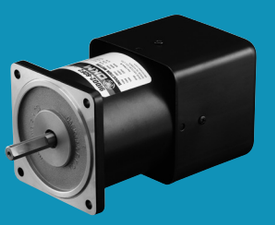
Speed Control Brake Motor



S.C. Brake Motor

Index

OTT GmbH & Co. KG 78652 Deißlingen Tel.: 07420-9399-0 Fax.: 07420-9399-25 Email: info@ott-antriebe.de

www.ott-antriebe.de

A Information

I Product Coding System

AC Motors

Motor
- **I** : Induction Motor
- **R** : Reversible Motor
- **B** : Electromagnetic Brake Motor
- **CI** : Clutch & Brake Motor
- **T** : Torque Motor
- **S** : Speed Control Induction Motor
- **SR** : Speed Control Reversible Motor
- **SB** : Speed Control . Brake Motor
- **CS** : Speed Control Clutch & Brake Motor

Phase & Voltage
[Built-in Thermal Protector Type]
- **A** : 1Ø AC 110V 60Hz
- **D** : 1Ø AC 220V 60Hz
- **E** : 1Ø AC 220~240V 50Hz
- **G** : 3Ø AC 220V 50/60Hz
- **K** : 3Ø AC 380V~400V 50/60Hz
- **L** : 3Ø AC 415V~440V 50/60Hz

Fan Type
- **F** : General Fan (Self Cooling)
- **F2** : Powerful Fan (Separate Fan Motor) Powerful fan makes powerful cooling performance rotating in high speed regardless of motor shaft speed.
- **No Mark** : Without Fan

Connection Type
- **T** : Terminal Box Type
- **No Mark** : Lead Wire Type

Pole
- **A** : 2 Pole
- **No Mark** : 4 Pole

9	I	D	G	A	—	90	F	P	—	A	T

Brand
- **D** : DKM

Output Shaft Type
- **G** : Gear Type Shaft (Pinion Shaft for Attaching Gearbox)
- **S** : Round Type Shaft ○
- **D** : D-Cut Type Shaft ⌓
- **K** : Key Type Shaft

Motor Frame Size
- **6** : □60mm sq. (2.36 inch sq.)
- **7** : □70mm sq. (2.76 inch sq.)
- **8** : □80mm sq. (3.15 inch sq.)
- **9** : □90mm sq. (3.54 inch sq.)
- **10** : □104mm sq. (4.09 inch sq.)

Output
- **6** : 6W
- **10** : 10W
- **15** : 15W
- **25** : 25W
- **40** : 40W
- **60** : 60W
- **90** : 90W
- **120** : 120W
- **150** : 150W
- **180** : 180W
- **200** : 200W
- **250** : 250W (E)
- **300** : 300W (D, 7, 8)
- **400** : 400W (6)

Attaching Gearbox
- **G** : General Box Type
- **P** : Powerful Box/Flange Type
- **H** : High Powerful Box/Flange Type
- **W** : Worm Solid Type
- **WH** : Worm Hollow Type
- **No Mark** : Without Gearbox

DC Motors

DC
DC MOTOR

Output Shaft Type
- **D** : D-Cut Type Shaft
- **K** : Key Type Shaft
- **G** : Shaft for General Type Gearbox
- **P** : Shaft for Powerful Type Gearbox
- **W** : Shaft for Worm Solid Type Gearbox

9	DC	G	12	—	25	—	30

Motor Frame Size
- **6** : □60mm sq. (2.36 in.sq.)
- **8** : □80mm sq. (3.15 in.sq.)
- **9** : □90mm sq. (3.54 in.sq.)

DC Voltage
- **12** : DC 12V
- **24** : DC 24V
- **90** : DC 90V

Output
- **15** : 15W
- **25** : 25W
- **40** : 40W
- **60** : 60W
- **90** : 90W
- **120** : 120W

r/min
- **30** : 3000r/min

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Parallel Gearbox

Gearbox Frame Size
6 : □60mm sq. (2.36 in.sq.)
7 : □70mm sq. (2.76 in.sq.)
8 : □80mm sq. (3.15 in.sq.)
9 : □90mm sq. (3.54 in.sq.)

Frame Type
B : Box Type □
F : Flange Type
(Only available for powerful and high powerful type Gearbox)

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

9	P	B	K	36	B	H

Gear Type
G : General Gear
P : Powerful Gear
H : High Powerful Gear

Output Shaft Type
K : Key Type
D : D-Cut Type

Gear Ratio
36 : 1/36

Input Gear Type
H : Helical Gear

Worm Solid Gearbox

Gearbox Type
W : Worm Solid Type
WH : Worm Hollow Type

Gear Ratio
30 : 1/30

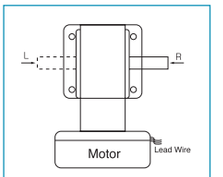
Direction of Output Shaft
L : Left
R : Right
RL : Bi-directional
※ No mark in Worm Hollow Type Gearbox

9	W	D	30	B	L

Gearbox Frame Size
8 : □ 80mm sq. (3.15 in.sq.)
9 : □ 90mm sq. (3.54 in.sq.)

Brand
D : DKM

Bearing Type
B : Ball Bearing
※ No mark in Worm Hollow Type Gearbox



※ Ref.
1. Direction of Output Shaft - L : Left R : Right
2. When direction of lead wire is right side of motor.

Worm Hollow Gearbox

Gearbox Type
WH : Worm Hollow Gearbox

Gear Ratio
30 : 1/30

9	WH	D	30	—	030

Gearbox Frame Size
9 : □ 90mm sq. (4.09 inch.sq.)
10 : □ 104mm sq. (4.09 inch.sq.)

Brand
D : DKM

Center Distance between Worm Wheel and Shaft
030 : 30mm
040 : 40mm

Inter-decimal Gearbox

X10 Inter-decimal Gearbox

G : "G" Type Shaft Motor (40W)
P : "P" Type Shaft Motor (60~120W)

9	X	D	10	G	Z

Gearbox Frame Size
8 : □ 80mm sq. (3.15 in.sq.)
9 : □ 90mm sq. (3.54 in.sq.)

Brand
D : DKM

Gear Ratio
10 : 1/10

Attaching Gearbox
G : General Type (Helical)
P : Powerful Type
H : High Powerful Type
Z : Worm Hollow Type
W : Worm Solid type

In case of requiring high gear reduction ratio that cannot be generated by single Gearbox, please use Inter-decimal Gearbox with general Gearbox. And please be advised that in this case only revolution speed of output shaft will reduce by 10:1 without increasing of maximum permissible torque.

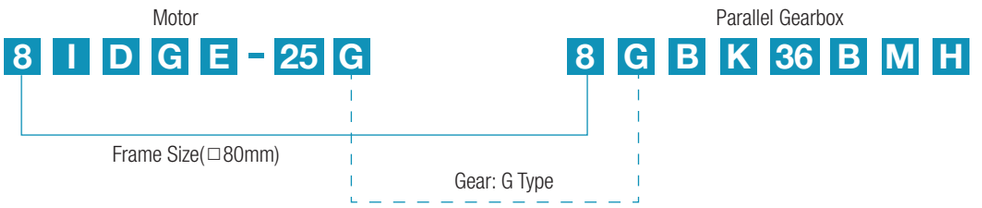
A Information

I Product Coding System

Assembly of Motor and Gearbox

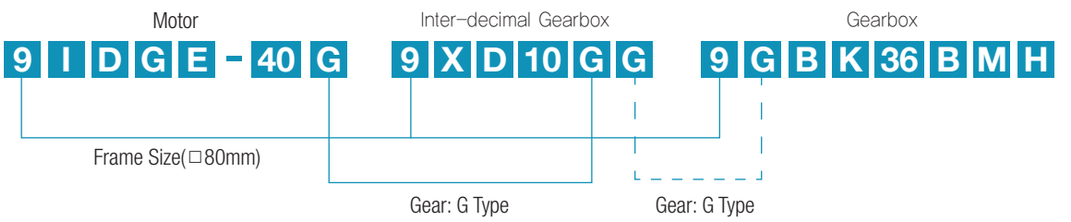
Motor + Gearbox

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



Motor + Inter-decimal Gearbox + Gearbox

- When using an inter-decimal Gearbox together, give attention to the gear types of motor, Gearbox and inter-decimal Gearbox.



- When attaching inter-decimal Gearbox, the output shaft type of the motor is always G Type.
  For example, when using P/H/W/WH type Gearbox, only the gear type of inter-decimal Gearbox is identical with attached Gearbox and the output shaft type of the motor is G type. (Refer to the scheme below.)

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B AC Motors

S.C. Brake Motor 15W (□80mm)

15W Speed Control Brake Motor 15W(□80mm)

Motor Specification

Model 8SBDG*-15□: Gear Type Shaft 8SBDD*-15: D-Cut Type Shaft	Output W	Voltage V	Frequency Hz	Poles	Duty	Speed Range r/min	Starting Torque		Permissible Torque 1200r/min		Permissible Torque 90r/min		Capacitor μF / VAC
							kgfcm	N.m	kgfcm	N.m	kgfcm	N.m	
8SBDGA-15□	15	1ø110	60	4	30min.	90-1700	0.70	0.070	1.50	0.150	0.60	0.060	6.0 / 450
8SBDGD-15□	15	1ø220	60	4	30min.	90-1700	0.85	0.085	1.50	0.150	0.55	0.055	1.5 / 450
8SBDGE-15□	15	1ø220	50	4	30min.	90-1400	0.75	0.075	1.20	0.120	0.50	0.050	1.5 / 450
		1ø240					0.85	0.085	1.40	0.140	0.50	0.050	

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

Max. Permissible Torque at Output Shaft of Gearbox

Motor Model	Gearbox Model	r/min	V	Hz	Gear Ratio	3	3.6	5	6	7.5	9	12.5	15	18	25	30	36	40	50	60	75	90	100	120	150	180	200	250	300	360
8SBDG □-15G	8GBK □BMH	1200	110	60	kgfcm	3.7	4.5	6.2	7.5	9.3	11.2	15.6	18.7	22.4	28.1	33.8	36.7	40.8	51.0	61.2	76.5	80.0	80.0	80.0	80.0	80.0	80.0	80.0	80.0	80.0
					N.m	0.37	0.44	0.61	0.73	0.92	1.10	1.53	1.83	2.20	2.76	3.31	3.60	4.00	5.00	6.00	7.50	7.84	7.84	7.84	7.84	7.84	7.84	7.84	7.84	7.84
			220	60	kgfcm	3.7	4.5	6.2	7.5	9.3	11.2	15.6	18.7	22.4	28.1	33.8	36.7	40.8	51.0	61.2	76.5	80.0	80.0	80.0	80.0	80.0	80.0	80.0	80.0	80.0
					N.m	0.37	0.44	0.61	0.73	0.92	1.10	1.53	1.83	2.20	2.76	3.31	3.60	4.00	5.00	6.00	7.50	7.84	7.84	7.84	7.84	7.84	7.84	7.84	7.84	7.84
			220/240	50	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	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	7.84	7.84	7.84	7.84
		90	110	60	kgfcm	0.9	1.0	1.5	1.7	2.2	2.6	3.6	4.4	5.2	6.6	7.9	8.6	9.5	11.9	14.3	17.9	21.4	23.8	28.6	35.7	42.8	42.7	53.4	64.1	76.9
					N.m	0.09	0.10	0.14	0.17	0.21	0.26	0.36	0.43	0.51	0.64	0.77	0.84	0.93	1.17	1.40	1.75	2.10	2.33	2.80	3.50	4.20	4.18	5.23	6.28	7.53
			220	60	kgfcm	0.9	1.0	1.5	1.7	2.2	2.6	3.6	4.4	5.2	6.6	7.9	8.6	9.5	11.9	14.3	17.9	21.4	23.8	28.6	35.7	42.8	42.7	53.4	64.1	76.9
					N.m	0.09	0.10	0.14	0.17	0.21	0.26	0.36	0.43	0.51	0.64	0.77	0.84	0.93	1.17	1.40	1.75	2.10	2.33	2.80	3.50	4.20	4.18	5.23	6.28	7.53
			220/240	50	kgfcm	0.9	1.0	1.5	1.7	2.2	2.6	3.6	4.4	5.2	6.6	7.9	8.6	9.5	11.9	14.3	17.9	21.4	23.8	28.6	35.7	42.8	42.7	53.4	64.1	76.9
					N.m	0.09	0.10	0.14	0.17	0.21	0.26	0.36	0.43	0.51	0.64	0.77	0.84	0.93	1.17	1.40	1.75	2.10	2.33	2.80	3.50	4.20	4.18	5.23	6.28	7.53

Motor Model	Gearbox Model	r/min	V	Hz	Gear Ratio	10	12	15	18	25	30	36	50	60
8SBDG□ -15W	8WD□BL/ □BR/□BRL	1200	110	60	kgfcm	12.3	14.4	17.3	20.0	26.3	29.7	34.6	45.0	49.5
					N.m	1.21	1.41	1.70	1.96	2.57	2.91	3.39	4.41	4.85
			220	60	kgfcm	12.5	14.9	18.7	22.4	31.1	37.4	44.8	62.3	74.7
					N.m	1.22	1.46	1.83	2.20	3.05	3.66	4.39	6.10	7.32
			220/240	50	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
		90	110	60	kgfcm	2.9	3.4	4.0	4.7	6.1	6.9	8.1	10.5	11.6
					N.m	0.28	0.33	0.40	0.46	0.60	0.68	0.79	1.03	1.13
			220	60	kgfcm	2.9	3.4	4.0	4.7	6.1	6.9	8.1	10.5	11.6
					N.m	0.28	0.33	0.40	0.46	0.60	0.68	0.79	1.03	1.13
			220/240	50	kgfcm	2.9	3.4	4.0	4.7	6.1	6.9	8.1	10.5	11.6
					N.m	0.28	0.33	0.40	0.46	0.60	0.68	0.79	1.03	1.13

1) Enter the phase & voltage code in the box (□) 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.

