

8GP40-040 standard

Technical data



8GP40-040hh003klmm
 8GP40-040hh004klmm
 8GP40-040hh005klmm
 8GP40-040hh008klmm
 8GP40-040hh010klmm
 8GP40-040hh009klmm
 8GP40-040hh012klmm
 8GP40-040hh015klmm
 8GP40-040hh016klmm
 8GP40-040hh020klmm
 8GP40-040hh025klmm
 8GP40-040hh032klmm
 8GP40-040hh040klmm
 8GP40-040hh064klmm
 8GP40-040hh100klmm

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]	11	15	14	6	5	16.5	20	18	20	20	18	20	18	7.5	5
Max. output torque T_{2max} [Nm]	18	24	22	10	8	26	32	29	32	32	29	32	29	12	8
E-stop torque T_{2stop} [Nm]	23	30	36	27	27	33	40	36	40	40	36	40	36	27	27
Idle torque [Nm] at 20°C and 3000 rpm	0.05														
Max. average drive speed $n_{1N50\%}$ [rpm] at 50% T_{2N} and S1	5000														
Max. average drive speed $n_{1N100\%}$ [rpm] at 100% T_{2N} and S1	5000														
Max. drive speed n_{1max} [rpm]	18000														
Max. backlash J_i [arcmin]	15	15	15	15	15	19	19	19	19	19	19	19	19	19	19
Reduced backlash J_i [arcmin] less than	0														
Torsional rigidity C_{t21} [Nm/arcmin]	1	1	1	1	1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Tilting rigidity C_{2K} [Nm/arcmin]	0														
Max. breakdown torque M_{2Kmax} [Nm]	0														
Max. radial force F_{rmax} [N] for 30,000 h	160														
Max. radial force F_{rmax} [N] for 20,000 h	200														
Max. axial force F_{amax} [N] for 30,000 h	160														
Max. axial force F_{amax} [N] for 20,000 h	200														
Operating noise L_{pA} [dB(A)]	58														
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]	0.35	0.35	0.35	0.35	0.35	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45
Moment of inertia J_1 [kgcm ²]	0.031	0.022	0.019	0.017	0.016	0.03	0.029	0.023	0.022	0.019	0.019	0.017	0.016	0.016	0.016

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

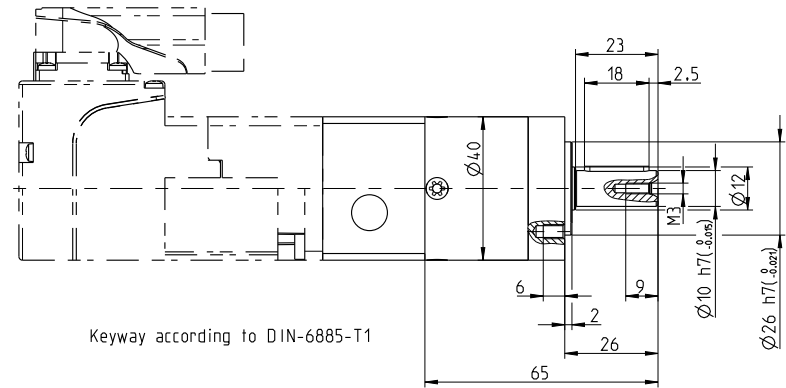
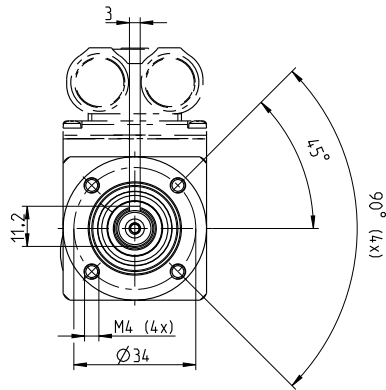
NOTE – Axial / radial force: With reference to the middle of the output shaft; the entries refer to an output shaft speed of $n_2 = 100$ rpm and application factor $K_A = 1$ as well as S1 operating mode for electrical machines and $T = 30^\circ\text{C}$

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

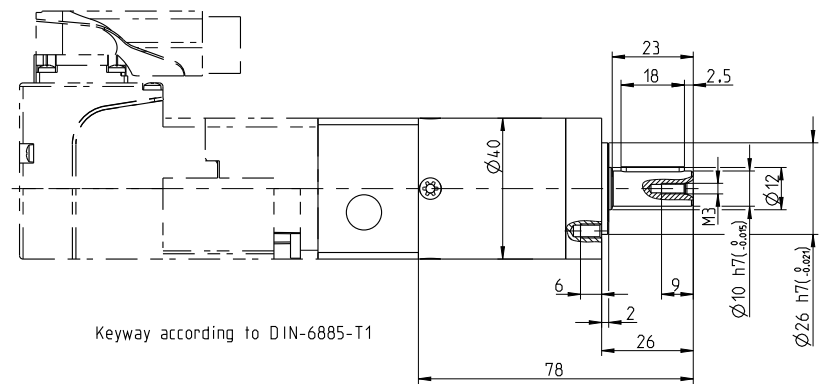
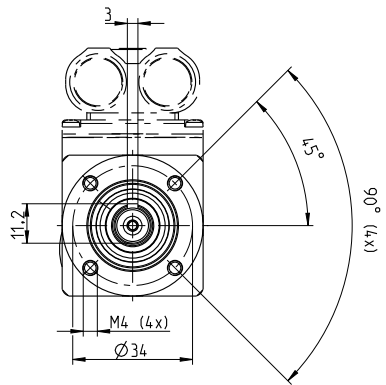
NOTE – Operating temperature: With reference to the middle of the housing surface

