

## Brake Motor 90W (□90mm)

# 90W Brake Motor 90W(□90mm)

## Motor Specification

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

- 1) Enter the phase & voltage code in the place \* and enter the model type of attaching 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 r/min	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
			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□ -90FP	9PBK□BH 9PFK□BH	kgfcm	11.5	17.2	20.6	28.6	34.4	43.0	51.5	64.7	77.6	93.2	93.8	117.3	140.8	168.9	187.7	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0
		N.m	1.12	1.68	2.02	2.81	3.37	4.21	5.05	6.34	7.61	9.13	9.20	11.50	13.79	16.55	18.39	19.60	19.60	19.60	19.60	19.60	19.60	19.60	19.60	19.60
9BDG□ -90FH	9HBK□BH 9HFK□BH	kgfcm	-	17.2	20.6	-	34.4	-	51.5	64.7	77.6	93.2	93.8	117.3	140.8	168.9	-	234.6	281.5	300.0	300.0	300.0	300.0	300.0	300.0	
		N.m	-	1.68	2.02	-	3.37	-	5.05	6.34	7.61	9.13	9.20	11.50	13.79	16.55	-	22.99	27.59	29.40	29.40	29.40	29.40	29.40	29.40	29.40

Motor Model	Gearbox Model	Gear Ratio r/min	10	12	15	18	25	30	36	50	60	Motor Model	Gearbox Model	Gear Ratio r/min	7.5	10	15	20	25	30	40	50	60	80
			180	150	120	100	72	60	50	36	30				9BDG□ -90FWH	9WHD□ -030	240	180	120	90	72	60	45	36
9BDG□ -90FW	9WD□BL/ □BR/□BRL	kgfcm	56.6	66.2	79.7	91.9	120.8	136.6	153.1	142.9	122.4	9BDG□ -90FWH	9WHD□ -030	kgfcm	43.5	55.9	78.7	99.4	113.9	132.5	162.8	173.5	163.3	132.7
		N.m	5.54	6.49	7.81	9.01	11.83	13.39	15.00	14.00	12.00			N.m	4.26	5.48	7.71	9.74	11.16	12.98	15.96	17.00	16.00	13.00

### 50Hz

Motor Model	Gearbox Model	Gear Ratio r/min	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
			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□ -90FP	9PBK□BH 9PFK□BH	kgfcm	12.9	19.4	23.3	32.4	38.8	48.6	58.3	73.1	87.8	105.3	106.1	132.6	159.1	190.9	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0	
		N.m	1.27	1.90	2.28	3.17	3.81	4.76	5.71	7.17	8.60	10.32	10.40	12.99	15.59	18.71	19.60	19.60	19.60	19.60	19.60	19.60	19.60	19.60	19.60	19.60
9BDG□ -90FH	9HBK□BH 9HFK□BH	kgfcm	-	19.4	23.3	-	38.8	-	58.3	73.1	87.8	105.3	106.1	132.6	159.1	190.9	-	300.0	300.0	300.0	300.0	300.0	300.0	300.0	300.0	
		N.m	-	1.90	2.28	-	3.81	-	5.71	7.17	8.60	10.32	10.40	12.99	15.59	18.71	-	29.40	29.40	29.40	29.40	29.40	29.40	29.40	29.40	29.40

Motor Model	Gearbox Model	Gear Ratio r/min	10	12	15	18	25	30	36	50	60	Motor Model	Gearbox Model	Gear Ratio r/min	7.5	10	15	20	25	30	40	50	60	80
			150	125	100	83	60	50	42	30	25				9BDG□ -90FWH	9WHD□ -030	200	150	100	75	60	50	38	30
9BDG□ -90FW	9WD□BL/ □BR/□BRL	kgfcm	64.0	74.9	90.1	103.9	136.5	154.4	153.1	142.9	122.4	9BDG□ -90FWH	9WHD□ -030	kgfcm	49.1	63.2	88.9	112.3	128.7	149.8	183.7	173.5	163.3	132.7
		N.m	6.27	7.34	8.83	10.18	13.38	15.14	15.00	14.00	12.00			N.m	4.82	6.19	8.71	11.01	12.61	14.68	18.00	17.00	16.00	13.00

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

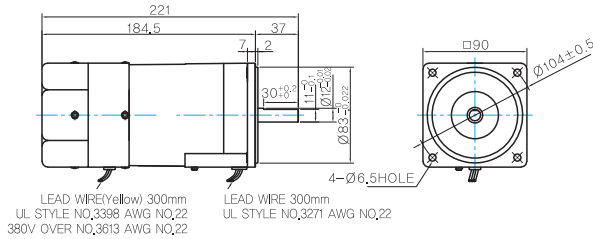
# B AC Motors

## Brake Motor 90W (□90mm)

### Dimensions

#### MOTOR ONLY

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

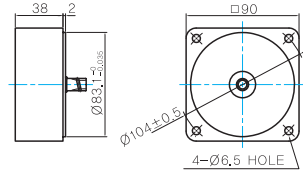


#### MOTOR OUTPUT SHAFT

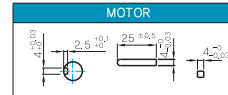
MODEL	SPEC
D-CUT TYPE	37 30 <sup>+0.03</sup> 11 <sup>+0.03</sup> Ø11 <sup>+0.03</sup>
9BDD□-90F	
KEY TYPE	37 25 <sup>+0.03</sup> Ø11 <sup>+0.03</sup>
9BDK□-90F	