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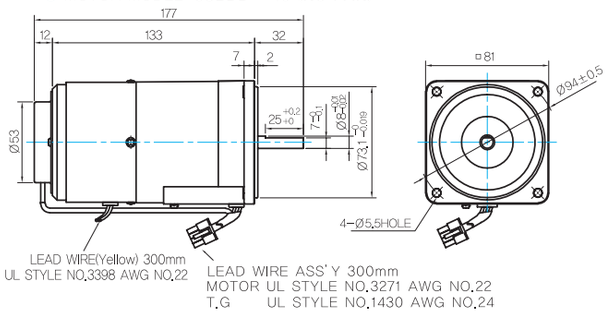
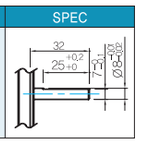
Dimensions

MOTOR ONLY

● MOTOR MODEL: 8SBDD□-15 (NO FAN)

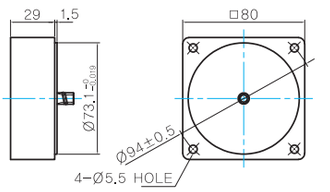


● MOTOR OUTPUT SHAFT

MODEL	SPEC
D-CUT TYPE	

INTER-DECIMAL GEARBOX

● MODEL: 8XD10□□

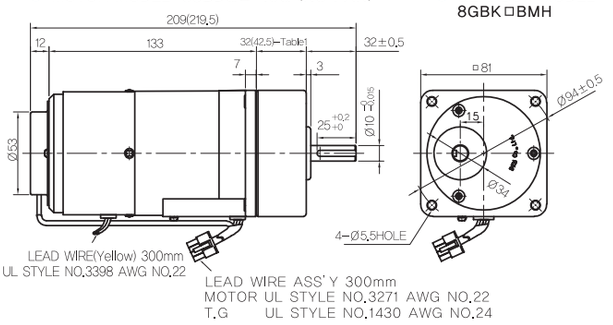


GEARED MOTOR

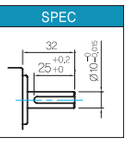
G TYPE GEARBOX

● MOTOR MODEL: 8SBDG□-15G (NO FAN)

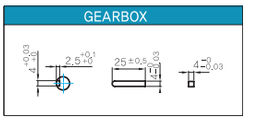
● GEARBOX MODEL: 8GBK□BMH



● GEARBOX OUTPUT SHAFT

MODEL	SPEC
KEY TYPE	

● KEY SPEC



● 32(42.5)-Table1

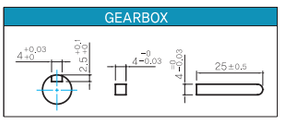
SIZE(mm)	GEAR RATIO
32	8GBK3BMH – 8GBK18BMH
42.5	8GBK25BMH – 8GBK360BMH

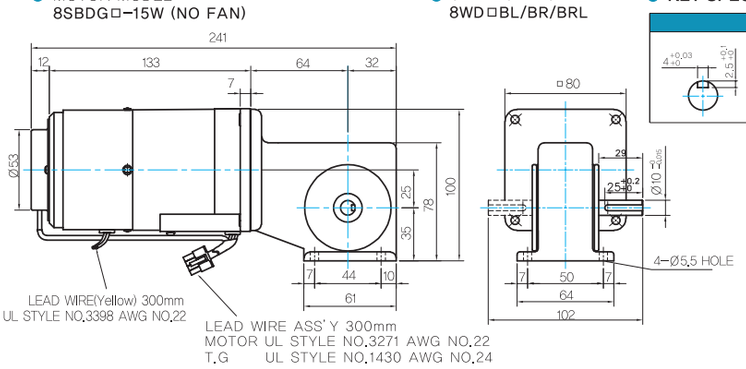
W TYPE GEARBOX

● MOTOR MODEL: 8SBDG□-15W (NO FAN)

● GEARBOX MODEL: 8WD□BL/BR/BRL

● KEY SPEC





WEIGHT

PART		WEIGHT(Kg)
MOTOR		2.09
GEAR BOX	8GBK3BMH ~ 8GBK18BMH	0.48
	8GBK25BMH ~ 8GBK30BMH	0.61
	8GBK36BMH ~ 8GBK180BMH	0.67
	8GBK200BMH ~ 8GBK360BMH	0.63
	8WD□BL/BR/BRL	0.67
	8XD10□□	0.44

Motor Images

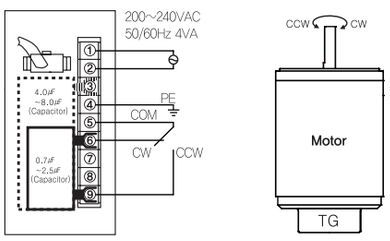
8SBDD□-15	8SBDG□-15G+8GBK□BMH	8SBDG□-15W+8WD□BL
		

B AC Motors

S.C. Brake Motor 15W (□80mm)

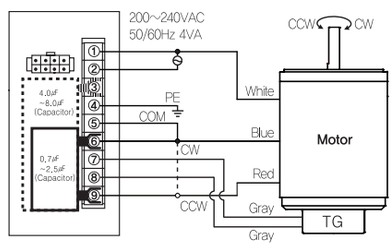
Connection Diagrams

FX1000A – Connector Type

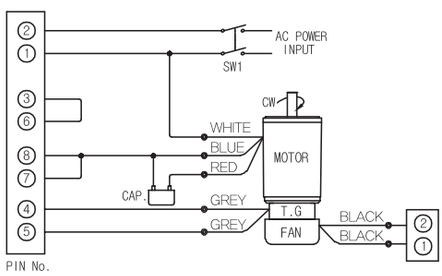


Direction: Clockwise COM+CW, Counterclockwise COM+CCW
Capacitor: Connect 3-9 or 6-9, according to its capacity

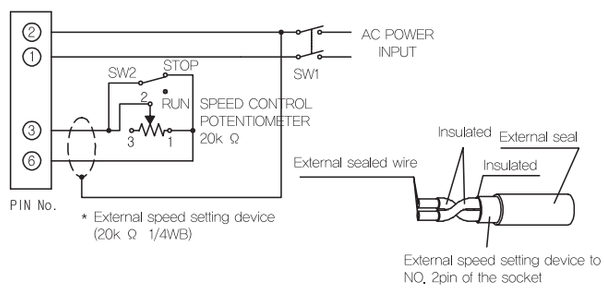
FX1000A – Terminal Type



DSKM–Using Internal Volume



DSKM–Using External Volume



1) At first connect the speed controller with the motor as instructed in connection diagrams. And then input the external power to both of the terminal 'AC' for the rated speed operation.
Now you can adjust the main volume to control the output speed of motor.
2) The direction of motor rotation is as viewed from the shaft end of the motor.
3) CW represents the clockwise direction, while CCW represents the counterclockwise direction.
4) When using powerful fan (F2 type) attached motor, connect two black wires of the fan to No.1 and No.2 terminals in order to supply power.

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S.C. Brake Motor 25W (□80mm)

25W Speed Control Brake Motor 25W(□80mm)

Motor Specification

Model 8SBDG*-25□: Gear Type Shaft 8SBDD*-25: D-Cut Type Shaft	Output W	Voltage V	Frequency Hz	Poles	Duty	Speed Range r/min	Starting Torque		Permissible Torque 1200r/min		Permissible Torque 90r/min		Capacitor μF / VAC
							kgfcm	N.m	kgfcm	N.m	kgfcm	N.m	
8SBDGA-25□	25	1ø110	60	4	30min.	90-1700	1.40	0.140	1.55	0.155	0.70	0.070	10.0 / 250
8SBDGD-25□	25	1ø220	60	4	30min.	90-1700	1.60	0.160	1.80	0.180	0.90	0.090	2.5 / 450
8SBDGE-25□	25	1ø220	50	4	30min.	90-1400	1.00	0.100	1.50	0.150	0.50	0.050	2.0 / 450
		1ø240					1.20	0.120	1.80	0.180	0.50	0.050	

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

Max. Permissible Torque at Output Shaft of Gearbox

Motor Model	Gearbox Model	r/min	V	Hz	Gear Ratio	3	3.6	5	6	7.5	9	12.5	15	18	25	30	36
8SBDG□-25G	8GBK□BMH	1200	110	60	kgfcm	3.9	4.6	6.4	7.7	9.6	11.6	16.1	19.3	23.2	29.1	34.9	37.9
					N.m	0.38	0.45	0.63	0.76	0.95	1.13	1.58	1.89	2.27	2.85	3.42	3.72
			220	60	kgfcm	5.8	6.9	9.6	11.5	14.4	17.3	24.0	28.8	34.6	39.2	47.1	46.4
					N.m	0.57	0.68	0.94	1.13	1.41	1.70	2.35	2.83	3.39	3.84	4.61	4.55
			220/240	50	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
					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
		90	110	60	kgfcm	1.7	2.1	2.9	3.5	4.4	5.2	7.3	8.7	10.5	13.1	15.8	17.1
					N.m	0.17	0.20	0.28	0.34	0.43	0.51	0.71	0.85	1.02	1.29	1.54	1.68
			220	60	kgfcm	2.2	2.7	3.7	4.5	5.6	6.7	9.3	11.2	13.4	16.9	20.3	22.0
					N.m	0.22	0.26	0.37	0.44	0.55	0.66	0.92	1.10	1.32	1.65	1.98	2.16
			220/240	50	kgfcm	1.2	1.5	2.1	2.5	3.1	3.7	5.2	6.2	7.5	9.4	11.3	12.2
					N.m	0.12	0.15	0.20	0.24	0.31	0.37	0.51	0.61	0.73	0.92	1.10	1.20

Motor Model	Gearbox Model	r/min	V	Hz	Gear Ratio	40	50	60	75	90	100	120	150	180	200	250	300	360
8SBDG□-25G	8GBK□BMH	1200	110	60	kgfcm	42.2	52.7	63.2	79.1	80.0	80.0	80.0	80.0	80.0	80.0	80.0	80.0	80.0
					N.m	4.13	5.16	6.20	7.75	7.84	7.84	7.84	7.84	7.84	7.84	7.84	7.84	7.84
			220	60	kgfcm	51.6	64.5	77.4	80.0	80.0	80.0	80.0	80.0	80.0	80.0	80.0	80.0	80.0
					N.m	5.06	6.32	7.59	7.84	7.84	7.84	7.84	7.84	7.84	7.84	7.84	7.84	7.84
			220/240	50	kgfcm	49.0	61.2	73.4	80.0	80.0	80.0	80.0	80.0	80.0	80.0	80.0	80.0	80.0
					N.m	4.80	6.00	7.20	7.84	7.84	7.84	7.84	7.84	7.84	7.84	7.84	7.84	7.84
		90	110	60	kgfcm	19.0	23.8	28.6	35.7	42.8	47.6	57.1	71.4	80.0	80.0	80.0	80.0	80.0
					N.m	1.87	2.33	2.80	3.50	4.20	4.66	5.60	7.00	7.84	7.84	7.84	7.84	7.84
			220	60	kgfcm	24.5	30.6	36.7	45.9	55.1	61.2	73.4	80.0	80.0	80.0	80.0	80.0	80.0
					N.m	2.40	3.00	3.60	4.50	5.40	6.00	7.20	7.84	7.84	7.84	7.84	7.84	7.84
			220/240	50	kgfcm	13.6	17.0	20.4	25.5	30.6	34.0	40.8	51.0	61.2	61.0	76.3	80.0	80.0
					N.m	1.33	1.67	2.00	2.50	3.00	3.33	4.00	5.00	6.00	5.98	7.47	7.84	7.84

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B AC Motors

S.C. Brake Motor 25W (□80mm)

Max. Permissible Torque at Output Shaft of Gearbox

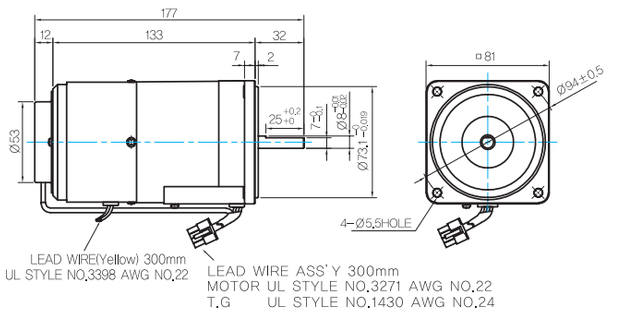
Motor Model	Gearbox Model	r/min	V	Hz	Gear Ratio	10	12	15	18	25	30	36	50	60
8SBDG□ −25W	8WD□BL/ □BR/□BRL	1200	110	60	kgfcm	12.7	14.9	17.9	20.6	27.1	30.7	35.7	46.5	51.2
					N.m	1.25	1.46	1.75	2.02	2.66	3.01	3.50	4.56	5.01
			220	60	kgfcm	14.9	17.9	22.4	26.9	37.4	44.8	53.8	74.7	81.6
					N.m	1.46	1.76	2.20	2.64	3.66	4.39	5.27	7.32	8.00
			220/240	50	kgfcm	14.8	17.3	20.8	24.0	31.5	35.6	41.5	54.0	59.4
					N.m	1.45	1.69	2.04	2.35	3.09	3.49	4.06	5.29	5.82
		90	110	60	kgfcm	5.7	6.7	8.1	9.3	12.3	13.9	16.1	21.0	23.1
					N.m	0.56	0.66	0.79	0.91	1.20	1.36	1.58	2.06	2.26
			220	60	kgfcm	7.4	8.6	10.4	12.0	15.8	17.8	20.7	27.0	29.7
					N.m	0.72	0.85	1.02	1.17	1.54	1.75	2.03	2.65	2.91
			220/240	50	kgfcm	4.1	4.8	5.8	6.7	8.8	9.9	11.5	15.0	16.5
					N.m	0.40	0.47	0.57	0.65	0.86	0.97	1.13	1.47	1.62

1) Enter the phase & voltage code in the box (□) 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.

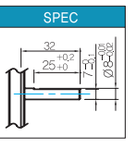
Dimensions

MOTOR ONLY

● MOTOR MODEL: 8SBDD□−25 (NO FAN)

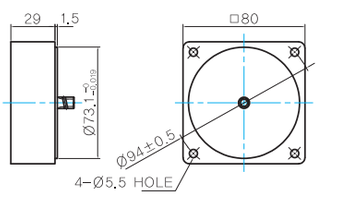


● MOTOR OUTPUT SHAFT

MODEL	SPEC
D-CUT TYPE	

INTER-DECIMAL GEARBOX

● MODEL: 8XD10□□

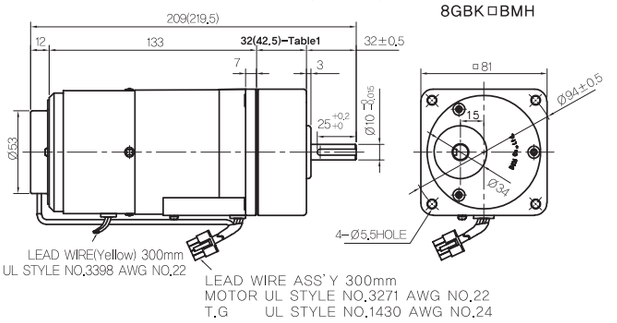


GEARED MOTOR

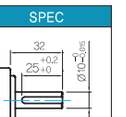
G TYPE GEARBOX

● MOTOR MODEL: 8SBDG□−25G (NO FAN)

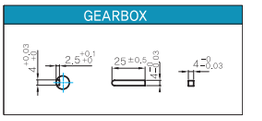
● GEARBOX MODEL: 8GBK□BMH



● GEARBOX OUTPUT SHAFT

MODEL	SPEC
KEY TYPE	

● KEY SPEC

GEARBOX


● 32(42.5)-Table1

SIZE(mm)	GEAR RATIO
32	8GBK3BMH – 8GBK18BMH
42.5	8GBK25BMH – 8GBK360BMH

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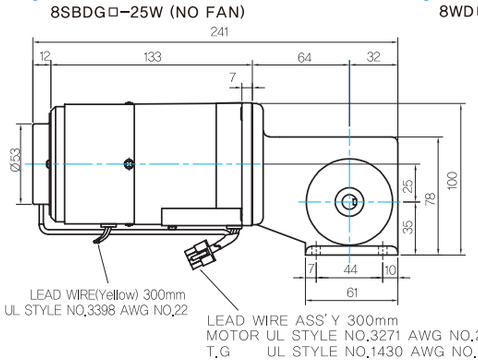
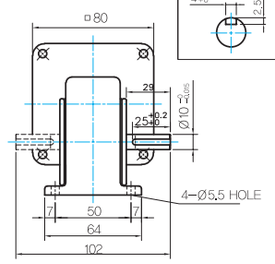
W TYPE GEARBOX

● MOTOR MODEL:
8SBDG□–25W (NO FAN)

