

# B AC Motors

## Torque Motor 60W(□ 90mm)

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### Motor Specification

Model 9TDG*-60F2□: Gear Type Shaft 9TDD*-60F2: D-Cut Type Shaft 9TDK*-60F2: Key Type Shaft	Rating at Locked Rotor	Voltage V	Frequency Hz	Poles	Starting Torque		At max. Output Power				Capacitor μF / VAC	
					kgfcm	N.m	Output W	Speed r/min	Current A	Torque kgfcm N.m		
9TDG1(A)-60F2□	5min.	1φ 110	60	4	8.80	0.880	60	900	2.50	6.49	0.649	30.0 / 250
	Cont.	1φ 70			3.60	0.360	20		1.50	2.16	0.216	
9TDG2(D)-60F2□	5min.	1φ 220	60	4	9.70	0.970	60		1.20	6.49	0.649	8.0 / 450
	Cont.	1φ 140			4.10	0.410	20		0.80	2.16	0.216	
9TDGE-60F2□	5min.	1φ 220~240	50	4	9.50	0.950	60	750	1.10	7.79	0.779	8.0 / 450
	Cont.	1φ 140			4.00	0.400	20		0.70	2.60	0.260	

- 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) The phase & voltage code A, D, E contain a built-in thermal protector.
- 3) Gear Type Shaft is for attaching a gearbox and D-Cut Type Shaft is for using the motor only.

### Max. Permissible Torque at Output Shaft of Gearbox

#### 60Hz

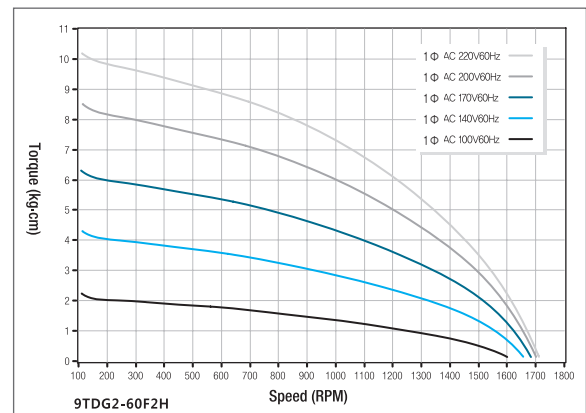
Motor Model	Gearbox Model	Gear Ratio	2	3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180	200		
9TDG*-60F2P	9PBK□BH 9PFK□BH	5min.	kgfcm N.m	14.3 1.40	21.4 2.10	25.7 2.51	35.6 3.49	42.8 4.19	53.5 5.24	64.2 6.29	71.3 6.99	80.3 7.87	96.4 9.44	115.6 11.33	128.5 12.59	145.2 14.23	174.2 17.08	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	200.0 19.60	200.0 19.60	200.0 19.60	
		Cont.	kgfcm N.m	5.8 0.57	8.7 0.86	10.5 1.03	14.6 1.43	17.5 1.71	21.9 2.14	26.2 2.57	29.2 2.86	32.9 3.22	39.4 3.86	47.3 4.64	52.6 5.15	59.4 5.82	69.9 6.99	83.8 8.38	95.0 9.31	116.4 11.64	139.7 13.97	156.1 15.61	187.3 18.73	196.0 19.60	200.0 20.00	200.0 20.00	200.0 20.00	200.0 20.00	200.0 20.00
9TDG*-60F2H	9HBK□BH 9HFK□BH	5min.	kgfcm N.m	-	21.4 2.10	25.7 2.51	35.6 3.49	42.8 4.19	53.5 5.24	64.2 6.29	71.3 6.99	80.3 7.87	96.4 9.44	115.6 11.33	128.5 12.59	145.2 14.23	174.2 17.08	204.9 20.49	22.77 22.77	28.46 28.46	29.40 29.40	29.40 29.40	29.40 29.40	29.40 29.40	29.40 29.40	29.40 29.40	29.40 29.40	29.40 29.40	29.40 29.40
		Cont.	kgfcm N.m	-	8.7 0.86	10.5 1.03	14.6 1.43	17.5 1.71	21.9 2.14	26.2 2.57	29.2 2.86	32.9 3.22	39.4 3.86	47.3 4.64	52.6 5.15	59.4 5.82	69.9 6.99	83.8 8.38	95.0 9.31	116.4 11.64	139.7 13.97	156.1 15.61	187.3 18.73	208.2 20.82	249.8 24.98	29.40 29.40	300.0 30.00	300.0 30.00	300.0 30.00

