

Flange output shaft with dowel hole (ISO 9409-1)

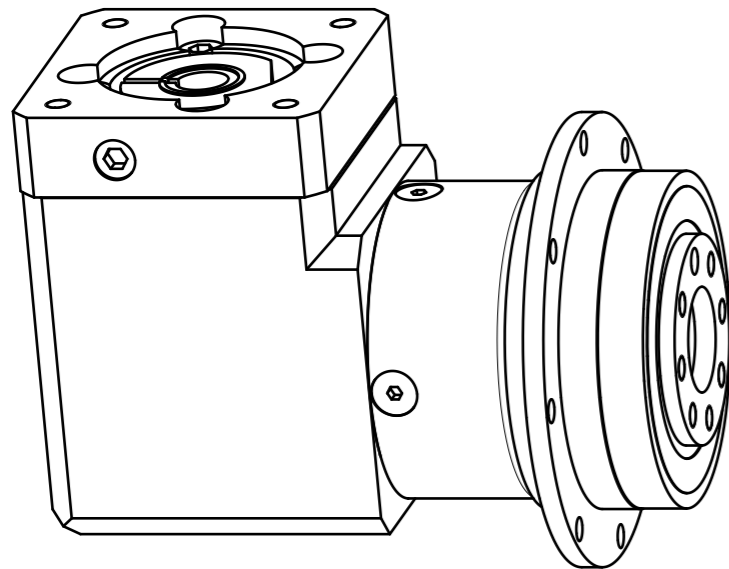
**Materials / Surfaces:**


Input flange: Aluminum / untreated  
 Angle housing: 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: 4:5	DIN A3	ISO
	Revision status: F from: 01/2023		
Changed revision status: E from: 09/2022			
General tolerance DIN ISO 2768-cl	W PLFE064-bii-SSSE3AD-Y(D20) /(L20)/(D21)/(D22)/B5/(G3)		
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General gearbox data	Character	Unit	
Bevel gearbox - gearing type	-	-	Straight teeth
Rotation direction	-	-	Input and output in the same direction
Number of stages	p	-	2-stage
Output shaft bearing	-	-	Deep groove ball bearing
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 54
Right angle gearbox lubrication (lubricated for life)	-	-	Standard lubrication (KLüberplex BEM 34-132)
Planetary gearbox lubrication (lubricated for life)	-	-	Standard lubrication (KLübersynth GE 14-112)
Installation position	-	-	Any
Max. bending moment based on the gearbox input flange (for motor weight) (1)	M <sub>b</sub>	Nm	5
Motor shaft concentricity / Coaxiality and axial runout Motor flange	-	mm	0,03 / 0,06 (Measuring methods according to DIN EN 50347)
Required motor shaft tolerance	-	-	j6; k6
Min. permissible motor shaft length	L <sub>20 min</sub>	mm	14,5
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	550
Axial force for output bearing based on gearbox axis after L10h=20,000h with Fr=0N	F <sub>a 20.000h</sub>	N	1200
Radial force for output bearing based on shaft end after L10h=30,000h with Fa=0N	F <sub>r 30.000h</sub>	N	500
Axial force for output bearing based on gearbox axis after L10h=30,000h with Fr=0N	F <sub>a 30.000h</sub>	N	1200
Maximum radial force based on shaft end and T2=0Nm	F <sub>r Max</sub>	N	900
Maximum axial force based on gearbox axis and T2=0Nm	F <sub>a Max</sub>	N	1200

Ratio-dependent gearbox data	Character	Unit										
Ratio	bii	-	9	12	15	16	20	25	32	40	64	100
Nominal output torque	T <sub>2N</sub>	Nm	44 <sup>(5)</sup>	44	44	44	44	40	44	40	18	15
Max. output torque for 30.000 output shaft rotations	T <sub>2max</sub>	Nm	70	70	70	70	70	64	70	64	29	24
Emergency stop torque permitted 1000 times	T <sub>2Stop</sub>	Nm	88	88	88	88	88	80	88	80	80	80
Average idle torque for n1=3.000 rpm and 20 °C gearbox temperature	T <sub>0</sub>	Nm	0,2	0,2	0,15	0,2	0,15	0,15	0,15	0,15	0,15	0,15
Average thermal input speed at 50% T2N, S1, and T_Amb Operating temperature may not be exceeded!	n <sub>1N 50%</sub>	rpm	4300	4500	4500	4500	4500	4500	4500	4500	4500	4500
Average thermal input speed at 100% T2N, S1, and T_Amb Operating temperature may not be exceeded!	n <sub>1N 100%</sub>	rpm	3200	3700	4300	4400	4500	4500	4500	4500	4500	4500
Max. mechanical input speed Operating temperature may not be exceeded!	n <sub>1 Limit</sub>	rpm	13000	13000	13000	13000	13000	13000	13000	13000	13000	13000
Torsional backlash based on output shaft	j <sub>t</sub>	arcmin	< 18	< 18	< 18	< 18	< 18	< 18	< 18	< 18	< 18	< 18
Torsional stiffness based on output shaft	c <sub>g</sub>	Nm/arcmin	7,8	9,8	9,2	10,8	10,9	11,5	11,1	11,6	7,4	5,1
Efficiency at T2N, gearbox temperature 70 °C and n1=1.000rpm	η	%	92	92	91	91	90	89	89	87	75	64
Running noise at n1=3.000 rpm without load at a distance of 1m	Q <sub>g</sub>	dB(A)	70	70	70	70	70	70	70	70	70	70
Gearbox weight	m <sub>G</sub>	kg	2	2	2,1	2,1	2,1	2,1	2,1	2,1	2,1	2,1
Mass moment of inertia based on clamping system diameter input	J	kgcm <sup>2</sup>	0,371	0,364	0,248	0,256	0,246	0,244	0,235	0,235	0,234	0,232

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

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

(5) Different Lifetime: 10,000h at T2N

Subject to modifications.



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