TMRWAA Torque Motor

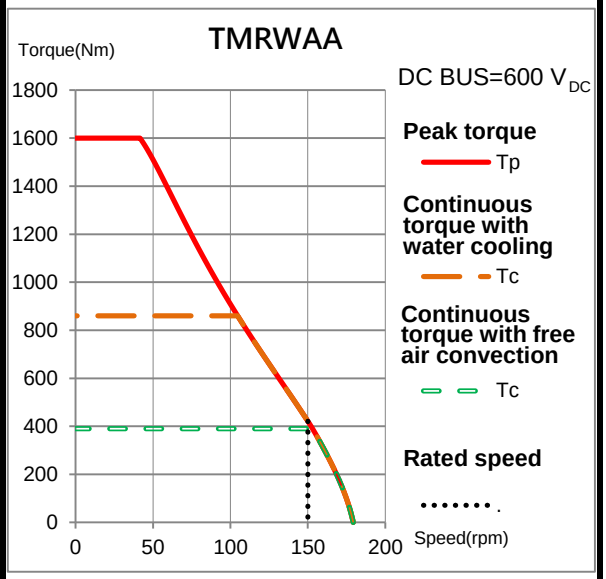
Electrical specifications

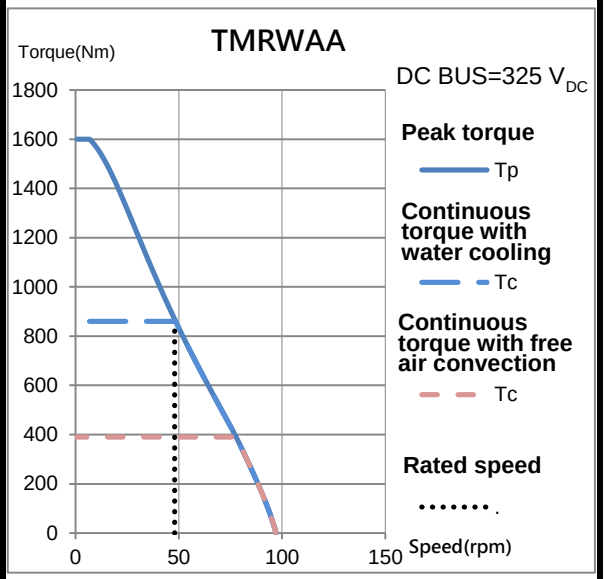
Winding code : SB	Symbol	Unit	Free air convection	Water cooling
Continuous torque	T_c	Nm	390	860
Continuous current	I_c	A_{rms}	12	30
Stall torque	T_s	Nm	273	602
Stall current	I_s	A_{rms}	8.4	21
Peak torque(for 1sec.)	T_p	Nm	992.5	1600
Peak current(for 1sec.)	I_p	A_{rms}	36	81
Torque constant	K_t	Nm/Arms	32.63	
Electrical time constant	T_e	ms	8.1	
Resistance (line to line at 25℃)	R_{25}	Ω	2.97	
Inductance (line to line)	L	mH	24.2	
Number of poles	2p		66	
Back emf constant (line to line)	K_v	Vrms/rad/s	18.83	
Motor constant (at 25℃)	K_m	Nm/√W	15.4	
Thermal resistance	R_{th}	K/W	0.15	0.024
Thermal sensor			PTC SNM100+SNM120+Pt1000	
Max. DC BUS		V_{DC}	750	
Inertia of rotor	J	kgm^2	0.21	
Thermal time constant	T_{th}	s	3670	99
Max. continuous power dissipation	P_c	W	881	5508
Max. peak power dissipation	P_p	W	40153	
Rated speed(at 600VDC)		rpm	150	

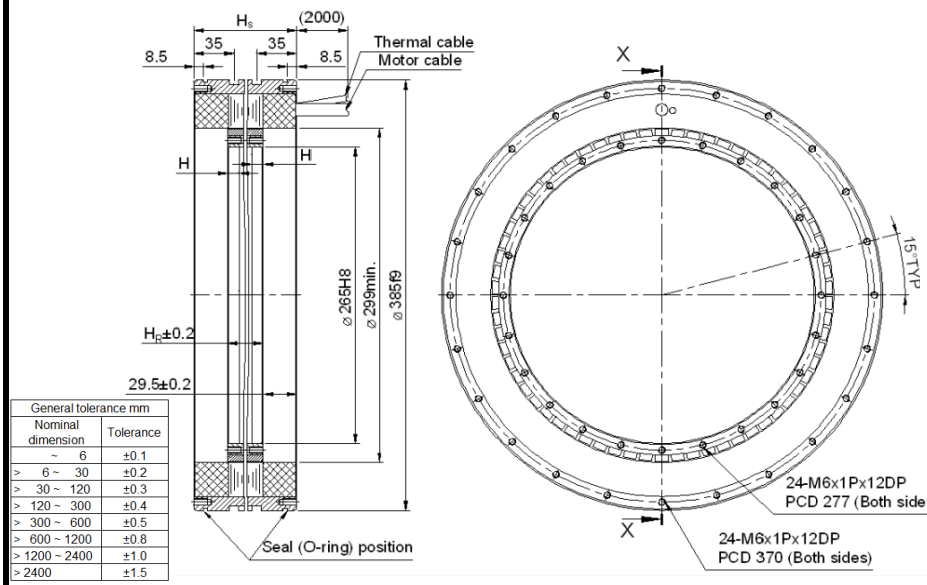
Mechanical specifications

	Symbol	Unit	Free air convection	Water cooling
Mass of rotor	M_r	kg	10.2	
Mass of stator	M_S	kg	44.9	
Height of stator	H_S	mm	160	
Height of rotor	H_R	mm	101	
Length of rotor centring fit	H	mm	15	
Water temperture difference for Pc	▵θ	K	-	5
Minimum water flow	q	l/min	-	15.8
Max. pressure drop	▵p	bar	-	2

T-N curve



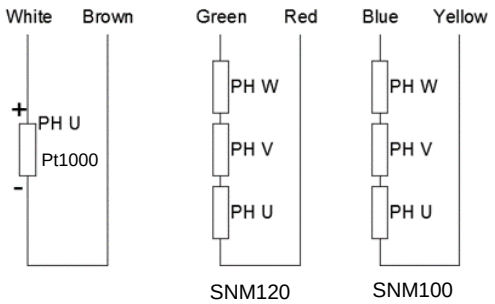




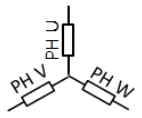
General tolerance mm

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

Thermal sensor



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: 2.00

This drawing is only for reference, detail dimensions please refer to approval drawing.

Date: 2020/10/23