

MBM

BRUSHLESS MOTORS

SERIES 10



DESCRIPTION

A - Flange
B - Permanent magnets
C - Stator
D - Feedback sensor
E - Brake

The MBM motors are high-performance sinusoidal three-phase brushless servo-motors suitable for any automation application where accurate axis motion control is needed.

Rare-earth high-energy NdFeB permanent magnets are used for rotor field, thus offering performances as high specific torque, high dynamics and efficiency.

Natural cooling with PTC protection and high IP-class protection makes MBM motors very reliable even in critical environment. Strong mechanical design increases the robustness. Moreover, permanent magnet brakes guarantee high holding force and quick engagement in case of emergency stop.

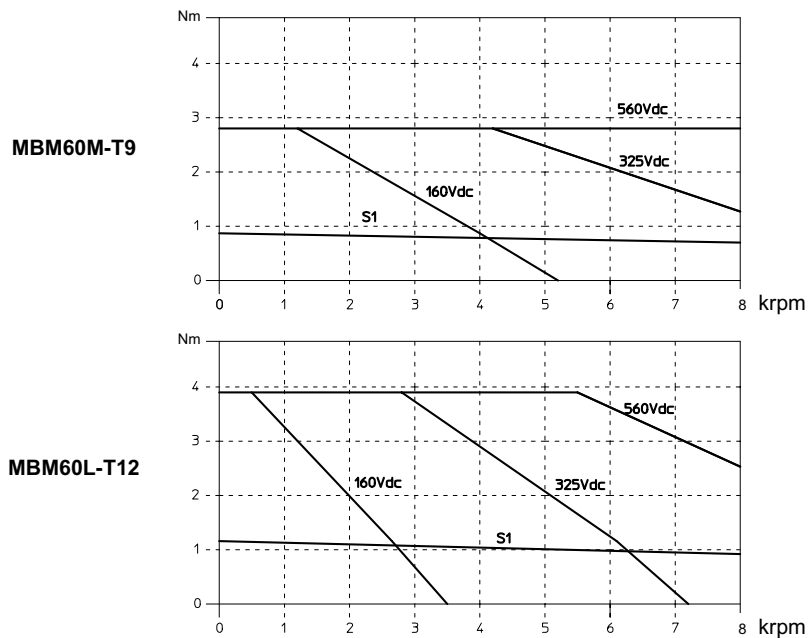
The possibility to mount a wide range of feedback sensors makes the MBM servo-motors suitable for most of market available servo-controllers.

PERFORMANCES

Flange	60 - 80 - 115 - 145
Supply voltage	160 ÷ 560 Vdc
Torque values	0,8 ÷ 24 Nm
Number of poles	6 (sizes 60 and 80) - 8 (sizes 115 and 145)
Speed range	up to 8000 rpm
Cooling	natural convection
Protection class	IP65
Operating temperature	-20 ÷ +40

