



MMG Model D 0.18 - 200 kW

High-efficiency motors from Grundfos

Grundfos is one of the world's leading manufacturers of pumps and pumping equipment. Therefore, high-quality electrical motors are a major priority of ours. In addition to manufacturing our own range of quality motors, we contract some of the world's top manufacturers to produce motors that match the very high standard of our pumps for application in building services, industry and water supply.

Grundfos quality throughout

The Grundfos MMG-D motors are manufactured for Grundfos by AEG in Spain. The motors have been adapted especially for use with Grundfos pumps and they comply with Grundfos standards and the strictest Grundfos quality requirements throughout.

The Grundfos MMG-D range of electrical motors is available in sizes from 0.18 to 200 kW, in 2, 4, and 6-pole versions and different voltages.

Environmentally friendly

EFF1 high-efficiency motors are far more energy friendly than conventional motors. This means reduced energy consumption and, thus, reduction of harmful emissions from the power sources.

At Grundfos, the environmental issue is of great importance and, consequently, we supply only motors, which are in compliance with the CEMEP agreement. Our range comprises EFF1 designated models for every application.

High-efficiency motors mean reduced energy consumption and, consequently, reduced harmful influence on the environment. Obviously, reduced energy consumption also means reduced operating costs, which is a vital consideration for modern industry everywhere.

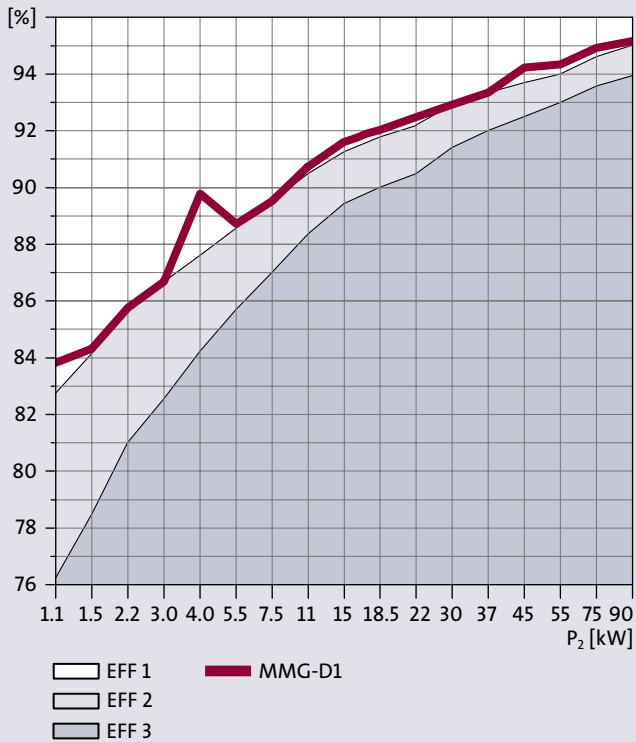


EFF1

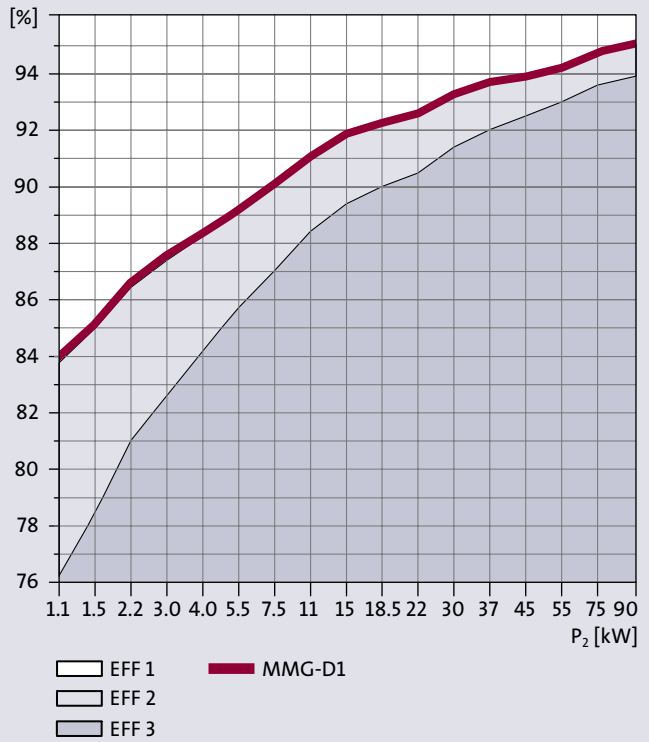
All Grundfos MMG-D motors are EFF1 high-efficiency motors. Furthermore, these motors distinguish themselves from standard AEG motors in several ways. The Grundfos MMG-D motors are equipped with larger, more durable bearings. The drive-end bearings are locked. All models are fitted with drain holes closed at delivery and motors from frame size 160 and up can be relubricated.



Motor efficiency, 2-pole motors



Motor efficiency, 4-pole motors



Efficiency curves

The curves show the efficiency of the Grundfos MMG-D motors. Motors with efficiency on or above the line between the EFF1 and EFF2 bands are classified as EFF1 motors.

EFF1 high efficiency motors

Some motor manufacturers have indiscriminately used the term “high efficiency” for years. In order to counteract this, a definition of what constitutes a high-efficiency motor was laid down in the “Energy Policy Act (EPACT)” instituted by the U.S. Congress effective of October 1997. The EU has agreed upon an almost identical definition. The so-called CEMEP list defines the minimum features of high-efficiency motors in the range from 1.1 to 90 kW, 2 and 4-pole versions.

The rules defined by the CEMEP and EPACT have subsequently been adopted as the world standard for high-efficiency motors.



A wide variety of applications

The Grundfos MMG-D motors are suitable for use with a variety of Grundfos pump models, for instance, the TP Series 100/200/300/400, the NB and NK end-suction centrifugal pumps, and the Grundfos CR range.



Customised versions

The MMG-D motors meet international design standards, and within each motor type we offer a number of different variants. If you do not find the specific motor variant that you require among the ones listed in our product overview, customised motors are available upon request. Please contact your local Grundfos representative for further details.

Standards

The Grundfos MMG-D motors are designed, manufactured and tested according to the internationally recognised standards for electrical motors: IEC60034-1 and IEC60072-1/EN50347. The MMG-D motors are offered in two versions: Standard motors with keyway, key and threaded hole, and standard motors adapted to Grundfos pumps, i.e. with smooth shaft end (no keyway, key or threaded hole).

Standard configuration of Grundfos MMG-D motors

Mountings: V18/B14, V1/B5, B3, B34 and B35.

IP55 with drain plugs closed.

Duty cycle: S1.

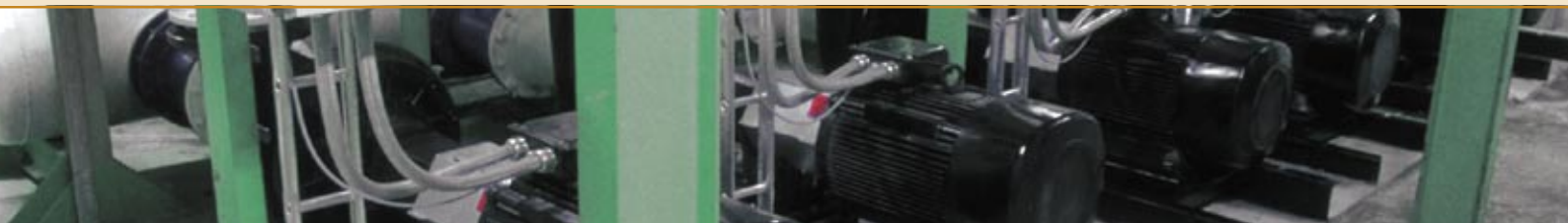
Insulation class F with class B temperature rise according to IEC 62114.

PTC sensors according to DIN 44082 from 3.0 kW and up.

Maximum ambient temperature for

EFF1 motors = 60°C. EFF2 motors = 40°C.

TP111 according to IEC 60034-11.



Range overview

Power [kW]	Number of phases	2-pole		4-pole		6-pole	
		Type designation	Efficiency class 1-2-3	Type designation	Efficiency class 1-2-3	Type designation	Efficiency class 1-2-3
0.18	3	-	-	-	-	MMG71A6-D	-
0.25	3	-	-	-	-	MMG71B6-D	-
0.37	3	-	-	-	-	MMG80A6-D	-
0.55	3	-	-	-	-	MMG80B6-D	-
0.75	3	-	-	-	-	MMG90S6-D	-
1.10	3	MMG80B2-D1	1	MMG90S4-D1	1	MMG90L6-D	-
1.50	3	MMG90S2-D1	1	MMG90L4-D1	1	MMG100L6-D	-
2.20	3	MMG90L2-D1	1	MMG100LA4-D1	1	MMG112M6-D	-
3.00	3	MMG100L2-D1	1	MMG100LB4-D1	1	MMG132SA6-D	-
4.00	3	MMG112M2-D1	1	MMG112M4-D1	1	MMG132MA6-D	-
5.50	3	MMG132SA2-D1	1	MMG132S4-D1	1	MMG132MB6-D	-
7.50	3	MMG132SB2-D1	1	MMG132M4-D1	1	MMG160M6-D	-
11.0	3	MMG160MA2-D1	1	MMG160M4-D1	1	MMG160L6-D	-
15.0	3	MMG160MB2-D1	1	MMG160L4-D1	1	MMG180L6-D	-
18.5	3	MMG160L2-D1	1	MMG180M4-D1	1	MMG200LA6-D	-
22.0	3	MMG180M2-D1	1	MMG180L4-D1	1	MMG200LB6-D	-
30.0	3	MMG200LA2-D1/D1A	1	MMG200L4-D1	1	MMG225M6-D	-
37.0	3	MMG200LB2-D1/D1A	1	MMG225S4-D1	1	MMG250M6-D	-
45.0	3	MMG225M2-D1	1	MMG225M4-D1	1	MMG280S6-D	-
55.0	3	MMG250M2-D1	1	MMG250M4-D1	1	MMG280M6-D	-
75.0	3	MMG280S2-D1	1	MMG280S4-D1	1	MMG315S6-D	-
90.0	3	MMG280M2-D1	1	MMG280M4-D1	1	MMG315MA6-D	-
110	3	MMG315S2-D	-	MMG315S4-D	-	MMG315MB6-D	-
132	3	MMG315M2-D	-	MMG315MA4-D	-	MMG315L6-D	-
160	3	MMG315LA2-D	-	MMG315MB4-D	-	-	-
200	3	MMG315LB2-D	-	MMG315L4-D	-	-	-

MMG-D motor range overview

The Grundfos MMG-D motors are manufactured by AEG in Spain. All are EFF1 motors ranging from 0.18 to 200 kW in frame sizes 71 - 315.

The technical data for the motors cover both 50 and 60 Hz versions. Contrary to most other motor makes, the Grundfos MMG-D motors offer the same power output in 50 and 60 Hz versions.

The standard range covers motors with the following voltages:

Low voltage range	
220-240 Δ/380-415 Y, 50 Hz	220-277 Δ/380-480 Y, 60 Hz

High voltage range	
380-415 Δ/660-690 Y, 50 Hz	380-480 Δ/660-690 Y, 60 Hz

Bearings

The Grundfos MMG-D motors are fitted with locked bearings at the drive end, either a deep-groove ball bearing or an angular-contact bearing depending on the motor model.

In motors from frame size 160 and up, the bearings can be relubricated. Lubrication is done via tapered lubrication nipples DIN 71412 (H1 straight).

