

120W

Speed Control
Brake Motor
120W(□90mm)

Motor Specification

Model 9SBDG*-120F2□: Gear Type Shaft 9SBD*-120F2: D-Cut Type Shaft 9SBDK*-120F2: Key Type Shaft	Output W	Voltage V	Frequency Hz	Poles	Duty	Speed Range r/min	Starting Torque		Permissible Torque				Capacitor μF / VAC
									1200r/min		90r/min		
									kgfcm	N.m	kgfcm	N.m	
9SBDGA-120F2□	120	1∅110	60	4	30min.	90-1700	7.80	0.780	7.50	0.750	4.20	0.420	30.0 / 250
9SBDGD-120F2□	120	1∅220	60	4	30min.	90-1700	7.80	0.780	7.50	0.750	4.20	0.420	6.5 / 400
9SBDGE-120F2□	120	1∅220	50	4	30min.	90-1400	5.60	0.560	7.20	0.720	4.00	0.400	6.5 / 400
		1∅240					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 N.m	12.5 1.22	18.7 1.83	22.4 2.20	31.1 3.05	37.4 3.66	46.7 4.58	56.0 5.49	70.3 6.89	84.4 8.27	101.3 9.92	102.0 10.00
			220	60	kgfcm N.m	12.5 1.22	18.7 1.83	22.4 2.20	31.1 3.05	37.4 3.66	46.7 4.58	56.0 5.49	70.3 6.89	84.4 8.27	101.3 9.92	102.0 10.00
			220/ 240	50	kgfcm N.m	12.0 1.17	17.9 1.76	21.5 2.11	29.9 2.93	35.9 3.51	44.8 4.39	53.8 5.27	67.5 6.62	81.0 7.94	97.2 9.53	97.9 9.60
		90	110	60	kgfcm N.m	7.0 0.68	10.5 1.02	12.5 1.23	17.4 1.71	20.9 2.05	26.1 2.56	31.4 3.07	39.4 3.86	47.3 4.63	56.7 5.56	57.1 5.60
			220	60	kgfcm N.m	7.0 0.68	10.5 1.02	12.5 1.23	17.4 1.71	20.9 2.05	26.1 2.56	31.4 3.07	39.4 3.86	47.3 4.63	56.7 5.56	57.1 5.60
			220/ 240	50	kgfcm N.m	6.6 0.65	10.0 0.98	12.0 1.17	16.6 1.63	19.9 1.95	24.9 2.44	29.9 2.93	37.5 3.68	45.0 4.41	54.0 5.29	54.4 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 N.m	127.5 12.50	153.0 14.99	183.6 17.99	200.0 19.60	200.0 19.60	200.0 19.60	200.0 19.60	200.0 19.60	200.0 19.60	200.0 19.60	200.0 19.60	200.0 19.60	200.0 19.60	200.0 19.60	
			220	60	kgfcm N.m	127.5 12.50	153.0 14.99	183.6 17.99	200.0 19.60	200.0 19.60	200.0 19.60	200.0 19.60	200.0 19.60	200.0 19.60	200.0 19.60	200.0 19.60	200.0 19.60	200.0 19.60	200.0 19.60	200.0 19.60
			220/ 240	50	kgfcm N.m	122.4 12.00	146.9 14.39	176.3 17.27	195.8 19.19	200.0 19.60	200.0 19.60	200.0 19.60	200.0 19.60	200.0 19.60	200.0 19.60	200.0 19.60	200.0 19.60	200.0 19.60	200.0 19.60	200.0 19.60
		90	110	60	kgfcm N.m	71.4 7.00	85.7 8.40	102.8 10.08	114.2 11.20	142.8 13.99	171.4 16.79	192.2 18.83	200.0 19.60	200.0 19.60	200.0 19.60	200.0 19.60	200.0 19.60	200.0 19.60	200.0 19.60	200.0 19.60
			220	60	kgfcm N.m	71.4 7.00	85.7 8.40	102.8 10.08	114.2 11.20	142.8 13.99	171.4 16.79	192.2 18.83	200.0 19.60	200.0 19.60	200.0 19.60	200.0 19.60	200.0 19.60	200.0 19.60	200.0 19.60	200.0 19.60
			220/ 240	50	kgfcm N.m	68.0 6.66	81.6 8.00	97.9 9.60	108.8 10.66	136.0 13.33	163.2 15.99	183.0 17.93	200.0 19.60	200.0 19.60	200.0 19.60	200.0 19.60	200.0 19.60	200.0 19.60	200.0 19.60	200.0 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	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	29.40	29.40	29.40	29.40
					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	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	29.40	29.40	29.40	29.40	29.40	29.40	
		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	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	29.40	29.40	29.40	
	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	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	29.40	29.40	29.40	29.40				
	90	220	60	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	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	29.40	29.40	29.40		
				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	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	29.40	29.40	29.40	29.40				

