

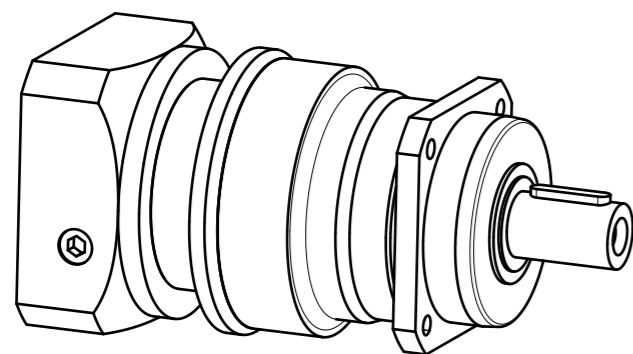
**Materials / Surfaces:**


Input flange: Aluminum / untreated  
Housing: Steel / heat-treated and post-oxidized (black)  
Output flange: Steel / untreated

**Hints:**

Please pay attention to the operating and mounting instructions.  
Subject to modifications.

Variables on the drawing are dependent upon the motor.  
The given dimensions are exemplary.

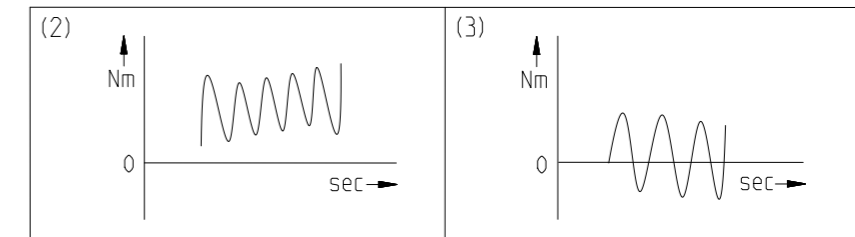


	Scale: 3:5	DIN A3	ISO
	Revision status: E from: 04/2022		
	Changed revision status: D from: 03/2020		
General tolerance DIN ISO 2768-cL	PSN090-bii-SSSA3AE-Z(D20) /(L20)/(D21)/(D22)/B5/(G3)		
Neugart GmbH Keltenstr. 16 D-77971 Kippenheim			Sheet 1/2

General gearbox data	Character	Unit	
Planetary gearbox - gearing type	-	-	Helical teeth
Rotation direction	-	-	Input and output in the same direction
Number of stages	p	-	2-stage
Output shaft bearing	-	-	Tapered roller bearing
Service life (L10h)	$t_L$	h	20.000
Max. operating temperature	$T_{min} / T_{max}$	°C	-25 / +90
Protection class	-	-	IP 65
Lubrication (Lifetime lubrication)	-	-	Standard lubrication (Castrol Optigear Synthetic 800/220)
Installation position	-	-	Any
Max. bending moment based on the gearbox input flange (for motor weight) (1)	$M_b$	Nm	18
Motor shaft concentricity / Coaxiality and axial runout Motor flange	-	-	0,02 / 0,04 (Measuring methods according to DIN EN 50347)
Required motor shaft tolerance	-	-	j6; k6
Min. permissible motor shaft length	$L_{20 \text{ min}}$	mm	28
Reference operating mode	-	-	S1
Reference operating factor	$K_A$	-	1
Reference speed	$n_2$	rpm	100
Reference ambient temperature	$T_{Amb}$	°C	20
Radial force for output bearing based on shaft center after L10h=20,000h with Fa=0N	$F_r 20.000h$	N	5500
Axial force for output bearing based on gearbox axis after L10h=20,000h with Fr=0N	$F_a 20.000h$	N	6400
Radial force for output bearing based on shaft center after L10h=30,000h with Fa=0N	$F_r 30.000h$	N	4800
Axial force for output bearing based on gearbox axis after L10h=30,000h with Fr=0N	$F_a 30.000h$	N	5700
Maximum radial force based on shaft center and T2=0Nm	$F_r \text{ Max}$	N	5500
Maximum axial force based on gearbox axis and T2=0Nm	$F_a \text{ Max}$	N	6400

$$(1) \text{ Max. motor weight* in kg} = \frac{0.2 \times M_b}{\text{motor length in m}}$$

\* with symmetrically distributed motor weight  
\* with horizontal and stationary mounting



Ratio-dependent gearbox data	Character	Unit										
Ratio	bii	-	12	15	16	20	25	35	40	50	70	100
Nominal output torque No alternating torque (2)	$T_{2N}$	Nm	54	54	80	80	80	80	80	80	78	59
Nominal output torque Alternating torque permitted for 10,000,000 load changes (3)	$T_{2N 10Mio}$	Nm	54	54	76	76	76	76	76	76	76	59
Nominal output torque Alternating torque permitted for 100,000,000 load changes (3)	$T_{2N 100Mio}$	Nm	54	54	60	60	60	60	60	60	60	59
Max. output torque for 30,000 output shaft rotations (2)	$T_{2max}$	Nm	86	86	128	128	128	128	128	128	125	94
Emergency stop torque permitted 1000 times	$T_{2Stop}$	Nm	220	220	300	300	300	300	300	300	175	200
Average idle torque for $n_1=3,000$ rpm and 20 °C gearbox temperature	$T_0$	Nm	0,65	0,5	0,6	0,5	0,45	0,35	0,3	0,3	0,3	0,3
Average thermal input speed at 50% $T_{2N}$ , S1, and $T_{Amb}$ Operating temperature may not be exceeded!	$n_{1N 50\%}$	rpm	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500
Average thermal input speed at 100% $T_{2N}$ , S1, and $T_{Amb}$ Operating temperature may not be exceeded!	$n_{1N 100\%}$	rpm	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500
Max. mechanical input speed Operating temperature may not be exceeded!	$n_1 \text{ Limit}$	rpm	14000	14000	14000	14000	14000	14000	14000	14000	14000	14000
Torsional backlash based on output shaft	$j_t$	arcmin	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Torsional stiffness based on output shaft	$c_g$	Nm/arcmin	10,7	10,8	13	13	13,2	13	12,6	12,9	11,7	10,9
Efficiency at $T_{2N}$ , gearbox temperature 70 °C and $n_1=1,000$ rpm	$\eta$	%	95	95	96	96	95	94	94	93	91	86
Running noise at $n_1=3,000$ rpm without load at a distance of 1m	$Q_g$	dB(A)	58	58	58	58	58	58	58	58	58	58
Gearbox weight	$m_G$	kg	4,5	4,5	4,5	4,5	4,5	4,5	4,5	4,5	4,6	4,6
Mass moment of inertia based on clamping system diameter input	J	kgcm <sup>2</sup>	0,461	0,428	0,443	0,416	0,412	0,392	0,383	0,382	0,381	0,381

Subject to modifications.



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/(L20)/(D21)/(D22)/B5/(G3)

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