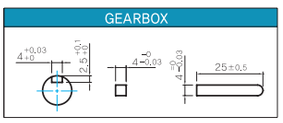


● GEARBOX MODEL:
8WD□BL/BR/BRL



● KEY SPEC

GEARBOX



WEIGHT

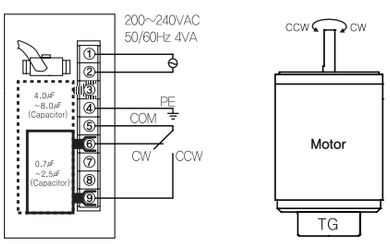
PART		WEIGHT(Kg)
MOTOR		2.09
GEAR BOX	8GBK3BMH ~ 8GBK18BMH	0.48
	8GBK25BMH ~ 8GBK30BMH	0.61
	8GBK36BMH ~ 8GBK180BMH	0.67
	8GBK200BMH ~ 8GBK360BMH	0.63
	8WD□BL/BR/BRL	0.67
	8XD10□□	0.44

Motor Images

8SBDD□–25	8SBDG□–25G+8GBK□BMH	8SBDG□–25W+8WD□BL
		

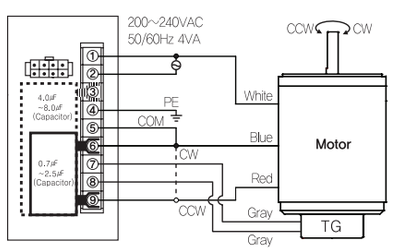
Connection Diagrams

FX1000A – Connector Type

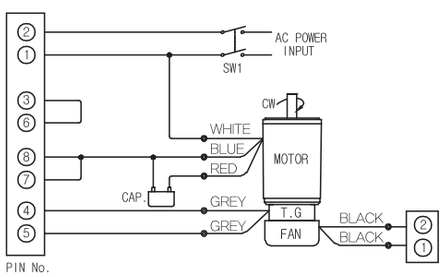


Direction: Clockwise COM+CW, Counterclockwise COM+CCW
Capacitor: Connect 3-9 or 6-9, according to its capacity

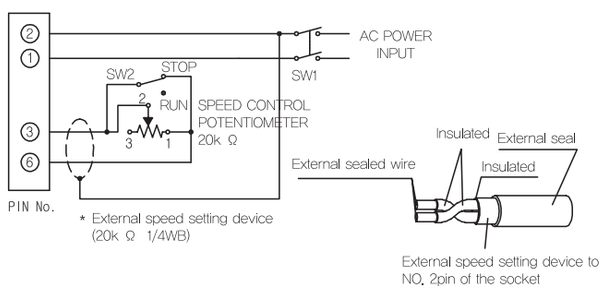
FX1000A – Terminal Type



DSKM–Using Internal Volume



DSKM–Using External Volume



1) At first connect the speed controller with the motor as instructed in connection diagrams. And then input the external power to both of the terminal 'AC' for the rated speed operation.
Now you can adjust the main volume to control the output speed of motor.
2) The direction of motor rotation is as viewed from the shaft end of the motor.
3) CW represents the clockwise direction, while CCW represents the counterclockwise direction.
4) When using powerful fan (F2 type) attached motor, connect two black wires of the fan to No.1 and No.2 terminals in order to supply power.

B AC Motors

S.C. Brake Motor 40W (□90mm)

40W Speed Control Brake Motor 40W(□90mm)

Motor Specification

Model 9SBDG*-40□: Gear Type Shaft 9SBDD*-40: D-Cut Type Shaft 9SBDK*-40: Key Type Shaft	Output	Voltage	Frequency	Poles	Duty	Speed Range	Starting Torque		Permissible Torque				Capacitor
									1200r/min		90r/min		
	W	V	Hz			r/min	kgfcm	N.m	kgfcm	N.m	kgfcm	N.m	μF / VAC
9SBDGA-40□	40	1ø110	60	4	30min.	90-1700	2.00	0.200	2.90	0.290	1.20	0.120	16.0 / 250
9SBDGD-40□	40	1ø220	60	4	30min.	90-1700	2.00	0.200	2.90	0.290	1.20	0.120	4.0 / 400
9SBDGE-40□	40	1ø220	50	4	30min.	90-1400	1.70	0.170	2.50	0.250	0.70	0.070	3.0 / 450
		1ø240					2.10	0.210	3.00	0.300	0.70	0.070	

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

Max. Permissible Torque at Output Shaft of Gearbox

Motor Model	Gearbox Model	r/min	V	Hz	Gear Ratio	2	3	3.6	5	6	7.5	9	10	12.5	15	18	25	30	36	40	50	60	75	90	100	120	150	180	200
9SBDG□-40G	9GBK□BMH	1200	110	60	kgfcm	4.8	7.2	8.7	12.0	14.4	18.1	21.7	24.1	30.1	36.1	39.2	54.4	65.3	71.0	78.9	98.6	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
					N.m	0.47	0.71	0.85	1.18	1.42	1.77	2.12	2.36	2.95	3.54	3.84	5.33	6.39	6.96	7.73	9.66	9.80	9.80	9.80	9.80	9.80	9.80	9.80	9.80
			220	60	kgfcm	4.8	7.2	8.7	12.0	14.4	18.1	21.7	24.1	30.1	36.1	39.2	54.4	65.3	71.0	78.9	98.6	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
					N.m	0.47	0.71	0.85	1.18	1.42	1.77	2.12	2.36	2.95	3.54	3.84	5.33	6.39	6.96	7.73	9.66	9.80	9.80	9.80	9.80	9.80	9.80	9.80	9.80
			220/240	50	kgfcm	5.0	7.5	9.0	12.5	14.9	18.7	22.4	24.9	31.1	37.4	40.5	56.3	67.5	73.4	81.6	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
					N.m	0.49	0.73	0.88	1.22	1.46	1.83	2.20	2.44	3.05	3.66	3.97	5.51	6.62	7.20	8.00	9.80	9.80	9.80	9.80	9.80	9.80	9.80	9.80	9.80
		90	110	60	kgfcm	2.0	3.0	3.6	5.0	6.0	7.5	9.0	10.0	12.5	14.9	16.2	22.5	27.0	29.4	32.6	40.8	49.0	61.2	73.4	81.6	97.9	100.0	100.0	100.0
					N.m	0.20	0.29	0.35	0.49	0.59	0.73	0.88	0.98	1.22	1.46	1.59	2.21	2.65	2.88	3.20	4.00	4.80	6.00	7.20	8.00	9.60	9.80	9.80	9.80
			220	60	kgfcm	2.0	3.0	3.6	5.0	6.0	7.5	9.0	10.0	12.5	14.9	16.2	22.5	27.0	29.4	32.6	40.8	49.0	61.2	73.4	81.6	97.9	100.0	100.0	100.0
					N.m	0.20	0.29	0.35	0.49	0.59	0.73	0.88	0.98	1.22	1.46	1.59	2.21	2.65	2.88	3.20	4.00	4.80	6.00	7.20	8.00	9.60	9.80	9.80	9.80
			220/240	50	kgfcm	1.2	1.7	2.1	2.9	3.5	4.4	5.2	5.8	7.3	8.7	9.5	13.1	15.8	17.1	19.0	23.8	28.6	35.7	42.8	47.6	57.1	71.4	85.7	85.7
					N.m	0.11	0.17	0.20	0.28	0.34	0.43	0.51	0.57	0.71	0.85	0.93	1.29	1.54	1.68	1.87	2.33	2.80	3.50	4.20	4.66	5.60	7.00	8.40	8.40

Motor Model	Gearbox Model	r/min	V	Hz	Gear Ratio	10	12	15	18	25	30	36	50	60
9SBDG□-40W	9WD□BL/□BR/□BRL	1200	110	60	kgfcm	23.8	27.8	33.5	38.6	50.8	57.4	66.8	87.0	95.7
					N.m	2.33	2.73	3.28	3.79	4.97	5.63	6.55	8.53	9.38
			220	60	kgfcm	24.1	28.9	36.1	43.3	60.2	72.2	86.7	120.4	122.4
					N.m	2.36	2.83	3.54	4.25	5.90	7.08	8.49	11.79	12.00
			220/240	50	kgfcm	24.6	28.8	34.7	40.0	52.5	59.4	69.1	90.0	99.0
					N.m	2.41	2.82	3.40	3.92	5.15	5.82	6.77	8.82	9.70
		90	110	60	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
			220	60	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
			220/240	50	kgfcm	5.7	6.7	8.1	9.3	12.3	13.9	16.1	21.0	23.1
					N.m	0.56	0.66	0.79	0.91	1.20	1.36	1.58	2.06	2.26

1) Enter the phase & voltage code in the box (□) 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.

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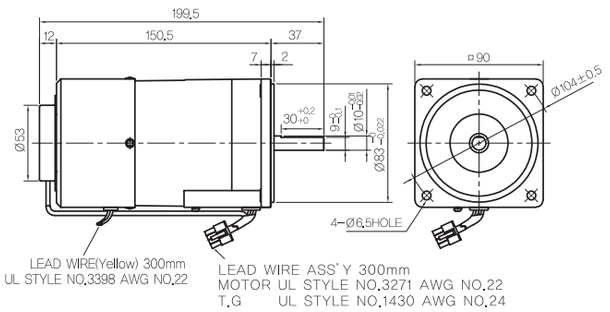
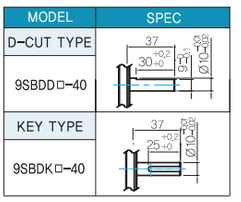
Dimensions

MOTOR ONLY

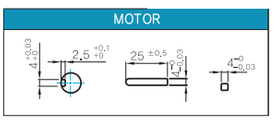
● MOTOR MODEL: 9SBDD□-40 (NO FAN)



● MOTOR OUTPUT SHAFT

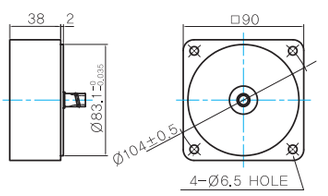
MODEL	SPEC
D-CUT TYPE	
9SBDD□-40	
KEY TYPE	
9SBDK□-40	

● KEY SPEC

MOTOR


INTER-DECIMAL GEARBOX

● MODEL: 9XD10□□

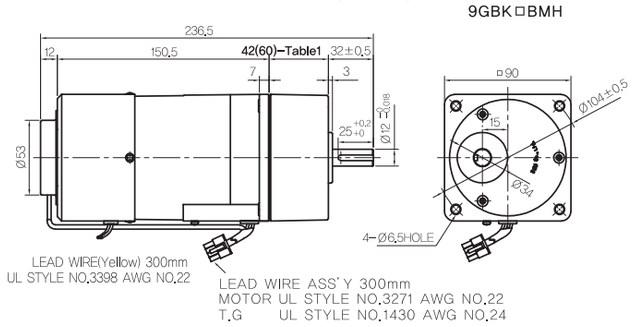


GEARED MOTOR

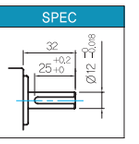
G TYPE GEARBOX

● MOTOR MODEL: 9SBDG□-40G (NO FAN)

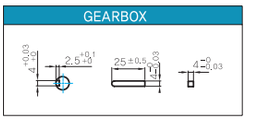
● GEARBOX MODEL: 9GBK□BMH



● GEARBOX OUTPUT SHAFT

MODEL	SPEC
KEY TYPE	

● KEY SPEC

GEARBOX


● 42(60)-Table1

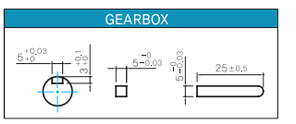
SIZE(mm)	GEAR RATIO
42	9GBK2BMH ~ 9GBK18BMH
60	9GBK25BMH ~ 9GBK200BMH

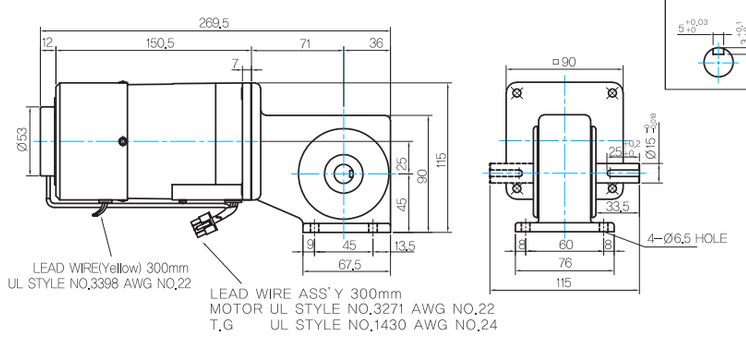
W TYPE GEARBOX

● MOTOR MODEL: 9SBDG□-40W (NO FAN)

● GEARBOX MODEL: 9WD□BL/BR/BRL

● KEY SPEC

GEARBOX




WEIGHT

PART		WEIGHT(Kg)
MOTOR		3.09
GEAR BOX	9GBK2BMH ~ 9GBK15BMH	0.67
	9GBK18BMH ~ 9GBK30BMH	0.96
	9GBK36BMH ~ 9GBK200BMH	1.07
	9WD□BL/BR/BRL	1.0
	9XD10□□	0.5

Motor Images

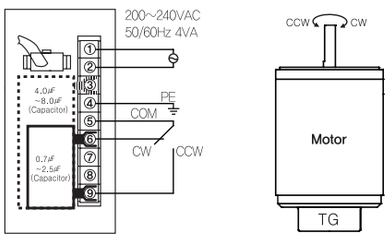
9SBDD□-40	9SBDG□-40G+9GBK□BMH	9SBDG□-40W+9WD□BL
		

B AC Motors

S.C. Brake Motor 40W (□90mm)

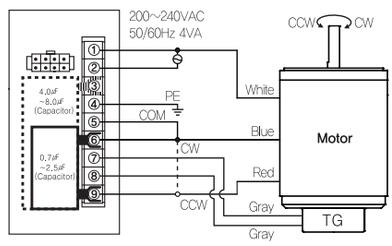
Connection Diagrams

FX1000A – Connector Type

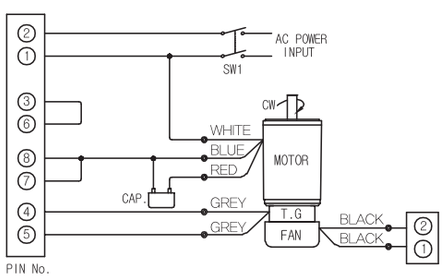


Direction: Clockwise COM+CW, Counterclockwise COM+CCW
Capacitor: Connect 3-9 or 6-9, according to its capacity

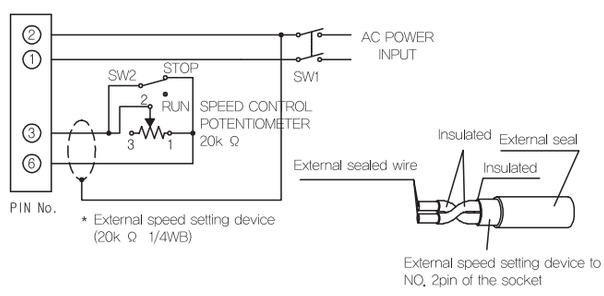
FX1000A – Terminal Type



DSKM–Using Internal Volume



DSKM–Using External Volume



1) At first connect the speed controller with the motor as instructed in connection diagrams. And then input the external power to both of the terminal 'AC' for the rated speed operation.
   Now you can adjust the main volume to control the output speed of motor.
2) The direction of motor rotation is as viewed from the shaft end of the motor.
3) CW represents the clockwise direction, while CCW represents the counterclockwise direction.
4) When using powerful fan (F2 type) attached motor, connect two black wires of the fan to No.1 and No.2 terminals in order to supply power.

