

8GF70-140 premium

Technical data



8GF70-140hh004kimm

8GF70-140hh005kimm

8GF70-140hh007kimm

8GF70-140hh010kimm

8GF70-140hh016kimm

8GF70-140hh020kimm

8GF70-140hh025kimm

8GF70-140hh035kimm

8GF70-140hh040kimm

8GF70-140hh050kimm

8GF70-140hh070kimm

8GF70-140hh100kimm

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]	470	405	355	305	450	450	405	405	470	405	355	305
Max. output torque T_{2max} [Nm]	752	648	568	488	720	720	648	648	752	648	568	488
E-stop torque T_{2stop} [Nm]	1650	1650	1300	600	1650	1650	1650	1650	1650	1650	1300	600
Idle torque [Nm] at 20°C and 3000 rpm	9.1	6.3	3.95	2.6	3.35	2.25	2.05	1.25	0.9	0.85	0.75	0.75
Max. average drive speed $n_{1N50\%}$ [rpm] at 50% T_{2N} and S1	1100	1350	1800	2300	2450	3050	3350	3500	3500	3500	3500	3500
Max. average drive speed $n_{1N100\%}$ [rpm] at 100% T_{2N} and S1	1000	1250	1650	2150	2250	2750	3100	3500	3500	3500	3500	3500
Max. drive speed n_{1max} [rpm]	6500	6500	6500	6500	8500	8500	8500	8500	8500	8500	8500	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]	200	200	200	200	180	180	180	180	180	180	180	180
Tilting rigidity C_{2K} [Nm/arcmin]	621											
Max. breakdown torque M_{2Kmax} [Nm]	1018											
Max. radial force Fr_{max} [N] for 30,000 h	11000											
Max. radial force Fr_{max} [N] for 20,000 h	12000											
Max. axial force Fa_{max} [N] for 30,000 h	7500											
Max. axial force Fa_{max} [N] for 20,000 h	8500											
Operating noise L_{pA} [dB(A)]	66											
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]	12	12	12	12	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5
Moment of inertia J_1 [kgcm ²]	10.647	9.063	7.733	7.048	1.913	1.437	1.348	1.058	0.911	0.892	0.891	0.884

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

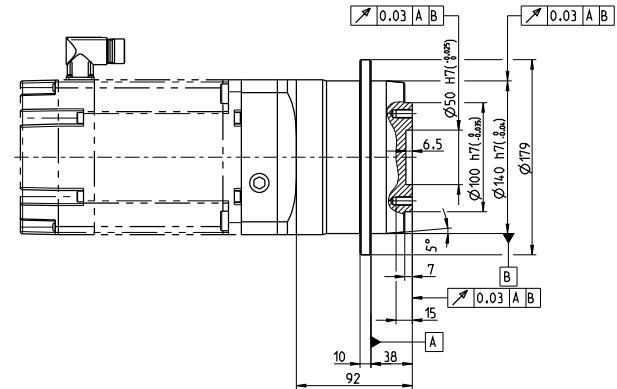
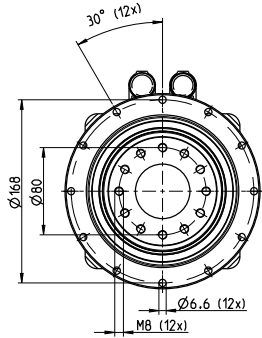
NOTE – Axial / radial force: With reference to the middle of the output shaft; the entries refer to an output shaft speed of $n_2 = 100$ rpm and application factor $K_A = 1$ as well as S1 operating mode for electrical machines and $T = 30^\circ\text{C}$

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

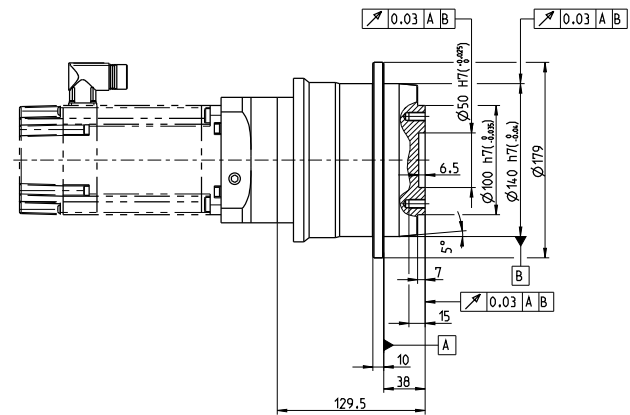
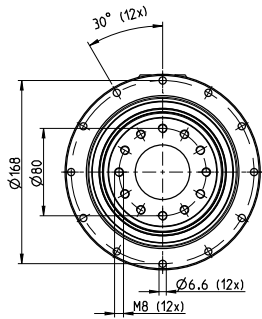
NOTE – Operating temperature: With reference to the middle of the housing surface

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.

8GF70-140	8LSA3	8LSA/ C4	8LSA/ C5	8LSA/ C6	8LSA/ C7(3-5)	8LSA/ C7(6-8)	8LVA3	8JSA4	8JSA5	8JSA6	8JSA7	8LSN4	8LSN5	80MPH
One-stage														
Flange length L [mm]	---	50.5	50.5	50.5	60.5	82	---	---	50.5	60.5	82	50.5	50.5	---
Flange diameter Q [mm]	---	150	150	210	210	210	---	---	150	150	210	150	150	---
Two-stage														
Flange length L [mm]	43.4	43.4	53.4	53.4	64.5	---	43.4	43.4	53.4	64.5	---	43.4	53.4	43.4
Flange diameter Q [mm]	115	115	142	190	190	---	115	115	115	150	---	120	142	115