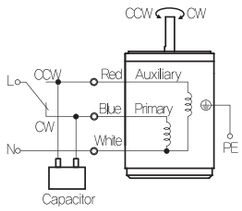
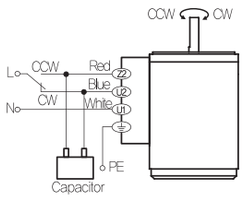
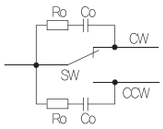
B AC Motors

Reversible Motor 120W(90mm)

Connection Diagrams

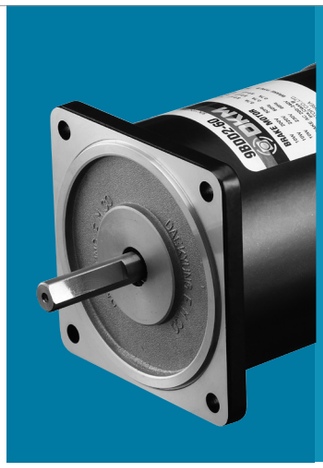
Lead Wire Type	Terminal Box Type
	



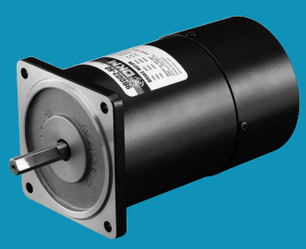
Code	Contact Capacity
SW	AC125V 5A min. or AC250V 5A min. (Inductive load)
Ro, Co	Ro=5~200 Co=0.1~0.2 , 200WV (400WV)

* Connect a CR circuit for surge suppression to protect the contact.

1) The direction of motor rotation is as viewed from the shaft end of the motor.
2) CW represents the clockwise direction, while CCW represents the counterclockwise direction.
3) During operation it is available to change the rotating direction by turning the switch to CW or CCW.



Electromagnetic Brake Motor



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B AC Motors

Outline of E.M. Brake Motor

Power Off Activated Type Electromagnetic Brake

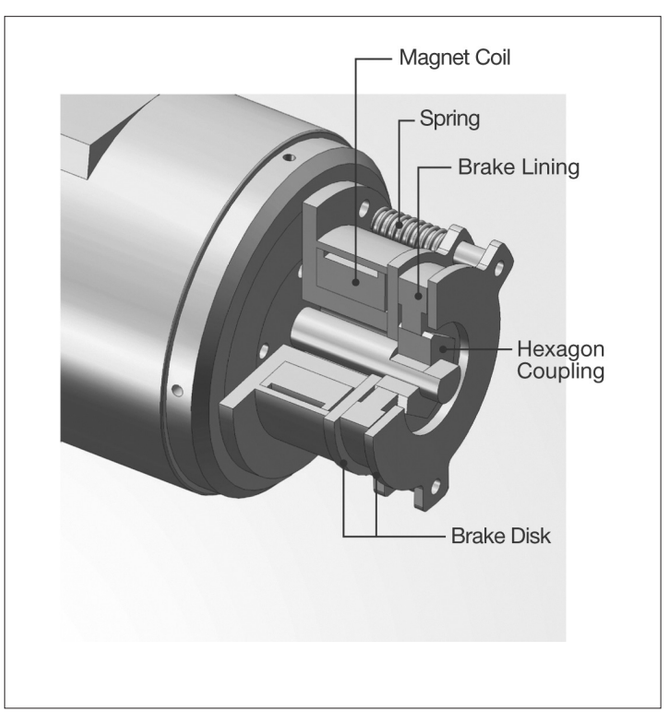
- AC electromagnetic brake is employed in electromagnetic brake motors. When the power source is turned off, the brake is activated and the motor stops instantaneously and holds the load. The electromagnetic brake has holding power in power-off, so it is optimal for emergency brakes and vertical load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

Operation

- There is 2-3 times of overrun rotation at the time the power is turned off as individual motor. (Induction motor: 30~40 times overrun, Reversible motor: 5~6 times overrun)
- 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 50 cylces 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℃.)
- The motor and the brake use the same power source. (For example, if motor voltage is 110V, that of brake is 110V.)

Structure

- An electromagnetic brake motor is equipped with a power-off activated type electromagnetic brake. As shown in the figure, when voltage is applied to the magnet coil, the armature is attracted to the electromagnet against the force of the spring, thereby releasing the brake and allowing the motor shaft to rotate freely. When no voltage is applied, the spring works to press the armature onto the brake hub and hold the motor's shaft in place, thereby actuating the brake.

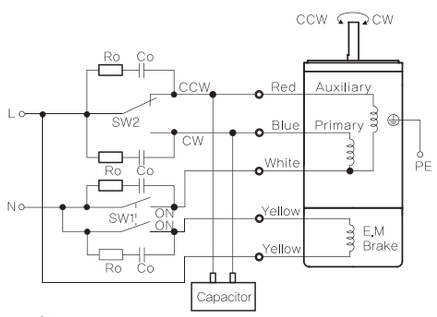


General Specifications

Item	Specification
Insulation Resistance	100㏁ or more when DC500V MEGA is applied between the windings and the frame after rated motor operation under normal ambient temperature and humidity.
Dielectric Strength	Sufficient to withstand 1.5KV at 50Hz and 60Hz applied between the windings and the frame for 1 minute after rated motor operation under normal ambient temperature and humidity.
Temperature Rise	Temperature rise of windings are 80℃ 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℃]
Overheat Protection	Operating temperature (Built-in thermal protector type motor): Open 120℃±5℃, Close 90℃±5℃
Ambient Temperature	-10℃~+40℃ (Three phase 220VAC: -10℃~+50℃)
Ambient Humidity	85% maximum

Connection Diagrams

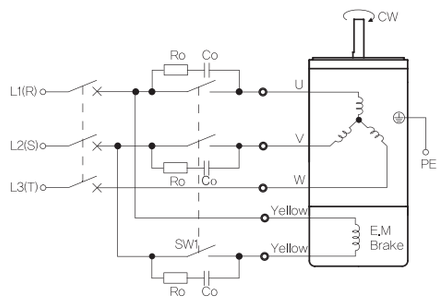
Single Phase



*** Rotation Direction:**
To rotate the motor in a clockwise (CW) direction, turn SW2 to CW.
To rotate the motor in a counterclockwise (CCW) direction, turn SW2 to CCW.

Switch No.	Specifications		Note
	Single Phase 110V/115V Input	Single Phase 220V/230V Input	
SW1	AC 125V 3A minimum (Inductive load)	AC 250V 1.5A minimum (Inductive load)	Switched Simultaneously
SW2			–

Three Phase



*** CCW Direction:**
Change any two connections between R, S and T.

Switch No.	Specifications	Note
SW1	AC 250V 1.5A minimum (Inductive load)	Switched Simultaneously

1) SW1 operates both motor and electromagnetic brake action.
2) The electromagnetic brake will be released and the motor will rotate when SW1 is switched simultaneously to ON.
3) When SW1 is switched simultaneously to OFF, the motor stops immediately with the electromagnetic brake and holds the load.
4) If you wish to release the brake while the motor is stopped, apply voltage between the two brake lead wires (yellow).
5) Ro and Co indicate CR circuit for surge suppression. [Ro=5~200Ω, Co=0.1~0.2μF, 200WV (400WV)]

B AC Motors

E.M. Brake Motor 6W (□70mm)

6W Electromagnetic Brake Motor 6W(□70mm)

Motor Specification

Model 7BDG□-6G: Gear Type Shaft 7BDD□-6: D-Cut Type Shaft	Output W	Voltage V	Frequency Hz	Poles	Duty	Starting Torque kgfcm	 N.m	Rated Load Speed r/min	 Current A	 Torque kgfcm	 N.m	Capacitor μF / VAC
7BDGA-6G	6	1ø110	60	4	30min.	0.64	0.064	1600	0.29	0.50	0.050	3.0 / 250
7BDGD-6G	6	1ø220	60	4	30min.	0.85	0.085	1600	0.16	0.60	0.060	1.0 / 450
7BDGE-6G	6	1ø220	50	4	30min.	0.61	0.061	1250	0.13	0.68	0.068	0.8 / 450
		1ø240				0.75	0.075		0.14	0.76	0.076	

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

Max. Permissible Torque at Output Shaft of Gearhead

60Hz

Motor Model	Gearhead Model	Gear Ratio	3	3.6	6	7.5	9	12.5	15	18	25	30	36	50	60	75	90	100	120	150	180
		r/min	600	500	300	240	200	144	120	100	72	60	50	36	30	24	20	18	15	12	10
7BDG□-6G	7GBK□BMH	kgfcm	1.5	1.8	3.0	3.7	4.5	6.2	7.5	9.0	11.3	13.5	14.7	20.4	24.5	30.6	36.7	40.8	49.0	50.0	50.0
		N.m	0.15	0.18	0.29	0.37	0.44	0.61	0.73	0.88	1.10	1.32	1.44	2.00	2.40	3.00	3.60	4.00	4.80	4.90	4.90

50Hz

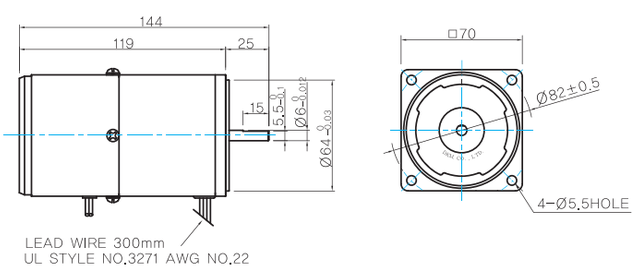
Motor Model	Gearhead Model	Gear Ratio	3	3.6	6	7.5	9	12.5	15	18	25	30	36	50	60	75	90	100	120	150	180
		r/min	500	416	250	200	166	120	100	83	60	50	41	30	25	20	16	15	12.5	10	8.3
7BDG□-6G	7GBK□BMH	kgfcm	1.7	2.0	3.4	4.2	5.1	7.1	8.5	10.2	12.8	15.3	16.6	23.1	27.7	34.7	41.6	46.2	50.0	50.0	50.0
		N.m	0.17	0.20	0.33	0.41	0.50	0.69	0.83	1.00	1.25	1.50	1.63	2.27	2.72	3.40	4.08	4.53	4.90	4.90	4.90

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

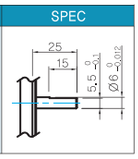
Dimensions

MOTOR ONLY

● MOTOR MODEL: 7BDD□-6 (NO FAN)



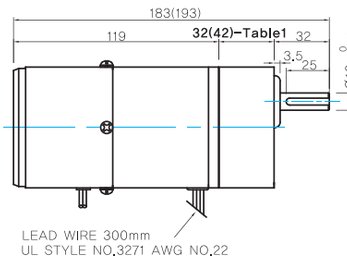
● MOTOR OUTPUT SHAFT

MODEL	SPEC
D-CUT TYPE	

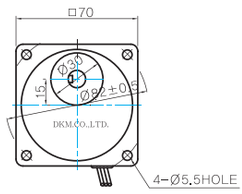
GEARED MOTOR

G TYPE GEARHEAD

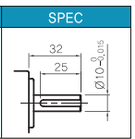
● MOTOR MODEL:
7BDG□-6G (NO FAN)



● GEARHEAD MODEL:
7GBK□BMH

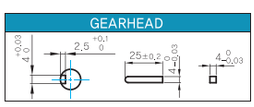


● GEARHEAD OUTPUT SHAFT

MODEL	SPEC
KEY TYPE	

● KEY SPEC

GEARHEAD



WEIGHT

PART		WEIGHT(Kg)
MOTOR		1.3
GEAR HEAD	7GBK3BMH – 7GBK18BMH	0.36
	7GBK25BMH – 7GBK30BMH	0.44
	7GBK36BMH – 7GBK180BMH	0.5

● 32(42)-Table1

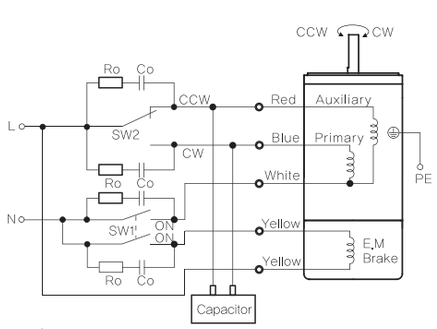
SIZE(mm)	GEAR RATIO
32	7GBK3BMH – 7GBK18BMH
42	7GBK25BMH – 7GBK180BMH

Motor Images

7BDD□-6	7BDG□-6G+7GBK□BMH
	

Connection Diagrams

Single Phase



* Rotation Direction:
To rotate the motor in a clockwise (CW) direction, turn SW2 to CW.
To rotate the motor in a counterclockwise (CCW) direction, turn SW2 to CCW.

Switch No.	Specifications		Note
	Single Phase 110V/115V Input	Single Phase 220V/230V Input	
SW1	AC 125V 3A minimum (Inductive load)	AC 250V 1.5A minimum (Inductive load)	Switched Simultaneously
SW2			–

1) The direction of motor rotation is as viewed from the shaft end of the motor.
2) CW represents the clockwise direction, while CCW represents the counterclockwise direction.
3) SW1 operates both motor and electromagnetic brake action.
4) The electromagnetic brake will be released and the motor will rotate when SW1 is switched simultaneously to ON. When SW1 is switched simultaneously to OFF, the motor stops immediately with the electromagnetic brake and holds the load.
5) If you wish to release the brake while the motor is stopped, apply voltage between the two brake lead wires (yellow).
6) Ro and Co indicate CR circuit for surge suppression. [Ro=5~200Ω, Co=0.1~0.2μF, 200WV (400WV)]

B AC Motors

E.M. Brake Motor 10W (□70mm)

10W Electromagnetic Brake Motor 10W(□70mm)

Motor Specification

Model 7BDG□-10G: Gear Type Shaft 7BDD□-10: D-Cut Type Shaft	Output W	Voltage V	Frequency Hz	Poles	Duty	Starting Torque kgfcm	 N.m	Rated Load Speed r/min	 Current A	 Torque kgfcm	 N.m	Capacitor μF / VAC
7BDGA-10G	10	1ø110	60	4	30min.	0.83	0.083	1550	0.31	0.70	0.070	3.5 / 250
7BDGD-10G	10	1ø220	60	4	30min.	1.00	0.100	1550	0.20	0.79	0.079	1.2 / 450
7BDGE-10G	10	1ø220	50	4	30min.	0.86	0.086	1250	0.16	0.82	0.082	1.0 / 450
		1ø240				0.99	0.099		0.18	0.90	0.090	

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

Max. Permissible Torque at Output Shaft of Gearhead

60Hz

Motor Model	Gearhead Model	Gear Ratio	3	3.6	6	7.5	9	12.5	15	18	25	30	36	50	60	75	90	100	120	150	180
		r/min	600	500	300	240	200	144	120	100	72	60	50	36	30	24	20	18	15	12	10
7BDG□-10G	7GBK□BMH	kgfcm	2.0	2.4	3.9	4.9	5.9	8.2	9.8	11.8	14.8	17.8	19.3	26.9	32.2	40.3	48.3	50.0	50.0	50.0	50.0
		N.m	0.19	0.23	0.39	0.48	0.58	0.80	0.96	1.16	1.45	1.74	1.90	2.63	3.16	3.95	4.74	4.90	4.90	4.90	4.90

50Hz

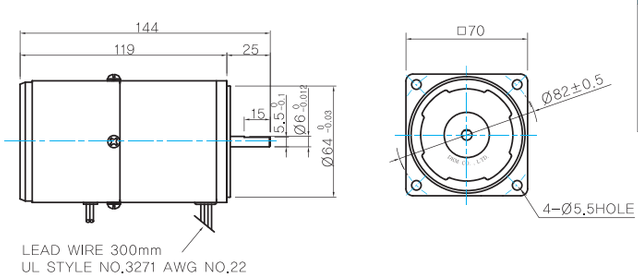
Motor Model	Gearhead Model	Gear Ratio	3	3.6	6	7.5	9	12.5	15	18	25	30	36	50	60	75	90	100	120	150	180
		r/min	500	416	250	200	166	120	100	83	60	50	41	30	25	20	16	15	12.5	10	8.3
7BDG□-10G	7GBK□BMH	kgfcm	2.0	2.5	4.1	5.1	6.1	8.5	10.2	12.3	15.4	18.5	20.1	27.9	33.5	41.8	50.0	50.0	50.0	50.0	50.0
		N.m	0.20	0.24	0.40	0.50	0.60	0.83	1.00	1.20	1.51	1.81	1.97	2.73	3.28	4.10	4.90	4.90	4.90	4.90	4.90

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

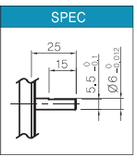
Dimensions

MOTOR ONLY

● MOTOR MODEL: 7BDD□-10 (NO FAN)



● MOTOR OUTPUT SHAFT

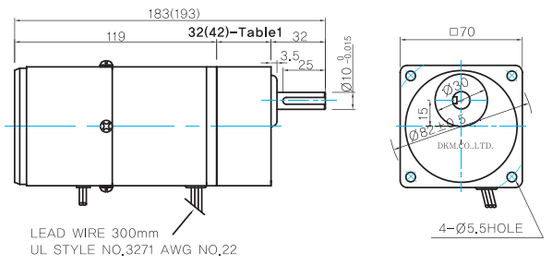
MODEL	SPEC
D-CUT TYPE	

GEARED MOTOR

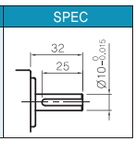
G TYPE GEARHEAD

● MOTOR MODEL:
7BDG□–10G (NO FAN)

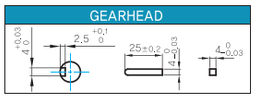
● GEARHEAD MODEL:
7GBK□BMH



● GEARHEAD OUTPUT SHAFT

MODEL	SPEC
KEY TYPE	

● KEY SPEC



WEIGHT

PART		WEIGHT(Kg)
MOTOR		1.3
GEAR HEAD	7GBK3BMH – 7GBK18BMH	0.36
	7GBK25BMH – 7GBK30BMH	0.44
	7GBK36BMH – 7GBK180BMH	0.5

● 32(42)-Table1

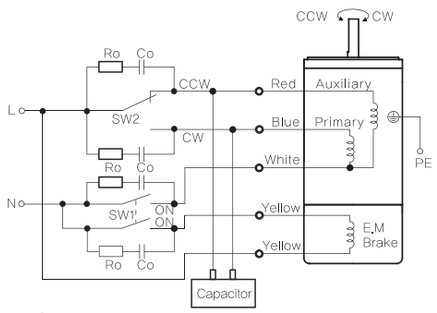
SIZE(mm)	GEAR RATIO
32	7GBK3BMH – 7GBK18BMH
42	7GBK25BMH – 7GBK180BMH

Motor Images

7BDD□–10	7BDG□–10G+7GBK□BMH
	

Connection Diagrams

Single Phase



* Rotation Direction:
To rotate the motor in a clockwise (CW) direction, turn SW2 to CW.
To rotate the motor in a counterclockwise (CCW) direction, turn SW2 to CCW.

