8GP45-121 standard

Technical data



8GP45-121hh003klmm	8GP45-121hh004klmm	8GP45-121hh005klmm	8GP45-121hh008klmm	8GP45-121hh010klmm	8GP45-121hh009klmm	8GP45-121hh012klmm	8GP45-121hh015klmm	8GP45-121hh016klmm	8GP45-121hh020klmm	8GP45-121hh025klmm	8GP45-121hh032klmm	8GP45-121hh040klmm	8GP45-121hh064klmm	8GP45-121hh100klmm
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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	8	10	9	12	15	16	20	25	32	40	64	100
Nominal output torque T _{2N} [Nm]	115	155	195	120	95	210	260	230	260	260	230	260	230	120	95
Max. output torque T _{2max} [Nm]	184	248	312	192	152	336	416	368	416	416	368	416	368	192	152
E-stop torque T _{2stop} [Nm]	390	520	500	380	480	500	520	500	520	520	500	520	500	380	480
Idle torque [Nm] at 20°C and 3000 rpm	1.05	1	0.75	0.55	0.5	0.8	0.8	0.75	0.8	0.65	0.6	0.45	0.45	0.45	0.45
Max. average drive speed $\rm n_{1N50\%}$ [rpm] at 50% $\rm T_{2N}$ and S1	3400	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500
Max. average drive speed $n_{1N100\%} [\text{rpm}]$ at $100\% T_{2N}$ and S1	2600	2500	2500	3500	3500	2650	2700	3200	3150	3500	3500	3500	3500	3500	3500
Max. drive speed n _{1max} [rpm]								6500							
Max. backlash J _t [arcmin]	7	7	7	7	7	9	9	9	9	9	9	9	9	9	9
Reduced backlash J _t [arcmin] less than								0							
Torsional rigidity C _{t21} [Nm/arcmin]	12	12	12	12	12	13	13	13	13	13	13	13	13	13	13
Tilting rigidity C _{2K} [Nm/arcmin]								0							
Max. breakdown torque M _{2Kmax} [Nm]								0							
Max. radial force Fr _{max} [N] for 30,000 h								2400							
Max. radial force Fr _{max} [N] for 20,000 h								2950							
Max. axial force Fa _{max} [N] for 30,000 h								2100							
Max. axial force Fa _{max} [N] for 20,000 h								2500							
Operating noise L _{PA} [dB(A)]								65							
Efficiency at full load ŋ [%]	96	96	96	96	96	94	94	94	94	94	94	94	94	94	94
Min. operating temperature B _{Tempmin} [°C]								-25							
Max. operating temperature B _{Tempmax} [°C]								90							
Mounting orientation								Any							
Protection								IP54							
Weight m [kg]	6.6	6.6	6.6	6.6	6.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6
Moment of inertia J ₁ [kgcm ²]	2.63	1.79	1.53	1.32	1.3	2.62	2.56	2.53	1.75	1.5	1.49	1.3	1.3	1.3	1.3

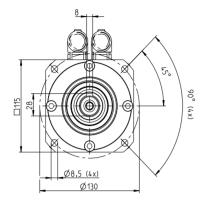
NOTE – Output torque / Max. output torque: This refers to an output shaft speed of n₂ = 100 rpm and application factor K_A = 1 as well as S1 operating mode for electrical machines and T = 30°C, depending on the diameter of the motor shaft. The maximum output torque is only permissible for 30,000 revolutions!

