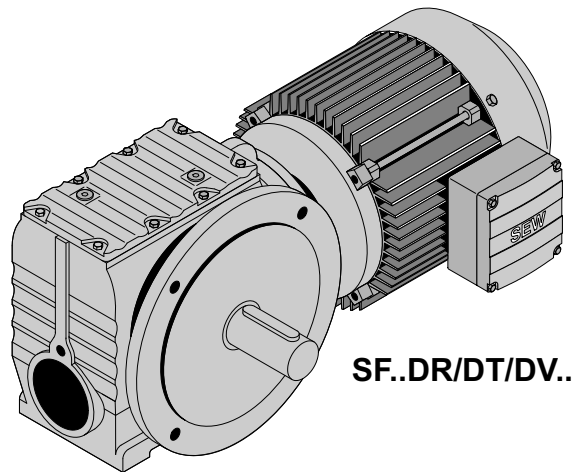
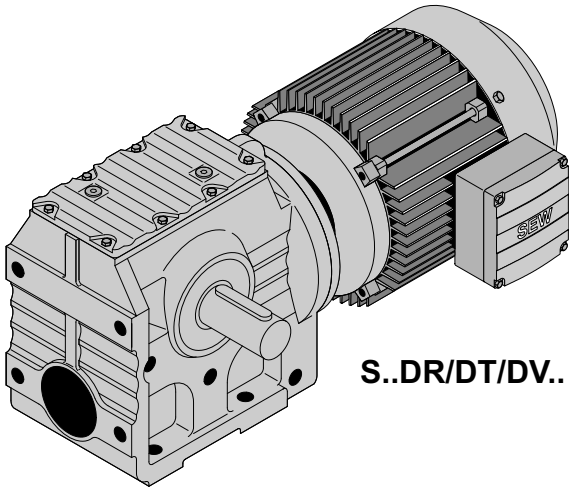
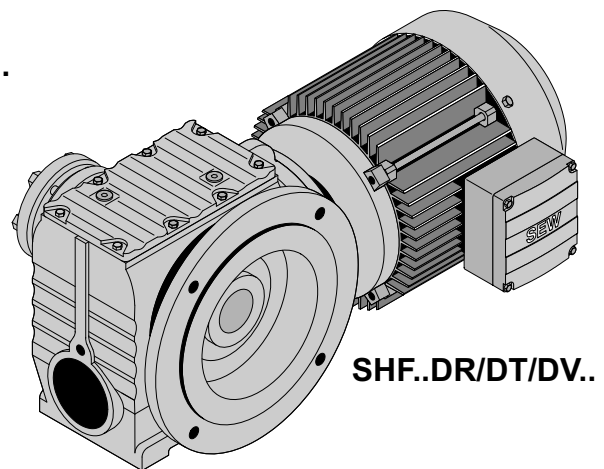
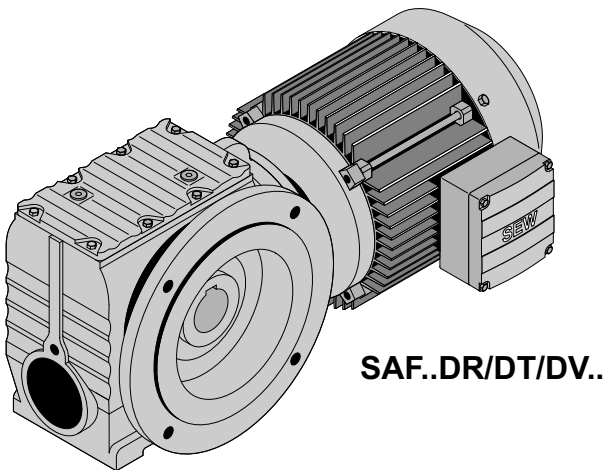


## 6 Helical-Worm Gearmotors

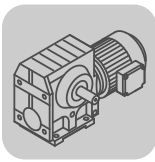
### 6.1 Variants



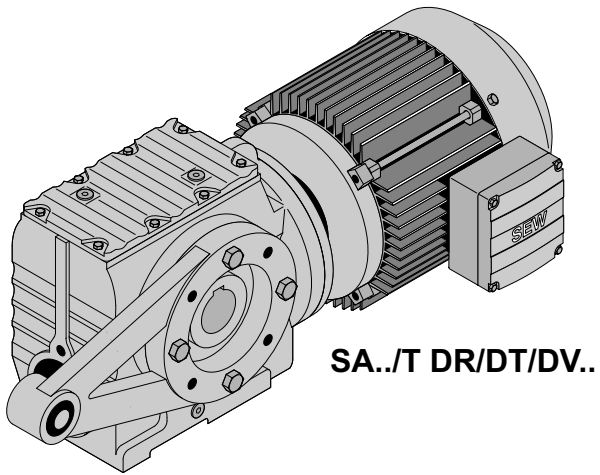
6



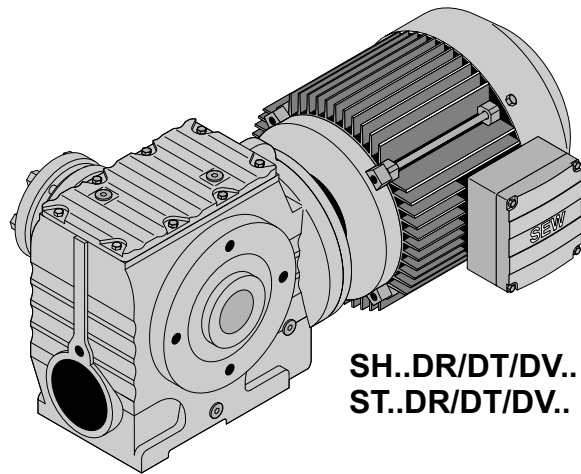
04459AXX



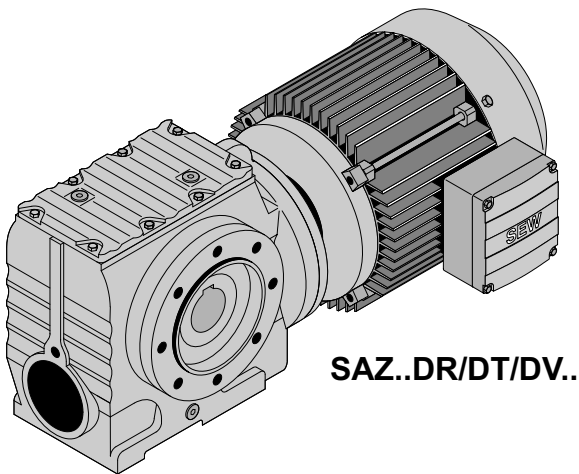
## Helical-Worm Gearmotors Variants



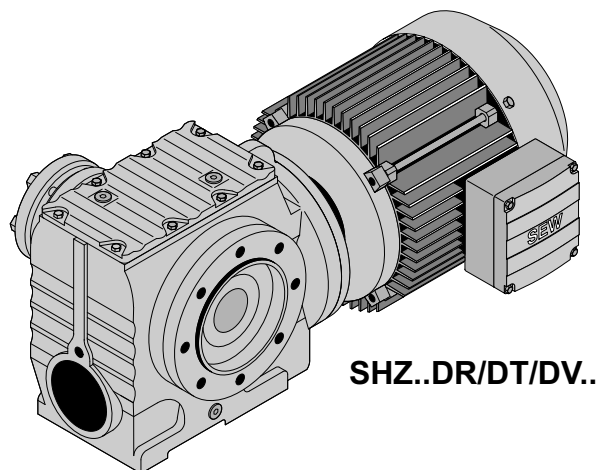
**SA..T DR/DT/DV..**



**SH..DR/DT/DV..  
ST..DR/DT/DV..**

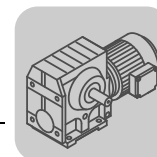


**SAZ..DR/DT/DV..**



**SHZ..DR/DT/DV..**

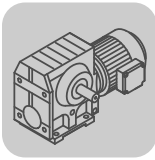
04460AXX



6.2 Permitted combinations



S37, $n_e = 1400$ 1/min					92 Nm		
$n_a$ [1/min]	$M_{amax}$ [Nm]	$F_{Ra}$ [N]	$\varphi$ (/R) [ ' ]	$i$	DR63 DT71	DT80	DT90
8.9	92	3000	-	157.43			
9.7	92	3000	-	144.40*			
11	91	3000	-	122.94			
13	88	3000	-	106.00*			
14	87	3000	-	98.80*			
16	86	3000	-	86.36			
17	85	3000	-	80.96			
20	84	3000	-	71.44*			
22	82	3000	-	63.33			
25	81	3000	-	55.93			
26	80	3000	-	53.83			
27	81	3000	-	51.30*			
32	81	3000	-	43.68			
37	79	3000	-	37.66			
40	78	3000	-	35.10*			
46	76	2870	-	30.68			
49	75	2800	-	28.76			
55	74	2660	-	25.38*			
62	73	2530	-	22.50*			
70	52	2470	-	19.89			
73	71	2380	-	19.13*			
77	52	2380	-	18.24*			
90	50	2240	-	15.53			
105	49	2110	-	13.39			
112	48	2060	-	12.48*			
128	48	1940	-	10.91			
137	47	1900	-	10.23			
155	46	1810	-	9.02*			
175	45	1730	-	8.00*			
206	43	1630	-	6.80*			

S37R17, $n_e = 1400$ 1/min					92 Nm		
$n_a$ [1/min]	$M_{amax}$ [Nm]	$F_{Ra}$ [N]	$\varphi$ (/R) [ ' ]	$i$	DR63 DT71	DT80	
2 3							
0.14	92	3000	-	10037			
0.16	92	3000	-	8654			
0.17	92	3000	-	8066			
0.20	92	3000	-	7051			
0.23	92	3000	-	6079			
0.26	92	3000	-	5431			
0.29	92	3000	-	4747			
0.34	92	3000	-	4155			
0.39	92	3000	-	3632			
0.49	92	3000	-	2866			
0.57	92	3000	-	2471			
0.65	92	3000	-	2160			
0.74	92	3000	-	1887			
0.84	92	3000	-	1665			
0.96	92	3000	-	1456			
1.1	92	3000	-	1271			
1.2	92	3000	-	1121			
1.4	92	3000	-	994			
1.6	92	3000	-	869			

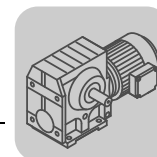


## Helical-Worm Gearmotors

### Permitted combinations

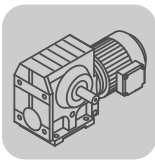
S37R17, $n_e = 1400$ 1/min					92 Nm	
$n_a$ [1/min]	$M_{amax}$ [Nm]	$F_{Ra}$ [N]	$\varphi$ (/R) [ ' ]	$i$	DR63 DT71	DT80
 2  2						
1.8	92	3000	-	774		
2.1	92	3000	-	666		
2.3	92	3000	-	596		
2.7	92	3000	-	521		
3.1	92	3000	-	456		
3.5	92	3000	-	398		
4.0	92	3000	-	351		
4.6	92	3000	-	303		
5.3	92	3000	-	265		
6.0	92	3000	-	232		
6.9	92	3000	-	202		
7.8	92	3000	-	179		
8.9	92	3000	-	158		
9.7	92	3000	-	144		
12	92	3000	-	118		
13	92	3000	-	110		

S47, $n_e = 1400$ 1/min					170 Nm			
$n_a$ [1/min]	$M_{amax}$ [Nm]	$F_{Ra}$ [N]	$\varphi$ (/R) [ ' ]	$i$	DR63 DT71	DT80	DT90	DV100
7.0	170	5340	-	201.00*				
7.6	170	5340	-	184.80*				
8.9	170	5340	-	158.12				
10	168	5350	-	137.05				
11	168	5350	-	128.10*				
13	168	5350	-	110.73				
15	168	5350	-	94.08*				
17	167	5360	-	84.00*				
20	167	5360	-	71.75*				
20	155	5370	-	69.39				
21	167	5360	-	67.20*				
22	155	5370	-	63.80*				
25	165	5320	-	56.61				
26	155	5150	-	54.59				
30	155	4850	-	47.32				
32	155	4710	-	44.22*				
37	155	4430	-	38.23				
43	155	4120	-	32.48*				
48	155	3920	-	29.00*				
57	155	3650	-	24.77				
60	152	3570	-	23.20*				
69	110	3370	-	20.33				
72	144	3370	-	19.54				
79	110	3160	-	17.62				
85	110	3060	-	16.47*				
98	110	2850	-	14.24				
116	109	2650	-	12.10*				
130	109	2500	-	10.80*				
152	109	2310	-	9.23*				
162	109	2230	-	8.64*				
192	103	2110	-	7.28				



S47R17, $n_e = 1400$ 1/min					170 Nm			
$n_a$ [1/min]	$M_{amax}$ [Nm]	$F_{Ra}$ [N]	$\varphi$ (/R) [ ' ]	$i$	DR63 DT71	DT80		
2  3								
0.11	185	5250	-	12909				
0.13	185	5250	-	11189				
0.13	185	5250	-	10374				
0.16	185	5250	-	8992				
0.18	185	5250	-	7860				
0.20	185	5250	-	6887				
0.23	185	5250	-	6055				
0.26	185	5250	-	5292				
0.30	185	5250	-	4637				
0.34	185	5250	-	4092				
0.39	185	5200	-	3582				
0.45	185	5200	-	3131				
0.52	185	5200	-	2714				
0.58	185	5200	-	2412				
0.66	185	5200	-	2131				
0.75	185	5200	-	1863				
0.84	185	5200	-	1663				
0.98	185	5200	-	1435				
1.1	185	5200	-	1254				
1.2	185	5200	-	1120				
1.3	185	5200	-	1083				
1.5	183	5210	-	956				
2  2								
1.5	185	5200	-	965				
1.6	185	5200	-	865				
1.9	185	5200	-	750				
2.1	185	5200	-	655				
2.4	185	5200	-	574				
2.8	185	5200	-	506				
3.2	185	5200	-	438				
3.6	185	5200	-	388				
4.2	185	5200	-	336				
4.8	185	5200	-	294				
5.4	185	5260	-	257				
6.1	185	5200	-	229				
7.0	185	5200	-	200				
7.5	185	5200	-	187				
8.5	185	5200	-	165				
9.5	185	5200	-	148				
11	185	5200	-	131				





S57, $n_e = 1400$ 1/min					295 Nm			
$n_a$ [1/min]	$M_{amax}$ [Nm]	$F_{Ra}$ [N]	$\varphi$ (/R) [ ' ]	$i$	DR63 DT71	DT80	DT90	DV100
7.0	295	7130	-	201.00*				
7.6	295	7130	-	184.80*				
8.9	295	7130	-	158.12				
10	295	7130	-	137.05				
11	295	7130	-	128.10*				
13	295	7130	-	110.73				
15	295	7130	-	94.08*				
17	295	7130	-	84.00*				
20	290	7170	-	71.75*				
20	245	7520	-	69.39				
21	285	7220	-	67.20*				
22	245	7520	-	63.80*				

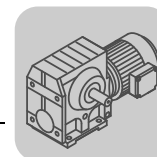


## Helical-Worm Gearmotors

### Permitted combinations



S57, $n_e = 1400$ 1/min					295 Nm			
$n_a$ [1/min]	$M_{amax}$ [Nm]	$F_{Ra}$ [N]	$\varphi$ (/R) [ ' ]	$i$	DR63 DT71	DT80	DT90	DV100
25	265	7370	-	56.61				
26	245	7520	-	54.59				
30	245	7520	-	47.32				
32	245	7520	-	44.22*				
37	245	7320	-	38.23				
43	245	6840	-	32.48*				
48	245	6520	-	29.00*				
57	245	6100	-	24.77				
60	245	5930	-	23.20*				
69	168	5690	-	20.33				
72	215	5720	-	19.54				
79	168	5350	-	17.62				
85	168	5200	-	16.47*				
98	169	4860	-	14.24				
116	169	4520	-	12.10*				
130	169	4290	-	10.80*				
152	169	3990	-	9.23*				
162	166	3900	-	8.64*				
192	146	3790	-	7.28				

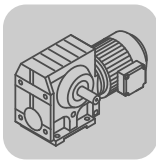
S57R17, $n_e = 1400$ 1/min					295 Nm			
$n_a$ [1/min]	$M_{amax}$ [Nm]	$F_{Ra}$ [N]	$\varphi$ (/R) [ ' ]	$i$	DR63 DT71	DT80		
 2  3								
0.11	330	6800	-	12909				
0.13	330	6800	-	11189				
0.13	330	6800	-	10374				
0.16	330	6800	-	8992				
0.18	330	6800	-	7860				
0.20	330	6800	-	6887				
0.23	330	6800	-	6055				
0.26	330	6800	-	5292				
0.30	330	6800	-	4637				
0.34	330	6800	-	4092				
0.39	330	6800	-	3628				
0.45	300	7090	-	3131				
0.52	300	7090	-	2714				
0.58	300	7090	-	2412				
0.66	300	7090	-	2131				
0.75	300	7090	-	1863				
0.84	300	7090	-	1663				
0.98	300	7090	-	1435				
1.1	300	7090	-	1254				
1.3	300	7090	-	1083				
 2  2								
1.5	300	7090	-	965				
1.6	300	7090	-	865				
1.9	300	7090	-	750				
2.1	300	7090	-	655				
2.4	300	7090	-	574				
2.8	300	7090	-	506				
3.2	300	7090	-	438				
3.6	300	7090	-	388				
4.2	300	7090	-	336				
4.8	300	7090	-	294				
5.2	300	7090	-	269				
6.1	300	7090	-	229				