3 - TECHNICAL DATA
3.1 - TECHNICAL DATA MOTOR SIZE 60

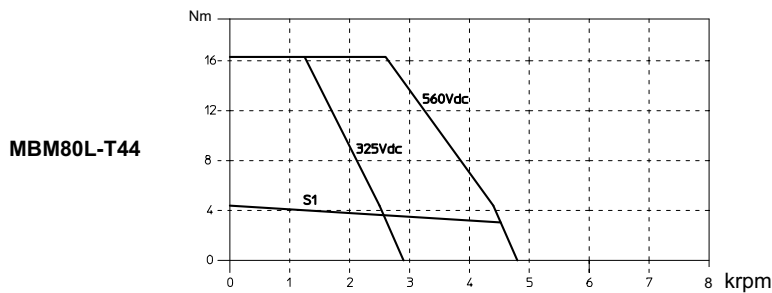
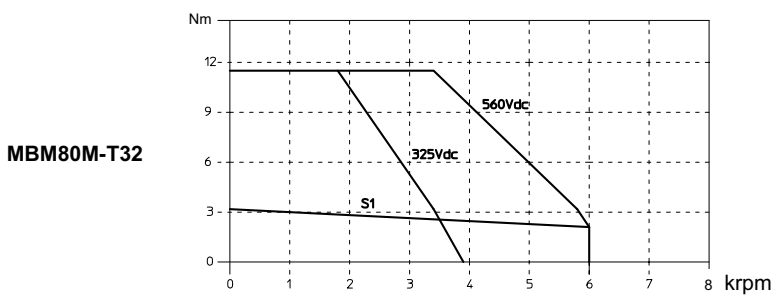
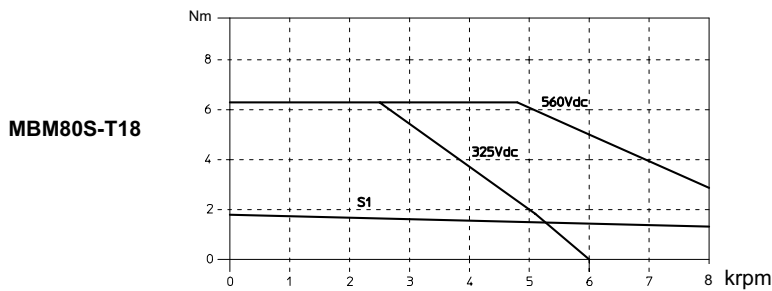
		MBM60M-T9	MBM60L-T12
Continuous stall torque	To [Nm]	0,87	1,16
Continuous stall current	Io [Arms]	2,73	2,45
Peak torque	Tpk [Nm]	2,8	3,9
Peak current	Ipk [Arms]	11	9,9
Torque constant	Kt [Nm/Arms]	0,32	0,475
BEMF constant (1) (2)	Ke [Vrms/krpm]	20,4	30,6
Resistance (1) (2)	Ruv [ohm]	5,2	6,9
Inductance	Luv [mH]	10,2	14,9
Rotor Inertia	J [kgcm ²]	0,22	0,31
Insulation Class	/	F. 155°C	
Ambient temperature (3)	Ta [°C]	-20 ÷ +40	
Protection degree	/	IP65	
Max axial load	Fa [N]	50	
Max radial load	Fr [N]	140	





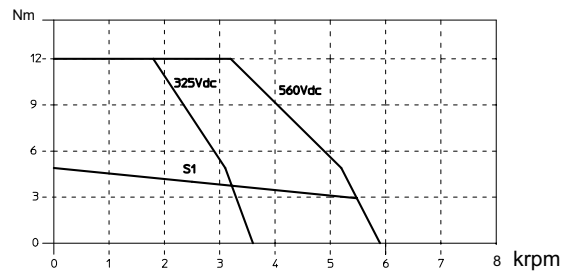
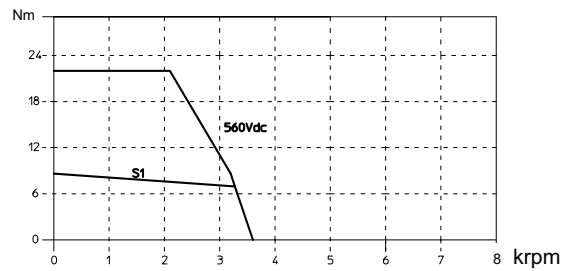
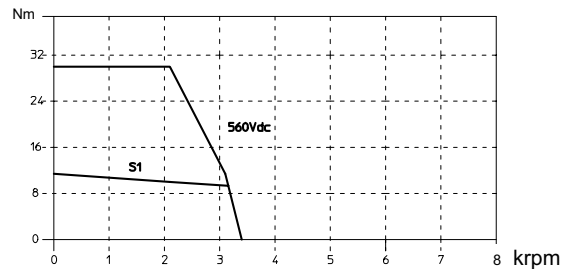
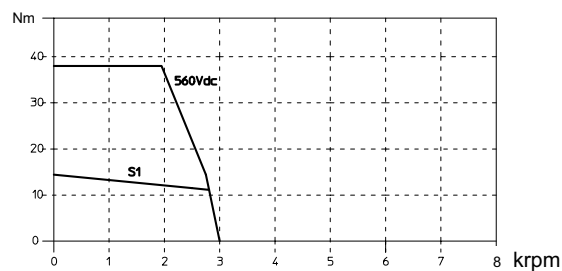
3.2 - TECHNICAL DATA MOTOR SIZE 80

