

Induction Motor 120W(□90mm)

120W

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Motor Specification

Model		Output W	Voltage V	Frequency Hz	Poles	Duty	Starting Torque		Rated Load			Capacitor μF / VAC	
Lead Wire Type	Terminal Box Type						kgfcm	N.m	Speed r/min	Current A	Torque kgfcm N.m		
9IDG*-120F□(-T): Gear Type Shaft 9IDD*-120F(-T): D-Cut Type Shaft 9IDK*-120F(-T): Key Type Shaft													
9IDGA-120F□	9IDGA-120F□-T	120	1∅110	60	4	Cont.	6.60	0.660	1600	2.00	7.40	0.740	25.0 / 250
9IDGD-120F□	9IDGD-120F□-T	120	1∅220	60	4	Cont.	6.00	0.600	1600	1.00	7.60	0.760	6.0 / 450
9IDGE-120F□	9IDGE-120F□-T	120	1∅220	50	4	Cont.	6.60	0.660	1250	0.90	9.40	0.940	6.5 / 450
			1∅240				8.00	0.800		1.00	10.20	1.020	
9IDGG-120F□	9IDGG-120F□-T	120	3∅220	50	4	Cont.	22.00	2.200	1300	0.82	9.20	0.920	-
				60			20.00	2.000		1550	0.78	7.80	
9IDGK-120F□	9IDGK-120F□-T	120	3∅380	50	4	Cont.	25.00	2.500	1300	0.48	9.00	0.900	-
				60			20.00	2.000		1550	0.43	8.00	
			3∅400	50	4	Cont.	27.40	2.740	1300	0.53	9.80	0.980	
				60			21.80	2.180		1550	0.45	8.60	
			3∅415	50	4	Cont.	29.80	2.980	1300	0.57	10.00	1.000	
				60			23.80	2.380		1600	0.44	7.80	
			3∅440	50	4	Cont.	32.00	3.200	1350	0.64	8.80	0.880	
				60			26.80	2.680		1600	0.48	8.60	

- 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.
 ※ It is not possible to use inverter for three phase 380~440V motor. When inverter is used, the insulation of winding coil becomes hot and may cause damage to the motor.

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
9IDG□ -120FP	9PBK□BH 9PFK□BH	kgfcm	12.6	18.9	22.7	31.5	37.8	47.3	56.8	71.3	85.5	102.6	103.4	129.2	155.0	186.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0
		N.m	1.24	1.85	2.23	3.09	3.71	4.64	5.56	6.98	8.38	10.05	10.13	12.66	15.19	18.23	19.60	19.60	19.60	19.60	19.60	19.60	19.60	19.60	19.60	19.60
9IDG□ -120FH	9HBK□BH 9HFK□BH	kgfcm	18.9	22.7	-	37.8	-	56.8	71.3	85.5	102.6	103.4	129.2	155.0	186.0	-	258.4	300.0	300.0	300.0	300.0	300.0	300.0	300.0	300.0	300.0
		N.m	-	1.85	2.23	-	3.71	-	5.56	6.98	8.38	10.05	10.13	12.66	15.19	18.23	-	25.32	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
			180	150	120	100	72	60	50	36	30				9IDG□ -120FWH	9WHD□ -030	240	180	120	90	72	60	45	36
9IDG□ -120FW	9WD□BL/ □BR/□BRL	kgfcm	62.3	73.0	87.8	101.2	133.0	150.5	153.1	142.9	122.4	9IDG□ -120FWH	9WHD□ -030	kgfcm	47.9	61.6	86.6	109.4	125.4	145.9	179.4	173.5	163.3	132.7
		N.m	6.11	7.15	8.60	9.92	13.03	14.75	15.00	14.00	12.00			N.m	4.69	6.03	8.49	10.73	12.29	14.30	17.58	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
9IDG□ -120FP	9PBK□BH 9PFK□BH	kgfcm	16.3	24.4	29.3	40.7	48.8	61.0	73.2	101.7	122.0	146.4	162.7	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0
		N.m	1.59	2.39	2.87	3.99	4.78	5.98	7.17	9.96	11.96	14.35	15.94	19.60	19.60	19.60	19.60	19.60	19.60	19.60	19.60	19.60	19.60	19.60	19.60	19.60
9IDG□ -120FH	9HBK□BH 9HFK□BH	kgfcm	24.4	29.3	-	48.8	-	73.2	91.9	110.3	132.3	133.3	166.6	199.9	239.9	-	300.0	300.0	300.0	300.0	300.0	300.0	300.0	300.0	300.0	300.0
		N.m	2.39	2.87	-	4.78	-	7.17	9.00	10.80	12.97	13.06	16.33	19.59	23.51	-	29.40	29.40	29.40	29.40	29.40	29.40	29.40	29.40	29.40	29.40