S57R17, $n_e = 1400$ 1/min					295 Nm	
$n_a$ [1/min]	$M_{amax}$ [Nm]	$F_{Ra}$ [N]	$\varphi$ (/R) [ ' ]	$i$	DR63 DT71	DT80
6.9	300	7090	-	204		
7.5	300	7090	-	187		
8.5	300	7090	-	165		
11	300	7090	-	131		



S67, $n_e = 1400$ 1/min					520 Nm					
$n_a$ [1/min]	$M_{amax}$ [Nm]	$F_{Ra}$ [N]	$\varphi$ (/R) [ ' ]	$i$	DR63 DT71	DT80	DT90	DV100	DV112	DV132S DV132M
6.4	520	8680	-	217.41						
7.4	520	8680	-	190.11						
7.8	520	8680	-	180.60*						
8.8	520	8680	-	158.45						
10	520	8680	-	134.40*						
12	520	8680	-	121.33						
13	520	8680	-	106.75*						
14	520	8680	-	100.80*						
16	520	8680	-	85.83						
18	520	8680	-	78.00*						
19	480	9020	-	75.06						
21	520	8680	-	67.57						
21	480	9020	-	65.63						
22	480	9020	-	62.35*						
24	500	8850	-	58.80*						
26	480	8670	-	54.70						
30	480	8060	-	46.40*						
33	480	7690	-	41.89						
38	480	7250	-	36.85						
40	480	7060	-	34.80*						
47	480	6540	-	29.63						
52	480	6240	-	26.93						
57	340	6040	-	24.44						
60	480	5810	-	23.33						
60	340	5890	-	23.22*						
69	340	5520	-	20.37						
69	425	5760	-	20.30*						
81	340	5080	-	17.28*						
90	340	4820	-	15.60*						
102	340	4510	-	13.73*						
108	340	4310	-	12.96*						
127	340	3660	-	11.03						
140	340	3290	-	10.03						
161	335	2860	-	8.69						
185	295	3220	-	7.56*						

S67R37, $n_e = 1400$ 1/min					520 Nm			
$n_a$ [1/min]	$M_{amax}$ [Nm]	$F_{Ra}$ [N]	$\varphi$ (/R) [ ' ]	$i$	DR63 DT71	DT80	DT90	DV100
 2  3								
0.07	570	8190	-	21362				
0.07	570	8190	-	19594				
0.08	570	8190	-	18120				
0.08	570	8190	-	16682				
0.10	570	8190	-	14383				
0.11	570	8190	-	12774				
0.13	570	8190	-	11013				
0.14	570	8190	-	9694				
0.16	570	8190	-	8529				
0.19	570	8190	-	7455				



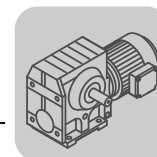
## Helical-Worm Gearmotors

### Permitted combinations

<b>S67R37, <math>n_e = 1400</math> 1/min</b>					<b>520 Nm</b>			
$n_a$ [1/min]	$M_{amax}$ [Nm]	$F_{Ra}$ [N]	$\varphi$ (/R) [ ' ]	$i$	DR63 DT71	DT80	DT90	DV100
0.21	570	8190	-	6531				
0.24	570	8190	-	5759				
0.28	570	8190	-	4965				
0.32	570	8190	-	4410				
0.36	570	8190	-	3880				
0.41	570	8190	-	3432				
0.48	570	8190	-	2944				
0.53	570	8190	-	2630				
0.61	570	8190	-	2279				
0.70	570	8190	-	2014				
0.79	570	8190	-	1772				
0.90	570	8190	-	1559				
1.0	570	8190	-	1363				
1.2	570	8190	-	1194				
1.3	570	8190	-	1045				
1.5	570	8190	-	914				
 2  2								
1.7	570	8190	-	809				
2.0	570	8190	-	712				
2.3	570	8190	-	615				
2.6	570	8190	-	543				
3.0	570	8190	-	469				
3.3	570	8190	-	424				
3.8	570	8190	-	365				
4.4	570	8190	-	319				
5.0	570	8190	-	281				
5.7	570	8190	-	246				
6.3	570	8190	-	221				
7.1	570	8190	-	198				
8.3	570	8190	-	168				
9.0	570	8190	-	156				

<b>S77, <math>n_e = 1400</math> 1/min</b>					<b>1270 Nm</b>						
$n_a$ [1/min]	$M_{amax}$ [Nm]	$F_{Ra}$ [N]	$\varphi$ (/R) [ ' ]	$i$	DR63 DT71	DT80	DT90	DV100	DV112	DV132S DV132M	DV132ML DV160M
5.5	1270	11700	-	256.47							
6.2	1270	11700	-	225.26							
6.5	1270	11700	-	214.00*							
7.4	1270	11700	-	189.09							
8.7	1260	11800	-	161.60*							
9.4	1240	12000	-	148.15							
11	1210	12200	-	130.00*							
11	1200	12300	-	123.20*							
13	1170	12600	-	107.83							
14	1140	12800	-	97.14							
16	1100	13100	-	85.22							
19	1070	12800	-	75.20*							
19	1100	11900	-	75.09							
20	1100	11600	-	71.33							
21	1040	12300	-	66.67							
22	1100	10900	-	63.03							
25	990	11600	-	56.92							
26	1100	10100	-	53.87							
28	1100	9650	-	49.38							
32	1100	9010	-	43.33							
34	1100	8750	-	41.07							
39	1100	8140	-	35.94							
43	1090	7730	-	32.38							





S77, $n_e = 1400$ 1/min					1270 Nm						
$n_a$ [1/min]	$M_{amax}$ [Nm]	$F_{Ra}$ [N]	$\varphi$ (/R) [ ' ]	$i$	DR63 DT71	DT80	DT90	DV100	DV112	DV132S DV132M	DV132ML DV160M
49	1050	7370	-	28.41							
56	1020	7010	-	25.07							
61	705	5970	-	22.89							
63	980	6740	-	22.22							
67	705	5390	-	20.99							
74	930	6390	-	18.97							
76	705	4550	-	18.42							
80	710	4130	-	17.45							
92	710	3320	-	15.28							
102	710	2710	-	13.76							
116	720	1800	-	12.07							
131	720	1130	-	10.65							
148	725	420	-	9.44							
174	680	445	-	8.06							



S77R37, $n_e = 1400$ 1/min					1270 Nm			
$n_a$ [1/min]	$M_{amax}$ [Nm]	$F_{Ra}$ [N]	$\varphi$ (/R) [ ' ]	$i$	DR63 DT71	DT80	DT90	DV100
2  3								
0.05	1270	11700	-	25493				
0.06	1270	11700	-	21787				
0.07	1270	11700	-	19907				
0.08	1270	11700	-	17013				
0.10	1270	11700	-	14668				
0.11	1270	11700	-	13110				
0.12	1270	11700	-	11569				
0.14	1270	11700	-	9887				
0.16	1270	11700	-	8817				
0.18	1270	11700	-	7735				
0.21	1270	11700	-	6735				
0.24	1270	11700	-	5943				
0.27	1270	11700	-	5214				
0.30	1270	11700	-	4618				
0.35	1270	11700	-	3992				
0.40	1270	11700	-	3540				
0.45	1270	11700	-	3098				
0.51	1240	12000	-	2753				
0.59	1240	12000	-	2374				
0.67	1240	12000	-	2083				
0.77	1240	12000	-	1813				
0.80	1240	12000	-	1745				
0.88	1240	12000	-	1600				
1.0	1240	12000	-	1404				
1.1	1240	12000	-	1245				
2  2								
1.3	1240	12000	-	1100				
1.5	1240	12000	-	954				
1.7	1240	12000	-	837				
2.0	1240	12000	-	714				
2.2	1240	12000	-	637				
2.4	1240	12000	-	574				
2.8	1240	12000	-	499				
3.2	1240	12000	-	438				
3.6	1240	12000	-	389				
4.3	1240	12000	-	327				
4.8	1240	12000	-	289				
5.6	1240	12000	-	250				
6.4	1240	12000	-	219				

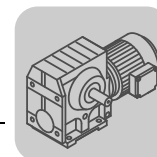


## Helical-Worm Gearmotors

### Permitted combinations

S87, $n_e = 1400$ 1/min					2280 Nm						
$n_a$ [1/min]	$M_{amax}$ [Nm]	$F_{Ra}$ [N]	$\varphi$ (/R) [ ' ]	$i$	DT80	DT90	DV100	DV112	DV132S DV132M	DV132ML DV160M DV160L	DV180
4.9	2280	27900	-	288.00*							
5.4	2280	27900	-	258.18							
6.3	2280	27900	-	222.40*							
6.9	2260	28000	-	202.96							
7.8	2210	28100	-	180.00*							
9.3	2150	28200	-	151.30							
10	2100	28300	-	139.05							
11	2060	28300	-	123.48							
13	2000	28400	-	110.40*							
14	1960	28500	-	99.26							
15	1510	29100	-	91.20*							
16	1880	28600	-	86.15							
17	1600	29000	-	81.76							
18	1820	28700	-	77.14							
20	1600	29000	-	70.43							
22	1600	29000	-	64.27							
22	1700	28900	-	64.00*							
25	1600	29000	-	57.00*							
29	1600	29000	-	47.91							
32	1600	29000	-	44.03							
36	1600	28200	-	39.10							
40	1600	27100	-	34.96*							
45	1600	26000	-	31.43							
51	1600	24700	-	27.28							
55	1240	23400	-	25.50*							
57	1600	23700	-	24.43							
65	1240	21800	-	21.43							
69	1600	22100	-	20.27							
71	1240	21100	-	19.70							
80	1240	20200	-	17.49							
90	1240	19300	-	15.64*							
100	1240	18500	-	14.06							
115	1240	17400	-	12.21							
128	1240	16600	-	10.93							
154	1140	15900	-	9.07							
178	1010	15700	-	7.88							

S87R57, $n_e = 1400$ 1/min					2280 Nm						
$n_a$ [1/min]	$M_{amax}$ [Nm]	$F_{Ra}$ [N]	$\varphi$ (/R) [ ' ]	$i$	DR63 DT71	DT80	DT90	DV100	DV112	DV132S DV132M	
 2  3											
0.05	2500	27500	-	25987							
0.06	2500	27500	-	23940							
0.07	2500	27500	-	20568							
0.08	2500	27500	-	18265							
0.08	2500	27500	-	16774							
0.09	2500	27500	-	14820							
0.11	2500	27500	-	13160							
0.12	2500	27500	-	11200							
0.14	2500	27500	-	9904							
0.16	2500	27500	-	8549							
0.18	2500	27500	-	7643							
0.21	2500	27500	-	6706							
0.24	2500	27500	-	5875							
0.27	2500	27500	-	5187							
0.30	2500	27500	-	4606							
0.36	2500	27500	-	3872							



S87R57, $n_e = 1400$ 1/min					2280 Nm					
$n_a$ [1/min]	$M_{amax}$ [Nm]	$F_{Ra}$ [N]	$\varphi$ (/R) [ ' ]	$i$	DR63 DT71	DT80	DT90	DV100	DV112	DV132S DV132M
2  2										
0.40	2500	27500	-	3475						
0.48	2500	27500	-	2905						
0.54	2500	27500	-	2586						
0.60	2500	27500	-	2335						
0.68	2500	27500	-	2054						
0.77	2500	27500	-	1824						
0.86	2500	27500	-	1631						
1.1	2500	27500	-	1332						
1.2	2500	27500	-	1191						
1.4	2500	27500	-	1032						
1.5	2500	27500	-	930						
1.7	2500	27500	-	831						
1.9	2500	27500	-	719						
2.2	2500	27500	-	624						
2.5	2500	27500	-	558						
2.9	2500	27500	-	485						
3.2	2450	27600	-	435						
3.7	2450	27600	-	378						
4.3	2400	27700	-	323						
5.0	2400	27700	-	281						
5.5	1980	28400	-	255						
6.3	1980	28400	-	222						
6.8	1980	28400	-	205						





S97, $n_e = 1400$ 1/min					4000 Nm							
$n_a$ [1/min]	$M_{amax}$ [Nm]	$F_{Ra}$ [N]	$\varphi$ (/R) [ ' ]	$i$	DT80	DT90	DV100	DV112	DV132S DV132M	DV132ML DV160M DV160L	DV180	DV200
4.9	4000	33200	-	286.40*								
5.3	4000	33200	-	262.22								
6.0	4000	33200	-	231.67								
7.1	4000	33200	-	196.52								
7.7	3920	33400	-	180.95								
8.7	3840	33500	-	161.74								
9.6	3730	33700	-	145.60*								
11	3650	33900	-	131.85								
12	3510	34100	-	116.92								
13	3440	34300	-	105.71								
16	3240	34600	-	89.60*								
17	3230	34600	-	80.85								
18	3080	34800	-	78.26								
20	3300	34500	-	71.43								
21	2900	35100	-	65.45								
23	3300	34500	-	60.59								
25	3300	34500	-	55.79								
28	3300	34500	-	49.87								
31	3300	34100	-	44.89								
34	3300	32800	-	40.65								
39	3300	31300	-	36.05								
43	3200	30400	-	32.60								
51	3010	29000	-	27.63								
53	2600	26100	-	26.39								
58	2870	28000	-	24.13								
59	2600	24900	-	23.59								
66	2600	23700	-	21.23								
73	2600	22700	-	19.23								
82	2570	21100	-	17.05								

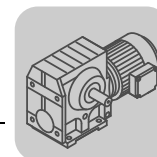


## Helical-Worm Gearmotors

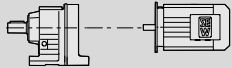

### Permitted combinations

S97, $n_e = 1400$ 1/min					4000 Nm							
$n_a$ [1/min]	$M_{amax}$ [Nm]	$F_{Ra}$ [N]	$\varphi$ (/R) [ ' ]	$i$	DT80	DT90	DV100	DV112	DV132S DV132M	DV132ML DV160M DV160L	DV180	DV200
91	2470	20800	-	15.42								
107	2330	20100	-	13.07								
123	2210	19500	-	11.41								
147	2040	18800	-	9.55								
169	1770	18800	-	8.26								

S97R57, $n_e = 1400$ 1/min					4000 Nm						
$n_a$ [1/min]	$M_{amax}$ [Nm]	$F_{Ra}$ [N]	$\varphi$ (/R) [ ' ]	$i$	DR63 DT71	DT80	DT90	DV100	DV112	DV132S DV132M	
 2  3											
0.04	4200	32800	-	33818							
0.04	4200	32800	-	31154							
0.05	4200	32800	-	27847							
0.06	4200	32800	-	24641							
0.07	4200	32800	-	21537							
0.07	4200	32800	-	18749							
0.09	4200	32800	-	16233							
0.10	4200	32800	-	14576							
0.11	4200	32800	-	12752							
0.12	4200	32800	-	11267							
0.14	4200	32800	-	10078							
0.16	4200	32800	-	8608							
0.19	4200	32800	-	7554							
0.21	4200	31300	-	6640							
0.24	4200	31300	-	5780							
0.28	4200	31300	-	4937							
0.32	4200	31300	-	4444							
0.35	4200	31300	-	4017							
0.41	4200	31300	-	3453							
0.45	4200	31300	-	3108							
0.53	4200	31300	-	2654							
0.60	4200	31300	-	2329							
0.67	4200	31300	-	2081							
0.75	4200	31300	-	1860							
0.89	4200	31300	-	1574							
 2  2											
1.0	4200	31300	-	1394							
1.1	4200	31300	-	1223							
1.3	4200	31300	-	1070							
1.5	4200	31300	-	928							
1.7	4200	31300	-	824							
2.0	4200	32800	-	714							
2.2	4200	31300	-	626							
2.6	4200	31300	-	538							
2.9	4200	31400	-	484							
3.3	4200	31400	-	420							
3.7	4200	31400	-	376							
4.3	4200	31500	-	327							
4.9	4200	31500	-	287							
5.6	4200	31500	-	252							
6.4	4200	31600	-	219							
6.8	4200	31600	-	205							