Only high-quality bearings from the world's leading manufacturers are used for the Grundfos MMG-D motors:

- SKF AB (Sweden)
- NSK Corporation (Japan)
- NTN Bearing Corporation (Japan)
- FAG Kugelfischer AG & Co KG (Germany)

These manufacturers all comply with international standards, which means that replacement bearings are readily available throughout the world and the bearings are fully interchangeable regardless of make.

Bearing size overview

Power [kW]	Bearing sizes, 2-pole motors			Bearing sizes, 4-pole motors		Bearing sizes, 6-pole motors	
	CR motors	Other models	All models	All models		All models	
	Drive end	Non-drive end	Drive end	Non-drive end	Drive end	Non-drive end	
0.18	-	-	-	-	-	6203-2Z/C3	6203-2Z/C3
0.25	-	-	-	-	-	6203-2Z/C3	6203-2Z/C3
0.37	-	-	-	-	-	6204-2Z/C3	6204-2Z/C3
0.55	-	-	-	-	-	6204-2Z/C3	6204-2Z/C3
0.75	-	-	-	-	-	6205-2Z/C3	6205-2Z/C3
1.10	-	6205-2Z/C3	6204-2Z/C3	6206-2Z/C3	6205-2Z/C3	6206 2Z/C3	6206 2Z/C3
1.50	-	6206-2Z/C3	6205-2Z/C3	6206-2Z/C3	6205-2Z/C3	6206 2Z/C3	6206 2Z/C3
2.20	-	6206-2Z/C3	6205-2Z/C3	6306-2Z/C3	6206-2Z/C3	6306 2Z/C3	6306 2Z/C3
3.00	-	6306-2Z/C3	6206-2Z/C3	6306-2Z/C3	6206-2Z/C3	6308-2Z/C3	6208-2Z/C3
4.00	-	6306-2Z/C3	6306-2Z/C3	6306-2Z/C3	6306-2Z/C3	6308-2Z/C3	6208-2Z/C3
5.50	-	6308-2Z/C3	6208-2Z/C3	6308-2Z/C3	6208-2Z/C3	6308-2Z/C3	6208-2Z/C3
7.50	-	6308-2Z/C3	6208-2Z/C3	6308-2Z/C3	6208-2Z/C3	6309/C3	6209/C3
11.0	7309 B	6309/C3	6209/C3	6309/C3	6209/C3	6309/C3	6209/C3
15.0	7309 B	6309/C3	6209/C3	6309/C3	6209/C3	6310/C3	6210/C3
18.5	7309 B	6309/C3	6209/C3	6310/C3	6210/C3	6312/C3	6212/C3
22.0	7310 B	6310/C3	6210/C3	6310/C3	6210/C3	6312/C3	6212/C3
30.0	7312 B	6312/C3	6212/C3	6312/C3	6212/C3	6313/C3	6213/C3
37.0	7312 B	6312/C3	6212/C3	6313/C3	6213/C3	6314/C3	6214/C3
45.0	7313 B	6313/C3	6213/C3	6313/C3	6213/C3	6316/C3	6216/C3
55.0	-	6314/C3	6214/C3	6314/C3	6214/C3	6316/C3	6216/C3
75.0	-	6316/C3	6216/C3	6316/C3	6216/C3	6319/C3	6319/C3
90.0	-	6316/C3	6216/C3	6316/C3	6216/C3	6319/C3	6319/C3
110	-	6316/C3	6316/C3	6319/C3	6319/C3	6319/C3	6319/C3
132	-	6316/C3	6316/C3	6319/C3	6319/C3	6319/C3	6319/C3
160	-	6316/C3	6316/C3	6319/C3	6319/C3	-	-
200	-	6316/C3	6316/C3	6319/C3	6319/C3	-	-

Noise

In EFF1 high efficiency motors less cooling air is needed to maintain the motor temperature. This allows for a smaller cooling fan, which in turn produces less noise.

Sound pressure levels

The noise level of the MMG-D motors is determined by measuring the sound pressure level in accordance with curve A of the sound level meter to EN 60651. The values are indicated in dB (A).

The permitted noise levels of electrical machines are stipulated in the IEC 60034-9 norm. The noise level of the MMG-D motors is well below these limit values.

Air-borne sound measurement is done in a testing chamber according to EN 21680.

The tolerance of the stated value is + 3dB(A).

P ₂ [kW]	2-pole	4-pole	6-pole
	L _{pfA} [dB(A)]	L _{pfA} [dB(A)]	L _{pfA} [dB(A)]
0.18	-	-	40
0.25	-	-	40
0.37	-	-	40
0.55	-	-	40
0.75	-	-	46
1.10	60	53	46
1.50	61	53	51
2.20	61	55	56
3.00	63	55	57
4.00	66	57	57
5.50	67	62	57
7.50	67	62	58
11.0	65	64	58
15.0	65	64	59
18.5	66	65	60
22.0	68	65	60
30.0	69	66	62
37.0	69	69	64
45.0	72	69	68
55.0	74	69	68
75.0	76	73	68
90.0	76	73	68
110	78	74	68
132	78	74	68
160	78	74	-
200	78	74	-



Electrical data

MMG Model D 2-pole · low voltage · 50/60 Hz

MMG-D		Low voltage · 2-pole motors 50 Hz 230 V Δ/400 V Y										
Short type designation	Efficiency class	Shaft power P ₂	Full load current I _N	Power factor Cos φ at % load		Efficiency η at % load		Speed n	Torque at 400 V M _N	LRC I _s /I _N	LRT M _s /M _N	BT M _{Br} /M _N
		[kW]	[A]	75 %	100 %	75 %	100 %	[min ⁻¹]	[Nm]	[%]	[%]	[%]
MMG80B2-D1	1	1.10	4.30/2.50	0.68	0.77	84.0	83.8	2880	3.50	460	360	360
MMG90S2-D1	1	1.50	5.60/3.20	0.71	0.80	83.4	84.1	2880	5.00	810	360	400
MMG90L2-D1	1	2.20	7.60/4.40	0.80	0.85	85.8	85.6	2860	7.50	850	350	370
MMG100L2-D1	1	3.00	10.2/5.90	0.77	0.84	85.8	86.7	2920	10.0	1050	420	630
MMG112M2-D1	1	4.00	13.0/7.50	0.80	0.86	89.3	89.9	2940	13.0	1060	430	450
MMG132SA2-D1	1	5.50	18.0/10.5	0.85	0.90	88.6	88.6	2900	18.0	760	280	330
MMG132SB2-D1	1	7.50	24.0/14.0	0.85	0.90	89.5	89.5	2900	24.6	790	300	350
MMG160MA2-D1	1	11.0	36.5/21.0	0.81	0.86	90.7	90.7	2930	36.0	730	240	310
MMG160MB2-D1	1	15.0	48.5/28.0	0.82	0.86	91.6	91.6	2930	49.0	760	250	310
MMG160L2-D1	1	18.5	60.0/34.5	0.82	0.86	91.8	92.0	2930	60.5	790	280	340
MMG180M2-D1	1	22.0	71.0/41.0	0.83	0.87	92.5	92.5	2930	71.5	770	250	320
MMG200LA2-D1/D1A	1	30.0	95.5/55.0	0.85	0.89	92.9	92.9	2945	97.5	780	210	280
MMG200LB2-D1/D1A	1	37.0	118/68.0	0.86	0.89	93.3	93.3	2950	120	760	220	280
MMG225M2-D1	1	45.0	142/82.0	0.85	0.88	94.1	94.2	2950	146	790	250	290
MMG250M2-D1	1	55.0	171/99.0	0.86	0.89	94.2	94.3	2955	178	770	240	300
MMG280S2-D1	1	75.0	228/132	0.86	0.90	94.4	94.9	2975	241	750	190	320
MMG280M2-D1	1	90.0	278/161	0.86	0.89	94.8	95.2	2975	289	750	190	320
MMG315S2-D	-	110	346/200	0.81	0.85	94.5	95.0	2980	353	770	220	330
MMG315M2-D	-	132	407/235	0.85	0.88	95.2	95.5	2980	423	680	240	260
MMG315LA2-D	-	160	484/280	0.86	0.90	95.7	95.9	2980	513	720	250	260
MMG315LB2-D	-	200	600/347	0.90	0.90	96.1	96.3	2980	641	780	270	270
		Low voltage · 2-pole motors 60 Hz 220 V Δ/380 V Y										
MMG80B2-D1	1	1.10	4.40/2.50	0.75	0.82	82.6	82.3	3430	3.00	390	340	360
MMG90S2-D1	1	1.50	5.60/3.20	0.78	0.85	82.0	82.6	3430	4.00	680	340	400
MMG90L2-D1	1	2.20	7.70/4.40	0.88	0.91	84.3	84.1	3410	6.00	720	340	370
MMG100L2-D1	1	3.00	10.3/6.00	0.84	0.90	84.3	85.1	3480	8.00	880	390	630
MMG112M2-D1	1	4.00	13.1/7.60	0.88	0.92	87.8	88.3	3505	11.0	890	400	450
MMG132SA2-D1	1	5.50	18.0/10.4	0.92	0.93	88.2	87.6	3460	15.2	590	190	240
MMG132SB2-D1	1	7.50	24.0/14.0	0.92	0.93	89.4	88.9	3470	20.6	600	200	250
MMG160MA2-D1	1	11.0	36.5/21.0	0.89	0.90	90.2	89.9	3510	30.0	570	180	230
MMG160MB2-D1	1	15.0	48.5/28.0	0.90	0.91	91.2	90.9	3505	41.0	590	180	230
MMG160L2-D1	1	18.5	59.0/34.0	0.90	0.91	91.8	91.4	3510	50.0	610	210	250
MMG180M2-D1	1	22.0	70.0/40.5	0.90	0.91	92.1	91.8	3505	60.0	600	190	240
MMG200LA2-D1/D1A	1	30.0	95.5/55.0	0.90	0.91	93.0	92.8	3520	81.5	580	160	200
MMG200LB2-D1/D1A	1	37.0	116/67.0	0.90	0.91	93.4	93.2	3530	100	580	170	200
MMG225M2-D1	1	45.0	136/79.0	0.89	0.90	94.1	93.9	3530	122	600	180	210
MMG250M2-D1	1	55.0	173/100	0.90	0.90	93.4	93.7	3535	149	580	180	210
MMG280S2-D1	1	75.0	234/135	0.91	0.91	93.8	94.4	3570	201	580	150	240
MMG280M2-D1	1	90.0	275/159	0.91	0.91	94.4	94.9	3570	241	580	150	240
MMG315S2-D	-	110	332/192	0.91	0.91	94.9	95.4	3575	294	640	190	260
MMG315M2-D	-	132	405/234	0.92	0.91	94.3	94.8	3575	353	530	190	220
MMG315LA2-D	-	160	483/279	0.92	0.91	94.9	95.3	3575	427	580	190	220
MMG315LB2-D	-	200	595/344	0.92	0.92	95.5	95.9	3575	534	620	210	240

