

B AC Motors

Outline of Clutch & Brake

Clutch & Brake Mechanism

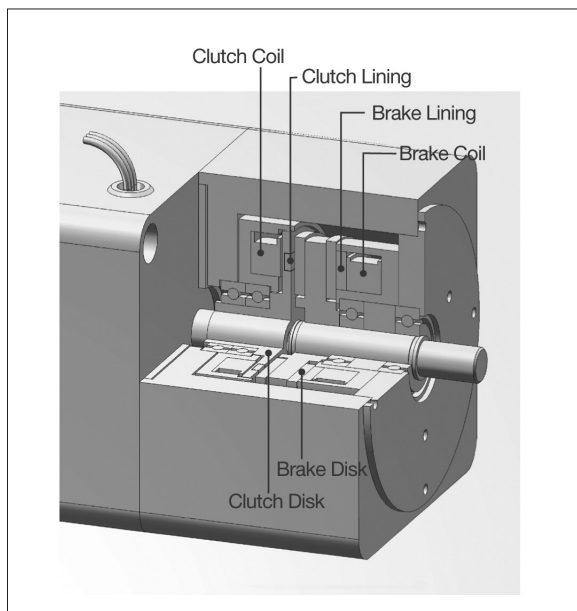
An internal clutch & brake mechanism for use with a gearbox is employed in clutch & brake motor. By the combination of a constantly rotating induction motor and a clutch and brake unit, the function of frequent start/stop, positioning, indexing, jogging and incremental feeding are available.

DKM's clutch & brake motor is designed for the quicker response time and higher torque to move the load. To meet high-frequency, starting and stopping applications, DKM uses induction motor for its continuous duty rating. So clutch & brake motor is not suitable for frequent bi-directional starting and stopping motion but suitable for unidirectional movement.

※ Run/Stop Operation is possible less than 100 times per minute.

Structure and Mechanism

Output shaft is controlled by the use of the clutch and brake mechanism.



Run

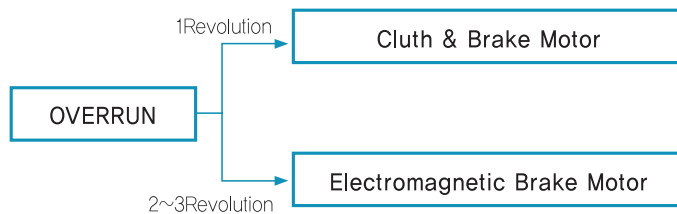
When the 24 VDC is applied to the clutch coil, the armature of the clutch coil is drawn to the clutch plate. And the rotational force of the motor is transmitted to the output shaft of the gearbox.

Stopping and Load Holding

By removing the 24 VDC from the clutch coil and, after a certain time lag, applying the 24 VDC to the brake coil, the output shaft will come to a stop.

During braking the output shaft is released from the motor shaft, so the shaft may be stopped without being influenced by motor inertia. The motor will continue to rotate.

Brake Motor Selecting [Selecting from stopping accuracy]



* The OVERRUN varies depending on the type of motor.

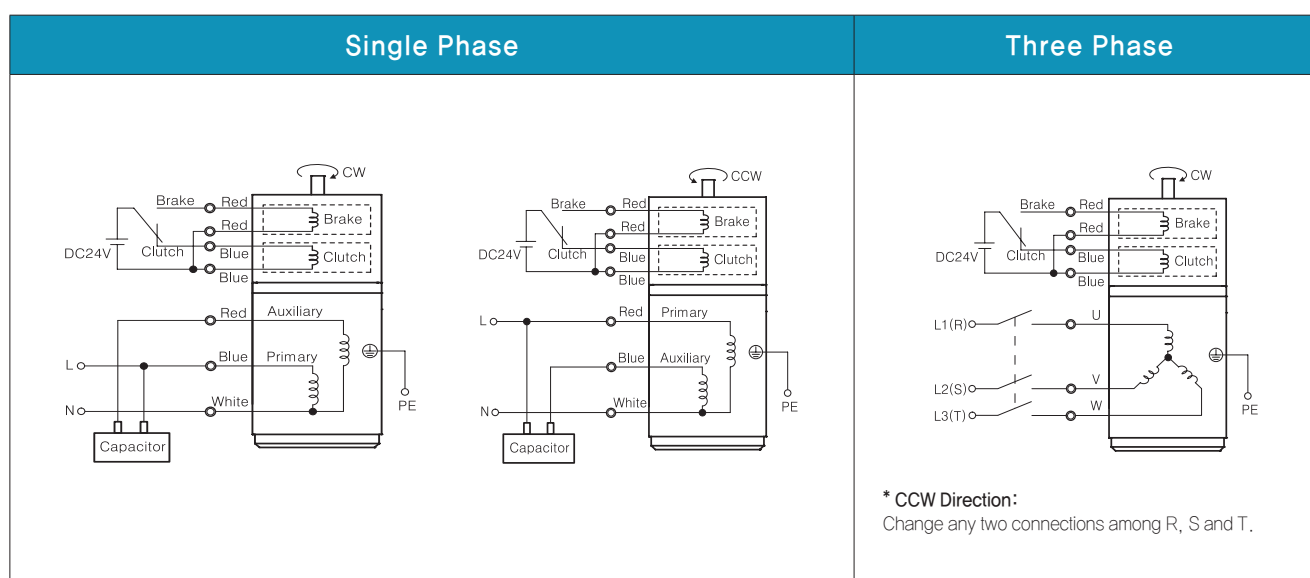
General Specifications

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

Clutch & Brake Specification

Model		Voltage (V)	Current (A)	Input (W)	Brake Torque (N.m)
□ 80mm C&B	Clutch	DC24	0.354	8.5	15
	Brake	DC24	0.253	6.1	15
□ 90mm C&B	Clutch	DC24	0.354	8.5	15
	Brake	DC24	0.253	6.1	15

Connection Diagrams



B AC Motors

Clutch & Brake Motor 15W (□ 80mm)

15W

Clutch & Brake Motor
15W(□ 80mm)

Motor Image



Motor Specification

Model 8CIDG*-15G: Gear Type Shaft	Output W	Voltage V	Frequency Hz	Poles	Duty	Starting Torque kgfcm N.m		Rated Load			Capacitor μF / VAC	
								Speed r/min	Current A	Torque kgfcm N.m		
Lead Wire Type												
8CIDG1(A)-15G	15	1φ110	60	4	Cont.	0.95	0.095	1600	0.54	0.92	0.092	3.5 / 250
8CIDG2(D)-15G	15	1φ220	60	4	Cont.	1.25	0.125	1600	0.23	0.92	0.092	1.2 / 450
8CIDGE-15G	15	1φ220	50	4	Cont.	1.05	0.105	1300	0.23	1.13	0.113	1.0 / 450
		1φ240				1.27	0.127		0.25	1.13	0.113	
8CIDG3(G)-15G	15	3φ220	50	4	Cont.	7.61	0.761	1350	0.29	1.09	0.109	-
			60			6.15	0.615	1600	0.26	0.92	0.092	
		3φ230	50	4	Cont.	8.25	0.825	1350	0.32	1.09	0.109	
			60			6.72	0.672	1600	0.28	0.92	0.092	
8CIDG4(K)-15G	15	3φ380	50	4	Cont.	5.70	0.570	1350	0.12	1.09	0.109	-
			60			4.53	0.453	1600	0.11	0.92	0.092	
		3φ400	50	4	Cont.	6.26	0.626	1350	0.13	1.09	0.109	
			60			5.03	0.503	1600	0.12	0.92	0.092	
8CIDG5(L)-15G	15	3φ415	50	4	Cont.	6.68	0.668	1350	0.14	1.09	0.109	-
			60			5.40	0.540	1600	0.12	0.92	0.092	
		3φ440	50	4	Cont.	7.39	0.739	1350	0.15	1.09	0.109	
			60			6.02	0.602	1600	0.13	0.92	0.092	

1) Enter the phase & voltage code in the place * within the motor model name.

