

Motors and gearboxes

High-speed asynchron motors

1MB - for high speed



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Robust and reliable

- Rated torques up to 875 Nm
- Maximum speeds up to 20,000 rpm
- Large spindle cutoff
- Excellent running smoothness
- Straightforward integration in the machine

The 1MB frameless (kit) motors are maintenance-free asynchronous motors with high power density. For different performance requirements and installation situations, our product range offers 9 motor sizes with different overall lengths and diameters. Typical areas of application of these motors are the main spindles of modern CNC machines and machining centers. These frameless (kit) motors excel by their superb running smoothness and perfect servo quality for C-axis machining, thread cutting and spindle positioning.

Technical data**Electrical data**

Type	Rated speed	Maximum speed	Rated torque	Rated output	Rated current	Maximum current	Moment of inertia
	n N	n Max	M N	P N	I N	I Max	J
	[1/min]	[1/min]	[Nm]	[kW]	[A]	[A]	[kgm²]
1MS105N-4A	4500	15000	15	7	29	73.68	0.0033
1MS105N-4B	2400	12000	22	5.5	16.4	35.11	0
1MS140B-4A	7500	20000	7		18	41.79	0.0044
1MS140B-4B	5000			3.7	25	52.69	
1MS140D-4B	4000	16000	14	6	43	89.37	0.0061
1MS140F-4A	3000	15000	24	7.5		111.27	0.0082
1MS140H-4B			34	10.5		58	127.28
1MS160B-4A		12000	16	5	36	78.37	0.0084
1MS160D-4A			32	10	48	112.83	0.0121
1MS160D-4B	2000	8000		6.7	23.8	53.28	
1MS160E-4B	1000	4000	33	3.5	19	34.77	0.0149

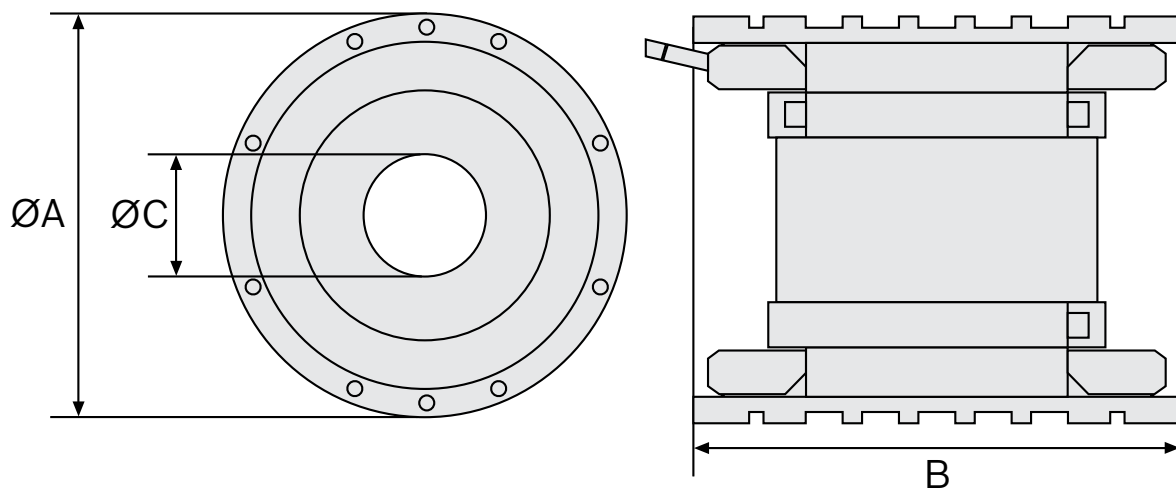
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Type	Rated speed	Maximum speed	Rated torque	Rated output	Rated current	Maximum cur- rent	Moment of inertia
	n N	n Max	M N	P N	I N	I Max	J
	[1/min]	[1/min]	[Nm]	[kW]	[A]	[A]	[kgm²]
1MS160F-4A	3000	12000	48	15	74	169.43	0.0161
1MS160F-4B					45	99.87	
1MS160F-4D	2500	10000		12.5	23.2	54.15	
1MS160F-4E	3000	12000		15	53	114.57	
1MS160H-4A			64	20	58	132.2	0.0201
1MS160N-4A				89	28	75	170.83
1MS160N-4B	2000	8000	18.6		60	135.51	
1MS160N-4C	1500	6000	14		26	67.76	
1MS200C-4A			57	9	50	114.48	0.041
1MS200D-4B			85	13.5	48	115.76	0.037
1MS200D-4C	5000	20000	59	31	75	157.18	
1MS200D-4D	2500	10000	85	22	59	144.29	
1MS200D-4E	1500	6000		13.5	84	201.91	
1MS200D-4F	6000	18000	49	31	82	182.24	0.059
1MS200E-4B	1800	7200	85	16	41.4	111.08	
1MS200E-4C	3900	15600	74	30.2	65	139.44	
1MS200H-4B	1500	6000	124	19.5	68	171	0.069
1MS200H-4D					52.6	128.21	
1MS240B-4A	1000	4000	62	6.5	46	101.06	0.078
1MS240F-4A			123	13	74	164.18	0.12
1MS240H-4B			169	18	56	124.16	0.153
1MS241D-6A			112	12	62	139.52	0.135
1MS241D-6C					27	59.68	
1MS241H-6C	1800	7200	202	32	75.5	184.55	0.227
1MS241H-6D	850	3400		18	66.4	127.88	
1MS241H-6G	800	3200		16.9	39.7	91.92	
1MS242N-4B	1700	6800	185	33	98	224.31	0.135
1MS270C-4B	1500	6000	190	30	96	228.5	0.258
1MS310B-6B	1000	4000	260	27	75	164.03	0.477
1MS310B-6D	700	2800		19	81	178.92	
1MS310B-6E	440	1760		12	58	125.75	
1MS310D-6B	800	3200	340	28.5	81	174.17	0.492
1MS310F-6A	400	1600	480	20	61	138.75	0.723
1MS310F-6B	900	3600		35	111	246.64	
1MS375B-6B	600	2400	636	40	120	257.22	1.39
1MS375D-6B			875	55	150	329.29	1.73
1MS375D-6D	300	1200		27.5	94	210.01	