Switch No.	Specifications		Note
	Single Phase 110V/115V Input	Single Phase 220V/230V Input	
SW1	AC 125V 3A minimum (Inductive load)	AC 250V 1.5A minimum (Inductive load)	Switched Simultaneously
SW2			–

1) The direction of motor rotation is as viewed from the shaft end of the motor.
2) CW represents the clockwise direction, while CCW represents the counterclockwise direction.
3) SW1 operates both motor and electromagnetic brake action.
4) The electromagnetic brake will be released and the motor will rotate when SW1 is switched simultaneously to ON. When SW1 is switched simultaneously to OFF, the motor stops immediately with the electromagnetic brake and holds the load.
5) If you wish to release the brake while the motor is stopped, apply voltage between the two brake lead wires (yellow).
6) Ro and Co indicate CR circuit for surge suppression. [Ro=5~200Ω, Co=0.1~0.2μF, 200WV (400WV)]

B AC Motors

E.M. Brake Motor 15W (□70mm)

15W Electromagnetic Brake Motor 15W(□70mm)

Motor Specification

Model 7BDG□-15G: Gear Type Shaft 7BDD□-15: D-Cut Type Shaft	Output W	Voltage V	Frequency Hz	Poles	Duty	Starting Torque kgfcm	 N.m	Rated Load Speed r/min	 Current A	 Torque kgfcm	 N.m	Capacitor μF / VAC
7BDGA-15G	15	1ø110	60	4	30min.	1.30	0.130	1600	0.46	1.05	0.105	6.0 / 250
7BDGD-15G	15	1ø220	60	4	30min.	1.25	0.125	1600	0.23	1.10	0.110	1.5 / 450
7BDGE-15G	15	1ø220	50	4	30min.	1.10	0.110	1250	0.17	1.25	0.125	1.2 / 450
		1ø240				1.30	0.130		0.18	1.45	0.145	

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

Max. Permissible Torque at Output Shaft of Gearhead

60Hz

Motor Model	Gearhead Model	Gear Ratio	3	3.6	6	7.5	9	12.5	15	18	25	30	36	50	60	75	90	100	120	150	180
		r/min	600	500	300	240	200	144	120	100	72	60	50	36	30	24	20	18	15	12	10
7BDG□-15G	7GBK□BMH	kgfcm	2.7	3.3	5.5	6.8	8.2	11.4	13.7	16.4	20.6	24.8	26.9	37.4	44.9	50.0	50.0	50.0	50.0	50.0	50.0
		N.m	0.27	0.32	0.54	0.67	0.81	1.12	1.34	1.61	2.02	2.43	2.64	3.67	4.40	4.90	4.90	4.90	4.90	4.90	4.90

50Hz

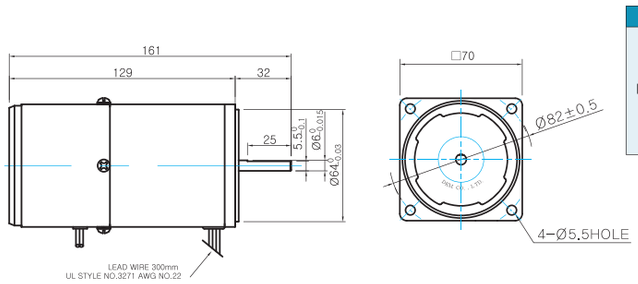
Motor Model	Gearhead Model	Gear Ratio	3	3.6	6	7.5	9	12.5	15	18	25	30	36	50	60	75	90	100	120	150	180
		r/min	500	416	250	200	166	120	100	83	60	50	41	30	25	20	16	15	12.5	10	8.3
7BDG□-15G	7GBK□BMH	kgfcm	3.6	4.3	7.2	9.0	10.8	15.0	18.1	21.7	27.2	32.6	35.5	49.3	50.0	50.0	50.0	50.0	50.0	50.0	50.0
		N.m	0.35	0.42	0.71	0.88	1.06	1.47	1.77	2.12	2.66	3.20	3.48	4.83	4.90	4.90	4.90	4.90	4.90	4.90	4.90

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

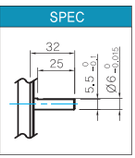
Dimensions

MOTOR ONLY

● MOTOR MODEL: 7BDD□-15 (NO FAN)



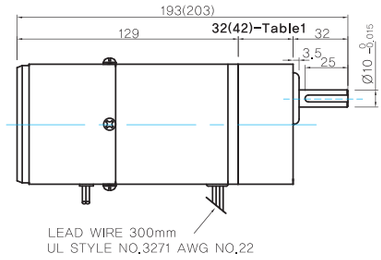
● MOTOR OUTPUT SHAFT

MODEL	SPEC
D-CUT TYPE	

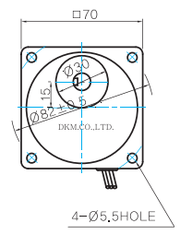
GEARED MOTOR

G TYPE GEARHEAD

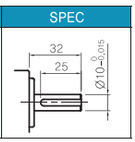
● MOTOR MODEL:
7BDG□-15G (NO FAN)



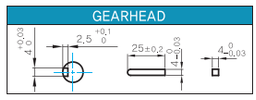
● GEARHEAD MODEL:
7GBK□BMH



● GEARHEAD OUTPUT SHAFT

MODEL	SPEC
KEY TYPE	

● KEY SPEC

GEARHEAD


WEIGHT

PART		WEIGHT(Kg)
MOTOR		1.5
GEAR HEAD	7GBK3BMH – 7GBK18BMH	0.36
	7GBK25BMH – 7GBK30BMH	0.44
	7GBK36BMH – 7GBK180BMH	0.5

● 32(42)-Table1

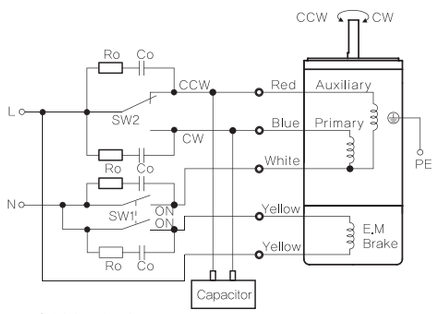
SIZE(mm)	GEAR RATIO
32	7GBK3BMH – 7GBK18BMH
42	7GBK25BMH – 7GBK180BMH

Motor Images

7BDD□-15	7BDG□-15G+7GBK□BMH
	

Connection Diagrams

Single Phase



*** Rotation Direction:**
To rotate the motor in a clockwise (CW) direction, turn SW2 to CW.
To rotate the motor in a counterclockwise (CCW) direction, turn SW2 to CCW.

Switch No.	Specifications		Note
	Single Phase 110V/115V Input	Single Phase 220V/230V Input	
SW1	AC 125V 3A minimum (Inductive load)	AC 250V 1.5A minimum (Inductive load)	Switched Simultaneously
SW2			–

1) The direction of motor rotation is as viewed from the shaft end of the motor.
2) CW represents the clockwise direction, while CCW represents the counterclockwise direction.
3) SW1 operates both motor and electromagnetic brake action.
4) The electromagnetic brake will be released and the motor will rotate when SW1 is switched simultaneously to ON. When SW1 is switched simultaneously to OFF, the motor stops immediately with the electromagnetic brake and holds the load.
5) If you wish to release the brake while the motor is stopped, apply voltage between the two brake lead wires (yellow).
6) Ro and Co indicate CR circuit for surge suppression. [Ro=5~200Ω, Co=0.1~0.2μF, 200WV (400WV)]

B AC Motors

E.M. Brake Motor 15W (□80mm)

15W Electromagnetic Brake Motor 15W(□80mm)

Motor Specification

Model 8BDG*-15□: Gear Type Shaft 8BDD*-15: D-Cut Type Shaft	Output W	Voltage V	Frequency Hz	Poles	Duty	Starting Torque kgfcm	 N.m	Rated Load Speed r/min	 Current A	 Torque kgfcm	 N.m	Capacitor μF / VAC
8BDGA-15□	15	1ø110	60	4	30min.	1.55	0.155	1600	0.44	1.20	0.120	6.0 / 250
8BDGD-15□	15	1ø220	60	4	30min.	1.50	0.150	1600	0.25	1.00	0.100	1.5 / 450
8BDGE-15□	15	1ø220	50	4	30min.	1.25	0.125	1200	0.16	1.30	0.130	1.5 / 450
		1ø240				1.45	0.145		0.17	1.40	0.140	
8BDGG-15□	15	3ø220	50	4	Cont.	4.80	0.480	1300	0.22	1.40	0.140	–
			60			4.00	0.400	1600	0.18	1.00	0.100	
8BDGK-15□	15	3ø380	50	4	Cont.	4.60	0.460	1300	0.13	1.20	0.120	–
			60			3.60	0.360	1550	0.11	1.00	0.100	
		3ø400	50	4	Cont.	5.00	0.500	1300	0.14	1.40	0.140	
			60			4.00	0.400	1600	0.12	1.00	0.100	
		3ø415	50	4	Cont.	5.40	0.540	1350	0.15	1.20	0.120	
			60			4.20	0.420	1600	0.13	1.00	0.100	
		3ø440	50	4	Cont.	6.00	0.600	1350	0.16	1.40	0.140	
			60			4.60	0.460	1600	0.14	1.40	0.140	

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

Max. Permissible Torque at Output Shaft of Gearhead

60Hz

Motor Model	Gearhead Model	Gear Ratio	3	3.6	5	6	7.5	9	12.5	15	18	25	30	36	40	50	60	75	90	100	120	150	180
		r/min	600	500	360	300	240	200	144	120	100	72	60	50	45	36	30	24	20	18	15	12	10
8BDG□-15G	8GBK□BMH	kgfcm	3.0	3.6	5.0	6.0	7.5	9.0	12.5	14.9	17.9	22.5	27.0	29.4	32.6	40.8	49.0	61.2	73.4	80.0	80.0	80.0	80.0
		N.m	0.29	0.35	0.49	0.59	0.73	0.88	1.22	1.46	1.76	2.21	2.65	2.88	3.20	4.00	4.80	6.00	7.20	7.84	7.84	7.84	7.84

Motor Model	Gearhead Model	Gear Ratio	200	250	300	360
		r/min	9	7	6	5
8BDG□-15G	8GBK□BMH	kgfcm	80.0	80.0	80.0	80.0
		N.m	7.84	7.84	7.84	7.84

Motor Model	Gearhead Model	Gear Ratio	10	12	15	18	25	30	36	50	60
		r/min	180	150	120	100	72	60	50	36	30
8BDG□-15W	8WD□BL/□BR/ □BRL	kgfcm	9.8	11.5	13.9	16.0	21.0	23.8	27.6	36.0	39.6
		N.m	0.96	1.13	1.36	1.57	2.06	2.33	2.71	3.53	3.88

50Hz

Motor Model	Gearhead Model	Gear Ratio	3	3.6	5	6	7.5	9	12.5	15	18	25	30	36	40	50	60	75	90	100	120	150	180
		r/min	500	417	300	250	200	167	120	100	83	60	50	42	38	30	25	20	17	15	13	10	8
8BDG□-15G	8GBK□BMH	kgfcm	3.5	4.2	5.8	7.0	8.7	10.5	14.5	17.4	20.9	26.3	31.5	34.3	38.1	47.6	57.1	71.4	80.0	80.0	80.0	80.0	80.0
		N.m	0.34	0.41	0.57	0.68	0.85	1.02	1.42	1.71	2.05	2.57	3.09	3.36	3.73	4.66	5.60	7.00	7.84	7.84	7.84	7.84	7.84

Motor Model	Gearhead Model	Gear Ratio	200	250	300	360
		r/min	7	6	5	5
8BDG□-15G	8GBK□BMH	kgfcm	80.0	80.0	80.0	80.0
		N.m	7.84	7.84	7.84	7.84

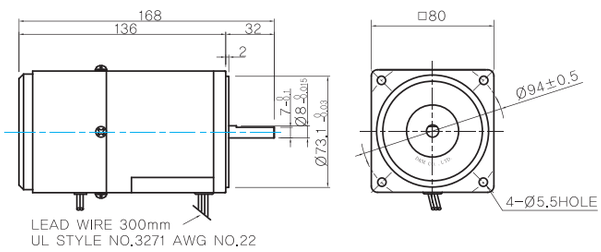
Motor Model	Gearhead Model	Gear Ratio	10	12	15	18	25	30	36	50	60
		r/min	150	125	100	83	60	50	42	30	25
8BDG□-15W	8WD□BL/□BR/ □BRL	kgfcm	11.5	13.4	16.2	18.6	24.5	27.7	32.3	42.0	46.2
		N.m	1.13	1.32	1.58	1.83	2.40	2.72	3.16	4.12	4.53

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

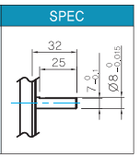
Dimensions

MOTOR ONLY

● MOTOR MODEL: 8BDD□-15 (NO FAN)

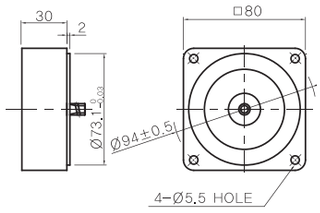


● MOTOR OUTPUT SHAFT

MODEL	SPEC
D-CUT TYPE	

INTER-DECIMAL GEARHEAD

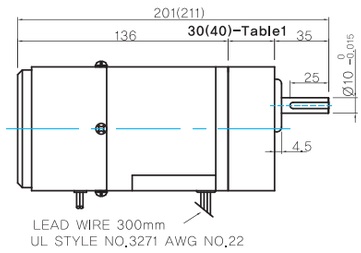
● MODEL: 8XD10M□



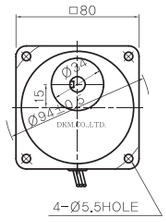
GEARED MOTOR

G TYPE GEARHEAD

● MOTOR MODEL:
8BDG□-15G (NO FAN)



● GEARHEAD MODEL:
8GBK□BMH



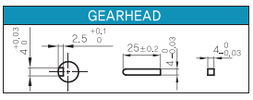
● GEARHEAD OUTPUT SHAFT

MODEL	SPEC
KEY TYPE	

● 30(40)-Table1

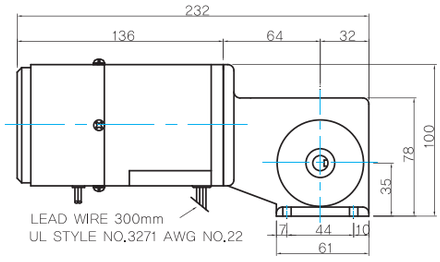
SIZE(mm)	GEAR RATIO
30	8GBK3BMH – 8GBK18BMH
40	8GBK25BMH – 8GBK360BMH

