

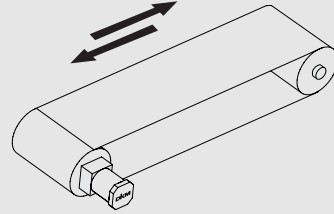
REVERSIBLE MOTORS



Lead wire type



Terminal box type



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■ 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

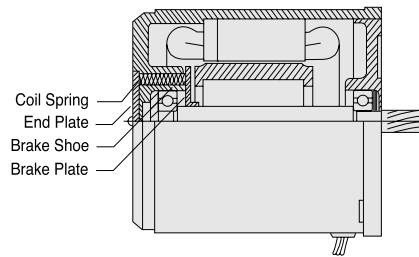
Reversible motors are designed for bi-directional operation within short time so it can't avoid very high loss of input. So generally its temperature rising could be more severe than induction motor. As a result, the rated operating time could be limited to 30 minutes. But please be informed that depending 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. :

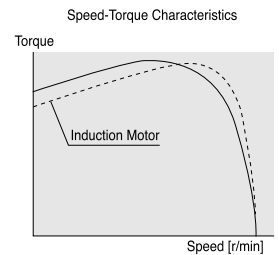
- Ⓐ To improve the frequent and instant reversing function by applying a friction load.
- Ⓑ To reduce overrun

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.



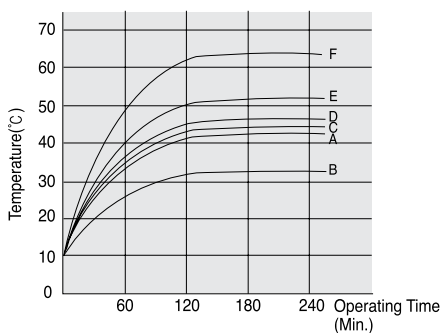
● Operation Time and Temperature Rise

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°C(144°F) 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.

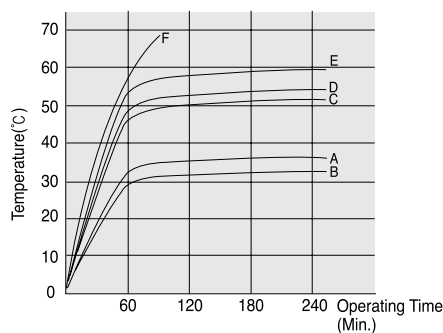
Operating time and Temperature rising

	RUN		STOP								
A											1sec run, 1sec stop
B	1sec	1sec	1sec								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

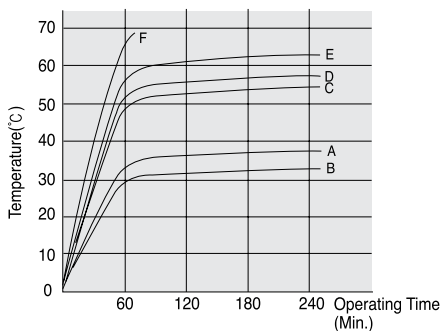
(PICTURE 1) RUN CYCLE



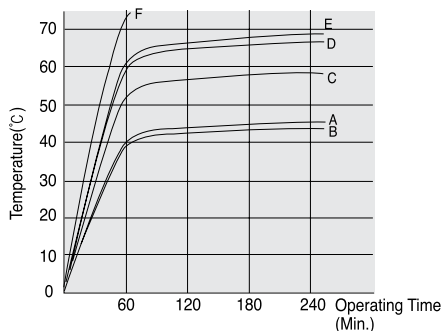
(PICTURE 2) 7RDS-6



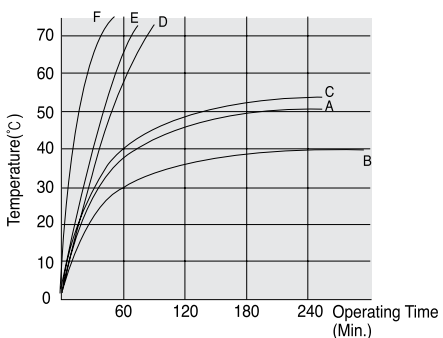
(PICTURE 3) 7RDS-10



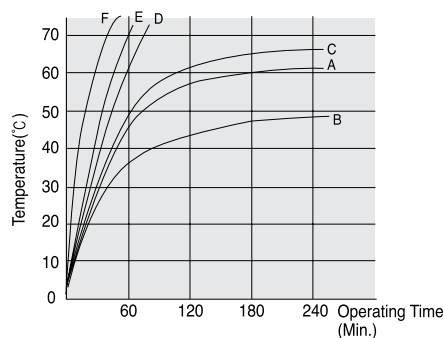
(PICTURE 4) 8RDD-15



(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 MΩ or more when 500 VDC is applied between the windings and the frame after rated motor operation 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 Temperature 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	gfc	mN.m	oz-in	gfc	mN.m	oz-in	r/min	μF	VAC
ⓉP 7RDG(S)A-6G	-	1/125	6	Single Phase 110	60	0.35	480	48	7	600	60	8.5	1550	3.0	250
ⓉP 7RDG(S)B-6G	-			Single Phase 115	60										
ⓉP 7RDG(S)C-6G	-			Single Phase 220	50	0.19	3000	300	42	490	49	6.9	1300	1.0	400
ⓉP 7RDG(S)D-6G	-			Single Phase 220	60										
ⓉP 7RDG(S)E-6G	-			Single Phase 230	50										
ⓉP 7RDG(S)F-6G	-			Single Phase 230	60										

* 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.

