

Torque QTL 385 series with cooling ring



QTL 385 series,
with a height of 85 mm

Parameter	Remarks	Symbol	Unit	QTL-A 385-85	QTL-A 385-105
Winding type				I	I
Motor type max. voltage ph-ph	3-phase synchronous		$V_{acrms} (V_{dc})$	480 (680)	
Ultimate torque @ 20°C/s increase	magnet @ 25°C	T_u	Nm	1026	1368
Peak torque @ 6°C/s increase	magnet @ 25°C	T_p	Nm	833	1111
Continuous torque	coil @ 100°C	T_c	Nm	407	560
Stall torque	coil @ 100°C	T_s	Nm	288	396
Maximum speed ⁽¹⁾	@ T_c @ 680 Vdc	n_{max}	rpm	231	164
Motor torque constant	up to 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	magnet @ 25°C	I_u	A_{rms}	44.0	44.0
Peak current	magnet @ 25°C	I_p	A_{rms}	33.8	33.8
Maximum continuous current ⁽²⁾	coils @ 100°C	I_c	A_{rms}	15.7	16.2
Stall current ⁽²⁾	coils @ 100°C	I_s	A_{rms}	11.1	11.5
Back EMF phase-phase _{peak}		K_e	V/krpm	2217	2956
Back EMF phase-phase _{RMS}		K_e	V/krpm	1567	2090
Coil resistance per phase	coils @ 25°C ex. cable	R	Ω	2.13	2.66
Coil induction per phase	$l < 0.6 I_p$	L	mH	11.6	15.2
Electrical time constant		τ_e	ms	5.4	5.7
Poles		N_{mgn}	nr	50	50
Continuous power loss	coils @ 100°C	P_c	W	2044	2724
Thermal resistance ⁽³⁾	coils to mount. sfc.	R_{th}	°C/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	13.0
Temperature cut-off / sensor				PTC 1kΩ (3x)/ PT1000 (3x)	
Stator OD		OD_s	mm	385	
Rotor ID		ID_R	mm	280	
Motor height		H_{motor}	mm	85	105
Lamination stack height		H_{arm}	mm	60	80
Rotor inertia		J_R	kg*m ²	0.146	0.195
Stator mass	excluding cables	M_s	kg	12.75	17
Rotor mass		M_R	kg	6.68	8.9
Total mass	excluding cables	M_T	kg	19.43	25.9
Cable mass	all cables	m	kg	0.5	
Cable type (power)	length 2 m	d	mm (AWG)	10.6 (13)	
Cable type (sensor)	length 2 m	d	mm (AWG)	8.9 (22)	

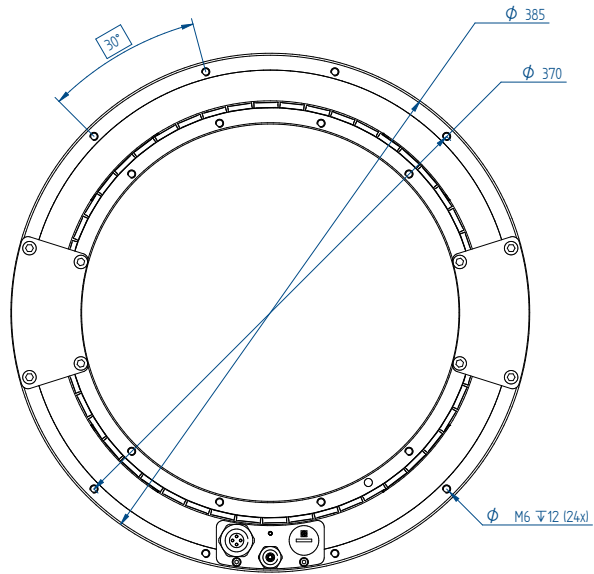
- Actual values depend on bus voltage.
Please check the T/n diagram in our manual or online simulation tool.
- These values are only applicable when the mounting surface is at 20°C and the motor is driven at maximum continuous current.
If these values differ in your application, please check our simulation tool or manual.
- R_{th} based on given water flow and pressure.

All specifications ±10%

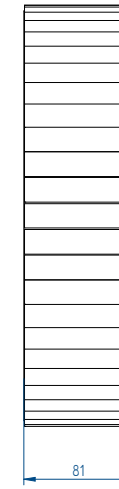
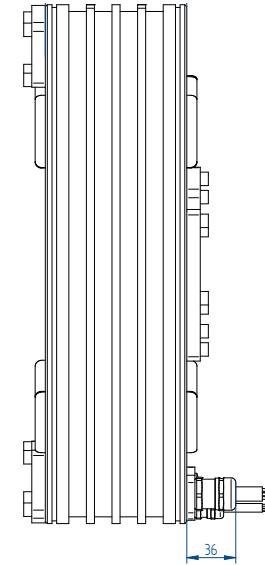
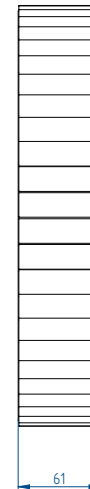
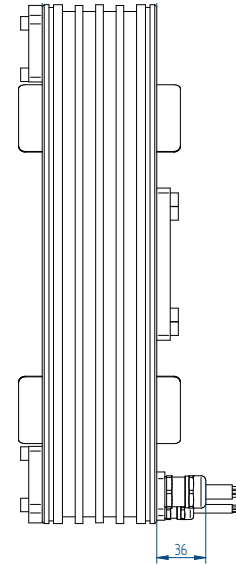
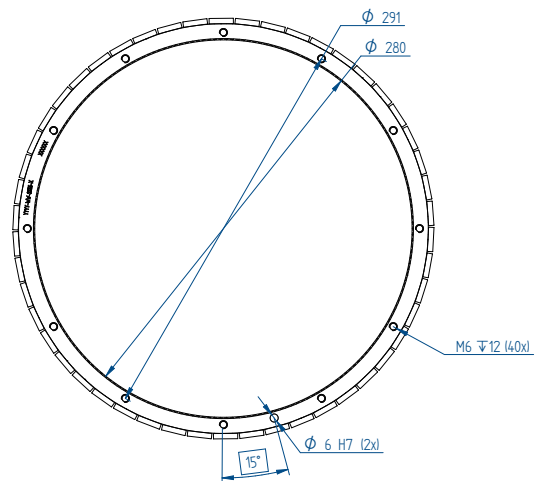
QTL-A 385-85

QTL-A 385-105

Stator



Rotor



Mounting instructions and tolerances can be found in the torque installation manual. Manuals and 3D CAD files can be downloaded from our website.

* All sizes are in mm