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60W Speed Control Brake Motor 60W(□90mm)

Motor Specification

Model 9SBDG*-60F2□: Gear Type Shaft 9SBDD*-60F2: D-Cut Type Shaft 9SBDK*-60F2: Key Type Shaft	Output	Voltage	Frequency	Poles	Duty	Speed Range	Starting Torque		Permissible Torque				Capacitor
									1200r/min		90r/min		
	W	V	Hz			r/min	kgfcm	N.m	kgfcm	N.m	kgfcm	N.m	μF / VAC
9SBDGA-60F2□	60	1ø110	60	4	30min.	90-1700	3.20	0.320	6.10	0.610	2.80	0.280	20.0 / 250
9SBDGD-60F2□	60	1ø220	60	4	30min.	90-1700	3.80	0.380	6.50	0.650	3.00	0.300	5.0 / 400
9SBDGE-60F2□	60	1ø220	50	4	30min.	90-1400	5.20	0.520	5.20	0.520	1.00	0.100	5.0 / 400
		1ø240					5.80	0.580	5.80	0.580	1.00	0.100	

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

Max. Permissible Torque at Output Shaft of Gearbox

Motor Model	Gearbox Model	r/min	V	Hz	Gear Ratio	2	3	3.6	5	6	7.5	9	12.5	15	18	20
9SBDG□-60F2P	9PBK□BH 9PFK□BH	1200	110	60	kgfcm	10.1	15.2	18.2	25.3	30.4	38.0	45.6	57.2	68.6	82.4	83.0
					N.m	0.99	1.49	1.79	2.48	2.98	3.72	4.47	5.60	6.73	8.07	8.13
			220	60	kgfcm	10.8	16.2	19.4	27.0	32.4	40.5	48.6	60.9	73.1	87.8	88.4
					N.m	1.06	1.59	1.90	2.64	3.17	3.97	4.76	5.97	7.17	8.60	8.66
			220/240	50	kgfcm	9.6	14.4	17.3	24.1	28.9	36.1	43.3	54.4	65.3	78.3	78.9
					N.m	0.94	1.42	1.70	2.36	2.83	3.54	4.25	5.33	6.39	7.67	7.73
		90	110	60	kgfcm	4.6	7.0	8.4	11.6	13.9	17.4	20.9	26.3	31.5	37.8	38.1
					N.m	0.46	0.68	0.82	1.14	1.37	1.71	2.05	2.57	3.09	3.70	3.73
			220	60	kgfcm	5.0	7.5	9.0	12.5	14.9	18.7	22.4	28.1	33.8	40.5	40.8
					N.m	0.49	0.73	0.88	1.22	1.46	1.83	2.20	2.76	3.31	3.97	4.00
			220/240	50	kgfcm	1.7	2.5	3.0	4.2	5.0	6.2	7.5	9.4	11.3	13.5	13.6
					N.m	0.16	0.24	0.29	0.41	0.49	0.61	0.73	0.92	1.10	1.32	1.33

Motor Model	Gearbox Model	r/min	V	Hz	Gear Ratio	25	30	36	40	50	60	75	90	100	120	150	180	200
9SBDG□-60F2P	9PBK□BH 9PFK□BH	1200	110	60	kgfcm	103.7	124.4	149.3	165.9	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0
					N.m	10.16	12.20	14.63	16.26	19.60	19.60	19.60	19.60	19.60	19.60	19.60	19.60	19.60
			220	60	kgfcm	110.5	132.6	159.1	176.8	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0
					N.m	10.83	12.99	15.59	17.33	19.60	19.60	19.60	19.60	19.60	19.60	19.60	19.60	19.60
			220/240	50	kgfcm	98.6	118.3	142.0	157.8	197.2	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0
					N.m	9.66	11.60	13.91	15.46	19.33	19.60	19.60	19.60	19.60	19.60	19.60	19.60	19.60
		90	110	60	kgfcm	47.6	57.1	68.5	76.2	95.2	114.2	128.1	153.7	170.8	200.0	200.0	200.0	200.0
					N.m	4.66	5.60	6.72	7.46	9.33	11.20	12.55	15.06	16.74	19.60	19.60	19.60	19.60
			220	60	kgfcm	51.0	61.2	73.4	81.6	102.0	122.4	137.3	164.7	183.0	200.0	200.0	200.0	200.0
					N.m	5.00	6.00	7.20	8.00	10.00	12.00	13.45	16.14	17.93	19.60	19.60	19.60	19.60
			220/240	50	kgfcm	17.0	20.4	24.5	27.2	34.0	40.8	45.8	54.9	61.0	73.2	91.5	109.8	109.8
					N.m	1.67	2.00	2.40	2.67	3.33	4.00	4.48	5.38	5.98	7.17	8.97	10.76	10.76

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B AC Motors

S.C. Brake Motor 60W (□90mm)

Max. Permissible Torque at Output Shaft of Gearbox

Motor Model	Gearbox Model	r/min	V	Hz	Gear Ratio	3	3.6	6	9	12.5	15	18	20	25	30	36	50	60	75	90	100	120	150	180	200
9SBDG□-60F2H	9HBK□BH	1200	110	60	kgfcm	15.2	18.2	30.4	45.6	57.2	68.6	82.4	83.0	103.7	124.4	149.3	207.4	248.9	279.1	300.0	300.0	300.0	300.0	300.0	300.0
					N.m	1.49	1.79	2.98	4.47	5.60	6.73	8.07	8.13	10.16	12.20	14.63	20.33	24.39	27.35	29.40	29.40	29.40	29.40	29.40	29.40
			220	60	kgfcm	16.2	19.4	32.4	48.6	60.9	73.1	87.8	88.4	110.5	132.6	159.1	221.0	265.2	297.4	300.0	300.0	300.0	300.0	300.0	300.0
					N.m	1.59	1.90	3.17	4.76	5.97	7.17	8.60	8.66	10.83	12.99	15.59	21.66	25.99	29.14	29.40	29.40	29.40	29.40	29.40	29.40
			220/240	50	kgfcm	14.4	17.3	28.9	43.3	54.4	65.3	78.3	78.9	98.6	118.3	142.0	197.2	236.6	265.4	300.0	300.0	300.0	300.0	300.0	300.0
					N.m	1.42	1.70	2.83	4.25	5.33	6.39	7.67	7.73	9.66	11.60	13.91	19.33	23.19	26.00	29.40	29.40	29.40	29.40	29.40	29.40
	9HFK□BH	90	110	60	kgfcm	7.0	8.4	13.9	20.9	26.3	31.5	37.8	38.1	47.6	57.1	68.5	95.2	114.2	128.1	153.7	170.8	205.0	256.2	300.0	300.0
					N.m	0.68	0.82	1.37	2.05	2.57	3.09	3.70	3.73	4.66	5.60	6.72	9.33	11.20	12.55	15.06	16.74	20.09	25.11	29.40	29.40
			220	60	kgfcm	7.5	9.0	14.9	22.4	28.1	33.8	40.5	40.8	51.0	61.2	73.4	102.0	122.4	137.3	164.7	183.0	219.6	274.5	300.0	300.0
					N.m	0.73	0.88	1.46	2.20	2.76	3.31	3.97	4.00	5.00	6.00	7.20	10.00	12.00	13.45	16.14	17.93	21.52	26.90	29.40	29.40
			220/240	50	kgfcm	2.5	3.0	5.0	7.5	9.4	11.3	13.5	13.6	17.0	20.4	24.5	34.0	40.8	45.8	54.9	61.0	73.2	91.5	109.8	109.8
					N.m	0.24	0.29	0.49	0.73	0.92	1.10	1.32	1.33	1.67	2.00	2.40	3.33	4.00	4.48	5.38	5.98	7.17	8.97	10.76	10.76

Motor Model	Gearbox Model	r/min	V	Hz	Gear Ratio	10	12	15	18	25	30	36	50	60
9SBDG□-60F2W	9WD□BL/□BR/□BRL	1200	110	60	kgfcm	50.0	58.6	70.5	81.3	106.8	120.8	140.5	142.9	122.4
					N.m	4.90	5.74	6.90	7.96	10.46	11.84	13.77	14.00	12.00
			220	60	kgfcm	53.3	62.4	75.1	86.6	113.8	128.7	149.8	142.9	122.4
					N.m	5.22	6.12	7.36	8.48	11.15	12.61	14.68	14.00	12.00
			220/240	50	kgfcm	47.6	55.7	67.0	77.3	101.5	114.8	133.6	142.9	122.4
					N.m	4.66	5.46	6.57	7.57	9.95	11.25	13.10	14.00	12.00
		90	110	60	kgfcm	23.0	26.9	32.3	37.3	49.0	55.4	64.5	84.0	92.4
					N.m	2.25	2.63	3.17	3.66	4.80	5.43	6.32	8.23	9.06
			220	60	kgfcm	24.6	28.8	34.7	40.0	52.5	59.4	69.1	90.0	99.0
					N.m	2.41	2.82	3.40	3.92	5.15	5.82	6.77	8.82	9.70
			220/240	50	kgfcm	8.2	9.6	11.6	13.3	17.5	19.8	23.0	30.0	33.0
					N.m	0.80	0.94	1.13	1.31	1.72	1.94	2.26	2.94	3.23

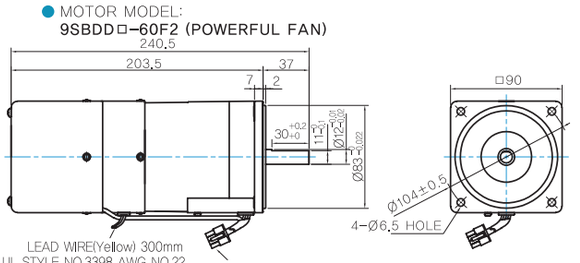
Motor Model	Gearbox Model	r/min	V	Hz	Gear Ratio	7.5	10	15	20	25	30	40	50	60	80
9SBDG□-60F2WH	9WHD□-030	1200	110	60	kgfcm	38.4	49.4	69.5	87.8	100.7	117.1	144.0	164.7	163.3	132.7
					N.m	3.77	4.84	6.81	8.61	9.86	11.48	14.11	16.14	16.00	13.00
			220	60	kgfcm	41.0	52.7	74.1	93.6	107.3	124.8	153.4	173.5	163.3	132.7
					N.m	4.01	5.16	7.26	9.17	10.51	12.23	15.03	17.00	16.00	13.00
			220/240	50	kgfcm	36.5	47.0	66.1	83.5	95.7	111.4	136.9	156.6	163.3	132.7
					N.m	3.58	4.60	6.48	8.18	9.38	10.91	13.41	15.35	16.00	13.00
		90	110	60	kgfcm	17.6	22.7	31.9	40.3	46.2	53.8	66.1	75.6	84.0	98.6
					N.m	1.73	2.22	3.13	3.95	4.53	5.27	6.48	7.41	8.23	9.66
			220	60	kgfcm	18.9	24.3	34.2	43.2	49.5	57.6	70.8	81.0	90.0	105.6
					N.m	1.85	2.38	3.35	4.23	4.85	5.64	6.94	7.94	8.82	10.35
			220/240	50	kgfcm	6.3	8.1	11.4	14.4	16.5	19.2	23.6	27.0	30.0	35.2
					N.m	0.62	0.79	1.12	1.41	1.62	1.88	2.31	2.65	2.94	3.45

1) Enter the phase & voltage code in the box (□) 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

MOTOR ONLY

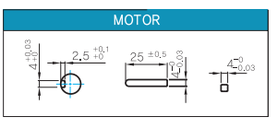
● MOTOR MODEL:
9SBDD□-60F2 (POWERFUL FAN)



MOTOR OUTPUT SHAFT

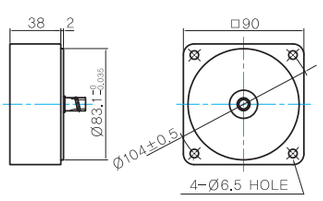
MODEL	SPEC
D-CUT TYPE	
9SBDD□-60F2	
KEY TYPE	
9SBDK□-60F2	

KEY SPEC



INTER-DECIMAL GEARBOX

● MODEL: 9XD10□□



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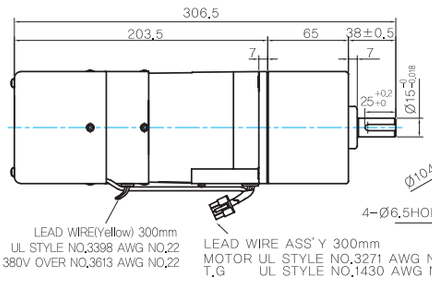
DKM

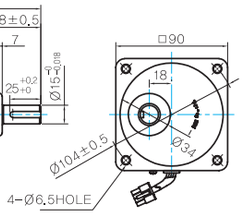
GEARED MOTOR

P TYPE GEARBOX

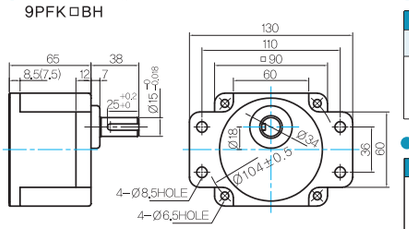
● MOTOR MODEL:
9SBDG□-60F2P (POWERFUL FAN)



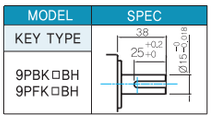
● GEARBOX MODEL:
9PBK□BH



● GEARBOX MODEL:
9PFK□BH

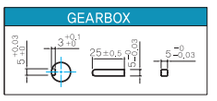


● GEARBOX OUTPUT SHAFT

MODEL	SPEC
KEY TYPE	
9PBK□BH 9PFK□BH	

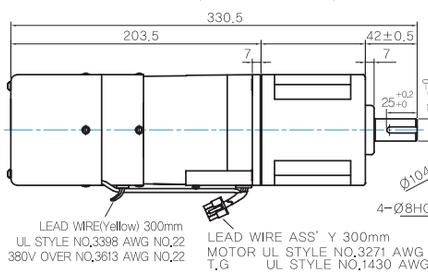
● KEY SPEC

GEARBOX

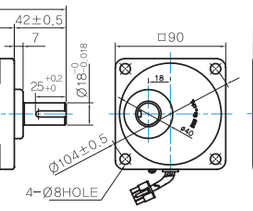


H TYPE GEARBOX

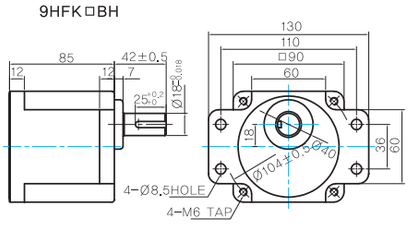
● MOTOR MODEL:
9SBDG□-60F2H (POWERFUL FAN)



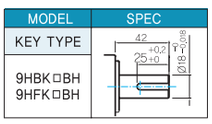
● GEARBOX MODEL:
9HBK□BH



● GEARBOX MODEL:
9HFK□BH

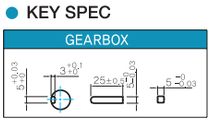


● GEARBOX OUTPUT SHAFT

MODEL	SPEC
KEY TYPE	
9HBK□BH 9HFK□BH	

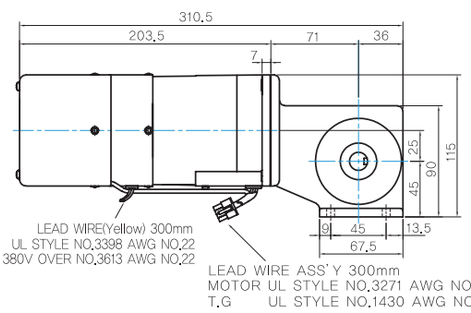
● KEY SPEC

GEARBOX

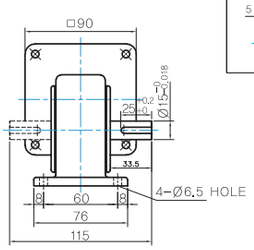


W TYPE GEARBOX

● MOTOR MODEL:
9SBDG□-60F2W (POWERFUL FAN)