● KEY SPEC

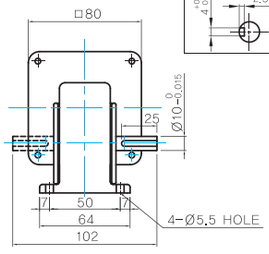
GEARHEAD


W TYPE GEARHEAD

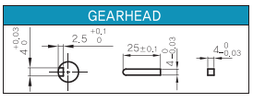
● MOTOR MODEL:
8BDG□-15W (NO FAN)



● GEARHEAD MODEL:
8WD□BL/BR/BRL



● KEY SPEC

GEARHEAD


WEIGHT

PART		WEIGHT(Kg)
MOTOR		2.0
GEAR HEAD	8GBK3BMH – 8GBK18BMH	0.48
	8GBK25BMH – 8GBK30BMH	0.61
	8GBK36BMH – 8GBK180BMH	0.67
	8GBK200BMH – 8GBK360BMH	0.63
	8WD□BL/BR/BRL	0.67
	8XD10M□	0.44

Motor Images

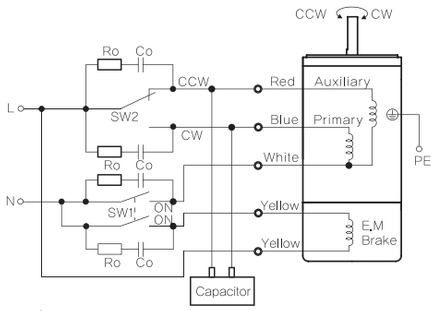
8BDD□-15	8BDG□-15G+8GBK□BMH	8BDG□-15W+8WD□BL
		

B AC Motors

E.M. Brake Motor 15W (□80mm)

Connection Diagrams

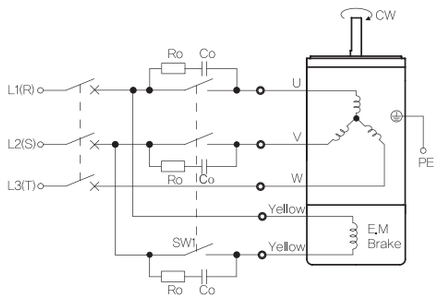
Single Phase



*** Rotation Direction:**
To rotate the motor in a clockwise (CW) direction, turn SW2 to CW.
To rotate the motor in a counterclockwise (CCW) direction, turn SW2 to CCW.

Switch No.	Specifications		Note
	Single Phase 110V/115V Input	Single Phase 220V/230V Input	
SW1	AC 125V 3A minimum (Inductive load)	AC 250V 1.5A minimum (Inductive load)	Switched Simultaneously
SW2			–

Three Phase



*** CCW Direction:**
Change any two connections between R, S and T.

Switch No.	Specifications	Note
SW1	AC 250V 1.5A minimum (Inductive load)	Switched Simultaneously

1) The direction of motor rotation is as viewed from the shaft end of the motor.
2) CW represents the clockwise direction, while CCW represents the counterclockwise direction.
3) SW1 operates both motor and electromagnetic brake action.
4) The electromagnetic brake will be released and the motor will rotate when SW1 is switched simultaneously to ON. When SW1 is switched simultaneously to OFF, the motor stops immediately with the electromagnetic brake and holds the load.
5) If you wish to release the brake while the motor is stopped, apply voltage between the two brake lead wires (yellow).
6) Ro and Co indicate CR circuit for surge suppression. [Ro=5~200Ω, Co=0.1~0.2μF, 200WV (400WV)]

25W Electromagnetic Brake Motor 25W(□80mm)

Motor Specification

Model 8BDG*-25□: Gear Type Shaft 8BDD*-25: D-Cut Type Shaft	Output W	Voltage V	Frequency Hz	Poles	Duty	Starting Torque kgfcm	 N.m	Rated Load Speed r/min	 Current A	 Torque kgfcm	 N.m	Capacitor μF / VAC
8BDGA-25□	25	1ø110	60	4	30min.	2.40	0.240	1550	0.73	1.62	0.162	10.0 / 250
8BDGD-25□	25	1ø220	60	4	30min.	2.40	0.240	1550	0.36	1.62	0.162	2.5 / 450
8BDGE-25□	25	1ø220	50	4	30min.	2.10	0.210	1250	0.28	2.00	0.200	2.0 / 450
		1ø240				2.50	0.250		0.30	2.10	0.210	
8BDGG-25□	25	3ø220	50	4	Cont.	5.00	0.500	1300	0.32	2.00	0.200	–
			60			0.40	0.040	1600	0.25	1.60	0.160	
8BDGK-25□	25	3ø380	50	4	Cont.	3.60	0.360	1250	0.14	2.00	0.200	–
			60			3.00	0.300	1500	0.12	1.65	0.165	
		3ø400	50	4	Cont.	3.80	0.380	1250	0.15	2.20	0.220	
			60			3.20	0.320	1500	0.13	1.80	0.180	
		3ø415	50	4	Cont.	4.10	0.410	1300	0.15	2.00	0.200	
			60			3.40	0.340	1550	0.13	1.80	0.180	
		3ø440	50	4	Cont.	4.40	0.440	1300	0.17	2.20	0.220	
			60			3.60	0.360	1600	0.14	1.60	0.160	

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

Max. Permissible Torque at Output Shaft of Gearhead

60Hz

Motor Model	Gearhead Model	Gear Ratio	3	3.6	5	6	7.5	9	12.5	15	18	25	30	36	40	50	60	75	90	100	120	150	180
		r/min	600	500	360	300	240	200	144	120	100	72	60	50	45	36	30	24	20	18	15	12	10
8BDG□-25G	8GBK□ BMH	kgfcm	4.5	5.4	7.5	9.0	11.2	13.4	18.7	22.4	26.9	33.8	40.5	44.1	49.0	61.2	73.4	80.0	80.0	80.0	80.0	80.0	80.0
		N.m	0.44	0.53	0.73	0.88	1.10	1.32	1.83	2.20	2.64	3.31	3.97	4.32	4.80	6.00	7.20	7.84	7.84	7.84	7.84	7.84	7.84

Motor Model	Gearhead Model	Gear Ratio	200	250	300	360
		r/min	9	7	6	5
8BDG□-25G	8GBK□BMH	kgfcm	80.0	80.0	80.0	80.0
		N.m	7.84	7.84	7.84	7.84

Motor Model	Gearhead Model	Gear Ratio	10	12	15	18	25	30	36	50	60
		r/min	180	150	120	100	72	60	50	36	30
8BDG□-25W	8WD□BL/□BR/ □BRL	kgfcm	13.3	15.6	18.7	21.6	28.4	32.1	37.3	48.6	53.5
		N.m	1.30	1.52	1.83	2.11	2.78	3.14	3.66	4.76	5.24

50Hz

Motor Model	Gearhead Model	Gear Ratio	3	3.6	5	6	7.5	9	12.5	15	18	25	30	36	40	50	60	75	90	100	120	150	180
		r/min	500	417	300	250	200	167	120	100	83	60	50	42	38	30	25	20	17	15	13	10	8
8BDG□-25G	8GBK□ BMH	kgfcm	5.0	6.0	8.3	10.0	12.5	14.9	20.8	24.9	29.9	37.5	45.0	49.0	54.4	68.0	80.0	80.0	80.0	80.0	80.0	80.0	80.0
		N.m	0.49	0.59	0.81	0.98	1.22	1.46	2.03	2.44	2.93	3.68	4.41	4.80	5.33	6.66	7.84	7.84	7.84	7.84	7.84	7.84	7.84

Motor Model	Gearhead Model	Gear Ratio	200	250	300	360
		r/min	7	6	5	5
8BDG□-25G	8GBK□BMH	kgfcm	80.0	80.0	80.0	80.0
		N.m	7.84	7.84	7.84	7.84

Motor Model	Gearhead Model	Gear Ratio	10	12	15	18	25	30	36	50	60
		r/min	150	125	100	83	60	50	42	30	25
8BDG□-25W	8WD□BL/□BR/ □BRL	kgfcm	17.2	20.2	24.3	28.0	36.8	41.6	48.4	63.0	69.3
		N.m	1.69	1.98	2.38	2.74	3.60	4.07	4.74	6.17	6.79

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

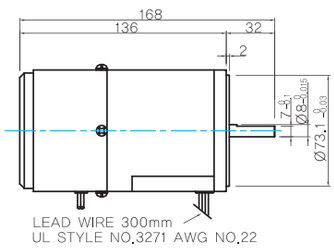
B AC Motors

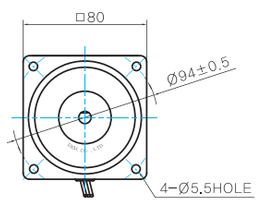
E.M. Brake Motor 25W (□80mm)

Dimensions

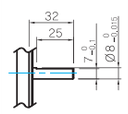
MOTOR ONLY

● MOTOR MODEL: 8BDD□-25 (NO FAN)



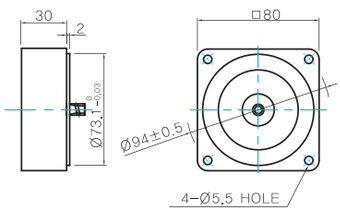


● MOTOR OUTPUT SHAFT

MODEL	SPEC
D-CUT TYPE	

INTER-DECIMAL GEARHEAD

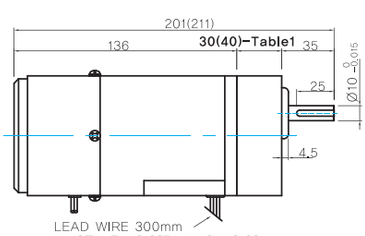
● MODEL: 8XD10M□



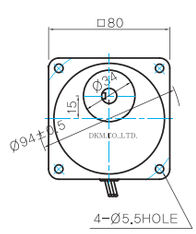
GEARED MOTOR

G TYPE GEARHEAD

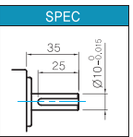
● MOTOR MODEL:
8BDG□-25G (NO FAN)



● GEARHEAD MODEL:
8GBK□BMH



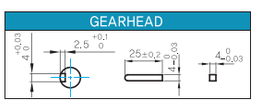
● GEARHEAD OUTPUT SHAFT

MODEL	SPEC
KEY TYPE	

● 30(40)-Table1

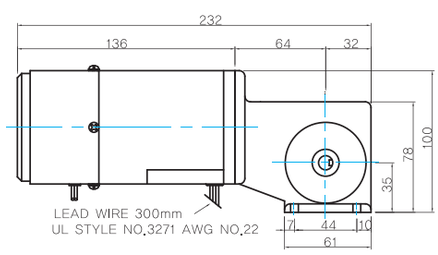
SIZE(mm)	GEAR RATIO
30	8GBK3BMH – 8GBK18BMH
40	8GBK25BMH – 8GBK360BMH

● KEY SPEC

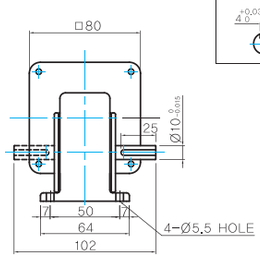
GEARHEAD


W TYPE GEARHEAD

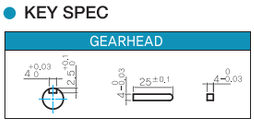
● MOTOR MODEL:
8BDG□-25W (NO FAN)



● GEARHEAD MODEL:
8WD□BL/BR/BRL



● KEY SPEC

GEARHEAD


WEIGHT

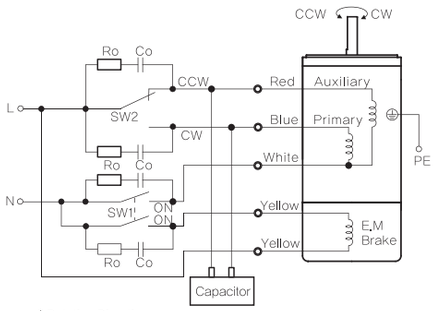
PART		WEIGHT(Kg)
MOTOR		2.0
GEAR HEAD	8GBK3BMH – 8GBK18BMH	0.48
	8GBK25BMH – 8GBK30BMH	0.61
	8GBK36BMH – 8GBK180BMH	0.67
	8GBK200BMH – 8GBK360BMH	0.63
	8WD□BL/BR/BRL	0.67
	8XD10M□	0.44

Motor Images

8BDD□-25	8BDG□-25G+8GBK□BMH	8BDG□-25W+8WD□BL
		

Connection Diagrams

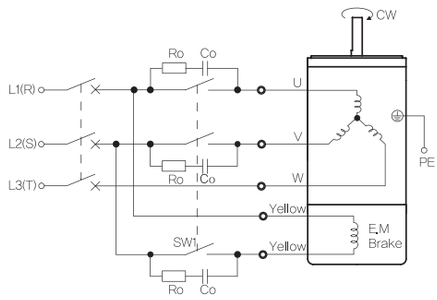
Single Phase



* **Rotation Direction:**
To rotate the motor in a clockwise (CW) direction, turn SW2 to CW.
To rotate the motor in a counterclockwise (CCW) direction, turn SW2 to CCW.

Switch No.	Specifications		Note
	Single Phase 110V/115V Input	Single Phase 220V/230V Input	
SW1	AC 125V 3A minimum (Inductive load)	AC 250V 1.5A minimum (Inductive load)	Switched Simultaneously
SW2			–

Three Phase



* **CCW Direction:**
Change any two connections between R, S and T.

Switch No.	Specifications	Note
SW1	AC 250V 1.5A minimum (Inductive load)	Switched Simultaneously

1) The direction of motor rotation is as viewed from the shaft end of the motor.
2) CW represents the clockwise direction, while CCW represents the counterclockwise direction.
3) SW1 operates both motor and electromagnetic brake action.
4) The electromagnetic brake will be released and the motor will rotate when SW1 is switched simultaneously to ON. When SW1 is switched simultaneously to OFF, the motor stops immediately with the electromagnetic brake and holds the load.
5) If you wish to release the brake while the motor is stopped, apply voltage between the two brake lead wires (yellow).
6) Ro and Co indicate CR circuit for surge suppression. [Ro=5~200Ω, Co=0.1~0.2μF, 200WV (400WV)]

B AC Motors

E.M. Brake Motor 40W (□90mm)

40W Electromagnetic Brake Motor 40W(□90mm)

Motor Specification

Model 9BDG*-40□: Gear Type Shaft 9BDD*-40: D-Cut Type Shaft 9BDK*-40: Key Type Shaft	Output W	Voltage V	Frequency Hz	Poles	Duty	Starting Torque kgfcm	 N.m	Rated Load Speed r/min	 Current A	 Torque kgfcm	 N.m	Capacitor μF / VAC
9BDGA-40□	40	1ø110	60	4	30min.	4.20	0.420	1600	1.25	2.60	0.260	16.0 / 250
9BDGD-40□	40	1ø220	60	4	30min.	4.20	0.420	1600	0.61	2.60	0.260	4.0 / 450
9BDGE-40□	40	1ø220	50	4	30min.	3.00	0.300	1350	0.36	3.00	0.300	3.0 / 450
		1ø240				3.60	0.360		0.39	3.40	0.340	
9BDGG-40□	40	3ø220	50	4	Cont.	9.00	0.900	1300	0.31	3.20	0.320	–
			60			7.40	0.740	1600	0.27	2.45	0.245	
9BDGK-40□	40	3ø380	50	4	Cont.	9.00	0.900	1300	0.20	3.20	0.320	–
			60			7.20	0.720	1550	0.18	2.80	0.280	
		3ø400	50	4	Cont.	10.00	1.000	1300	0.20	3.40	0.340	
			60			7.80	0.780	1550	0.18	3.00	0.300	
		3ø415	50	4	Cont.	11.00	1.100	1350	0.20	3.00	0.300	
			60			8.60	0.860	1600	0.18	2.80	0.280	
		3ø440	50	4	Cont.	12.00	1.200	1350	0.21	3.40	0.340	
			60			9.80	0.980	1600	0.19	3.00	0.300	

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

Max. Permissible Torque at Output Shaft of Gearhead

60Hz

Motor Model	Gearhead Model	Gear Ratio	2	3	3.6	5	6	7.5	9	10	12.5	15	18	25	30	36	40	50	60	75	90	100	120	150	180
		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
9BDG□-40G	9GBK□ BMH	kgfcm	4.6	7.0	8.4	11.6	13.9	17.4	20.9	23.2	29.1	34.9	37.8	52.5	63.0	68.5	76.2	95.2	100.0	100.0	100.0	100.0	100.0	100.0	100.0
		N.m	0.46	0.68	0.82	1.14	1.37	1.71	2.05	2.28	2.85	3.42	3.70	5.15	6.17	6.72	7.46	9.33	9.80	9.80	9.80	9.80	9.80	9.80	9.80