50 Hz data shown as 230 V Δ/ 400 V Y and 60 Hz data shown as 220 V Δ/ 380 V Y, 255 V Δ/ 440 V Y and 277 V Δ/ 480 V Y

Electrical data

MMG Model D 2-pole · low voltage · 60 Hz

MMG-D		Low voltage · 2-pole motors 60 Hz 255 V Δ/440 V Y										
Short type designation	Efficiency class	Shaft power P ₂	Full load current I _N	Power factor Cos φ _p at % load		Efficiency η ₁ at % load		Speed n	Torque at 400 V M _N	LRC I _s /I _N	LRT M _s /M _N	BT M _{BT} /M _N
		[kW]	[A]	75 %	100 %	75 %	100 %	[min ⁻¹]	[Nm]	[%]	[%]	[%]
MMG80B2-D1	1	1.10	3.90/2.30	0.71	0.79	84.5	84.2	3460	3.00	510	410	430
MMG90S2-D1	1	1.50	5.0/02.90	0.74	0.82	83.9	84.5	3460	4.00	890	410	480
MMG90L2-D1	1	2.20	6.90/4.00	0.84	0.87	86.3	86.0	3440	6.00	940	400	440
MMG100L2-D1	1	3.00	9.20/5.30	0.81	0.86	86.3	87.1	3510	8.00	1160	480	750
MMG112M2-D1	1	4.00	11.7/6.80	0.84	0.88	89.8	90.3	3535	10.8	1170	490	530
MMG132SA2-D1	1	5.50	15.5/8.90	0.89	0.91	88.5	88.8	3500	15.0	820	280	340
MMG132SB2-D1	1	7.50	21.0/12.0	0.89	0.91	89.7	89.9	3510	20.4	840	300	350
MMG160MA2-D1	1	11.0	31.0/18.0	0.84	0.88	91.0	91.1	3535	29.5	770	250	320
MMG160MB2-D1	1	15.0	41.5/24.0	0.87	0.90	91.7	91.8	3530	40.5	800	250	320
MMG160L2-D1	1	18.5	51.0/29.5	0.86	0.89	91.9	92.2	3535	50.0	830	290	340
MMG180M2-D1	1	22.0	60.5/35.0	0.86	0.89	92.4	92.6	3530	59.5	810	260	330
MMG200LA2-D1/D1A	1	30.0	82.0/47.5	0.88	0.90	93.3	93.4	3545	81.0	790	220	280
MMG200LB2-D1/D1A	1	37.0	100/58.0	0.87	0.90	93.6	93.8	3550	99.5	790	240	280
MMG225M2-D1	1	45.0	121/70.0	0.89	0.90	93.4	94.0	3550	121	820	250	290
MMG250M2-D1	1	55.0	149/86.0	0.89	0.90	93.5	94.0	3555	148	810	240	300
MMG280S2-D1	1	75.0	200/115	0.89	0.90	93.5	94.4	3580	200	790	200	320
MMG280M2-D1	1	90.0	238/138	0.89	0.91	94.2	94.9	3580	240	790	210	320
MMG315S2-D	-	110	296/171	0.87	0.89	94.5	95.3	3580	293	820	250	340
MMG315M2-D	-	132	348/201	0.90	0.91	94.3	95.0	3580	352	750	240	280
MMG315LA2-D	-	160	417/241	0.90	0.91	94.8	95.5	3580	427	790	250	270
MMG315LB2-D	-	200	516/298	0.91	0.92	95.4	96.0	3580	533	820	270	290
		Low voltage · 2-pole motors 60 Hz 277 V Δ/480 V Y										
MMG80B2-D1	1	1.10	3.70/2.20	0.66	0.75	84.1	84.2	3480	3.00	570	480	500
MMG90S2-D1	1	1.50	4.80/2.80	0.68	0.78	83.5	84.5	3480	4.00	1000	480	550
MMG90L2-D1	1	2.20	6.60/3.80	0.77	0.83	85.9	86.0	3460	6.00	1050	470	510
MMG100L2-D1	1	3.00	8.80/5.10	0.74	0.82	85.9	87.1	3530	8.00	1300	560	870
MMG112M2-D1	1	4.00	11.2/6.50	0.77	0.84	89.4	90.3	3555	10.8	1310	570	620
MMG132SA2-D1	1	5.50	14.7/8.50	0.83	0.88	88.2	89.0	3520	15.0	920	340	410
MMG132SB2-D1	1	7.50	20.0/11.5	0.84	0.88	89.4	90.0	3525	20.4	940	350	420
MMG160MA2-D1	1	11.0	30.0/17.5	0.77	0.83	90.3	91.1	3545	29.5	870	300	390
MMG160MB2-D1	1	15.0	40.5/23.5	0.77	0.83	91.0	91.8	3545	40.5	890	300	390
MMG160L2-D1	1	18.5	50.0/29.0	0.77	0.83	91.5	92.2	3545	50.0	920	350	410
MMG180M2-D1	1	22.0	59.0/34.0	0.78	0.84	91.9	92.6	3545	59.5	900	310	400
MMG200LA2-D1/D1A	1	30.0	78.0/45.0	0.80	0.87	92.0	93.4	3555	80.5	880	270	340
MMG200LB2-D1/D1A	1	37.0	97.0/56.0	0.79	0.86	92.0	93.5	3560	99.5	880	290	340
MMG225M2-D1	1	45.0	114/66.0	0.81	0.88	93.1	94.0	3560	121	910	300	350
MMG250M2-D1	1	55.0	138/80.0	0.85	0.88	93.2	94.0	3560	148	920	290	360
MMG280S2-D1	1	75.0	192/111	0.83	0.87	93.2	94.2	3580	200	920	240	360
MMG280M2-D1	1	90.0	227/131	0.84	0.88	93.8	94.8	3580	240	920	250	360
MMG315S2-D	-	110	292/169	0.77	0.83	94.1	95.0	3585	293	940	280	380
MMG315M2-D	-	132	325/188	0.86	0.89	94.1	95.0	3585	352	860	280	310
MMG315LA2-D	-	160	391/226	0.87	0.89	94.7	95.5	3585	426	890	320	340
MMG315LB2-D	-	200	486/281	0.87	0.89	95.2	95.9	3585	533	920	350	370

50 Hz data shown as 230 V Δ/ 400 V Y and 60 Hz data shown as 220 V Δ/ 380 V Y, 255 V Δ/ 440 V Y and 277 V Δ/ 480 V Y



MMG Model D 2-pole · high voltage · 50/60 Hz

MMG-D		High voltage · 2-pole motors 50 Hz 400 V Δ/690 V Y										
Short type designation	Efficiency class	Shaft power P ₂	Full load current I _N	Power factor Cos φ at % load		Efficiency η at % load		Speed n	Torque at 400 V M _N	LRC I _s /I _N	LRT M _s /M _N	BT M _{BT} /M _N
		[kW]	[A]	75 %	100 %	75 %	100 %	[min ⁻¹]	[Nm]	[%]	[%]	[%]
MMG80B2-D1	1	1.10	2.50/1.40	0.68	0.77	84.0	83.8	2880	3.50	460	360	360
MMG90S2-D1	1	1.50	3.20/1.80	0.71	0.80	83.4	84.1	2880	5.00	810	360	400
MMG90L2-D1	1	2.20	4.40/2.50	0.80	0.85	85.8	85.6	2860	7.50	850	350	370
MMG100L2-D1	1	3.00	5.90/3.40	0.77	0.84	85.8	86.7	2920	10.0	1050	420	630
MMG112M2-D1	1	4.00	7.50/4.30	0.80	0.86	89.3	89.9	2940	13.0	1060	430	450
MMG132SA2-D1	1	5.50	10.5/6.10	0.85	0.90	88.6	88.6	2900	18.0	760	280	330
MMG132SB2-D1	1	7.50	14.0/8.10	0.85	0.90	89.5	89.5	2900	24.6	790	300	350
MMG160MA2-D1	1	11.0	21.0/12.2	0.81	0.86	90.7	90.7	2930	36.0	730	240	310
MMG160MB2-D1	1	15.0	28.0/16.2	0.82	0.86	91.6	91.6	2930	49.0	760	250	310
MMG160L2-D1	1	18.5	34.5/20.0	0.82	0.86	91.8	92.0	2930	60.5	790	280	340
MMG180M2-D1	1	22.0	41.0/23.6	0.83	0.87	92.5	92.5	2930	71.5	770	250	320
MMG200LA2-D1/D1A	1	30.0	55.0/32.0	0.85	0.89	93.1	93.1	2945	97.5	780	210	280
MMG200LB2-D1/D1A	1	37.0	68.0/39.5	0.86	0.89	93.4	93.6	2950	120	760	220	280
MMG225M2-D1	1	45.0	82.0/47.5	0.85	0.88	94.1	94.2	2950	146	790	250	290
MMG250M2-D1	1	55.0	99.0/57.0	0.86	0.89	94.2	94.3	2955	178	770	240	300
MMG280S2-D1	1	75.0	132/76.0	0.86	0.90	94.4	94.9	2975	241	750	190	320
MMG280M2-D1	1	90.0	161/93.0	0.86	0.89	94.8	95.2	2975	289	750	190	320
MMG315S2-D	-	110	200/116	0.81	0.85	94.5	95.0	2980	353	770	220	330
MMG315M2-D	-	132	235/136	0.85	0.88	95.2	95.5	2980	423	680	240	260
MMG315LA2-D	-	160	280/162	0.86	0.90	95.7	95.9	2980	513	720	250	260
MMG315LB2-D	-	200	347/201	0.87	0.91	96.1	96.3	2980	641	780	270	270
		High voltage · 2-pole motors 60 Hz 380 V Δ/660 V Y										
MMG80B2-D1	1	1.10	2.50/1.40	0.75	0.82	82.6	82.3	3430	3.00	390	340	360
MMG90S2-D1	1	1.50	3.20/1.80	0.78	0.85	82.0	82.6	3430	4.00	680	340	400
MMG90L2-D1	1	2.20	4.40/2.50	0.88	0.91	84.3	84.1	3410	6.00	720	330	370
MMG100L2-D1	1	3.00	6.00/3.50	0.84	0.90	84.3	85.1	3480	8.00	880	390	630
MMG112M2-D1	1	4.00	7.60/4.40	0.88	0.92	87.8	88.3	3505	11.0	890	400	450
MMG132SA2-D1	1	5.50	10.4/6.0	0.92	0.93	88.2	87.6	3460	15.2	590	190	240
MMG132SB2-D1	1	7.50	14.0/8.10	0.92	0.93	89.4	88.9	3470	20.6	600	200	250
MMG160MA2-D1	1	11.0	21.0/12.1	0.89	0.90	90.2	89.9	3510	30.0	570	180	230
MMG160MB2-D1	1	15.0	28.0/16.2	0.90	0.91	91.2	90.9	3505	41.0	590	180	230
MMG160L2-D1	1	18.5	34.0/19.5	0.90	0.91	91.8	91.4	3510	50.5	610	210	250
MMG180M2-D1	1	22.0	40.5/23.5	0.90	0.91	92.1	91.8	3505	60.0	610	190	240
MMG200LA2-D1/D1A	1	30.0	55.0/32.0	0.90	0.91	93.0	92.8	3520	81.5	580	160	200
MMG200LB2-D1/D1A	1	37.0	67.0/38.5	0.90	0.91	93.4	93.2	3530	100	580	170	200
MMG225M2-D1	1	45.0	79.0/45.5	0.89	0.90	94.1	93.9	3530	122	580	180	210
MMG250M2-D1	1	55.0	100/58.0	0.90	0.90	93.4	93.7	3535	149	580	180	210
MMG280S2-D1	1	75.0	135/78.0	0.91	0.91	93.8	94.4	3570	201	580	150	240
MMG280M2-D1	1	90.0	159/92.0	0.91	0.91	94.4	94.9	3570	241	580	150	240
MMG315S2-D	-	110	192/111	0.91	0.91	94.9	95.4	3575	294	640	190	260
MMG315M2-D	-	132	234/135	0.92	0.91	94.3	94.8	3575	353	530	190	220
MMG315LA2-D	-	160	279/161	0.92	0.91	94.9	95.3	3575	427	580	190	220
MMG315LB2-D	-	200	344/199	0.92	0.92	95.5	95.9	3575	534	620	210	240

