

## Induction Motor 60W(□ 90mm)

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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	Torque N.m		
91DG <sup>+</sup> -60F□(-T): Gear Type Shaft	91DD <sup>*</sup> -60F(-T): D-Cut Type Shaft													
91DK <sup>*</sup> -60F(-T): Key Type Shaft														
91DGA-60F□	91DGA-60F□-T	60	1∅110	60	4	Cont.	3.40	0.340	1600	1.40	4.60	0.460	16.0 / 250	
91DGD-60F□	91DGD-60F□-T	60	1∅220	60	4	Cont.	4.20	0.420	1600	0.63	4.60	0.460	4.0 / 450	
91DGE-60F□	91DGE-60F□-T	60	1∅220 1∅240	50	4	Cont.	3.40	0.340	1300	0.48	4.80	0.480	3.5 / 450	
							4.00	0.400		0.54	5.40	0.540		
91DGG-60F□	91DGG-60F□-T	60	3∅220	50	4	Cont.	15.00	1.500	1350	0.59	4.60	0.460	-	
				60			12.80	1.280		1600	0.49	4.20		0.420
91DGK-60F□	91DGK-60F□-T	60	3∅380	50	4	Cont.	17.00	1.700	1350	0.33	4.80	0.480	-	
				60			13.80	1.380		1600	0.29	4.60		0.460
				50	4	Cont.	18.60	1.860	1350	0.36	5.20	0.520		
				60			15.20	1.520		1600	0.30	5.00		0.500
				50	4	Cont.	20.00	2.000	1350	0.40	5.60	0.560		
				60			16.20	1.620		1600	0.33	5.20		0.520
				50	4	Cont.	22.00	2.200	1350	0.44	6.00	0.600		
				60			18.20	1.820		1600	0.36	5.80		0.580

- 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
		r/min	900	600	500	360	300	240	200	144	120	100	90	72	60	50	45	36	30	24	20	18	15	12	10	9
91DG□ -60FP	9PBK□BH 9PFK□BH	kgfcm N.m	7.0 0.68	10.5 1.02	12.5 1.23	17.4 1.71	20.9 2.05	26.1 2.56	31.4 3.07	39.4 3.86	47.3 4.63	56.7 5.56	57.1 5.60	71.4 7.00	85.7 8.40	102.8 10.08	114.2 11.20	142.8 13.99	171.4 16.79	192.2 18.83	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	- 1.02	10.5 1.23	12.5 1.23	- 1.71	20.9 2.05	- 2.56	31.4 3.07	39.4 3.86	47.3 4.63	56.7 5.56	57.1 5.60	71.4 7.00	85.7 8.40	102.8 10.08	- 11.20	142.8 13.99	171.4 16.79	192.2 18.83	230.6 22.60	256.2 25.11	300.0 29.40	300.0 29.40	300.0 29.40	300.0 29.40

Motor Model	Gearbox Model	Gear Ratio	10	12	15	18	25	30	36	50	60	Motor Model	Gearbox Model	Gear Ratio	7.5	10	15	20	25	30	40	50	60	80
		r/min	180	150	120	100	72	60	50	36	30			r/min	240	180	120	90	72	60	45	36	30	22
91DG□-60FW	9WD□BL/ □BR/□BRL	kgfcm N.m	34.4 3.38	40.3 3.95	48.5 4.75	55.9 5.48	73.5 7.20	83.2 8.15	96.8 9.48	126.0 12.35	122.4 12.00	91DG□ -60FWH	9WHD□ -030	kgfcm N.m	26.5 2.59	34.0 3.33	47.9 4.69	60.5 5.93	69.3 6.79	80.6 7.90	99.1 9.71	113.4 11.11	126.0 12.35	132.7 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
		r/min	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
91DG□ -60FP	9PBK□BH 9PFK□BH	kgfcm N.m	8.6 0.85	12.9 1.27	15.5 1.52	21.6 2.11	25.9 2.54	32.4 3.17	38.8 3.81	48.8 4.78	58.5 5.73	68.8 6.88	70.7 6.93	88.4 8.66	106.1 10.40	127.3 12.48	141.4 13.86	176.8 17.33	200.0 19.60	200.0 19.60	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	- 1.27	12.9 1.52	15.5 1.52	- 2.11	25.9 2.54	- 3.17	38.8 3.81	48.8 4.78	58.5 5.73	68.8 6.88	70.7 6.93	88.4 8.66	106.1 10.40	127.3 12.48	- 13.86	176.8 17.33	212.2 20.79	237.9 23.31	285.5 27.98	300.0 29.40	300.0 29.40	300.0 29.40	300.0 29.40	300.0 29.40

