

## 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 N.m		
9IDG* <input type="checkbox"/> -60F <input type="checkbox"/> (-T)	9IDGA-60F <input type="checkbox"/> -T	60	1∅110	60	4	Cont.	3.40	0.340	1600	1.40	4.60	0.460	16.0 / 250
9IDD* <input type="checkbox"/> -60F(-T)	9IDGD-60F <input type="checkbox"/> -T	60	1∅220	60	4	Cont.	4.20	0.420	1600	0.63	4.60	0.460	4.0 / 450
9IDK* <input type="checkbox"/> -60F(-T)	9IDGE-60F <input type="checkbox"/> -T	60	1∅220 1∅240	50	4	Cont.	3.40 4.00	0.340 0.400	1300	0.48 0.54	4.80 5.40	0.480 0.540	3.5 / 450
9IDGG-60F <input type="checkbox"/>	9IDGG-60F <input type="checkbox"/> -T	60	3∅220	50 60	4	Cont.	15.00 12.80	1.500 1.280	1350 1600	0.59 0.49	4.60 4.20	0.460 0.420	-
9IDGK-60F <input type="checkbox"/>	9IDGK-60F <input type="checkbox"/> -T	60	3∅380 3∅400 3∅415 3∅440	50 60 50 60	4	Cont.	17.00 13.80 18.60 15.20	1.700 1.380 1.860 1.520	1350 1600	0.33 0.29 0.36 0.30	4.80 4.60 5.20 5.00	0.480 0.460 0.520 0.500	-
				50 60	4	Cont.	20.00 16.20	2.000 1.620	1350 1600	0.40 0.33	5.60 5.20	0.560 0.520	
				50 60	4	Cont.	22.00 18.20	2.200 1.820	1350 1600	0.44 0.36	6.00 5.80	0.600 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.  
 ※ 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 <input type="checkbox"/> -60FP	9PBK <input type="checkbox"/> BH 9PFK <input type="checkbox"/> 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	
9IDG <input type="checkbox"/> -60FH	9HBK <input type="checkbox"/> BH 9HFK <input type="checkbox"/> 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	

Motor Model	Gearbox Model	Gear Ratio r/min	10	12	15	18	25	30	36	50	60
			180	150	120	100	72	60	50	36	30
9IDG <input type="checkbox"/> -60FW	9WD <input type="checkbox"/> 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

Motor Model	Gearbox Model	Gear Ratio r/min	7.5	10	15	20	25	30	40	50	60	80
			240	180	120	90	72	60	45	36	30	22
9IDG <input type="checkbox"/> -60FWH	9WHD <input type="checkbox"/> -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 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 <input type="checkbox"/> -60FP	9PBK <input type="checkbox"/> BH 9PFK <input type="checkbox"/> 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	70.2 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	
9IDG <input type="checkbox"/> -60FH	9HBK <input type="checkbox"/> BH 9HFK <input type="checkbox"/> 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	70.2 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	

Motor Model	Gearbox Model	Gear Ratio r/min	10	12	15	18	25	30	36	50	60
			150	125	100	83	60	50	42	30	25
9IDG <input type="checkbox"/> -60FW	9WD <input type="checkbox"/> 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

Motor Model	Gearbox Model	Gear Ratio r/min	7.5	10	15	20	25	30	40	50	60	80
			200	150	100	75	60	50	38	30	25	18
9IDG <input type="checkbox"/> -60FWH	9WHD <input type="checkbox"/> -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.

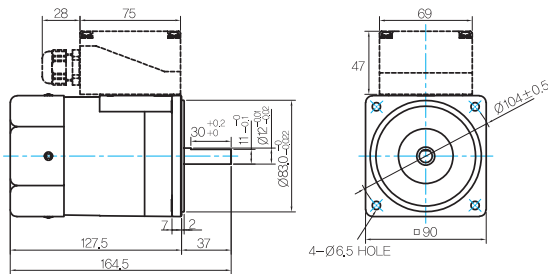
# B AC Motors

## Induction Motor 60W(□90mm)

### Dimensions

#### MOTOR ONLY

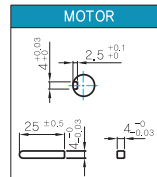
- MOTOR MODEL:  
9IDD□-60F(-T) (GENERAL FAN)