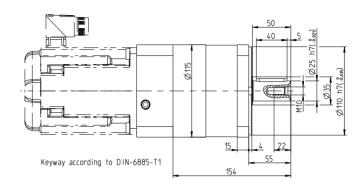
NOTE – E-stop torque: Approved for 1000x

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

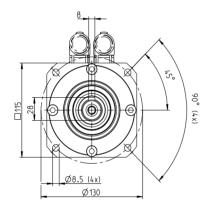
NOTE – Running noise: Noise level at a distance of 1 m; at an output speed of $n_1 = 3000$ rpm without a load; i = 5 **NOTE – Operating temperature:** With reference to the middle of the housing surface **NOTE – Weight:** Planetary gearbox including universal flange (specific weight upon request)

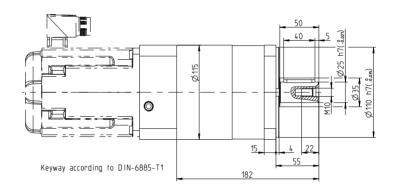
1-stage gear





2-stage gear





Adapter flange - Overview of dimensions

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

8GP45-121	8LSA3	8LSA/C4	8LSA/C5	8JSA4	8JSA5	8JSA6	8LSN4	8LSN 5	80MPH
Flange length L [mm]	47.4	47.4	57.4	47.4	57.4	73	47.4	57.4	47.5
Flange diameter Q [mm]	115	115	140	115	115	140	115	140	115

8GP45-121 standard

Technical data

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- 12)
	C.

Number of gear stages Sacratio Go	8GP45-121hh320	8GP45-121hh512
Gear ratio i 60 80 120 160 200 256		
Nominal output torque T _{2m} [Nm] 260 260 230 260 2416 2416 2416 2416 2416 2416 2416 2416		
Max. output torque T _{2max} [Nm]	320	512
E-stop torque T _{2atop} [Nm] 520 520 500 520 500 520 500 520 deletorque [Nm] at 20°C and 3000 rpm 0.75 0.6 0.7 0.45 0.45 0.45 0.45 0.45 0.45 0.45 0.45	230	120
Continue Nm at 20°C and 3000 rpm 0.75 0.6 0.7 0.45 0.45 0.45 0.45	368	192
Max. average drive speed n _{1N50%} [rpm] at 50% 3500 2 _N and S1 3500 Max. average drive speed n _{1N100%} [rpm] at 00% T _{2N} and S1 3500 Max. drive speed n _{1max} [rpm] 6500 Max. backlash J ₁ [arcmin] 11 Reduced backlash J ₂ [arcmin] less than 0 Forsional rigidity C _{12*} [Nm/arcmin] 12 Titting rigidity C _{2x} [Nm/arcmin] 0 Max. beakdown torque M _{2Kmax} [Nm] 0 Max. radial force Fr _{max} [N] for 30,000 h 2400 Max. radial force F _{max} [N] for 30,000 h 2950 Max. axial force Fa _{max} [N] for 30,000 h 2500 Operating noise L _{PA} [dB(A)] 65 efficiency at full load η [%] 90 Min. operating temperature B _{Tempmin} [°C] -25 Max. operating temperature B _{Tempmin} [°C] 90	500	380
228 and S1 lax. average drive speed $n_{1N100\%}$ [rpm] at 00% T_{2N} and S1 lax. drive speed n_{1max} [rpm] 6500 lax. backlash J_t [arcmin] 11 leduced backlash J_t [arcmin] less than 0 or sional rigidity C_{121} [Nm/arcmin] 12 iliting rigidity C_{121} [Nm/arcmin] 0 lax. breakdown torque M_{2Kmax} [Nm] 0 lax. breakdown torque M_{2Kmax} [Nm] 0 lax. radial force Fr_{max} [N] for 30,000 h 2400 lax. radial force Fr_{max} [N] for 20,000 h 2950 lax. axial force Fa_{max} [N] for 30,000 h 2000 lax. axial force Fa_{max} [N] for 20,000 h 2500 lax. axial force Fa_{max} [N] for 20,000 h 2500 lax. axial force Fa_{max} [N] for 20,000 h 2500 lax. axial force Fa_{max} [N] for 20,000 h 2500 lax. axial force Fa_{max} [N] for 20,000 h 2500 lax. axial force Fa_{max} [N] for 20,000 h 2500 lax. axial force Fa_{max} [N] for 20,000 h 2500 lax. axial force Fa_{max} [N] for 20,000 h 2500 lax. axial force Fa_{max} [N] for 20,000 h 2500 lax. axial force Fa_{max} [N] for 20,000 h 2500 lax. axial force Fa_{max} [N] for 20,000 h 2500 lax. axial force Fa_{max} [N] for 20,000 h 2500 lax. axial force Fa_{max} [N] for 20,000 h 2500 lax. axial force Fa_{max} [N] for 20,000 h 2500 lax. axial force Fa_{max} [N] for 20,000 h 2500 lax. axial force Fa_{max} [N] for 20,000 h 2500 lax. axial force Fa_{max} [N] for 20,000 h 2500 lax. axial force Fa_{max} [N] for 20,000 h 2500 lax. axial force Fa_{max} [N] for 20,000 h 2500	0.45	0.45
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lax. radial force Fr_{max} [N] for 20,000 h 2100 lax. axial force Fa_{max} [N] for 30,000 h 2500 lax. axial force Fa_{max} [N] for 20,000 h 2500 lax. axial force Fa_{max} [N] for 20,000 h 2600 lax. axial force Fa_{max} [N] for 20,000 h 2600 lax. axial force Fa_{max} [N] for 20,000 h 2600 lax. axial force Fa_{max} [N] for 20,000 h 2600 lax. axial force Fa_{max} [N] for 20,000 h 2600 lax. axial force Fa_{max} [N] for 30,000 h		
alax. axial force Fa _{max} [N] for 20,000 h 2500 aperating noise L _{PA} [dB(A)] 65 afficiency at full load n [%] 90 alin. operating temperature B _{Tempmin} [°C] -25 alax. operating temperature B _{Tempmax} [°C] 90		
lax. axial force Fa _{max} [N] for 20,000 h perating noise L _{PA} [dB(A)] fficiency at full load ŋ [%] lin. operating temperature B _{Tempmin} [°C] ax. operating temperature B _{Tempmax} [°C] 250 90		
fficiency at full load ŋ [%] lin. operating temperature B _{Tempmin} [°C] lax. operating temperature B _{Tempmax} [°C] 90		
lin. operating temperature B _{Tempmin} [°C] -25 lax. operating temperature B _{Tempmax} [°C] 90		
lax. operating temperature B _{Tempmax} [°C] 90		
ax. operating temperature B _{Tempmax} [°C] 90		
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rotection IP54		
/eight m [kg] 10.6		
Independent of inertia J1 [kgcm²] 2.57 1.5 2.5 1.3 1.3 1.3	1.3	1.3