2) The phase & voltage code A, D, E, G, K, L contain a built-in thermal protector.

3) For using clutch & brake motor, the gearbox has to be attached. (Output shaft of motor: Gear Type Shaft)

※ It is not possible to use an inverter for three phase 380~440V motor. When the inverter is used, the insulation of winding coil becomes hot and may cause damage to the motor.

Max. Permissible Torque at Output Shaft of Gearbox

60Hz

Motor Model	Gearbox Model	Gear Ratio r/min	3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	40	50	60	75	90	100	120
8CIDG*-15G	8GBK□ BMH	kgfcm	2.2	2.7	3.7	4.5	5.6	6.7	7.5	9.3	11.2	13.4	13.4	16.8	20.1	24.0	26.7	30.4	36.4	45.5	54.6	60.7	72.9
		N.m	0.22	0.26	0.37	0.44	0.55	0.66	0.73	0.91	1.10	1.31	1.32	1.65	1.97	2.35	2.61	2.98	3.57	4.46	5.36	5.95	7.14

Motor Model	Gearbox Model	Gear Ratio r/min	150	180	200	250	300	360
8CIDG*-15G	8GBK□ BMH	kgfcm	80.0	80.0	80.0	80.0	80.0	80.0
		N.m	7.84	7.84	7.84	7.84	7.84	7.84

50Hz

Motor Model	Gearbox Model	Gear Ratio r/min	3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	40	50	60	75	90	100	120
8CIDG*-15G	8GBK□ BMH	kgfcm	2.6	3.2	4.4	5.3	6.6	7.9	8.8	11.0	13.1	15.8	15.8	19.8	23.7	28.4	31.6	35.7	42.9	53.6	64.3	71.4	80.0
		N.m	0.26	0.31	0.43	0.52	0.64	0.77	0.86	1.07	1.29	1.55	1.55	1.94	2.32	2.79	3.10	3.50	4.20	5.25	6.30	7.00	7.84

Motor Model	Gearbox Model	Gear Ratio r/min	150	180	200	250	300	360
8CIDG*-15G	8GBK□ BMH	kgfcm	80.0	80.0	80.0	80.0	80.0	80.0
		N.m	7.84	7.84	7.84	7.84	7.84	7.84

1) Enter the phase & voltage code in the place * within the motor model name. 2) Enter the gear ratio in the box (□) within the gearbox 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.

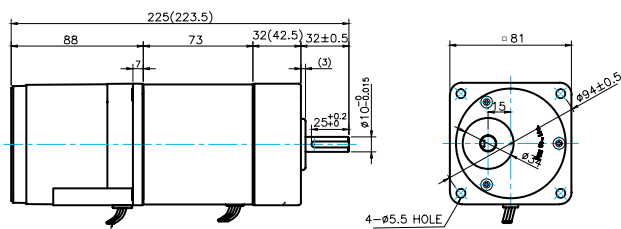
Dimensions

GEARED MOTOR

G TYPE GEARBOX

● MOTOR MODEL:
8CIDG□-15G

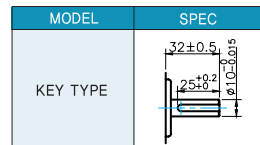
● GEARBOX MODEL:
8GBK□BMH



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

C&B LEADWIRE 300

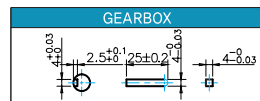
GEARBOX OUTPUT SHAFT



32(42.5)-Table1

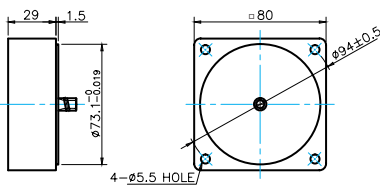
SIZE(mm)	GEAR RATIO
32	8GBK3BMH - 8GBK18BMH
42.5	8GBK20BMH - 8GBK360BMH

KEY SPEC



INTER-DECIMAL GEARBOX

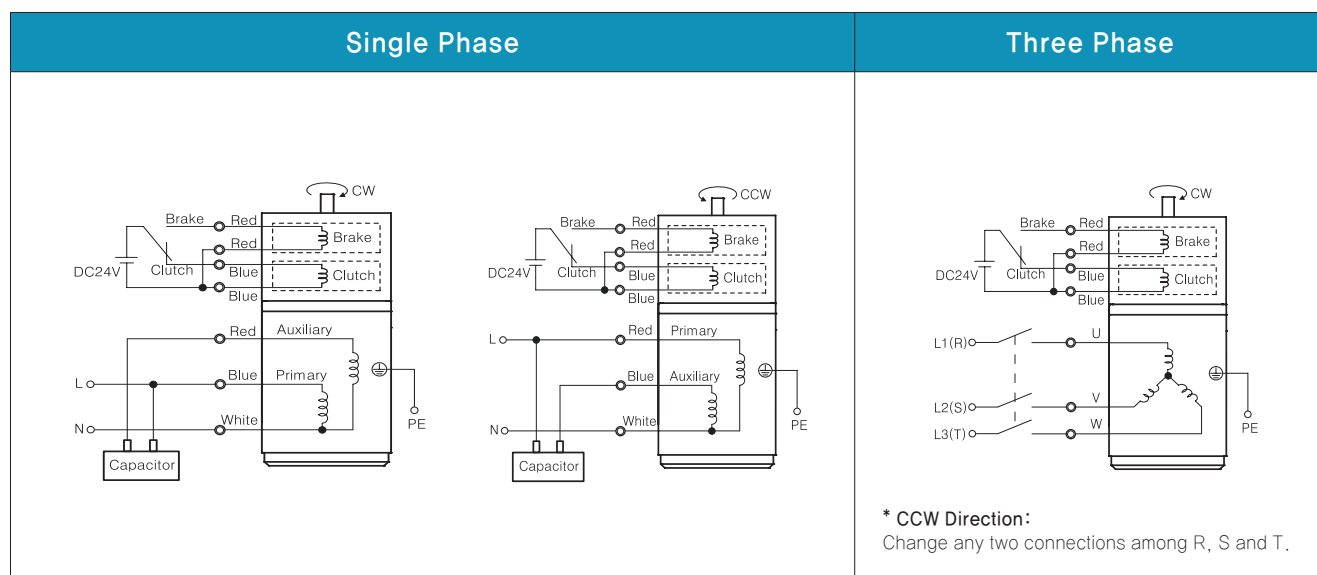
● MODEL:
8XD10□□



WEIGHT

PART	WEIGHT(Kg)	
MOTOR	2,73	
GEAR BOX	8GBK3BMH - 8GBK18BMH	0,56
	8GBK20BMH - 8GBK40BMH	0,65
	8GBK50BMH - 8GBK360BMH	0,72
	8XD10□□	0,45

Connection Diagrams



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

B AC Motors

Clutch & Brake Motor 25W (□ 80mm)

25W

Clutch & Brake Motor
25W(□ 80mm)

