

Torque QMT-HA 385 series with high rotor



QMT-HA 385 series,
with a height of 136 mm

Parameter	Remarks	Symbol	Unit	QMT-HA 385-90	QMT-HA 385-110	QMT-HA 385-130	QMT-HA 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	1115	1563	2012	2678
Peak torque @ 6 K/s increase	magnets @ 25°C	T_p	Nm	987	1384	1781	2371
Continuous torque ¹	coils @ 130°C	T_c	Nm	481	703	927	1261
Stall torque ¹	coils @ 130°C	T_s	Nm	371	541	714	971
Maximum speed ²	@ U_{max} @ T_c	n_{max}	rpm	154	99	69	42
Motor torque constant	$I \leq I_c$	K_t	Nm/A _{rms}	34.7	48.7	62.7	83.5
Motor constant	coils @ 25°C	K_m	(Nm) ² /W	124.6	189.6	256.1	356.0
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}	13.9	14.4	14.8	15.1
Stall current ¹	coils @ 130°C	I_s	A _{rms}	10.7	11.1	11.4	11.6
Back EMF ph-ph _{peak}		K_e	$V_{dc}/krpm$	2971	4167	5363	7137
Back EMF ph-ph _{rms}		K_e	$V_{ac}/krpm$	2101	2946	3792	5047
Resistance per phase	coils @ 25°C ex. cable	R_{ph}	Ω	3.23	4.18	5.12	6.52
Induction per phase	$I < 0.6 I_p$	L_{ph}	mH	19.6	27.4	35.3	47.0
Electrical time constant	coils @ 25°C	τ_e	ms	6.1	6.6	6.9	7.2
Thermal	Continuous power loss ¹	P_c	W	2640	3702	4765	6342
Thermal resistance	coils to mount. sfc.	R_{th}	K/W	0.042	0.030	0.023	0.017
Thermal time constant			s	77	71	68	65
Water cooling flow rate	for $\Delta T=8K$	Φ_w	l/min	4.7	6.6	8.6	11.5
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	51	71	91	121
Poles		N_{mgn}		56			
Rotor inertia		J_r	kgm ²	0.107	0.149	0.190	0.253
Stator mass	ex. cables	m_s	kg	16.7	21.6	26.5	33.8
Rotor mass		m_r	kg	5.4	7.5	9.6	12.8
Total mass	ex. cables	m	kg	22.1	29.1	36.1	46.6
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)			

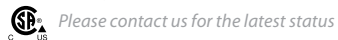
¹ These values are only applicable when the mounting surface is at 20°C and the motor is driven at continuous current. If these values differ in your application, please check our simulation tool.

