



QMT-HA 485 series,
with a height of 130 mm

Torque QMT-HA 485 series with high rotor

Parameter	Remarks	Symbol	Unit	QMT-HA 485-90	QMT-HA 485-110	QMT-HA 485-130	QMT-HA 485-160
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	1792	2514	3236	4307
Peak torque @ 6 K/s increase	magnets @ 25°C	T_p	Nm	1587	2226	2864	3812
Continuous torque ¹	coils @ 130°C	T_c	Nm	774	1131	1491	2028
Stall torque ¹	coils @ 130°C	T_s	Nm	596	871	1148	1561
Maximum speed ²	@ U_{max} @ T_c	n_{max}	rpm	90	56	37	20
Motor torque constant	$I \leq I_c$	K_t	Nm/A _{rms}	55.9	78.4	100.9	134.2
Motor constant	coils @ 25°C	K_m	(Nm) ² /W	257.9	392.1	529.8	736.5
Electrical							
Ultimate current	magnets @ 25°C	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	4777	6700	8624	11478
Back EMF ph-ph _{rms}		K_e	V _{ac} /krpm	3378	4738	6098	8116
Resistance per phase	coils @ 25°C ex. cable	R_{ph}	Ω	4.04	5.22	6.40	8.16
Induction per phase	$I < 0.6 I_p$	L_{ph}	mH	24.4	34.3	44.1	58.7
Electrical time constant	coils @ 25°C	τ_e	ms	6.1	6.6	6.9	7.2
Thermal							
Continuous power loss ¹	coils @ 130°C	P_c	W	3300	4628	5957	7928
Thermal resistance	coils to mount. sfc.	R_{th}	K/W	0.033	0.024	0.018	0.014
Thermal time constant			s	77	71	68	65
Water cooling flow rate	for ΔT=8K	Φ_w	l/min	6.1	8.3	10.7	14.4
Temperature cut-off / sensor				PTC130 (3x) / Pt1000 (3x)			
Mechanical							
Stator OD		OD_s	mm	485			
Rotor ID		ID_r	mm	345			
Stator height		H_s	mm	90	110	130	160
Rotor height		H_r	mm	51	71	91	121
Poles		N_{mgn}		70			
Rotor inertia		J_r	kgm ²	0.269	0.375	0.481	0.639
Stator mass	ex. cables	m_s	kg	24.5	31.7	38.9	49.7
Rotor mass		m_r	kg	8.1	11.2	14.4	19.1
Total mass	ex. cables	m	kg	32.6	42.9	53.3	68.8
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:



Please contact us for the latest status

All specifications ±10%

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