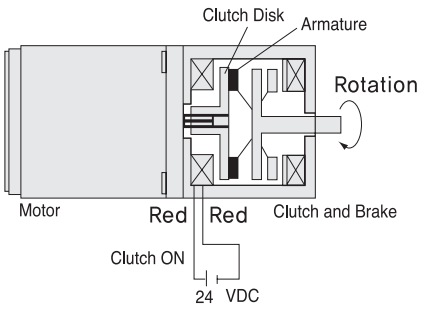
DKM C.B Motor is designed for the quicker response time and higher torque to move the load. To meet high-frequency, starting and stopping applications, DKM uses a induction motor for its continuous duty rating. So Clutch & Brake Motor is not suitable for frequent bi-directional starting and stopping motion but suitable for uni-directional movement.

• Structure and Mechanism

Output shaft is controlled by the use of the clutch and brake mechanism.
The load is stopped by disengaging the clutch and the brake like below figures.

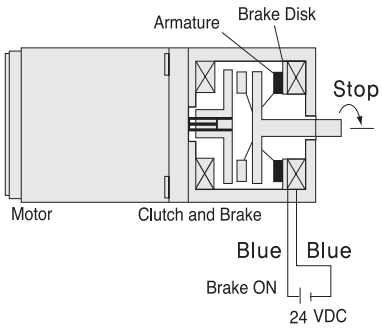
■ Run

When the 24 VDC is applied to the clutch coil, the armature of the clutch coil is drawn to the clutch plate, transmitting motor rotation to the output shaft. The motor continues to rotate.



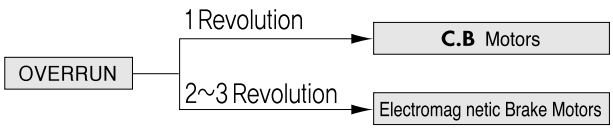
■ Stopping and Load Holding

By removing the 24 VDC from the clutch coil and, after a certain time lag, applying the 24 VDC to the brake coil, the output shaft will come to a stop. During braking the output shaft is released from the motor shaft, so the shaft may be stopped without being influenced by motor inertia. The motor will continues to rotate.



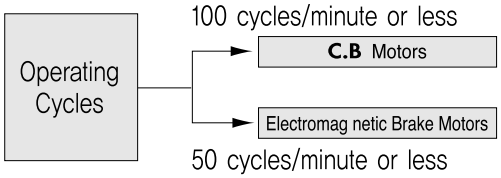
Other Motor Braking Options

• Selecting from stopping accuracy



* The overrun values are those of an individual motor.

• Selecting based on frequency of use



* The operating cycles are based merely on brake response. The value specified above is the maximum, so it may not be possible to repeat braking operation at this frequency.
* In an actual application, be certain the surface temperature of the motor case remains below 194°F(90℃) by considering a rise in motor temperature.

Clutch & Brake Motor Line-Up

Frame size □mm (in.)	Output W	Type	Power (Voltage)					Page
			Single phase		Three phase			
			100/110/115V	200/220/230V	200/220/230V	380 V	440V	
80(3.15)	15	Lead Wire Terminal box	● ●	● ●	● ●	● ●	● ●	116
	25	Lead Wire Terminal box	● ●	● ●	● ●	● ●	● ●	118
90(3.54)	40	Lead Wire Terminal box	● ●	● ●	● ●	● ●	● ●	120
	60	Lead Wire Terminal box	● ●	● ●	● ●	● ●	● ●	122
	90	Lead Wire Terminal box	● ●	● ●	● ●	● ●	● ●	124
	120	Lead Wire Terminal box	● ●	● ●	● ●	● ●	● ●	126

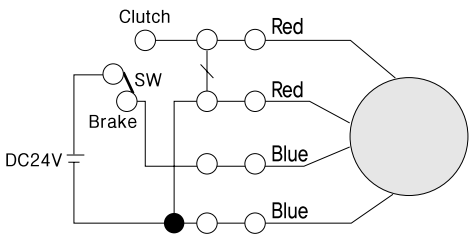
General Specifications

Item	Specifications
Insulation Resistance	100 ㏁ or more when 500 VDC is applied between the windings and the frame after rated motor opeation under normal ambient temperature and humidity.
Dielectric Strength	Sufficient to withstand 1.5 KV at 50 Hz and 60 Hz 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℃ (144°F) or less measured by the resistance change method after rated motor operation with connecting a gearhead or equivalent heat radiation plate. [Three-Phase 6W type : 70℃ (126°F)]
Insulation Class	Class B [130℃ (266°F)]
Overheat Protection	Operating temperature, open : 130℃ ± 5℃ (266℃ ±9°F) close : 82℃ ± 15℃ (179.6°F ± 27°F)
Ambient Temperture Range	-10℃ ~ + 40℃ (14°F ~ 104°F) (nonfreezing)
Ambient Humidity	85% maximum (noncondensing)

Clutch & Brake Specifications

Model Frame Size	Clutch/Brake	Holding Brake Torque		Voltage	Input W	Cycle Rates Time/minute
		gfcm	mN-m	VDC	(at 68°F(20℃))	
3.54in. sq. (90mm sq.)	Clutch	15000	1500	24	8.4	100
	Brake	15000	1500	24	6.2	

Cluth & Brake Connection Diagrams



* Clutch & Brake Motors employ Induction Motor
so please refer to the connection diagram of induction motor.

CLUTCH & BRAKE MOTOR
15W

□80mm(3.15in.)

LEAD WIRE TYPE

TERMINAL BOX TYPE

Motor Specification

Model 8CIDG□-15G : Pinion Shaft Type		Output	Voltage	Freq.	Motor Model	Gearhead Model
Lead Wire Type	Terminal Box Type	HP W	VAC	Hz	(INDUCTION MOTOR)	
(TP) **8CIDGA-15G**	**8CIDGA-15G-T**	1/50 15	Single Phase 110	60	8IDGA-15G	**8GBK□BMH**
(TP) **8CIDGB-15G**	**8CIDGB-15G-T**		Single Phase 115	60	8IDGB-15G	
(TP) **8CIDGC-15G**	**8CIDGC-15G-T**		Single Phase 220	50	8IDGC-15G	
(TP) **8CIDGD-15G**	**8CIDGD-15G-T**		Single Phase 220	60	8IDGD-15G	
(TP) **8CIDGE-15G**	**8CIDGE-15G-T**		Single Phase 230	50	8IDGE-15G	
(TP) **8CIDGF-15G**	**8CIDGF-15G-T**		Single Phase 230	60	8IDGF-15G	
(TP) **8CIDGG-15G**	**8CIDGG-15G-T**		Three Phase 220	50	8IDGG-15G	
(TP) **8CIDGH-15G**	**8CIDGH-15G-T**		Three Phase 220	60	8IDGH-15G	
(TP) **8CIDGI-15G**	**8CIDGI-15G-T**		Three Phase 230	50	8IDGI-15G	
(TP) **8CIDGJ-15G**	**8CIDGJ-15G-T**		Three Phase 230	60	8IDGJ-15G	
(TP) **8CIDGK-15G**	**8CIDGK-15G-T**		Three Phase 380	50	8IDGK-15G	
(TP) **8CIDGL-15G**	**8CIDGL-15G-T**		Three Phase 380	60	8IDGL-15G	
(TP) **8CIDGM-15G**	**8CIDGM-15G-T**		Three Phase 400	50	8IDGM-15G	
(TP) **8CIDGN-15G**	**8CIDGN-15G-T**		Three Phase 440	50	8IDGN-15G	
(TP) **8CIDGO-15G**	**8CIDGO-15G-T**		Three Phase 440	60	8IDGO-15G	

* Enter the 'Phase & Voltage' code in the box(□) within the motor model name.

(TP) : Contains a built-in thermal protector. If a motor overheats for any reason the thermal protector opened and the motor stops. When the motor temperature Drops, the thermal protector closes and the motor restarts. Be sure to turn the motor off before inspecting. By attaching F2 FAN additionally, temperature reducing of over 10℃ could be available.

Permissible Torque When using gearhead

60Hz

Model	speed RPM (r/min)	600	500	360	300	240	200	144	120	100	72	60	50	45	36	30	24	20	18	15	12	10	7	6	5
Motor/Gearhead	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**	**250**	**300**	**360**
8CIDG□-15G / 8GBK□BMH	kgf cm	2.9	3.5	4.9	5.8	7.3	8.7	12.2	14.6	17.5	21.9	26.3	31.5	36.5	39.6	47.5	59.4	71.3	79.2	80	80	80	80	80	80
	N.m	0.29	0.35	0.49	0.58	0.73	0.87	1.2	1.5	1.8	2.2	2.6	3.2	3.6	4.0	4.8	5.9	7.1	7.9	8	8	8	8	8	8
	lb-in	2.6	3.1	4.3	5.1	6.4	7.7	11	13	15	19	23	28	32	35	42	52	63	70	71	71	71	71	71	71

50Hz

Model	speed RPM (r/min)	500	417	300	250	200	167	120	100	83	60	50	42	38	30	25	20	17	15	13	10	8	6	5	5
Motor/Gearhead	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**	**250**	**300**	**360**
8CIDG□-15G / 8GBK□BMH	kgf cm	3.4	4.1	5.7	6.8	8.5	10.2	14.2	17.0	20.4	25.6	30.7	36.8	38.8	46.2	55.4	69.2	80	80	80	80	80	80	80	80
	N.m	0.34	0.41	0.57	0.68	0.85	1.02	1.4	1.7	2.0	2.6	3.1	3.7	3.8	4.6	5.5	6.9	8	8	8	8	8	8	8	8
	lb-in	3.0	3.6	5.0	6.0	7.5	9.0	13	15	18	23	27	32	34	41	49	61	71	71	71	71	71	71	71	71

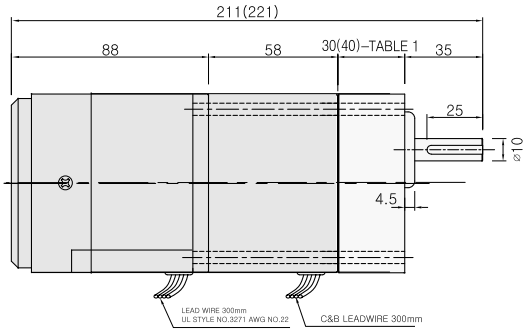
* Enter the gear ratio in the box (□) within the model name. A colored background indicates gear shaft rotation in the same direction as the motor shaft ; a white background indicates rotation in the opposite direction.
* The speed is calculated by dividing the motor's synchronous speed (50Hz : 1500 r/min, 60 Hz : 1800 r/min) by the gear ratio.
* The actual speed is 2~20% less than the displayed value, depending on the size of the load.
* If more slow speed is needed than above value, use decimal gearhead with a gear ratio of 10:1 could be used between general gearhead and motor. Even in this case, just speed will be reduced without increase in permissible torque; the maximum permissible torque is 80kgfcm (8N.m, 71lb-in).

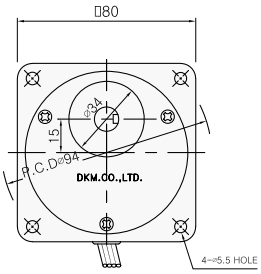
Dimension

LEAD WIRE TYPE

GEARED MOTOR

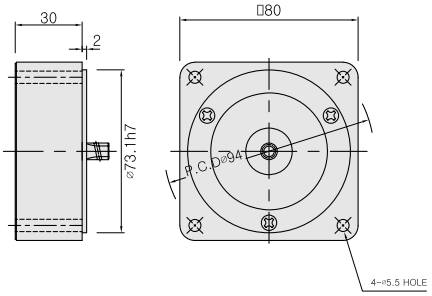
* MOTOR MODEL : 8CIDG□-15G (NO FAN)
* HEAD MODEL : 8GB□3BMH - 8GB□360BMH





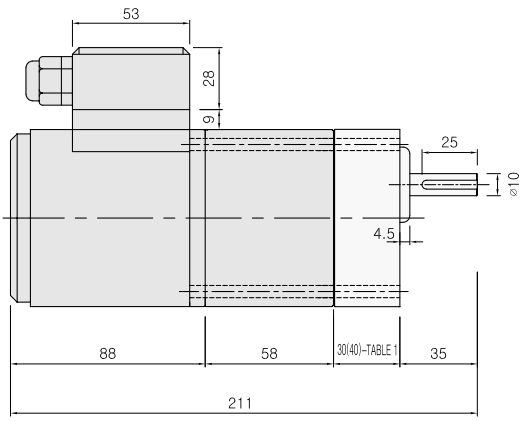
INTER-DECIMAL GEARHEAD

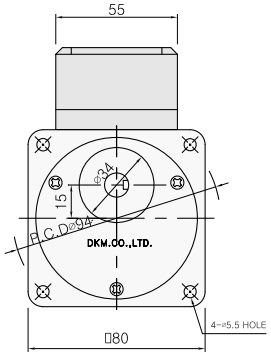
* MODEL : 8XD10M□



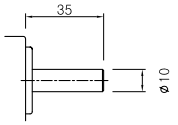
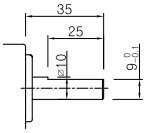
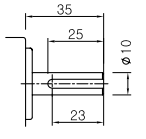
TERMINAL BOX TYPE

* MOTOR MODEL : 8CIDG□-15G-T (NO FAN)





GEARHEAD OUTPUT

MODEL	SHAFT
ROUND TYPE 8GBS3BMH ~8GBS360BMH	
D-CUT TYPE 8GBD3BMH ~8GBD360BMH	
KEY TYPE 8GBK3BMH ~8GBK360BMH	 ★

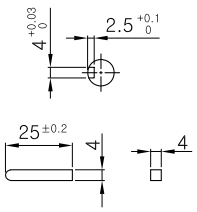
30(40)-TABLE1

SIZE(mm)	GEAR RATIO
30	8GB□3BMH - 8GB□18BMH
40	8GB□25BMH - 8GB□360BMH

WEIGHT

PART		WEIGHT(Kg)
MOTOR		1.6
CLUTCH & BRAKE		1.05
DECIMAL GEARHEAD		0.44
GEAR HEAD	8GB□3BMH - 8GB□18BMH	0.48
	8GB□25BMH - 8GB□30BMH	0.61
	8GB□36BMH - 8GB□180BMH	0.67
	8GB□200BMH - 8GB□360BMH	0.63

KEY SPEC



MOTOR OUTPUT

MODEL	SHAFT
GEAR TYPE 8CIDG□-15G	

* Note : Above table indicates output shaft dimension made by user' s request and ★ indicates the basic dimension in factory shipping.

Connection Diagrams

Please refer to page 115, page 25.

CLUTCH & BRAKE MOTOR
25W

□80mm(3.15in.)

LEAD WIRE TYPE

TERMINAL BOX TYPE

Motor Specification

Model 8CID□-25G : Pinion Shaft Type		Output	Voltage	Freq.	Motor Model	Gearhead Model
Lead Wire Type	Terminal Box Type	HP W	VAC	Hz	(INDUCTION MOTOR)	
(TP) **8CIDGA-25G**	**8CIDGA-25G-T**	1/30 25	Single Phase 110	60	8IDGA-25G	**8GBK□BMH**
(TP) **8CIDGB-25G**	**8CIDGB-25G-T**		Single Phase 115	60	8IDGB-25G	
(TP) **8CIDGC-25G**	**8CIDGC-25G-T**		Single Phase 220	50	8IDGC-25G	
(TP) **8CIDGD-25G**	**8CIDGD-25G-T**		Single Phase 220	60	8IDGD-25G	
(TP) **8CIDGE-25G**	**8CIDGE-25G-T**		Single Phase 230	50	8IDGE-25G	
(TP) **8CIDGF-25G**	**8CIDGF-25G-T**		Single Phase 230	60	8IDGF-25G	
(TP) **8CIDGG-25G**	**8CIDGG-25G-T**		Three phase 220	50	8IDGG-25G	
(TP) **8CIDGH-25G**	**8CIDGH-25G-T**		Three phase 220	60	8IDGH-25G	
(TP) **8CIDGI-25G**	**8CIDGI-25G-T**		Three phase 230	50	8IDGI-25G	
(TP) **8CIDGJ-25G**	**8CIDGJ-25G-T**		Three phase 230	60	8IDGJ-25G	
(TP) **8CIDGK-25G**	**8CIDGK-25G-T**		Three phase 380	50	8IDGK-25G	
(TP) **8CIDGL-25G**	**8CIDGL-25G-T**		Three phase 380	60	8IDGL-25G	
(TP) **8CIDGM-25G**	**8CIDGM-25G-T**		Three phase 400	50	8IDGM-25G	
(TP) **8CIDGN-25G**	**8CIDGN-25G-T**		Three phase 440	50	8IDGN-25G	
(TP) **8CIDGO-25G**	**8CIDGO-25G-T**		Three phase 440	60	8IDGO-25G	

* Enter the 'Phase & Voltage' code in the box(□) within the motor model name.

(TP) : Contains a built-in thermal protector. If a motor overheats for any reason the thermal protector opened and the motor stops. When the motor temperature Drops, the thermal protector closes and the motor restarts. Be sure to turn the motor off before inspecting. By attaching F2 FAN additionally, temperature reducing of over 10℃ could be available.

Permissible Torque When using gearhead

60Hz

Model	speed RPM (r/min)		600	500	360	300	240	200	144	120	100	72	60	50	45	36	30	24	20	18	15	12	10	7	6	5
Motor/Gearhead	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**	**250**	**300**	**360**
8CIDG□-25G / **8GBK□BMH**	kgf cm		4.4	5.2	7.3	8.7	10.9	13.1	18.2	21.9	26.2	32.9	39.4	47.3	52.6	59.4	71.3	80	80	80	80	80	80	80	80	80
	N.m		0.44	0.52	0.73	0.87	1.09	1.31	1.82	2.19	2.62	3.29	3.9	4.7	5.2	5.9	7.1	8	8	8	8	8	8	8	8	8
	lb-in		3.9	4.6	6.4	7.7	9.6	12	16	19	23	29	35	42	46	52	63	71	71	71	71	71	71	71	71	71

50Hz

Model	speed RPM (r/min)		500	417	300	250	200	167	120	100	83	60	50	42	38	30	25	20	17	15	13	10	8	6	5	5
Motor/Gearhead	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**	**250**	**300**	**360**
8CIDG□-25G / **8GBK□BMH**	kgf cm		5.3	6.4	8.9	10.7	13.4	16.0	22.3	26.7	32.1	40.2	48.2	57.8	64.2	72.6	80	80	80	80	80	80	80	80	80	80
	N.m		0.53	0.64	0.89	1.07	1.34	1.60	2.23	2.67	3.21	4.02	4.8	5.8	6.4	7.3	8	8	8	8	8	8	8	8	8	8
	lb-in		4.7	5.7	7.9	9.4	11.8	14	20	24	28	35	43	51	57	64	71	71	71	71	71	71	71	71	71	71

* Enter the gear ratio in the box (□) within the model name. A colored background indicates gear shaft rotation in the same direction as the motor shaft ; a white background indicates rotation in the opposite direction.

* The speed is calculated by dividing the motor's synchronous speed (50Hz : 1500 r/min, 60 Hz : 1800 r/min) by the gear ratio.

* The actual speed is 2~20% less than the displayed value, depending on the size of the load.

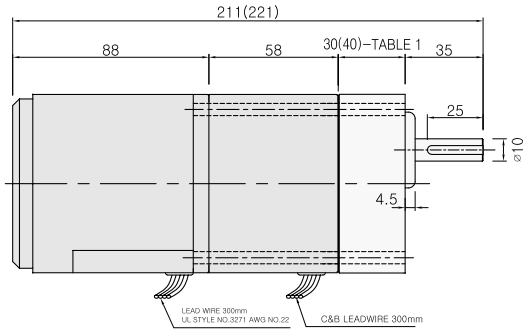
* If more slow speed is needed than above value, use decimal gearhead with a gear ratio of 10:1 could be used between general gearhead and motor. Even in this case, just speed will be reduced without increase in permissible torque; the maximum permissible torque is 80kgfcm (8N.m, 71lb-in).

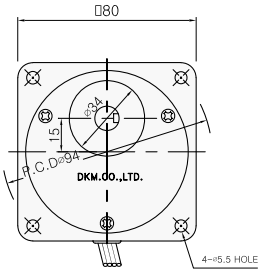
Dimension

LEAD WIRE TYPE

◆ GEARED MOTOR

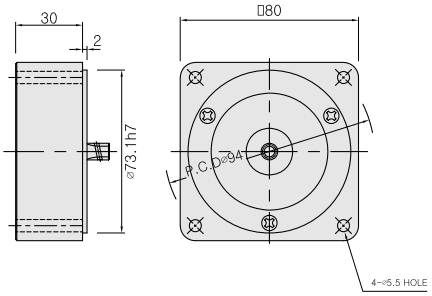
* MOTOR MODEL : 8CIDG□-25G(NO FAN)
* HEAD MODEL : 8GB□3BMH - 8GB□360BMH





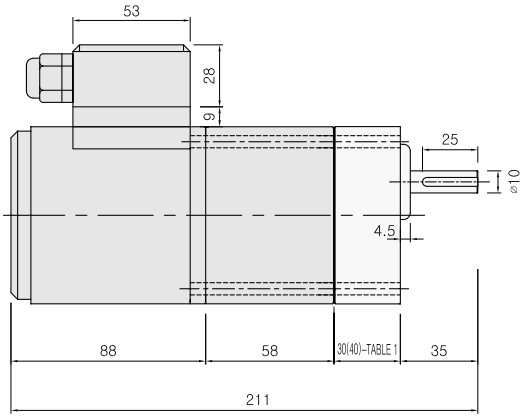
◆ INTER-DECIMAL GEARHEAD

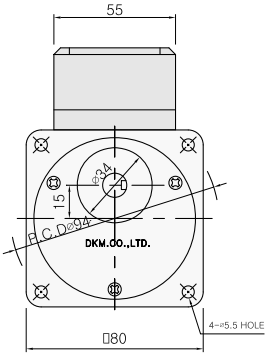
* MODEL : 8XD10M□



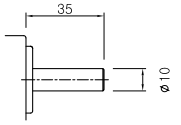
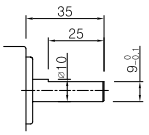
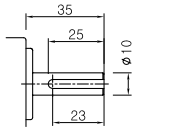
TERMINAL BOX TYPE

* MOTOR MODEL : 8CIDG□-25G-T(NO FAN)





◆ GEARHEAD OUTPUT

MODEL	SHAFT
ROUND TYPE	
8GBS3BMH ~8GBS360BMH	
D-CUT TYPE	
8GBD3BMH ~8GBD360BMH	
KEY TYPE	 ★
8GBK3BMH ~8GBK360BMH	

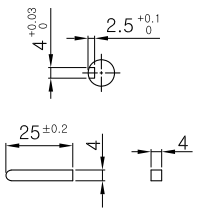
◆ 30(40)-TABLE1

SIZE(mm)	GEAR RATIO
30	8GB□3BMH - 8GB□18BMH
40	8GB□25BMH - 8GB□360BMH

◆ WEIGHT

PART		WEIGHT(Kg)
MOTOR		1.6
CLUTCH & BRAKE		1.05
DECIMAL GEARHEAD		0.44
GEAR HEAD	8GB□3BMH - 8GB□18BMH	0.48
	8GB□25BMH - 8GB□30BMH	0.61
	8GB□36BMH - 8GB□180BMH	0.67
	8GB□200BMH - 8GB□360BMH	0.63

◆ KEY SPEC



◆ MOTOR OUTPUT

MODEL	SHAFT
GEAR TYPE	
8CIDG□-25G	

* Note : Above table indicates output shaft dimension made by user' s request and ★ indicates the basic dimension in factory shipping.

Connection Diagrams

Please refer to page 115, page 25.

CLUTCH & BRAKE MOTOR
40W

□90mm(3.54in.)

LEAD WIRE TYPE

TERMINAL BOX TYPE

■ Motor Specification

Model 9CIDG□-40G : Pinion Shaft Type		Output	Voltage	Freq.	Motor Model	Gearhead Model
Lead Wire Type	Terminal Box Type	HP W	VAC	Hz	(INDUCTION MOTOR)	
(TP) **9CIDGA-40G**	**9CIDGA-40G-T**		Single Phase 110	60	9IDGA-40G	
(TP) **9CIDGB-40G**	**9CIDGB-40G-T**		Single Phase 115	60	9IDGB-40G	
(TP) **9CIDGC-40G**	**9CIDGC-40G-T**		Single Phase 220	50	9IDGC-40G	
(TP) **9CIDGD-40G**	**9CIDGD-40G-T**		Single Phase 220	60	9IDGD-40G	
(TP) **9CIDGE-40G**	**9CIDGE-40G-T**		Single Phase 230	50	9IDGE-40G	
(TP) **9CIDGF-40G**	**9CIDGF-40G-T**		Single Phase 230	60	9IDGF-40G	
(TP) **9CIDGG-40G**	**9CIDGG-40G-T**		Three phase 220	50	9IDGG-40G	
(TP) **9CIDGH-40G**	**9CIDGH-40G-T**	1/15 40	Three phase 220	60	9IDGH-40G	**9GBK□BMH**
(TP) **9CIDGI-40G**	**9CIDGI-40G-T**		Three phase 230	50	9IDGI-40G	
(TP) **9CIDGJ-40G**	**9CIDGJ-40G-T**		Three phase 230	60	9IDGJ-40G	
(TP) **9CIDGK-40G**	**9CIDGK-40G-T**		Three phase 380	50	9IDGK-40G	
(TP) **9CIDGL-40G**	**9CIDGL-40G-T**		Three phase 380	60	9IDGL-40G	
(TP) **9CIDGM-40G**	**9CIDGM-40G-T**		Three phase 400	50	9IDGM-40G	
(TP) **9CIDGN-40G**	**9CIDGN-40G-T**		Three phase 440	50	9IDGN-40G	
(TP) **9CIDGO-40G**	**9CIDGO-40G-T**		Three phase 440	60	9IDGO-40G	

* Enter the 'Phase & Voltage' code in the box(□) within the motor model name.

(TP) : Contains a built-in thermal protector. If a motor overheats for any reason the thermal protector opened and the motor stops. When the motor temperature Drops, the thermal protector closes and the motor restarts. Be sure to turn the motor off before inspecting. By attaching F2 FAN additionally, temperature reducing of over 10℃ could be available.

■ Permissible Torque When using gearhead

60Hz

Model	speed RPM (r/min)		900	600	500	360	300	240	200	180	144	120	100	72	60	50	45	36	30	24	20	18	15	12	10
Motor/Gearhead	Gear Ratio		**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**
9CIDG□-40G / **9GBK□MH**		kgf cm	5.0	6.8	8.2	11.3	13.6	17.0	20.4	22.7	28.4	34.0	40.8	51.1	61.3	73.6	81.5	100	100	100	100	100	100	100	100
		N.m	0.50	0.68	0.82	1.13	1.36	1.70	2.04	2.27	2.84	3.40	4.08	5.11	6.1	7.4	8.2	10	10	10	10	10	10	10	10
		lb-in	4.4	6.0	7.2	10.0	12.0	15.0	18.0	20.0	25.1	30.0	36.0	45.1	54.1	65.0	72.0	88	88	88	88	88	88	88	88

50Hz

Model	speed RPM (r/min)		750	500	417	300	250	200	167	150	120	100	83	60	50	42	38	30	25	20	17	15	13	10	8
Motor/Gearhead	Gear Ratio		**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**
9CIDG□-40G / **9GBK□MH**		kgf cm	6.0	8.3	9.9	13.8	16.5	20.7	24.8	27.5	34.4	41.3	49.6	62.1	74.5	89.4	99.1	100	100	100	100	100	100	100	100
		N.m	0.60	0.83	0.99	1.38	1.65	2.07	2.48	2.75	3.44	4.13	4.96	6.21	7.5	8.9	9.9	10	10	10	10	10	10	10	10
		lb-in	5.3	7.3	8.7	12.2	14.6	18.3	21.9	24.3	30.4	36.5	43.8	54.8	65.8	78.9	87.5	88	88	88	88	88	88	88	88

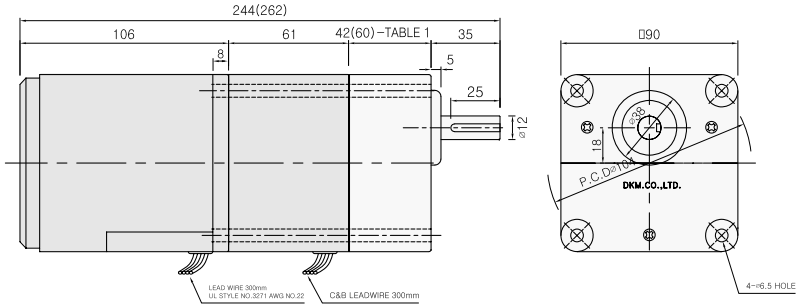
* Enter the gear ratio in the box (□) within the model name. A colored background indicates gear shaft rotation in the same direction as the motor shaft ; a white background indicates rotation in the opposite direction.
* The speed is calculated by dividing the motor's synchronous speed (50Hz : 1500 r/min, 60 Hz : 1800 r/min) by the gear ratio.
* The actual speed is 2~20% less than the displayed value, depending on the size of the load.
* If more slow speed is needed than above value, use decimal gearhead with a gear ratio of 10:1 could be used between general gearhead and motor. Even in this case, just speed will be reduced without increase in permissible torque; the maximum permissible torque is 100kgfcm (10N.m, 88lb-in).

Dimension

LEAD WIRE TYPE

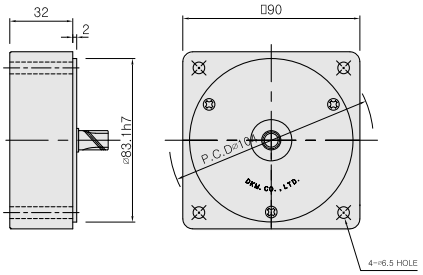
GEARED MOTOR

* MOTOR MODEL : 9CIDG□-40G (NO FAN)
* HEAD MODEL : 9GB □3MH - 9GB □180MH

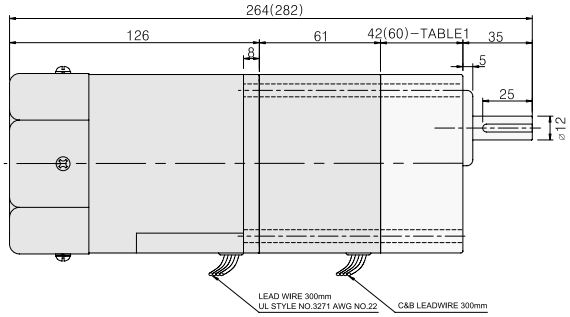


INTER-DECIMAL GEARHEAD

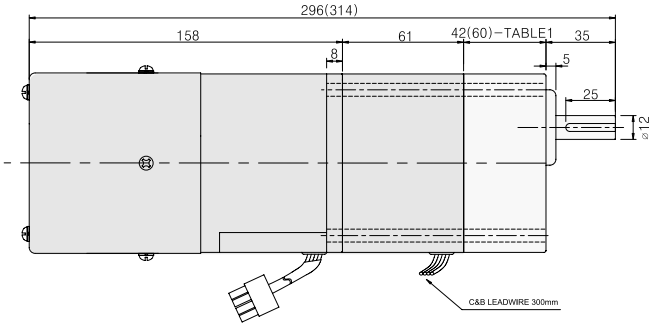
* MODEL : 9XD10M □



* MOTOR MODEL : 9CIDG □-40FG (GENERAL FAN)
* GEARHEAD MODEL : 9GB □3MH - 9GB □180MH

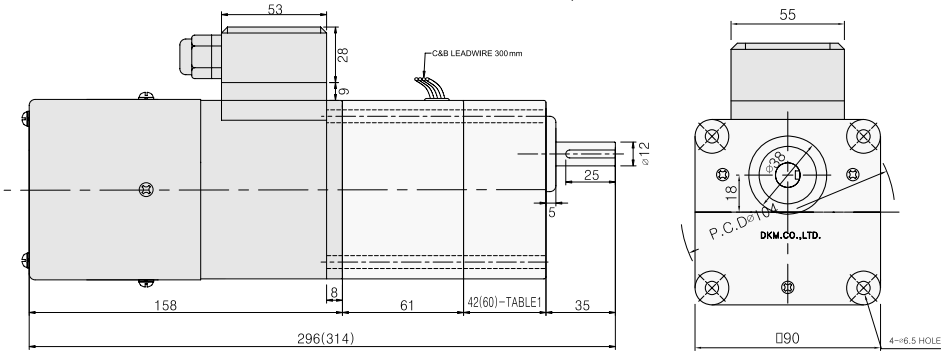


* MOTOR MODEL : 9CIDG □-40F2G (POWERFUL FAN)
* GEARHEAD MODEL : 9GB □3BH - 9GB □180BH



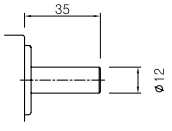
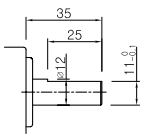
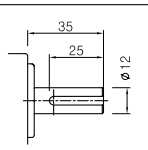
TERMINAL BOX TYPE

* MOTOR MODEL :
9CIDG□-40F2G-T(NO FAN)

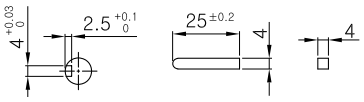


* Note : There are 3 kinds of fan type (No Fan / General Fan / Powerful Fan).
Customer can choose fan type according to wanted rating time.

GEARHEAD OUTPUT

MODEL	SHAFT
ROUND TYPE 9GBS3MH ~9GBS180MH	
D-CUT TYPE 9GBD3MH ~9GBD180MH	
KEY TYPE 9GBK3MH ~9GBK180MH	 ★

KEY SPEC



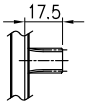
42(60)-TABLE1

SIZE(mm)	GEAR RATIO
42	9GB□3MH - 9GB □15MH
60	9GB□18MH - 9GB □180MH

WEIGHT

PART		WEIGHT(Kg)
MOTOR		2.4
CLUTCH & BRAKE		1.35
DECIMAL GEARHEAD		0.5
GEAR HEAD	9GB□3MH - 9GB□15MH	0.67
	9GB□18MH - 9GB□30MH	0.96
	9GB□36MH - 9GB□180MH	1.07

MOTOR OUTPUT

MODEL	SHAFT
GEAR TYPE 9CIDG□-40 G	

* Note : Above table indicates output shaft dimension made by user' s request and ★ indicates the basic dimension in factory shipping.

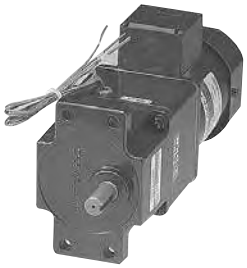
Connection Diagrams

Please refer to page 115, page 25.

CLUTCH & BRAKE MOTOR
60W

□90mm(3.54in.)

LEAD WIRE TYPE



TERMINAL BOX TYPE

Motor Specification

Model 9CIDG□-60FP : Pinion Shaft Type		Output	Voltage	Freq.	Motor Model	Gearhead Model
Lead Wire Type	Terminal Box Type	HP W	VAC	Hz	(INDUCTION MOTOR)	
(TP) **9CIDGA-60FP**	**9CIDGA-60FP-T**		Single Phase 110	60	9IDGA-60FP	
(TP) **9CIDGB-60FP**	**9CIDGB-60FP-T**		Single Phase 115	60	9IDGB-60FP	
(TP) **9CIDGC-60FP**	**9CIDGC-60FP-T**		Single Phase 220	50	9IDGC-60FP	
(TP) **9CIDGD-60FP**	**9CIDGD-60FP-T**		Single Phase 220	60	9IDGD-60FP	
(TP) **9CIDGE-60FP**	**9CIDGE-60FP-T**		Single Phase 230	50	9IDGE-60FP	
(TP) **9CIDGF-60FP**	**9CIDGF-60FP-T**		Single Phase 230	60	9IDGF-60FP	
(TP) **9CIDGG-60FP**	**9CIDGG-60FP-T**		Three phase 220	50	9IDGG-60FP	
(TP) **9CIDGH-60FP**	**9CIDGH-60FP-T**	1/12 60	Three phase 220	60	9IDGH-60FP	**9PB(F)K□BH**
(TP) **9CIDGI-60FP**	**9CIDGI-60FP-T**		Three phase 230	50	9IDGI-60FP	
(TP) **9CIDGJ-60FP**	**9CIDGJ-60FP-T**		Three phase 230	60	9IDGJ-60FP	
(TP) **9CIDGK-60FP**	**9CIDGK-60FP-T**		Three phase 380	50	9IDGK-60FP	
(TP) **9CIDGL-60FP**	**9CIDGL-60FP-T**		Three phase 380	60	9IDGL-60FP	
(TP) **9CIDGM-60FP**	**9CIDGM-60FP-T**		Three phase 400	50	9IDGM-60FP	
(TP) **9CIDGN-60FP**	**9CIDGN-60FP-T**		Three phase 440	50	9IDGN-60FP	
(TP) **9CIDGO-60FP**	**9CIDGO-60FP-T**		Three phase 440	60	9IDGO-60FP	

* Enter the 'Phase & Voltage' code in the box(□) within the motor model name.

(TP) : Contains a built-in thermal protector. If a motor overheats for any reason the thermal protector opened and the motor stops. When the motor temperature Drops, the thermal protector closes and the motor restarts. Be sure to turn the motor off before inspecting. By attaching F2 FAN additionally, temperature reducing of over 10℃ could be available.

Permissible Torque When using gearhead

60Hz

Model		speed RPM (r/min)	900	600	500	360	300	240	200	144	120	100	90	72	60	50	45	36	30	24	20	18	15	12	10
Motor/Gearhead		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**
9CIDG□-60FP	**9PBK□BH** / **9PFK□BH**	kgf cm	7.5	9.7	11.7	16.2	19.4	24.3	29.2	36.5	43.8	52.6	59.0	66.0	79.2	95	106	132	158	177	200	200	200	200	200
		N.m	0.8	1.0	1.2	1.6	1.9	2.4	2.9	3.7	4.4	5.3	5.9	6.6	7.9	9.5	10.6	13.2	15.8	17.7	20	20	20	20	20
		lb-in	6.6	8.6	10	14	17	21	26	32	39	46	52	58	70	84	94	117	140	156	177	177	177	177	177

50Hz

Model		speed RPM (r/min)	750	500	417	300	250	200	167	120	100	83	75	60	50	42	38	30	25	20	17	15	13	10	8
Motor/Gearhead		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**
9CIDG□-60FP	**9PBK□BH** / **9PFK□BH**	kgf cm	10.0	12.2	14.6	20.3	24	30	37	46	55	66	72	83	99	119	132	165	198	200	200	200	200	200	200
		N.m	1.0	1.2	1.5	2.0	2.4	3.0	3.7	4.6	5.5	6.6	7.2	8.3	9.9	11.9	13.2	16.5	20	20	20	20	20	20	20
		lb-in	8.8	10.8	12.9	17.9	21.5	26.8	32.2	40.3	48.4	58.0	63.6	72.8	87	105	117	146	175	177	177	177	177	177	177

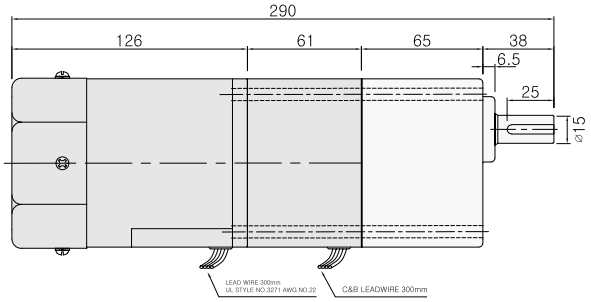
* Enter the gear ratio in the box (□) within the model name. A colored background indicates gear shaft rotation in the same direction as the motor shaft ; a white background indicates rotation in the opposite direction.
* The speed is calculated by dividing the motor's synchronous speed (50Hz : 1500 r/min, 60 Hz : 1800 r/min) by the gear ratio.
* The actual speed is 2~20% less than the displayed value, depending on the size of the load.
* If more slow speed is needed than above value, use decimal gearhead with a gear ratio of 10:1 could be used between general gearhead and motor. Even in this case, just speed will be reduced without increase in permissible torque; the maximum permissible torque is 200kgfcm (20N.m, 177lb-in).

Dimension

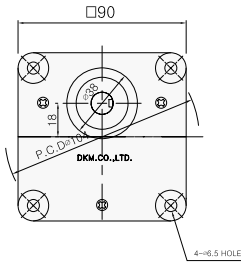
LEAD WIRE TYPE

◆ GEARED MOTOR

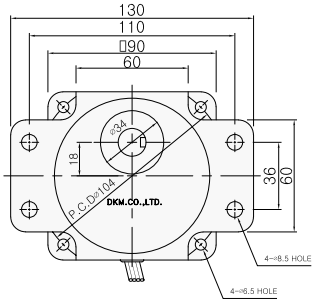
* MOTOR MODEL : 9CIDG□-60FP (GENERAL FAN)
* HEAD MODEL : 9PB □3MH - 9PB □180MH



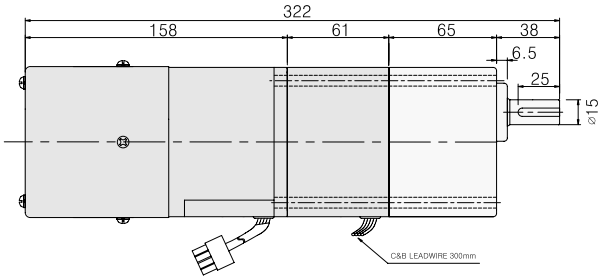
* GEARHEAD MODEL :
9PB □ 3BH - 9PB □ 180BH



* GEARHEAD MODEL :
9PF □ 3BH - 9PF □180BH

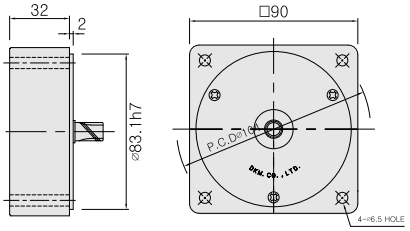


* MOTOR MODEL : 9CIDG□- 60F2P (POWERFUL FAN)
* GEARHEAD MODEL : 9PB□3BH - 9PB□180BH

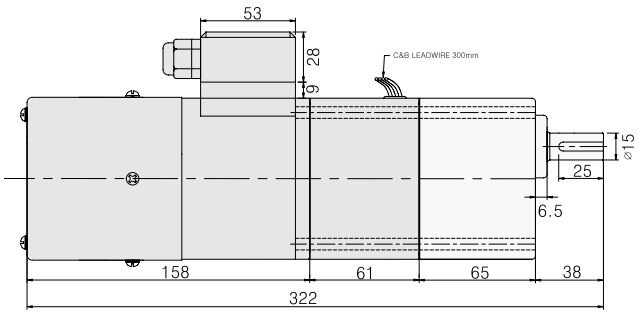


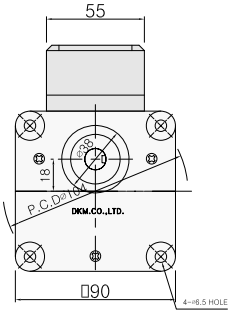
◆ INTER-DECIMAL GEARHEAD

* MODEL : 9XD10M□

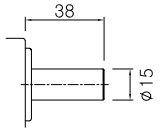
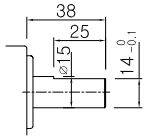
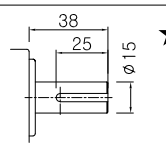


TERMINAL BOX TYPE * MOTOR MODEL : 9CIDG□- 60F2P-T (POWERFUL FAN)





◆ GEARHEAD OUTPUT

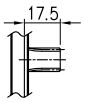
MODEL	SHAFT
ROUND TYPE 9P□S3BH ~9P□S180BH	
D-CUT TYPE 9P□D3BH ~9P□D180BH	
KEY TYPE 9P□K3BH ~9P□K180BH	

* Note :There are 2 kinds of fan type (General Fan / Powerful Fan).
Customer can choose fan type according to wanted rating time.

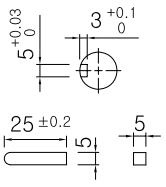
◆ WEIGHT

PART		WEIGHT(Kg)
MOTOR		2.6
CLUTCH & BRAKE		1.35
DECIMAL GEARHEAD		0.5
GEAR HEAD	9P□□ 3BH - 9P□□9BH	1.3
	9P□□ 12.5BH - 9P□□18BH	1.3
	9P□□ 25BH - 9P□□60BH	1.4
	9P□□ 90BH - 9P□□180BH	1.4

◆ MOTOR OUTPUT

MODEL	SHAFT
GEAR TYPE 9CIDG□-60	

◆ KEY SPEC



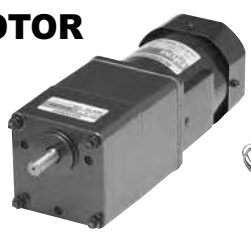
* Note : Above table indicates output shaft dimension made by user' s request and ★ indicates the basic dimension in factory shipping.

Connection Diagrams

Please refer to page 115, page 25.

CLUTCH & BRAKE MOTOR
90W

□90mm(3.54in.)


LEAD WIRE TYPE
+ F FAN


LEAD WIRE TYPE
+ F2 FAN


LEAD WIRE TYPE
+ F2 FAN


TERMINAL BOX TYPE
+ F2 FAN

Motor Specification

Model 9CIDG□-90FP(H) : Pinion Shaft Type		Output		Voltage	Freq.	Motor Model	Gearhead Model
Lead Wire Type	Terminal Box Type	HP	W	VAC	Hz	(INDUCTION MOTOR)	
(TP) **9CIDGA-90FP(H)**	**9CIDGA-90FP(H)-T**			Single Phase 110	60	9IDGA-90FP(H)	
(TP) **9CIDGB-90FP(H)**	**9CIDGB-90FP(H)-T**			Single Phase 115	60	9IDGB-90FP(H)	
(TP) **9CIDGC-90FP(H)**	**9CIDGC-90FP(H)-T**			Single Phase 220	50	9IDGC-90FP(H)	
(TP) **9CIDGD-90FP(H)**	**9CIDGD-90FP(H)-T**			Single Phase 220	60	9IDGD-90FP(H)	
(TP) **9CIDGE-90FP(H)**	**9CIDGE-90FP(H)-T**			Single Phase 230	50	9IDGE-90FP(H)	
(TP) **9CIDGF-90FP(H)**	**9CIDGF-90FP(H)-T**			Single Phase 230	60	9IDGF-90FP(H)	
(TP) **9CIDGG-90FP(H)**	**9CIDGG-90FP(H)-T**			Three phase 220	50	9IDGG-90FP(H)	**9PB(F)K□BH**
(TP) **9CIDGH-90FP(H)**	**9CIDGH-90FP(H)-T**	1/8	90	Three phase 220	60	9IDGH-90FP(H)	**or**
(TP) **9CIDGI-90FP(H)**	**9CIDGI-90FP(H)-T**			Three phase 230	50	9IDGI-90FP(H)	**9HBK□BH**
(TP) **9CIDGJ-90FP(H)**	**9CIDGJ-90FP(H)-T**			Three phase 230	60	9IDGJ-90FP(H)	
(TP) **9CIDGK-90FP(H)**	**9CIDGK-90FP(H)-T**			Three phase 380	50	9IDGK-90FP(H)	
(TP) **9CIDGL-90FP(H)**	**9CIDGL-90FP(H)-T**			Three phase 380	60	9IDGL-90FP(H)	
(TP) **9CIDGM-90FP(H)**	**9CIDGM-90FP(H)-T**			Three phase 400	50	9IDGM-90FP(H)	
(TP) **9CIDGN-90FP(H)**	**9CIDGN-90FP(H)-T**			Three phase 440	50	9IDGN-90FP(H)	
(TP) **9CIDGO-90FP(H)**	**9CIDGO-90FP(H)-T**			Three phase 440	60	9IDGO-90FP(H)	

* Enter the 'Phase & Voltage' code in the box(□) within the motor model name.

(TP) : Contains a built-in thermal protector. If a motor overheats for any reason the thermal protector opened and the motor stops. When the motor temperature Drops, the thermal protector closes and the motor restarts. Be sure to turn the motor off before inspecting. By attaching F2 FAN additionally, temperature reducing of over 10℃ could be available.

Permissible Torque When using gearhead

60Hz

Model	speed RPM (r/min)		900	600	500	360	300	240	200	144	120	100	90	72	60	50	45	36	30	24	20	18	15	12	10
Motor/Gearhead	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**
9CIDG□-90FP / **9PBK□BH** **9PFK□BH**		kgf cm	12	14.6	17.5	24.3	29.2	36.5	43.7	54.8	65.7	78.8	88.0	99	119	143	158	198	200	200	200	200	200	200	200
		N.m	1.2	1.5	1.8	2.4	2.9	3.7	4.4	5.5	6.6	7.9	8.8	9.9	12	14	16	20	20	20	20	20	20	20	20
		lb-in	10.6	12.9	15.5	21.5	25.8	32.2	38.6	48.4	58.0	69.6	77.7	87.4	105	126	140	175	177	177	177	177	177	177	177
9CIDG□-90FH / **9HBK□BH**		kgf cm																198	232	259	300	300	300	300	300
		N.m	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20	23	26	30	30	30	30	30
		lb-in																175	205	229	265	265	265	265	265

50Hz

Model	speed RPM (r/min)		750	500	417	300	250	200	167	120	100	83	75	60	50	42	38	30	25	20	17	15	13	10	8
Motor/Gearhead	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**
9CIDG□-90FP / **9PBK□BH** **9PFK□BH**		kgf cm	15	18.2	21.9	30.4	36.5	45.6	54.7	68.4	82.1	98.6	110	124	150	180	199	200	200	200	200	200	200	200	200
		N.m	1.5	1.8	2.2	3.0	3.7	4.6	5.5	6.8	8.2	9.9	11	12	15	18	20	20	20	20	20	20	20	20	20
		lb-in	13.2	16.1	19.3	26.8	32.2	40.3	48.3	60	72	87	97	109	132	159	176	177	177	177	177	177	177	177	177
9CIDG□-90FH / **9HBK□BH**		kgf cm																241	289	300	300	300	300	300	300
		N.m	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24	29	30	30	30	30	30	30
		lb-in																213	255	265	265	265	265	265	265

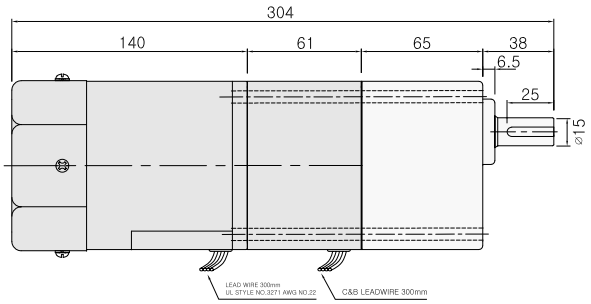
* Enter the gear ratio in the box (□) within the gearhead model name. A colored background indicates gear shaft rotation in the same direction as the motor shaft ; a white background indicates rotation in the opposite direction.
* The speed is calculated by dividing the motor' s synchronous speed (50Hz : 1500 r/min, 60 Hz : 1800 r/min) by the gear ratio.
* The actual speed is 2~20% less than the displayed value, depending on the size of the load.
* If more slow speed is needed than above value, use decimal gearhead with a gear ratio of 10:1 could be used between general gearhead and motor. Even in this case, just speed will be reduced without increase in permissible torque; the maximum permissible torque is 200kgfcm (P type) / 300kgfcm (H type).

Dimension

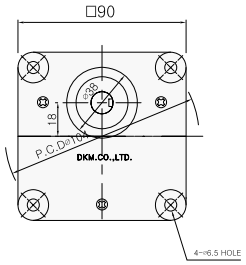
LEAD WIRE TYPE

◆ GEARED MOTOR

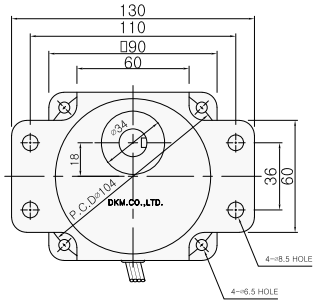
* MOTOR MODEL : 9CIDG□-90FP (GENERAL FAN)



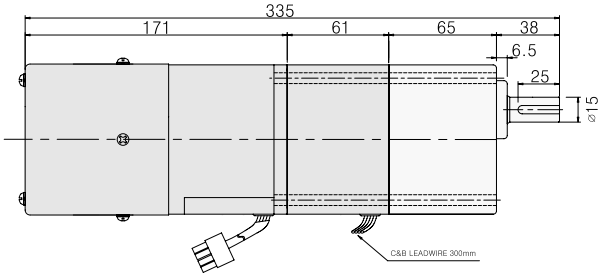
* GEARHEAD MODEL :
9PB □ 3BH - 9PB □ 180BH



* GEARHEAD MODEL :
9PF □ 3BH - 9PF □180BH

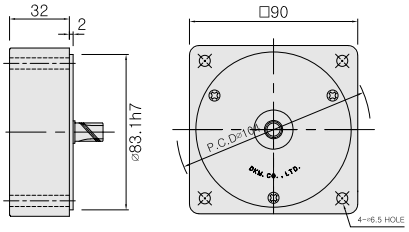


* MOTOR MODEL : 9CIDG□- 90F2P (POWERFUL FAN)
* GEARHEAD MODEL : 9PB□ 3BH - 9PB □180BH



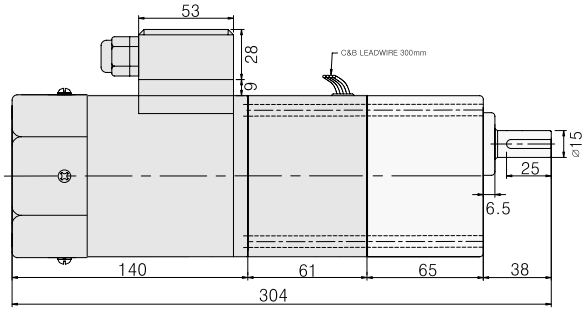
◆ INTER-DECIMAL GEARHEAD

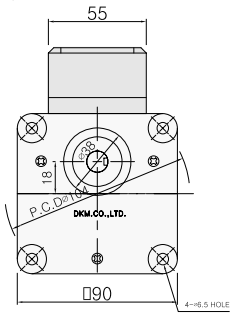
* MODEL : 9XD10M□



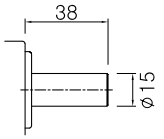
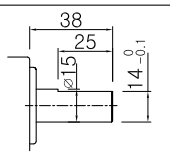
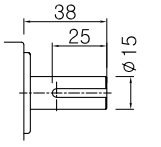
TERMINAL BOX TYPE

* MOTOR MODEL : 9CIDG□- 90FP-T (POWERFUL FAN)





◆ GEARHEAD OUTPUT

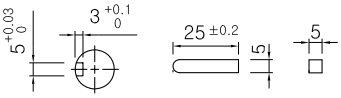
MODEL	SHAFT
ROUND TYPE	
9P□S3BH ~9P□S180BH	
D-CUT TYPE	
9P□D3BH ~9P□D180BH	
KEY TYPE	 ★
9P□K3BH ~9P□K180BH	

* Note :There are 2 kinds of fan type (General Fan / Powerful Fan).
Customer can choose fan type according to wanted rating time.

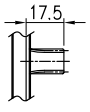
◆ WEIGHT

PART		WEIGHT(Kg)
MOTOR		3.0
CLUTCH & BRAKE		1.35
DECIMAL GEARHEAD		0.5
GEAR HEAD	9P□□ 3BH - 9P□□9BH	1.3
	9P□□ 12.5BH - 9P□□18BH	1.3
	9P□□ 25BH - 9P□□60BH	1.4
	9P□□ 90BH - 9P□□180BH	1.4

◆ KEY SPEC



◆ MOTOR OUTPUT

MODEL	SHAFT
GEAR TYPE	
9CIDG□-90	

* Note : Above table indicates output shaft dimension made by user' s request and ★ indicates the basic dimension in factory shipping.

Connection Diagrams

Please refer to page 115, page 25.

CLUTCH & BRAKE MOTOR
120W

□90mm(3.54in.)

LEAD WIRE TYPE
+ F FAN

LEAD WIRE TYPE
+ F2 FAN

LEAD WIRE TYPE
+ F2 FAN

TERMINAL BOX TYPE
+ F2 FAN

Motor Specification

Model 9CIDG□-120FP : Pinion Shaft Type		Output		Voltage	Freq.	Motor Model	Gearhead Model
Lead Wire Type	Terminal Box Type	HP	W	VAC	Hz	(INDUCTION MOTOR)	
(TP) **9CIDGA-120FP(H)**	**9CIDGA-120FP(H)-T**	1/6	120	Single Phase 110	60	9IDGA-120FP(H)	**9PB(F)K□BH or 9HBK□BH**
(TP) **9CIDGB-120FP(H)**	**9CIDGB-120FP(H)-T**			Single Phase 115	60	9IDGB-120FP(H)	
(TP) **9CIDGC-120FP(H)**	**9CIDGC-120FP(H)-T**			Single Phase 220	50	9IDGC-120FP(H)	
(TP) **9CIDGD-120FP(H)**	**9CIDGD-120FP(H)-T**			Single Phase 220	60	9IDGD-120FP(H)	
(TP) **9CIDGE-120FP(H)**	**9CIDGE-120FP(H)-T**			Single Phase 230	50	9IDGE-120FP(H)	
(TP) **9CIDGF-120FP(H)**	**9CIDGF-120FP(H)-T**			Single Phase 230	60	9IDGF-120FP(H)	
(TP) **9CIDGG-120FP(H)**	**9CIDGG-120FP(H)-T**			Three phase 220	50	9IDGG-120FP(H)	
(TP) **9CIDGH-120FP(H)**	**9CIDGH-120FP(H)-T**			Three phase 220	60	9IDGH-120FP(H)	
(TP) **9CIDGI-120FP(H)**	**9CIDGI-120FP(H)-T**			Three phase 230	50	9IDGI-120FP(H)	
(TP) **9CIDGJ-120FP(H)**	**9CIDGJ-120FP(H)-T**			Three phase 230	60	9IDGJ-120FP(H)	
(TP) **9CIDGK-120FP(H)**	**9CIDGK-120FP(H)-T**			Three phase 380	50	9IDGK-120FP(H)	
(TP) **9CIDGL-120FP(H)**	**9CIDGL-120FP(H)-T**			Three phase 380	60	9IDGL-120FP(H)	
(TP) **9CIDGM-120FP(H)**	**9CIDGM-120FP(H)-T**			Three phase 400	50	9IDGM-120FP(H)	
(TP) **9CIDGN-120FP(H)**	**9CIDGN-120FP(H)-T**			Three phase 440	50	9IDGN-120FP(H)	
(TP) **9CIDGO-120FP(H)**	**9CIDGO-120FP(H)-T**			Three phase 440	60	9IDGO-120FP(H)	

* Enter the 'Phase & Voltage' code in the box(□) within the motor model name.
(TP) : Contains a built-in thermal protector. If a motor overheats for any reason the thermal protector opened and the motor stops. When the motor temperature Drops, the thermal protector closes and the motor restarts. Be sure to turn the motor off before inspecting. By attaching F2 FAN additionally, temperature reducing of over 10℃ could be available.

Permissible Torque When using gearhead

60Hz

Model	speed RPM (r/min)		900	600	500	360	300	240	200	144	120	100	90	72	60	50	45	36	30	24	20	18	15	12	10
Motor/Gearhead	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**
9CIDG□-120FP / **9PBK□BH** **9PFK□BH**		kgf cm	17.5	18.7	22.5	31.2	37.4	46.8	56.1	70.2	84.2	101	114	126	152	182	200	200	200	200	200	200	200	200	200
		N.m	1.8	1.9	2.3	3.1	3.7	4.7	5.6	7.0	8.4	10.1	11.4	12.6	15	18	20	20	20	20	20	20	20	20	20
		lb-in	15.5	16.5	19.9	27.5	33.2	41.3	49.5	62.0	74	89	101	111	134	161	177	177	177	177	177	177	177	177	177
9CIDG□-120FH / **9HBK□BH**		kgf cm	-	20.6	24.8	-	41.1	-	61.7	77.2	93	111	-	139	167	200	-	220	240	300	300	300	300	300	300
		N.m	-	2.1	2.5	-	4.1	-	6.2	7.7	9.3	11.1	-	13.9	16.7	20.0	-	22	24	30	30	30	30	30	30
		lb-in	-	18.2	21.9	-	36.3	-	54.5	68.2	81.8	98.1	-	122	148	177	-	194	212	265	265	265	265	265	265

50Hz

Model	speed RPM (r/min)		750	500	417	300	250	200	167	120	100	83	75	60	50	42	38	30	25	20	17	15	13	10	8
Motor/Gearhead	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**
9CIDG□-120FP / **9PBK□BH** **9PFK□BH**		kgf cm	22.0	23.2	27.8	37.8	46.4	58.0	69.6	87.0	104	125	140	156	188	200	200	200	200	200	200	200	200	200	200
		N.m	2.20	2.32	2.78	3.87	4.64	5.80	6.96	8.7	10.4	12.5	14.0	15.6	19	20	20	20	20	20	20	20	20	20	20
		lb-in	19.4	20.5	24.5	34.2	41.0	51.2	61.5	76.8	92	110	124	138	166	177	177	177	177	177	177	177	177	177	177
9CIDG□-120FH / **9HBK□BH**		kgf cm	-	25.5	30.6	-	51.0	-	76.6	95.7	114	138	-	172	207	220	-	240	260	300	300	300	300	300	300
		N.m	-	2.6	3.1	-	5.1	-	7.7	9.6	11.4	13.8	-	17.2	20.7	22	-	24	26	30	30	30	30	30	30
		lb-in	-	22.5	27.0	-	45.1	-	67.6	84.5	101	121	-	152	182	194	-	212	230	265	265	265	265	265	265

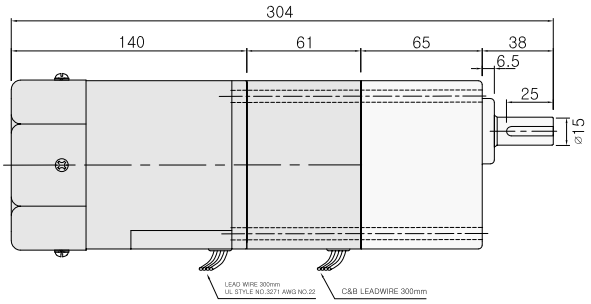
* Enter the gear ratio in the box (□) within the gearhead model name. A colored background indicates gear shaft rotation in the same direction as the motor shaft ; a white background indicates rotation in the opposite direction.
* The speed is calculated by dividing the motor' s synchronous speed (50Hz : 1500 r/min, 60 Hz : 1800 r/min) by the gear ratio.
* The actual speed is 2~20% less than the displayed value, depending on the size of the load.
* If more slow speed is needed than above value, use decimal gearhead with a gear ratio of 10:1 could be used between general gearhead and motor. Even in this case, just speed will be reduced without increase in permissible torque; the maximum permissible torque is 200kgfcm (P type) / 300kgfcm (H type).