6.3 Selection tables [kW]

$P_m$ [kW]	$n_a$ [1/min]	$M_a$ [Nm]	$i$	$F_{Ra}^{1)}$ [N]	SEW $f_B$				$m$ [kg]		
<b>0.12</b>	0.12	4750	11267	25100	0.90	S	97 R57	DR	63S4	170	491
	0.14	4340	10078	32500	0.95	SF	97 R57	DR	63S4	200	491
	0.16	3600	8608	34000	1.15	SA	97 R57	DR	63S4	165	491
	0.18	3180	7554	34700	1.30	SAF	97 R57	DR	63S4	190	491
	0.21	2690	6706	27100	0.95	S	87 R57	DR	63S4	110	491
	0.23	2400	5875	27700	1.05	SF	87 R57	DR	63S4	130	491
	0.27	1990	5187	28500	1.25	SA	87 R57	DR	63S4	105	491
	0.30	1770	4606	28800	1.40	SAF	87 R57	DR	63S4	120	491
	0.36	1470	3872	29200	1.70						
	0.39	1370	3540	7240	0.90						
	0.45	1200	3098	12300	1.05						
	0.58	1330	2374	10600	0.95	S	77 R37	DR	63S4	59	491
	0.66	1170	2083	12600	1.05	SF	77 R37	DR	63S4	68	491
	0.76	990	1813	13900	1.25	SA	77 R37	DR	63S4	58	491
	0.79	940	1745	14200	1.30	SAF	77 R37	DR	63S4	65	491
	0.86	860	1600	14600	1.45						
	0.98	755	1404	15100	1.65						
	1.1	660	1245	15500	1.90						
	1.2	590	1194	7990	0.95	S	67 R37	DR	63S4	39	491
1.3	530	1045	8560	1.05	SF	67 R37	DR	63S4	46	491	
	460	914	9180	1.25	SA	67 R37	DR	63S4	40	491	
1.5					SAF	67 R37	DR	63S4	45	491	
1.7	420	809	9460	1.35							
	370	712	9780	1.55	S	67 R37	DR	63S4	39	491	
2.2	305	615	10100	1.85	SF	67 R37	DR	63S4	46	491	
	275	543	10200	2.1	SA	67 R37	DR	63S4	40	491	
2.9	225	469	10400	2.5	SAF	67 R37	DR	63S4	45	491	
	205	424	10500	2.8							
3.8	187	365	10500	3.0							
2.1	330	655	6800	0.90							
	285	574	7200	1.05	S	57 R17	DR	63S4	20	491	
2.7	250	506	7480	1.20	SF	57 R17	DR	63S4	24	491	
	215	438	7700	1.40	SA	57 R17	DR	63S4	20	491	
3.6	189	388	7850	1.60	SAF	57 R17	DR	63S4	23	491	
	169	336	7950	1.80							
4.7	145	294	8050	2.1							
	139	269	8070	2.2							
3.1	215	438	5010	0.85							
	189	388	5170	1.00	S	47 R17	DR	63S4	17	491	
4.1	169	336	5290	1.10	SF	47 R17	DR	63S4	20	491	
	143	294	5420	1.30	SA	47 R17	DR	63S4	18	491	
5.4	98	257	5670	1.90	SAF	47 R17	DR	63S4	19	491	
	118	229	5550	1.55							
6.9	102	200	5610	1.80							
	96	187	5640	1.95							
6.8	103	202	3000	0.90	S	37 R17	DR	63S4	14	491	
	91	179	3000	1.00	SF	37 R17	DR	63S4	15	491	
8.7	82	158	3000	1.15	SA	37 R17	DR	63S4	13	491	
	75	144	3000	1.20	SAF	37 R17	DR	63S4	15	491	
12	61	118	3000	1.50							
	57	110	3000	1.60							
4.5	143	201.00*	8050	2.1	S	57	DR	63M6	17	466	
	133	184.80*	8090	2.3	SF	57	DR	63M6	21	467	
5.7	116	158.12	8150	2.5	SA	57	DR	63M6	17	468	
	103	137.05	8180	2.9	SAF	57	DR	63M6	20	467	
4.5	138	201.00*	5490	1.30	S	47	DR	63M6	14	461	
	129	184.80*	5540	1.40	SF	47	DR	63M6	17	462	
5.7	112	158.12	5610	1.55	SA	47	DR	63M6	15	463	
	99	137.05	5660	1.75	SAF	47	DR	63M6	16	462	
7.0	93	128.10*	5680	1.85							

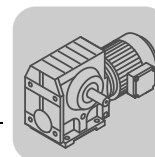
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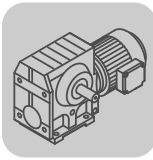
## Helical-Worm Gearmotors

### Selection tables [kW]

$P_m$ [kW]	$n_a$ [1/min]	$M_a$ [Nm]	$i$	$F_{Ra}^{1)}$ [N]	SEW $f_B$					$m$ [kg]		
0.12	6.9	95	201.00*	5680	1.80							
	7.5	89	184.80*	5700	1.90	S	47	DR	63S4	14	461	
	8.7	77	158.12	5740	2.2	SF	47	DR	63S4	17	462	
	10	68	137.05	5780	2.5	SA	47	DR	63S4	15	463	
	11	64	128.10*	5790	2.6	SAF	47	DR	63S4	16	462	
	12	57	110.73	5810	3.0							
	5.7	107	157.43	3000	0.85							
	6.2	99	144.40*	3000	0.95	S	37	DR	63M6	11	457	
	7.3	86	122.94	3000	1.05	SF	37	DR	63M6	12	458	
	8.5	76	106.00*	3000	1.20	SA	37	DR	63M6	10	459	
	9.1	71	98.80*	3000	1.30	SAF	37	DR	63M6	12	458	
	10	64	86.36	3000	1.45							
	8.8	74	157.43	3000	1.25							
	9.6	68	144.40*	3000	1.35	S	37	DR	63S4	11	457	
	11	60	122.94	3000	1.55	SF	37	DR	63S4	12	458	
	13	52	106.00*	3000	1.70	SA	37	DR	63S4	10	459	
	14	49	98.80*	3000	1.75	SAF	37	DR	63S4	12	458	
	16	44	86.36	3000	1.95							
	17	41	80.96	3000	2.1							
	19	37	71.44*	3000	2.3							
	22	33	63.33	3000	2.5							
	25	35	55.93	3000	2.3							
	27	33	51.30*	3000	2.5							
	32	28	43.68	3000	2.9							
	37	25	37.66	3000	3.2	S	37	DR	63S4	11	457	
	39	23	35.10*	3000	3.4	SF	37	DR	63S4	12	458	
	45	20	30.68	3000	3.7	SA	37	DR	63S4	10	459	
	48	19	28.76	3000	3.9	SAF	37	DR	63S4	12	458	
	54	17	25.38*	3000	4.4							
	61	15	22.50*	3000	4.8							
	69	14	19.89	3000	3.6							
	76	13	18.24*	3000	3.9							
	89	11	15.53	2870	4.4							
0.18	0.29	3010	4606	19200	0.85	S	87 R57	DR	63M4	110	491	
	0.34	2520	3872	27500	1.00	SF	87 R57	DR	63M4	130	491	
						SA	87 R57	DR	63M4	105	491	
						SAF	87 R57	DR	63M4	120	491	
	0.38	2430	3475	27700	1.05							
	0.45	2030	2905	28400	1.25	S	87 R57	DR	63M4	105	491	
	0.51	1760	2586	28800	1.40	SF	87 R57	DR	63M4	130	491	
	0.57	1570	2335	29100	1.60	SA	87 R57	DR	63M4	105	491	
	0.64	1360	2054	29300	1.85	SAF	87 R57	DR	63M4	120	491	
	0.72	1210	1824	29500	2.1							
	0.81	1080	1631	29600	2.3							
	0.94	1250	1404	11900	1.00	S	77 R37	DR	63M4	59	491	
	1.1	1100	1245	13200	1.15	SF	77 R37	DR	63M4	68	491	
						SA	77 R37	DR	63M4	58	491	
						SAF	77 R37	DR	63M4	65	491	
	1.2	1020	1100	13700	1.20							
	1.4	880	954	14500	1.40	S	77 R37	DR	63M4	58	491	
	1.6	770	837	15000	1.60	SF	77 R37	DR	63M4	68	491	
	1.9	640	714	15600	1.95	SA	77 R37	DR	63M4	58	491	
	2.1	570	637	15800	2.2	SAF	77 R37	DR	63M4	65	491	
	2.3	515	574	16000	2.4							
	1.9	600	712	7860	0.95							
	2.1	505	615	8800	1.15	S	67 R37	DR	63M4	39	491	
	2.4	450	543	9230	1.25	SF	67 R37	DR	63M4	46	491	
	2.8	380	469	9720	1.50	SA	67 R37	DR	63M4	40	491	
	3.1	340	424	9930	1.65	SAF	67 R37	DR	63M4	45	491	
	3.6	305	365	10100	1.85							

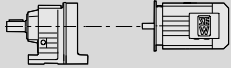



P <sub>m</sub> [kW]	n <sub>a</sub> [1/min]	M <sub>a</sub> [Nm]	i	F <sub>Ra</sub> <sup>1)</sup> [N]	SEW f <sub>B</sub>					m [kg]		
						S	SF	SA	SAF			DR
<b>0.18</b>	3.0	355	438	6520	0.85							
	3.4	315	388	6970	0.95							
	3.9	275	336	7290	1.10	S	57 R17	DR	63M4	20	491	
	4.5	240	294	7560	1.25	SF	57 R17	DR	63M4	24	491	
	4.9	225	269	7650	1.35	SA	57 R17	DR	63M4	20	491	
	5.8	193	229	7830	1.55	SAF	57 R17	DR	63M4	23	491	
	6.5	174	204	7930	1.75							
	7.0	159	187	7990	1.90							
	4.5	235	294	4480	0.80							
	5.1	162	257	5380	1.15							
5.8	190	229	5170	0.95	S	47 R17	DR	63M4	17	491		
6.6	167	200	5300	1.10	SF	47 R17	DR	63M4	20	491		
7.0	156	187	5360	1.20	SA	47 R17	DR	63M4	18	491		
8.0	138	165	5450	1.35	SAF	47 R17	DR	63M4	19	491		
9.0	124	148	5520	1.50								
10	110	131	5580	1.70								
4.0	255	217.41	10300	2.2	S	67	DR	63L6	29	471		
4.6	225	190.11	10400	2.5	SF	67	DR	63L6	35	472		
4.8	215	180.60*	10400	2.6	SA	67	DR	63L6	30	473		
					SAF	67	DR	63L6	34	472		
4.3	220	201.00*	7670	1.35	S	57	DR	63L6	18	466		
4.7	205	184.80*	7760	1.45	SF	57	DR	63L6	22	467		
5.5	180	158.12	7900	1.65	SA	57	DR	63L6	18	468		
6.4	159	137.05	7990	1.85	SAF	57	DR	63L6	21	467		
6.6	154	201.00*	8010	1.90	S	57	DR	63M4	17	466		
7.1	143	184.80*	8050	2.1	SF	57	DR	63M4	21	467		
8.3	125	158.12	8120	2.4	SA	57	DR	63M4	17	468		
9.6	110	137.05	8160	2.7	SAF	57	DR	63M4	20	467		
4.3	215	201.00*	5090	0.85	S	47	DR	63L6	14	461		
4.7	199	184.80*	5180	0.90	SF	47	DR	63L6	18	462		
5.5	173	158.12	5320	1.00	SA	47	DR	63L6	15	463		
6.4	153	137.05	5420	1.10	SAF	47	DR	63L6	17	462		
6.8	144	128.10*	5470	1.20								
6.6	149	201.00*	5440	1.15								
7.1	138	184.80*	5490	1.25								
8.3	121	158.12	5570	1.40								
9.6	107	137.05	5630	1.60	S	47	DR	63M4	14	461		
10	100	128.10*	5660	1.65	SF	47	DR	63M4	17	462		
12	88	110.73	5700	1.90	SA	47	DR	63M4	15	463		
14	77	94.08*	5750	2.2	SAF	47	DR	63M4	16	462		
16	69	84.00*	5770	2.4								
18	60	71.75*	5800	2.8								
19	69	69.39	5750	2.2								
8.4	115	157.43	3000	0.80								
9.1	107	144.40*	3000	0.85								
11	93	122.94	3000	1.00	S	37	DR	63M4	11	457		
12	82	106.00*	3000	1.10	SF	37	DR	63M4	12	458		
13	77	98.80*	3000	1.15	SA	37	DR	63M4	10	459		
15	68	86.36	3000	1.25	SAF	37	DR	63M4	12	458		
16	64	80.96	3000	1.30								
18	58	71.44*	3000	1.45								
21	52	63.33	3000	1.60								
24	55	55.93	3000	1.45								
26	51	51.30*	3000	1.60								
30	44	43.68	3000	1.85								
35	38	37.66	3000	2.1								
38	36	35.10*	3000	2.2								
43	32	30.68	3000	2.4	S	37	DR	63M4	11	457		
46	30	28.76	3000	2.5	SF	37	DR	63M4	12	458		
52	27	25.38*	3000	2.8	SA	37	DR	63M4	10	459		
59	24	22.50*	3000	3.1	SAF	37	DR	63M4	12	458		
66	22	19.89	3000	2.3								
72	21	18.24*	2940	2.5								
85	18	15.53	2810	2.8								
99	15	13.39	2700	3.2								
106	14	12.48*	2650	3.4								
121	13	10.91	2550	3.8								
129	12	10.23	2500	4.0								

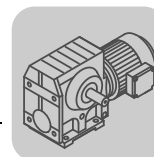


## Helical-Worm Gearmotors

### Selection tables [kW]

$P_m$ [kW]	$n_a$ [1/min]	$M_a$ [Nm]	$i$	$F_{Ra}^{1)}$ [N]	SEW $f_B$		$m$ [kg]				
<b>0.25</b>	<b>0.45</b>	2930	2905	22200	0.85						
	<b>0.50</b>	2560	2586	27400	1.00						
	<b>0.56</b>	2300	2335	27900	1.10	<b>S</b>	<b>87 R57</b>	<b>DR</b>	<b>63L4</b>	110	491
	<b>0.63</b>	2000	2054	28400	1.25	<b>SF</b>	<b>87 R57</b>	<b>DR</b>	<b>63L4</b>	130	491
	<b>0.71</b>	1770	1824	28800	1.40	<b>SA</b>	<b>87 R57</b>	<b>DR</b>	<b>63L4</b>	105	491
	<b>0.80</b>	1590	1631	29100	1.60	<b>SAF</b>	<b>87 R57</b>	<b>DR</b>	<b>63L4</b>	120	491
	<b>1.4</b>	930	930	29700	2.7						
	<b>1.4</b>	1260	954	11800	1.00						
	<b>1.6</b>	1110	837	13100	1.10	<b>S</b>	<b>77 R37</b>	<b>DR</b>	<b>63L4</b>	59	491
	<b>1.8</b>	930	714	14200	1.35	<b>SF</b>	<b>77 R37</b>	<b>DR</b>	<b>63L4</b>	69	491
	<b>2.0</b>	820	637	14800	1.50	<b>SA</b>	<b>77 R37</b>	<b>DR</b>	<b>63L4</b>	59	491
	<b>2.3</b>	745	574	15200	1.65	<b>SAF</b>	<b>77 R37</b>	<b>DR</b>	<b>63L4</b>	65	491
	<b>2.6</b>	640	499	15600	1.95						
	<b>2.4</b>	650	543	6280	0.85						
	<b>2.8</b>	550	469	8390	1.05	<b>S</b>	<b>67 R37</b>	<b>DR</b>	<b>63L4</b>	40	491
	<b>3.1</b>	495	424	8880	1.15	<b>SF</b>	<b>67 R37</b>	<b>DR</b>	<b>63L4</b>	46	491
	<b>3.6</b>	440	365	9320	1.30	<b>SA</b>	<b>67 R37</b>	<b>DR</b>	<b>63L4</b>	41	491
	<b>4.1</b>	380	319	9700	1.50	<b>SAF</b>	<b>67 R37</b>	<b>DR</b>	<b>63L4</b>	45	491
	<b>4.6</b>	335	281	9960	1.70						
	<b>4.4</b>	345	294	6640	0.85						
<b>4.8</b>	320	269	6870	0.95	<b>S</b>	<b>57 R17</b>	<b>DR</b>	<b>63L4</b>	21	491	
<b>5.7</b>	275	229	7280	1.10	<b>SF</b>	<b>57 R17</b>	<b>DR</b>	<b>63L4</b>	25	491	
<b>6.4</b>	250	204	7490	1.20	<b>SA</b>	<b>57 R17</b>	<b>DR</b>	<b>63L4</b>	21	491	
<b>6.9</b>	230	187	7630	1.30	<b>SAF</b>	<b>57 R17</b>	<b>DR</b>	<b>63L4</b>	24	491	
<b>7.9</b>	200	165	7780	1.50							
<b>9.9</b>	162	131	7980	1.85							
<b>3.1</b>	435	217.41	9350	1.30	<b>S</b>	<b>67</b>	<b>DT</b>	<b>80N8</b>	33	471	
<b>3.6</b>	390	190.11	9670	1.45	<b>SF</b>	<b>67</b>	<b>DT</b>	<b>80N8</b>	40	472	
<b>3.8</b>	370	180.60*	9770	1.50	<b>SA</b>	<b>67</b>	<b>DT</b>	<b>80N8</b>	34	473	
<b>4.3</b>	330	158.45	9980	1.70	<b>SAF</b>	<b>67</b>	<b>DT</b>	<b>80N8</b>	39	472	
<b>4.0</b>	350	217.41	9890	1.60	<b>S</b>	<b>67</b>	<b>DT</b>	<b>71D6</b>	30	471	
<b>4.6</b>	310	190.11	10100	1.80	<b>SF</b>	<b>67</b>	<b>DT</b>	<b>71D6</b>	37	472	
<b>4.9</b>	295	180.60*	10100	1.90	<b>SA</b>	<b>67</b>	<b>DT</b>	<b>71D6</b>	31	473	
<b>5.5</b>	265	158.45	10300	2.1	<b>SAF</b>	<b>67</b>	<b>DT</b>	<b>71D6</b>	36	472	
<b>6.0</b>	245	217.41	10300	2.1							
<b>6.8</b>	220	190.11	10400	2.4	<b>S</b>	<b>67</b>	<b>DR</b>	<b>63L4</b>	29	471	
<b>7.2</b>	210	180.60*	10500	2.5	<b>SF</b>	<b>67</b>	<b>DR</b>	<b>63L4</b>	35	472	
<b>8.2</b>	187	158.45	10500	2.8	<b>SA</b>	<b>67</b>	<b>DR</b>	<b>63L4</b>	30	473	
<b>9.7</b>	161	134.40*	10600	3.2	<b>SAF</b>	<b>67</b>	<b>DR</b>	<b>63L4</b>	34	472	
<b>11</b>	147	121.33	10600	3.5							
<b>12</b>	131	106.75*	10700	4.0							
<b>4.4</b>	305	201.00*	7050	1.00	<b>S</b>	<b>57</b>	<b>DT</b>	<b>71D6</b>	19	466	
<b>4.8</b>	285	184.80*	7230	1.05	<b>SF</b>	<b>57</b>	<b>DT</b>	<b>71D6</b>	23	467	
<b>5.6</b>	245	158.12	7510	1.20	<b>SA</b>	<b>57</b>	<b>DT</b>	<b>71D6</b>	19	468	
<b>6.4</b>	220	137.05	7690	1.35	<b>SAF</b>	<b>57</b>	<b>DT</b>	<b>71D6</b>	22	467	
<b>6.9</b>	205	128.10*	7760	1.45							
<b>6.5</b>	215	201.00*	7700	1.35							
<b>7.0</b>	200	184.80*	7790	1.45							
<b>8.2</b>	176	158.12	7920	1.70	<b>S</b>	<b>57</b>	<b>DR</b>	<b>63L4</b>	18	466	
<b>9.5</b>	155	137.05	8010	1.90	<b>SF</b>	<b>57</b>	<b>DR</b>	<b>63L4</b>	22	467	
<b>10</b>	146	128.10*	8040	2.0	<b>SA</b>	<b>57</b>	<b>DR</b>	<b>63L4</b>	18	468	
<b>12</b>	129	110.73	8110	2.3	<b>SAF</b>	<b>57</b>	<b>DR</b>	<b>63L4</b>	21	467	
<b>14</b>	111	94.08*	8160	2.7							
<b>15</b>	101	84.00*	8190	2.9							





