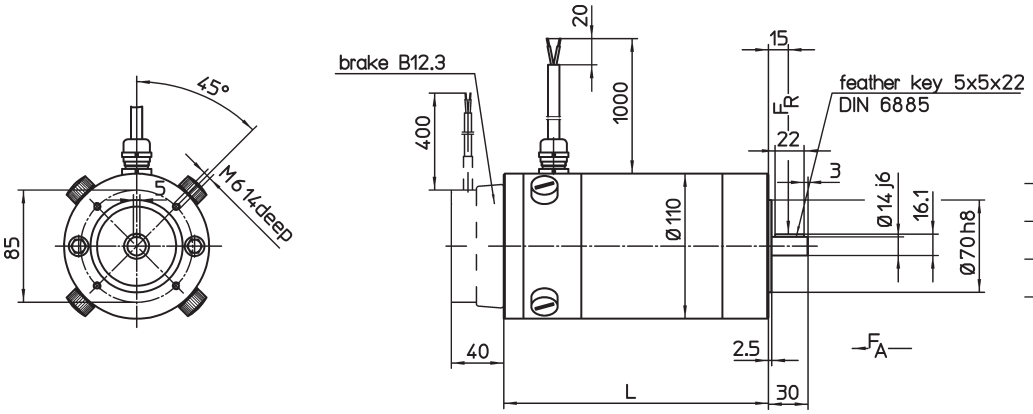
GNM 80

DC Motors

with permanent magnet field

Motor series GNM 80
up to 500 Watts output power
with + without parking brake

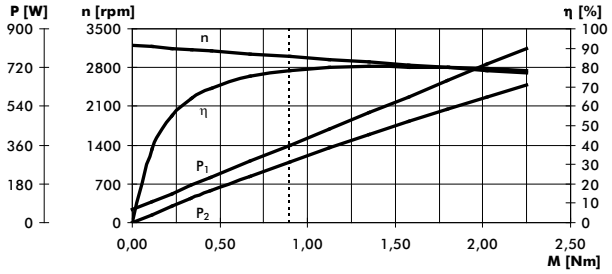


Type	Dimension a
GNM 8035/4	147
GNM 8070/4	202

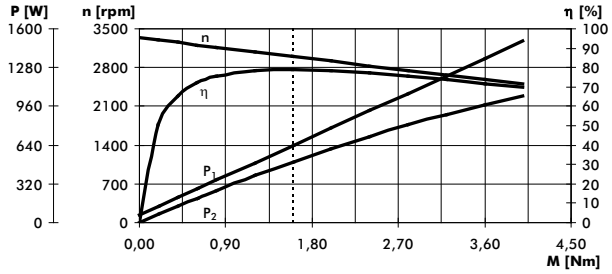
Operation characteristics:

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

GNM8035/4, 24V, 3000rpm



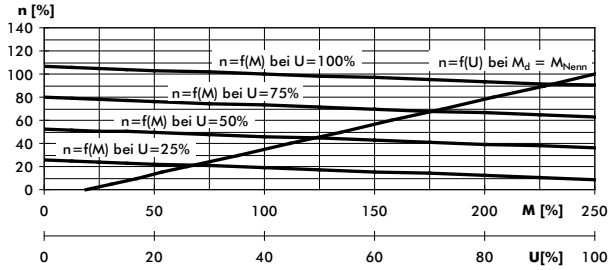
GNM8070/4, 24V, 3000rpm



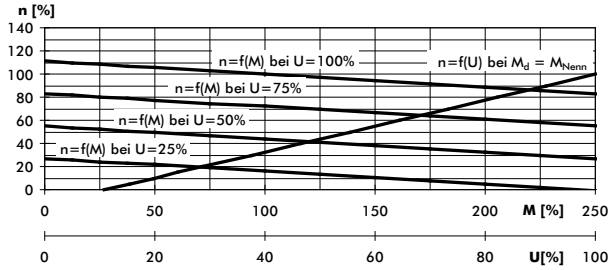
Control characteristics :

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

GNM8035/4, 24V, 3000rpm



GNM8070/4, 24V, 3000rpm



edition 01.11

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type		GNM 8035/4	GNM 8070/4
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	
connection		light plastic-sheathed cable	
rotating direction		reversible	
design		B 14	
mechanical data:			
mass moment of inertia	kgm^2	$0,92*10^{-3}$	$1,55*10^{-3}$
nominal torque	Nm	0,9	1,6
starting torque	Nm	6,5	9
max. continous torque at stall	Nm	1,05	1,9
speed regulation constant	N^{-1} cm^{-1} 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_R (allowable radial shaft load)		200	
F_A (allowable axial shaft load)		80	
electrical data:			
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 [1]	A	103	150
electrical time constant	ms	2,3	1,02
thermical data:			
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
parking brake B 12.3:			
nominal voltage	V	24	
nominal current	A	1	
static break torque (motor shaft)	Nm	5	
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 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.

Motor design:
Brushed 4-pole DC motor with permanent magnet field.
Brush holder opening will be accessible by removing the screw caps.
Flange mounting with 4 threads (see drawing).

Rotating direction:
The rotating direction can be changed by inverting the connections.

1. Order example
   Motor
   GNM 8070/4
   24 V, 3000 rpm, 500 W

2. Order example
   Motor - parking brake
   GNM 8035/4 - B 12.3
   24 V, 3000 rpm, 280 W - 24 V

Special designs on request.

design-changes reserved