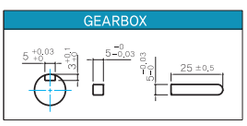


● GEARBOX MODEL:
9WD□BL/BR/BRL



● KEY SPEC

GEARBOX



WH TYPE GEARBOX

● MOTOR MODEL:
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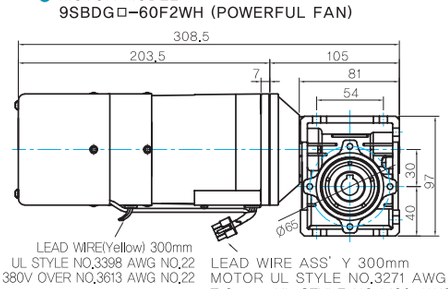
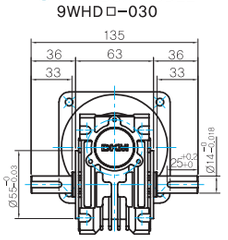
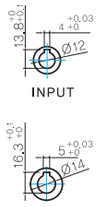
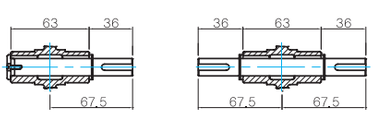


● GEARBOX MODEL:
9WHD□-030

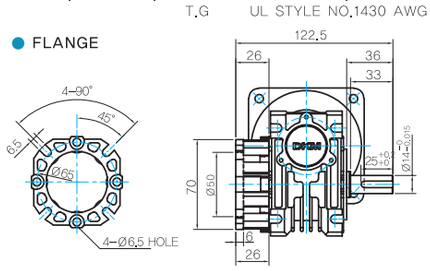




● SHAFT(Unidirectional, Bi-directional)

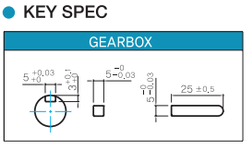


● FLANGE



● KEY SPEC

GEARBOX



WEIGHT

PART		WEIGHT(Kg)
MOTOR		2.7
GEAR BOX	9PB(F)K2BH ~ 9PB(F)K18BH	1.3
	9PB(F)K20BH ~ 9PB(F)K200BH	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)K200BH	1.8
	9WD□BL/BR/BRL	1.0
	9WHD□-030	1.13
	9XD10□□	0.5

* The output flange and shafts are sold separately.

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B AC Motors

S.C. Brake Motor 60W (□90mm)

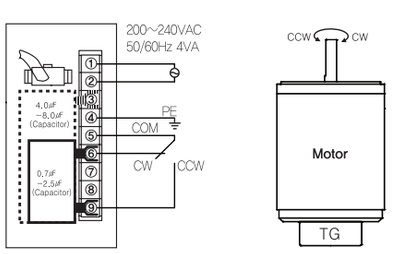
Motor Images

9SBDD□-60F2	9SBDG□-60F2P+9PBK□BH	9SBDG□-60F2P+9PFK□BH	9SBDG□-60F2H+9HBK□BH	9SBDG□-60F2H+9HFK□BH	9SBDG□-60F2W+9WD□BL
					

9SBDG□-60F2WH+9WHD□-030

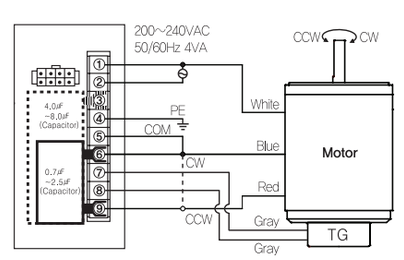

Connection Diagrams

FX1000A – Connector Type

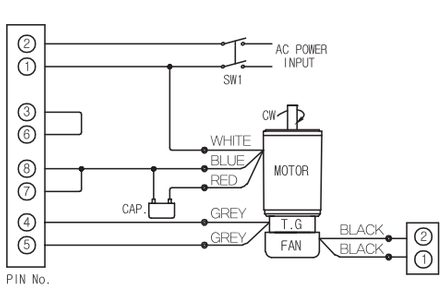


Direction: Clockwise COM+CW, Counterclockwise COM+CCW
Capacitor: Connect 3-9 or 6-9, according to its capacity

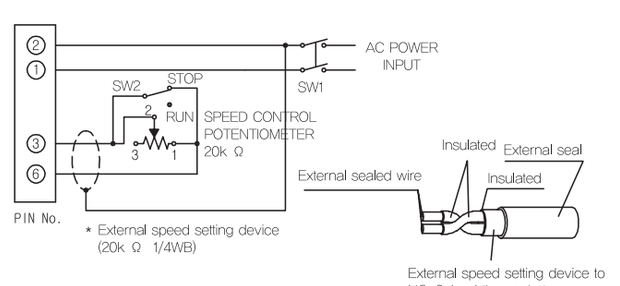
FX1000A – Terminal Type



DSKM–Using Internal Volume



DSKM–Using External Volume



1) At first connect the speed controller with the motor as instructed in connection diagrams. And then input the external power to both of the terminal 'AC' for the rated speed operation. Now you can adjust the main volume to control the output speed of motor.
2) The direction of motor rotation is as viewed from the shaft end of the motor.
3) CW represents the clockwise direction, while CCW represents the counterclockwise direction.
4) When using powerful fan (F2 type) attached motor, connect two black wires of the fan to No.1 and No.2 terminals in order to supply power.

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S.C. Brake Motor 90W (□90mm)

90W Speed Control Brake Motor 90W(□90mm)

Motor Specification

Model 9SBDG*-90F2□: Gear Type Shaft 9SBDD*-90F2: D-Cut Type Shaft 9SBDK*-90F2: Key Type Shaft	Output	Voltage	Frequency	Poles	Duty	Speed Range	Starting Torque		Permissible Torque				Capacitor
									1200r/min		90r/min		
	W	V	Hz			r/min	kgfcm	N.m	kgfcm	N.m	kgfcm	N.m	μF / VAC
9SBDGA-90F2□	90	1ø110	60	4	30min.	90-1700	6.50	0.650	6.30	0.630	3.00	0.300	25.0 / 250
9SBDGD-90F2□	90	1ø220	60	4	30min.	90-1700	6.50	0.650	6.30	0.630	3.00	0.300	6.0 / 400
9SBDGE-90F2□	90	1ø220	50	4	30min.	90-1400	4.60	0.460	5.40	0.540	2.20	0.220	6.0 / 400
		1ø240					5.50	0.550	6.10	0.610	2.20	0.220	

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

Max. Permissible Torque at Output Shaft of Gearbox

Motor Model	Gearbox Model	r/min	V	Hz	Gear Ratio	2	3	3.6	5	6	7.5	9	12.5	15	18	20
9SBDG□-90F2P	9PBK□BH 9PFK□BH	1200	110	60	kgfcm	10.5	15.7	18.8	26.1	31.4	39.2	47.1	59.1	70.9	85.1	85.7
					N.m	1.02	1.54	1.84	2.56	3.07	3.84	4.61	5.79	6.95	8.33	8.40
			220	60	kgfcm	10.5	15.7	18.8	26.1	31.4	39.2	47.1	59.1	70.9	85.1	85.7
					N.m	1.02	1.54	1.84	2.56	3.07	3.84	4.61	5.79	6.95	8.33	8.40
			220/240	50	kgfcm	10.1	15.2	18.2	25.3	30.4	38.0	45.6	57.2	68.6	82.4	83.0
					N.m	0.99	1.49	1.79	2.48	2.98	3.72	4.47	5.60	6.73	8.07	8.13
		90	110	60	kgfcm	5.0	7.5	9.0	12.5	14.9	18.7	22.4	28.1	33.8	40.5	40.8
					N.m	0.49	0.73	0.88	1.22	1.46	1.83	2.20	2.76	3.31	3.97	4.00
			220	60	kgfcm	5.0	7.5	9.0	12.5	14.9	18.7	22.4	28.1	33.8	40.5	40.8
					N.m	0.49	0.73	0.88	1.22	1.46	1.83	2.20	2.76	3.31	3.97	4.00
			220/240	50	kgfcm	3.7	5.5	6.6	9.1	11.0	13.7	16.4	20.6	24.8	29.7	29.9
					N.m	0.36	0.54	0.64	0.89	1.07	1.34	1.61	2.02	2.43	2.91	2.93

Motor Model	Gearbox Model	r/min	V	Hz	Gear Ratio	25	30	36	40	50	60	75	90	100	120	150	180	200
9SBDG□-90F2P	9PBK□BH 9PFK□BH	1200	110	60	kgfcm	107.1	128.5	154.2	171.4	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0
					N.m	10.50	12.59	15.11	16.79	19.60	19.60	19.60	19.60	19.60	19.60	19.60	19.60	19.60
			220	60	kgfcm	107.1	128.5	154.2	171.4	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0
					N.m	10.50	12.59	15.11	16.79	19.60	19.60	19.60	19.60	19.60	19.60	19.60	19.60	19.60
			220/240	50	kgfcm	103.7	124.4	149.3	165.9	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0
					N.m	10.16	12.20	14.63	16.26	19.60	19.60	19.60	19.60	19.60	19.60	19.60	19.60	19.60
		90	110	60	kgfcm	51.0	61.2	73.4	81.6	102.0	122.4	137.3	164.7	183.0	200.0	200.0	200.0	200.0
					N.m	5.00	6.00	7.20	8.00	10.00	12.00	13.45	16.14	17.93	19.60	19.60	19.60	19.60
			220	60	kgfcm	51.0	61.2	73.4	81.6	102.0	122.4	137.3	164.7	183.0	200.0	200.0	200.0	200.0
					N.m	5.00	6.00	7.20	8.00	10.00	12.00	13.45	16.14	17.93	19.60	19.60	19.60	19.60
			220/240	50	kgfcm	37.4	44.9	53.9	59.8	74.8	89.8	100.7	120.8	134.2	161.0	200.0	200.0	200.0
					N.m	3.67	4.40	5.28	5.86	7.33	8.80	9.86	11.84	13.15	15.78	19.60	19.60	19.60

B AC Motors

S.C. Brake Motor 90W (□90mm)

Max. Permissible Torque at Output Shaft of Gearbox

Motor Model	Gearbox Model	r/min	V	Hz	Gear Ratio	3	3.6	6	9	12.5	15	18	20	25	30	36	50	60	75	90	100	120	150	180
9SBDG□ −90F2H	9HBK□BH 9HFK□BH	1200	110	60	kgfcm	15.7	18.8	31.4	47.1	59.1	70.9	85.1	85.7	107.1	128.5	154.2	214.2	257.0	288.2	300.0	300.0	300.0	300.0	300.0
					N.m	1.54	1.84	3.07	4.61	5.79	6.95	8.33	8.40	10.50	12.59	15.11	20.99	25.19	28.25	29.40	29.40	29.40	29.40	29.40
			220	60	kgfcm	15.7	18.8	31.4	47.1	59.1	70.9	85.1	85.7	107.1	128.5	154.2	214.2	257.0	288.2	300.0	300.0	300.0	300.0	300.0
					N.m	1.54	1.84	3.07	4.61	5.79	6.95	8.33	8.40	10.50	12.59	15.11	20.99	25.19	28.25	29.40	29.40	29.40	29.40	29.40
			220/ 240	50	kgfcm	15.2	18.2	30.4	45.6	57.2	68.6	82.4	83.0	103.7	124.4	149.3	207.4	248.9	279.1	300.0	300.0	300.0	300.0	300.0
					N.m	1.49	1.79	2.98	4.47	5.60	6.73	8.07	8.13	10.16	12.20	14.63	20.33	24.39	27.35	29.40	29.40	29.40	29.40	29.40
		90	110	60	kgfcm	7.5	9.0	14.9	22.4	28.1	33.8	40.5	40.8	51.0	61.2	73.4	102.0	122.4	137.3	164.7	183.0	219.6	274.5	300.0
					N.m	0.73	0.88	1.46	2.20	2.76	3.31	3.97	4.00	5.00	6.00	7.20	10.00	12.00	13.45	16.14	17.93	21.52	26.90	29.40
			220	60	kgfcm	7.5	9.0	14.9	22.4	28.1	33.8	40.5	40.8	51.0	61.2	73.4	102.0	122.4	137.3	164.7	183.0	219.6	274.5	300.0
					N.m	0.73	0.88	1.46	2.20	2.76	3.31	3.97	4.00	5.00	6.00	7.20	10.00	12.00	13.45	16.14	17.93	21.52	26.90	29.40
			220/ 240	50	kgfcm	5.5	6.6	11.0	16.4	20.6	24.8	29.7	29.9	37.4	44.9	53.9	74.8	89.8	100.7	120.8	134.2	161.0	201.3	241.6
					N.m	0.54	0.64	1.07	1.61	2.02	2.43	2.91	2.93	3.67	4.40	5.28	7.33	8.80	9.86	11.84	13.15	15.78	19.73	23.67

Motor Model	Gearbox Model	r/min	V	Hz	Gear Ratio	10	12	15	18	25	30	36	50	60
9SBDG□ −90F2W	9WD□BL/ □BR/□BRL	1200	110	60	kgfcm	51.7	60.5	72.8	83.9	110.3	124.7	145.2	142.9	122.4
					N.m	5.06	5.93	7.13	8.22	10.80	12.22	14.22	14.00	12.00
			220	60	kgfcm	51.7	60.5	72.8	83.9	110.3	124.7	145.2	142.9	122.4
					N.m	5.06	5.93	7.13	8.22	10.80	12.22	14.22	14.00	12.00
			220/240	50	kgfcm	50.0	58.6	70.5	81.3	106.8	120.8	140.5	142.9	122.4
					N.m	4.90	5.74	6.90	7.96	10.46	11.84	13.77	14.00	12.00
		90	110	60	kgfcm	24.6	28.8	34.7	40.0	52.5	59.4	69.1	90.0	99.0
					N.m	2.41	2.82	3.40	3.92	5.15	5.82	6.77	8.82	9.70
			220	60	kgfcm	24.6	28.8	34.7	40.0	52.5	59.4	69.1	90.0	99.0
					N.m	2.41	2.82	3.40	3.92	5.15	5.82	6.77	8.82	9.70
			220/240	50	kgfcm	18.0	21.1	25.4	29.3	38.5	43.6	50.7	66.0	72.6
					N.m	1.77	2.07	2.49	2.87	3.77	4.27	4.97	6.47	7.11

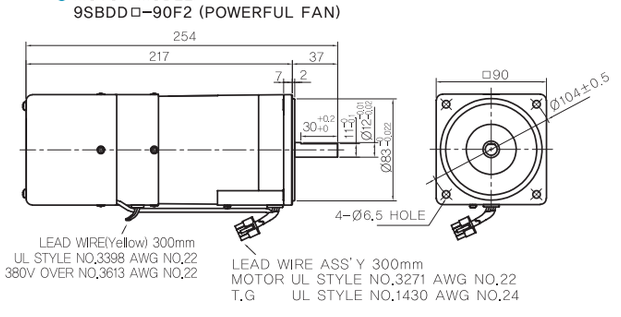
Motor Model	Gearbox Model	r/min	V	Hz	Gear Ratio	7.5	10	15	20	25	30	40	50	60	80
9SBDG□ −90F2WH	9WHD□−030	1200	110	60	kgfcm	39.7	51.0	71.8	90.7	104.0	121.0	148.7	170.1	163.3	132.7
					N.m	3.89	5.00	7.04	8.89	10.19	11.85	14.57	16.67	16.00	13.00
			220	60	kgfcm	39.7	51.0	71.8	90.7	104.0	121.0	148.7	170.1	163.3	132.7
					N.m	3.89	5.00	7.04	8.89	10.19	11.85	14.57	16.67	16.00	13.00
			220/240	50	kgfcm	38.4	49.4	69.5	87.8	100.7	117.1	144.0	164.7	163.3	132.7
					N.m	3.77	4.84	6.81	8.61	9.86	11.48	14.11	16.14	16.00	13.00
		90	110	60	kgfcm	18.9	24.3	34.2	43.2	49.5	57.6	70.8	81.0	90.0	105.6
					N.m	1.85	2.38	3.35	4.23	4.85	5.64	6.94	7.94	8.82	10.35
			220	60	kgfcm	18.9	24.3	34.2	43.2	49.5	57.6	70.8	81.0	90.0	105.6
					N.m	1.85	2.38	3.35	4.23	4.85	5.64	6.94	7.94	8.82	10.35
			220/240	50	kgfcm	13.9	17.8	25.1	31.7	36.3	42.2	51.9	59.4	66.0	77.4
					N.m	1.36	1.75	2.46	3.10	3.56	4.14	5.09	5.82	6.47	7.59

1) Enter the phase & voltage code in the box (□) 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.