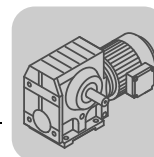
$P_m$ [kW]	$n_a$ [1/min]	$M_a$ [Nm]	$i$	$F_{Ra}^{1)}$ [N]	SEW $f_B$					$m$ [kg]			
<b>0.25</b>	6.5	210	201.00*	5120	0.80								
	7.0	195	184.80*	5210	0.85								
	8.2	170	158.12	5340	1.00								
	9.5	150	137.05	5440	1.10								
	10	141	128.10*	5480	1.20								
	12	124	110.73	5560	1.35								
	14	108	94.08*	5630	1.55								
	15	98	84.00*	5670	1.70								
	18	85	71.75*	5720	1.95								
	19	97	69.39	5640	1.60								
	19	80	67.20*	5740	2.1								
	20	90	63.80*	5670	1.70								
	24	78	54.59	5720	2.0								
	27	68	47.32	5760	2.3								
		13	108	98.80*	3000	0.80							
		15	96	86.36	3000	0.90							
		16	91	80.96	3000	0.95							
		18	81	71.44*	3000	1.05							
		21	73	63.33	3000	1.10							
		23	78	55.93	3000	1.05							
		25	72	51.30*	3000	1.15							
		30	62	43.68	3000	1.30							
		35	54	37.66	3000	1.45							
		37	51	35.10*	3000	1.55							
		42	45	30.68	3000	1.70							
		45	42	28.76	3000	1.80							
		51	37	25.38*	3000	2.0							
	58	33	22.50*	3000	2.2								
	65	32	19.89	2870	1.65								
	71	29	18.24*	2820	1.80								
	84	25	15.53	2710	2.0								
	97	22	13.39	2620	2.3								
	104	20	12.48*	2570	2.4								
	119	18	10.91	2480	2.7								
	127	17	10.23	2440	2.8								
	144	15	9.02*	2360	3.1								
	163	13	8.00*	2290	3.4								
	191	11	6.80*	2180	3.8								
	92	21	28.76	2740	3.0								
	105	19	25.38*	2650	3.3								
	118	17	22.50*	2560	3.4								
	134	16	19.89	2410	2.8								
	146	15	18.24*	2350	3.0								
	171	13	15.53	2250	3.4								
	199	11	13.39	2160	3.8								
	213	10	12.48*	2120	4.0								
<b>0.37</b>	0.67	2860	2054	24500	0.90								
	0.76	2540	1824	27400	1.00								
	0.85	2270	1631	28000	1.10								
	1.5	1340	930	29400	1.85								
	1.7	1210	831	29500	2.1								
		1.9	1310	714	11300	0.95							
		2.2	1170	637	12600	1.05							
		2.4	1060	574	13400	1.15							
		2.8	910	499	14300	1.35							
		3.1	800	438	14900	1.55							
		3.6	710	389	15300	1.75							
		3.8	625	365	7560	0.90							
		4.3	545	319	8450	1.05							
		4.9	480	281	9030	1.20							
		5.6	430	246	9380	1.30							
		2.4	980	288.00*	29700	2.5							
		2.6	890	258.18	29800	2.8							
		3.1	775	222.40*	29900	3.2							

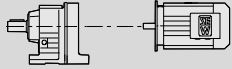



## Helical-Worm Gearmotors

### Selection tables [kW]

$P_m$ [kW]	$n_a$ [1/min]	$M_a$ [Nm]	$i$	$F_{Ra}^{1)}$ [N]	SEW $f_B$					$m$ [kg]		
0.37	3.0	735	225.26	15200	1.75	S	77	DT	90S8	59	476	
	3.2	700	214.00*	15300	1.80	SF	77	DT	90S8	69	477	
	3.6	630	189.09	15600	2.0	SA	77	DT	90S8	59	478	
	4.2	545	161.60*	15900	2.3	SAF	77	DT	90S8	66	477	
	3.5	645	256.47	15600	2.0	S	77	DT	80K6	52	476	
	4.0	575	225.26	15800	2.2	SF	77	DT	80K6	62	477	
	4.2	545	214.00*	15900	2.3	SA	77	DT	80K6	52	478	
							SAF	77	DT	80K6	59	477
	4.1	505	217.41	8810	1.10	S	67	DT	80K6	32	471	
	4.7	450	190.11	9260	1.25	SF	67	DT	80K6	39	472	
	5.0	430	180.60*	9400	1.30	SA	67	DT	80K6	33	473	
	5.7	380	158.45	9700	1.45	SAF	67	DT	80K6	38	472	
	6.4	345	217.41	9900	1.50							
	7.3	310	190.11	10100	1.70	S	67	DT	71D4	30	471	
	7.6	295	180.60*	10200	1.75	SF	67	DT	71D4	37	472	
	8.7	260	158.45	10300	2.0	SA	67	DT	71D4	31	473	
	10	225	134.40*	10400	2.3	SAF	67	DT	71D4	36	472	
	11	205	121.33	10500	2.5							
	5.7	360	158.12	6490	0.80							
	6.6	315	137.05	6930	0.95	S	57	DT	80K6	21	466	
	7.0	300	128.10*	7100	1.00	SF	57	DT	80K6	25	467	
	8.1	265	110.73	7390	1.10	SA	57	DT	80K6	21	468	
	9.6	230	94.08*	7630	1.30	SAF	57	DT	80K6	24	467	
	11	205	84.00*	7760	1.45							
	6.9	305	201.00*	7050	0.95							
	7.5	285	184.80*	7230	1.05							
	8.7	245	158.12	7510	1.20							
	10	220	137.05	7690	1.35							
	11	205	128.10*	7770	1.45	S	57	DT	71D4	19	466	
	12	180	110.73	7900	1.65	SF	57	DT	71D4	23	467	
	15	156	94.08*	8000	1.90	SA	57	DT	71D4	19	468	
	16	141	84.00*	8060	2.1	SAF	57	DT	71D4	22	467	
	19	122	71.75*	8130	2.4							
	20	139	69.39	8070	1.75							
	21	115	67.20*	8150	2.5							
	22	128	63.80*	8110	1.90							
	10	210	137.05	5110	0.80							
	11	199	128.10*	5190	0.85							
	12	175	110.73	5320	0.95							
	15	151	94.08*	5430	1.10							
	16	137	84.00*	5500	1.20							
	19	119	71.75*	5580	1.40							
	20	136	69.39	5460	1.15							
	21	112	67.20*	5610	1.50							
	22	126	63.80*	5510	1.25	S	47	DT	71D4	15	461	
	25	109	54.59	5590	1.40	SF	47	DT	71D4	19	462	
	29	96	47.32	5410	1.60	SA	47	DT	71D4	16	463	
	31	90	44.22*	5330	1.75	SAF	47	DT	71D4	18	462	
	36	78	38.23	5140	2.0							
	42	67	32.48*	4930	2.3							
	48	60	29.00*	4790	2.6							
	56	52	24.77	4590	3.0							
59	49	23.20*	4510	3.1								
68	46	20.33	4180	2.4								
78	40	17.62	4030	2.8								
84	37	16.47*	3960	3.0								



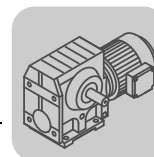
P <sub>m</sub> [kW]	n <sub>a</sub> [1/min]	M <sub>a</sub> [Nm]	i	F <sub>Ra</sub> <sup>1)</sup> [N]	SEW f <sub>B</sub>					m [kg]	
						S	SA	SAF	DT		
<b>0.37</b>	22	103	63.33	3000	0.80						
	27	101	51.30*	3000	0.80						
	32	87	43.68	3000	0.95						
	37	76	37.66	3000	1.05						
	39	71	35.10*	3000	1.10						
	45	63	30.68	3000	1.20						
	48	59	28.76	3000	1.30						
	54	52	25.38*	2940	1.40						
	61	47	22.50*	2870	1.55	S	37	DT	71D4	12	457
	69	44	19.89	2610	1.20	SF	37	DT	71D4	14	458
	76	41	18.24*	2570	1.30	SA	37	DT	71D4	12	459
	89	35	15.53	2500	1.45	SAF	37	DT	71D4	13	458
	103	30	13.39	2420	1.60						
	111	28	12.48*	2390	1.70						
	127	25	10.91	2320	1.95						
	135	23	10.23	2280	2.0						
	153	21	9.02*	2220	2.2						
	173	18	8.00*	2150	2.5						
	203	16	6.80*	2070	2.7						
	<b>0.55</b>	104	28	25.38*	2540	2.2					
118		25	22.50*	2460	2.3						
133		24	19.89	2290	1.85						
145		22	18.24*	2250	2.0	S	37	DR	63L2	11	457
171		19	15.53	2160	2.3	SF	37	DR	63L2	13	458
198		16	13.39	2080	2.6	SA	37	DR	63L2	11	459
212		15	12.48*	2040	2.7	SAF	37	DR	63L2	13	458
243		13	10.91	1970	3.0						
259		12	10.23	1940	3.1						
294		11	9.02*	1870	3.3						
<b>0.55</b>		1.0	2850	1332	24800	0.90					
		1.1	2570	1191	27300	0.95					
		1.3	2240	1032	28000	1.10					
		1.5	2070	930	28300	1.20	S	87 R57	DT	80K4	110
	1.6	1870	831	28700	1.35	SF	87 R57	DT	80K4	135	491
	1.9	1620	719	29000	1.55	SA	87 R57	DT	80K4	110	491
	2.2	1420	624	29300	1.75	SAF	87 R57	DT	80K4	125	491
	2.4	1280	558	29400	1.95						
	3.1	1020	435	29700	2.4						
	3.1	1230	438	12100	1.00	S	77 R37	DT	80K4	62	491
	3.5	1090	389	13200	1.15	SF	77 R37	DT	80K4	72	491
	4.2	920	327	14300	1.35	SA	77 R37	DT	80K4	61	491
	4.7	830	289	14800	1.50	SAF	77 R37	DT	80K4	68	491
	5.4	720	250	15300	1.70						
	5.5	660	246	5530	0.85	S	67 R37	DT	80K4	43	491
	6.2	590	221	7990	0.95	SF	67 R37	DT	80K4	49	491
	6.9	535	198	8520	1.05	SA	67 R37	DT	80K4	44	491
	8.1	460	168	9180	1.25	SAF	67 R37	DT	80K4	48	491
	2.4	1450	288.00*	29200	1.70	S	87	DT	90L8	96	481
	2.6	1320	258.18	29400	1.85	SF	87	DT	90L8	120	482
3.1	1150	222.40*	29600	2.1	SA	87	DT	90L8	94	483	
					SAF	87	DT	90L8	110	482	
3.1	1130	288.00*	29600	2.2	S	87	DT	80N6	90	481	
3.5	1020	258.18	29700	2.4	SF	87	DT	80N6	110	482	
4.0	900	222.40*	29800	2.7	SA	87	DT	80N6	88	483	
4.4	820	202.96	29800	2.9	SAF	87	DT	80N6	105	482	
3.0	1090	225.26	13200	1.15	S	77	DT	90L8	60	476	
3.2	1040	214.00*	13500	1.20	SF	77	DT	90L8	70	477	
3.6	930	189.09	14200	1.35	SA	77	DT	90L8	60	478	
4.2	810	161.60*	14900	1.55	SAF	77	DT	90L8	67	477	
3.5	960	256.47	14100	1.35	S	77	DT	80N6	54	476	
4.0	850	225.26	14700	1.50	SF	77	DT	80N6	64	477	
4.2	810	214.00*	14800	1.55	SA	77	DT	80N6	54	478	
4.8	730	189.09	15200	1.75	SAF	77	DT	80N6	61	477	
5.6	635	161.60*	15600	2.0							

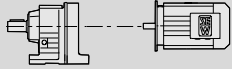



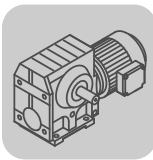
## Helical-Worm Gearmotors

### Selection tables [kW]

$P_m$ [kW]	$n_a$ [1/min]	$M_a$ [Nm]	$i$	$F_{Ra}^{1)}$ [N]	SEW $f_B$					$m$ [kg]	
0.55	5.3	660	256.47	15500	1.90	S	77	DT	80K4	52	476
	6.0	590	225.26	15800	2.2	SF	77	DT	80K4	62	477
	6.4	560	214.00*	15800	2.3	SA	77	DT	80K4	52	478
	7.2	505	189.09	16000	2.5	SAF	77	DT	80K4	59	477
	6.3	520	217.41	8660	1.00						
	7.2	465	190.11	9150	1.10						
	7.5	445	180.60*	9300	1.15						
	8.6	395	158.45	9620	1.30	S	67	DT	80K4	32	471
	10	340	134.40*	9930	1.55	SF	67	DT	80K4	39	472
	11	310	121.33	10100	1.65	SA	67	DT	80K4	33	473
13	275	106.75*	10200	1.85	SAF	67	DT	80K4	38	472	
13	265	100.80*	10300	1.95							
16	230	85.83	10400	2.3							
18	230	75.06	10400	2.1							
21	205	65.63	10500	2.4							
9.6	340	94.08*	6710	0.85							
11	305	84.00*	7030	0.95							
13	265	71.75*	7360	1.10	S	57	DT	80N6	22	466	
13	250	67.20*	7470	1.15	SF	57	DT	80N6	26	467	
16	245	54.59	7520	1.10	SA	57	DT	80N6	22	468	
19	215	47.32	7710	1.25	SAF	57	DT	80N6	25	467	
20	200	44.22*	7790	1.35							
24	176	38.23	7920	1.55							
8.6	370	158.12	6330	0.80							
9.9	330	137.05	6820	0.90							
11	310	128.10*	7010	0.95							
12	270	110.73	7320	1.10							
14	235	94.08*	7590	1.25							
16	210	84.00*	7730	1.40							
19	184	71.75*	7880	1.55	S	57	DT	80K4	21	466	
20	174	67.20*	7930	1.65	SF	57	DT	80K4	25	467	
25	167	54.59	7960	1.45	SA	57	DT	80K4	21	468	
29	146	47.32	8040	1.70	SAF	57	DT	80K4	24	467	
31	137	44.22*	8080	1.80							
36	120	38.23	8130	2.1							
42	103	32.48*	7970	2.4							
47	92	29.00*	7730	2.7							
55	79	24.77	7390	3.1							
59	75	23.20*	7250	3.3							
67	69	20.33	6760	2.4							
16	205	84.00*	5140	0.80							
19	179	71.75*	5290	0.95							
20	169	67.20*	5350	1.00							
25	165	54.59	5130	0.95							
29	144	47.32	5010	1.10							
31	135	44.22*	4950	1.15							
36	118	38.23	4810	1.30							
42	101	32.48*	4650	1.55	S	47	DT	80K4	17	461	
47	91	29.00*	4540	1.70	SF	47	DT	80K4	21	462	
55	78	24.77	4380	2.0	SA	47	DT	80K4	18	463	
59	74	23.20*	4310	2.1	SAF	47	DT	80K4	20	462	
67	69	20.33	3920	1.60							
77	60	17.62	3810	1.85							
83	56	16.47*	3750	1.95							
96	49	14.24	3630	2.3							
112	42	12.10*	3500	2.6							
126	37	10.80*	3400	2.9							
147	32	9.23*	3270	3.4							



