

4. MAC 071

4.1. Technical Data

Designation	Symbol	Unit	Motor type MAC ...		
			071 A - - - HS	071 B - - - FS	071 C - - - US
Nominal motor speed ¹⁾	n	min ⁻¹	2000	2000	2000
Continuous torque at standstill ²⁾	M _{dN}	Nm	2.2 (3.3) ⁵⁾	4.4 (6.6) ⁵⁾	6.6 (9.9) ⁵⁾
Continuous current at standstill	I _{dN}	A	2.6 (4.1) ⁵⁾	5.0 (7.9) ⁵⁾	7.3 (11.8) ⁵⁾
Rotor moment of inertia ³⁾	J _M	kgm ²	5.4 x 10 ⁻⁴	9.9 x 10 ⁻⁴	12.9 x 10 ⁻⁴
Torque constant at 20 °C	K _m	Nm/A	0.860	0.880	0.900
Windings resistance at 20 °C	R _A	Ohm	7.6	2.7	1.6
Windings inductance	L _A	mH	42	22	15
Maximum peak of pulse current	I _{peak}	A	13	25	37
Thermal time constant	T _{th}	min	45 (20) ⁵⁾	45 (20) ⁵⁾	45 (20) ⁵⁾
Mass ⁴⁾	m _M	kg	6.5	8.8	11
			071 A - - - OS	071 B - - - TS	071 C - - - NS
Nominal motor speed ¹⁾	n	min ⁻¹	3000	3000	3000
Continuous torque at standstill ²⁾	M _{dN}	Nm	2.2 (3.3) ⁵⁾	4.4 (6.6) ⁵⁾	6.6 (9.9) ⁵⁾
Continuous current at standstill	I _{dN}	A	3.8 (6.0) ⁵⁾	7.3 (11.7) ⁵⁾	11.0 (17.7) ⁵⁾
Rotor moment of inertia ³⁾	J _M	kgm ²	5.4 x 10 ⁻⁴	9.9 x 10 ⁻⁴	12.9 x 10 ⁻⁴
Torque constant at 20 °C	K _m	Nm/A	0.580	0.600	0.600
Windings resistance at 20 °C	R _A	Ohm	3.5	1.24	0.69
Windings inductance	L _A	mH	20	10	7
Maximum peak of pulse current	I _{peak}	A	19	37	55
Thermal time constant	T _{th}	min	45 (20) ⁵⁾	45 (20) ⁵⁾	45 (20) ⁵⁾
Mass ⁴⁾	m _M	kg	6.5	8.8	11
			071 A - - - ES	071 B - - - PS	071 C - - - JS
Nominal motor speed ¹⁾	n	min ⁻¹	4000	4000	4000
Continuous torque at standstill ²⁾	M _{dN}	Nm	2.2 (3.3) ⁵⁾	4.4 (6.6) ⁵⁾	6.6 (9.9) ⁵⁾
Continuous current at standstill	I _{dN}	A	5.0 (7.9) ⁵⁾	9.6 (15.3) ⁵⁾	15.3 (24.8) ⁵⁾
Rotor moment of inertia ³⁾	J _M	kgm ²	5.4 x 10 ⁻⁴	9.9 x 10 ⁻⁴	12.9 x 10 ⁻⁴
Torque constant at 20 °C	K _m	Nm/A	0.440	0.460	0.430
Windings resistance at 20 °C	R _A	Ohm	2.0	0.72	0.35
Windings inductance	L _A	mH	11	5.9	3.5
Maximum peak of pulse current	I _{peak}	A	25	48	77
Thermal time constant	T _{th}	min	45 (20) ⁵⁾	45 (20) ⁵⁾	45 (20) ⁵⁾
Mass ⁴⁾	m _M	kg	6.5	8.8	11
			071 A - - - VS	071 B - - - KS	071 C - - - GS
Nominal motor speed ¹⁾	n	min ⁻¹	6000	6000	6000
Continuous torque at standstill ²⁾	M _{dN}	Nm	2.2 (3.3) ⁵⁾	4.4 (6.6) ⁵⁾	6.6 (9.9) ⁵⁾
Continuous current at standstill	I _{dN}	A	7.3 (11.7) ⁵⁾	14.2 (22.3) ⁵⁾	22.0 (35.4) ⁵⁾
Rotor moment of inertia ³⁾	J _M	kgm ²	5.4 x 10 ⁻⁴	9.9 x 10 ⁻⁴	12.9 x 10 ⁻⁴
Torque constant at 20 °C	K _m	Nm/A	0.300	0.310	0.300
Windings resistance at 20 °C	R _A	Ohm	0.92	0.34	0.17
Windings inductance	L _A	mH	5.1	2.8	1.7
Maximum peak of pulse current	I _{peak}	A	37	71	110
Thermal time constant	T _{th}	min	45 (20) ⁵⁾	45 (20) ⁵⁾	45 (20) ⁵⁾
Mass ⁴⁾	m _M	kg	6.5	8.8	11

¹⁾ The usable motor speed is determined by the drive used.
Only those usable speeds n_{max} found in the selection lists of the motor-drive combinations are binding.

²⁾ With 60K overtemperature at the motor housing.
Continuous torque can be limited by the drive. See selection data.

³⁾ With tacho-generator, without holding brake

⁴⁾ With tacho-generator, without holding brake, without blower.

⁵⁾ Parenthetical values apply to versions with surface cooling.