Motor Image



Motor Specification

Model 8CIDG*-25G: Gear Type Shaft	Output W	Voltage V	Frequency Hz	Poles	Duty	Starting Torque kgfcm N.m		Rated Load			Capacitor μF / VAC	
								Speed r/min	Current A	Torque kgfcm N.m		
Lead Wire Type												
8CIDG1(A)-25G	25	1φ110	60	4	Cont.	1.63	0.163	1600	0.55	1.55	0.155	6.0 / 250
8CIDG2(D)-25G	25	1φ220	60	4	Cont.	1.59	0.159	1550	0.27	1.60	0.160	1.5 / 450
8CIDGE-25G	25	1φ220	50	4	Cont.	1.57	0.157	1250	0.23	1.95	0.195	1.5 / 450
		1φ240				1.87	0.187		0.25	1.95	0.195	
8CIDG3(G)-25G	25	3φ220	50	4	Cont.	7.61	0.761	1350	0.29	1.85	0.185	-
			60			6.15	0.615	1600	0.26	1.55	0.155	
		3φ230	50	4	Cont.	8.25	0.825	1350	0.32	1.85	0.185	
			60			6.72	0.672	1600	0.28	1.55	0.155	
8CIDG4(K)-25G	25	3φ380	50	4	Cont.	5.70	0.570	1300	0.13	1.90	0.190	-
			60			4.53	0.453	1550	0.12	1.60	0.160	
		3φ400	50	4	Cont.	6.26	0.626	1300	0.14	1.90	0.190	
			60			5.03	0.503	1550	0.13	1.60	0.160	
8CIDG5(L)-25G	25	3φ415	50	4	Cont.	6.68	0.668	1300	0.15	1.90	0.190	-
			60			5.40	0.540	1550	0.13	1.60	0.160	
		3φ440	50	4	Cont.	7.39	0.739	1300	0.16	1.90	0.190	
			60			6.02	0.602	1550	0.14	1.60	0.160	

1) Enter the phase & voltage code in the place * within the motor model name.

2) The phase & voltage code A, D, E, G, K, L contain a built-in thermal protector.

3) For using clutch & brake motor, the gearbox has to be attached. (Output shaft of motor: Gear Type Shaft)

※ It is not possible to use an inverter for three phase 380~440V motor. When the inverter is used, the insulation of winding coil becomes hot and may cause damage to the motor.

Max. Permissible Torque at Output Shaft of Gearbox

60Hz

Motor Model	Gearbox Model	Gear Ratio	3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	40	50	60	75	90	100	120
8CIDG*-25G	8GBK□ BMH	kgfcm	3.7	4.4	6.2	7.4	9.2	11.1	12.3	15.4	18.5	22.2	22.2	27.8	33.3	40.0	44.4	50.2	60.3	80.0	80.0	80.0	80.0
		N.m	0.36	0.43	0.60	0.72	0.91	1.09	1.21	1.51	1.81	2.17	2.18	2.72	3.27	3.92	4.35	4.92	5.91	7.84	7.84	7.84	7.84

Motor Model	Gearbox Model	Gear Ratio	150	180	200	250	300	360
8CIDG*-25G	8GBK□ BMH	kgfcm	80.0	80.0	80.0	80.0	80.0	80.0
		N.m	7.84	7.84	7.84	7.84	7.84	7.84

50Hz

Motor Model	Gearbox Model	Gear Ratio	3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	40	50	60	75	90	100	120
8CIDG*-25G	8GBK□ BMH	kgfcm	4.4	5.3	7.3	8.8	11.0	13.1	14.6	18.3	21.9	26.3	26.3	32.9	39.5	47.4	52.7	59.5	80.0	80.0	80.0	80.0	80.0
		N.m	0.43	0.52	0.72	0.86	1.07	1.29	1.43	1.79	2.15	2.58	2.58	3.23	3.87	4.65	5.16	5.83	7.84	7.84	7.84	7.84	7.84

Motor Model	Gearbox Model	Gear Ratio	150	180	200	250	300	360
8CIDG*-25G	8GBK□ BMH	kgfcm	80.0	80.0	80.0	80.0	80.0	80.0
		N.m	7.84	7.84	7.84	7.84	7.84	7.84

1) Enter the phase & voltage code in the place * within the motor model name. 2) Enter the gear ratio in the box (□) within the gearbox model name.

3) A colored background indicates the gear shaft rotation in the same direction as the motor shaft; a white background indicates the 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

GEARED MOTOR

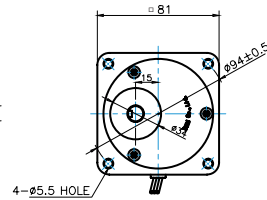
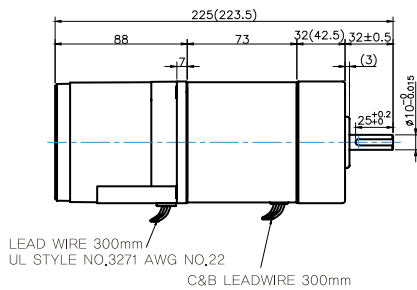
G TYPE GEARBOX

- MOTOR MODEL:
8CIDG□-25G

- GEARBOX MODEL:
8GBK□BMH

GEARBOX OUTPUT SHAFT

32(42.5)-Table1



MODEL	SPEC
KEY TYPE	

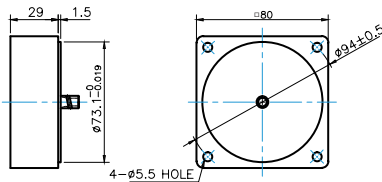
SIZE(mm)	GEAR RATIO
32	8GBK3BMH - 8GBK18BMH
42.5	8GBK20BMH - 8GBK360BMH

KEY SPEC

GEARBOX

INTER-DECIMAL GEARBOX

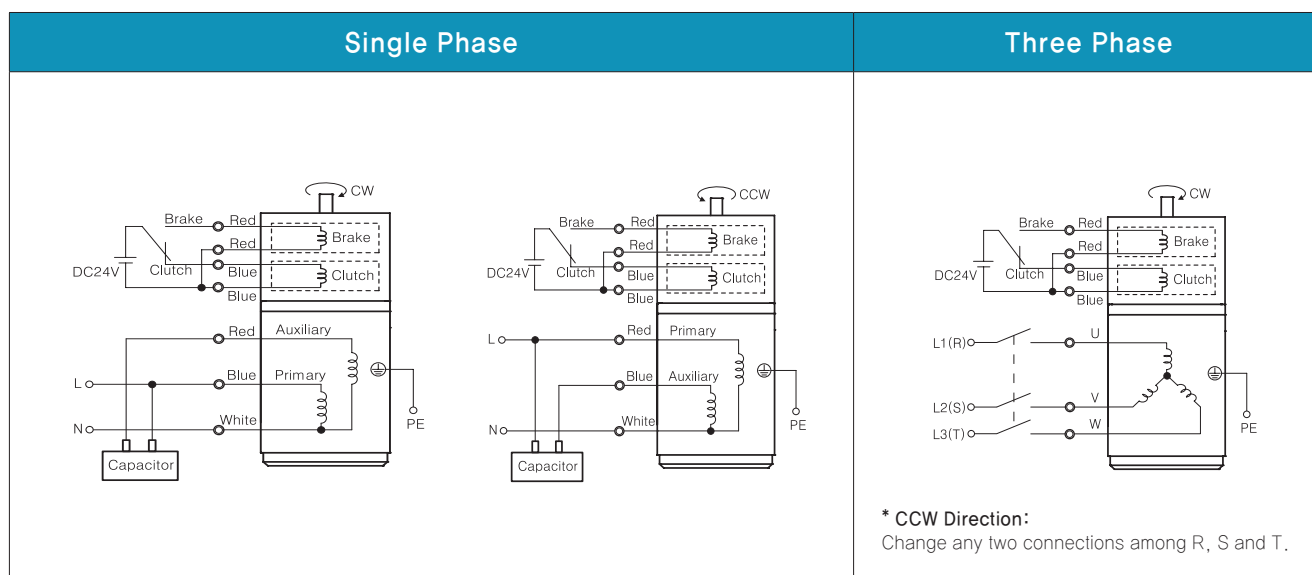
- MODEL:
8XD10□□



WEIGHT

PART	WEIGHT(Kg)	
MOTOR	2.73	
GEAR BOX	8GBK3BMH - 8GBK18BMH	0.56
	8GBK20BMH - 8GBK40BMH	0.65
	8GBK50BMH - 8GBK360BMH	0.72
	8XD10□□	0.45