Motor Model	Gearhead Model	Gear Ratio	10	12	15	18	25	30	36	50	60
		r/min	180	150	120	100	72	60	50	36	30
9BDG□-40W	9WD□BL/□BR/ □BRL	kgfcm	21.3	25.0	30.0	34.6	45.5	51.5	59.9	78.0	85.8
		N.m	2.09	2.45	2.94	3.39	4.46	5.05	5.87	7.64	8.41

50Hz

Motor Model	Gearhead Model	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
		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
9BDG□-40G	9GBK□ BMH	kgfcm	5.6	8.5	10.2	14.1	16.9	21.2	25.4	28.2	35.3	42.3	45.9	63.8	76.5	83.2	92.5	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
		N.m	0.55	0.83	1.00	1.38	1.66	2.07	2.49	2.77	3.46	4.15	4.50	6.25	7.50	8.16	9.06	9.80	9.80	9.80	9.80	9.80	9.80	9.80	9.80

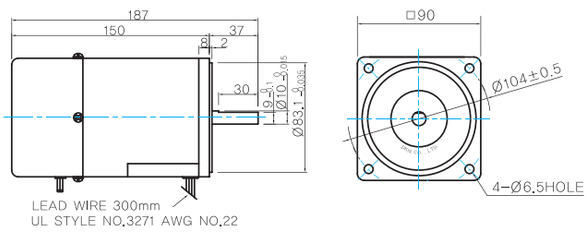
Motor Model	Gearhead Model	Gear Ratio	10	12	15	18	25	30	36	50	60
		r/min	150	125	100	83	60	50	42	30	25
9BDG□-40W	9WD□BL/□BR/ □BRL	kgfcm	27.9	32.6	39.3	45.3	59.5	67.3	78.3	102.0	112.2
		N.m	2.73	3.20	3.85	4.44	5.83	6.60	7.68	10.00	11.00

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

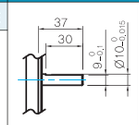
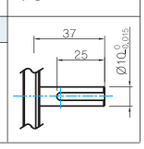
Dimensions

MOTOR ONLY

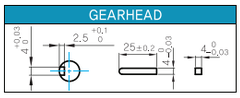
● MOTOR MODEL: 9BDD□-40 (NO FAN)



● MOTOR OUTPUT SHAFT

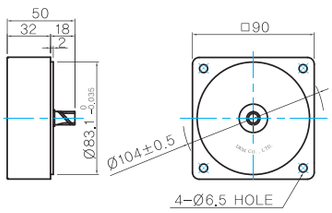
MODEL	SPEC
D-CUT TYPE 9BDD□-40	
KEY TYPE 9BDK□-40	

● KEY SPEC



INTER-DECIMAL GEARHEAD

● MODEL: 9XD10M□

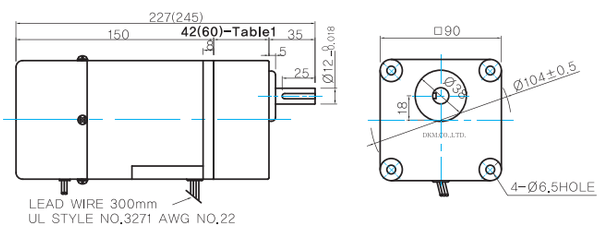


GEARED MOTOR

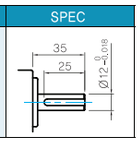
G TYPE GEARHEAD

● MOTOR MODEL:
9BDG□-40G (NO FAN)

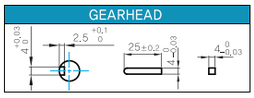
● GEARHEAD MODEL:
9GBK□BMH



● GEARHEAD OUTPUT SHAFT

MODEL	SPEC
KEY TYPE	

● KEY SPEC



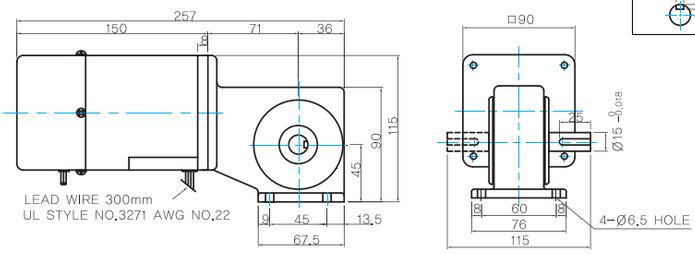
● 42(60)-Table1

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

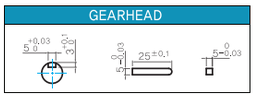
W TYPE GEARHEAD

● MOTOR MODEL:
9BDG□-40W (NO FAN)

● GEARHEAD MODEL:
9WD□BL/BR/BRL



● KEY SPEC



WEIGHT

PART		WEIGHT(Kg)
MOTOR		3.0
GEAR HEAD	9GBK2BMH – 9GBK15BMH	0.67
	9GBK18BMH – 9GBK30BMH	0.96
	9GBK36BMH – 9GBK180BMH	1.07
	8WD□BL/BR/BRL	1.0
	8XD10M□	0.5

Motor Images

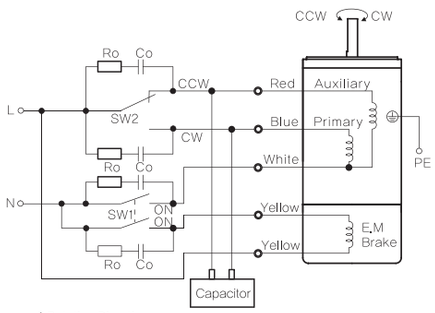
9BDD□-40	9BDG□-40G+9GBK□BMH	9BDG□-40W+9WD□BL
		

B AC Motors

E.M. Brake Motor 40W (□90mm)

Connection Diagrams

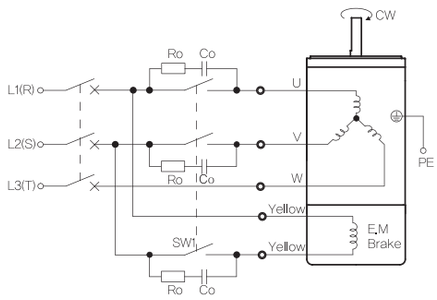
Single Phase



*** Rotation Direction:**
To rotate the motor in a clockwise (CW) direction, turn SW2 to CW.
To rotate the motor in a counterclockwise (CCW) direction, turn SW2 to CCW.

Switch No.	Specifications		Note
	Single Phase 110V/115V Input	Single Phase 220V/230V Input	
SW1	AC 125V 3A minimum (Inductive load)	AC 250V 1.5A minimum (Inductive load)	Switched Simultaneously
SW2			–

Three Phase



*** CCW Direction:**
Change any two connections between R, S and T.

Switch No.	Specifications	Note
SW1	AC 250V 1.5A minimum (Inductive load)	Switched Simultaneously

1) The direction of motor rotation is as viewed from the shaft end of the motor.
2) CW represents the clockwise direction, while CCW represents the counterclockwise direction.
3) SW1 operates both motor and electromagnetic brake action.
4) The electromagnetic brake will be released and the motor will rotate when SW1 is switched simultaneously to ON. When SW1 is switched simultaneously to OFF, the motor stops immediately with the electromagnetic brake and holds the load.
5) If you wish to release the brake while the motor is stopped, apply voltage between the two brake lead wires (yellow).
6) Ro and Co indicate CR circuit for surge suppression. [Ro=5~200Ω, Co=0.1~0.2μF, 200WV (400WV)]

60W Electromagnetic Brake Motor 60W(□90mm)

Motor Specification

Model 9BDG*-60F□: Gear Type Shaft 9BDD*-60F: D-Cut Type Shaft 9BDK*-60F: Key Type Shaft	Output W	Voltage V	Frequency Hz	Poles	Duty	Starting Torque kgfcm	 N.m	Rated Load Speed r/min	 Current A	 Torque kgfcm	 N.m	Capacitor μF / VAC
9BDGA-60F□	60	1ø110	60	4	30min.	5.20	0.520	1600	1.60	5.00	0.500	20.0 / 250
9BDGD-60F□	60	1ø220	60	4	30min.	5.00	0.500	1600	0.75	4.60	0.460	5.0 / 450
9BDGE-60F□	60	1ø220	50	4	30min.	5.40	0.540	1300	0.59	5.00	0.500	5.0 / 450
		1ø240				6.60	0.660		0.64	5.60	0.560	
9BDGG-60F□	60	3ø220	50	4	Cont.	15.00	1.500	1350	0.59	4.60	0.460	–
			60			12.80	1.280	1600	0.49	4.20	0.420	
9BDGK-60F□	60	3ø380	50	4	Cont.	17.00	1.700	1350	0.33	4.80	0.480	–
			60			13.80	1.380	1600	0.29	4.60	0.460	
		3ø400	50	4	Cont.	18.60	1.860	1350	0.36	5.20	0.520	
			60			15.20	1.520	1600	0.30	5.00	0.500	
		3ø415	50	4	Cont.	20.00	2.000	1350	0.40	5.60	0.560	
			60			16.20	1.620	1600	0.33	5.20	0.520	
		3ø440	50	4	Cont.	22.00	2.200	1350	0.44	6.00	0.600	
			60			18.20	1.820	1600	0.36	5.80	0.580	

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

Max. Permissible Torque at Output Shaft of Gearhead

60Hz

Motor Model	Gearhead Model	Gear Ratio	2	3	3.6	5	6	7.5	9	12.5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180
		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
9BDG□ -60FP	9PBK□BH 9PFK□BH	kgfcm	7.6	11.5	13.7	19.1	22.9	28.6	34.4	43.1	51.8	62.1	62.6	78.2	93.8	112.6	125.1	156.4	187.7	200.0	200.0	200.0	200.0	200.0	200.0
		N.m	0.75	1.12	1.35	1.87	2.24	2.81	3.37	4.23	5.07	6.09	6.13	7.66	9.20	11.04	12.26	15.33	18.39	19.60	19.60	19.60	19.60	19.60	19.60
9BDG□ -60FH	9HBK□BH 9HFK□BH	kgfcm	–	11.5	13.7	–	22.9	–	34.4	43.1	51.8	62.1	62.6	78.2	93.8	112.6	–	156.4	187.7	210.5	252.5	280.6	300.0	300.0	300.0
		N.m		1.12	1.35		2.24		3.37	4.23	5.07	6.09	6.13	7.66	9.20	11.04		15.33	18.39	20.62	24.75	27.50	29.40	29.40	29.40

Motor Model	Gearhead Model	Gear Ratio	10	12	15	18	25	30	36	50	60
		r/min	180	150	120	100	72	60	50	36	30
9BDG□ -60FW	9WD□BL/ □BR/□BRL	kgfcm	41.0	48.0	57.8	66.6	87.5	99.0	115.2	142.9	122.4
		N.m	4.02	4.70	5.66	6.53	8.58	9.70	11.29	14.00	12.00

Motor Model	Gearhead Model	Gear Ratio	7.5	10	15	20	25	30	40	50	60	80
		r/min	240	180	120	90	72	60	45	36	30	22
9BDG□ -60FWH	9WHD□	kgfcm	29.0	37.3	52.4	66.2	75.9	88.3	108.6	124.2	138.0	132.7
		N.m	2.84	3.65	5.14	6.49	7.44	8.66	10.64	12.17	13.52	13.00

50Hz

Motor Model	Gearhead Model	Gear Ratio	2	3	3.6	5	6	7.5	9	12.5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180
		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
9BDG□ -60FP	9PBK□BH 9PFK□BH	kgfcm	8.3	12.5	14.9	20.8	24.9	31.1	37.4	46.9	56.3	67.5	68.0	85.0	102.0	122.4	136.0	170.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0
		N.m	0.81	1.22	1.46	2.03	2.44	3.05	3.66	4.59	5.51	6.62	6.66	8.33	10.00	12.00	13.33	16.66	19.60	19.60	19.60	19.60	19.60	19.60	19.60
9BDG□ -60FH	9HBK□BH 9HFK□BH	kgfcm	–	12.5	14.9	–	24.9	–	37.4	46.9	56.3	67.5	68.0	85.0	102.0	122.4	–	170.0	204.0	228.8	274.5	300.0	300.0	300.0	300.0
		N.m		1.22	1.46		2.44		3.66	4.59	5.51	6.62	6.66	8.33	10.00	12.00		16.66	19.99	22.42	26.90	29.40	29.40	29.40	29.40

Motor Model	Gearhead Model	Gear Ratio	10	12	15	18	25	30	36	50	60
		r/min	150	125	100	83	60	50	42	30	25
9BDG□ -60FW	9WD□BL/ □BR/□BRL	kgfcm	45.9	53.8	64.7	74.6	98.0	110.9	129.0	142.9	122.4
		N.m	4.50	5.27	6.34	7.31	9.60	10.87	12.64	14.00	12.00

Motor Model	Gearhead Model	Gear Ratio	7.5	10	15	20	25	30	40	50	60	80
		r/min	200	150	100	75	60	50	38	30	25	18
9BDG□ -60FWH	9WHD□	kgfcm	31.5	40.5	57.0	72.0	82.5	96.0	118.0	135.0	150.0	132.7
		N.m	3.09	3.97	5.59	7.06	8.09	9.41	11.56	13.23	14.70	13.00

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

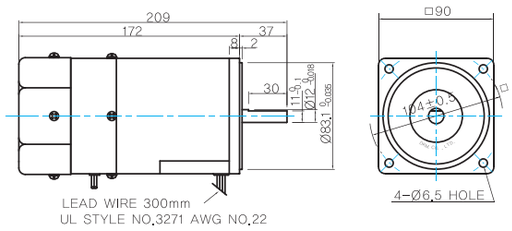
B AC Motors

E.M. Brake Motor 60W (□90mm)

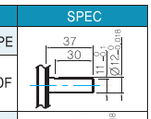
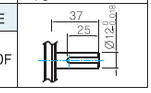
Dimensions

MOTOR ONLY

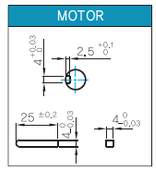
● MOTOR MODEL:
9BDD□-60F (GENERAL FAN)



● MOTOR OUTPUT SHAFT

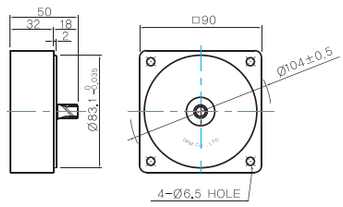
MODEL	SPEC
D-CUT TYPE	
9BDD□-60F	
KEY TYPE	
9BDK□-60F	

● KEY SPEC

MOTOR


INTER-DECIMAL GEARHEAD

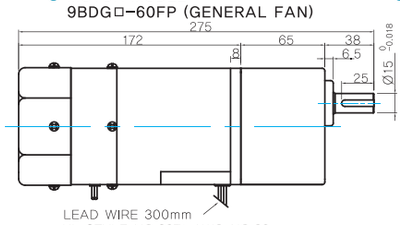
● MODEL:
9XD10M□



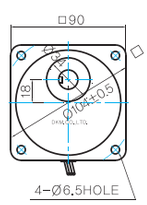
GEARED MOTOR

P TYPE GEARHEAD

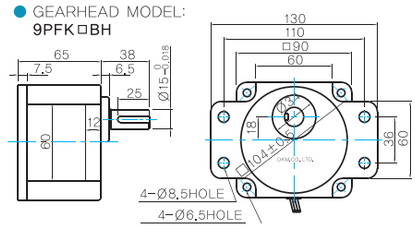
● MOTOR MODEL:
9BDG□-60FP (GENERAL FAN)



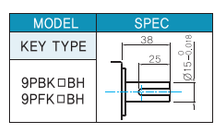
● GEARHEAD MODEL:
9PBK□BH



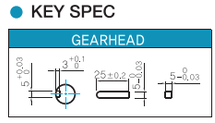
● GEARHEAD MODEL:
9PFK□BH



● GEARHEAD OUTPUT SHAFT

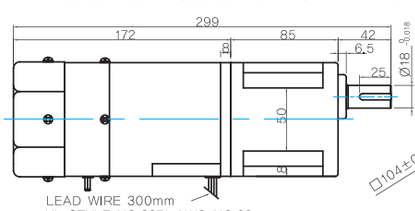
MODEL	SPEC
KEY TYPE 9PBK□BH 9PFK□BH	

● KEY SPEC

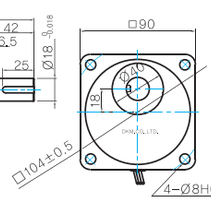
GEARHEAD


H TYPE GEARHEAD

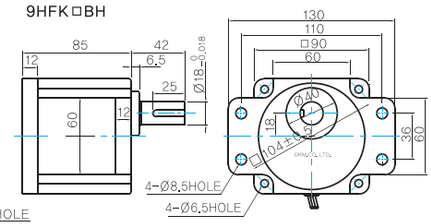
● MOTOR MODEL:
9BDG□-60FH (GENERAL FAN)



