

QTL 290 series



QTL-A-290-65 stator and rotor

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.

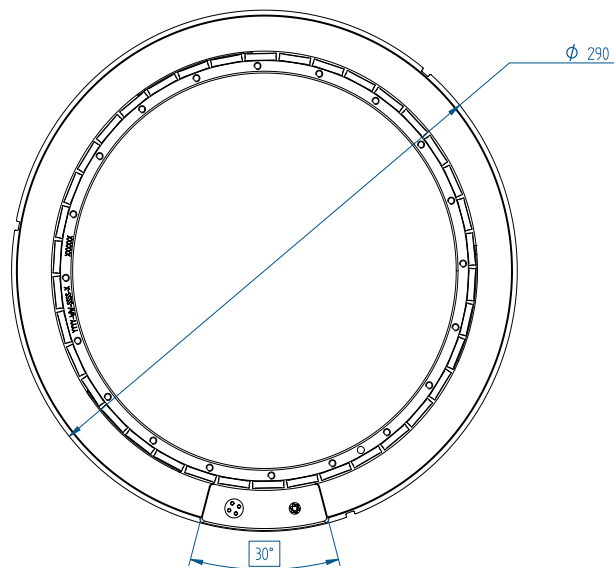
Series approvals



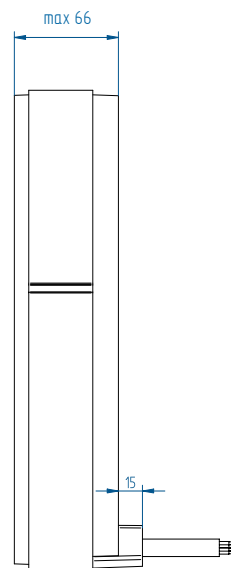
Parameter	Remarks	Symbol	Unit	QTL-A-290-65	QTL-A-290-85	QTL-A-290-105
Performance	Winding type			N	N	N
	Motor type, max voltage ph-ph	3-phase synchronous	U_{max}	$V_{ac,rms} (V_{dc})$	480 (680)	
	Ultimate torque @ 20 K/s increase	magnets @ 25°C	T_u	Nm	389	583
	Peak torque @ 6 K/s increase	magnets @ 25°C	T_p	Nm	316	474
	Continuous torque ¹	coils @ 100°C	T_c	Nm	140	222
	Stall torque ¹	coils @ 100°C	T_s	Nm	99	157
	Maximum speed ²	@ U_{max} @ T_c	n_{max}	rpm	306	189
	Motor torque constant	$I \leq I_c$	K_t	Nm/A _{rms}	19.7	29.5
Electrical	Motor constant	coils @ 25°C	K_m	(Nm) ² /W	27.0	45.5
	Ultimate current	magnets @ 25°C	I_u	A _{rms}	22.0	22.0
	Peak current	magnets @ 25°C	I_p	A _{rms}	16.9	16.9
	Continuous current ¹	coils @ 100°C	I_c	A _{rms}	7.14	7.54
	Stall current ¹	coils @ 100°C	I_s	A _{rms}	5.05	5.33
	Back EMF ph-ph _{peak}		K_e	V/krpm	1681	2521
	Back EMF ph-ph _{rms}		K_e	V/krpm	1189	1783
	Resistance per phase	coils @ 25°C ex. cable	R_{ph}	Ω	4.77	6.37
Thermal	Induction per phase	$I < 0.6 I_p$	L_{ph}	mH	23.9	34.7
	Electrical time constant		τ_e	ms	5.0	5.5
	Continuous power loss ¹	coils @ 100°C	P_c	W	948	1410
	Thermal resistance	coils to mount. sfc.	R_{th}	K/W	0.084	0.057
	Thermal time constant		τ_{th}	s	57	52
	Temperature sensor				PTC 1kΩ (3x) / Pt1000 (3x)	
	Stator OD		OD_s	mm		290
	Rotor ID		ID_r	mm		220
Mechanical	Stator height		H_s	mm	65	85
	Lamination stack height		H_{arm}	mm	40	60
	Poles		N_{mgn}			38
	Rotor inertia		J_r	kg m ²	0.031	0.046
	Stator mass	ex. cables	m_s	kg	6.0	8.3
	Rotor mass		m_r	kg	2.3	3.5
	Total mass	ex. cables	m	kg	8.3	11.8
	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)

All specifications ±10%

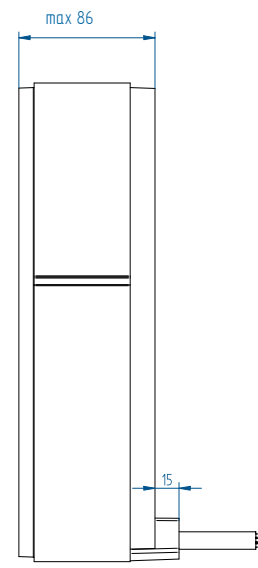
Stator



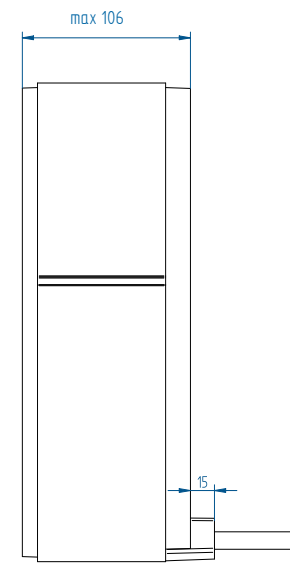
QTL-A-290-65



QTL-A-290-85



QTL-A-290-105



Rotor