Connection Diagrams



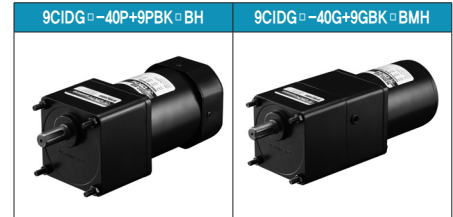
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B AC Motors

Clutch & Brake Motor 40W (□ 90mm)

40W Clutch & Brake Motor
40W(□ 90mm)

Motor Image



Motor Specification

Model 9CIDG*-40G: Gear Type Shaft	Output W	Voltage V	Frequency Hz	Poles	Duty	Starting Torque kgfcm N.m		Rated Load			Capacitor μF / VAC	
								Speed r/min	Current A	Torque kgfcm N.m		
9CIDG1(A)-40□	40	1φ110	60	4	Cont.	2.60	0.260	1600	0.80	2.50	0.244	10.0 / 250
9CIDG2(D)-40□	40	1φ220	60	4	Cont.	2.60	0.260	1600	0.45	2.50	0.244	2.5 / 450
9CIDGE-40□	40	1φ220	50	4	Cont.	2.10	0.210	1300	0.33	3.00	0.300	2.0 / 450
		1φ240				2.60	0.260		0.36	3.00	0.300	
9CIDG3(G)-40□	40	3φ220	50	4	Cont.	9.90	0.990	1350	0.33	2.90	0.289	-
			60			7.90	0.790	1600	0.31	2.50	0.244	
		3φ230	50	4	Cont.	10.80	1.080	1350	0.35	2.90	0.289	
			60			8.50	0.850	1600	0.33	2.50	0.244	
9CIDG4(K)-40□	40	3φ380	50	4	Cont.	10.20	1.020	1350	0.19	2.90	0.289	-
			60			8.00	0.800	1600	0.18	2.50	0.244	
		3φ400	50	4	Cont.	11.10	1.110	1350	0.20	2.90	0.289	
			60			8.80	0.880	1600	0.19	2.50	0.244	
9CIDG5(L)-40□	40	3φ415	50	4	Cont.	10.00	1.000	1350	0.17	2.90	0.289	-
			60			8.00	0.800	1600	0.16	2.50	0.244	
		3φ440	50	4	Cont.	11.10	1.110	1350	0.18	2.90	0.289	
			60			8.90	0.890	1600	0.17	2.50	0.244	

- 1) Enter the phase & voltage code in the place * within the motor model name.
 - 2) The phase & voltage code A, D, E, G, K, L contain a built-in thermal protector.
 - 3) For using clutch & brake motor, the gearbox has to be attached. (Output shaft of motor: Gear Type Shaft)
- ※ It is not possible to use an inverter for three phase 380~440V motor. When the inverter is used, the insulation of winding coil becomes hot and may cause damage to the motor.

Max. Permissible Torque at Output Shaft of Gearbox

60Hz

Motor Model	Gearbox Model	Gear Ratio	2	3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180	200
9CIDG*-40G	9GBK□ BMH	kgfcm	3.9	5.9	7.1	9.9	11.8	14.8	17.8	19.7	24.7	29.6	35.5	35.6	44.4	53.3	64.0	71.1	80.4	96.4	100.0	100.0	100.0	100.0	100.0	100.0	100.0
		N.m	0.39	0.58	0.70	0.97	1.16	1.45	1.74	1.93	2.42	2.90	3.48	3.48	4.35	5.23	6.27	6.97	7.87	9.45	9.80	9.80	9.80	9.80	9.80	9.80	9.80
9CIDG*-40P	9PBK□ BH 9PFK□ BH	kgfcm	3.9	5.9	7.1	9.9	11.8	14.8	17.8	19.7	22.2	26.7	32.0	35.6	40.2	48.2	57.9	64.3	80.4	96.4	107.7	129.3	143.7	172.4	200.0	200.0	200.0
		N.m	0.39	0.58	0.70	0.97	1.16	1.45	1.74	1.93	2.18	2.61	3.14	3.48	3.94	4.72	5.67	6.30	7.87	9.45	10.56	12.67	14.08	16.90	19.60	19.60	19.60

50Hz

Motor Model	Gearbox Model	Gear Ratio	2	3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180	200
9CIDG*-40G	9GBK□ BMH	kgfcm	4.7	7.0	8.4	11.7	14.0	17.5	21.0	23.4	29.2	35.1	42.1	42.1	52.7	63.2	75.8	84.3	95.2	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
		N.m	0.46	0.69	0.82	1.15	1.37	1.72	2.06	2.29	2.86	3.44	4.12	4.13	5.16	6.19	7.43	8.26	9.33	9.80	9.80	9.80	9.80	9.80	9.80	9.80	9.80
9CIDG*-40P	9PBK□ BH 9PFK□ BH	kgfcm	4.7	7.0	8.4	11.7	14.0	17.5	21.0	23.4	26.3	31.6	37.9	42.1	47.6	57.1	68.6	76.2	95.2	114.3	127.7	153.2	170.3	200.0	200.0	200.0	200.0
		N.m	0.46	0.69	0.82	1.15	1.37	1.72	2.06	2.29	2.58	3.10	3.72	4.13	4.67	5.60	6.72	7.47	9.33	11.20	12.51	15.02	16.69	19.60	19.60	19.60	19.60

- 1) Enter the phase & voltage code in the place * within the motor model name.
- 2) Enter the gear ratio in the box (□) within the gearbox model name.
- 3) A colored background indicates the gear shaft rotation in the same direction as the motor shaft; a white background indicates the 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.

