

Torque QTL 230 series with cooling ring



QTL 230 series,
with a height of 85 mm

Parameter	Remarks	Symbol	Unit	QTL-A 230-65	QTL-A 230-85	QTL-A 230-105	
Performance	Winding type			N	N	N	
	Motor type max. voltage ph-ph	3-phase synchronous	$V_{ac rms} (V_{dc})$		480 (680)		
	Ultimate torque @ 20°C/s increase	magnet @ 25°C	T_u	Nm	173	259	346
	Peak torque @ 6°C/s increase	magnet @ 25°C	T_p	Nm	140	211	281
	Continuous torque	coil @ 100°C	T_c	Nm	67	107	147
	Stall torque	coil @ 100°C	T_s	Nm	48	76	104
	Maximum speed ⁽¹⁾	@ T_c @ 680 V_{dc}	n_{max}	rpm	709	451	321
	Motor torque constant	up to I_c	K_t	Nm/ A_{rms}	8.7	13.1	17.5
	Motor constant	coils @ 25°C	K_m	(Nm) ² /W	8.0	13.5	19.2
Electrical	Ultimate current	magnet @ 25°C	I_u	A_{rms}	22.0	22.0	22.0
	Peak current	magnet @ 25 °C	I_p	A_{rms}	16.9	16.9	16.9
	Maximum continuous current ⁽²⁾	coils @ 100°C	I_c	A_{rms}	7.69	8.16	8.42
	Stall current ⁽²⁾	coils @ 100°C	I_s	A_{rms}	5.44	5.77	5.95
	Back EMF phase-phase _{peak}		K_e	V/krpm	747	1121	1494
	Back EMF phase-phase _{RMS}		K_e	V/krpm	528	793	1057
	Coil resistance per phase	coils @ 25°C ex. cable	R	Ω	3.18	4.25	5.31
	Coil induction per phase	$l < 0.6 I_p$	L	mH	16.0	22.3	28.7
	Electrical time constant		τ_e	ms	5.0	5.3	5.4
	Poles		N_{mgn}	nr	26	26	26
Thermal	Continuous power loss	coils @ 100°C	P_c	W	735	1102	1469
	Thermal resistance ⁽³⁾	coils to mount. sfc.	R_{th}	°C/W	0.109	0.073	0.054
	Thermal time constant	up to 63% max. coiltemp	τ_{th}	s	49	44	41
	Water cooling flow	for $\Delta T=3K$	Φ_w	l/min	3.5	5.3	7.0
	Water cooling pressure drop	order of magnitude	ΔP_w	bar	0.7	1.0	1.5
	Temperature cut-off / sensor				PTC 1kΩ (3x) / PT1000 (3x)		
Mechanical	Stator OD		OD_s	mm		230	
	Rotor ID		ID_R	mm		140	
	Motor height		H_{motor}	mm	65	85	105
	Lamination stack height		H_{arm}	mm	40	60	80
	Rotor inertia		J_R	kg*m ²	0.009	0.014	0.019
	Stator mass	excluding cables	M_s	kg	5.2	7.2	9.0
	Rotor mass		M_R	kg	1.6	2.4	3.2
	Total mass	excluding cables	M_T	kg	6.8	9.6	12.2
	Cable mass	all cables	m	g		500	
	Cable type (power)	length 2 m	d	mm (AWG)		10.6 (13)	
	Cable type (sensor)	length 2 m	d	mm (AWG)		6.4 (25)	

- 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.

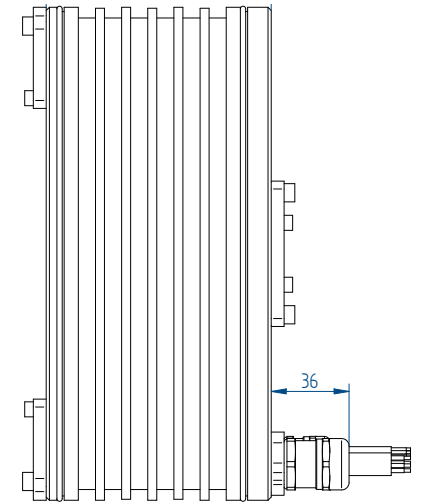
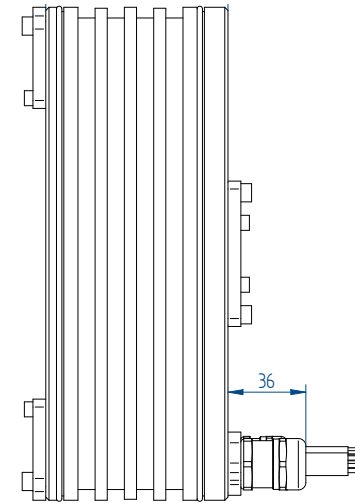
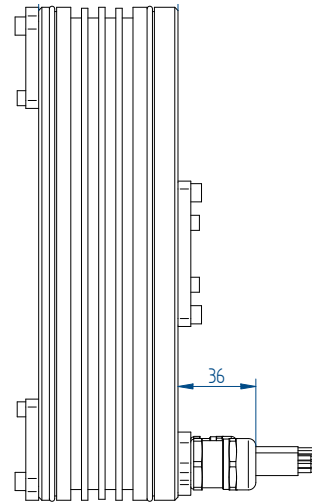
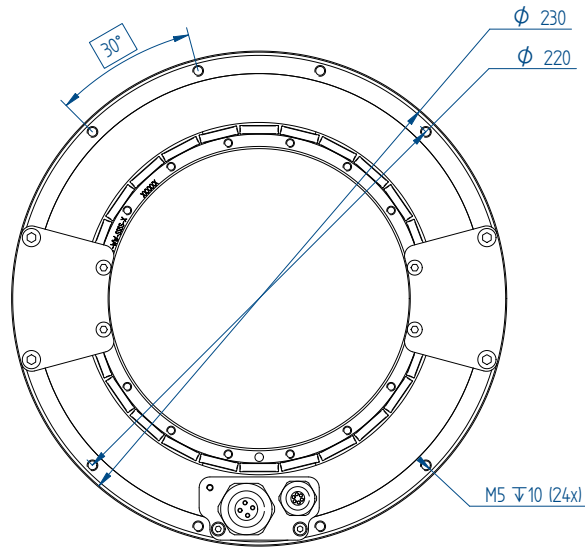
All specifications ±10%

QTL-A 230-65

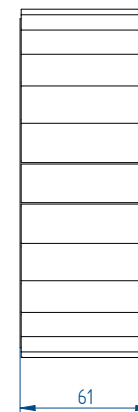
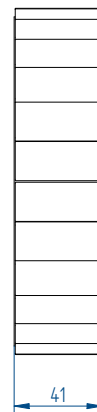
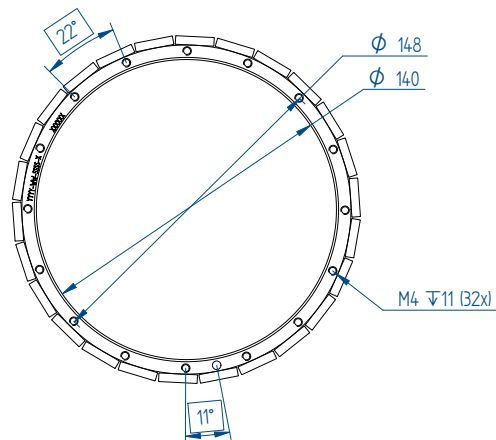
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Stator



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