

8GP60-070 premium

Technical data



8GP60-070hh003klmm
 8GP60-070hh004klmm
 8GP60-070hh005klmm
 8GP60-070hh008klmm
 8GP60-070hh010klmm
 8GP60-070hh012klmm
 8GP60-070hh015klmm
 8GP60-070hh016klmm
 8GP60-070hh020klmm
 8GP60-070hh025klmm
 8GP60-070hh032klmm
 8GP60-070hh040klmm
 8GP60-070hh064klmm
 8GP60-070hh100klmm

Gearbox

| | | | | | | | | | | | | | | |
|--|-------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Number of gear stages | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Gear ratio i | 3 | 4 | 5 | 8 | 10 | 12 | 15 | 16 | 20 | 25 | 32 | 40 | 64 | 100 |
| Nominal output torque T_{2N} [Nm] | 45 | 60 | 65 | 40 | 27 | 68 | 68 | 77 | 77 | 65 | 77 | 65 | 40 | 27 |
| Max. output torque T_{2max} [Nm] | 72 | 96 | 104 | 64 | 43 | 109 | 109 | 123 | 123 | 104 | 123 | 104 | 64 | 43 |
| E-stop torque T_{2stop} [Nm] | 90 | 120 | 130 | 90 | 90 | 135 | 135 | 150 | 150 | 150 | 150 | 150 | 80 | 80 |
| Idle torque [Nm] at 20°C and 3000 rpm | 0.7 | 0.5 | 0.4 | 0.3 | 0.25 | 0.35 | 0.3 | 0.3 | 0.25 | 0.25 | 0.2 | 0.2 | 0.2 | 0.2 |
| Max. average drive speed $n_{1N50\%}$ [rpm] at 50% T_{2N} and S1 | 2050 | 2300 | 2650 | 3800 | 4400 | 3550 | 4000 | 3800 | 4300 | 4500 | 4500 | 4500 | 4500 | 4500 |
| Max. average drive speed $n_{1N100\%}$ [rpm] at 100% T_{2N} and S1 | 1700 | 1900 | 2100 | 3300 | 4000 | 2900 | 3300 | 3150 | 3600 | 4100 | 4500 | 4500 | 4500 | 4500 |
| Max. drive speed n_{1max} [rpm] | 14000 | | | | | | | | | | | | | |
| Max. backlash J_1 [arcmin] | 3 | 3 | 3 | 3 | 3 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| Reduced backlash J_1 [arcmin] less than | 2 | | | | | | | | | | | | | |
| Torsional rigidity C_{t21} [Nm/arcmin] | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| Tilting rigidity C_{2K} [Nm/arcmin] | 0 | | | | | | | | | | | | | |
| Max. breakdown torque M_{2Kmax} [Nm] | 0 | | | | | | | | | | | | | |
| Max. radial force F_{rmax} [N] for 30,000 h | 3200 | | | | | | | | | | | | | |
| Max. radial force F_{rmax} [N] for 20,000 h | 3200 | | | | | | | | | | | | | |
| Max. axial force F_{amax} [N] for 30,000 h | 3900 | | | | | | | | | | | | | |
| Max. axial force F_{amax} [N] for 20,000 h | 4400 | | | | | | | | | | | | | |
| Operating noise L_{pA} [dB(A)] | 58 | | | | | | | | | | | | | |
| Efficiency at full load η [%] | 98 | 98 | 98 | 98 | 98 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 |
| Min. operating temperature $B_{Tempmin}$ [°C] | -25 | | | | | | | | | | | | | |
| Max. operating temperature $B_{Tempmax}$ [°C] | 90 | | | | | | | | | | | | | |
| Mounting orientation | Any | | | | | | | | | | | | | |
| Protection | IP65 | | | | | | | | | | | | | |
| Weight m [kg] | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 2.4 | 2.4 | 2.4 | 2.4 | 2.4 | 2.4 | 2.4 | 2.4 | 2.4 |
| Moment of inertia J_1 [kgcm ²] | 0.4 | 0.32 | 0.28 | 0.25 | 0.25 | 0.4 | 0.38 | 0.35 | 0.33 | 0.3 | 0.32 | 0.29 | 0.26 | 0.25 |