ⓉP : 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.

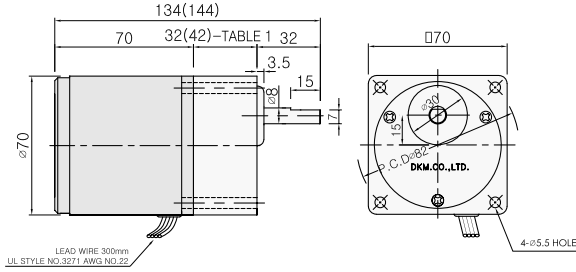
* The speed is calculated by dividing the motor's synchronous speed (50Hz : 1500 r/min, 60 Hz : 1800 r/min) by the gear ratio.

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

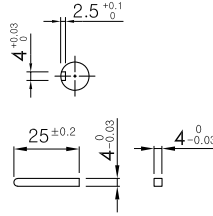
Dimension

◆ GEARED MOTOR

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



◆ KEY SPEC

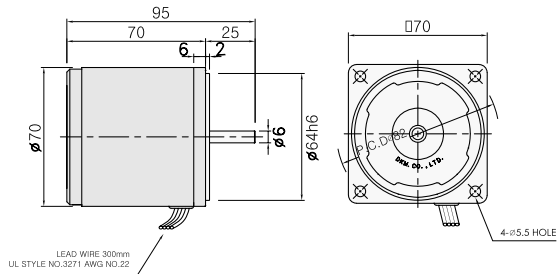


◆ GEARHEAD 출력축 사양

MODEL	출력축 규격
D-CUT TYPE	32 ★
7GBD3BMH ~7GBD180BMH	15 Z 0.1
KEY TYPE	32 25 23 φ10
7GBK3BMH ~7GBK180BMH	

◆ MOTOR ONLY

- * MOTOR MODEL : 7RD□□-6 (NO FAN)



◆ WEIGHT

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

◆ MOTOR OUTPUT

MODEL	SHAFT
GEAR TYPE	12
7RD□□-6G	
ROUND TYPE	25 ★ φ6
7RDS□-6	
D-CUT TYPE	25 15 5.5 ±0.1 φ6
7RDD□-6	

◆ 32(42)-TABLE 1

SIZE(mm)	GEAR RATIO
32	7GB□3BMH - 7GB□180BMH
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)
<p>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</p>	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		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
7RDG□-10G : Pinion Shaft Type 7RDS□-10 : Round Shaft Type																					
ⓉP 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						
ⓉP 7RDG(S)B-10G	-			Single Phase 115	60					800	80	11.3	1550								
ⓉP 7RDG(S)C-10G	-			Single Phase 220	50	0.25	600	60	8.5	960	96	13.6	1350	1.5	400						
ⓉP 7RDG(S)D-10G	-			Single Phase 220	60					800	80	11.3	1550								
ⓉP 7RDG(S)E-10G	-			Single Phase 230	50					960	96	13.6	1350								
ⓉP 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.

ⓉP : 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°C 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	1.4	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.

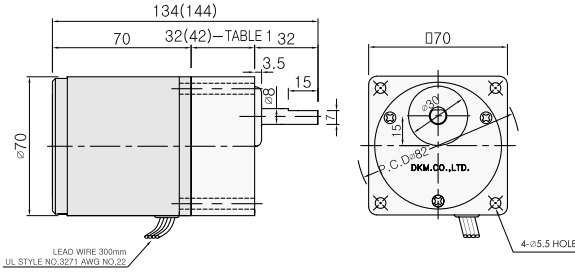
* The speed is calculated by dividing the motor's synchronous speed (50Hz : 1500 r/min, 60 Hz : 1800 r/min) by the gear ratio.

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

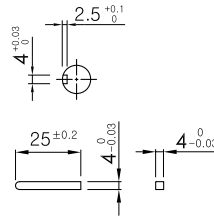
Dimension

◆ GEARED MOTOR

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



◆ KEY SPEC

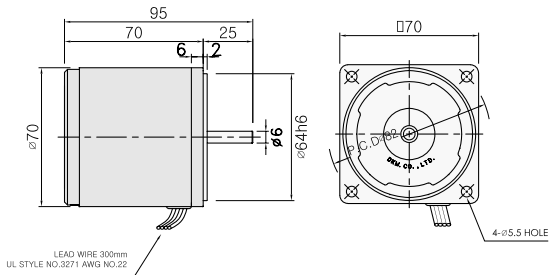


◆ GEARHEAD 출력축 사양

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

◆ MOTOR ONLY

- * MOTOR MODEL : 7RD□□-10 (NO FAN)



◆ 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

◆ MOTOR OUTPUT

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

◆ 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)
<p>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</p>	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 15W

□80mm(3.15in.)



LEAD WIRE TYPE MOTOR



TERMINAL BOX TYPE MOTOR

Motor Specification - 30min. Rating



Model		Output	Voltage	Freq.	Current	Starting Torque			Rated Torque			Rated Speed	Capacitor			
Lead Wire Type	Terminal Box Type					HP	W	VAC	Hz	A	gfc		mN.m	oz-in	gfc	mN.m
8RDG□-15G : Pinion Shaft Type 8RDS□-15 : Round Shaft Type																
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					1200	120	17.0				
TP 8RDG(S)C-15G	8RDG(S)C-15G-T			Single Phase 220	50	800	80	11.3	1000	100	14.1	1500				
TP 8RDG(S)D-15G	8RDG(S)D-15G-T			Single Phase 220	60				1200	120	17.0	1300				
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°C 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.

