

8GP50-120 standard

Technical data



8GP50-120hh003klmm
 8GP50-120hh004klmm
 8GP50-120hh005klmm
 8GP50-120hh008klmm
 8GP50-120hh010klmm
 8GP50-120hh009klmm
 8GP50-120hh012klmm
 8GP50-120hh015klmm
 8GP50-120hh016klmm
 8GP50-120hh020klmm
 8GP50-120hh025klmm
 8GP50-120hh032klmm
 8GP50-120hh040klmm
 8GP50-120hh064klmm
 8GP50-120hh100klmm

Gearbox

Number of gear stages	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2
Gear ratio i	3	4	5	8	10	9	12	15	16	20	25	32	40	64	100
Nominal output torque T_{2N} [Nm]	115	155	172	120	95	157	195	172	195	195	172	195	172	120	95
Max. output torque T_{2max} [Nm]	184	248	275	192	152	251	312	275	312	312	275	312	275	192	152
E-stop torque T_{2stop} [Nm]	390	520	500	380	480	500	520	500	520	520	500	520	500	380	480
Idle torque [Nm] at 20°C and 3000 rpm	1.8	1.4	1.05	0.7	0.6	0.85	0.8	0.75	0.75	0.65	0.6	0.5	0.5	0.45	0.45
Max. average drive speed $n_{1N50\%}$ [rpm] at 50% T_{2N} and S1	2650	2800	3100	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500
Max. average drive speed $n_{1N100\%}$ [rpm] at 100% T_{2N} and S1	2050	2050	2200	3500	3500	2700	2750	3250	3200	3500	3500	3500	3500	3500	3500
Max. drive speed n_{1max} [rpm]	6500														
Max. backlash J_1 [arcmin]	7	7	7	7	7	9	9	9	9	9	9	9	9	9	9
Reduced backlash J_1 [arcmin] less than	0														
Torsional rigidity C_{t21} [Nm/arcmin]	12	12	12	12	12	13	13	13	13	13	13	13	13	13	13
Tilting rigidity C_{2K} [Nm/arcmin]	0														
Max. breakdown torque M_{2Kmax} [Nm]	0														
Max. radial force F_{rmax} [N] for 30,000 h	2150														
Max. radial force F_{rmax} [N] for 20,000 h	2500														
Max. axial force F_{amax} [N] for 30,000 h	3000														
Max. axial force F_{amax} [N] for 20,000 h	4000														
Operating noise L_{pA} [dB(A)]	65														
Efficiency at full load η [%]	96	96	96	96	96	94	94	94	94	94	94	94	94	94	94
Min. operating temperature $B_{Tempmin}$ [°C]	-25														
Max. operating temperature $B_{Tempmax}$ [°C]	90														
Mounting orientation	Any														
Protection	IP54														
Weight m [kg]	7.5	7.5	7.5	7.5	7.5	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7
Moment of inertia J_1 [kgcm ²]	2.87	1.92	1.6	1.35	1.3	2.65	2.57	2.54	1.76	1.5	1.5	1.3	1.3	1.3	1.3

NOTE – Output torque / Max. output torque: This refers to an output shaft speed of $n_2 = 100$ rpm and application factor $K_A = 1$ as well as S1 operating mode for electrical machines and $T = 30^\circ\text{C}$, depending on the diameter of the motor shaft. The maximum output torque is only permissible for 30,000 revolutions!