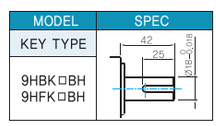
● GEARHEAD MODEL:
9HBK□BH



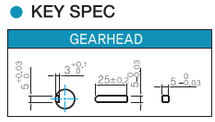
● GEARHEAD MODEL:
9HFK□BH



● GEARHEAD OUTPUT SHAFT

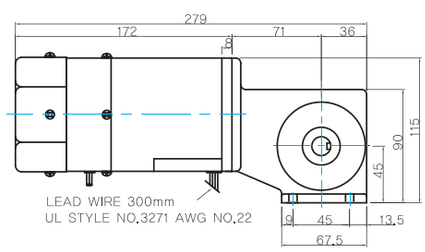
MODEL	SPEC
KEY TYPE 9HBK□BH 9HFK□BH	

● KEY SPEC

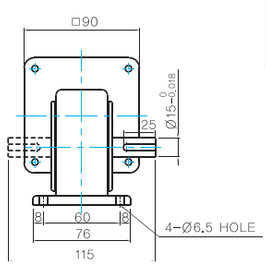
GEARHEAD


W TYPE GEARHEAD

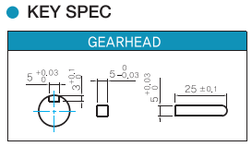
● MOTOR MODEL:
9BDG□-60FW (GENERAL FAN)



● GEARHEAD MODEL:
9WD□BL/BR/BRL

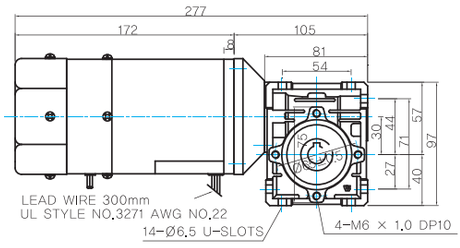


● KEY SPEC

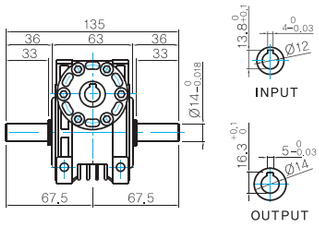
GEARHEAD


WH TYPE GEARHEAD

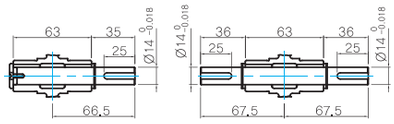
● MOTOR MODEL:
9BDG□-60FWH (GENERAL FAN)



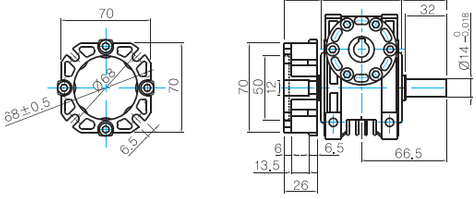
● GEARHEAD MODEL:
9WHD□



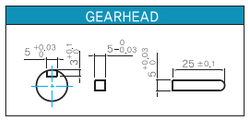
● SHAFT(한방향, 양방향)



● FLANGE



● KEY SPEC



WEIGHT

PART		WEIGHT(Kg)
MOTOR		3.0
GEAR HEAD	9PB(F)K2BH ~ 9PB(F)K18BH	1.3
	9PB(F)K20BH ~ 9PB(F)K180BH	1.4
	9HB(F)K3BH ~ 9HB(F)K9BH	1.45
	9HB(F)K12.5BH ~ 9HB(F)K18BH	1.5
	9HB(F)K20BH ~ 9HB(F)K60BH	1.7
	9HB(F)K75BH ~ 9HB(F)K180BH	1.8
	9WD□BL/BR/BRL	1.0
	9WHD□	1.13
	9XD10M□	0.5

Motor Images

9BDD□-60F	9BDG□-60FP+9PBK□BH	9BDG□-60FP+9PFK□BH	9BDG□-60FH+9HBK□BH	9BDG□-60FH+9HFK□BH	9BDG□-60FW+9WD□BL
					

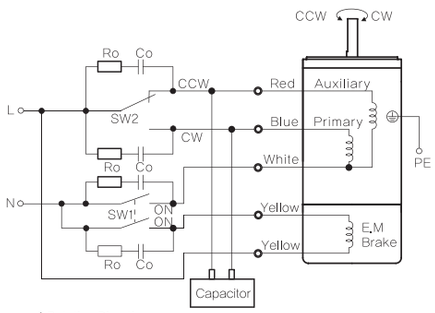
9BDG□-60FWH+9WHD□


B AC Motors

E.M. Brake Motor 60W (□90mm)

Connection Diagrams

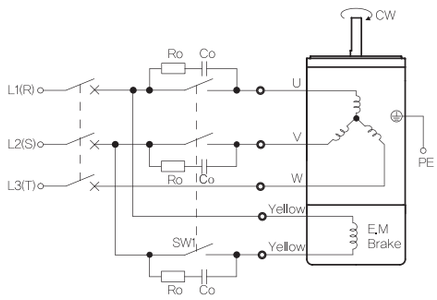
Single Phase



*** Rotation Direction:**
To rotate the motor in a clockwise (CW) direction, turn SW2 to CW.
To rotate the motor in a counterclockwise (CCW) direction, turn SW2 to CCW.

Switch No.	Specifications		Note
	Single Phase 110V/115V Input	Single Phase 220V/230V Input	
SW1	AC 125V 3A minimum (Inductive load)	AC 250V 1.5A minimum (Inductive load)	Switched Simultaneously
SW2			–

Three Phase



*** CCW Direction:**
Change any two connections between R, S and T.

Switch No.	Specifications	Note
SW1	AC 250V 1.5A minimum (Inductive load)	Switched Simultaneously

1) The direction of motor rotation is as viewed from the shaft end of the motor.
2) CW represents the clockwise direction, while CCW represents the counterclockwise direction.
3) SW1 operates both motor and electromagnetic brake action.
4) The electromagnetic brake will be released and the motor will rotate when SW1 is switched simultaneously to ON. When SW1 is switched simultaneously to OFF, the motor stops immediately with the electromagnetic brake and holds the load.
5) If you wish to release the brake while the motor is stopped, apply voltage between the two brake lead wires (yellow).
6) Ro and Co indicate CR circuit for surge suppression. [Ro=5~200Ω, Co=0.1~0.2μF, 200WV (400WV)]

90W Electromagnetic Brake Motor 90W(□90mm)

Motor Specification

Model 9BDG*-90F□: Gear Type Shaft 9BDD*-90F: D-Cut Type Shaft 9BDK*-90F: Key Type Shaft	Output W	Voltage V	Frequency Hz	Poles	Duty	Starting Torque kgfcm	 N.m	Rated Load Speed r/min	 Current A	 Torque kgfcm	 N.m	Capacitor μF / VAC
9BDGA-90F□	90	1ø110	60	4	30min.	6.60	0.660	1600	2.00	6.40	0.640	25.0 / 250
9BDGD-90F□	90	1ø220	60	4	30min.	6.00	0.600	1600	0.97	6.60	0.660	6.0 / 450
9BDGE-90F□	90	1ø220	50	4	30min.	6.40	0.640	1250	0.90	7.80	0.780	6.0 / 450
		1ø240				7.80	0.780		1.00	8.90	0.890	
9BDGG-90F□	90	3ø220	50	4	Cont.	20.00	2.000	1300	0.66	7.80	0.780	–
			60			16.60	1.660	1600	0.55	5.80	0.580	
9BDGK-90F□	90	3ø380	50	4	Cont.	21.80	2.180	1300	0.40	7.80	0.780	–
			60			17.20	1.720	1600	0.33	5.80	0.580	
		3ø400	50	4	Cont.	24.00	2.400	1300	0.43	8.60	0.860	
			60			19.20	1.920	1600	0.36	6.20	0.620	
		3ø415	50	4	Cont.	26.00	2.600	1350	0.43	7.40	0.740	
			60			20.20	2.020	1600	0.37	6.80	0.680	
		3ø440	50	4	Cont.	29.00	2.900	1350	0.48	8.00	0.800	
			60			23.80	2.380	1650	0.37	6.00	0.600	

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

Max. Permissible Torque at Output Shaft of Gearhead

60Hz

Motor Model	Gearhead Model	Gear Ratio	2	3	3.6	5	6	7.5	9	12.5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180
		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
9BDG□-90FP	9PBK□BH 9PFK□BH	kgfcm	11.5	17.2	20.6	28.6	34.4	43.0	51.5	64.7	77.6	93.2	93.8	117.3	140.8	168.9	187.7	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0
		N.m	1.12	1.68	2.02	2.81	3.37	4.21	5.05	6.34	7.61	9.13	9.20	11.50	13.79	16.55	18.39	19.60	19.60	19.60	19.60	19.60	19.60	19.60	19.60
9BDG□-90FH	9HBK□BH 9HFK□BH	kgfcm	–	17.2	20.6	–	34.4	–	51.5	64.7	77.6	93.2	93.8	117.3	140.8	168.9	–	234.6	281.5	300.0	300.0	300.0	300.0	300.0	300.0
		N.m		1.68	2.02		3.37		5.05	6.34	7.61	9.13	9.20	11.50	13.79	16.55		22.99	27.59	29.40	29.40	29.40	29.40	29.40	29.40

Motor Model	Gearhead Model	Gear Ratio	10	12	15	18	25	30	36	50	60
		r/min	180	150	120	100	72	60	50	36	30
9BDG□-90FW	9WD□BL/ □BR/□BRL	kgfcm	56.6	66.2	79.7	91.9	120.8	136.6	153.1	142.9	122.4
		N.m	5.54	6.49	7.81	9.01	11.83	13.39	15.00	14.00	12.00

Motor Model	Gearhead Model	Gear Ratio	7.5	10	15	20	25	30	40	50	60	80
		r/min	240	180	120	90	72	60	45	36	30	22
9BDG□-90FWH	9WHD□	kgfcm	43.5	55.9	78.7	99.4	113.9	132.5	162.8	173.5	163.3	132.7
		N.m	4.26	5.48	7.71	9.74	11.16	12.98	15.96	17.00	16.00	13.00

50Hz

Motor Model	Gearhead Model	Gear Ratio	2	3	3.6	5	6	7.5	9	12.5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180
		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
9BDG□-90FP	9PBK□BH 9PFK□BH	kgfcm	12.9	19.4	23.3	32.4	38.8	48.6	58.3	73.1	87.8	105.3	106.1	132.6	159.1	190.9	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0
		N.m	1.27	1.90	2.28	3.17	3.81	4.76	5.71	7.17	8.60	10.32	10.40	12.99	15.59	18.71	19.60	19.60	19.60	19.60	19.60	19.60	19.60	19.60	19.60
9BDG□-90FH	9HBK□BH 9HFK□BH	kgfcm	–	19.4	23.3	–	38.8	–	58.3	73.1	87.8	105.3	106.1	132.6	159.1	190.9	–	300.0	300.0	300.0	300.0	300.0	300.0	300.0	300.0
		N.m		1.90	2.28		3.81		5.71	7.17	8.60	10.32	10.40	12.99	15.59	18.71		29.40	29.40	29.40	29.40	29.40	29.40	29.40	29.40

Motor Model	Gearhead Model	Gear Ratio	10	12	15	18	25	30	36	50	60
		r/min	150	125	100	83	60	50	42	30	25
9BDG□-90FW	9WD□BL/ □BR/□BRL	kgfcm	64.0	74.9	90.1	103.9	136.5	154.4	153.1	142.9	122.4
		N.m	6.27	7.34	8.83	10.18	13.38	15.14	15.00	14.00	12.00

Motor Model	Gearhead Model	Gear Ratio	7.5	10	15	20	25	30	40	50	60	80
		r/min	200	150	100	75	60	50	38	30	25	18
9BDG□-90FWH	9WHD□	kgfcm	49.1	63.2	88.9	112.3	128.7	149.8	183.7	173.5	163.3	132.7
		N.m	4.82	6.19	8.71	11.01	12.61	14.68	18.00	17.00	16.00	13.00

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

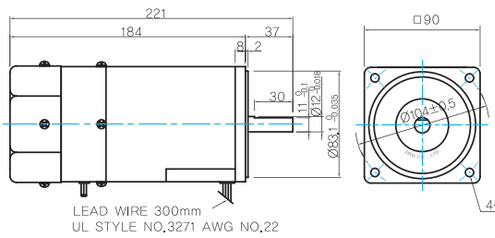
B AC Motors

E.M. Brake Motor 90W (□90mm)

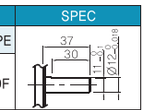
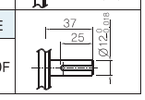
Dimensions

MOTOR ONLY

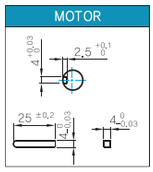
● MOTOR MODEL:
9BDD□-90F (GENERAL FAN)



● MOTOR OUTPUT SHAFT

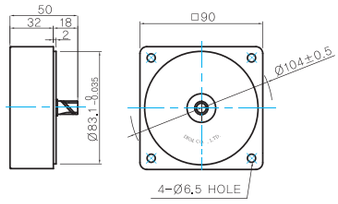
MODEL	SPEC
D-CUT TYPE	
9BDD□-90F	
KEY TYPE	
9BDK□-90F	

● KEY SPEC

MOTOR


INTER-DECIMAL GEARHEAD

● MODEL:
9XD10M□



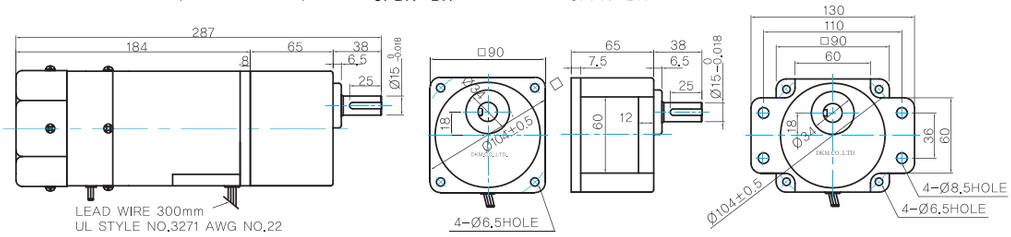
GEARED MOTOR

P TYPE GEARHEAD

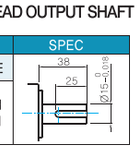
● MOTOR MODEL:
9BDG□-90FP (GENERAL FAN)

● GEARHEAD MODEL:
9PBK□BH

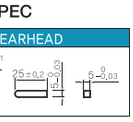
● GEARHEAD MODEL:
9PFK□BH



● GEARHEAD OUTPUT SHAFT

MODEL	SPEC
KEY TYPE 9PBK□BH 9PFK□BH	

● KEY SPEC

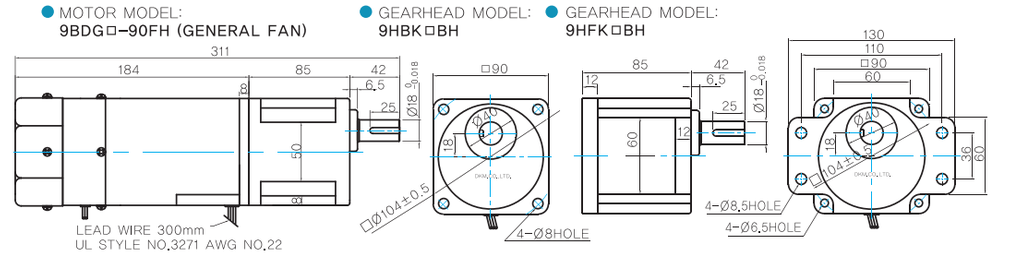
GEARHEAD


H TYPE GEARHEAD

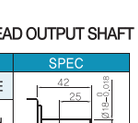
● MOTOR MODEL:
9BDG□-90FH (GENERAL FAN)