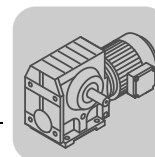
$P_m$ [kW]	$n_a$ [1/min]	$M_a$ [Nm]	$i$	$F_{Ra}^{1)}$ [N]	SEW $f_B$					$m$ [kg]		
<b>0.55</b>	44	94	30.68	2680	0.80							
	47	89	28.76	2670	0.85							
	54	79	25.38*	2630	0.95							
	60	70	22.50*	2600	1.05							
	71	60	19.13*	2540	1.20							
	88	53	15.53	2230	0.95	<b>S</b>	<b>37</b>	<b>DT</b>	<b>80K4</b>	14	457	
	102	46	13.39	2200	1.10	<b>SF</b>	<b>37</b>	<b>DT</b>	<b>80K4</b>	16	458	
	109	43	12.48*	2180	1.15	<b>SA</b>	<b>37</b>	<b>DT</b>	<b>80K4</b>	14	459	
	125	37	10.91	2130	1.30	<b>SAF</b>	<b>37</b>	<b>DT</b>	<b>80K4</b>	15	458	
	133	35	10.23	2110	1.35							
	151	31	9.02*	2070	1.50							
	170	28	8.00*	2020	1.60							
	200	24	6.80*	1950	1.80							
	94	46	28.76	2420	1.40							
	106	41	25.38*	2360	1.50							
	120	37	22.50*	2310	1.55							
	136	34	19.89	2100	1.30							
	148	32	18.24*	2070	1.40	<b>S</b>	<b>37</b>	<b>DT</b>	<b>71D2</b>	12	457	
	174	27	15.53	2010	1.55	<b>SF</b>	<b>37</b>	<b>DT</b>	<b>71D2</b>	14	458	
	202	24	13.39	1950	1.75	<b>SA</b>	<b>37</b>	<b>DT</b>	<b>71D2</b>	12	459	
216	22	12.48*	1920	1.85	<b>SAF</b>	<b>37</b>	<b>DT</b>	<b>71D2</b>	13	458		
248	19	10.91	1870	2.0								
264	18	10.23	1840	2.1								
299	16	9.02*	1780	2.3								
338	14	8.00*	1730	2.5								
397	12	6.80*	1660	2.4								
<b>0.75</b>	1.1	4910	1223	18400	0.85							
	1.3	4300	1070	29800	1.00							
	1.5	3710	928	33800	1.15	<b>S</b>	<b>97 R57</b>	<b>DT</b>	<b>80N4</b>	170	491	
	1.7	3270	824	34500	1.30	<b>SF</b>	<b>97 R57</b>	<b>DT</b>	<b>80N4</b>	205	491	
	1.9	2330	714	35800	1.80	<b>SA</b>	<b>97 R57</b>	<b>DT</b>	<b>80N4</b>	165	491	
	2.2	2480	626	35600	1.70	<b>SAF</b>	<b>97 R57</b>	<b>DT</b>	<b>80N4</b>	195	491	
	2.6	2130	538	36000	1.95							
	2.9	1930	484	36200	2.2							
	1.3	3060	1032	17400	0.80							
	1.5	2820	930	25300	0.90							
	1.7	2540	831	27400	1.00	<b>S</b>	<b>87 R57</b>	<b>DT</b>	<b>80N4</b>	110	491	
	1.9	2220	719	28100	1.15	<b>SF</b>	<b>87 R57</b>	<b>DT</b>	<b>80N4</b>	135	491	
	2.2	1940	624	28500	1.30	<b>SA</b>	<b>87 R57</b>	<b>DT</b>	<b>80N4</b>	110	491	
	2.5	1750	558	28800	1.45	<b>SAF</b>	<b>87 R57</b>	<b>DT</b>	<b>80N4</b>	125	491	
	3.2	1400	435	29300	1.75							
	4.3	1070	323	29600	2.2							
	4.2	1250	327	11900	1.00	<b>S</b>	<b>77 R37</b>	<b>DT</b>	<b>80N4</b>	63	491	
	4.8	1120	289	12900	1.10	<b>SF</b>	<b>77 R37</b>	<b>DT</b>	<b>80N4</b>	73	491	
	5.5	970	250	14000	1.25	<b>SA</b>	<b>77 R37</b>	<b>DT</b>	<b>80N4</b>	62	491	
	6.3	860	219	14600	1.45	<b>SAF</b>	<b>77 R37</b>	<b>DT</b>	<b>80N4</b>	69	491	
	2.4	2040	286.40*	36100	2.1	<b>S</b>	<b>97</b>	<b>DV</b>	<b>100M8</b>	160	486	
	2.6	1890	262.22	36300	2.2	<b>SF</b>	<b>97</b>	<b>DV</b>	<b>100M8</b>	195	487	
	3.0	1690	231.67	36400	2.5	<b>SA</b>	<b>97</b>	<b>DV</b>	<b>100M8</b>	155	488	
						<b>SAF</b>	<b>97</b>	<b>DV</b>	<b>100M8</b>	185	487	
	3.1	1540	288.00*	29100	1.60	<b>S</b>	<b>87</b>	<b>DT</b>	<b>90S6</b>	95	481	
	3.5	1400	258.18	29300	1.75	<b>SF</b>	<b>87</b>	<b>DT</b>	<b>90S6</b>	115	482	
	4.0	1220	222.40*	29500	1.95	<b>SA</b>	<b>87</b>	<b>DT</b>	<b>90S6</b>	93	483	
	4.4	1120	202.96	29600	2.1	<b>SAF</b>	<b>87</b>	<b>DT</b>	<b>90S6</b>	110	482	
	4.8	1050	288.00*	29600	2.2	<b>S</b>	<b>87</b>	<b>DT</b>	<b>80N4</b>	90	481	
	5.4	950	258.18	29700	2.4	<b>SF</b>	<b>87</b>	<b>DT</b>	<b>80N4</b>	110	482	
	6.2	830	222.40*	29800	2.8	<b>SA</b>	<b>87</b>	<b>DT</b>	<b>80N4</b>	88	483	
	6.8	765	202.96	29900	3.0	<b>SAF</b>	<b>87</b>	<b>DT</b>	<b>80N4</b>	105	482	
	4.0	1160	225.26	12700	1.10	<b>S</b>	<b>77</b>	<b>DT</b>	<b>90S6</b>	59	476	
	4.2	1110	214.00*	13100	1.15	<b>SF</b>	<b>77</b>	<b>DT</b>	<b>90S6</b>	69	477	
	4.8	990	189.09	13900	1.30	<b>SA</b>	<b>77</b>	<b>DT</b>	<b>90S6</b>	59	478	
	5.6	860	161.60*	14600	1.45	<b>SAF</b>	<b>77</b>	<b>DT</b>	<b>90S6</b>	66	477	



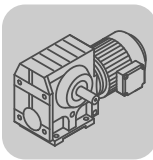
## Helical-Worm Gearmotors

### Selection tables [kW]

$P_m$ [kW]	$n_a$ [1/min]	$M_a$ [Nm]	$i$	$F_{Ra}^{1)}$ [N]	SEW $f_B$					$m$ [kg]	
<b>0.75</b>	5.4	890	256.47	14500	1.45						
	6.1	790	225.26	14900	1.60						
	6.5	755	214.00*	15100	1.70						
	7.3	675	189.09	15400	1.90	<b>S</b>	<b>77</b>	<b>DT</b>	<b>80N4</b>	54	476
	8.5	585	161.60*	15800	2.2	<b>SF</b>	<b>77</b>	<b>DT</b>	<b>80N4</b>	64	477
	9.3	545	148.15	15900	2.3	<b>SA</b>	<b>77</b>	<b>DT</b>	<b>80N4</b>	54	478
	11	480	130.00*	16000	2.5	<b>SAF</b>	<b>77</b>	<b>DT</b>	<b>80N4</b>	61	477
	11	460	123.20*	16000	2.6						
	13	405	107.83	16000	2.9						
	7.3	625	190.11	7570	0.85						
7.6	595	180.60*	7900	0.85							
8.7	530	158.45	8570	1.00							
10	460	134.40*	9180	1.15							
11	420	121.33	9470	1.25							
13	375	106.75*	9750	1.40	<b>S</b>	<b>67</b>	<b>DT</b>	<b>80N4</b>	33	471	
14	355	100.80*	9860	1.45	<b>SF</b>	<b>67</b>	<b>DT</b>	<b>80N4</b>	40	472	
16	305	85.83	10100	1.70	<b>SA</b>	<b>67</b>	<b>DT</b>	<b>80N4</b>	34	473	
18	310	75.06	10100	1.55	<b>SAF</b>	<b>67</b>	<b>DT</b>	<b>80N4</b>	39	472	
21	275	65.63	10200	1.75							
22	260	62.35*	10300	1.85							
25	230	54.70	10300	2.1							
30	198	46.40*	9840	2.4							
13	365	71.75*	6430	0.80							
13	345	67.20*	6660	0.85	<b>S</b>	<b>57</b>	<b>DT</b>	<b>90S6</b>	27	466	
16	295	56.61	7140	1.00	<b>SF</b>	<b>57</b>	<b>DT</b>	<b>90S6</b>	31	467	
19	295	47.32	7150	0.90	<b>SA</b>	<b>57</b>	<b>DT</b>	<b>90S6</b>	27	468	
20	275	44.22*	7300	1.00	<b>SAF</b>	<b>57</b>	<b>DT</b>	<b>90S6</b>	30	467	
12	365	110.73	6400	0.80							
15	315	94.08*	6930	0.95							
16	285	84.00*	7210	1.05							
19	250	71.75*	7500	1.15							
21	235	67.20*	7590	1.20							
25	225	54.59	7650	1.10							
29	197	47.32	7810	1.25							
31	185	44.22*	7870	1.35	<b>S</b>	<b>57</b>	<b>DT</b>	<b>80N4</b>	22	466	
36	161	38.23	7980	1.50	<b>SF</b>	<b>57</b>	<b>DT</b>	<b>80N4</b>	26	467	
42	138	32.48*	7670	1.80	<b>SA</b>	<b>57</b>	<b>DT</b>	<b>80N4</b>	22	468	
48	124	29.00*	7450	2.0	<b>SAF</b>	<b>57</b>	<b>DT</b>	<b>80N4</b>	25	467	
56	107	24.77	7150	2.3							
59	100	23.20*	7030	2.5							
68	93	20.33	6490	1.80							
78	81	17.62	6260	2.1							
84	76	16.47*	6160	2.2							
97	66	14.24	5930	2.6							
29	194	47.32	4530	0.80							
31	182	44.22*	4500	0.85	<b>S</b>	<b>47</b>	<b>DT</b>	<b>80N4</b>	18	461	
36	159	38.23	4420	1.00	<b>SF</b>	<b>47</b>	<b>DT</b>	<b>80N4</b>	22	462	
42	136	32.48*	4310	1.15	<b>SA</b>	<b>47</b>	<b>DT</b>	<b>80N4</b>	19	463	
48	122	29.00*	4230	1.25	<b>SAF</b>	<b>47</b>	<b>DT</b>	<b>80N4</b>	21	462	
56	106	24.77	4110	1.45							
59	99	23.20*	4060	1.55							
68	93	20.33	3610	1.20							
78	81	17.62	3530	1.35							
84	76	16.47*	3490	1.45	<b>S</b>	<b>47</b>	<b>DT</b>	<b>80N4</b>	18	461	
97	66	14.24	3410	1.65	<b>SF</b>	<b>47</b>	<b>DT</b>	<b>80N4</b>	22	462	
114	56	12.10*	3300	1.95	<b>SA</b>	<b>47</b>	<b>DT</b>	<b>80N4</b>	19	463	
128	50	10.80*	3230	2.2	<b>SAF</b>	<b>47</b>	<b>DT</b>	<b>80N4</b>	21	462	
150	43	9.23*	3120	2.5							
160	41	8.64*	3070	2.7							
190	34	7.28	2950	3.0							
72	81	19.13*	2270	0.85							
111	57	12.48*	1930	0.85	<b>S</b>	<b>37</b>	<b>DT</b>	<b>80N4</b>	15	457	
127	50	10.91	1920	0.95	<b>SF</b>	<b>37</b>	<b>DT</b>	<b>80N4</b>	17	458	
135	47	10.23	1910	1.00	<b>SA</b>	<b>37</b>	<b>DT</b>	<b>80N4</b>	15	459	
153	42	9.02*	1890	1.10	<b>SAF</b>	<b>37</b>	<b>DT</b>	<b>80N4</b>	16	458	
173	37	8.00*	1860	1.20							
203	32	6.80*	1820	1.35							



P <sub>m</sub> [kW]	n <sub>a</sub> [1/min]	M <sub>a</sub> [Nm]	i	F <sub>Ra</sub> <sup>1)</sup> [N]	SEW f <sub>B</sub>					m [kg]		
						S	SF	SA	SAF			DT
<b>0.75</b>	141	43	19.13*	2090	1.05							
	174	37	15.53	1860	1.15							
	202	32	13.39	1820	1.30							
	216	30	12.48*	1800	1.35	S	37	DT	80K2	14	457	
	248	26	10.91	1760	1.50	SF	37	DT	80K2	16	458	
	264	25	10.23	1740	1.55	SA	37	DT	80K2	14	459	
	299	22	9.02*	1690	1.65	SAF	37	DT	80K2	15	458	
	338	19	8.00*	1650	1.80							
397	17	6.80*	1590	1.75								
<b>1.1</b>	1.7	4780	824	22300	0.90							
	2.0	3410	714	34300	1.25	S	97 R57	DT	90S4	175	491	
	2.2	3630	626	33900	1.15	SF	97 R57	DT	90S4	210	491	
	2.6	3120	538	34800	1.35	SA	97 R57	DT	90S4	170	491	
	2.9	2820	484	35200	1.50	SAF	97 R57	DT	90S4	200	491	
	3.3	2450	420	35700	1.70							
	2.2	2840	624	24800	0.90							
	2.5	2570	558	27300	0.95							
	2.9	2260	485	28000	1.10							
	3.2	2060	435	28300	1.20	S	87 R57	DT	90S4	115	491	
	3.7	1810	378	28700	1.35	SF	87 R57	DT	90S4	140	491	
	4.3	1570	323	29100	1.55	SA	87 R57	DT	90S4	115	491	
	5.0	1380	281	29300	1.75	SAF	87 R57	DT	90S4	130	491	
	5.5	1480	255	29200	1.35							
	6.3	1300	222	29400	1.55							
	6.8	1210	205	29500	1.65							
	6.4	1250	219	11800	1.00	S	77 R37	DT	90S4	68	491	
						SF	77 R37	DT	90S4	78	491	
						SA	77 R37	DT	90S4	68	491	
						SAF	77 R37	DT	90S4	74	491	
	2.3	3080	286.40*	34800	1.35	S	97	DV	100L8	165	486	
	2.6	2840	262.22	35200	1.50	SF	97	DV	100L8	200	487	
	2.9	2540	231.67	35600	1.65	SA	97	DV	100L8	160	488	
	3.4	2190	196.52	36000	1.90	SAF	97	DV	100L8	185	487	
	3.2	2310	286.40*	35900	1.80	S	97	DT	90L6	155	486	
	3.5	2130	262.22	36000	1.95	SF	97	DT	90L6	185	487	
	4.0	1900	231.67	36300	2.2	SA	97	DT	90L6	150	488	
						SAF	97	DT	90L6	175	487	
	3.2	2220	288.00*	28100	1.10	S	87	DT	90L6	96	481	
	3.6	2010	258.18	28400	1.20	SF	87	DT	90L6	120	482	
	4.1	1760	222.40*	28800	1.35	SA	87	DT	90L6	94	483	
	4.5	1620	202.96	29000	1.45	SAF	87	DT	90L6	110	482	
4.9	1520	288.00*	29100	1.50								
5.4	1370	258.18	29300	1.65	S	87	DT	90S4	95	481		
6.3	1200	222.40*	29500	1.90	SF	87	DT	90S4	115	482		
6.9	1100	202.96	29600	2.1	SA	87	DT	90S4	93	483		
7.8	990	180.00*	29700	2.2	SAF	87	DT	90S4	110	482		
9.2	840	151.30	29800	2.6								
6.2	1150	225.26	12800	1.10								
6.5	1100	214.00*	13200	1.15								
7.4	980	189.09	13900	1.30								
8.7	850	161.60*	14700	1.50	S	77	DT	90S4	59	476		
9.5	785	148.15	15000	1.60	SF	77	DT	90S4	69	477		
11	695	130.00*	15400	1.75	SA	77	DT	90S4	59	478		
11	665	123.20*	15500	1.80	SAF	77	DT	90S4	66	477		
13	585	107.83	15800	2.0								
14	535	97.14	15900	2.1								
16	470	85.22	16000	2.3								

