

TM-5-27-PB6

Torque Motor

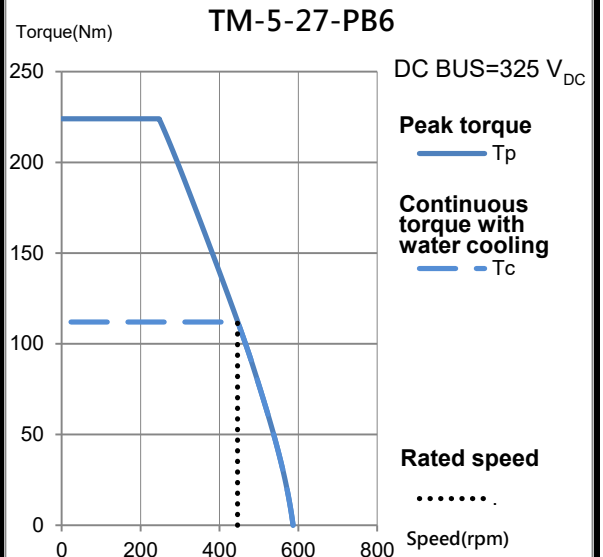
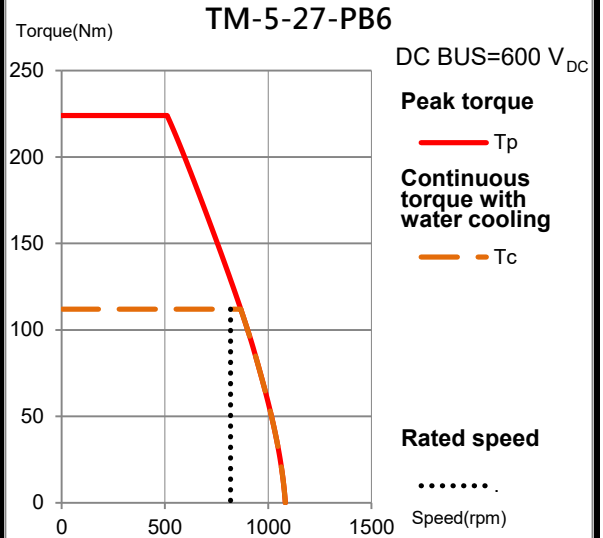
Electrical specifications

Winding code : PB6	Symbol	Unit	Water cooling
Continuous torque	T_c	Nm	112
Continuous current	I_c	A_{rms}	19.6
Stall torque	T_s	Nm	91
Stall current	I_s	A_{rms}	15.7
Peak torque(for 1sec.)	T_p	Nm	224
Peak current(for 1sec.)	I_p	A_{rms}	51
Torque constant	K_t	Nm/Arms	5.89
Electrical time constant	T_e	ms	7.2
Resistance (line to line at 25°C)	R_{25}	Ω	1.58
Inductance (line to line)	L	mH	11.45
Number of poles	2p		22
Back emf constant (line to line)	K_v	Vrms/rad/s	3.4
Motor constant (at 25°C)	K_m	Nm/ \sqrt{W}	3.78
Thermal resistance	R_{th}	K/W	0.115
Thermal sensor			PTC 100+PTC 130+Pt1000
Max. DC BUS		V_{DC}	600/ 750 refer to manual for details
Inertia of rotor	J	kgm ²	0.007
Thermal time constant	T_{th}	s	180
Max. continuous power dissipation	P_c	W	1285
Max. peak power dissipation	P_p	W	8700
Rated speed(at 600VDC)		rpm	818

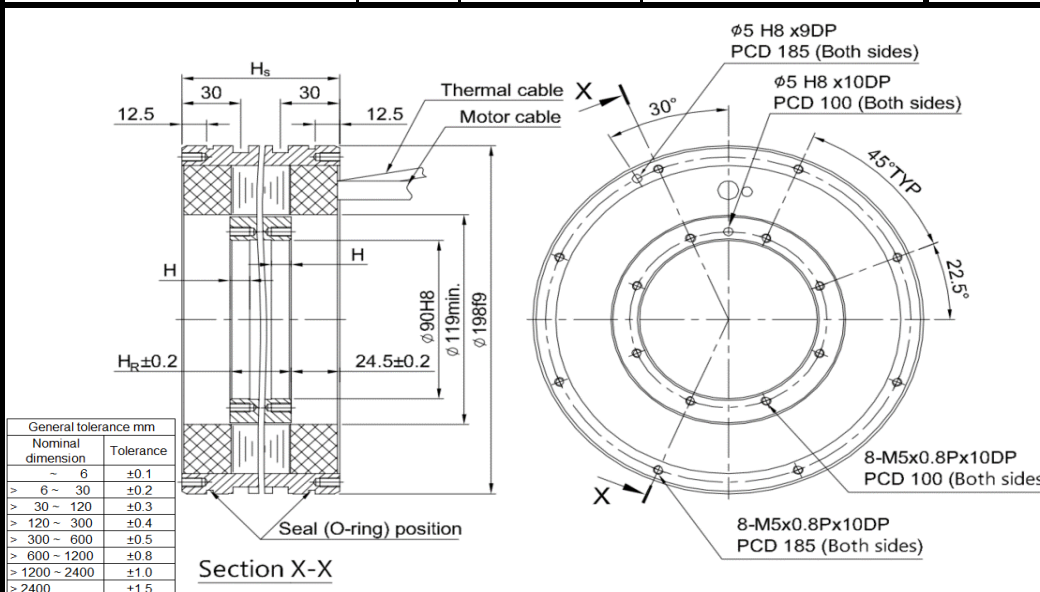
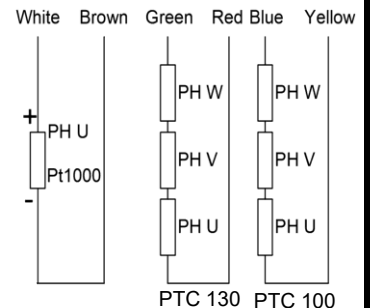
Mechanical specifications

	Symbol	Unit	Water cooling
Mass of rotor	M_r	kg	2.4
Mass of stator	M_s	kg	13.2
Height of stator	H_s	mm	120
Height of rotor	H_r	mm	71
Length of rotor centring fit	H	mm	15
Water temperature difference for P_c	$\Delta\theta$	K	5
Minimum water flow	q	l/min	3.7
Max. pressure drop	Δp	bar	0.1

T-N curve



Thermal sensor



General tolerance mm	
Nominal dimension	Tolerance
~ 6	±0.1
≥ 6 ~ 30	±0.2
≥ 30 ~ 120	±0.3
≥ 120 ~ 300	±0.4
≥ 300 ~ 600	±0.5
≥ 600 ~ 1200	±0.8
≥ 1200 ~ 2400	±1.0
≥ 2400	±1.5

Motor wire table	
Color or wire no.	Signal
U/L1	PH U
V/L2	PH V
W/L3	PH W
Green/Yellow	GND

Except dimensions, all the specifications in the table are in ±10% of tolerance

Version: 2.10

The drawing and values are only for reference.

Date: 2025/9/3