Dimension

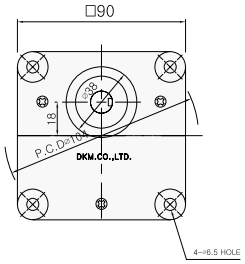
LEAD WIRE TYPE

◆ GEARED MOTOR

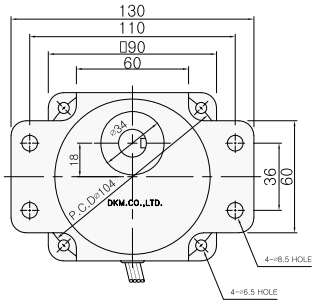
* MOTOR MODEL : 9CIDG□- 120FP (GENERAL FAN)



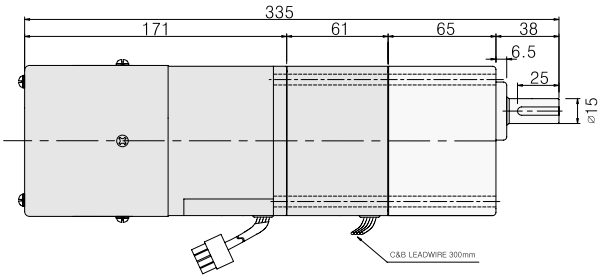
* GEARHEAD MODEL :
9PB □ 3BH - 9PB □ 180BH



* GEARHEAD MODEL :
9PF □ 3BH - 9PF □180BH

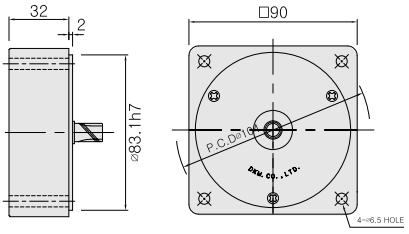


* MOTOR MODEL : 9CIDG □-120F2P (POWERFUL FAN)
* GEARHEAD MODEL : 9PB □ 3BH - 9PB □180BH



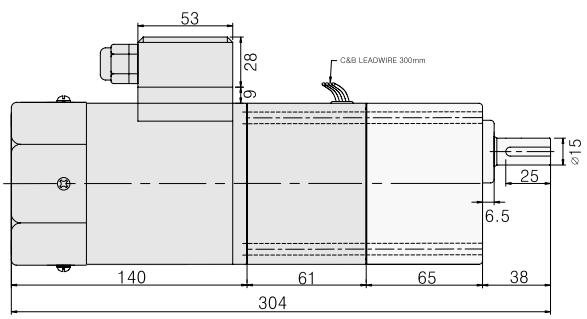
◆ INTER-DECIMAL GEARHEAD

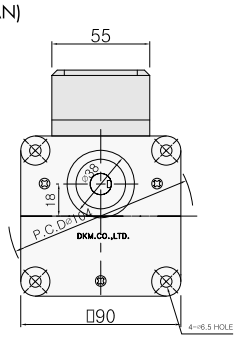
* MODEL : 9XD10M □



TERMINAL BOX TYPE

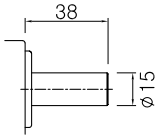
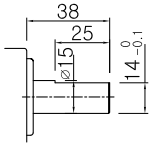
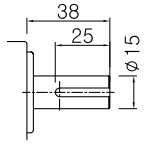
* MOTOR MODEL : 9CIDG □-120FP-T (POWERFUL FAN)





* Note :There are 2 kinds of fan type (General Fan / Powerful Fan).
Customer can choose fan type according to wanted rating time.

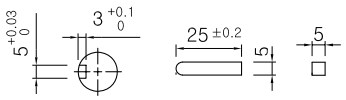
◆ GEARHEAD OUTPUT

MODEL	SHAFT
ROUND TYPE 9P□S3BH ~9P□S180BH	
D-CUT TYPE 9P□D3BH ~9P□D180BH	
KEY TYPE 9P□K3BH ~9P□K180BH	 ★

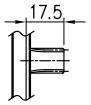
◆ WEIGHT

PART		WEIGHT(Kg)
MOTOR		3.0
CLUTCH & BRAKE		1.35
DECIMAL GEARHEAD		0.5
GEAR HEAD	9P□□ 3BH - 9P□□9BH	1.3
	9P□□ 12.5BH - 9P□□18BH	1.3
	9P□□ 25BH - 9P□□60BH	1.4
	9P□□ 90BH - 9P□□180BH	1.4

◆ KEY SPEC



◆ MOTOR OUTPUT

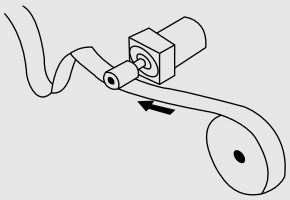
MODEL	SHAFT
GEAR TYPE 9CIDG□-120	

* Note : Above table indicates output shaft dimension made by user' s request and ★ indicates the basic dimension in factory shipping.

Connection Diagrams

Please refer to page 115, page 25.

TORQUE MOTOR



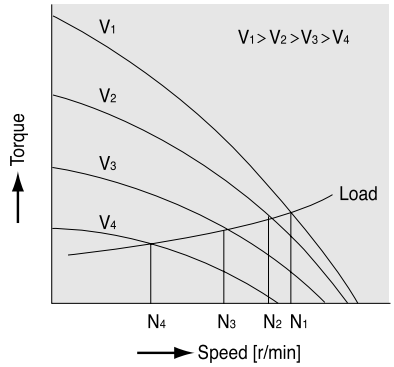
INDEX

Features

Torque motors are designed for providing high torque and sloping characteristics (torque is highest at zero speed and decreases steadily as speed increases), and operate stably over a wide speed range.

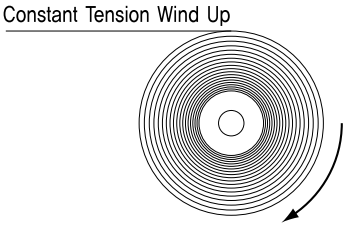
• Various Speed over a wide range

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.



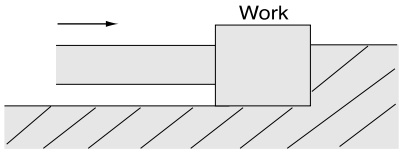
• Suitable for winding application

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 winding spool is doubled.



• Locked Operation

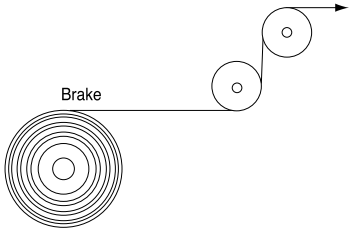
Torque motors are designed to provide stable torque even under stall conditions or at very low speeds (nearly stop). It is available only in torque motors not in induction motor or reversible motors, They are suitable for pushing applications that require static torque, or for loads that are usually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



Note : When using a motor in locked rotor condition, the output torque becomes very large. Do not exceed the permissible torque of the gearhead. Also, ensure that the work does not hit an object and stop, since this can cause damage to the gearhead due to the shock.

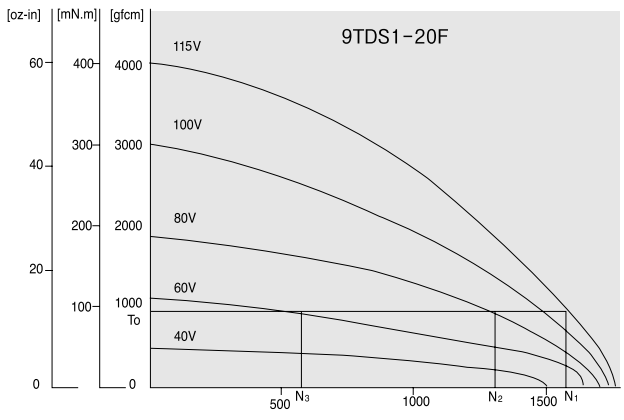
• Use as a brake

By using the motor in the braking region of the speed-torque characteristics, it can be used as a brake.



Speed-Torque Characteristics

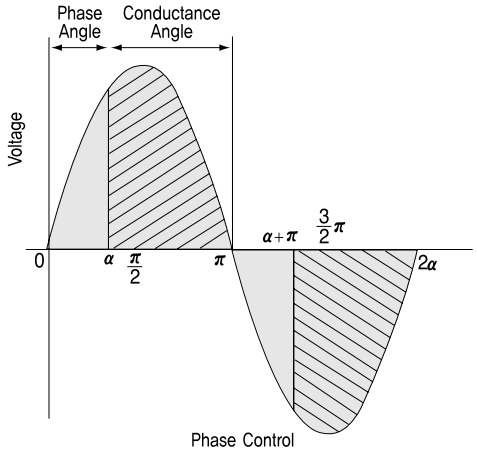
The torque of torque motor is approximately in proportion to the square of the voltage. When the voltage supplied to the motor is changed, speed-torque curves with a sloping characteristics (torque is highest at zero speed and decreases steadily as speed increases) will be corresponding voltage.
If the voltage is changed to 115 VAC, 80 VAC and 60 VAC while the load torque is T0, the motor rotates at the speeds N1, N2 and N3 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 Motors

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.



Reversible Motor Line-Up

Frame size □mm (in.)	Output W	Type	Power (Voltage)					Page
			Single phase		Three phase			
			100/110/115V	200/220/230V	200/220/230V	380 V	440V	
70(2.76)	6	Lead Wire Terminal box	● -	● -	- -	- -	- -	132
80(3.15)	10	Lead Wire Terminal box	● ●	● ●	- -	- -	- -	134
90(3.54)	20	Lead Wire Terminal box	● ●	● ●	- -	- -	- -	136
	30	Lead Wire Terminal box	● ●	● ●	- -	- -	- -	138
	40	Lead Wire Terminal box	● ●	● ●	- -	- -	- -	140

General Specifications

Item	Specifications
Insulation Resistance	100 ㏁ or more when 500 VDC is applied between the windings and the frame after rated motor opeation under normal ambient temperature and humidity.
Dielectric Strength	Sufficient to withstand 1.5 KV at 50 Hz and 60 Hz 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℃ (144℉) or less measured by the resistance change method after rated motor operation with connecting a gearhead or equivalent heat radiation plate. [Three-Phase 6W type : 70℃ (126℉)]
Insulation Class	Class B [130℃ (266℉)]
Overheat Protection	Operating temperature, open : 130℃ ± 5℃ (266℃ ±9℉) close : 82℃ ± 15℃ (179.6℉ ± 27℉)
Ambient Temperture Range	-10℃ ~ + 40℃ (14℉ ~ 104℉) (nonfreezing)
Ambient Humidity	85% maximum (noncondensing)

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TORQUE MOTOR
6W

□70mm(2.76in.)
LEAD WIRE TYPE

LEAD WIRE TYPE

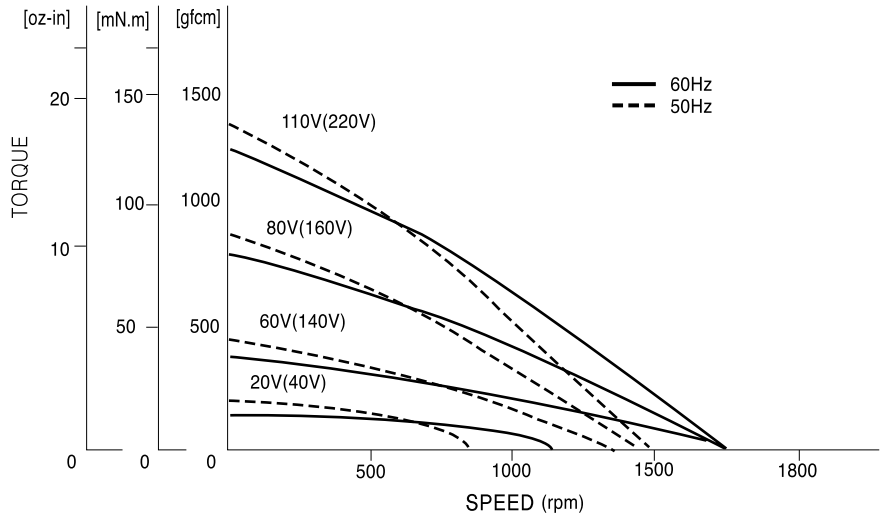
Motor Specification - 5min. Rating

Model 7TDG□-6G : Pinion Shaft Type 7TDS□-6 : Round Shaft Type		Rating at Locked Rotor	Voltage	Freq.	Starting Torque			Output		At max. ouput power						Capacitor	
										Speed	TORQUE			Current	Input		
Lead Wire Type	Terminal Box Type		VAC	Hz	gfcm	mN.m	oz-in	HP	W		gfcm	mN.m	oz-in	A	W	μF	VAC
(TP) **7TDG(S)A-6G**	-	5minutes Continuous	Single Phase 115 Single Phase 60	60	1200 420	120 42	17 5.95	1/93 1/300	8 2.5	900	700 230	70 23	10 3	0.6 0.21	57 17	10	250
(TP) **7TDG(S)B-6G**	-	5minutes Continuous	Single Phase 220 Single Phase 140	60	1200 420	120 42	17 5.95	1/93 1/300	8 2.5		700 230	70 23	10 3	0.18 0.09	57 17	1.5	400
(TP) **7TDG(S)C-6G**	-	5minutes Continuous	Single Phase 220 Single Phase 140	50	1400 540	140 54	19.8 6.09	1/125 1/300	6 2.3	750	800 300	80 30	11 4	0.18 0.09	55 19	1.5	400

* Enter the 'Phase & Voltage' code in the box(□) within the motor model name.
* 'Pinion Shaft' is for attaching gearhead and 'Round Shaft' is for using motor only.

(TP) : Contains a built-in thermal protector. If a motor overheats for any reason the thermal protector opened and the motor stops. When the motor temperature Drops, the thermal protector closes and the motor restarts. Be sure to turn the motor off before inspecting. By attaching F2 FAN additionally, temperature reducing of over 10℃ could be available.

Speed-Torque Characteristics (Ref.)



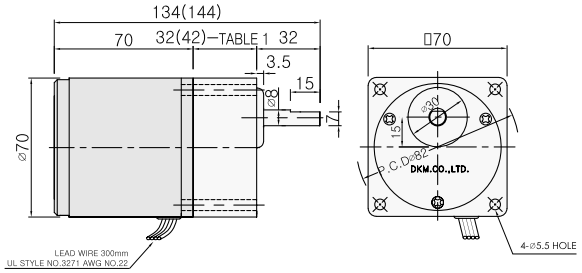
Permissible Torque When using gearhead

Please refer to page 18.

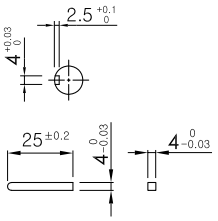
Dimension

◆ GEARED MOTOR

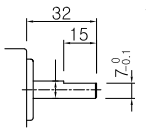
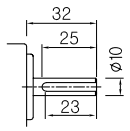
* MOTOR MODEL : 7TDG□-6G (NO FAN)
* HEAD MODEL : 7GB□3BMH - 7GB□180BMH



◆ KEY SPEC

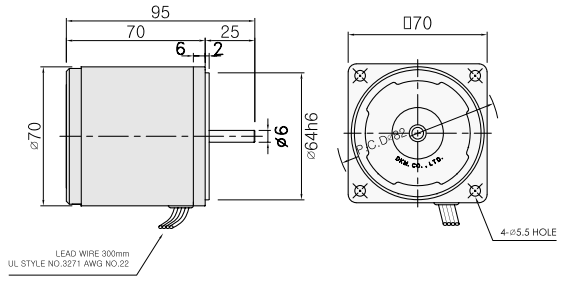


◆ GEARHEAD 출력축 사양

MODEL	출력축 구분
D-CUT TYPE 7GBD3BMH ~7GBD180BMH	
KEY TYPE 7GBK3BMH ~7GBK180BMH	

◆ MOTOR ONLY

* MOTOR MODEL : 7TD□□-6 (NO FAN)



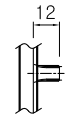
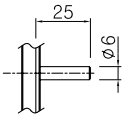
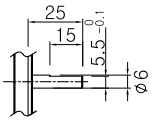
◆ WEIGHT

PART		WEIGHT(Kg)
MOTOR		0.94
GEAR HEAD	7GB□3BMH - 7GB□18BMH	0.36
	7GB□25BMH - 7GB□30BMH	0.44
	7GB□36BMH - 7GB□180BMH	0.5

◆ 32(42)-TABLE1

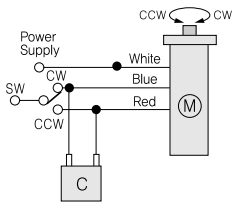
SIZE(mm)	GEAR RATIO
32	7GB□3BMH - 7GB□18BMH
42	7GB□25BMH - 7GB□180BMH

◆ MOTOR OUTPUT

MODEL	SHAFT
GEAR TYPE 7TDG□-6G	
ROUND TYPE 7TDS□-6	
D-CUT TYPE 7TDD□-6	

* Note : Above table indicates output shaft dimension made by user's request and ★ indicates the basic dimension in factory shipping.

Connection Diagrams

Single phase (CW, CCW)	Three phase (CW, CCW)
	Not Available

CW : To rotate the motor in a clockwise(CW) direction, flip switch SW to CW.
CCW : To rotate it in a countercloc kwise (CCW) direction, flip switch SW to CCW.

- 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.
- Connection diagrams are also valid for the equivalent round shaft type.
- 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.

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TORQUE MOTOR
10W

□80mm(3.15in.)

LEAD WIRE TYPE

TERMINAL BOX TYPE

Motor Specification - 5min. Rating

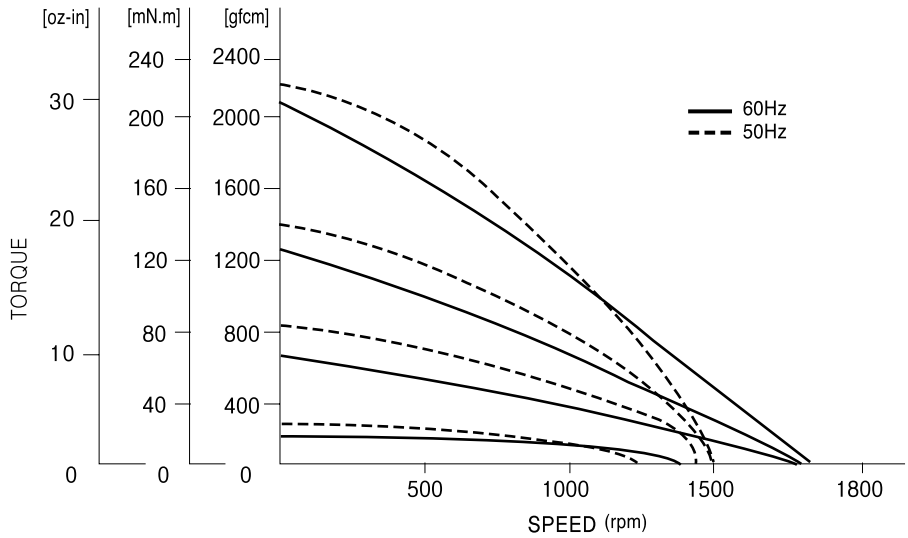
CE

Model 8TDG□-10G : Pinion Shaft Type 8TDS□-10 : Round Shaft Type		Rating at Locked Rotor	Voltage	Freq.	Starting Torque			Output		At max. ouput power						Capacitor	
										Speed	TORQUE			Current	Input		
Lead Wire Type	Terminal Box Type		VAC	Hz	gfcm	mN.m	oz-in	HP	W		gfcm	mN.m	oz-in	A	W	μF	VAC
(TP) **8TDG(S)A-10G**	**8TDG(S)A-10G-T**	5minutes Continuous	Single Phase 115 Single Phase 60	60	2100 700	210 70	29.7 9.9	1/62 1/214	12 3.5	900	1000 380	100 38	14 5	0.8 0.5	67 19	10	250
(TP) **8TDG(S)B-10G**	**8TDG(S)B-10G-T**	5minutes Continuous	Single Phase 220 Single Phase 140	60	2200 750	220 75	31.1 10.6	1/75 1/214	10 3.5		1000 380	100 38	14 5	4.0 0.25	67 19	2.0	400
(TP) **8TDG(S)C-10G**	**8TDG(S)C-10G-T**	5minutes Continuous	Single Phase 220 Single Phase 140	50	2300 750	230 75	32.5 10.6	1/62 1/214	12 3.5	750	1300 460	130 46	18 7	4.0 0.25	63 24	2.0	400

* Enter the 'Phase & Voltage' code in the box(□) within the motor model name.
* 'Pinion Shaft' is for attaching gearhead and 'Round Shaft' is for using motor only.

(TP) : Contains a built-in thermal protector. If a motor overheats for any reason the thermal protector opened and the motor stops. When the motor temperature Drops, the thermal protector closes and the motor restarts. Be sure to turn the motor off before inspecting. By attaching F2 FAN additionally, temperature reducing of over 10℃ could be available.

Speed-Torque Characteristics (Ref.)



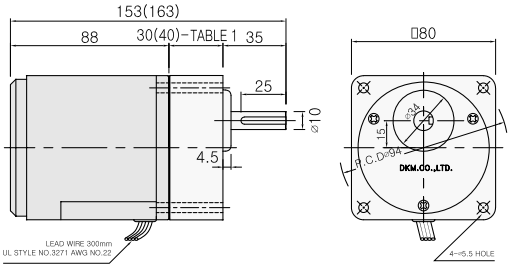
Permissible Torque When using gearhead

Please refer to page 22.

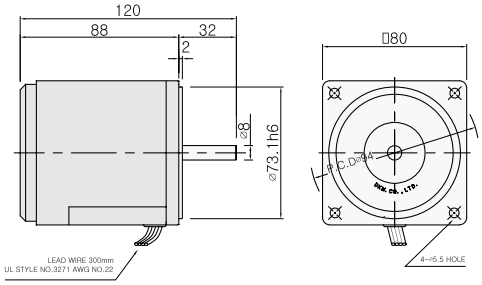
Dimension

LEAD WIRE TYPE

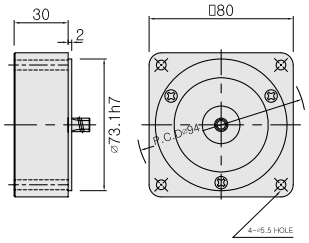
◆ GEARED MOTOR * MOTOR MODEL : 8TDG□-10G (NO FAN)
* HEAD MODEL : 8GB □3BMH - 8GB□360BMH



◆ MOTOR ONLY * MOTOR MODEL : 8TD□□-10 (NO FAN)

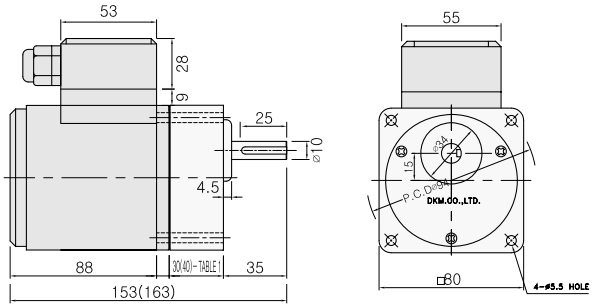


◆ INTER-DECIMAL GEARHEAD
* MODEL : 8XD10M□

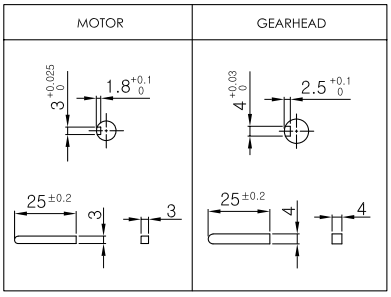


TERMINAL BOX TYPE

* MOTOR MODEL : 8TDG□-10G-T (NO FAN)



◆ KEY SPEC



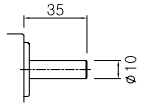
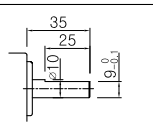
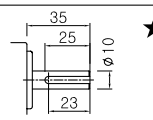
◆ 30(40)-TABLE1

SIZE(mm)	GEAR RATIO
30	8GB□3BMH - 8GB□18BMH
40	8GB□25BMH - 8GB□360BMH

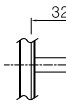
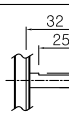
◆ WEIGHT

PART		WEIGHT(Kg)
MOTOR		1.7
DECIMAL GEARHEAD		0.44
GEAR HEAD	8GB□3BMH - 8GB□18BMH	0.48
	8GB□25BMH - 8GB□30BMH	0.61
	8GB□36BMH - 8GB□180BMH	0.67
	8GB□200BMH - 8GB□360BMH	0.63

◆ GEARHEAD OUTPUT

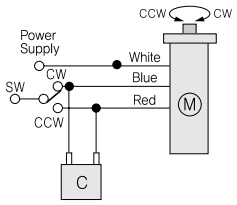
MODEL	SHAFT
ROUND TYPE 8GBS3BMH ~8GBS360BMH	
D-CUT TYPE 8GBD3BMH ~8GBD360BMH	
KEY TYPE 8GBK3BMH ~8GBK360BMH	

◆ MOTOR OUTPUT

MODEL	SHAFT
GEAR TYPE 8TDG□-10G	
ROUND TYPE 8TDS□-10	
D-CUT TYPE 8TDD□-10	
KEY TYPE 8TDK□-10	

* Note : Above table indicates output shaft dimension made by user' s request and ★ indicates the basic dimension in factory shipping.

Connection Diagrams

Single phase (CW, CCW)	Three phase (CW, CCW)
	Not Available

CW : To rotate the motor in a clockwise(CW) direction, flip switch SW to CW.
CCW : To rotate it in a countercloc kwise (CCW) direction, flip switch SW to CCW.

- 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.
- Connection diagrams are also valid for the equivalent round shaft type.
- 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.

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TORQUE MOTOR
20W

□90mm(3.54in.)

LEAD WIRE TYPE

TERMINAL BOX TYPE

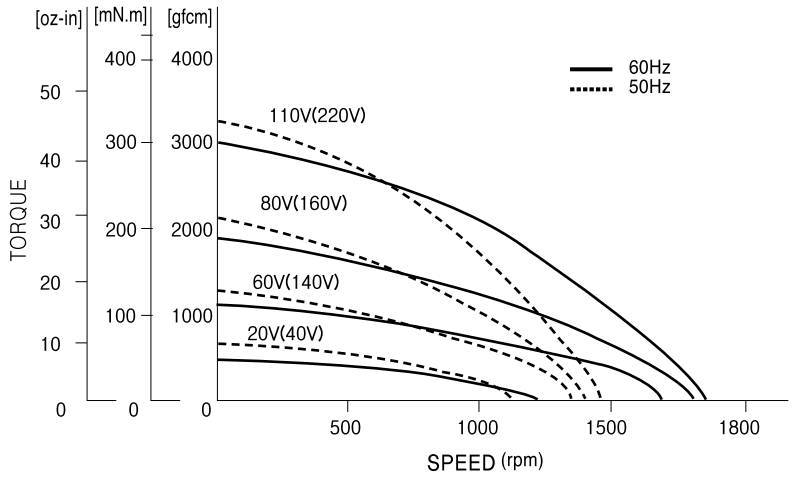
Motor Specification - 5min. Rating

Model 9TDG□-20FG : Pinion Shaft Type 9TDD□-20F : D-Cut Shaft Type		Rating at Locked Rotor	Voltage	Freq.	Starting Torque			Output		At max. ouput power						Capacitor	
										Speed	TORQUE			Current	Input		
Lead Wire Type	Terminal Box Type		VAC	Hz	gfcm	mN.m	oz-in	HP	W		gfcm	mN.m	oz-in	A	W	μF	VAC
(TP) **9TDG(D)A-20G**	**9TDG(D)A-20G-T**	5minutes Continuous	Single Phase 115	60	3000	300	42	1/38	20	900	2200	220	31	1	110	16	250
			Single Phase 60		900	90	13	1/125	6.0		650	65	9	0.7	29		
(TP) **9TDG(D)B-20G**	**9TDG(D)B-20G-T**	5minutes Continuous	Single Phase 220	60	3000	300	42	1/38	20		2200	220	31	0.6	110	4.0	400
			Single Phase 140		900	90	13	1/125	6.0		650	65	9	0.35	29		
(TP) **9TDG(D)C-20G**	**9TDG(D)C-20G-T**	5minutes Continuous	Single Phase 220	50	3200	320	45	1/38	20	750	2200	220	31	0.6	96	4.0	400
			Single Phase 140		1000	100	14	1/125	6.0		650	65	9	0.35	32		

* Enter the 'Phase & Voltage' code in the box(□) within the motor model name.
* 'Pinion Shaft' is for attaching gearhead and 'D-Cut Shaft' is for using motor only.

(TP) : Contains a built-in thermal protector. If a motor overheats for any reason the thermal protector opened and the motor stops. When the motor temperature Drops, the thermal protector closes and the motor restarts. Be sure to turn the motor off before inspecting. By attaching F2 FAN additionally, temperature reducing of over 10℃ could be available.

Speed-Torque Characteristics (Ref.)



Permissible Torque When using gearhead

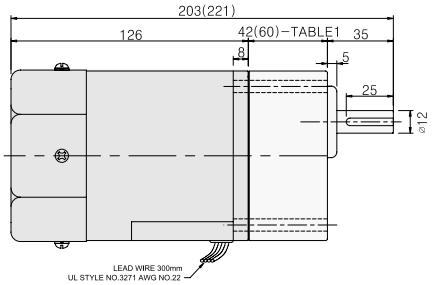
Please refer to page 26.

Dimension

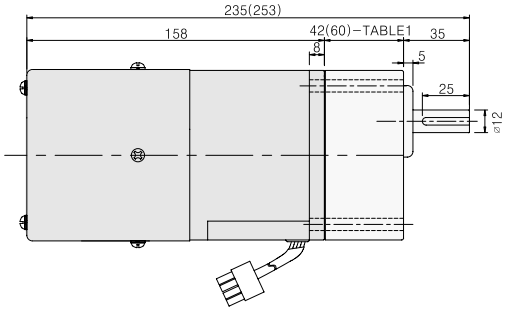
LEAD WIRE TYPE

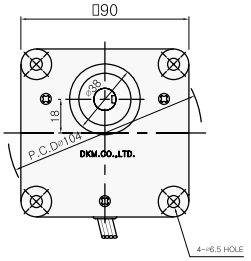
◆ GEARED MOTOR

* MOTOR MODEL : 9TDG□-20FG (GENERAL FAN)
* GEARHEAD MODEL : 9GB□3MH - 9GB□180MH

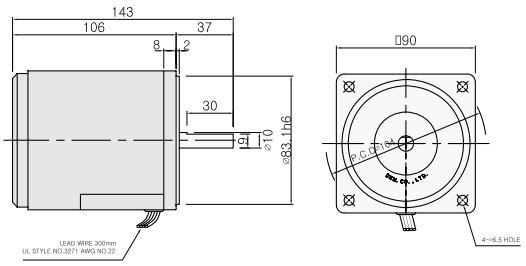


* MOTOR MODEL : 9TDG□-20F2G (POWERFUL FAN)
* GEARHEAD MODEL : 9GB□3MH - 9GB□180MH



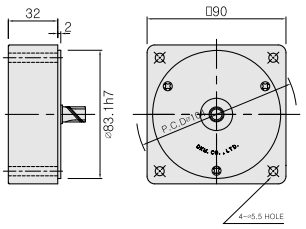


◆ MOTOR ONLY * MOTOR MODEL : 9TD□□-20 (NO FAN)



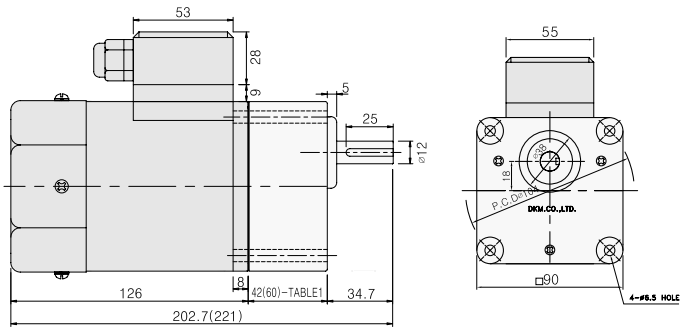
◆ INTER-DECIMAL GEARHEAD

* MODEL : 9XD10M□



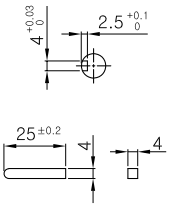
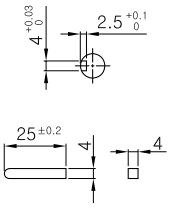
TERMINAL BOX TYPE

* MOTOR MODEL : 9TDG □-20FG-T (GENERAL FAN)



* Note : There are 3 kinds of fan type (No Fan / General Fan / Powerful Fan). Customer can choose fan type according to wanted rating time.

◆ KEY SPEC

MOTOR	GEARHEAD
	

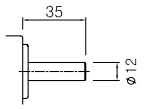
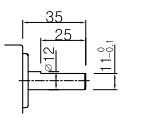
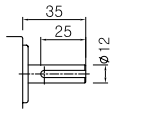
◆ 42(60)-TABLE1

SIZE(mm)	GEAR RATIO
42	9GB□3MH - 9GB□15MH
60	9GB□18MH - 9GB □180MH

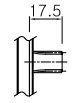
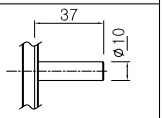
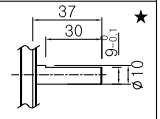
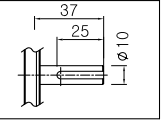
◆ WEIGHT

PART		WEIGHT(Kg)
MOTOR		2.4
DECIMAL GEARHEAD		0.5
GEAR HEAD	9GB□3MH - 9GB□15MH	0.67
	9GB□18MH - 9GB□30MH	0.96
	9GB□36MH - 9GB□180MH	1.07

◆ GEARHEAD OUTPUT

MODEL	SHAFT
ROUND TYPE 9GBS3MH ~9GBS180MH	
D-CUT TYPE 9GBD3MH ~9GBD180MH	
KEY TYPE 9GBK3MH ~9GBK180MH	

◆ MOTOR OUTPUT

MODEL	SHAFT
GEAR TYPE 9TDG□-20G	
ROUND TYPE 9TDS□-20	
D-CUT TYPE 9TDD□-20	
KEY TYPE 9TDK□-20	

* Note : Above table indicates output shaft dimension made by user' s request and ★ indicates the basic dimension in factory shipping.

Connection Diagrams Please refer to page 135.

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TORQUE MOTOR
30W

□90mm(3.54in.)

LEAD WIRE TYPE MOTOR
+ PB TYPE GEARHEAD

LEAD WIRE TYPE MOTOR
+ PF TYPE GEARHEAD

TERMINAL BOX TYPE MOTOR
+ PF TYPE GEARHEAD

Motor Specification - 5min. Rating

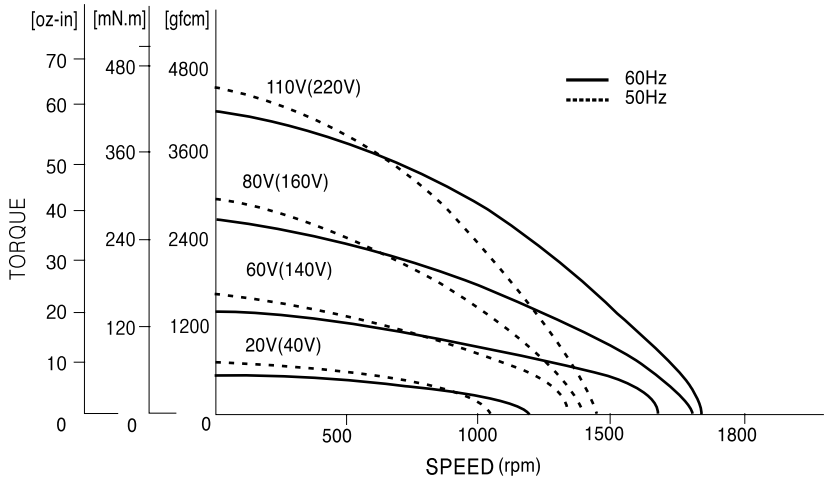
CE

Model 9TDG□-30FG : Pinion Shaft Type 9TDD□-30F : D-Cut Shaft Type		Rating at Locked Rotor	Voltage	Freq.	Starting Torque			Output		At max. ouput power						Capacitor	
										Speed	TORQUE			Current	Input		
Lead Wire Type	Terminal Box Type		VAC	Hz	gfcm	mN.m	oz-in	HP	W		gfcm	mN.m	oz-in	A	W	μF	VAC
(TP) **9TDG(D)A-30FP**	**9TDG(D)A-30FP-T**	5minutes Continuous	Single Phase 115 Single Phase 60	60	4500 1500	450 150	64 21	1/25 1/63	30 12	900	3300 1300	330 130	47 18	1.6 0.9	150 60	20	250
(TP) **9TDG(D)B-30FP**	**9TDG(D)B-30FP-T**	5minutes Continuous	Single Phase 220 Single Phase 140	60	4500 1500	450 150	64 21	1/25 1/63	30 12		3300 1300	330 130	47 18	0.9 0.5	140 50	5.0	400
(TP) **9TDG(D)C-30FP**	**9TDG(D)C-30FP-T**	5minutes Continuous	Single Phase 220 Single Phase 140	50	4600 1600	450 150	65 23	1/25 1/63	30 12	750	3300 1300	330 130	47 18	0.9 0.5	140 50	5.0	400

* Enter the 'Phase & Voltage' code in the box(□) within the motor model name.
* 'Pinion Shaft' is for attaching gearhead and 'D-Cut Shaft' is for using motor only.

(TP) : Contains a built-in thermal protector. If a motor overheats for any reason the thermal protector opened and the motor stops. When the motor temperature Drops, the thermal protector closes and the motor restarts. Be sure to turn the motor off before inspecting. By attaching F2 FAN additionally, temperature reducing of over 10℃ could be available.

Speed-Torque Characteristics (Ref.)



Permissible Torque When using gearhead

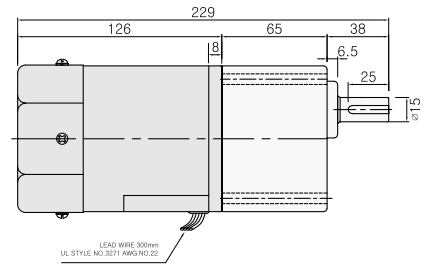
Please refer to page 28.

Dimension

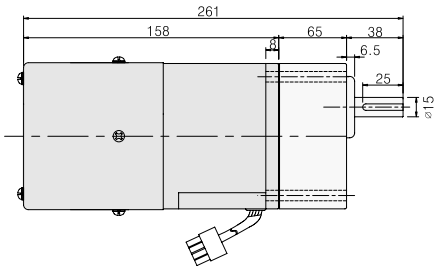
LEAD WIRE TYPE

◆ GEARED MOTOR

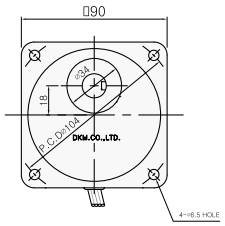
* MOTOR MODEL : 9TDG□-30FP (GENERAL FAN)



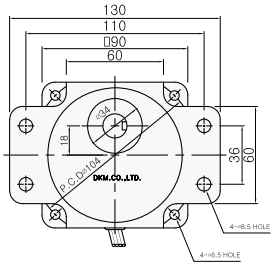
* MOTOR MODEL : 9TDG□-30F2P (POWERFUL FAN)



* GEARHEAD MODEL :
9PB□3BH - 9PB□180BH

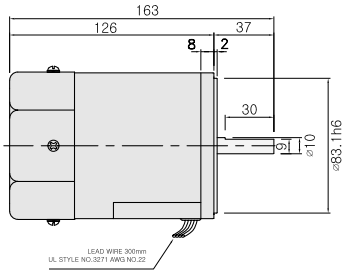


* GEARHEAD MODEL :
9PF□3BH - 9PF□180BH

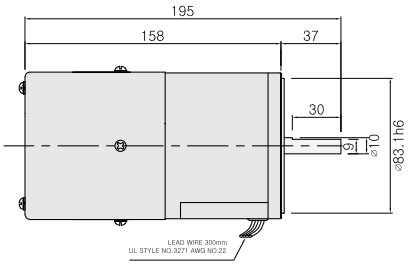


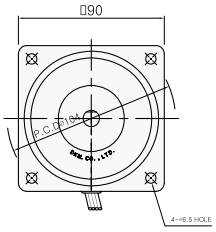
◆ MOTOR ONLY

* MOTOR MODEL : 9TD□□-30F (GENERAL FAN)



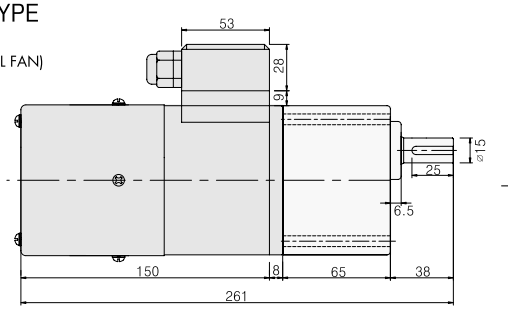
* MOTOR MODEL : 9TD□□-30F2 (POWERFUL FAN)

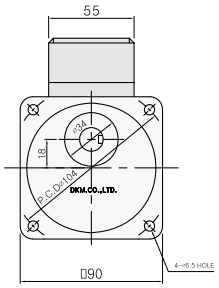




TERMINAL BOX TYPE

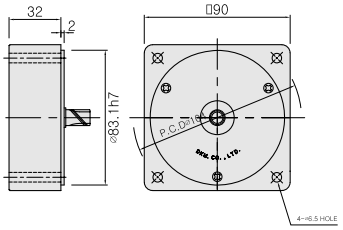
* MOTOR MODEL :
9TDG□-30F2P-T (POWERFUL FAN)





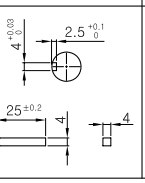
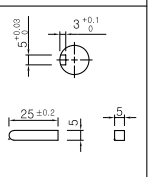
◆ INTER-DECIMAL GEARHEAD

* MODEL : 9XD10M□



* Note : There are 2 kinds of fan type (General Fan / Powerful Fan).
Customer can choose fan type according to wanted rating time.

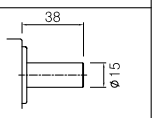
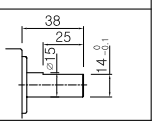
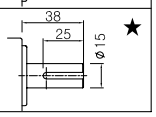
◆ KEY SPEC

MOTOR	GEARHEAD
	

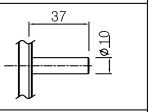
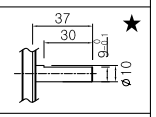
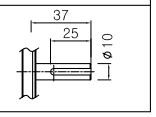
◆ WEIGHT

PART		WEIGHT(Kg)
MOTOR		2.7
DECIMAL GEARHEAD		0.5
GEAR HEAD	9P□□3BH - 9P□□9BH	1.3
	9P□□12.5BH - 9P□□18BH	1.3
	9P□□25BH - 9P□□60BH	1.4
	9P□□90BH - 9P□□180BH	1.4

◆ GEARHEAD OUTPUT

MODEL	SHAFT
ROUND TYPE 9P□S3BH ~9P□S180BH	
D-CUT TYPE 9P□D3BH ~9P□D180BH	
KEY TYPE 9P□K3BH ~9P□K180BH	

◆ MOTOR OUTPUT

MODEL	SHAFT
GEAR TYPE 9TDG□-30□ P	
ROUND TYPE 9TDS□-30□	
D-CUT TYPE 9TDD□-30□	
KEY TYPE 9TDK□-30□	

* Note : Above table indicates output shaft dimension made by user's request and ★ indicates the basic dimension in factory shipping.

Connection Diagrams

Please refer to page 135.

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TORQUE MOTOR
40W

□90mm(3.54in.)

LEAD WIRE TYPE MOTOR
+ PB TYPE GEARHEAD

LEAD WIRE TYPE MOTOR
+ PF TYPE GEARHEAD

단자 BOX TYPE MOTOR
+ PF TYPE GEARHEAD

TERMINAL BOX TYPE MOTOR
+ H TYPE GEARHEAD

Motor Specification

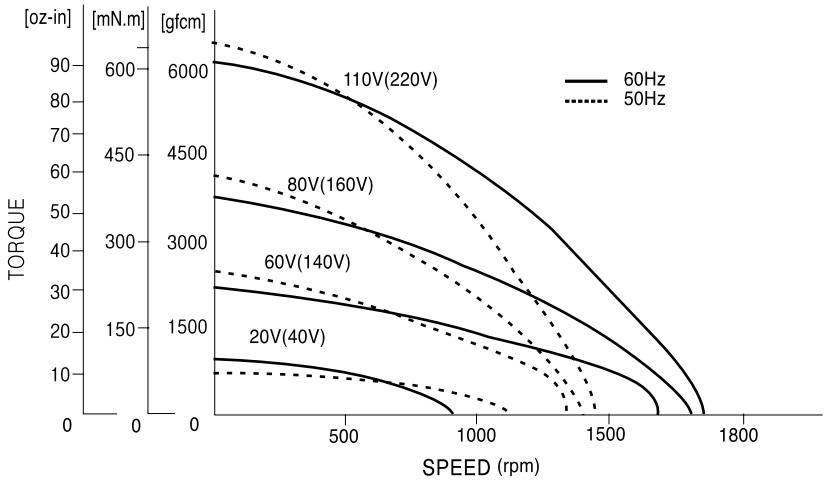
CE

Model 9TDG□-40FG : Pinion Shaft Type 9TDD□-40F : D-Cut Shaft Type		Rating at Locked Rotor	Voltage	Freq.	Starting Torque			Output		At max. ouput power						Capacitor	
										Speed	TORQUE			Current	Input		
Lead Wire Type	Terminal Box Type		VAC	Hz	gfcm	mN.m	oz-in	HP	W		gfcm	mN.m	oz-in	A	W	μF	VAC
(TP) **9TDG(D)1-40FP**	**9TDG(D)1-40FP-T**	5minutes Continuous	Single Phase 110 Single Phase 60	60	6000 2000	600 200	85 28	1/19 1/44	40 17	900	4500 1800	450 180	64 25	2.4 1.6	200 120	25	250
(TP) **9TDG(D)2-40FP**	**9TDG(D)2-40FP-T**	5minutes Continuous	Single Phase 220 Single Phase 140	60	6000 2000	600 200	85 28	1/19 1/44	40 17		4500 1800	450 180	64 25	1.2 0.8	200 120	6.5	400
(TP) **9TDG(D)C-40FP**	**9TDG(D)C-40FP-T**	5minutes Continuous	Single Phase 220 Single Phase 140	50	6100 2100	610 210	86 30	1/19 1/44	40 17	750	4500 1800	450 180	64 25	1.2 0.8	200 120	6.5	400

* Enter the 'Phase & Voltage' code in the box(□) within the motor model name.
* 'Pinion Shaft' is for attaching gearhead and 'D-Cut Shaft' is for using motor only.

(TP) : Contains a built-in thermal protector. If a motor overheats for any reason the thermal protector opened and the motor stops. When the motor temperature Drops, the thermal protector closes and the motor restarts. Be sure to turn the motor off before inspecting. By attaching F2 FAN additionally, temperature reducing of over 10℃ could be available.

Speed-Torque Characteristics (Ref.)



Permissible Torque When using gearhead

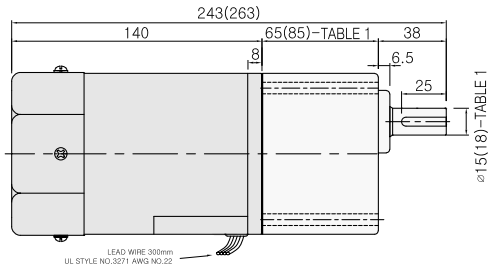
Please refer to page 30.

Dimension

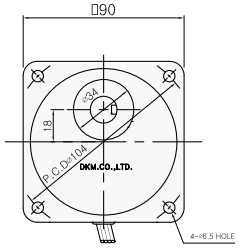
LEAD WIRE TYPE

◆ GEARED MOTOR

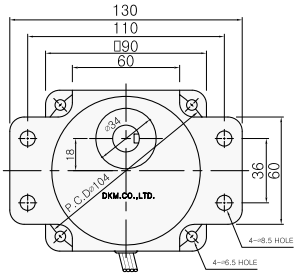
* MOTOR MODEL : 9TDG□-40FP(H) (GENERAL FAN)



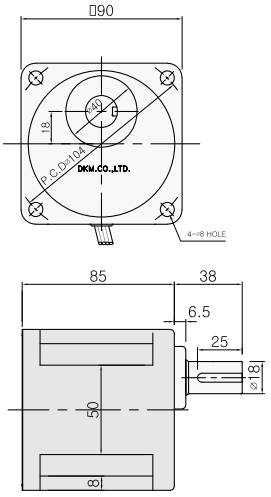
* GEARHEAD MODEL : 9PB□3BH - 9PB□180BH



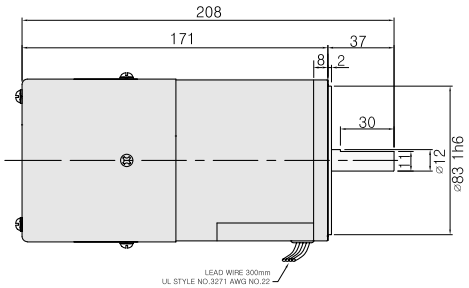
* GEARHEAD MODEL : 9PF□3BH - 9PF□180BH

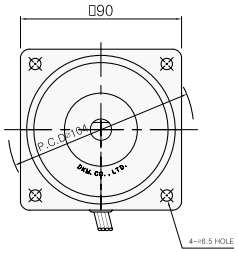


* GEARHEAD MODEL : 9HB□3BH - 9HB□180BH



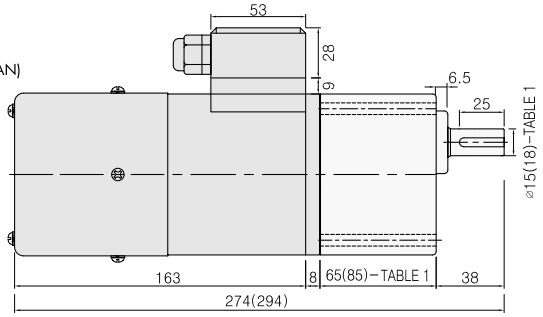
◆ MOTOR ONLY * MOTOR MODEL : 9TD□□-40F2 (POWERFUL FAN)

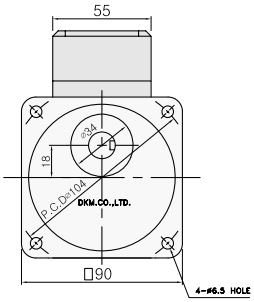




TERMINAL BOX TYPE

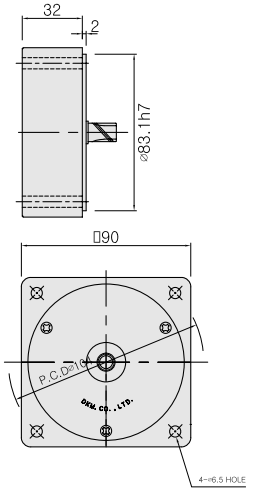
* MOTOR MODEL : 9TDG□-40F2P(H)-T (POWERFUL FAN)





◆ INTER-DECIMAL GEARHEAD

* MODEL : 9XD10M□

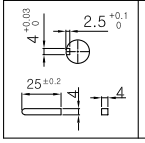
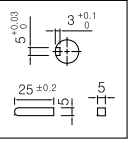


* Note : There are 2 kinds of fan type (General Fan / Powerful Fan).
Customer can choose fan type according to wanted rating time.

◆ 65(85)-TABLE1

SIZE(mm)	GEARHEAD TYPE
65 ~ ø15	P TYPE GEARHEAD
85 ~ ø18	H TYPE GEARHEAD

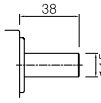
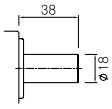
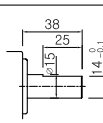
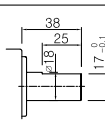
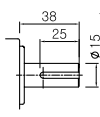
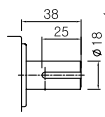
◆ KEY SPEC

MOTOR	GEARHEAD
	

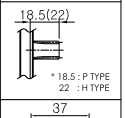
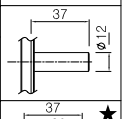
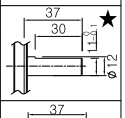
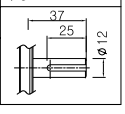
◆ WEIGHT

PART		WEIGHT(Kg)	
MOTOR		3.1	
DECIMAL GEARHEAD		0.5	
GEAR HEAD	GEARHEAD TYPE	P TYPE	H TYPE
	9P(H)□□ 3BH - 9P(H)□□9BH	1.3	1.45
	9P(H)□□ 12.5BH - 9P(H)□□18BH	1.3	1.5
	9P(H)□□ 25BH - 9P(H)□□60BH	1.4	1.7
	9P(H)□□ 90BH - 9P(H)□□180BH	1.4	1.8

◆ GEARHEAD OUTPUT

MODEL	P TYPE	H TYPE
ROUND TYPE 9P(H)□S3BH ~9P(H)□S180BH		
D-CUT TYPE 9P(H)□D3BH ~9P(H)□D180BH		
KEY TYPE 9P(H)□K3BH ~9P(H)□K180BH		

◆ MOTOR OUTPUT

MODEL	SHAFT
GEAR TYPE 9TDG□-40□ P(H)	
ROUND TYPE 9TDS□-40□	
D-CUT TYPE 9TDD□-40□	
KEY TYPE 9TDK□-40□	

* Note : Above table indicates output shaft dimension made by user' s request and ★ indicates the basic dimension in factory shipping.

Connection Diagrams

Please refer to page 135.

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SPEED CONTROL SYSTEM

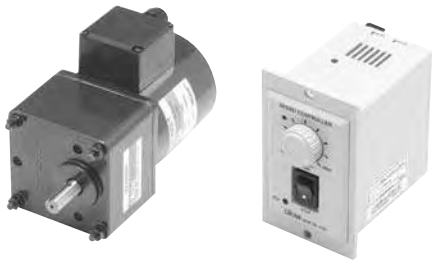
INDEX

Features of Speed Control Motor

DKM Motor allow you to easily set and adjust the speed. DKM Motor offers three kinds of AC speed control as shown below. Select the best system depending upon your application.

● DIGITAL TYPE (CONNECTOR Type / Digital Display) ..... FX1000A Series

● UNIT TYPE (CONNECTOR Type) ..... DSA Series



● SOCKET TYPE ..... DSK Series

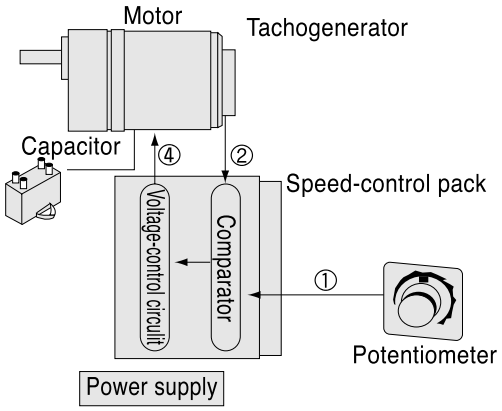
DSK Controller

DSKS Controller

Technical Reference

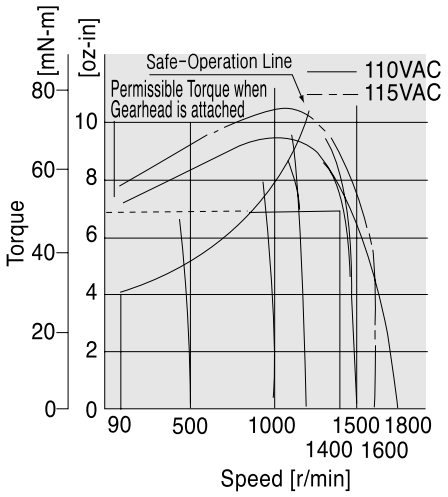
● Speed Control Methods of Speed Control Systems

① By a potentiometer, the speed setting voltage is supplied.
② The motors speed is sensed and the speed signal voltage is supplied.
③ The difference between the speed setting voltage and speed signal voltage is supplied.
④ A voltage determined by the output from the capacitor is supplied to the motor so that it will reach the set speed.



● Speed-Torque Characteristics of Speed Control Systems

The speed-torque characteristics line of all AC speed control motors characteristics is shown in the figure below.
Each set speed changes slightly according to the change in load torque.



■ Safe Operation Line and Permissible Torque When Using a Gearhead

Input power to the speed control motor depends on the load and speed. The greater the load, and the lower the speed, the greater an increase in motor temperature.In the speed-torque characteristics graph, the line is referred to as the safe operation line, while the area below the line is called the continuous operation area.
The safe operation line, measured according to motor temperature, indicates its operational limit for continuous usage with the temperature. Whether the motor can be operated at a specific torque and speed is determined by measuring the temperature of the motor case. In general, if the motor's case temperature is below 90℃ (194˚F), continuous operation is possible, considering the insulation class of motor coil winding. But the motor life could be extended with lower motor temperature. So it is recommended that the motor be used under conditions that keep the motor temperature low.
DKM has two kinds of cooling fan ; General fna (F type) and Powerful fan (F2 type). F fan is attached in motor shaft and its speed depends on the motor shaft speed. So in slow speed of motor, there is very weak cooling effect. In the application where motor speed should be changed from low speed (below 1,000 rpm) to hight speed like speed control motor, F2 fan is needed so that cooling effect keep constantly regardless of the motor speed.
In case of speed control motor and inverter motor, DKM is employing F2 type fan into them basically. ; In special application or by user' s request F type fan can be employed in speed control motor and inverter motor.
And please be advised that in all motors, F2 fan can be attached by user' s request.

Digital Type Speed Control Motor

FX1000A control system

The FX1000A series combines a control unit and AC speed Control motor. Connection between the motor and control Unit is simplified by an easy-to-use connector.

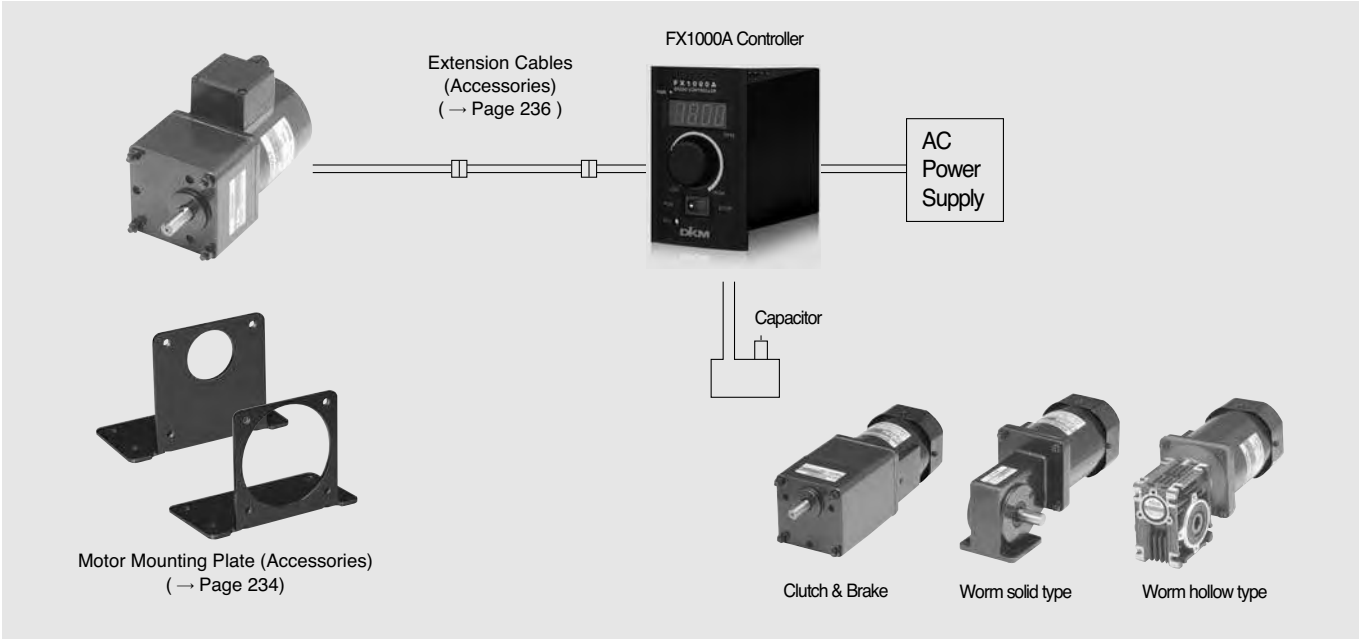
Features

- **Easy Connection**
  Control units combine the control pack, potentiometer and capacitor into one device. Operation is possible just by connecting the control unit into power supply after connecting the motor and control unit together using the connector.

- **Easy Operation**
  The speed can be set easily with the potentiometer on the front panel of the control unit.

- **DIGIRAL DISPLAY**
  The motor speed can see directly on the front panel of display of the control unit.

