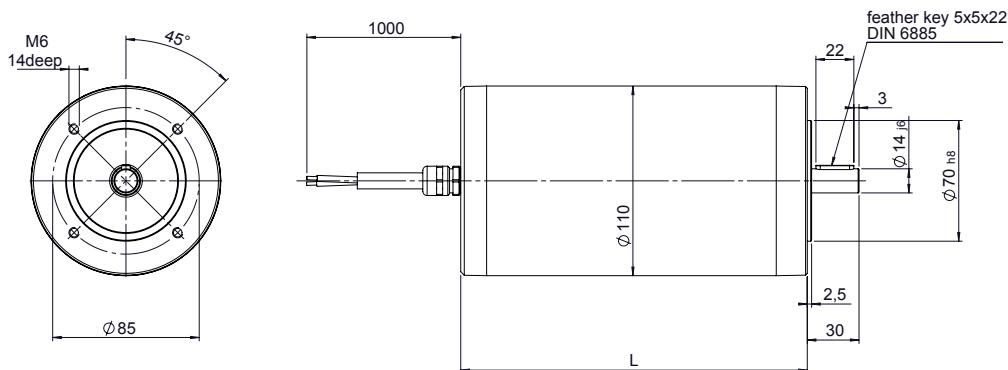


## VGM 80

### DC Motors with permanent magnet field

Motor series VGM 80  
up to 500 Watts output power

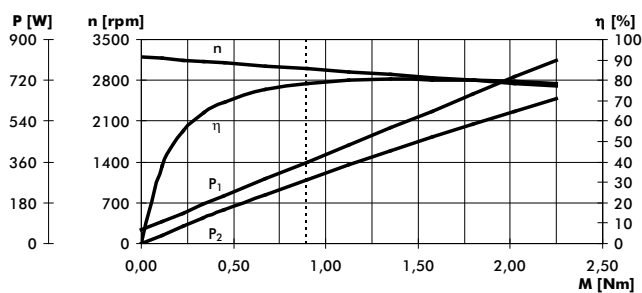


Type	Dimension L
VGM 8035/4	147
VGM 8070/4	202

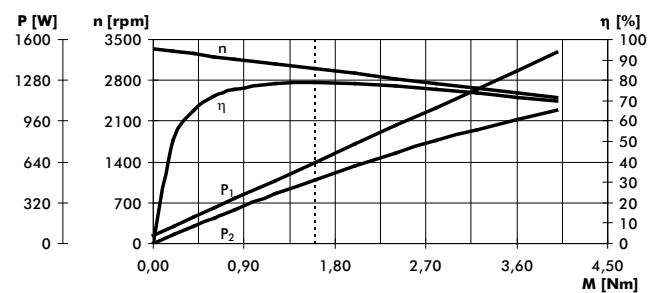
#### Operation characteristics:

n - Speed  
 $\eta$  - Efficiency  
 $P_1$  - Input power  
 $P_2$  - Output power

VGM8035/4, 24V, 3000rpm



VGM8070/4, 24V, 3000rpm



#### Motor design:

The standard DC Motors series VGM 80 are equipped with shaft with feather key 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 8070/4

24 V, 3000 rpm

Other voltages, speeds 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

		GNM 8035/4	GNM 8070/4
type		-	-
series		-	-
nominal speed	rpm	3000	3000
nominal voltage	V	24	24
nominal current	A	15,2	27
nominal power	W	280	500
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	
<b>mechanical data:</b>			
mass moment of inertia	kgm <sup>2</sup>	0,92*10 <sup>-3</sup>	1,55*10 <sup>-3</sup>
nominal torque	Nm	0,9	1,6
starting torque	Nm	6,5	9
max. continuous torque at stall	Nm	1,05	1,9
speed regulation constant	N <sup>-1</sup> cm <sup>-1</sup> rpm	2,2	2,1
mechanical time constant	ms	21,3	34
friction torque	Nm	0,18	0,18
rotor weight	kg	1,6	2,5
motor weight	kg	4,6	6,6
motor weight incl. parking brake	kg	5,6	7,6
ball bearings		6203/6201	
F <sub>R</sub> (allowable radial shaft load)		200	
F <sub>A</sub> (allowable axial shaft load)		80	
<b>electrical data:</b>			
armature resistance	Ω	0,07	0,03
armature inductance	mH	0,27	0,1
terminal resistance	Ω	0,12	0,098
voltage constant	V/1000 rpm	7,57	7
torque constant	Nm/A	0,072	0,067
starting current	A	160	195
max. peak current <sup>1)</sup>	A	103	150
electrical time constant	ms	2,3	1,02
<b>thermal data:</b>			
max. ambient temperature	°C	40	40
insulation class acc. to VDE 0530		F	F
thermal time constant	min	45	45
temperature-rise without cooling	K/W	1	0,71

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.

<sup>1)</sup> 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.