



QTL-A-230-65 stator and rotor

QTL 230 series with cooling ring

Parameter	Remarks	Symbol	Unit	QTL-A-230-65	QTL-A-230-85	QTL-A-230-105
Performance				N	N	N
Winding type				480 (680)		
Motor type, max voltage ph-ph	3-phase synchronous	U_{max}	$V_{ac rms} (V_{dc})$			
Ultimate torque @ 20 K/s increase	magnets @ 25°C	T_u	Nm	173	259	346
Peak torque @ 6 K/s increase	magnets @ 25°C	T_p	Nm	140	211	281
Continuous torque ¹	coils @ 100°C	T_c	Nm	67	107	147
Stall torque ¹	coils @ 100°C	T_s	Nm	48	76	104
Maximum speed ²	@ U_{max} @ T_c	n_{max}	rpm	709	451	321
Motor torque constant	$I \leq I_c$	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	magnets @ 25°C	I_u	A _{rms}	22.0	22.0	22.0
Peak current	magnets @ 25 °C	I_p	A _{rms}	16.9	16.9	16.9
Continuous current ¹	coils @ 100°C	I_c	A _{rms}	7.69	8.16	8.42
Stall current ¹	coils @ 100°C	I_s	A _{rms}	5.44	5.77	5.95
Back EMF ph-ph _{peak}		K_e	V/krpm	747	1121	1494
Back EMF ph-ph _{rms}		K_e	V/krpm	528	793	1057
Resistance per phase	coils @ 25°C ex. cable	R_{ph}	Ω	3.18	4.25	5.31
Induction per phase	$I < 0.6 I_p$	L_{ph}	mH	16.0	22.3	28.7
Electrical time constant		τ_e	ms	5.0	5.3	5.4
Thermal						
Continuous power loss ¹	coils @ 100°C	P_c	W	735	1102	1469
Thermal resistance	coils to mount. sfc.	R_{th}	K/W	0.109	0.073	0.054
Thermal time constant		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		ΔP_w	bar	0.7	1.0	1.5
Temperature sensor				PTC 1kΩ (3x) / Pt1000 (3x)		
Mechanical						
Stator OD		OD_s	mm	230		
Rotor ID		ID_r	mm	140		
Stator height		H_s	mm	65	85	105
Lamination stack height		H_{arm}	mm	40	60	80
Poles		N_{mgn}		26		
Rotor inertia		J_r	kg m ²	0.009	0.014	0.019
Stator mass	ex. cables	m_s	kg	5.2	7.2	9.0
Rotor mass		m_r	kg	1.6	2.4	3.2
Total mass	ex. cables	m	kg	6.8	9.6	12.2
Cable mass	all cables	m	g/m	250		
Cable type (power)	length 2 m	d	mm (AWG)	10.6 (13)		
Cable type (sensor)	length 2 m	d	mm (AWG)	6.4 (25)		

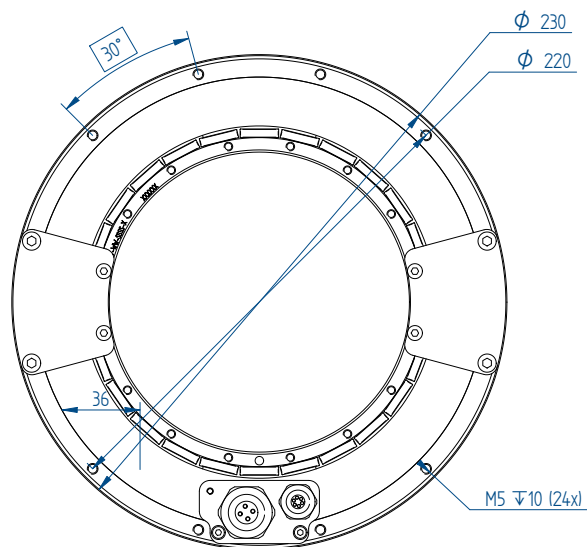
1. These values are only applicable when the mounting surface is at 20°C and the motor is driven at stall or continuous current. If these values differ in your application, please check our simulation tool.

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

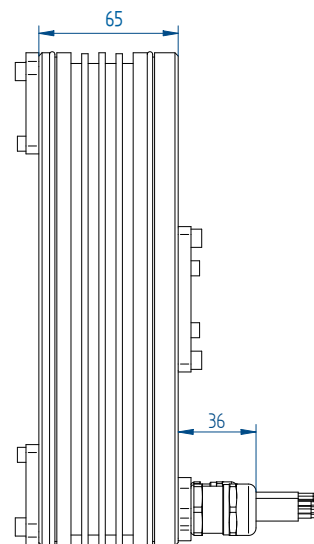
Series approvals



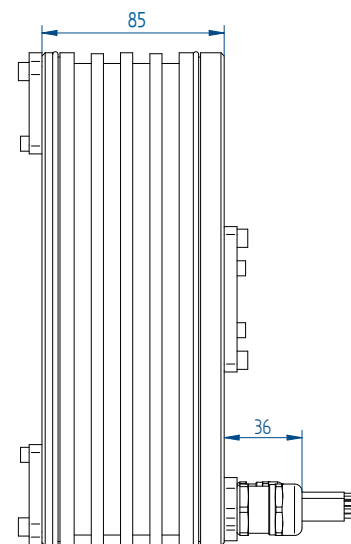
Stator



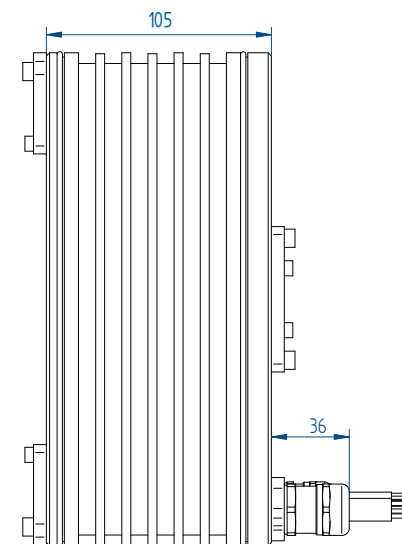
QTL-A-230-65



QTL-A-230-85



QTL-A-230-105



Rotor

