The main strengths of Baumüller disc motors are that they are compact and flat. In their shortest design, only 36.5 mm of axial space is required.

GDM DC disc motors

Baumüller DC disc motors are permanent magnet motors with ironless rotors and barrel commutators, meaning that they are low in inertia and highly dynamic throughout the whole speed range.

DSM brushless disc motors

For applications where DC motors (with their associated commutator and carbon brushes) are unsuitable, brushless disc motors are ideal. The additional electrical control required for any special applications can also be incorporated in the motor housing.

GDM 75 - 12 - DC Disc Motors

Compact, flat design
Low in inertia and highly dynamic throughout the whole speed range
Precise true run even at minimum speeds
Can be overloaded to several times its rated value for a brief period
Minimal wear of carbon brushes, meaning that maintenance costs can be reduced
Very well suited to high-speed start/stop operation
For low powers up to 150 W
Permanently excited DC motors with ironless rotors
Available with tachogenerator, pulse encoder, holding brake, and gearbox as options
Insulation class F, type of protection IP44 (higher types available on request)
For low and medium powers up to 4500 W

GDM 75-12 Technical data

	GDM 75 Z	GDM 80 F	GDM 80 N	GDM 9 K	GDM 10 F	GDM 10 N	GDM 12 Z	GDM 12 N
P_N [W]	16	44	71	32	100	142	72	147
n_M [min-1]	3000	4200	2700	3000	4800	30900	3000	2000
J [kgcm2]	0.5	0.7	0.7	0.6	1.2	1.2	2.1	2.7

M_N [Nm]	0.05	0.10	0.25	0.10	0.20	0.45	0.23	0.70
	GDM 75 Z	**GDM 80 F**	**GDM 80 N**	**GDM 9 K**	**GDM 10 F**	**GDM 10 N**	**GDM 12 Z**	**GDM 12 N**
P_N [hp]	0.02	0.06	0.10	0.04	0.13	0.19	0.10	0.20
n_M [min-1]	3000	4200	2700	3000	4800	3000	3000	2000
J [lb in2]	0.17	0.24	0.24	0.21	0.41	0.41	0.72	0.92
M_N [lbf ft]	0.04	0.07	0.18	0.07	0.15	0.33	0.17	0.52

Subject to technical modifications

Technical data for continuous operation at an environmental temperature of 25°C and with sufficiently large cooling surface. Insulation class F, protective system IP 44. Other data and protective systems on request All motors are also available with tachometer generator, pulse encoder, holding brake and gearbox.

Dimensions GDM 75 - 12

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GDM 100 - 250 - DC Disc Motors

Barrel commutator
Ironless rotor
Winding as a wire bobbin
Given sufficient ventilation, and depending on the type of winding, these motors are able to provide peak powers well in excess of their nominal ratings; even capable of offering full nominal torques at standstill without sustaining thermal damage
The inductance of the armatures is very low, which is the reason for minimal wear of carbon brushes. Therefore maintenance costs can be substantially reduced.
All of the GDM range permit a high dynamic performance throughout the whole speed range. Therefore, they are very well suited to high transient loadings i. e. frequent start/stop running modes
Speed-regulated motor without any externally mounted electronics
Reduction in cost of cabling
No additional installation of sensor

mechanisms, such as tachogenerators or impulse transmitters/encoders
Maintenance-free due to brushless electronic commutation
Flat construction
For low and medium powers up to 4500 W

GDM 100 - 250 Technical data

	GDM 100 N	GDM 100 N2	GDM 120 F	GDM 120 N	GDM 120 N2	GDM 140	GDM 160	GDM 180 N	GDM 180 N2	GDM 250/2	GDM 250/3	GDM 250/4
P_N [W]	185	250	146	350	550	470	790	1000	1400	2200	3100	4500
n_M [min-1]	3200	4000	4000	3000	3500	3000	3000	3000	3000	3000	3000	3000
J [kgcm2]	1.6	1.6	2.6	3.6	3.6	5	9	18	18	90	90	110
M_N [Nm]	0.55	0.60	0.35	1.1	1.5	1.5	2.5	3.2	4.5	7.0	10.0	14.5

	GDM 100 N	GDM 100 N2	GDM 120 F	GDM 120 N	GDM 120 N2	GDM 140	GDM 160	GDM 180 N	GDM 180 N2	GDM 250/2	GDM 250/3	GDM 250/4
P_N [hp]	0.25	0.34	0.20	0.47	0.76	0.6	1.1	1.3	1.9	3.0	4.2	6.0
n_M[min-1]	3200	4000	4000	3000	3500	3000	3000	3000	3000	3000	3000	3000
J [lb in2]]	0.55	0.55	0.89	1.23	1.23	2	3	6	6	31	31	38
M_N [lbf ft]	0.41	0.44	0.26	0.81	1.11	1.11	1.8	2.4	3.3	5.2	7.4	10.7

Subject to technical modifications

Technical data for continuous operation at an environmental temperature of 25°C and with sufficiently large cooling surface. Insulation class F, protective system IP 44. Other data and protective systems on request All motors are also available with tachometer generator, pulse encoder, holding brake and gearbox.

Dimensions GDM 100 - 250

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DSM 115 - 190 - Brushless Disc Motors

- Very quiet
- Almost no indexing torque
- Low in inertia and highly dynamic throughout the whole speed range
- Compact, flat design
- Low maintenance costs
- Special design as high-torque drive
- Power can be doubled by means of a second stator
- For low and medium powers up to 6300 W
- Available with pulse encoder, resolver, sincos encoder, holding brake, and gearbox as options
- Insulation class F, type of protection IP44 (higher types available on request)

Brushless disc motors are manufactured according to two different principles:

For the lower power range (DSM 115 series), the principle of the DC disc motor is reversed. The ironless winding slips from the rotor into the stator and the magnets slip from the stator into the rotor, where they can be built onto the rotating magnetic feedback directly.

For the higher power range (DSM 117 – 190 series), the stator winding is inserted into the slotted armature with skewed stacks. The power output can be considerably increased thanks to the smaller magnetic air gap used in this method.

DSM 115 - 190 Technical data

	DSM 115 N/I 1)	DSM 115 N2)	DSM 117 N	DSM 130 N	DSM 150 N	DSM 170 N	DSM 190 N	DSM 190 N2/L
P_N [W]	205	410	470	1400	2260	3000	4500	6300
n_M [min-1]	3000	3000	3000	3000	3000	3000	3000	1000
J [kgcm2]	10	10	10	18	40	60	90	120

M_N [Nm]	0.65	1.3	1.5	4.5	7.2	9.6	14.4	60.0
	DSM 115 N/I 1)	**DSM 115 N2)**	**DSM 117 N**	**DSM 130 N**	**DSM 150 N**	**DSM 170 N**	**DSM 190 N**	**DSM 190 N2/L**
P_N [hp]	0.3	0.5	0.6	1.9	3.0	4.0	6.0	8.4
n_M [min-1]	3000	3000	3000	3000	3000	3000	3000	1000
J [lb in2]]	3.4	3.4	3.4	6.2	13.7	20.5	30.8	41.0
M_N [lbf ft]	0.5	1.0	1.1	3.3	5.3	7.1	10.5	44.3

1) ironless disc motor with integrated electronic

2) ironless disc motor

Subject to technical modifications