Motor Model	Gearbox Model	Gear Ratio	10	12	15	18	25	30	36	50	60	Motor Model	Gearbox Model	Gear Ratio	7.5	10	15	20	25	30	40	50	60	80
		r/min	150	125	100	83	60	50	42	30	25			r/min	200	150	100	75	60	50	38	30	25	18
91DG□-60FW	9WD□BL/ □BR/□BRL	kgfcm N.m	42.6 4.18	49.9 4.89	60.1 5.89	69.3 6.79	91.0 8.92	103.0 10.09	119.8 11.74	142.9 14.00	122.4 12.00	91DG□ -60FWH	9WHD□ -030	kgfcm N.m	32.8 3.21	42.1 4.13	59.3 5.81	74.9 7.34	85.8 8.41	99.8 9.78	122.7 12.03	140.4 13.76	156.0 15.29	132.7 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.

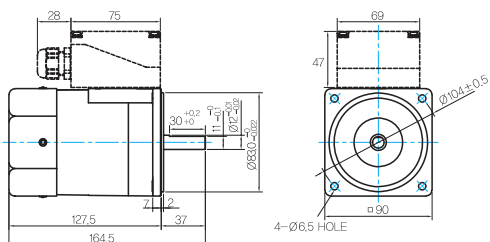
# B AC Motors

## Induction Motor 60W(□90mm)

### Dimensions

#### MOTOR ONLY

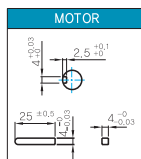
- MOTOR MODEL:  
9IDD□-60F(-T) (GENERAL FAN)



