

# 8GA40-080 standard

## Technical data



8GA40-080hh003klmm  
 8GA40-080hh004klmm  
 8GA40-080hh005klmm  
 8GA40-080hh008klmm  
 8GA40-080hh010klmm  
 8GA40-080hh009klmm  
 8GA40-080hh012klmm  
 8GA40-080hh015klmm  
 8GA40-080hh016klmm  
 8GA40-080hh020klmm  
 8GA40-080hh025klmm  
 8GA40-080hh032klmm  
 8GA40-080hh040klmm  
 8GA40-080hh064klmm  
 8GA40-080hh100klmm

### 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]	40	53	67	50	38	130	120	110	120	120	110	120	110	50	38
Max. output torque $T_{2max}$ [Nm]	64	85	107	80	61	208	192	176	192	192	176	192	176	80	61
E-stop torque $T_{2stop}$ [Nm]	180	240	220	190	170	260	240	220	240	240	220	240	220	190	170
Idle torque [Nm] at 20°C and 3000 rpm	0.6	0.6	0.55	0.5	0.5	0.55	0.55	0.5	0.55	0.5	0.5	0.45	0.45	0.45	0.45
Max. average drive speed $n_{1N50\%}$ [rpm] at 50% $T_{2N}$ and S1	3500	3550	3600	4000	4000	3250	3850	4000	4000	4000	4000	4000	4000	4000	4000
Max. average drive speed $n_{1N100\%}$ [rpm] at 100% $T_{2N}$ and S1	2500	2450	2450	3800	4000	2100	2650	3150	3100	3550	4000	4000	4000	4000	4000
Max. drive speed $n_{1max}$ [rpm]	7000														
Max. backlash $J_1$ [arcmin]	13	13	13	13	13	15	15	15	15	15	15	15	15	15	15
Reduced backlash $J_1$ [arcmin] less than	0														
Torsional rigidity $C_{t21}$ [Nm/arcmin]	4.5	4.5	4.5	4.5	4.5	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 $Fr_{max}$ [N] for 30,000 h	650														
Max. radial force $Fr_{max}$ [N] for 20,000 h	750														
Max. axial force $Fa_{max}$ [N] for 30,000 h	900														
Max. axial force $Fa_{max}$ [N] for 20,000 h	1000														
Operating noise $L_{pA}$ [dB(A)]	73														
Efficiency at full load $\eta$ [%]	94	94	94	94	94	92	92	92	92	92	92	92	92	92	92
Min. operating temperature $B_{Tempmin}$ [°C]	-25														
Max. operating temperature $B_{Tempmax}$ [°C]	90														
Mounting orientation	Any														
Protection	IP54														
Weight $m$ [kg]	4.4	4.4	4.4	4.4	4.4	5	5	5	5	5	5	5	5	5	5
Moment of inertia $J_1$ [kgcm <sup>2</sup> ]	1.189	0.939	0.869	0.809	0.809	1.159	1.139	1.129	0.919	0.859	0.859	0.809	0.809	0.809	0.809

**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

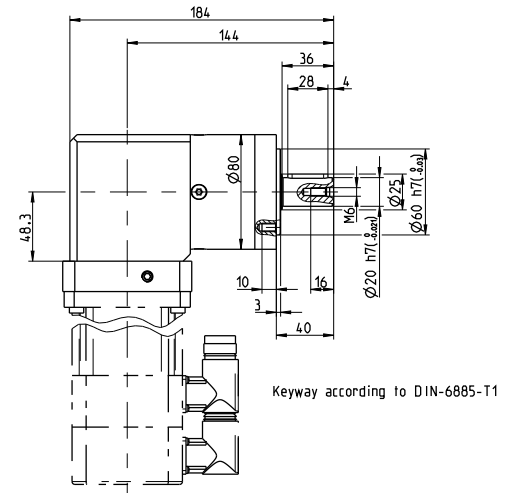
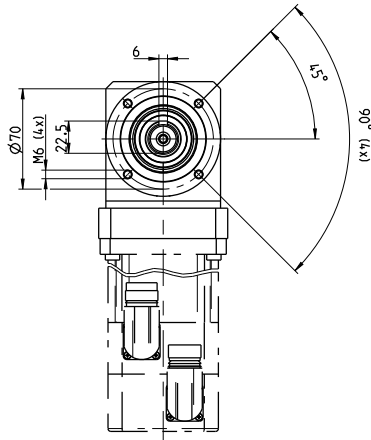
**NOTE – Axial / radial force:** With reference to the middle of the output shaft; the entries refer to an output shaft speed of  $n_2 = 100$  rpm and application factor  $K_A = 1$  as well as S1 operating mode for electrical machines and  $T = 30^\circ\text{C}$

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

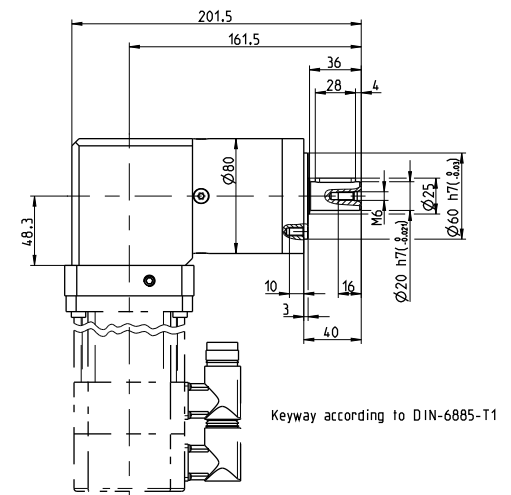
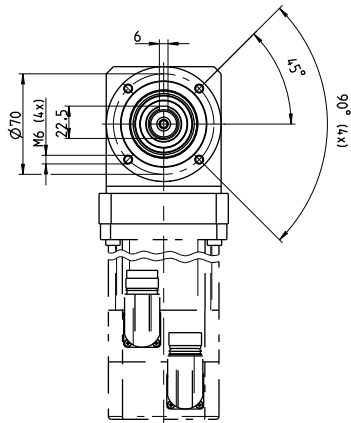
**NOTE – Operating temperature:** With reference to the middle of the housing surface