#### 50Hz

Motor Model	Gearbox Model	Gear Ratio	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		
9TDG*-60F2P	9PBK□BH 9PFK□BH	5min.	kgfcm N.m	15.4 1.51	23.1 2.26	27.7 2.71	38.5 3.77	46.2 4.52	57.7 5.66	69.3 6.79	77.0 7.54	86.7 8.50	104.0 10.19	124.8 12.23	138.7 13.59	156.8 15.36	188.1 18.43	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	200.0 19.60	200.0 19.60	200.0 19.60	
		Cont.	kgfcm N.m	6.5 0.64	9.7 0.95	11.7 1.14	16.2 1.59	19.4 1.91	24.3 2.38	29.2 2.86	32.4 3.18	36.5 3.58	43.8 4.29	52.6 5.15	58.4 5.72	66.0 6.47	79.2 7.76	95.0 9.31	105.6 10.35	132.0 12.94	158.4 15.52	177.0 17.35	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
9TDG*-60F2H	9HBK□BH 9HFK□BH	5min.	kgfcm N.m	-	23.1 2.26	27.7 2.71	38.5 3.77	46.2 4.52	57.7 5.66	69.3 6.79	77.0 7.54	86.7 8.50	104.0 10.19	124.8 12.23	138.7 13.59	156.8 15.36	188.1 18.43	22.12 22.12	24.58 24.58	29.40 29.40	29.40 29.40	29.40 29.40	29.40 29.40	29.40 29.40	29.40 29.40	29.40 29.40	29.40 29.40	29.40 29.40	29.40 29.40
		Cont.	kgfcm N.m	-	9.7 0.95	11.7 1.14	16.2 1.59	19.4 1.91	24.3 2.38	29.2 2.86	32.4 3.18	36.5 3.58	43.8 4.29	52.6 5.15	58.4 5.72	66.0 6.47	79.2 7.76	95.0 9.31	105.6 10.35	132.0 12.94	158.4 15.52	177.0 17.35	208.2 20.82	236.0 23.60	283.2 28.32	300.0 30.00	300.0 30.00	300.0 30.00	300.0 30.00

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

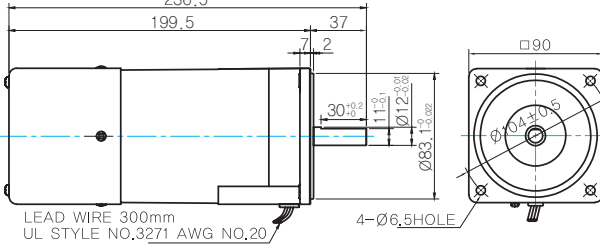
### Speed-Torque Characteristics



## Dimensions

### MOTOR ONLY

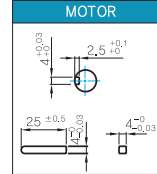
- MOTOR MODEL:  
9TDD□-60F2 (POWERFUL FAN)  
236.5



