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
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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 $\rm n_{1N50\%}$ [rpm] at 50% $\rm T_{2N}$ and S1	850	950	1050	1800	2250	1300	1600	1350	1600	1850	2300	2550	3000	3000
Max. average drive speed $n_{\rm 1N100\%}$ [rpm] at 100% $T_{\rm 2N}$ 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 _t [arcmin]	3	3	3	3	3	5	5	5	5	5	5	5	5	5
Reduced backlash J _t [arcmin] less than							•	I						
Torsional rigidity C ₁₂₁ [Nm/arcmin]	44	44	44	44	44	46	46	46	46	46	46	46	46	46
Tilting rigidity C _{2K} [Nm/arcmin]							()						
Max. breakdown torque M _{2Kmax} [Nm]							()						
Max. radial force Fr _{max} [N] for 30,000 h							114	100						
Max. radial force Fr _{max} [N] for 20,000 h							12	500						
Max. axial force Fa _{max} [N] for 30,000 h							132	200						
Max. axial force Fa _{max} [N] for 20,000 h							150	000						
Operating noise L _{PA} [dB(A)]							6	8						
Efficiency at full load η [%]	98	98	98	98	98	95	95	95	95	95	95	95	95	95
Min. operating temperature B _{Tempmin} [°C]							-2	25						
Max. operating temperature B _{Tempmax} [°C]							9	0						
Mounting orientation							A	ny						
Protection							IP	65						
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 ²]	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

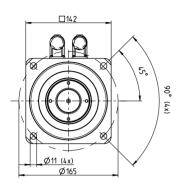
NOTE – Output torque / Max. output torque: This refers to an output shaft speed of $n_2 = 100$ rpm and application factor $K_A = 1$ as well as S1 operating mode for electrical machines and $T = 30^{\circ}$ C, depending on the diameter of the motor shaft. The maximum output torque is only permissible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

NOTE – E-stop torque: Approved for 1000x

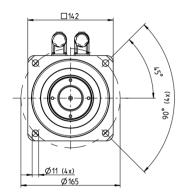
NOTE – Axial / radial force: With reference to the middle of the output shaft; the entries refer to an output shaft speed of n₂ = 100 rpm and application factor K_A = 1 as well as S1 operating mode for electrical machines and T =

 $\begin{tabular}{ll} \textbf{NOTE-Running noise:} Noise level at a distance of 1 m; at an output speed of $n_1=3000$ rpm without a load; $i=5$ \begin{tabular}{ll} \textbf{NOTE-Operating temperature:} & \textbf{With reference to the middle of the housing surface} \\ \textbf{NOTE-Weight:} & \textbf{Planetary gearbox including universal flange (specific weight upon request)} \\ \end{tabular}$

1-stage gear

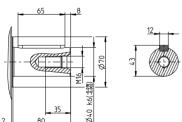


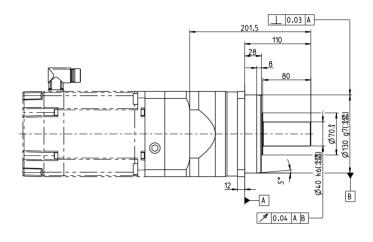
2-stage gear

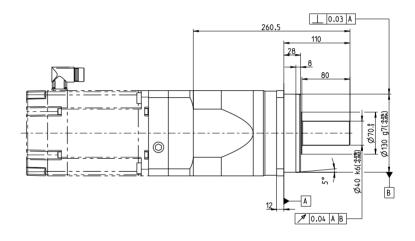


Alternative drive shaft options

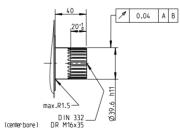
Shaft keys according to DIN 6885 form A







Spline shaft according to DIN 5480 - W 40 x 2 x 30 x 18 x 6 m $\,$



Adapter flange - Overview of dimensions

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

				8LSA/	8LSA/					
8GP60-142	8LSA/C4	8LSA/C5	8LSA/C6	C7(3-5)	C7(6-8)	8JSA5	8JSA6	8JSA7	8LSN4	8LSN5
Flange length L [mm]	74.5	74.5	84.5	84.5	112.5	74.5	84.5	112.5	74.5	74.5
Flange diameter Q [mm]	142	142	190	190	190	142	142	190	142	142