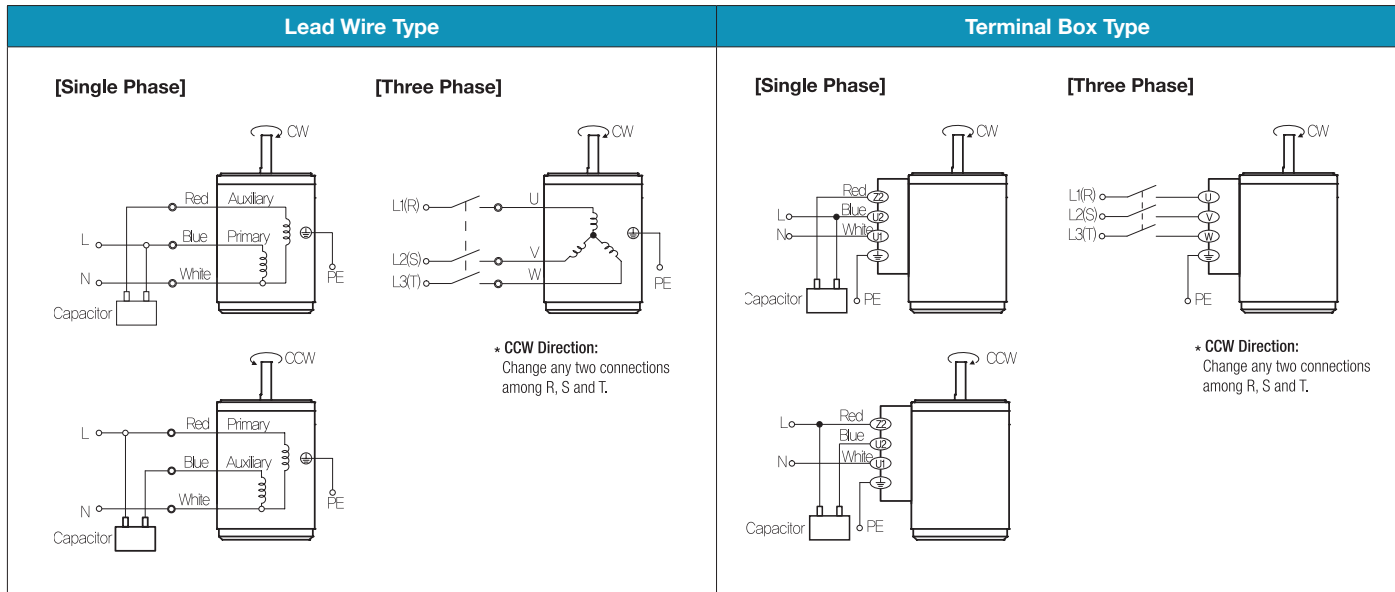
Motor Model	Gearbox Model	Gear Ratio r/min	10	12	15	18	25	30	36	50	60	Motor Model	Gearbox Model	Gear Ratio r/min	7.5	10	15	20	25	30	40	50	60	80
			150	125	100	83	60	50	42	30	25				9IDG□ -120FWH	9WHD□ -030	200	150	100	75	60	50	38	30
9IDG□ -90FW	9WD□BL/ □BR/□BRL	kgfcm	80.4	94.1	113.2	130.5	142.9	163.3	153.1	142.9	122.4	9IDG□ -120FWH	9WHD□ -030	kgfcm	61.7	79.4	111.7	141.1	161.7	188.2	183.7	173.5	163.3	132.7
		N.m	7.88	9.22	11.09	12.79	14.00	16.00	15.00	14.00	12.00			N.m	6.05	7.78	10.95	13.83	15.85	18.44	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

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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) Change the direction of single phase motor rotation only after bringing the motor to a stop. If an attempt is made to change the direction of rotation while the motor is rotating, the motor may ignore the reversing command or change its direction after some delay.