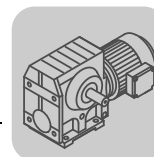


## Helical-Worm Gearmotors

### Selection tables [kW]

$P_m$ [kW]	$n_a$ [1/min]	$M_a$ [Nm]	$i$	$F_{Ra}^{1)}$ [N]	SEW $f_B$					$m$ [kg]		
1.1	12	605	121.33	7790	0.85							
	13	540	106.75*	8490	0.95							
	14	515	100.80*	8740	1.00							
	16	445	85.83	9300	1.15							
	18	405	78.00*	9550	1.30							
	21	400	65.63	9610	1.20	S	67	DT	90S4	39	471	
	22	380	62.35*	9720	1.25	SF	67	DT	90S4	45	472	
	26	335	54.70	9560	1.45	SA	67	DT	90S4	40	473	
	30	285	46.40*	9240	1.65	SAF	67	DT	90S4	44	472	
	33	260	41.89	9040	1.85							
38	230	36.85	8780	2.1								
40	220	34.80*	8660	2.2								
47	187	29.63	8330	2.6								
20	360	71.75*	6480	0.80	S	57	DT	90S4	27	466		
21	340	67.20*	6710	0.85	SF	57	DT	90S4	31	467		
25	290	56.61	7180	0.90	SA	57	DT	90S4	27	468		
30	285	47.32	7220	0.85	SAF	57	DT	90S4	30	467		
32	265	44.22*	7360	0.90								
37	235	38.23	7410	1.05								
43	200	32.48*	7170	1.25								
48	179	29.00*	7000	1.35								
57	154	24.77	6760	1.60	S	57	DT	90S4	27	466		
60	145	23.20*	6660	1.70	SF	57	DT	90S4	31	467		
72	123	19.54	6390	1.75	SA	57	DT	90S4	27	468		
79	117	17.62	5870	1.45	SAF	57	DT	90S4	30	467		
85	110	16.47*	5780	1.55								
98	95	14.24	5610	1.75								
116	82	12.10*	5400	2.1								
130	73	10.80*	5260	2.3								
152	63	9.23*	5050	2.7								
48	177	29.00*	3720	0.90	S	47	DT	90S4	24	461		
57	153	24.77	3670	1.00	SF	47	DT	90S4	27	462		
60	143	23.20*	3640	1.05	SA	47	DT	90S4	25	463		
72	122	19.54	3560	1.20	SAF	47	DT	90S4	26	462		
79	117	17.62	3070	0.95								
85	109	16.47*	3060	1.00								
98	95	14.24	3030	1.15								
116	81	12.10*	2980	1.35	S	47	DT	90S4	24	461		
130	73	10.80*	2940	1.50	SF	47	DT	90S4	27	462		
152	63	9.23*	2870	1.75	SA	47	DT	90S4	25	463		
162	59	8.64*	2840	1.85	SAF	47	DT	90S4	26	462		
192	50	7.28	2750	2.1								
175	54	8.00*	1570	0.85	S	37	DT	90S4	20	457		
206	46	6.80*	1580	0.95	SF	37	DT	90S4	22	458		
					SA	37	DT	90S4	20	459		
					SAF	37	DT	90S4	22	458		
202	47	13.39	1590	0.85								
216	44	12.48*	1580	0.90	S	37	DT	80N2	15	457		
248	39	10.91	1570	1.00	SF	37	DT	80N2	17	458		
264	36	10.23	1560	1.05	SA	37	DT	80N2	15	459		
299	32	9.02*	1540	1.10	SAF	37	DT	80N2	16	458		
338	28	8.00*	1510	1.25								
397	24	6.80*	1470	1.20								
1.5	2.0	4640	714	28400	0.90							
	2.2	4950	626	16200	0.85	S	97 R57	DT	90L4	180	491	
	2.6	4260	538	30500	1.00	SF	97 R57	DT	90L4	210	491	
	2.9	3850	484	33500	1.10	SA	97 R57	DT	90L4	175	491	
	3.4	3350	420	34400	1.25	SAF	97 R57	DT	90L4	200	491	
	3.8	3030	376	34900	1.40							
	4.3	2660	327	35400	1.60							
	2.9	3090	485	15900	0.80							
	3.2	2810	435	25500	0.85							
	3.7	2470	378	27600	1.00	S	87 R57	DT	90L4	120	491	
4.4	2150	323	28200	1.10	SF	87 R57	DT	90L4	140	491		
5.0	1890	281	28600	1.25	SA	87 R57	DT	90L4	115	491		
5.5	2020	255	28400	1.00	SAF	87 R57	DT	90L4	135	491		
6.4	1770	222	28800	1.10								
6.9	1650	205	28900	1.20								





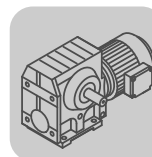
P <sub>m</sub> [kW]	n <sub>a</sub> [1/min]	M <sub>a</sub> [Nm]	i	F <sub>Ra</sub> <sup>1)</sup> [N]	SEW f <sub>B</sub>					m [kg]	
						S	SF	SA	SAF		
1.5	2.4	4030	286.40*	33100	1.05	S	97	DV	112M8	175	486
	2.7	3720	262.22	33700	1.15	SF	97	DV	112M8	205	487
	3.0	3330	231.67	34400	1.25	SA	97	DV	112M8	170	488
	3.6	2870	196.52	35200	1.45	SAF	97	DV	112M8	195	487
	3.2	3150	286.40*	34700	1.35	S	97	DV	100M6	160	486
	3.5	2910	262.22	35100	1.45	SF	97	DV	100M6	195	487
	4.0	2600	231.67	35500	1.60	SA	97	DV	100M6	155	488
	4.7	2230	196.52	35900	1.90	SAF	97	DV	100M6	185	487
	4.9	2130	286.40*	36000	1.90	S	97	DT	90L4	155	486
	5.4	1970	262.22	36200	2.0	SF	97	DT	90L4	185	487
	6.1	1760	231.67	36400	2.3	SA	97	DT	90L4	150	488
	7.2	1510	196.52	36600	2.7	SAF	97	DT	90L4	175	487
	3.6	2740	258.18	26600	0.90	S	87	DV	100M6	105	481
	4.1	2390	222.40*	27700	1.00	SF	87	DV	100M6	125	482
	4.5	2200	202.96	28100	1.10	SA	87	DV	100M6	100	483
	5.1	1980	180.00*	28500	1.20	SAF	87	DV	100M6	120	482
	4.9	2060	288.00*	28300	1.10						
	5.5	1860	258.18	28700	1.20						
	6.3	1630	222.40*	29000	1.40						
	7.0	1500	202.96	29200	1.50	S	87	DT	90L4	96	481
	7.8	1340	180.00*	29400	1.65	SF	87	DT	90L4	120	482
	9.3	1140	151.30	29600	1.90	SA	87	DT	90L4	94	483
	10	1060	139.05	29600	2.0	SAF	87	DT	90L4	110	482
	11	950	123.48	29700	2.2						
	13	850	110.40*	29800	2.4						
	14	770	99.26	29900	2.5						
	7.5	1330	189.09	10600	0.95						
	8.7	1150	161.60*	12700	1.10						
	9.5	1060	148.15	13400	1.15						
	11	940	130.00*	14100	1.30						
	11	900	123.20*	14400	1.35						
	13	795	107.83	14900	1.45						
	15	725	97.14	15300	1.60	S	77	DT	90L4	60	476
	17	640	85.22	15400	1.70	SF	77	DT	90L4	70	477
	19	650	75.09	14100	1.70	SA	77	DT	90L4	60	478
	20	620	71.33	14000	1.80	SAF	77	DT	90L4	67	477
	21	510	66.67	14600	2.0						
	22	550	63.03	13700	2.0						
	25	440	56.92	14000	2.3						
	26	470	53.87	13200	2.3						
29	435	49.38	13000	2.5							
33	385	43.33	12600	2.9							
16	600	85.83	7850	0.85	S	67	DT	90L4	41	471	
18	550	78.00*	8390	0.95	SF	67	DT	90L4	47	472	
21	540	65.63	8510	0.90	SA	67	DT	90L4	42	473	
					SAF	67	DT	90L4	46	472	
23	515	62.35*	8740	0.95							
26	455	54.70	8810	1.05							
30	390	46.40*	8590	1.25							
34	355	41.89	8450	1.35							
38	310	36.85	8250	1.55							
41	295	34.80*	8160	1.60	S	67	DT	90L4	41	471	
48	255	29.63	7900	1.90	SF	67	DT	90L4	47	472	
52	230	26.93	7740	2.1	SA	67	DT	90L4	42	473	
58	220	24.44	7000	1.55	SAF	67	DT	90L4	46	472	
61	210	23.22*	6950	1.60							
69	186	20.37	6790	1.85							
82	159	17.28*	6580	2.1							
90	144	15.60*	6440	2.4							
103	127	13.73*	6260	2.7							

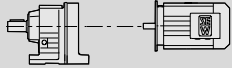



## Helical-Worm Gearmotors

### Selection tables [kW]

$P_m$ [kW]	$n_a$ [1/min]	$M_a$ [Nm]	$i$	$F_{Ra}^{1)}$ [N]	SEW $f_B$					$m$ [kg]	
1.5	43	270	32.48*	6630	0.90						
	49	245	29.00*	6520	1.00						
	57	210	24.77	6340	1.15						
	61	196	23.20*	6270	1.25						
	72	167	19.54	6060	1.30	S	57	DT	90L4	29	466
	80	159	17.62	5430	1.05	SF	57	DT	90L4	32	467
	86	149	16.47*	5380	1.15	SA	57	DT	90L4	28	468
	99	129	14.24	5250	1.30	SAF	57	DT	90L4	31	467
	117	110	12.10*	5100	1.55						
	131	99	10.80*	4980	1.70						
	153	85	9.23*	4820	2.0						
	99	129	14.24	2610	0.85	S	47	DT	90L4	25	461
	117	110	12.10*	2620	1.00	SF	47	DT	90L4	28	462
	131	99	10.80*	2620	1.10	SA	47	DT	90L4	26	463
						SAF	47	DT	90L4	28	462
	153	85	9.23*	2590	1.30	S	47	DT	90L4	25	461
	163	79	8.64*	2580	1.35	SF	47	DT	90L4	28	462
	194	67	7.28	2530	1.55	SA	47	DT	90L4	26	463
						SAF	47	DT	90L4	28	462
310	42	9.02*	1350	0.85	S	37	DT	90S2	20	457	
350	37	8.00*	1350	0.95	SF	37	DT	90S2	22	458	
412	32	6.80*	1330	0.90	SA	37	DT	90S2	20	459	
					SAF	37	DT	90S2	22	458	
2.2	3.4	4950	420	16300	0.85	S	97 R57	DV	100M4	185	491
	3.8	4460	376	27600	0.95	SF	97 R57	DV	100M4	220	491
	4.3	3910	327	33400	1.05	SA	97 R57	DV	100M4	180	491
	4.9	3460	287	34200	1.20	SAF	97 R57	DV	100M4	205	491
	5.6	3030	252	34900	1.40						
	3.3	4530	286.40*	30200	0.95	S	97	DV	112M6	175	486
	3.6	4180	262.22	32800	1.00	SF	97	DV	112M6	205	487
	4.1	3730	231.67	33700	1.15	SA	97	DV	112M6	170	488
	4.8	3210	196.52	34600	1.30	SAF	97	DV	112M6	195	487
	4.9	3130	286.40*	34800	1.30						
	5.4	2890	262.22	35100	1.40						
	6.1	2570	231.67	35500	1.55						
	7.2	2210	196.52	36000	1.80	S	97	DV	100M4	160	486
	7.8	2050	180.95	36100	1.90	SF	97	DV	100M4	195	487
	8.7	1840	161.74	36300	2.1	SA	97	DV	100M4	155	488
	9.7	1670	145.60*	36500	2.2	SAF	97	DV	100M4	185	487
	11	1520	131.85	36600	2.4						
	12	1360	116.92	36700	2.6						
	13	1240	105.71	36800	2.8						
	16	1060	89.60*	36900	3.1						
	5.5	2730	258.18	26800	0.85						
	6.3	2380	222.40*	27700	0.95						
	7.0	2190	202.96	28100	1.05						
	7.8	1970	180.00*	28500	1.10						
	9.3	1680	151.30	28900	1.30						
	10	1550	139.05	29100	1.35						
	11	1390	123.48	29300	1.50	S	87	DV	100M4	105	481
	13	1250	110.40*	29500	1.60	SF	87	DV	100M4	125	482
	14	1130	99.26	29600	1.75	SA	87	DV	100M4	100	483
	16	990	86.15	29700	1.90	SAF	87	DV	100M4	120	482
	17	1060	81.76	29600	1.50						
	18	890	77.14	29800	2.0						
	20	920	70.43	29700	1.75						
22	840	64.27	29800	1.90							
25	750	57.00*	29900	2.1							






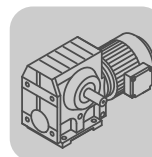
$P_m$ [kW]	$n_a$ [1/min]	$M_a$ [Nm]	$i$	$F_{Ra}^{1)}$ [N]	SEW $f_B$		$m$ [kg]			
2.2	11	1390	130.00*	6140	0.85					
	11	1320	123.20*	11100	0.90					
	13	1170	107.83	12600	1.00					
	15	1060	97.14	13400	1.10					
	17	940	85.22	14100	1.15					
	19	840	75.20*	13800	1.30					
	21	745	66.67	13500	1.40					
	22	810	63.03	12400	1.35					
	25	645	56.92	13100	1.55	S 77	DV 100M4	67	476	
	26	695	53.87	12100	1.60	SF 77	DV 100M4	77	477	
	29	635	49.38	11900	1.75	SA 77	DV 100M4	67	478	
	33	560	43.33	11700	1.95	SAF 77	DV 100M4	74	477	
	34	535	41.07	11600	2.1					
	39	470	35.94	11300	2.3					
	44	425	32.38	11000	2.6					
	50	375	28.41	10700	2.8					
	56	330	25.07	10400	3.1					
	62	310	22.89	9490	2.3					
	67	285	20.99	9340	2.5					
	3.0	30	570	46.40*	7480	0.85				
34		515	41.89	7440	0.95					
38		460	36.85	7360	1.05					
41		435	34.80*	7320	1.10					
48		370	29.63	7180	1.30					
52		340	26.93	7080	1.40					
60		295	23.33	6920	1.60	S 67	DV 100M4	48	471	
69		275	20.37	6060	1.25	SF 67	DV 100M4	54	472	
82		235	17.28*	5960	1.45	SA 67	DV 100M4	49	473	
90		210	15.60*	5880	1.60	SAF 67	DV 100M4	53	472	
103		186	13.73*	5770	1.85					
109		176	12.96*	5710	1.95					
128		151	11.03	5550	2.3					
141		137	10.03	5450	2.5					
162		119	8.69	5300	2.8					
3.0		99	190	14.24	4640	0.90				
	117	162	12.10*	4580	1.05	S 57	DV 100M4	35	466	
	131	145	10.80*	4520	1.15	SF 57	DV 100M4	39	467	
	153	124	9.23*	4420	1.35	SA 57	DV 100M4	35	468	
	163	117	8.64*	4380	1.40	SAF 57	DV 100M4	38	467	
	194	99	7.28	4250	1.50					
	3.0	4.9	4760	287	22900	0.90	S 97 R57	DV 100L4	190	491
		5.6	4180	252	31900	1.00	SF 97 R57	DV 100L4	225	491
6.4		3650	219	33900	1.15	SA 97 R57	DV 100L4	185	491	
6.8		3440	205	34300	1.20	SAF 97 R57	DV 100L4	210	491	
4.9		4290	286.40*	32600	0.95					
5.3		3960	262.22	33300	1.00					
6.0		3530	231.67	34100	1.15					
7.1		3040	196.52	34900	1.30					
7.7		2810	180.95	35200	1.40	S 97	DV 100L4	165	486	
8.7		2530	161.74	35600	1.50	SF 97	DV 100L4	200	487	
9.6		2300	145.60*	35900	1.65	SA 97	DV 100L4	160	488	
11		2090	131.85	36100	1.75	SAF 97	DV 100L4	185	487	
12		1870	116.92	36300	1.90					
13		1700	105.71	36400	2.0					
16		1450	89.60*	36600	2.2					
17		1470	80.85	36600	2.2					



## Helical-Worm Gearmotors

### Selection tables [kW]

$P_m$ [kW]	$n_a$ [1/min]	$M_a$ [Nm]	$i$	$F_{Ra}^{1)}$ [N]	SEW $f_B$			$m$ [kg]		
3.0	7.8	2700	180.00*	27100	0.80					
	9.2	2300	151.30	27900	0.95					
	10	2130	139.05	28200	1.00					
	11	1900	123.48	28600	1.10					
	13	1720	110.40*	28900	1.15					
	14	1550	99.26	29100	1.25					
	16	1360	86.15	29300	1.40	S	87	DV	100L4	110 481
	17	1460	81.76	29200	1.10	SF	87	DV	100L4	130 482
	18	1230	77.14	29500	1.50	SA	87	DV	100L4	105 483
	20	1260	70.43	29400	1.25	SAF	87	DV	100L4	120 482
	22	1160	64.27	29500	1.40					
	25	1030	57.00*	29700	1.55					
	29	870	47.91	29800	1.85					
	32	800	44.03	29800	2.0					
	36	715	39.10	29900	2.2					
	40	640	34.96*	29900	2.5					
	16	1290	85.22	11500	0.85	S	77	DV	100L4	71 476
	19	1150	75.20*	12500	0.95	SF	77	DV	100L4	81 477
	21	1020	66.67	12400	1.00	SA	77	DV	100L4	71 478
	22	1110	63.03	10900	1.00	SAF	77	DV	100L4	78 477
	25	880	56.92	12100	1.10					
	26	950	53.87	10800	1.15					
	28	880	49.38	10800	1.25					
	32	770	43.33	10700	1.40					
	34	735	41.07	10600	1.50					
	39	645	35.94	10400	1.70					
	43	585	32.38	10300	1.85					
	49	515	28.41	10100	2.0	S	77	DV	100L4	71 476
	56	455	25.07	9840	2.2	SF	77	DV	100L4	81 477
	61	430	22.89	8680	1.65	SA	77	DV	100L4	71 478
	67	395	20.99	8590	1.80	SAF	77	DV	100L4	78 477
	76	345	18.42	8450	2.0					
	80	330	17.45	8390	2.2					
	92	290	15.28	8210	2.5					
	102	260	13.76	8060	2.7					
	116	230	12.07	7870	3.1					
	131	205	10.65	7670	3.6					
	40	595	34.80*	6350	0.80	S	67	DV	100L4	52 471
	47	510	29.63	6350	0.95	SF	67	DV	100L4	58 472
	52	465	26.93	6330	1.05	SA	67	DV	100L4	53 473
					SAF	67	DV	100L4	57 472	
60	405	23.33	6270	1.20						
69	375	20.37	5230	0.90						
81	320	17.28*	5250	1.05						
90	290	15.60*	5240	1.15	S	67	DV	100L4	52 471	
102	255	13.73*	5210	1.35	SF	67	DV	100L4	58 472	
108	240	12.96*	5190	1.40	SA	67	DV	100L4	53 473	
127	205	11.03	5100	1.65	SAF	67	DV	100L4	57 472	
140	188	10.03	5050	1.80						
161	164	8.69	4940	2.1						
185	143	7.56*	4830	2.1						
130	199	10.80*	3990	0.85	S	57	DV	100L4	39 466	
152	171	9.23*	3970	1.00	SF	57	DV	100L4	43 467	
162	160	8.64*	3960	1.05	SA	57	DV	100L4	39 468	
192	136	7.28	3900	1.10	SAF	57	DV	100L4	42 467	
4.0	6.5	4820	219	21900	0.85	S	97 R57	DV	112M4	195 491
	6.9	4530	205	26700	0.95	SF	97 R57	DV	112M4	230 491
						SA	97 R57	DV	112M4	190 491
						SAF	97 R57	DV	112M4	220 491