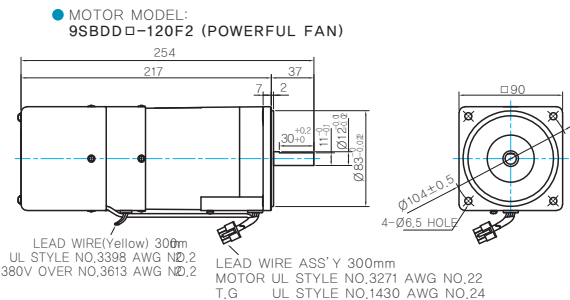
Motor Model	Gearbox Model	r/min	V	Hz	Gear Ratio	10	12	15	18	25	30	36	50	60
9SBDG□ -120F2W	9WD□BL/ □BR/□BRL	1200	110	60	kgfcm	61.5	72.0	86.6	99.9	131.3	148.5	153.1	142.9	122.4
					N.m	6.03	7.06	8.49	9.79	12.86	14.55	15.00	14.00	12.00
					kgfcm	61.5	72.0	86.6	99.9	131.3	148.5	153.1	142.9	122.4
		N.m	6.03	7.06	8.49	9.79	12.86	14.55	15.00	14.00	12.00			
		90	110	60	kgfcm	34.4	40.3	48.5	55.9	73.5	83.2	96.8	126.0	126.0
					N.m	3.38	3.95	4.75	5.48	7.20	8.15	9.48	12.35	12.35
kgfcm	34.4				40.3	48.5	55.9	73.5	83.2	96.8	126.0	126.0		
N.m	3.38	3.95	4.75	5.48	7.20	8.15	9.48	12.35	12.35					
90	220	60	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		
			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	
					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			
			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
		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				
		90	220	60	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	
					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				

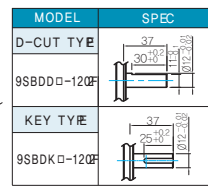
- 1) Enter the phase & voltage code in the box (□) within the motor model name.
- 2) Enter the gear ratio in the box (□) within the Gearbox model name.
- 3) A colored background indicates gear shaft rotation in the same direction as the motor shaft; a white background indicates rotation in the opposite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

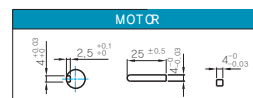
MOTOR ONLY



MOTOR OUTPUT SHAFT



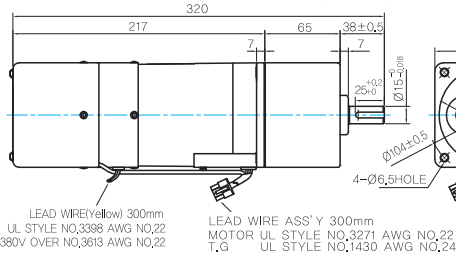
KEY SPEC



GEARED MOTOR

○ P TYPE GEARBOX

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



- GEARBOX MODEL:
9PBK□BH

- GEARBOX MODEL:
9PFK□BH

- GEARBOX OUTPUT SHAFT

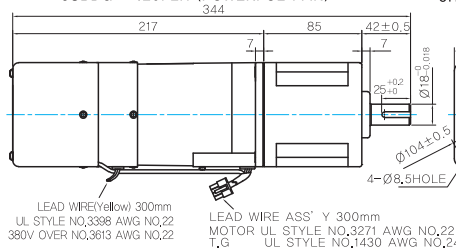
MODEL	SPEC
KEY TYPE	
9PBK□BH 9PFK□BH	

- KEY SPEC

GEARBOX

○ H TYPE GEARBOX

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



- GEARBOX MODEL:
9HBK□BH

- GEARBOX MODEL:
9HFK□BH

- GEARBOX OUTPUT SHAFT

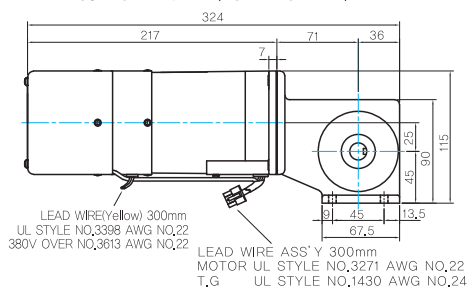
MODEL	SPEC
KEY TYPE	
9HBK□BH 9HFK□BH	

- KEY SPEC

GEARBOX

○ W TYPE GEARBOX

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



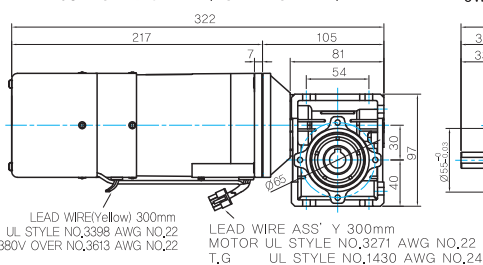
- GEARBOX MODEL:
9WD□BL/BR/BRL

- KEY SPEC

GEARBOX

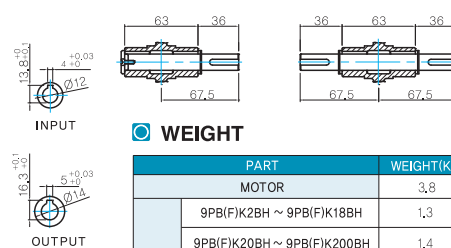
○ WH TYPE GEARBOX

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

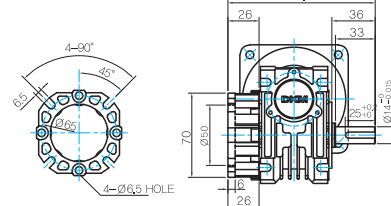


- GEARBOX MODEL:
9WHD□-030

- SHAFT(Unidirectional, Bi-directional)



- FLANGE



- KEY SPEC

GEARBOX

* The output flange and shafts are sold separately.

