

Brake Motor 90W (□90mm)

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90W

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Motor Specification

Model <small>9BDG*-90F□: Gear Type Shaft 9BDD*-90F: D-Cut Type Shaft 9BDK*-90F: Key Type Shaft</small>	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	1φ110	60	4	30min.	6.60	0.660	1600	2.00	6.40	0.640	25.0 / 250
9BDGD-90F□	90	1φ220	60	4	30min.	6.00	0.600	1600	0.97	6.60	0.660	6.0 / 450
9BDGE-90F□	90	1φ220	50	4	30min.	6.40	0.640	1250	0.90	7.80	0.780	6.0 / 450
		1φ240				7.80	0.780		1.00	8.90	0.890	
9BDGG-90F□	90	3φ220	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	3φ380	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	
			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	
		3φ415	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	
			3φ440	4	Cont.	29.00	2.900	1350	0.48	8.00	0.800	
						60	23.80	2.380	1650	0.37	6.00	

- 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	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	
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	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	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	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	Gear Ratio						Motor Model	Gearbox Model	Gear Ratio r/min	Gear Ratio												
			10	12	15	18	25	30				9BDG□ -90FWH	9WHD□ -030	7.5	10	15	20	25	30	40	50	60	80	
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	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
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	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	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	Gear Ratio						Motor Model	Gearbox Model	Gear Ratio r/min	Gear Ratio												
			10	12	15	18	25	30				9BDG□ -90FWH	9WHD□ -030	7.5	10	15	20	25	30	40	50	60	80	
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.

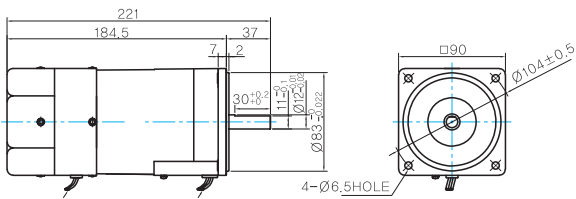
B AC Motors

Brake Motor 90W (□90mm)

Dimensions

MOTOR ONLY

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



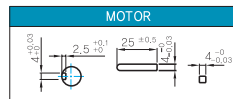
LEAD WIRE(Yellow) 300mm
UL STYLE NO.3398 AWG NO.22
380V OVER NO.3613 AWG NO.22

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

MOTOR OUTPUT SHAFT

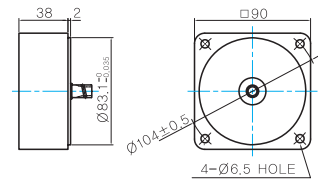
MODEL	SPEC
D-CUT TYPE	37 30 ^{+0.2} 11.5 12.5 Ø12.5 _{0.015}
9BDD□-90F	
KEY TYPE	37 25 ^{+0.03} Ø12.5 _{0.015}
9BDK□-90F	

KEY SPEC



INTER-DECIMAL GEARBOX

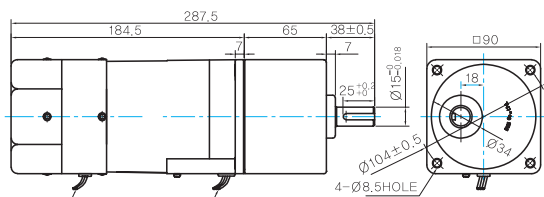
- MODEL:
9XD10□□



GEARED MOTOR

P TYPE GEARBOX

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

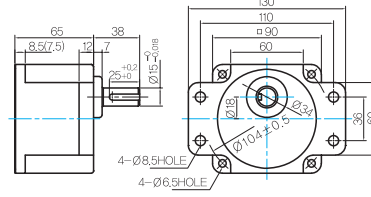


LEAD WIRE(Yellow) 300mm
UL STYLE NO.3398 AWG NO.22
380V OVER NO.3613 AWG NO.22

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

- GEARBOX MODEL:
9PBK□BH

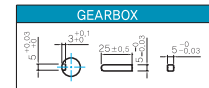
- GEARBOX MODEL:
9PFK□BH



GEARBOX OUTPUT SHAFT

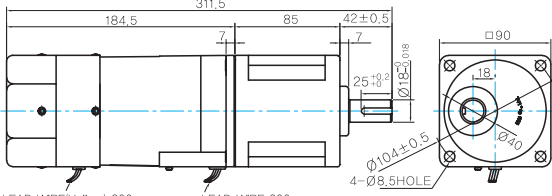
MODEL	SPEC
KEY TYPE	38 25 ^{+0.03} Ø12.5 _{0.015}
9PBK□BH	
9PFK□BH	

KEY SPEC



H TYPE GEARBOX

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

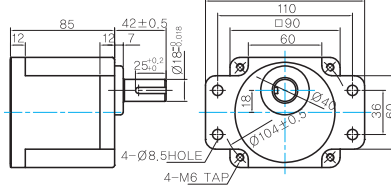


LEAD WIRE(Yellow) 300mm
UL STYLE NO.3398 AWG NO.22
380V OVER NO.3613 AWG NO.22

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

- GEARBOX MODEL:
9HBK□BH

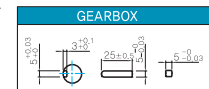
- GEARBOX MODEL:
9HFK□BH



GEARBOX OUTPUT SHAFT

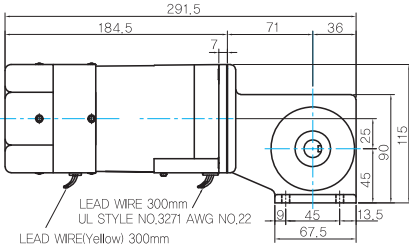
MODEL	SPEC
KEY TYPE	42 25 ^{+0.03} Ø12.5 _{0.015}
9HBK□BH	
9HFK□BH	