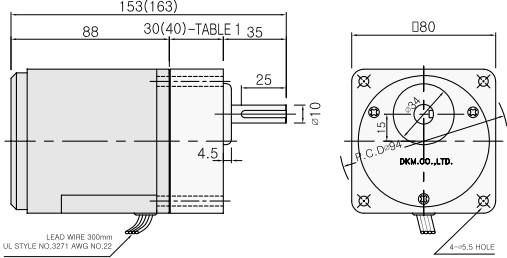
* The actual speed is 2~20% less than the displayed value, depending on the size of the load.

* 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).

Dimension

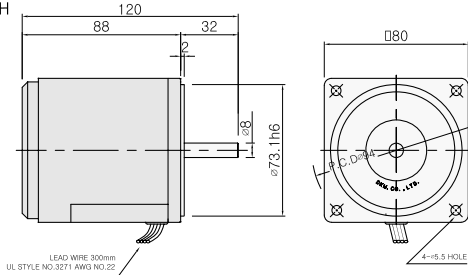
LEAD WIRE TYPE

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



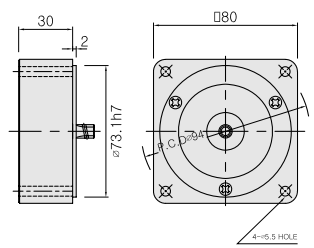
MOTOR ONLY

- * MOTOR MODEL : 8RD□□-15 (NO FAN)



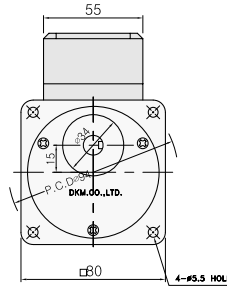
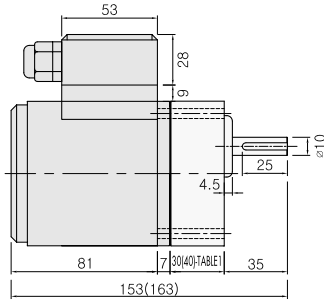
INTER-DECIMAL GEARHEAD

- * MODEL : 8XD10M□



TERMINAL BOX TYPE

- * MOTOR MODEL : 8RDG□-15G (NO FAN)



MOTOR OUTPUT

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

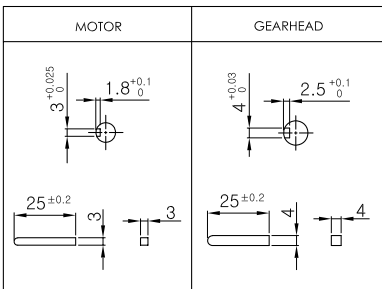
30(40)-TABLE1

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

GEARHEAD OUTPUT

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

KEY SPEC

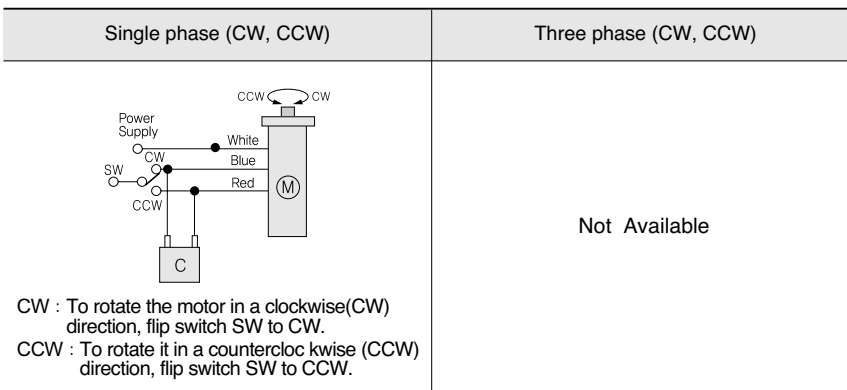


WEIGHT

PART	WEIGHT(Kg)	
MOTOR	1.6	
DECIMAL GEARHEAD	0.44	
GEAR	8GB□3BMH - 8GB□18BMH	0.48
	8GB□25BMH - 8GB□30BMH	0.61
HEAD	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.

Connection Diagrams



- The direction of motor rotation is as viewed from the shaft end of the motor.
- CW represents the clockwise direction, while CCW represents the counterclockwise direction.
- 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		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
8RDG□-25G : Pinion Shaft Type 8RDS□-25 : Round Shaft Type																	
ⓉP 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	2.5	400		
ⓉP 8RDG(S)B-25G	8RDG(S)B-25G-T			Single Phase 115	60												
ⓉP 8RDG(S)C-25G	8RDG(S)C-25G-T			Single Phase 220	50	0.35	1400	140	20	1920	192	27	1300				
ⓉP 8RDG(S)D-25G	8RDG(S)D-25G-T			Single Phase 220	60					1600	160	23	1550				
ⓉP 8RDG(S)E-25G	8RDG(S)E-25G-T			Single Phase 230	50					1920	192	27	1300				
ⓉP 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.

ⓉP: 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°C 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.

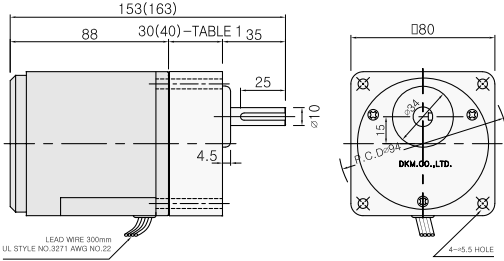
* The actual speed is 2~20% less than the displayed value, depending on the size of the load.