System Configuration



FX1000A Controller Specification

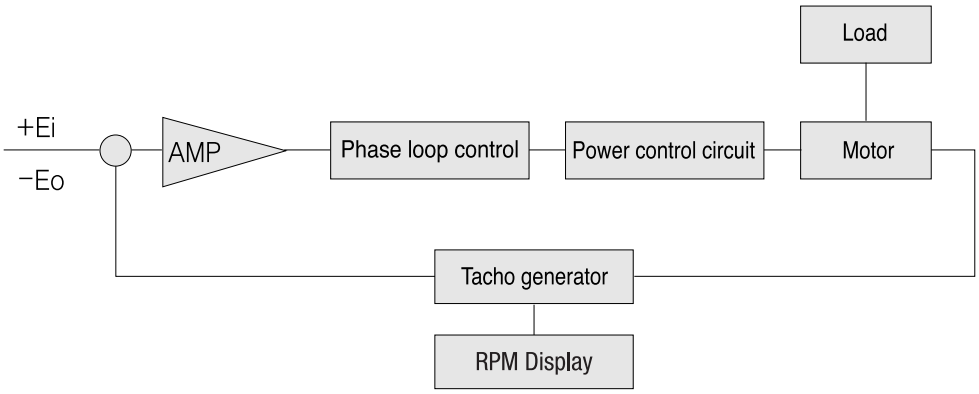
• General Specification

Item	Detail
Rated Input Voltage	220 VAC 50/60 Hz
Workable Voltage	from -15% to +10% of 220VAC
Consumption Power	Less than 4VA
Control Mode	Phase Loop Control (0 to 220 VAC)
Input Frequency	10Hz ~ 360Hz (TACHO)
Power On-Off Signal	Red color of LED
Speed Set Range	100 ~ 1750(RPM)
Ambient Temperature	from -10℃ to +55℃
Ambient Humidity	35 ~ 85% RH
Weight	300g
Dimension	60(w) x 100(h) x 92(d) mm
Insulation Resistance	100㏁ or more when 500V mega is applied between the windings and the housing after rated motor operation under normal ambient temperature and humidity
Dielectric Strenght	Sufficient to withstand 1.5KV at 50/60Hz applied between the windings and the case after rated motor operation under normal ambient temperature and humidity for 1min.
Measurement	CAT III

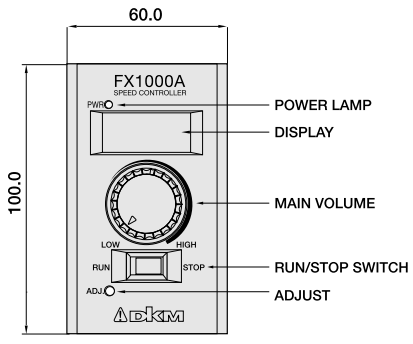
• Motor capacity / Rated Current

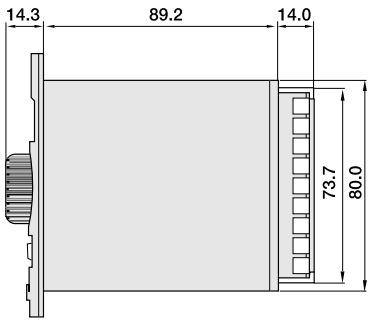
Specification	Output	Capacitor	Rated Current
7SDGC - 6G	6W	0.7uF	0.15A
7SDGC - 10G	10W	1.0uF	0.18A
8SDGC - 15G	15W	1.5uF	0.26A
8SDGC - 25G	25W	2.0uF	0.32A
9SDGC - 40G	40W	2.5uF	0.47A
9SDGC - 60F2P	60W	4.0uF	0.63A
9SDGC - 90F2P	90W	5.0uF	1.05A
9SDGC - 120F2P	120W	6.0uF	1.2A
9SDGC - 180F2P	180W	6.5uF	1.6A

● Circuit Diagram

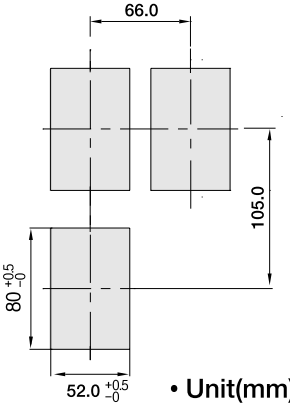


● Dimension



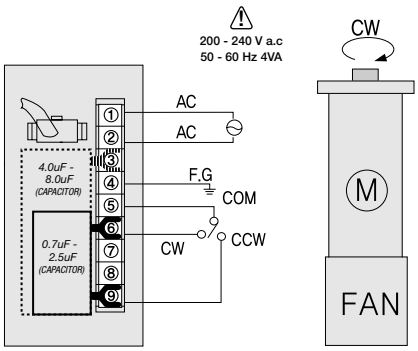


• Dimension for Panel



• Unit(mm)

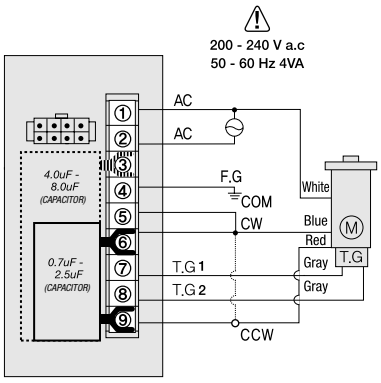
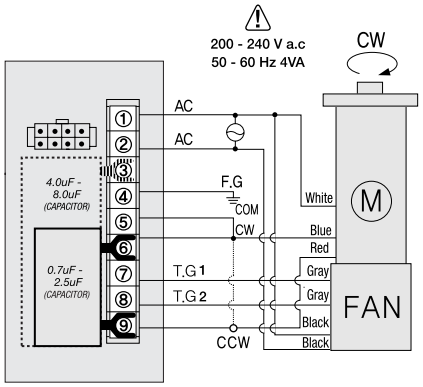
● Connector Type



∗ Operation Method : At first connect each terminal on the rear panel of the controller with the motor as instructed in connection diagram. And then input the external power to both of the terminal 'AC' for the rated speed operation. Now you can adjust the main volume on the center of front panel to control the output speed of motor as user want.

* Direction : ① CW : (CW+COM)
② CCW : (CCW+COM)
* Capacitor : Connect (9-6) or (9-3) According to it' s capacity

● Terminal Type

No Fan	Powerful Fan
	
* CW : (COM+CW) * CCW : (COM+CCW)	

Socket Type Speed Control Motor

DSK control system

The DSK control system combines a control unit and AC speed control motor. Connection between the motor and control unit is simplified by socket.

(DSK Controller)

(DSKS Controller)

Features

● Compact Speed Control Pack

It is compact speed control pack with small pulg-in (8 pin) type.

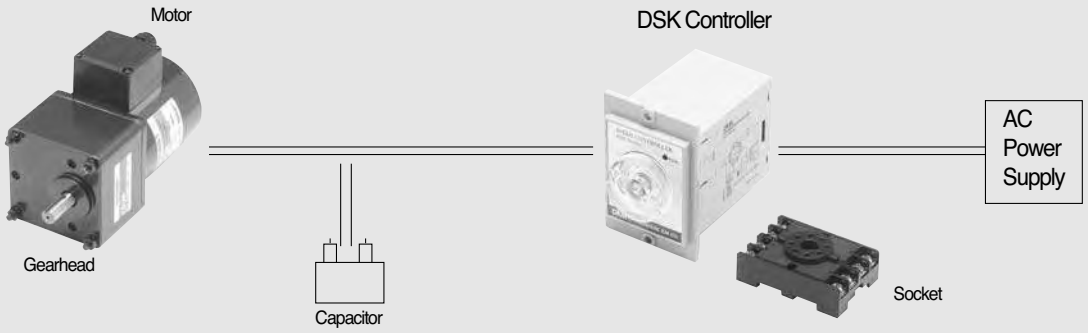
● Easy Operation

The speed can be set easily with the potentiometer on the front panel of DSK model. In case of DSKS model, the potentiometer (speed control volume) could be separated from body.

System Configuration

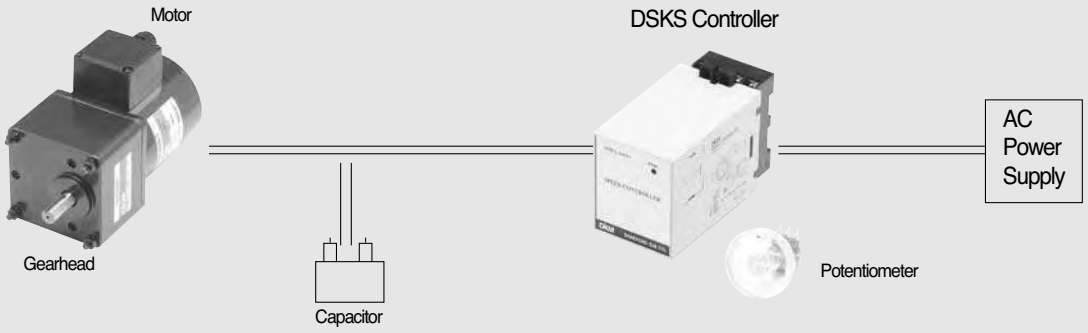
1. DSK controller

The variable resistor for speed control is installed in front of body like below



2. DSKS controller

The remote speed control is available by separate variable resistor like below.



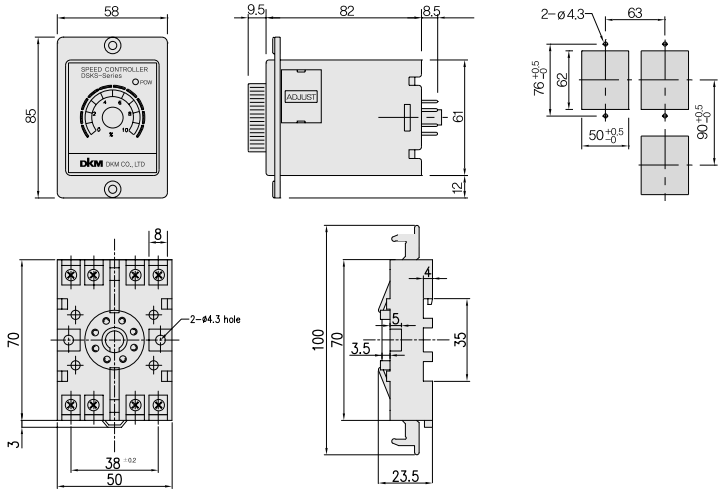
DSK(S) Controller Specification

● General Specification

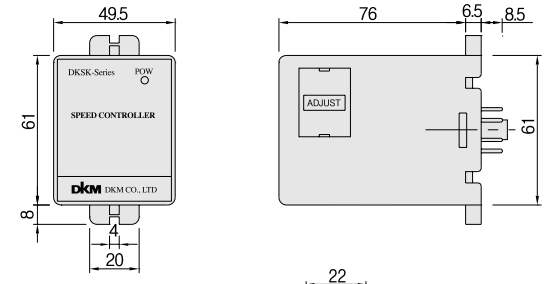
Item	Detail
Rated Input Voltage	220 VAC 50/60 Hz
Workable Voltage	from -15% to +10% of 220VAC
Consumption Power	Less than 4VA
Control Mode	Phase Loop Control (0 to 210 VAC)
Power On-Off Signal	Red color of LED
Allowed RPM Range	90 ~ 1750 RPM
Ambient Temperature	from -10℃ to +55℃
Weight	160g
Dimension	DSK (variable resistor installed) : 58(W) x 85(H) x 91(D)mm DSKS(variable resistor separated) : 49.5(W) x 77(H) x 100(D)mm
Insulation Resistance	100㏁ or more when 500V mega is applied between the windings and the housing after rated motor operation under normal ambient temperature and humidity
Dielectric Strength	Sufficient to withstand 1.5KV at 50/60Hz applied between the windings and the case after rated motor operation under normal ambient temperature and humidity for 1min

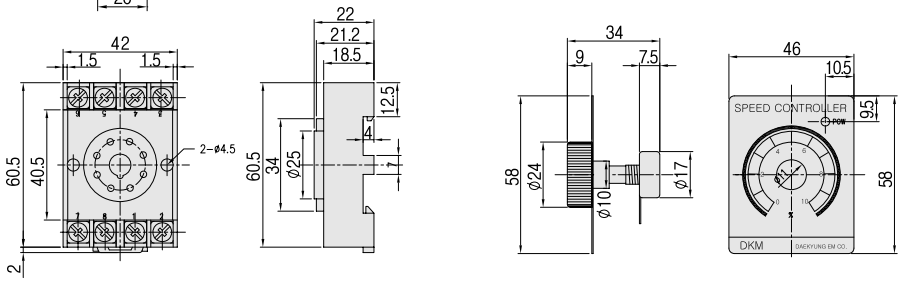
● Dimension

(1) DSK



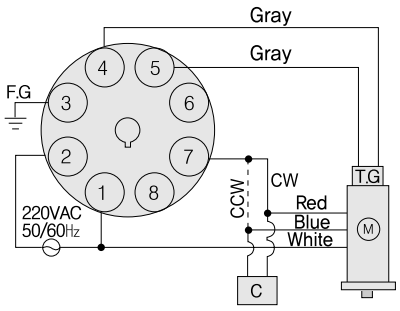
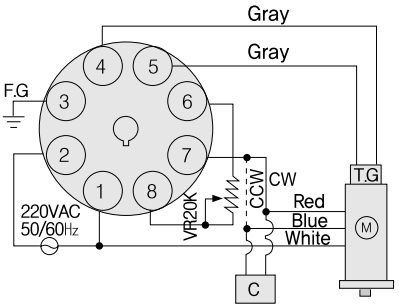
(2) DSKS





〈Socket〉 〈Potentiometer〉

• Connection Diagrams

DSK	DSKS
	

• **For CCW operation, please change Red and blue.**

■ How to Read Specifications

CE

Model 7SDG□-6G : Pinion Shaft Type 7SDS□-6 : Round Shaft Type		① Output		Voltage	Freq.	② Speed Range	Permissible Torque③						④ Starting Torque			⑤ Current	Power Consumption
							1200rpm			90rpm							
Lead Wire Type	Terminal Box Type	HP	W	VAC	Hz	rpm	gfcm	mN.m	oz-in	gfcm	mN.m	oz-in	gfcm	mN.m	oz-in	A	W
7SDG(S)A-6G	-	1/125	6	Single Phase 110	60	90~1700	360	36	5.04	200	20	2.80	400	40	5.60	0.25	70
7SDG(S)B-6G	-			Single Phase 115	60												
7SDG(S)C-6G	-			Single Phase 220	50	90~1400	432	43	6.05	240	24	3.36	480	48	6.72	0.70	73
7SDG(S)D-6G	-			Single Phase 220	60	90~1700	360	36	5.04	200	20	2.80	400	40	5.60		
7SDG(S)E-6G	-			Single Phase 230	50	90~1400	432	43	6.05	240	24	3.36	480	48	6.72		
7SDG(S)F-6G	-			Single Phase 230	60	90~1700	360	36	5.04	200	20	2.80	400	40	5.60		

① Maximum Output : This refers to the amount of work that can be performed in a given period of time with the combination of motor and control pack. It also expresses the maximum output that can be produced within the usage limit line on the speed-torque characteristics graph.

② Speed range : This refers to the range of variable speed with the combination of motor and control pack. For speed control motors, the variable speed range varies with the size of load torque.

③ Permissible torque : This refers to the maximum torque that can be produced below the safe-operation line or the permissible torque with gearhead attached at the most commonly used speeds (1200 rpm, 90 rpm).

④ Starting torque : This refers to the size of torque that can be produced instantaneously at motor start-up with the combination of motor and control pack.

⑤ Current : This refers to the current sent into the control pack at the maximum output.

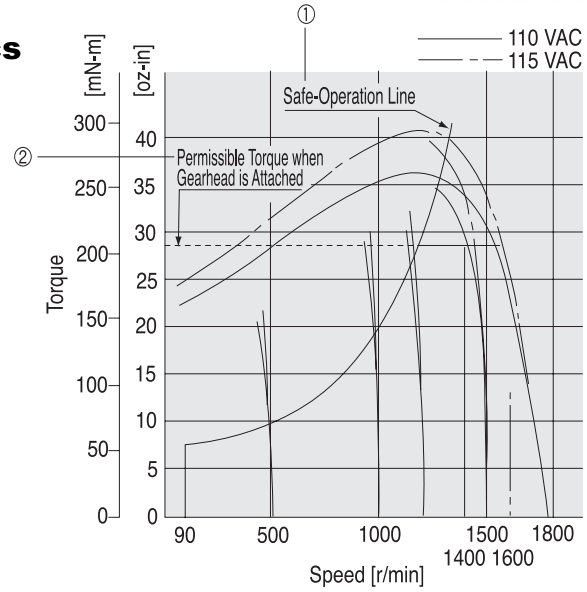
How to Read Speed-Torque Characteristics

① Safe-operation line

The safe-operation line, measured by the motor' s temperature, indicates its operational limit for continuous usage with the temperature level below the permissible maximum (In case of using a reversible motor, it is measured by 30 minutes operation.) Whether the motor can be operated continuously or not, is judged by measuring the temperature of the motor case. When the temperature of the case is below 90℃ (194˚F), the motor is capable of continuous operation.

② Permissible torque when gearhead is attached :

When using a gearhead, be aware that it is necessary to operate below the maximum permissible torque. If the actual torque required should exceed the maximum permissible torque, it may cause possible damage to the motor and/or may shorten its life span.



General Specifications

Item	Specifications
Insulation Resistance	100 ㏁ or more when 500 VDC is applied between the windings and the frame after rated motor opeation under normal ambient temperature and humidity.
Dielectric Strength	Sufficient to withstand 1.5 KV at 50 Hz and 60 Hz 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℃ (144˚F) or less measured by the resistance change method after rated motor operation with connecting a gearhead or equivalent heat radiation plate. [Three-Phase 6W type : 70℃ (126˚F)]
Insulation Class	Class B [130℃ (266˚F)]
Overheat Protection	In single-phase 50Hz, the thermal protector is built in. (Automatic return type) In case of others, it can be built by order. Operating temperature, open : 130℃ ± 5℃ (266℃ ±9˚F) close : 82℃ ± 15℃ (179.6˚F ± 27˚F)
Ambient Temperture Range	-10℃ ~ + 40℃ (14˚F ~ 104˚F) (nonfreezing)
Ambient Humidity	85% maximum (noncondensing)

Speed Control Motor Line-Up

Frame size □mm (in.)	Output W	Type	Power (Voltage)					Page
			Single phase		Three phase			
			100/110/115V	200/220/230V	200/220/230V	380 V	440V	
70(2.76)	6	Lead Wire Terminal box	● -	● -	- -	- -	- -	153
	10	Lead Wire Terminal box	● -	● -	- -	- -	- -	155
80(3.15)	15	Lead Wire Terminal box	● ●	● ●	- -	- -	- -	157
	25	Lead Wire Terminal box	● ●	● ●	- -	- -	- -	159
90(3.54)	40	Lead Wire Terminal box	● ●	● ●	- -	- -	- -	161
	60	Lead Wire Terminal box	● ●	● ●	- -	- -	- -	163
	90	Lead Wire Terminal box	● ●	● ●	- -	- -	- -	165
	120	Lead Wire Terminal box	● ●	● ●	- -	- -	- -	168
	180	Lead Wire Terminal box	- -	● ●	- -	- -	- -	171

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SPEED CONTROL MOTOR
6W

□70mm(2.76in.)

LEAD WIRE TYPE

DSA

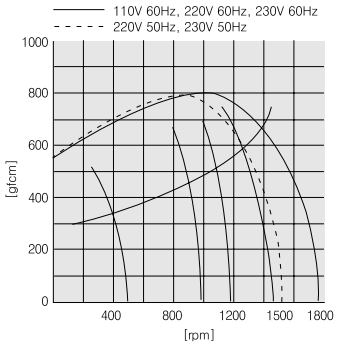
DSK

Motor Specification

Model 7SDG□-6G : Pinion Shaft Type 7SDS□-6 : Round Shaft Type		Output		Voltage	Freq.	Speed Range	Permissible Torque						Starting Torque			Current	Condenser	
							1200rpm			90rpm								
Lead Wire Type	Terminal Box Type	HP	W	VAC	Hz	rpm	gfcm	mN.m	oz-in	gfcm	mN.m	oz-in	gfcm	mN.m	oz-in	A	μF	V
(TP) 7SDG(S)A-6G	-	1/125	6	Single Phase 110	60	90~1700	500	50	7.0	300	30	4.2	400	40	5.6	0.25	2.5	250
(TP) 7SDG(S)B-6G	-			Single Phase 115	60													
(TP) 7SDG(S)C-6G	-			Single Phase 220	50	90~1400	500	50	7.0	300	30	4.2	400	40	5.6	0.15	0.7	400
(TP) 7SDG(S)D-6G	-			Single Phase 220	60	90~1700												
(TP) 7SDG(S)E-6G	-			Single Phase 230	50	90~1400												
(TP) 7SDG(S)F-6G	-			Single Phase 230	60	90~1700												

* Enter the 'Phase & Voltage' code in the box(□) within the motor model name.
* 'Pinion Shaft' is for attaching gearhead and 'Round Shaft' is for using motor only.
(TP) : Contains a built-in thermal protector. If a motor overheats for any reason the thermal protector opened and the motor stops. When the motor temperature Drops, the thermal protector closes and the motor restarts. Be sure to turn the motor off before inspecting. By attaching F2 FAN additionally, temperature reducing of over 10℃ could be available.

Speed-Torque Characteristics



Permissible Torque When using gearhead

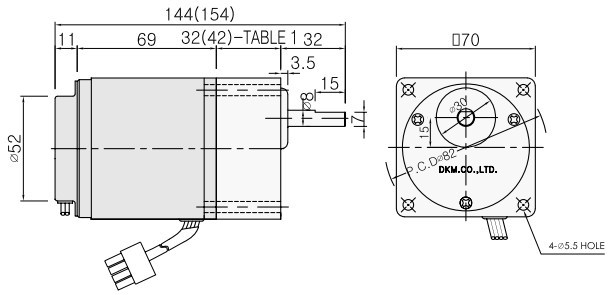
Motor/Gearhead	rpm	Voltage	Gear Ratio	3	3.6	5	6	7.5	9	12.5	15	18	25	30	36	40	50	60	75	90	100	120	150	180
7SDG□-6G / 7GBD□BMH	1200	110/115	kgf cm	1.2	1.5	2.0	2.4	3.0	3.6	5.1	6.1	7.3	9	11	13	15	17	20	25	30	30	30	30	30
			N.m	0.12	0.15	0.20	0.24	0.30	0.36	0.51	0.61	0.73	0.91	1.1	1.3	1.5	1.7	2.0	2.5	3	3	3	3	3
			lb-in	1.06	1.32	1.77	2.1	2.6	3.2	4.5	5.4	6.4	8.0	9.7	11.5	13.2	15	18	22	26	26	26	26	26
		220/230	kgf cm	1.2	1.5	2.0	2.4	3.0	3.6	5.1	6.1	7.3	9	11	13	15	17	20	25	30	30	30	30	30
			N.m	0.12	0.15	0.20	0.24	0.30	0.36	0.51	0.61	0.73	0.91	1.1	1.3	1.5	1.7	2.0	2.5	3	3	3	3	3
			lb-in	1.06	1.32	1.77	2.1	2.6	3.2	4.5	5.4	6.4	8.0	9.7	11.5	13.2	15	18	22	26	26	26	26	26
	90	110/115	kgf cm	0.7	0.8	1.2	1.4	1.8	2.1	3	3.5	4.2	5.5	6.4	7.6	8.5	10	11	15	17	20	23	30	30
			N.m	0.07	0.08	0.12	0.14	0.18	0.21	0.30	0.35	0.42	0.55	0.64	0.76	0.85	0.99	1.1	1.5	1.7	2.0	2.3	3	3
			lb-in	0.62	0.71	1.1	1.2	1.6	1.9	2.6	3.1	3.7	4.9	5.7	6.7	7.5	9	10	13	15	18	20	26	26
		220/230	kgf cm	0.7	0.8	1.2	1.4	1.8	2.1	3	3.5	4.2	5.5	6.4	7.6	8.5	10	11	15	17	20	23	30	30
			N.m	0.07	0.08	0.12	0.14	0.18	0.21	0.30	0.35	0.42	0.55	0.64	0.76	0.85	0.99	1.1	1.5	1.7	2.0	2.3	3	3
			lb-in	0.62	0.71	1.1	1.2	1.6	1.9	2.6	3.1	3.7	4.9	5.7	6.7	7.5	9	10	13	15	18	20	26	26

* Enter the gear ratio in the box (□) within the model name. A colored background indicates gear shaft rotation in the same direction as the motor shaft ; a white background indicates rotation in the opposite direction.
* The speed is calculated by dividing the motor's synchronous speed (50Hz : 1500 r/min, 60 Hz : 1800 r/min) by the gear ratio.
* The actual speed is 2~20% less than the displayed value, depending on the size of the load.

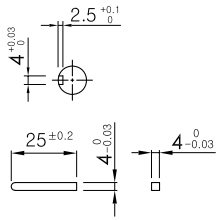
Dimension

◆ GEARED MOTOR

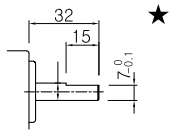
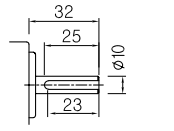
* MOTOR MODEL : 7SDG□-6G (NO FAN)
* GEARHEAD MODEL : 7GB □ 3BMH - 7GB □ 180BMH



◆ KEY SPEC

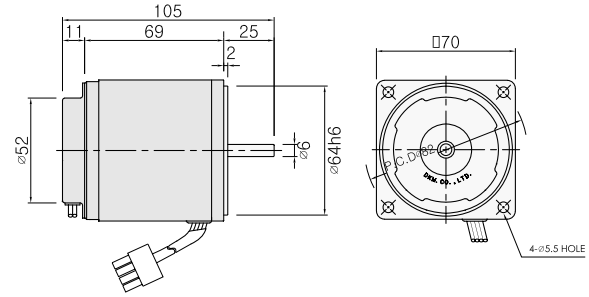


◆ GEARHEAD 출력축 사양

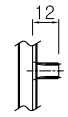
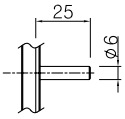
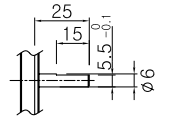
MODEL	출력축 구분
D-CUT TYPE	
7GBD3BMH ~7GBD180BMH	
KEY TYPE	
7GBK3BMH ~7GBK180BMH	

◆ MOTOR ONLY

* MOTOR MODEL : 7SD□□-6 (NO FAN)



◆ MOTOR OUTPUT

MODEL	SHAFT
GEAR TYPE	
7SDG□-6G	
ROUND TYPE	
7SDS□-6	
D-CUT TYPE	
7SDD□-6	

◆ WEIGHT

PART		WEIGHT(Kg)
MOTOR		0.93
GEAR HEAD	7GB□ 3BMH - 7GB □ 18BMH	0.36
	7GB□ 25BMH - 7GB □ 30BMH	0.44
	7GB□ 36BMH - 7GB □ 180BMH	0.5

◆ 32(42)-TABLE 1

SIZE(mm)	GEAR RATIO
32	7GB□ 3BMH - 7GB □ 18BMH
42	7GB□ 25BMH - 7GB □ 180BMH

* Note : Above table indicates output shaft dimension made by user' s request and ★ indicates the basic dimension in factory shipping.

Connection Diagrams

Please refer to page 148, 151.

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SPEED CONTROL MOTOR
10W

□70mm(2.76in.)

LEAD WIRE TYPE

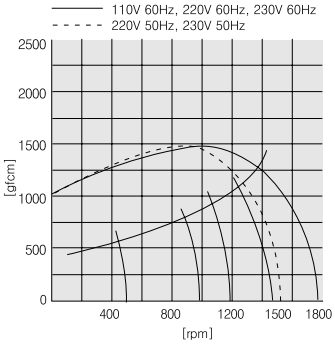
DSA

DSK

Motor Specification

Model 7SDG□-10G : Pinion Shaft Type 7SDS□-10 : Round Shaft Type		Output		Voltage	Freq.	Speed Range	Permissible Torque						Starting Torque			Current	Condenser	
							1200rpm			90rpm								
Lead Wire Type	Terminal Box Type	HP	W	VAC	Hz	rpm	gfcm	mN.m	oz-in	gfcm	mN.m	oz-in	gfcm	mN.m	oz-in	A	μF	V
(TP) **7SDG(S)A-10G**	-	1/75	10	Single Phase 110	60	90~1700	800	80	11.2	380	38	5.3	500	50	7.0	0.30	3.0	250
(TP) **7SDG(S)B-10G**	-			Single Phase 115	60													
(TP) **7SDG(S)C-10G**	-			Single Phase 220	50	90~1400	800	80	11.2	380	38	5.3	500	50	7.0	1.00	1.0	400
(TP) **7SDG(S)D-10G**	-			Single Phase 220	60	90~1700												
(TP) **7SDG(S)E-10G**	-			Single Phase 230	50	90~1400												
(TP) **7SDG(S)F-10G**	-			Single Phase 230	60	90~1700												

* Enter the 'Phase & Voltage' code in the box(□) within the motor model name.
* 'Pinion Shaft' is for attaching gearhead and 'Round Shaft' is for using motor only.
(TP) : Contains a built-in thermal protector. If a motor overheats for any reason the thermal protector opened and the motor stops. When the motor temperature Drops, the thermal protector closes and the motor restarts. Be sure to turn the motor off before inspecting. By attaching F2 FAN additionally, temperature reducing of over 10℃ could be available.



Permissible Torque When using gearhead

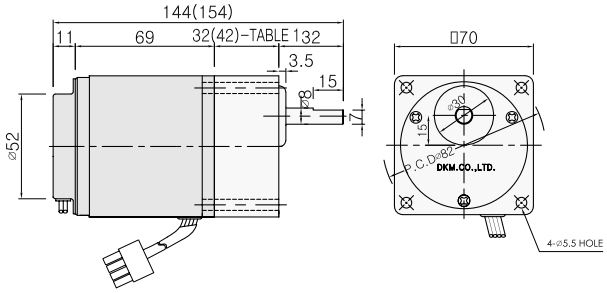
Motor/Gearhead	rpm	Voltage	Gear Ratio	3	3.6	5	6	7.5	9	12.5	15	18	25	30	36	40	50	60	75	90	100	120	150	180
7SDG□-10G / 7GBD□BMH	1200	110/115 60Hz	kgf·cm	1.5	1.9	2.5	3.2	4.0	4.9	6.7	8.0	9.7	13	16	23	25	30	35	40	40	40	40	40	40
			N.m	0.15	0.15	0.25	0.3	0.4	0.5	0.7	0.8	1.0	1.3	1.6	2.3	2.5	3.0	3.5	4	4	4	4	4	4
			lb-in	1.32	1.32	2.21	2.8	3.5	4.3	5.9	7.1	8.6	11.5	14.1	20.3	22.1	26	31	35	35	35	35	35	35
		220/230 60Hz	kgf·cm	1.5	1.9	2.5	3.2	4.0	4.9	6.7	8.0	9.7	13	16	23	25	30	35	40	40	40	40	40	40
			N.m	0.15	0.15	0.25	0.3	0.4	0.5	0.7	0.8	1.0	1.3	1.6	2.3	2.5	3.0	3.5	4	4	4	4	4	4
			lb-in	1.32	1.32	2.21	2.8	3.5	4.3	5.9	7.1	8.6	11.5	14.1	20.3	22.1	26	31	35	35	35	35	35	35
		220/230 50Hz	kgf·cm	1.8	2.3	3.0	3.8	4.8	5.9	8.0	9.6	11.6	15.6	19	28	30	36	40	40	40	40	40	40	40
			N.m	0.18	0.18	0.30	0.4	0.5	0.6	0.8	1.0	1.2	1.6	1.9	2.8	3.0	3.6	4	4	4	4	4	4	4
			lb-in	1.59	2.65	3.4	4.2	5.2	5.9	8.5	10.3	13.8	17.0	24.4	26.5	32	35	35	35	35	35	35	35	35
	90	110/115 60Hz	kgf·cm	1.1	1.3	1.8	2.2	2.7	3.3	4.6	5.5	6.6	8.2	9.9	12	14	15	18	22	27	30	36	40	40
			N.m	0.11	0.13	0.2	0.2	0.3	0.3	0.5	0.6	0.7	0.8	1.0	1.2	1.4	1.5	1.8	2.2	2.7	3.0	3.6	4	4
			lb-in	1.0	1.1	1.6	1.9	2.4	2.9	4.1	4.9	5.8	7.2	8.7	10.6	12.4	13	16	19	24	26	32	35	35
		220/230	kgf·cm	0.85	1.0	1.4	1.7	2.1	2.6	3.5	4.3	5.1	6	8	9	10	12	14	17	21	23	28	35	40
			N.m	0.09	0.10	0.14	0.2	0.2	0.3	0.4	0.4	0.5	0.6	0.8	0.9	1.0	1.2	1.4	1.7	2.1	2.3	2.8	3.5	4
			lb-in	0.8	0.9	1.2	1.5	1.9	2.3	3.1	3.8	4.5	5.7	6.8	8.1	8.8	11	12	15	19	20	25	31	35

* Enter the gear ratio in the box (□) within the model name. A colored background indicates gear shaft rotation in the same direction as the motor shaft ; a white background indicates rotation in the opposite direction.
* The speed is calculated by dividing the motor's synchronous speed (50Hz : 1500 r/min, 60 Hz : 1800 r/min) by the gear ratio.
* The actual speed is 2~20% less than the displayed value, depending on the size of the load.

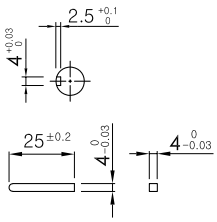
Dimension

◆ GEARED MOTOR

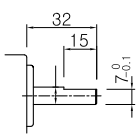
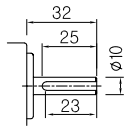
* MOTOR MODEL : 7SDG□-10G (NO FAN)
* GEARHEAD MODEL : 7GB□3BMH - 7GB□180BMH



◆ KEY SPEC

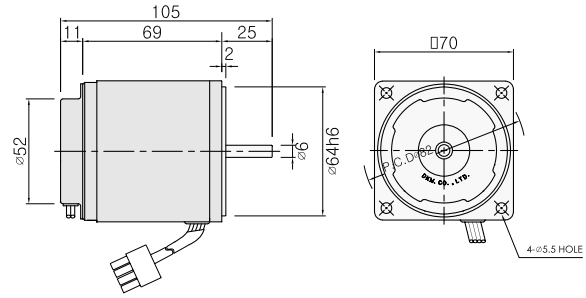


◆ GEARHEAD 출력축 사양

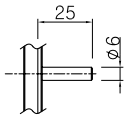
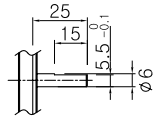
MODEL	출력축 구분
D-CUT TYPE	
7GBD3BMH ~7GBD180BMH	
KEY TYPE	
7GBK3BMH ~7GBK180BMH	

◆ MOTOR ONLY

* MOTOR MODEL : 7SD□□-10 (NO FAN)



◆ MOTOR OUTPUT

MODEL	SHAFT
GEAR TYPE	
7SDG□-10G	
ROUND TYPE	
7SDS□-10	
D-CUT TYPE	
7SDD□-10	

◆ 32(42)-TABLE 1

SIZE(mm)	GEAR RATIO
32	7GB□3BMH - 7GB□18BMH
42	7GB□25BMH - 7GB□180BMH

◆ WEIGHT

PART		WEIGHT(Kg)
MOTOR		0.93
GEAR HEAD	7GB□3BMH - 7GB□18BMH	0.36
	7GB□25BMH - 7GB□30BMH	0.44
	7GB□36BMH - 7GB□180BMH	0.5

* Note : Above table indicates output shaft dimension made by user's request and ★ indicates the basic dimension in factory shipping.

Connection Diagrams

Please refer to page 148, 151.

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SPEED CONTROL MOTOR
15W

□80mm(2.76in.)

LEAD WIRE TYPE

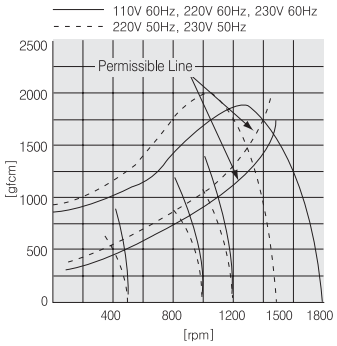
DSA

DSK

Motor Specification

Model 8SDG□-15G : Pinion Shaft Type 8SDS□-15 : Round Shaft Type		Output		Voltage	Freq.	Speed Range	Permissible Torque						Starting Torque			Current	Condenser	
							1200rpm			90rpm								
Lead Wire Type	Terminal Box Type	HP	W	VAC	Hz	rpm	gfcm	mN.m	oz-in	gfcm	mN.m	oz-in	gfcm	mN.m	oz-in	A	μF	V
(TP) 8SDG(S)A-15G	8SDG(S)A-15G-T	1/75	10	Single Phase 110	60	90~1700	1250	125	17.5	450	45	6.3	550	55	7.7	0.42	3.5	250
(TP) 8SDG(S)B-15G	8SDG(S)B-15G-T			Single Phase 115	60													
(TP) 8SDG(S)C-15G	8SDG(S)C-15G-T			Single Phase 220	50	90~1400	1260	126	17.6	350	35	4.9	550	55	7.7	0.26	1.5	400
(TP) 8SDG(S)D-15G	8SDG(S)D-15G-T			Single Phase 220	60	90~1700	1050	105	14.7									
(TP) 8SDG(S)E-15G	8SDG(S)E-15G-T			Single Phase 230	50	90~1400	1260	126	17.6									
(TP) 8SDG(S)F-15G	8SDG(S)F-15G-T			Single Phase 230	60	90~1700	1050	105	14.7									

* Enter the 'Phase & Voltage' code in the box(□) within the motor model name.
* 'Pinion Shaft' is for attaching gearhead and 'Round Shaft' is for using motor only.
(TP) : Contains a built-in thermal protector. If a motor overheats for any reason the thermal protector opened and the motor stops. When the motor temperature Drops, the thermal protector closes and the motor restarts. Be sure to turn the motor off before inspecting. By attaching F2 FAN additionally, temperature reducing of over 10℃ could be available.



Permissible Torque When using gearhead

Motor/Gearhead	rpm	Voltage	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	250	300	360
8SDG□-15G/ 8GBK□BMH	1200	110/115 60Hz	kgf cm	3.0	3.6	5.1	6.1	7.6	9.1	13	15	18	23	27	33	36	41	50	50	50	50	50	50	50	50	50	50
			N.m	0.3	0.36	0.51	0.61	0.76	0.91	1.30	1.50	1.80	2.3	2.7	3.3	3.6	4.1	5	5	5	5	5	5	5	5	5	5
			lb-in	2.6	3.2	4.5	5.4	6.7	8.0	11.5	13.2	15.9	20	24	29	32	36	44	44	44	44	44	44	44	44	44	44
		220 60Hz	kgf cm	2.1	2.5	3.4	4.1	5.2	6.2	8.6	10	12	16	19	22	25	28	34	42	50	50	50	50	50	50	50	50
			N.m	0.21	0.25	0.34	0.41	0.52	0.62	0.86	1.0	1.2	1.6	1.9	2.2	2.5	2.8	3.4	4.2	5	5	5	5	5	5	5	5
			lb-in	1.9	2.2	3.0	3.6	4.6	5.5	7.6	8.8	10.6	14	17	19	22	25	30	37	44	44	44	44	44	44	44	44
		230 50Hz	kgf cm	3.0	3.6	5.1	6.1	7.6	9.1	13	15	18	23	27	33	36	41	50	50	50	50	50	50	50	50	50	50
			N.m	0.3	0.36	0.51	0.61	0.76	0.91	1.30	1.50	1.80	2.3	2.7	3.3	3.6	4.1	5	5	5	5	5	5	5	5	5	5
			lb-in	2.6	3.2	4.5	5.4	6.7	8.0	11.5	13.2	15.9	20	24	29	32	36	44	44	44	44	44	44	44	44	44	44
		230 60Hz	kgf cm	2.6	3.1	4.3	5.1	6.4	7.7	11	13	15	19.0	23	28	31	35	42	50	50	50	50	50	50	50	50	50
			N.m	0.26	0.31	0.43	0.51	0.64	0.77	1.10	1.30	1.50	1.9	2.3	2.8	3.1	3.5	4.2	5	5	5	5	5	5	5	5	5
			lb-in	2.30	2.7	3.8	4.5	5.7	6.8	9.4	11.5	13.2	17	20	25	27	31	37	44	44	44	44	44	44	44	44	44
	90	110/115 60Hz	kgf cm	1.1	1.3	1.8	2.2	2.7	3.3	4.6	5.5	6.6	8.2	9.9	12	14	15	18	22	27	30	36	45	50	50	50	50
			N.m	0.11	0.13	0.18	0.22	0.27	0.33	0.46	0.55	0.66	0.82	0.99	1.2	1.4	1.5	1.8	2.2	2.7	3.0	3.6	4.5	5	5	5	5
			lb-in	1.0	1.1	1.6	1.9	2.4	2.9	4.1	4.9	5.8	7.2	8.7	10.6	12.4	13	16	19	24	26	32	40	44	44	44	44
		220/230 50Hz	kgf cm	0.85	1.0	1.4	1.7	2.1	2.6	3.5	4.3	5.1	6	8	9	10	12	14	17	21	23	28	35	42	50	50	50
			N.m	0.09	0.10	0.14	0.17	0.21	0.26	0.35	0.43	0.51	0.64	0.77	0.92	1.0	1.2	1.4	1.7	2.1	2.3	2.8	3.5	4.2	5	5	5
			lb-in	0.8	0.9	1.2	1.5	1.9	2.3	3.1	3.8	4.5	5.7	6.8	8.1	8.8	11	12	15	19	20	25	31	37	44	44	44

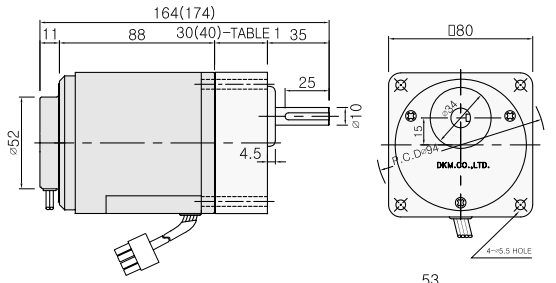
* Enter the gear ratio in the box (□) within the model name. A colored background indicates gear shaft rotation in the same direction as the motor shaft ; a white background indicates rotation in the opposite direction.
* The speed is calculated by dividing the motor's synchronous speed (50Hz : 1500 r/min, 60 Hz : 1800 r/min) by the gear ratio.
* The actual speed is 2~20% less than the displayed value, depending on the size of the load.
* If more slow speed is needed than above value, use decimal gearhead with a gear ratio of 10:1 could be used between general gearhead and motor. Even in this case, just speed will be reduced without increase in permissible torque; the maximum permissible torque is 50kgfcm (5N.m, 44lb-in).

Dimension

LEAD WIRE TYPE

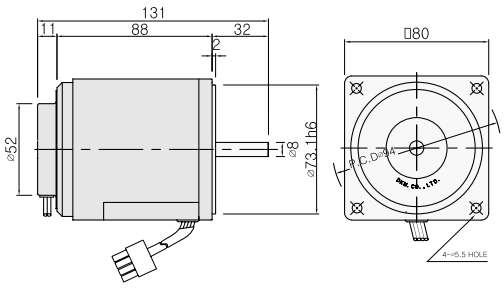
◆ GEARED MOTOR

* MOTOR MODEL : 8SDG□-15G (NO FAN)
* GEARHEAD MODEL : 8GB □3BMH - 8GB □360BMH



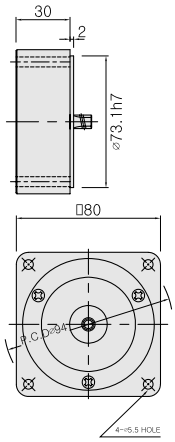
◆ MOTOR ONLY

* MOTOR MODEL : 8SD□□-15 (NO FAN)



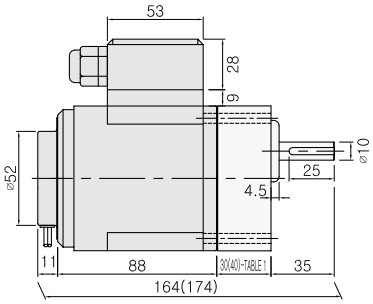
◆ INTER-DECIMAL GEARHEAD

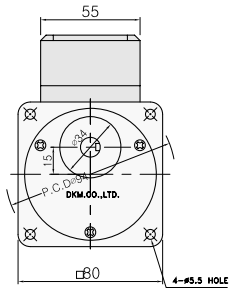
* MODEL : 8XD10M□



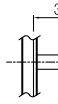
TERMINAL BOX TYPE

* MOTOR MODEL :
8SDG□-15G-T (NO FAN)

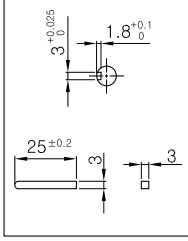
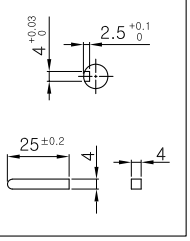




◆ MOTOR OUTPUT

MODEL	SHAFT
GEAR TYPE 8SDG□-15G	
ROUND TYPE 8SDS□-15	 ★
D-CUT TYPE 8SDD□-15	
KEY TYPE 8SDK□-15	

◆ KEY SPEC

MOTOR	GEARHEAD
	

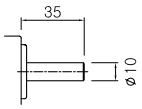
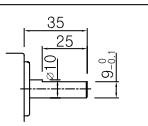
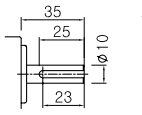
◆ 30(40)-TABLE1

SIZE(mm)	GEAR RATIO
30	8GB□3BMH - 8GB□18BMH
40	8GB□25BMH - 8GB□360BMH

◆ WEIGHT

PART		WEIGHT(Kg)
MOTOR		1.7
DECIMAL GEARHEAD		0.44
GEAR HEAD	8GB□3BMH - 8GB□18BMH	0.48
	8GB□25BMH - 8GB□30BMH	0.61
	8GB□36BMH - 8GB□180BMH	0.67
	8GB□200BMH - 8GB□360BMH	0.63

◆ GEARHEAD OUTPUT

MODEL	SHAFT
ROUND TYPE 8GBS3BMH ~8GBS360BMH	
D-CUT TYPE 8GBD3BMH ~8GBD360BMH	
KEY TYPE 8GBK3BMH ~8GBK360BMH	 ★

* Note : Above table indicates output shaft dimension made by user's request and ★ indicates the basic dimension in factory shipping.

Connection Diagrams

Please refer to page 148, 151.

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SPEED CONTROL MOTOR
25W

□80mm(2.76in.)

LEAD WIRE TYPE

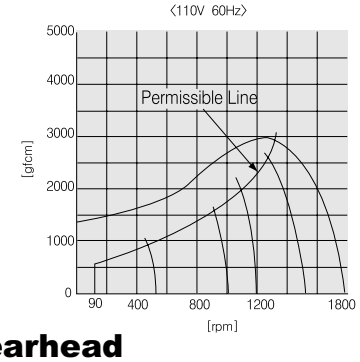
DSA

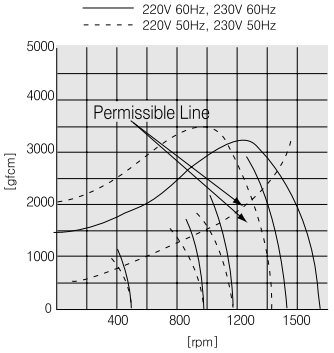
DSK

Motor Specification

Model 8SDG□-25G : Pinion Shaft Type 8SDS□-25 : Round Shaft Type		Output		Voltage	Freq.	Speed Range	Permissible Torque						Starting Torque			Current	Condenser	
							1200rpm			90rpm								
Lead Wire Type	Terminal Box Type	HP	W	VAC	Hz	rpm	gfcm	mN.m	oz-in	gfcm	mN.m	oz-in	gfcm	mN.m	oz-in	A	μF	V
(TP) 8SDG(S)A-25G	8SDG(S)A-25G-T	1/30	25	Single Phase 110	60	90~1700	2000	200	28.0	500	50	7.0	1050	105	14.7	0.60	6.0	250
(TP) 8SDG(S)B-25G	8SDG(S)B-25G-T			Single Phase 115	60													
(TP) 8SDG(S)C-25G	8SDG(S)C-25G-T			Single Phase 220	50	90~1400	1900	190	26.6	430	43	6.0	870	87	12.2	0.30	2.0	400
(TP) 8SDG(S)D-25G	8SDG(S)D-25G-T			Single Phase 220	60	90~1700	1300	130	18.2	430	43	6.0						
(TP) 8SDG(S)E-25G	8SDG(S)E-25G-T			Single Phase 230	50	90~1400	1900	190	26.6	470	47	6.6						
(TP) 8SDG(S)F-25G	8SDG(S)F-25G-T			Single Phase 230	60	90~1700	1300	130	18.2	430	43	6.0						

* Enter the 'Phase & Voltage' code in the box(□) within the motor model name.
* 'Pinion Shaft' is for attaching gearhead and 'Round Shaft' is for using motor only.
(TP) : Contains a built-in thermal protector. If a motor overheats for any reason the thermal protector opened and the motor stops. When the motor temperature Drops, the thermal protector closes and the motor restarts. Be sure to turn the motor off before inspecting. By attaching F2 FAN additionally, temperature reducing of over 10℃ could be available.





Permissible Torque When using gearhead

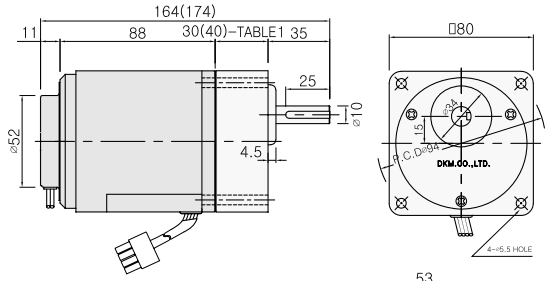
Motor/Gearhead	rpm	Voltage	Gear Ratio	3	3.6	5	6	7.5	9	12.5	15	18	25	30	36	40	50	60	75	90	100	120	150	180	250	300	360
8SDG□-25G/ 8GBK□BMH	1200	110/115 60Hz	kgf cm	4.9	5.8	8.1	9.7	12	15	20	24	29	37	44	53	58	66	79	80	80	80	80	80	80	80	80	80
			N.m	0.49	0.58	0.81	0.97	1.20	1.50	2.00	2.40	2.90	3.70	4.4	5.3	5.8	6.6	7.9	8	8	8	8	8	8	8	8	8
			lb-in	4.33	5.12	7.2	8.6	10.6	13.2	17.7	21.2	25.6	33	39	47	51	58	70	71	71	71	71	71	71	71	71	71
		220/230 60Hz	kgf cm	3.2	3.8	5.3	6.3	7.9	9.5	13	16	19	24	28	34	39	43	51	64	77	80	80	80	80	80	80	80
			N.m	0.32	0.38	0.53	0.63	0.79	0.95	1.3	1.6	1.9	2.4	2.8	3.4	3.9	4.3	5.1	6.4	7.7	8	8	8	8	8	8	8
			lb-in	2.8	3.4	4.7	5.6	7.0	8.4	11.5	14.1	16.8	21	25	30	34	38	45	57	68	71	71	71	71	71	71	71
		220/230 50Hz	kgf cm	4.6	5.5	7.7	9.2	12	14	19	23	28	35	42	50	57	63	75	80	80	80	80	80	80	80	80	80
			N.m	0.46	0.55	0.77	0.92	1.2	1.4	1.9	2.3	2.8	3.5	4.2	5.0	5.7	6.3	7.5	8	8	8	8	8	8	8	8	8
			lb-in	4.06	4.86	6.8	8.1	10.6	12.4	16.8	20.3	24.7	31	37	44	50	56	66	71	71	71	71	71	71	71	71	71
		110/115 60Hz	kgf cm	1.2	1.5	2	2.4	3	3.6	5.1	6.1	7.3	9.1	11	13	15	17	20	25	30	33	40	50	59	65	80	80
			N.m	0.12	0.15	0.20	0.24	0.30	0.36	0.51	0.61	0.73	0.91	1.1	1.3	1.5	1.7	2.0	2.5	3.0	3.3	4.0	5.0	5.9	6.5	8	8
			lb-in	1.06	1.32	1.8	2.1	2.6	3.2	4.5	5.4	6.4	8	10	11	13	15	18	22	26	29	35	44	52	57	71	71
	90	220/230 60Hz	kgf cm	1.0	1.3	1.7	2.1	2.6	3.1	4.4	5.2	6.3	7.8	9.4	11	13	14	17	31	26	28	34	43	51	55	75	80
			N.m	0.10	0.13	0.17	0.21	0.26	0.31	0.44	0.52	0.63	0.78	0.94	1.1	1.3	1.4	1.7	3.1	2.6	2.8	3.4	4.3	5.1	5.5	7.5	8
			lb-in	0.88	1.15	1.5	1.9	2.3	2.7	3.9	4.6	5.6	6.9	8.3	9.4	11.5	12	15	19	23	25	30	38	45	49	66	71
		220/230 50Hz	kgf cm	1.1	1.4	1.9	2.3	2.9	3.4	4.8	5.7	6.9	8.6	10	12	14	16	19	23	28	31	37	47	56	65	80	80
			N.m	0.11	0.14	0.19	0.23	0.29	0.34	0.48	0.57	0.69	0.86	1.0	1.2	1.4	1.6	1.9	2.3	28	3.1	3.7	4.7	5.6	6.5	8	8
			lb-in	0.97	1.24	1.68	2.03	2.56	3.0	4.2	5.0	6.1	7.6	8.8	10.6	12.4	14	17	20	25	27	33	42	49	57	71	71

* Enter the gear ratio in the box (□) within the model name. A colored background indicates gear shaft rotation in the same direction as the motor shaft ; a white background indicates rotation in the opposite direction.
* The speed is calculated by dividing the motor's synchronous speed (50Hz : 1500 r/min, 60 Hz : 1800 r/min) by the gear ratio.
* The actual speed is 2~20% less than the displayed value, depending on the size of the load.
* If more slow speed is needed than above value, use decimal gearhead with a gear ratio of 10:1 could be used between general gearhead and motor. Even in this case, just speed will be reduced without increase in permissible torque; the maximum permissible torque is 80kgfcm (8N.m, 71lb-in).

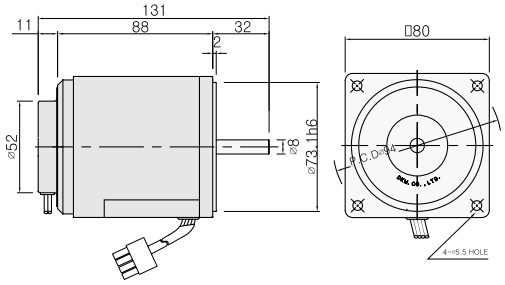
Dimension

LEAD WIRE TYPE

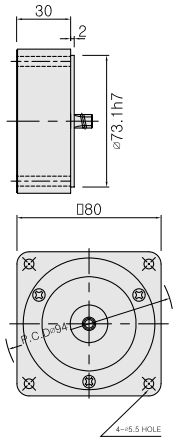
◆ GEARED MOTOR
* MOTOR MODEL : 8SDG□-25G (NO FAN)
* GEARHEAD MODEL : 8GB □3BMH - 8GB □360BMH



◆ MOTOR ONLY
* MOTOR MODEL : 8SD□□-25 (NO FAN)

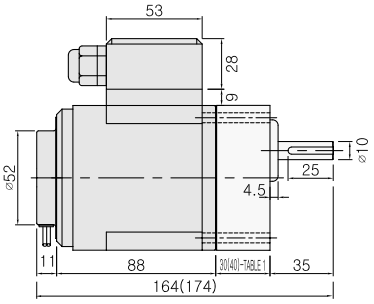


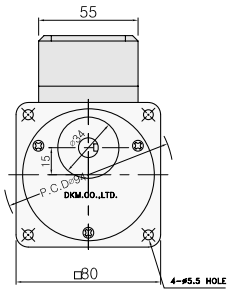
◆ INTER-DECIMAL GEARHEAD
* MODEL : 8XD10M□



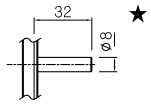
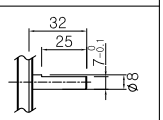
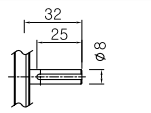
TERMINAL BOX TYPE

* MOTOR MODEL :
8SDG□-25G-T (NO FAN)

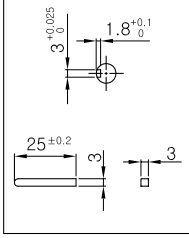
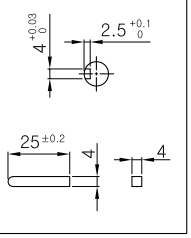




◆ MOTOR OUTPUT

MODEL	SHAFT
GEAR TYPE 8SDG□-25G	
ROUND TYPE 8SDS□-25	
D-CUT TYPE 8SDD□-25	
KEY TYPE 8SDK□-25	

◆ KEY SPEC

MOTOR	GEARHEAD
	

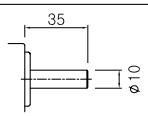
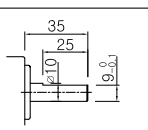
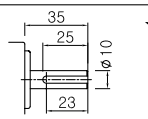
◆ 30(40)-TABLE1

SIZE(mm)	GEAR RATIO
30	8GB□3BMH - 8GB□18BMH
40	8GB□25BMH - 8GB□360BMH

◆ WEIGHT

PART		WEIGHT(Kg)
MOTOR		1.7
DECIMAL GEARHEAD		0.44
GEAR HEAD	8GB□3BMH - 8GB□18BMH	0.48
	8GB□25BMH - 8GB□30BMH	0.61
	8GB□36BMH - 8GB□180BMH	0.67
	8GB□200BMH - 8GB□360BMH	0.63

◆ GEARHEAD OUTPUT

MODEL	SHAFT
ROUND TYPE 8GBS3BMH ~8GBS360BMH	
D-CUT TYPE 8GBD3BMH ~8GBD360BMH	
KEY TYPE 8GBK3BMH ~8GBK360BMH	

* Note : Above table indicates output shaft dimension made by user's request and ★ indicates the basic dimension in factory shipping.

Connection Diagrams

Please refer to page 148, 151.

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SPEED CONTROL MOTOR
40W

□90mm(3.54in.)

LEAD WIRE TYPE

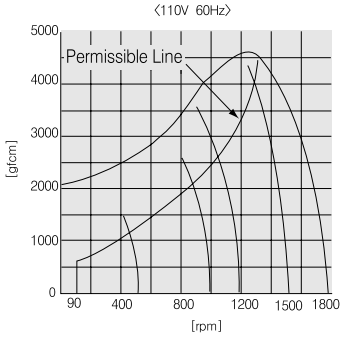
DSA

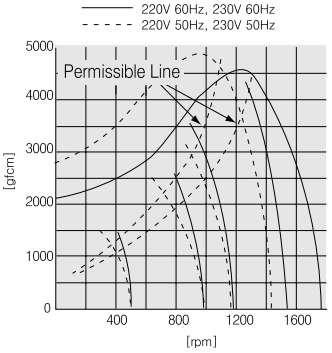
DSK

Motor Specification

Model 9SDG□-40G : Pinion Shaft Type 9SDD□-40 : D-Cut Shaft Type		Output		Voltage	Freq.	Speed Range	Permissible Torque						Starting Torque			Current	Condenser	
							1200rpm			90rpm								
Lead Wire Type	Terminal Box Type	HP	W	VAC	Hz	rpm	gfcm	mN.m	oz-in	gfcm	mN.m	oz-in	gfcm	mN.m	oz-in	A	μF	V
(TP) 9SDG(D)A-40G	9SDG(D)A-40G-T	1/18	40	Single Phase 110	60	90~1700	2600	260	26.4	700	70	9.8	1800	180	25.2	0.90	10	250
(TP) 9SDG(D)B-40G	9SDG(D)B-40G-T			Single Phase 115	60													
(TP) 9SDG(D)C-40G	9SDG(D)C-40G-T			Single Phase 220	50	90~1400	3000	300	42.0	630	63	8.8	1400	140	19.6	0.45	2.5	400
(TP) 9SDG(D)D-40G	9SDG(D)D-40G-T			Single Phase 220	60	90~1700	2300	230	32.2	630	63	8.8						
(TP) 9SDG(D)E-40G	9SDG(D)E-40G-T			Single Phase 230	50	90~1400	3000	300	42.0	630	63	8.8						
(TP) 9SDG(D)F-40G	9SDG(D)F-40G-T			Single Phase 230	60	90~1700	2300	230	32.2	630	63	8.8						

* Enter the 'Phase & Voltage' code in the box(□) within the motor model name.
* 'Pinion Shaft' is for attaching gearhead and 'D-Cut Shaft' is for using motor only.
(TP) : Contains a built-in thermal protector. If a motor overheats for any reason the thermal protector opened and the motor stops. When the motor temperature Drops, the thermal protector closes and the motor restarts. Be sure to turn the motor off before inspecting. By attaching F2 FAN additionally, temperature reducing of over 10℃ could be available.





Permissible Torque When using gearhead

Motor/Gearhead	rpm	Voltage	Gear Ratio	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
9SDG□-40G / 9GBK□MH	1200	110/115 60Hz	kgf cm	5.5	6.3	7.6	11	13	16	19	23	26	32	38	47	57	68	72	86	100	100	100	100	100	100	100
			N.m	0.55	0.63	0.76	1.10	1.3	1.6	1.9	2.3	2.6	3.2	3.8	4.87	5.7	6.8	7.2	8.6	10	10	10	10	10	10	10
			lb-in	4.9	5.6	6.7	9.7	11.5	14.1	16.8	20.3	23	28	34	42	50	60	64	76	88	88	88	88	88	88	88
		220/230 60Hz	kgf cm	4.5	5.6	6.7	9.3	11	14	17	19	23	28	34	42	50	60	68	76	91	100	100	100	100	100	100
			N.m	0.45	0.56	0.67	0.93	1.1	1.4	1.7	1.9	2.3	2.8	3.4	4.2	5.0	6.0	6.8	7.6	9.1	10	10	10	10	10	10
			lb-in	4.0	4.9	5.9	8.2	9.7	12.4	15	17	20	25	30	37	44	53	60	67	80	88	88	88	88	88	88
		220/230 50Hz	kgf cm	6.5	7.3	8.7	12	15	18	22	25	30	36	44	55	66	79	85	99	100	100	100	100	100	100	100
			N.m	0.65	0.73	0.87	1.20	1.5	1.8	2.2	2.5	3.0	3.6	4.4	5.5	6.6	7.9	8.5	9.9	10	10	10	10	10	10	10
			lb-in	5.7	6.4	7.7	10.6	13.2	15.9	19	22	26	32	39	49	58	70	75	87	88	88	88	88	88	88	88
	90	110/115 60Hz	kgf cm	1.5	1.7	2.0	2.8	3.4	4.3	5.1	6.1	7.1	8.5	10	13	15	18	20	23	28	35	42	46	55	69	83
			N.m	0.15	0.17	0.20	0.28	0.34	0.43	0.51	0.61	0.71	0.85	1.0	1.3	1.5	1.8	2.0	2.3	2.8	3.5	4.2	4.6	5.5	6.9	8.3
			lb-in	1.3	1.5	1.8	2.5	3.0	3.8	4.5	5.4	6.3	7.5	8.8	11.5	13.2	15.9	17.7	30	25	31	37	41	49	61	73
		220/230	kgf cm	1.3	1.5	1.8	2.6	3.1	3.8	4.6	5.5	6.4	7.7	9.2	11	14	17	19	21	25	30	37	42	50	62	75
			N.m	0.13	0.15	0.18	0.26	0.31	0.38	0.46	0.55	0.64	0.77	0.92	1.1	1.4	1.7	1.9	2.1	2.5	3.1	3.7	4.2	5.0	6.2	7.5
			lb-in	1.15	1.32	1.59	2.3	2.7	3.4	4.1	4.9	5.7	6.8	8.1	10	12	15	17	19	22	27	33	37	44	55	66

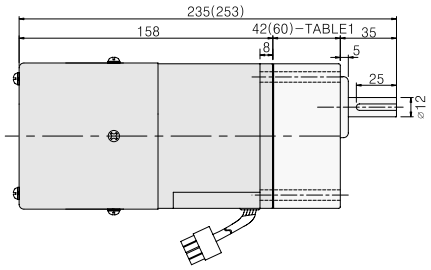
* Enter the gear ratio in the box (□) within the gearhead model name. A colored background indicates gear shaft rotation in the same direction as the motor shaft ; a white background indicates rotation in the opposite direction.
* The speed is calculated by dividing the motor' s synchronous speed (50Hz : 1500 r/min, 60 Hz : 1800 r/min) by the gear ratio.
* The actual speed is 2~20% less than the displayed value, depending on the size of the load.
* If more slow speed is needed than above value, use decimal gearhead with a gear ratio of 10:1 could be used between general gearhead and motor. Even in this case, just speed will be reduced without increase in permissible torque; the maximum permissible torque is 100kgfcm

Dimension

LEAD WIRE TYPE

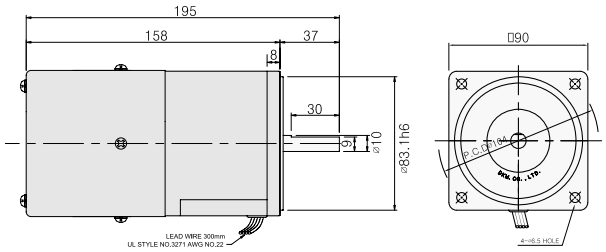
◆ GEARED MOTOR

* MOTOR MODEL : 9SDG□-40F2G (POWERFUL FAN)
* GEARHEAD MODEL : 9GB□3MH - 9GB□180MH



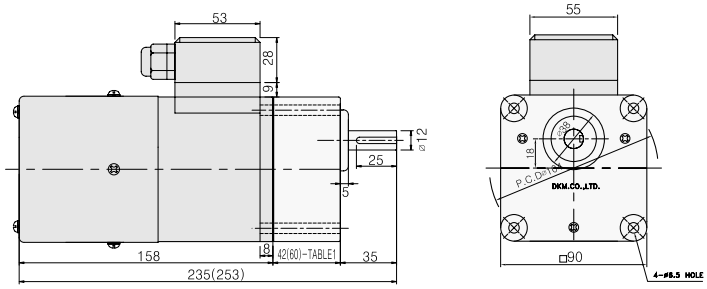
◆ MOTOR ONLY

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



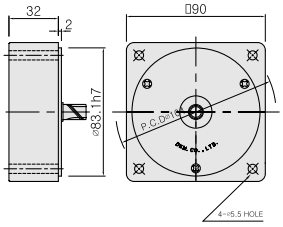
TERMINAL BOX TYPE

* MOTOR MODEL : 9SDG□-40F2G-T (POWERFUL FAN)



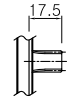
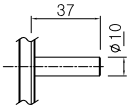
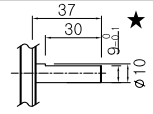
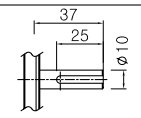
◆ INTER-DECIMAL GEARHEAD

* MODEL : 9XD10M□

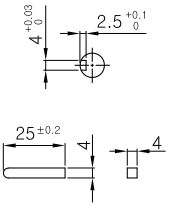
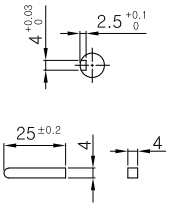


* Note : For speed control motor , powerful Fan(F2) is basic specification.