NOTE – E-stop torque: Approved for 1000x

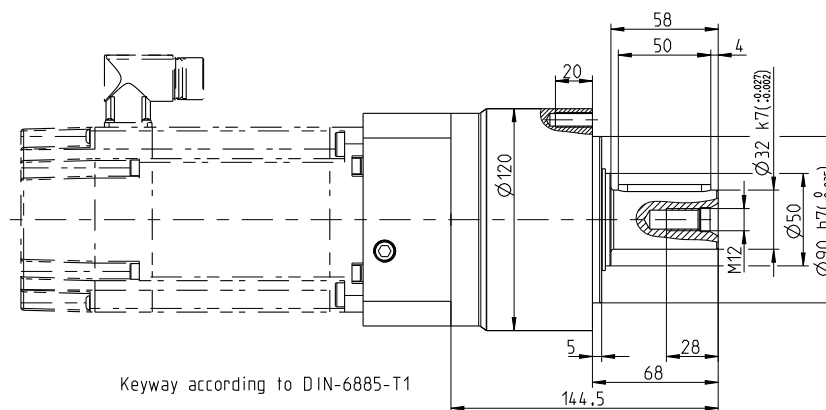
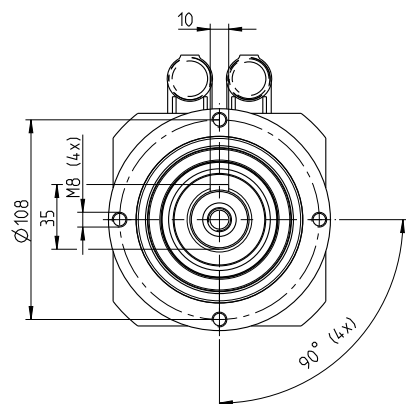
NOTE – Axial / radial force: With reference to the middle of the output shaft; the entries refer to an output shaft speed of $n_2 = 100$ rpm and application factor $K_A = 1$ as well as S1 operating mode for electrical machines and $T = 30^\circ\text{C}$

NOTE – Running noise: Noise level at a distance of 1 m; at an output speed of $n_1 = 3000$ rpm without a load; $i = 5$

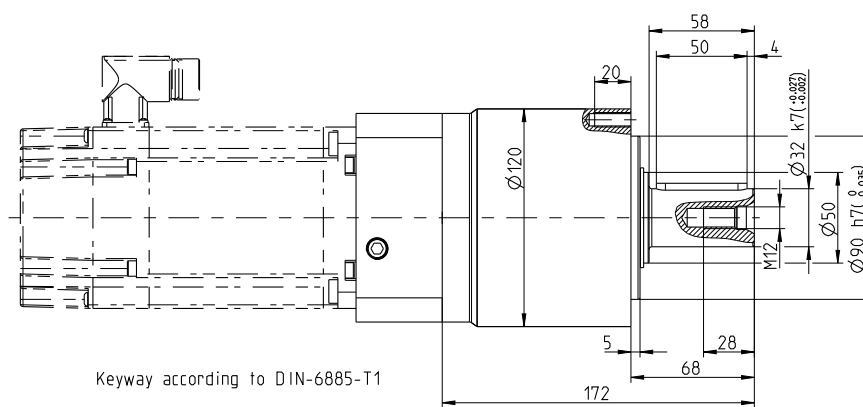
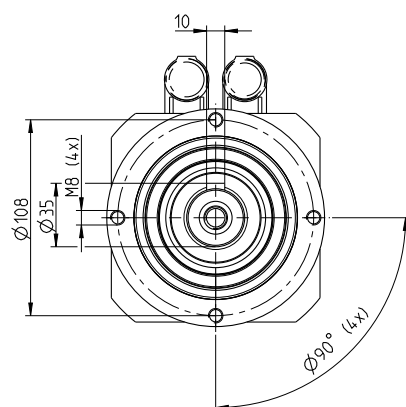
NOTE – Operating temperature: With reference to the middle of the housing surface

NOTE – Weight: Planetary gearbox including universal flange (specific weight upon request)

1-stage gear

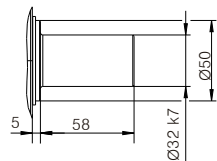


2-stage gear



Alternative drive shaft options

Smooth shaft



Adapter flange - Overview of dimensions

The flange length L completes the diagram for determining the gearbox length.

8GP50-120	8LSA3	8LSA/C4	8LSA/C5	8JSA4	8JSA5	8JSA6	8LSN4	8LSN5	80MPH
Flange length L [mm]	47.4	47.4	57.4	47.4	57.4	73	47.4	57.4	47.5
Flange diameter Q [mm]	115	115	140	115	115	140	115	140	115