● GEARHEAD MODEL:
9HBK□BH

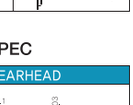
● GEARHEAD MODEL:
9HFK□BH



● GEARHEAD OUTPUT SHAFT

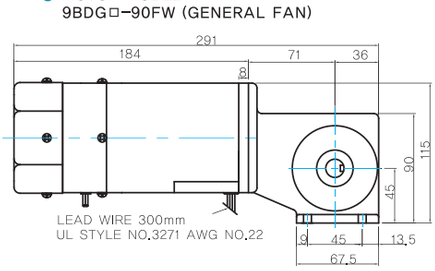
MODEL	SPEC
KEY TYPE 9HBK□BH 9HFK□BH	

● KEY SPEC

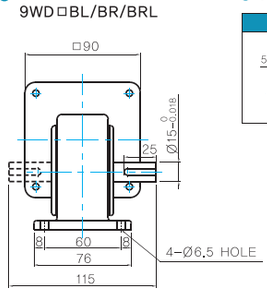
GEARHEAD


W TYPE GEARHEAD

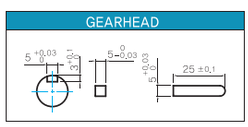
● MOTOR MODEL:
9BDG□-90FW (GENERAL FAN)



● GEARHEAD MODEL:
9WD□BL/BR/BRL

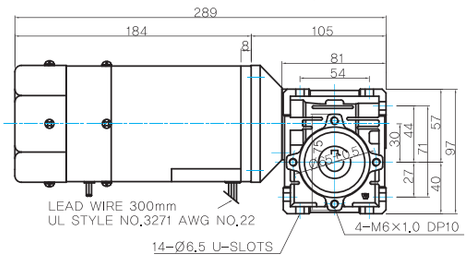


● KEY SPEC

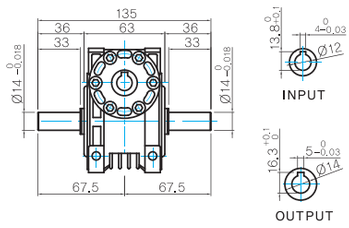
GEARHEAD


WH TYPE GEARHEAD

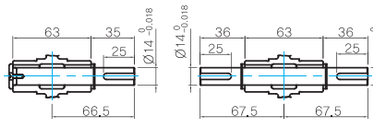
● MOTOR MODEL:
9BDG□-90FWH (GENERAL FAN)



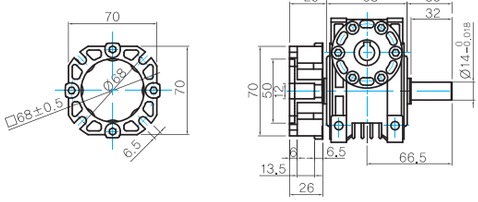
● GEARHEAD MODEL:
9WHD□



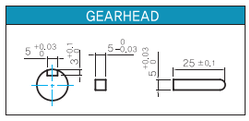
● SHAFT(Unidirectional, Bi-directional)



● FLANGE



● KEY SPEC



WEIGHT

PART		WEIGHT(Kg)
MOTOR		3.5
GEAR HEAD	9PB(F)K2BH ~ 9PB(F)K18BH	1.3
	9PB(F)K20BH ~ 9PB(F)K180BH	1.4
	9HB(F)K3BH ~ 9HB(F)K9BH	1.45
	9HB(F)K12.5BH ~ 9HB(F)K18BH	1.5
	9HB(F)K20BH ~ 9HB(F)K60BH	1.7
	9HB(F)K75BH ~ 9HB(F)K180BH	1.8
	9WD□BL/BR/BRL	1.0
	9WHD□	1.13
	9XD10M□	0.5

* The output flange and shafts are sold separately.

Motor Images

9BDD□-90F	9BDG□-90FP+9PBK□BH	9BDG□-90FP+9PFK□BH	9BDG□-90FH+9HBK□BH	9BDG□-90FH+9HFK□BH	9BDG□-90FW+9WD□BL
					

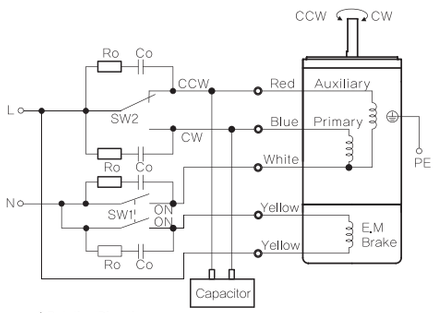
9BDG□-90FWH+9WHD□


B AC Motors

E.M. Brake Motor 90W (□90mm)

Connection Diagrams

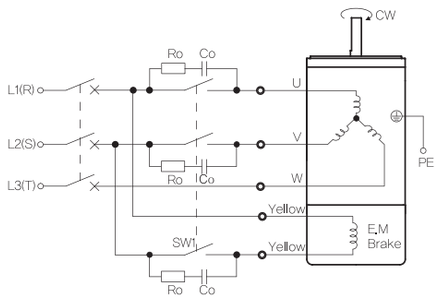
Single Phase



*** Rotation Direction:**
To rotate the motor in a clockwise (CW) direction, turn SW2 to CW.
To rotate the motor in a counterclockwise (CCW) direction, turn SW2 to CCW.

Switch No.	Specifications		Note
	Single Phase 110V/115V Input	Single Phase 220V/230V Input	
SW1	AC 125V 3A minimum (Inductive load)	AC 250V 1.5A minimum (Inductive load)	Switched Simultaneously
SW2			–

Three Phase



*** CCW Direction:**
Change any two connections between R, S and T.

Switch No.	Specifications	Note
SW1	AC 250V 1.5A minimum (Inductive load)	Switched Simultaneously

1) The direction of motor rotation is as viewed from the shaft end of the motor.
2) CW represents the clockwise direction, while CCW represents the counterclockwise direction.
3) SW1 operates both motor and electromagnetic brake action.
4) The electromagnetic brake will be released and the motor will rotate when SW1 is switched simultaneously to ON. When SW1 is switched simultaneously to OFF, the motor stops immediately with the electromagnetic brake and holds the load.
5) If you wish to release the brake while the motor is stopped, apply voltage between the two brake lead wires (yellow).
6) Ro and Co indicate CR circuit for surge suppression. [Ro=5~200Ω, Co=0.1~0.2μF, 200WV (400WV)]

120W Electromagnetic Brake Motor 120W(□90mm)

Motor Specification

Model 9BDG*–120F□: Gear Type Shaft 9BDD*–120F: D–Cut Type Shaft 9BDK*–120F: Key Type Shaft	Output W	Voltage V	Frequency Hz	Poles	Duty	Starting Torque kgfcm	 N.m	Rated Load Speed r/min	 Current A	 Torque kgfcm	 N.m	Capacitor μF / VAC
9BDGA–120F□	120	1ø110	60	4	30min.	7.60	0.760	1550	2.50	7.60	0.760	30.0 / 250
9BDGD–120F□	120	1ø220	60	4	30min.	6.60	0.660	1600	1.10	7.40	0.740	6.5 / 450
9BDGE–120F□	120	1ø220	50	4	30min.	6.40	0.640	1250	1.00	9.40	0.940	6.5 / 450
		1ø240				7.80	0.780		1.10	10.20	1.020	
9BDGG–120F□	120	3ø220	50	4	Cont.	22.00	2.200	1300	0.82	9.20	0.920	–
			60			20.00	2.000	1550	0.78	7.80	0.780	
9BDGK–120F□	120	3ø380	50	4	Cont.	25.00	2.500	1300	0.48	9.00	0.900	–
			60			20.00	2.000	1550	0.43	8.00	0.800	
		3ø400	50	4	Cont.	27.40	2.740	1300	0.53	9.80	0.980	
			60			21.80	2.180	1550	0.45	8.60	0.860	
		3ø415	50	4	Cont.	29.80	2.980	1300	0.57	10.00	1.000	
			60			23.80	2.380	1600	0.44	7.80	0.780	
		3ø440	50	4	Cont.	32.00	3.200	1350	0.64	8.80	0.880	
			60			26.80	2.680	1600	0.48	8.60	0.860	

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

Max. Permissible Torque at Output Shaft of Gearhead

60Hz

Motor Model	Gearhead Model	Gear Ratio	2	3	3.6	5	6	7.5	9	12.5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180
		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
9BDG□ –120FP	9PBK□BH 9PFK□BH	kgfcm	12.9	19.4	23.3	32.4	38.8	48.6	58.3	73.1	87.8	105.3	106.1	132.6	159.1	190.9	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0
		N.m	1.27	1.90	2.28	3.17	3.81	4.76	5.71	7.17	8.60	10.32	10.40	12.99	15.59	18.71	19.60	19.60	19.60	19.60	19.60	19.60	19.60	19.60	19.60
9BDG□ –120FH	9HBK□BH 9HFK□BH	kgfcm	–	19.4	23.3	–	38.8	–	58.3	73.1	87.8	105.3	106.1	132.6	159.1	190.9	–	265.2	300.0	300.0	300.0	300.0	300.0	300.0	300.0
		N.m		1.90	2.28		3.81		5.71	7.17	8.60	10.32	10.40	12.99	15.59	18.71		25.99	29.40	29.40	29.40	29.40	29.40	29.40	29.40

Motor Model	Gearhead Model	Gear Ratio	10	12	15	18	25	30	36	50	60
		r/min	180	150	120	100	72	60	50	36	30
9BDG□ –120FW	9WD□BL/ □BR/□BRL	kgfcm	60.7	71.0	85.5	98.6	129.5	146.5	153.1	142.9	122.4
		N.m	5.95	6.96	8.38	9.66	12.69	14.36	15.00	14.00	12.00

Motor Model	Gearhead Model	Gear Ratio	7.5	10	15	20	25	30	40	50	60	80
		r/min	240	180	120	90	72	60	45	36	30	22
9BDG□ –120FWH	9WHD□	kgfcm	49.1	63.2	88.9	112.3	128.7	149.8	183.7	173.5	163.3	132.7
		N.m	4.82	6.19	8.71	11.01	12.61	14.68	18.00	17.00	16.00	13.00

50Hz

Motor Model	Gearhead Model	Gear Ratio	2	3	3.6	5	6	7.5	9	12.5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180
		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
9BDG□ –120FP	9PBK□BH 9PFK□BH	kgfcm	15.6	23.4	28.1	39.0	46.8	58.5	70.2	88.1	105.8	126.9	127.8	159.8	191.8	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0
		N.m	1.53	2.29	2.75	3.82	4.59	5.73	6.88	8.64	10.36	12.44	12.53	15.66	18.79	19.60	19.60	19.60	19.60	19.60	19.60	19.60	19.60	19.60	19.60
9BDG□ –120FH	9HBK□BH 9HFK□BH	kgfcm	–	23.4	28.1	–	46.8	–	70.2	88.1	105.8	126.9	127.8	159.8	191.8	230.1	–	300.0	300.0	300.0	300.0	300.0	300.0	300.0	300.0
		N.m		2.29	2.75		4.59		6.88	8.64	10.36	12.44	12.53	15.66	18.79	22.55		29.40	29.40	29.40	29.40	29.40	29.40	29.40	29.40

Motor Model	Gearhead Model	Gear Ratio	10	12	15	18	25	30	36	50	60
		r/min	150	125	100	83	60	50	42	30	25
9BDG□ –120FW	9WD□BL/ □BR/□BRL	kgfcm	77.1	90.2	108.6	125.2	142.9	163.3	153.1	142.9	122.4
		N.m	7.55	8.84	10.64	12.27	14.00	16.00	15.00	14.00	12.00

Motor Model	Gearhead Model	Gear Ratio	7.5	10	15	20	25	30	40	50	60	80
		r/min	200	150	100	75	60	50	38	30	25	18
9BDG□ –120FWH	9WHD□	kgfcm	59.2	76.1	107.2	135.4	155.1	180.5	183.7	173.5	163.3	132.7
		N.m	5.80	7.46	10.50	13.27	15.20	17.69	18.00	17.00	16.00	13.00

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

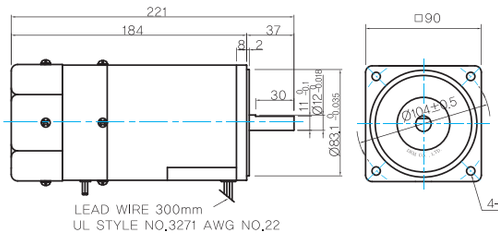
B AC Motors

E.M. Brake Motor 120W (□90mm)

Dimensions

MOTOR ONLY

● MOTOR MODEL:
9BDD□-120F (GENERAL FAN)



● MOTOR OUTPUT SHAFT

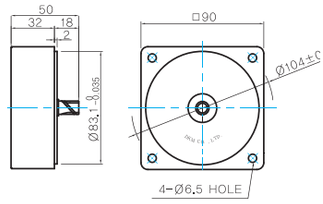
MODEL	SPEC
D-CUT TYPE	
9BDD□-120F	
KEY TYPE	
9BDK□-120F	

● KEY SPEC

MOTOR

INTER-DECIMAL GEARHEAD

● MODEL:
9XD10M□



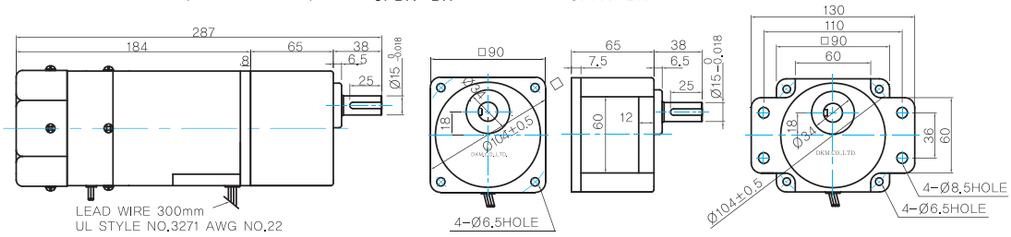
GEARED MOTOR

P TYPE GEARHEAD

● MOTOR MODEL:
9BDG□-120FP (GENERAL FAN)

● GEARHEAD MODEL:
9PBK□BH

● GEARHEAD MODEL:
9PFK□BH



● GEARHEAD OUTPUT SHAFT

MODEL	SPEC
KEY TYPE	
9PBK□BH 9PFK□BH	

● KEY SPEC

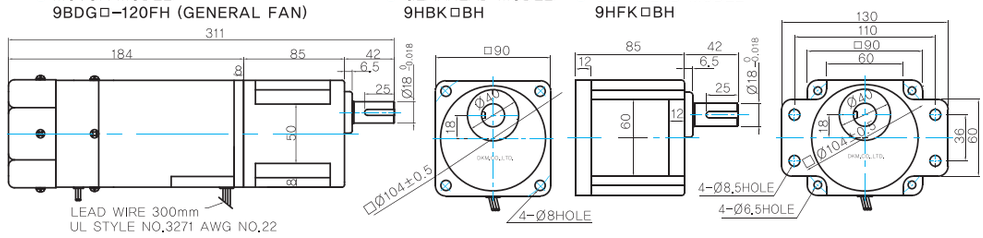
GEARHEAD

H TYPE GEARHEAD

● MOTOR MODEL:
9BDG□-120FH (GENERAL FAN)

● GEARHEAD MODEL:
9HBK□BH

● GEARHEAD MODEL:
9HFK□BH



● GEARHEAD OUTPUT SHAFT

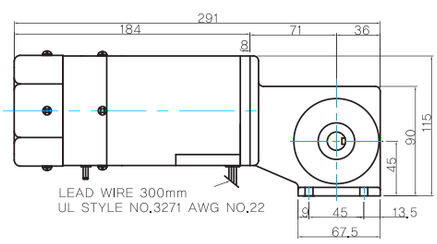
MODEL	SPEC
KEY TYPE	
9HBK□BH 9HFK□BH	

● KEY SPEC

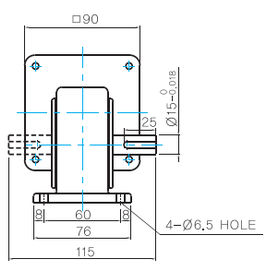
GEARHEAD

W TYPE GEARHEAD

● MOTOR MODEL:
9BDG□-120FW (GENERAL FAN)



● GEARHEAD MODEL:
9WD□BL/BR/BRL

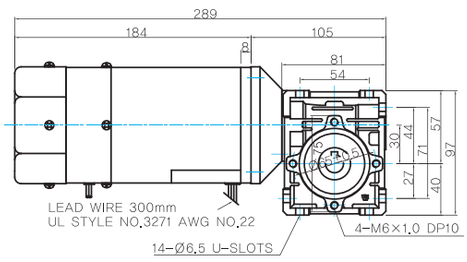


● KEY SPEC

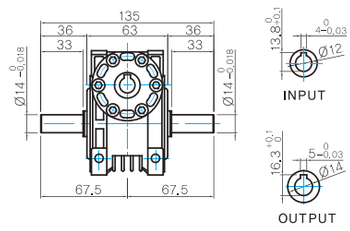
GEARHEAD

WH TYPE GEARHEAD

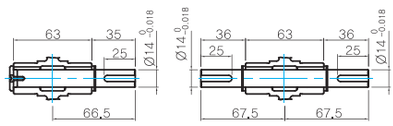
● MOTOR MODEL:
9BDG□-120FWH (GENERAL FAN)



● GEARHEAD MODEL:
9WHD□



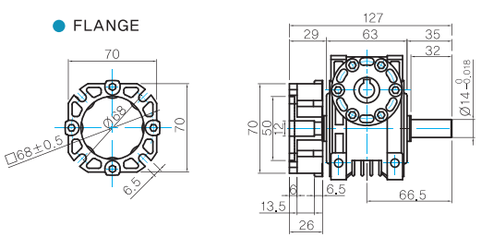
● SHAFT(Unidirectional, Bi-directional)



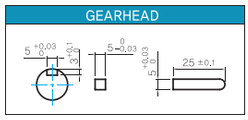
WEIGHT

PART		WEIGHT(Kg)
MOTOR		3.5
GEAR HEAD	9PB(F)K2BH ~ 9PB(F)K18BH	1.3
	9PB(F)K20BH ~ 9PB(F)K180BH	1.4
	9HB(F)K3BH ~ 9HB(F)K9BH	1.45
	9HB(F)K12.5BH ~ 9HB(F)K18BH	1.5
	9HB(F)K20BH ~ 9HB(F)K60BH	1.7
	9HB(F)K75BH ~ 9HB(F)K180BH	1.8
	9WD□BL/BR/BRL	1.0
	9WHD□	1.13
	9XD10M□	0.5

● FLANGE



● KEY SPEC



* The output flange and shafts are sold separately.