◆ MOTOR OUTPUT

MODEL	SHAFT
GEAR TYPE 9SDG□-40G	
ROUND TYPE 9SDS□-40	
D-CUT TYPE 9SDD□-40	
KEY TYPE 9SDK□-40	

◆ KEY SPEC

MOTOR	GEARHEAD
	

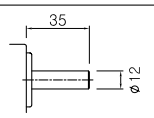
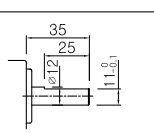
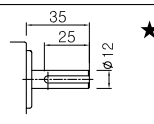
◆ 42(60)-TABLE1

SIZE(mm)	GEAR RATIO
42	9GB□3MH - 9GB□15MH
60	9GB□18MH - 9GB □180MH

◆ WEIGHT

PART		WEIGHT(Kg)
MOTOR		2.5
DECIMAL GEARHEAD		0.5
GEAR HEAD	9GB□3MH - 9GB□15MH	0.67
	9GB□18MH - 9GB□30MH	0.96
	9GB□36MH - 9GB□180MH	1.07

◆ GEARHEAD OUTPUT

MODEL	SHAFT
ROUND TYPE 9GBS3MH ~9GBS180MH	
D-CUT TYPE 9GBD3MH ~9GBD180MH	
KEY TYPE 9GBK3MH ~9GBK180MH	

* Note : Above table indicates output shaft dimension made by user' s request and ★ indicates the basic dimension in factory shipping.

Connection Diagrams

Please refer to page 148, 151.

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SPEED CONTROL MOTOR
60W

□90mm(3.54in.)


LEAD WIRE TYPE
+ F2 FAN


LEAD WIRE TYPE
+ F2 FAN

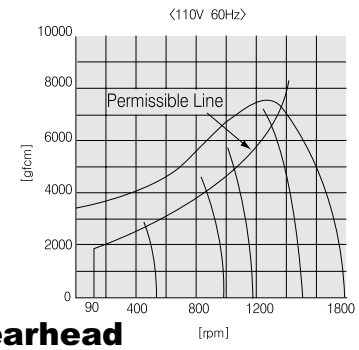

DSA

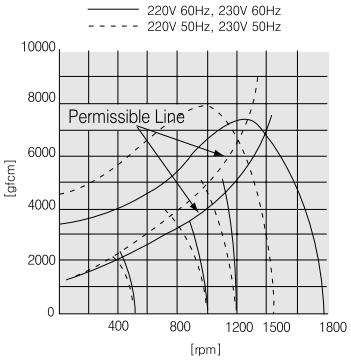

DSK

Motor Specification

Model 9SDG□-60F2P : Pinion Shaft Type 9SDD□-60F2 : D-Cut Shaft Type		Output		Voltage	Freq.	Speed Range	Permissible Torque						Starting Torque			Current	Condenser	
							1200rpm			90rpm								
Lead Wire Type	Terminal Box Type	HP	W	VAC	Hz	rpm	gfcm	mN.m	oz-in	gfcm	mN.m	oz-in	gfcm	mN.m	oz-in	A	μF	V
(TP) 9SDG(D)A-60F2P	9SDG(D)A-60F2P-T	1/12	60	Single Phase 110	60	90~1700	4900	490	68.6	2000	200	28.0	2850	285	39.9	1.20	16	250
(TP) 9SDG(D)B-60F2P	9SDG(D)B-60F2P-T			Single Phase 115	60													
(TP) 9SDG(D)C-60F2P	9SDG(D)C-60F2P-T			Single Phase 220	50	90~1400	4900	490	68.6	1400	140	19.6	2400	240	33.6	0.60	4	400
(TP) 9SDG(D)D-60F2P	9SDG(D)D-60F2P-T			Single Phase 220	60	90~1700	4500	450	63.0	1600	160	22.4						
(TP) 9SDG(D)E-60F2P	9SDG(D)E-60F2P-T			Single Phase 230	50	90~1400	4900	490	68.6	1400	140	19.6						
(TP) 9SDG(D)F-60F2P	9SDG(D)F-60F2P-T			Single Phase 230	60	90~1700	4500	450	63.0	1600	160	22.4						

* Enter the 'Phase & Voltage' code in the box(□) within the motor model name.
* 'Pinion Shaft' is for attaching gearhead and 'D-Cut Shaft' is for using motor only.
(TP) : Contains a built-in thermal protector. If a motor overheats for any reason the thermal protector opened and the motor stops. When the motor temperature Drops, the thermal protector closes and the motor restarts. Be sure to turn the motor off before inspecting. F2 FAN is basic specification for speed control motor.





Permissible Torque When using gearhead

Motor/Gearhead	rpm	Voltage	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
9SDG□-60P/ 9PB(F)K□BH	1200	110/115 60Hz	kgf cm	10	12	14	20	24	30	36	45	54	64	70	81	97	116	132	162	194	200	200	200	200	200	200
			N.m	1.0	1.2	1.4	2.0	2.4	3.0	3.6	4.5	5.4	6.4	7.0	8.1	9.7	11.6	13.2	16.2	19.4	20	20	20	20	20	20
			lb-in	8.8	10.6	12.4	17.7	21	26	32	40	48	57	62	72	86	102	117	143	171	177	177	177	177	177	177
		220/230 60Hz	kgf cm	9	11	13	18	22	27	33	41	49	59	68	74	89	107	119	149	178	199	200	200	200	200	200
			N.m	0.9	1.1	1.3	1.8	2.2	2.7	3.3	4.1	4.9	5.9	6.8	7.4	8.9	10.7	11.9	14.9	17.8	19.9	20	20	20	20	20
			lb-in	7.9	9.7	11.5	15.9	19.4	24	29	36	43	52	60	65	79	94	105	132	157	176	177	177	177	177	177
		220/230 50Hz	kgf cm	10	12	14	20	24	30	36	45	54	64	70	81	97	116	132	162	194	200	200	200	200	200	200
			N.m	1.0	1.2	1.4	2.0	2.4	3.0	3.6	4.5	5.4	6.4	7.0	8.1	9.7	11.6	13.2	16.2	19.4	20	20	20	20	20	20
			lb-in	8.8	10.6	12.4	17.7	21	26	32	40	48	57	62	72	86	102	117	143	171	177	177	177	177	177	177
	90	110/115 60Hz	kgf cm	4.7	4.9	5.8	8.1	9.7	12	15	18	22	26	30	33	40	48	53	66	79	89	106	118	142	177	200
			N.m	0.47	0.49	0.58	0.81	0.97	1.20	1.5	1.8	2.2	2.6	3.0	3.3	4.0	4.8	5.3	6.6	7.9	8.9	10.6	11.8	14.2	17.7	20
			lb-in	4.2	4.3	5.1	7.2	8.6	10.6	13.2	15.9	19.5	23	26	29	35	42	47	58	70	79	94	104	125	156	177
		220/230 60Hz	kgf cm	3.7	3.9	4.7	6.5	7.8	9.7	12.0	15.0	18.0	21	24	26	32	38	43	53	63	71	85	94	113	142	170
			N.m	0.37	0.39	0.47	0.65	0.78	0.97	1.2	1.5	1.8	2.1	2.4	2.6	3.2	3.8	4.3	5.3	6.3	7.1	8.5	9.4	11.3	14.2	17
			lb-in	3.3	3.4	4.2	5.7	6.9	8.6	10.6	13.2	15.9	19	21	23	28	34	38	47	56	63	75	83	100	125	150
		220/230 50Hz	kgf cm	3.0	3.4	4.1	5.7	6.8	8.5	10	13	15	18	20	23	28	33	37	46	55	62	74	83	99	124	149
			N.m	0.3	0.34	0.41	0.57	0.68	0.85	1.0	1.3	1.5	1.8	2.0	2.3	2.8	3.3	3.7	4.6	5.5	6.2	7.4	8.3	9.9	12.4	14.9
			lb-in	2.6	3.0	3.6	5.0	6.0	7.5	8.8	11.5	13.2	15.9	17.7	20.3	25	29	33	41	49	55	65	73	87	109	132

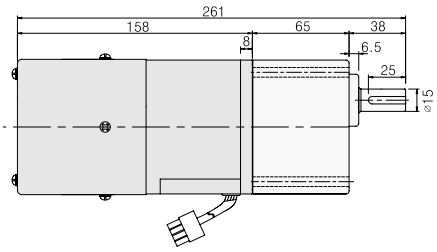
* Enter the gear ratio in the box (□) within the gearhead model name. A colored background indicates gear shaft rotation in the same direction as the motor shaft ; a white background indicates rotation in the opposite direction.
* The speed is calculated by dividing the motor' s synchronous speed (50Hz : 1500 r/min, 60 Hz : 1800 r/min) by the gear ratio.
* The actual speed is 2~20% less than the displayed value, depending on the size of the load.
* If more slow speed is needed than above value, use decimal gearhead with a gear ratio of 10:1 could be used between general gearhead and motor. Even in this case, just speed will be reduced without increase in permissible torque; the maximum permissible torque is 200kgfcm

Dimension

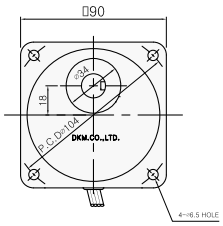
LEAD WIRE TYPE

◆ GEARED MOTOR

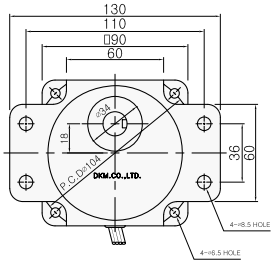
* MOTOR MODEL : 9SDG□-60F2P (POWERFUL FAN)



* GEARHEAD MODEL :
9PB □ 3BH - 9PB □180BH

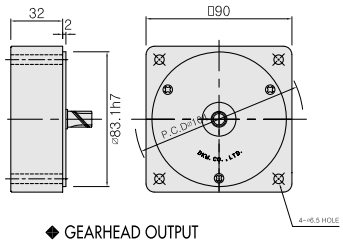


* GEARHEAD MODEL :
9PF □ 3BH - 9PF □180BH

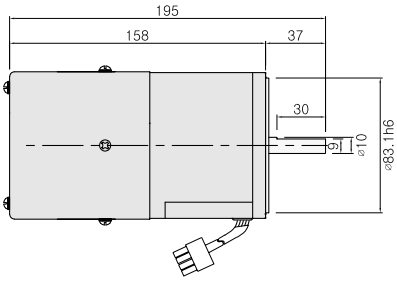


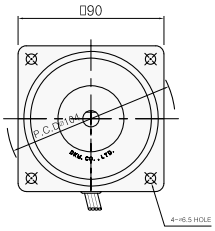
◆ INTER-DECIMAL GEARHEAD

* MODEL : 9XD10M□

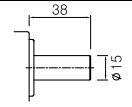
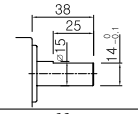
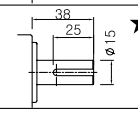


◆ MOTOR ONLY * MOTOR MODEL : 9SD□□-60F2 (POWERFUL FAN)



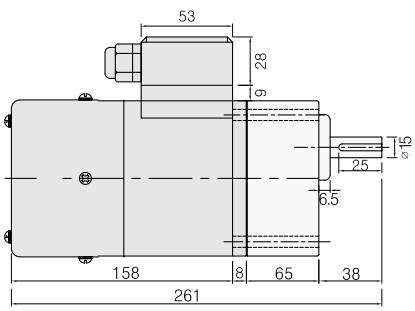


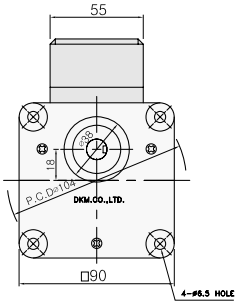
◆ GEARHEAD OUTPUT

MODEL	SHAFT
ROUND TYPE 9P□S3BH ~9P□S180BH	
D-CUT TYPE 9P□D3BH ~9P□D180BH	
KEY TYPE 9P□K3BH ~9P□K180BH	

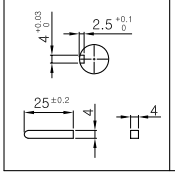
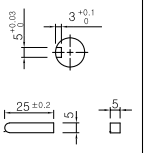
TERMINAL BOX TYPE

* MOTOR MODEL : 9SDG□-60F2P-T (POWERFUL FAN)





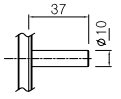
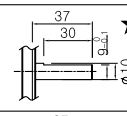
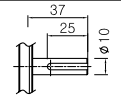
◆ KEY SPEC

MOTOR	GEARHEAD
	

◆ WEIGHT

PART		WEIGHT(Kg)
MOTOR		2.7
DECIMAL GEARHEAD		0.5
GEAR HEAD	9P□□ 3BH - 9P□□9BH	1.3
	9P□□ 12.5BH - 9P□□18BH	1.3
	9P□□ 25BH - 9P□□60BH	1.4
	9P□□ 90BH - 9P□□180BH	1.4

◆ MOTOR OUTPUT

MODEL	SHAFT
GEAR TYPE 9SDG□-60□P	
ROUND TYPE 9SDS□-60□	
D-CUT TYPE 9SDD□-60□	
KEY TYPE 9SDK□-60□	

* Note : Above table indicates output shaft dimension made by user' s request and ★ indicates the basic dimension in factory shipping.

* Note : For speed control motor, powerful Fan(F2) is basic specification.

Connection Diagrams

Please refer to page 148, 151.

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SPEED CONTROL MOTOR
90W

□90mm(3.54in.)

LEAD WIRE TYPE
+ F2 FAN

LEAD WIRE TYPE
+ F2 FAN

DSA

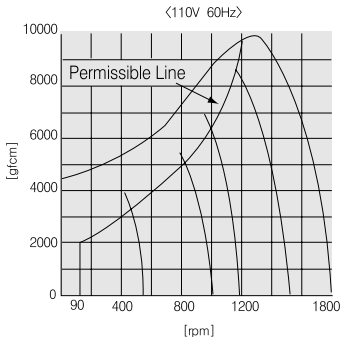
DSK

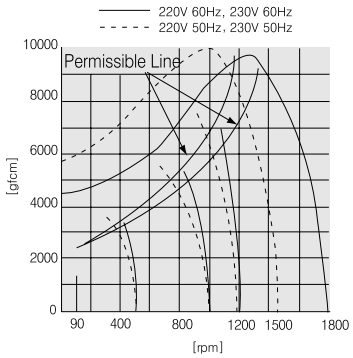
■ Motor Specification

Model 9SDG□-90F2P(H) : Pinion Shaft Type 9SDD□-90F2 : D-Cut Shaft Type		Output		Voltage	Freq.	Speed Range	Permissible Torque						Starting Torque			Current	Condenser	
							1200rpm			90rpm								
Lead Wire Type	Terminal Box Type	HP	W	VAC	Hz	rpm	gfcm	mN.m	oz-in	gfcm	mN.m	oz-in	gfcm	mN.m	oz-in	A	μF	V
(TP) 9SDG(D)A-90F2P	9SDG(D)A-90F2P-T	1/8	90	Single Phase 110	60	90~1700	6900	690	96.6	2000	200	28.0	4200	420	58.8	2.10	20	250
(TP) 9SDG(D)B-90F2P	9SDG(D)B-90F2P-T			Single Phase 115	60													
(TP) 9SDG(D)C-90F2P	9SDG(D)C-90F2P-T			Single Phase 220	50	90~1400	6900	690	96.6	2300	230	32.2	4200	420	58.8	1.00	5.0	400
(TP) 9SDG(D)D-90F2P	9SDG(D)D-90F2P-T			Single Phase 220	60	90~1700	6300	630	88.2	2600	260	36.4						
(TP) 9SDG(D)E-90F2P	9SDG(D)E-90F2P-T			Single Phase 230	50	90~1400	6900	690	96.6	2300	230	32.2						
(TP) 9SDG(D)F-90F2P	9SDG(D)F-90F2P-T			Single Phase 230	60	90~1700	6300	630	88.2	2600	260	36.4						

* Enter the 'Phase & Voltage' code in the box(□) within the motor model name.
* 'Pinion Shaft' is for attaching gearhead and 'D-Cut Shaft' is for using motor only.

(TP) : Contains a built-in thermal protector. If a motor overheats for any reason the thermal protector opened and the motor stops. When the motor temperature Drops, the thermal protector closes and the motor restarts. Be sure to turn the motor off before inspecting. F2 FAN is basic specification for speed control motor.





Permissible Torque When using gearhead

Motor/Gearhead	rpm / Voltage		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
9SDG□-90FP/ 9PB(F)K□BH	1200rpm		kgf cm	16	18	21	30	35	44	53	67	80	96	100	120	145	173	200	200	200	200	200	200	200	200	200
			N.m	1.6	1.8	2.1	3.0	3.5	4.4	5.3	6.7	8.0	9.6	10.0	12.0	14.5	17.3	20	20	20	20	20	20	20	20	20
			lb-in	14.4	15.9	18.5	26	31	39	47	59	71	85	88	106	128	153	177	177	177	177	177	177	177	177	177
	90rpm	110/115 60 Hz	kgf cm	4.5	4.9	58	8.1	9.7	12	15	18	22	26	30	33	40	48	53	66	79	89	106	118	142	177	200
			N.m	0.45	0.49	0.58	0.81	0.97	1.2	1.5	1.8	2.2	2.6	3.0	3.3	4.0	4.8	5.3	6.6	7.9	8.9	10.6	11.8	14.2	17.7	20
			lb-in	4.0	4.3	5.1	7.2	8.6	10.6	12	16	19	23	26	29	35	42	47	58	70	79	94	104	125	156	177
		220/230 60 Hz	kgf cm	6.0	6.3	7.6	11	13	16	19	24	28	34	40	43	51	62	70	86	103	115	138	153	184	200	200
			N.m	0.60	0.63	0.76	1.10	1.3	1.6	1.9	2.4	2.8	3.4	4.0	4.3	5.1	6.2	7.0	8.6	10.3	11.5	13.8	15.3	18.4	20	20
			lb-in	5.30	5.56	6.71	9.7	11.5	14.1	16.8	21	25	30	35	38	45	55	62	76	91	102	122	135	162	177	177
		220/230 50 Hz	kgf cm	5.2	5.6	6.7	9.3	11	14	17	21	25	30	35	38	46	55	60	76	91	102	122	136	163	200	200
			N.m	0.52	0.56	0.67	0.93	1.1	1.4	1.7	2.1	2.5	3.0	3.5	3.8	4.6	5.5	6.0	7.6	9.1	10.2	12.2	13.6	16.3	20	20
			lb-in	4.59	4.94	5.92	8.2	9.7	12.4	15	19	22	26	31	34	41	49	53	67	80	90	108	120	144	177	177
9SDG□-90FH/ 9HBK□BH	1200rpm		kgf cm	-	-	-	-	-	-	-	-	-	-	-	-	-	-	200	241	289	300	300	300	300	300	300
			N.m	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20	24.1	28.9	30	30	30	30	30	30
			lb-in	-	-	-	-	-	-	-	-	-	-	-	-	-	-	177	213	255	265	265	265	265	265	266
	90rpm	110/115 60 Hz	kgf cm	-	-	-	-	-	-	-	-	-	-	-	-	-	-	50	66	79	89	106	118	142	177	212
			N.m	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.0	6.6	7.9	8.9	10.6	11.8	14.2	17.7	21.2
			lb-in	-	-	-	-	-	-	-	-	-	-	-	-	-	-	44	58	70	79	94	104	125	156	187
		220/230 60 Hz	kgf cm	-	-	-	-	-	-	-	-	-	-	-	-	-	-	60	86	103	115	138	153	184	230	276
			N.m	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.0	8.6	10.3	11.5	13.8	15.3	18.4	23	27.6
			lb-in	-	-	-	-	-	-	-	-	-	-	-	-	-	-	53	76	91	102	122	135	162	203	244
		220/230 50 Hz	kgf cm	-	-	-	-	-	-	-	-	-	-	-	-		-	55	76	91	102	122	136	163	204	244
			N.m	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.5	7.6	9.1	10.2	12.2	13.6	16.3	20.4	24.4
			lb-in	-	-	-	-	-	-	-	-	-	-	-	-	-	-	49	67	80	90	108	120	144	180	215

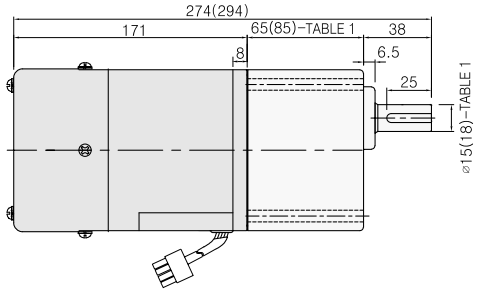
* Enter the gear ratio in the box (□) within the gearhead model name. A colored background indicates gear shaft rotation in the same direction as the motor shaft ; a white background indicates rotation in the opposite direction.
* The speed is calculated by dividing the motor' s synchronous speed (50Hz : 1500 r/min, 60 Hz : 1800 r/min) by the gear ratio.
* The actual speed is 2~20% less than the displayed value, depending on the size of the load.
* If more slow speed is needed than above value, use decimal gearhead with a gear ratio of 10:1 could be used between general gearhead and motor. Even in this case, just speed will be reduced without increase in permissible torque; the maximum permissible torque is 200kgfcm (P type) / 300kgfcm (H type).

Dimension

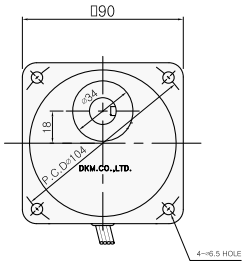
LEAD WIRE TYPE

◆ GEARED MOTOR

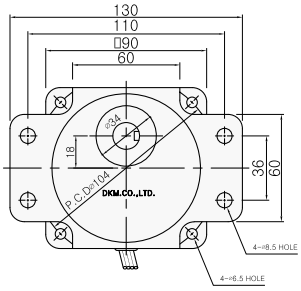
* MOTOR MODEL : 9SDG□-90F2P(H) (POWERFUL FAN)



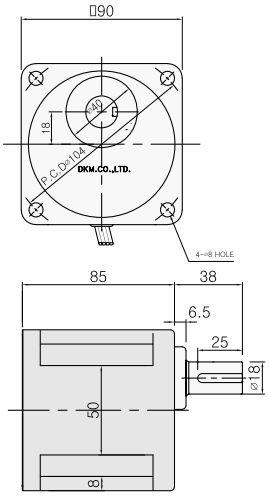
* GEARHEAD MODEL :
9PB□ 3BH - 9PB□180BH



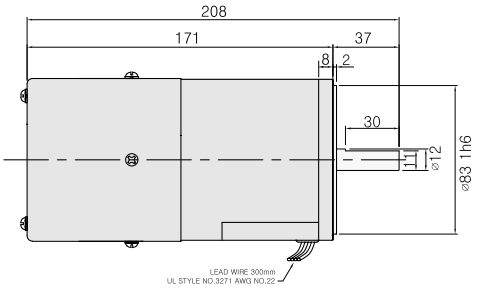
* GEARHEAD MODEL :
9PF□ 3BH - 9PF□180BH

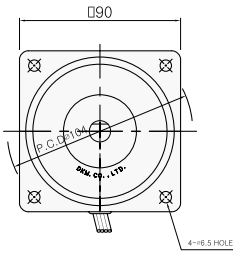


* GEARHEAD MODEL :
9HB□ 3BH - 9HB□180BH



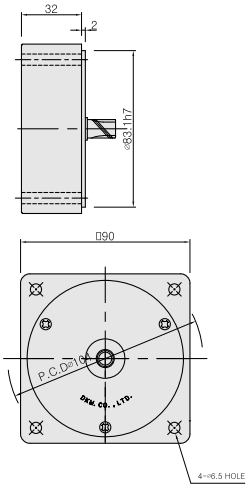
◆ MOTOR ONLY * MOTOR MODEL : 9SD□□-90F2 (POWERFUL FAN)





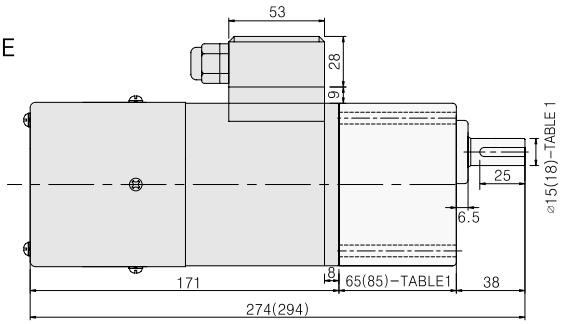
◆ INTER-DECIMAL GEARHEAD

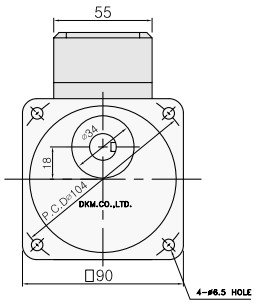
* MODEL : 9XD10M□



TERMINAL BOX TYPE

* MOTOR MODEL :
9SDG□-90F2P(H)-T
(POWERFUL FAN)



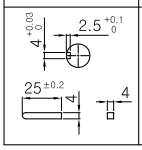
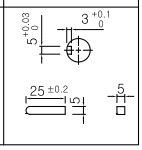


* Note : For speed control motor, powerful Fan(F2) is basic specification.

◆ 65(85)-TABLE1

SIZE(mm)	GEARHEAD TYPE
65 ~ ø15	P TYPE GEARHEAD
85 ~ ø18	H TYPE GEARHEAD

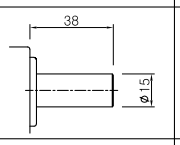
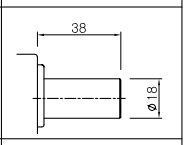
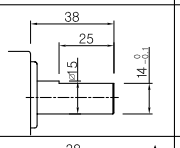
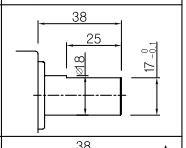
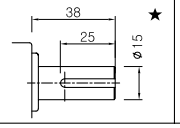
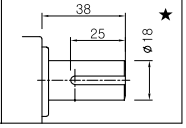
◆ KEY SPEC

MOTOR	GEARHEAD
	

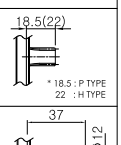
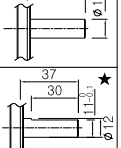
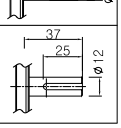
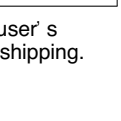
◆ WEIGHT

PART		WEIGHT(Kg)	
MOTOR		3.0	
DECIMAL GEARHEAD		0.5	
GEAR HEAD	GEARHEAD TYPE	P TYPE	H TYPE
	9P(H)□□ 3BH - 9P(H)□□9BH	1.3	1.45
	9P(H)□□ 12.5BH - 9P(H)□□18BH	1.3	1.5
	9P(H)□□ 25BH - 9P(H)□□60BH	1.4	1.7
	9P(H)□□ 90BH - 9P(H)□□180BH	1.4	1.8

◆ GEARHEAD OUTPUT

MODEL	P TYPE	H TYPE
ROUND TYPE 9P(H)□S3BH ~9P(H)□S180BH		
D-CUT TYPE 9P(H)□D3BH ~9P(H)□D180BH		
KEY TYPE 9P(H)□K3BH ~9P(H)□K180BH		

◆ MOTOR OUTPUT

MODEL	SHAFT
GEAR TYPE 9SDG□-90□ P(H)	
ROUND TYPE 9SDS□-90□	
D-CUT TYPE 9SDD□-90□	
KEY TYPE 9SDK□-90□	

* Note : Above table indicates output shaft dimension made by user' s request and ★ indicates the basic dimension in factory shipping.

Connection Diagrams

Please refer to page 148, 151.

SPEED CONTROL MOTOR
120W

□90mm(3.54in.)

LEAD WIRE TYPE
+ F2 FAN

LEAD WIRE TYPE
+ F2 FAN

DSA

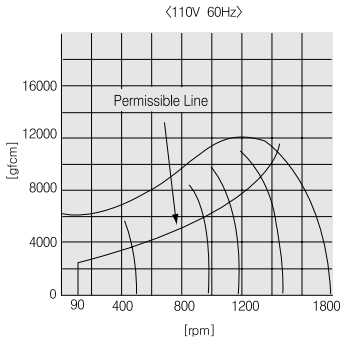
DSK

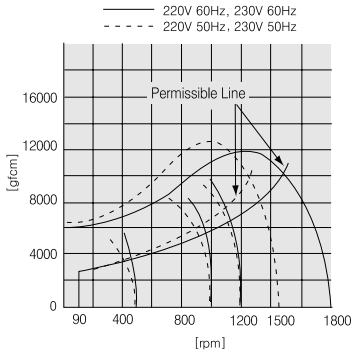
■ Motor Specification

Model 9SDG□-120F2P(H) : Pinion Shaft Type 9SDD□-120F2 : D-Cut Shaft Type		Output		Voltage	Freq.	Speed Range	Permissible Torque						Starting Torque			Current	Condenser	
							1200rpm			90rpm								
Lead Wire Type	Terminal Box Type	HP	W	VAC	Hz	rpm	gfcm	mN.m	oz-in	gfcm	mN.m	oz-in	gfcm	mN.m	oz-in	A	μF	V
(TP) **9SDG(D)A-120F2P(H)**	**9SDG(D)A-120F2P(H)-T**	1/6	120	Single Phase 110	60	90~1700	7200	720	100.8	2400	240	33.6	5400	540	75.6	2.50	25.0	250
(TP) **9SDG(D)B-120F2P(H)**	**9SDG(D)B-120F2P(H)-T**			Single Phase 115	60													
(TP) **9SDG(D)C-120F2P(H)**	**9SDG(D)C-120F2P(H)-T**			Single Phase 220	50	90~1400	7200	720	100.8	2800	280	39.2	5400	540	75.6	1.20	6.0	400
(TP) **9SDG(D)D-120F2P(H)**	**9SDG(D)D-120F2P(H)-T**			Single Phase 220	60	90~1700	7000	700	98.0	3000	300	42.0						
(TP) **9SDG(D)E-120F2P(H)**	**9SDG(D)E-120F2P(H)-T**			Single Phase 230	50	90~1400	7200	720	100.8	2800	280	39.2						
(TP) **9SDG(D)F-120F2P(H)**	**9SDG(D)F-120F2P(H)-T**			Single Phase 230	60	90~1700	7000	700	98.0	3000	300	42.0						

* Enter the 'Phase & Voltage' code in the box(□) within the motor model name.
* 'Pinion Shaft' is for attaching gearhead and 'D-Cut Shaft' is for using motor only.

(TP) : Contains a built-in thermal protector. If a motor overheats for any reason the thermal protector opened and the motor stops. When the motor temperature Drops, the thermal protector closes and the motor restarts. Be sure to turn the motor off before inspecting. F2 FAN is basic specification for speed control motor.





Permissible Torque When using gearhead

Motor/Gearhead	rpm / Voltage		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
9SDG□-120FP/ 9PB(F)K□BH	1200rpm		kgf cm	15	19	23	31	38	47	56	71	84	101	110	126	152	182	200	200	200	200	200	200	200	200	200
			N.m	1.5	1.9	2.3	3.1	3.8	4.7	5.6	7.1	8.4	10.1	11	12.6	15.2	18.2	20	20	20	20	20	20	20	20	20
			lb-in	13.2	16.8	20.3	27	34	42	49	63	74	89	97	111	134	161	177	177	177	177	177	177	177	177	177
	90rpm	110/115 60 Hz	kgf cm	4.1	5.1	6.4	8.4	11	13	16	19	24	27	30	35	43	51	56	66	80	90	106	118	142	178	200
			N.m	0.41	0.51	0.64	0.84	1.06	1.27	1.57	1.9	2.4	2.7	3.0	3.5	4.3	5.1	5.6	6.6	8	9	11	12	14	18	20
			lb-in	3.6	4.5	5.7	7.4	9.4	11.2	14	17	21	24	26	31	38	45	49	58	71	79	94	104	125	157	177
		220/230 60 Hz	kgf cm	5.3	6.7	8.3	11	14	17	20	26	29	35	39	45	53	66	72	86	104	116	138	154	184	200	200
			N.m	0.53	0.67	0.83	1.15	1.41	1.69	2.02	2.6	2.9	3.5	3.9	4.5	5.3	6.6	8.2	8.6	10.4	11.6	13.8	15.4	18.4	20	20
			lb-in	4.64	5.87	7.31	10.1	12.4	14.9	17.8	23	26	31	34	40	47	58	64	76	92	102	122	136	162	177	177
		220/230 50 Hz	kgf cm	4.7	5.9	7.4	10	12	15	18	22	26	31	34	40	49	58	64	76	92	102	122	136	164	200	200
			N.m	0.47	0.59	0.74	0.96	1.18	1.50	1.79	2.2	2.6	3.1	3.4	4.0	4.9	5.8	6.4	7.6	9.2	10	12	14	16	20	20
			lb-in	4.11	4.20	6.50	8.5	10.4	13.3	16	19	23	28	30	36	43	51	57	67	81	90	108	120	145	177	177
9SDG□-120FH/ 9HBK□BH	1200rpm		kgf cm	-	21	25	-	42	-	62	78	92	111	-	139	167	200	-	260	300	300	300	300	300	300	300
			N.m	-	2.1	2.5	-	4.2	-	6.2	7.8	9.2	11.1	-	13.9	16.7	20.0	-	26	30	30	30	30	30	30	30
			lb-in	-	18.5	22.3	-	37	-	54	69	82	98	-	122	148	177	-	230	265	265	265	265	265	265	265
	90rpm	110/115 60 Hz	kgf cm	-	5.1	6.4	-	11	-	16	19	24	27	-	35	43	51	-	66	80	90	110	120	140	180	240
			N.m	-	0.51	0.64	-	1.06	-	1.57	1.9	2.4	2.7	-	3.5	4.3	5.1	-	6.6	8.0	9.0	11	12	14	18	24
			lb-in	-	4.5	5.7	-	9.4	-	14	17	21	24	-	31	38	45	-	58	71	79	97	106	124	159	212
		220/230 60 Hz	kgf cm	-	6.7	8.3	-	14	-	20	26	29	35	-	45	53	66	-	86	104	116	138	154	184	250	300
			N.m	-	0.67	0.83	-	1.41	-	2.02	2.6	2.9	3.5	-	4.5	5.3	6.6	-	8.6	10.4	11.6	13.8	15.4	18.4	25	30
			lb-in	-	8.57	7.31	-	12.4	-	17.8	23	26	31	-	40	47	58	-	76	92	102	122	136	162	221	265
		220/230 50 Hz	kgf cm	-	5.9	7.4	-	12	-	18	22	26	31	-	40	49	58	-	76	92	100	120	140	160	240	280
			N.m	-	0.59	0.74	-	1.18	-	1.79	2.2	2.6	3.1	-	4.0	4.9	5.8	-	7.6	9.2	10	12	14	16	24	28
			lb-in	-	5.20	6.50	-	10.4	-	16	19	23	28	-	36	43	51	-	67	81	88	106	124	141	212	247

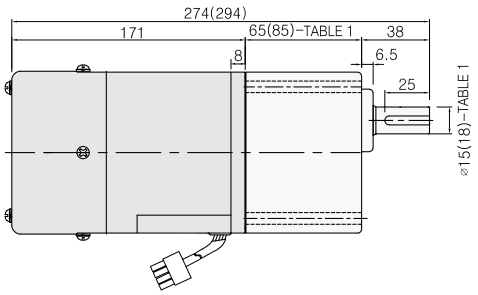
* Enter the gear ratio in the box (□) within the gearhead model name. A colored background indicates gear shaft rotation in the same direction as the motor shaft ; a white background indicates rotation in the opposite direction.
* The speed is calculated by dividing the motor' s synchronous speed (50Hz : 1500 r/min, 60 Hz : 1800 r/min) by the gear ratio.
* The actual speed is 2~20% less than the displayed value, depending on the size of the load.
* If more slow speed is needed than above value, use decimal gearhead with a gear ratio of 10:1 between gearhead and motor. Even decimal gearhead is used, just speed will be reduced without increase in permissible torque ; the maximum permissible torque is 200kgfcm (P type) / 300kgfcm (H type).

Dimension

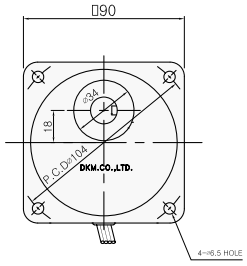
LEAD WIRE TYPE

◆ GEARED MOTOR

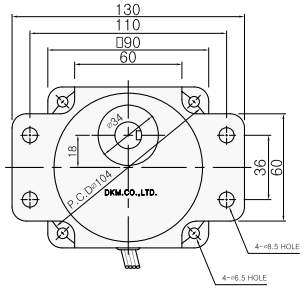
* MOTOR MODEL : 9SDG□-120F2P(H) (POWERFUL FAN)



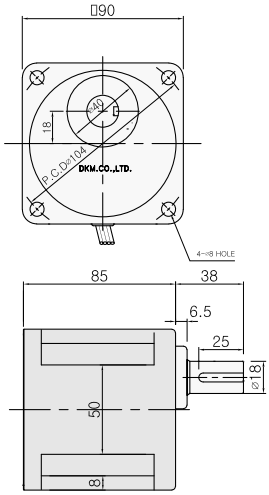
* GEARHEAD MODEL :
9PB□3BH - 9PB□180BH



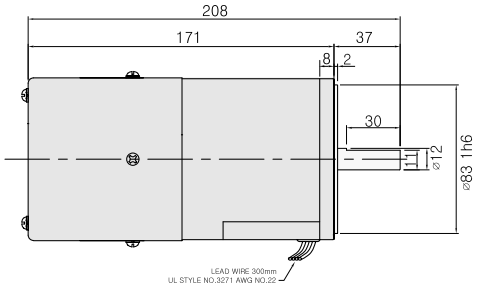
* GEARHEAD MODEL :
9PF□3BH - 9PF□180BH

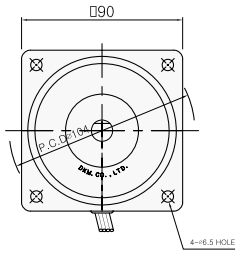


* GEARHEAD MODEL :
9HB□3BH - 9HB□180BH



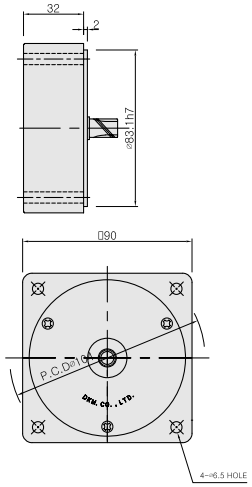
◆ MOTOR ONLY * MOTOR MODEL : 9SD□□-120F2 (POWERFUL FAN)





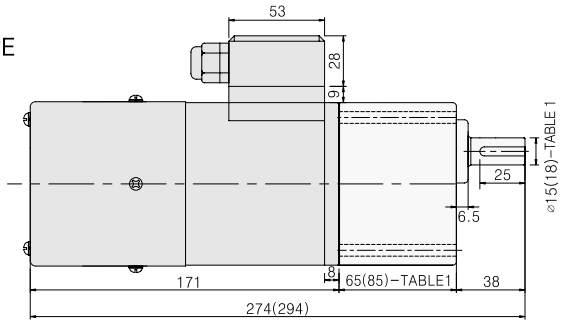
◆ INTER-DECIMAL GEARHEAD

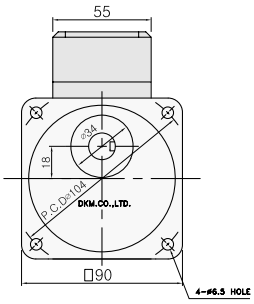
* MODEL : 9XD10M□



TERMINAL BOX TYPE

* MOTOR MODEL :
9SDG□-120F2P(H)-T
(POWERFUL FAN)



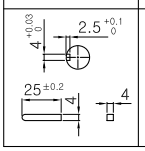
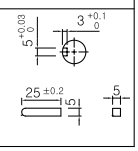


* Note : For speed control motor, powerful Fan(F2) is basic specification.

◆ 65(85)-TABLE1

SIZE(mm)	GEARHEAD TYPE
65 ~ ø15	P TYPE GEARHEAD
85 ~ ø18	H TYPE GEARHEAD

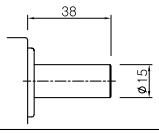
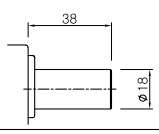
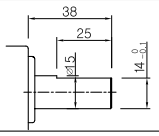
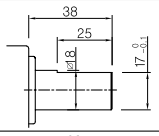
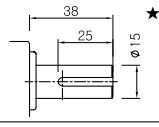
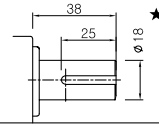
◆ KEY SPEC

MOTOR	GEARHEAD
	

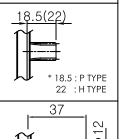
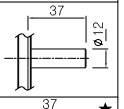
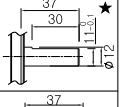
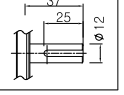
◆ WEIGHT

PART		WEIGHT(Kg)	
MOTOR		3.0	
DECIMAL GEARHEAD		0.5	
GEAR HEAD	GEARHEAD TYPE	P TYPE	H TYPE
	9P(H)□□ 3BH - 9P(H)□□9BH	1.3	1.45
	9P(H)□□ 12.5BH - 9P(H)□□18BH	1.3	1.5
	9P(H)□□ 25BH - 9P(H)□□60BH	1.4	1.7
	9P(H)□□ 90BH - 9P(H)□□180BH	1.4	1.8

◆ GEARHEAD OUTPUT

MODEL	P TYPE	H TYPE
ROUND TYPE 9P(H)□S3BH ~9P(H)□S180BH		
D-CUT TYPE 9P(H)□D3BH ~9P(H)□D180BH		
KEY TYPE 9P(H)□K3BH ~9P(H)□K180BH		

◆ MOTOR OUTPUT

MODEL	SHAFT
GEAR TYPE 9SDG□-120□P(H)	
ROUND TYPE 9SDS□-120□	
D-CUT TYPE 9SDD□-120□	
KEY TYPE 9SDK□-120□	

* Note : Above table indicates output shaft dimension made by user' s request and ★ indicates the basic dimension in factory shipping.

Connection Diagrams

Please refer to page 148, 151

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SPEED CONTROL MOTOR
180W

□90mm(3.54in.)


LEAD WIRE TYPE
+ F2 FAN


LEAD WIRE TYPE
+ F2 FAN

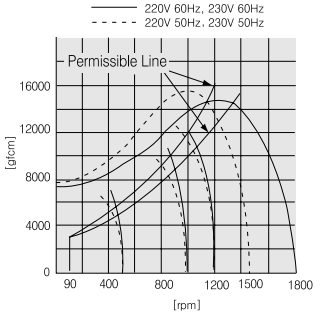

DSA


DSK

Motor Specification

Model 9SDG□-180F2P(H) : Pinion Shaft Type 9SDD□-180F2 : D-Cut Shaft Type		Output		Voltage	Freq.	Speed Range	Permissible Torque						Starting Torque			Current	Condenser	
							1200rpm			90rpm								
Lead Wire Type	Terminal Box Type	HP	W	VAC	Hz	rpm	gfcm	mN.m	oz-in	gfcm	mN.m	oz-in	gfcm	mN.m	oz-in	A	μF	V
(TP) 9SDG(D)C-180F2P(H)	9SDG(D)C-180F2P(H)-T	1/4	180	Single Phase 220	50	90~1400	12000	1200	168	3000	300	42.0	7000	700	98	1.40	6.5	400
(TP) 9SDG(D)D-180F2P(H)	9SDG(D)D-180F2P(H)-T			Single Phase 220	60	90~1700	11000	1100	154	3200	320	44.8						
(TP) 9SDG(D)E-180F2P(H)	9SDG(D)E-180F2P(H)-T			Single Phase 230	50	90~1400	12000	1200	168	3000	300	42.0						
(TP) 9SDG(D)F-180F2P(H)	9SDG(D)F-180F2P(H)-T			Single Phase 230	60	90~1700	11000	1100	154	3200	320	44.8						

* Enter the 'Phase & Voltage' code in the box(□) within the motor model name.
* 'Pinion Shaft' is for attaching gearhead and 'D-Cut Shaft' is for using motor only.
(TP) : Contains a built-in thermal protector. If a motor overheats for any reason the thermal protector opened and the motor stops. When the motor temperature Drops, the thermal protector closes and the motor restarts. Be sure to turn the motor off before inspecting. F2 FAN is basic specification for speed control motor.



Permissible Torque When using gearhead

Motor/Gearhead	rpm / Voltage		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
9SDG□-180FP/ 9PB(F)K□BH	1200rpm		kgf cm	24	27	32	45	54	67	80	100	120	144	160	180	200	200	200	200	200	200	200	200	200	200	200
			N.m	2.4	2.7	3.2	4.5	5.4	6.7	8.0	10	12.0	14.4	16	18	20	20	20	20	20	20	20	20	20	20	20
			lb-in	21.2	23.5	28.5	39	48	60	70	88	106	128	141	159	177	177	177	177	177	177	177	177	177	177	177
	90rpm	110/115 60 Hz	kgf cm	6.5	7.2	9.0	12.1	15	18	22	27	34	39	43	50	56	58	62	66	80	90	106	118	142	178	200
			N.m	0.65	0.72	0.90	1.21	1.52	1.82	2.23	2.7	3.4	3.9	4.3	5.0	5.6	5.8	6.2	6.6	8	9	11	12	14	18	20
			lb-in	5.7	6.3	8.0	10.6	13.4	16.1	20	24	30	34	38	44	49	51	55	58	71	79	94	404	125	157	177
		220/230 60 Hz	kgf cm	8.4	9.3	11.6	17	20	24	29	36	42	51	56	65	70	72	80	86	104	116	138	154	184	200	200
			N.m	0.84	0.93	1.16	1.65	2.00	2.43	2.84	3.6	4.2	5.1	5.6	6.5	7.0	7.2	8.0	8.6	10.4	11.6	13.8	15.4	18.4	20	20
			lb-in	7.42	8.22	10.3	14.6	17.7	21.4	25.4	32	37	45	49	57	62	64	71	76	92	102	122	136	162	177	177
		220/230 50 Hz	kgf cm	7.4	8.2	10.3	14	17	22	26	31	37	45	50	57	64	64	70	76	92	102	122	136	164	200	200
			N.m	0.74	0.82	1.03	1.38	1.68	2.16	2.55	3.1	3.7	4.5	5.0	5.7	6.4	6.4	7.0	7.6	9.2	10	12	14	16	20	20
			lb-in	6.57	7.28	9.13	12.2	14.8	19.1	23	27	33	40	44	51	57	57	62	67	81	90	108	120	145	177	177
9SDG□-180FH/ 9HBK□BH	1200rpm		kgf cm	-	28	34	-	57	-	84	105	126	152	-	189	227	273	-	300	300	300	300	300	300	300	300
			N.m	-	2.8	3.4	-	5.7	-	8.4	10.5	12.6	15.2	-	18.9	22.7	27.3	-	30	30	30	30	30	30	30	30
			lb-in	-	24.7	30.0	-	50	-	74	93	111	134	-	167	200	241	-	265	265	265	265	265	265	265	265
	90rpm	110/115 60 Hz	kgf cm	-	7.2	9.0	-	15	-	22	27	34	39	-	50	56	56	-	66	80	90	110	120	140	180	240
			N.m	-	0.72	0.90	-	1.52	-	2.23	2.7	3.4	3.9	-	5.0	5.6	5.6	-	6.6	8.0	9.0	11	12	14	18	24
			lb-in	-	6.3	8.0	-	13.4	-	20	24	30	34	-	44	49	49	-	58	71	79	97	106	124	159	212
		220/230 60 Hz	kgf cm	-	9.3	11.6	-	20	-	29	36	42	51	-	65	70	72	-	86	104	116	138	154	184	250	300
			N.m	-	0.93	1.16	-	2.00	-	2.87	3.6	4.2	5.1	-	6.5	7.0	7.2	-	8.6	10.4	11.6	13.8	15.4	18.4	25	30
			lb-in	-	8.22	10.3	-	17.7	-	25.4	32	37	45	-	57	62	64	-	76	92	102	122	136	162	221	265
		220/230 50 Hz	kgf cm	-	8.2	10.3	-	17	-	26	31	37	45	-	57	64	64	-	76	92	100	120	140	160	240	280
			N.m	-	0.82	1.03	-	1.68	-	2.55	3.1	3.7	4.5	-	5.7	3.4	6.4	-	7.6	9.2	10	12	14	16	24	28
			lb-in	-	7.28	9.13	-	14.8	-	23	27	33	40	-	51	57	57	-	67	81	88	106	124	141	212	247

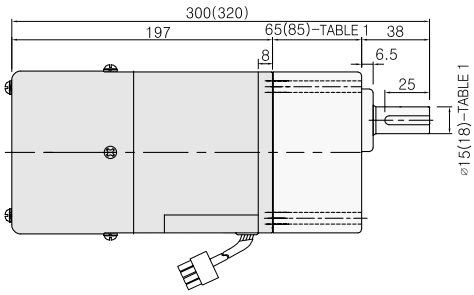
* Enter the gear ratio in the box (□) within the gearhead model name. A colored background indicates gear shaft rotation in the same direction as the motor shaft ; a white background indicates rotation in the opposite direction.
* The speed is calculated by dividing the motor' s synchronous speed (50Hz : 1500 r/min, 60 Hz : 1800 r/min) by the gear ratio.
* The actual speed is 2~20% less than the displayed value, depending on the size of the load.
* If more slow speed is needed than above value, use decimal gearhead with a gear ratio of 10:1 could be used between general gearhead and motor. Even in this case, just speed will be reduced without increase in permissible torque; the maximum permissible torque is 200kgfcm (P type) / 300kgfcm (H type).

Dimension

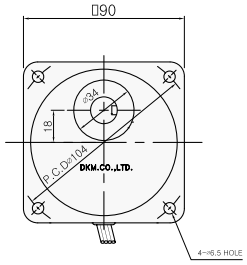
LEAD WIRE TYPE

◆ GEARED MOTOR

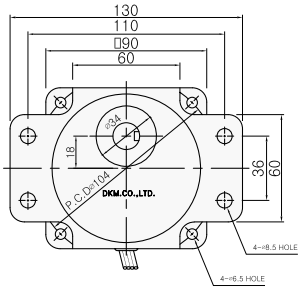
* MOTOR MODEL : 9SDG□-180F2P(H) (POWERFUL FAN)



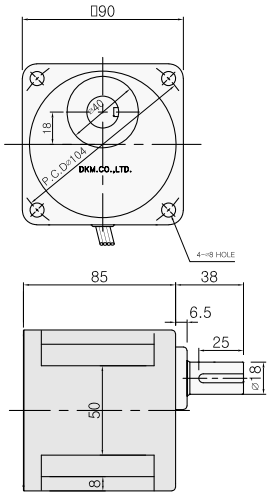
* GEARHEAD MODEL :
9PB□3BH - 9PB□180BH



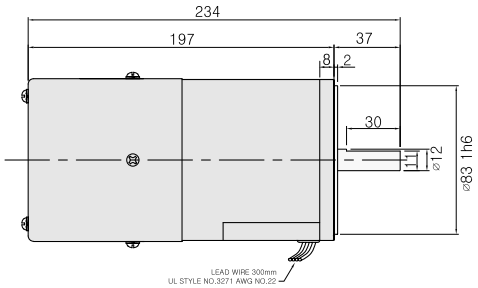
* GEARHEAD MODEL :
9PF□3BH - 9PF□180BH

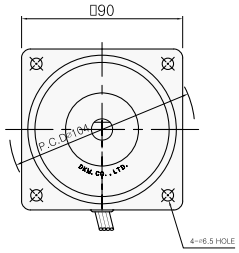


* GEARHEAD MODEL :
9HB□3BH - 9HB□180BH



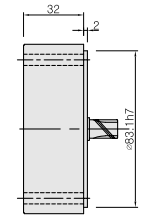
◆ MOTOR ONLY * MOTOR MODEL : 9SD□□-180F2 (POWERFUL FAN)

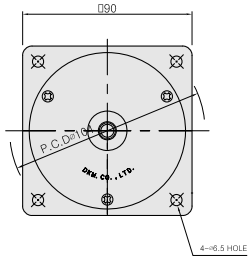




◆ INTER-DECIMAL GEARHEAD

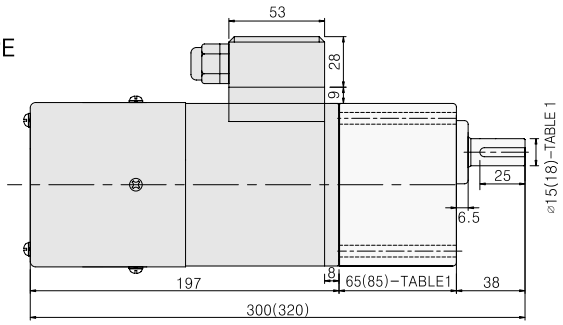
* MODEL : 9XD10M□

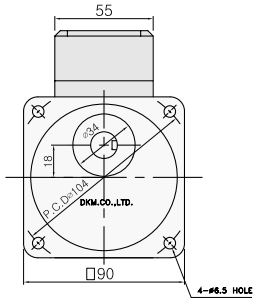




TERMINAL BOX TYPE

* MOTOR MODEL :
9SDG□-180F2P(H)-T
(POWERFUL FAN)



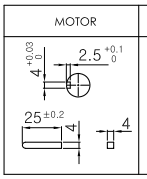
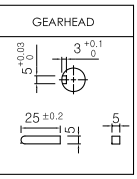


* Note : For speed control motor, powerful Fan(F2) is basic specification.

◆ 65(85)-TABLE1

SIZE(mm)	GEARHEAD TYPE
65 – ø15	P TYPE GEARHEAD
85 – ø18	H TYPE GEARHEAD

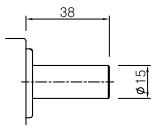
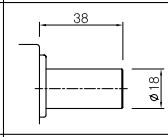
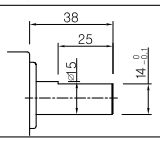
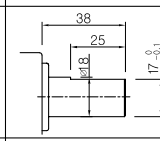
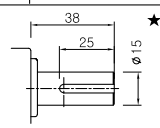
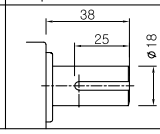
◆ KEY SPEC

MOTOR	GEARHEAD
	

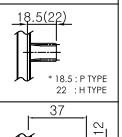
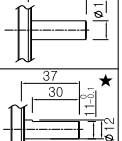
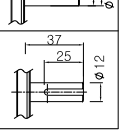
◆ WEIGHT

PART		WEIGHT(Kg)	
MOTOR		3.8	
DECIMAL GEARHEAD		0.5	
GEAR HEAD	GEARHEAD TYPE	P TYPE	H TYPE
	9P(H)□□ 3BH - 9P(H)□□9BH	1.3	1.45
	9P(H)□□ 12.5BH - 9P(H)□□18BH	1.3	1.5
	9P(H)□□ 25BH - 9P(H)□□60BH	1.4	1.7
	9P(H)□□ 90BH - 9P(H)□□180BH	1.4	1.8

◆ GEARHEAD OUTPUT

MODEL	P TYPE	H TYPE
ROUND TYPE 9P(H)□S3BH ~9P(H)□S180BH		
D-CUT TYPE 9P(H)□D3BH ~9P(H)□D180BH		
KEY TYPE 9P(H)□K3BH ~9P(H)□K180BH		

◆ MOTOR OUTPUT

MODEL	SHAFT
GEAR TYPE 9SDG□-180□ P(H)	
ROUND TYPE 9SDS□-180□	
D-CUT TYPE 9SDD□-180□	
KEY TYPE 9SDK□-180□	

* Note : Above table indicates output shaft dimension made by user' s request and ★ indicates the basic dimension in factory shipping.

Connection Diagrams

Please refer to page 148, 151.

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Speed Control
Reversible Motor

15, 25, 40, 60, 90, 120W

DSA CONTROLLER
(Unit type)

DSK CONTROLLER
(Socker type)

Motor Specification

Please refer to the page of SPEED CONTROL MOTOR.

Permissible Torque When using gearhead

Please refer to the page of SPEED CONTROL MOTOR.

Connection Diagrams

Please refer to the page of SPEED CONTROL MOTOR.

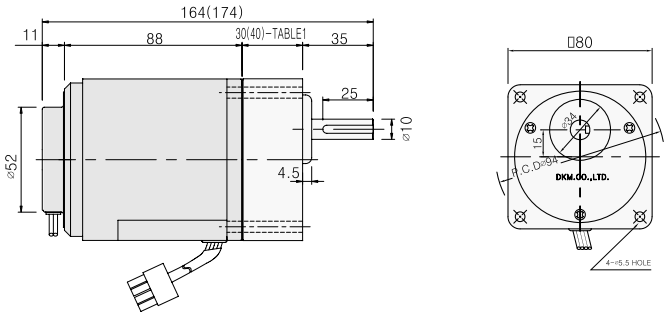
Dimension

Please refer to the page of SPEED CONTROL MOTOR.