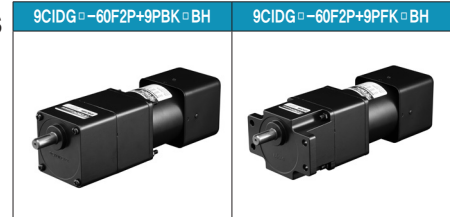
B AC Motors

Clutch & Brake Motor 60W (□ 90mm)

60W

Clutch & Brake Motor
60W(□ 90mm)

Motor Images



Motor Specification

Model 9CIDG*-60F2P: Gear Type Shaft	Output W	Voltage V	Frequency Hz	Poles	Duty	Starting Torque kgfcm N.m		Rated Load			Capacitor μF / VAC	
								Speed r/min	Current A	Torque kgfcm N.m		
Lead Wire Type												
9CIDG1(A)-60F2P	60	1φ110	60	4	Cont.	4.30	0.430	1600	1.30	3.70	0.370	16.0 / 250
9CIDG2(D)-60F2P	60	1φ220	60	4	Cont.	4.20	0.420	1600	0.68	3.70	0.370	4.0 / 450
9CIDGE-60F2P	60	1φ220	50	4	Cont.	3.90	0.390	1300	0.48	4.50	0.450	3.5 / 450
		1φ240				4.80	0.480		0.54	4.50	0.450	
9CIDG3(G)-60F2P	60	3φ220	50	4	Cont.	17.20	1.720	1350	0.59	4.40	0.440	-
			60			13.80	1.380	1600	0.53	3.70	0.370	
		3φ230	50	4	Cont.	18.80	1.880	1350	0.62	4.40	0.440	
			60			15.00	1.500	1600	0.56	3.70	0.370	
9CIDG4(K)-60F2P	60	3φ380	50	4	Cont.	16.70	1.670	1350	0.31	4.40	0.440	-
			60			13.40	1.340	1600	0.28	3.70	0.370	
		3φ400	50	4	Cont.	18.30	1.830	1350	0.34	4.40	0.440	
			60			14.70	1.470	1600	0.30	3.70	0.370	
9CIDG5(L)-60F2P	60	3φ415	50	4	Cont.	16.70	1.670	1350	0.29	4.40	0.440	-
			60			13.40	1.340	1600	0.26	3.70	0.370	
		3φ440	50	4	Cont.	18.50	1.850	1350	0.31	4.40	0.440	
			60			15.00	1.500	1600	0.28	3.70	0.370	

- 1) Enter the phase & voltage code in the place * within the motor model name.
 - 2) The phase & voltage code A, D, E, G, K, L contain a built-in thermal protector.
 - 3) For using clutch & brake motor, the gearbox has to be attached. (Output shaft of motor: Gear Type Shaft)
- * It is not possible to use an inverter for three phase 380~440V motor. When the inverter is used, the insulation of winding coil becomes hot and may cause damage to the motor.

Max. Permissible Torque at Output Shaft of Gearbox

60Hz

Motor Model	Gearbox Model	Gear Ratio r/min	2	3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	40	50	60
			900	600	500	360	300	240	200	180	144	120	100	90	72	60	50	45	36	30
9CIDG*-60F2P	9PBK□BH	kgfcm	6.0	9.0	10.8	15.0	18.0	22.5	27.0	30.0	33.8	40.5	48.6	54.0	61.1	73.3	87.9	97.7	122.1	146.5
	9PFK□BH	N.m	0.59	0.88	1.06	1.47	1.76	2.20	2.64	2.94	3.31	3.97	4.76	5.29	5.98	7.18	8.62	9.57	11.97	14.36

Motor Model	Gearbox Model	Gear Ratio r/min	75	90	100	120	150	180	200
			24	20	18	15	12	10	9
9CIDG*-60F2P	9PBK□BH	kgfcm	163.7	196.5	200.0	200.0	200.0	200.0	200.0
	9PFK□BH	N.m	16.05	19.25	19.60	19.60	19.60	19.60	19.60

50Hz

Motor Model	Gearbox Model	Gear Ratio r/min	2	3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	40	50	60
			750	500	417	300	250	200	167	150	120	100	83	75	60	50	42	37.5	30	25
9CIDG*-60F2P	9PBK□BH	kgfcm	7.1	10.7	12.8	17.8	21.4	26.7	32.1	35.6	40.2	48.2	57.8	64.2	72.6	87.1	104.5	116.2	145.2	174.2
	9PFK□BH	N.m	0.70	1.05	1.26	1.75	2.10	2.62	3.14	3.49	3.93	4.72	5.67	6.30	7.11	8.54	10.25	11.38	14.23	17.08

Motor Model	Gearbox Model	Gear Ratio r/min	75	90	100	120	150	180	200
			20	17	15	12.5	10	8	7.5
9CIDG*-60F2P	9PBK□BH	kgfcm	194.7	200.0	200.0	200.0	200.0	200.0	200.0
	9PFK□BH	N.m	19.08	19.60	19.60	19.60	19.60	19.60	19.60

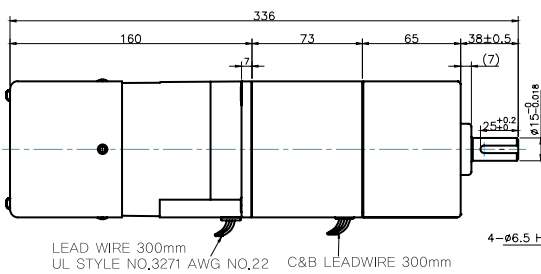
- 1) Enter the phase & voltage code in the place * within the motor model name.
- 2) Enter the gear ratio in the box (□) within the gearbox model name.
- 3) A colored background indicates the gear shaft rotation in the same direction as the motor shaft: a white background indicates the rotation in the 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