50 Hz data shown as 400 V Δ/ 690 V Y and 60 Hz data shown as 380 V Δ, 440 V Δ and 480 V Δ



Electrical data

MMG Model D 2-pole · high voltage · 60 Hz

MMG-D		High voltage · 2-pole motors 60 Hz 440 V Δ										
Short type designation	Efficiency class	Shaft power P ₂	Full load current I _N	Power factor Cos φ _p at % load		Efficiency η ₁ at % load		Speed n	Torque at 400 V M _N	LRC I _s /I _N	LRT M _s /M _N	BT M _{BT} /M _N
		[kW]	[A]	75 %	100 %	75 %	100 %	[min ⁻¹]	[Nm]	[%]	[%]	[%]
MMG80B2-D1	1	1.10	2.30	0.71	0.79	84.5	84.2	3460	3.00	510	410	430
MMG90S2-D1	1	1.50	2.90	0.74	0.82	83.9	84.5	3460	4.00	890	410	480
MMG90L2-D1	1	2.20	4.00	0.84	0.87	86.3	86.0	3440	6.00	940	400	440
MMG100L2-D1	1	3.00	5.30	0.81	0.86	86.3	87.1	3510	8.00	1160	480	750
MMG112M2-D1	1	4.00	6.80	0.84	0.88	89.8	90.3	3535	10.8	1170	490	530
MMG132SA2-D1	1	5.50	8.90	0.89	0.91	88.5	88.8	3500	15.0	820	280	340
MMG132SB2-D1	1	7.50	12.0	0.89	0.91	89.7	89.9	3510	20.4	840	300	350
MMG160MA2-D1	1	11.0	18.0	0.84	0.88	91.0	91.1	3535	29.8	770	250	320
MMG160MB2-D1	1	15.0	24.0	0.87	0.90	91.7	91.8	3530	40.6	800	250	320
MMG160L2-D1	1	18.5	29.5	0.86	0.89	91.9	92.2	3535	50.0	830	290	340
MMG180M2-D1	1	22.0	35.0	0.86	0.89	92.4	92.6	3530	59.6	810	260	330
MMG200LA2-D1/D1A	1	30.0	47.5	0.88	0.90	93.3	93.4	3545	81.0	790	220	280
MMG200LB2-D1/D1A	1	37.0	58.0	0.87	0.90	93.6	93.8	3550	99.6	790	240	280
MMG225M2-D1	1	45.0	70.0	0.89	0.90	94.4	94.6	3550	121	820	250	290
MMG250M2-D1	1	55.0	86.0	0.89	0.90	93.5	94.0	3555	148	810	240	300
MMG280S2-D1	1	75.0	115	0.89	0.90	93.5	94.4	3580	200	790	200	320
MMG280M2-D1	1	90.0	138	0.89	0.91	94.2	94.9	3580	240	790	210	320
MMG315S2-D	-	110	171	0.87	0.89	94.5	95.3	3580	293	820	250	340
MMG315M2-D	-	132	201	0.90	0.91	94.3	95.0	3580	352	750	240	280
MMG315LA2-D	-	160	241	0.90	0.91	94.8	95.5	3580	427	790	250	270
MMG315LB2-D	-	200	298	0.91	0.92	95.4	96.0	3580	533	820	270	290
		High voltage · 2-pole motors 60 Hz 480 V Δ										
MMG80B2-D1	1	1.10	2.20	0.66	0.75	84.1	84.2	3480	3.00	570	480	500
MMG90S2-D1	1	1.50	2.80	0.68	0.78	83.5	84.5	3480	4.00	1000	480	550
MMG90L2-D1	1	2.20	3.80	0.77	0.83	85.9	86.0	3460	6.00	1050	470	510
MMG100L2-D1	1	3.00	5.10	0.74	0.82	85.9	87.1	3530	8.00	1300	560	870
MMG112M2-D1	1	4.00	6.50	0.77	0.84	89.4	90.3	3555	10.8	1310	570	620
MMG132SA2-D1	1	5.50	8.50	0.83	0.88	88.2	89.0	3520	15.0	920	340	410
MMG132SB2-D1	1	7.50	11.5	0.84	0.88	89.4	90.0	3525	20.5	940	350	420
MMG160MA2-D1	1	11.0	17.5	0.77	0.83	90.3	91.1	3545	29.5	870	300	390
MMG160MB2-D1	1	15.0	23.5	0.77	0.83	91.0	91.8	3545	40.5	890	300	390
MMG160L2-D1	1	18.5	29.0	0.77	0.83	91.5	92.2	3545	50.0	920	350	410
MMG180M2-D1	1	22.0	34.0	0.78	0.84	91.9	92.6	3545	59.0	900	310	400
MMG200LA2-D1/D1A	1	30.0	45.0	0.80	0.87	92.3	93.4	3555	80.5	880	270	340
MMG200LB2-D1/D1A	1	37.0	56.0	0.79	0.86	92.4	93.5	3560	99.0	880	290	340
MMG225M2-D1	1	45.0	66.0	0.81	0.88	93.6	94.5	3560	121	910	300	350
MMG250M2-D1	1	55.0	80.0	0.85	0.88	93.2	94.0	3560	148	920	290	360
MMG280S2-D1	1	75.0	111	0.83	0.87	93.2	94.2	3580	200	920	240	360
MMG280M2-D1	1	90.0	131	0.84	0.88	93.8	94.8	3580	240	920	250	360
MMG315S2-D	-	110	169	0.77	0.83	94.1	95.0	3585	293	940	280	380
MMG315M2-D	-	132	188	0.86	0.89	94.1	95.0	3585	352	860	280	310
MMG315LA2-D	-	160	226	0.87	0.89	94.7	95.5	3585	426	890	320	340
MMG315LB2-D	-	200	281	0.87	0.89	95.2	95.9	3585	533	920	350	370

50 Hz data shown as 400 V Δ/ 690 V Y and 60 Hz data shown as 380 V Δ, 440 V Δ and 480 V Δ



MMG Model D 4-pole · low voltage · 50/60 Hz

MMG-D		Low voltage · 4-pole motors 50 Hz 230 V Δ/400 V Y										
Short type designation	Efficiency class	Shaft power P ₂	Full load current I _N	Power factor Cos φ at % load		Efficiency η at % load		Speed n	Torque at 400 V M _N	LRC I ₂ /I _N	LRT M ₂ /M _N	BT M _{Br} /M _N
		[kW]	[A]	75 %	100 %	75 %	100 %	[min ⁻¹]	[Nm]	[%]	[%]	[%]
MMG90S4-D1	1	1.10	4.30/2.50	0.66	0.76	83.8	83.8	1430	7.00	610	400	410
MMG90L4-D1	1	1.50	5.90/3.40	0.67	0.76	85.3	85.0	1430	10.0	640	390	400
MMG100LA4-D1	1	2.20	9.00/5.20	0.61	0.71	86.1	86.4	1450	14.6	600	320	340
MMG100LB4-D1	1	3.00	11.2/6.50	0.70	0.77	87.8	87.4	1440	20.0	630	340	360
MMG112M4-D1	1	4.00	14.7/8.50	0.68	0.77	88.6	88.3	1450	26.5	610	310	330
MMG132S4-D1	1	5.50	19.5/11.3	0.78	0.84	89.2	89.2	1450	36.0	740	300	330
MMG132M4-D1	1	7.50	26.0/15.0	0.78	0.84	90.1	90.1	1450	49.5	740	300	330
MMG160M4-D1	1	11.0	39.0/22.5	0.77	0.82	91.0	91.0	1460	72.0	690	230	290
MMG160L4-D1	1	15.0	51.0/29.5	0.79	0.84	91.7	91.8	1460	98.0	740	250	310
MMG180M4-D1	1	18.5	62.0/36.0	0.80	0.84	92.0	92.2	1460	121	750	280	310
MMG180L4-D1	1	22.0	74.0/42.5	0.81	0.85	92.5	92.6	1465	143	780	300	320
MMG200L4-D1/D1A	1	30.0	101/58.5	0.80	0.84	93.0	93.2	1465	196	700	240	260
MMG225S4-D1	1	37.0	122/70.5	0.80	0.84	93.4	93.6	1475	240	770	230	290
MMG225M4-D1	1	45.0	146/84.5	0.83	0.86	93.7	93.9	1475	291	770	230	290
MMG250M4-D1	1	55.0	185/107	0.79	0.82	94.0	94.2	1475	356	680	380	260
MMG280S4-D1	1	75.0	142/140	0.83	0.85	94.5	94.7	1485	482	680	220	270
MMG280M4-D1	1	90.0	291/168	0.83	0.85	94.8	95.0	1480	581	680	220	270
MMG315S4-D	-	110	360/208	0.83	0.85	95.0	95.1	1480	710	710	230	280
MMG315MA4-D	-	132	413/239	0.83	0.86	95.2	95.5	1485	849	730	210	280
MMG315MB4-D	-	160	498/288	0.84	0.88	95.5	95.7	1485	1029	730	210	280
MMG315L4-D	-	200	620/359	0.85	0.89	95.8	96.0	1485	1286	760	230	280
		Low voltage · 4-pole motors 60 Hz 220 V Δ/380 V Y										
MMG90S4-D1	1	1.10	4.50/2.60	0.81	0.80	81.2	81.0	1705	6.00	620	400	440
MMG90L4-D1	1	1.50	6.10/3.50	0.82	0.80	82.6	82.2	1705	8.50	650	390	430
MMG100LA4-D1	1	2.20	9.40/5.40	0.75	0.75	83.4	83.5	1730	12.2	610	320	360
MMG100LB4-D1	1	3.00	1.70/6.80	0.86	0.81	85.0	84.5	1720	17.0	640	340	390
MMG112M4-D1	1	4.00	15.3/8.80	0.83	0.81	85.8	85.3	1730	22.6	620	310	350
MMG132S4-D1	1	5.50	19.0/11.0	0.84	0.86	89.4	88.2	1730	30.5	600	220	240
MMG132M4-D1	1	7.50	26.0/15.0	0.84	0.86	90.0	88.6	1725	41.5	600	220	240
MMG160M4-D1	1	11.0	37.0/21.5	0.86	0.86	91.6	89.8	1745	60.0	560	170	220
MMG160L4-D1	1	15.0	50.0/29.0	0.86	0.86	92.3	90.9	1745	82.0	570	180	230
MMG180M4-D1	1	18.5	61.5/35.5	0.86	0.86	92.5	91.2	1745	101	570	200	220
MMG180L4-D1	1	22.0	72.5/42.0	0.86	0.87	93.0	92.0	1750	120	610	220	230
MMG200L4-D1/D1A	1	30.0	100/58.0	0.86	0.86	93.4	92.5	1755	163	540	190	200
MMG225S4-D1	1	37.0	119/69.0	0.86	0.87	93.7	93.6	1765	200	590	170	210
MMG225M4-D1	1	45.0	147/85.0	0.87	0.86	94.0	93.7	1765	243	590	170	210
MMG250M4-D1	1	55.0	183/106	0.84	0.84	94.3	94.0	1765	298	540	270	180
MMG280S4-D1	1	75.0	242/140	0.86	0.87	94.5	94.5	1775	404	530	170	200
MMG280M4-D1	1	90.0	291/168	0.86	0.87	94.9	94.7	1775	484	530	170	200
MMG315S4-D	-	110	355/205	0.86	0.87	95.0	94.8	1775	592	550	170	200
MMG315MA4-D	-	132	417/241	0.88	0.88	94.8	95.0	1780	708	560	150	200
MMG315MB4-D	-	160	502/290	0.88	0.88	95.3	95.5	1780	858	560	150	200
MMG315L4-D	-	200	629/364	0.88	0.88	95.6	95.6	1780	1073	570	160	200

