

Brake Motor 60W (□90mm)

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Motor Specification

Model 9BDG*~60F□: Gear Type Shaft 9BDD*~60F: D-Cut Type Shaft 9BDK*~60F: Key Type Shaft	Output W	Voltage V	Frequency Hz	Poles	Duty	Starting Torque		Rated Load			Capacitor μF / VAC	
						kgfcm	N.m	Speed r/min	Current A	Torque kgfcm N.m		
9BDGA-60F□	60	1φ110	60	4	30min.	5.20	0.520	1600	1.60	5.00	0.500	20.0 / 250
9BDGD-60F□	60	1φ220	60	4	30min.	5.00	0.500	1600	0.75	4.60	0.460	5.0 / 450
9BDGE-60F□	60	1φ220	50	4	30min.	5.40	0.540	1300	0.59	5.00	0.500	5.0 / 450
		1φ240				6.60	0.660					
9BDGG-60F□	60	3φ220	50	4	Cont.	15.00	1.500	1350	0.59	4.60	0.460	-
			60			12.80	1.280	1600	0.49	4.20	0.420	
9BDGK-60F□	60	3φ380	50	4	Cont.	17.00	1.700	1350	0.33	4.80	0.480	-
			60			13.80	1.380	1600	0.29	4.60	0.460	
			50	18.60	1.860	1350	0.36	5.20	0.520			
			60	15.20	1.520	1600	0.30	5.00	0.500			
		3φ400	50	4	Cont.	20.00	2.000	1350	0.40	5.60	0.560	
			60			16.20	1.620	1600	0.33	5.20	0.520	
			50	4	Cont.	22.00	2.200	1350	0.44	6.00	0.600	
			60			18.20	1.820	1600	0.36	5.80	0.580	

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

Max. Permissible Torque at Output Shaft of Gearbox

60Hz

Motor Model	Gearbox Model	Gear Ratio	2	3	3.6	5	6	7.5	9	12.5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180	200
		r/min	900	600	500	360	300	240	200	144	120	100	90	72	60	50	45	36	30	24	20	18	15	12	10	9
9BDG□ -60FP	9PBK□BH 9PFK□BH	kgfcm N.m	7.6 0.75	11.5 1.12	13.7 1.35	19.1 1.87	22.9 2.24	28.6 2.81	34.4 3.37	43.1 4.23	51.8 5.07	62.1 6.09	62.6 6.13	78.2 7.66	93.8 9.20	112.6 11.04	125.1 12.26	156.4 15.33	187.7 18.39	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
9BDG□ -60FH	9HBK□BH 9HFK□BH	kgfcm N.m	- -	11.5 1.12	13.7 1.35	22.9 2.24	- -	34.4 3.37	43.1 4.23	51.8 5.07	62.1 6.09	62.6 6.13	78.2 7.66	93.8 9.20	112.6 11.04	- -	156.4 15.33	187.7 18.39	210.5 20.62	252.5 24.75	280.6 27.50	300.0 29.40	300.0 29.40	300.0 29.40	300.0 29.40	300.0 29.40

Motor Model	Gearbox Model	Gear Ratio	10	12	15	18	25	30	36	50	60	Motor Model	Gearbox Model	Gear Ratio	7.5	10	15	20	25	30	40	50	60	80
		r/min	180	150	120	100	72	60	50	36	30	9BDG□	9WHD□	r/min	240	180	120	90	72	60	45	36	30	22
9BDG□ -60FW	9WD□BL/ □BR/□BRL	kgfcm N.m	41.0 4.02	48.0 4.70	57.8 5.66	66.6 6.53	87.5 8.58	99.0 9.70	115.2 11.29	142.9 14.00	122.4 12.00	9BDG□ -60FWH	9WHD□ -030	kgfcm N.m	29.0 2.84	37.3 3.65	52.4 5.14	66.2 6.49	75.9 7.44	88.3 8.66	108.6 10.64	124.2 12.17	138.0 13.52	132.7 13.00

50Hz

Motor Model	Gearbox Model	Gear Ratio	2	3	3.6	5	6	7.5	9	12.5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180	200
		r/min	750	500	417	300	250	200	167	120	100	83	75	60	50	42	38	30	25	20	17	15	13	10	8	7.5
9BDG□ -60FP	9PBK□BH 9PFK□BH	kgfcm N.m	8.3 0.81	12.5 1.22	14.9 1.46	20.8 2.03	24.9 2.44	31.1 3.05	37.4 3.66	46.9 4.59	56.3 5.51	67.5 6.62	68.0 6.66	85.0 8.33	102.0 10.00	122.4 13.33	136.0 13.33	170.0 16.66	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
9BDG□ -60FH	9HBK□BH 9HFK□BH	kgfcm N.m	- -	12.5 1.22	14.9 1.46	24.9 2.44	- -	37.4 3.66	46.9 4.59	56.3 5.51	67.5 6.62	68.0 6.66	85.0 8.33	102.0 10.00	122.4 12.00	- -	170.0 16.66	204.0 19.99	228.8 22.42	274.5 26.90	300.0 29.40	300.0 29.40	300.0 29.40	300.0 29.40	300.0 29.40	300.0 29.40

