

## Reversible Motor 90W(□90mm)

# 90W

Reversible Motor  
90W(□90mm)

### Motor Specification

Model		Output W	Voltage V	Frequency Hz	Poles	Duty	Starting Torque		Rated Load			Capacitor μF / VAC	
9RDG*-90F□(-T): Gear Type Shaft 9RDD*-90F(-T): D-Cut Type Shaft 9RDK*-90F(-T): Key Type Shaft	Lead Wire Type						Terminal Box Type	kgfcm	N.m	Speed r/min	Current A		Torque kgfcm N.m
9RDGA-90F□	9RDGA-90F□-T	90	1∅110	60	4	30min.	6.60	0.660	1600	2.00	6.40	0.640	25.0 / 250
9RDGD-90F□	9RDGD-90F□-T	90	1∅220	60	4	30min.	6.00	0.600	1600	0.97	6.60	0.660	6.0 / 450
9RDGE-90F□	9RDGE-90F□-T	90	1∅220	50	4	30min.	6.40	0.640	1250	0.90	7.80	0.780	6.0 / 450
			1∅240				7.80	0.780		1.00	8.90	0.890	

- 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	
9RDG□ -90FP	9PBK□BH 9PFK□BH	kgfcm	11.0	16.4	19.7	27.4	32.9	41.1	49.3	61.9	74.3	89.1	89.76	112.2	134.6	161.1	179.5	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0
		N.m	1.07	1.61	1.93	2.68	3.22	4.03	4.83	6.06	7.28	8.73	8.80	11.00	13.19	15.83	17.59	19.60	19.60	19.60	19.60	19.60	19.60	19.60	19.60	19.60	19.60
9RDG□ -90FH	9HBK□BH 9HFK□BH	kgfcm	-	16.4	19.7	-	32.9	-	49.3	61.9	74.3	89.1	89.8	112.2	134.6	161.6	-	224.4	269.3	300.0	300.0	300.0	300.0	300.0	300.0	300.0	
		N.m	-	1.61	1.93	-	3.22	-	4.83	6.06	7.28	8.73	8.80	11.00	13.19	15.83	-	21.99	26.39	29.40	29.40	29.40	29.40	29.40	29.40	29.40	29.40

Motor Model	Gearbox Model	Gear Ratio	10	12	15	18	25	30	36	50	60
9RDG□ -90FW	9WD□BL/ □BR/□BRL	kgfcm	54.1	63.4	76.2	87.9	115.5	130.7	153.1	142.9	122.4
		N.m	5.30	6.21	7.47	8.62	11.32	12.81	15.00	14.00	12.00

Motor Model	Gearbox Model	Gear Ratio	7.5	10	15	20	25	30	40	50	60	80
9RDG□ -90FWH	9WHD□ -030	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

#### 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
9RDG□ -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
9RDG□ -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	-	265.2	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	-	25.99	29.40	29.40	29.40	29.40	29.40	29.40	29.40	29.40

Motor Model	Gearbox Model	Gear Ratio	10	12	15	18	25	30	36	50	60
9RDG□ -90FW	9WD□BL/ □BR/□BRL	kgfcm	64.0	74.9	90.1	103.9	136.5	154.4	153.1	142.9	122.4
		N.m	6.27	7.34	8.83	10.18	13.38	15.14	15.00	14.00	12.00

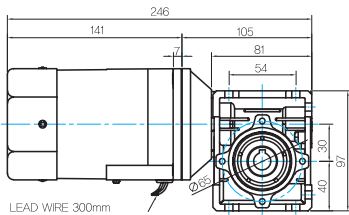
  

Motor Model	Gearbox Model	Gear Ratio	7.5	10	15	20	25	30	40	50	60	80
9RDG□ -90FWH	9WHD□ -030	kgfcm	49.1	63.2	88.9	112.3	128.7	149.8	183.7	173.5	163.3	132.7
		N.m	4.82	6.19	8.71	11.01	12.61	14.68	18.00	17.00	16.00	13.00

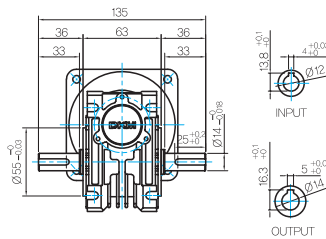
- 1) Enter the phase & voltage code in the box (□) within the motor model name.
- 2) Enter the gear ratio in the box (□) within the Gearbox model name.
- 3) A colored background indicates gear shaft rotation in the same direction as the motor shaft; a white background indicates rotation in the opposite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