* 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

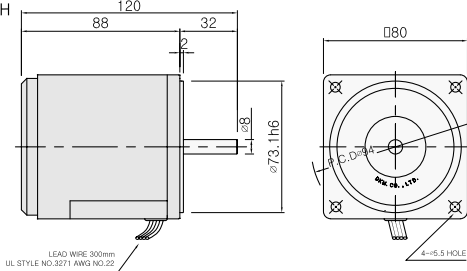
LEAD WIRE TYPE

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

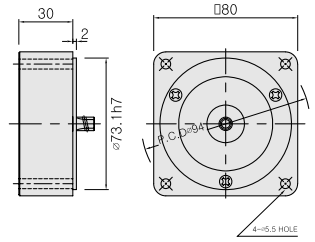


MOTOR ONLY

- * MOTOR MODEL : 8RD□□-25 (NO FAN)

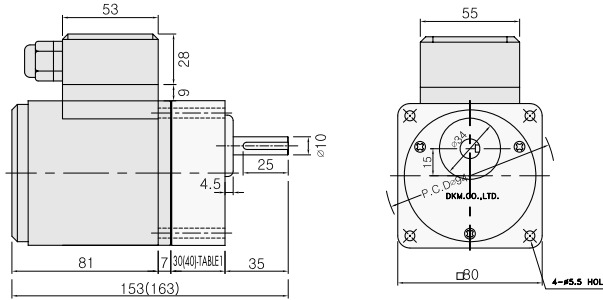


- ◆ INTER-DECIMAL GEARHEAD * MODEL : 8XD10M□

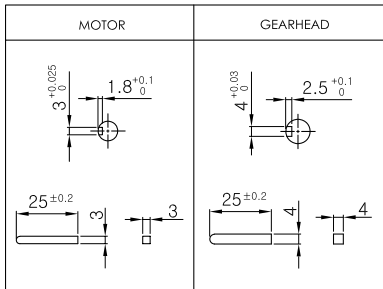


TERMINAL BOX TYPE

- * MOTOR MODEL : 8RDG□-25G (NO FAN)



KEY SPEC



30(40)-TABLE 1

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
GEAR HEAD	8GB□36BMH - 8GB□180BMH	0.67
	8GB□200BMH - 8GB□360BMH	0.63

GEARHEAD OUTPUT

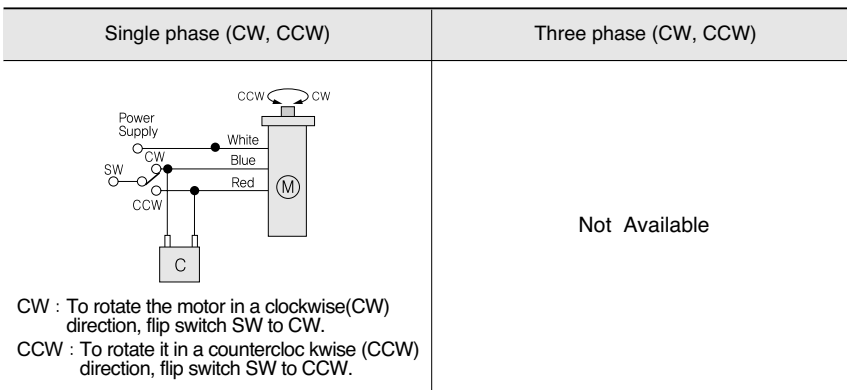
MODEL	SHAFT
ROUND TYPE	35mm diameter shaft
8GBS3BMH - 8GBS360BMH	35mm diameter shaft with 10mm keyway
D-CUT TYPE	35mm diameter shaft with 25mm keyway
8GBD3BMH - 8GBD360BMH	35mm diameter shaft with 25mm keyway and 10mm keyway
KEY TYPE	35mm diameter shaft with 25mm keyway and 10mm keyway
8GBK3BMH - 8GBK360BMH	35mm diameter shaft with 25mm keyway and 10mm keyway

MOTOR OUTPUT

MODEL	SHAFT
GEAR TYPE	11mm diameter shaft
8RDG□-25G	11mm diameter shaft
ROUND TYPE	32mm diameter shaft with 10mm keyway
8RDS□-25	32mm diameter shaft with 10mm keyway
D-CUT TYPE	32mm diameter shaft with 25mm keyway
8RDD□-25	32mm diameter shaft with 25mm keyway and 10mm keyway
KEY TYPE	32mm diameter shaft with 25mm keyway and 10mm keyway
8RDK□-25	32mm diameter shaft with 25mm keyway and 10mm keyway

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

Connection Diagrams



- The direction of motor rotation is as viewed from the shaft end of the motor.
- CW represents the clockwise direction, while CCW represents the counterclockwise direction.
- 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		Output	Voltage	Freq.	Current	Starting Torque			Rated Torque			Rated Speed	Capacitor				
Lead Wire Type	Terminal Box Type					HP	W	VAC	Hz	A	gfc		mN.m	oz-in	gfc	mN.m	oz-in
9RDG□-40G : Pinion Shaft Type 9RDD□-40 : D-Cut Shaft Type																	
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°C 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	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).

