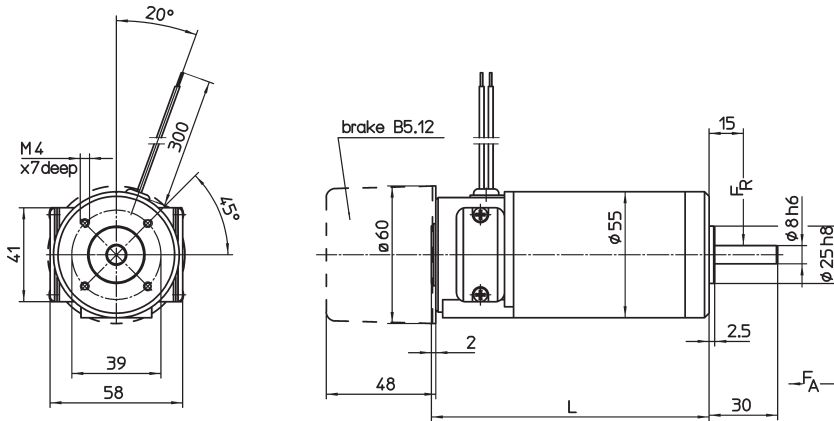




GNM 31

DC Motors
with permanent magnet field

Motor series GNM 31
up to 90 Watts output power
with + without parking brake

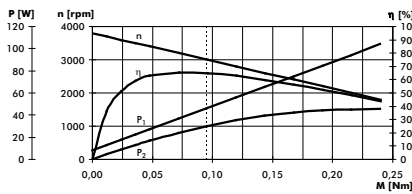


Type	Dimension L
GNM 3125	96,5
GNM 3150	121,5
GNM 3175	147,5

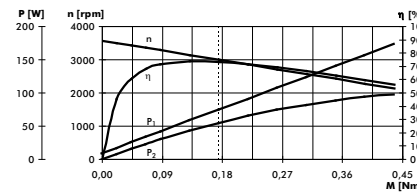
Operation characteristics:

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

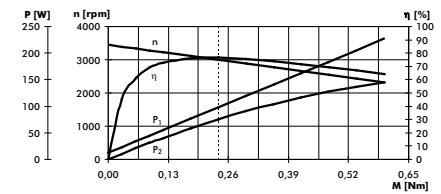
GNM3125, 24V, 3000rpm



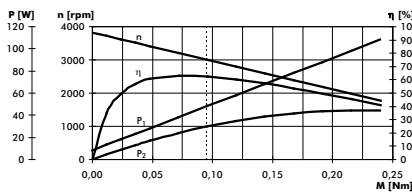
GNM3150, 24V, 3000rpm



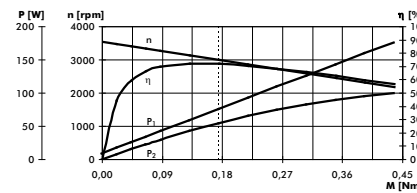
GNM3175, 24V, 3000rpm



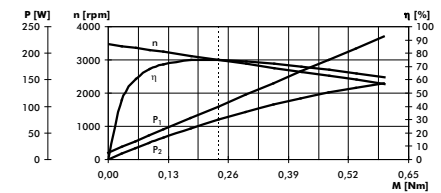
GNM3125, 42V, 3000rpm



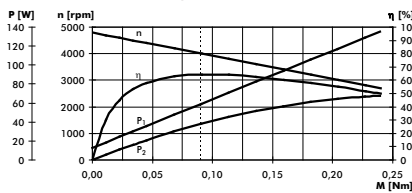
GNM3150, 42V, 3000rpm



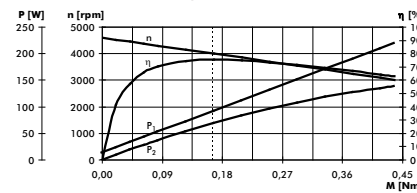
GNM3175, 42V, 3000rpm



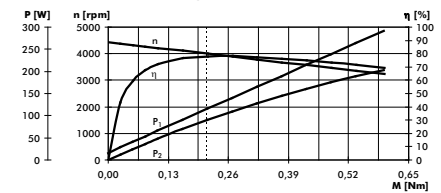
GNM3125, 24V, 4000rpm



GNM3150, 24V, 4000rpm



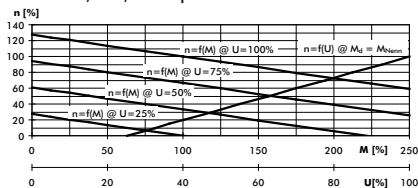
GNM3175, 24V, 4000rpm



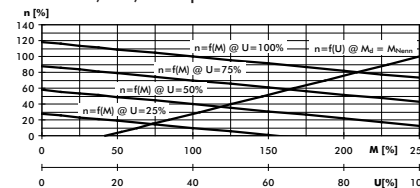
Control characteristics :