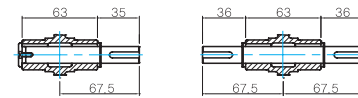
● MOTOR MODEL:  
9RDG□-90FWH (GENERAL FAN)



● GEARBOX MODEL:  
9WHD□-030



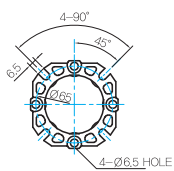
● SHAFT(Unidirectional, Bi-directional)



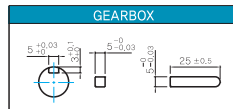
● WEIGHT

PART	WEIGHT(Kg)
MOTOR	3.0
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

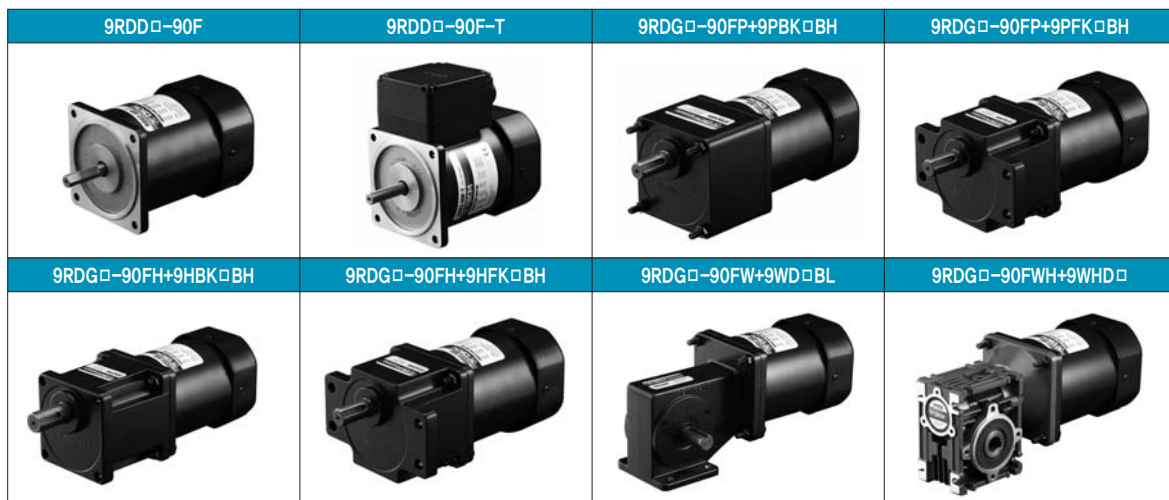


● KEY SPEC



\* The output flange and shafts are sold separately.

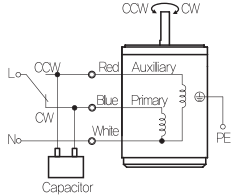
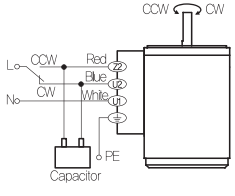
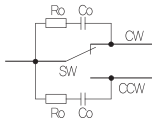
● Motor Images



# B AC Motors

## Reversible Motor 90W(□90mm)

### Connection Diagrams

Lead Wire Type	Terminal Box Type						
							
	<table border="1" style="margin-left: auto; margin-right: auto; border-collapse: collapse;"> <thead> <tr style="background-color: #0070C0; color: white;"> <th style="padding: 2px;">Code</th> <th style="padding: 2px;">Contact Capacity</th> </tr> </thead> <tbody> <tr> <td style="padding: 2px;"><b>SW</b></td> <td style="padding: 2px;">AC125V 5A min. or AC250V 5A min. (Inductive load)</td> </tr> <tr> <td style="padding: 2px;"><b>Ro, Co</b></td> <td style="padding: 2px;">Ro=5-200Ω Co=0.1-0.2μF, 200WV (400WV)</td> </tr> </tbody> </table> <p style="font-size: small; margin-top: 5px;">* Connect a CR circuit for surge suppression to protect the contact.</p>	Code	Contact Capacity	<b>SW</b>	AC125V 5A min. or AC250V 5A min. (Inductive load)	<b>Ro, Co</b>	Ro=5-200Ω Co=0.1-0.2μF, 200WV (400WV)
Code	Contact Capacity						
<b>SW</b>	AC125V 5A min. or AC250V 5A min. (Inductive load)						
<b>Ro, Co</b>	Ro=5-200Ω Co=0.1-0.2μF, 200WV (400WV)						

- 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) During operation it is available to change the rotating direction by turning the switch to CW or CCW.