50 Hz data shown as 230 V Δ/ 400 V Y and 60 Hz data shown as 220 V Δ/ 380 V Y, 255 V Δ/ 440 V Y and 277 V Δ/ 480 V Y



Electrical data

MMG Model D 4-pole · low voltage · 60 Hz

MMG-D		Low voltage · 4-pole motors 60 Hz 255 V Δ/440 V Y										
Short type designation	Efficiency class	Shaft power P ₂	Full load current I _N	Power factor Cos φ _p at % load		Efficiency η ₁ at % load		Speed n	Torque at 400 V M _N	LRC I _s /I _N	LRT M _s /M _N	BT M _{BT} /M _N
		[kW]	[A]	75 %	100 %	75 %	100 %	[min ⁻¹]	[Nm]	[%]	[%]	[%]
MMG90S4-D1	1	1.10	4.20/2.40	0.79	0.78	83.4	83.1	1720	6.00	750	470	510
MMG90L4-D1	1	1.50	5.70/3.30	0.80	0.78	84.9	84.3	1720	8.50	790	460	500
MMG100LA4-D1	1	2.20	8.60/5.00	0.73	0.73	85.6	85.7	1755	12.2	740	380	420
MMG100LB4-D1	1	3.00	10.8/6.20	0.84	0.79	87.3	86.7	1730	16.8	770	400	450
MMG112M4-D1	1	4.00	14.1/8.20	0.81	0.79	88.1	87.6	1745	22.2	750	360	410
MMG132S4-D1	1	5.50	16.8/9.70	0.78	0.83	89.7	89.6	1750	30.0	800	310	340
MMG132M4-D1	1	7.50	22.5/13.0	0.79	0.84	90.5	90.2	1750	41.0	800	310	340
MMG160M4-D1	1	11.0	32.0/18.5	0.80	0.84	91.8	91.5	1765	59.5	770	230	300
MMG160L4-D1	1	15.0	43.5/25.0	0.82	0.85	92.9	92.4	1765	81.0	790	250	310
MMG180M4-D1	1	18.5	53.5/31.0	0.82	0.85	93.0	92.6	1760	100	810	290	310
MMG180L4-D1	1	22.0	63.0/36.5	0.83	0.86	93.4	93.1	1765	119	830	310	330
MMG200L4-D1/D1A	1	30.0	87.0/50.0	0.82	0.85	93.7	93.5	1765	162	730	250	260
MMG225S4-D1	1	37.0	105/61.0	0.82	0.85	94.0	94.2	1775	199	810	230	290
MMG225M4-D1	1	45.0	125/72.0	0.85	0.87	94.2	94.4	1775	242	810	230	290
MMG250M4-D1	1	55.0	159/92.0	0.80	0.83	94.3	94.6	1775	296	740	390	270
MMG280S4-D1	1	75.0	211/122	0.83	0.86	94.5	94.9	1780	402	730	230	270
MMG280M4-D1	1	90.0	253/146	0.83	0.86	94.9	95.2	1780	482	720	230	270
MMG315S4-D	-	110	308/178	0.82	0.85	95.0	95.2	1780	590	750	240	280
MMG315MA4-D	-	132	362/209	0.85	0.87	94.8	95.3	1785	706	760	210	280
MMG315MB4-D	-	160	438/253	0.84	0.87	95.2	95.6	1785	856	760	210	280
MMG315L4-D	-	200	540/312	0.86	0.88	95.5	95.8	1785	1070	790	230	280
		Low voltage · 4-pole motors 60 Hz 277 V Δ/480 V Y										
MMG90S4-D1	1	1.10	3.80/2.20	0.76	0.75	83.3	83.0	1730	6.00	840	520	560
MMG90L4-D1	1	1.50	5.20/3.30	0.77	0.75	84.8	84.2	1730	8.50	880	510	550
MMG100LA4-D1	1	2.20	7.90/4.60	0.70	0.70	85.5	85.6	1755	12.0	830	420	460
MMG100LB4-D1	1	3.00	9.90/5.70	0.81	0.76	87.2	86.6	1740	16.6	870	440	490
MMG112M4-D1	1	4.00	13.0/7.50	0.78	0.76	88.0	87.5	1755	22.0	840	400	450
MMG132S4-D1	1	5.50	16.1/9.30	0.73	0.79	89.5	89.9	1760	30.0	930	370	420
MMG132M4-D1	1	7.50	12.5/21.5	0.74	0.80	90.3	90.5	1760	40.5	930	380	420
MMG160M4-D1	1	11.0	32.0/18.5	0.71	0.78	91.8	91.7	1770	59.5	850	280	370
MMG160L4-D1	1	15.0	41.5/24.0	0.74	0.80	92.6	92.6	1770	81.0	900	310	390
MMG180M4-D1	1	18.5	51.0/29.5	0.75	0.81	92.9	92.8	1770	100	920	350	380
MMG180L4-D1	1	22.0	60.5/35.0	0.76	0.82	93.2	93.3	1770	119	960	370	400
MMG200L4-D1/D1A	1	30.0	82.0/47.5	0.76	0.81	93.5	93.7	1775	162	830	290	320
MMG225S4-D1	1	37.0	100/58.0	0.76	0.81	93.9	94.2	1780	199	920	280	360
MMG225M4-D1	1	45.0	118/68.0	0.81	0.85	94.0	94.5	1780	241	910	280	360
MMG250M4-D1	1	55.0	151/87.0	0.76	0.81	94.2	94.7	1780	295	870	460	330
MMG280S4-D1	1	75.0	201/117	0.77	0.82	94.3	94.9	1785	401	840	280	330
MMG280M4-D1	1	90.0	239/138	0.77	0.82	94.8	95.2	1785	481	840	280	330
MMG315S4-D	-	110	294/170	0.77	0.82	94.8	95.2	1785	588	880	290	340
MMG315MA4-D	-	132	346/200	0.79	0.84	94.7	95.3	1790	705	890	260	340
MMG315MB4-D	-	160	426/246	0.77	0.82	94.9	95.5	1790	854	890	260	340
MMG315L4-D	-	200	510/295	0.81	0.85	95.3	95.8	1790	1067	920	290	340

50 Hz data shown as 230 V Δ/ 400 V Y and 60 Hz data shown as 220 V Δ/ 380 V Y, 255 V Δ/ 440 V Y and 277 V Δ/ 480 V Y



MMG Model D 4-pole · high voltage · 50/60 Hz

MMG-D		High voltage · 4-pole motors 60 Hz 400 V Δ/690 V Y										
Short type designation	Efficiency class	Shaft power P ₂	Full load current I _N	Power factor Cos φ at % load		Efficiency η ₁ at % load		Speed n	Torque at 400 V M _N	LRC I _s /I _N	LRT M _s /M _N	BT M _{BT} /M _N
		[kW]	[A]	75 %	100 %	75 %	100 %	[min ⁻¹]	[Nm]	[%]	[%]	[%]
MMG90S4-D1	1	1.10	2.50/1.40	0.66	0.76	83.8	83.8	1430	7.50	610	400	410
MMG90L4-D1	1	1.50	3.40/2.00	0.67	0.76	85.3	85.0	1430	10.0	640	390	400
MMG100LA4-D1	1	2.20	5.20/3.00	0.61	0.71	86.1	86.4	1450	14.6	600	320	340
MMG100LB4-D1	1	3.00	6.50/3.80	0.70	0.77	87.8	87.4	1440	20.0	630	340	360
MMG112M4-D1	1	4.00	8.50/4.90	0.68	0.77	88.6	88.3	1450	26.5	610	310	330
MMG132S4-D1	1	5.50	11.3/6.50	0.78	0.84	89.2	89.2	1450	36.0	740	300	330
MMG132M4-D1	1	7.50	15.0/8.70	0.78	0.84	90.1	90.1	1450	49.5	740	300	330
MMG160M4-D1	1	11.0	22.5/13.0	0.77	0.82	91.0	91.0	1460	72.0	690	230	290
MMG160L4-D1	1	15.0	29.5/17.0	0.79	0.84	91.7	91.8	1460	98.0	740	250	310
MMG180M4-D1	1	18.5	36.0/21.0	0.80	0.84	92.0	92.2	1460	121	750	280	310
MMG180L4-D1	1	22.0	42.5/24.5	0.81	0.85	92.5	92.6	1465	143	780	300	320
MMG200L4-D1/D1A	1	30.0	58.5/34.0	0.80	0.84	93.0	93.2	1465	196	700	240	260
MMG225S4-D1	1	37.0	70.5/41.0	0.80	0.84	93.4	93.6	1475	240	770	230	290
MMG225M4-D1	1	45.0	84.5/49.0	0.83	0.86	93.7	93.9	1475	291	770	230	290
MMG250M4-D1	1	55.0	107/62.0	0.79	0.82	94.0	94.2	1475	356	680	380	260
MMG280S4-D1	1	75.0	140/81.0	0.83	0.85	94.5	94.7	1485	482	680	220	270
MMG280M4-D1	1	90.0	168/97.0	0.83	0.85	94.8	95.0	1480	581	680	220	270
MMG315S4-D	-	110	208/120	0.83	0.85	95.0	95.1	1480	710	710	230	280
MMG315MA4-D	-	132	239/138	0.83	0.86	95.2	95.5	1485	849	730	210	280
MMG315MB4-D	-	160	288/166	0.84	0.88	95.5	95.7	1485	1029	730	210	280
MMG315L4-D	-	200	359/208	0.85	0.89	95.8	96.0	1485	1286	760	230	280
		High voltage · 4-pole motors 60 Hz 380 V Δ/660 V Y										
MMG90S4-D1	1	1.10	2.60/1.50	0.81	0.80	81.2	81.0	1705	6.00	620	400	440
MMG90L4-D1	1	1.50	3.50/2.00	0.82	0.80	82.6	82.2	1705	8.50	650	390	430
MMG100LA4-D1	1	2.20	5.40/3.10	0.75	0.75	83.4	83.5	1730	12.2	610	320	360
MMG100LB4-D1	1	3.00	6.80/3.90	0.86	0.81	85.0	84.5	1720	17.0	640	340	390
MMG112M4-D1	1	4.00	8.80/5.10	0.83	0.81	85.8	85.3	1730	22.6	620	310	350
MMG132S4-D1	1	5.50	11/06.40	0.84	0.86	89.4	88.2	1730	30.5	600	220	240
MMG132M4-D1	1	7.50	15.0/8.70	0.84	0.86	90.0	88.6	1725	41.5	600	220	240
MMG160M4-D1	1	11.0	21.5/12.5	0.86	0.86	91.6	89.8	1745	60.0	560	170	220
MMG160L4-D1	1	15.0	29.0/16.8	0.86	0.86	92.3	90.9	1745	82.0	570	180	230
MMG180M4-D1	1	18.5	35.5/20.5	0.86	0.86	92.5	91.2	1745	101	570	200	220
MMG180L4-D1	1	22.0	42.0/24.5	0.86	0.87	93.0	92.0	1750	120	610	220	230
MMG200L4-D1/D1A	1	30.0	58.0/33.5	0.86	0.86	93.4	92.5	1755	163	540	190	200
MMG225S4-D1	1	37.0	69.0/40.0	0.86	0.87	94.1	93.6	1765	200	590	170	210
MMG225M4-D1	1	45.0	85.0/49.0	0.87	0.86	94.3	93.7	1765	243	590	170	210
MMG250M4-D1	1	55.0	106/61.0	0.84	0.84	94.7	94.0	1765	298	540	270	180
MMG280S4-D1	1	75.0	140/81.0	0.86	0.87	94.5	94.5	1775	404	530	170	200
MMG280M4-D1	1	90.0	168/97.0	0.86	0.87	94.9	94.7	1775	484	530	170	200
MMG315S4-D	-	110	205/118	0.86	0.87	95.0	94.8	1775	592	550	170	200
MMG315MA4-D	-	132	241/139	0.88	0.88	94.8	95.0	1780	708	560	150	200
MMG315MB4-D	-	160	290/168	0.88	0.88	95.3	95.5	1780	858	560	150	200
MMG315L4-D	-	200	364/210	0.88	0.88	95.6	95.6	1780	1073	570	160	200