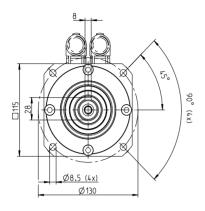
NOTE – Output torque / Max. output torque: This refers to an output shaft speed of $n_2 = 100$ rpm and application factor $K_A = 1$ as well as S1 operating mode for electrical machines and $T = 30^{\circ}$ C, depending on the diameter of the motor shaft. The maximum output torque is only permissible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

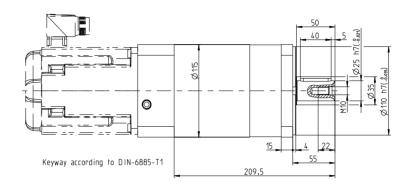
NOTE – E-stop torque: Approved for 1000x

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; $i=5$ \\ \textbf{NOTE-Operating temperature:} & With reference to the middle of the housing surface \\ \textbf{NOTE-Weight:} & Planetary gearbox including universal flange (specific weight upon request) \\ \end{tabular}$

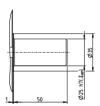
3-stage gear





Alternative drive shaft options





Adapter flange - Overview of dimensions

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

8GP45-121	8LSA3	8LSA/C4	8LSA/C5	8JSA4	8JSA5	8JSA6	8LSN4	8LSN 5	80MPH
Flange length L [mm]	47.4	47.4	57.4	47.4	57.4	73	47.4	57.4	47.5
Flange diameter Q [mm]	115	115	140	115	115	140	115	140	115