

TM-5-43-PA0

Torque Motor

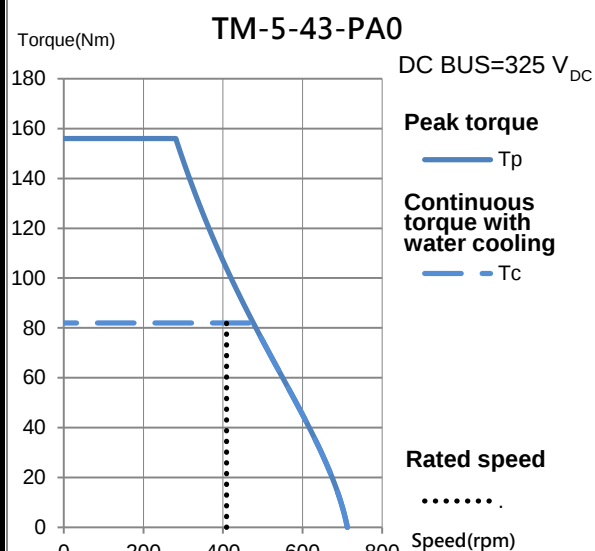
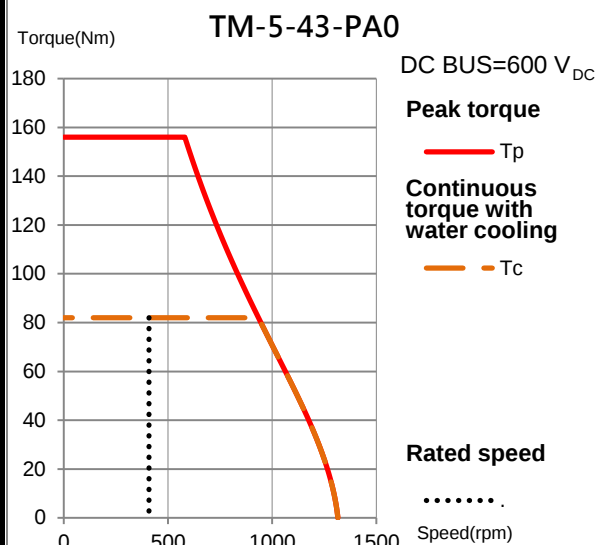
Electrical specifications

Winding code : PA	Symbol	Unit	Water cooling
Continuous torque	T_c	Nm	82
Continuous current	I_c	A_{rms}	18
Stall torque	T_s	Nm	67
Stall current	I_s	A_{rms}	14.4
Peak torque(for 1sec.)	T_p	Nm	156
Peak current(for 1sec.)	I_p	A_{rms}	37.5
Torque constant	K_t	Nm/Arms	4.85
Electrical time constant	T_e	ms	3.2
Resistance (line to line at 25°C)	R_{25}	Ω	2.2
Inductance (line to line)	L	mH	7.03
Number of poles	2p		44
Back emf constant (line to line)	K_v	Vrms/rad/s	2.8
Motor constant (at 25°C)	K_m	Nm/ $\sqrt{W}$	2.6
Thermal resistance	R_{th}	K/W	0.098
Thermal sensor			PTC 100+PTC 130+Pt1000
Max. DC BUS		V_{DC}	750
Inertia of rotor	J	kgm^2	0.0085
Thermal time constant	T_{th}	s	140
Max. continuous power dissipation	P_c	W	1511
Max. peak power dissipation	P_p	W	6560
Rated speed(at 600VDC)		rpm	409

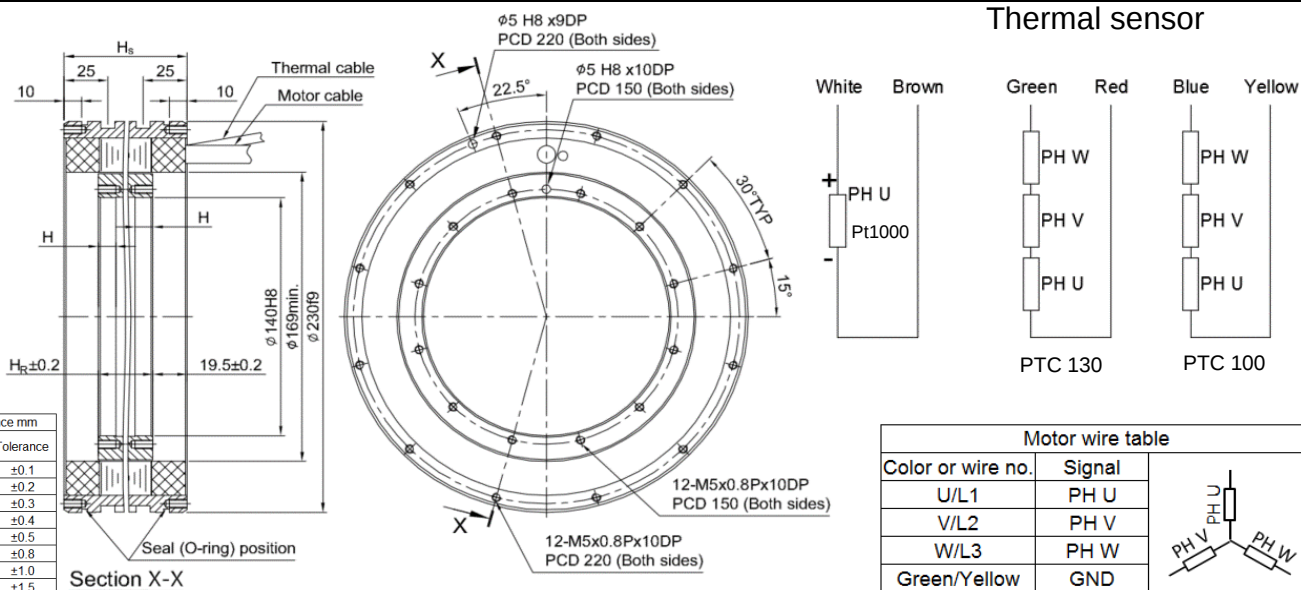
Mechanical specifications

	Symbol	Unit	Water cooling
Mass of rotor	M_r	kg	1.5
Mass of stator	M_s	kg	6.5
Height of stator	H_s	mm	70
Height of rotor	H_r	mm	31
Length of rotor centring fit	H	mm	10
Water temperature difference for P_c	$\Delta\theta$	K	5
Minimum water flow	q	l/min	4.4
Max. pressure drop	Δp	bar	1

T-N curve



Thermal sensor



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

Version: 2.00

The drawing and values are only for reference.

Date: 2024/6/27