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

1-stage gear



2-stage gear



Adapter flange - Overview of dimensions

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

8GP40-040	8LSA2	8LVA1	8JSA2	80MPD	80MPF
Flange length L [mm]	27.5	28.5	28.5	24.5	24.5
Flange diameter Q [mm]	55	40	60	60	60

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8GP40-040hh060klmm

8GP40-040hh080klmm

8GP40-040hh120klmm

8GP40-040hh160klmm

8GP40-040hh200klmm

8GP40-040hh256klmm

8GP40-040hh320klmm

8GP40-040hh512klmm

Gearbox

Number of gear stages	3								
Gear ratio i	60	80	120	160	200	256	320	512	
Nominal output torque T_{2N} [Nm]	20	20	18	20	18	20	18	7.5	
Max. output torque T_{2max} [Nm]	32	32	29	32	29	32	29	12	
E-stop torque T_{2stop} [Nm]	40	40	36	40	36	40	36	27	
Idle torque [Nm] at 20°C and 3000 rpm	0.05								
Max. average drive speed $n_{1N50\%}$ [rpm] at 50% T_{2N} and S1	5000								
Max. average drive speed $n_{1N100\%}$ [rpm] at 100% T_{2N} and S1	5000								
Max. drive speed n_{1max} [rpm]	18000								
Max. backlash J_1 [arcmin]	22								
Reduced backlash J_1 [arcmin] less than	0								
Torsional rigidity C_{t21} [Nm/arcmin]	1								
Tilting rigidity C_{2K} [Nm/arcmin]	0								
Max. breakdown torque M_{2Kmax} [Nm]	0								
Max. radial force F_{rmax} [N] for 30,000 h	160								
Max. radial force F_{rmax} [N] for 20,000 h	200								
Max. axial force F_{amax} [N] for 30,000 h	160								
Max. axial force F_{amax} [N] for 20,000 h	200								
Operating noise L_{pA} [dB(A)]	58								
Efficiency at full load η [%]	90								
Min. operating temperature $B_{Tempmin}$ [°C]	-25								
Max. operating temperature $B_{Tempmax}$ [°C]	90								
Mounting orientation	Any								
Protection	IP54								
Weight m [kg]	0.55								
Moment of inertia J_1 [kgcm ²]	0.029	0.019	0.029	0.016	0.016	0.016	0.016	0.016	

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

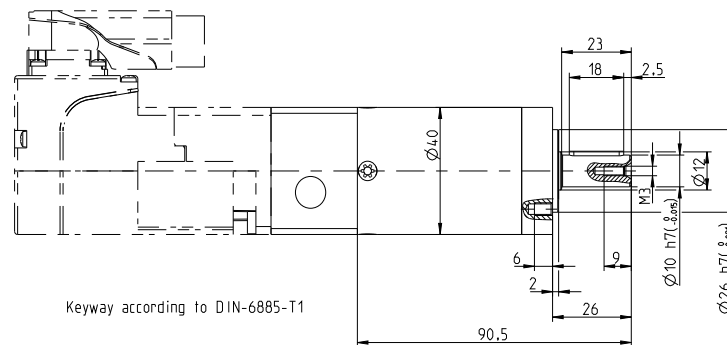
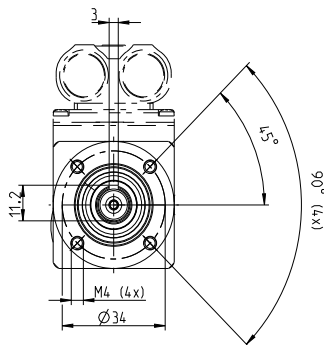
NOTE – Axial / radial force: With reference to the middle of the output shaft; the entries refer to an output shaft speed of $n_2 = 100$ rpm and application factor $K_A = 1$ as well as S1 operating mode for electrical machines and $T = 30^\circ\text{C}$

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

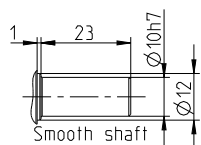
NOTE – Operating temperature: With reference to the middle of the housing surface

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

3-stage gear



Alternative drive shaft options



Adapter flange - Overview of dimensions

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

8GP40-040	8LSA2	8LVA1	8JSA2	80MPD	80MPF
Flange length L [mm]	27.5	28.5	28.5	24.5	24.5
Flange diameter Q [mm]	55	40	60	60	60