

# 8GP50-090 standard

## Technical data



8GP50-090hh003klmm  
 8GP50-090hh004klmm  
 8GP50-090hh005klmm  
 8GP50-090hh008klmm  
 8GP50-090hh010klmm  
 8GP50-090hh009klmm  
 8GP50-090hh012klmm  
 8GP50-090hh015klmm  
 8GP50-090hh016klmm  
 8GP50-090hh020klmm  
 8GP50-090hh025klmm  
 8GP50-090hh032klmm  
 8GP50-090hh040klmm  
 8GP50-090hh064klmm  
 8GP50-090hh100klmm

### 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]	85	90	82	50	38	97	90	82	90	90	82	90	82	50	38
Max. output torque $T_{2max}$ [Nm]	136	144	131	80	61	155	144	131	144	144	131	144	131	80	61
E-stop torque $T_{2stop}$ [Nm]	180	240	220	190	200	260	240	220	240	240	220	240	220	190	200
Idle torque [Nm] at 20°C and 3000 rpm	0.75	0.55	0.45	0.3	0.25	0.3	0.3	0.25	0.25	0.25	0.2	0.2	0.2	0.2	0.15
Max. average drive speed $n_{1N50\%}$ [rpm] at 50% $T_{2N}$ and S1	3250	3750	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000
Max. average drive speed $n_{1N100\%}$ [rpm] at 100% $T_{2N}$ and S1	2300	2650	3200	4000	4000	3450	4000	4000	4000	4000	4000	4000	4000	4000	4000
Max. drive speed $n_{1max}$ [rpm]	7000														
Max. backlash $J_1$ [arcmin]	7	7	7	7	7	9	9	9	9	9	9	9	9	9	9
Reduced backlash $J_1$ [arcmin] less than	0														
Torsional rigidity $C_{t21}$ [Nm/arcmin]	6	6	6	6	6	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5
Tilting rigidity $C_{2K}$ [Nm/arcmin]	0														
Max. breakdown torque $M_{2Kmax}$ [Nm]	0														
Max. radial force $F_{rmax}$ [N] for 30,000 h	1700														
Max. radial force $F_{rmax}$ [N] for 20,000 h	1900														
Max. axial force $F_{amax}$ [N] for 30,000 h	1500														
Max. axial force $F_{amax}$ [N] for 20,000 h	2000														
Operating noise $L_{pA}$ [dB(A)]	60														
Efficiency at full load $\eta$ [%]	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]	3	3	3	3	3	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Moment of inertia $J_1$ [kgcm <sup>2</sup> ]	0.82	0.57	0.48	0.4	0.4	0.75	0.73	0.71	0.5	0.44	0.44	0.39	0.39	0.39	0.39

**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

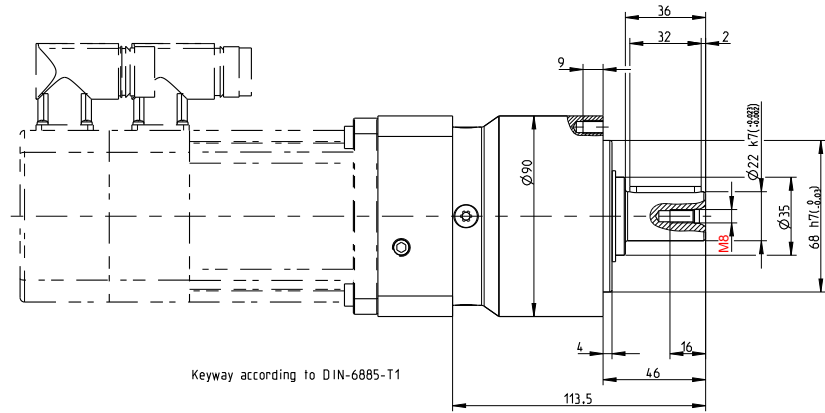
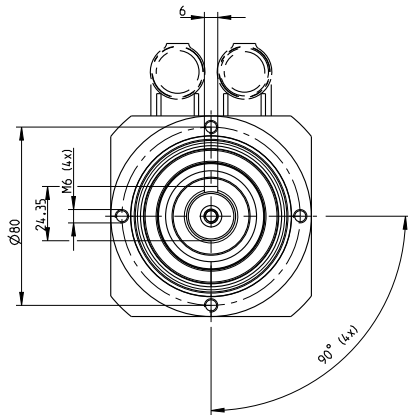
**NOTE – Axial / radial force:** With reference to the middle of the output shaft; the entries refer to an output shaft speed of  $n_2 = 100$  rpm and application factor  $K_A = 1$  as well as S1 operating mode for electrical machines and  $T = 30^\circ\text{C}$

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

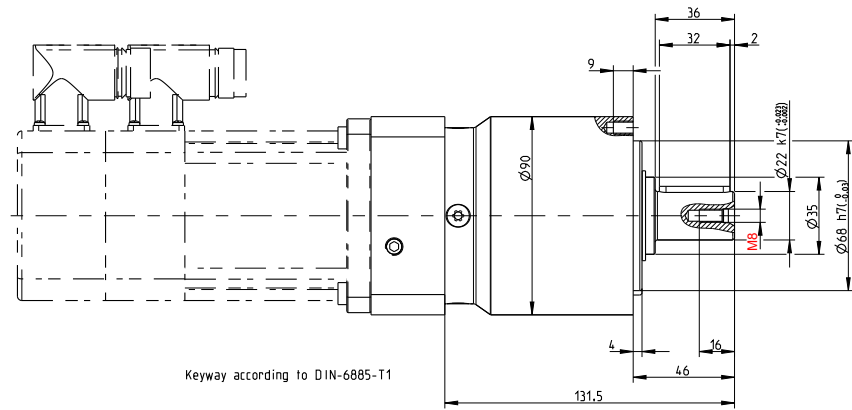
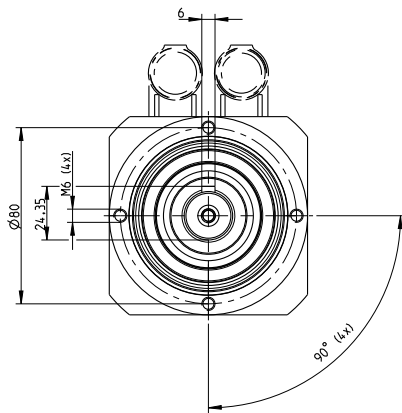
**NOTE – Operating temperature:** With reference to the middle of the housing surface

**NOTE – Weight:** Planetary gearbox including universal flange (specific weight upon request)

## 1-stage gear

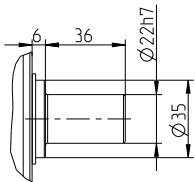


## 2-stage gear



## Alternative drive shaft options

Smooth shaft



## Adapter flange - Overview of dimensions

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

8GP50-090	8LSA3	8LSA/C4	8LVA2	8LVA3	8JSA3	8JSA4	8JSA5	8LSN4	80MPH
Flange length L [mm]	33.5	43.5	33.5	43.5	33.5	43.5	53.5	43.5	35.5
Flange diameter Q [mm]	90	100	80	80	80	90	115	115	90