#### INTER-DECIMAL GEARBOX

- MODEL:  
9XD10□□



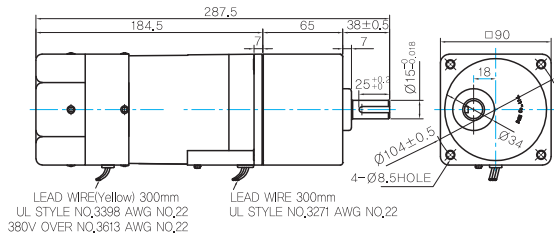
#### KEY SPEC



#### GEARED MOTOR

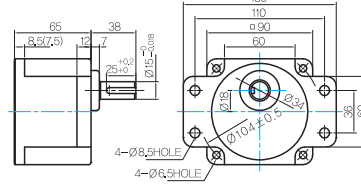
##### P TYPE GEARBOX

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



- GEARBOX MODEL:  
9PBK□BH

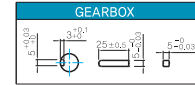
- GEARBOX MODEL:  
9PFK□BH



#### GEARBOX OUTPUT SHAFT

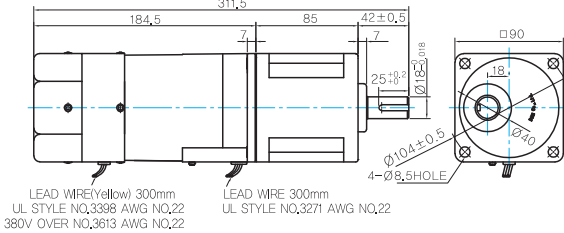
MODEL	SPEC
KEY TYPE	38 25 <sup>+0.03</sup> Ø11 <sup>+0.03</sup>
9PBK□BH	
9PFK□BH	

#### KEY SPEC



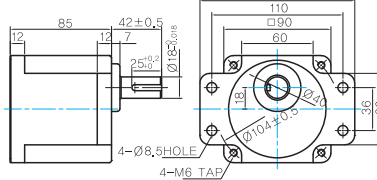
##### H TYPE GEARBOX

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



- GEARBOX MODEL:  
9HBK□BH

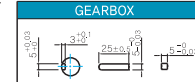
- GEARBOX MODEL:  
9HFK□BH



#### GEARBOX OUTPUT SHAFT

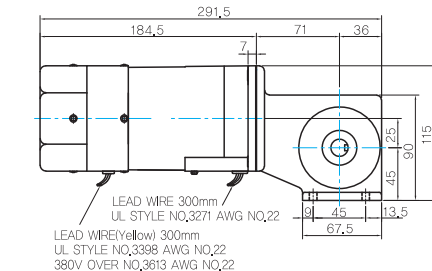
MODEL	SPEC
KEY TYPE	42 25 <sup>+0.03</sup> Ø11 <sup>+0.03</sup>
9HBK□BH	
9HFK□BH	

#### KEY SPEC

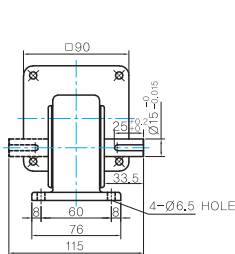


##### W TYPE GEARBOX

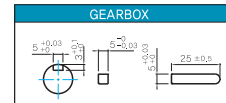
- MOTOR MODEL:  
9BDG□-90FW (GENERAL FAN)



- GEARBOX MODEL:  
9WD□BL/BR/BRL



#### KEY SPEC

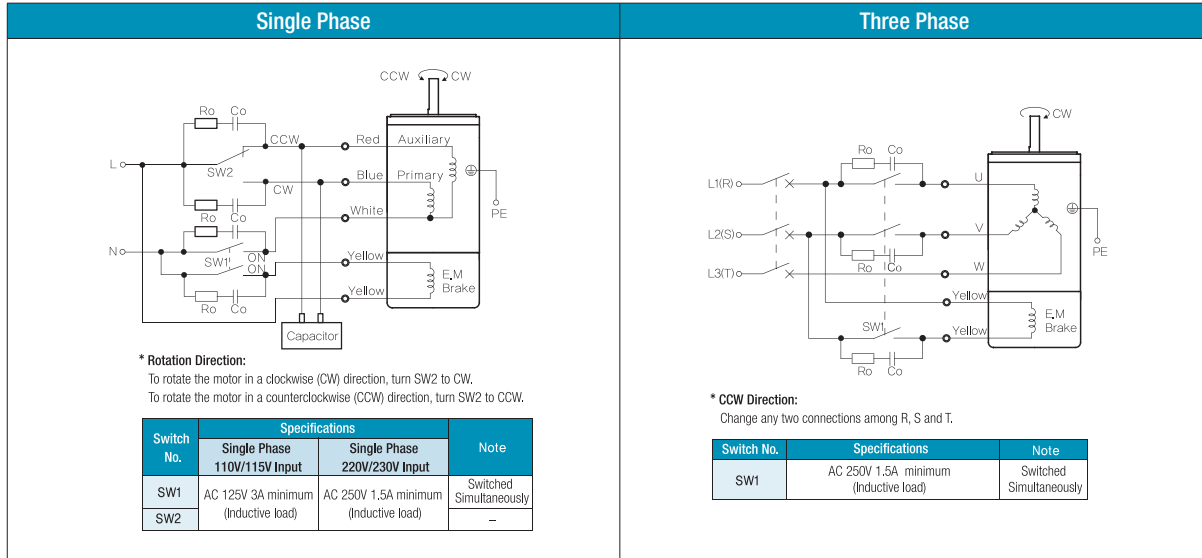




# B AC Motors

## Brake Motor 90W (□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)]