

8GF70-110 premium

Technical data



8GF70-110hh004kimm

8GF70-110hh005kimm

8GF70-110hh007kimm

8GF70-110hh010kimm

8GF70-110hh016kimm

8GF70-110hh020kimm

8GF70-110hh025kimm

8GF70-110hh035kimm

8GF70-110hh040kimm

8GF70-110hh050kimm

8GF70-110hh070kimm

8GF70-110hh100kimm

Gearbox

| | | | | | | | | | | | | |
|--|-------|-------|-------|-------|-------|-------|-------|------|-------|-------|-------|-------|
| Number of gear stages | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Gear ratio i | 4 | 5 | 7 | 10 | 16 | 20 | 25 | 35 | 40 | 50 | 70 | 100 |
| Nominal output torque T_{2N} [Nm] | 180 | 175 | 175 | 140 | 180 | 180 | 175 | 175 | 180 | 175 | 175 | 140 |
| Max. output torque T_{2max} [Nm] | 288 | 280 | 280 | 224 | 288 | 288 | 280 | 280 | 288 | 280 | 280 | 224 |
| E-stop torque T_{2stop} [Nm] | 650 | 650 | 340 | 480 | 650 | 650 | 650 | 650 | 650 | 650 | 340 | 480 |
| Idle torque [Nm] at 20°C and 3000 rpm | 3.8 | 2.6 | 1.6 | 1 | 1.45 | 1.05 | 0.95 | 0.65 | 0.5 | 0.5 | 0.45 | 0.45 |
| Max. average drive speed $n_{1N50\%}$ [rpm] at 50% T_{2N} and S1 | 1800 | 2250 | 2950 | 3500 | 3800 | 4000 | 4000 | 4000 | 4000 | 4000 | 4000 | 4000 |
| Max. average drive speed $n_{1N100\%}$ [rpm] at 100% T_{2N} and S1 | 1700 | 2050 | 2750 | 3500 | 3550 | 4000 | 4000 | 4000 | 4000 | 4000 | 4000 | 4000 |
| Max. drive speed n_{1max} [rpm] | 8500 | | | | | | | | | | | |
| Max. backlash J_1 [arcmin] | 3 | 3 | 3 | 3 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| Reduced backlash J_1 [arcmin] less than | 1 | | | | | | | | | | | |
| Torsional rigidity C_{t21} [Nm/arcmin] | 90 | 90 | 90 | 90 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 |
| Tilting rigidity C_{2K} [Nm/arcmin] | 590 | | | | | | | | | | | |
| Max. breakdown torque M_{2Kmax} [Nm] | 534 | | | | | | | | | | | |
| Max. radial force F_{rmax} [N] for 30,000 h | 4800 | | | | | | | | | | | |
| Max. radial force F_{rmax} [N] for 20,000 h | 5500 | | | | | | | | | | | |
| Max. axial force F_{amax} [N] for 30,000 h | 8400 | | | | | | | | | | | |
| Max. axial force F_{amax} [N] for 20,000 h | 9500 | | | | | | | | | | | |
| Operating noise L_{pA} [dB(A)] | 63 | | | | | | | | | | | |
| Efficiency at full load η [%] | 98 | 98 | 98 | 98 | 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] | 6.5 | 6.5 | 6.5 | 6.5 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 |
| Moment of inertia J_1 [kgcm ²] | 1.811 | 1.347 | 1.044 | 0.862 | 0.581 | 0.453 | 0.434 | 0.35 | 0.311 | 0.307 | 0.304 | 0.302 |

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

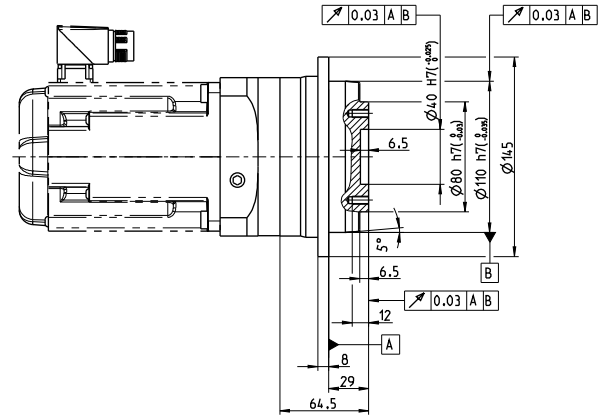
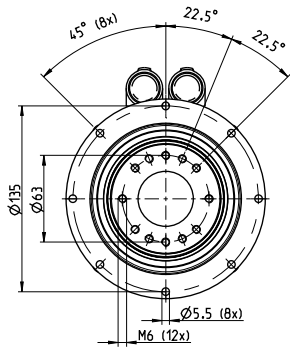
NOTE – Axial / radial force: With reference to the middle of the output shaft; the entries refer to an output shaft speed of $n_2 = 100$ rpm and application factor $K_A = 1$ as well as S1 operating mode for electrical machines and $T = 30^\circ\text{C}$

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

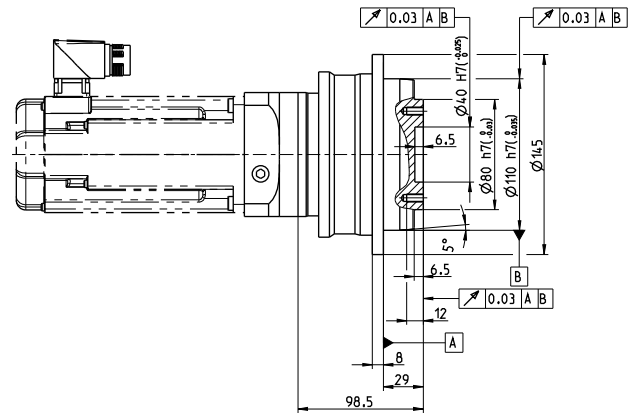
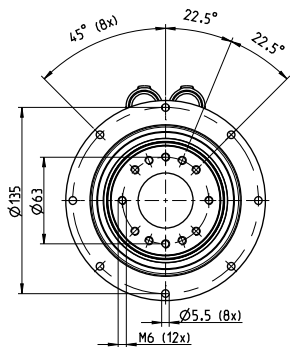
NOTE – Operating temperature: With reference to the middle of the housing surface

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.

| 8GF70-110 | 8LSA3 | 8LSA4 | 8LSA5 | 8LVA2 | 8LVA3 | 8JSA3 | 8JSA4 | 8JSA5 | 8JSA6 | 8LSN4 | 8LSN5 | 80MPH |
|------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| One-stage | | | | | | | | | | | | |
| Flange length L [mm] | 43.4 | 43.4 | 53.4 | --- | 43.4 | --- | 43.4 | 53.4 | 64.5 | 43.4 | 53.4 | 43.4 |
| Flange diameter Q [mm] | 115 | 115 | 142 | --- | 115 | --- | 115 | 115 | 150 | 120 | 142 | 115 |
| Two-stage | | | | | | | | | | | | |
| Flange length L [mm] | 31.6 | 41.6 | 51.7 | 31.6 | 41.6 | 31.6 | 41.6 | 51.7 | --- | 41.6 | 51.7 | 41.6 |
| Flange diameter Q [mm] | 90 | 115 | 142 | 90 | 90 | 90 | 90 | 115 | --- | 115 | 142 | 90 |