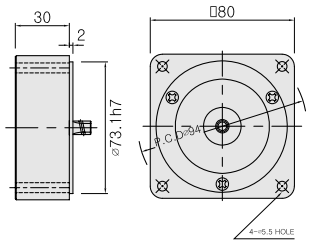
Dimension

LEAD WIRE TYPE

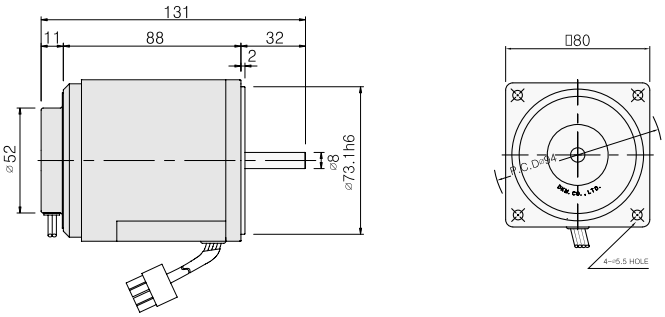
◆ GEARED MOTOR * MOTOR MODEL : 8SRDG□-15G(NO FAN)
* GEARHEAD MODEL : 8GB□3BMH - 8GB□360BMH



◆ INTER-DECIMAL GEARHEAD
* MODEL : 8XD10M□

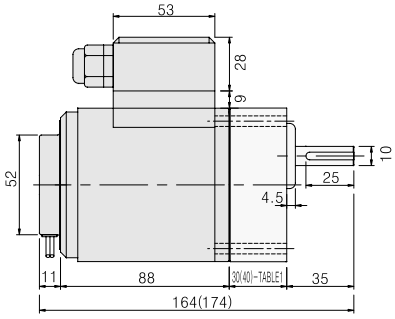


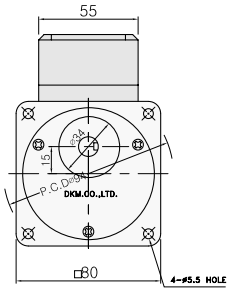
◆ MOTOR ONLY * MOTOR MODEL : 8SRD□□-15(NO FAN)



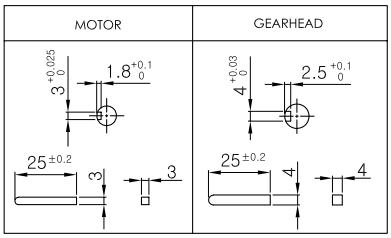
TERMINAL BOX TYPE

* MOTOR MODEL : 8SRDG□ -15G-T(NO FAN)





◆ KEY SPEC



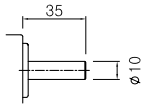
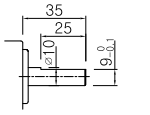
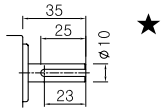
◆ 30(40)-TABLE1

SIZE(mm)	GEAR RATIO
30	8GB□ 3BMH - 8GB□ 18BMH
40	8GB□25BMH - 8GB□360BMH

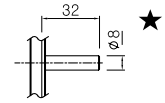
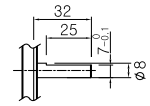
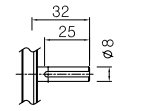
◆ WEIGHT

PART		WEIGHT(Kg)
MOTOR		1.7
DECIMAL GEARHEAD		0.44
GEAR HEAD	8GB□3BMH - 8GB□18BMH	0.48
	8GB□25BMH - 8GB □30BMH	0.61
	8GB□60BMH - 8GB □180BMH	0.67
	8GB□ 200BMH - 8GB □360BMH	0.63

◆ GEARHEAD OUTPUT

MODEL	SHAFT
ROUND TYPE 8GBS3BMH ~8GBS360BMH	
D-CUT TYPE 8GBD3BMH ~8GBD360BMH	
KEY TYPE 8GBK3BMH ~8GBK360BMH	

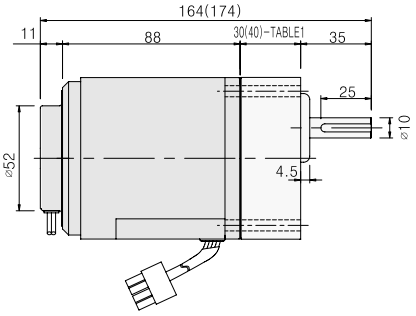
◆ MOTOR OUTPUT

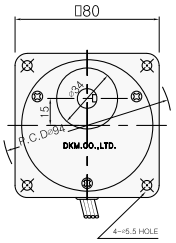
MODEL	SHAFT
GEAR TYPE 8SRDG□-15G	
ROUND TYPE 8SRDS□-15	
D-CUT TYPE 8SRDD□-15	
KEY TYPE 8SRDK□-15	

2. 25W

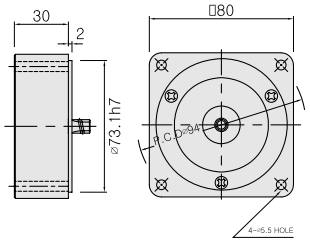
LEAD WIRE TYPE

◆ GEARED MOTOR * MOTOR MODEL : 8SRDG□- 25G(NO FAN)
* GEARHEAD MODEL : 8GB□3BMH - 8GB□360BMH

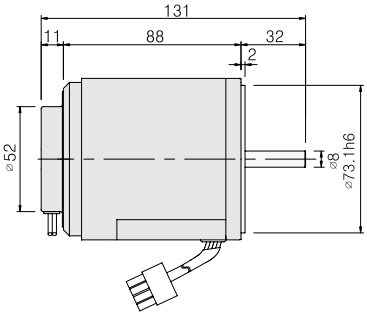


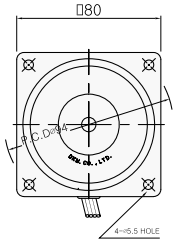


◆ INTER-DECIMAL GEARHEAD
* MODEL : 8XD10M□



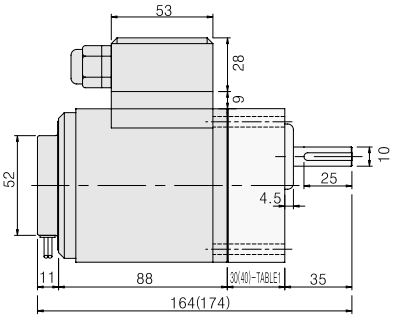
◆ MOTOR ONLY * MOTOR MODEL : 8SRD□□-25(NO FAN)

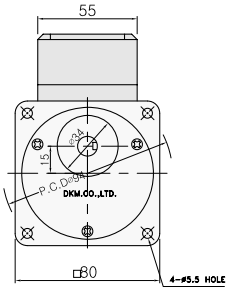




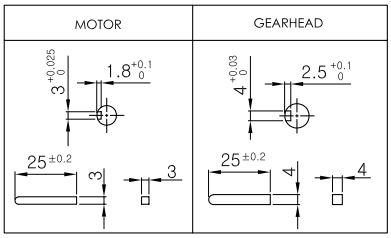
TERMINAL BOX TYPE

* MOTOR MODEL : 8SRDG□ - 25G-T(NO FAN)





◆ KEY SPEC



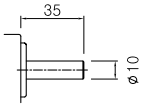
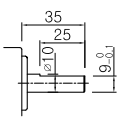
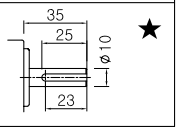
◆ 30(40)-TABLE1

SIZE(mm)	GEAR RATIO
30	8GB□ 3BMH - 8GB□ 18BMH
40	8GB□25BMH - 8GB□360BMH

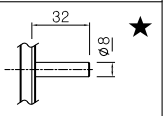
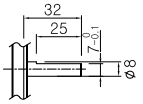
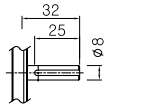
◆ WEIGHT

PART		WEIGHT(Kg)
MOTOR		1.7
DECIMAL GEARHEAD		0.44
GEAR HEAD	8GB□3BMH - 8GB□18BMH	0.48
	8GB□25BMH - 8GB□30BMH	0.61
	8GB□60BMH - 8GB□180BMH	0.67
	8GB□200BMH - 8GB□360BMH	0.63

◆ GEARHEAD OUTPUT

MODEL	SHAFT
ROUND TYPE	
8GBS3BMH ~8GBS360BMH	
D-CUT TYPE	
8GBD3BMH ~8GBD360BMH	
KEY TYPE	
8GBK3BMH ~8GBK360BMH	

◆ MOTOR OUTPUT

MODEL	SHAFT
GEAR TYPE	
8SRDG□-25G	
ROUND TYPE	
8SRDS□-25	
D-CUT TYPE	
8SRDD□-25	
KEY TYPE	
8SRDK□-25	

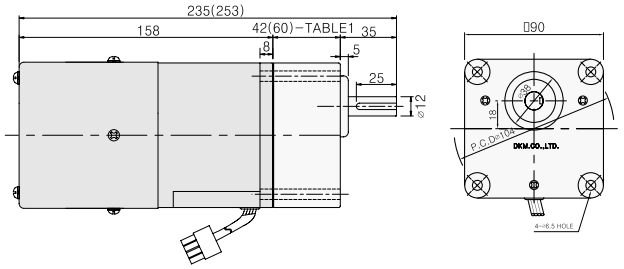
* Note : Above table indicates output shaft dimension made by user' s request and ★ indicates the basic dimension in factory shipping.

3. 40W

LEAD WIRE TYPE

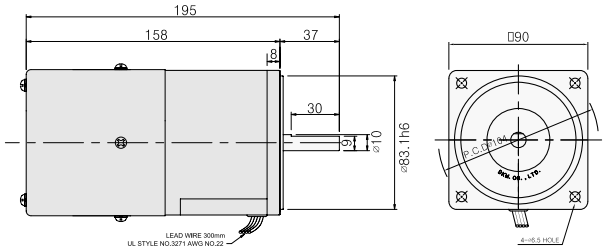
◆ GEARED MOTOR

* MOTOR MODEL : 9SRDG□-40F2G (POWERFUL FAN)
* GEARHEAD MODEL : 9GB□3MH - 9GB□180MH



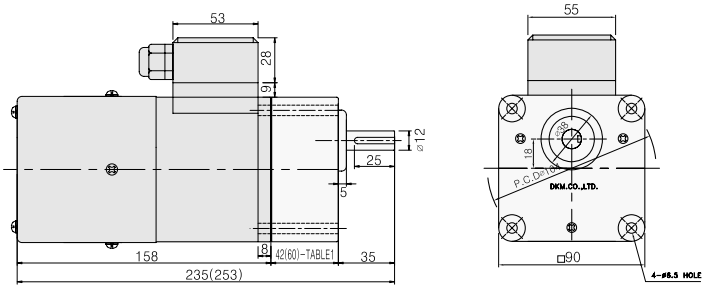
◆ MOTOR ONLY

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



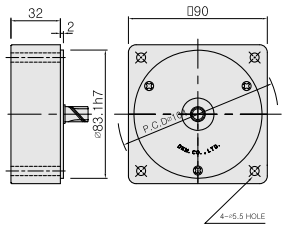
TERMINAL BOX TYPE

* MOTOR MODEL : 9SRDG□-40F2G-T (POWERFUL FAN)



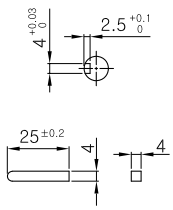
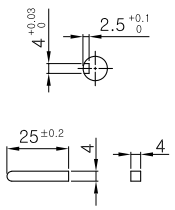
◆ INTER-DECIMAL GEARHEAD

* MODEL : 9XD10M□



* Note : For speed control motor , powerful Fan(F2) is basic specification.

◆ KEY SPEC

MOTOR	GEARHEAD
	

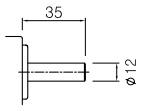
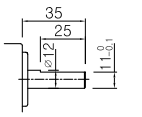
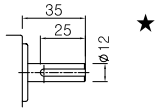
◆ 42(60)-TABLE1

SIZE(mm)	GEAR RATIO
42	9GB□3MH - 9GB□15MH
60	9GB□18MH - 9GB □180MH

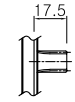
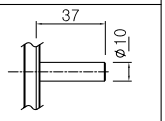
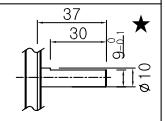
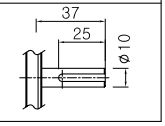
◆ WEIGHT

PART		WEIGHT(Kg)
MOTOR		2.5
DECIMAL GEARHEAD		0.5
GEAR HEAD	9GB□3MH - 9GB□15MH	0.67
	9GB□18MH - 9GB□30MH	0.96
	9GB□36MH - 9GB□180MH	1.07

◆ GEARHEAD OUTPUT

MODEL	SHAFT
ROUND TYPE	
9GBS3MH ~9GBS180MH	
D-CUT TYPE	
9GBD3MH ~9GBD180MH	
KEY TYPE	
9GBK3MH ~9GBK180MH	

◆ MOTOR OUTPUT

MODEL	SHAFT
GEAR TYPE	
9SRDG□-40G	
ROUND TYPE	
9SRDS□-40	
D-CUT TYPE	
9SRDD□-40	
KEY TYPE	
9SRDK□-40	

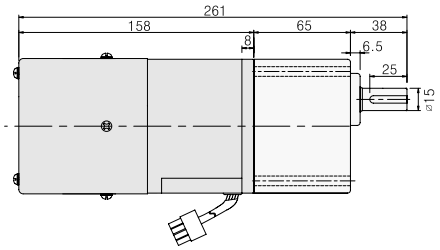
* Note : Above table indicates output shaft dimension made by user' s request and ★ indicates the basic dimension in factory shipping.

4. 60W

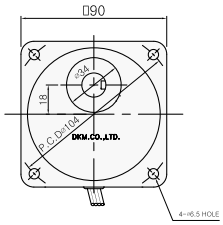
LEAD WIRE TYPE

◆ GEARED MOTOR

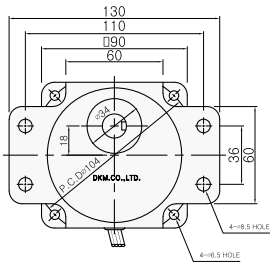
* MOTOR MODEL : 9SRDG□-60F2P (POWERFUL FAN)



* GEARHEAD MODEL :
9PB □ 3BH - 9PB □180BH

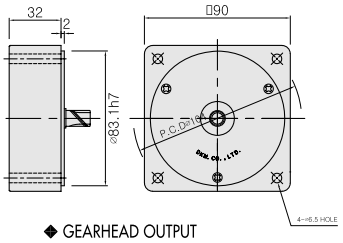


* GEARHEAD MODEL :
9PF □ 3BH - 9PF □180BH

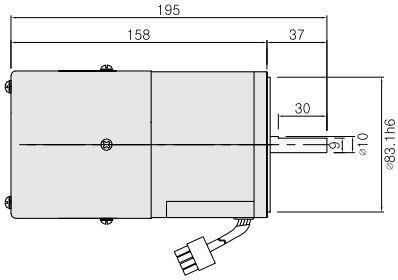


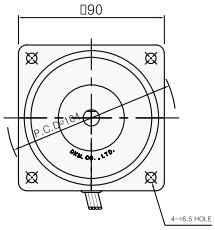
◆ INTER-DECIMAL GEARHEAD

* MODEL : 9XD10M□

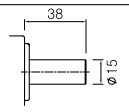
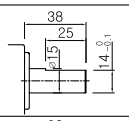
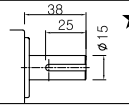


◆ MOTOR ONLY * MOTOR MODEL : 9SRDG□□-60F2 (POWERFUL FAN)

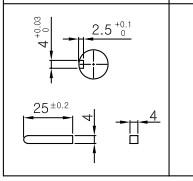
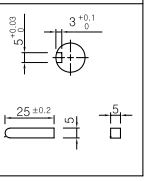




◆ GEARHEAD OUTPUT

MODEL	SHAFT
ROUND TYPE 9P□S3BH ~9P□S180BH	
D-CUT TYPE 9P□D3BH ~9P□D180BH	
KEY TYPE 9P□K3BH ~9P□K180BH	 ★

◆ KEY SPEC

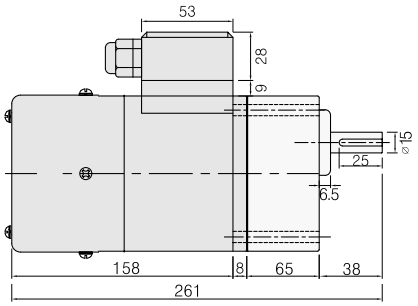
MOTOR	GEARHEAD
	

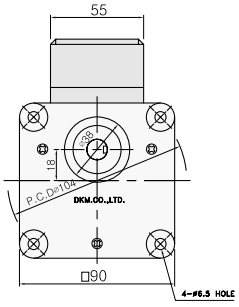
◆ WEIGHT

PART		WEIGHT(Kg)
MOTOR		2.7
DECIMAL GEARHEAD		0.5
GEAR HEAD	9P□□ 3BH - 9P□□9BH	1.3
	9P□□ 12.5BH - 9P□□18BH	1.3
	9P□□ 25BH - 9P□□60BH	1.4
	9P□□ 90BH - 9P□□180BH	1.4

TERMINAL BOX TYPE

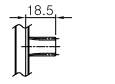
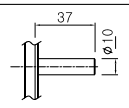
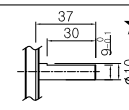
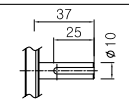
* MOTOR MODEL : 9SRDG□-60F2P-T (POWERFUL FAN)





* Note : For speed control motor, powerful Fan(F2) is basic specification.

◆ MOTOR OUTPUT

MODEL	SHAFT
GEAR TYPE 9SRDG□-60□P	
ROUND TYPE 9SRDS□-60□	
D-CUT TYPE 9SRDD□-60□	 ★
KEY TYPE 9SRDK□-60□	

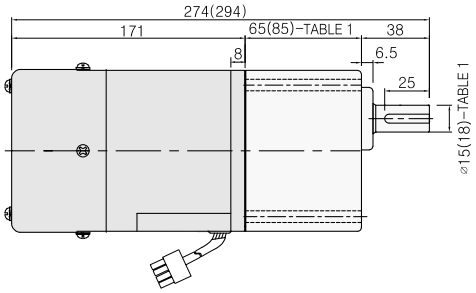
* Note : Above table indicates output shaft dimension made by user's request and ★ indicates the basic dimension in factory shipping.

5. 90W

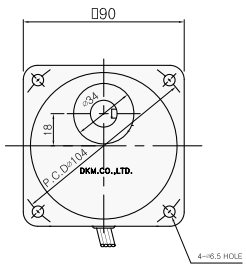
LEAD WIRE TYPE

◆ GEARED MOTOR

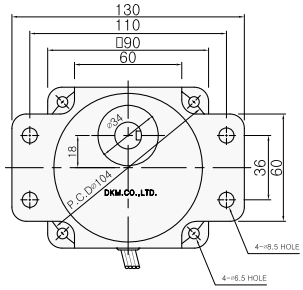
* MOTOR MODEL : 9SRDG□-90F2P(H) (POWERFUL FAN)



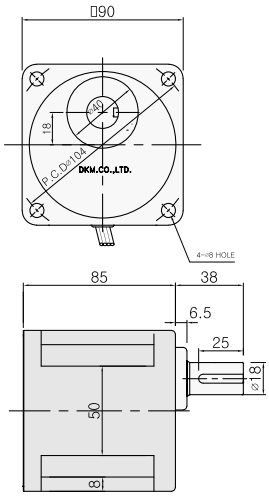
* GEARHEAD MODEL :
9PB□ 3BH - 9PB□180BH



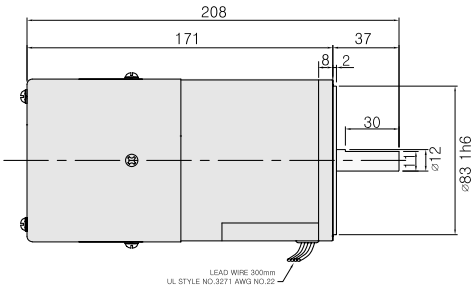
* GEARHEAD MODEL :
9PF□ 3BH - 9PF□180BH

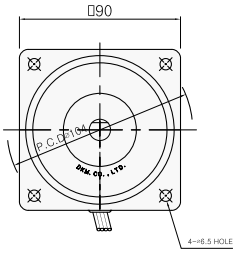


* GEARHEAD MODEL :
9HB□ 3BH - 9HB□180BH



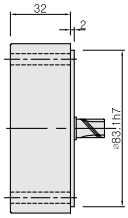
◆ MOTOR ONLY * MOTOR MODEL : 9SRD□□-90F2 (POWERFUL FAN)

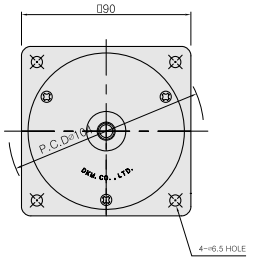




◆ INTER-DECIMAL GEARHEAD

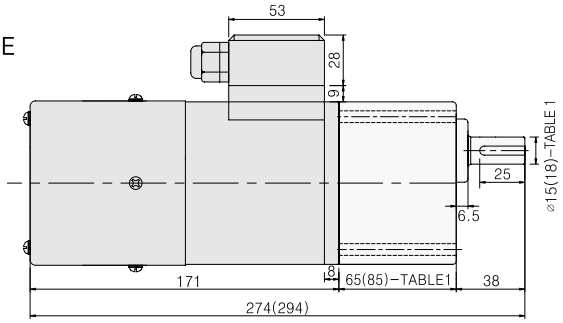
* MODEL : 9XD10M□

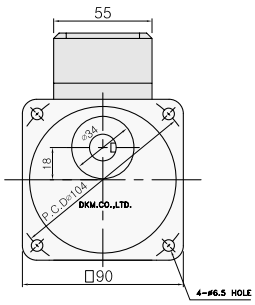




TERMINAL BOX TYPE

* MOTOR MODEL :
9SRDG□-90F2P(H)-T
(POWERFUL FAN)



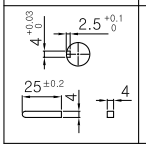
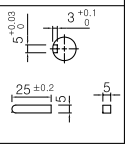


* Note : For speed control motor, powerful Fan(F2) is basic specification.

◆ 65(85)-TABLE1

SIZE(mm)	GEARHEAD TYPE
65 ~ ø15	P TYPE GEARHEAD
85 ~ ø18	H TYPE GEARHEAD

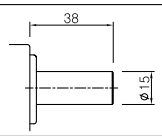
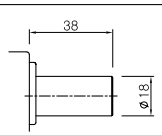
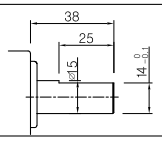
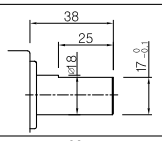
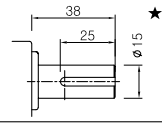
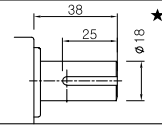
◆ KEY SPEC

MOTOR	GEARHEAD
	

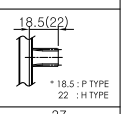
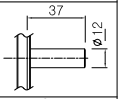
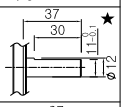
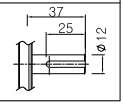
◆ WEIGHT

PART		WEIGHT(Kg)	
MOTOR		3.0	
DECIMAL GEARHEAD		0.5	
GEAR HEAD	GEARHEAD TYPE	P TYPE	H TYPE
	9P(H)□□ 3BH - 9P(H)□□9BH	1.3	1.45
	9P(H)□□ 12.5BH - 9P(H)□□18BH	1.3	1.5
	9P(H)□□ 25BH - 9P(H)□□60BH	1.4	1.7
	9P(H)□□ 90BH - 9P(H)□□180BH	1.4	1.8

◆ GEARHEAD OUTPUT

MODEL	P TYPE	H TYPE
ROUND TYPE 9P(H)□S3BH ~9P(H)□S180BH		
D-CUT TYPE 9P(H)□D3BH ~9P(H)□D180BH		
KEY TYPE 9P(H)□K3BH ~9P(H)□K180BH		

◆ MOTOR OUTPUT

MODEL	SHAFT
GEAR TYPE 9SRDG□ -90□ P(H)	
ROUND TYPE 9SRDS□-90□	
D-CUT TYPE 9SRDD□-90□	
KEY TYPE 9SRDK□-90□	

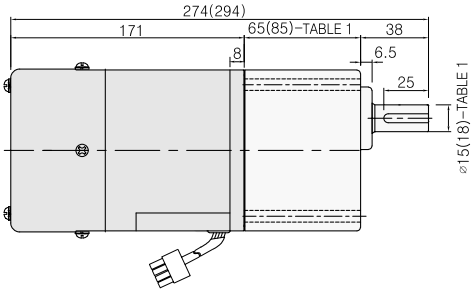
* Note : Above table indicates output shaft dimension made by user' s request and ★ indicates the basic dimension in factory shipping.

6. 120W

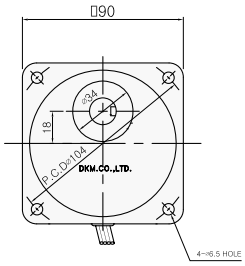
LEAD WIRE TYPE

◆ GEARED MOTOR

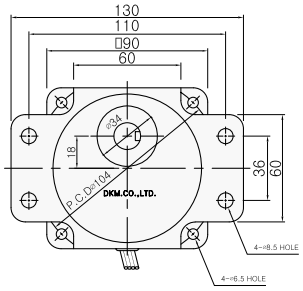
* MOTOR MODEL : 9SRDG□-120F2P(H) (POWERFUL FAN)



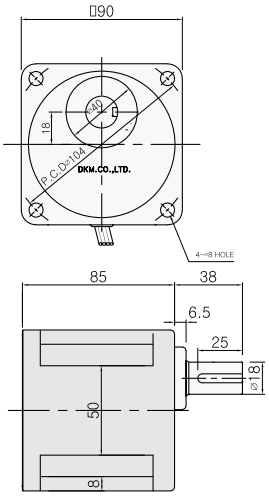
* GEARHEAD MODEL :
9PB □ 3BH - 9PB□180BH



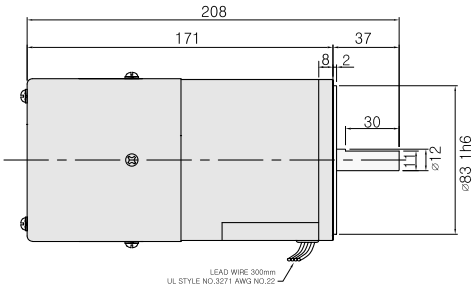
* GEARHEAD MODEL :
9PF □ 3BH - 9PF□180BH

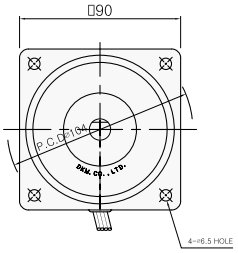


* GEARHEAD MODEL :
9HB □ 3BH - 9HB□180BH



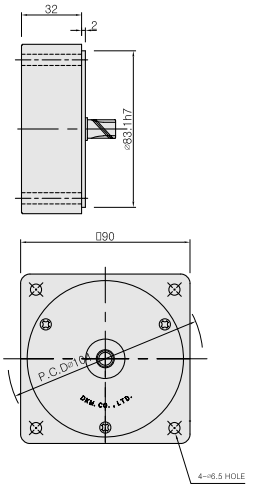
◆ MOTOR ONLY * MOTOR MODEL : 9SRD□□-120F2 (POWERFUL FAN)





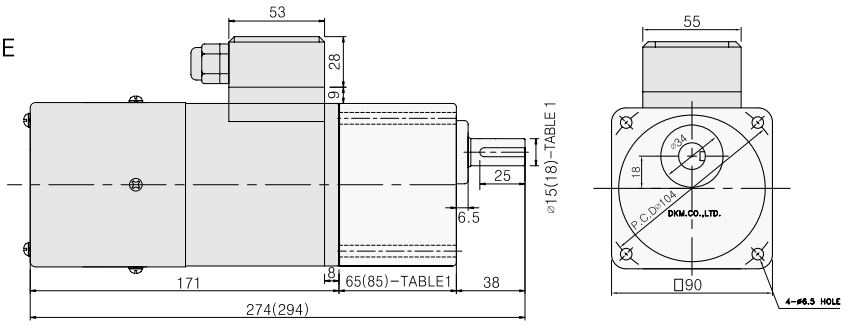
◆ INTER-DECIMAL GEARHEAD

* MODEL : 9XD10M□



TERMINAL BOX TYPE

* MOTOR MODEL :
9SRDG□-120F2P(H)-T
(POWERFUL FAN)

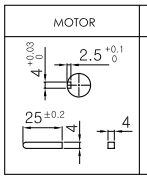
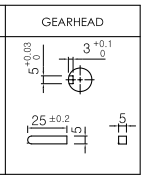


* Note : For speed control motor, powerful Fan(F2) is basic specification.

◆ 65(85)-TABLE1

SIZE(mm)	GEARHEAD TYPE
65 ~ ø15	P TYPE GEARHEAD
85 ~ ø18	H TYPE GEARHEAD

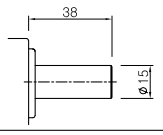
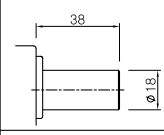
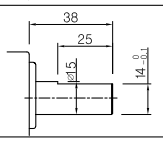
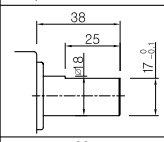
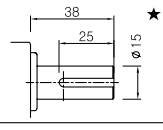
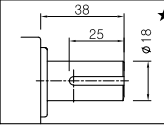
◆ KEY SPEC

MOTOR	GEARHEAD
	

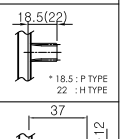
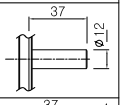
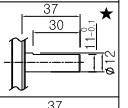
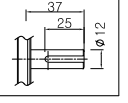
◆ WEIGHT

PART	WEIGHT(Kg)	
MOTOR	3.0	
DECIMAL GEARHEAD	0.5	
GEAR HEAD	GEARHEAD TYPE	P TYPE	H TYPE
	9P(H)□□ 3BH - 9P(H)□□9BH	1.3	1.45
	9P(H)□□ 12.5BH - 9P(H)□□18BH	1.3	1.5
	9P(H)□□ 25BH - 9P(H)□□60BH	1.4	1.7
	9P(H)□□ 90BH - 9P(H)□□180BH	1.4	1.8

◆ GEARHEAD OUTPUT

MODEL	P TYPE	H TYPE
ROUND TYPE 9P(H)□S3BH ~9P(H)□S180BH		
D-CUT TYPE 9P(H)□D3BH ~9P(H)□D180BH		
KEY TYPE 9P(H)□K3BH ~9P(H)□K180BH		

◆ MOTOR OUTPUT

MODEL	SHAFT
GEAR TYPE 9SRDG□-120□P(H)	
ROUND TYPE 9SRDS□-120□	
D-CUT TYPE 9SRDD□-120□	
KEY TYPE 9SRDK□-120□	

* Note : Above table indicates output shaft dimension made by user' s request and ★ indicates the basic dimension in factory shipping.

Speed Control
Electromagnetic Brake Motor

15, 25, 40, 60, 90, 120, 180W

FX1000A CONTROLLER (Digital type) | DSA CONTROLLER (Unit type) | DSK CONTROLLER (Socker type)

Motor Specification

Please refer to the page of SPEED CONTROL MOTOR.

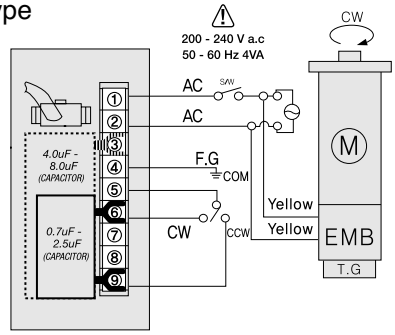
Permissible Torque When using gearhead

Please refer to the page of SPEED CONTROL MOTOR.

Connection Diagrams

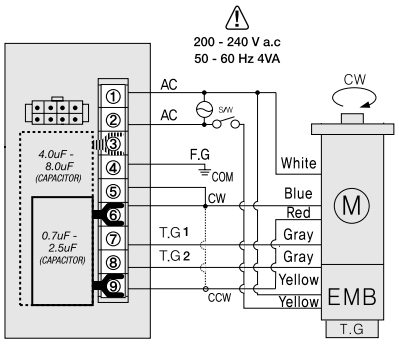
● FX1000A Controller (Digital type)

1. Connector type



R = 100Ω / 1W, C = 600V / 0.1μ

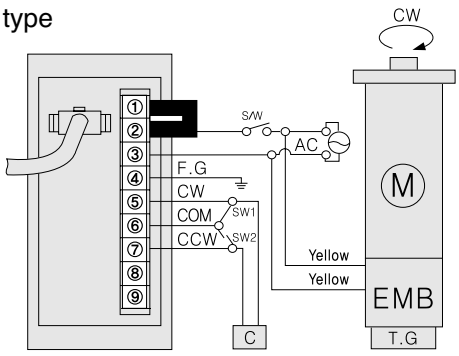
2. Terminal type



※CW : (COM+CW)
※CCW : (COM+CCW)

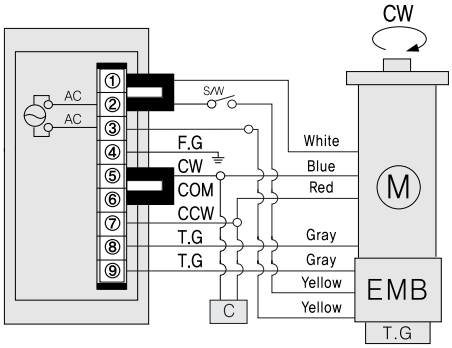
● DSA Controller (Unitl type)

1. Connector type



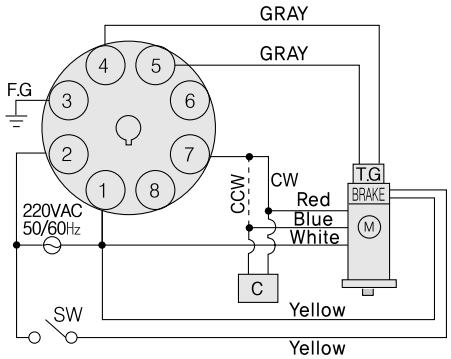
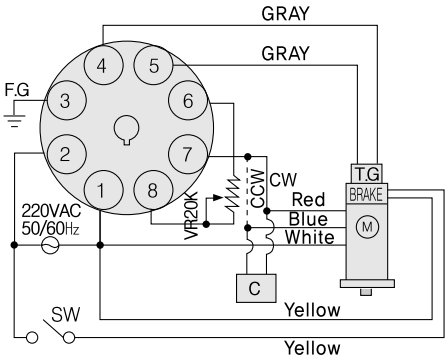
R = 100Ω / 1W, C = 600V / 0.1μ

2. Terminal type



※CCW : Change Red and Blue.

● DSK(S) (Socket Type)

DSK	DSKS
	

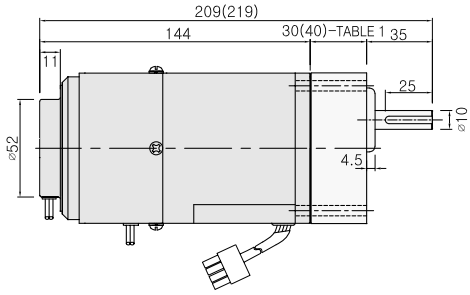
- For CCW operation, please change Red and blue.
- In case of F2 FAN type, power supply by connecting Black with No.1 and No.2 input.

Dimension

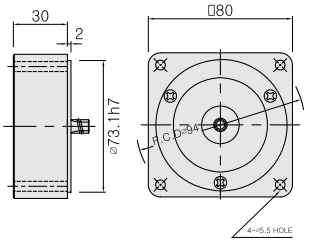
1. 15W

LEAD WIRE TYPE

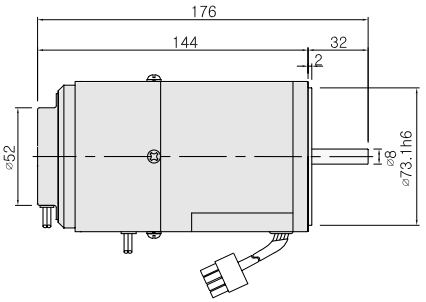
◆ GEARED MOTOR * MOTOR MODEL : 8SBDG□-15G(NO FAN)
* HEAD MODEL : 8GB □3BMH - 8GB □360BMH



◆ INTER-DECIMAL GEARHEAD
* MODEL : 8XD10M□

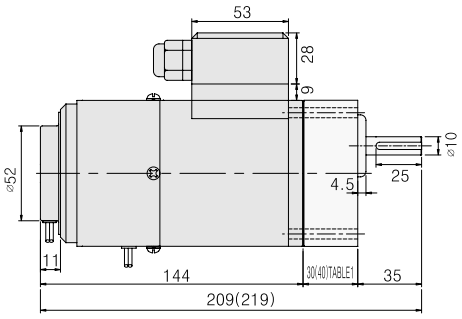


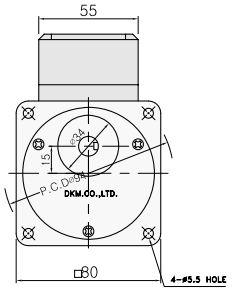
◆ MOTOR ONLY * MOTOR MODEL : 8SBD□□-15 (NO FAN)



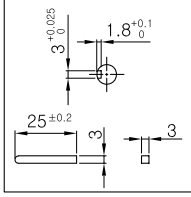
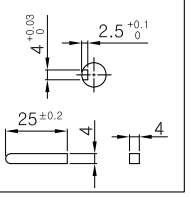
TERMINAL BOX TYPE

* MOTOR MODEL : 8SBDG□-15G(NO FAN)





◆ KEY SPEC

MOTOR	GEARHEAD
	

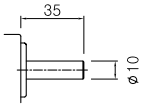
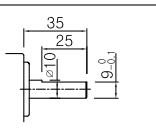
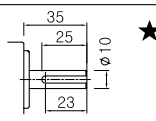
◆ 30(40)-TABLE1

SIZE(mm)	GEAR RATIO
30	8GB□3BMH - 8GB□18BMH
40	8GB□25BMH - 8GB□360BMH

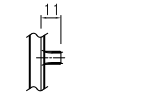
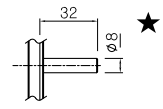
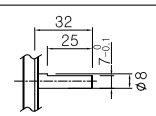
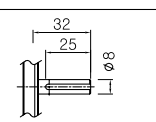
◆ WEIGHT

PART		WEIGHT(Kg)
MOTOR		2.09
DECIMAL GEARHEAD		0.44
GEAR HEAD	8GB□3BMH - 8GB□18BMH	0.48
	8GB□25BMH - 8GB□30BMH	0.61
	8GB□36BMH - 8GB□180BMH	0.67
	8GB□200BMH - 8GB□360BMH	0.63

◆ GEARHEAD OUTPUT

MODEL	SHAFT
ROUND TYPE 8GBS3BMH ~8GBS360BMH	
D-CUT TYPE 8GBD3BMH ~8GBD360BMH	
KEY TYPE 8GBK3BMH ~8GBK360BMH	

◆ MOTOR OUTPUT

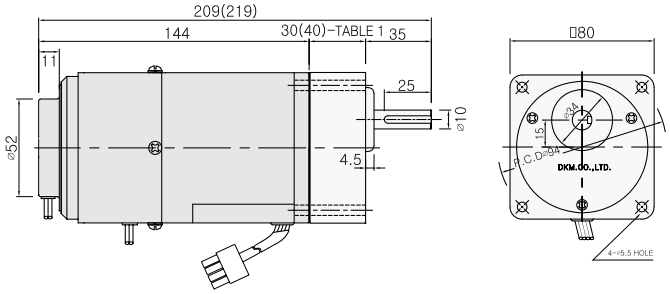
MODEL	SHAFT
GEAR TYPE 8SBDG□-15G	
ROUND TYPE 8SBDS□-15	
D-CUT TYPE 8SBDD□-15	
KEY TYPE 8SBDK□-15	

* Note : Above table indicates output shaft dimension made by user' s request and ★ indicates the basic dimension in factory shipping.

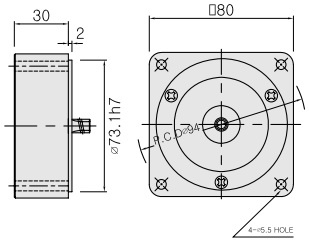
2. 25W

LEAD WIRE TYPE

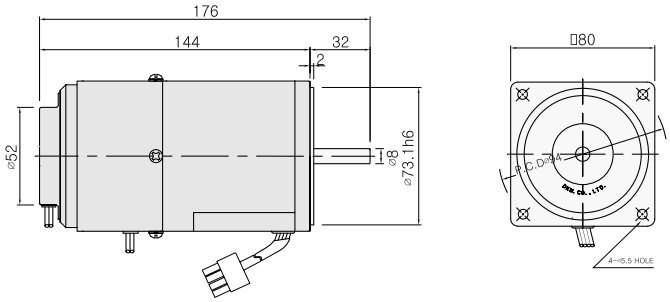
◆ GEARED MOTOR * MOTOR MODEL : 8SBDG□-25G(NO FAN)
* HEAD MODEL : 8GB□3BMH - 8GB□360BMH



◆ INTER-DECIMAL GEARHEAD
* MODEL : 8XD10M□

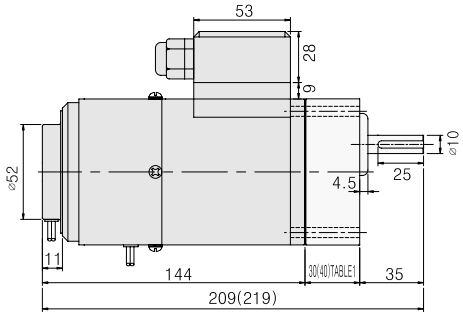


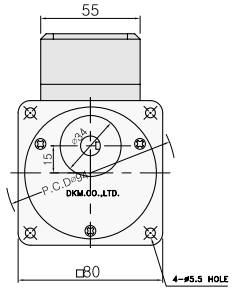
◆ MOTOR ONLY * MOTOR MODEL : 8SBD□□-25(NO FAN)



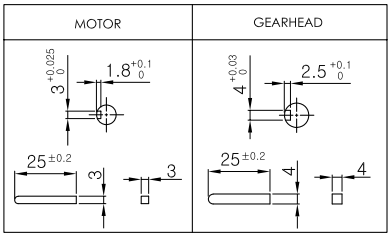
TERMINAL BOX TYPE

* MOTOR MODEL : 8SBDG□-25G(NO FAN)





◆ KEY SPEC



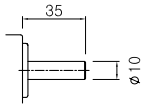
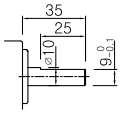
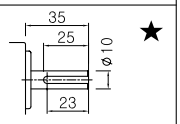
◆ 30(40)-TABLE1

SIZE(mm)	GEAR RATIO
30	8GB□ 3BMH - 8GB□ 18BMH
40	8GB□25BMH - 8GB□360BMH

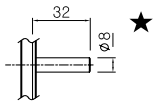
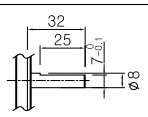
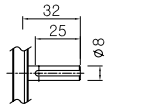
◆ WEIGHT

PART		WEIGHT(Kg)
MOTOR		2.09
DECIMAL GEARHEAD		0.44
GEAR HEAD	8GB□3BMH - 8GB□18BMH	0.48
	8GB□25BMH - 8GB□30BMH	0.61
	8GB□36BMH - 8GB□180BMH	0.67
	8GB□200BMH - 8GB□360BMH	0.63

◆ GEARHEAD OUTPUT

MODEL	SHAFT
ROUND TYPE	
8GBS3BMH ~8GBS360BMH	
D-CUT TYPE	
8GBD3BMH ~8GBD360BMH	
KEY TYPE	
8GBK3BMH ~8GBK360BMH	

◆ MOTOR OUTPUT

MODEL	SHAFT
GEAR TYPE	
8SBDG□-25G	
ROUND TYPE	
8SBDS□-25	
D-CUT TYPE	
8SBDD□-25	
KEY TYPE	
8SBDK□-25	

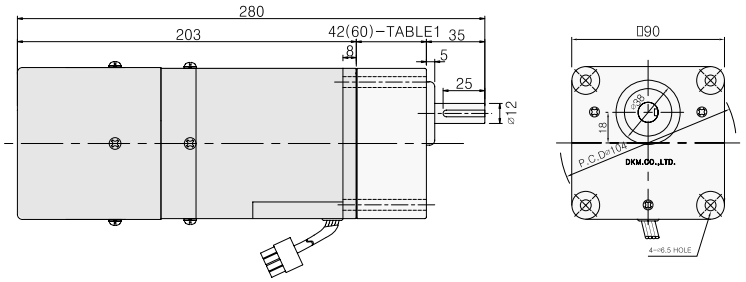
* Note : Above table indicates output shaft dimension made by user's request and ★ indicates the basic dimension in factory shipping.

3. 40W

LEAD WIRE TYPE

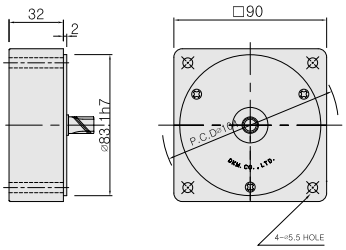
◆ GEARED MOTOR

* MOTOR MODEL : 9SBDG□-40F2G (POWERFUL FAN)
* GEARHEAD MODEL : 9GB□3MH - 9GB□180MH

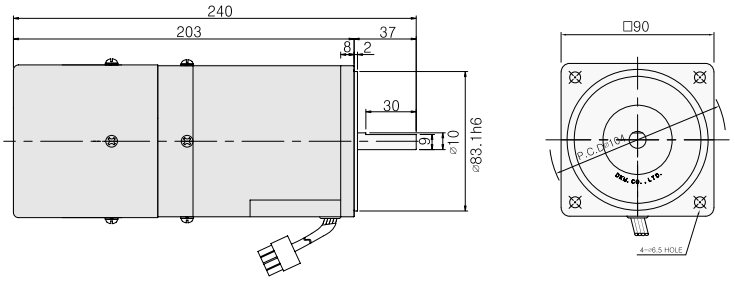


◆ INTER-DECIMAL GEARHEAD

* MODEL : 9XD10M□

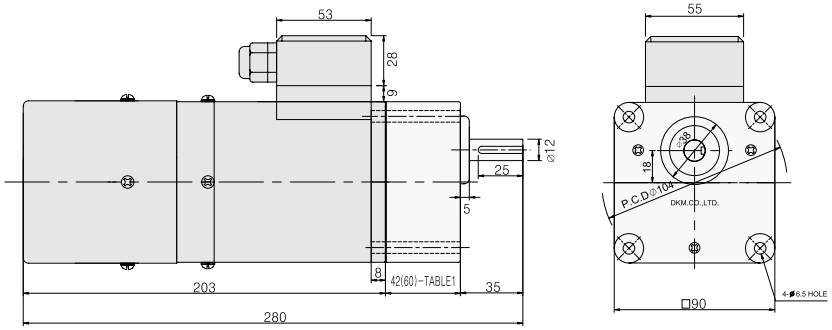


◆ MOTOR ONLY * MOTOR MODEL : 9SBD□□-40F2 (POWERFUL FAN)



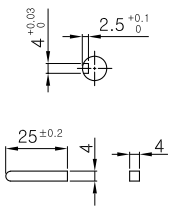
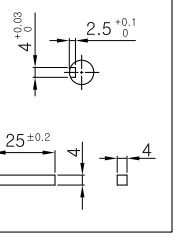
TERMINAL BOX TYPE

* MOTOR MODEL :
  9SBDG□-40F2G-T (POWERFUL FAN)



* Note : For speed control motor, powerful Fan(F2) is basic specification.

◆ KEY SPEC

MOTOR	GEARHEAD
	

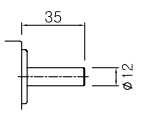
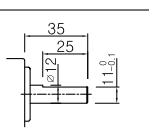
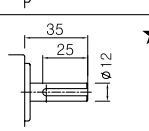
◆ 42(60)-TABLE1

SIZE(mm)	GEAR RATIO
42	9GB□3MH - 9GB□15MH
60	9GB□18MH - 9GB□180MH

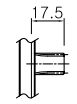
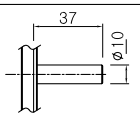
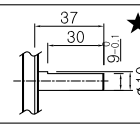
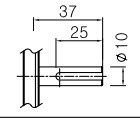
◆ WEIGHT

PART		WEIGHT(Kg)
MOTOR		3.09
DECIMAL GEARHEAD		0.5
GEAR HEAD	9GB□3MH - 9GB□15MH	0.67
	9GB□18MH - 9GB□30MH	0.96
	9GB□36MH - 9GB□180MH	1.07

◆ GEARHEAD OUTPUT

MODEL	SHAFT
ROUND TYPE	
9GBS3MH ~9GBS180MH	
D-CUT TYPE	
9GBD3MH ~9GBD180MH	
KEY TYPE	
9GBK3MH ~9GBK180MH	

◆ MOTOR OUTPUT

MODEL	SHAFT
GEAR TYPE	
9SBDG□-40 G	
ROUND TYPE	
9SBDS□-40	
D-CUT TYPE	
9SBDD□-40	
KEY TYPE	
9SBDK□-40	

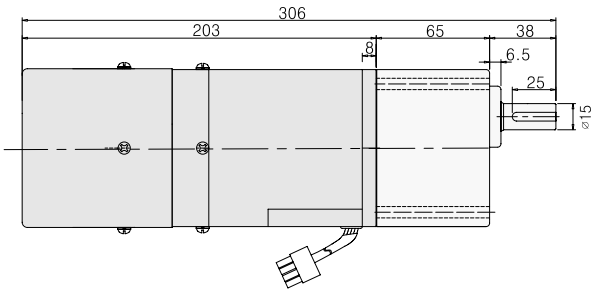
* Note : Above table indicates output shaft dimension made by user' s request and ★ indicates the basic dimension in factory shipping.

4. 60W

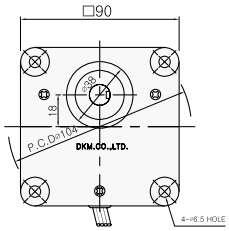
LEAD WIRE TYPE

◆ GEARED MOTOR

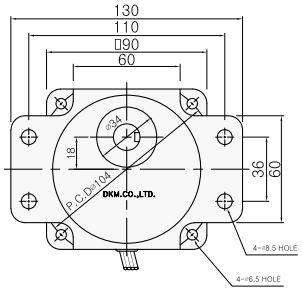
* MOTOR MODEL : 9SBDG□-60F2P (POWERFUL FAN)



* GEARHEAD MODEL:
9PB □ 3BH - 9PB □180BH

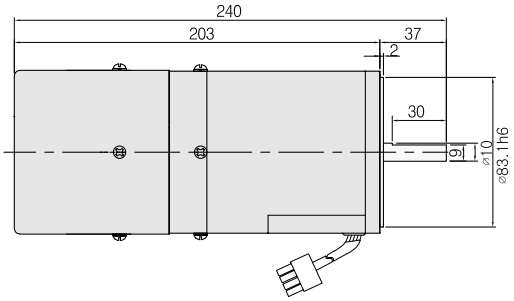


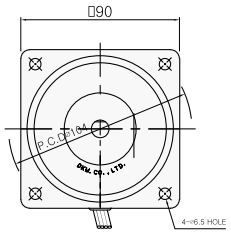
* GEARHEAD MODEL:
9PF □ 3BH - 9PF □180BH



◆ MOTOR ONLY

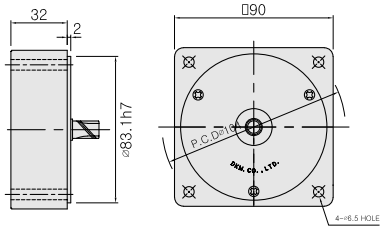
* MOTOR MODEL : 9SBD□□-60F2 (POWERFUL FAN)





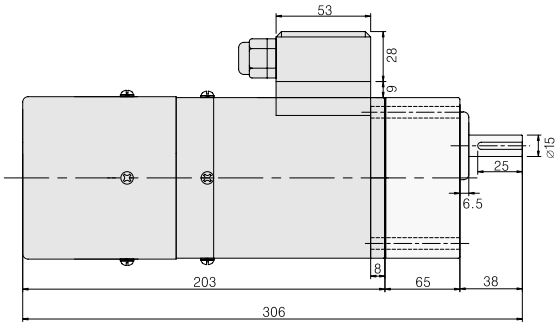
◆ INTER-DECIMAL GEARHEAD

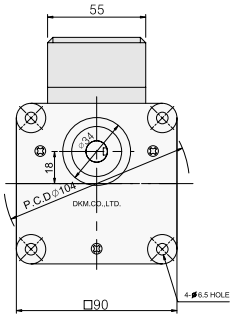
* MODEL : 9XD10M □



TERMINAL BOX TYPE

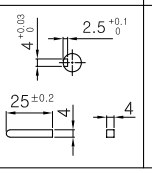
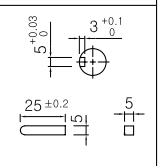
* MOTOR MODEL :
9SBDG□-60F2P-T (POWERFUL FAN)





* Note : For speed control motor, powerful Fan(F2) is basic specification.

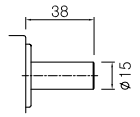
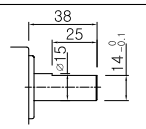
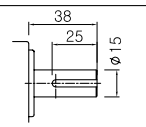
◆ KEY SPEC

MOTOR	GEARHEAD
	

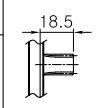
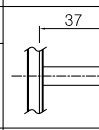
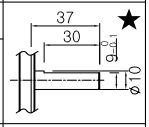
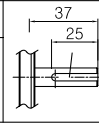
◆ WEIGHT

PART		WEIGHT(Kg)
MOTOR		3.09
DECIMAL GEARHEAD		0.5
GEAR HEAD	9P□□ 3BH - 9P□□9BH	1.3
	9P□□ 12.5BH - 9P□□18BH	1.3
	9P□□ 25BH - 9P□□60BH	1.4
	9P□□ 90BH - 9P□□180BH	1.4

◆ GEARHEAD OUTPUT

MODEL	SHAFT
ROUND TYPE 9P□S3BH ~9P□S180BH	
D-CUT TYPE 9P□D3BH ~9P□D180BH	
KEY TYPE 9P□K3BH ~9P□K180BH	 ★

◆ MOTOR OUTPUT

MODEL	SHAFT
GEAR TYPE 9SBDG□-60 □P	
ROUND TYPE 9SBDS□-60□	
D-CUT TYPE 9SBDD□-60□	 ★
KEY TYPE 9SBDK□-60□	

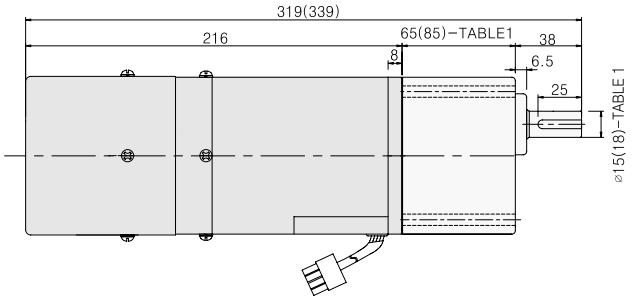
* Note : Above table indicates output shaft dimension made by user' s request and ★ indicates the basic dimension in factory shipping.

5. 90W

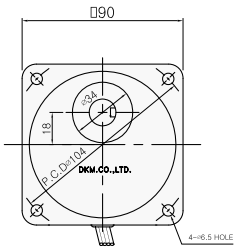
LEAD WIRE TYPE

◆ GEARED MOTOR

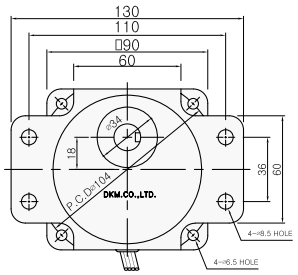
* MOTOR MODEL : 9SBDG□-90F2P(H) (POWERFUL FAN)



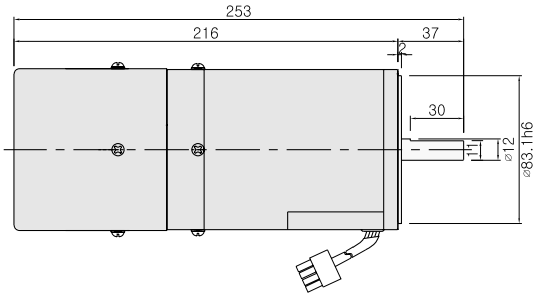
* GEARHEAD MODEL : 9PB□3BH - 9PB□180BH

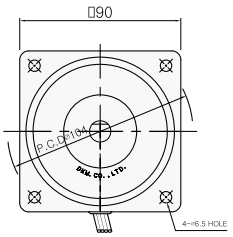


* GEARHEAD MODEL : 9PF□3BH - 9PF□180BH

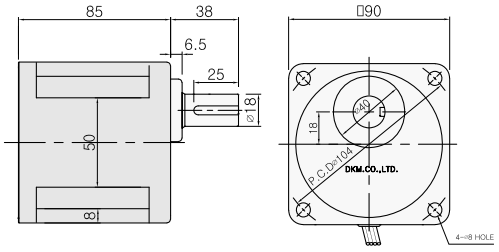


◆ MOTOR ONLY * MOTOR MODEL : 9SBD□□-90F2 (POWERFUL FAN)

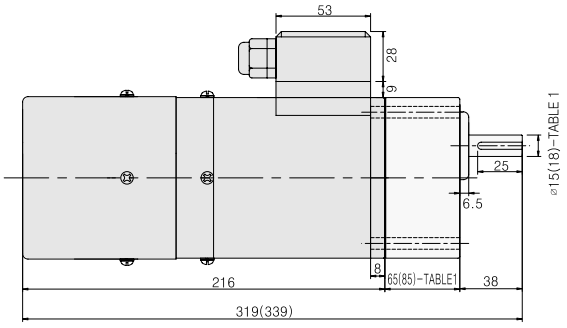


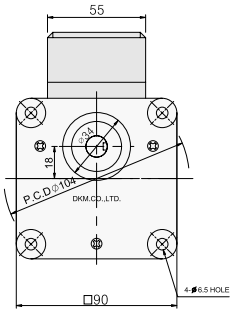


* GEARHEAD MODEL : 9HB□3BH - 9HB□180BH



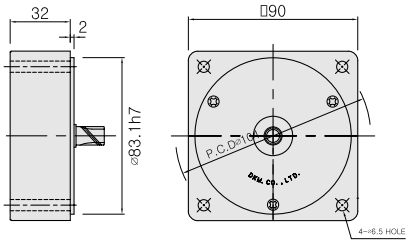
TERMINAL BOX TYPE * MOTOR MODEL : 9SBDG□-90F2P(H)-T (POWERFUL FAN)





◆ INTER-DECIMAL GEARHEAD

* MODEL : 9XD10M□

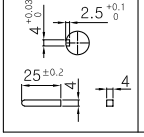
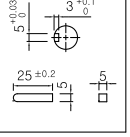


* Note : For speed control motor, powerful Fan(F2) is basic specification.

◆ 65(85)-TABLE1

SIZE(mm)	GEARHEAD TYPE
65 ~ ø15	P TYPE GEARHEAD
85 ~ ø18	H TYPE GEARHEAD

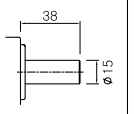
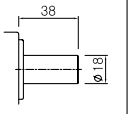
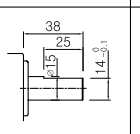
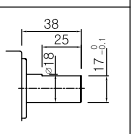
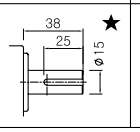
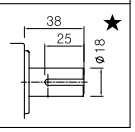
◆ KEY SPEC

MOTOR	GEARHEAD
	

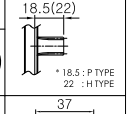
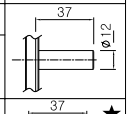
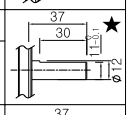
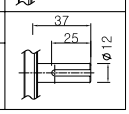
◆ WEIGHT

PART	WEIGHT(Kg)	
MOTOR	3.8	
DECIMAL GEARHEAD	0.5	
GEAR HEAD — GEARHEAD TYPE	P TYPE	H TYPE
9P(H)□□ 3BH - 9P(H)□□9BH	1.3	1.45
9P(H)□□ 12.5BH - 9P(H)□□18BH	1.3	1.5
9P(H)□□ 25BH - 9P(H)□□60BH	1.4	1.7
9P(H)□□ 90BH - 9P(H)□□180BH	1.4	1.8

◆ GEARHEAD OUTPUT

MODEL	P TYPE	H TYPE
ROUND TYPE 9P(H)□S3BH ~9P(H)□S180BH		
D-CUT TYPE 9P(H)□D3BH ~9P(H)□D180BH		
KEY TYPE 9P(H)□K3BH ~9P(H)□K180BH		

◆ MOTOR OUTPUT

MODEL	SHAFT
GEAR TYPE 9SBDG□-90□P(H)	
ROUND TYPE 9SBDS□-90□	
D-CUT TYPE 9SBDD□-90□	
KEY TYPE 9SBDK□-90□	

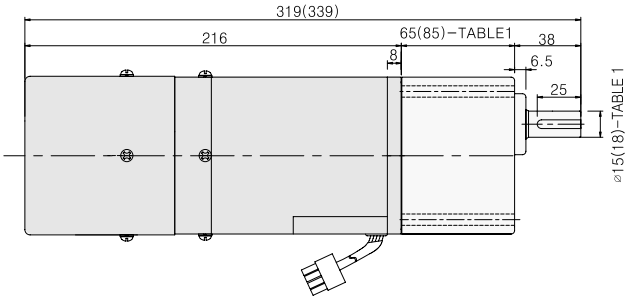
* Note : Above table indicates output shaft dimension made by user' s request and ★ indicates the basic dimension in factory shipping.

6. 120W

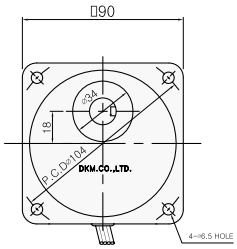
LEAD WIRE TYPE

◆ GEARED MOTOR

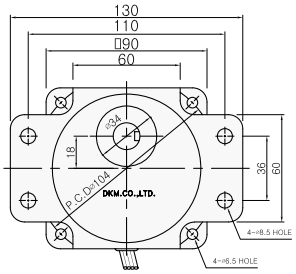
* MOTOR MODEL : 9SBDG□-120F2P(H) (POWERFUL FAN)



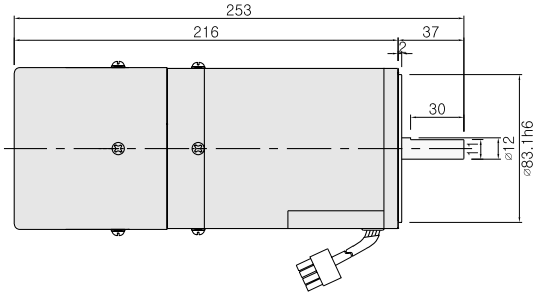
* GEARHEAD MODEL : 9PB□3BH - 9PB□180BH

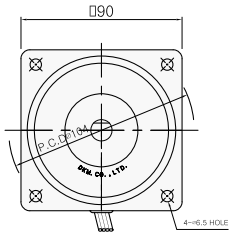


* GEARHEAD MODEL : 9PF□3BH - 9PF□180BH

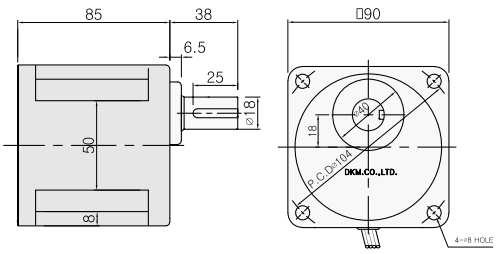


◆ MOTOR ONLY * MOTOR MODEL : 9SBD□□-120F2 (POWERFUL FAN)

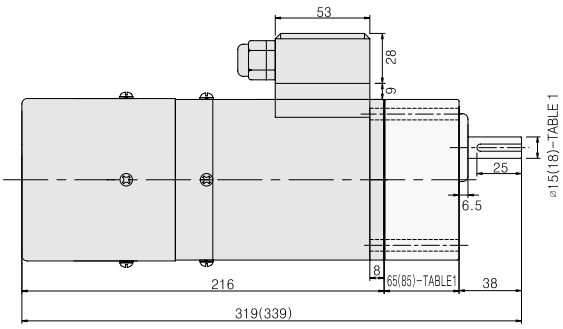


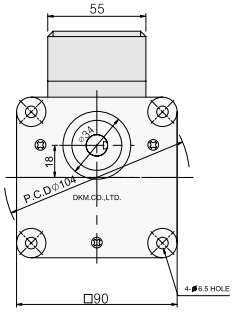


* GEARHEAD MODEL : 9HB□3BH - 9HB□180BH



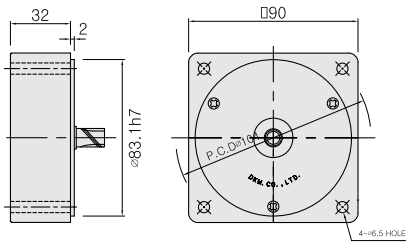
TERMINAL BOX TYPE * MOTOR MODEL : 9SBDG□-120F2P(H)-T (POWERFUL FAN)





◆ INTER-DECIMAL GEARHEAD

* MODEL : 9XD10M□

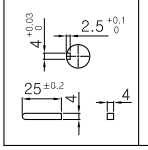
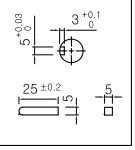


* Note : For speed control motor, powerful Fan(F2) is basic specification.