Fig 4.1: Type-dependent motor data

Designation	Symbol	Unit	Data		
Permissible ambient temperature	T_{um}	°C	0 ... + 45		
Permissible storage and transport temperature	T_L	°C	-20 ... +80		
Maximum installation elevation		m	1000 meters above sea level		
Protection category			IP 65		
Insulation classification			F		
Housing coat			Black prime coat (RAL 9005)		
Voltage constant of the tachogenerator ¹⁾	C_w	Vs/rad V/min ⁻¹	0,0143 1.5/1000		0.0286 3/1000

¹⁾ Tacho voltage can be selected application-related.

Fig 4.2: General data MAC 071

Designation	Symbol	Unit	Data holding brake	
Principle of action			Standard	heavy-duty
Holding torque	M_H	Nm	3.0	6.5
Nominal voltage	U_N	V	DC 24 ± 10%	
Nominal current	I_N	A	0.6	0.7
Moment of inertia	J_B	kgm ²	0.38 x 10 ⁻⁴	1.06 x 10 ⁻⁴
Release delay	t_L	ms	30	60
Clamping delay	t_k	ms	15	20
Mass	m_B	kg	0.3	0.5

Fig 4.3: Technical data - holding brake

Designation	Symbol	Unit	Axial cooling	Radial cooling
Power consumption	S_N	VA	22/22	22/22
Nominal voltage	U_N	V	AC 230 or 115 ¹⁾	AC 230 or 115 ¹⁾
Frequency	f	Hz	50/60	50/60
Mass	m_L	kg	approx. 0.8 ²⁾	approx. 0.7 ²⁾
Protection category blower unit			IP 24	IP 24
Protection category blower motor			IP 44	IP 44

¹⁾ 115 V special design
²⁾ Blower shroud for motor with tacho feedback

Fig 4.4: Technical data - surface cooling

4.4. Dimensional Data - Natural Convection

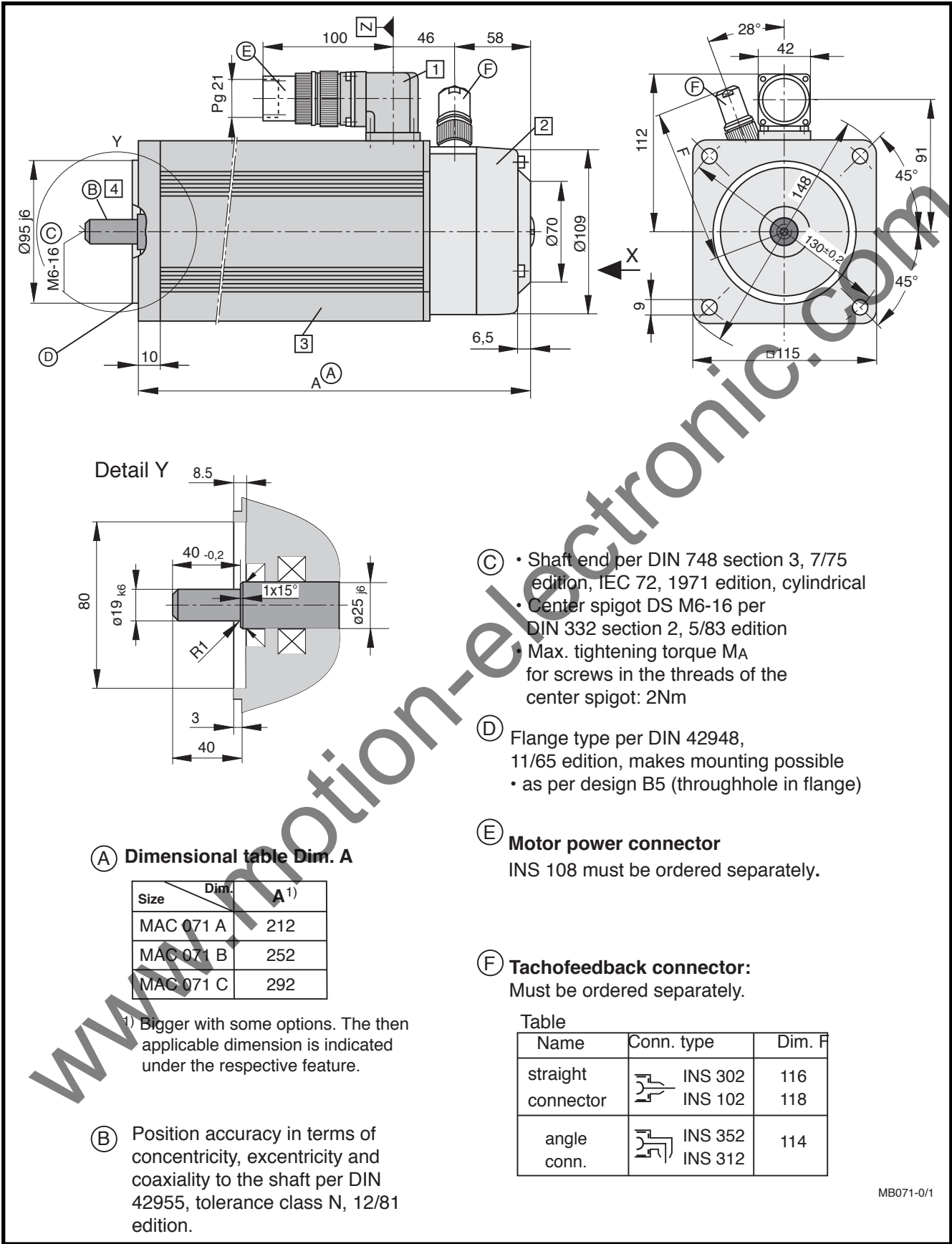


Fig 4.13: Dimensional data - MAC 071 (natural convection)