

**Materials / Surfaces:**

Input flange: Aluminum / untreated  
 Angle housing: Aluminum / Anodized (black)  
 Intermediate flange: Aluminum / untreated  
 Enclosure planetary stage: 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.

Feather key  
 DIN 6885-A-10x8x50

0.03 A B

B

⊥ 0.02 A

Centre hole  
 DIN 332 DR-M12x28



Scale: 1:2 DIN A3 ISO

Revision status: P from: 08/2023

Changed revision status: 0 from: 09/2022

General tolerance  
 DIN ISO 2768-cL

WPLN115-bii-SSSA3AF-Z(D20)  
 /(L20)/(D21)/(D22)/B5/(G3)

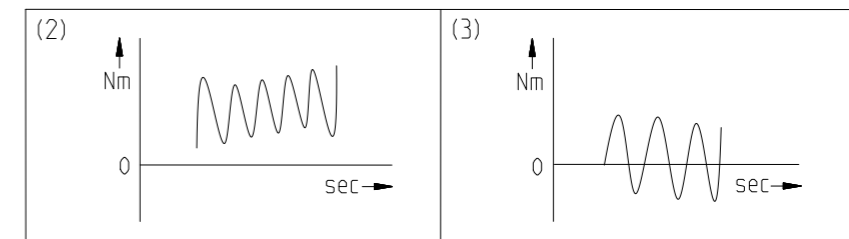
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General gearbox data	Character	Unit	
Bevel gearbox - gearing type	-	-	Hypoid teeth
Planetary gearbox - gearing type	-	-	Straight teeth
Rotation direction	-	-	Input and output in opposite directions
Number of stages	p	-	2-stage
Output shaft bearing	-	-	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)
Installation position	-	-	Any
Max. bending moment based on the gearbox input flange (for motor weight) (1)	$M_b$	Nm	25,5
Motor shaft concentricity / Coaxiality and axial runout Motor flange	-	-	0,015 / 0,03 (Measuring methods according to DIN EN 50347)
Required motor shaft tolerance	-	-	j6; k6
Min. permissible motor shaft length	$L_{20min}$	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	6000
Axial force for output bearing based on gearbox axis after L10h=20.000h with Fr=0N	$F_a 20.000h$	N	8000
Radial force for output bearing based on shaft center after L10h=30.000h with Fa=0N	$F_r 30.000h$	N	5400
Axial force for output bearing based on gearbox axis after L10h=30.000h with Fr=0N	$F_a 30.000h$	N	7000
Maximum radial force based on shaft center and T2=0Nm	$F_r Max$	N	6000
Maximum axial force based on gearbox axis and T2=0Nm	$F_a Max$	N	8000


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

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



Ratio-dependent gearbox data	Character	Unit										
Ratio	bii	-	16	20	25	28	32	35	40	50	64	100
Nominal output torque No alternating torque (2)	$T_{2N}$	Nm	300	300	260	204	200	255	250	200	150	125
Nominal output torque Alternating torque permitted for 10.000.000 load changes (3)	$T_{2N 10Mio}$	Nm	239	239	239	204	200	239	239	200	150	125
Nominal output torque Alternating torque permitted for 100.000.000 load changes (3)	$T_{2N 100Mio}$	Nm	190	190	190	190	190	190	190	190	150	125
Max. output torque for 30.000 output shaft rotations (2)	$T_{2max}$	Nm	480	480	416	328	320	410	400	320	240	200
Emergency stop torque permitted 1000 times	$T_{2stop}$	Nm	650	650	650	600	600	650	650	600	380	480
Average idle torque for $n_1=3.000$ rpm and 20 °C gearbox temperature	$T_0$	Nm	2.05	1,5	1,45	1,95	1,95	1,95	1,9	1,85	1,2	1,15
Average thermal input speed at 50% $T_{2N}$ , S1, and $T_{Amb}$ Operating temperature may not be exceeded!	$n_{IN 50\%}$	rpm	1650	1950	2150	2150	2200	2200	2250	2400	2850	3050
Average thermal input speed at 100% $T_{2N}$ , S1, and $T_{Amb}$ Operating temperature may not be exceeded!	$n_{IN 100\%}$	rpm	1250	1450	1750	1850	1900	1900	1900	2150	2700	2900
Max. mechanical input speed Operating temperature may not be exceeded!	$n_1 Limit$	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	16,9	16,9	16	15,4	14,9	14,6	14,3	14	13,7	12,8
Efficiency at $T_{2N}$ , gearbox temperature 70 °C and $n_1=1.000$ rpm	$\eta$	%	94	94	93	91	90	90	90	87	85	78
Running noise at $n_1=3.000$ rpm without load at a distance of 1m	$Q_g$	dB(A)	68	68	68	68	68	68	68	68	68	68
Gearbox weight	$m_G$	kg	11,3	11,4	11,4	11,4	11,4	11,5	11,4	11,4	11,5	11,2
Mass moment of inertia based on clamping system diameter input	J	kgcm <sup>2</sup>	2,697	2,519	2,511	2,375	2,338	2,371	2,335	2,294	2,331	2,292

Subject to modifications.



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