Motor Images

9BDD□-120F	9BDG□-120FP+9PBK□BH	9BDG□-120FP+9PFK□BH	9BDG□-120FH+9HBK□BH	9BDG□-120FH+9HFK□BH	9BDG□-120FW+9WD□BL
					

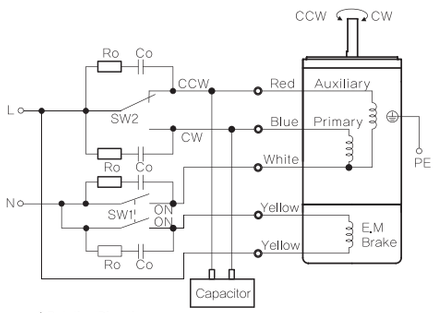
9BDG□-120FWH+9WHD□


B AC Motors

E.M. Brake Motor 120W (□90mm)

Connection Diagrams

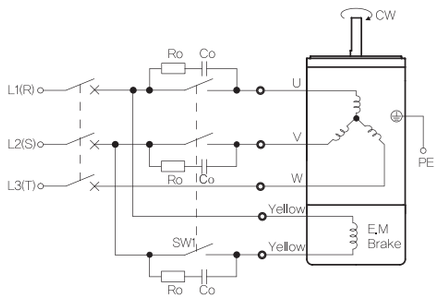
Single Phase



*** Rotation Direction:**
To rotate the motor in a clockwise (CW) direction, turn SW2 to CW.
To rotate the motor in a counterclockwise (CCW) direction, turn SW2 to CCW.

Switch No.	Specifications		Note
	Single Phase 110V/115V Input	Single Phase 220V/230V Input	
SW1	AC 125V 3A minimum (Inductive load)	AC 250V 1.5A minimum (Inductive load)	Switched Simultaneously
SW2			–

Three Phase



*** CCW Direction:**
Change any two connections between R, S and T.

Switch No.	Specifications	Note
SW1	AC 250V 1.5A minimum (Inductive load)	Switched Simultaneously

1) The direction of motor rotation is as viewed from the shaft end of the motor.
2) CW represents the clockwise direction, while CCW represents the counterclockwise direction.
3) SW1 operates both motor and electromagnetic brake action.
4) The electromagnetic brake will be released and the motor will rotate when SW1 is switched simultaneously to ON. When SW1 is switched simultaneously to OFF, the motor stops immediately with the electromagnetic brake and holds the load.
5) If you wish to release the brake while the motor is stopped, apply voltage between the two brake lead wires (yellow).
6) Ro and Co indicate CR circuit for surge suppression. [Ro=5~200Ω, Co=0.1~0.2μF, 200WV (400WV)]

150W Electromagnetic Brake Motor 150W(□90mm)

Motor Specification

Model 9BDG*-150F□: Gear Type Shaft 9BDD*-150F: D-Cut Type Shaft 9BDK*-150F: Key Type Shaft	Output W	Voltage V	Frequency Hz	Poles	Duty	Starting Torque		Rated Load				Capacitor
								Speed	Current	Torque		
						kgfcm	N.m	r/min	A	kgfcm	N.m	μF / VAC
9BDGG-150F□	150	3ø220	50	4	Cont.	22.00	2.200	1300	1.00	11.30	1.130	–
			60			19.00	1.900	1550	0.90	9.40	0.940	
9BDGK-150F□	150	3ø380	50	4	Cont.	18.00	1.800	1250	0.46	11.70	1.170	–
			60			15.00	1.500	1500	0.42	9.70	0.970	
		3ø400	50	4	Cont.	19.00	1.900	1250	0.49	11.70	1.170	
			60			16.00	1.600	1500	0.43	9.70	0.970	

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

Max. Permissible Torque at Output Shaft of Gearhead

60Hz

Motor Model	Gearhead Model	Gear Ratio	3	3.6	6	9	12.5	15	18	20	25	30	36	50	60	75	90	100	120	150	180
		r/min	600	500	300	200	144	120	100	90	72	60	50	36	30	24	20	18	15	12	10
9BDG□ -150FH	9HBK□BH 9HFK□BH	kgfcm	24.2	29.0	48.3	72.5	90.9	109.1	131.0	131.9	164.9	197.9	237.5	300.0	300.0	300.0	300.0	300.0	300.0	300.0	300.0
		N.m	2.37	2.84	4.73	7.10	8.91	10.69	12.83	12.93	16.16	19.39	23.27	29.40	29.40	29.40	29.40	29.40	29.40	29.40	29.40

Motor Model	Gearhead Model	Gear Ratio	7.5	10	15	20	25	30	40	50	60	80
		r/min	240	180	120	90	72	60	45	36	30	22
9BDG□ -150FWH	9WHD□	kgfcm	61.1	78.6	110.6	139.7	160.1	186.2	183.7	173.5	163.3	132.7
		N.m	5.99	7.70	10.84	13.69	15.68	18.25	18.00	17.00	16.00	13.00

50Hz

Motor Model	Gearhead Model	Gear Ratio	3	3.6	6	9	12.5	15	18	20	25	30	36	50	60	75	90	100	120	150	180
		r/min	500	417	250	167	120	100	83	75	60	50	42	30	25	20	17	15	13	10	8
9BDG□ -150FH	9HBK□BH 9HFK□BH	kgfcm	28.1	33.8	56.3	84.4	105.9	127.1	152.6	153.7	192.1	230.5	276.6	300.0	300.0	300.0	300.0	300.0	300.0	300.0	300.0
		N.m	2.76	3.31	5.51	8.27	10.38	12.46	14.95	15.06	18.83	22.59	27.11	29.40	29.40	29.40	29.40	29.40	29.40	29.40	29.40

Motor Model	Gearhead Model	Gear Ratio	7.5	10	15	20	25	30	40	50	60	80
		r/min	200	150	100	75	60	50	38	30	25	18
9BDG□ -150FWH	9WHD□	kgfcm	71.2	91.5	128.8	162.7	186.5	204.1	183.7	173.5	163.3	132.7
		N.m	6.98	8.97	12.62	15.95	18.27	20.00	18.00	17.00	16.00	13.00

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

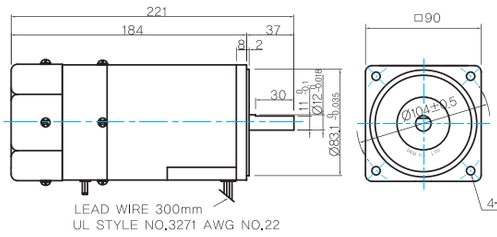
B AC Motors

E.M. Brake Motor 150W (□90mm)

Dimensions

MOTOR ONLY

● MOTOR MODEL:
9BDD□–150F (GENERAL FAN)



● MOTOR OUTPUT SHAFT

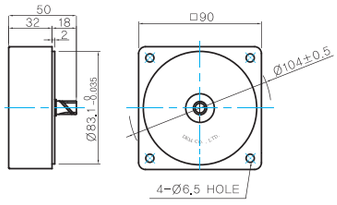
MODEL	SPEC
D-CUT TYPE	
9BDD□–150F	
KEY TYPE	
9BDK□–150F	

● KEY SPEC

MOTOR

INTER-DECIMAL GEARHEAD

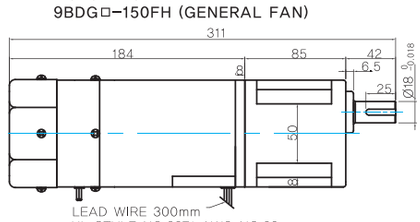
● MODEL:
9XD10M□



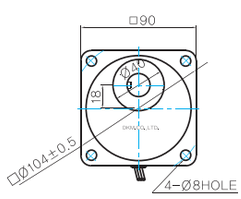
GEARED MOTOR

H TYPE GEARHEAD

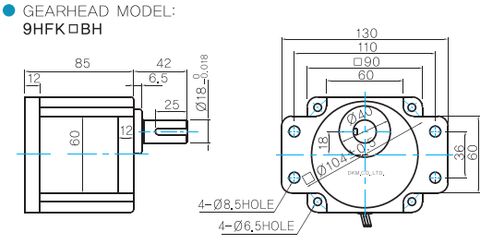
● MOTOR MODEL:
9BDG□–150FH (GENERAL FAN)



● GEARHEAD MODEL:
9HBK□BH



● GEARHEAD MODEL:
9HFK□BH



● GEARHEAD OUTPUT SHAFT

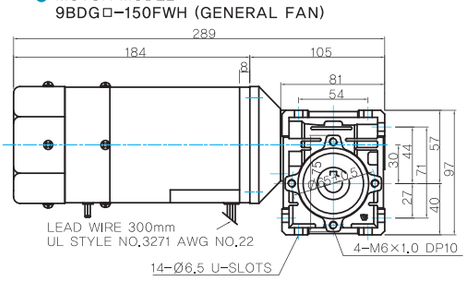
MODEL	SPEC
KEY TYPE	
9HBK□BH 9HFK□BH	

● KEY SPEC

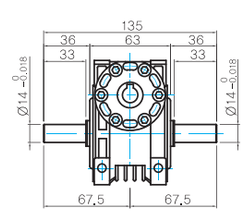
GEARHEAD

WH TYPE GEARHEAD

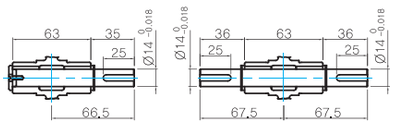
● MOTOR MODEL:
9BDG□–150FWH (GENERAL FAN)



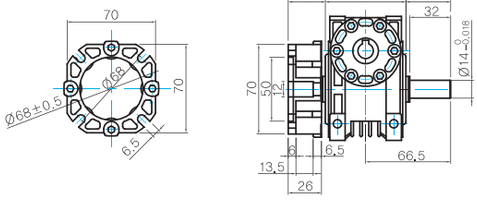
● GEARHEAD MODEL:
9WHD□



● SHAFT(Unidirectional, Bi-directional)



● FLANGE



● KEY SPEC

GEARHEAD

WEIGHT

PART		WEIGHT(Kg)
MOTOR		3.5
GEAR HEAD	9HB(F)K3BH ~ 9HB(F)K9BH	1.45
	9HB(F)K12.5BH ~ 9HB(F)K18BH	1.5
	9HB(F)K20BH ~ 9HB(F)K60BH	1.7
	9HB(F)K75BH ~ 9HB(F)K180BH	1.8
	9WHD□	1.13
	9XD10M□	0.5

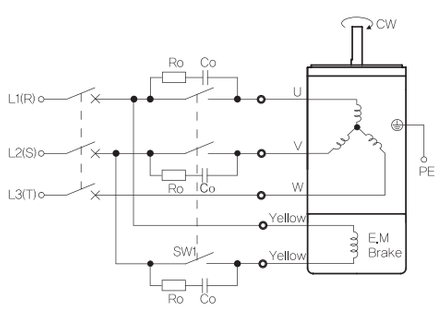
* The output flange and shafts are sold separately.

Motor Images

9BDD□-150F	9BDG□-150FH+9HBK□BH	9BDG□-150FH+9HFK□BH	9BDG□-150FWH+9WHD□
			

Connection Diagrams

Three Phase



*** CCW Direction:**
Change any two connections between R, S and T.

Switch No.	Specifications	Note
SW1	AC 250V 1.5A minimum (Inductive load)	Switched Simultaneously

1) The direction of motor rotation is as viewed from the shaft end of the motor.
2) CW represents the clockwise direction, while CCW represents the counterclockwise direction.
3) SW1 operates both motor and electromagnetic brake action.
4) The electromagnetic brake will be released and the motor will rotate when SW1 is switched simultaneously to ON.
   When SW1 is switched simultaneously to OFF,
   the motor stops immediately with the electromagnetic brake and holds the load.
5) If you wish to release the brake while the motor is stopped, apply voltage between the two brake lead wires (yellow).
6) Ro and Co indicate CR circuit for surge suppression. [Ro=5~200Ω, Co=0.1~0.2μF, 200WV (400WV)]

B AC Motors

E.M. Brake Motor 180W (□90mm)

180W Electromagnetic Brake Motor 180W(□90mm)

Motor Specification

Model 9BDG*-180F□: Gear Type Shaft 9BDD*-180F: D-Cut Type Shaft 9BDK*-180F: Key Type Shaft	Output W	Voltage V	Frequency Hz	Poles	Duty	Starting Torque kgfcm	 N.m	Rated Load Speed r/min	 Current A	 Torque kgfcm	 N.m	Capacitor μF / VAC
9BDGD-180F□	180	1ø220	60	4	30min.	7.40	0.740	1550	1.60	11.40	1.140	8.0 / 450
9BDGE-180F□	180	1ø220	50	4	30min.	7.00	0.700	1250	1.50	14.00	1.400	8.0 / 450
		1ø240				7.80	0.780		1.60	14.80	1.480	

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

Max. Permissible Torque at Output Shaft of Gearhead

60Hz

Motor Model	Gearhead Model	Gear Ratio	3	3.6	6	9	12.5	15	18	20	25	30	36	50	60	75	90	100	120	150	180
		r/min	600	500	300	200	144	120	100	90	72	60	50	36	30	24	20	18	15	12	10
9BDG□ -180FH	9HBK□BH 9HFK□BH	kgfcm	28.4	34.1	56.8	85.2	106.9	128.3	153.9	155.0	193.8	232.6	279.1	300.0	300.0	300.0	300.0	300.0	300.0	300.0	300.0
		N.m	2.78	3.34	5.56	8.35	10.47	12.57	15.08	15.19	18.99	22.79	27.35	29.40	29.40	29.40	29.40	29.40	29.40	29.40	29.40

Motor Model	Gearhead Model	Gear Ratio	7.5	10	15	20	25	30	40	50	60	80
		r/min	240	180	120	90	72	60	45	36	30	22
9BDG□-180FWH	9WHD□	kgfcm	71.8	92.3	130.0	164.2	188.1	204.1	183.7	173.5	163.3	132.7
		N.m	7.04	9.05	12.74	16.09	18.43	20.00	18.00	17.00	16.00	13.00

50Hz

Motor Model	Gearhead Model	Gear Ratio	3	3.6	6	9	12.5	15	18	20	25	30	36	50	60	75	90	100	120	150	180
		r/min	500	417	250	167	120	100	83	75	60	50	42	30	25	20	17	15	13	10	8
9BDG□ -180FH	9HBK□BH 9HFK□BH	kgfcm	36.9	44.2	73.7	110.6	138.8	166.5	199.8	201.3	251.6	300.0	300.0	300.0	300.0	300.0	300.0	300.0	300.0	300.0	300.0
		N.m	3.61	4.33	7.22	10.83	13.60	16.32	19.58	19.73	24.66	29.40	29.40	29.40	29.40	29.40	29.40	29.40	29.40	29.40	29.40