◆ 65(85)-TABLE1

SIZE(mm)	GEARHEAD TYPE
65 ~ ø15	P TYPE GEARHEAD
85 ~ ø18	H TYPE GEARHEAD

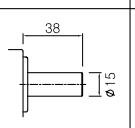
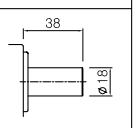
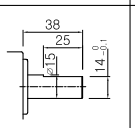
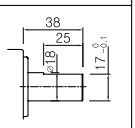
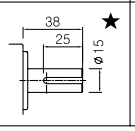
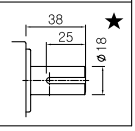
◆ KEY SPEC

MOTOR	GEARHEAD
	

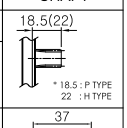
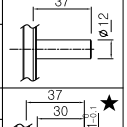
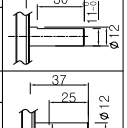
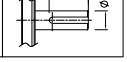
◆ WEIGHT

PART		WEIGHT(Kg)	
MOTOR		3.8	
DECIMAL GEARHEAD		0.5	
GEAR HEAD	GEARHEAD TYPE	P TYPE	H TYPE
	9P(H)□□ 3BH - 9P(H)□□9BH	1.3	1.45
	9P(H)□□ 12.5BH - 9P(H)□□18BH	1.3	1.5
	9P(H)□□ 25BH - 9P(H)□□60BH	1.4	1.7
	9P(H)□□ 90BH - 9P(H)□□180BH	1.4	1.8

◆ GEARHEAD OUTPUT

MODEL	P TYPE	H TYPE
ROUND TYPE 9P(H)□S3BH ~9P(H)□S180BH		
D-CUT TYPE 9P(H)□D3BH ~9P(H)□D180BH		
KEY TYPE 9P(H)□K3BH ~9P(H)□K180BH		

◆ MOTOR OUTPUT

MODEL	SHAFT
GEAR TYPE 9SBDG□-120□P(H)	
ROUND TYPE 9SBDS□-120□	
D-CUT TYPE 9SBDD□-120□	
KEY TYPE 9SBDK□-120□	

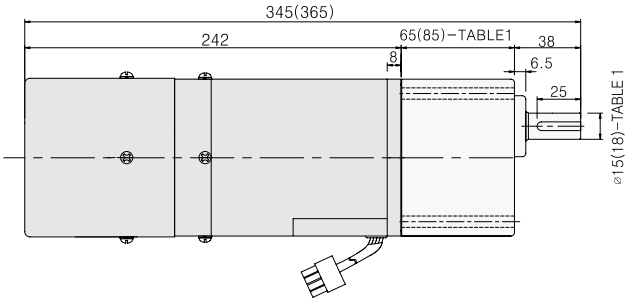
* Note : Above table indicates output shaft dimension made by user' s request and ★ indicates the basic dimension in factory shipping.

7. 180W

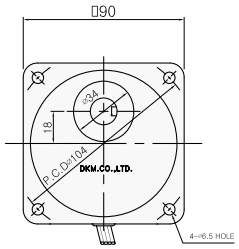
LEAD WIRE TYPE

◆ GEARED MOTOR

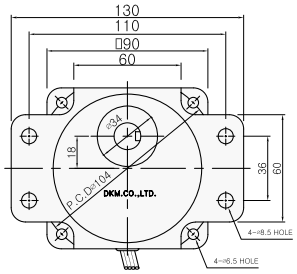
* MOTOR MODEL : 9SBDG□-180F2P(H)(POWERFUL FAN)



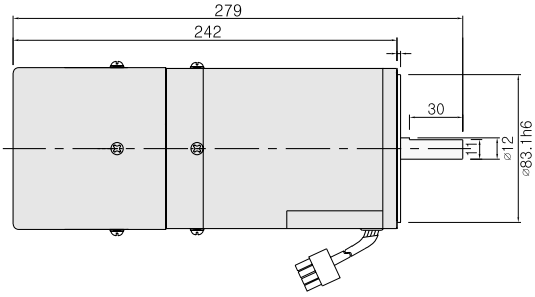
* GEARHEAD MODEL : 9PB□ 3BH - 9PB□180BH

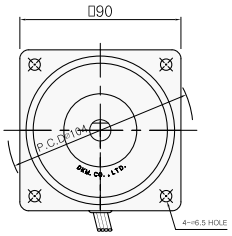


* GEARHEAD MODEL : 9PF□ 3BH - 9PF□180BH

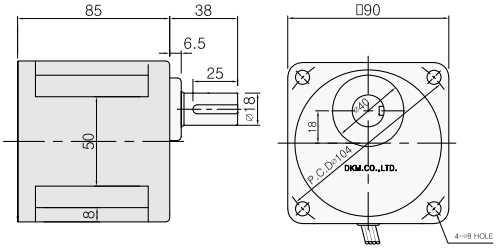


◆ MOTOR ONLY * MOTOR MODEL : 9SBD□□-180 F2 (POWERFUL FAN)

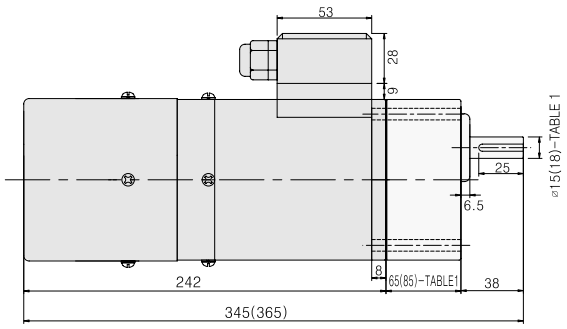


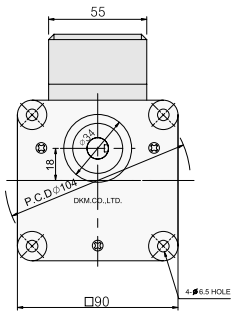


* GEARHEAD MODEL : 9HB□ 3BH - 9HB□180BH



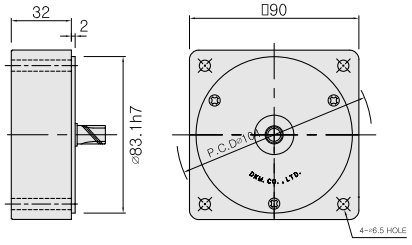
TERMINAL BOX TYPE * MOTOR MODEL : 9SBDG□-180F2P(H)-T (POWERFUL FAN)





◆ INTER-DECIMAL GEARHEAD

* MODEL : 9XD10M□

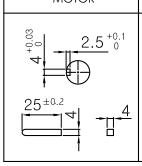
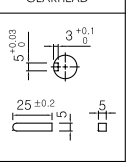


* Note : For speed control motor, powerful Fan(F2) is basic specification.

◆ 65(85)-TABLE1

SIZE(mm)	GEARHEAD TYPE
65 − ø15	P TYPE GEARHEAD
85 − ø18	H TYPE GEARHEAD

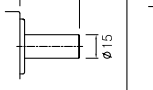
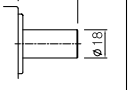
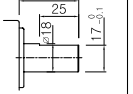
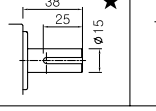
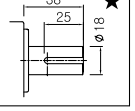
◆ KEY SPEC

MOTOR	GEARHEAD
	

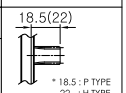
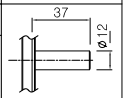
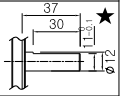
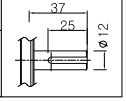
◆ WEIGHT

PART	WEIGHT(Kg)	
MOTOR	3.8	
DECIMAL GEARHEAD	0.5	
GEAR HEAD	GEARHEAD TYPE	P TYPE	H TYPE
	9P(H)□□ 3BH - 9P(H)□□9BH	1.3	1.45
	9P(H)□□ 12.5BH - 9P(H)□□18BH	1.3	1.5
	9P(H)□□ 25BH - 9P(H)□□60BH	1.4	1.7
	9P(H)□□ 90BH - 9P(H)□□180BH	1.4	1.8

◆ GEARHEAD OUTPUT

MODEL	P TYPE	H TYPE
ROUND TYPE 9P(H)□S3BH ~9P(H)□S180BH		
D-CUT TYPE 9P(H)□D3BH ~9P(H)□D180BH		
KEY TYPE 9P(H)□K3BH ~9P(H)□K180BH		

◆ MOTOR OUTPUT

MODEL	SHAFT
GEAR TYPE 9SBDG□-180□ P(H)	
ROUND TYPE 9SBDS□-180□	
D-CUT TYPE 9SBDD□-180□	
KEY TYPE 9SBDK□-180□	

* Note : Above table indicates output shaft dimension made by user' s request and ★ indicates the basic dimension in factory shipping.

Speed Control
Clutch & Brake Motor

15, 25, 40, 60, 90, 120W

DSA CONTROLLER (Unit type)

DSA CONTROLLER (Unit type)

DSK CONTROLLER (Socker type)

Motor Specification

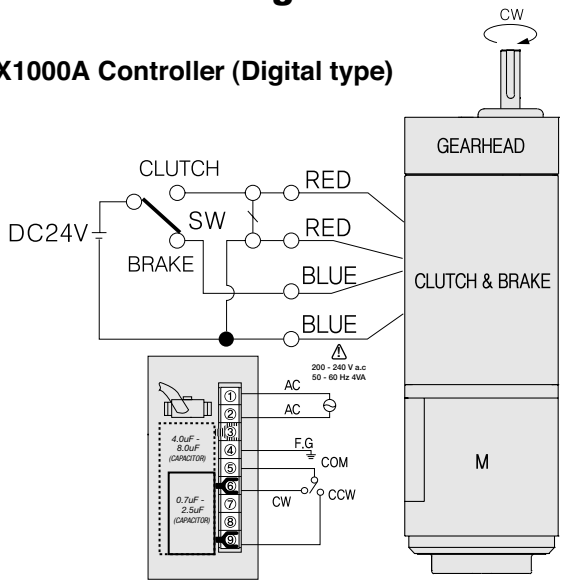
Please refer to the page of SPEED CONTROL MOTOR.

Permissible Torque When using gearhead

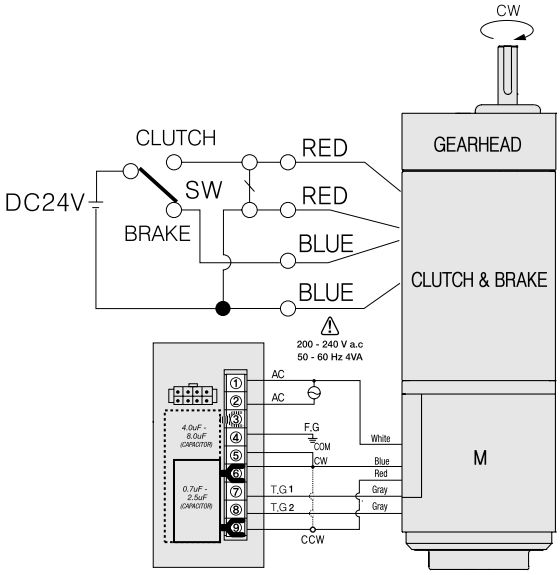
Please refer to the page of SPEED CONTROL MOTOR.

Connection Diagrams

● **FX1000A Controller (Digital type)**

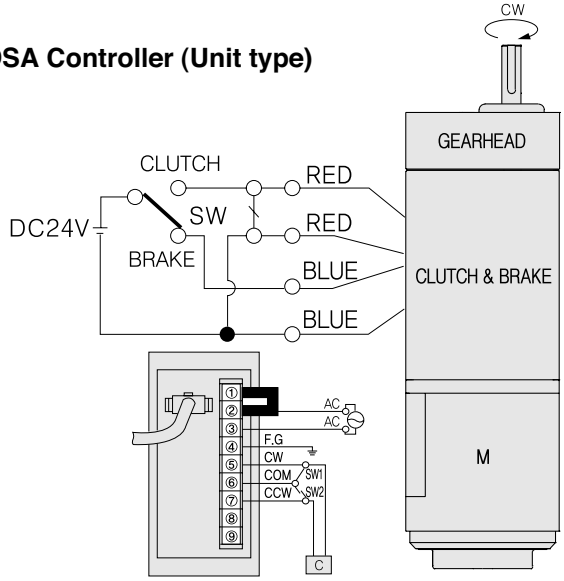


CONNECTOR TYPE

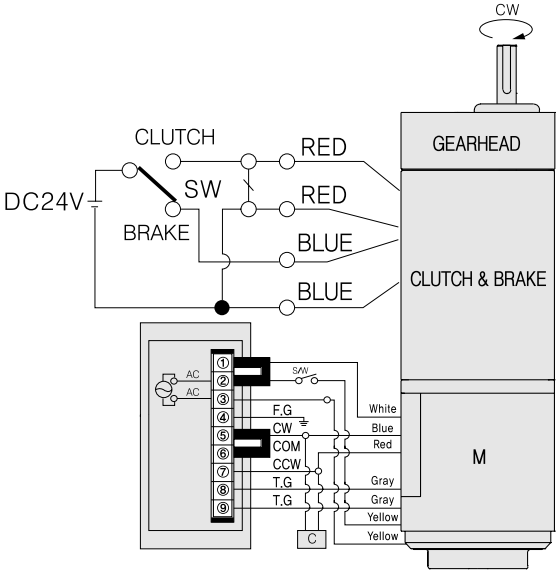


TERMINAL TYPE

● **DSA Controller (Unit type)**



CONNECTOR TYPE



TERMINAL TYPE

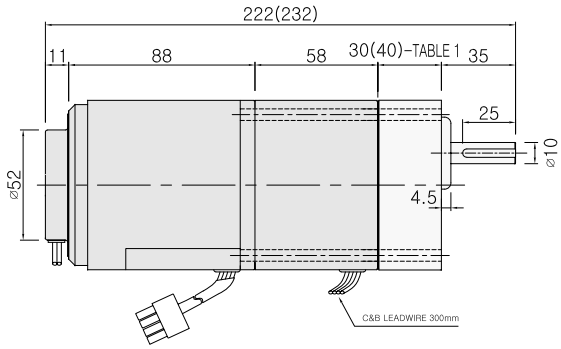
Dimension

1. 15W

LEAD WIRE TYPE

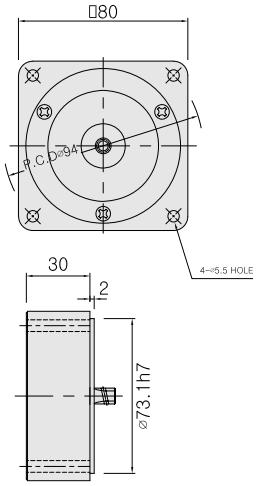
◆ GEARED MOTOR

* MOTOR MODEL : 8CSDG□-15G (NO FAN)
* HEAD MODEL : 8GB□3BMH - 8GB□360BMH



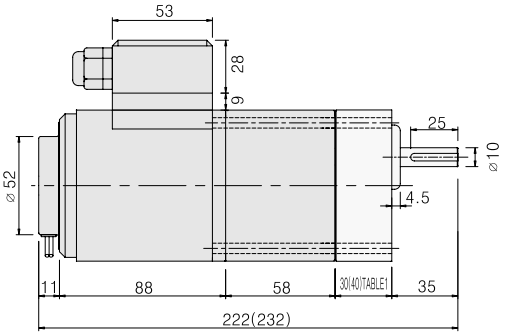
◆ INTER-DECIMAL GEARHEAD

* MODEL : 8XD10M□

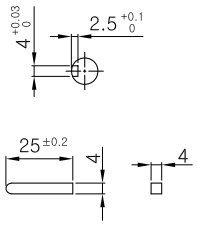


TERMINAL BOX TYPE

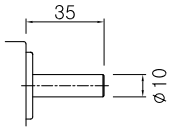
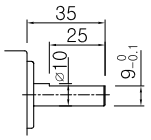
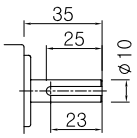
* MOTOR MODEL : 8CSDG□-15G-T (NO FAN)



◆ KEY SPEC



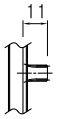
◆ GEARHEAD OUTPUT

MODEL	SHAFT
ROUND TYPE 8GBS3BMH ~8GBS360BMH	
D-CUT TYPE 8GBD3BMH ~8GBD360BMH	
KEY TYPE 8GBK3BMH ~8GBK360BMH	 ★

◆ 30(40)-TABLE1

SIZE(mm)	GEAR RATIO
30	8GB□3BMH - 8GB□18BMH
40	8GB□25BMH - 8GB□360BMH

◆ MOTOR OUTPUT

MODEL	SHAFT
GEAR TYPE 8CSDG□-15G	

◆ WEIGHT

PART		WEIGHT(Kg)
MOTOR		1.7
CLUTCH & BRAKE		1.05
DECIMAL GEARHEAD		0.44
GEAR HEAD	8GB□3BMH - 8GB□18BMH	0.48
	8GB□25BMH - 8GB□30BMH	0.61
	8GB□36BMH - 8GB□180BMH	0.67
	8GB□200BMH - 8GB□360BMH	0.63

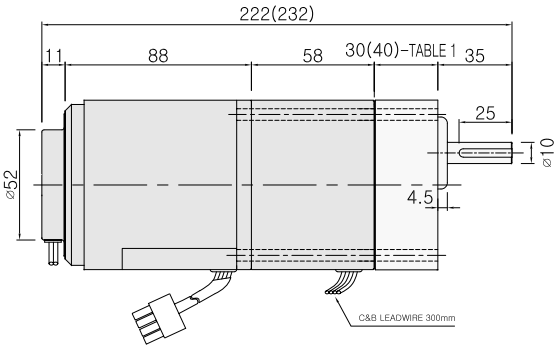
* Note : Above table indicates output shaft dimension made by user' s request and ★ indicates the basic dimension in factory shipping.

2. 25W

LEAD WIRE TYPE

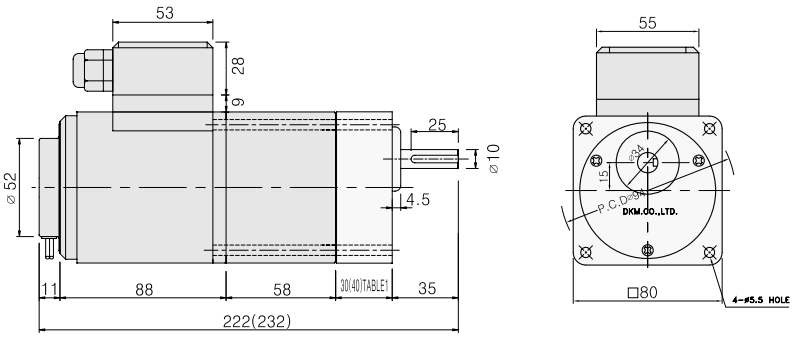
◆ GEARED MOTOR

* MOTOR MODEL : 8CSDG□-25G (NO FAN)
* HEAD MODEL : 8GB□3BMH - 8GB□360BMH



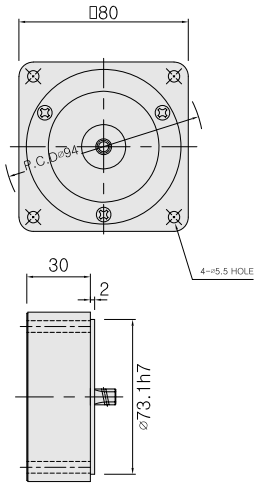
TERMINAL BOX TYPE

* MOTOR MODEL : 8CSDG□-25G-T (NO FAN)

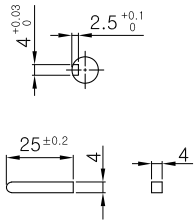


◆ INTER-DECIMAL GEARHEAD

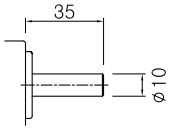
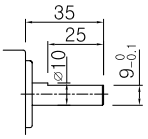
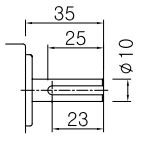
* MODEL : 8XD10M□



◆ KEY SPEC



◆ GEARHEAD OUTPUT

MODEL	SHAFT
ROUND TYPE	
8GBS3BMH ~8GBS360BMH	
D-CUT TYPE	
8GBD3BMH ~8GBD360BMH	
KEY TYPE	 ★
8GBK3BMH ~8GBK360BMH	

◆ 30(40)-TABLE1

SIZE(mm)	GEAR RATIO
30	8GB□3BMH - 8GB□18BMH
40	8GB□25BMH - 8GB□360BMH

◆ MOTOR OUTPUT DIMENSION

MODEL	SHAFT
GEAR TYPE	
8CSDG□-25G	

◆ WEIGHT

PART		WEIGHT(Kg)
MOTOR		1.7
CLUTCH & BRAKE		1.05
DECIMAL GEARHEAD		0.44
GEAR HEAD	8GB□3BMH - 8GB□18BMH	0.48
	8GB□25BMH - 8GB□30BMH	0.61
	8GB□36BMH - 8GB□180BMH	0.67
	8GB□200BMH - 8GB□360BMH	0.63

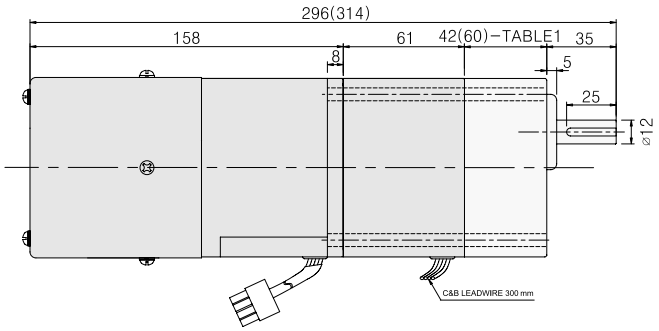
* Note : Above table indicates output shaft dimension made by user' s request and ★ indicates the basic dimension in factory shipping.

3. 40W

LEAD WIRE TYPE

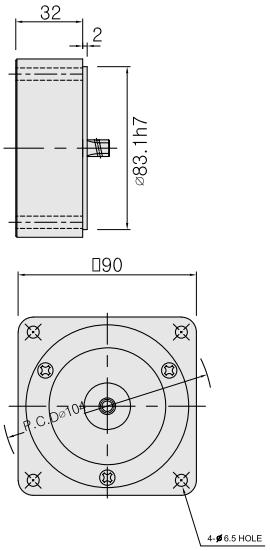
◆ GEARED MOTOR

* MOTOR MODEL : 9CSDG□-40F2G (POWERFUL FAN)
* GEARHEAD MODEL : 9GB□3MH - 9GB□180MH



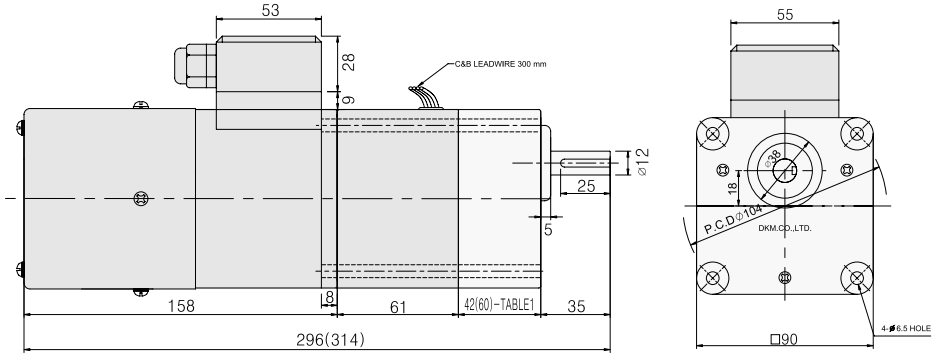
◆ INTER-DECIMAL GEARHEAD

* MODEL : 9XD10M□



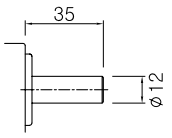
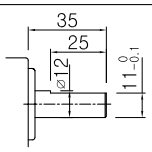
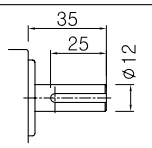
TERMINAL BOX TYPE

* MOTOR MODEL : 9SDG□-40F2G-T (POWERFUL FAN)



* Note : For speed control motor, powerful Fan(F2) is basic specification.

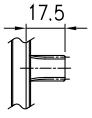
◆ GEARHEAD OUTPUT

MODEL	SHAFT
ROUND TYPE 9GBS3MH ~9GBS180MH	
D-CUT TYPE 9GBD3MH ~9GBD180MH	
KEY TYPE 9GBK3MH ~9GBK180MH	 ★

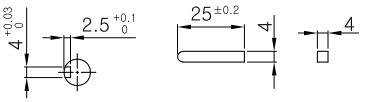
◆ 42(60)-TABLE1

SIZE(mm)	GEAR RATIO
42	9GB□3MH - 9GB□15MH
60	9GB□18MH - 9GB□180MH

◆ MOTOR OUTPUT DIMENSION

MODEL	SHAFT
GEAR TYPE 9CSDG□ -40F2G	

◆ KEY SPEC



◆ WEIGHT

PART		WEIGHT(Kg)
MOTOR		2.5
CLUTCH & BRAKE		1.35
DECIMAL GEARHEAD		0.5
GEAR HEAD	9GB□3MH - 9GB□15MH	0.67
	9GB□18MH - 9GB□30MH	0.96
	9GB□36MH - 9GB□180MH	1.07

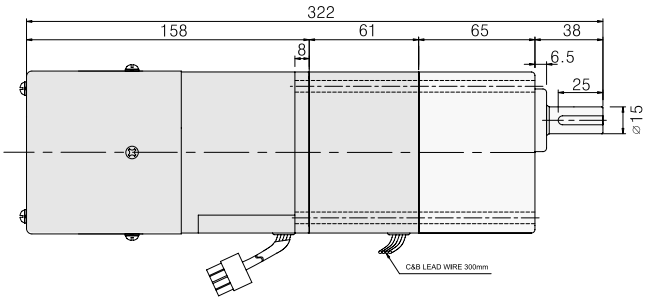
* Note : Above table indicates output shaft dimension made by user' s request and ★ indicates the basic dimension in factory shipping.

4. 60W

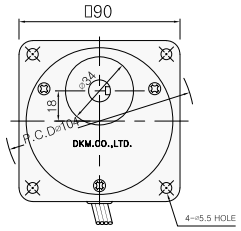
LEAD WIRE TYPE

◆ GEARED MOTOR

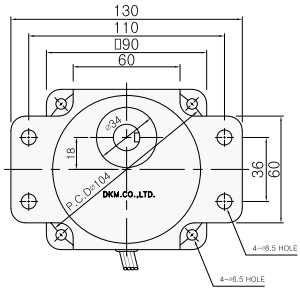
* MOTOR MODEL : 9CSDG□-60F2P (POWERFUL FAN)



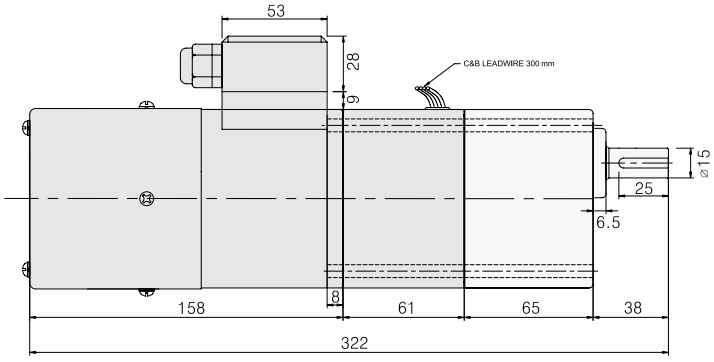
* GEARHEAD MODEL :
9PB □3BH - 9PB □180BH

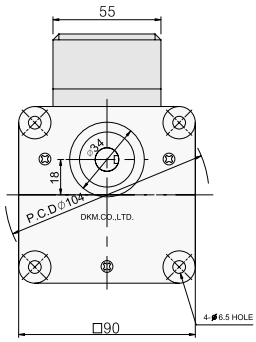


* GEARHEAD MODEL :
9PF □3BH - 9PF □180BH



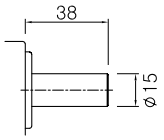
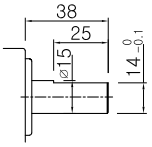
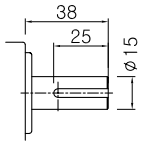
TERMINAL BOX TYPE * MOTOR MODEL : 9CSDG□-60F2P-T (POWERFUL FAN)



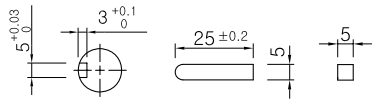


* Note : For speed control motor, powerful Fan(F2) is basic specification.

◆ GEARHEAD OUTPUT

MODEL	SHAFT
ROUND TYPE	
9P□S3BH ~9P□S180BH	
D-CUT TYPE	
9P□D3BH ~9P□D180BH	
KEY TYPE	 ★
9P□K3BH ~9P□K180BH	

◆ KEY SPEC

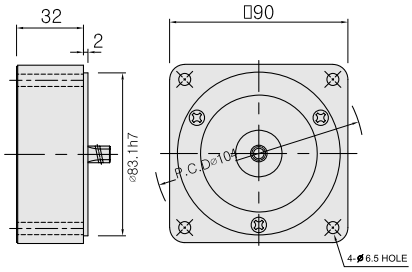


◆ WEIGHT

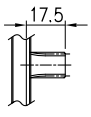
PART		WEIGHT(Kg)
MOTOR		2.7
CLUTCH & BRAKE		1.35
DECIMAL GEARHEAD		0.5
GEAR HEAD	9P□□ 3BH - 9P□□9BH	1.3
	9P□□ 12.5BH - 9P□□18BH	1.3
	9P□□ 25BH - 9P□□60BH	1.4
	9P□□ 90BH - 9P□□180BH	1.4

◆ INTER-DECIMAL GEARHEAD

* MODEL : 9XD10M □



◆ MOTOR OUTPUT

MODEL	SHAFT
GEAR TYPE	
9CSDG□ -60F2P	

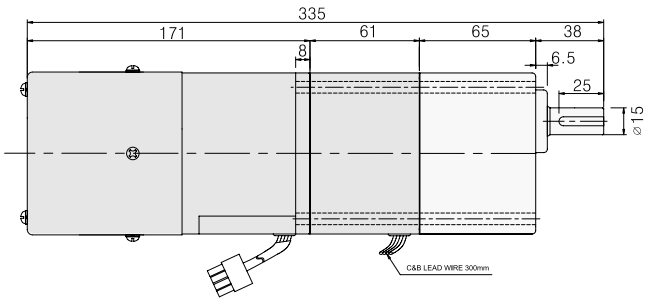
* Note : Above table indicates output shaft dimension made by user' s request and ★ indicates the basic dimension in factory shipping.

5. 90W

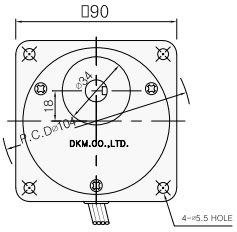
LEAD WIRE TYPE

◆ GEARED MOTOR

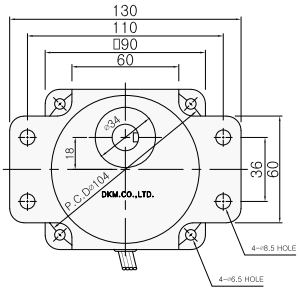
* MOTOR MODEL : 9CSDG□-90F2P (POWERFUL FAN)



* GEARHEAD MODEL :
9PB □ 3BH - 9PB □180BH

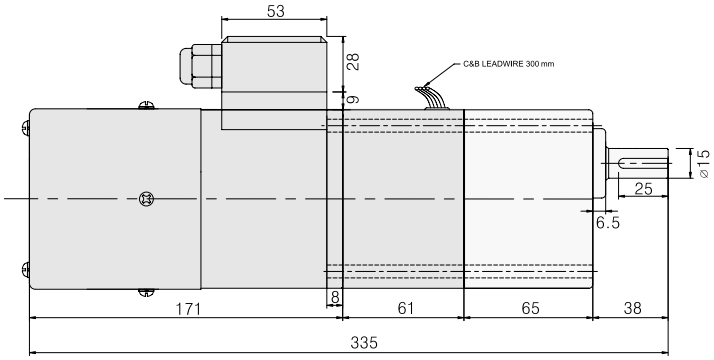


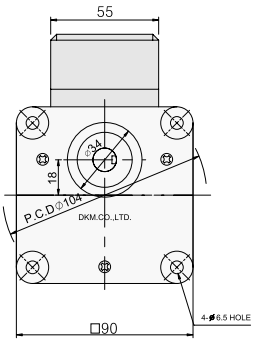
* GEARHEAD MODEL :
9PF □ 3BH - 9PF □180BH



TERMINAL BOX TYPE

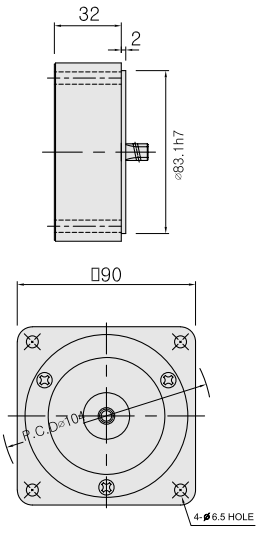
* MOTOR MODEL : 9CSDG□-90F2P-T (POWERFUL FAN)





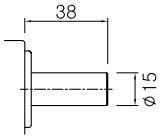
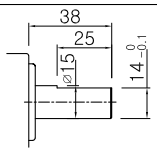
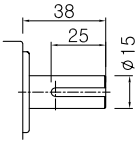
◆ INTER-DECIMAL GEARHEAD

* MODEL : 9XD10M □



* Note : For speed control motor, powerful Fan(F2) is basic specification.

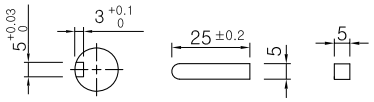
◆ GEARHEAD OUTPUT

MODEL	SHAFT
ROUND TYPE 9P□S3BH ~9P□S180BH	
D-CUT TYPE 9P□D3BH ~9P□D180BH	
KEY TYPE 9P□K3BH ~9P□K180BH	 ★

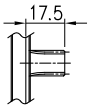
◆ WEIGHT

PART		WEIGHT(Kg)
MOTOR		3.0
CLUTCH & BRAKE		1.35
DECIMAL GEARHEAD		0.5
GEAR HEAD	9P□□ 3BH - 9P□□9BH	1.3
	9P□□ 12.5BH - 9P□□18BH	1.3
	9P□□ 25BH - 9P□□60BH	1.4
	9P□□ 90BH - 9P□□180BH	1.4

◆ KEY SPEC



◆ MOTOR OUTPUT

MODEL	SHAFT
GEAR TYPE 9CSDG□ -90F2P	

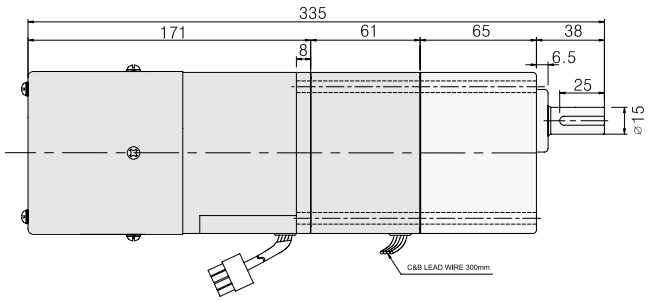
* Note : Above table indicates output shaft dimension made by user' s request and ★ indicates the basic dimension in factory shipping.

6. 120W

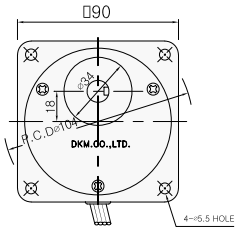
● LEAD WIRE TYPE

◆ GEARED MOTOR

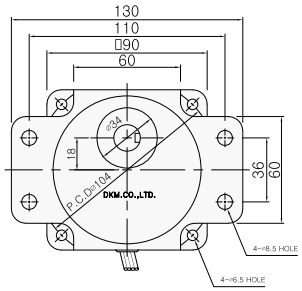
* MOTOR MODEL : 9CSDG□-120F2P (POWERFUL FAN)



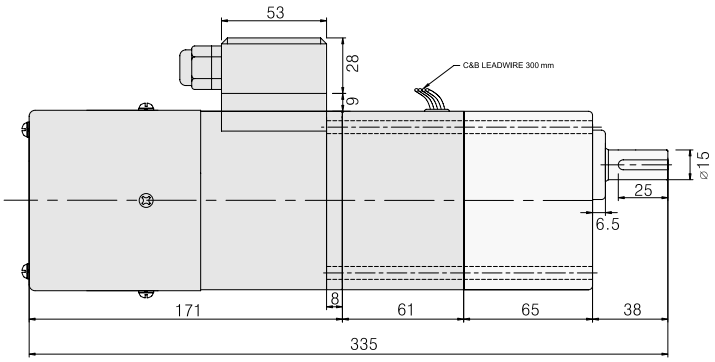
* GEARHEAD MODEL :
9PB □ 3BH - 9PB □180BH



* GEARHEAD MODEL :
9PF □ 3BH - 9PF □180BH

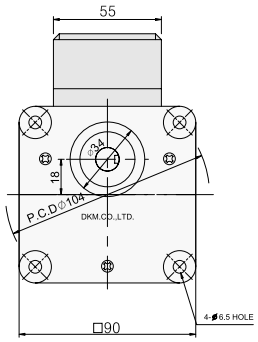


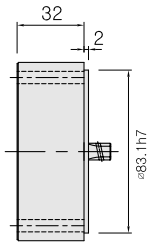
● TERMINAL BOX TYPE * MOTOR MODEL : 9CSDG□-120F2P-T (POWERFUL FAN)

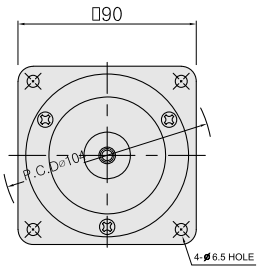


◆ INTER-DECIMAL GEARHEAD

* MODEL : 9XD10M□

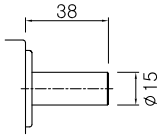
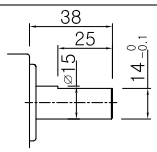
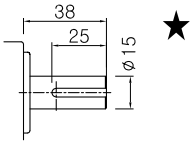






* Note : For speed control motor, powerful Fan(F2) is basic specification.

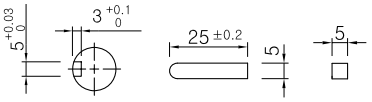
◆ GEARHEAD OUTPUT

MODEL	SHAFT
ROUND TYPE 9P□S3BH ~9P□S180BH	
D-CUT TYPE 9P□D3BH ~9P□D180BH	
KEY TYPE 9P□K3BH ~9P□K180BH	

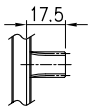
◆ WEIGHT

PART		WEIGHT(Kg)
MOTOR		3.0
CLUTCH & BRAKE		1.35
DECIMAL GEARHEAD		0.5
GEAR HEAD	9P□□ 3BH - 9P□□9BH	1.3
	9P□□ 12.5BH - 9P□□18BH	1.3
	9P□□ 25BH - 9P□□60BH	1.4
	9P□□ 90BH - 9P□□180BH	1.4

◆ KEY SPEC



◆ MOTOR OUTPUT

MODEL	SHAFT
GEAR TYPE 9CSDG□ -120F2P	

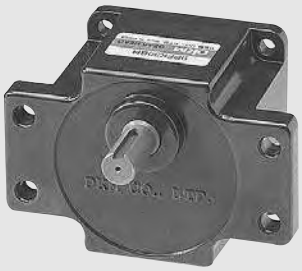
* Note : Above table indicates output shaft dimension made by user' s request and ★ indicates the basic dimension in factory shipping.

GEARHEAD

GB TYPE

PB TYPE

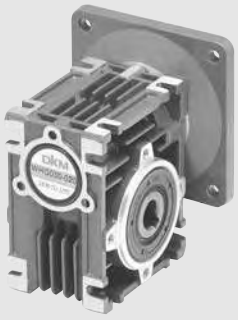
PF TYPE



HB TYPE

WD TYPE

WHD TYPE



INDEX

Feature

Pinion type Motor has the exclusive Gearhead which its mounting is easy.

Introduction of Model

TYPE		MOTOR	MODEL	GEAR RATIO																										
				2	3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180	250	300	360
PARALLEL TYPE	G TYPE	6W, 10W	**7GBD□BMH**	x	●	●	●	●	●	●	x	●	●	●	x	●	●	●	●	●	●	●	●	●	●	●	x	x	x
		15W, 25W	**8GBK□BMH**	x	●	●	●	●	●	●	x	●	●	●	x	●	●	●	●	●	●	●	●	●	●	●	●	●	●
		40W	**9GBK□BMH**	●	●	●	●	●	●	●	●	●	●	●	x	●	●	●	●	●	●	●	●	●	●	●	x	x	x
	P TYPE	60W ~ 200W	**9PBK□BH**	●	●	●	●	●	●	●	x	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	x	x	x
			9PFK□BH	●	●	●	●	●	●	●	x	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	x	x	x
	H TYPE	90W ~ 200W	**9HBK□BH**	x	●	●	x	●	x	●	x	●	●	●	x	●	●	●	x	●	●	●	●	●	●	●	x	x	x
WORM TYPE	SOLID	25W ~ 60W	**8/9WD□BL**	x	x	x	x	x	x	x	●	●(12)	●	●	x	●	●	●	x	●	●	x	x	x	x	x	x	x	x
			8/9WD□BR	x	x	x	x	x	x	x	●	●(12)	●	●	x	●	●	●	x	●	●	x	x	x	x	x	x	x	x
	HOLLOW	60W ~ 200W	**9WHD□**	x	x	x	x	x	●	x	●	x	●	x	●	●	●	x	●	●	●	x	x	x	x	x	x	x	x

- Enter the gear ratio in the box (□) within the gearhead model name.
- If more slow speed is needed than above value, use inter decimal gearhead with a gear ratio of 10:1 between gearhead and motor.
  (Model name : 8XD10BMH, 9XD10BMH)

PARALLEL GEARHEAD

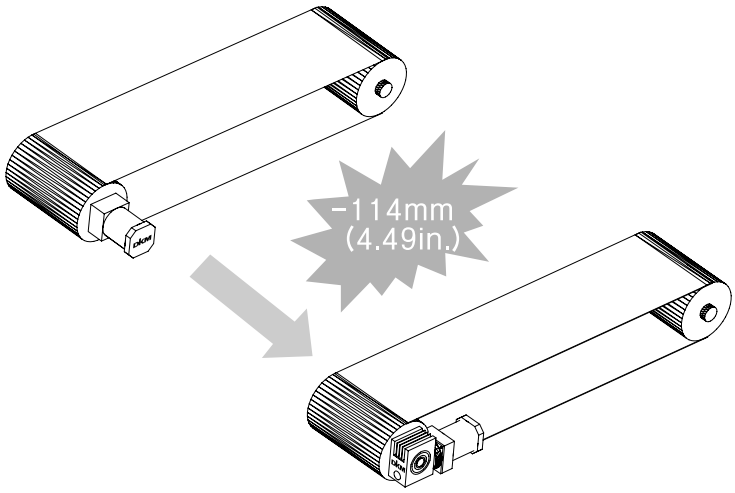
About the specification and permissible torque, please refer to each motor' s specification page.

WORM GEARHEAD

Worm gearhead using worm gear can be used in the space limited application. They allow the motor to be Installed at the right or left axis of equipment such as conveyor belts. Worm Solid WD TYPE and Worm Hollow WHD TYPE are available.

Feature

GEARHEAD output shaft is at the right angle with motor output shaft. So it allow the motor to be installed at the right angle with load side. In the maximum use of space, it is very effective.



Note) The combination of INDUCTION MOTOR 90W and GEARHEAD 30:1

Introduction of Model

Type		Motor Watt	Model	Gear ratio
Worm Type	Solid	25W ~ 60W	**8/9WD□BL**	**10, 12, 15, 18, 25, 30, 36, 50, 60**
			8/9WD□BR	
	Hollow	60W ~ 200W	**9WHD□**	**7.5, 10, 15, 20, 25, 30, 40, 50, 60**

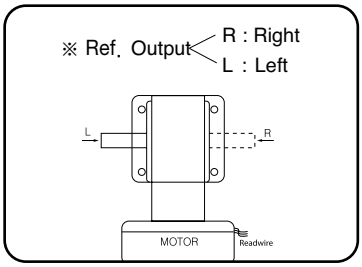
Note) If the frame size and pinion specification of motors is same with that of gearhead, they can be mounted.

Efficiency of Gearhead

Model \ Ratio	10	12	15	18	20	25	30	36	40	50	60
8WD□BL(R)	60%										
9WD□BL(R)											
9WHD□	60%						55%				

* Enter the gear ratio in the box(□) within the model name.

Permissible Torque of Worm Solid Type



60Hz

Model	speed RPM (r/min)		180	150	120	100	72	60	50	36	30
Motor / Gearhead	Gear Ratio		**10**	**12**	**15**	**18**	**25**	**30**	**36**	**50**	**60**
8*DG*- 15FW	**8WD□BL** **8WD□BR**	kgf cm	6	7	10	12	16	18	20	24	27
		N.m	0.6	0.7	1.0	1.2	1.6	1.8	2.0	2.4	2.7
		lb-in	5.3	6.2	8.8	10.6	14.1	16	18	21	24
8*DG*- 25FW	**9WD□BL** **9WD□BR**	kgf cm	11	12	15	17	21	23	25	29	32
		N.m	1.1	1.2	1.5	1.7	2.1	2.3	2.5	2.9	3.2
		lb-in	9.7	10.6	13.2	15.0	18.5	20	22	26	28
8*DG*- 40FW	**9WD□BL** **9WD□BR**	kgf cm	17	20	24	27	34	37	41	47	51
		N.m	1.7	2.0	2.4	2.7	3.4	3.7	4	5	5
		lb-in	15	18	21	24	30	33	36	42	45
8*DG*- 60FW	**9WD□BL** **9WD□BR**	kgf cm	25	30	35	40	49	55	60	60	60
		N.m	2.5	3.0	3.5	4.0	4.9	5.5	6	6	6
		lb-in	22	27	31	35	43	49	53	53	53

50Hz

Model	speed RPM (r/min)		150	125	100	83	60	50	42	30	25
Motor / Gearhead	Gear Ratio		**10**	**12**	**15**	**18**	**25**	**30**	**36**	**50**	**60**
8*DG*- 15FW	**8WD□BL** **8WD□BR**	kgf cm	7.2	8.4	12.0	14.4	19.2	21.6	24.0	28.8	32.4
		N.m	0.7	0.8	1.2	1.4	1.9	2.2	2.4	2.9	3.2
		lb-in	6.4	7.4	10.6	12.7	17.0	19	21	25	29
8*DG*- 25FW	**9WD□BL** **9WD□BR**	kgf cm	13	14	18	20	25	28	30	35	38
		N.m	1.3	1.4	1.8	2.0	2.5	2.8	3.0	3.5	3.8
		lb-in	11.7	12.7	15.9	18.0	22.3	24	26	31	34
8*DG*- 40FW	**9WD□BL** **9WD□BR**	kgf cm	20	24	29	32	41	44	49	56	60
		N.m	2.0	2.4	2.9	3.2	4.1	4	5	6	6
		lb-in	18	21	25	29	36	39	43	50	53
8*DG*- 60FW	**9WD□BL** **9WD□BR**	kgf cm	30	36	42	48	59	60	60	60	60
		N.m	3.0	3.6	4.2	4.8	5.9	6	6	6	6
		lb-in	27	32	37	42	52	53	53	53	53

* Enter the gear ratio in the box(□) within the model name.

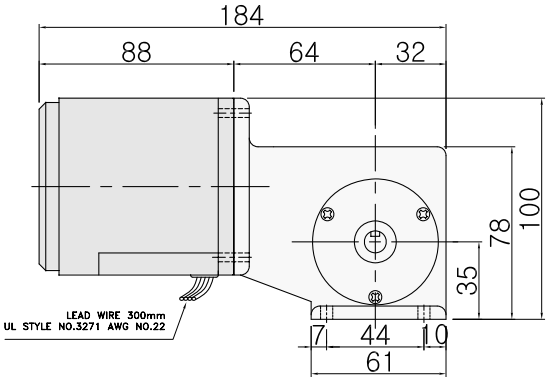
Dimension

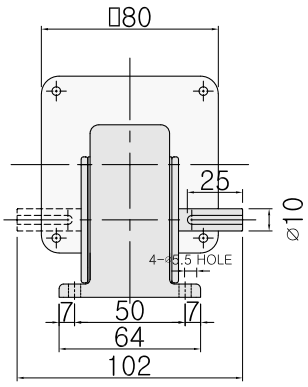
1. Wormgeared Induction Motor / 15W

LEAD WIRE TYPE

◆ GEARED MOTOR

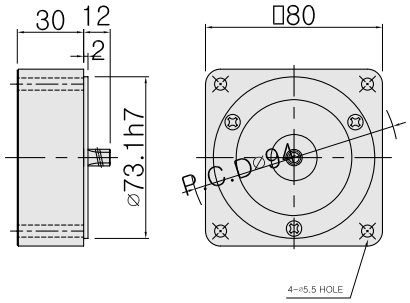
* MOTOR MODEL : 8IDG□-15W
* HEAD MODEL : 8WD10BR(L) - 8WD60BR(L)





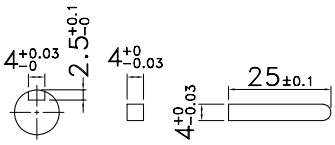
◆ INTER-DECIMAL GEARHEAD

* MODEL : 8XD10MW



◆ WEIGHT

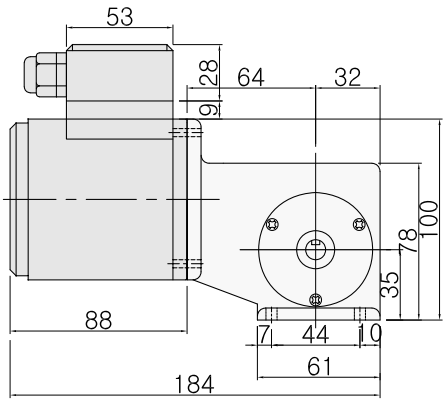
PART	WEIGHT(Kg)
MOTOR	1.6
DECIMAL GEARHEAD	0.44
GEARHEAD	0.67

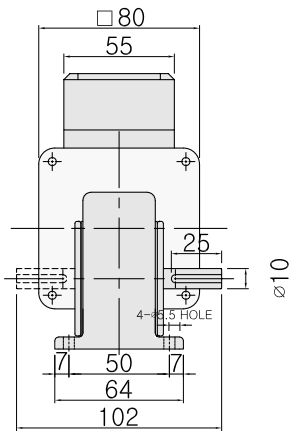


TERMINAL BOX TYPE

◆ GEARED MOTOR

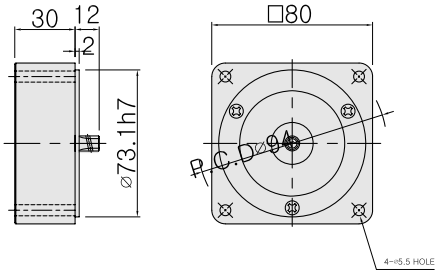
* MOTOR MODEL : 8IDG□-15W-T
* HEAD MODEL : 8WD10BR(L) - 8WD60BR(L)





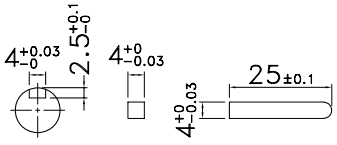
◆ INTER-DECIMAL GEARHEAD

* MODEL : 8XD10MW



◆ WEIGHT

PART	WEIGHT(Kg)
MOTOR	1.6
DECIMAL GEARHEAD	0.44
GEARHEAD	0.67

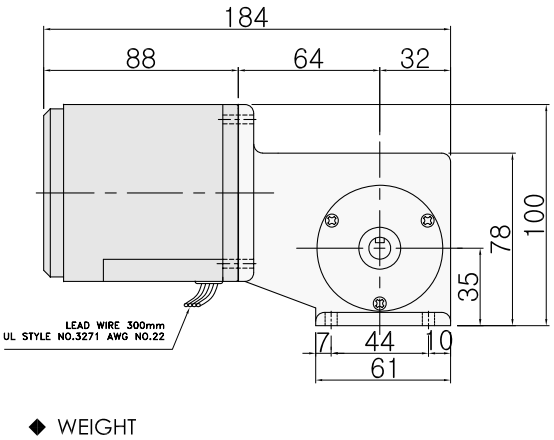


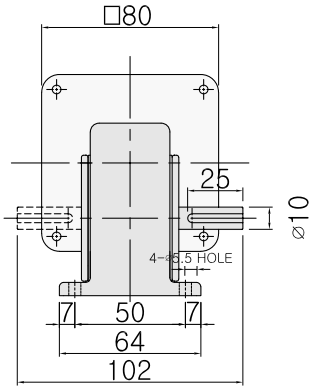
2. Wormgeared Induction Motor / 25W

LEAD WIRE TYPE

◆ GEARED MOTOR

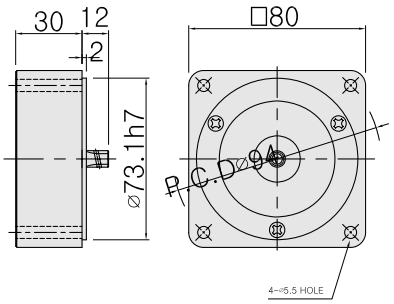
* MOTOR MODEL : 8IDG□-25W
* HEAD MODEL : 8WD10BR(L) - 8WD60BR(L)





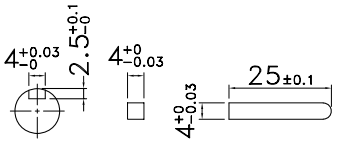
◆ INTER-DECIMAL GEARHEAD

* MODEL : 8XD10MW



◆ WEIGHT

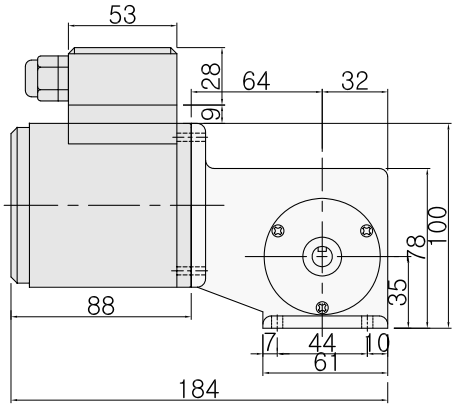
PART	WEIGHT(Kg)
MOTOR	1.6
DECIMAL GEARHEAD	0.44
GEARHEAD	0.67

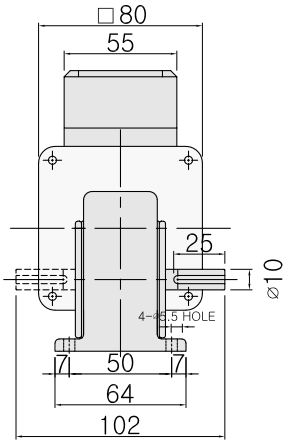


TERMINAL BOX TYPE

◆ GEARED MOTOR

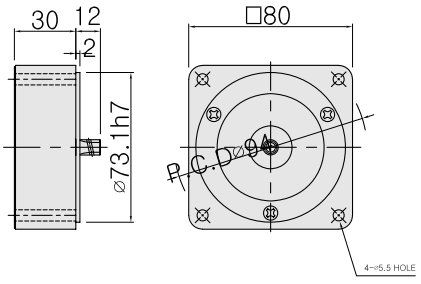
* MOTOR MODEL : 8IDG□-25W-T
* HEAD MODEL : 8WD10BR(L) - 8WD60BR(L)





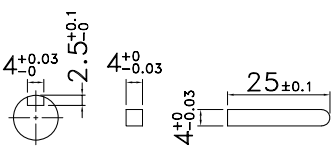
◆ INTER-DECIMAL GEARHEAD

* MODEL : 8XD10MW



◆ WEIGHT

PART	WEIGHT(Kg)
MOTOR	1.6
DECIMAL GEARHEAD	0.44
GEARHEAD	0.67

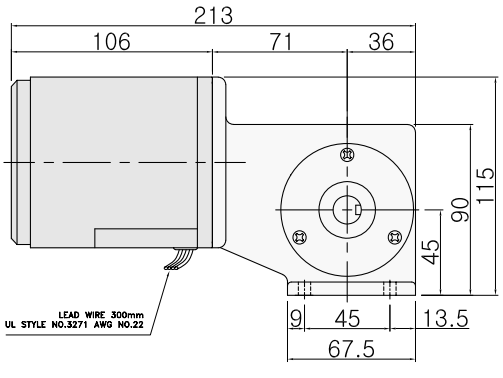


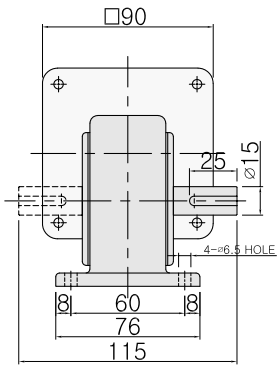
3. Wormgeared Induction Motor / 40W

LEAD WIRE TYPE

◆ GEARED MOTOR

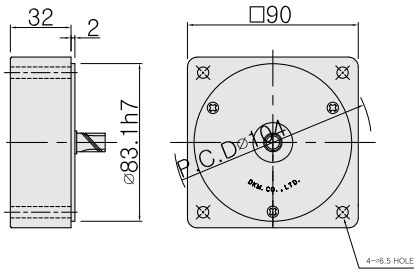
* MOTOR MODEL : 9IDG□-40FW
* HEAD MODEL : 9WD10BR(L) - 9WD60BR(L)





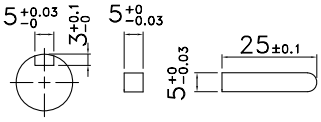
◆ INTER-DECIMAL GEARHEAD

* MODEL : 9XD10MW



◆ WEIGHT

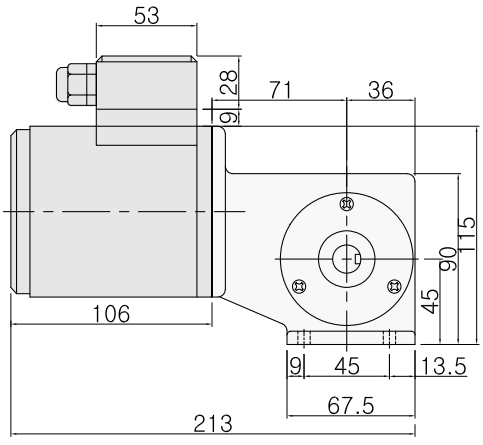
PART	WEIGHT(Kg)
MOTOR	2.4
DECIMAL GEARHEAD	0.5
GEARHEAD	1.0

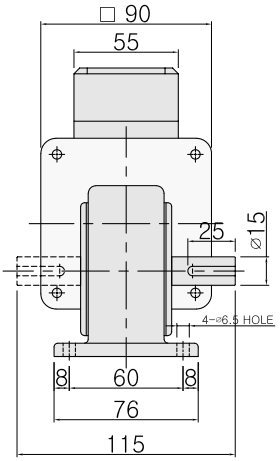


TERMINAL BOX TYPE

◆ GEARED MOTOR

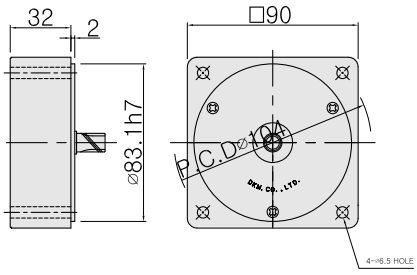
* MOTOR MODEL : 9IDG□-40FW-T
* HEAD MODEL : 9WD10BR(L) - 9WD60BR(L)





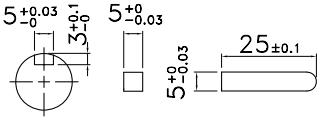
◆ INTER-DECIMAL GEARHEAD

* MODEL : 9XD10MW



◆ WEIGHT

PART	WEIGHT(Kg)
MOTOR	2.4
DECIMAL GEARHEAD	0.5
GEARHEAD	1.0

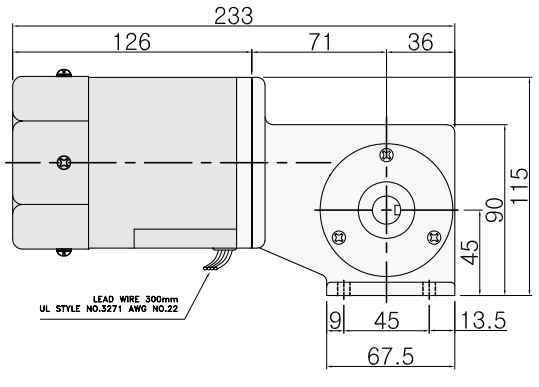


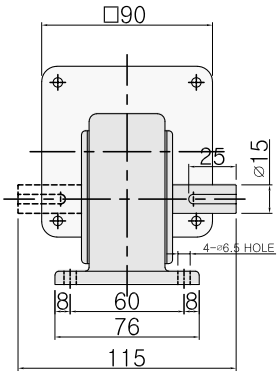
4. Wormgeared Induction Motor / 60W

LEAD WIRE TYPE

◆ GEARED MOTOR

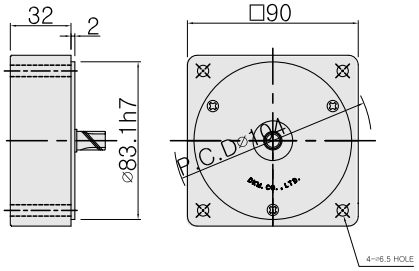
* MOTOR MODEL : 9IDG□-60FW
* HEAD MODEL : 9WD10BR(L) - 9WD60BR(L)





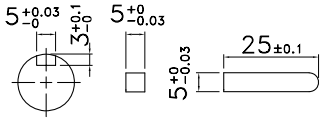
◆ INTER-DECIMAL GEARHEAD

* MODEL : 9XD10MW



◆ WEIGHT

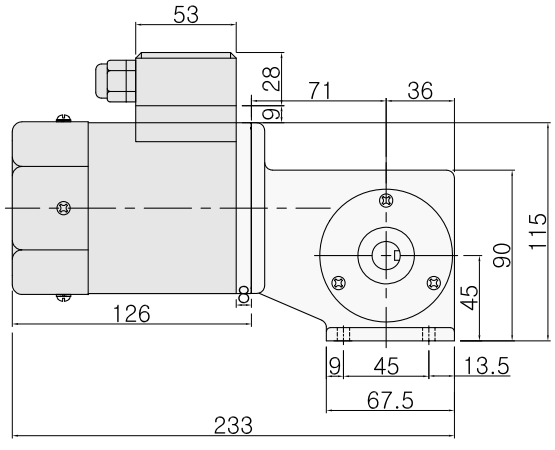
PART	WEIGHT(Kg)
MOTOR	2.6
DECIMAL GEARHEAD	0.5
GEARHEAD	1.0

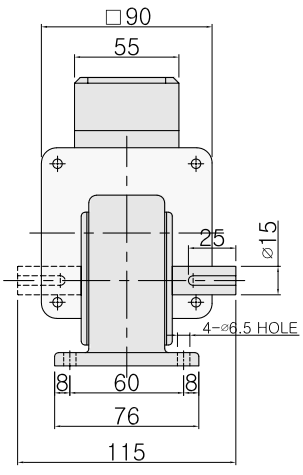


TERMINAL BOX TYPE

◆ GEARED MOTOR

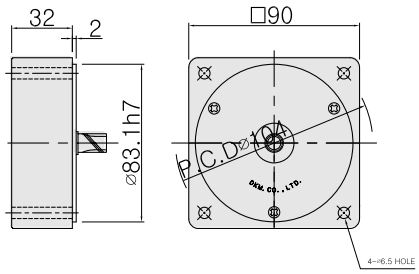
* MOTOR MODEL : 9IDG□-60FW-T
* HEAD MODEL : 9WD10BR(L) - 9WD60BR(L)





