



QTL-A-385-85 stator and rotor

QTL 385 series with cooling ring

Parameter		Remarks	Symbol	Unit	QTL-A-385-85	QTL-A-385-105
Performance	Winding type				I	I
	Motor type, max voltage ph-ph	3-phase synchronous	U_{max}	$V_{ac,rms} (V_{dc})$	480 (680)	
	Ultimate torque @ 20 K/s increase	magnets @ 25°C	T_u	Nm	1026	1368
	Peak torque @ 6 K/s increase	magnets @ 25°C	T_p	Nm	833	1111
	Continuous torque ¹	coils @ 100°C	T_c	Nm	407	560
	Stall torque ¹	coils @ 100°C	T_s	Nm	288	396
	Maximum speed ²	@ U_{max} @ T_c	n_{max}	rpm	231	164
	Motor torque constant	$I \leq I_c$	K_t	Nm/ A_{rms}	25.9	34.6
	Motor constant	coils @ 25°C	K_m	(Nm) ² /W	105.4	149.9
	Ultimate current	magnets @ 25°C	I_u	A_{rms}	44.0	44.0
Electrical	Peak current	magnets @ 25°C	I_p	A_{rms}	33.8	33.8
	Continuous current ¹	coils @ 100°C	I_c	A_{rms}	15.7	16.2
	Stall current ¹	coils @ 100°C	I_s	A_{rms}	11.1	11.5
	Back EMF ph-ph _{peak}		K_e	V/krpm	2217	2956
	Back EMF ph-ph _{rms}		K_e	V/krpm	1567	2090
	Resistance per phase	coils @ 25°C ex. cable	R_{ph}	Ω	2.13	2.66
	Induction per phase	$I < 0.6 I_p$	L_{ph}	mH	11.6	15.2
	Electrical time constant		τ_e	ms	5.4	5.7
Thermal	Continuous power loss ¹	coils @ 100°C	P_c	W	2044	2724
	Thermal resistance	coils to mount. sfc.	R_{th}	K/W	0.039	0.029
	Thermal time constant		τ_{th}	s	48	45
	Water cooling flow	for $\Delta T=3K$	Φ_W	l/min	9.8	13.1
Mechanical	Temperature sensor				PTC 1k Ω (3x)/ Pt1000 (3x)	
	Stator OD		OD_s	mm	385	
	Rotor ID		ID_r	mm	280	
	Stator height		H_s	mm	85	105
	Lamination stack height		H_{arm}	mm	60	80
	Poles		N_{mgn}		50	
	Rotor inertia		J_r	kg m ²	0.146	0.195
	Stator mass	ex. cables	m_s	kg	12.75	17
	Rotor mass		m_r	kg	6.68	8.9
	Total mass	ex. cables	m	kg	19.43	25.9
	Cable mass	all cables	m	kg/m	0.25	
	Cable type (power)	length 2 m	d	mm (AWG)	10.6 (13)	
	Cable type (sensor)	length 2 m	d	mm (AWG)	6.4 (25)	

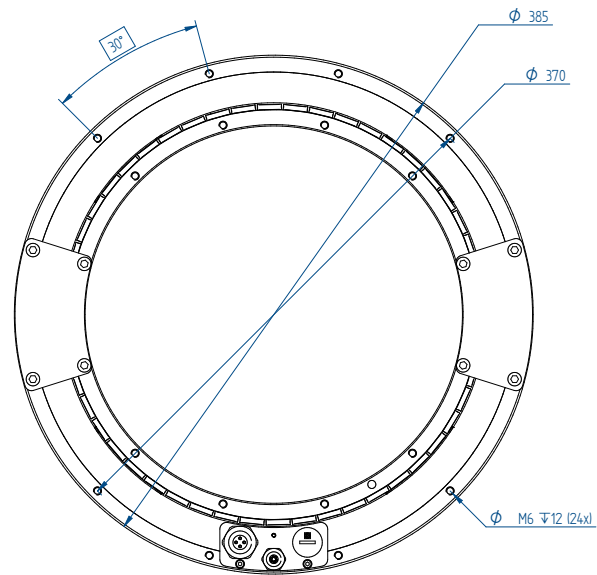
¹ These values are only applicable when the mounting surface is at 20°C and the motor is driven at continuous current. If these values differ in your application, please check our simulation tool.

² Actual values depend on bus voltage. Please check the T/n diagram in our manual or online simulation tool.

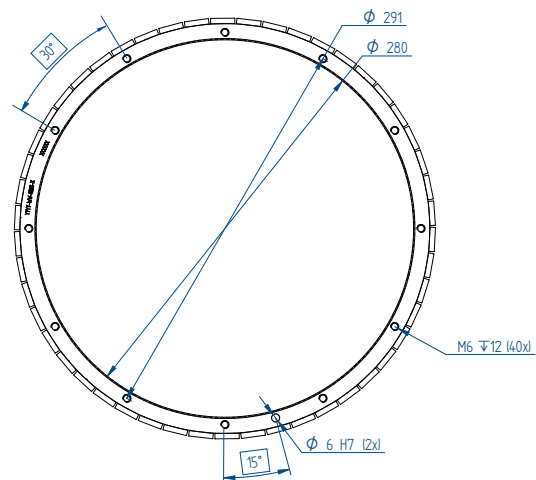
Series approvals



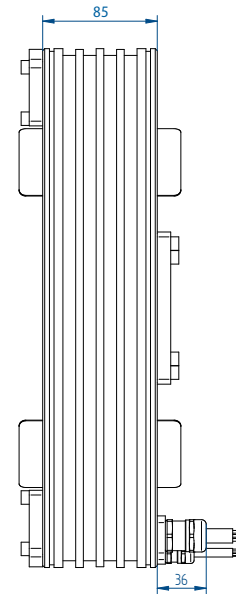
Stator



Rotor



QTL-A-385-85



QTL-A-385-105

