

Induction Motor 60W(□ 90mm)

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Motor 사양

Model 91DG*~60F□(-T): Gear Type Shaft 91DD*~60F(-T): D-Cut Type Shaft 91DK*~60F(-T): Key Type Shaft		Output W	Voltage V	Frequency Hz	Poles	Duty	Starting Torque kgfcm N.m		Rated Load			Capacitor μF / VAC	
									Speed r/min	Current A	Torque kgfcm N.m		
Lead Wire Type	Terminal Box Type												
91D◇1(A)~60F□	91D◇1(A)~60F□-T	60	1ϕ 110	60	4	Cont.	4.30	0.430	1600	1.30	3.65	0.365	16.0 / 250
91D◇B~60F□	91D◇B~60F□-T	60	1ϕ 100	50	4	Cont.	4.80	0.480	1300	1.40	4.50	0.450	20.0 / 250
				60			4.60	0.460	1600	1.40	3.65	0.365	
91D◇C~60F□	91D◇C~60F□-T	60	1ϕ 200	50	4	Cont.	4.70	0.470	1300	0.71	4.50	0.450	5.0 / 450
				60			4.50	0.450	1600	0.69	3.65	0.365	
91D◇2(D)~60F□	91D◇2(D)~60F□-T	60	1ϕ 220	60	4	Cont.	4.20	0.420	1600	0.68	3.65	0.365	4.0 / 450
91D◇E~60F□	91D◇E~60F□-T	60	1ϕ 220	50	4	Cont.	3.90	0.390	1300	0.48	4.50	0.450	3.5 / 450
			1ϕ 240				4.80	0.480		0.54	4.50	0.450	
91D◇3(G)~60F□	91D◇3(G)~60F□-T	60	3ϕ 220	50	4	Cont.	17.20	1.720	1350	0.59	4.33	0.433	-
				60			13.80	1.380	1600	0.53	3.65	0.365	
			3ϕ 230	50	4	Cont.	18.80	1.880	1350	0.62	4.33	0.433	
				60			15.00	1.500	1600	0.56	3.65	0.365	
91D◇J~60F□	91D◇J~60F□-T	60	3ϕ 200	50	4	Cont.	16.50	1.650	1300	0.57	4.50	0.450	-
				60			13.00	1.300	1550	0.52	3.77	0.377	
			3ϕ 220	50	4	Cont.	17.20	1.720	1350	0.59	4.33	0.433	
				60			13.80	1.380	1600	0.53	3.65	0.365	
91D◇4(K)~60F□	91D◇4(K)~60F□-T	60	3ϕ 380	50	4	Cont.	16.70	1.670	1350	0.31	4.33	0.433	-
				60			13.40	1.340	1600	0.28	3.65	0.365	
			3ϕ 400	50	4	Cont.	18.30	1.830	1350	0.34	4.33	0.433	
				60			14.70	1.470	1600	0.30	3.65	0.365	
91D◇5(L)~60F□	91D◇5(L)~60F□-T	60	3ϕ 415	50	4	Cont.	16.70	1.670	1350	0.29	4.33	0.433	-
				60			13.40	1.340	1600	0.26	3.65	0.365	
			3ϕ 440	50	4	Cont.	18.50	1.850	1350	0.31	4.33	0.433	
				60			15.00	1.500	1600	0.28	3.65	0.365	

1) 모터 모델명 * 자리에는 전압코드가 들어갑니다. 2) 모터 모델명 ◇ 자리에는 모터 출력축 타입명이 들어갑니다. (G: Gear Type / D: D-Cut Type / K: Key Type) Gear Type Shaft는 감속기 부착용이며 D-Cut 및 Key Type Shaft는 모터 단독 사용 시의 출력축입니다. 3) 모터 출력축 타입이 Gear Type일 경우, □ 안에는 부착되는 감속기의 모델 타입명이 들어갑니다. 4) 전압코드 A, B, C, D, E, G, J, K, L은 TP(Thermal Protector) 부착 사양입니다. 5) 심상 380V~440V 모터에서는 인버터 사용을 할 수 없습니다. 인버터 사용시 권선의 절연이 열화되어 모터가 파손될 수 있습니다.