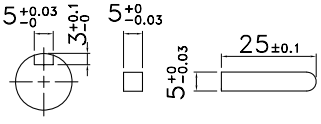
◆ INTER-DECIMAL GEARHEAD

* MODEL : 9XD10MW



◆ WEIGHT

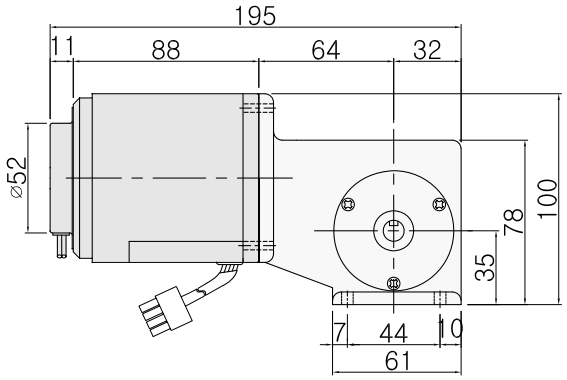
PART	WEIGHT(Kg)
MOTOR	2.6
DECIMAL GEARHEAD	0.5
GEARHEAD	1.0

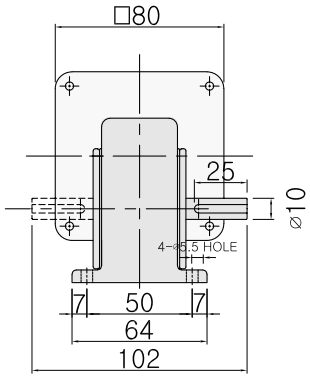


5. Wormgeared Speed Control Motor / 15W

◆ GEARED MOTOR

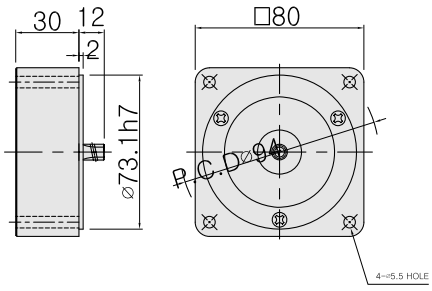
* MOTOR MODEL : 8SDG□-15W
* HEAD MODEL : 8WD10BR(L) - 8WD60BR(L)





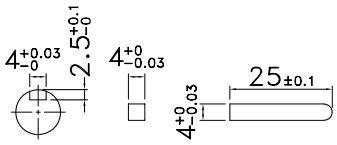
◆ INTER-DECIMAL GEARHEAD

* MODEL : 8XD10MW



◆ WEIGHT

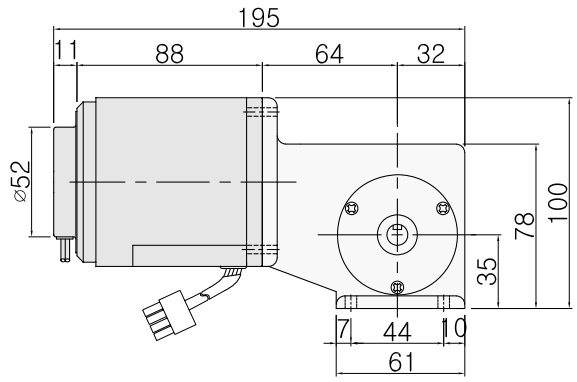
PART	WEIGHT(Kg)
MOTOR	1.7
DECIMAL GEARHEAD	0.44
GEARHEAD	0.67

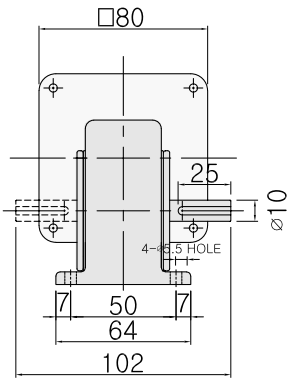


6. Wormgeared Speed Control Motor / 25W

◆ GEARED MOTOR

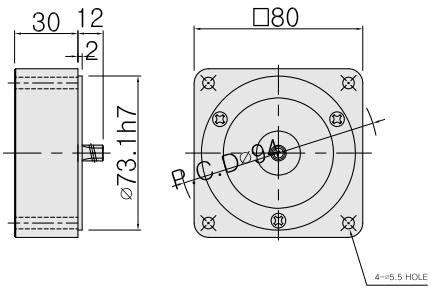
* MOTOR MODEL : 8SDG□-25W
* HEAD MODEL : 8WD10BR(L) - 8WD60BR(L)





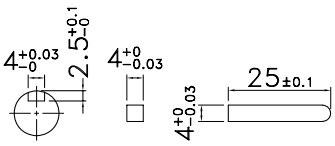
◆ INTER-DECIMAL GEARHEAD

* MODEL : 8XD10MW



◆ WEIGHT

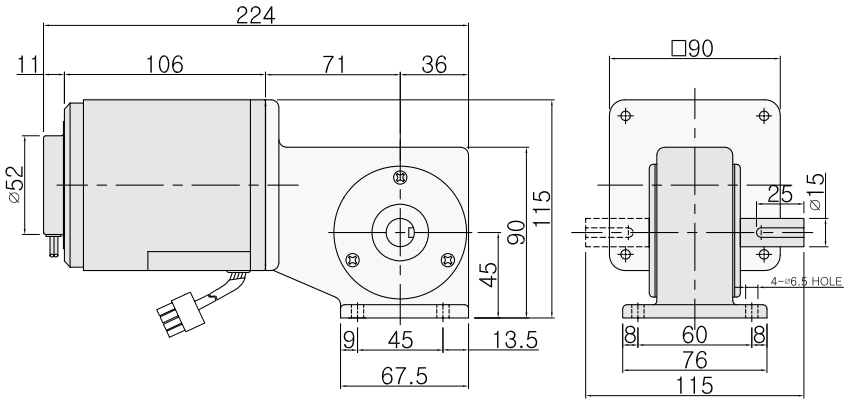
PART	WEIGHT(Kg)
MOTOR	1.7
DECIMAL GEARHEAD	0.44
GEARHEAD	0.67



7. Wormgeared Speed Control Motor / 40W

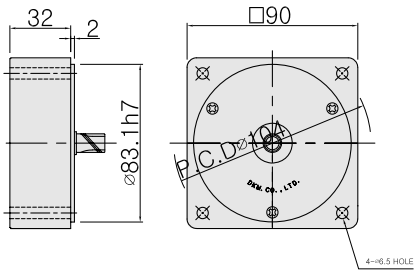
◆ GEARED MOTOR

* MOTOR MODEL : 9SDG□-40FW
* HEAD MODEL : 9WD10BR(L) - 9WD60BR(L)



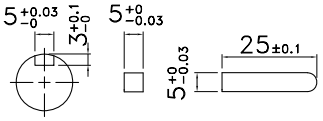
◆ INTER-DECIMAL GEARHEAD

* MODEL : 9XD10MW



◆ WEIGHT

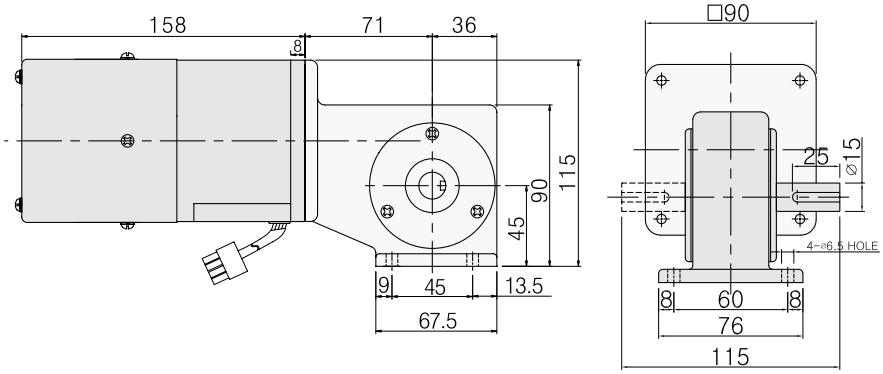
PART	WEIGHT(Kg)
MOTOR	2.5
DECIMAL GEARHEAD	0.5
GEARHEAD	1.0



8. Wormgeared Speed Control Motor / 60W

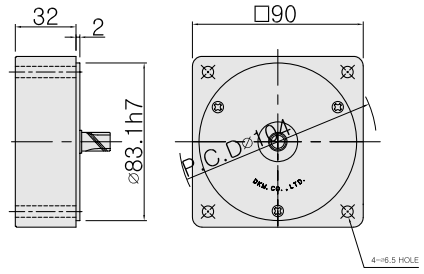
◆ GEARED MOTOR

* MOTOR MODEL : 9SDG□-60F2W
* HEAD MODEL : 9WD10BR(L) - 9WD60BR(L)



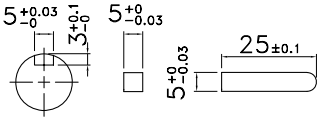
◆ INTER-DECIMAL GEARHEAD

* MODEL : 9XD10MW

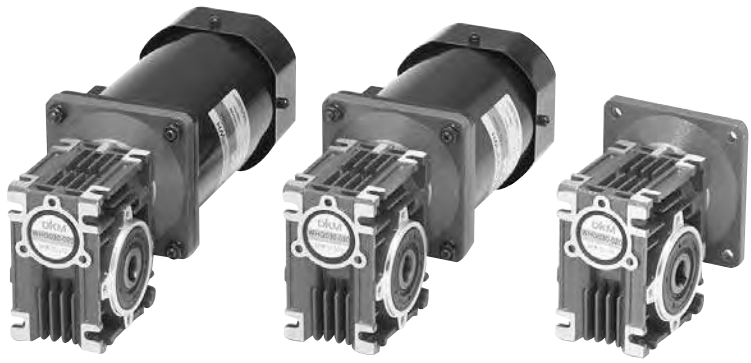


◆ WEIGHT

PART	WEIGHT(Kg)
MOTOR	2.7
DECIMAL GEARHEAD	0.5
GEARHEAD	1.0



Permissible Torque of Worm Hollow Type



60Hz

Model	speed RPM (r/min)		240	180	120	90	72	60	45	36	30	22
Motor / Gearhead	Gear Ratio		**7.5**	**10**	**15**	**20**	**25**	**30**	**40**	**50**	**60**	**80**
9*DG*- 60FWH	**9WHD□**	kgf cm	15	20	29	39	49	54	72	90	107	120
		N.m	1.5	2.0	2.9	3.9	4.9	5.4	7.2	9.0	10.7	12.0
		lb-in	13.2	17.6	25.5	34.3	43	48	63	79	94	106
9*DG*- 90FWH	**9WHD□**	kgf cm	22	29	44	59	73	80	107	133	160	180
		N.m	2.2	2.6	4.4	5.9	7.3	8.0	10.7	13.3	16.0	18.0
		lb-in	19.4	25.5	38.7	51.9	64.2	70	94	117	141	158
9*DG*- 120FWH	**9WHD□**	kgf cm	29	39	59	78	97	107	143	179	214	240
		N.m	2.9	3.9	5.9	7.8	9.7	10.7	14.3	17.9	21.4	24.0
		lb-in	41	41	62	74	103	123	148	205	246	211
9*DG*- 150FWH	**9WHD□**	kgf cm	37	49	73	97	121	133	178	223	267	300
		N.m	3.7	4.9	7.3	9.7	12.1	13.3	17.8	22.3	26.7	30.0
		lb-in	33	43	64	85	106	117	157	196	235	264
9*DG*- 180FWH	**9WHD□**	kgf cm	44	58	88	117	146	161	214	268	321	360
		N.m	4.4	5.8	8.8	11.7	14.6	16.1	21.4	26.8	32.1	36.0
		lb-in	39	51	77	103	128	142	188	236	282	317
9*DG*- 200FWH	**9WHD□**	kgf cm	49	65	98	129	162	178	238	297	357	380
		N.m	4.9	6.5	9.8	12.9	16.2	17.8	23.8	29.7	35.7	38.0
		lb-in	43	57	86	114	143	157	209	261	314	334

50Hz

Model	speed RPM (r/min)		200	150	100	75	60	50	38	30	25	18
Motor / Gearhead	Gear Ratio		**7.5**	**10**	**15**	**20**	**25**	**30**	**40**	**50**	**60**	**80**
9*DG*- 60FWH	**9WHD□**	kgf cm	18	23	35	47	58	64	85	107	128	144
		N.m	1.8	2.3	3.5	4.7	5.8	6.4	8.5	10.7	12.8	14.4
		lb-in	15.8	20.2	30.8	41.4	51	56	75	94	113	126.7
9*DG*- 90FWH	**9WHD□**	kgf cm	26	35	52	70	88	96	128	160	192	216
		N.m	2.6	3.5	5.2	7.0	8.8	9.6	12.8	16.0	19.2	21.6
		lb-in	22.9	30.8	45.8	61.6	77.4	84	113	141	169	190
9*DG*- 120FWH	**9WHD□**	kgf cm	35	47	70	93	117	128	171	214	257	288
		N.m	3.5	4.7	7.0	9.3	11.7	12.8	17.1	21.4	25.7	28.8
		lb-in	41	41	62	74	103	123	148	205	246	253
9*DG*- 150FWH	**9WHD□**	kgf cm	44	58	88	117	146	160	214	267	321	360
		N.m	4.4	5.8	8.8	11.7	14.6	16.0	21.4	26.7	32.1	36.0
		lb-in	39	51	77	103	128	141	188	235	282	317
9*DG*- 180FWH	**9WHD□**	kgf cm	53	70	105	140	175	193	257	321	385	432
		N.m	5.3	7.0	10.5	14.0	17.5	19.3	25.7	32.1	38.5	43.2
		lb-in	47	62	92	123	154	170	226	282	339	380
9*DG*- 200FWH	**9WHD□**	kgf cm	58	78	117	156	195	214	286	357	428	456
		N.m	5.8	7.8	11.7	15.6	19.5	21.4	28.6	35.7	42.8	45.6
		lb-in	51	69	103	137	172	188	252	314	377	401

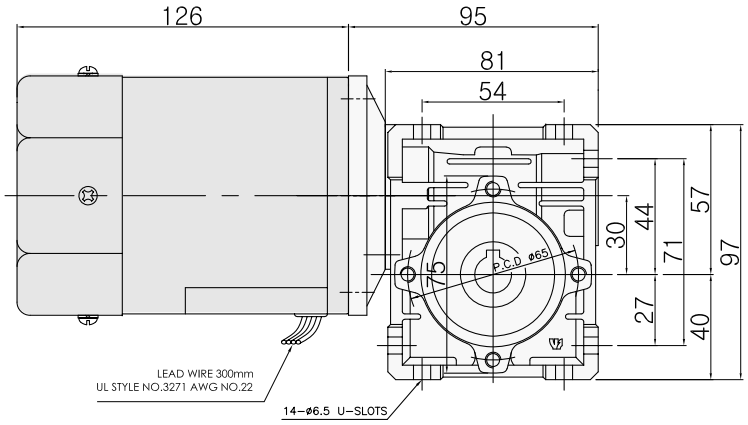
* Enter the gear ratio in the box(□) within the model name.

Dimension

1. 60W

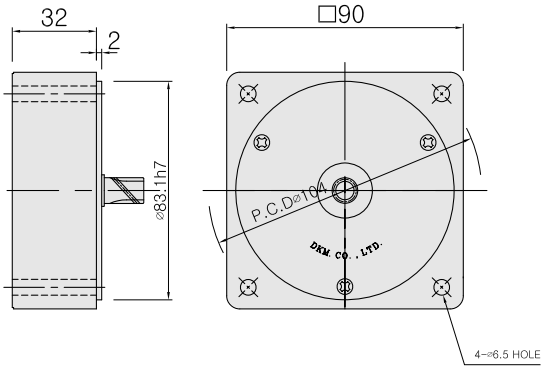
◆ Induction Motor With Worm Hollow Gearhead

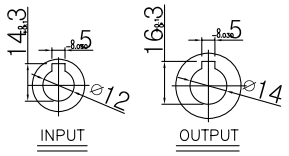
* MODEL : 9IDG□-60FWH



◆ INTER-DECIMAL GEARHEAD

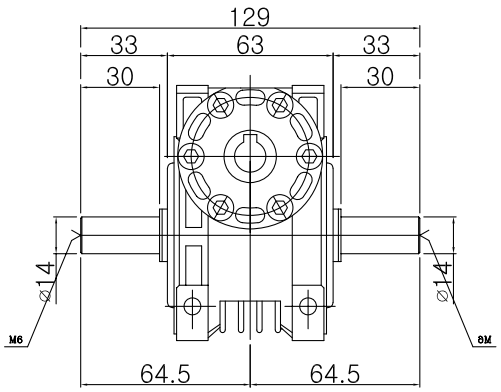
* MODEL : 9XD10MWH

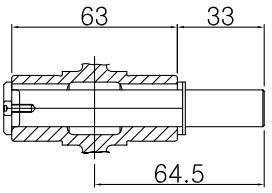


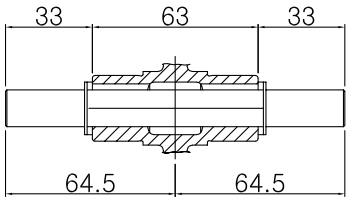


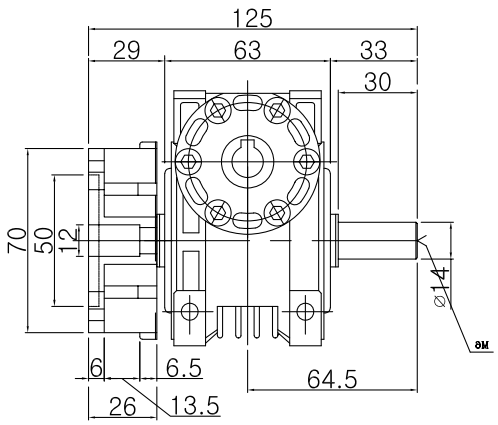
◆ WEIGHT

PART	WEIGHT(Kg)
MOTOR	2.6
DECIMAL GEARHEAD	0.5
GEARHEAD	1.130

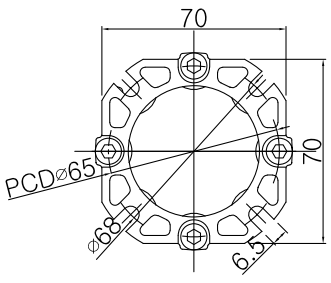






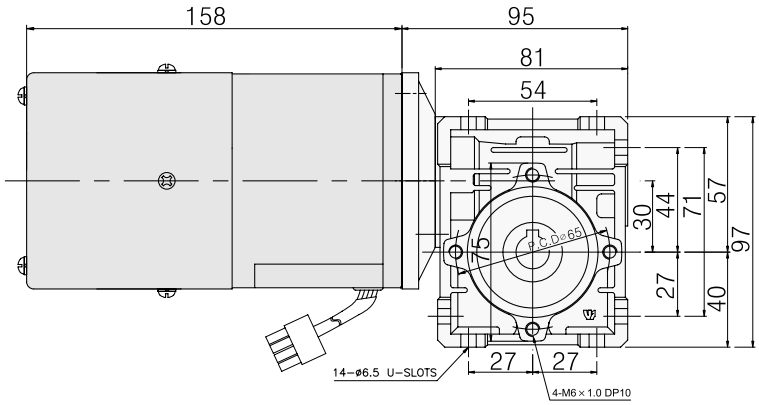


◆ FLANGE



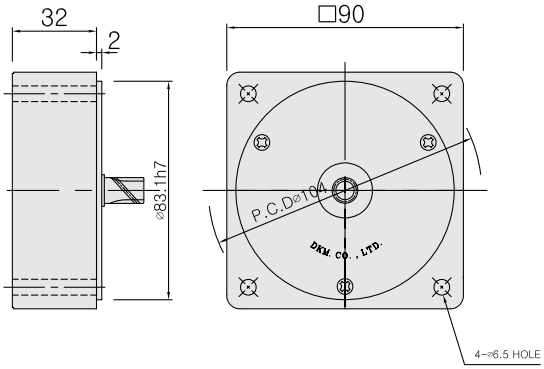
◆ Speed Control Motor With Worm Hollow Gearhead

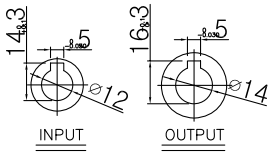
* MODEL : 9SDG□-60F2WH



◆ INTER-DECIMAL GEARHEAD

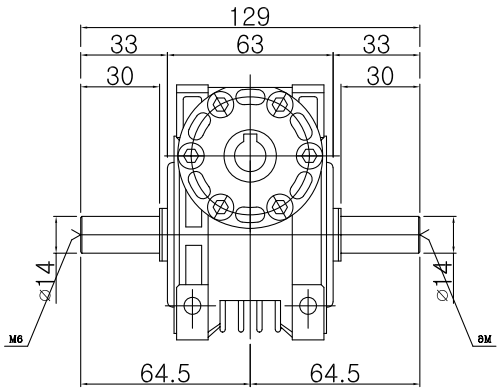
* MODEL : 9XD10MWH

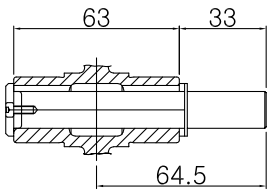


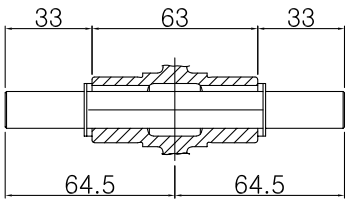


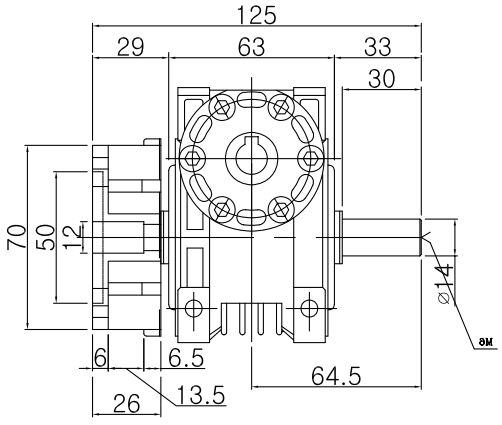
◆ WEIGHT

PART	WEIGHT(Kg)
MOTOR	2.7
DECIMAL GEARHEAD	0.5
GEARHEAD	1.130

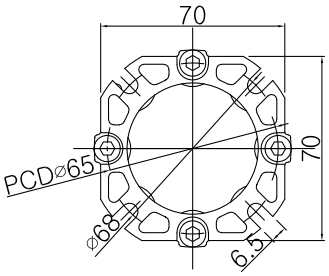








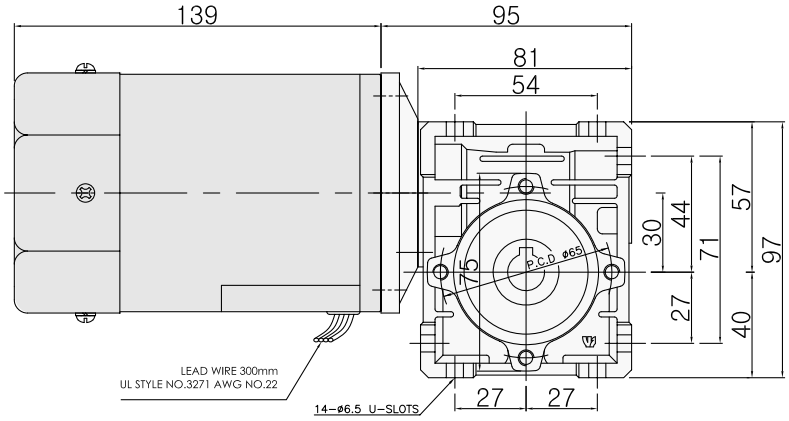
◆ FLANGE



2. 90W

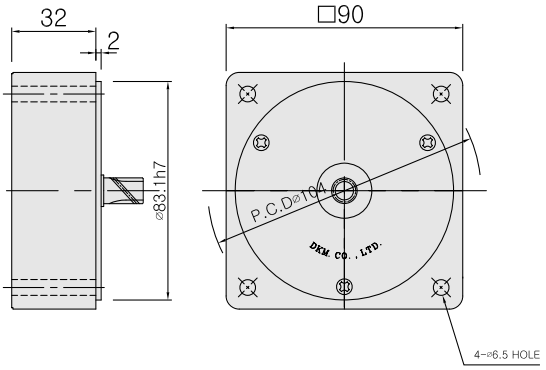
◆ Induction Motor With Worm Hollow Gearhead

* MODEL : 9IDG□-90FWH



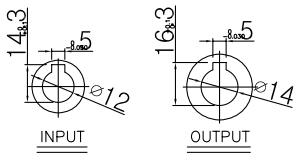
◆ INTER-DECIMAL GEARHEAD

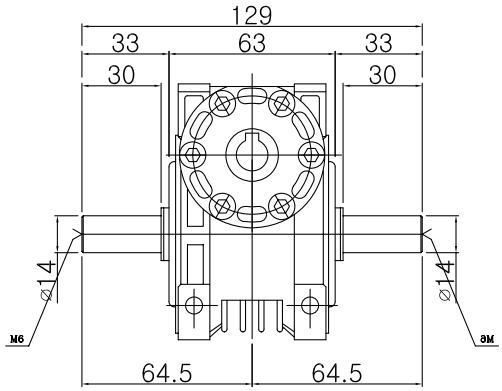
* MODEL : 9XD10MWH

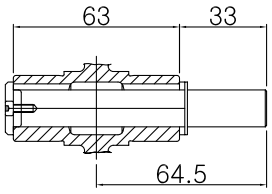


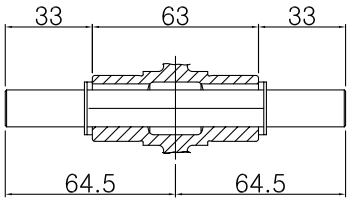
◆ WEIGHT

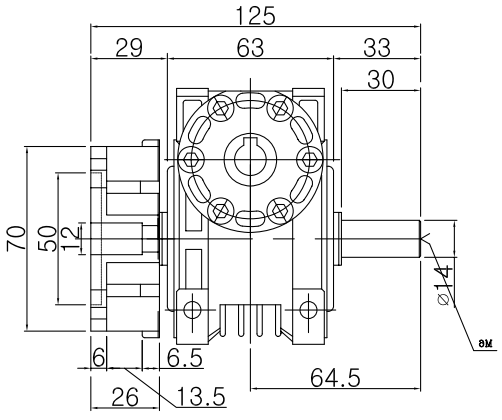
PART	WEIGHT(Kg)
MOTOR	3.0
DECIMAL GEARHEAD	0.5
GEARHEAD	1.130



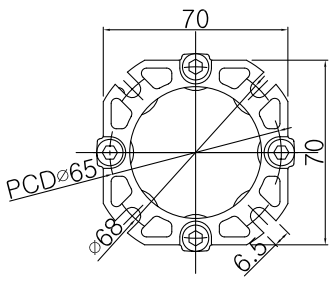






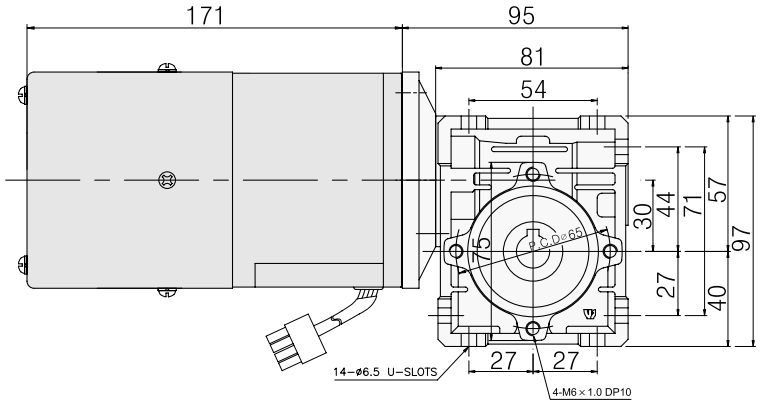


◆ FLANGE



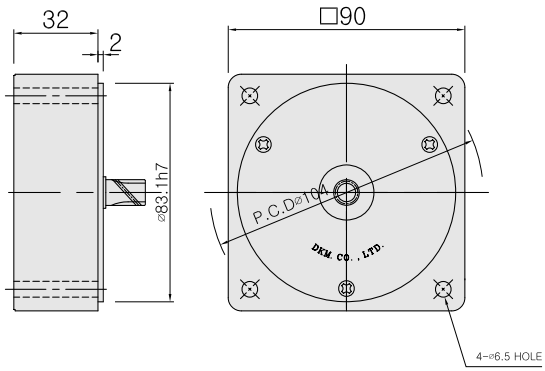
◆ Speed Control Motor With Worm Hollow Gearhead

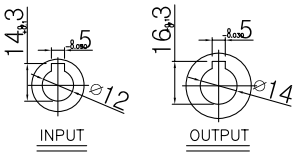
* MODEL : 9SDG□-90F2WH



◆ INTER-DECIMAL GEARHEAD

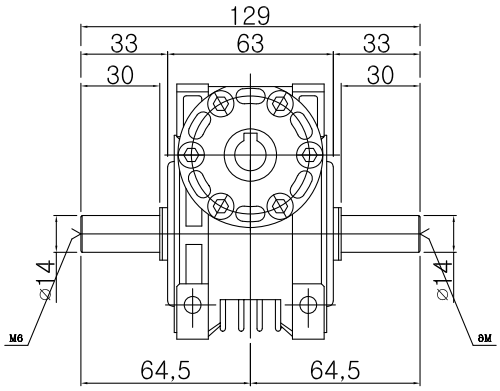
* MODEL : 9XD10MWH

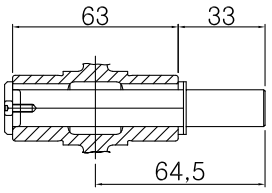


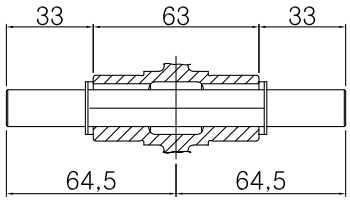


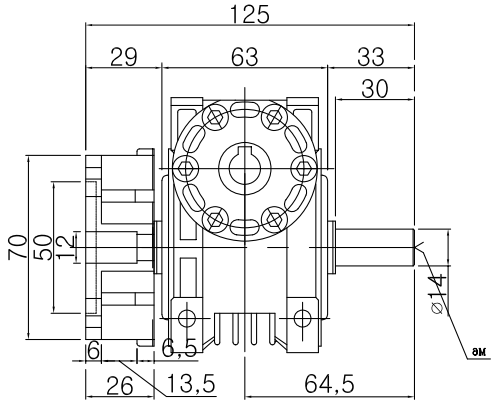
◆ WEIGHT

PART	WEIGHT(Kg)
MOTOR	3.0
DECIMAL GEARHEAD	0.5
GEARHEAD	1.130

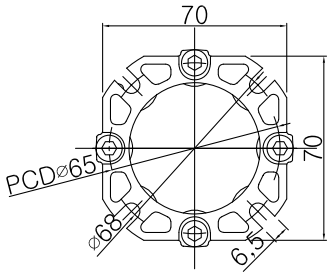








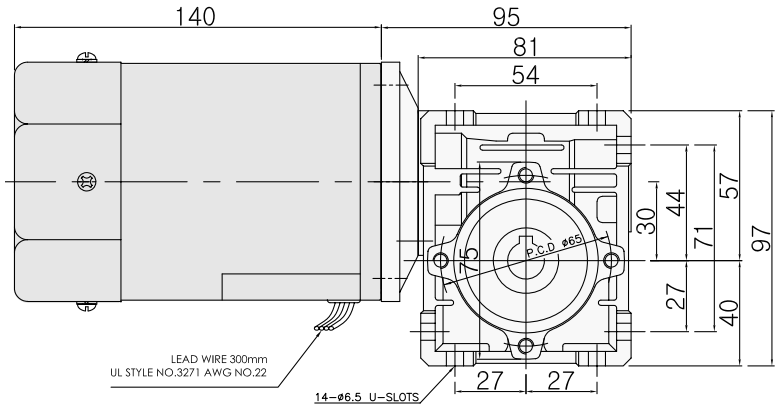
◆ FLANGE



3. 120W

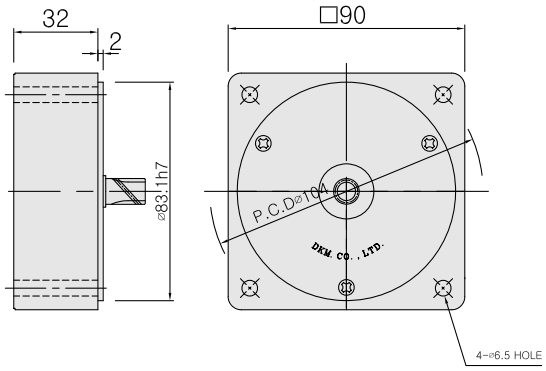
◆ Induction Motor With Worm Hollow Gearhead

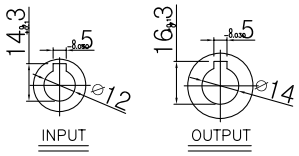
* MODEL : 9IDG□-120FWH



◆ INTER-DECIMAL GEARHEAD

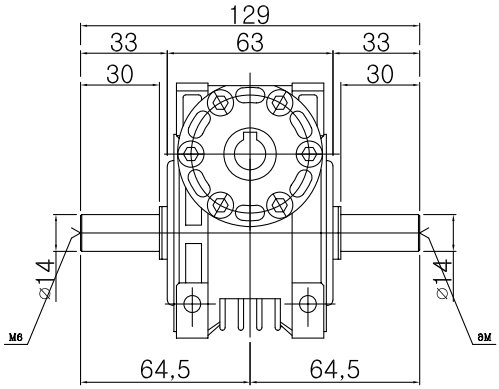
* MODEL : 9XD10MWH

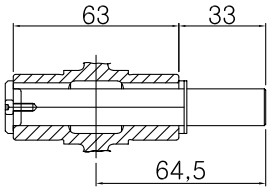


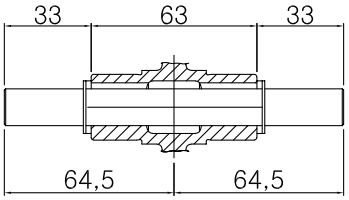


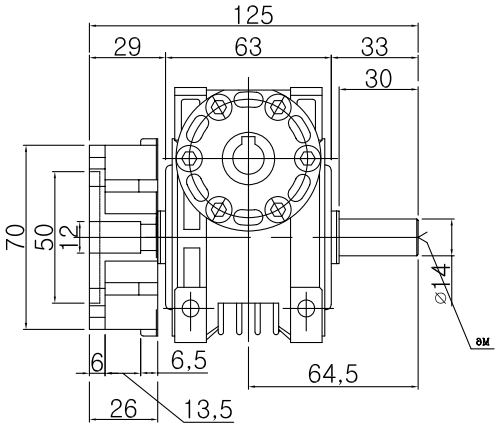
◆ WEIGHT

PART	WEIGHT(Kg)
MOTOR	3.0
DECIMAL GEARHEAD	0.5
GEARHEAD	1.130

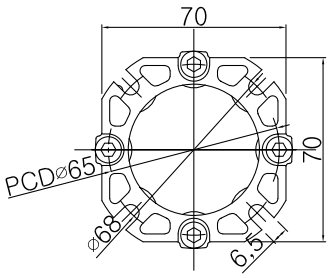






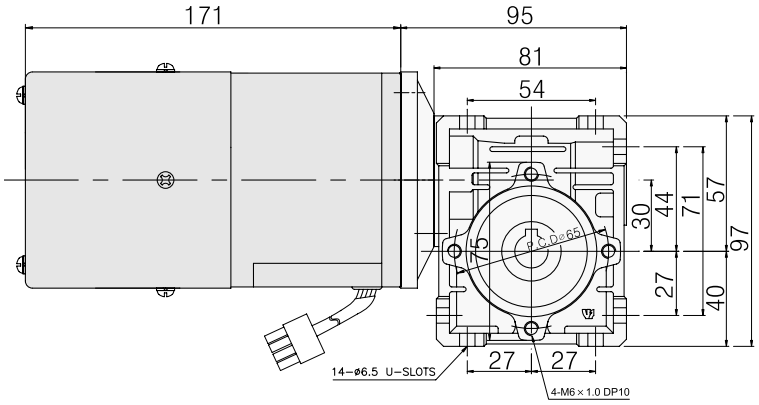


◆ FLANGE



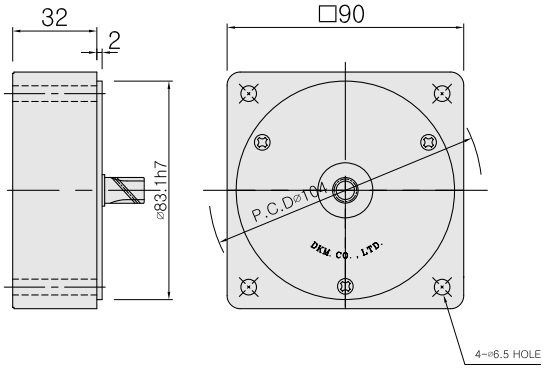
◆ Speed Control Motor With Worm Hollow Gearhead

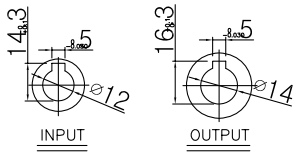
* MODEL : 9SDG□-120F2WH



◆ INTER-DECIMAL GEARHEAD

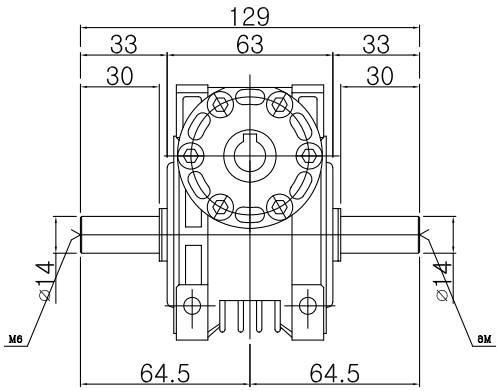
* MODEL : 9XD10MWH

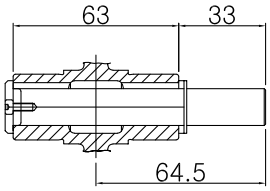


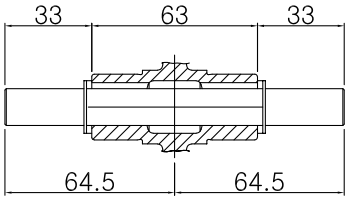


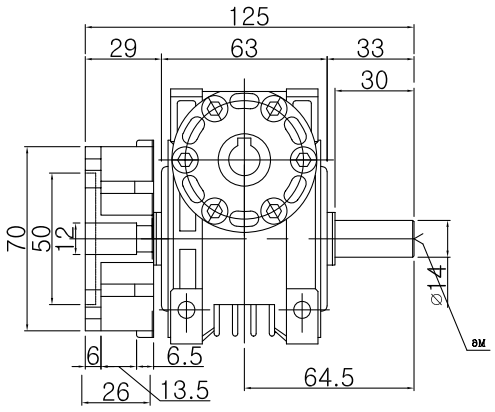
◆ WEIGHT

PART	WEIGHT(Kg)
MOTOR	2.7
DECIMAL GEARHEAD	0.5
GEARHEAD	1.130

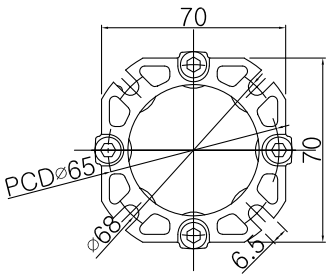








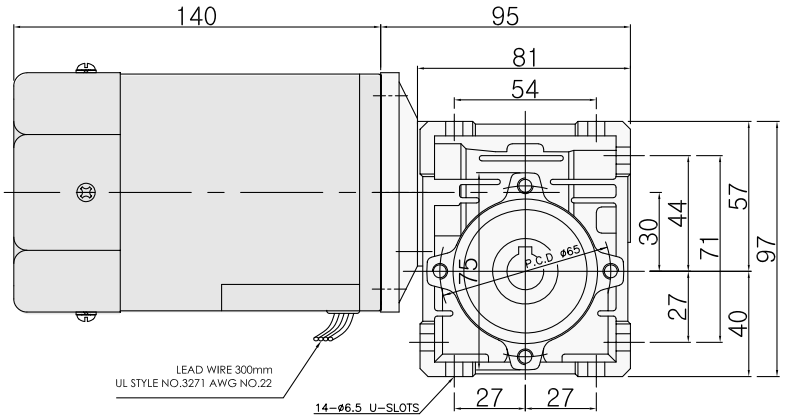
◆ FLANGE



4. 150W

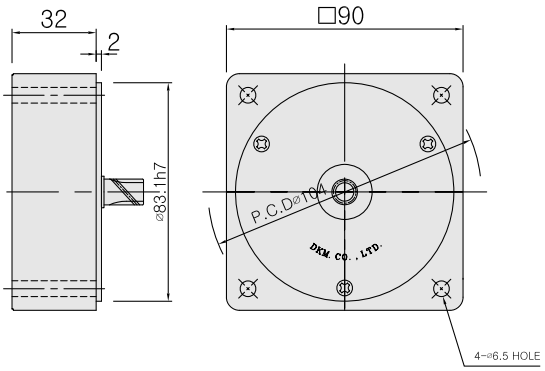
◆ Induction Motor With Worm Hollow Gearhead

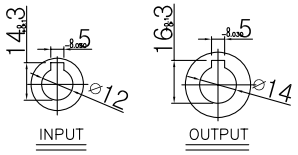
* MODEL : 9IDG□-150FWH



◆ INTER-DECIMAL GEARHEAD

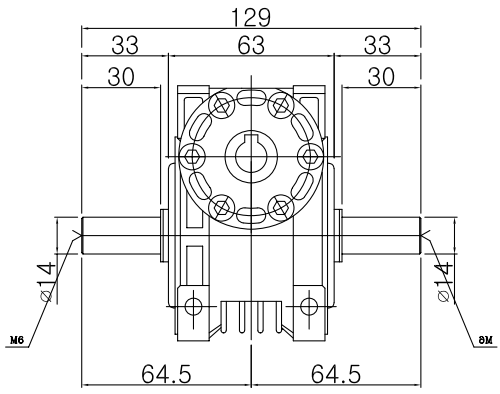
* MODEL : 9XD10MWH

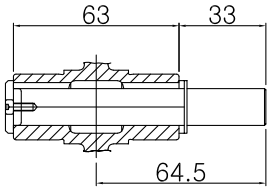


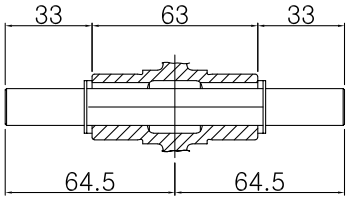


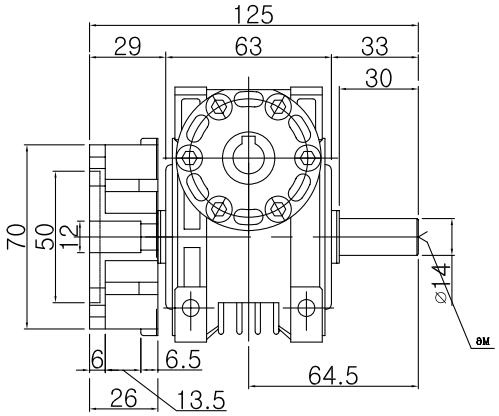
◆ WEIGHT

PART	WEIGHT(Kg)
MOTOR	3.0
DECIMAL GEARHEAD	0.5
GEARHEAD	1.130

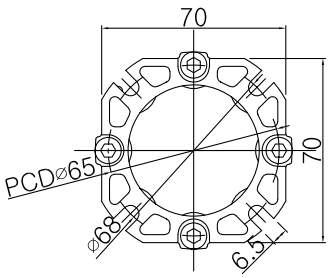








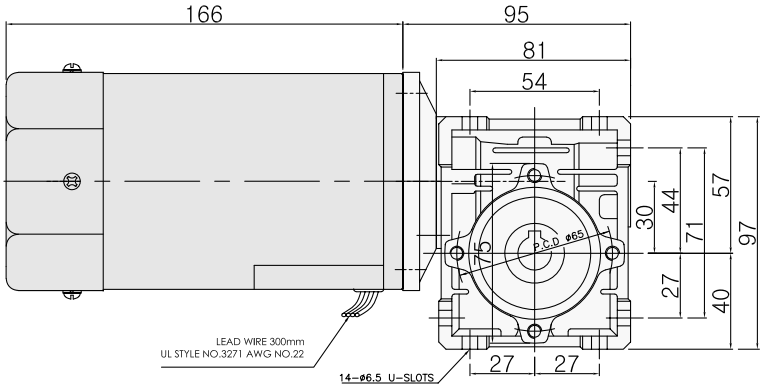
◆ FLANGE



5. 180W

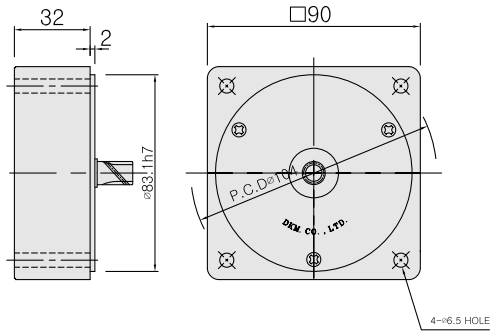
◆ Induction Motor With Worm Hollow Gearhead

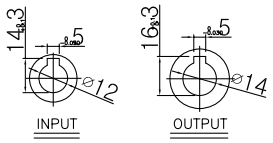
* MODEL : 9IDG□-180FWH



◆ INTER-DECIMAL GEARHEAD

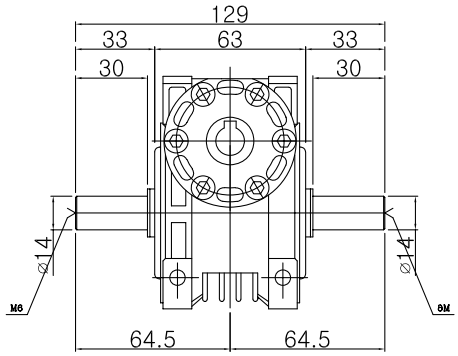
* MODEL : 9XD10MWH

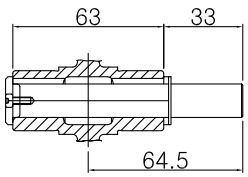


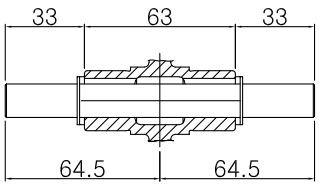


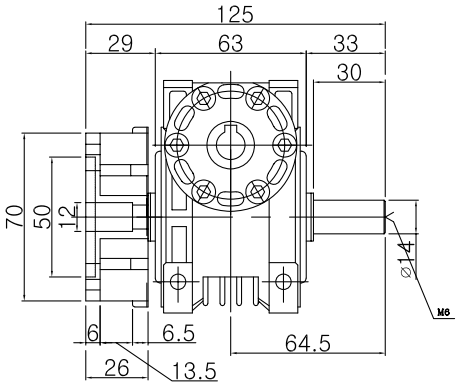
◆ WEIGHT

PART	WEIGHT(Kg)
MOTOR	3.8
DECIMAL GEARHEAD	0.5
GEARHEAD	1.130

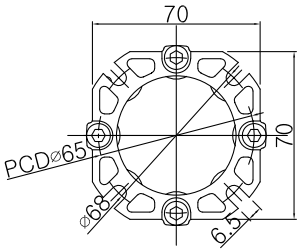






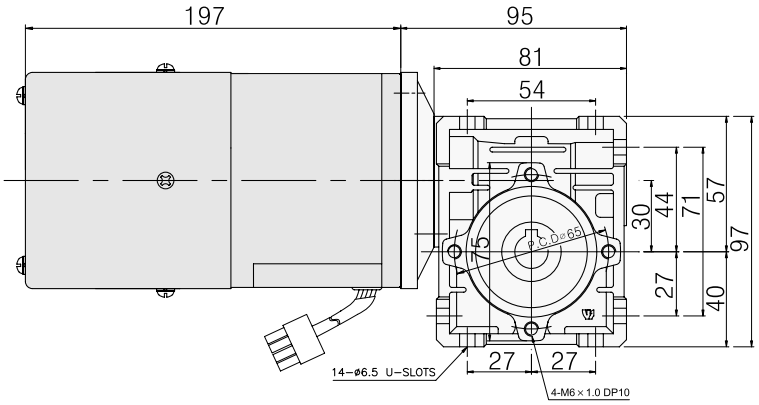


◆ FLANGE



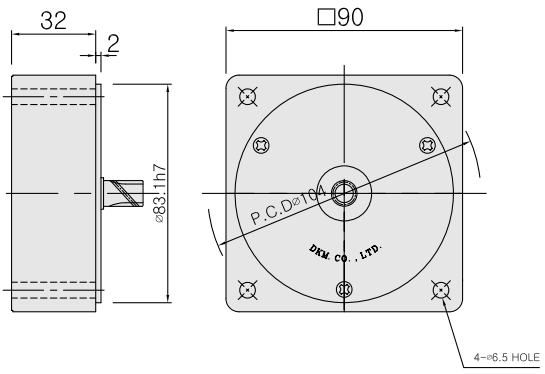
◆ Speed Control Motor With Worm Hollow Gearhead

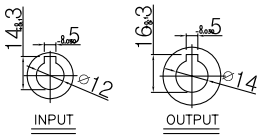
* MODEL : 9SDG□-180F2WH



◆ INTER-DECIMAL GEARHEAD

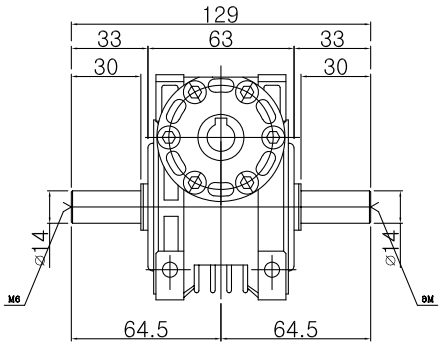
* MODEL : 9XD10MWH

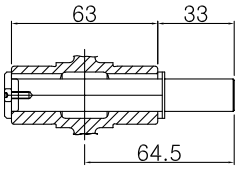


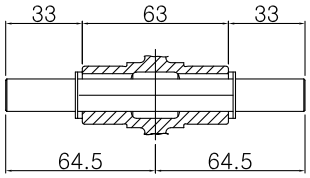


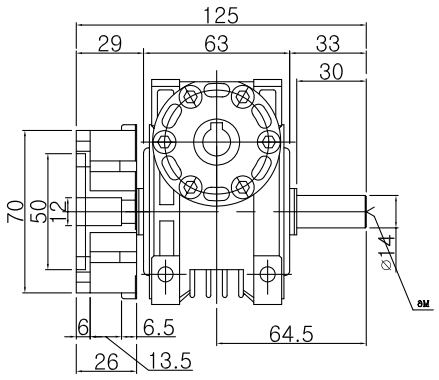
◆ WEIGHT

PART	WEIGHT(Kg)
MOTOR	3.9
DECIMAL GEARHEAD	0.5
GEARHEAD	1.130

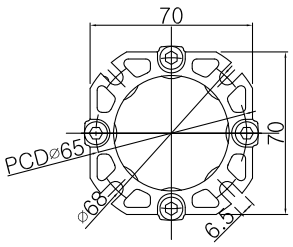








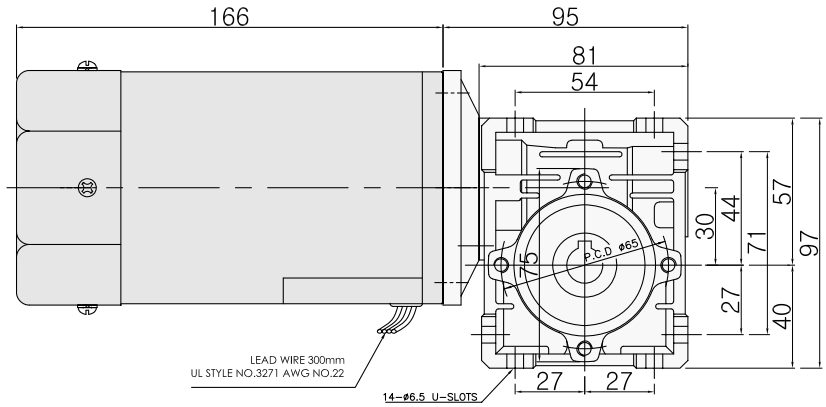
◆ FLANGE



6. 200W

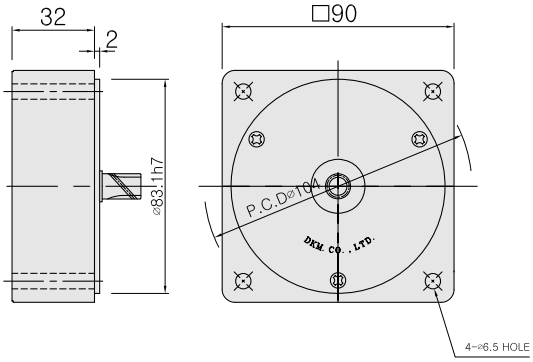
◆ Induction Motor With Worm Hollow Gearhead

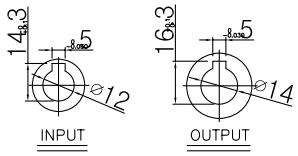
* MODEL : 9IDG□-200FWH



◆ INTER-DECIMAL GEARHEAD

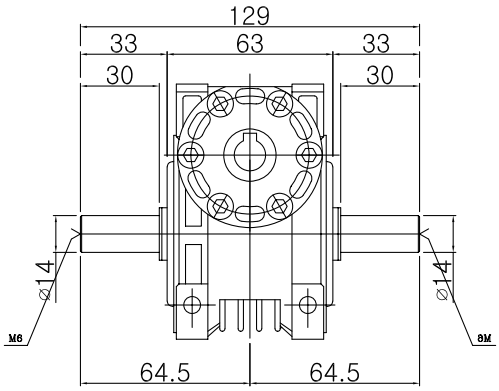
* MODEL : 9XD10MWH

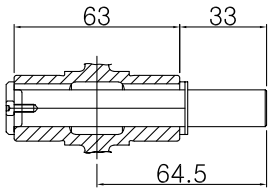


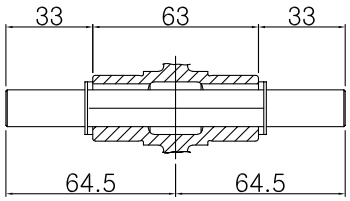


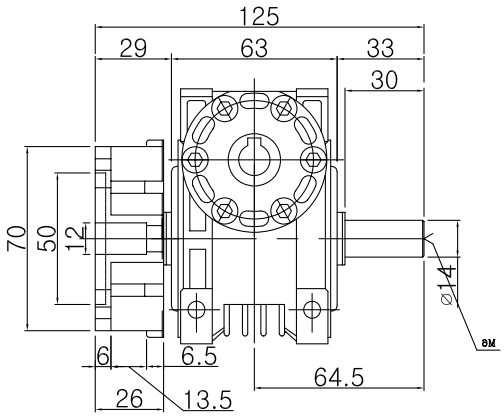
◆ WEIGHT

PART	WEIGHT(Kg)
MOTOR	3.8
DECIMAL GEARHEAD	0.5
GEARHEAD	1.130

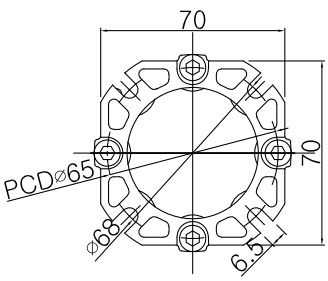








◆ FLANGE



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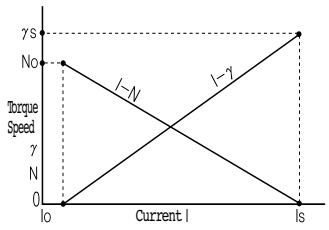
DC MOTOR

INDEX

Characteristic of D.C. magnet motor

● Current, Torque and Speed (r/min)

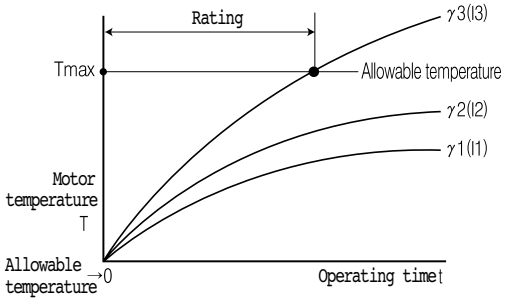
When the voltage of power supply is fixed, D.C. magnet motor shows the characteristic in the relationship between torque / speed and current as below.
The relationship is almost linear show as the above, and the speed decreases, and current increases conversely when increasing the trque to the output shaft motor. It is same until the output shaft of motor is done a stall, when ignored heat generation in the motor.(It is possible to control the torque by controlling the current.)
※ Note : Plese contact us if the characteristic diagram isrequired.



I : Current(A)
Io : No-load current(A)
Is : Stall current(A)
τ : Torque(kgf • cm){mN • m}
τs : Stall torquekgf • cm){mN • m}
N : Speed(r/min)
No : No-load speed(r/min)

● Rating time

According to increase of current (and torque), heat generation in the motor increases. Generally, when the temperature of component parts in the motor is below than allowable temperature after it was saturated, it is possible to keep continuous operation.When it was not saturated in the allowable temperature, the time to exceed the temperature is rating time of motor and it is short-time rating specification. According to size and the specifications, each motor model has different current (torque) value to be possible continuous operation.
※ Note : Plese contact us about the rating time when D.C. motor is used by over loading.

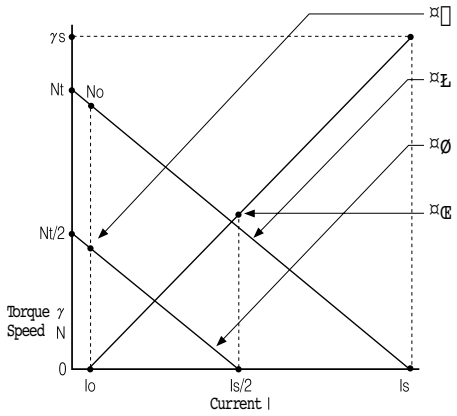


• τ1, τ2(I 1, I 2) : The torque(current)to be possible continuous operation.
• τ3(I 3) : The torque(current)to be short-time rating.

[The relationship between operating time : "t" and temperature in D.C. motor "T" by using torque as the parameter, when ambient temperature is fixed.]

● Performance of D.C motor in case of voltage change at power supply

D.C. magnet motor can change speed by changing power supply voltage. The relationship between torque/speed and current of motor when the voltage is half(1/2) is shown as below. As the above figure, in the relationship between current and speed when power supply voltage was changed to half(1/2), ideal no-load speed "Nt" becomes "Nt/2" and it falls parallel to the performance of rated voltage. The relationship between current and torque is same as the rated voltage, but the stall current "τs" falls accordingly as the stall current "Is" becomes "Is/2"(It is possible to control speed by controlling the voltage.)



① No-load speed when voltage is half(1/2)
② I -N characteristic at rated voltage
③ I -N characteristic when the voltage is half(1/2)
④ Stall torque when the voltage is half(1/2)
▶Nt : Ideal no-load speed when current is zero.
(the point extended the diagram of speed to zoo current.)

● Input / output and efficiency of D.C. motor

The input / output and efficiency can be calculated with the next formula.

nput(W) = Power supply voltage(V) × Current(A)

Output(W) = Torque τ (kgf • cm) × SpeedN(r/min) × 1.027 × 10-2

Efficiency η (%) = $\frac{\text{Output (W)}}{\text{Input (W)}} \times 100$

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Product Coding System

MOTOR

9 D G 12 – 25 – 30

- **9** — Motor Frame Size
  - 6 : □60mm sq. (2.36 in.sq.) (15W)
  - 8 : □80mm sq. (3.15 in.sq.) (25~40W)
  - 9 : □90mm sq. (3.54 in.sq.) (60~120W)
- **D** — Motor : DC MOTOR
- **G** — Shaft Type
  - G : for G TYPE GEARHEAD
  - P : for P TYPE GEARHEAD
  - W : for W TYPE GEARHEAD
  - D : D-CUT SHAFT
  - K : KEY TYPE SHAFT
- **12** — DC VOLTAGE
  - 12 : DC 12V
  - 24 : DC 24V
  - 90 : DC 90V
- **25** — OUTPUT
  - 15 : 15W
  - 25 : 25W
  - 40 : 40W
  - 60 : 60W
  - 90 : 90W
  - 120 : 120W
- **30** — RPM
  - 30 : 3000RPM

PARALLEL GEARHEAD

9 P B K 36 B H

- **9** — Frame Size
  - 6 : □ 60mm sq, (2.36 in.sq.) (15W)
  - 8 : □ 80mm sq, (3.15 in.sq.) (25~40W)
  - 9 : □ 90mm sq, (3.54 in.sq.) (60~120W)
- **P** — Gear Type
  - G : General gear (for 15 ~ 40W) (permissible torque : 100Kgfcm)
  - P : Powerful gear (for 60 ~ 200W) (permissible torque : 200Kgfcm)
- **B** — Frame Type (G,P,H type gear)
  - B : Box Type (Square BOX type)
  - F : Flange Type (only available in 'P' type -> '9PF~')
- **K** — Output Shaft Type
  - K : Key Type
  - D : D-cut Type
  - S : Round Type
- **36** — Gear Ratio (36 : 1/36)
- **B** — Gearing Type
  - B : Ball Bearing
  - BM : Ball Bearing + Metal Bearing
  - M : Metal Bearing
- **H** — Input Gear Type
  - H : Helical Gear

WORM GEARHEAD

9 W D 30 B L

- **9** — Frame size
  - 8 : □ 80mm square (3.15 in.sq.) (15~40W)
  - 9 : □ 90mm square (3.54 in.sq.) (60~120W)
  - ※ Worm Hollow gearhead is 90mm.
- **W** — Gearhead Type
  - W : Worm Solid Type (6~60W)
  - WH : Worm Hollow Type (60~200W)
- **D** — BRAND
  - D : DKM
- **30** — Gear Ratio (30 : 1/30)
- **B** — BEARING TYPE
  - B : Ball Bearing
  - ※ No mark in Worm Hollow type
- **L** — Direction of Output
  - L : Left
  - R : Right
  - L/R : Both direction
  - ※ No mark in Worm Hollow type

X10 Inter-Decimal GEARHEAD

9 X D 10 M H

- **9** — Frame Size
  - 8 : □ 80mm sq. (3.15 in.sq.) (25~40W)
  - 9 : □ 90mm sq. (3.54 in.sq.) (60~120W)
- **X** — X10 Inter-Decimal Gearhead
- **D** — DKM
- **10** — Ratio (10 : 1/10)
- **M** — Metal Bearing
- **H** — Attaching Gearhead
  - G : General (Helical)
  - P : Powerful Gearhead
  - H : High Powerful Gearhead
  - W : Worm Solid type Gearhead
  - WH : Worm Hollow type Gearhead

* In case of exceeding 200:1 ratio, please use X10 Inter-decimal gearhead with general gearhead. And please be advised that only speed will reduce by 10:1 without torque increasing.