		MBM80S-T18	MBM80M-T32	MBM80L-T44
Continuous stall torque	To [Nm]	1,85	3,18	4,39
Continuous stall current	Io [Arms]	3,3	3,55	3,67
Peak torque	Tpk [Nm]	6,3	11,5	16,3
Peak current	Ipk [Arms]	13,3	14,9	16
Torque constant	Kt [Nm/Arms]	0,57	0,895	1,196
BEMF constant (1) (2)	Ke [Vrms/krpm]	36,4	57,6	77
Resistance (1) (2)	Ruv [ohm]	4,4	4,35	4,6
Inductance	Luv [mH]	13,3	14,8	17,4
Rotor Inertia	J [kgcm^2]	0,8	1,5	2,25
Insulation Class	/	F. 155°C		
Ambient temperature (3)	Ta [°C]	-20 ÷ +40		
Protection degree	/	IP65		
Max axial load	Fa [N]	110		
Max radial load	Fr [N]	330		



3.3 - TECHNICAL DATA MOTOR SIZE 115

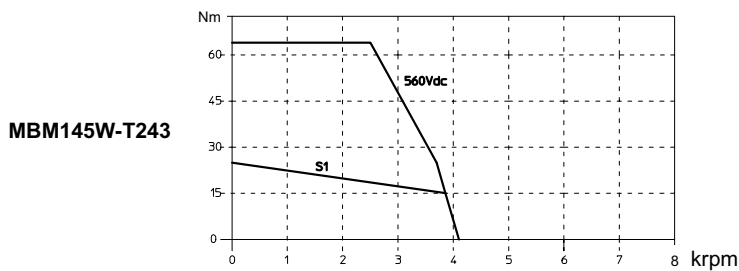
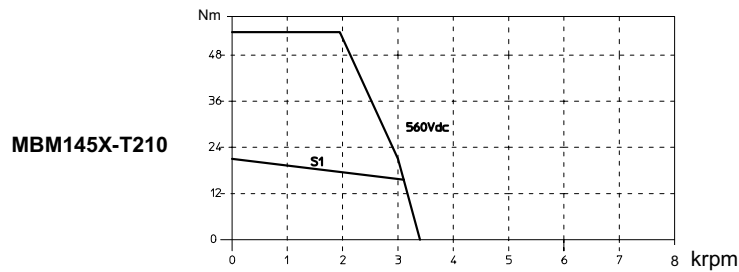
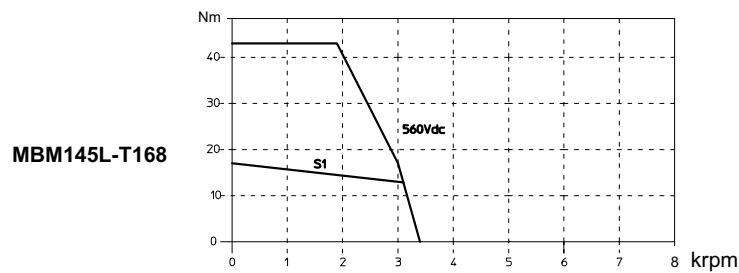
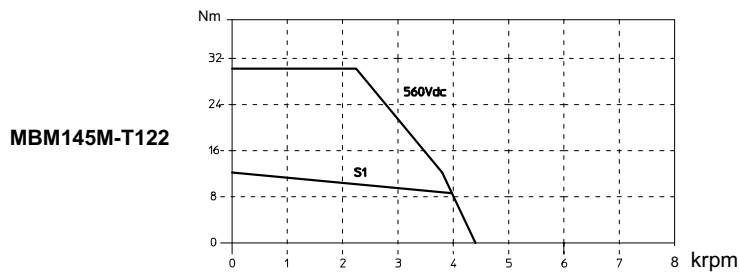
		MBM115S-T49	MBM115M-T86	MBM115L-T115	MBM115X-T144
Continuous stall torque	To [Nm]	4,9	8,6	11,5	14,4
Continuous stall current	Io [Arms]	5,1	5,25	6,85	7,7
Peak torque	Tpk [Nm]	12	22	30	38
Peak current	Ipk [Arms]	15,5	15,8	21	23,3
Torque constant	Kt [Nm/Arms]	0,956	1,64	1,68	1,87
BEMF constant (1) (2)	Ke [Vrms/krpm]	61,6	105,6	107	120,5
Resistance (1) (2)	Ruv [ohm]	2,6	2,95	1,86	1,59
Inductance	Luv [mH]	12,7	18,7	12,8	12,1
Rotor Inertia	J [kgcm^2]	3,7	7,2	10,8	14,4
Insulation Class	/	F. 155°C			
Ambient temperature (3)	Ta [°C]	-20 ÷ +40			
Protection degree	/	IP65			
Max axial load	Fa [N]	210			
Max radial load	Fr [N]	630			