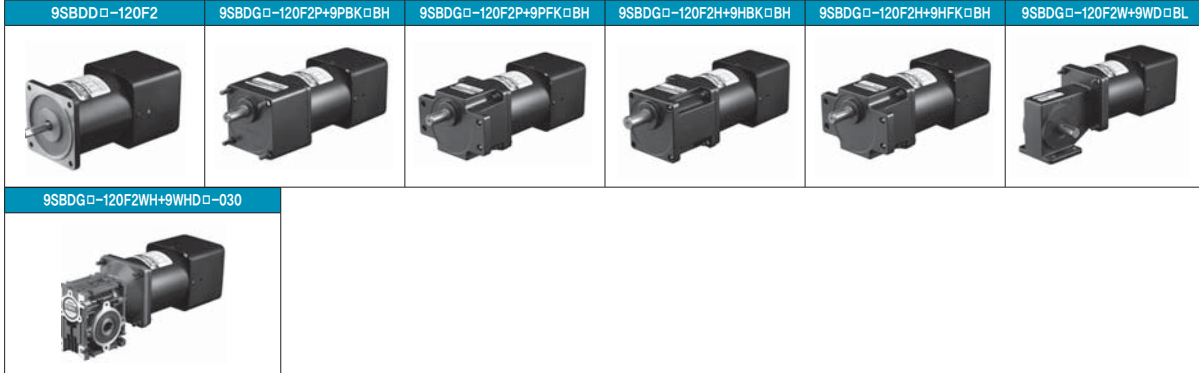
- WEIGHT

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	

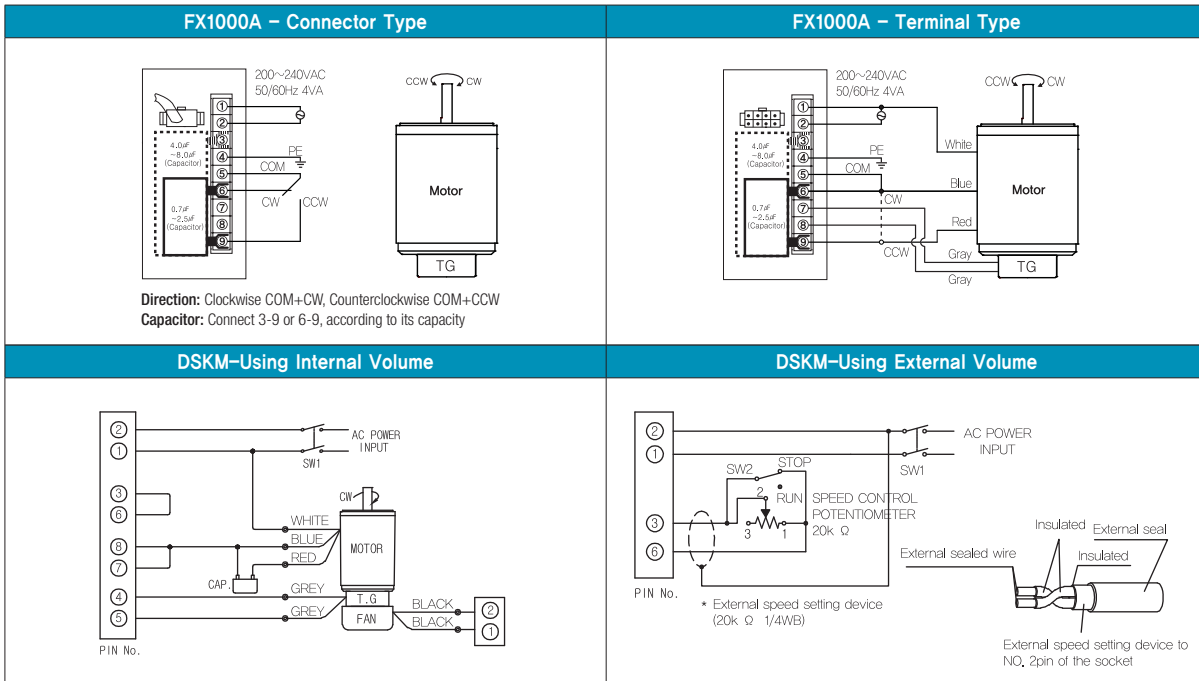
B AC Motors

S.C. Brake Motor 120W (□90mm)

Motor Images



Connection Diagrams



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.