#### MOTOR OUTPUT SHAFT

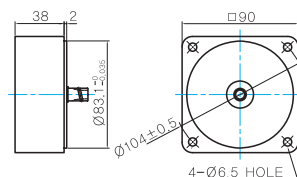
MODEL	SPEC
D-CUT TYPE	
KEY TYPE	

#### KEY SPEC



#### INTER-DECIMAL GEARBOX

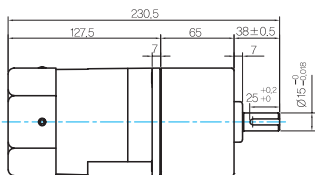
- MODEL:  
9XD10□□



#### GEARED MOTOR

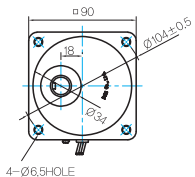
##### P TYPE GEARBOX

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

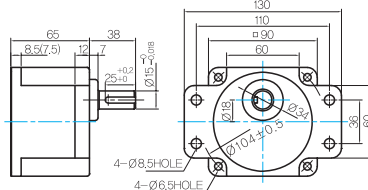


LEAD WIRE 300mm  
UL STYLE NO.3271 AWG NO.22

- GEARBOX MODEL:  
9PBK□BH



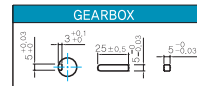
- GEARBOX MODEL:  
9PFK□BH



#### GEARBOX OUTPUT SHAFT

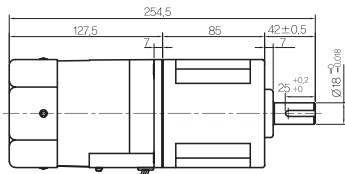
MODEL	SPEC
KEY TYPE	

#### KEY SPEC



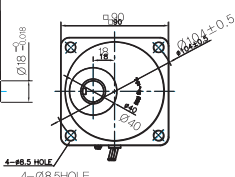
##### H TYPE GEARBOX

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

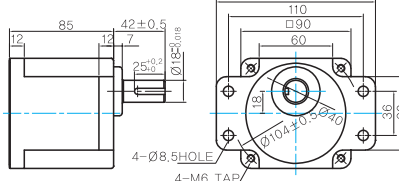


LEAD WIRE 300mm  
UL STYLE NO.3271 AWG NO.22

- GEARBOX MODEL:  
9HBK□BH



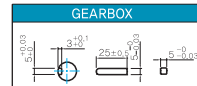
- GEARBOX MODEL:  
9HFK□BH



#### GEARBOX OUTPUT SHAFT

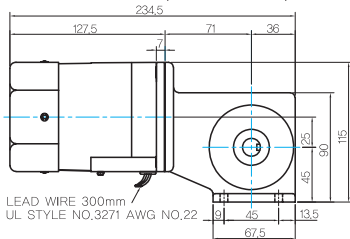
MODEL	SPEC
KEY TYPE	

#### KEY SPEC



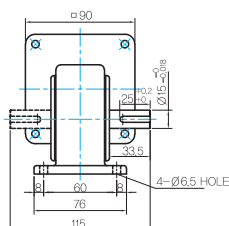
##### W TYPE GEARBOX

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

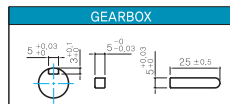


LEAD WIRE 300mm  
UL STYLE NO.3271 AWG NO.22

- GEARBOX MODEL:  
9WD□BL/BR/BRL

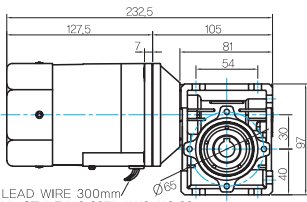


#### KEY SPEC



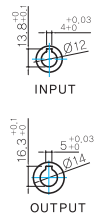
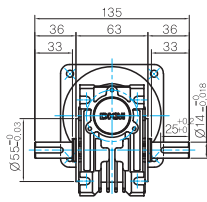
**WH TYPE GEARBOX**

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

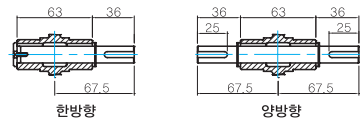


LEAD WIRE 300mm/  
UL STYLE NO.3271 AWG NO.22

- GEARBOX MODEL:  
9WHD□-030



- SHAF

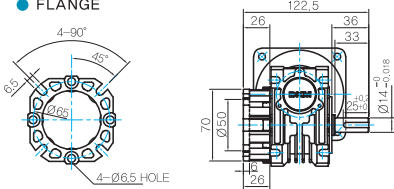


- WEIGHT

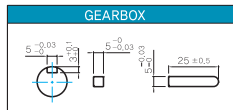
PART	WEIGHT(Kg)	
MOTOR	3.0	
GEAR BOX	9PB(F)K2BH ~ 9PB(F)K18BH	1.3
	9PB(F)K20BH ~ 9PB(F)K200BH	1.4
	9HB(F)K3BH ~ 9HB(F)K9BH	1.45
	9HB(F)K12.5BH ~ 9HB(F)K18BH	1.5
	9HB(F)K20BH ~ 9HB(F)K60BH	1.7
	9HB(F)K75BH ~ 9HB(F)K200BH	1.8
	9WD□BL/BR/BRL	1.0
	9WHD□-030	1.13
	9XD10□	0.5

\* 출력 FLANGE와 SHAFT는 별매입니다.

- FLANGE



- KEY SPEC



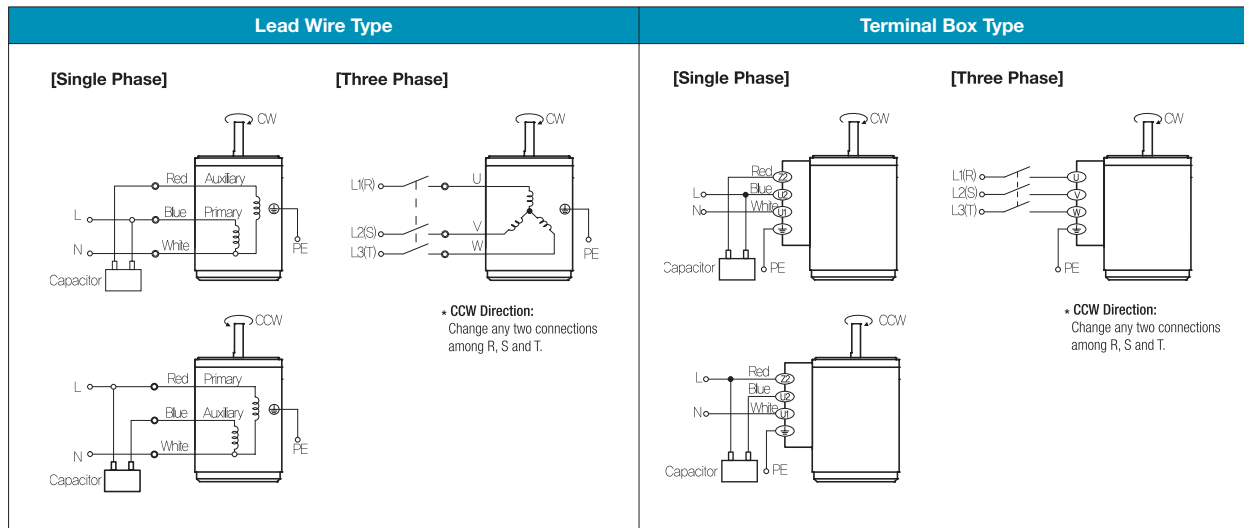
**Motor Images**

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

# B AC Motors

Induction Motor 60W(□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) 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.