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

## 1-stage gear



## 2-stage gear



## Adapter flange - Overview of dimensions

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

8GA40-080	8LSA3	8LSA/C4	8LVA2	8LVA3	8JSA3	8JSA4	8LSN4	80MPH
Flange length L [mm]	21.2	31.2	21.2	31.2	21.2	31.2	31.2	23.2
Flange diameter Q [mm]	90	100	80	80	80	90	115	90

# 8GA40-080 standard

## Technical data



8GA40-080hh060klmm

8GA40-080hh080klmm

8GA40-080hh120klmm

8GA40-080hh160klmm

8GA40-080hh200klmm

8GA40-080hh256klmm

8GA40-080hh320klmm

8GA40-080hh512klmm

### Gearbox

Number of gear stages	3								
Gear ratio $i$	60	80	120	160	200	256	320	512	
Nominal output torque $T_{2N}$ [Nm]	110	120	110	120	110	120	110	50	
Max. output torque $T_{2max}$ [Nm]	176	192	176	192	176	192	176	80	
E-stop torque $T_{2stop}$ [Nm]	220	240	220	240	220	240	220	190	
Idle torque [Nm] at 20°C and 3000 rpm	0.5	0.5	0.5	0.45	0.45	0.45	0.45	0.45	
Max. average drive speed $n_{1N50\%}$ [rpm] at 50% $T_{2N}$ and S1	4000								
Max. average drive speed $n_{1N100\%}$ [rpm] at 100% $T_{2N}$ and S1	4000								
Max. drive speed $n_{1max}$ [rpm]	7000								
Max. backlash $J_1$ [arcmin]	17								
Reduced backlash $J_1$ [arcmin] less than	0								
Torsional rigidity $C_{t21}$ [Nm/arcmin]	6.3								
Tilting rigidity $C_{2K}$ [Nm/arcmin]	0								
Max. breakdown torque $M_{2Kmax}$ [Nm]	0								
Max. radial force $F_{rmax}$ [N] for 30,000 h	650								
Max. radial force $F_{rmax}$ [N] for 20,000 h	750								
Max. axial force $F_{amax}$ [N] for 30,000 h	900								
Max. axial force $F_{amax}$ [N] for 20,000 h	1000								
Operating noise $L_{PA}$ [dB(A)]	73								
Efficiency at full load $\eta$ [%]	88								
Min. operating temperature $B_{Tempmin}$ [°C]	-25								
Max. operating temperature $B_{Tempmax}$ [°C]	90								
Mounting orientation	Any								
Protection	IP54								
Weight $m$ [kg]	5.5								
Moment of inertia $J_1$ [kgcm <sup>2</sup> ]	0.929	0.919	1.119	0.809	0.809	0.809	0.809	0.809	

**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

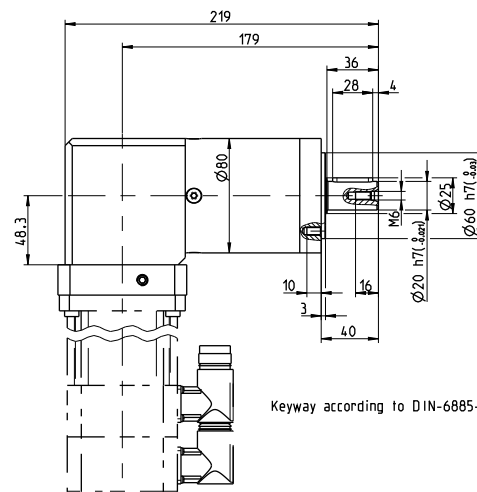
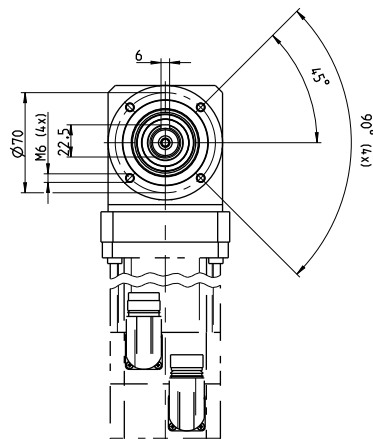
**NOTE – Axial / radial force:** With reference to the middle of the output shaft; the entries refer to an output shaft speed of  $n_2 = 100$  rpm and application factor  $K_A = 1$  as well as S1 operating mode for electrical machines and  $T = 30^\circ\text{C}$

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

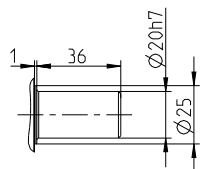
**NOTE – Operating temperature:** With reference to the middle of the housing surface

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

## 3-stage gear



## Alternative drive shaft options



## Adapter flange - Overview of dimensions

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

8GA40-080	8LSA3	8LSA/C4	8LVA2	8LVA3	8JSA3	8JSA4	8LSN4	80MPH
Flange length L [mm]	21.2	31.2	21.2	31.2	21.2	31.2	31.2	23.2
Flange diameter Q [mm]	90	100	80	80	80	90	115	90