DC Motor Line-Up

Frame size □mm (in.)	Output W	Type	DC Voltage	Page
			12 / 24 / 90V	
60 (2.36)	15	Lead Wire	●	219
80 (3.15)	25	Lead Wire	●	221
	40	Lead Wire	●	223
90 (3.54)	60	Lead Wire	●	225
	90	Lead Wire	●	227
	120	Lead Wire	●	229

General Specifications

Item	Specifications
Insulation Resistance	100 MΩ or more when 500 VDC is applied between the windings and the frame after rated motor opeation under normal ambient temperature and humidity.
Dielectric Strength	Sufficient to withstand 1.5 KV at 50 Hz and 60 Hz 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℃ (144˚F) 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℃ (266˚F)]
Ambient Temperture Range	-10℃ ~ + 40℃ (14˚F ~ 104˚F) (nonfreezing)
Ambient Humidity	85% maximum (noncondensing)

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DC MOTOR
15W

□60mm(2.36in.)

Motor Specification

Model 6DCG□-15-30 : Pinion Shaft Type 6DCD□-15-30 : D-Cut Shaft Type	Output		Rated V	No Load		Rated Load					Starting Cur.	Starting Torque		
				Current	Speed	Current	Speed	Torque						
	HP	W	VDC	A	RPM	A	RPM	gfcm	mN.m	oz-in	A	gfcm	mN.m	oz-in
6DCG(D)12-15-30			12	0.55	3200	1.9					15.0			
6DCG(D)24-15-30	1/50	15	24	0.24	3480	1.1	3000	500	50	7.092	8.0	4400	440	62
6DCG(D)90-15-30			90	0.05	3150	0.18					1.9			

* 'Pinion Shaft' is for attaching gearhead and 'D-Cut Shaft' is for using motor only.

Permissible Torque When using gearhead

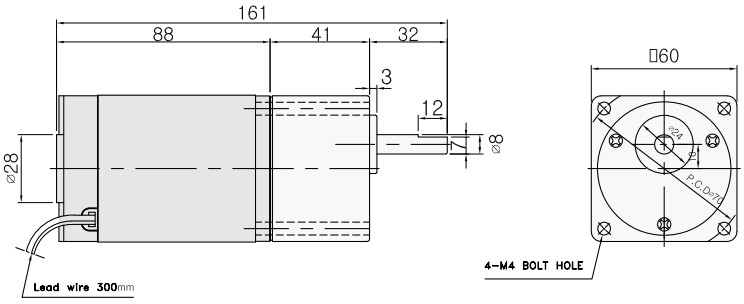
Model	speed RPM (r/min)		1000	833	600	500	400	333	300	240	200	167	150	120	100	83.3	75	60	50	40	33.3	30	25	20	16.7	15	12
Motor/Gearhead	Gear Ratio		**3**	**3.6**	**5**	**6**	**7.5**	**9**	**10**	**12.5**	**15**	**18**	**20**	**25**	**30**	**36**	**40**	**50**	**60**	**75**	**90**	**100**	**120**	**150**	**180**	**200**	**250**
6DCG□-15-30 / 6GBD□BMH		kgf cm	1.4	1.8	2.4	2.9	3.7	4.4	4.9	6.1	7.3	8.8	9.7	12.2	14.6	17.5	19.5	24.4	29.2	30	30	30	30	30	30	30	30
		N.m	0.14	0.18	0.25	0.29	0.37	0.44	0.49	0.6	0.7	0.9	1.0	1.2	1.5	1.8	2.0	2.4	2.9	3	3	3	3	3	3	3	3
		lb-in	1.2	1.6	2.1	2.6	3.3	3.9	4.3	5	6	8	9	11	13	15	17	22	26	26	26	26	26	26	26	26	26

* Enter the phase & voltage code in the box (□) within the motor model name.
* Enter the gear ratio in the box (□) within the gearhead model name. A colored background indicates gear shaft rotation in the same direction as the motor shaft ; a white background indicates rotation in the opposite direction.
* The speed is calculated by dividing the motor' s synchronous speed (3000 r/min) by the gear ratio. The actual speed is 2~20% less than the displayed value, depending on the size of the load.

Dimension

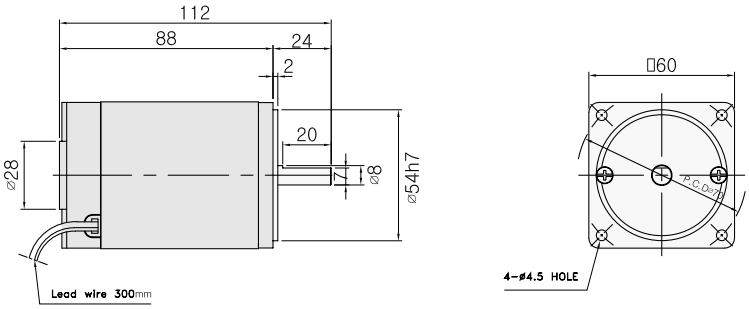
◆ GEARED MOTOR

* MOTOR MODEL : 6DCG□-15-30 (□ : 12V,24V,90V)
* HEAD MODEL : 6GBD3BMH - 6GBD250BMH

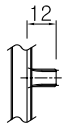
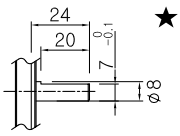


◆ MOTOR ONLY

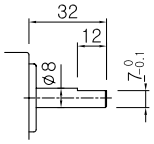
* MOTOR MODEL : 6DCD□-15-30



◆ MOTOR OUTPUT DIMENSION

MODEL	DIMENSION
GEAR TYPE	
6DCG□-15-30	
D-CUT TYPE	 ★
6DCD□-15-30	

◆ GEARHEAD OUTPUT DIMENSION

MODEL	DIMENSION
D-CUT TYPE	 ★
6GBD3BMH ~6GBD250BMH	

◆ WEIGHT

PART		WEIGHT(Kg)
MOTOR		0.7
GEAR HEAD	6GBD3BMH - 6GBD18BMH	0.3
	6GBD25BMH - 6GBD 30BMH	0.32
	6GBD36BMH - 6GBD250BMH	0.34

* Above table indicates output shaft dimension made by user' s request and ★ indicates the basic dimension in factory shipping.

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DC MOTOR
25W

□80mm(3.15in.)

Motor Specification

Model 8DCG□-25-30 : Pinion Shaft Type 8DCD□-25-30 : D-Cut Shaft Type	Output		Rated V	No Load		Rated Load					Starting Cur.	Starting Torque		
				Current	Speed	Current	Speed	Torque						
	HP	W	VDC	A	RPM	A	RPM	gfcm	mN.m	oz-in	A	gfcm	mN.m	oz-in
8DCG(D)12-25-30			12	1.2	3200	2.7					25	7500	750	106
8DCG(D)24-25-30	1/30	25	24	0.35	3100	1.3	3000	800	80	11.35	22	15000	1500	213
8DCG(D)90-25-30			90	0.12	3350	0.35					10	23000	2300	326

* 'Pinion Shaft' is for attaching gearhead and 'D-Cut Shaft' is for using motor only.

Permissible Torque When using gearhead

Model	speed RPM (r/min)		1,000	833	600	500	400	333	300	240	200	167	150	120	100	83.3	75	60	50	40	33.3	30	25	20	16.7	15	12	10	8
Motor/Gearhead	Gear Ratio		**3**	**3.6**	**5**	**6**	**7.5**	**9**	**10**	**12.5**	**15**	**18**	**20**	**25**	**30**	**36**	**40**	**50**	**60**	**75**	**90**	**100**	**120**	**150**	**180**	**200**	**250**	**300**	**360**
8DCG□-25-30	**8GBK□BMH**	kgf cm	2.4	2.9	4.1	4.9	6.1	7.3	8.1	10.2	12.2	14.6	16.3	20.3	24.4	29.3	32.5	40.7	48.8	61.0	73.2	80	80	80	80	80	80	80	80
		N.m	0.24	0.29	0.41	0.49	0.61	0.73	0.81	1.0	1.2	1.5	1.6	2.0	2.4	2.9	3.3	4.1	4.9	6.1	7.3	8	8	8	8	8	8	8	8
		lb-in	2.2	2.6	3.6	4.3	5.4	6.5	7.2	9	11	13	14	18	22	26	29	36	43	54	65	71	71	71	71	71	71	71	71

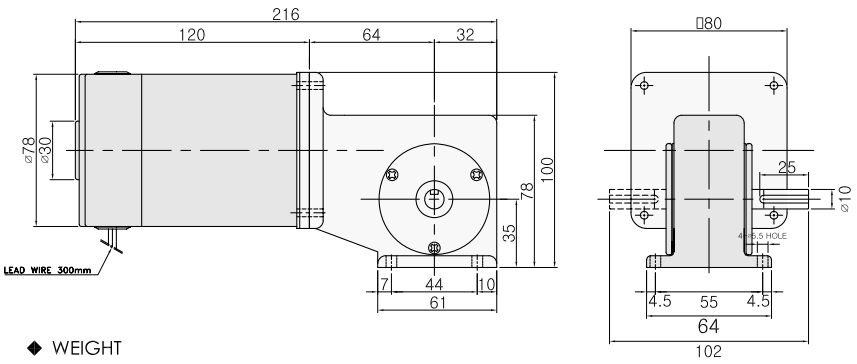
* Enter the phase & voltage code in the box (□) within the motor model name.
* Enter the gear ratio in the box (□) within the gearhead model name. A colored background indicates gear shaft rotation in the same direction as the motor shaft ; a white background indicates rotation in the opposite direction.
* The speed is calculated by dividing the motor' s synchronous speed (3000 r/min) by the gear ratio. The actual speed is 2~20% less than the displayed value, depending on the size of the load.
* If more slow speed is needed than above value, use decimal gearhead with a gear ratio of 10:1 between gearhead and motor. Even decimal gearhead is used, just speed will be reduced without increase in permissible torque ; the maximum permissible torque is 80kgfcm (8N.m, 71lb-in).

Dimension

1. Worm Solid Gearhead Type

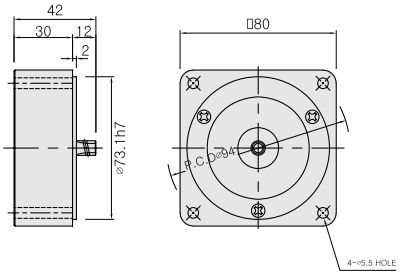
◆ GEARED MOTOR

* MOTOR MODEL : 8DCW□ -25-30 (□: 12V,24V,90V)
* HEAD MODEL : 8WD10BR(L) - 8WD60BR(L)



◆ INTER-DECIMAL GEARHEAD

* MODEL : 8XD10MW



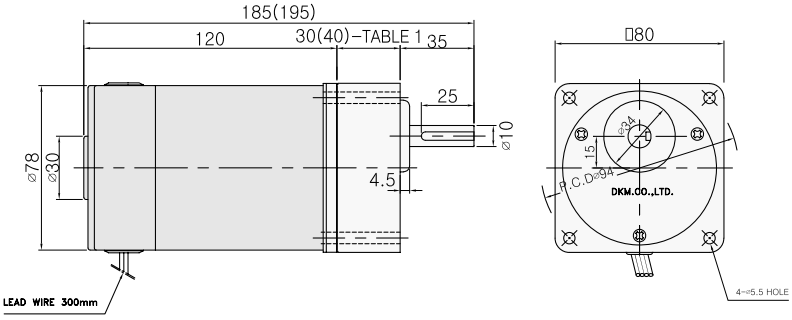
◆ WEIGHT

PART	WEIGHT(Kg)
MOTOR	1.5
DECIMAL GEARHEAD	0.44
GEARHEAD	0.67

2. Parallel Gearhead Type

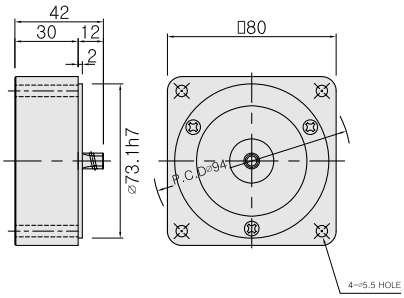
◆ GEARED MOTOR

* MOTOR MODEL : 8DCG□-25-30 (□ : 12V,24V,90V)
* HEAD MODEL : 8GB□ 3BMH - 8GB□ 360BMH



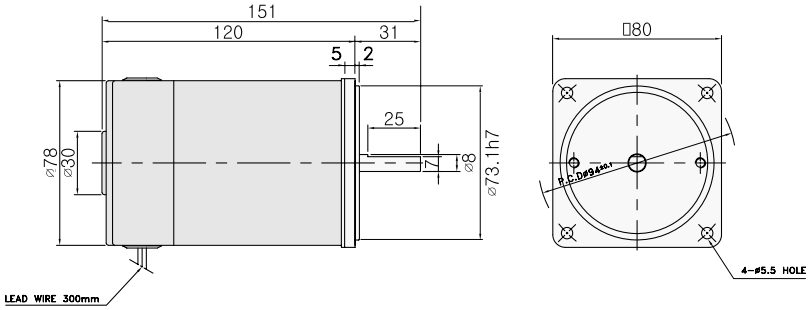
◆ INTER-DECIMAL GEARHEAD

* MODEL : 8XD10M□

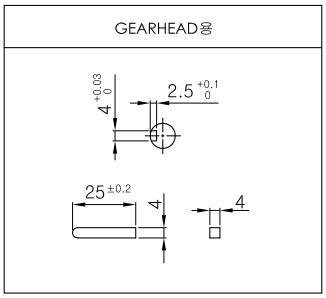


◆ MOTOR ONLY

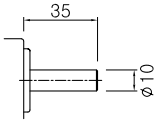
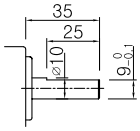
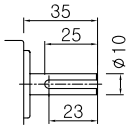
* MOTOR MODEL : 8DCD□-25-30



◆ KEY SPEC



◆ GEARHEAD OUTPUT DIMENSION

MODEL	DIMENSION
ROUND TYPE	
8GBS3BMH ~8GBS360BMH	
D-CUT TYPE	
8GBD3BMH ~8GBD360BMH	
KEY TYPE	 ★
8GBK3BMH ~8GBK360BMH	

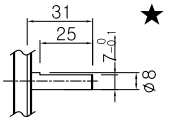
◆ TABLE 1

SIZE(mm)	GEAR RATIO
30	8GB□ 3BMH - 8GB□ 18BMH
40	8GB□25BMH - 8GB□360BMH

◆ WEIGHT

PART		WEIGHT(Kg)
MOTOR		1.5
DECIMAL GEARHEAD		0.44
GEAR HEAD	8GB□3BMH - 8GB□18BMH	0.48
	8GB□25BMH - 8GB□30BMH	0.61
	8GB□36BMH - 8GB□180BMH	0.67
	8GB□200BMH - 8GB□360BMH	0.63

◆ MOTOR OUTPUT DIMENSION

MODEL	DIMENSION
GEAR TYPE	
8IDG□-25G	
D-CUT TYPE	 ★
8IDD□-25	

* Above table indicates output shaft dimension made by user' s request and ★ indicates the basic dimension in factory shipping.

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DC MOTOR
40W

□80mm(3.54in.)

Motor Specification

Model 8DCG□-40-30 : Pinion Shaft Type 8DCD□-40-30 : D-Cut Shaft Type	Output		Rated V	No Load		Rated Load				Starting Cur.	Starting Torque		
				Current	Speed	Current	Speed	Torque					
	HP	W	VDC	A	RPM	A	RPM	gfcm	mN.m	oz-in	A	gfcm	mN.m	oz-in
8DCG(D)12-40-30			12	1.2	3300	4.8					35	12000	1200	170
8DCG(D)24-40-30	1/19	40	24	0.4	3150	2.5	3000	1300	130	18.44	30	20000	2000	284
8DCG(D)90-40-30			90	0.18	3350	0.48					10	23000	2300	326

* 'Pinion Shaft' is for attaching gearhead and 'D-Cut Shaft' is for using motor only.

Permissible Torque When using gearhead

Model	speed RPM (r/min)		1,500	1,000	833	600	500	400	333	300	240	200	167	120	100	83.3	75	60	50	40	33.3	30	25	20	16.7	15	12	10	8
Motor/Gearhead	Gear Ratio		**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**	**200**	**250**	**300**	**360**
8DCG□-40-30	**8GBK□BMH**	kgf cm	2.6	3.9	4.7	6.5	7.8	9.7	11.7	13.0	16.2	19.5	23.4	32.5	39.0	46.7	51.9	64.9	77.9	80	80	80	80	80	80	80	80	80	80	80
		N.m	0.26	0.39	0.47	0.65	0.78	0.97	1.17	1.3	1.6	1.9	2.3	3.2	3.9	4.7	5.2	6.5	7.8	8	8	8	8	8	8	8	8	8	8	8
		lb-in	2.3	3.4	4.1	5.7	6.9	8.6	10.3	11	14	17	21	29	34	41	46	57	69	71	71	71	71	71	71	71	71	71	71	71

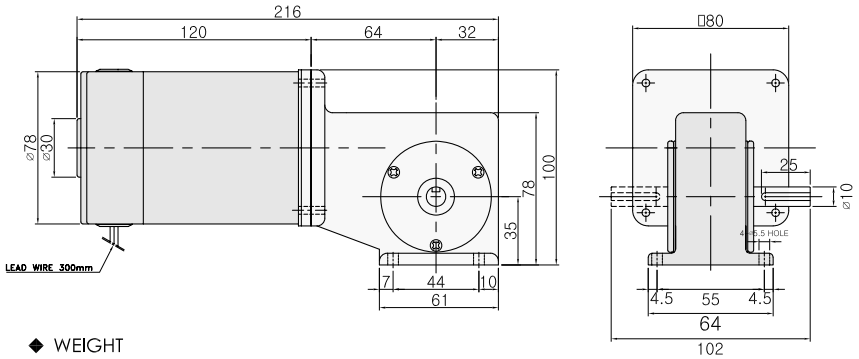
* Enter the phase & voltage code in the box (□) within the motor model name.
* Enter the gear ratio in the box (□) within the gearhead model name. A colored background indicates gear shaft rotation in the same direction as the motor shaft ; a white background indicates rotation in the opposite direction.
* The speed is calculated by dividing the motor' s synchronous speed (50Hz : 1500 r/min, 60 Hz : 1800 r/min) by the gear ratio.
* The actual speed is 2~20% less than the displayed value, depending on the size of the load.
* If more slow speed is needed than above value, use decimal gearhead with a gear ratio of 10:1 could be used between general gearhead and motor. Even in this case, just speed will be reduced without increase in permissible torque; the maximum permissible torque is 100kgfcm (10N.m, 88lb-in).

Dimension

1. Worm Solid Gearhead Type

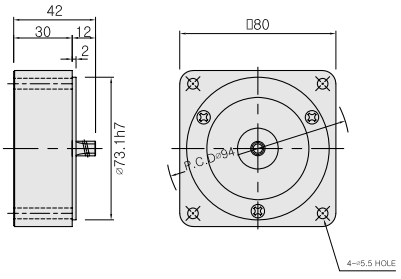
◆ GEARED MOTOR

* MOTOR MODEL : 8DCW□-40-30 (□ : 12V,24V,90V)
* HEAD MODEL : 8WD10BR(L) - 8WD60BR(L)



◆ INTER-DECIMAL GEARHEAD

* MODEL : 8XD10MW



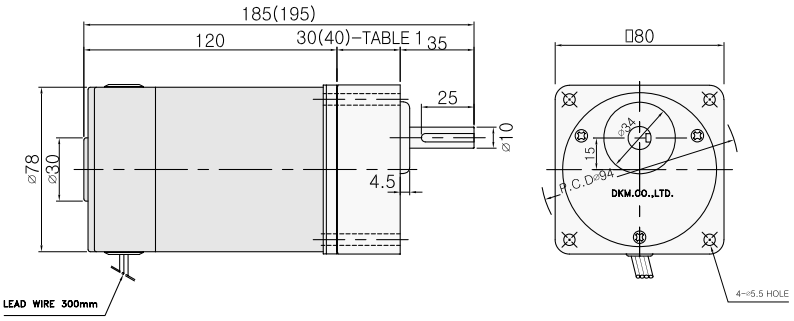
◆ WEIGHT

PART	WEIGHT(Kg)
MOTOR	1.5
DECIMAL GEARHEAD	0.44
GEARHEAD	0.67

2. Parallel Gearhead Type

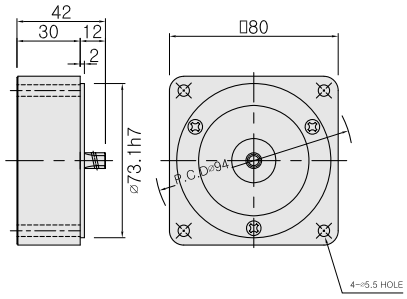
◆ GEARED MOTOR

* MOTOR MODEL : 8DCG□-40-30 (□ : 12V,24V,90V)
* HEAD MODEL : 8GB□ 3BMH - 8GB□ 360BMH



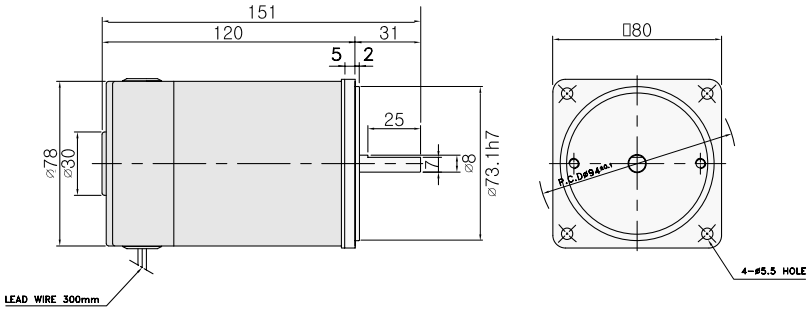
◆ INTER-DECIMAL GEARHEAD

* MODEL : 8XD10M□

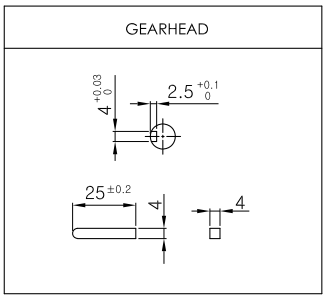


◆ MOTOR ONLY

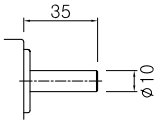
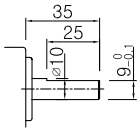
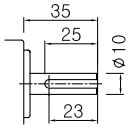
* MOTOR MODEL : 8DCD□-40-30



◆ KEY SPEC



◆ GEARHEAD OUTPUT DIMENSION

MODEL	DIMENSION
ROUND TYPE	
8GBS3BMH ~8GBS360BMH	
D-CUT TYPE	
8GBD3BMH ~8GBD360BMH	
KEY TYPE ★	
8GBK3BMH ~8GBK360BMH	

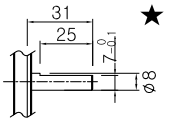
◆ TABLE 1

SIZE(mm)	GEAR RATIO
30	8GB□ 3BMH - 8GB□ 18BMH
40	8GB□25BMH - 8GB□360BMH

◆ WEIGHT

PART		WEIGHT(Kg)
MOTOR		1.5
DECIMAL GEARHEAD		0.44
GEAR HEAD	8GB□3BMH - 8GB□18BMH	0.48
	8GB□25BMH - 8GB□30BMH	0.61
	8GB□36BMH - 8GB□180BMH	0.67
	8GB□200BMH - 8GB□360BMH	0.63

◆ MOTOR OUTPUT DIMENSION

MODEL	DIMENSION
GEAR TYPE	
8DCG□-40-30	
D-CUT TYPE ★	
8DCD□-40-30	

* Above table indicates output shaft dimension made by user' s request and ★ indicates the basic dimension in factory shipping.

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DC MOTOR
60W

□90mm(3.54in.)

Motor Specification

Model 9DCP□-60-30 : Pinion Shaft Type 9DCD□-60-30 : D-Cut Shaft Type	Output		Rated V	No Load		Rated Load				Starting Cur.	Starting Torque		
				Current	Speed	Current	Speed	Torque					
	HP	W	VDC	A	RPM	A	RPM	gfcm	mN.m	oz-in	A	gfcm	mN.m	oz-in
9DCP(D)12-60-30			12	1.3	3100	7.5	2700				40	18000	1800	255
9DCP(D)24-60-30	1/13	60	24	0.5	3150	3.5	2800	2000	200	28.37	35	22000	2200	312
9DCP(D)90-60-30			90	0.2	3100	0.8	2800				12	24000	2400	340

* 'Pinion Shaft' is for attaching gearhead and 'D-Cut Shaft' is for using motor only.

Permissible Torque When using gearhead

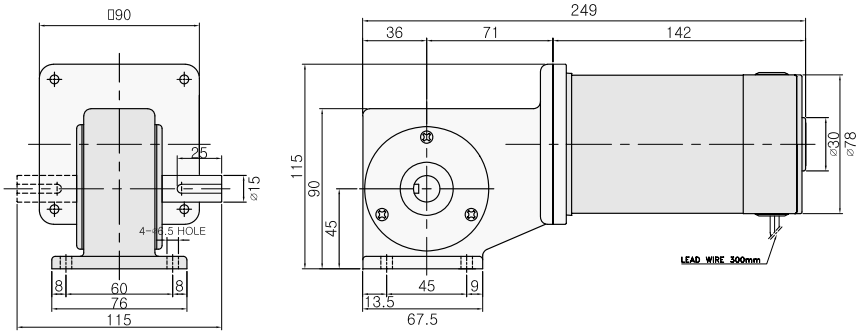
Model	speed RPM (r/min)		1500	1000	833	600	500	400	333	240	200	167	150	120	100	83.3	75	60	50	40	33.3	30	25	20	16.7
Motor/Gearhead	Gear Ratio		**2**	**3**	**3.6**	**5**	**6**	**7.5**	**9**	**12.5**	**15**	**18**	**20**	**25**	**30**	**36**	**40**	**50**	**60**	**75**	**90**	**100**	**120**	**150**	**180**
9DCP□-60-30	**9PBK□BH** **9PFK□BH**	kgf cm	4.0	6.0	7.2	10	12	15	18	25	30	36	40	50	60	72	80	100	120	150	180	200	200	200	200
		N.m	0.40	0.60	0.72	1.00	1.20	1.50	1.80	2.5	3.0	3.6	4.0	5.0	6.0	7.2	8.0	10.0	12	15	18	20	20	20	20
		lb-in	3.5	5.3	6.4	8.8	10.6	13.2	15.9	22	26	32	35	44	53	64	71	88	106	132	159	177	177	177	177

* Enter the phase & voltage code in the box (□) within the motor model name.
* Enter the gear ratio in the box (□) within the gearhead model name. A colored background indicates gear shaft rotation in the same direction as the motor shaft ; a white background indicates rotation in the opposite direction.
* The speed is calculated by dividing the motor' s synchronous speed (50Hz : 1500 r/min, 60 Hz : 1800 r/min) by the gear ratio.
* The actual speed is 2~20% less than the displayed value, depending on the size of the load.
* If more slow speed is needed than above value, use decimal gearhead with a gear ratio of 10:1 could be used between general gearhead and motor. Even in this case, just speed will be reduced without increase in permissible torque; the maximum permissible torque is 200kgfcm (20N.m, 177lb-in).

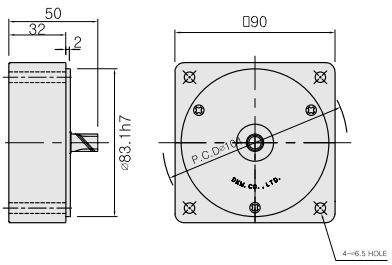
Dimension

1. Worm Solid Gearhead Type

◆ GEARED MOTOR * MOTOR MODEL : 9DCW □ - 60 - 30 (□ : 12V,24V,90V)
* HEAD MODEL : 9WD10BR(L) - 9WD60BR(L)



◆ INTER-DECIMAL GEARHEAD
* MODEL : 9XD10MW



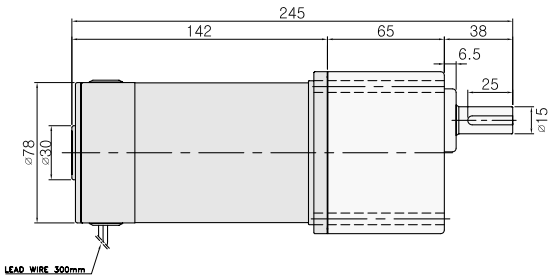
◆ WEIGHT

PART	WEIGHT(Kg)
MOTOR	1.9
DECIMAL GEARHEAD	0.5
GEARHEAD	1.0

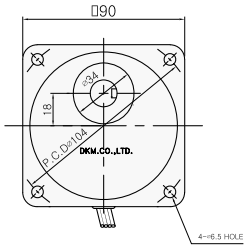
2. Parallel Gearhead Type

◆ GEARED MOTOR

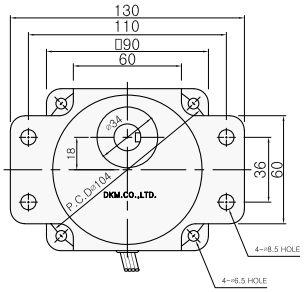
* MOTOR MODEL : 9DCP□-60-30 (□ :12V,24V,90V)



* HEAD MODEL : 9PB□ 3BH - 9PB□180BH

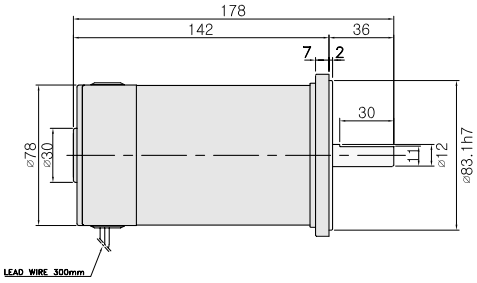


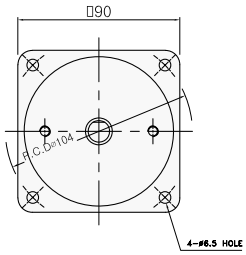
* HEAD MODEL : 9PF□ 3BH - 9PF□180BH



◆ MOTOR ONLY

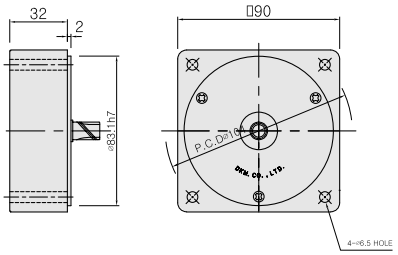
* MOTOR MODEL : 9DCD□ -60-30



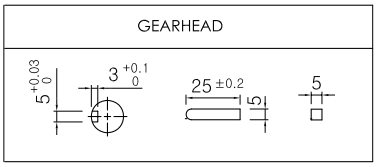


◆ INTER-DECIMAL GEARHEAD

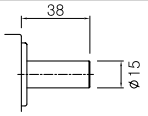
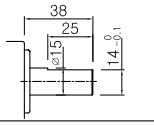
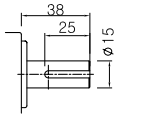
* MODEL : 9XD10M□



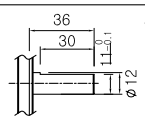
◆ KEY SPEC



◆ GEARHEAD OUTPUT DIMENSION

MODEL	DIMENSION
ROUND TYPE 9P□S3BH ~9P□S180BH	
D-CUT TYPE 9P□D3BH ~9P□D180BH	
KEY TYPE 9P□K3BH ~9P□K180BH	 ★

◆ MOTOR OUTPUT DIMENSION

MODEL	DIMENSION
GEAR TYPE 9DCP□-60-30	
D-CUT TYPE 9DCD□-60-30	 ★

◆ WEIGHT

PART		WEIGHT(Kg)
MOTOR		1.9
DECIMAL GEARHEAD		0.5
GEAR HEAD	9P□□ 3BH - 9P□□9BH	1.3
	9P□□ 12.5BH - 9P□□18BH	1.3
	9P□□ 25BH - 9P□□60BH	1.4
	9P□□ 90BH - 9P□□180BH	1.4

* Above table indicates output shaft dimension made by user' s request and ★ indicates the basic dimension in factory shipping.

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DC MOTOR
90W

□90mm(3.54in.)

■ Motor Specification

Model 9DCP□-90-30 : Pinion Shaft Type 9DCD□-90-30 : D-Cut Shaft Type	Output		Rated V	No Load		Rated Load				Starting Cur.	Starting Torque		
				Current	Speed	Current	Speed	Torque					
	HP	W	VDC	A	RPM	A	RPM	gfcm	mN.m	oz-in	A	gfcm	mN.m	oz-in
9DCP(D)12-90-30			12	2.0	3450	10.0	3000				60	20000	2000	284
9DCP(D)24-90-30	1/8	90	24	0.9	3050	5.0	3000	2900	290	41.13	40	25000	2500	355
9DCP(D)90-90-30			90	0.3	3200	1.4	2800				15	32000	3200	454

* 'Pinion Shaft' is for attaching gearhead and 'D-Cut Shaft' is for using motor only.

■ Permissible Torque When using gearhead

Model	speed RPM (r/min)		1500	1000	833	600	500	400	333	240	200	167	150	120	100	83.3	75	60	50	40	33.3	30	25	20	16.7
Motor/Gearhead	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**
9DCP□-90-30	**9PBK□BH** / **9PFK□BH**	kgf cm	5.8	8.7	10.4	15	17	22	26	36	44	52	58	73	87	104	116	145	174	200	200	200	200	200	200
		N.m	0.58	0.87	1.04	1.45	1.74	2.18	2.61	3.6	4.4	5.2	5.8	7.3	8.7	10	12	15	17	20	20	20	20	20	20
		lb-in	5.1	7.7	9.2	12.8	15.4	19.2	23.0	32	38	46	51	64	77	92	102	128	154	177	177	177	177	177	177

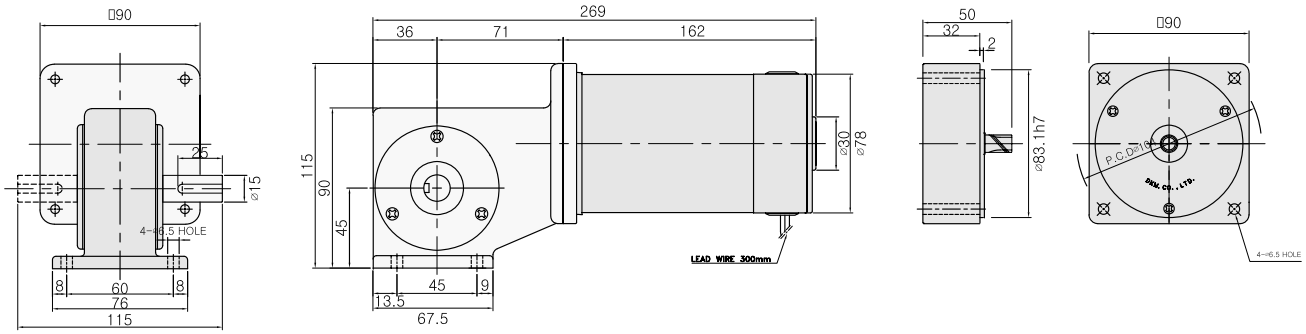
* Enter the phase & voltage code in the box (□) within the motor model name.
* Enter the gear ratio in the box (□) within the gearhead model name. A colored background indicates gear shaft rotation in the same direction as the motor shaft ; a white background indicates rotation in the opposite direction.
* The speed is calculated by dividing the motor' s synchronous speed (50Hz : 1500 r/min, 60 Hz : 1800 r/min) by the gear ratio.
* The actual speed is 2~20% less than the displayed value, depending on the size of the load.
* If more slow speed is needed than above value, use decimal gearhead with a gear ratio of 10:1 could be used between general gearhead and motor. Even in this case, just speed will be reduced without increase in permissible torque; the maximum permissible torque is 200kgfcm (20N.m, 177lb-in).

■ Dimension

1. Worm Solid Gearhead Type

◆ GEARED MOTOR

* MOTOR MODEL : 9DCW□ - 90 - 30 (□: 12V,24V,90V)
* HEAD MODEL : 9WD10BR(L) - 9WD60BR(L)



◆ INTER-DECIMAL GEARHEAD

* MODEL : 9XD10MW

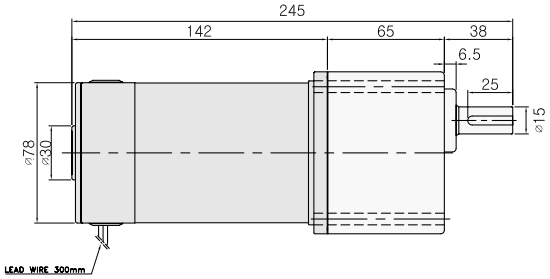
◆ WEIGHT

PART	WEIGHT(Kg)
MOTOR	2.0
DECIMAL GEARHEAD	0.5
GEARHEAD	1.0

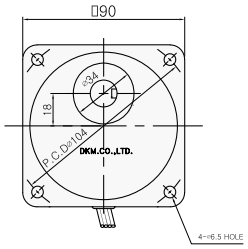
2. Parallel Gearhead Type

◆ GEARED MOTOR

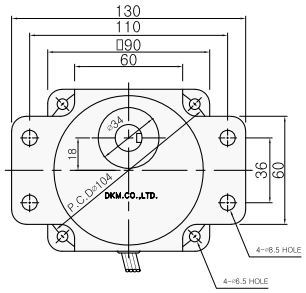
* MOTOR MODEL : 9DCP□-90-30 (□:12V,24V,90V)



* HEAD MODEL : 9PB□ 3BH - 9PB□180BH

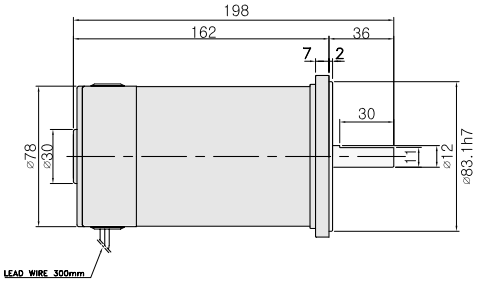


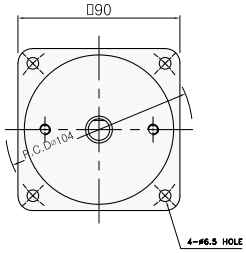
* HEAD MODEL : 9PF□ 3BH - 9PF□180BH



◆ MOTOR ONLY

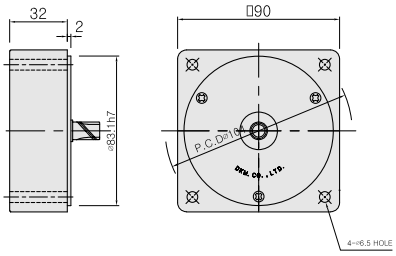
* MOTOR MODEL : 9DCD□-90-30



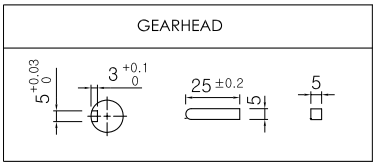


◆ INTER-DECIMAL GEARHEAD

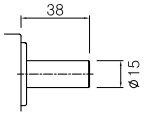
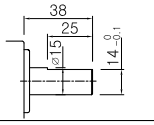
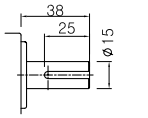
* MODEL : 9XD10M□



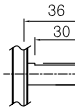
◆ KEY SPEC



◆ GEARHEAD OUTPUT DIMENSION

MODEL	DIMENSION
ROUND TYPE	
9P□S3BH ~9P□S180BH	
D-CUT TYPE	
9P□D3BH ~9P□D180BH	
KEY TYPE	 ★
9P□K3BH ~9P□K180BH	

◆ MOTOR OUTPUT DIMENSION

MODEL	DIMENSION
GEAR TYPE	
9DCP□-90-30	
D-CUT TYPE	 ★
9DCD□-90-30	

◆ WEIGHT

PART		WEIGHT(Kg)
MOTOR		2.0
DECIMAL GEARHEAD		0.5
GEAR HEAD	9P□□ 3BH - 9P□□9BH	1.3
	9P□□ 12.5BH - 9P□□18BH	1.3
	9P□□ 25BH - 9P□□60BH	1.4
	9P□□ 90BH - 9P□□180BH	1.4

* Above table indicates output shaft dimension made by user' s request and ★ indicates the basic dimension in factory shipping.

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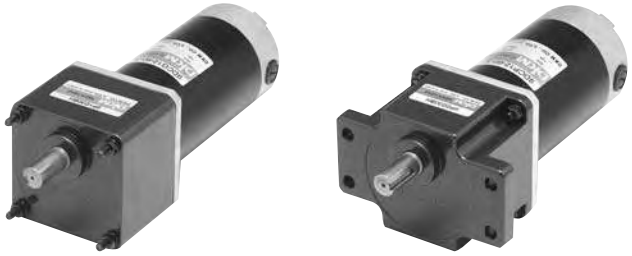
DC MOTOR
120W

□90mm(3.54in.)



Motor Specification

Model 9DCP□-120-30 : Pinion Shaft Type 9DCD□-120-30 : D-Cut Shaft Type	Output		Rated V	No Load		Rated Load					Starting Cur.	Starting Torque		
				Current	Speed	Current	Speed	Torque						
	HP	W	VDC	A	RPM	A	RPM	gfcm	mN.m	oz-in	A	gfcm	mN.m	oz-in
9DCP(D)12-120-30			12	2.5	3450	13	3000				104	36000	3600	511
9DCP(D)24-120-30	1/6	120	24	1.3	3050	7.2	2800	4200	420	59.57	75	25000	2500	355
9DCP(D)90-120-30			90	0.4	3200	2.0	3000				17	37000	3700	525

* 'Pinion Shaft' is for attaching gearhead and 'D-Cut Shaft' is for using motor only.

Permissible Torque When using gearhead

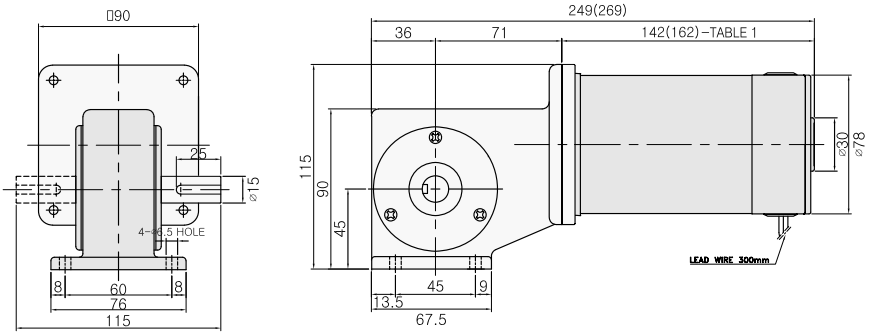
Model	speed RPM (r/min)		1500	1000	833	600	500	400	333	240	200	167	150	120	100	83.3	75	60	50	40	33.3	30	25	20	16.7
Motor/Gearhead	Gear Ratio		**2**	**3**	**3.6**	**5**	**6**	**7.5**	**9**	**12.5**	**15**	**18**	**20**	**25**	**30**	**36**	**40**	**50**	**60**	**75**	**90**	**100**	**120**	**150**	**180**
9DCP□-120-30	**9PBK□BH** **9PFK□BH**	kgf cm	8.4	13	15	21	25	32	38	53	63	76	84	105	126	151	168	200	200	200	200	200	200	200	200
		N.m	0.84	1.26	1.51	2.10	2.52	3.15	3.78	5.3	6.3	7.6	8.4	10.5	12.6	15	17	20	20	20	20	20	20	20	20
		lb-in	7.4	11.1	13.4	18.5	22.3	27.8	33.4	46	56	67	74	93	111	134	148	177	177	177	177	177	177	177	177

* Enter the phase & voltage code in the box (□) within the motor model name.
* Enter the gear ratio in the box (□) within the gearhead model name. A colored background indicates gear shaft rotation in the same direction as the motor shaft ; a white background indicates rotation in the opposite direction.
* The speed is calculated by dividing the motor' s synchronous speed (50Hz : 1500 r/min, 60 Hz : 1800 r/min) by the gear ratio.
* The actual speed is 2~20% less than the displayed value, depending on the size of the load.
* If more slow speed is needed than above value, use decimal gearhead with a gear ratio of 10:1 could be used between general gearhead and motor. Even in this case, just speed will be reduced without increase in permissible torque; the maximum permissible torque is 200kgfcm (20N.m, 177lb-in).

1. Worm Solid Gearhead Type

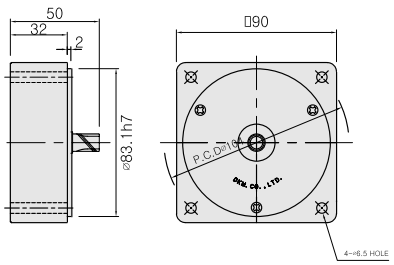
◆ GEARED MOTOR

* MOTOR MODEL : 9DCW□-120-30 (□ : 12V,24V,90V)
* HEAD MODEL : 9WD10BR(L) - 9WD60BR(L)



◆ INTER-DECIMAL GEARHEAD

* MODEL : 9XD10MW



◆ WEIGHT

PART	WEIGHT(Kg)
MOTOR	2.0
DECIMAL GEARHEAD	0.5
GEARHEAD	1.0

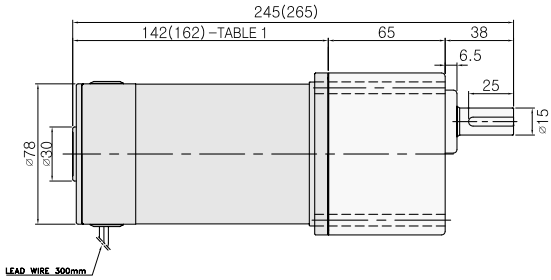
◆ TABLE 1

SIZE(mm)	MOTOR VOLTAGE
142	24V,90V
162	12V

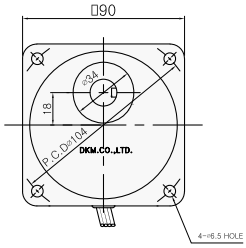
2. Parallel Gearhead Type

◆ GEARED MOTOR

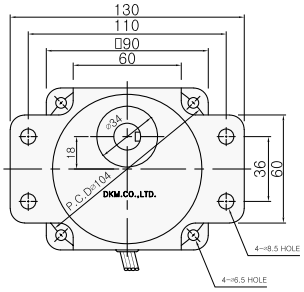
* MOTOR MODEL : 9DCP□-120-30(□:12V,24V,90V)



* HEAD MODEL : 9PB□ 3BH - 9PB□180BH

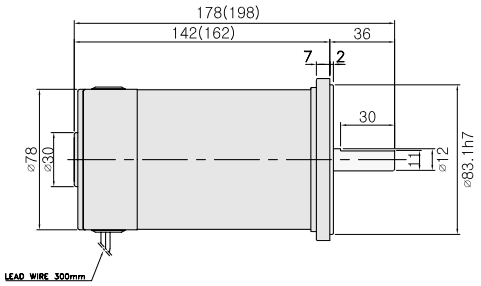


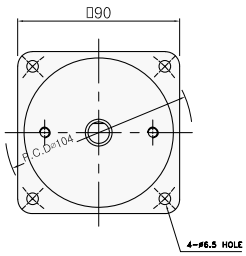
* HEAD MODEL : 9PF□ 3BH - 9PF□180BH



◆ MOTOR ONLY

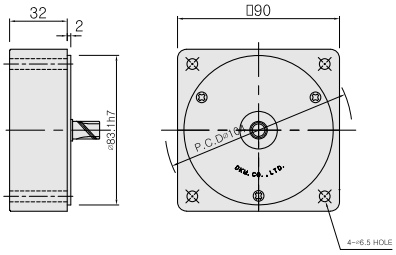
* MOTOR MODEL : 9DCD□-120-30



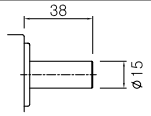
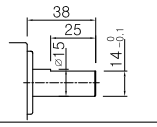
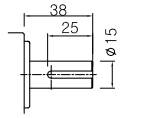


◆ INTER-DECIMAL GEARHEAD

* MODEL : 9XD10M□



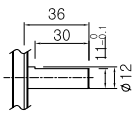
◆ GEARHEAD OUTPUT DIMENSION

MODEL	DIMENSION
ROUND TYPE 9P□S3BH ~9P□S180BH	
D-CUT TYPE 9P□D3BH ~9P□D180BH	
KEY TYPE 9P□K3BH ~9P□K180BH	

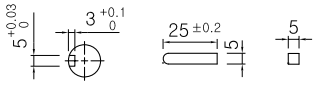
◆ TABLE 1

SIZE(mm)	MOTOR VOLTAGE
142	24V,90V
162	12V

◆ MOTOR OUTPUT DIMENSION

MODEL	DIMENSION
GEAR TYPE 9DCP□-120-30	
D-CUT TYPE 9DCD□-120-30	

◆ KEY SPEC

GEARHEAD


◆ WEIGHT

PART		WEIGHT(Kg)
MOTOR		2.0
DECIMAL GEARHEAD		0.5
GEAR HEAD	9P□□ 3BH - 9P□□9BH	1.3
	9P□□ 12.5BH - 9P□□18BH	1.3
	9P□□ 25BH - 9P□□60BH	1.4
	9P□□ 90BH - 9P□□180BH	1.4

* Above table indicates output shaft dimension made by user' s request and ★ indicates the basic dimension in factory shipping.

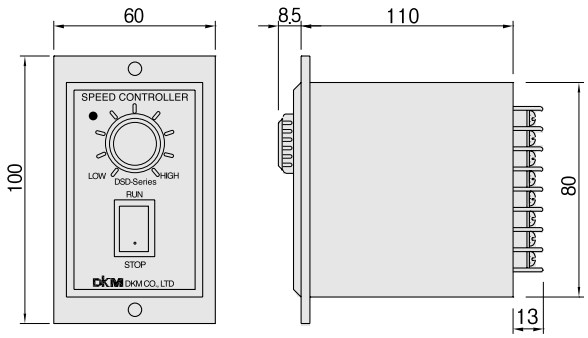
DC MOTOR CONTROLLER (MODEL : DSD)

This controller is for adjusting the speed of DC Motor.(DC 90V)
The adjusting speed by the potentiometer on front of controller is made simply.

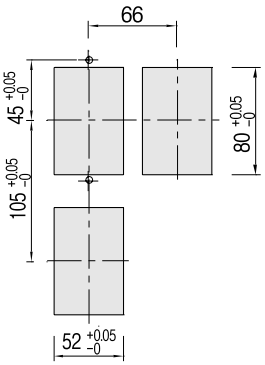
● Rating and function

Motor output	15W ~ 90W
Workable Power	DC 90V
Consumption power	Below 3VA
Power on-off Signal	Red Ø3 LED
Ambient temperature	-10℃ ~ 55℃
Ambient humidity	35 ~ 85%RH
Weight	200g
Dimension	60(W) × 100(H)×110(D)mm

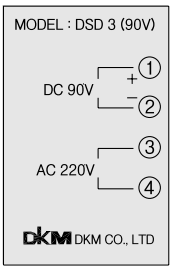
● Dimension



● Panel



● Connection



ACCESSORIES

INDEX

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MOUNTING PLATE

■ PRODUCT CODE

D **BK** **M** — **70**

BRAND
D : DKM

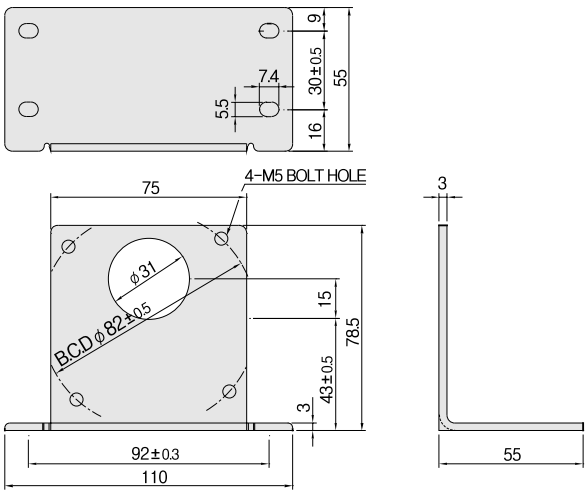
Initial
BK : Bracket(Plate)

Attaching Item
M : For Motor
G : For Gearhead

Frame Size
70 : for □ 70mm sq.
80 : for □ 80mm sq.
90 : for □ 90mm sq.

■ for □70mm sq.

● DBKG-70



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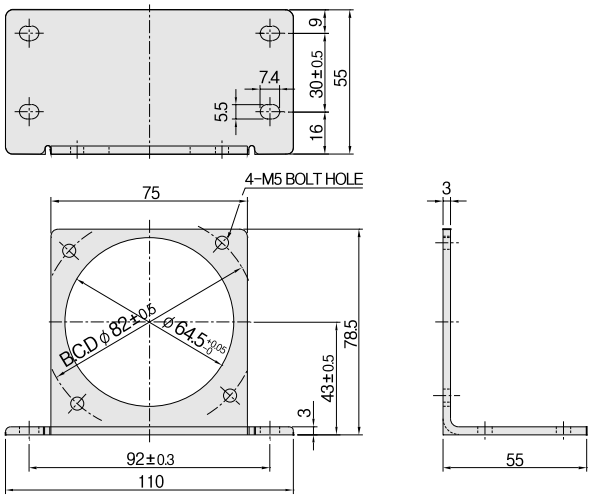
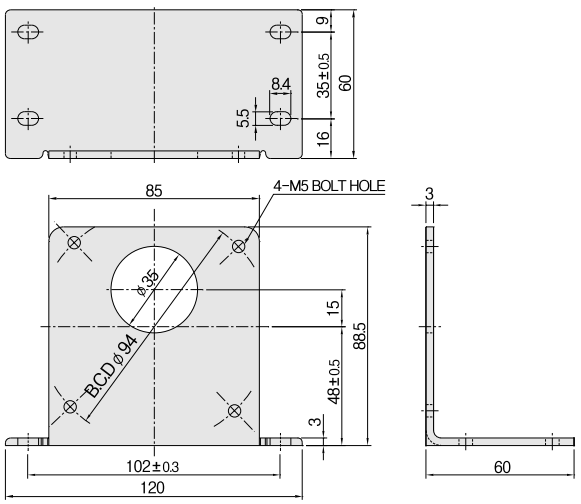


■ for □80mm sq.

● DBKG-80



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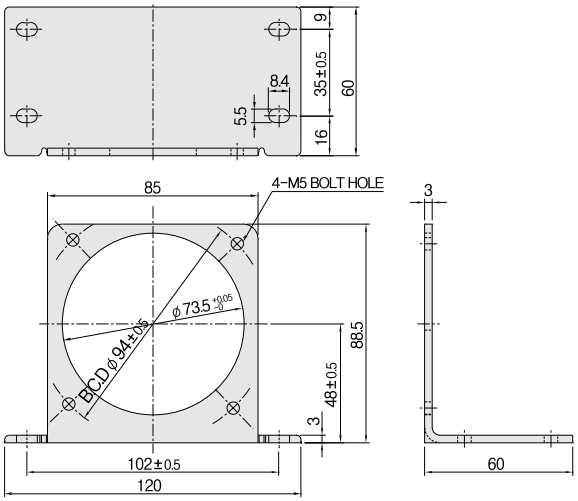
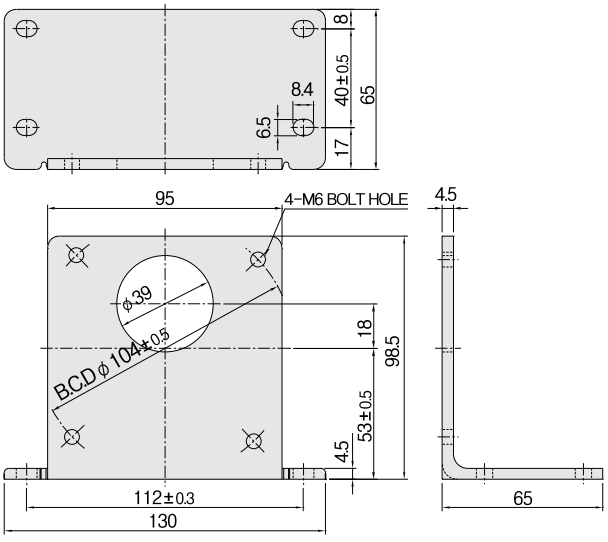
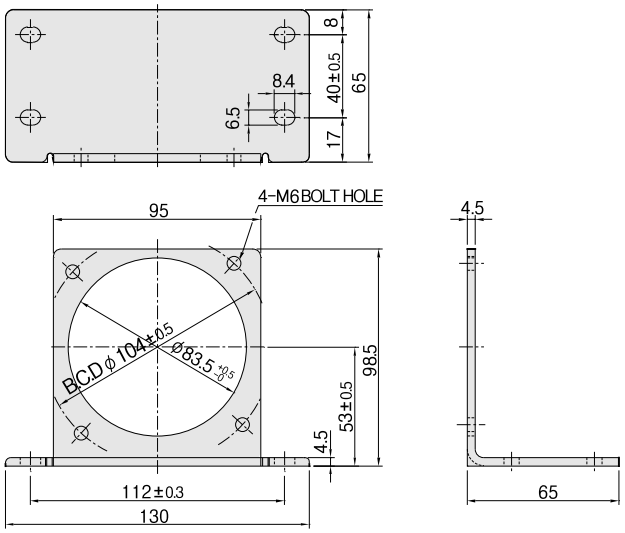


■ for □90mm sq.

● DBKG-90



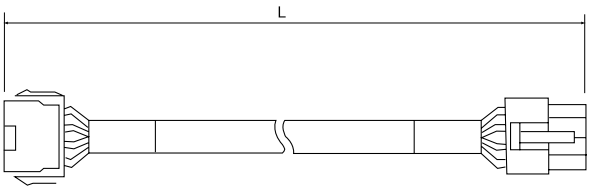
● DBKM-90



Extension Cable

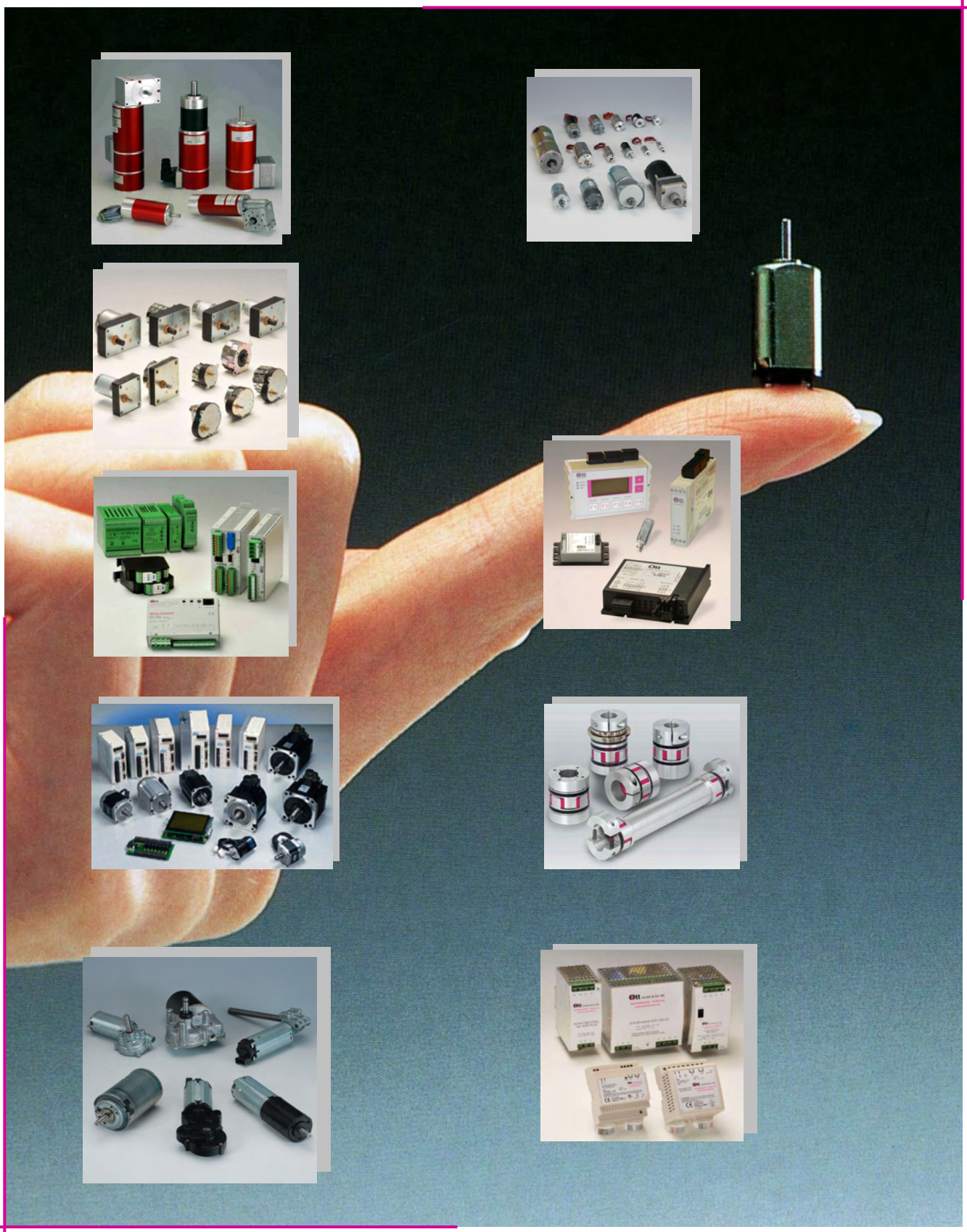
This is for the connection speed control motor and controller. (sold separately)
The basic length of speed control motor is 0.3m so if more needed, please place order additionally.

Dimension



MODEL	L (EXTENSION CABLE LENGTH)
DEW-05	0.5m
DEW-10	1.0m
DEW-15	1.5m
DEW-20	2.0m
DEW-30	3.0m
DEW-50	5.0m

Übersicht über unser weiteres Lieferprogramm



Fragen Sie bei uns an, wir bieten eine Lösung

Wir kombinieren Elektronik und Mechanik für Sie. Und das seit über 50 Jahren.

Die Ott GmbH & Co. KG bietet als Produktions- Handels- und Dienstleistungs- unternehmen Komponenten und Systeme aus dem Bereich der Antriebstechnik und Elektronik an.

Als Vertretung der Firma Nidec, ehemals SWF, führen wir ein Lager in dem ständig circa 45.000 Motoren und über 1.000 Steuerungen vorrätig gehalten werden. Dies ermöglicht es, schnell auf Ihre Anforderungen zu reagieren. Darüber hinaus bieten wir auch die entsprechenden Steuerungen, Kupplungen, Kugelgewindespindeln und Spannungsversorgungen für Motoren an. In unserer Fertigung werden kundenspezifische Änderungen an Motoren, wie Wellenbearbeitungen, Aufbau von Inkrementalgebern, Bremsen, Sondergetriebe und Steckverbindungen realisiert. Diese Sonderfertigungen werden auch bei kleinsten Stückzahlen durchgeführt. Damit können komplette Systemlösungen nach Ihren Aufgabenstellungen projektiert und gefertigt werden.

Durch die jüngste Produkterweiterung sind Antriebe von ca. 1 Watt bis über 30.000 Watt lieferbar.

Als weitere Serviceleistung führen wir Reparaturen an Motoren und Regelteilen der Firma Nidec-Valeo bzw. SWF durch.

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