감속기 부착 시 최대허용토크

60Hz

Motor Model	Gearbox Model	감속비 r/min	2	3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180	200
91DG* 60FP	9PBK □ BH 9PFK □ BH	kgfcm N,m	5.9 0,58	8.9 0,87	10.7 1,04	14.8 1,45	17.8 1,74	22.2 2,17	26.6 2,61	29.6 2,90	33.3 3,27	40.0 3,92	48.0 4,70	53.3 5,23	60.3 5,91	72.3 7,09	86.8 8,50	96.4 9,45	120.5 11,81	144.6 14,17	161.6 15,84	193.9 19,01	200.0 19,60	200.0 19,60	200.0 19,60	200.0 19,60	200.0
91DG* 60FH	9HBK □ BH 9HFK □ BH	kgfcm N,m	— 0,87	8.9 1,04	10.7 1,04	14.8 1,45	17.8 1,74	22.2 2,17	26.6 2,61	29.6 2,90	33.3 3,27	40.0 3,92	48.0 4,70	53.3 5,23	60.3 5,91	72.3 7,09	86.8 8,50	96.4 9,45	120.5 11,81	144.6 14,17	161.6 15,84	193.9 19,01	215.5 21,12	258.6 25,34	300.0 29,40	300.0 29,40	300.0

Motor Model	Gearbox Model	감속비	10	12	15	18	25	30	36	50	60
		r/min	180	150	120	100	72	60	50	36	30
91DG*~60FW	9WD □ BL/ □ BR/ □ BRL	kgfcm	30.0	35.1	42.2	48.7	63.9	72.3	84.2	109.6	120.5
		N.m	2.94	3.44	4.13	4.77	6.26	7.09	8.25	10.74	11.81

Motor Model	Gearbox Model	감속비	5	7.5	10	15	20	25	30	40	50	60	80
		r/min	360	240	180	120	90	72	60	45	36	30	22
91DG*~60FWH	9WHD □ -030	kgfcm	12.7	18.4	23.7	33.3	42.1	48.2	56.1	69.0	78.9	87.7	102.9
		N.m	1.25	1.80	2.32	3.26	4.12	4.72	5.50	6.76	7.73	8.59	10.08

50Hz

Motor Model	Gearbox Model	감속비 r/min	2	3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180	200
91DG* 60FP	9PBK □ BH 9PFK □ BH	kgfcm N,m	7.0 0.69	10.5 1.03	12.6 1.24	17.5 1.72	21.0 2.06	26.3 2.58	31.6 3.09	35.1 3.44	39.5 3.87	47.4 4.65	56.9 5.57	63.2 6.19	71.4 7.00	85.7 8.40	102.9 10.08	114.3 11.20	142.9 14.00	171.4 16.80	191.6 18.77	200.0 19.60	200.0 19.60	200.0 19.60	200.0 19.60	200.0 19.60	200.0 19.60
91DG* 60FH	9HBK □ BH 9HFK □ BH	kgfcm N,m	- 1.03	10.5 1.03	12.6 1.24	17.5 1.72	21.0 2.06	26.3 2.58	31.6 3.09	35.1 3.44	39.5 3.87	47.4 4.65	56.9 5.57	63.2 6.19	71.4 7.00	85.7 8.40	102.9 10.08	114.3 11.20	142.9 14.00	171.4 16.80	191.6 18.77	229.9 22.53	255.4 25.03	300.0 29.40	300.0 29.40	300.0 29.40	300.0 29.40

Motor Model	Gearbox Model	감속비	10	12	15	18	25	30	36	50	60
		r/min	150	125	100	83	60	50	42	30	25
91DG*~60FW	9WD □ BL/ □ BR/ □ BRL	kgfcm N.m	35.5 3.48	41.6 4.07	50.0 4.90	57.7 5.65	75.8 7.42	85.7 8.40	99.7 9.77	129.9 12.73	122.4 12.00

Motor Model	Gearbox Model	감속비	5	7.5	10	15	20	25	30	40	50	60	80
		r/min	300	200	150	100	75	60	50	38	30	25	18
91DG*~60FWH	9WHD □~030	kgfcm N.m	15.1 1.48	21.8 2.14	28.1 2.75	39.5 3.87	49.9 4.89	57.1 5.60	66.5 6.52	81.7 8.01	93.5 9.16	103.9 10.18	121.9 11.95