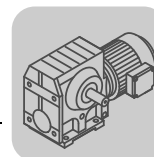
$P_m$ [kW]	$n_a$ [1/min]	$M_a$ [Nm]	$i$	$F_{Ra}^{1)}$ [N]	SEW $f_B$					$m$ [kg]	
<b>4.0</b>	6.1	4650	231.67	28300	0.85						
	7.2	3990	196.52	33200	1.00						
	7.9	3700	180.95	33800	1.05						
	8.8	3330	161.74	34400	1.15						
	9.8	3020	145.60*	34900	1.25						
	11	2750	131.85	35300	1.35	<b>S</b>	<b>97</b>	<b>DV</b>	<b>112M4</b>	175	486
	12	2460	116.92	35700	1.45	<b>SF</b>	<b>97</b>	<b>DV</b>	<b>112M4</b>	205	487
	13	2230	105.71	35900	1.55	<b>SA</b>	<b>97</b>	<b>DV</b>	<b>112M4</b>	170	488
	16	1910	89.60*	36300	1.70	<b>SAF</b>	<b>97</b>	<b>DV</b>	<b>112M4</b>	195	487
	18	1940	80.85	36200	1.65						
	20	1720	71.43	36400	1.90						
	23	1470	60.59	36600	2.3						
	25	1350	55.79	36700	2.4						
	12	2510	123.48	27500	0.80						
	13	2260	110.40*	28000	0.90						
	14	2040	99.26	28400	0.95						
	16	1790	86.15	28800	1.05						
	18	1610	77.14	29000	1.15						
	20	1660	70.43	28900	0.95	<b>S</b>	<b>87</b>	<b>DV</b>	<b>112M4</b>	115	481
	22	1520	64.27	29100	1.05	<b>SF</b>	<b>87</b>	<b>DV</b>	<b>112M4</b>	135	482
	25	1350	57.00*	29300	1.20	<b>SA</b>	<b>87</b>	<b>DV</b>	<b>112M4</b>	110	483
	30	1150	47.91	29500	1.40	<b>SAF</b>	<b>87</b>	<b>DV</b>	<b>112M4</b>	125	482
	32	1060	44.03	29600	1.50						
	36	940	39.10	29700	1.70						
	41	840	34.96*	29800	1.90						
45	760	31.43	29100	2.1							
52	665	27.28	28200	2.4							
56	635	25.50*	26600	1.95							
25	1160	56.92	10800	0.85	<b>S</b>	<b>77</b>	<b>DV</b>	<b>112M4</b>	77	476	
26	1250	53.87	9250	0.90	<b>SF</b>	<b>77</b>	<b>DV</b>	<b>112M4</b>	87	477	
29	1150	49.38	9320	0.95	<b>SA</b>	<b>77</b>	<b>DV</b>	<b>112M4</b>	77	478	
33	1020	43.33	9370	1.10	<b>SAF</b>	<b>77</b>	<b>DV</b>	<b>112M4</b>	84	477	
35	960	41.07	9370	1.15							
40	850	35.94	9340	1.30							
44	765	32.38	9290	1.40							
50	675	28.41	9190	1.55							
57	600	25.07	9070	1.70							
62	565	22.89	7650	1.25	<b>S</b>	<b>77</b>	<b>DV</b>	<b>112M4</b>	77	476	
68	520	20.99	7650	1.35	<b>SF</b>	<b>77</b>	<b>DV</b>	<b>112M4</b>	87	477	
77	455	18.42	7620	1.55	<b>SA</b>	<b>77</b>	<b>DV</b>	<b>112M4</b>	77	478	
81	435	17.45	7590	1.65	<b>SAF</b>	<b>77</b>	<b>DV</b>	<b>112M4</b>	84	477	
93	380	15.28	7510	1.85							
103	345	13.76	7430	2.1							
118	300	12.07	7310	2.4							
133	265	10.65	7170	2.7							
150	235	9.44	7030	3.1							
176	205	8.06	6830	3.4							
82	420	17.28*	3810	0.80							
91	380	15.60*	4180	0.90							
103	335	13.73*	4500	1.00	<b>S</b>	<b>67</b>	<b>DV</b>	<b>112M4</b>	59	471	
110	320	12.96*	4520	1.05	<b>SF</b>	<b>67</b>	<b>DV</b>	<b>112M4</b>	65	472	
129	270	11.03	4530	1.25	<b>SA</b>	<b>67</b>	<b>DV</b>	<b>112M4</b>	60	473	
142	245	10.03	4520	1.35	<b>SAF</b>	<b>67</b>	<b>DV</b>	<b>112M4</b>	64	472	
163	215	8.69	4490	1.55							
188	188	7.56*	4430	1.55							
<b>5.5</b>	8.8	4550	161.74	29900	0.85						
	9.8	4130	145.60*	32900	0.90						
	11	3760	131.85	33700	0.95						
	12	3360	116.92	34400	1.05						
	14	3050	105.71	34900	1.15						
	16	2610	89.60*	35500	1.25	<b>S</b>	<b>97</b>	<b>DV</b>	<b>132S4</b>	180	486
	18	2290	78.26	35900	1.35	<b>SF</b>	<b>97</b>	<b>DV</b>	<b>132S4</b>	210	487
	20	2350	71.43	35800	1.40	<b>SA</b>	<b>97</b>	<b>DV</b>	<b>132S4</b>	175	488
	22	1930	65.45	36200	1.50	<b>SAF</b>	<b>97</b>	<b>DV</b>	<b>132S4</b>	200	487
	24	2000	60.59	36200	1.65						
	26	1850	55.79	36300	1.80						
	29	1660	49.87	36500	2.0						
	32	1500	44.89	36600	2.2						
	35	1360	40.65	36700	2.4						



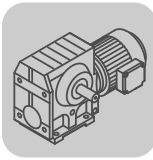
## Helical-Worm Gearmotors

### Selection tables [kW]

$P_m$ [kW]	$n_a$ [1/min]	$M_a$ [Nm]	$i$	$F_{Ra}^{1)}$ [N]	SEW $f_B$					$m$ [kg]	
5.5	19	2200	77.14	28100	0.85	S	87	DV	132S4	120	481
	22	1850	64.00*	28700	0.90	SF	87	DV	132S4	140	482
	25	1850	57.00*	28700	0.85	SA	87	DV	132S4	115	483
	30	1560	47.91	29100	1.00	SAF	87	DV	132S4	135	482
	32	1440	44.03	29200	1.10						
	37	1280	39.10	29200	1.25						
	41	1150	34.96*	28600	1.40						
	45	1040	31.43	28000	1.55						
	52	910	27.28	27200	1.75						
	56	870	25.50*	25200	1.45	S	87	DV	132S4	120	481
	67	730	21.43	24500	1.70	SF	87	DV	132S4	140	482
	73	675	19.70	24100	1.85	SA	87	DV	132S4	115	483
	82	600	17.49	23500	2.1	SAF	87	DV	132S4	135	482
	91	535	15.64*	23000	2.3						
	102	485	14.06	22500	2.6						
	117	420	12.21	21800	3.0						
	131	375	10.93	21200	3.3						
	35	1320	41.07	7560	0.85	S	77	DV	132S4	84	476
	40	1160	35.94	7750	0.95	SF	77	DV	132S4	94	477
	44	1050	32.38	7850	1.05	SA	77	DV	132S4	84	478
						SAF	77	DV	132S4	91	477
	50	920	28.41	7920	1.15						
	57	820	25.07	7940	1.25						
	64	725	22.22	7920	1.35						
	78	625	18.42	5920	1.15						
	82	590	17.45	6170	1.20	S	77	DV	132S4	84	476
	94	520	15.28	6490	1.35	SF	77	DV	132S4	94	477
	104	470	13.76	6510	1.50	SA	77	DV	132S4	84	478
	118	410	12.07	6500	1.75	SAF	77	DV	132S4	91	477
	134	365	10.65	6450	2.0						
	151	325	9.44	6390	2.2						
	177	275	8.06	6280	2.5						
	130	370	11.03	2930	0.90	S	67	DV	132S4	64	471
	143	340	10.03	3260	1.00	SF	67	DV	132S4	70	472
	165	295	8.69	3670	1.15	SA	67	DV	132S4	65	473
189	255	7.56*	3850	1.15	SAF	67	DV	132S4	69	472	
7.5	14	4160	105.71	32900	0.85						
	16	3560	89.60*	34100	0.90						
	18	3130	78.26	34800	1.00						
	20	3200	71.43	34600	1.05						
	22	2630	65.45	35500	1.10						
	24	2730	60.59	35300	1.20						
	26	2520	55.79	35600	1.30						
	29	2260	49.87	35900	1.45	S	97	DV	132M4	200	486
	32	2040	44.89	36100	1.60	SF	97	DV	132M4	230	487
	35	1850	40.65	36300	1.80	SA	97	DV	132M4	195	488
	40	1650	36.05	36200	2.0	SAF	97	DV	132M4	220	487
	44	1490	32.60	35500	2.2						
	54	1240	26.39	32000	2.1						
	61	1110	23.59	31400	2.3						
	67	1000	21.23	30700	2.6						
	74	910	19.23	30100	2.9						
	32	1970	44.03	27800	0.80	S	87	DV	132M4	140	481
	37	1750	39.10	27400	0.90	SF	87	DV	132M4	165	482
	41	1570	34.96*	27000	1.00	SA	87	DV	132M4	140	483
						SAF	87	DV	132M4	155	482
	45	1420	31.43	26500	1.15						
	52	1230	27.28	25900	1.30						
	56	1180	25.50*	23500	1.05						
	67	1000	21.43	23000	1.25						
	73	920	19.70	22700	1.35						
	82	820	17.49	22300	1.50	S	87	DV	132M4	140	481
	91	730	15.64*	21900	1.70	SF	87	DV	132M4	165	482
	102	660	14.06	21500	1.90	SA	87	DV	132M4	140	483
	117	575	12.21	20900	2.2	SAF	87	DV	132M4	155	482
	131	515	10.93	20500	2.4						
	158	430	9.07	19700	2.7						
	181	375	7.88	19100	2.7						



P <sub>m</sub> [kW]	n <sub>a</sub> [1/min]	M <sub>a</sub> [Nm]	i	F <sub>Ra</sub> <sup>1)</sup> [N]	SEW f <sub>B</sub>					m [kg]		
												S
7.5	50	1260	28.41	6240	0.85	S	77	DV	132M4	105	476	
	57	1110	25.07	6450	0.90	SF	77	DV	132M4	115	477	
	64	990	22.22	6600	1.00	SA	77	DV	132M4	105	478	
	78	850	18.42	1860	0.85	SAF	77	DV	132M4	110	477	
	82	810	17.45	2290	0.90							
	94	705	15.28	3250	1.00	S	77	DV	132M4	105	476	
	104	640	13.76	3890	1.10	SF	77	DV	132M4	115	477	
	118	560	12.07	4570	1.30	SA	77	DV	132M4	105	478	
	134	495	10.65	5110	1.45	SAF	77	DV	132M4	110	477	
	151	440	9.44	5540	1.65							
	177	380	8.06	5560	1.80							
	9.2	18	3810	78.26	33600	0.80	S	97	DV	132ML4	210	486
		22	3210	65.45	34600	0.90	SF	97	DV	132ML4	240	487
		26	3070	55.79	34800	1.05	SA	97	DV	132ML4	205	488
						SAF	97	DV	132ML4	230	487	
29		2750	49.87	35300	1.20							
32		2480	44.89	35600	1.35							
35		2260	40.65	35700	1.45							
40		2010	36.05	35000	1.65							
44		1820	32.60	34400	1.75							
55		1510	26.39	30700	1.70	S	97	DV	132ML4	210	486	
61		1350	23.59	30200	1.90	SF	97	DV	132ML4	240	487	
68		1220	21.23	29700	2.1	SA	97	DV	132ML4	205	488	
75		1110	19.23	29200	2.4	SAF	97	DV	132ML4	230	487	
84		980	17.05	28500	2.6							
93		890	15.42	28000	2.8							
110		755	13.07	27000	3.1							
126		660	11.41	26200	3.3							
41		1910	34.96*	25600	0.85	S	87	DV	132ML4	150	481	
46		1730	31.43	25300	0.95	SF	87	DV	132ML4	170	482	
53		1500	27.28	24800	1.05	SA	87	DV	132ML4	150	483	
59		1350	24.43	24400	1.20	SAF	87	DV	132ML4	165	482	
71		1120	20.27	23700	1.40							
73		1120	19.70	21600	1.10							
82		1000	17.49	21300	1.25							
92		890	15.64*	21000	1.40	S	87	DV	132ML4	150	481	
102		800	14.06	20700	1.55	SF	87	DV	132ML4	170	482	
118		700	12.21	20200	1.75	SA	87	DV	132ML4	150	483	
132		625	10.93	19800	2.0	SAF	87	DV	132ML4	165	482	
159		520	9.07	19100	2.2							
183		455	7.88	18600	2.2							
76		1040	18.97	5760	0.90							
105		780	13.76	1350	0.90	S	77	DV	132ML4	115	476	
119		685	12.07	2290	1.05	SF	77	DV	132ML4	125	477	
135		605	10.65	3060	1.20	SA	77	DV	132ML4	115	478	
152		535	9.44	3690	1.35	SAF	77	DV	132ML4	120	477	
179		460	8.06	4360	1.50							
11.0		26	3670	55.79	33800	0.90						
		29	3290	49.87	34500	1.00						
		32	2970	44.89	34800	1.10						
		35	2700	40.65	34400	1.20						
		40	2400	36.05	33800	1.40						
		44	2170	32.60	33300	1.45	S	97	DV	160M4	215	486
	55	1810	26.39	29400	1.45	SF	97	DV	160M4	245	487	
	61	1620	23.59	29000	1.60	SA	97	DV	160M4	210	488	
	68	1460	21.23	28600	1.80	SAF	97	DV	160M4	235	487	
	75	1320	19.23	28200	1.95							
	84	1180	17.05	27600	2.2							
	93	1070	15.42	27200	2.3							
	110	900	13.07	26400	2.6							
	126	790	11.41	25700	2.8							

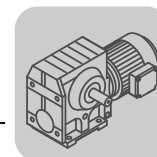


## Helical-Worm Gearmotors

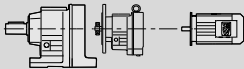

### Selection tables [kW]

$P_m$ [kW]	$n_a$ [1/min]	$M_a$ [Nm]	$i$	$F_{Ra}^{1)}$ [N]	SEW $f_B$					$m$ [kg]		
11.0	53	1800	27.28	23700	0.90	S	87	DV	160M4	155	481	
	59	1610	24.43	23400	1.00	SF	87	DV	160M4	175	482	
	71	1340	20.27	22800	1.20	SA	87	DV	160M4	150	483	
						SAF	87	DV	160M4	170	482	
	73	1340	19.70	20400	0.95							
	82	1190	17.49	20200	1.05							
	92	1070	15.64*	20000	1.15	S	87	DV	160M4	155	481	
	102	960	14.06	19800	1.30	SF	87	DV	160M4	175	482	
	118	840	12.21	19400	1.50	SA	87	DV	160M4	150	483	
	132	750	10.93	19100	1.65	SAF	87	DV	160M4	170	482	
	159	625	9.07	18600	1.85							
	183	545	7.88	18100	1.85							
	15.0	33	4000	44.89	31400	0.85	S	97	DV	160L4	255	486
		36	3630	40.65	31300	0.90	SF	97	DV	160L4	285	487
41		3230	36.05	31000	1.00	SA	97	DV	160L4	250	488	
						SAF	97	DV	160L4	275	487	
45		2920	32.60	30800	1.10							
55		2430	26.39	26400	1.05							
62		2180	23.59	26300	1.20							
69		1970	21.23	26200	1.30	S	97	DV	160L4	255	486	
76		1780	19.23	26000	1.45	SF	97	DV	160L4	285	487	
86		1580	17.05	25700	1.60	SA	97	DV	160L4	250	488	
95		1430	15.42	25400	1.70	SAF	97	DV	160L4	275	487	
112		1220	13.07	24800	1.90							
128		1060	11.41	24300	2.1							
153		890	9.55	23600	2.3							
177		775	8.26	22900	2.3							
93		1430	15.64*	17900	0.85	S	87	DV	160L4	195	481	
104		1290	14.06	17900	0.95	SF	87	DV	160L4	215	482	
120		1120	12.21	17800	1.10	SA	87	DV	160L4	190	483	
						SAF	87	DV	160L4	205	482	
134		1010	10.93	17600	1.25	S	87	DV	160L4	195	481	
161		840	9.07	17300	1.35	SF	87	DV	160L4	215	482	
185		730	7.88	17000	1.40	SA	87	DV	160L4	190	483	
					SAF	87	DV	160L4	205	482		
18.5	41	3970	36.05	28700	0.85							
	45	3590	32.60	28600	0.90							
	53	3060	27.63	28400	1.00							
	61	2680	24.13	28100	1.05							
	69	2420	21.23	24100	1.10	S	97	DV	180M4	275	486	
	76	2190	19.23	24100	1.20	SF	97	DV	180M4	310	487	
	86	1950	17.05	24000	1.30	SA	97	DV	180M4	270	488	
	95	1760	15.42	23900	1.40	SAF	97	DV	180M4	295	487	
	112	1500	13.07	23500	1.55							
	128	1310	11.41	23200	1.70							
	153	1100	9.55	22600	1.85							
	177	950	8.26	22100	1.85							
	22	53	3630	27.63	26600	0.85	S	97	DV	180L4	290	486
		61	3180	24.13	26500	0.90	SF	97	DV	180L4	320	487
69		2870	21.23	19800	0.90	SA	97	DV	180L4	285	488	
76		2600	19.23	21800	1.00	SAF	97	DV	180L4	310	487	
86		2310	17.05	22300	1.10							
95		2090	15.42	22400	1.20	S	97	DV	180L4	290	486	
112		1780	13.07	22300	1.30	SF	97	DV	180L4	320	487	
128		1560	11.41	22100	1.40	SA	97	DV	180L4	285	488	
153		1300	9.55	21700	1.55	SAF	97	DV	180L4	310	487	
177		1130	8.26	21300	1.55							