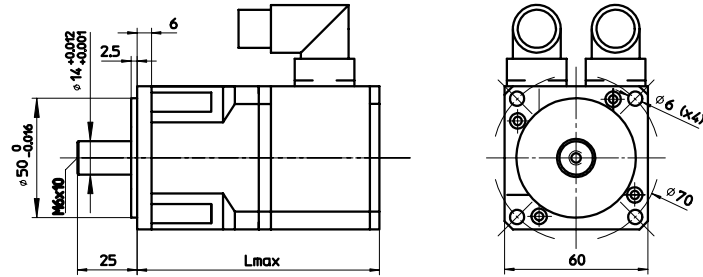
MBM115S-T49

MBM115M-T86

MBM115L-T115

MBM115X-T144




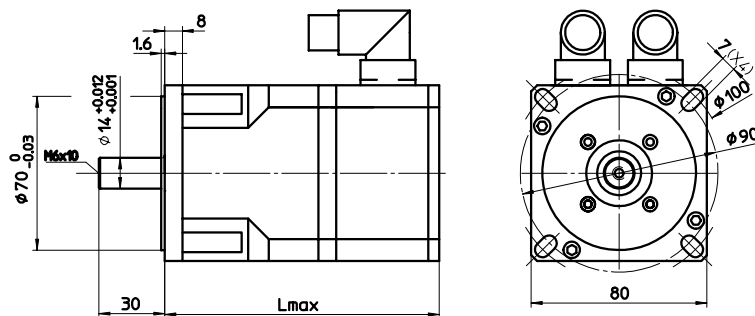
3.4 - TECHNICAL DATA MOTOR SIZE 145

		MBM145M-T122	MBM145L-T168	MBM145X-T210	MBM145W-T243
Continuous stall torque	To [Nm]	12,2	16,8	21	24,3
Continuous stall current	Io [Arms]	9,6	9,9	12,8	17,8
Peak torque	Tpk [Nm]	30,1	42,6	54,1	63,7
Peak current	Ipk [Arms]	28,7	29,7	38,4	53,3
Torque constant	Kt [Nm/Arms]	1,28	1,71	1,66	1,38
BEMF constant (1) (2)	Ke [Vrms/krpm]	82,1	110	107	88,8
Resistance (1) (2)	Ruv [ohm]	1,05	1,09	0,71	0,42
Inductance	Luv [mH]	10,5	12	8,5	4,7
Rotor Inertia	J [kgcm ²]	14	20,75	27,5	34,25
Insulation Class	/	F. 155°C			
Ambient temperature (3)	Ta [°C]	-20 ÷ +40			
Protection degree	/	IP65			
Max axial load	Fa [N]	430			
Max radial load	Fr [N]	1300			