50 Hz data shown as 400 V Δ/ 690 V Y and 60 Hz data shown as 380 V Δ, 440 V Δ and 480 V Δ



Electrical data

MMG Model D 4-pole · high voltage · 60 Hz

MMG-D		High voltage · 4-pole motors 60 Hz 440 V Δ										
Short type designation	Efficiency class	Shaft power P ₂	Full load current I _N	Power factor Cos φ _p at % load		Efficiency η ₁ at % load		Speed n	Torque at 400 V M _N	LRC I _s /I _N	LRT M _s /M _N	BT M _{BT} /M _N
		[kW]	[A]	75 %	100 %	75 %	100 %	[min ⁻¹]	[Nm]	[%]	[%]	[%]
MMG90S4-D1	1	1.10	2.40	0.79	0.78	83.4	83.1	1720	6.00	750	470	510
MMG90L4-D1	1	1.50	3.30	0.80	0.78	84.9	84.3	1720	8.50	790	460	500
MMG100LA4-D1	1	2.20	5.00	0.73	0.73	85.6	85.7	1755	12.2	740	380	420
MMG100LB4-D1	1	3.00	6.20	0.84	0.79	87.3	86.7	1730	16.8	770	400	450
MMG112M4-D1	1	4.00	8.20	0.81	0.79	88.1	87.6	1745	22.2	750	360	410
MMG132S4-D1	1	5.50	9.70	0.78	0.83	89.7	89.6	1750	30.0	800	310	340
MMG132M4-D1	1	7.50	13.0	0.79	0.84	90.5	90.2	1750	41.0	800	310	340
MMG160M4-D1	1	11.0	18.5	0.80	0.84	91.8	91.5	1765	59.5	770	230	300
MMG160L4-D1	1	15.0	25.0	0.82	0.85	92.9	92.4	1765	81.0	790	250	310
MMG180M4-D1	1	18.5	31.0	0.82	0.85	93.0	92.6	1760	100	810	290	310
MMG180L4-D1	1	22.0	36.5	0.83	0.86	93.4	93.1	1765	119	830	310	330
MMG200L4-D1/D1A	1	30.0	50.0	0.82	0.85	93.7	93.5	1765	162	730	250	260
MMG225S4-D1	1	37.0	61.0	0.82	0.85	94.2	94.2	1775	199	810	230	290
MMG225M4-D1	1	45.0	72.0	0.85	0.87	94.5	94.4	1775	242	810	230	290
MMG250M4-D1	1	55.0	92.0	0.80	0.83	94.9	94.8	1775	296	740	390	270
MMG280S4-D1	1	75.0	122	0.83	0.86	94.5	94.9	1780	402	730	230	270
MMG280M4-D1	1	90.0	146	0.83	0.86	94.9	95.2	1780	482	720	230	270
MMG315S4-D	-	110	178	0.82	0.85	95.0	95.2	1780	590	750	240	280
MMG315MA4-D	-	132	209	0.85	0.87	94.8	95.3	1785	706	760	210	280
MMG315MB4-D	-	160	253	0.84	0.87	95.2	95.6	1785	856	760	210	280
MMG315L4-D	-	200	312	0.86	0.88	95.5	95.8	1785	1070	790	230	280
		High voltage · 4-pole motors 60 Hz 690 V Δ										
MMG90S4-D1	1	1.10	2.20	0.76	0.75	83.3	83.0	1730	6.00	840	520	560
MMG90L4-D1	1	1.50	3.00	0.77	0.75	84.8	84.2	1730	8.50	880	510	550
MMG100LA4-D1	1	2.20	4.60	0.70	0.70	85.5	85.6	1755	12.0	830	420	460
MMG100LB4-D1	1	3.00	5.70	0.81	0.76	87.2	86.6	1740	16.6	870	440	490
MMG112M4-D1	1	4.00	7.50	0.78	0.76	88.0	87.5	1755	22.0	840	400	450
MMG132S4-D1	1	5.50	9.30	0.73	0.79	89.5	89.9	1760	30.0	930	370	420
MMG132M4-D1	1	7.50	21.5	0.74	0.80	90.3	90.5	1760	40.5	930	380	420
MMG160M4-D1	1	11.0	18.5	0.71	0.78	91.8	91.7	1770	59.5	850	280	370
MMG160L4-D1	1	15.0	24.0	0.74	0.80	92.6	92.6	1770	81.0	900	310	390
MMG180M4-D1	1	18.5	29.5	0.75	0.81	92.9	92.8	1770	100	920	350	380
MMG180L4-D1	1	22.0	35.0	0.76	0.82	93.2	93.3	1770	119	960	370	400
MMG200L4-D1/D1A	1	30.0	47.5	0.76	0.81	93.5	93.7	1775	162	830	290	320
MMG225S4-D1	1	37.0	58.0	0.76	0.81	93.9	94.2	1780	199	920	280	360
MMG225M4-D1	1	45.0	68.0	0.81	0.85	94.4	94.6	1780	241	910	280	360
MMG250M4-D1	1	55.0	87.0	0.76	0.81	94.8	95.0	1780	295	870	460	330
MMG280S4-D1	1	75.0	117	0.77	0.82	94.3	94.9	1785	401	840	280	330
MMG280M4-D1	1	90.0	138	0.77	0.82	94.8	95.2	1785	481	840	280	330
MMG315S4-D	-	110	170	0.77	0.82	94.8	95.2	1785	588	880	290	340
MMG315MA4-D	-	132	200	0.79	0.84	94.7	95.3	1790	705	890	260	340
MMG315MB4-D	-	160	246	0.77	0.82	94.9	95.5	1790	854	890	260	340
MMG315L4-D	-	200	295	0.81	0.85	95.3	95.8	1790	1067	920	290	340

50 Hz data shown as 400 V Δ / 690 V Y and 60 Hz data shown as 380 V Δ, 440 V Δ and 480 V Δ



MMG Model D 6-pole · low voltage · 50/60 Hz

MMG-D												
Low voltage · 6-pole motors 50 Hz 230 V Δ/400 V Y												
Short type designation	Efficiency class	Shaft power P ₂	Full load current I _N	Power factor Cos φ _p at % load		Efficiency η ₁ at % load		Speed n	Torque at 400 V M _N	LRC I _s /I _N	LRT M _s /M _N	BT M _{BT} /M _N
		[kW]	[A]	75 %	100 %	75 %	100 %	[min ⁻¹]	[Nm]	[%]	[%]	[%]
MMG71A6-D	-	0.18	1.30/0.75	0.48	0.60	47.0	51.0	880	2.00	220	160	160
MMG71B6-D	-	0.25	1.90/1.10	0.56	0.65	50.0	54.0	870	3.00	250	170	170
MMG80A6-D	-	0.37	2.20/1.30	0.65	0.72	58.0	60.0	910	4.00	270	160	210
MMG80B6-D	-	0.55	3.10/1.80	0.58	0.67	64.0	68.0	910	6.00	290	220	210
MMG90S6-D	-	0.75	4.30/2.50	0.55	0.63	69.0	69.0	910	8.00	290	170	170
MMG90L6-D	-	1.10	6.20/3.60	0.56	0.63	73.0	72.0	908	11.6	300	170	170
MMG100L6-D	-	1.50	7.60/4.40	0.65	0.71	75.0	75.0	930	15.4	370	180	230
MMG112M6-D	-	2.20	9.40/5.40	0.64	0.72	83.0	82.0	940	22.4	440	240	260
MMG132SA6-D	-	3.00	12.3/7.10	0.67	0.75	81.6	83.7	955	30.0	580	210	270
MMG132MA6-D	-	4.00	15.9/9.20	0.68	0.76	83.2	84.9	955	40.0	620	230	280
MMG132MB6-D	-	5.50	21.5/12.5	0.69	0.77	83.8	85.2	955	55.0	620	230	280
MMG160M6-D	-	7.50	27.5/15.9	0.76	0.82	86.8	87.7	965	74.0	590	190	250
Low voltage · 6-pole motors 60 Hz 220 V Δ/380 V Y												
MMG71A6-D	-	0.18	1.50/0.85	0.48	0.60	47.0	51.0	1050	1.60	180	150	140
MMG71B6-D	-	0.25	1.90/1.10	0.56	0.65	50.0	54.0	1020	2.40	200	150	150
MMG80A6-D	-	0.37	2.20/1.30	0.65	0.72	58.0	60.0	1090	3.00	220	130	130
MMG80B6-D	-	0.55	3.10/1.80	0.58	0.67	64.0	68.0	1090	5.00	230	150	140
MMG90S6-D	-	0.75	4.20/2.40	0.55	0.63	72.0	69.0	1090	6.50	230	120	130
MMG90L6-D	-	1.10	5.70/3.30	0.56	0.63	75.0	73.0	1090	9.50	240	150	170
MMG100L6-D	-	1.50	7.20/4.20	0.65	0.71	76.0	75.0	1110	13.0	300	130	160
MMG112M6-D	-	2.20	9.40/5.40	0.64	0.72	83.0	82.0	1120	18.8	350	130	160
MMG132SA6-D	-	3.00	11.8/6.80	0.76	0.81	85.3	83.5	1135	25.0	470	150	190
MMG132MA6-D	-	4.00	15.4/8.90	0.77	0.81	86.1	84.4	1135	33.5	500	170	200
MMG132MB6-D	-	5.50	21.0/12.1	0.78	0.82	86.4	84.4	1135	46.5	500	170	200
MMG160M6-D	-	7.50	27.0/15.7	0.83	0.85	88.2	86.0	1150	62.5	480	140	180
Low voltage · 6-pole motors 60 Hz 255 V Δ/440 V Y												
MMG71A6-D	-	0.18	1.30/0.73	0.47	0.60	50.8	54.0	1060	1.60	210	170	160
MMG71B6-D	-	0.25	1.70/1.00	0.55	0.65	50.0	53.0	1030	2.20	230	170	170
MMG80A6-D	-	0.37	1.90/1.10	0.64	0.72	58.3	62.0	1100	3.00	250	140	150
MMG80B6-D	-	0.55	2.80/1.60	0.57	0.67	62.1	66.0	1100	5.00	270	170	160
MMG90S6-D	-	0.75	3.60/2.10	0.54	0.62	72.0	73.0	1100	6.50	270	140	140
MMG90L6-D	-	1.10	4.90/2.80	0.55	0.65	76.0	76.0	1100	9.50	280	170	190
MMG100L6-D	-	1.50	6.20/3.60	0.64	0.70	78.0	78.0	1120	12.8	340	140	170
MMG112M6-D	-	2.20	8.30/4.80	0.63	0.72	79.0	84.0	1130	18.6	400	140	170
MMG132SA6-D	-	3.00	10.5/6.20	0.69	0.75	85.2	85.4	1155	24.8	630	210	270
MMG132MA6-D	-	4.00	14.0/8.10	0.71	0.76	86.0	86.3	1155	33.0	670	230	280
MMG132MB6-D	-	5.50	18.8/10.9	0.72	0.77	86.5	86.5	1155	45.5	670	230	280
MMG160M6-D	-	7.50	23.5/13.5	0.79	0.83	88.1	88.4	1165	61.5	640	190	250
Low voltage · 6-pole motors 60 Hz 277 V Δ/480 V Y												
MMG71A6-D	-	0.18	1.20/0.72	0.46	0.56	48.0	50.0	1065	1.60	220	190	170
MMG71B6-D	-	0.25	1.60/0.94	0.54	0.61	51.0	53.5	1035	2.40	250	180	180
MMG80A6-D	-	0.37	1.90/1.10	0.63	0.68	58.0	58.2	1105	3.00	270	150	160
MMG80B6-D	-	0.55	2.60/1.50	0.55	0.63	66.5	67.1	1105	4.80	290	180	170
MMG90S6-D	-	0.75	3.60/2.10	0.53	0.59	70.0	72.0	1105	6.50	290	150	150
MMG90L6-D	-	1.10	4.70/2.70	0.53	0.59	75.0	74.0	1105	9.50	300	180	210
MMG100L6-D	-	1.50	6.00/3.50	0.58	0.67	76.0	77.5	1125	12.8	370	150	190
MMG112M6-D	-	2.20	8.00/4.60	0.56	0.68	80.5	81.0	1135	18.6	440	140	180
MMG132SA6-D	-	3.00	10.7/6.20	0.59	0.69	84.5	85.3	1165	24.6	700	260	330
MMG132MA6-D	-	4.00	13.8/8.00	0.61	0.70	85.7	86.4	1165	33.0	750	290	350
MMG132MB6-D	-	5.50	18.9/10.9	0.62	0.71	86.2	86.6	1165	45.0	750	290	350
MMG160M6-D	-	7.50	22.5/13.0	0.71	0.79	88.7	88.8	1175	61.0	710	240	310

