

8GP70-142 premium

Technical data



8GP70-142hh003klmm
 8GP70-142hh004klmm
 8GP70-142hh005klmm
 8GP70-142hh007klmm
 8GP70-142hh010klmm
 8GP70-142hh012klmm
 8GP70-142hh015klmm
 8GP70-142hh016klmm
 8GP70-142hh020klmm
 8GP70-142hh025klmm
 8GP70-142hh035klmm
 8GP70-142hh040klmm
 8GP70-142hh050klmm
 8GP70-142hh070klmm
 8GP70-142hh100klmm

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	7	10	12	15	16	20	25	35	40	50	70	100
Nominal output torque T_{2N} [Nm]	380	470	405	355	305	380	380	450	450	405	405	470	405	355	305
Max. output torque T_{2max} [Nm]	608	752	648	568	488	608	608	720	720	648	648	752	648	568	488
E-stop torque T_{2stop} [Nm]	1250	1650	1650	1300	600	1250	1250	1650	1650	1650	1650	1650	1650	1300	600
Idle torque [Nm] at 20°C and 3000 rpm	9.55	6.5	4.5	2.9	2.05	3.4	2.3	3.05	2.05	1.9	1.2	0.85	0.8	0.75	0.7
Max. average drive speed $n_{1N50\%}$ [rpm] at 50% T_{2N} and S1	1000	1250	1550	2000	2500	2400	3000	2600	3250	3500	3500	3500	3500	3500	3500
Max. average drive speed $n_{1N100\%}$ [rpm] at 100% T_{2N} and S1	950	1100	1400	1800	2350	2200	2700	2400	2950	3250	3500	3500	3500	3500	3500
Max. drive speed n_{1max} [rpm]	6500	6500	6500	6500	6500	8500	8500	8500	8500	8500	8500	8500	8500	8500	8500
Max. backlash J_1 [arcmin]	3	3	3	3	3	5	5	5	5	5	5	5	5	5	5
Reduced backlash J_1 [arcmin] less than	1														
Torsional rigidity C_{t21} [Nm/arcmin]	50														
Tilting rigidity C_{2K} [Nm/arcmin]	0														
Max. breakdown torque M_{2Kmax} [Nm]	0														
Max. radial force F_{rmax} [N] for 30,000 h	11500														
Max. radial force F_{rmax} [N] for 20,000 h	13000														
Max. axial force F_{amax} [N] for 30,000 h	13500														
Max. axial force F_{amax} [N] for 20,000 h	15000														
Operating noise L_{PA} [dB(A)]	71	66	66	66	66	66	66	66	66	66	66	66	66	66	66
Efficiency at full load η [%]	98	98	98	98	98	95	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]	15.7	15.7	15.7	15.7	15.7	17	17	17	17	17	17	17	17	17	17
Moment of inertia J_1 [kgcm ²]	13.949	10.006	8.644	7.517	6.942	2.084	1.541	1.836	1.387	1.321	1.044	0.898	0.885	0.888	0.882

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)

