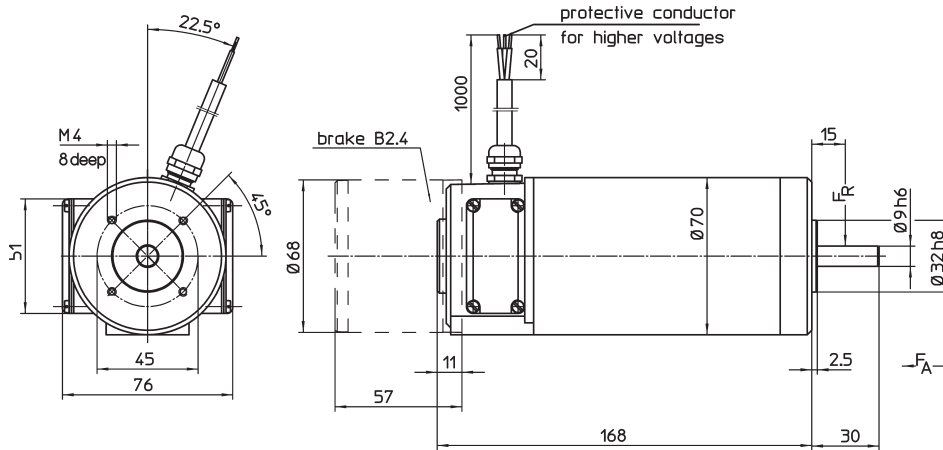




GNM 4175

DC Motors
with permanent magnet field

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

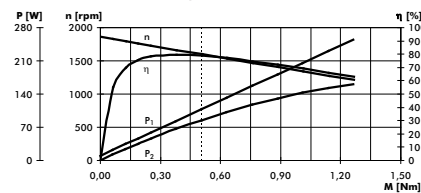


Operation characteristics:

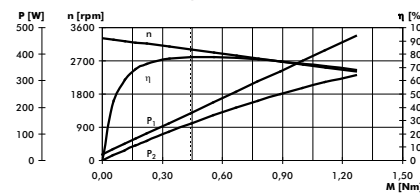
n - Speed
 η - Efficiency

P_1 - Input power
 P_2 - Output power

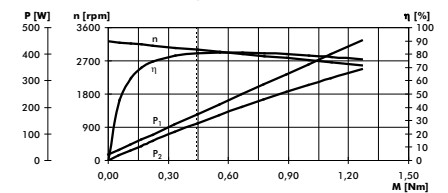
GNM4175, 24V, 1600rpm



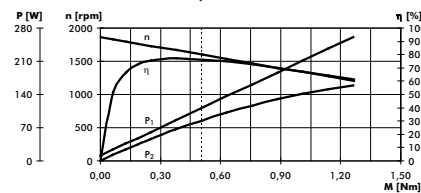
GNM4175, 24V, 3000rpm



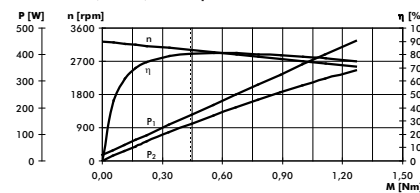
GNM4175, 42V, 3000rpm



GNM4175, 180V, 1600rpm



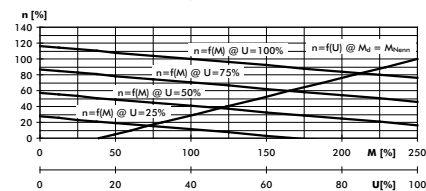
GNM4175, 180V, 3000rpm



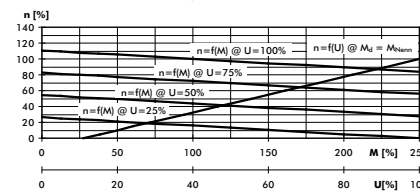
Control characteristics :

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

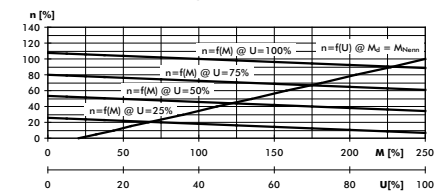
GNM4175, 24V, 1600rpm



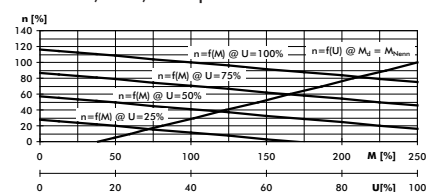
GNM4175, 24V, 3000rpm



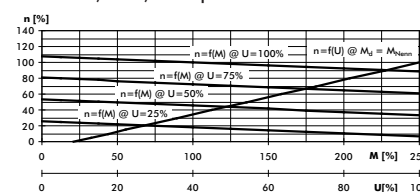
GNM4175, 42V, 3000rpm



GNM4175, 180V, 1600rpm



GNM4175, 180V, 3000rpm



edition 01.11

		GNM 4175			
		A			
type	rpm	1600	3000	3000	1600
series					
nominal speed	V	24	24	42	180
nominal voltage	A	4,5	7,5	4,15	0,63
nominal current	W	85	140	140	85
nominal power					
operation acc. to VDE 0530				S1	
protection acc. to VDE 0530				IP 54	
connection				light plastic-sheathed cable	
rotating direction				reversible	
design				B 14	
mechanical data:					
mass moment of inertia	kgm ²	0,507	0,446	0,133*10 ⁻³	0,446
nominal torque	Nm	3	3,7	3,7	3,1
starting torque	Nm	0,57	0,57	0,57	0,57
max. continuous torque at stall	Nm	5,1	7,2	5,1	5,2
speed regulation constant	N ⁻¹ cm ⁻¹ rpm	7,2	10	7,2	7,2
mechanical time constant	ms	0,05	0,065	0,065	0,055
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 _r (allowable radial shaft load)				52	
F _A (allowable axial shaft load)					
electrical data:					
armature resistance	Ω	0,72	0,24	0,72	44,5
armature inductance	mH	1,5	0,56	1,5	90
terminal resistance	Ω	0,83	0,35	0,83	45
voltage constant	V/1000 rpm	13	7,15	13	95
torque constant	Nm/A	0,124	0,0683	0,124	0,91
starting current	A	27	61	45	3,9
max. peak current ¹⁾	A	34	62	34	4,6
electrical time constant	ms	1,8	1,6	1,8	2
thermal data:					
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	3,9
parking brake B 2:					
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.					
¹⁾ 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.					
● Motors also available with DC tachogenerator and/or incremental encoder.					
● Motors also available with device plug DIN 43650.					
Motor design: 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. 1. Order example Motor GNM 4175A 24 V, 1600 rpm, 85 W 2. Order example Motor GNM 4175A 42 V, 3000 rpm, 140 W - DC tachogenerator - T 10,05 - 5 V / 1000 rpm Special designs on request.					