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

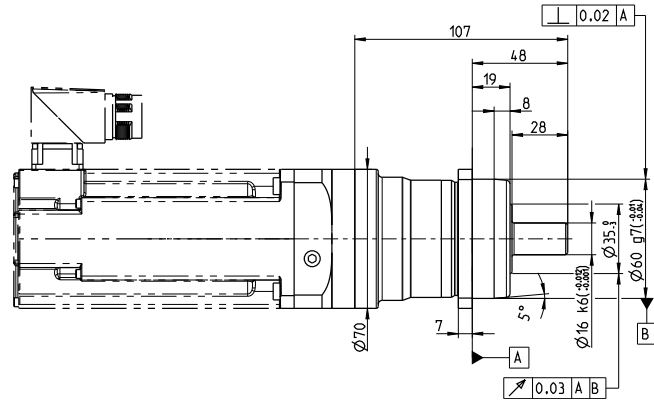
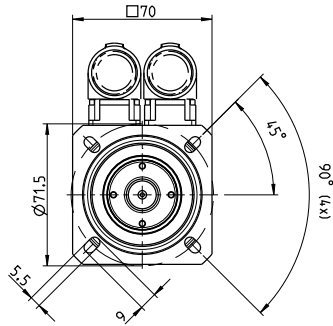
NOTE – Axial / radial force: With reference to the middle of the output shaft; the entries refer to an output shaft speed of $n_2 = 100$ rpm and application factor $K_A = 1$ as well as S1 operating mode for electrical machines and $T = 30^\circ\text{C}$

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

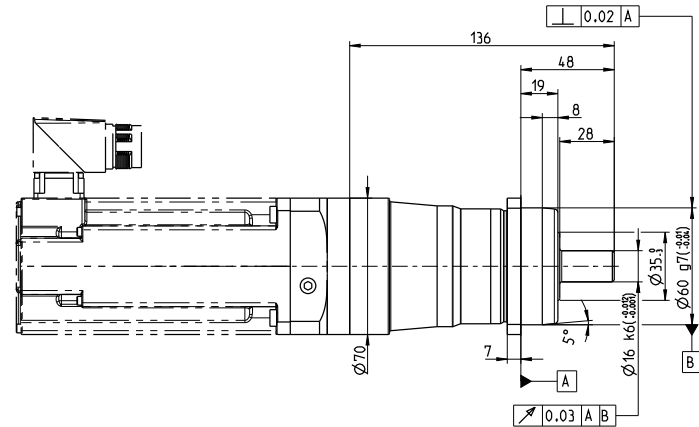
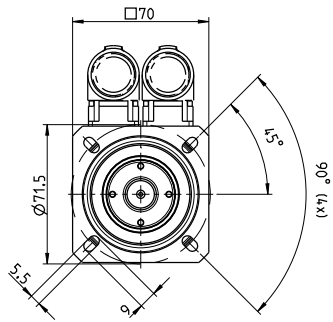
NOTE – Operating temperature: With reference to the middle of the housing surface

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

1-stage gear

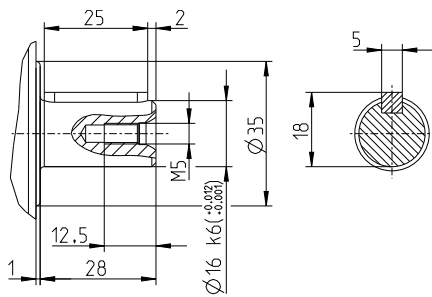


2-stage gear

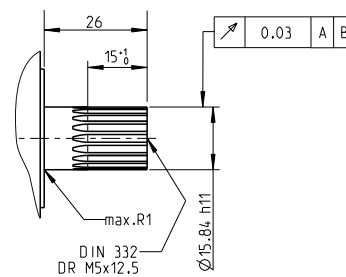


Alternative drive shaft options

Shaft keys according to DIN 6885 form A



Spline shaft according to DIN 5480 - W 16 x 0.8 x 30 x 18 x 6 m



Adapter flange - Overview of dimensions

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

| 8GP60-070 | 8LSA2 | 8LSA3 | 8LVA2 | 8LVA3 | 8JSA2 | 8JSA3 | 8JSA4 | 80MPH |
|------------------------|-------|-------|-------|-------|-------|-------|-------|-------|
| Flange length L [mm] | 37.5 | 37.5 | 37.5 | 48 | 30.5 | 37.5 | 48 | 47.5 |
| Flange diameter Q [mm] | 70 | 90 | 70 | 90 | 70 | 70 | 90 | 90 |