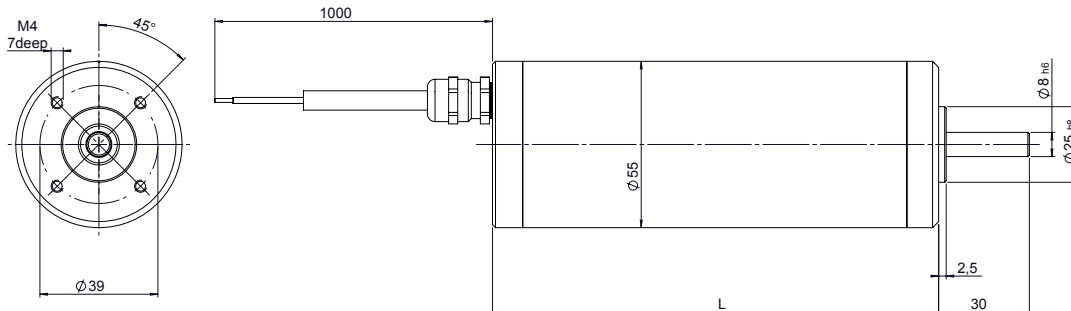


VGM 31

DC Motors with permanent magnet field

Motor series GNM 31
up to 90 Watts output power



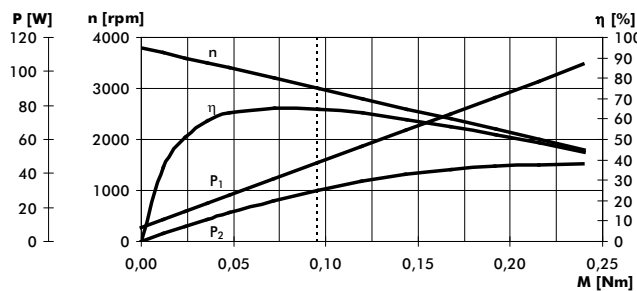
Type	Dimension L
VGM 3125	97
VGM 3150	122
VGM 3175	148

Operation characteristics:

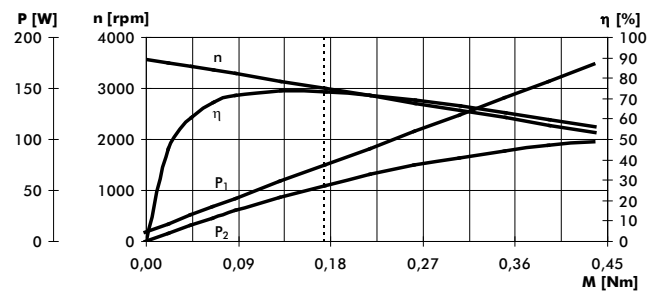
n - Speed
 η - Efficiency

P₁ - Input power
P₂ - Output power

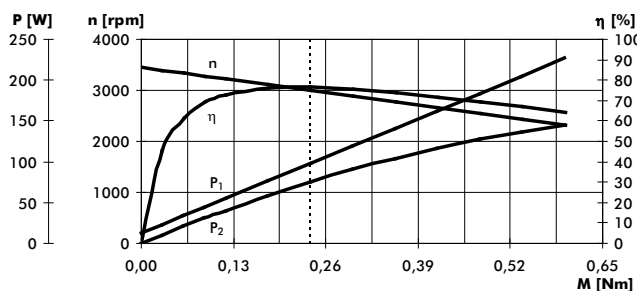
VGM3125, 24V, 3000rpm



VGM3150, 24V, 3000rpm



VGM3175, 24V, 3000rpm



Motor design:

The standard DC Motors series VGM 31 are equipped with plain shaft and round output flange in design B14. Due to lifetime optimisation of the carbon brushes it was possible to eliminate the brush holder opening.

The cable comes to the outside via cable gland.

Flange mounting with 4 threads, see drawing.

Rotating direction:

The rotating direction can be changed by inverting the connections.

Order example

Motor

VGM 3175

24 V, 3000 rpm

Features:

- High acceleration because of small moments of inertia
- Long brush lifetime because of optimisation of the brush holder
- Robust mechanical structure with steel tube housing and aluminium end plates with tension rod fixing

Other voltages, speeds and special designs on request.

edition 08.11

		VGM 3125	VGM 3150	VGM 3175
type		-	-	-
series		-	-	-
nominal speed	rpm	3000	3000	3000
nominal voltage	V	24	24	24
nominal current	A	2	3,1	4,1
nominal power	W	30	55	75
operation acc. to VDE 0530		S1	S1	S1
protection acc. to VDE 0530			IP 54 (IP 65 on request)	
connection			light plastic-sheathed cable	
rotating direction			reversible	
design			B 14	
mechanical data:				
mass moment of inertia	kgm ²	0,0177*10 ⁻³	0,0296*10 ⁻³	0,0421*10 ⁻³
nominal torque	Nm	0,096	0,175	0,239
starting torque	Nm	0,4	0,96	1,5
max. continuous torque at stall	Nm	0,105	0,2	0,27
speed regulation constant	N ⁻¹ cm ⁻¹ rpm	83	33	19
mechanical time constant	ms	15,4	10,1	8,4
friction torque	Nm	0,02	0,025	0,035
rotor weight	kg	0,19	0,3	0,42
motor weight	kg	0,77	1,15	1,5
motor weight incl. parking brake	kg	1,17	1,55	1,9
ball bearings			608/608	
F _R (allowable radial shaft load)			100	
F _A (allowable axial shaft load)			40	
electrical data:				
armature resistance	Ω	2,6	1,05	0,69
armature inductance	mH	3	1,4	0,94
terminal resistance	Ω	3,13	1,4	0,9
voltage constant	V/1000 rpm	6,27	6,69	7,06
torque constant	Nm/A	0,06	0,064	0,067
starting current	A	7,7	17,1	26
max. peak current ¹⁾	A	16	31	43
electrical time constant	ms	0,96	1	1,04
thermal data:				
max. ambient temperature	°C	40	40	40
insulation class acc. to VDE 0530		F	F	F
thermal time constant	min	32	32	32
temperature-rise without cooling	K/W	4,7	3,9	3,3

Tolerances acc. to standard VDE 0530. ± 10 % is valid for not VDE mentioned tolerances.

The values mentioned in the table are valid for supply with DC voltage with allowable harmonic contingent up to 5%. For undulatory current with increased harmonic contingent the rated motor values must be multiplied by 0,7.

¹⁾ The values are valid for operation in temperature-ranges from 0 up to 40°C and it is not allowed to excess them, even not for a short-time, to avoid magnet-weakening.