50 Hz data shown as 230 V Δ/ 400 V Y and 60 Hz data shown as 220 V Δ/ 380 V Y, 255 V Δ/ 440 V Y and 277 V Δ/ 480 V Y

Electrical data

MMG Model D 6-pole · high voltage · 50/60 Hz

MMG-D		High voltage · 6-pole motors 50 Hz 400 V Δ/690 V Y										
Short type designation	Efficiency class	Shaft power P ₂	Full load current I _N	Power factor Cos φ _p at % load		Efficiency η ₁ at % load		Speed n	Torque at 400 V M _N	LRC I _s /I _N	LRT M _s /M _N	BT M _{BT} /M _N
		[kW]	[A]	75 %	100 %	75 %	100 %	[min ⁻¹]	[Nm]	[%]	[%]	[%]
MMG100L6-D	-	1.50	4.40/2.55	0.65	0.71	75.0	75.0	930	15.0	370	180	230
MMG112M6-D	-	2.20	5.40/3.10	0.64	0.72	83.0	82.0	940	22.0	440	240	260
MMG132SA6-D	-	3.00	7.10/4.10	0.67	0.75	81.6	83.7	955	30.0	580	210	270
MMG132MA6-D	-	4.00	9.20/5.30	0.68	0.76	83.2	84.9	955	40.0	620	230	280
MMG132MB6-D	-	5.50	12.5/7.20	0.69	0.77	83.8	85.2	955	55.0	620	230	280
MMG160M6-D	-	7.50	15.9/9.20	0.76	0.82	86.8	87.7	965	74.0	590	190	250
MMG160L6-D	-	11.0	22.5/13.0	0.76	0.82	88.6	89.0	965	109	610	200	260
MMG180L6-D	-	15.0	30.0/17.5	0.80	0.83	90.5	90.8	970	148	670	220	280
MMG200LA6-D	-	18.5	37.0/21.5	0.79	0.82	89.3	90.4	970	182	530	220	230
MMG200LB6-D	-	22.0	44.0/25.5	0.79	0.82	89.9	91.0	975	215	570	220	230
MMG225M6-D	-	30.0	58.0/33.5	0.80	0.83	90.7	91.7	975	294	570	230	230
MMG250M6-D	-	37.0	71.0/41.0	0.81	0.84	90.8	91.9	975	362	710	320	260
MMG280S6-D	-	45.0	87.0/50.0	0.83	0.86	91.4	92.5	985	436	560	180	240
MMG280M6-D	-	55.0	106/61.0	0.83	0.86	91.5	92.7	985	533	560	180	240
MMG315S6-D	-	75.0	139/80.0	0.84	0.87	93.2	94.0	985	727	680	190	260
MMG315MA6-D	-	90.0	167/97.0	0.84	0.87	94.2	94.8	988	870	760	250	260
MMG315MB6-D	-	110	202/117	0.84	0.87	94.5	95.0	987	1064	740	250	260
MMG315L6-D	-	132	241/139	0.85	0.88	95.0	95.3	987	1277	770	270	250
		High voltage · 6-pole motors 60 Hz 380 V Δ/660 V Y										
MMG100L6-D	-	1.50	4.20/2.40	0.65	0.71	76.0	75.0	1110	13.0	300	130	160
MMG112M6-D	-	2.20	5.40/3.10	0.64	0.72	83.0	82.0	1120	18.8	350	130	160
MMG132SA6-D	-	3.00	6.80/3.90	0.76	0.81	85.3	83.5	1135	25.0	470	150	190
MMG132MA6-D	-	4.00	8.90/5.10	0.77	0.81	86.1	84.4	1135	34.0	500	170	200
MMG132MB6-D	-	5.50	12.1/7.00	0.78	0.82	86.4	84.4	1135	46.0	500	170	200
MMG160M6-D	-	7.50	15.7/9.10	0.83	0.85	88.2	86.0	1150	62.0	480	140	180
MMG160L6-D	-	11.0	22.5/13.0	0.84	0.85	89.1	87.2	1150	91.0	490	140	190
MMG180L6-D	-	15.0	30.0/17.5	0.85	0.86	90.9	89.2	1160	124	540	160	200
MMG200LA6-D	-	18.5	37.5/21.5	0.84	0.84	90.6	89.6	1160	152	430	160	170
MMG200LB6-D	-	22.0	43.5/25.0	0.85	0.85	91.0	90.3	1165	180	460	160	170
MMG225M6-D	-	30.0	59.0/34.0	0.85	0.85	91.8	91.0	1165	246	460	170	170
MMG250M6-D	-	37.0	72.0/41.5	0.86	0.86	92.2	91.5	1165	303	580	230	190
MMG280S6-D	-	45.0	85.0/49.0	0.88	0.88	92.8	92.5	1175	366	450	130	170
MMG280M6-D	-	55.0	103/60.0	0.88	0.88	93.4	93.1	1175	447	450	130	170
MMG315S6-D	-	75.0	140/81.0	0.87	0.85	93.6	93.3	1180	607	550	140	190
MMG315MA6-D	-	90.0	175/101	0.87	0.84	94.3	93.7	1180	729	620	180	190
MMG315MB6-D	-	110	210/121	0.87	0.84	94.8	94.4	1180	890	600	180	190
MMG315L6-D	-	132	255/147	0.88	0.83	95.0	94.5	1180	1068	620	190	180

50 Hz data shown as 400 V Δ/ 690 V Y and 60 Hz data shown as 380 V Δ, 440 V Δ and 480 V Δ



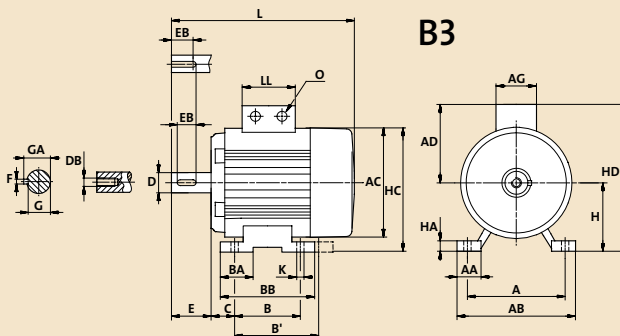
MMG Model D 6-pole · high voltage · 50/60 Hz

MMG-D		High voltage · 6-pole motors 60 Hz 440 V Δ										
Short type designation	Efficiency class	Shaft power P ₂	Full load current I _N	Power factor Cos φ at % load		Efficiency η at % load		Speed n	Torque at 400 V M _N	LRC I _s /I _N	LRT M _s /M _N	BT M _{Br} /M _N
		[kW]	[A]	75 %	100 %	75 %	100 %	[min ⁻¹]	[Nm]	[%]	[%]	[%]
MMG100L6-D	-	1.50	3.60	0.64	0.70	78.0	78.0	1120	12.8	340	140	170
MMG112M6-D	-	2.20	4.80	0.63	0.72	79.0	84.0	1130	18.6	400	140	170
MMG132SA6-D	-	3.00	6.20	0.69	0.75	85.2	85.4	1155	24.8	630	210	270
MMG132MA6-D	-	4.00	8.10	0.71	0.76	86.0	86.3	1155	33.0	670	230	280
MMG132MB6-D	-	5.50	10.9	0.72	0.77	86.5	86.5	1155	45.5	670	230	280
MMG160M6-D	-	7.50	13.5	0.79	0.83	88.1	88.4	1165	61.5	640	190	250
MMG160L6-D	-	11.0	19.5	0.80	0.84	89.3	89.3	1170	90.0	660	200	260
MMG180L6-D	-	15.0	26.0	0.81	0.85	90.7	91.0	1170	122	720	220	280
MMG200LA6-D	-	18.5	32.0	0.81	0.84	90.9	91.0	1170	151	570	220	230
MMG200LB6-D	-	22.0	37.5	0.81	0.84	91.0	91.3	1175	179	620	220	230
MMG225M6-D	-	30.0	51.0	0.82	0.85	91.8	92.1	1175	244	620	230	230
MMG250M6-D	-	37.0	62.0	0.83	0.86	92.1	92.4	1180	300	770	320	260
MMG280S6-D	-	45.0	73.0	0.85	0.87	92.8	93.1	1185	363	600	180	240
MMG280M6-D	-	55.0	89.0	0.85	0.87	93.5	93.7	1185	443	600	180	240
MMG315S6-D	-	75.0	120	0.86	0.87	94.0	94.2	1185	605	730	190	260
MMG315MA6-D	-	90.0	145	0.87	0.87	94.5	94.6	1180	729	820	250	260
MMG315MB6-D	-	110	175	0.87	0.87	94.9	95.1	1185	887	800	250	260
MMG315L6-D	-	132	210	0.87	0.88	95.1	95.2	1185	1064	830	270	250
		High voltage · 6-pole motors 60 Hz 480 V Δ										
MMG100L6-D	-	1.50	3.50/2.40	0.58	0.67	76.0	77.5	1125	12.8	370	150	190
MMG112M6-D	-	2.20	4.60/3.10	0.56	0.68	80.5	81.0	1135	18.6	440	140	180
MMG132SA6-D	-	3.00	6.20/3.90	0.59	0.69	84.5	85.3	1165	24.6	700	260	330
MMG132MA6-D	-	4.00	8.00/5.10	0.61	0.70	85.7	86.4	1165	33.0	750	290	350
MMG132MB6-D	-	5.50	10.9/7.00	0.62	0.71	86.2	86.6	1165	45.0	750	290	350
MMG160M6-D	-	7.50	13.0/9.10	0.71	0.79	88.7	88.8	1175	61.0	710	240	310
MMG160L6-D	-	11.0	18.5/13.0	0.74	0.80	89.8	89.8	1175	89.5	740	250	320
MMG180L6-D	-	15.0	24.5/17.5	0.75	0.81	91.4	91.4	1175	122	810	270	350
MMG200LA6-D	-	18.5	31.0/21.5	0.74	0.80	90.6	91.1	1175	150	640	270	290
MMG200LB6-D	-	22.0	36.5/25.0	0.74	0.80	90.7	91.3	1180	178	690	270	290
MMG225M6-D	-	30.0	49.0/34.0	0.75	0.81	91.6	92.1	1180	243	690	290	290
MMG250M6-D	-	37.0	60.0/41.5	0.76	0.81	91.8	92.3	1180	300	860	400	320
MMG280S6-D	-	45.0	72.0/49.0	0.76	0.82	92.4	93.1	1185	363	680	220	300
MMG280M6-D	-	55.0	85.0/60.0	0.78	0.83	93.1	93.7	1185	443	680	220	300
MMG315S6-D	-	75.0	112/81.0	0.82	0.85	94.0	94.4	1190	602	820	240	320
MMG315MA6-D	-	90.0	132/101	0.83	0.86	94.4	94.8	1190	723	920	310	320
MMG315MB6-D	-	110	160/121	0.84	0.87	94.8	95.1	1190	883	900	310	320
MMG315L6-D	-	132	195/147	0.84	0.87	95.1	95.3	1190	1060	930	330	310