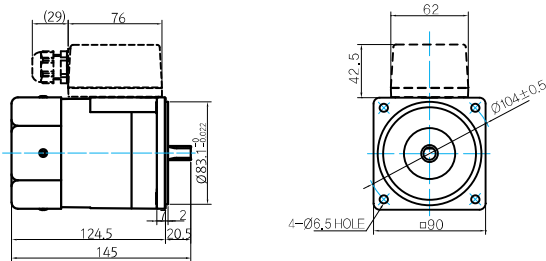
1) 모터 모델명 * 자리에는 전압코드가 들어갑니다. 2) 감속기 모델명 □ 안에는 감속비가 들어갑니다. 3) 위의 표에서 색칠된 범위의 감속비를 선택했을 때 감속기의 출력축은 모터의 출력축과 같은 방향으로 회전합니다. 흰색 바탕 범위의 감속비에서는 감속기 출력축은 모터 출력축의 회전방향과 반대방향으로 회전합니다. 4) 회전속도(r/min)는 모터의 동기회전속도(50Hz:1500r/min, 60Hz:1800r/min)를 감속비로 나누어 계산합니다. 실제 회전속도는 부하의 크기에 따라 표시보다 2~20% 정도 느립니다.

Induction Motor 60W(□ 90mm)

Dimensions

MOTOR ONLY

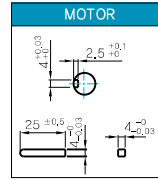
- MOTOR MODEL:
9IDD□-60F(-T) (GENERAL FAN)



MOTOR OUTPUT SHAFT

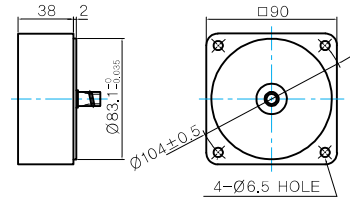
MODEL	SPEC
D-CUT TYPE	37 30 ^{+0.2} ₋₀ 11 ^{+0.05} ₋₀ Ø12 ^{+0.05} ₋₀
9IDD□-60F	
KEY TYPE	
9IDK□-60F	37 25 ^{+0.2} ₋₀ Ø12 ^{+0.05} ₋₀

KEY SPEC



중간감속기

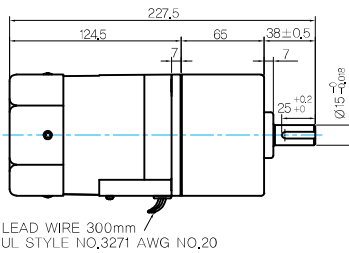
- MODEL:
9XD10□□



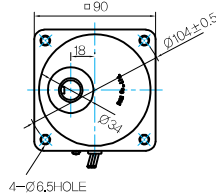
GEARED MOTOR

P TYPE GEARBOX

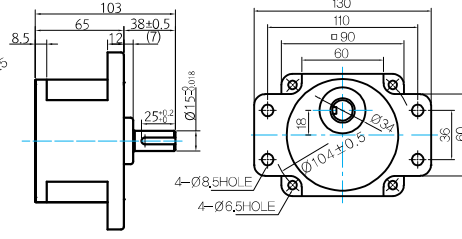
- MOTOR MODEL:
9IDG□-60FP (GENERAL FAN)



- GEARBOX MODEL:
9PBK□BH



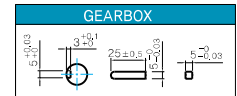
- GEARBOX MODEL:
9PFK□BH



GEARBOX OUTPUT SHAFT

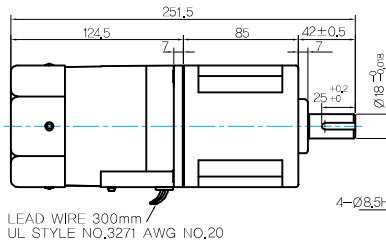
MODEL	SPEC
KEY TYPE	38 30 ^{+0.2} ₋₀ 7 ^{+0.05} ₋₀ Ø15 ^{+0.08} ₋₀
9PBK□BH	
9PFK□BH	