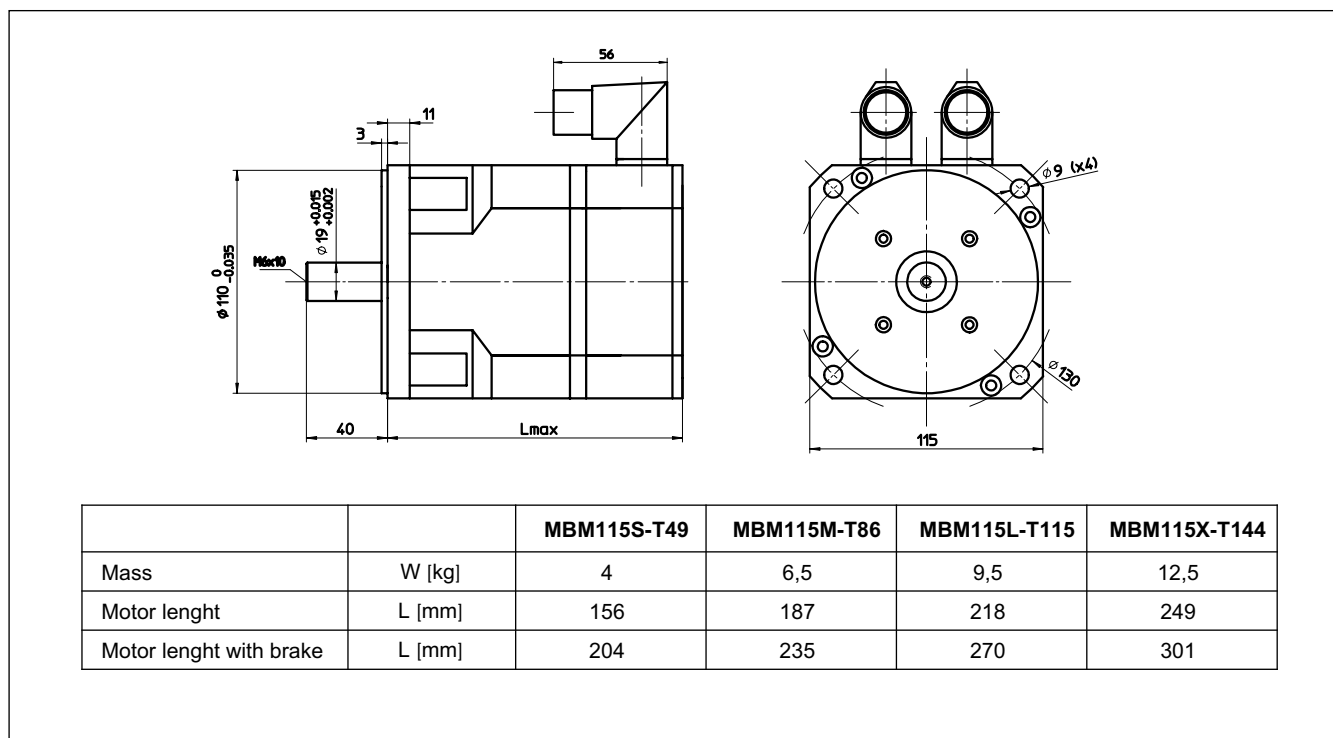
4 - OVERALL DIMENSIONS
4.1 OVERALL DIMENSIONS MOTOR SIZE 60


		MBM60M-T9	MBM60L-T12
Mass	W [kg]	1,3	1,6
Motor lenght	L [mm]	125	145
Motor lenght with brake	L [mm]	162	182