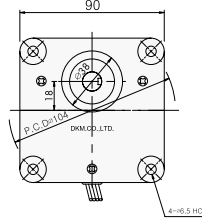
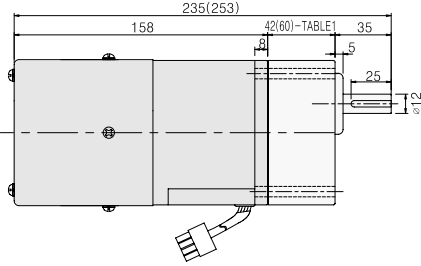
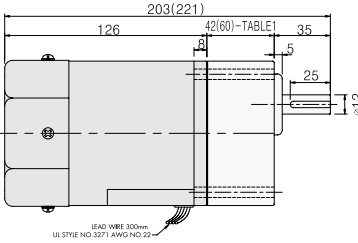
Dimension

LEAD WIRE TYPE

GEARED MOTOR

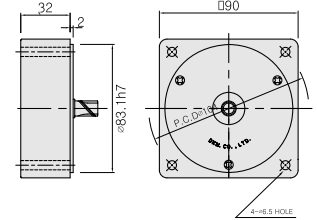
* MOTOR MODEL : 9RDG□-40FG (GENERAL FAN)
* GEARHEAD MODEL : 9GB□3MH - 9GB□180MH

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



INTER-DECIMAL GEARHEAD

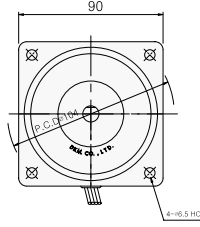
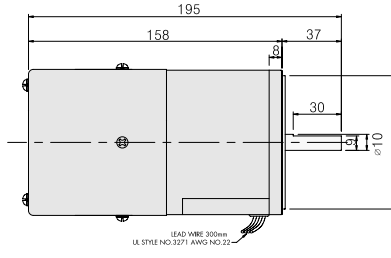
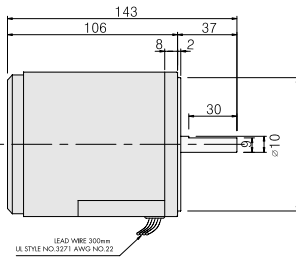
* MODEL : 9XD10M□



MOTOR ONLY

* MOTOR MODEL : 9RD□□-40 (NO FAN)

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

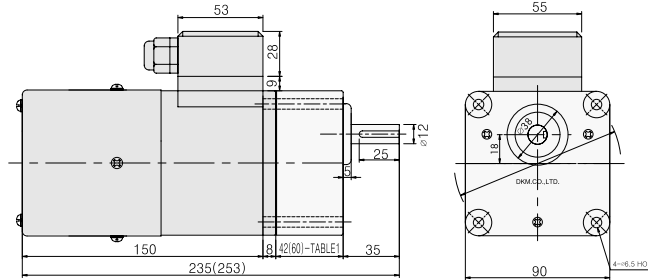


GEARHEAD OUTPUT

MODEL	SHAFT
ROUND TYPE	35 ø12
9GBS3MH ~9GBS180MH	
D-CUT TYPE	35 25 ø12 11±0.1
9GBD3MH ~9GBD180MH	
KEY TYPE	35 25 ø12 ★
9GBK3MH ~9GBK180MH	

TERMINAL BOX TYPE

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

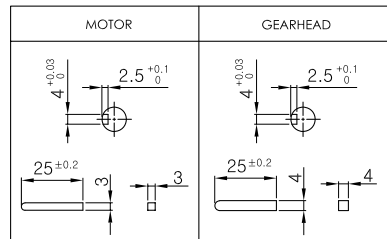


MOTOR OUTPUT

MODEL	SHAFT
GEAR TYPE	17.5
9RDG□-40G	
ROUND TYPE	37 ø10
9RDS□-40	
D-CUT TYPE	37 30 ø10 ★
9RDD□-40	
KEY TYPE	37 25 ø10
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.

KEY SPEC



42(60)-TABLE1

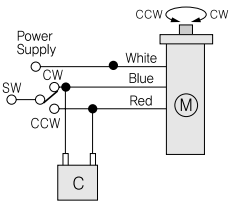
SIZE(mm)	GEAR RATIO
42	9GB□3MH - 9GB□15MH
60	9GB□18MH - 9GB□180MH

WEIGHT

PART	WEIGHT(Kg)	
MOTOR	2.4	
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)
 <p>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.</p>	<p>Not Available</p>

- 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 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)



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	gfc	mN.m	oz-in	gfc	mN.m	oz-in	r/min	μF	VAC
ⓉP 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
ⓉP 9RDG(D)B-60FP	9RDG(D)B-60FP-T			Single Phase 115	60										
ⓉP 9RDG(D)C-60FP	9RDG(D)C-60FP-T			Single Phase 220	50	0.70	4000	400	57	3800	380	54	1550	5.0	400
ⓉP 9RDG(D)D-60FP	9RDG(D)D-60FP-T			Single Phase 220	60										
ⓉP 9RDG(D)E-60FP	9RDG(D)E-60FP-T			Single Phase 230	50										
ⓉP 9RDG(D)F-60FP	9RDG(D)F-60FP-T			Single Phase 230	60										

* 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.

ⓉP : 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°C 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.