GEARED MOTOR

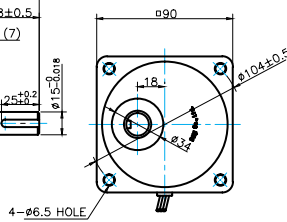
P TYPE GEARBOX

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



LEAD WIRE 300mm
UL STYLE NO.3271 AWG NO.22 C&B LEADWIRE 300mm

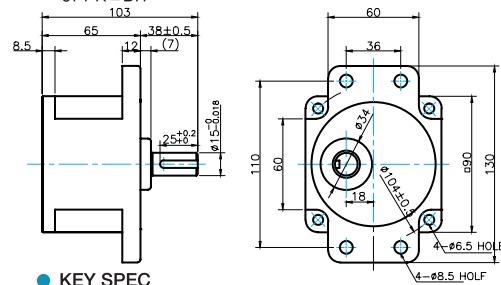
- GEARBOX MODEL:
9PBK□BH



GEARBOX OUTPUT SHAFT

MODEL	SPEC
KEY TYPE	38±0.5 (7) ø104±0.5 ø15±0.018
9PBK□BH	
9PFK□BH	

- GEARBOX MODEL:
9PFK□BH

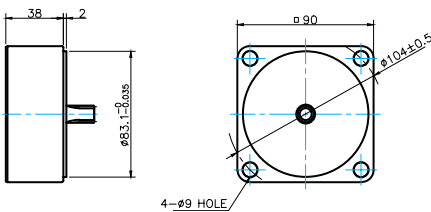


KEY SPEC

GEARBOX
ø104±0.5 38±0.5 (7) 25±0.015 ø15±0.018 5-3.03

INTER-DECIMAL GEARBOX

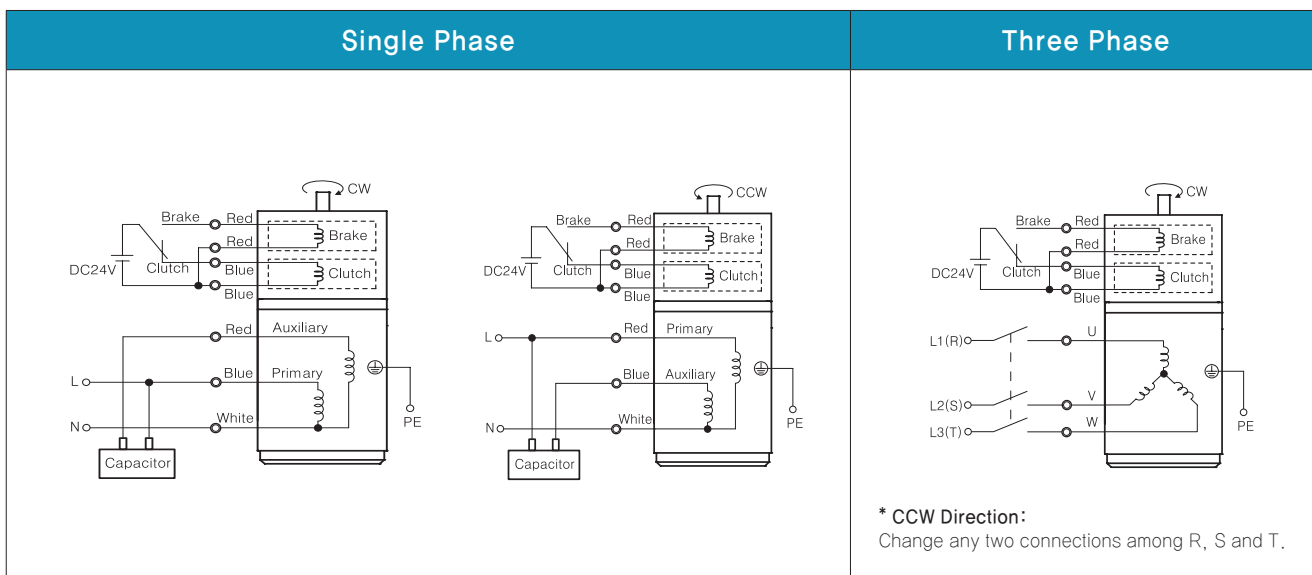
- MODEL:
9XD10□□



WEIGHT

PART	WEIGHT(Kg)	
MOTOR	4,4	
GEAR BOX	9PB(F)K2BH - 9PB(F)K10BH	1,28
	9PB(F)K12.5BH - 9PB(F)K20BH	1,3
	9PB(F)K25BH - 9PB(F)K60BH	1,45
	9PB(F)K75BH - 9PB(F)K200BH	1,47
	9XD10□□	0,6

Connection Diagrams



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

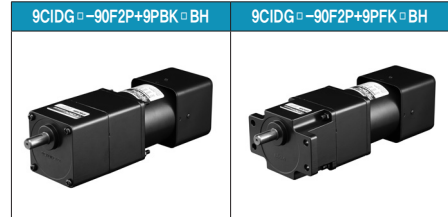
B AC Motors

Clutch & Brake Motor 90W (□ 90mm)

90W

Clutch & Brake Motor
90W(□ 90mm)

Motor Images



Motor Specification

Model 9CIDG*~90F2P: Gear Type Shaft	Output W	Voltage V	Frequency Hz	Poles	Duty	Starting Torque kgfcm N.m		Rated Load			Capacitor μF / VAC	
								Speed r/min	Current A	Torque kgfcm N.m		
Lead Wire Type												
9CIDG1(A)~90F2P	90	1φ110	60	4	Cont.	5.00	0.500	1600	1.80	5.50	0.550	20.0 / 250
9CIDG2(D)~90F2P	90	1φ220	60	4	Cont.	5.00	0.500	1600	1.00	5.50	0.550	5.0 / 450
9CIDGE~90F2P	90	1φ220	50	4	Cont.	5.30	0.530	1300	0.70	6.80	0.680	5.0 / 450
		1φ240				6.30	0.630		0.76	6.80	0.680	
9CIDG3(G)~90F2P	90	3φ220	50	4	Cont.	20.50	2.050	1350	0.65	6.50	0.650	-
			60			16.20	1.620	1600	0.60	5.50	0.550	
		3φ230	50	4	Cont.	22.00	2.200	1350	0.68	6.50	0.650	
			60			17.60	1.760	1600	0.63	5.50	0.550	
9CIDG4(K)~90F2P	90	3φ380	50	4	Cont.	20.00	2.000	1350	0.35	6.50	0.650	-
			60			15.70	1.570	1600	0.33	5.50	0.550	
		3φ400	50	4	Cont.	21.80	2.180	1350	0.37	6.50	0.650	
			60			17.30	1.730	1600	0.35	5.50	0.550	
9CIDG5(L)~90F2P	90	3φ415	50	4	Cont.	20.50	2.050	1350	0.33	6.50	0.650	-
			60			16.20	1.620	1600	0.31	5.50	0.550	
		3φ440	50	4	Cont.	22.70	2.270	1350	0.36	6.50	0.650	
			60			18.10	1.810	1600	0.33	5.50	0.550	

- 1) Enter the phase & voltage code in the place * within the motor model name.
 - 2) The phase & voltage code A, D, E, G, K, L contain a built-in thermal protector.
 - 3) For using clutch & brake motor, the gearbox has to be attached. (Output shaft of motor: Gear Type Shaft)
- ※ It is not possible to use an inverter for three phase 380~440V motor. When the inverter is used, the insulation of winding coil becomes hot and may cause damage to the motor.

Max. Permissible Torque at Output Shaft of Gearbox

60Hz

Motor Model	Gearbox Model	Gear Ratio r/min	2	3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	40	50	60
			900	600	500	360	300	240	200	180	144	120	100	90	72	60	50	45	36	30
9CIDG*~90F2P	9PBK□BH 9PFK□BH	kgfcm	8.9	13.4	16.0	22.3	26.7	33.4	40.1	44.6	50.2	60.2	72.3	80.3	90.8	108.9	130.7	145.2	181.5	200.0
		N.m	0.87	1.31	1.57	2.18	2.62	3.27	3.93	4.37	4.92	5.90	7.08	7.87	8.89	10.67	12.81	14.23	17.79	19.60

Motor Model	Gearbox Model	Gear Ratio r/min	75	90	100	120	150	180	200
			24	20	18	15	12	10	9
9CIDG*~90F2P	9PBK□BH 9PFK□BH	kgfcm	200.0	200.0	200.0	200.0	200.0	200.0	200.0
		N.m	19.60	19.60	19.60	19.60	19.60	19.60	19.60

50Hz

Motor Model	Gearbox Model	Gear Ratio r/min	2	3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	40	50	60
			750	500	417	300	250	200	167	150	120	100	83	75	60	50	42	37.5	30	25
9CIDG*~90F2P	9PBK□BH 9PFK□BH	kgfcm	10.5	15.8	19.0	26.3	31.6	39.5	47.4	52.7	59.3	71.2	85.4	94.9	107.3	128.7	154.4	171.6	200.0	200.0
		N.m	1.03	1.55	1.86	2.58	3.10	3.87	4.64	5.16	5.81	6.98	8.37	9.30	10.51	12.61	15.14	16.82	19.60	19.60

Motor Model	Gearbox Model	Gear Ratio r/min	75	90	100	120	150	180	200
			20	17	15	12.5	10	8	7.5
9CIDG*~90F2P	9PBK□BH 9PFK□BH	kgfcm	200.0	200.0	200.0	200.0	200.0	200.0	200.0
		N.m	19.60	19.60	19.60	19.60	19.60	19.60	19.60

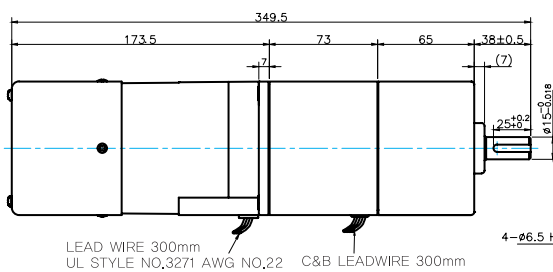
- 1) Enter the phase & voltage code in the place * within the motor model name. 2) Enter the gear ratio in the box (□) within the gearbox model name.
- 3) A colored background indicates the gear shaft rotation in the same direction as the motor shaft; a white background indicates the rotation in the 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