Motor Model	Gearbox Model	Gear Ratio	10	12	15	18	25	30	36	50	60	Motor Model	Gearbox Model	Gear Ratio	7.5	10	15	20	25	30	40	50	60	80
		r/min	150	125	100	83	60	50	42	30	25	9BDG□	9WHD□	r/min	200	150	100	75	60	50	38	30	25	18
9BDG□ -60FW	9WD□BL/ □BR/□BRL	kgfcm N.m	45.9 4.50	53.8 5.27	64.7 6.34	74.6 7.31	98.0 9.60	110.9 10.87	129.0 12.64	142.9 14.00	122.4 12.00	9BDG□ -60FWH	9WHD□ -030	kgfcm N.m	31.5 3.09	40.5 3.97	57.0 5.59	72.0 7.06	82.5 8.09	96.0 9.41	118.0 11.56	135.0 13.23	150.0 14.70	132.7 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.

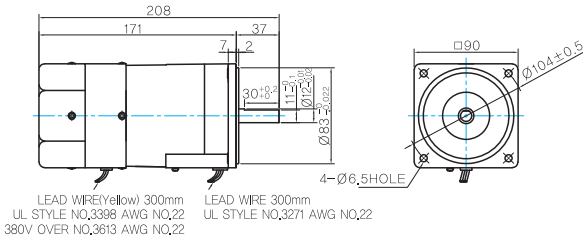
B AC Motors

Brake Motor 60W (□90mm)

Dimensions

MOTOR ONLY

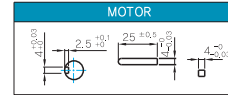
- MOTOR MODEL:
9BDD□-60F (GENERAL FAN)



MOTOR OUTPUT SHAFT

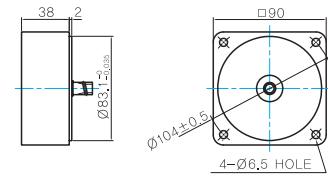
MODEL	SPEC
D-CUT TYPE	
KEY TYPE	

KEY SPEC



INTER-DECIMAL GEARBOX

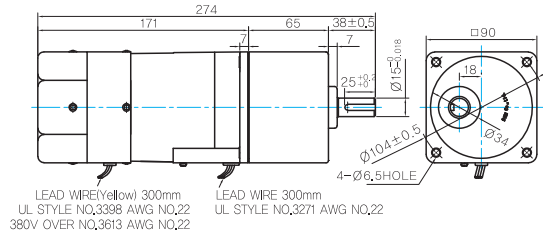
- MODEL:
9XD10□



GEARED MOTOR

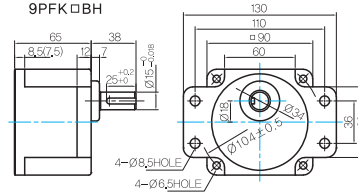
P TYPE GEARBOX

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



- GEARBOX MODEL:
9PBK□BH

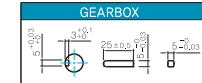
- GEARBOX MODEL:
9PFK□BH



GEARBOX OUTPUT SHAFT

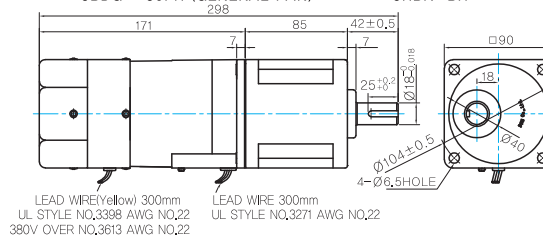
MODEL	SPEC
KEY TYPE	

KEY SPEC



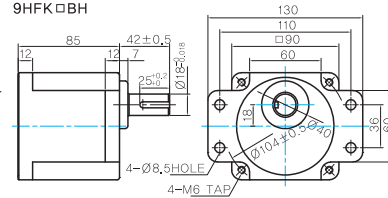
H TYPE GEARBOX

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



- GEARBOX MODEL:
9HBK□BH

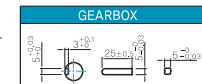
- GEARBOX MODEL:
9HFK□BH



GEARBOX OUTPUT SHAFT

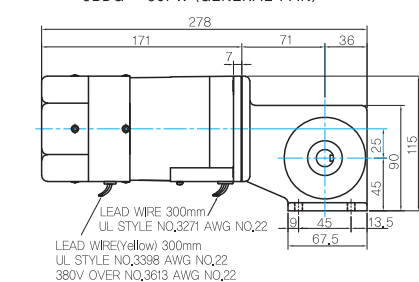
MODEL	SPEC
KEY TYPE	

KEY SPEC

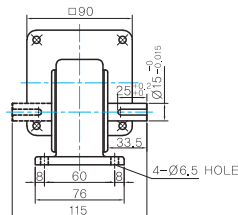


W TYPE GEARBOX

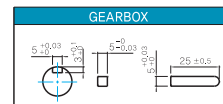
- MOTOR MODEL:
9BDG□-60FW (GENERAL FAN)