KEY SPEC

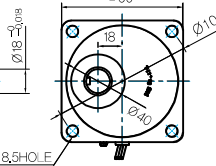


H TYPE GEARBOX

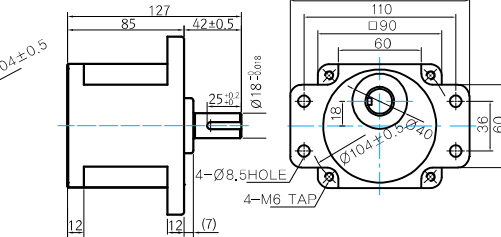
- MOTOR MODEL:
9IDG□-60FH (GENERAL FAN)



- GEARBOX MODEL:
9HBK□BH



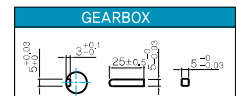
- GEARBOX MODEL:
9HFK□BH



GEARBOX OUTPUT SHAFT

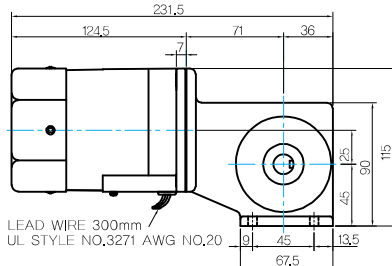
MODEL	SPEC
KEY TYPE	42 30 ^{+0.2} ₋₀ 7 ^{+0.05} ₋₀ Ø15 ^{+0.08} ₋₀
9HBK□BH	
9HFK□BH	

KEY SPEC

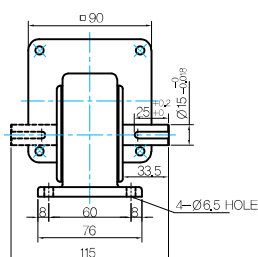


W TYPE GEARBOX

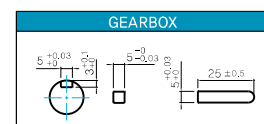
- MOTOR MODEL:
9IDG□-60FW (GENERAL FAN)



- GEARBOX MODEL:
9WD□BL/BR/BRL

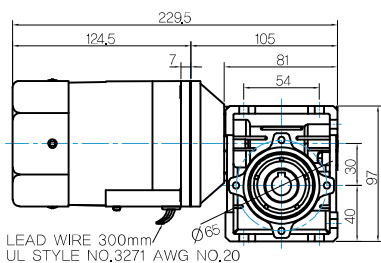


KEY SPEC

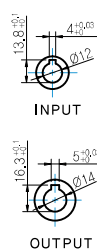
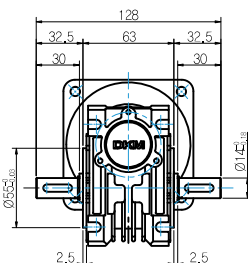


 WH TYPE GEARBOX

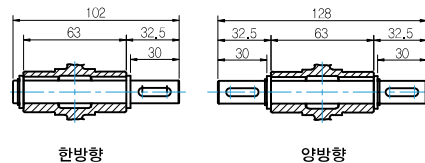
- MOTOR MODEL:
9|DG□-60FWH (GENERAL FAN)



- GEARBOX MODEL:
9WHD□-030



- SHAFT

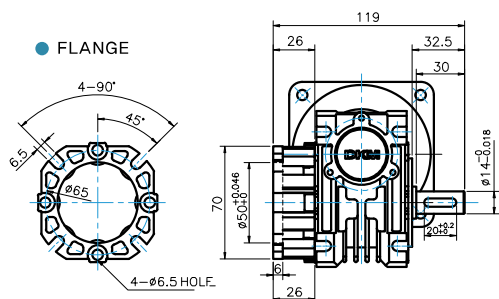


 WEIGHT

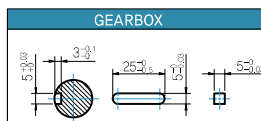
PART		WEIGHT(kg)
MOTOR		2.65
GEAR BOX	9PB(F)K2BH - 9PB(F)K10BH	1.28
	9PB(F)K12.5BH - 9PB(F)K20BH	1.30
	9PB(F)K25BH - 9PB(F)K60BH	1.45
	9PB(F)K75BH - 9PB(F)K200BH	1.47
	9HB(F)K3BH - 9HB(F)K10BH	1.62
	9HB(F)K12.5BH - 9HB(F)K20BH	1.68
	9HB(F)K25BH - 9HB(F)K60BH	1.73
	9HB(F)K75BH - 9HB(F)K200BH	1.78
	9WD □ BL/BR/BRL	1.00
	9WHD □ -030	1.20
9XD10 □ □		0.60

