

5.3.7 Type L 045 – Miniature bevel gearboxes



Characteristics

Characteristic	Standard	Option
Toothing	Bevel gear set, spiral-toothed	See chapter 5.2
Gear ratio	1:1 to 4:1	
Housing / Flanges	Aluminium	See chapter 5.2
Threaded mounting hole	On all housing surfaces without flange and on all flanges.	See chapter 5.2.2
Shaft	Material 1 C45, shaft ends greased Fit with ISO 6 tolerance with parallel keyway: according to DIN 6885 Sheet 1	See chapter 4.6.2
Hollow shaft	Material 1 C45, shafts greased Fit with ISO 7 tolerance with parallel keyway according to DIN 6885 Sheet 1	See chapter 4.6.3
Radial shaft seal ring	NBR, form A	See chapter 4.8
Ambient temperature	- 10°C to + 90°C. The values of the performance tables are valid for +20°C	See chapter 4.9.3
Circumferential backlash	< 30 arcmin	See chapter 5.2.9
Protection class	IP 54	See chapter 4.5
Corrosion protection	-	See chapter 5.2.10
Bearing life L10h	more than 15,000h	See chapter 4.9.1
Oil change intervals	Not required	See chapter 5.2.7
Lubricant	Synthetic lubricants	See chapter 5.2.7

Performance data

n_1 [rpm]	1:1			2:1			3:1			4:1		
	n_2 [rpm]	P_{1N} [kW]	T_{2N} [Nm]	n_2 [rpm]	P_{1N} [kW]	T_{2N} [Nm]	n_2 [rpm]	P_{1N} [kW]	T_{2N} [Nm]	n_2 [rpm]	P_{1N} [kW]	T_{2N} [Nm]
3000	3000	1.32	4.0	1500	0.74	4.5	1000	0.33	3.0	750	0.29	3.5
2400	2400	1.19	4.5	1200	0.63	4.8	800	0.30	3.4	600	0.24	3.6
1500	1500	0.99	6.0	750	0.41	5.0	500	0.19	3.5	375	0.16	3.8
1000	1000	0.77	7.0	500	0.30	5.5	333	0.15	4.0	250	0.11	4.0
750	750	0.60	7.3	375	0.24	5.7	250	0.12	4.2	188	0.09	4.2
500	500	0.44	8.0	250	0.17	6.0	167	0.08	4.5	125	0.06	4.3
250	250	0.25	9.0	125	0.09	6.5	83	0.05	5.0	63	0.03	4.5
50	50	0.05	9.0	25	0.02	7.0	17	0.01	5.5	13	0.01	4.5
P_{1Nt} [kW]		0.60				0.60			0.60			0.60
T_{2max} [Nm]		16.00				12.00			10.00			8.00

Permissible radial force F_{r1} and axial force F_{a1} on shaft N_1

n_1 [rpm]	3000		1000		500		250		100		50	
T_2 [Nm]	F_r [N]	F_a [N]	F_r [N]	F_a [N]	F_r [N]	F_a [N]	F_r [N]	F_a [N]	F_r [N]	F_a [N]	F_r [N]	F_a [N]
	80	40	100	50	120	60	150	75	200	100	250	125

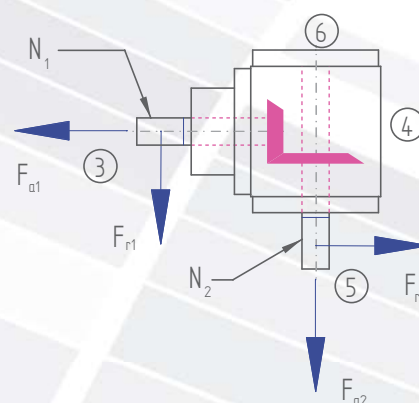
Permissible radial force F_{r2} and axial force F_{a2} on shaft N_2

n_1 [rpm]	3000		1000		500		250		100		50	
T_2 [Nm]	F_r [N]	F_a [N]	F_r [N]	F_a [N]	F_r [N]	F_a [N]	F_r [N]	F_a [N]	F_r [N]	F_a [N]	F_r [N]	F_a [N]
	100	50	170	85	220	110	300	150	400	200	500	250

Inertia moments/mass

Model	Inertia moment [kgcm ²]			
	1:1	2:1	3:1	4:1
A0	0.0630	0.0340	0.0310	0.0300
B0	0.1380	0.0550	0.0390	0.0350
C0	0.1380	0.0550	0.0390	0.0350
D0	0.1400	0.0550	0.0390	0.0350
E0N	0.1310	0.0530	0.0380	0.0350
F0	0.0630	0.0340	0.0310	0.0300
G0	0.2010	0.0870	0.0700	0.0660
H0	0.2010	0.0870	0.0700	0.0660
J0	0.2030	0.0880	0.0700	0.0660
K0N	0.1940	0.0860	0.0690	0.0650

Mass ca. [g]
510
500
500
530
460
700
660
660
690
620



The mass of the gearbox may deviate depending on the gear ratio.

5.3.7 Type L 045 – Miniature bevel gearboxes

