

# 8GP60-142 premium

## Technical data



8GP60-142hh003klmm  
 8GP60-142hh004klmm  
 8GP60-142hh005klmm  
 8GP60-142hh008klmm  
 8GP60-142hh010klmm  
 8GP60-142hh012klmm  
 8GP60-142hh015klmm  
 8GP60-142hh016klmm  
 8GP60-142hh020klmm  
 8GP60-142hh025klmm  
 8GP60-142hh032klmm  
 8GP60-142hh040klmm  
 8GP60-142hh064klmm  
 8GP60-142hh100klmm

### 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]	450	600	750	450	305	780	780	1000	1000	900	1000	900	450	305
Max. output torque $T_{2max}$ [Nm]	720	960	1200	720	488	1248	1248	1600	1600	1440	1600	1440	720	488
E-stop torque $T_{2stop}$ [Nm]	975	1300	1500	1000	750	1500	1500	2000	2000	1800	2000	1800	1000	750
Idle torque [Nm] at 20°C and 3000 rpm	7.95	6.65	4.45	2.35	1.85	5.65	3.7	5.5	3.6	3.45	1.9	1.8	1.75	1.4
Max. average drive speed $n_{1N50\%}$ [rpm] at 50% $T_{2N}$ and S1	850	950	1050	1800	2250	1300	1600	1350	1600	1850	2300	2550	3000	3000
Max. average drive speed $n_{1N100\%}$ [rpm] at 100% $T_{2N}$ and S1	700	700	750	1400	1900	950	1200	1000	1200	1400	1750	2050	2900	3000
Max. drive speed $n_{1max}$ [rpm]	6500													
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	1													
Torsional rigidity $C_{t21}$ [Nm/arcmin]	44	44	44	44	44	46	46	46	46	46	46	46	46	46
Tilting rigidity $C_{2K}$ [Nm/arcmin]	0													
Max. breakdown torque $M_{2Kmax}$ [Nm]	0													
Max. radial force $F_{rmax}$ [N] for 30,000 h	11400													
Max. radial force $F_{rmax}$ [N] for 20,000 h	12500													
Max. axial force $F_{amax}$ [N] for 30,000 h	13200													
Max. axial force $F_{amax}$ [N] for 20,000 h	15000													
Operating noise $L_{pA}$ [dB(A)]	68													
Efficiency at full load $\eta$ [%]	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]	16	16	16	16	16	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5
Moment of inertia $J_1$ [kgcm <sup>2</sup> ]	16.77	12.16	10.31	8.73	8.35	16.72	15.19	14.52	13.05	11.89	11.94	10.79	9.39	8.76

**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)

