

Torque QMT-LA 385 series



QMT-LA 385 series,
with a height of 110 mm

Parameter	Remarks	Symbol	Unit	QMT-LA 385-90	QMT-LA 385-110	QMT-LA 385-130	QMT-LA 385-160
Performance	Winding type			I	I	I	I
Motor type, max voltage ph-ph	3-phase synchronous	U_{max}	V_{dc}	680			
Ultimate torque @ 10 K/s increase	magnets @ 25°C	T_u	Nm	680	1115	1563	2229
Peak torque @ 6 K/s increase	magnets @ 25°C	T_p	Nm	602	987	1384	1973
Continuous torque ¹	coils @ 130°C	T_c	Nm	273	481	703	1036
Stall torque ¹	coils @ 130°C	T_s	Nm	210	371	541	798
Maximum speed ²	@ U_{max} @ T_c	n_{max}	rpm	279	154	99	58
Motor torque constant	$I \leq I_c$	K_t	Nm/A _{rms}	21.2	34.7	48.7	69.5
Motor constant	coils @ 25°C	K_m	(Nm) ² /W	65.6	124.6	189.6	288.6
Electrical	Ultimate current	I_u	A _{rms}	45.8	45.8	45.8	45.8
Peak current	magnets @ 25°C	I_p	A _{rms}	35.5	35.5	35.5	35.5
Continuous current ¹	coils @ 130°C	I_c	A _{rms}	12.9	13.9	14.4	14.9
Stall current ¹	coils @ 130°C	I_s	A _{rms}	9.9	10.7	11.1	11.5
Back EMF ph-ph _{peak}		K_e	$V_{dc}/krpm$	1813	2971	4167	5941
Back EMF ph-ph _{rms}		K_e	$V_{ac}/krpm$	1282	2101	2946	4201
Resistance per phase	coils @ 25°C ex. cable	R_{ph}	Ω	2.28	3.23	4.18	5.58
Induction per phase	$I < 0.6 I_p$	L_{ph}	mH	11.9	19.6	27.4	39.1
Electrical time constant	coils @ 25°C	τ_e	ms	5.2	6.1	6.6	7.0
Thermal	Continuous power loss ¹	P_c	W	1611	2640	3702	5279
Thermal resistance	coils to mount. sfc.	R_{th}	K/W	0.068	0.042	0.030	0.021
Thermal time constant			s	90	77	71	67
Water cooling flow rate	for $\Delta T=8K$	Φ_w	l/min	2.9	4.7	6.6	9.6
Temperature cut-off / sensor				PTC130 (3x) / Pt1000 (3x)			
Mechanical	Stator OD	OD_s	mm	385			
Rotor ID		ID_r	mm	265			
Stator height		H_s	mm	90	110	130	160
Rotor height		H_r	mm	31	51	71	101
Poles		N_{mgn}		56			
Rotor inertia		J_r	kgm ²	0.065	0.107	0.149	0.211
Stator mass	ex. cables	m_s	kg	14.0	18.9	23.9	31.2
Rotor mass		m_r	kg	3.3	5.4	7.5	10.6
Total mass	ex. cables	m	kg	17.3	24.3	31.4	41.8
Cable mass	all cables		kg/m	0.25			
Cable type (power)	length 2 m	d	mm (AWG)	10.6 (13)			
Cable type (sensor)	length 2 m	d	mm (AWG)	6.4 (25)			

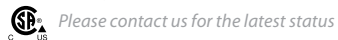
¹ These values are only applicable when the mounting surface is at 20°C and the motor is driven at continuous current. If these values differ in your application, please check our simulation tool.