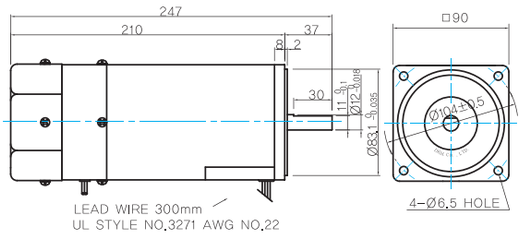
Motor Model	Gearhead Model	Gear Ratio	7.5	10	15	20	25	30	40	50	60	80
		r/min	200	150	100	75	60	50	38	30	25	18
9BDG□-180FWH	9WHD□	kgfcm	93.2	119.9	168.7	183.7	214.3	204.1	183.7	173.5	163.3	132.7
		N.m	9.14	11.75	16.53	18.00	21.00	20.00	18.00	17.00	16.00	13.00

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

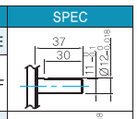
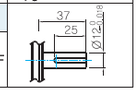
Dimensions

MOTOR ONLY

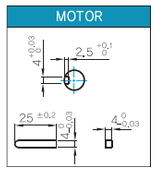
● MOTOR MODEL:
9BDD□-180F (GENERAL FAN)



● MOTOR OUTPUT SHAFT

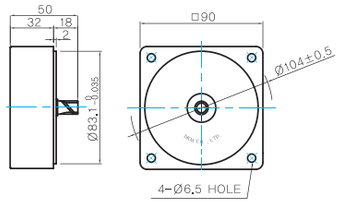
MODEL	SPEC
D-CUT TYPE	
9BDD□-180F	
KEY TYPE	
9BDK□-180F	

● KEY SPEC

MOTOR


INTER-DECIMAL GEARHEAD

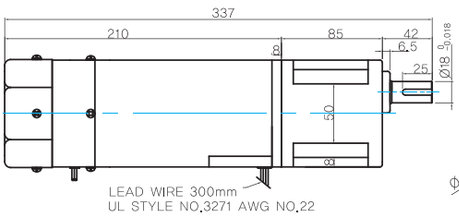
● MODEL:
9XD10M□



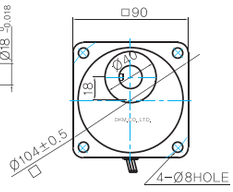
GEARED MOTOR

H TYPE GEARHEAD

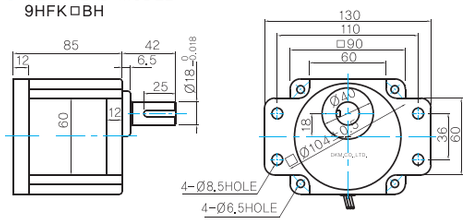
● MOTOR MODEL:
9BDG□-180FH (GENERAL FAN)



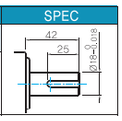
● GEARHEAD MODEL:
9HBK□BH



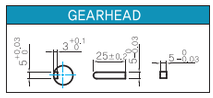
● GEARHEAD MODEL:
9HFK□BH



● GEARHEAD OUTPUT SHAFT

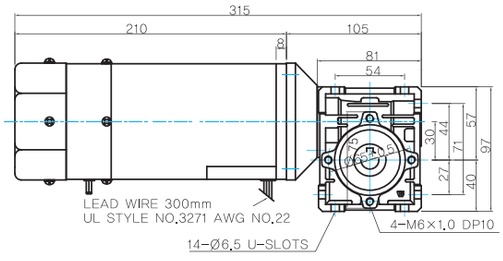
MODEL	SPEC
KEY TYPE	
9HBK□BH 9HFK□BH	

● KEY SPEC

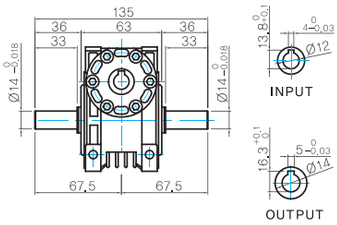
GEARHEAD


WH TYPE GEARHEAD

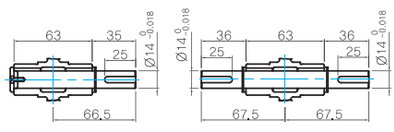
● MOTOR MODEL:
9BDG□-180FWH (GENERAL FAN)



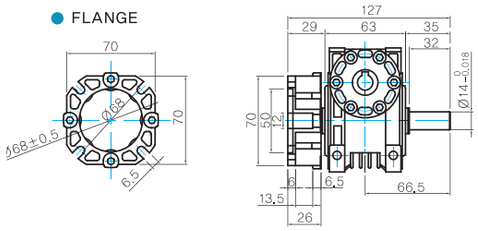
● GEARHEAD MODEL:
9WHD□



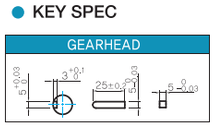
● SHAFT(Unidirectional, Bi-directional)



● FLANGE



● KEY SPEC

GEARHEAD


WEIGHT

PART		WEIGHT(Kg)
MOTOR		4.3
GEAR HEAD	9HB(F)K3BH ~ 9HB(F)K9BH	1.45
	9HB(F)K12.5BH ~ 9HB(F)K18BH	1.5
	9HB(F)K20BH ~ 9HB(F)K60BH	1.7
	9HB(F)K75BH ~ 9HB(F)K180BH	1.8
	9WHD□	1.13
	9XD10M□	0.5

* The output flange and shafts are sold separately.

B AC Motors

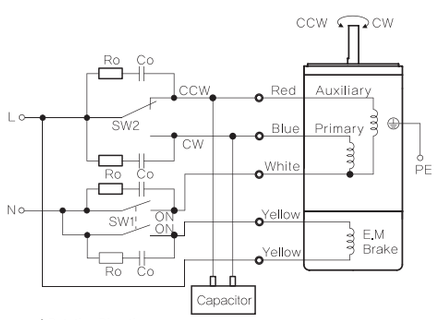
E.M. Brake Motor 180W (□90mm)

Motor Images

9BDD□-180F	9BDG□-180FH+9HBK□BH	9BDG□-180FH+9HFK□BH	9BDG□-180FWH+9WHD□
			

Connection Diagrams

Single Phase



* **Rotation Direction:**
To rotate the motor in a clockwise (CW) direction, turn SW2 to CW.
To rotate the motor in a counterclockwise (CCW) direction, turn SW2 to CCW.

Switch No.	Specifications		Note
	Single Phase 110V/115V Input	Single Phase 220V/230V Input	
SW1	AC 125V 3A minimum (Inductive load)	AC 250V 1.5A minimum (Inductive load)	Switched Simultaneously
SW2			–

1) The direction of motor rotation is as viewed from the shaft end of the motor.
2) CW represents the clockwise direction, while CCW represents the counterclockwise direction.
3) SW1 operates both motor and electromagnetic brake action.
4) The electromagnetic brake will be released and the motor will rotate when SW1 is switched simultaneously to ON. When SW1 is switched simultaneously to OFF, the motor stops immediately with the electromagnetic brake and holds the load.
5) If you wish to release the brake while the motor is stopped, apply voltage between the two brake lead wires (yellow).
6) Ro and Co indicate CR circuit for surge suppression. [Ro=5~200Ω, Co=0.1~0.2μF, 200WV (400WV)]

200W Electromagnetic Brake Motor 200W(□90mm)

Motor Specification

Model 9BDG*-200F□: Gear Type Shaft 9BDD*-200F: D-Cut Type Shaft 9BDK*-200F: Key Type Shaft	Output W	Voltage V	Frequency Hz	Poles	Duty	Starting Torque kgfcm	 N.m	Rated Load Speed r/min	 Current A	 Torque kgfcm	 N.m	Capacitor μF / VAC
9BDGG-200F□	200	3ø220	50	4	Cont.	38.00	3.800	1300	1.40	15.00	1.500	–
			60			30.00	3.000	1550	1.20	13.00	1.300	
9BDGK-200F□	200	3ø380	50	4	Cont.	26.00	2.600	1300	0.69	15.00	1.500	–
			60			22.00	2.200	1550	0.61	12.80	1.280	
		3ø400	50	4	Cont.	30.00	3.000	1300	0.75	15.00	1.500	
			60			25.00	2.500	1600	0.60	12.20	1.220	

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

Max. Permissible Torque at Output Shaft of Gearhead

60Hz

Motor Model	Gearhead Model	Gear Ratio	3	3.6	6	9	12.5	15	18	20	25	30	36	50	60	75	90	100	120	150	180
		r/min	600	500	300	200	144	120	100	90	72	60	50	36	30	24	20	18	15	12	10
9BDG□ -200FH	9HBK□BH 9HFK□BH	kgfcm	32.4	38.8	64.7	97.1	121.9	146.3	175.5	176.8	221.0	265.2	300.0	300.0	300.0	300.0	300.0	300.0	300.0	300.0	300.0
		N.m	3.17	3.81	6.34	9.52	11.94	14.33	17.20	17.33	21.66	25.99	29.40	29.40	29.40	29.40	29.40	29.40	29.40	29.40	29.40

Motor Model	Gearhead Model	Gear Ratio	7.5	10	15	20	25	30	40	50	60	80
		r/min	240	180	120	90	72	60	45	36	30	22
9BDG□ -200FWH	9WHD□	kgfcm	81.9	105.3	148.2	183.7	214.3	204.1	183.7	173.5	163.3	132.7
		N.m	8.03	10.32	14.52	18.00	21.00	20.00	18.00	17.00	16.00	13.00

50Hz

Motor Model	Gearhead Model	Gear Ratio	3	3.6	6	9	12.5	15	18	20	25	30	36	50	60	75	90	100	120	150	180
		r/min	500	417	250	167	120	100	83	75	60	50	42	30	25	20	17	15	13	10	8
9BDG□ -200FH	9HBK□BH 9HFK□BH	kgfcm	37.4	44.8	74.7	112.1	140.6	168.8	202.5	204.0	255.0	300.0	300.0	300.0	300.0	300.0	300.0	300.0	300.0	300.0	300.0
		N.m	3.66	4.39	7.32	10.98	13.78	16.54	19.85	19.99	24.99	29.40	29.40	29.40	29.40	29.40	29.40	29.40	29.40	29.40	29.40

Motor Model	Gearhead Model	Gear Ratio	7.5	10	15	20	25	30	40	50	60	80
		r/min	200	150	100	75	60	50	38	30	25	18
9BDG□ -200FWH	9WHD□	kgfcm	94.5	121.5	171	183.7	214.3	204.1	183.7	173.5	163.3	132.7
		N.m	9.26	11.91	16.76	18.00	21.00	20.00	18.00	17.00	16.00	13.00

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

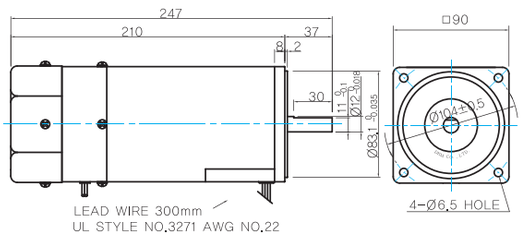
B AC Motors

E.M. Brake Motor 200W (□90mm)

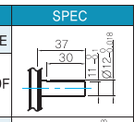
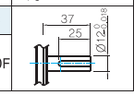
Dimensions

MOTOR ONLY

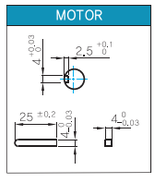
● MOTOR MODEL:
9BDD□-200F (GENERAL FAN)



● MOTOR OUTPUT SHAFT

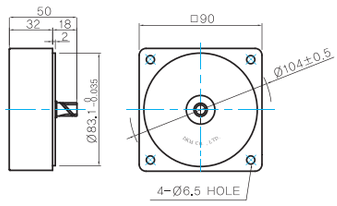
MODEL	SPEC
D-CUT TYPE	
9BDD□-200F	
KEY TYPE	
9BDK□-200F	

● KEY SPEC

MOTOR


INTER-DECIMAL GEARHEAD

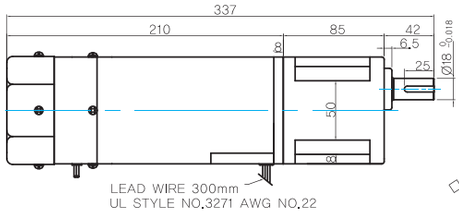
● MODEL:
9XD10M□



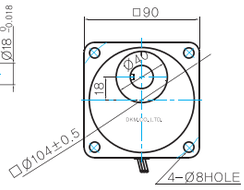
GEARED MOTOR

H TYPE GEARHEAD

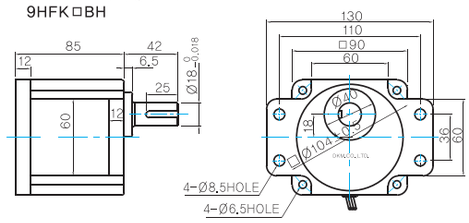
● MOTOR MODEL:
9BDG□-200FH (GENERAL FAN)



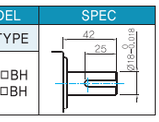
● GEARHEAD MODEL:
9HBK□BH



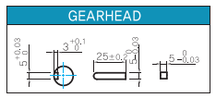
● GEARHEAD MODEL:
9HFK□BH



● GEARHEAD OUTPUT SHAFT

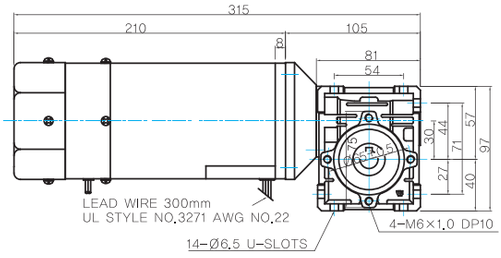
MODEL	SPEC
KEY TYPE	
9HBK□BH 9HFK□BH	

● KEY SPEC

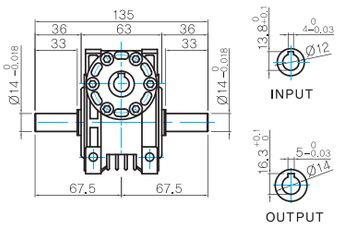
GEARHEAD


WH TYPE GEARHEAD

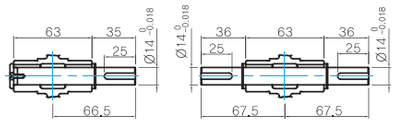
● MOTOR MODEL:
9BDG□-200FWH (GENERAL FAN)



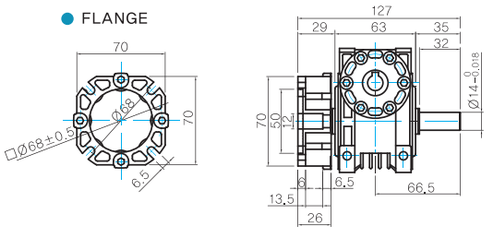
● GEARHEAD MODEL:
9WHD□



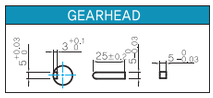
● SHAFT(Unidirectional, Bi-directional)



● FLANGE



● KEY SPEC

GEARHEAD


WEIGHT

PART		WEIGHT(Kg)
MOTOR		4.3
GEAR HEAD	9HB(F)K3BH ~ 9HB(F)K9BH	1.45
	9HB(F)K12.5BH ~ 9HB(F)K18BH	1.5
	9HB(F)K20BH ~ 9HB(F)K60BH	1.7
	9HB(F)K75BH ~ 9HB(F)K180BH	1.8
	9WHD□	1.13
	9XD10M□	0.5

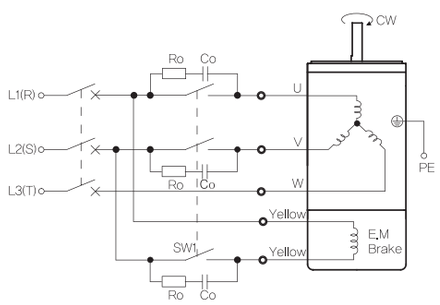
* The output flange and shafts are sold separately.

Motor Images

9BDD□-200F	9BDG□-200FH+9HBK□BH	9BDG□-200FH+9HFK□BH	9BDG□-200FWH+9WHD□
			

Connection Diagrams

Three Phase



*** CCW Direction:**
Change any two connections between R, S and T.

Switch No.	Specifications	Note
SW1	AC 250V 1.5A minimum (Inductive load)	Switched Simultaneously

1) The direction of motor rotation is as viewed from the shaft end of the motor.
2) CW represents the clockwise direction, while CCW represents the counterclockwise direction.
3) SW1 operates both motor and electromagnetic brake action.
4) The electromagnetic brake will be released and the motor will rotate when SW1 is switched simultaneously to ON.
   When SW1 is switched simultaneously to OFF,
   the motor stops immediately with the electromagnetic brake and holds the load.
5) If you wish to release the brake while the motor is stopped, apply voltage between the two brake lead wires (yellow).
6) Ro and Co indicate CR circuit for surge suppression. [Ro=5~200Ω, Co=0.1~0.2μF, 200WV (400WV)]