### MOTOR OUTPUT SHAFT

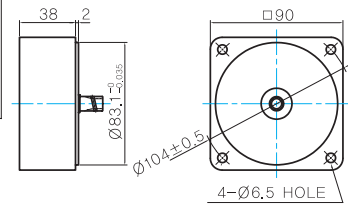
MODEL	SPEC
D-CUT TYPE	
9TDD□-60F2	
KEY TYPE	
9TDD□-60F2	

### KEY SPEC



### INTER-DECIMAL GEARBOX

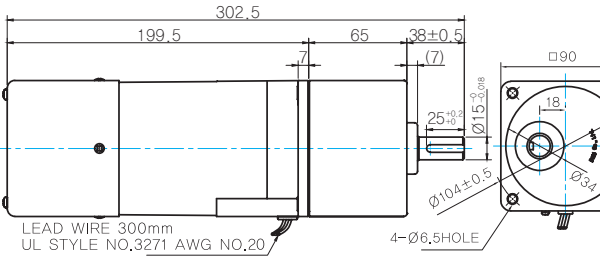
- MODEL: 9XD10□□



### GEARED MOTOR

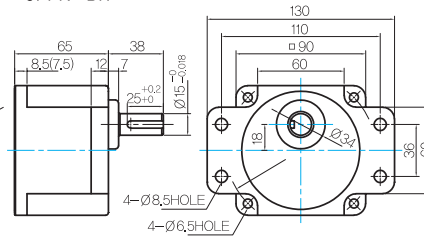
#### P TYPE GEARBOX

- MOTOR MODEL:  
9TDG□-60F2P (POWERFUL FAN)  
302.5



- GEARBOX MODEL:  
9PBK□BH

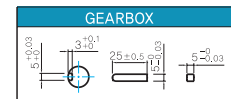
- GEARBOX MODEL:  
9PFK□BH



### GEARBOX OUTPUT SHAFT

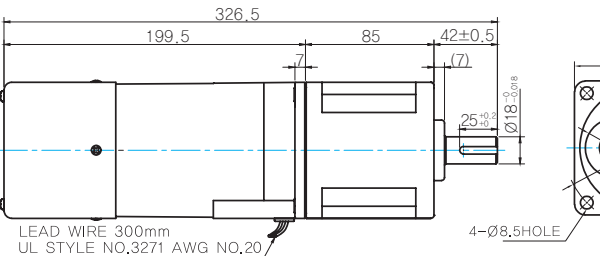
MODEL	SPEC
KEY TYPE	
9PBK□BH	
9PFK□BH	

### KEY SPEC



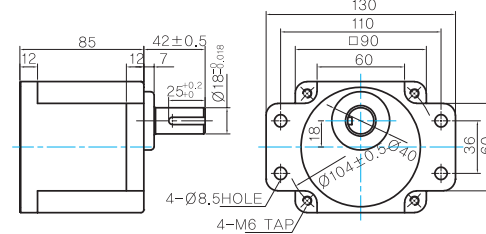
#### H TYPE GEARBOX

- MOTOR MODEL:  
9TDG□-60F2H (POWERFUL FAN)  
326.5



- GEARBOX MODEL:  
9HBK□BH

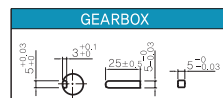
- GEARBOX MODEL:  
9HFK□BH



### GEARBOX OUTPUT SHAFT

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

### KEY SPEC



### WEIGHT

PART	WEIGHT(Kg)
MOTOR	4,15
9PB(F)K2BH - 9PB(F)K10BH	1,28
9PB(F)K12.5BH - 9PB(F)K20BH	1,3
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
9XD10□□	0,6

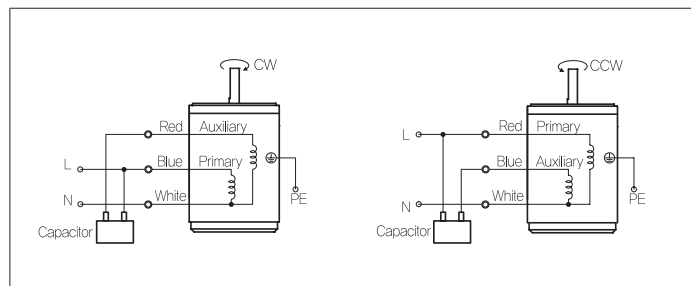
# B AC Motors

Torque Motor 60W(□ 90mm)

## Motor Images



## 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.