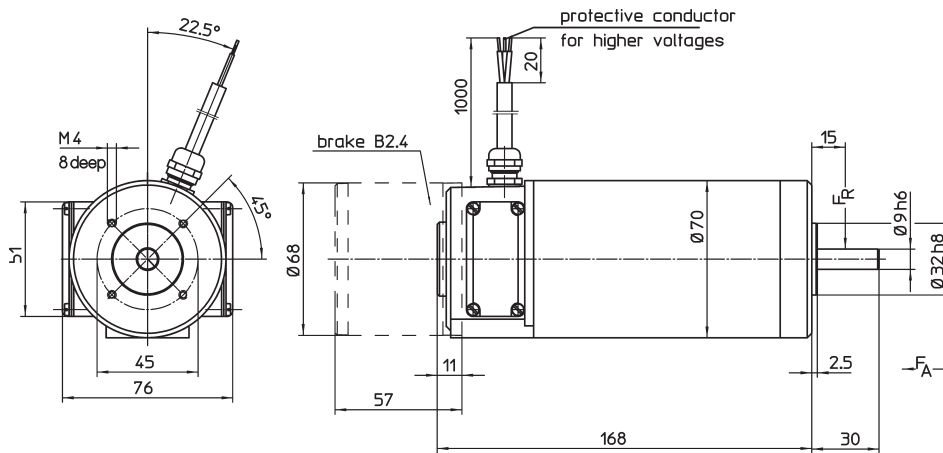




## GNM 4175

**DC  
Motors**  
with permanent magnet field

Motor series GNM 4175  
**up to 140 Watts output power**  
with + without parking brake

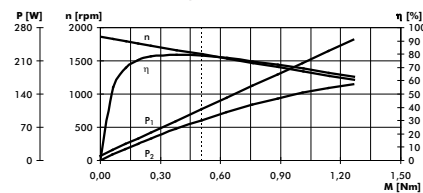


**Operation characteristics:**

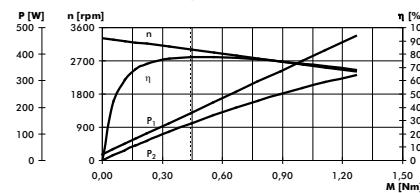
n - Speed  
 $\eta$  - Efficiency

P<sub>1</sub> - Input power  
P<sub>2</sub> - Output power

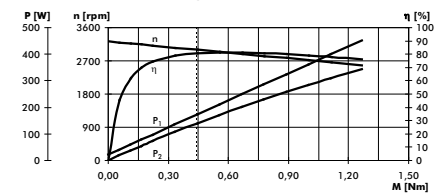
GNM4175, 24V, 1600rpm



GNM4175, 24V, 3000rpm



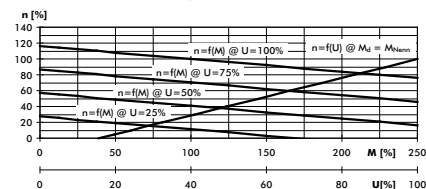
GNM4175, 42V, 3000rpm



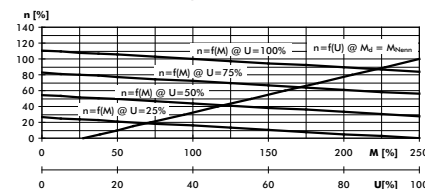
**Control characteristics :**

n=f(M) - Speed as a torque function  
n=f(U) - Speed as a supply voltage function

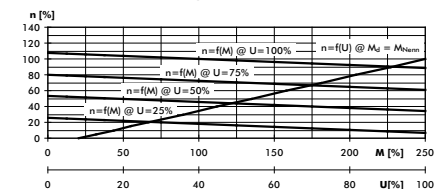
GNM4175, 24V, 1600rpm



GNM4175, 24V, 3000rpm



GNM4175, 42V, 3000rpm



		<b>GNM 4175</b>		
		A		
type series	rpm	1600	3000	3000
nominal speed	V	24	24	42
nominal voltage	A	4,5	7,5	4,15
nominal current	W	85	140	140
nominal power			S1	
operation acc. to VDE 0530			IP 54	
protection acc. to VDE 0530			light plastic-sheathed cable	
connection			reversible	
rotating direction			IMB 14	
design				
<b>mechanical data:</b>				
mass moment of inertia	kgm <sup>2</sup>	0,507	0,446	0,446
nominal torque	Nm	3	3,7	3,7
starting torque	Nm	0,57	0,57	0,57
max. continuous torque at stall	Nm	5,1	7,2	5,1
speed regulation constant	N <sup>-1</sup> cm <sup>-1</sup> rpm	7,2	10	7,2
mechanical time constant	ms	0,05	0,065	0,065
friction torque	Nm		0,77	
rotor weight	kg		2,65	
motor weight	kg		3,05	
motor weight incl. parking brake	kg		629/629	
ball bearings			130	
F <sub>r</sub> (allowable radial shaft load)			52	
F <sub>A</sub> (allowable axial shaft load)				
<b>electrical data:</b>				
armature resistance	Ω	0,72	0,24	0,72
armature inductance	mH	1,5	0,56	1,5
terminal resistance	Ω	0,83	0,35	0,83
voltage constant	V/1000 rpm	13	7,15	13
torque constant	Nm/A	0,124	0,0683	0,124
starting current	A	27	61	45
max. peak current <sup>1)</sup>	A	34	62	34
electrical time constant	ms	1,8	1,6	1,8
<b>thermal data:</b>				
max. ambient temperature	°C		40	
insulation class acc. to VDE 0530			F	
thermal time constant	min		40	
temperature-rise without cooling	K/W	3,9	2,6	2,6
<b>parking brake B 2:</b>				
nominal voltage	V		24	
nominal current	A		0,35	
static break torque (motor shaft)	Nm		0,8	
max. number of operations per hour			2000	
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 content up to 5%. For undulatory current with increased harmonic content 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 exceed them, even not for a short-time, to avoid magnet-weakening.				
<ul style="list-style-type: none"> <li>● Motors also available with DC tachogenerator and/or incremental encoder.</li> <li>● Motors also available with device plug DIN 43650.</li> </ul>				
		<b>Motor design:</b> Brushed 2-pole DC motor with permanent magnet field. Brush holder opening will be accessible by removing the cover plate. Flange mounting with 4 threads (see drawing).		
		Rotating direction: The rotating direction can be changed by inverting the connections.		
		<ol style="list-style-type: none"> <li>Order example Motor GNM 4175A 24 V, 1600 rpm, 85 W Special designs on request.</li> <li>Order example Motor GNM 4175A 42 V, 3000 rpm, 140 W - 5 V / 1000 rpm</li> </ol>		