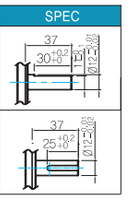
Dimensions

MOTOR ONLY

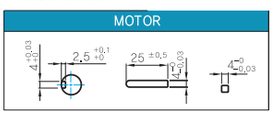
● MOTOR MODEL:
9SBDD□−90F2 (POWERFUL FAN)



MOTOR OUTPUT SHAFT

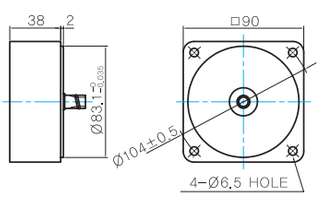
MODEL	SPEC
D-CUT TYPE 9SBDD□−90F2	
KEY TYPE 9SBDK□−90F2	

KEY SPEC



INTER-DECIMAL GEARBOX

● MODEL: 9XD10□□



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DKM

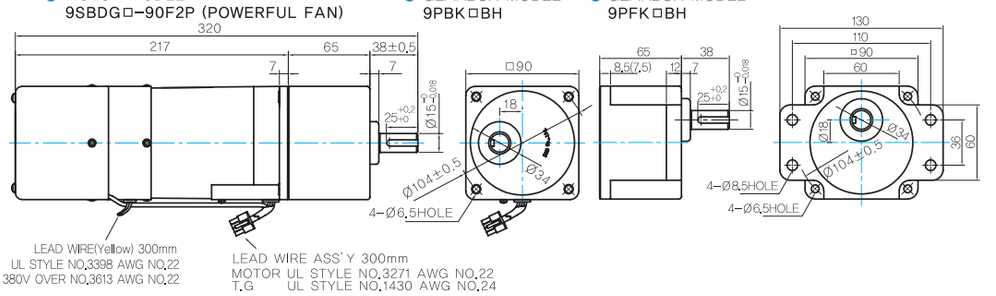
GEARED MOTOR

P TYPE GEARBOX

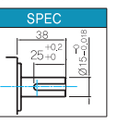
● MOTOR MODEL:
9SBDG□-90F2P (POWERFUL FAN)

● GEARBOX MODEL:
9PBK□BH

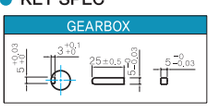
● GEARBOX MODEL:
9PFK□BH



● GEARBOX OUTPUT SHAFT

MODEL	SPEC
KEY TYPE	
9PBK□BH 9PFK□BH	

● KEY SPEC

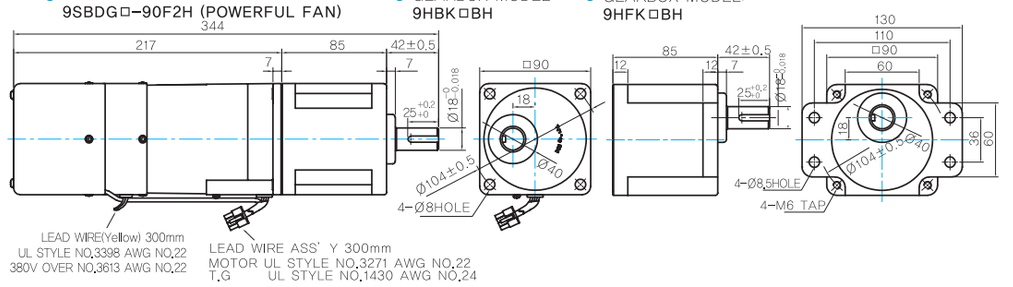
GEARBOX


H TYPE GEARBOX

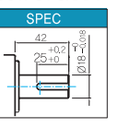
● MOTOR MODEL:
9SBDG□-90F2H (POWERFUL FAN)

● GEARBOX MODEL:
9HBK□BH

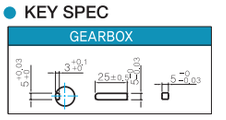
● GEARBOX MODEL:
9HFK□BH



● GEARBOX OUTPUT SHAFT

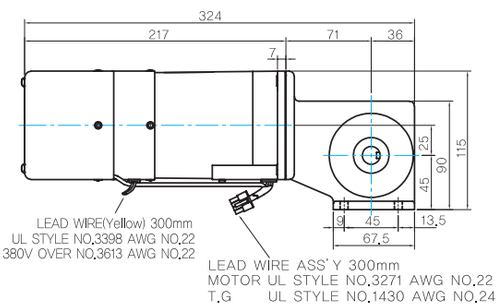
MODEL	SPEC
KEY TYPE	
9HBK□BH 9HFK□BH	

● KEY SPEC

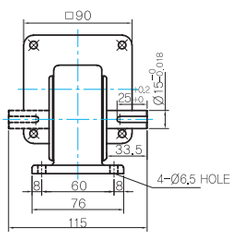
GEARBOX


W TYPE GEARBOX

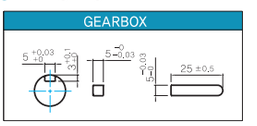
● MOTOR MODEL:
9SBDG□-90F2W (POWERFUL FAN)



● GEARBOX MODEL:
9WD□BL/BR/BRL

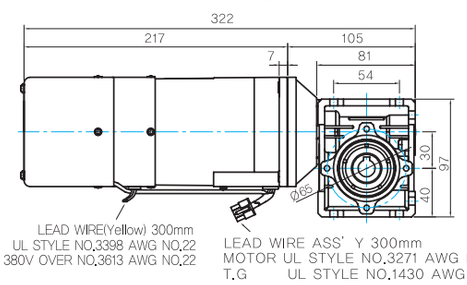


● KEY SPEC

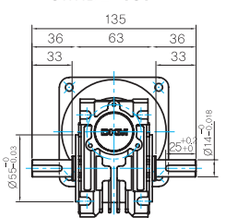
GEARBOX


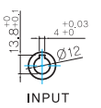
WH TYPE GEARBOX

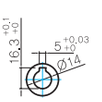
● MOTOR MODEL:
9SBDG□-90F2WH (POWERFUL FAN)



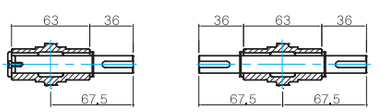
● GEARBOX MODEL:
9WHD□-030



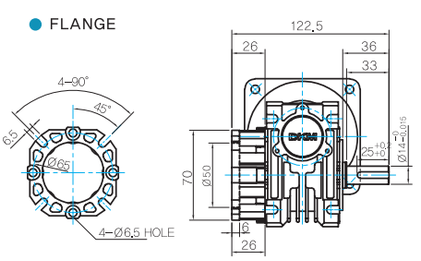




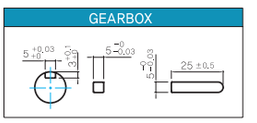
● SHAFT(Unidirectional, Bi-directional)



● FLANGE



● KEY SPEC

GEARBOX


∗ The output flange and shafts are sold separately.

WEIGHT

PART		WEIGHT(Kg)
MOTOR		3.8
GEAR BOX	9PB(F)K2BH ~ 9PB(F)K18BH	1.3
	9PB(F)K20BH ~ 9PB(F)K200BH	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)K200BH	1.8
	9WD□BL/BR/BRL	1.0
	9WHD□-030	1.13
	9XD10□□	0.5

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B AC Motors

S.C. Brake Motor 90W (□90mm)

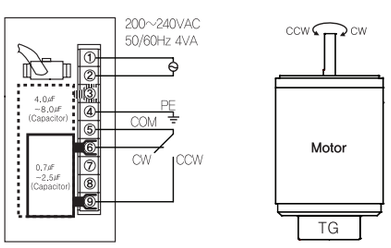
Motor Images

9SBDD□-90F2	9SBDG□-90F2P+9PBK□BH	9SBDG□-90F2P+9PFK□BH	9SBDG□-90F2H+9HBK□BH	9SBDG□-90F2H+9HFK□BH	9SBDG□-90F2W+9WD□BL
					

9SBDG□-90F2WH+9WHD□-030

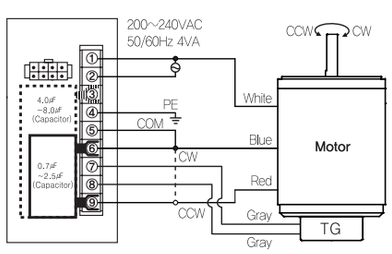

Connection Diagrams

FX1000A – Connector Type

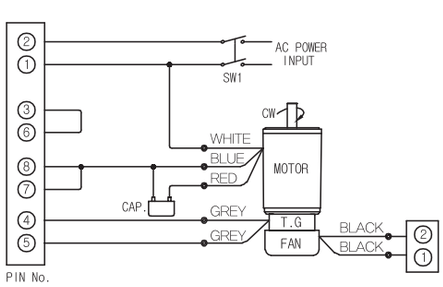


Direction: Clockwise COM+CW, Counterclockwise COM+CCW
Capacitor: Connect 3-9 or 6-9, according to its capacity

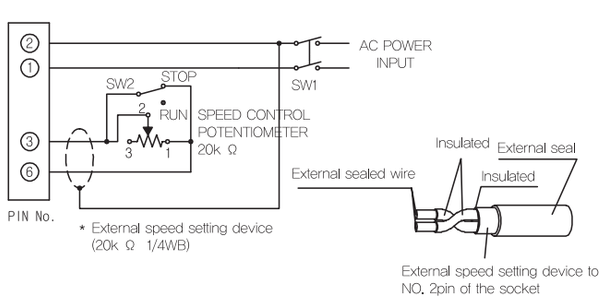
FX1000A – Terminal Type



DSKM–Using Internal Volume



DSKM–Using External Volume



1) At first connect the speed controller with the motor as instructed in connection diagrams. And then input the external power to both of the terminal 'AC' for the rated speed operation.
   Now you can adjust the main volume to control the output speed of motor.
2) The direction of motor rotation is as viewed from the shaft end of the motor.
3) CW represents the clockwise direction, while CCW represents the counterclockwise direction.
4) When using powerful fan (F2 type) attached motor, connect two black wires of the fan to No.1 and No.2 terminals in order to supply power.

OTT GmbH & Co. KG 78652 Deißlingen Tel.: 07420-9399-0 Fax.: 07420-9399-25 Email: info@ott-antriebe.de

120W Speed Control Brake Motor 120W(□90mm)

Motor Specification

Model 9SBDG*-120F2□: Gear Type Shaft 9SBDD*-120F2: D-Cut Type Shaft 9SBDK*-120F2: Key Type Shaft	Output	Voltage	Frequency	Poles	Duty	Speed Range	Starting Torque		Permissible Torque				Capacitor
									1200r/min		90r/min		
	W	V	Hz			r/min	kgfcm	N.m	kgfcm	N.m	kgfcm	N.m	μF / VAC
9SBDGA-120F2□	120	1ø110	60	4	30min.	90-1700	7.80	0.780	7.50	0.750	4.20	0.420	30.0 / 250
9SBDGD-120F2□	120	1ø220	60	4	30min.	90-1700	7.80	0.780	7.50	0.750	4.20	0.420	6.5 / 400
9SBDGE-120F2□	120	1ø220	50	4	30min.	90-1400	5.60	0.560	7.20	0.720	4.00	0.400	6.5 / 400
		1ø240					6.50	0.650	7.90	0.790	4.00	0.400	

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

Max. Permissible Torque at Output Shaft of Gearbox

Motor Model	Gearbox Model	r/min	V	Hz	Gear Ratio	2	3	3.6	5	6	7.5	9	12.5	15	18	20
9SBDG□-120F2P	9PBK□BH 9PFK□BH	1200	110	60	kgfcm	12.5	18.7	22.4	31.1	37.4	46.7	56.0	70.3	84.4	101.3	102.0
					N.m	1.22	1.83	2.20	3.05	3.66	4.58	5.49	6.89	8.27	9.92	10.00
			220	60	kgfcm	12.5	18.7	22.4	31.1	37.4	46.7	56.0	70.3	84.4	101.3	102.0
					N.m	1.22	1.83	2.20	3.05	3.66	4.58	5.49	6.89	8.27	9.92	10.00
			220/240	50	kgfcm	12.0	17.9	21.5	29.9	35.9	44.8	53.8	67.5	81.0	97.2	97.9
					N.m	1.17	1.76	2.11	2.93	3.51	4.39	5.27	6.62	7.94	9.53	9.60
		90	110	60	kgfcm	7.0	10.5	12.5	17.4	20.9	26.1	31.4	39.4	47.3	56.7	57.1
					N.m	0.68	1.02	1.23	1.71	2.05	2.56	3.07	3.86	4.63	5.56	5.60
			220	60	kgfcm	7.0	10.5	12.5	17.4	20.9	26.1	31.4	39.4	47.3	56.7	57.1
					N.m	0.68	1.02	1.23	1.71	2.05	2.56	3.07	3.86	4.63	5.56	5.60
			220/240	50	kgfcm	6.6	10.0	12.0	16.6	19.9	24.9	29.9	37.5	45.0	54.0	54.4
					N.m	0.65	0.98	1.17	1.63	1.95	2.44	2.93	3.68	4.41	5.29	5.33

