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

STATOR

ROTOR

QTL-A 385-85

QTL-A 385-105

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TECNOTION
THE LINEAR MOTOR COMPANY

Torque QTL-A 385 series
with cooling ring

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	Parameter	Remarks	Symbol	Unit	QTL-A 385-85	QTL-A 385-105
Performance	Winding type				I	I
	Motortype 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	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]	@Tc @ 680 Vdc	n_{max}	rpm	231	164
	Motor torque constant	up to Ic	K_t	Nm/A_{rms}	25.9	34.6
	Motor constant	coils @ 25°C	K_m	$(Nm)^2/W$	105.4	149.9
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}	15.7	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	I < 0.6 Ip	L	mH	11.6	15.2
	Electrical time constant		τ_e	ms	5.4	5.7
	Poles		N_{mgn}	nr	50	50
Thermal	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 ΔT=3K	Φ_W	l/min	9.8	13.0
	Temperature cut-off / sensor				PTC 1kΩ (3x)/ PT1000 (3x)	
Mechanical	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)	

QTL 385 series, with a height of 85 mm

All specifications ±10%

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. *Rth based on given water flow and pressure.*

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