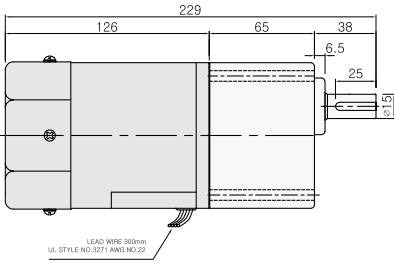
* If more slow speed is needed than above value, use decimal gearhead with a gear ratio of 10:1 could be used between general gearhead and motor. Even in this case, just speed will be reduced without increase in permissible torque; the maximum permissible torque is 200kgfcm (20N.m, 177lb-in).

Dimension

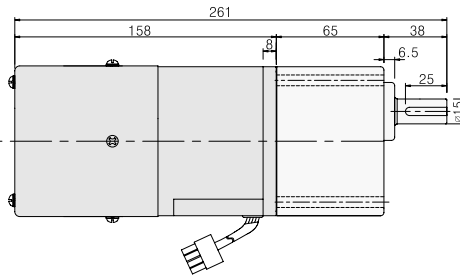
LEAD WIRE TYPE

GEARED MOTOR

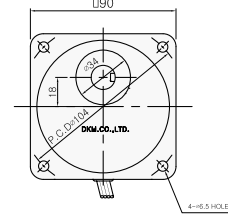
* MOTOR MODEL : 9RDG□-60FP (GENERAL FAN)



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

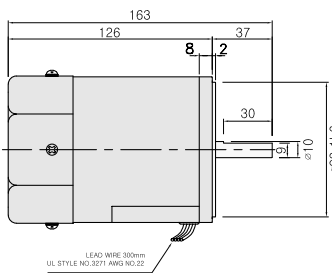


* GEARHEAD MODEL :
9PB□3BH - 9PB□180BH

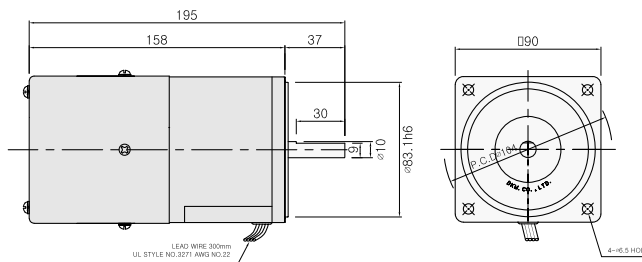


MOTOR ONLY

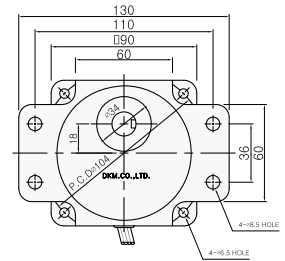
* MOTOR MODEL : 9RD□□-60F (GENERAL FAN)



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

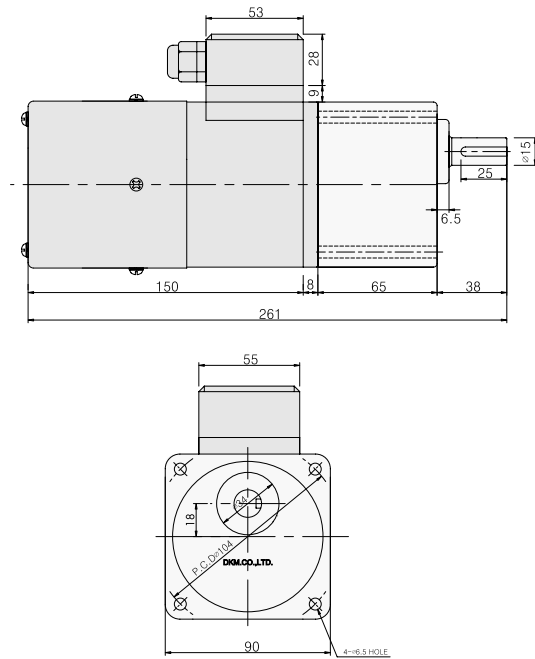


* GEARHEAD MODEL :
9PF□3BH - 9PF□180BH



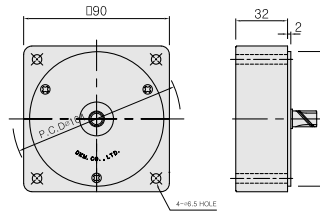
TERMINAL BOX TYPE

* 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□□3BH ~9P□□180BH	
D-CUT TYPE	
9P□□3BH ~9P□□180BH	
KEY TYPE	
9P□□3BH ~9P□□180BH	

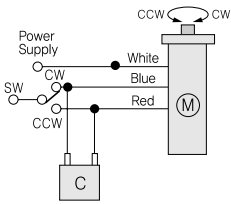
MOTOR OUTPUT

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)
 <p>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.</p>	<p>Not Available</p>

- 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		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
9RDG□-90FP : Pinion Shaft Type 9RDD□-90F : D-Cut Shaft Type																			
(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	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
	9PFK□BH	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
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	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	
		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	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
	9PFK□BH	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
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	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
		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.

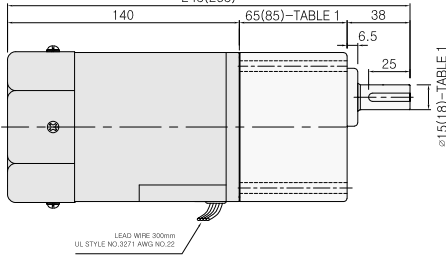
* If more slow speed is needed than above value, use decimal gearhead with a gear ratio of 10:1 could be used between general gearhead and motor. Even in this case, just speed will be reduced without increase in permissible torque; the maximum permissible torque is 200kgfcm (P type) / 300kgfcm (H type).

