# 8GF60-110 premium

## Technical data

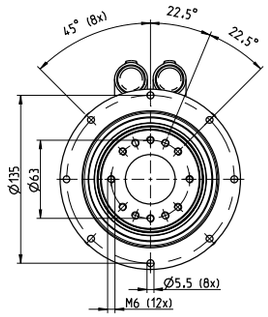
| | 8GF60-110hh004klmm | 8GF60-110hh005klmm | 8GF60-110hh008klmm | 8GF60-110hh010klmm | 8GF60-110hh016klmm | 8GF60-110hh020klmm | 8GF60-110hh025klmm | 8GF60-110hh032klmm | 8GF60-110hh040klmm | 8GF60-110hh050klmm | 8GF60-110hh064klmm | 8GF60-110hh100klmm |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Gearbox** | | | | | | | | | | | | |
| Number of gear stages | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Gear ratio i | 4 | 5 | 8 | 10 | 16 | 20 | 25 | 32 | 40 | 50 | 64 | 100 |
| Nominal output torque $T_{2N}$ [Nm] | 300 | 260 | 150 | 125 | 300 | 300 | 260 | 300 | 260 | 260 | 150 | 125 |
| Max. output torque $T_{2max}$ [Nm] | 480 | 416 | 240 | 200 | 480 | 480 | 416 | 480 | 416 | 416 | 240 | 200 |
| E-stop torque $T_{2stop}$ [Nm] | 650 | 650 | 380 | 480 | 650 | 650 | 650 | 650 | 650 | 650 | 380 | 480 |
| Idle torque [Nm] at 20°C and 3000 rpm | 3.65 | 2.6 | 1.4 | 1.15 | 0.95 | 0.7 | 0.6 | 0.45 | 0.4 | 0.35 | 0.35 | 0.3 |
| Max. average drive speed $n_{1N50\%}$ [rpm] at 50% $T_{2N}$ and S1 | 1300 | 1650 | 2650 | 3150 | 3150 | 3750 | 4000 | 4000 | 4000 | 4000 | 4000 | 4000 |
| Max. average drive speed $n_{1N100\%}$ [rpm] at 100% $T_{2N}$ and S1 | 1000 | 1300 | 2250 | 2750 | 2350 | 2800 | 3450 | 4000 | 4000 | 4000 | 4000 | 4000 |
| Max. drive speed $n_{1max}$ [rpm] | 8500 | | | | | | | | | | | |
| Max. backlash $J_t$ [arcmin] | 3 | 3 | 3 | 3 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| Reduced backlash $J_t$ [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 $Fr_{max}$ [N] for 30,000 h | 4800 | | | | | | | | | | | |
| Max. radial force $Fr_{max}$ [N] for 20,000 h | 5500 | | | | | | | | | | | |
| Max. axial force $Fa_{max}$ [N] for 30,000 h | 8400 | | | | | | | | | | | |
| Max. axial force $Fa_{max}$ [N] for 20,000 h | 9500 | | | | | | | | | | | |
| Operating noise $L_{PA}$ [dB(A)] | 68 | | | | | | | | | | | |
| Efficiency at full load ŋ [%] | 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$^2$] | 2.94 | 2.51 | 2.08 | 2 | 1.73 | 1.65 | 1.3 | 1.6 | 1.24 | 0.8 | 0.85 | 0.75 |

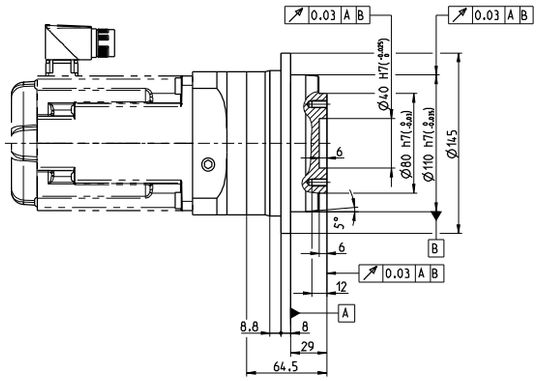
**NOTE – Output torque / Max. output torque:** This refers to an output shaft speed of $n_2$ = 100 rpm and application factor $K_A$ = 1 as well as S1 operating mode for electrical machines and T = 30°C, depending on the diameter of the motor shaft. The maximum output torque is only permissible for 30,000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

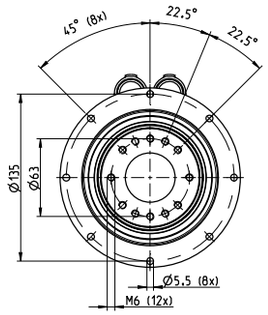
**NOTE – Running noise:** Noise level at a distance of 1 m; at an output speed of $n_1$ = 3000 rpm without a load; i = 5
**NOTE – Operating temperature:** With reference to the middle of the housing surface
**NOTE – Weight:** Planetary gearbox including universal flange (specific weight upon request)

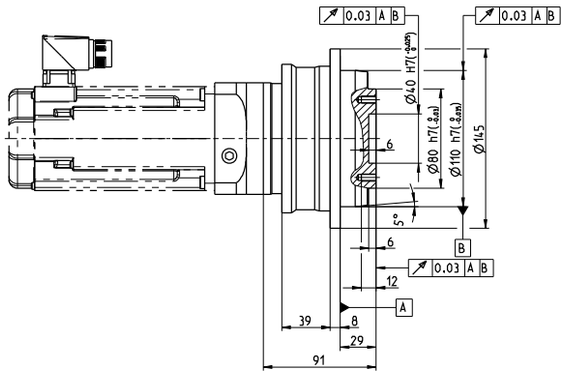
## 1-stage gear




## 2-stage gear




## Adapter flange - Overview of dimensions

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

| 8GF60-110 | 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 | 142 | 120 | 142 | 115 |
| **Two-stage** | | | | | | | | | | | | |
| Flange length L [mm] | 38.8 | 48.8 | 58.9 | 38.8 | 48.8 | 38.8 | 48.8 | 58.9 | --- | 48.8 | 58.9 | 48.8 |
| Flange diameter Q [mm] | 90 | 115 | 142 | 90 | 90 | 90 | 90 | 115 | --- | 115 | 142 | 90 |