KEY SPEC



W TYPE GEARBOX

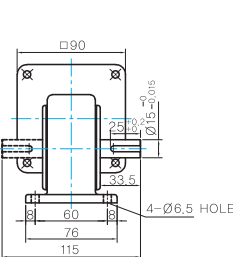
- MOTOR MODEL:
9BDG□-90FW (GENERAL FAN)



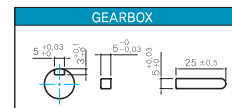
LEAD WIRE 300mm
UL STYLE NO.3271 AWG NO.22

LEAD WIRE(Yellow) 300mm
UL STYLE NO.3398 AWG NO.22
380V OVER NO.3613 AWG NO.22

- GEARBOX MODEL:
9WD□BL/BR/BRL

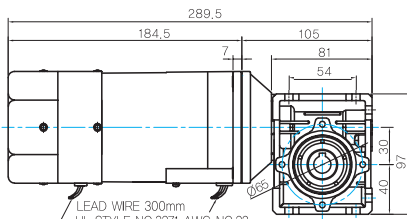


KEY SPEC

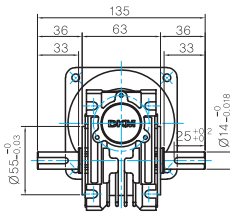


WH TYPE GEARBOX

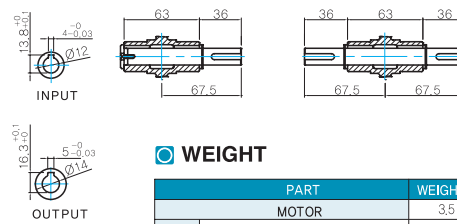
- MOTOR MODEL:
9BDG□-90FWH (GENERAL FAN)



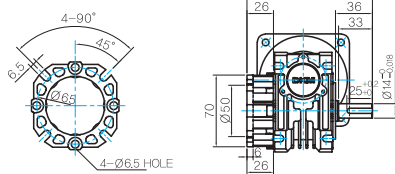
- GEARBOX MODEL:
9WHD□-030



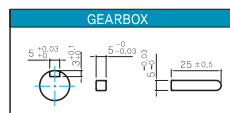
- SHAFT(Unidirectional, Bi-directional)



- FLANGE



- KEY SPEC



WEIGHT

	PART	WEIGHT(Kg)
GEAR BOX	MOTOR	3.5
	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.

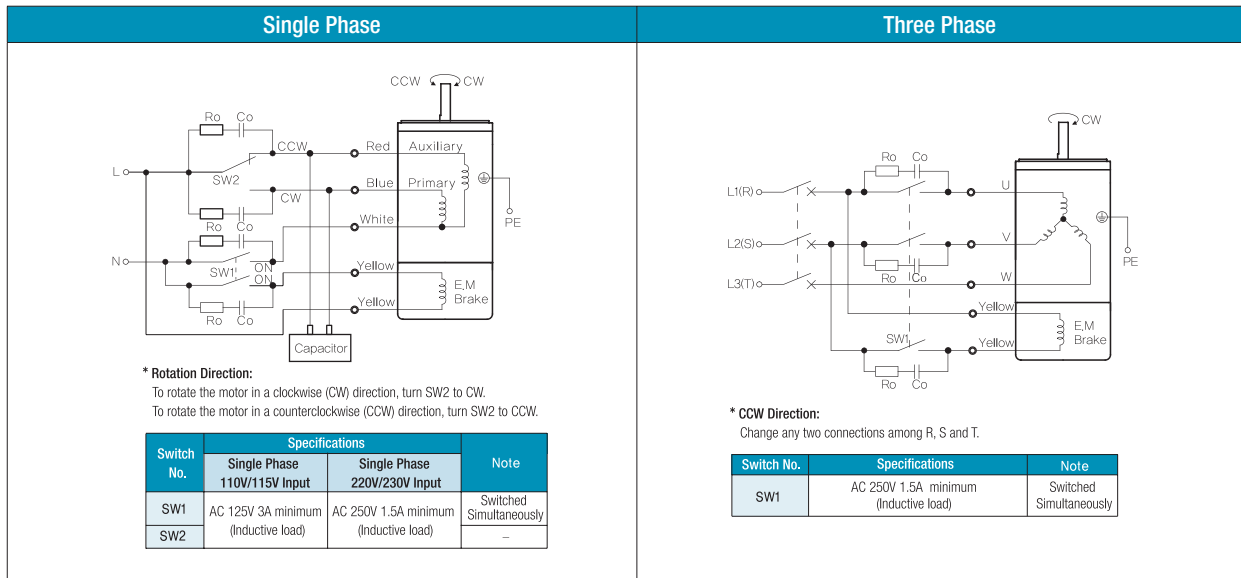
Motor Images



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)]