

TECNOTION[®]

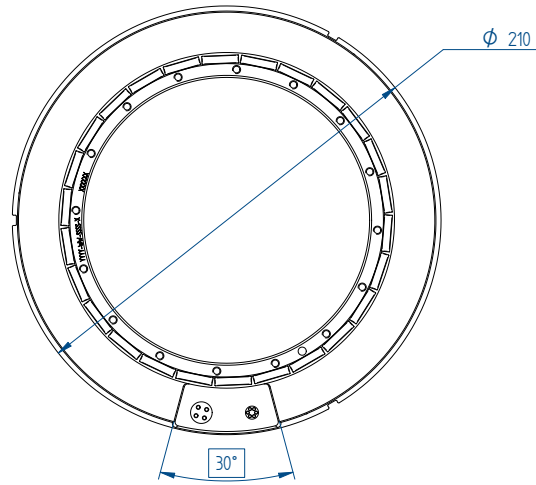
THE LINEAR MOTOR COMPANY

Frameless torque motor series

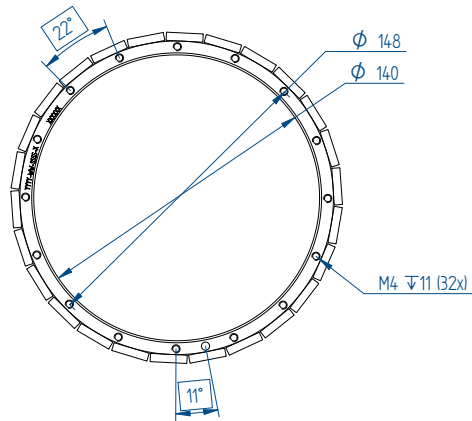


Mounting instructions and tolerances can be found in the torque installation manual. Manuals and 3D CAD files can be downloaded from our website.

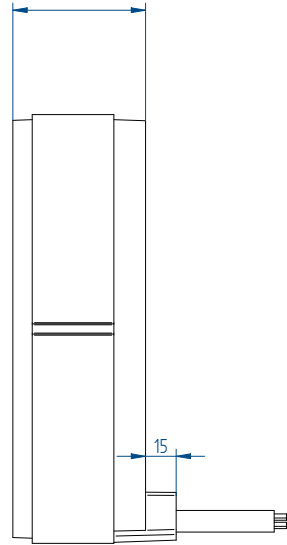
STATOR



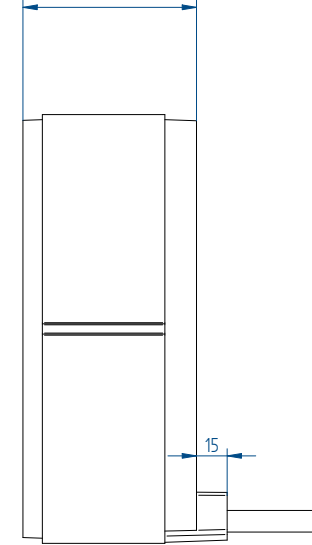
ROTOR



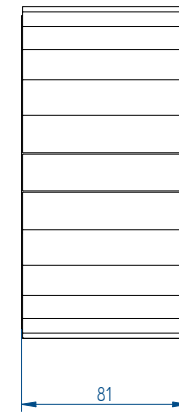
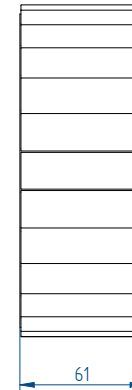
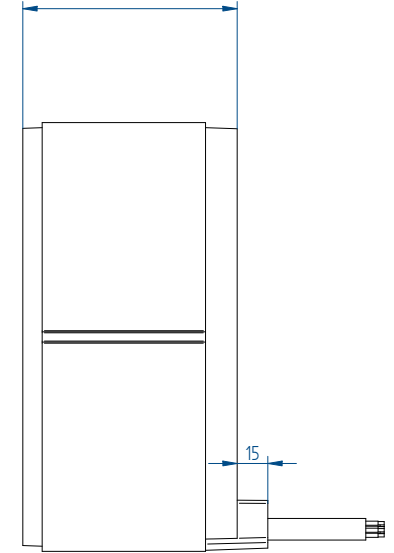
QTL-A 210-65



QTL-A 210-85



QTL-A 210-105



* All sizes are in mm

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QTL 210 series, with a height of 65 mm

	Parameter	Remarks	Symbol	Unit	QTL-A 210-65	QTL-A 210-85	QTL-A 210-105
Performance	Winding type				N	N	N
	Motortype 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	65	103	142
	Stall torque	coil @ 100°C	T_s	Nm	46	73	100
	Maximum speed ⁽¹⁾	@Tc @ 680 Vdc	n_{max}	rpm	716	457	326
	Motor torque constant	up to Ic	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
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}	7.45	7.88	8.11
Stall Current ⁽²⁾		coils @ 100°C	I_s	A _{rms}	5.27	5.57	5.74
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		I < 0.6 Ip	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	690	1028	1363
	Thermal resistance ⁽³⁾	coils to mount. sfc.	R_{th}	°C/W	0.116	0.078	0.059
	Thermal time constant		τ_{th}	s	53	47	45
	Temperature cut-off / sensor				PTC 1kΩ (3x) / PT1000 (3x)		
Mechanical	Stator OD		OD _s	mm	210		
	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	4.2	5.9	7.5
	Rotor mass		M _R	kg	1.6	2.4	3.2
	Total mass	excluding cables	M _T	kg	5.8	8.3	10.7
	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)			

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 radial mounting of stator lamination stack.

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