- GEARBOX MODEL:
9WD□BL/BR/BRL

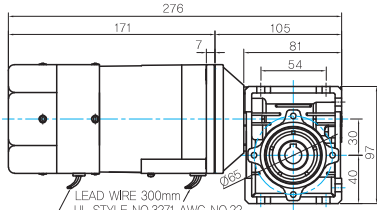


KEY SPEC



WH TYPE GEARBOX

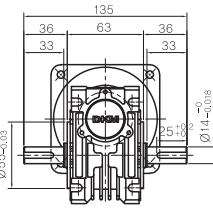
- MOTOR MODEL:
9BDG□-60FWH (GENERAL FAN)



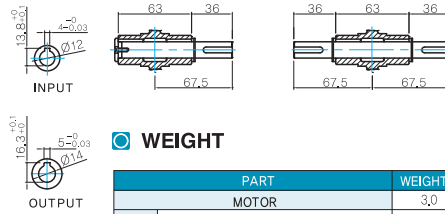
LEAD WIRE 300mm
UL STYLE NQ,3271 AWG NQ,22

LEAD WIRE (Yellow) 300mm
UL STYLE NQ,3389 AWG NQ,22
380V OVER NQ,3813 AWG NQ,22

- GEARBOX MODEL:
9WHD□-030



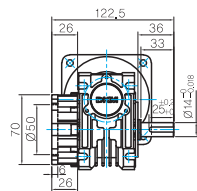
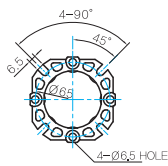
- SHAFT (Unidirectional, Bi-directional)



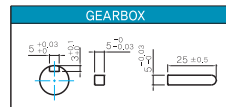
WEIGHT

PART	WEIGHT (Kg)	
MOTOR	3,0	
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	

- FLANGE



- KEY SPEC



* The output flange and shafts are sold separately.

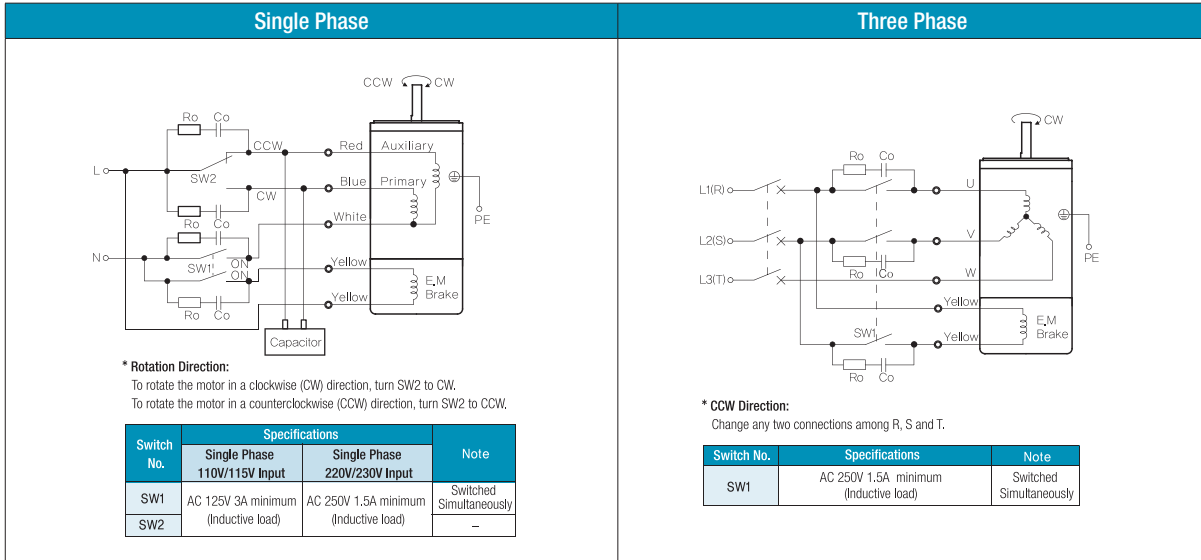
Motor Images



B AC Motors

Brake Motor 60W (□90mm)

Connection Diagrams



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