50 Hz data shown as 400 V Δ / 690 V Y and 60 Hz data shown as 380 V Δ, 440 V Δ and 480 V Δ

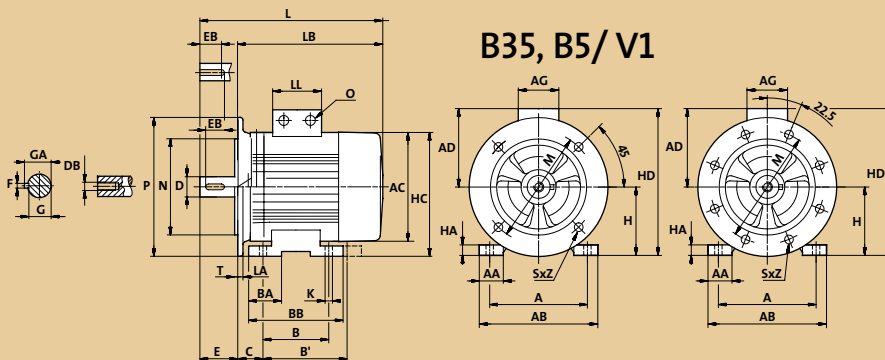
Dimensions

Frame size	Poles	Stator housing					Shaft end						
		IEC:	AC	AD	H	L	LB	D	DB	E	EB	F	G
71 A, B	2, 4, 6		137.6	114.5	71	245.0	215.0	14	M5	30	20	5	5
80 A, B	2, 4, 6		157.0	138.0	80	272.0	232.0	19	M6	40	30	6	6
90 S, SA, SB	2, 4, 6		177.0	148.0	90	317.0	267.0	24	M8	50	40	8	7
90L	2, 4, 6		177.0	148.0	90	317.0	267.0	24	M8	50	40	8	7
100 L, LA	2, 4, 6		196.0	155.0	100	366.0	305.0	28	M10	60	50	8	7
100 LB	2, 4, 6		194.0	155.0	100	400.0	340.0	28	M10	60	50	8	7
112 M	2, 4, 6		220.0	171.0	112	388.0	328.0	28	M10	60	50	8	7
132 SA	2, 4, 6		260.0	197.0	132	449.5	369.5	38	M12	80	70	10	8
132 S, SB	2, 4, 6		260.0	197.0	132	499.5	419.5	38	M12	80	70	10	8
132 M	2, 4, 6		260.0	197.0	132	537.5	457.5	38	M12	80	70	10	8
132 MA, MB	2, 4, 6		260.0	197.0	132	487.5	407.5	38	M12	80	70	10	8
160 M, MA, MB	2, 4, 6		325.0	244.5	160	612.0	502.0	42	M16	110	100	12	8
160 L	2, 4, 6		325.0	244.5	160	657.0	547.0	42	M16	110	100	12	8
180 M	2, 4, 6		355.0	266.0	180	712.0	602.0	48	M16	110	100	14	8
180 L	2, 4, 6		355.0	266.0	180	712.0	602.0	48	M16	110	100	14	8
200 LA, LB	2, 4, 6		379.0	341.0	200	779.0	669.0	55	M20	110	100	16	10
200 LA, LB version A	2, 4, 6		379.0	327.0	200	779.0	669.0	55	M20	110	100	16	10
225 M	2		443.0	366.0	225	857.5	747.5	55	M20	110	100	16	10
225 S	4, 6		443.0	366.0	225	887.5	747.5	60	M20	140	110	18	11
225 M	4, 6		443.0	366.0	225	887.5	747.5	60	M20	140	110	18	11
250 M	2		494.0	385.0	250	971.5	831.5	60	M20	140	110	18	11
250 M	4, 6		494.0	385.0	250	971.5	831.5	65	M20	140	110	18	11
280 S	2		496.0	419.0	280	1035.5	895.5	65	M20	140	100	18	11
280 S	4, 6		496.0	419.0	280	1035.5	895.5	75	M20	140	100	20	12
280 M	2		496.0	419.0	280	1086.5	946.5	65	M20	140	100	18	11
280 M	4, 6		496.0	419.0	280	1086.5	946.5	75	M20	140	100	20	12
315 S	2		620.0	512.0	315	1094.0	954.0	65	M20	140	125	18	11
315 S	4, 6		620.0	512.0	315	1124.0	954.0	80	M20	170	140	22	14
315 M, MA, MB	2		620.0	512.0	315	1094.0	954.0	65	M20	140	125	18	11
315 M, MA, MB	4, 6		620.0	512.0	315	1124.0	954.0	80	M20	170	140	22	14
315 L, LA, LB	2		620.0	512.0	315	1214.0	1074.0	65	M20	140	125	18	11
315 L, LA, LB	4, 6		620.0	512.0	315	1244.0	1074.0	80	M20	170	140	22	14





GA	Feet				Flange B35, B5/V1						Cable entry
	A	B	C	K	LA	M	N	P	T	SxZ	O
16.0	112	90	45	7.0	-	130	110	160	3.5	M8 x 8	1 x M16 x 1.5 + 1 x M20 x 1.5
21.5	125	100	50	9.5	10	165	130	200	3.5	M10 x 8	1 x M20 x 1.5 + 1 x M25 x 1.5
27.0	140	100	56	10.0	12	165	130	200	3.5	M10 x 8	1 x M20 x 1.5 + 1 x M25 x 1.5
27.0	140	125	56	10.0	12	165	130	200	3.5	M10 x 8	1 x M20 x 1.5 + 1 x M25 x 1.5
31.0	160	140	63	11.0	14	215	180	250	4.0	M12 x 8	1 x M20 x 1.5 + 1 x M25 x 1.5
31.0	160	140	63	11.0	14	215	180	250	4.0	M12 x 8	1 x M20 x 1.5 + 1 x M25 x 1.5
31.0	190	140	70	12.5	14	215	180	250	4.0	M12 x 8	1 x M20 x 1.5 + 1 x M25 x 1.5
41.0	216	140	89	12.0	12	265	230	300	4.0	M12 x 8	1 x M16 x 1.5 + 2 x M32 x 1.5
41.0	216	140	89	12.0	12	265	230	300	4.0	M12 x 8	1 x M16 x 1.5 + 2 x M32 x 1.5
41.0	216	178	89	12.0	12	265	230	300	4.0	M12 x 8	1 x M16 x 1.5 + 2 x M32 x 1.5
41.0	216	178	89	12.0	12	265	230	300	4.0	M12 x 8	1 x M16 x 1.5 + 2 x M32 x 1.5
45.0	254	210	108	14.0	13	300	250	350	5.0	M16 x 8	1 x M20 x 1.5 + 2 x M40 x 1.5
45.0	254	254	108	14.0	13	300	250	350	5.0	M16 x 8	1 x M20 x 1.5 + 2 x M40 x 1.5
51.5	279	241	121	14.0	13	300	250	350	5.0	M16 x 8	1 x M20 x 1.5 + 2 x M40 x 1.5
51.5	279	279	121	14.0	13	300	250	350	5.0	M16 x 8	1 x M20 x 1.5 + 2 x M40 x 1.5
59.0	318	305	133	18.0	15	350	300	400	5.0	M16 x 8	1 x M25 x 1.5 + 2 x M50 x 1.5
59.0	318	305	133	18.0	15	350	300	400	5.0	M16 x 8	1 x M25 x 1.5 + 2 x M50 x 1.5
59.0	356	311	149	18.5	16	400	350	450	5.0	M16 x 8	1 x M25 x 1.5 + 2 x M50 x 1.5
64.0	356	286	149	18.5	16	400	350	450	5.0	M16 x 8	1 x M25 x 1.5 + 2 x M50 x 1.5
64.0	356	311	149	18.5	16	400	350	450	5.0	M16 x 8	1 x M25 x 1.5 + 2 x M50 x 1.5
64.0	406	349	168	22.0	18	500	450	550	5.0	M16 x 8	1 x M25 x 1.5 + 2 x M63 x 1.5
69.0	406	349	168	22.0	18	500	450	550	5.0	M16 x 8	1 x M25 x 1.5 + 2 x M63 x 1.5
69.0	457	368	190	22.0	18	500	450	550	5.0	M16 x 8	1 x M25 x 1.5 + 2 x M63 x 1.5
79.5	457	368	190	22.0	18	500	450	550	5.0	M16 x 8	1 x M25 x 1.5 + 2 x M63 x 1.5
69.0	457	419	190	22.0	18	500	450	550	5.0	M16 x 8	1 x M25 x 1.5 + 2 x M63 x 1.5
79.5	457	419	190	22.0	18	500	450	550	5.0	M16 x 8	1 x M25 x 1.5 + 2 x M63 x 1.5
69.0	508	406	216	28.0	22	600	550	660	6.0	M20 x 8	2 x M25 x 1.5 + 2 x M63 x 1.5
85.0	508	406	216	28.0	22	600	550	660	6.0	M20 x 8	2 x M25 x 1.5 + 2 x M63 x 1.5
69.0	508	457	216	28.0	22	600	550	660	6.0	M20 x 8	2 x M25 x 1.5 + 2 x M63 x 1.5
85.0	508	457	216	28.0	22	600	550	660	6.0	M20 x 8	2 x M25 x 1.5 + 2 x M63 x 1.5
69.0	508	508	216	28.0	22	600	550	660	6.0	M20 x 8	2 x M25 x 1.5 + 2 x M63 x 1.5
85.0	508	508	216	28.0	22	600	550	660	6.0	M20 x 8	2 x M25 x 1.5 + 2 x M63 x 1.5



Doing business with Grundfos

Grundfos has been manufacturing high-quality electrical motors for more than 30 years, and as one of the world's leading pump manufacturers, we know better than anyone what is required of a reliable electrical motor.

Cost of Ownership is an important consideration when choosing a motor for a specific task. At Grundfos we define Cost of Ownership as the total sum of both the costs and benefits of having a business relationship with us. An important element of this is how Grundfos can assist in reducing operation costs through technical advice, customer training, service, and reliable logistics.