

# TMRWG7 Torque Motor

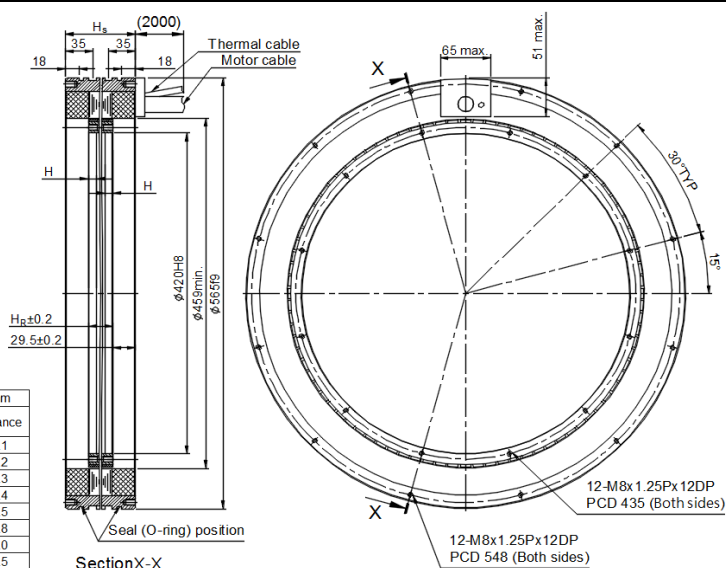
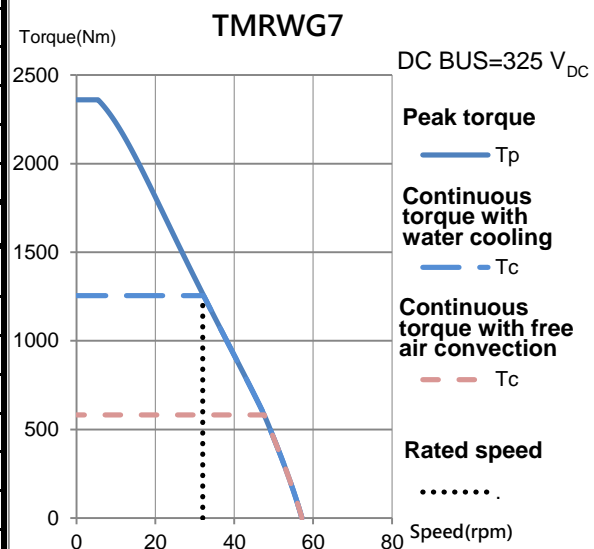
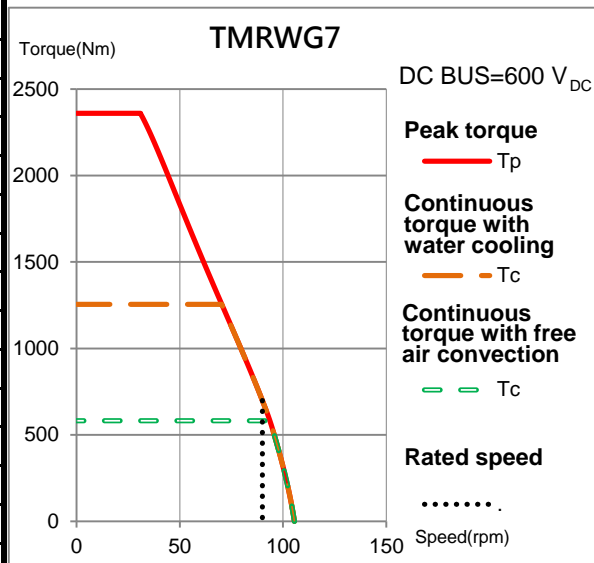
## Electrical specifications

Winding code : SB	Symbol	Unit	Free air convection	Water cooling
Continuous torque	$T_c$	Nm	582	1255
Continuous current	$I_c$	$A_{rms}$	10.5	26.3
Stall torque	$T_s$	Nm	407	879
Stall current	$I_s$	$A_{rms}$	7.4	18.4
Peak torque(for 1sec.)	$T_p$	Nm	1444.2	2360
Peak current(for 1sec.)	$I_p$	$A_{rms}$	31.5	71
Torque constant	$K_t$	Nm/Arms	55.4	
Electrical time constant	$T_e$	ms	7.8	
Resistance (line to line at 25°C)	$R_{25}$	$\Omega$	3.3	
Inductance (line to line)	$L$	mH	25.7	
Number of poles	2p		88	
Back emf constant (line to line)	$K_v$	Vrms/rad/s	32	
Motor constant (at 25°C)	$K_m$	Nm/ $\sqrt{W}$	24.91	
Thermal resistance	$R_{th}$	K/W	0.17	0.028
Thermal sensor			PTC SNM100+SNM120+Pt1000	
Max. DC BUS		$V_{DC}$	750	
Inertia of rotor	$J$	$kgm^2$	0.619	
Thermal time constant	$T_{th}$	s	3800	190
Max. continuous power dissipation	$P_c$	W	749	4700
Max. peak power dissipation	$P_p$	W	34253	
Rated speed(at 600VDC)		rpm	90	

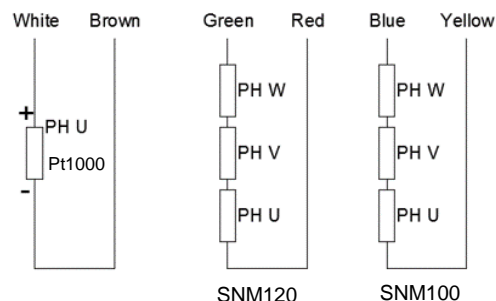
## Mechanical specifications

	Symbol	Unit	Free air convection	Water cooling
Mass of rotor	$M_r$	kg	13.3	
Mass of stator	$M_s$	kg	61.1	
Height of stator	$H_s$	mm	130	
Height of rotor	$H_r$	mm	71	
Length of rotor centring fit	$H$	mm	15	
Water temperture difference for $P_c$	$\Delta\theta$	K	-	5
Minimum water flow	$q$	l/min	-	13.5
Max. pressure drop	$\Delta p$	bar	-	1

## T-N curve



## 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  $\pm 10\%$  of tolerance

Version: 2.00

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

Date: 2020/10/23