

## gearbox



- low backlash
- high output torque
- high efficiency (96%)
- low noise
- mountable on stepper motor (NEMA-standard)

**part number**

GEA - 60 - 3 - 60 - ST - 063

shaft diameter	
063	6,35mm
080	8,00mm
140	14,00mm

motor type	
ST	stepper motor

flange dimension	
60	60mm
90	90mm

reduction ratio	
3	i = 3
5	i = 5

size	
60	size 60

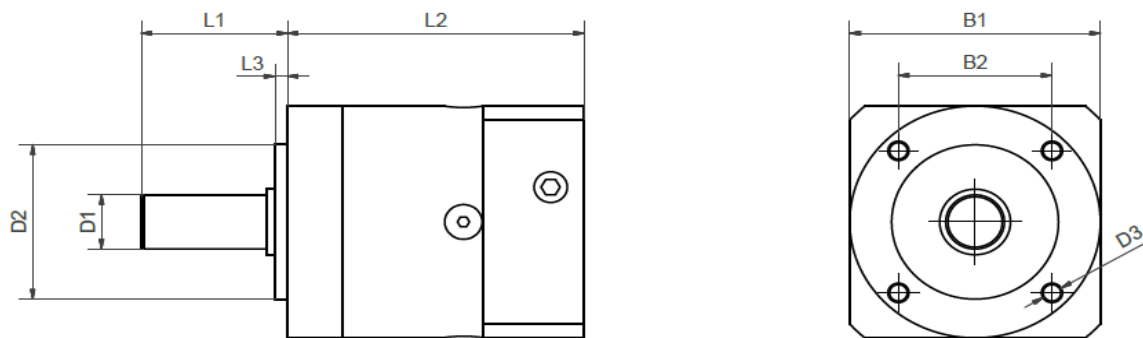
product group	
GEA	gear

technical data		
general data		
life time	[h]	30.000
seal		material NBR (Nitrile Butadiene Rubber) temperature-resistant from -30 °C to +120 °C
protection class		IP54 (sure-seal bearing)
lubricating		maintenance-free
permissible operating temperature	[°C]	-10 / +90
operation mode		S1
max. permitted motor weight, static	[kg]	3,5
max. axial load in relation to midpoint of the shaft	[N]	450
max. radial load in relation to midpoint of the shaft	[N]	340
max. torque of the clamp screw on the motor shaft	[Nm]	4,5

reduction dependent data					
flange dimension		60 (NEMA23,23XL)	60 (NEMA23,23XL)	90 (NEMA34)	90 (NEMA34)
reduction ratio		3	5	3	5
nominal torque	[Nm]	28	40	28	40
emergency off torque (permitted 1000 times at gearbox output)	[Nm]	66	80	66	80
max. torsional backlash / output shaft	[arcmin]	<10	<10	<10	<10
degree of efficiency at permanent output torque	[%]	96	96	96	96
max. input speed: at operating temperature -10°C / +90°C	[U/min]	4500	4500	4500	4500
mass inertia	[kgcm <sup>2</sup> ]	0,135	0,078	0,135	0,078
idle torque	[Nm]	0,15	0,1	0,15	0,1
weight with standard flange	[kg]	0,88	0,89	1,35	1,37
operating noise at 3000U/min without load at distance of 1m	[dB]	58	58	58	58

material	
input flange	aluminium - untreated
box	steel - black
output flange	aluminium - untreated

**dimension**  
GEA-60-...



type	B1 [mm]	B2 [mm]	D1 Ø [mm] h7	D2 Ø [mm] h7	D3 Ø [mm]	L1 [mm]	L2 [mm]	L3 [mm]
GEA-60-3-60-ST-063 (NEMA23)	60,0	36,7	14,0	40,0	M5	35,0	71,0	3,0
GEA-60-3-60-ST-080 (NEMA23XL)	60,0	36,7	14,0	40,0	M5	35,0	71,0	3,0
GEA-60-3-90-ST-140 (NEMA34)	90,0	36,7	14,0	40,0	M5	35,0	86,0	3,0
GEA-60-5-60-ST-063 (NEMA23)	60,0	36,7	14,0	40,0	M5	35,0	71,0	3,0
GEA-60-5-60-ST-080 (NEMA23XL)	60,0	36,7	14,0	40,0	M5	35,0	71,0	3,0
GEA-60-5-90-ST-140 (NEMA34)	90,0	36,7	14,0	40,0	M5	35,0	86,0	3,0