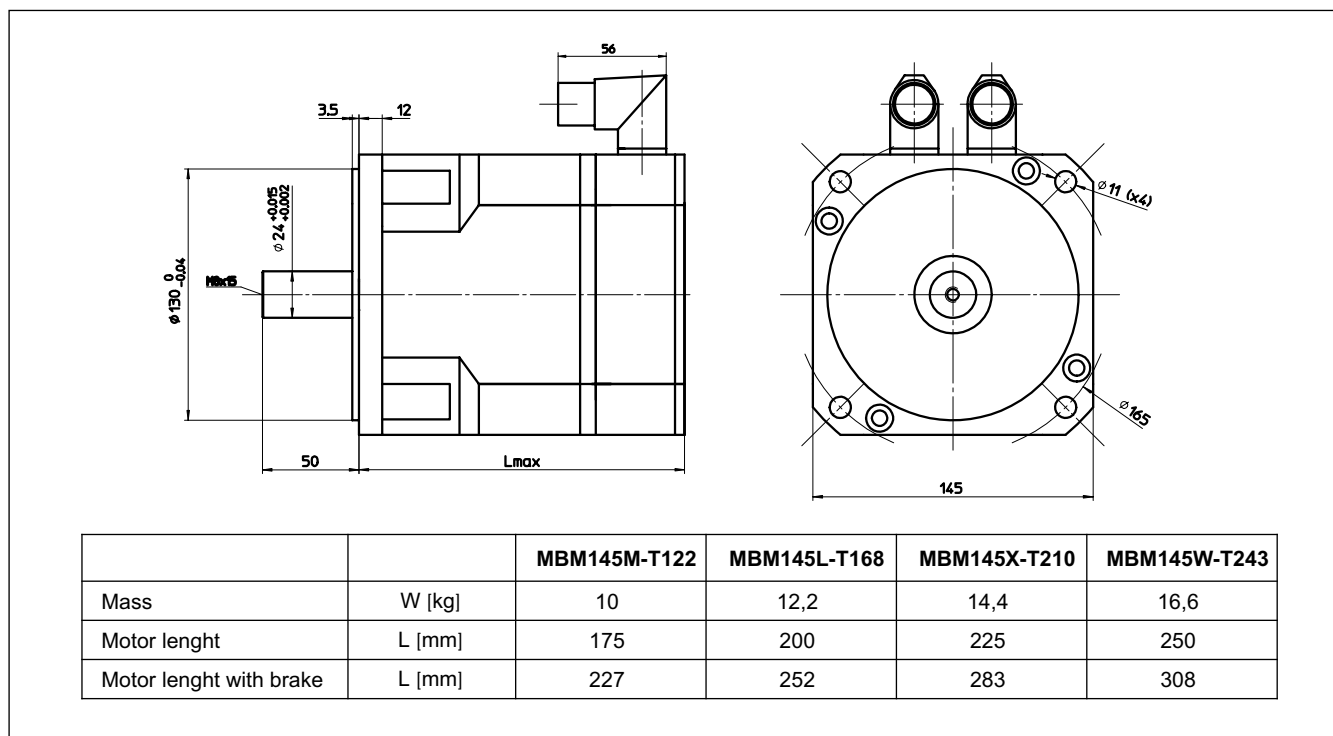
4.2 - OVERALL DIMENSIONS MOTOR SIZE 80


		MBM80S-T18	MBM80M-T32	MBM80L-T44
Mass	W [kg]	2,3	3,3	4,3
Motor lenght	L [mm]	125	155	185
Motor lenght with brake	L [mm]	166	203	233

4.3 OVERALL DIMENSIONS MOTOR SIZE 115



4.4 - OVERALL DIMENSIONS MOTOR SIZE 145



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