All the specifications relate to operation with liquid cooling and 540 V DC bus voltage.

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Type	Ø A	B	Ø C	Mass	
	[mm]	[mm]	[mm]	Stator [kg]	Rotor [kg]
1MS105N-4A	120	350	40.5	11.2	2.8
1MS105N-4B					0
1MS140B-4A	160	150	45	5.3	3.3
1MS140B-4B					
1MS140D-4B		190		8.2	4.5
1MS140F-4A		240		11.8	6.1
1MS140H-4B		290		15.5	7.3
1MS160B-4A	180	160	60	6.8	5.3
1MS160D-4A					
1MS160D-4B		205		11.1	7.3
1MS160E-4B		240		14.4	9.4
1MS160F-4A		255		15.8	10.2
1MS160F-4B					
1MS160F-4D					
1MS160F-4E					
1MS160H-4A		310		21	9.8
1MS160N-4A	385	28.1	12.7		
1MS160N-4B					
1MS160N-4C					

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Type	Ø A	B	Ø C	Mass	
	[mm]	[mm]	[mm]	Stator [kg]	Rotor [kg]
1MS200C-4A	220	240	66	21	15
1MS200D-4B		295		29	19
1MS200D-4C					
1MS200D-4D					
1MS200D-4E					
1MS200D-4F		330		34	22
1MS200E-4B					
1MS200E-4C					
1MS200H-4B					
1MS200H-4D		380		41	26
1MS240B-4A	270	270	72	29	19
1MS240F-4A		360		48	29
1MS240H-4B		430		62	37
1MS241D-6A		290	111	38	24
1MS241D-6C				63	39
1MS241H-6C					
1MS241H-6D					
1MS241H-6G		440		71	81
1MS242N-4B					
1MS270C-4B	300	400	120	82	52
1MS310B-6B	340	385	125	67	65
1MS310B-6D					
1MS310B-6E		450		86	80
1MS310D-6B					
1MS310F-6A		520		103	97
1MS310F-6B					
1MS375B-6B	405	620	170	162	106
1MS375D-6B				205	132
1MS375D-6D					

Bosch Rexroth AG

Postfach 13 57
97803 Lohr, Germany
Bgm.-Dr.-Nebel-Str. 2
97816 Lohr, Germany
Tel. +49 9352 18-0
Fax +49 9352 18-8400
www.boschrexroth.com/electrics

Local contact information can be found at:

www.boschrexroth.com/adressen

The data specified above only serve to describe the product.
As our products are constantly being further developed, no
statements concerning a certain condition or suitability for a certain
application can be derived from our information. The information
given does not release the user from the obligation of own judgment
and verification.
It must be remembered that our products are subject to a natural
process of wear and aging.