*출력 FLANGE와 SHAFT는 별매입니다.

- FLANGE



- KEY SPEC

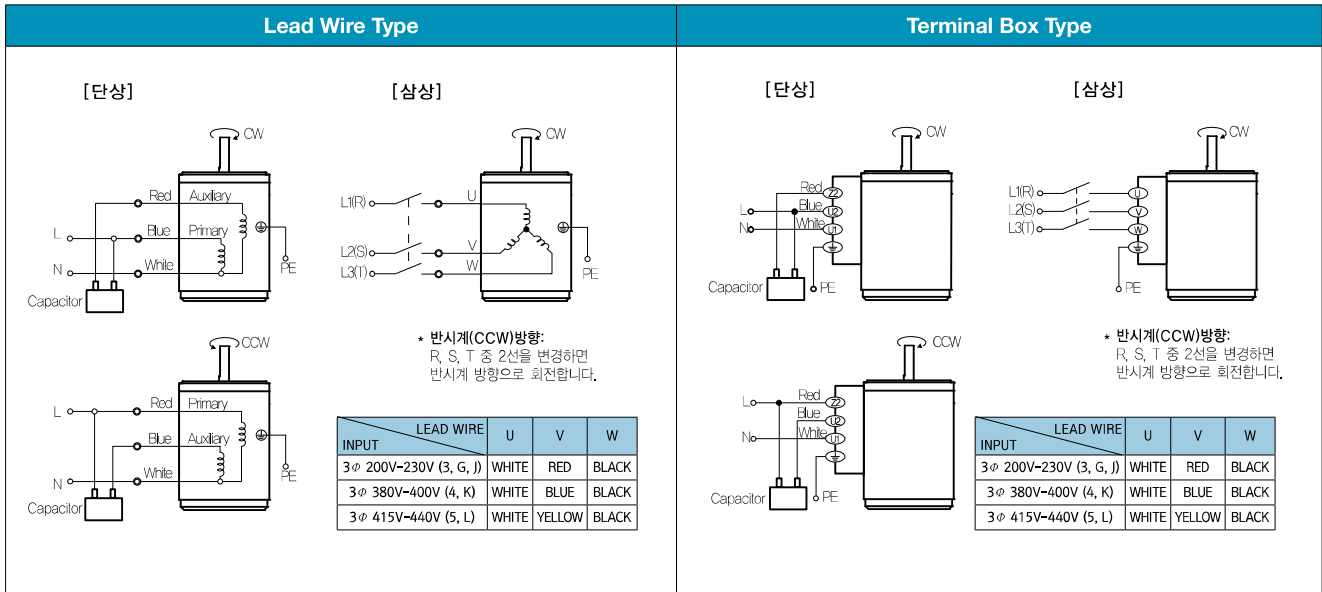


Motor Images

9IDD □ -60F	9IDD □ -60F-T	9IDG □ -60FP+9PBK □ BH	9IDG □ -60FP+9PFK □ BH
			
9IDG □ -60FH+9HBK □ BH	9IDG □ -60FH+9HFK □ BH	9IDG □ -60FW+9WD □ BL	9IDG □ -60FWH+9WHD □ -030
			

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결선도



1) 회전방향은 모터 축 측에서 본 방향을 나타냅니다.

2) CW는 시계방향, CCW는 반시계방향입니다.

3) 단상 모터의 회전방향 전환은 모터 정지 후에 실시하여 주십시오. 모터 회전 중에 회전방향을 전환하면 방향이 전환되지 않거나 시간이 지체되어 전환되는 경우가 있습니다.