Motor Model	Gearbox Model	r/min	V	Hz	Gear Ratio	25	30	36	40	50	60	75	90	100	120	150	180	200
9SBDG□-120F2P	9PBK□BH 9PFK□BH	1200	110	60	kgfcm	127.5	153.0	183.6	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0
					N.m	12.50	14.99	17.99	19.60	19.60	19.60	19.60	19.60	19.60	19.60	19.60	19.60	19.60
			220	60	kgfcm	127.5	153.0	183.6	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0
					N.m	12.50	14.99	17.99	19.60	19.60	19.60	19.60	19.60	19.60	19.60	19.60	19.60	19.60
			220/240	50	kgfcm	122.4	146.9	176.3	195.8	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0
					N.m	12.00	14.39	17.27	19.19	19.60	19.60	19.60	19.60	19.60	19.60	19.60	19.60	19.60
		90	110	60	kgfcm	71.4	85.7	102.8	114.2	142.8	171.4	192.2	200.0	200.0	200.0	200.0	200.0	200.0
					N.m	7.00	8.40	10.08	11.20	13.99	16.79	18.83	19.60	19.60	19.60	19.60	19.60	19.60
			220	60	kgfcm	71.4	85.7	102.8	114.2	142.8	171.4	192.2	200.0	200.0	200.0	200.0	200.0	200.0
					N.m	7.00	8.40	10.08	11.20	13.99	16.79	18.83	19.60	19.60	19.60	19.60	19.60	19.60
			220/240	50	kgfcm	68.0	81.6	97.9	108.8	136.0	163.2	183.0	200.0	200.0	200.0	200.0	200.0	200.0
					N.m	6.66	8.00	9.60	10.66	13.33	15.99	17.93	19.60	19.60	19.60	19.60	19.60	19.60

B AC Motors

S.C. Brake Motor 120W (□90mm)

Max. Permissible Torque at Output Shaft of Gearbox

Motor Model	Gearbox Model	r/min	V	Hz	Gear Ratio	3	3.6	6	9	12.5	15	18	20	25	30	36	50	60	75	90	100	120	150	180	200
9SBDG□ -120F2H	9HBK □BH	1200	110	60	kgfcm	18.7	22.4	37.4	56.0	70.3	84.4	101.3	102.0	127.5	153.0	183.6	255.0	300.0	300.0	300.0	300.0	300.0	300.0	300.0	300.0
					N.m	1.83	2.20	3.66	5.49	6.89	8.27	9.92	10.00	12.50	14.99	17.99	24.99	29.40	29.40	29.40	29.40	29.40	29.40	29.40	29.40
			220	60	kgfcm	18.7	22.4	37.4	56.0	70.3	84.4	101.3	102.0	127.5	153.0	183.6	255.0	300.0	300.0	300.0	300.0	300.0	300.0	300.0	300.0
					N.m	1.83	2.20	3.66	5.49	6.89	8.27	9.92	10.00	12.50	14.99	17.99	24.99	29.40	29.40	29.40	29.40	29.40	29.40	29.40	29.40
			220/240	50	kgfcm	17.9	21.5	35.9	53.8	67.5	81.0	97.2	97.9	122.4	146.9	176.3	244.8	293.8	300.0	300.0	300.0	300.0	300.0	300.0	300.0
					N.m	1.76	2.11	3.51	5.27	6.62	7.94	9.53	9.60	12.00	14.39	17.27	23.99	28.79	29.40	29.40	29.40	29.40	29.40	29.40	29.40
	9HFK □BH	90	110	60	kgfcm	10.5	12.5	20.9	31.4	39.4	47.3	56.7	57.1	71.4	85.7	102.8	142.8	171.4	192.2	230.6	256.2	300.0	300.0	300.0	300.0
					N.m	1.02	1.23	2.05	3.07	3.86	4.63	5.56	5.60	7.00	8.40	10.08	13.99	16.79	18.83	22.60	25.11	29.40	29.40	29.40	29.40
			220	60	kgfcm	10.5	12.5	20.9	31.4	39.4	47.3	56.7	57.1	71.4	85.7	102.8	142.8	171.4	192.2	230.6	256.2	300.0	300.0	300.0	300.0
					N.m	1.02	1.23	2.05	3.07	3.86	4.63	5.56	5.60	7.00	8.40	10.08	13.99	16.79	18.83	22.60	25.11	29.40	29.40	29.40	29.40
			220/240	50	kgfcm	10.0	12.0	19.9	29.9	37.5	45.0	54.0	54.4	68.0	81.6	97.9	136.0	163.2	183.0	219.6	244.0	292.8	300.0	300.0	300.0
					N.m	0.98	1.17	1.95	2.93	3.68	4.41	5.29	5.33	6.66	8.00	9.60	13.33	15.99	17.93	21.52	23.91	28.69	29.40	29.40	29.40

Motor Model	Gearbox Model	r/min	V	Hz	Gear Ratio	10	12	15	18	25	30	36	50	60
9SBDG□ -120F2W	9WD□BL/ □BR/□BRL	1200	110	60	kgfcm	61.5	72.0	86.6	99.9	131.3	148.5	153.1	142.9	122.4
					N.m	6.03	7.06	8.49	9.79	12.86	14.55	15.00	14.00	12.00
			220	60	kgfcm	61.5	72.0	86.6	99.9	131.3	148.5	153.1	142.9	122.4
					N.m	6.03	7.06	8.49	9.79	12.86	14.55	15.00	14.00	12.00
			220/240	50	kgfcm	59.0	69.1	83.2	95.9	126.0	142.6	153.1	142.9	122.4
					N.m	5.79	6.77	8.15	9.40	12.35	13.97	15.00	14.00	12.00
		90	110	60	kgfcm	34.4	40.3	48.5	55.9	73.5	83.2	96.8	126.0	122.4
					N.m	3.38	3.95	4.75	5.48	7.20	8.15	9.48	12.35	12.00
			220	60	kgfcm	34.4	40.3	48.5	55.9	73.5	83.2	96.8	126.0	122.4
					N.m	3.38	3.95	4.75	5.48	7.20	8.15	9.48	12.35	12.00
			220/240	50	kgfcm	32.8	38.4	46.2	53.3	70.0	79.2	92.2	120.0	122.4
					N.m	3.21	3.76	4.53	5.22	6.86	7.76	9.03	11.76	12.00

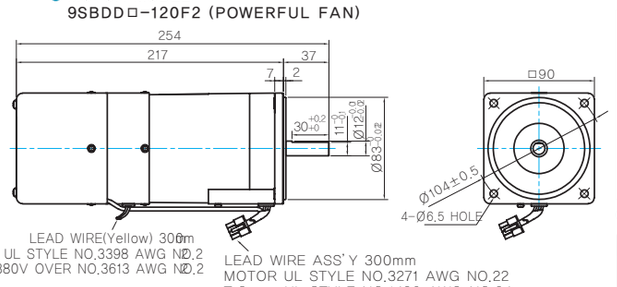
Motor Model	Gearbox Model	r/min	V	Hz	Gear Ratio	7.5	10	15	20	25	30	40	50	60	80
9SBDG□ -120F2WH	9WHD□-030	1200	110	60	kgfcm	47.3	60.8	85.5	108.0	123.8	144.0	177.0	173.5	163.3	132.7
					N.m	4.63	5.95	8.38	10.58	12.13	14.11	17.35	17.00	16.00	13.00
			220	60	kgfcm	47.3	60.8	85.5	108.0	123.8	144.0	177.0	173.5	163.3	132.7
					N.m	4.63	5.95	8.38	10.58	12.13	14.11	17.35	17.00	16.00	13.00
			220/240	50	kgfcm	49.8	64.0	90.1	113.8	130.4	151.7	183.7	173.5	163.3	132.7
					N.m	4.88	6.27	8.83	11.15	12.77	14.86	18.00	17.00	16.00	13.00
		90	110	60	kgfcm	26.5	34.0	47.9	60.5	69.3	80.6	99.1	113.4	126.0	132.7
					N.m	2.59	3.33	4.69	5.93	6.79	7.90	9.71	11.11	12.35	13.00
			220	60	kgfcm	26.5	34.0	47.9	60.5	69.3	80.6	99.1	113.4	126.0	132.7
					N.m	2.59	3.33	4.69	5.93	6.79	7.90	9.71	11.11	12.35	13.00
			220/240	50	kgfcm	25.2	32.4	45.6	57.6	66.0	76.8	94.4	108.0	120.0	132.7
					N.m	2.47	3.18	4.47	5.64	6.47	7.53	9.25	10.58	11.76	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 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

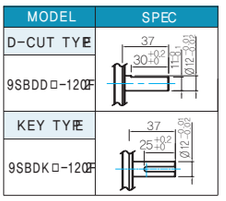
MOTOR ONLY

● MOTOR MODEL:
9SBDD□-120F2 (POWERFUL FAN)

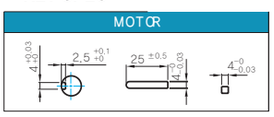


MOTOR OUTPUT SHAFT

MODEL	SPEC
D-CUT TYPE	
9SBDD□-120F	
KEY TYPE	
9SBDK□-120F	

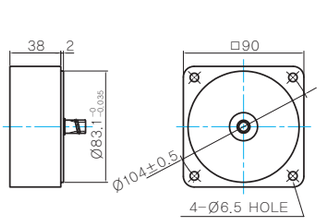


KEY SPEC



INTER-DECIMAL GEARBOX

● MODEL: 9XD10□□



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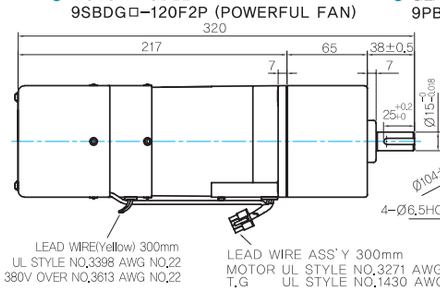
GEARED MOTOR

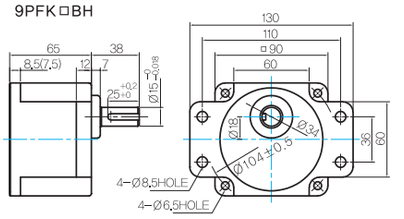
P TYPE GEARBOX

● MOTOR MODEL: 9SBDG□-120F2P (POWERFUL FAN)

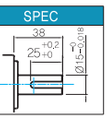


● GEARBOX MODEL: 9PBK□BH

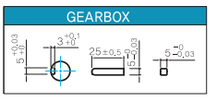
● GEARBOX MODEL: 9PFK□BH



● GEARBOX OUTPUT SHAFT

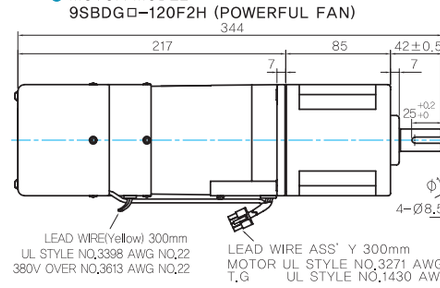
MODEL	SPEC
KEY TYPE	
9PBK□BH 9PFK□BH	

● KEY SPEC

GEARBOX


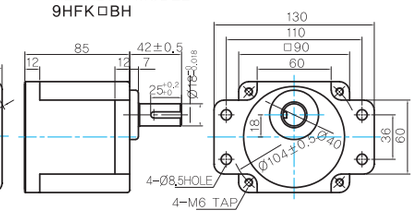
H TYPE GEARBOX

● MOTOR MODEL: 9SBDG□-120F2H (POWERFUL FAN)

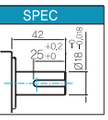


● GEARBOX MODEL: 9HBK□BH

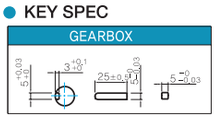
● GEARBOX MODEL: 9HFK□BH



● GEARBOX OUTPUT SHAFT

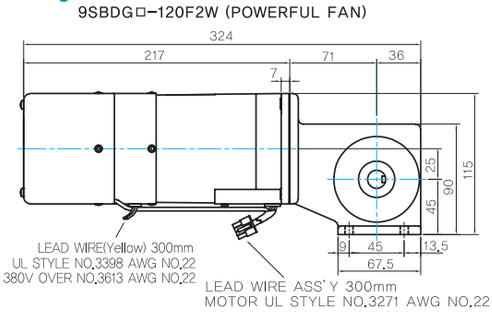
MODEL	SPEC
KEY TYPE	
9HBK□BH 9HFK□BH	

● KEY SPEC

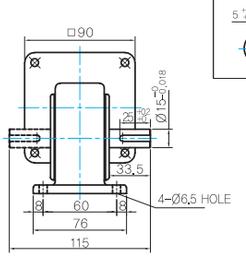
GEARBOX


W TYPE GEARBOX

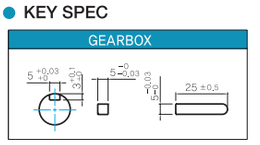
● MOTOR MODEL: 9SBDG□-120F2W (POWERFUL FAN)



● GEARBOX MODEL: 9WD□BL/BR/BRL

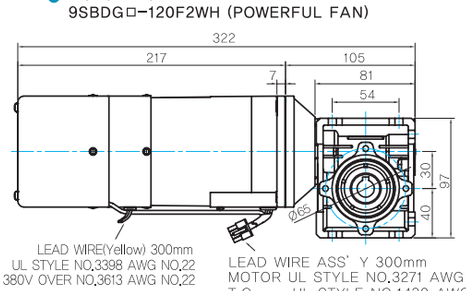


● KEY SPEC

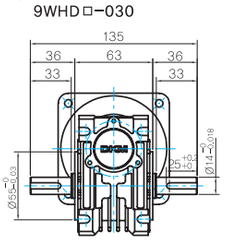
GEARBOX


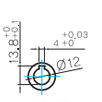
WH TYPE GEARBOX

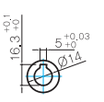
● MOTOR MODEL: 9SBDG□-120F2WH (POWERFUL FAN)



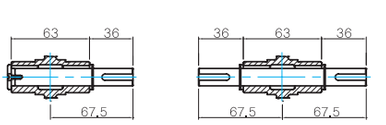
● GEARBOX MODEL: 9WHD□-030



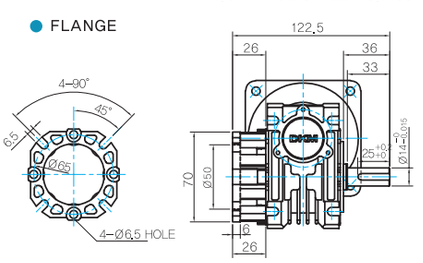




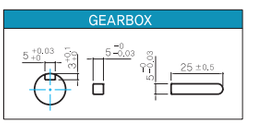
● SHAFT(Unidirectional, Bi-directional)



● FLANGE



● KEY SPEC

GEARBOX


* The output flange and shafts are sold separately.