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

Series approvals

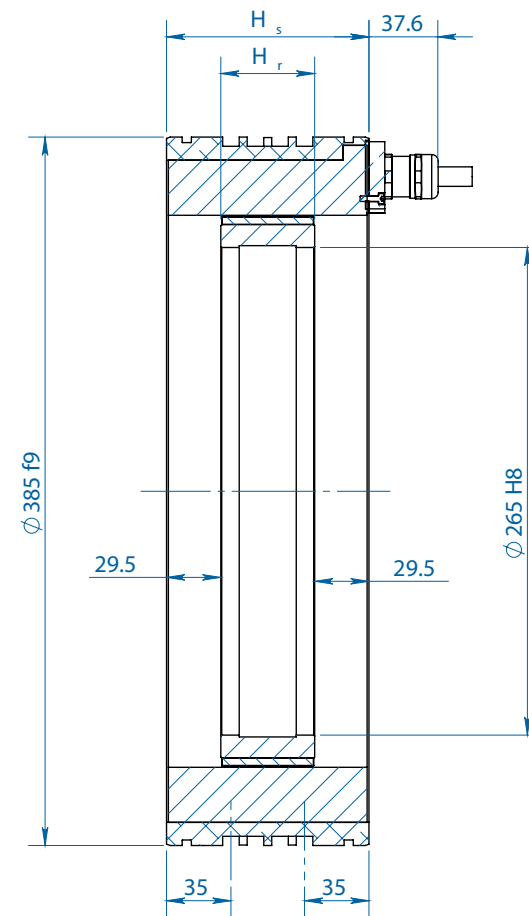
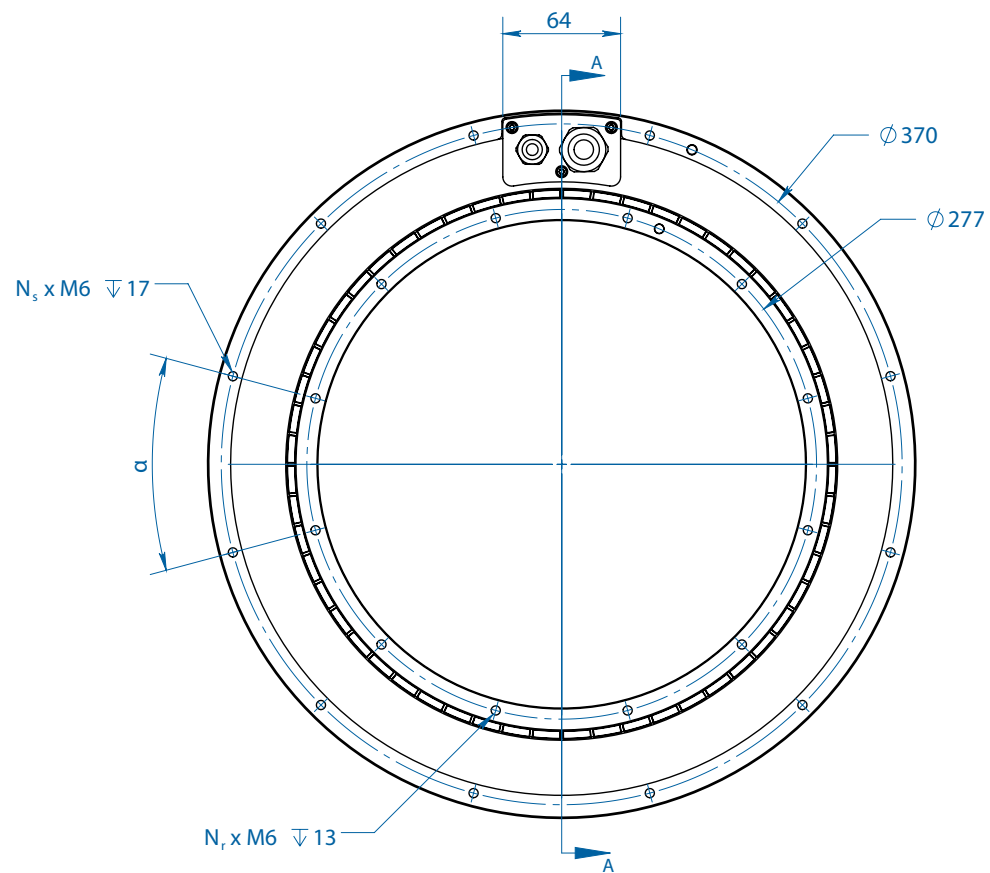


Series partly approved, full approval pending:



All specifications ±10%

QMT-LA 385



SECTION A-A

Motor type	H_s	H_r	N_s	N_r	α
QMT-LA-385-90	90	31	12	12	30
QMT-LA-385-110	110	51	12	12	30
QMT-LA-385-130	130	71	12	12	30
QMT-LA-385-160	160	101	23	24	15

* All sizes are in mm