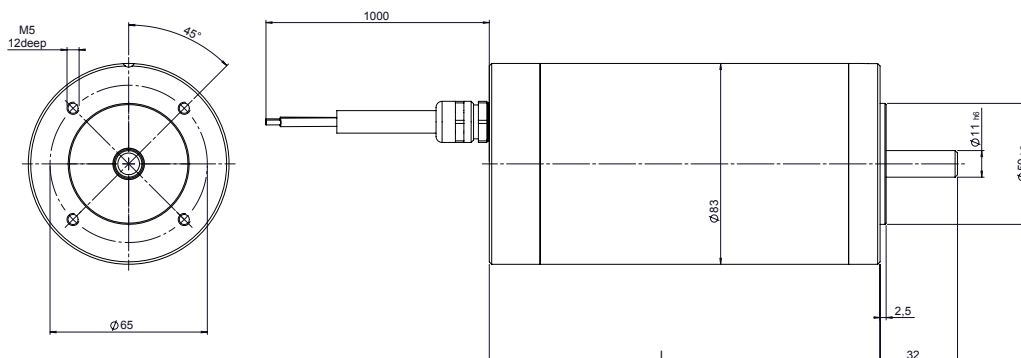


VGM 54

DC Motors with permanent magnet field

Motor series VGM 5480 up to 250 Watts output power

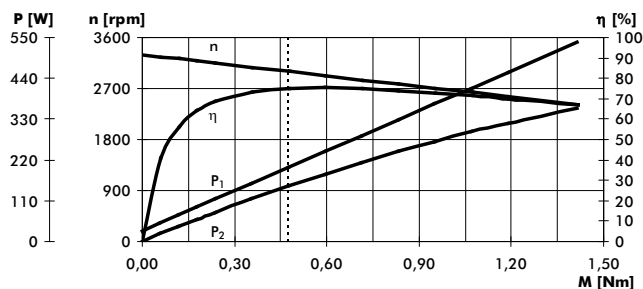


Type	Dimension L
VGM 5440	162
VGM 5480	202

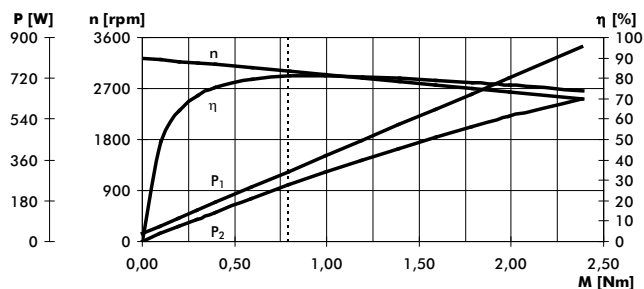
Operation characteristics:

n - Speed
 η - Efficiency
 P_1 - Input power
 P_2 - Output power

VGM5440, 24V, 3000rpm



VGM5480, 24V, 3000rpm



Motor design:

The standard DC Motors series VGM 54 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 5480
 24 V, 3000 rpm

Other voltages, speeds, radial cable outlet and special designs on request.

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

VGM 54

type		VGM 5440	VGM 5480
series		-	-
nominal speed	rpm	3000	3000
nominal voltage	V	24	24
nominal current	A	8,3	12,9
nominal power	W	150	250
operation acc. to VDE 0530		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	0,2*10 ⁻³	0,37*10 ⁻³
nominal torque	Nm	0,477	0,796
starting torque	Nm	3,8	7,1
max. continuous torque at stall	Nm	0,59	1,1
speed regulation constant	N ⁻¹ cm ⁻¹ rpm	6,2	3
mechanical time constant	ms	12,9	11,6
friction torque	Nm	0,08	0,1
rotor weight	kg	0,85	1,4
motor weight	kg	2,8	4,1
ball bearings		6201/6200	
F _R (allowable radial shaft load)		140	
F _A (allowable axial shaft load)		56	
electrical data:			
armature resistance	Ω	0,24	0,106
armature inductance	mH	0,7	0,33
terminal resistance	Ω	0,29	0,152
voltage constant	V/1000 rpm	7,02	7,3
torque constant	Nm/A	0,067	0,0697
starting current	A	74	126
max. peak current ¹⁾	A	65	115
electrical time constant	ms	2,4	2,2
thermal data:			
max. ambient temperature	°C	40	40
insulation class acc. to VDE 0530		F	F
thermal time constant	min	40	40
temperature-rise without cooling	K/W	2,2	1,8

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.