

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 _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	80
Motor shaft concentricity / Coaxiality and axial runout Motor flange	-	mm	0,02 / 0,05 (Measuring methods according to DIN EN 50347)
Required motor shaft tolerance	-	-	j6; k6
Min. permissible motor shaft length	L _{20 min}	mm	29
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 end after L10h=20,000h with Fa=0N	F _{r 20.000h}	N	4900
Axial force for output bearing based on gearbox axis after L10h=20,000h with Fr=0N	F _{a 20.000h}	N	9500
Radial force for output bearing based on shaft end after L10h=30,000h with Fa=0N	F _{r 30.000h}	N	4350
Axial force for output bearing based on gearbox axis after L10h=30,000h with Fr=0N	F _{a 30.000h}	N	8400
Maximum radial force based on shaft end and T2=0Nm	F _{r Max}	N	4900
Maximum axial force based on gearbox axis and T2=0Nm	F _{a Max}	N	9500

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

- * 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 _{2N}	Nm	180	175	175	155	140
Max. output torque for 30,000 output shaft rotations	T _{2max}	Nm	288	280	280	248	224
Emergency stop torque permitted 1000 times	T _{2stop}	Nm	650	650	340	380	480
Average idle torque for n1=3,000 rpm and 20 °C gearbox temperature	T ₀	Nm	3,8	2,6	1,6	1,3	1
Average thermal input speed at 50% T2N, S1, and T_Amb Operating temperature may not be exceeded!	n _{1N 50%}	rpm	1800	2250	2950	3300	3500
Average thermal input speed at 100% T2N, S1, and T_Amb Operating temperature may not be exceeded!	n _{1N 100%}	rpm	1700	2050	2750	3050	3500
Max. mechanical input speed Operating temperature may not be exceeded!	n _{1 Limit}	rpm	8500	8500	8500	8500	8500
Torsional backlash based on output shaft	j _t	arcmin	< 3	< 3	< 3	< 3	< 3
Torsional stiffness based on output shaft	c _g	Nm/arcmin	81	77	68	67	64
Efficiency at T2N, gearbox temperature 70 °C and n1=1,000rpm	η	%	97	97	97	97	96
Running noise at n1=3,000 rpm without load at a distance of 1m	Q _g	dB(A)	63	63	63	63	63
Gearbox weight	m _G	kg	5,2	5,4	5,4	5,4	5,4
Mass moment of inertia based on clamping system diameter input	J	kgcm ²	2,029	1,605	1,336	1,261	1,18



PSFN110-aii-SSSD3AF-Z(D20)
/(L20)/(D21)/(D22)/B5/(G3)

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Subject to modifications.

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