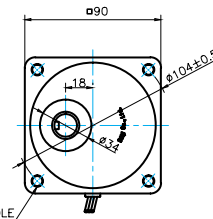
GEARED MOTOR

P TYPE GEARBOX

● MOTOR MODEL:
9CIDG□-90F2P



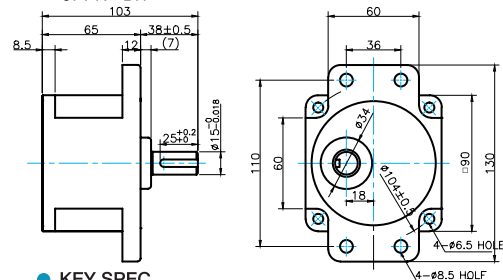
● GEARBOX MODEL:
9PBK□BH



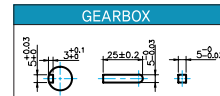
● GEARBOX OUTPUT SHAFT

MODEL	SPEC
KEY TYPE	
9PBK□BH	
9PFK□BH	

● GEARBOX MODEL:
9PFK□BH

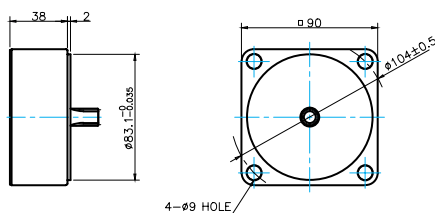


● KEY SPEC



INTER-DECIMAL GEARBOX

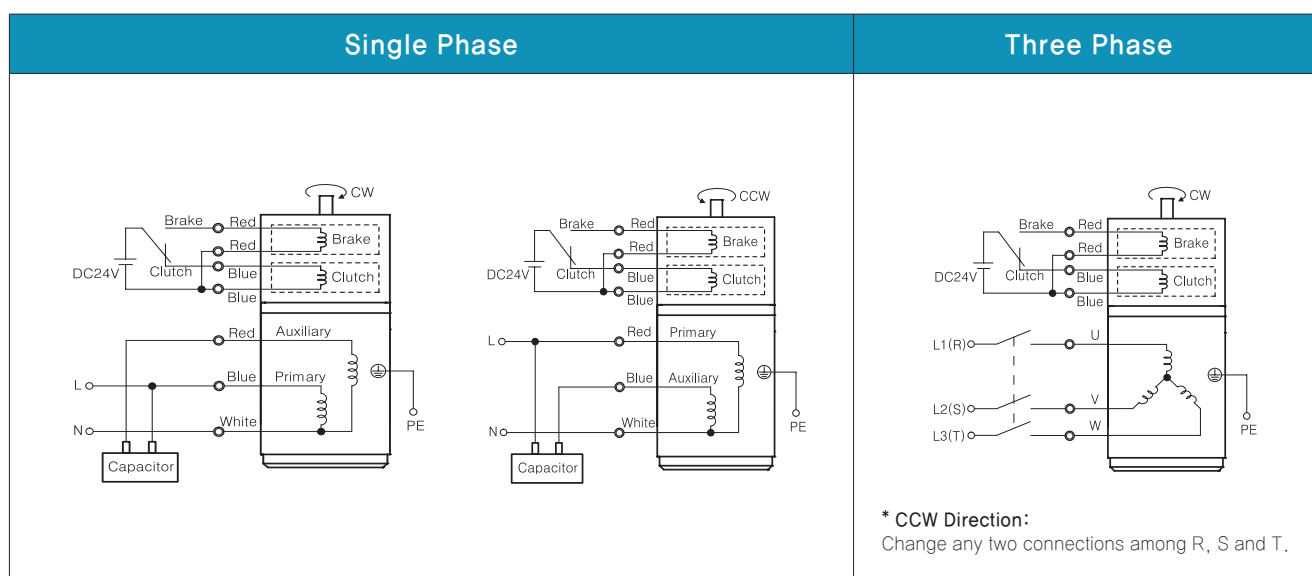
● MODEL:
9XD10□□



WEIGHT

PART	WEIGHT(Kg)	
MOTOR	4,4	
GEAR BOX	9PB(F)K2BH - 9PB(F)K10BH	1,28
	9PB(F)K12.5BH - 9PB(F)K20BH	1,3
	9PB(F)K25BH - 9PB(F)K60BH	1,45
	9PB(F)K75BH - 9PB(F)K200BH	1,47
	9XD10□□	0,6

Connection Diagrams



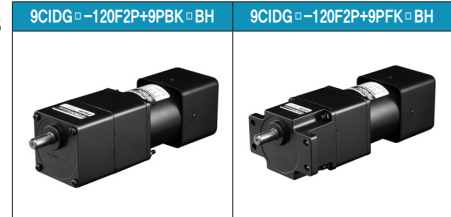
- 1) The direction of motor rotation is as viewed from the shaft end of the motor.
- 2) CW represents the clockwise direction, while CCW represents the counterclockwise direction.
- 3) Change the direction of single phase motor rotation only after bringing the motor to a stop. If an attempt is made to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

B AC Motors

Clutch & Brake Motor 120W (□ 90mm)

120W Clutch & Brake Motor 120W(□ 90mm)

Motor Images



Motor Specification

Model 9IDG*-120F2P: Gear Type Shaft	Output W	Voltage V	Frequency Hz	Poles	Duty	Starting Torque kgfcm N.m		Rated Load			Capacitor μF / VAC	
								Speed r/min	Current A	Torque kgfcm N.m		
Lead Wire Type												
9CIDG1(A)-120F2P	120	1φ110	60	4	Cont.	6.50	0.650	1600	2.00	7.40	0.740	25.0 / 250
9CIDG2(D)-120F2P	120	1φ220	60	4	Cont.	6.20	0.620	1600	1.04	7.40	0.740	6.0 / 450
9CIDGE-120F2P	120	1φ220	50	4	Cont.	6.40	0.640	1250	0.90	9.40	0.940	6.0 / 450
		1φ240				7.50	0.750		1.00	9.40	0.940	
9CIDG3(G)-120F2P	120	3φ220	50	4	Cont.	24.40	2.440	1300	0.88	9.00	0.900	-
			60			20.00	2.000	1600	0.71	7.40	0.740	
		3φ230	50	4	Cont.	27.00	2.700	1350	0.86	8.70	0.870	
			60			21.70	2.170	1600	0.76	7.40	0.740	
9CIDG4(K)-120F2P	120	3φ380	50	4	Cont.	24.30	2.430	1300	0.50	9.00	0.900	-
			60			19.90	1.990	1600	0.41	7.40	0.740	
		3φ400	50	4	Cont.	27.10	2.710	1350	0.49	8.70	0.870	
			60			21.90	2.190	1600	0.43	7.40	0.740	
9CIDG5(L)-120F2P	120	3φ415	50	4	Cont.	24.30	2.430	1300	0.47	9.00	0.900	-
			60			19.90	1.990	1600	0.37	7.40	0.740	
		3φ440	50	4	Cont.	27.50	2.750	1350	0.47	8.70	0.870	
			60			22.20	2.220	1600	0.40	7.40	0.740	

1) Enter the phase & voltage code in the place * within the motor model name.

2) The phase & voltage code A, D, E, G, K, L contain a built-in thermal protector.

3) For using clutch & brake motor, the gearbox has to be attached. (Output shaft of motor: Gear Type Shaft)

※ It is not possible to use an inverter for three phase 380~440V motor. When the inverter is used, the insulation of winding coil becomes hot and may cause damage to the motor.

