



QTL 485 series, with a height of 105 mm

	Parameter	Remarks	Symbol	Unit	QTL-A 485-85	QTL-A 485-105
Performance	Winding type				I	I
	Motor type max. voltage ph-ph	3-phase synchronous		$V_{ac rms} (V_{dc})$	3-phase synchronous frameless Torque. 480Vac rms (680Vdc)	
	Ultimate torque @ 20°C/s increase	magnet @ 25°C	T_u	Nm	1651	2202
	Peak torque @ 6°C/s increase	magnet @ 25°C	T_p	Nm	1342	1789
	Continuous torque	coil @ 100°C	T_c	Nm	659	907
	Stall torque	coil @ 100°C	T_s	Nm	466	642
	Maximum speed ⁽¹⁾	@ T_c @ 680 Vdc	n_{max}	rpm	138	96
	Motor torque constant	up to I_c	K_t	Nm/A _{rms}	41.7	55.6
	Motor constant	coils @ 25°C	K_m	(Nm) ² /W	218.5	310.7
Electrical	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}	15.8	16.3
	Stall current ⁽²⁾	coils @ 100°C	I_s	A _{rms}	11.2	11.5
	Back EMF phase-phase _{peak}		K_e	V/krpm	3569	4758
	Back EMF phase-phase _{RMS}		K_e	V/krpm	2523	3364
	Coil resistance per phase	coils @ 25°C ex. cable	R	Ω	2.66	3.32
	Coil inductance per phase	$I < 0.6 I_p$	L	mH	14.5	19.0
	Electrical time constant		τ_e	ms	5.4	5.7
Thermal	Poles		N_{mgn}	nr	62	62
	Continuous power loss	coils @ 100°C	P_c	W	2584	3444
	Thermal resistance ⁽³⁾	coils to mount. sfc.	R_{th}	°C/W	0.031	0.023
	Thermal time constant		τ_{th}	s	47	44
	Water cooling flow	for $\Delta T=3K$	Φ_w	l/min	12.4	16.5
Mechanical	Temperature cut-off / sensor				PTC 1kΩ (3x)/ PT1000 (3x)	
	Stator OD		OD _S	mm	485	
	Rotor ID		ID _R	mm	366	
	Motor height		H_{motor}	mm	85	105
	Lamination stack height		H_{arm}	mm	60	80
	Rotor inertia		J_R	kg*m ²	0.357	0.476
	Stator mass	excluding cables	M_S	kg	18750	25000
	Rotor mass		M_R	kg	9675	12900
	Total mass	excluding cables	M_T	kg	28425	37900
	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)	8.9 (22)		

All specifications ±0.0%

1. Actual values depend on bus voltage. Please check the T/n diagram in our manual or online simulation tool.
2. 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.
3. R_{th} based on given water flow and pressure.