

Flange output shaft (similar ISO 9409-1)

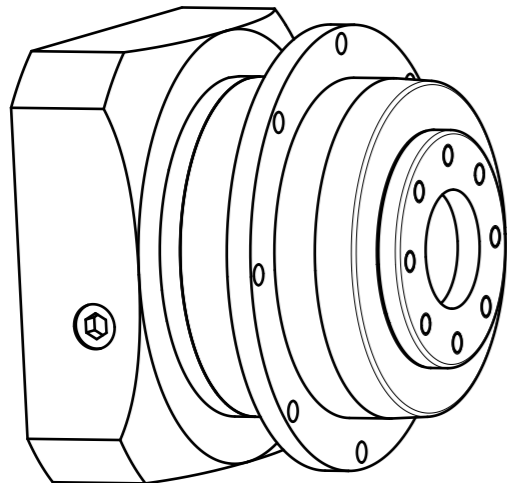
**Materials / Surfaces:**


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: 7:10	DIN A3	ISO
	Revision status: H from: 04/2022		
	Changed revision status: G from: 02/2020		
General tolerance DIN ISO 2768-cL	PSFN090-aii-SSSD3AE-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	-	1-stage
Output shaft bearing	-	-	Inclined roller bearings
Service life (L10h)	t <sub>L</sub>	h	20.000
Max. operating temperature	T <sub>min</sub> / T <sub>max</sub>	°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 <sub>b</sub>	Nm	38
Motor shaft concentricity / Coaxiality and axial runout Motor flange	-	mm	0,02 / 0,04 (Measuring methods according to DIN EN 50347)
Required motor shaft tolerance	-	-	j6; k6
Min. permissible motor shaft length	L <sub>20 min</sub>	mm	29
Reference operating mode	-	-	S1
Reference operating factor	K <sub>A</sub>	-	1
Reference speed	n <sub>2</sub>	rpm	100
Reference ambient temperature	T <sub>Amb</sub>	°C	20
Radial force for output bearing based on shaft end after L10h=20,000h with Fa=0N	F <sub>r 20.000h</sub>	N	3950
Axial force for output bearing based on gearbox axis after L10h=20,000h with Fr=0N	F <sub>a 20.000h</sub>	N	8200
Radial force for output bearing based on shaft end after L10h=30,000h with Fa=0N	F <sub>r 30.000h</sub>	N	3500
Axial force for output bearing based on gearbox axis after L10h=30,000h with Fr=0N	F <sub>a 30.000h</sub>	N	7200
Maximum radial force based on shaft end and T2=0Nm	F <sub>r Max</sub>	N	3950
Maximum axial force based on gearbox axis and T2=0Nm	F <sub>a Max</sub>	N	8200

$$(1) \text{ Max. motor weight* in kg} = \frac{0,2 \times M_b}{\text{motor length in m}}$$

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

Ratio-dependent gearbox data	Character	Unit					
Ratio	aii	-	4	5	7	8	10
Nominal output torque	T <sub>2N</sub>	Nm	80	80	78	75	59
Max. output torque for 30,000 output shaft rotations	T <sub>2max</sub>	Nm	128	128	125	120	94
Emergency stop torque permitted 1000 times	T <sub>2stop</sub>	Nm	280	280	175	200	200
Average idle torque for n1=3,000 rpm and 20 °C gearbox temperature	T <sub>0</sub>	Nm	1,65	1,15	0,75	0,7	0,5
Average thermal input speed at 50% T2N, S1, and T_Amb Operating temperature may not be exceeded!	n <sub>1N 50%</sub>	rpm	2400	2950	3800	4000	4000
Average thermal input speed at 100% T2N, S1, and T_Amb Operating temperature may not be exceeded!	n <sub>1N 100%</sub>	rpm	2250	2750	3550	3800	4000
Max. mechanical input speed Operating temperature may not be exceeded!	n <sub>1 Limit</sub>	rpm	10000	10000	10000	10000	10000
Torsional backlash based on output shaft	j <sub>t</sub>	arcmin	< 3	< 3	< 3	< 3	< 3
Torsional stiffness based on output shaft	c <sub>g</sub>	Nm/arcmin	31	32	26	27,5	21,5
Efficiency at T2N, gearbox temperature 70 °C and n1=1,000rpm	η	%	97	97	97	96	95
Running noise at n1=3,000 rpm without load at a distance of 1m	Q <sub>g</sub>	dB(A)	58	58	58	58	58
Gearbox weight	m <sub>G</sub>	kg	3,6	3,6	3,6	3,6	3,6
Mass moment of inertia based on clamping system diameter input	J	kgcm <sup>2</sup>	0,719	0,597	0,5	0,481	0,45



PSFN090-aii-SSSD3AE-Z(D20)  
/(L20)/(D21)/(D22)/B5/(G3)

Sheet 2/2

Subject to modifications.

Revision status: H from: 04/2022