Dimension

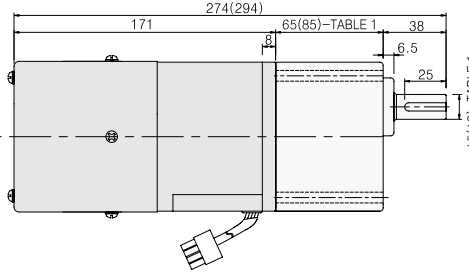
LEAD WIRE TYPE

GEARED MOTOR

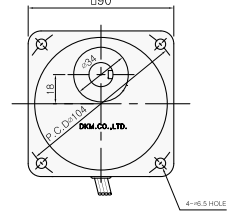
* MOTOR MODEL : 9RDG□-90FP(H)(GENERAL FAN)



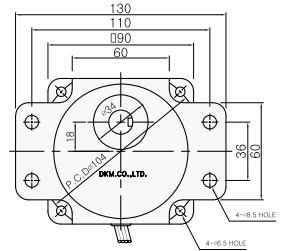
* MOTOR MODEL : 9RDG□-90F2P (POWERFUL FAN)



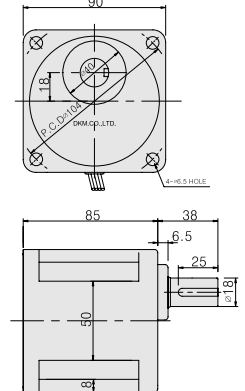
* GEARHEAD MODEL :
9PB □ 3BH - 9PB □ 180BH



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



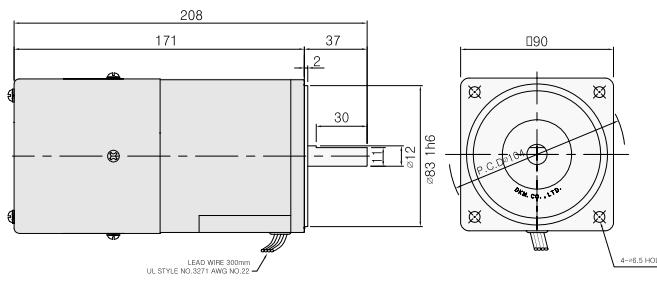
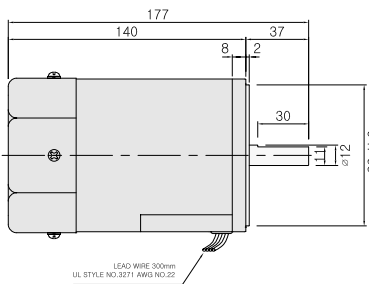
* GEARHEAD MODEL :
9HB □ 3BH - 9HB □ 180BH



MOTOR ONLY

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

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

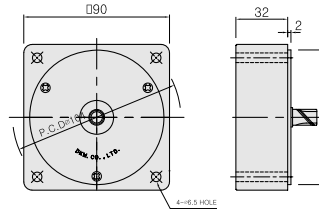
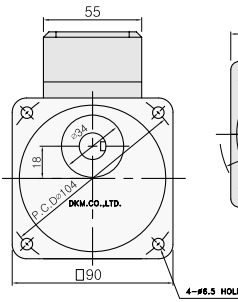
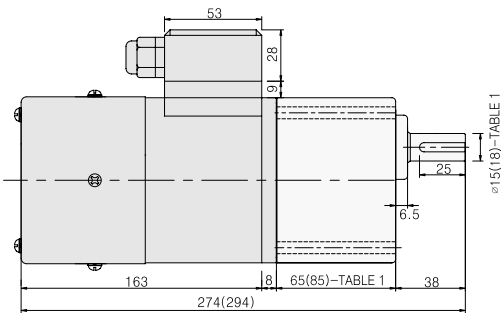


TERMINAL BOX TYPE

* 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.

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)□□3BH - 9P(H)□□180BH		
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.

65(85)-TABLE 1

SIZE(mm)	GEARHEAD TYPE
65 - φ15	P TYPE GEARHEAD
85 - φ18	H TYPE GEARHEAD

KEY SPEC

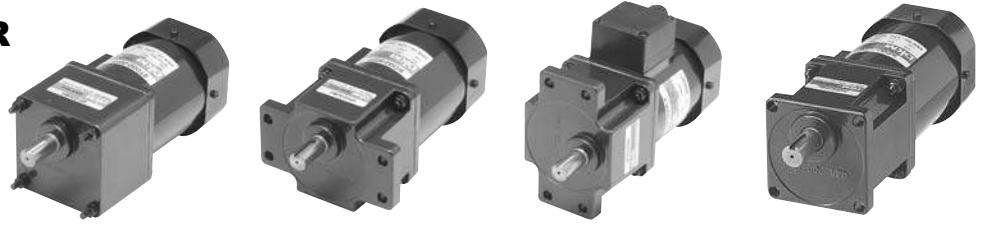
MOTOR	GEARHEAD

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		Output	Voltage	Freq.	Current	Starting Torque	Rated Torque	Rated Speed	Capacitor	
Lead Wire Type	Terminal Box Type								HP	W
9RDG□-120FP(H) : Pinion Shaft Type 9RDD□-120F : D-Cut Shaft Type										
TP 9RDG(D)A-120FP(H)	9RDG(D)A-120FP(H)-T	1/6	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						
TP 9RDG(D)E-120FP(H)	9RDG(D)E-120FP(H)-T		Single Phase 230	50						
TP 9RDG(D)F-120FP(H)	9RDG(D)F-120FP(H)-T		Single Phase 230	60						

* 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°C 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	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
	9PFK□BH	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
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
	9HBK□BH	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	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
		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	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
	9PFK□BH	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
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
	9HBK□BH	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	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
		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.