WEIGHT

PART		WEIGHT(Kg)
MOTOR		3.8
GEAR BOX	9PB(F)K2BH ~ 9PB(F)K18BH	1.3
	9PB(F)K20BH ~ 9PB(F)K200BH	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)K200BH	1.8
	9WD□BL/BR/BRL	1.0
	9WHD□-030	1.13
	9XD10□□	0.5

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B AC Motors

S.C. Brake Motor 120W (□90mm)

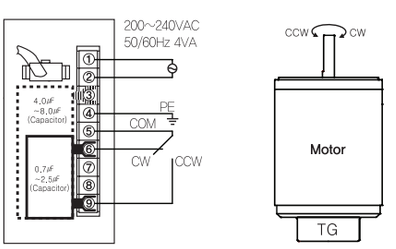
Motor Images

9SBDD□-120F2	9SBDG□-120F2P+9PBK□BH	9SBDG□-120F2P+9PFK□BH	9SBDG□-120F2H+9HBK□BH	9SBDG□-120F2H+9HFK□BH	9SBDG□-120F2W+9WD□BL
					

9SBDG□-120F2WH+9WHD□-030

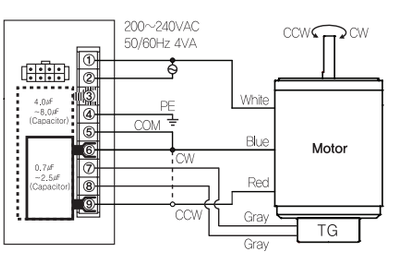

Connection Diagrams

FX1000A – Connector Type

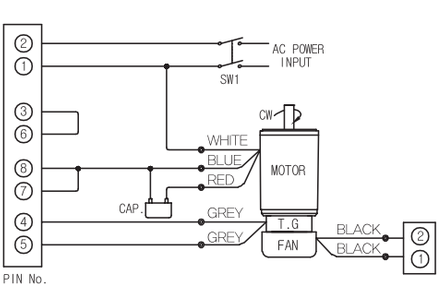


Direction: Clockwise COM+CW, Counterclockwise COM+CCW
Capacitor: Connect 3-9 or 6-9, according to its capacity

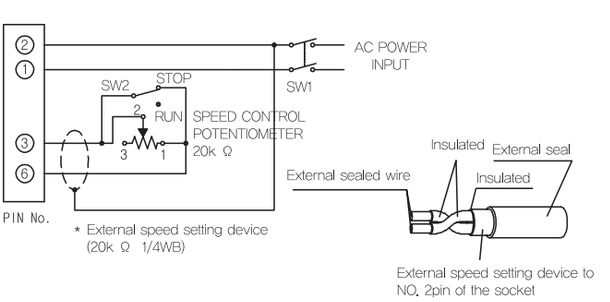
FX1000A – Terminal Type



DSKM-Using Internal Volume



DSKM-Using External Volume



1) At first connect the speed controller with the motor as instructed in connection diagrams. And then input the external power to both of the terminal 'AC' for the rated speed operation.
   Now you can adjust the main volume to control the output speed of motor.
2) The direction of motor rotation is as viewed from the shaft end of the motor.
3) CW represents the clockwise direction, while CCW represents the counterclockwise direction.
4) When using powerful fan (F2 type) attached motor, connect two black wires of the fan to No.1 and No.2 terminals in order to supply power.

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180W Speed Control Brake Motor 180W (□90mm)

Motor Specification

Model 9SBDG*-180F2□: Gear Type Shaft 9SBDD*-180F2: D-Cut Type Shaft 9SBDK*-180F2: Key Type Shaft	Output	Voltage	Frequency	Poles	Duty	Speed Range	Starting Torque		Permissible Torque				Capacitor
									1200r/min		90r/min		
	W	V	Hz			r/min	kgfcm	N.m	kgfcm	N.m	kgfcm	N.m	μF / VAC
9SBDGD-180F2□	180	1ø220	60	4	30min.	90-1700	8.40	0.840	10.00	1.000	6.60	0.660	8.0 / 400
9SBDGE-180F2□	180	1ø220	50	4	30min.	90-1400	6.20	0.620	10.00	1.000	6.60	0.660	8.0 / 400
		1ø240					7.10	0.710	12.00	1.200	7.50	0.750	

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

Max. Permissible Torque at Output Shaft of Gearbox

Motor Model	Gearbox Model	r/min	V	Hz	Gear Ratio	3	3.6	6	9	12.5	15	18	20	25
9SBDG□-180F2H	9HBK□BH 9HFK□BH	1200	220	60	kgfcm	24.9	29.9	49.8	74.7	93.8	112.5	135.0	136.0	170.0
					N.m	2.44	2.93	4.88	7.32	9.19	11.03	13.23	13.33	16.66
			220/240	50	kgfcm	29.9	35.9	59.8	89.6	124.5	149.4	179.3	199.2	249.0
					N.m	2.93	3.51	5.86	8.78	12.20	14.64	17.57	19.52	24.40
		90	220	60	kgfcm	16.4	19.7	32.9	49.3	61.9	74.3	89.1	89.8	112.2
					N.m	1.61	1.93	3.22	4.83	6.06	7.28	8.73	8.80	11.00
			220/240	50	kgfcm	18.7	22.4	37.4	56.0	70.3	84.4	101.3	102.0	127.5
					N.m	1.83	2.20	3.66	5.49	6.89	8.27	9.92	10.00	12.50

Motor Model	Gearbox Model	r/min	V	Hz	Gear Ratio	30	36	50	60	75	90	100	120	150	180	200
9SBDG□-180F2H	9HBK□BH 9HFK□BH	1200	220	60	kgfcm	204.0	244.8	300.0	300.0	300.0	300.0	300.0	300.0	300.0	300.0	300.0
					N.m	19.99	23.99	29.40	29.40	29.40	29.40	29.40	29.40	29.40	29.40	29.40
			220/240	50	kgfcm	298.8	300.0	300.0	300.0	300.0	300.0	300.0	300.0	300.0	300.0	300.0
					N.m	29.28	29.40	29.40	29.40	29.40	29.40	29.40	29.40	29.40	29.40	29.40
		90	220	60	kgfcm	134.6	161.6	224.4	269.3	300.0	300.0	300.0	300.0	300.0	300.0	300.0
					N.m	13.19	15.83	21.99	26.39	29.40	29.40	29.40	29.40	29.40	29.40	29.40
			220/240	50	kgfcm	153.0	183.6	255.0	300.0	300.0	300.0	300.0	300.0	300.0	300.0	300.0
					N.m	14.99	17.99	24.99	29.40	29.40	29.40	29.40	29.40	29.40	29.40	29.40

Motor Model	Gearbox Model	r/min	V	Hz	Gear Ratio	7.5	10	15	20	25	30	40	50	60	80
9SBDG□-180F2WH	9WHD□-030 9WHD□-040	1200	220	60	kgfcm	63.0	81.0	114.0	144.0	165.0	192.0	183.7	173.5	163.3	132.7
					N.m	6.17	7.94	11.17	14.11	16.17	18.82	18.00	17.00	16.00	13.00
			220/240	50	kgfcm	75.6	97.2	136.8	172.8	198.0	204.1	183.7	173.5	163.3	132.7
					N.m	7.41	9.53	13.41	16.93	19.40	20.00	18.00	17.00	16.00	13.00
		90	220	60	kgfcm	41.6	53.5	75.2	95.0	108.9	126.7	155.8	173.5	163.3	132.7
					N.m	4.07	5.24	7.37	9.31	10.67	12.42	15.26	17.00	16.00	13.00
			220/240	50	kgfcm	47.3	60.8	85.5	108.0	123.8	144.0	177.0	173.5	163.3	132.7
					N.m	4.63	5.95	8.38	10.58	12.13	14.11	17.35	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 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.

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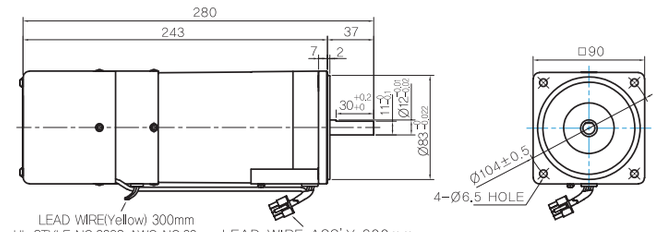
B AC Motors

S.C. Brake Motor 180W (□90mm)

Dimensions

MOTOR ONLY

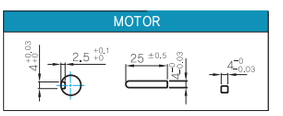
● MOTOR MODEL:
9SBDD□-180F2 (POWERFUL FAN)



MOTOR OUTPUT SHAFT

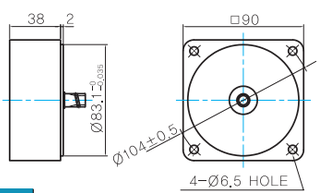
MODEL	SPEC
D-CUT TYPE	
9SBDD□-180F2	
KEY TYPE	
9SBDK□-180F2	

KEY SPEC



INTER-DECIMAL GEARBOX

● MODEL: 9XD10□□



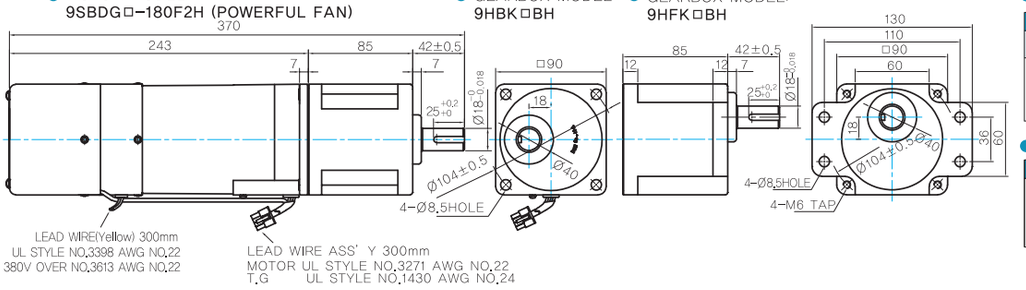
GEARED MOTOR

H TYPE GEARBOX

● MOTOR MODEL:
9SBDG□-180F2H (POWERFUL FAN)

● GEARBOX MODEL:
9HBK□BH

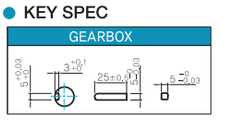
● GEARBOX MODEL:
9HFK□BH



GEARBOX OUTPUT SHAFT

MODEL	SPEC
KEY TYPE	
9HBK□BH 9HFK□BH	

KEY SPEC

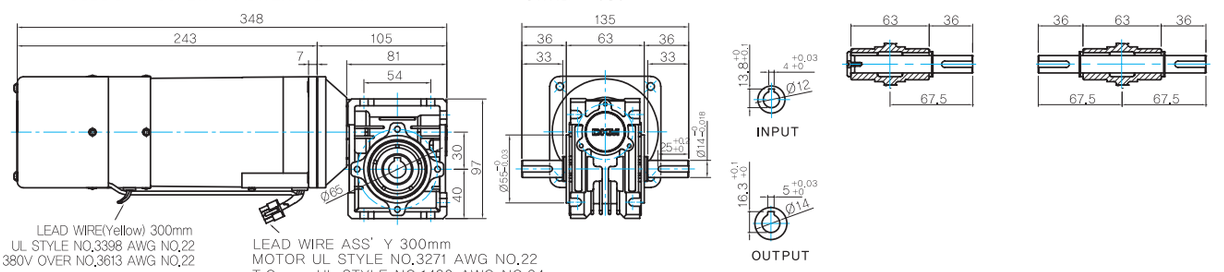


WH TYPE GEARBOX

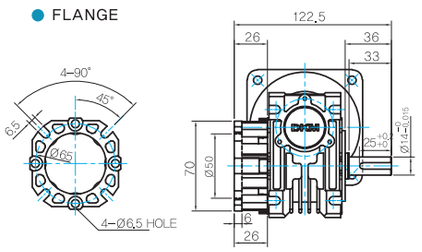
● MOTOR MODEL:
9SBDG□-180F2WH (POWERFUL FAN)

● GEARBOX MODEL:
9WHD□-030

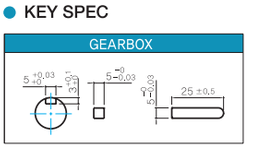
● SHAFT(Unidirectional, Bi-directional)



● FLANGE



● KEY SPEC



* The output flange and shafts are sold separately.

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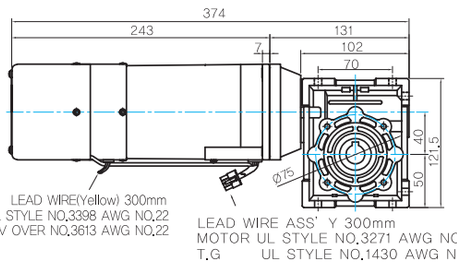
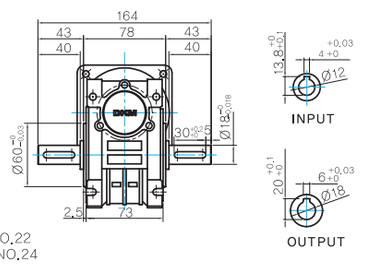
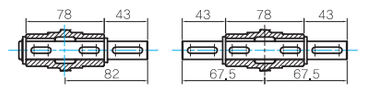
● MOTOR MODEL:
9WHD□-180F2WH (POWERFUL FAN)



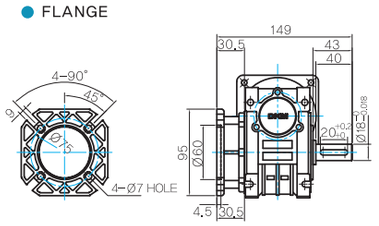
● GEARBOX MODEL:
9WHD□-040



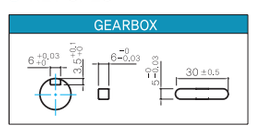
● SHAFT(Unidirectional, Bi-directional)



● FLANGE



● KEY SPEC



∗ The output flange and shafts are sold separately.

WEIGHT

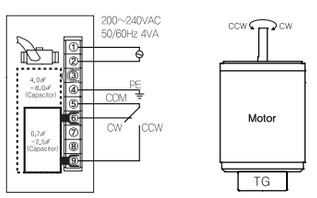
PART		WEIGHT(Kg)
MOTOR		3.8
GEAR BOX	9PB(F)K2BH ~ 9PB(F)K18BH	1.3
	9PB(F)K20BH ~ 9PB(F)K200BH	1.4
	9HB(F)K3BH ~ 9HB(F)K9BH	1.45
	9HB(F)K12.5BH ~ 9HB(F)K18BH	1.5
	9HB(F)K20BH ~ 9HB(F)K60BH	1.7
	9HB(F)K75BH ~ 9HB(F)K200BH	1.8
	9WD□BL/BR/BRL	1.0
	9WHD□-030	1.13
	9WHD□-040	2.2
	9XD10□□	0.5

Motor Images

9SBDD□-180F2	9SBDG□-180F2H+9HBK□BH	9SBDG□-180F2H+9HFK□BH	9SBDG□-180F2WH+9WHD□-030
			

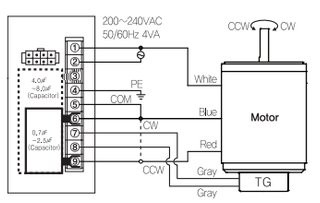
Connection Diagrams

FX1000A – Connector Type

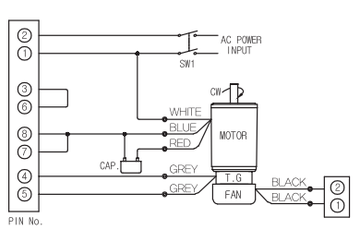


Direction: Clockwise COM+CW, Counterclockwise COM+CCW
Capacitor: Connect 3-9 or 6-9, according to its capacity

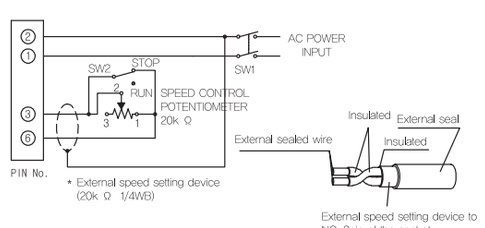
FX1000A – Terminal Type



DSKM-Using Internal Volume



DSKM-Using External Volume



1) At first connect the speed controller with the motor as instructed in connection diagrams. And then input the external power to both of the terminal 'AC' for the rated speed operation.
Now you can adjust the main volume to control the output speed of motor.
2) The direction of motor rotation is as viewed from the shaft end of the motor.
3) CW represents the clockwise direction, while CCW represents the counterclockwise direction.
4) When using powerful fan (F2 type) attached motor, connect two black wires of the fan to No.1 and No.2 terminals in order to supply power.

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