#### MOTOR OUTPUT SHAFT

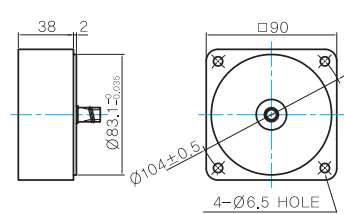
MODEL	SPEC
D-CUT TYPE	
9IDD□-60F	
KEY TYPE	
9IDK□-60F	

#### KEY SPEC



#### INTER-DECIMAL GEARBOX

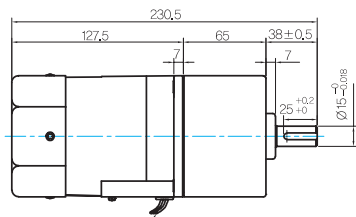
- MODEL:  
9XD10□□



#### GEARED MOTOR

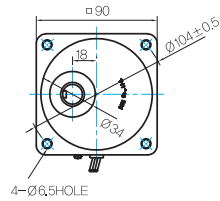
##### P TYPE GEARBOX

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

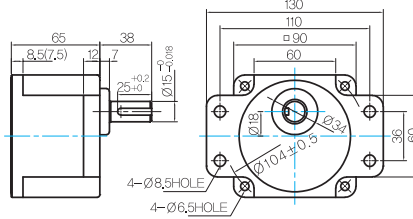


LEAD WIRE 300mm  
UL STYLE NO,3271 AWG NO,22

- GEARBOX MODEL:  
9PBK□BH



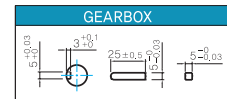
- GEARBOX MODEL:  
9PFK□BH



#### GEARBOX OUTPUT SHAFT

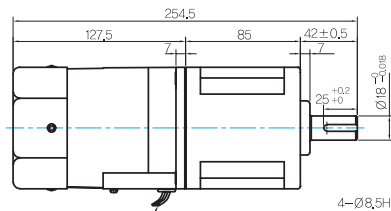
MODEL	SPEC
KEY TYPE	
9PBK□BH	
9PFK□BH	

#### KEY SPEC



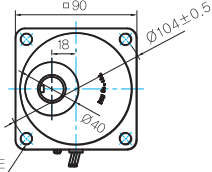
##### H TYPE GEARBOX

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

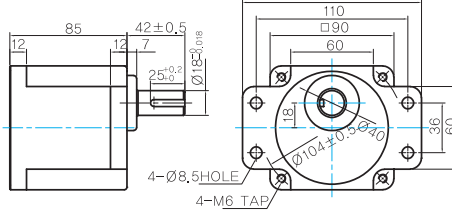


LEAD WIRE 300mm  
UL STYLE NO,3271 AWG NO,22

- GEARBOX MODEL:  
9HBK□BH



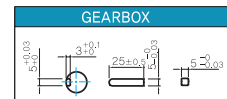
- GEARBOX MODEL:  
9HFK□BH



#### GEARBOX OUTPUT SHAFT

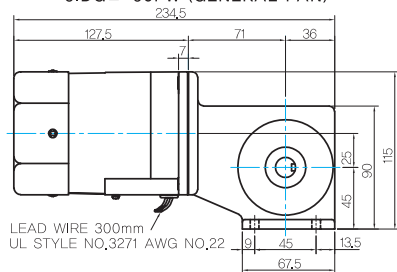
MODEL	SPEC
KEY TYPE	
9HBK□BH	
9HFK□BH	

#### KEY SPEC



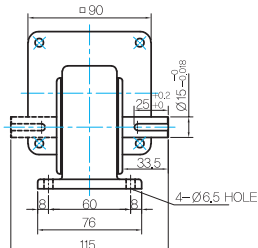
##### W TYPE GEARBOX

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

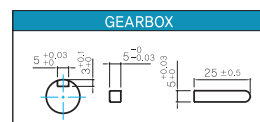


LEAD WIRE 300mm  
UL STYLE NO,3271 AWG NO,22

- GEARBOX MODEL:  
9WD□BL/BR/BRL



#### KEY SPEC

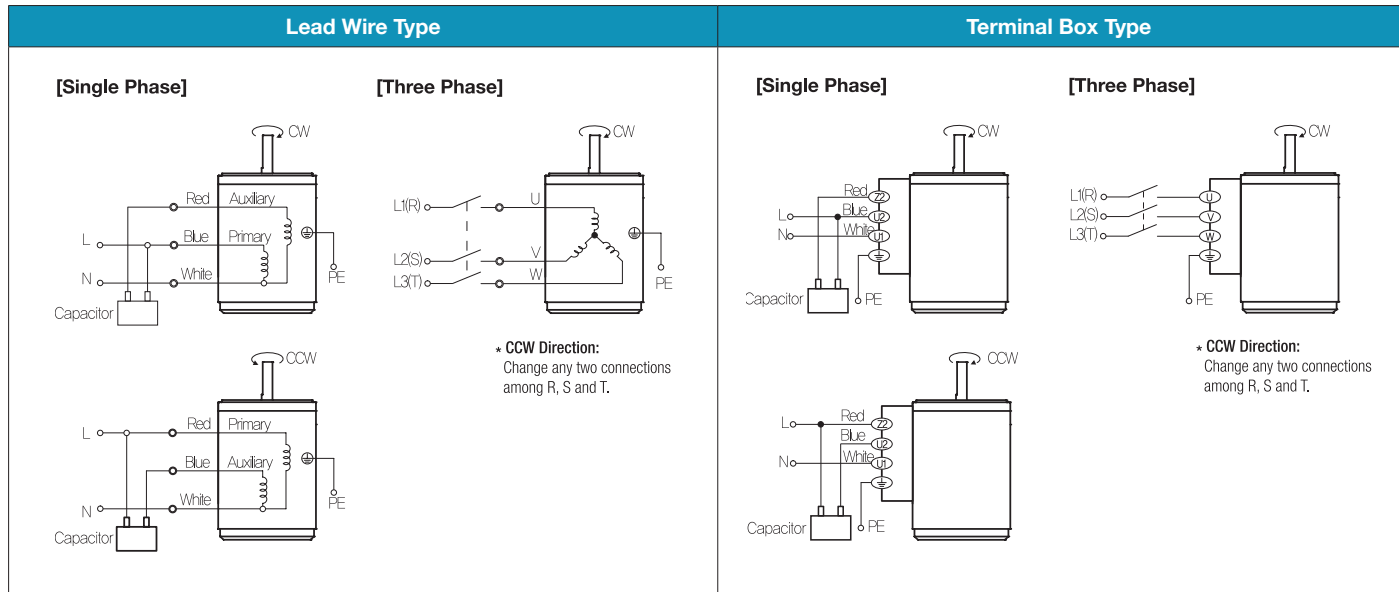




# B AC Motors

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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.