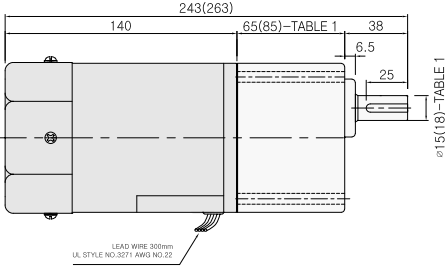
* If more slow speed is needed than above value, use decimal gearhead with a gear ratio of 10:1 could be used between general gearhead and motor. Even in this case, just speed will be reduced without increase in permissible torque; the maximum permissible torque is 200kgfcm (P type) / 300kgfcm (H type).

Dimension

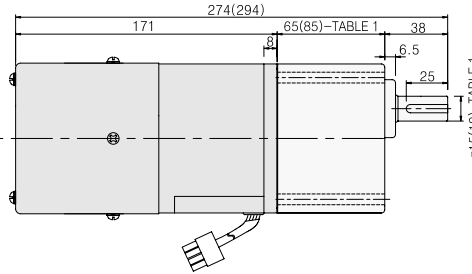
LEAD WIRE TYPE

GEARED MOTOR

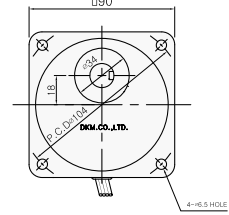
* MOTOR MODEL : 9RDG□ - 120FP(H)(GENERAL FAN)



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



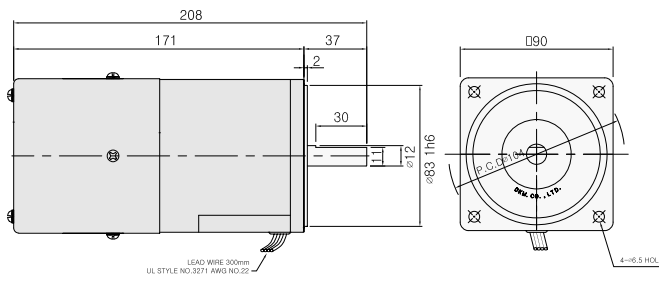
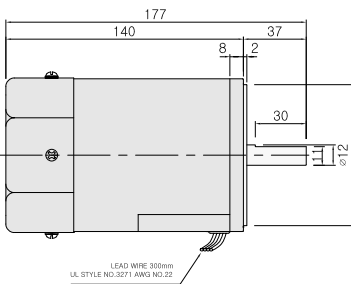
* GEARHEAD MODEL :
9PB □ 3BH - 9PB □ 180BH



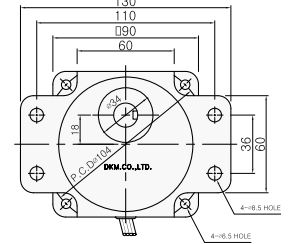
MOTOR ONLY

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

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



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

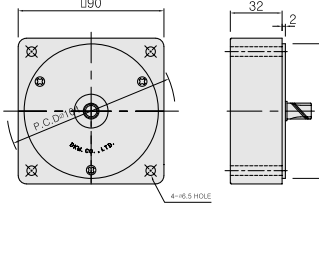
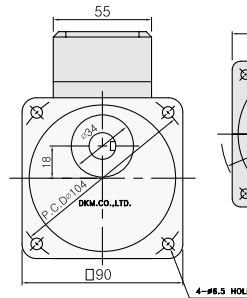
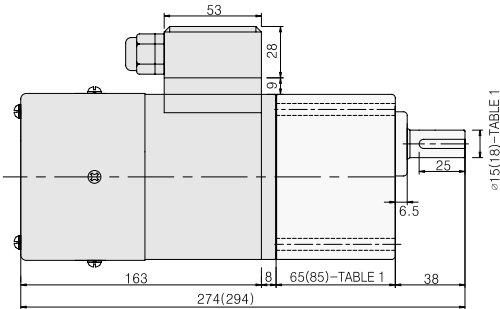


TERMINAL BOX TYPE

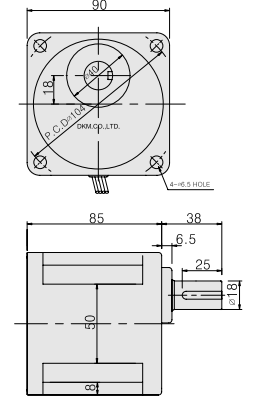
* MOTOR MODEL : 9RDG□-120F2P(H)-T (POWERFUL FAN)

INTER-DECIMAL GEARHEAD

* MODEL : 9XD10M □



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

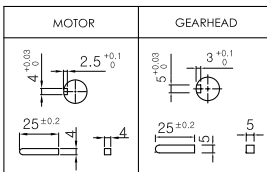


* Note : There are 2 kinds of fan type (General Fan / Powerful Fan). Customer can choose fan type according to wanted rating time.

65(85)-TABLE 1

SIZE(mm)	GEARHEAD TYPE
65 - φ15	P TYPE GEARHEAD
85 - φ18	H TYPE GEARHEAD

KEY SPEC



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	18.5(22)
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.