Max. Permissible Torque at Output Shaft of Gearbox

60Hz

Motor Model	Gearbox Model	Gear Ratio r/min	2	3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	40	50	60
			900	600	500	360	300	240	200	180	144	120	100	90	72	60	50	45	36	30
9IDG□ -120FP	9PBK□BH 9PFK□BH	kgfcm	12.0	18.0	21.6	30.0	36.0	45.0	53.9	59.9	67.5	81.0	97.2	108.0	122.1	146.5	175.8	195.4	200.0	200.0
		N.m	1.17	1.76	2.11	2.94	3.52	4.41	5.29	5.87	6.62	7.94	9.53	10.59	11.97	14.36	17.23	19.15	19.60	19.60

Motor Model	Gearbox Model	Gear Ratio r/min	75	90	100	120	150	180	200
			24	20	18	15	12	10	9
9IDG□ -120FP	9PBK□BH 9PFK□BH	kgfcm	200.0	200.0	200.0	200.0	200.0	200.0	200.0
		N.m	19.60	19.60	19.60	19.60	19.60	19.60	19.60

50Hz

Motor Model	Gearbox Model	Gear Ratio r/min	2	3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	40	50	60
			750	500	417	300	250	200	167	150	120	100	83	75	60	50	42	37.5	30	25
9IDG□ -120FP	9PBK□BH 9PFK□BH	kgfcm	14.1	21.1	25.4	35.2	42.3	52.9	63.4	70.5	79.4	95.3	114.3	127.0	143.6	172.3	200.0	200.0	200.0	200.0
		N.m	1.38	2.07	2.49	3.45	4.14	5.18	6.22	6.91	7.78	9.34	11.20	12.45	14.07	16.88	19.60	19.60	19.60	19.60

Motor Model	Gearbox Model	Gear Ratio r/min	75	90	100	120	150	180	200
			20	17	15	12.5	10	8	7.5
9IDG□ -120FP	9PBK□BH 9PFK□BH	kgfcm	200.0	200.0	200.0	200.0	200.0	200.0	200.0
		N.m	19.60	19.60	19.60	19.60	19.60	19.60	19.60

1) Enter the phase & voltage code in the place * within the motor model name. 2) Enter the gear ratio in the box (□) within the gearbox model name.

3) A colored background indicates the gear shaft rotation in the same direction as the motor shaft; a white background indicates the rotation in the opposite direction.

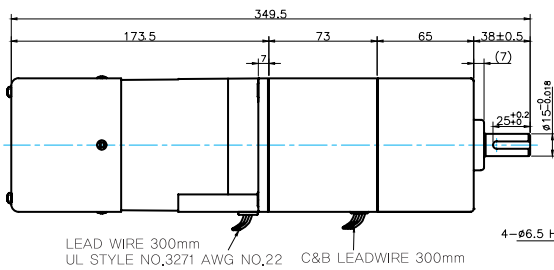
4) The rotating speed is calculated by dividing the motor's synchronous speed (50Hz: 1,500r/min, 60Hz: 1,800r/min) by the gear ratio. The actual speed is 2~20% less than the displayed value, depending on the size of the load.

Dimensions

GEARED MOTOR

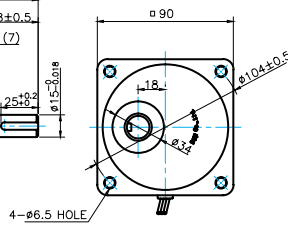
P TYPE GEARBOX

● MOTOR MODEL:
9CIDG□-120F2P



LEAD WIRE 300mm
UL STYLE NO.3271 AWG NO.22 C&B LEADWIRE 300mm

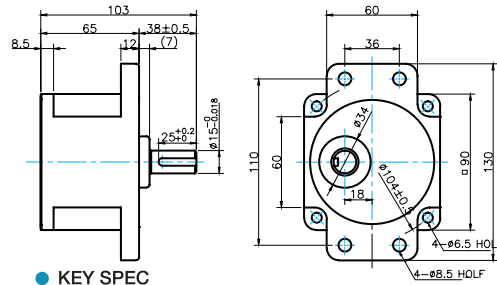
● GEARBOX MODEL:
9PBK□BH



● GEARBOX OUTPUT SHAFT

MODEL	SPEC
KEY TYPE	
9PBK□BH	
9PFK□BH	

● GEARBOX MODEL:
9PFK□BH

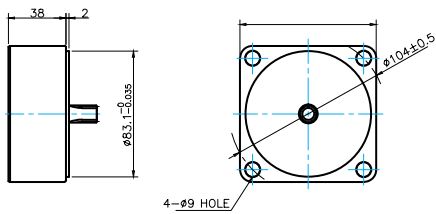


● KEY SPEC

GEARBOX	

INTER-DECIMAL GEARBOX

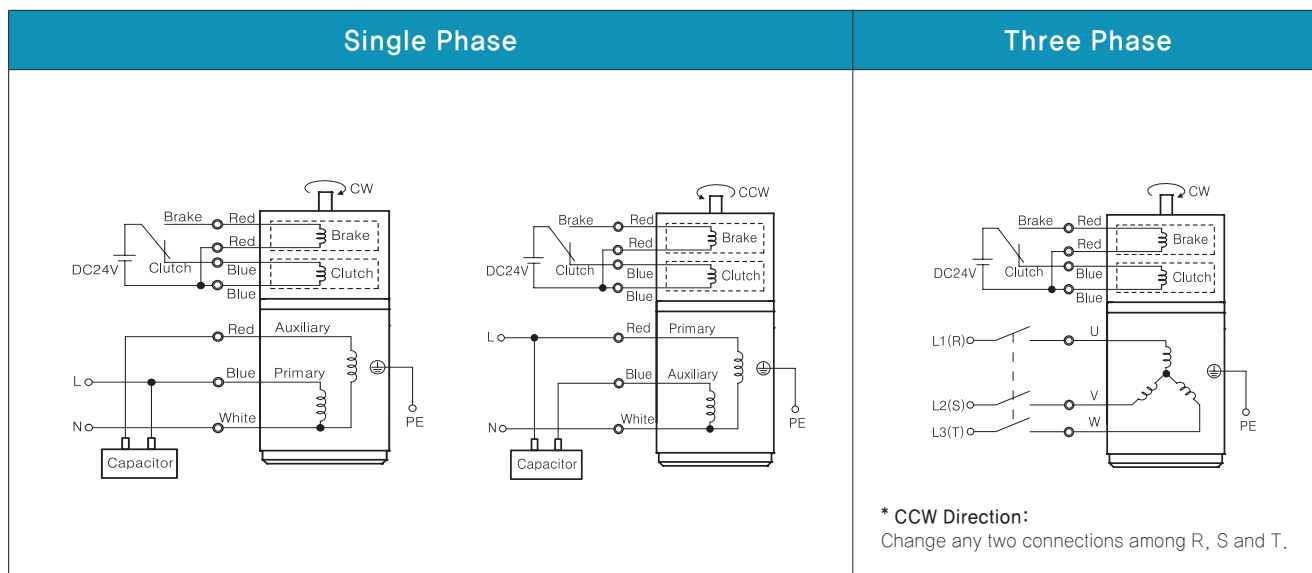
● MODEL:
9XD10□□



WEIGHT

PART	WEIGHT(Kg)	
MOTOR	4.4	
GEAR BOX	9PB(F)K2BH - 9PB(F)K10BH	1.28
	9PB(F)K12.5BH - 9PB(F)K20BH	1.3
	9PB(F)K25BH - 9PB(F)K60BH	1.45
	9PB(F)K75BH - 9PB(F)K200BH	1.47
	9XD10□□	0.6

Connection Diagrams



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