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

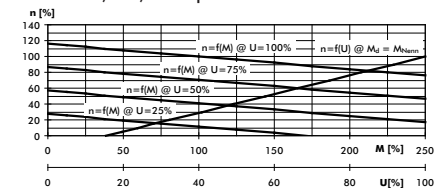
GNM3125, 24V, 3000rpm
GNM3125, 42V, 3000rpm
GNM3125, 24V, 4000rpm



GNM3150, 24V, 3000rpm
GNM3150, 42V, 3000rpm
GNM3150, 24V, 4000rpm



GNM3175, 24V, 3000rpm
GNM3175, 42V, 3000rpm
GNM3175, 24V, 4000rpm



type series	GNM 3125			GNM 3150			GNM 3175			
	3000	3000	4000	3000	3000	4000	3000	3000	3000	4000
nominal speed	rpm									
nominal voltage	24	42	24	24	42	24	24	42	42	4000
nominal current	2	1,15	2,5	3,1	1,8	3,9	4,1	2,4	2,4	24
nominal power	30	30	38	55	55	70	75	75	75	4,8
operation acc. to VDE 0530										
protection acc. to VDE 0530										
connection	S1									
rotating direction	IP 41									
design	free leads reversible B 14									
mechanical data:										
mass moment of inertia	kgm ²									
nominal torque	0,096	0,096	0,091	0,175	0,175	0,167	0,239	0,239	0,239	0,0421*10 ⁻³
starting torque	0,4	0,39	0,48	0,96	1,04	1,1	1,5	1,52	1,5	1,9
max. continuous torque at stall	0,105	0,105	0,105	0,2	0,2	0,2	0,27	0,27	0,27	0,27
speed regulation constant	83	86	87	33	31	36	19	20	20	20
mechanical time constant	15,4	16	16,1	10,1	9,5	11,2	8,4	8,6	8,6	9
friction torque	0,02	0,02	0,025	0,025	0,025	0,03	0,035	0,035	0,035	0,035
rotor weight	kg									
motor weight	kg									
motor weight incl. parking brake	kg									
ball bearings										
F _r (allowable radial shaft load)	608/608									
F _A (allowable axial shaft load)	100									
electrical data:										
armature resistance	2,6	8,6	1,5	1,05	3,4	0,68	0,69	2,16	2,16	0,42
armature inductance	3	8,5	2,2	1,4	3,9	0,98	0,94	2,8	2,8	0,6
terminal resistance	3,13	9,2	2	1,4	3,9	0,98	0,9	2,7	2,7	0,58
voltage constant	6,27	10,6	4,9	6,69	11,6	5,3	7,06	12	12	5,48
torque constant	0,06	0,101	0,047	0,064	0,11	0,051	0,067	0,115	0,115	0,052
starting current	7,7	4,5	12	17,1	10,8	24	26	15	15	41
max. peak current ¹⁾	16	9,5	20	31	17	38	43	25	25	54
electrical time constant	0,96	0,92	1,1	1	1	1	1,04	1,04	1,04	1,04
thermal data:										
max. ambient temperature	°C									
insulation class acc. to VDE 0530	40									
thermal time constant	F									
temperature-rise without cooling	32									
parking brake B 5.12:										
nominal voltage	4,7	4,7	3,8	3,9	3,9	3,2	3,3	3,3	3,3	3,1
nominal current										
static break torque (motor shaft)	V									
max. number of operations per hour	A									
	Nm									
	2000									
<p>Tolerances acc. to standard VDE 0530. ± 10 % is valid for not VDE mentioned tolerances.</p> <p>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.</p> <p>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.</p> <p>● Motors also available with DC tachogenerator and/or incremental encoder.</p> <p>● Motors also available in protection IP 54 and/or with device plug DIN 43650.</p> <p>● Design with brake in protection IP 54 and with cable connection.</p>										
<p>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).</p> <p>Rotating direction: The rotating direction can be changed by inverting the connections.</p> <p>1. Order example Motor GNM 3125 24 V, 3000 rpm, 30 W Special designs on request.</p> <p>2. Order example Motor GNM 3150 42 V, 3000 rpm, 55 W - DC tachogenerator - T 9.05 - 5 V / 1000 rpm</p>										
design-changes reserved										