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

Series approvals

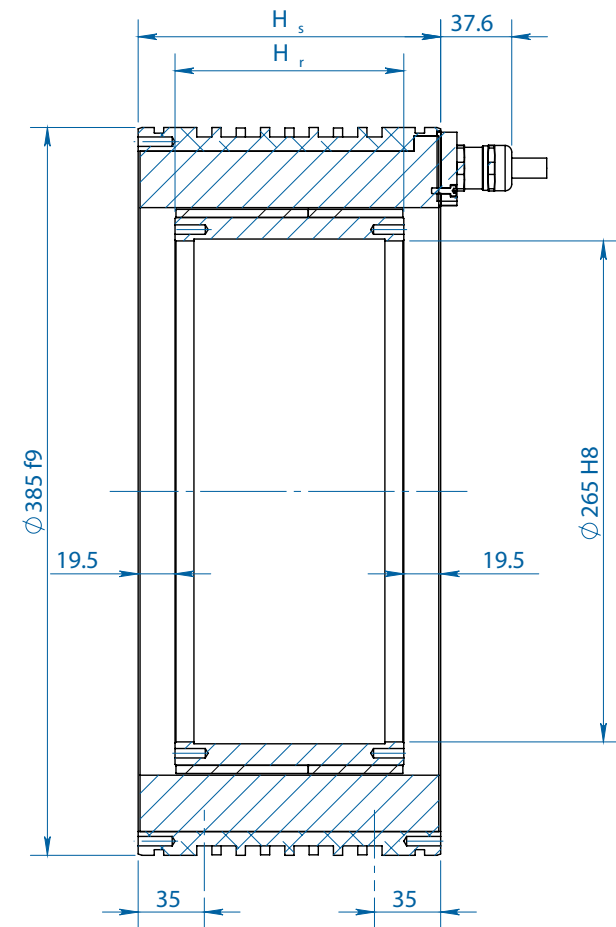
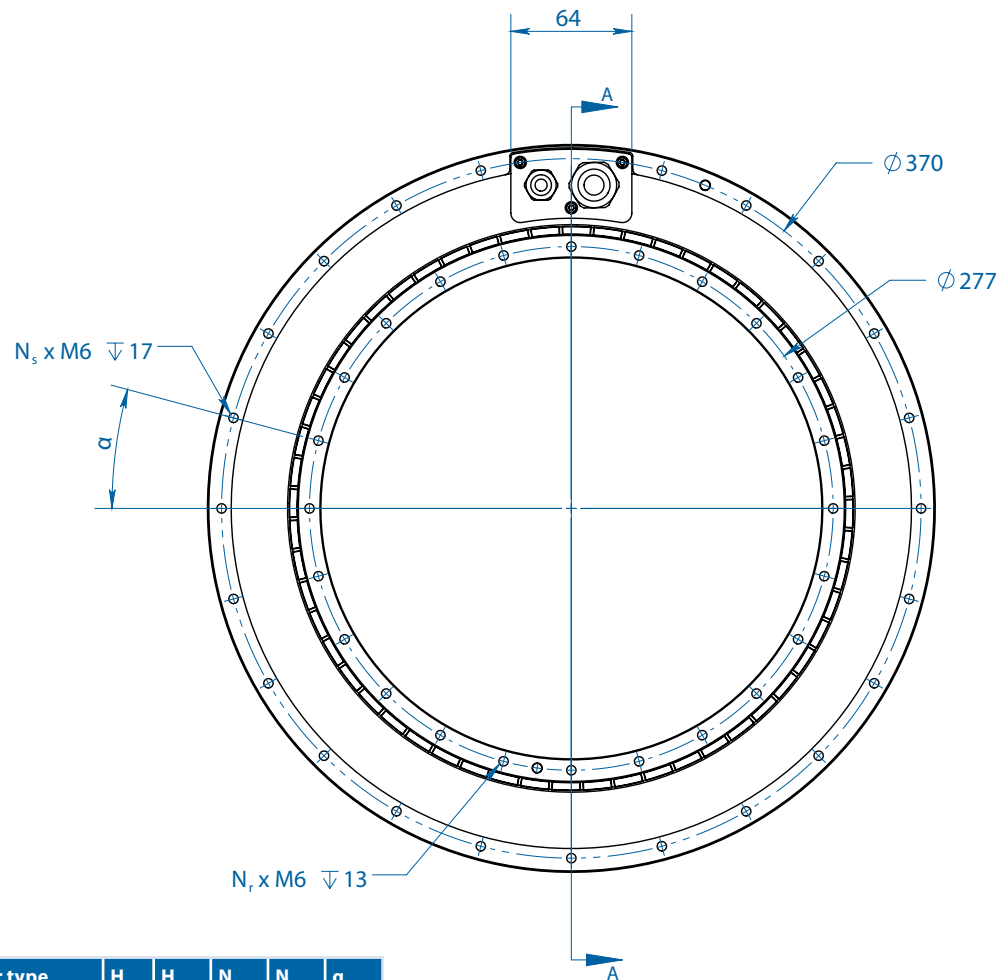


Series partly approved, full approval pending:



All specifications ±10%

QMT-HA 385



SECTION A-A

Motor type	H _s	H _r	N _s	N _r	α
QMT-HA-385-90	90	51	12	12	30
QMT-HA-385-110	110	71	12	12	30
QMT-HA-385-130	130	91	12	12	30
QMT-HA-385-160	160	121	23	24	15

* All sizes are in mm