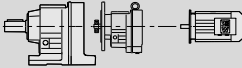

**6.4 Selection tables for particularly low output speeds [Nm]**

$M_{a \max}$ [Nm]	$n_a$ [1/min]	$i$	$F_{Ra}^{1)}$ [N]		$m$ [kg]					
<b>92</b>	0.14	10037	3000							
	0.16	8654	3000							
	0.17	8066	3000							
	0.20	7051	3000							
	0.23	6079	3000							
	0.25	5431	3000							
	0.29	4747	3000							
	0.33	4155	3000							
	0.38	3632	3000		<b>S</b>	<b>37 R17</b>	<b>DR</b>	<b>63S4</b>	14	491
	0.48	2866	3000		<b>SF</b>	<b>37 R17</b>	<b>DR</b>	<b>63S4</b>	15	491
	0.56	2471	3000		<b>SA</b>	<b>37 R17</b>	<b>DR</b>	<b>63S4</b>	14	491
	0.64	2160	3000		<b>SAF</b>	<b>37 R17</b>	<b>DR</b>	<b>63S4</b>	15	491
	0.73	1887	3000							
	0.83	1665	3000							
	0.95	1456	3000							
	1.1	1271	3000							
	1.2	1121	3000							
	1.4	994	3000							
	1.6	869	3000							
	1.8	774	3000							
	2.1	666	3000							
	2.3	596	3000							
	2.6	521	3000							
	3.0	456	3000		<b>S</b>	<b>37 R17</b>	<b>DR</b>	<b>63S4</b>	14	491
	3.5	398	3000		<b>SF</b>	<b>37 R17</b>	<b>DR</b>	<b>63S4</b>	15	491
	3.9	351	3000		<b>SA</b>	<b>37 R17</b>	<b>DR</b>	<b>63S4</b>	13	491
	4.6	303	3000		<b>SAF</b>	<b>37 R17</b>	<b>DR</b>	<b>63S4</b>	15	491
	5.2	265	3000							
	6.0	232	3000							
	6.8	202	3000							
	7.4	179	3000		<b>S</b>	<b>37 R17</b>	<b>DR</b>	<b>63M4</b>	14	491
	8.3	158	3000		<b>SF</b>	<b>37 R17</b>	<b>DR</b>	<b>63M4</b>	15	491
	9.1	144	3000		<b>SA</b>	<b>37 R17</b>	<b>DR</b>	<b>63M4</b>	13	491
	11	118	3000		<b>SAF</b>	<b>37 R17</b>	<b>DR</b>	<b>63M4</b>	15	491
	12	110	3000		<b>S</b>	<b>37 R17</b>	<b>DR</b>	<b>63L4</b>	14	491
					<b>SF</b>	<b>37 R17</b>	<b>DR</b>	<b>63L4</b>	16	491
				<b>SA</b>	<b>37 R17</b>	<b>DR</b>	<b>63L4</b>	14	491	
				<b>SAF</b>	<b>37 R17</b>	<b>DR</b>	<b>63L4</b>	16	491	
<b>185</b>	0.11	12909	5250							
	0.12	11189	5250							
	0.13	10374	5250							
	0.15	8992	5250							
	0.18	7860	5250							
	0.20	6887	5250							
	0.23	6055	5250							
	0.26	5292	5250							
	0.30	4637	5250							
	0.34	4092	5250							
	0.39	3582	5200							
	0.44	3131	5200							
	0.51	2714	5200							
	0.57	2412	5200							
	0.65	2131	5200							
	0.74	1863	5200							
	0.83	1663	5200							
	0.96	1435	5200							
	1.1	1254	5200							
	1.2	1120	5200							
	1.3	1083	5200							
	1.4	965	5200							
	1.6	865	5200							
	1.8	750	5200		<b>S</b>	<b>47 R17</b>	<b>DR</b>	<b>63S4</b>	17	491
	2.1	655	5200		<b>SF</b>	<b>47 R17</b>	<b>DR</b>	<b>63S4</b>	20	491
	2.4	574	5200		<b>SA</b>	<b>47 R17</b>	<b>DR</b>	<b>63S4</b>	18	491
	2.7	506	5200		<b>SAF</b>	<b>47 R17</b>	<b>DR</b>	<b>63S4</b>	19	491
3.1	438	5200								



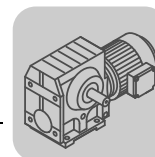
## Helical-Worm Gearmotors

Selection tables for particularly low output speeds [Nm]

$M_{a \max}$ [Nm]	$n_a$ [1/min]	$i$	$F_{Ra}^{1)}$ [N]					$m$ [kg]	
185	3.4	388	5200	S	47 R17	DR	63M4	17	491
	3.9	336	5200	SF	47 R17	DR	63M4	20	491
	4.5	294	5200	SA	47 R17	DR	63M4	18	491
				SAF	47 R17	DR	63M4	19	491
	5.0	257	5260	S	47 R17	DR	63L4	17	491
	5.7	229	5200	SF	47 R17	DR	63L4	21	491
	6.5	200	5200	SA	47 R17	DR	63L4	18	491
	6.9	187	5200	SAF	47 R17	DR	63L4	20	491
	7.9	165	5200						
	9.3	148	5200	S	47 R17	DT	71D4	18	491
	11	131	5200	SF	47 R17	DT	71D4	22	491
				SA	47 R17	DT	71D4	19	491
				SAF	47 R17	DT	71D4	21	491
	330	0.11	12909	6800					
0.12		11189	6800						
0.13		10374	6800						
0.15		8992	6800						
0.18		7860	6800	S	57 R17	DR	63S4	21	491
0.20		6887	6800	SF	57 R17	DR	63S4	24	491
0.23		6055	6800	SA	57 R17	DR	63S4	20	491
0.26		5292	6800	SAF	57 R17	DR	63S4	23	491
0.30		4637	6800						
0.34		4092	6800						
0.38	3628	6800							
300	0.44	3131	7090						
	0.51	2714	7090						
	0.57	2412	7090						
	0.65	2131	7090	S	57 R17	DR	63S4	21	491
	0.74	1863	7090	SF	57 R17	DR	63S4	24	491
	0.83	1663	7090	SA	57 R17	DR	63S4	20	491
	0.96	1435	7090	SAF	57 R17	DR	63S4	23	491
	1.1	1254	7090						
	1.3	1083	7090						
	1.4	965	7090	S	57 R17	DR	63S4	20	491
	1.6	865	7090	SF	57 R17	DR	63S4	24	491
	1.8	750	7090	SA	57 R17	DR	63S4	20	491
	2.1	655	7090	SAF	57 R17	DR	63S4	23	491
	2.3	574	7090	S	57 R17	DR	63M4	20	491
	2.6	506	7090	SF	57 R17	DR	63M4	24	491
	3.0	438	7090	SA	57 R17	DR	63M4	20	491
	3.4	388	7090	SAF	57 R17	DR	63M4	23	491
	3.9	336	7090	S	57 R17	DR	63L4	21	491
	4.4	294	7090	SF	57 R17	DR	63L4	25	491
	4.8	269	7090	SA	57 R17	DR	63L4	21	491
				SAF	57 R17	DR	63L4	24	491
	6.0	229	7090	S	57 R17	DT	71D4	22	491
	6.8	204	7090	SF	57 R17	DT	71D4	26	491
	7.4	187	7090	SA	57 R17	DT	71D4	22	491
				SAF	57 R17	DT	71D4	25	491
	8.2	165	7090	S	57 R17	DT	80K4	24	491
10	131	7090	SF	57 R17	DT	80K4	28	491	
			SA	57 R17	DT	80K4	23	491	
			SAF	57 R17	DT	80K4	26	491	

# Helical-Worm Gearmotors

## Selection tables for particularly low output speeds [Nm]



6

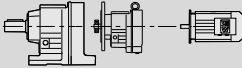

$M_{a\ max}$ [Nm]	$n_a$ [1/min]	$i$	$F_{Ra}^{1)}$ [N]		$m$ [kg]					
<b>570</b>	0.06	21362	8190							
	0.07	19594	8190							
	0.08	18120	8190							
	0.08	16682	8190							
	0.10	14383	8190							
	0.11	12774	8190							
	0.13	11013	8190							
	0.14	9694	8190							
	0.16	8529	8190							
	0.19	7455	8190							
	0.21	6531	8190							
	0.24	5759	8190							
	0.28	4965	8190							
	0.31	4410	8190							
	0.36	3880	8190							
	0.40	3432	8190							
	0.47	2944	8190							
	0.52	2630	8190							
	0.61	2279	8190							
	0.69	2014	8190							
	0.78	1772	8190							
	0.88	1559	8190							
	1.0	1363	8190							
	1.2	1194	8190							
		1.3	1045	8190	S	67 R37	DR	63S4	39	491
		1.4	914	8190	SF	67 R37	DR	63S4	46	491
					SA	67 R37	DR	63S4	40	491
					SAF	67 R37	DR	63S4	45	491
		1.6	809	8190	S	67 R37	DR	63M4	39	491
		1.9	712	8190	SF	67 R37	DR	63M4	46	491
					SA	67 R37	DR	63M4	40	491
					SAF	67 R37	DR	63M4	45	491
	2.1	615	8190	S	67 R37	DR	63L4	40	491	
	2.4	543	8190	SF	67 R37	DR	63L4	46	491	
				SA	67 R37	DR	63L4	41	491	
				SAF	67 R37	DR	63L4	45	491	
	2.9	469	8190	S	67 R37	DT	71D4	41	491	
	3.3	424	8190	SF	67 R37	DT	71D4	47	491	
	3.8	365	8190	SA	67 R37	DT	71D4	42	491	
				SAF	67 R37	DT	71D4	46	491	
	4.3	319	8190	S	67 R37	DT	80K4	43	491	
	4.9	281	8190	SF	67 R37	DT	80K4	49	491	
	5.5	246	8190	SA	67 R37	DT	80K4	44	491	
	6.2	221	8190	SAF	67 R37	DT	80K4	48	491	
	7.0	198	8190	S	67 R37	DT	80N4	44	491	
				SF	67 R37	DT	80N4	50	491	
				SA	67 R37	DT	80N4	45	491	
				SAF	67 R37	DT	80N4	49	491	
<b>1270</b>	0.05	25493	11700							
	0.06	21787	11700							
	0.07	19907	11700							
	0.08	17013	11700							
	0.09	14668	11700							
	0.11	13110	11700							
	0.12	11569	11700							
	0.14	9887	11700							
	0.16	8817	11700							
	0.18	7735	11700							
	0.20	6735	11700							
	0.23	5943	11700							
	0.26	5214	11700							
	0.30	4618	11700							
	0.35	3992	11700							
	0.39	3540	11700							
		0.43	3098	11700	S	77 R37	DR	63M4	59	491
					SF	77 R37	DR	63M4	68	491
					SA	77 R37	DR	63M4	58	491
					SAF	77 R37	DR	63M4	65	491
				S	77 R37	DR	63M4	59	491	
				SF	77 R37	DR	63M4	68	491	
				SA	77 R37	DR	63M4	58	491	
				SAF	77 R37	DR	63M4	65	491	

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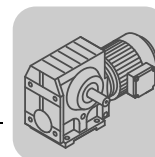
## Helical-Worm Gearmotors

Selection tables for particularly low output speeds [Nm]

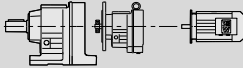

$M_{a \max}$ [Nm]	$n_a$ [1/min]	$i$	$F_{Ra}^{1)}$ [N]					$m$ [kg]								
1240	0.50	2753	12000	S	77 R37	DR	63S4	59	491							
		2374	12000	SF	77 R37	DR	63S4	68	491							
	0.63	2083	12000	12000	SA	77 R37	DR	63S4	58	491						
					SAF	77 R37	DR	63S4	65	491						
					S	77 R37	DR	63M4	59	491						
					SF	77 R37	DR	63M4	68	491						
	0.73	1813	12000	12000	SA	77 R37	DR	63M4	58	491						
					SAF	77 R37	DR	63M4	65	491						
	0.76	1745	12000	12000	S	77 R37	DR	63L4	59	491						
					SF	77 R37	DR	63L4	69	491						
	0.82	1600	12000	12000	SA	77 R37	DR	63L4	59	491						
					SAF	77 R37	DR	63L4	66	491						
	0.93	1404	12000	12000	S	77 R37	DR	63L4	59	491						
					SF	77 R37	DR	63L4	69	491						
	1.0	1245	12000	12000	SA	77 R37	DR	63L4	59	491						
					SAF	77 R37	DR	63L4	66	491						
	1.2	1100	12000	12000	S	77 R37	DR	63L4	59	491						
					SF	77 R37	DR	63L4	69	491						
					SA	77 R37	DR	63L4	59	491						
					SAF	77 R37	DR	63L4	65	491						
	1.4	954	12000	12000	S	77 R37	DT	71D4	60	491						
					SF	77 R37	DT	71D4	70	491						
	1.7	837	12000	12000	SA	77 R37	DT	71D4	59	491						
					SAF	77 R37	DT	71D4	66	491						
	1.9	714	12000	12000	S	77 R37	DT	80K4	62	491						
					SF	77 R37	DT	80K4	72	491						
	2.1	637	12000	12000	SA	77 R37	DT	80K4	61	491						
					SAF	77 R37	DT	80K4	68	491						
	2.4	574	12000	12000	S	77 R37	DT	80N4	63	491						
					SF	77 R37	DT	80N4	73	491						
	2.7	499	12000	12000	SA	77 R37	DT	80N4	62	491						
					SAF	77 R37	DT	80N4	69	491						
4.3	327	12000	12000	S	77 R37	DT	90S4	68	491							
				SF	77 R37	DT	90S4	78	491							
4.8	289	12000	12000	SA	77 R37	DT	90S4	68	491							
				SAF	77 R37	DT	90S4	74	491							
5.6	250	12000	12000	S	77 R37	DT	90S4	68	491							
				SF	77 R37	DT	90S4	78	491							
6.4	219	12000	12000	SA	77 R37	DT	90S4	68	491							
				SAF	77 R37	DT	90S4	74	491							
2500	0.05	25987	27500	S	87 R57	DR	63S4	110	491							
		23940	27500													
	20568	27500														
	18265	27500														
	16774	27500														
	14820	27500														
	13160	27500														
	11200	27500														
	9904	27500														
	8549	27500														
	7643	27500														
	6706	27500														
	0.22	5875	27500							27500	SF	87 R57	DR	63M4	110	491
											SA	87 R57	DR	63M4	105	491
											SAF	87 R57	DR	63M4	120	491
											S	87 R57	DR	63L4	110	491
	0.25	5187	27500	27500	SF	87 R57	DR	63L4	130	491						
					SA	87 R57	DR	63L4	105	491						
	0.29	4606	27500	27500	SAF	87 R57	DR	63L4	120	491						
					S	87 R57	DR	63L4	110	491						
	0.34	3872	27500	27500	SF	87 R57	DR	63L4	130	491						
					SA	87 R57	DR	63L4	105	491						
					SAF	87 R57	DR	63L4	120	491						
					S	87 R57	DR	63L4	110	491						
	0.37	3475	27500	27500	SF	87 R57	DR	63L4	130	491						
					SA	87 R57	DR	63L4	105	491						
	0.45	2905	27500	27500	SAF	87 R57	DR	63L4	120	491						
					S	87 R57	DT	71D4	110	491						
	0.53	2586	27500	27500	SF	87 R57	DT	71D4	130	491						
					SA	87 R57	DT	71D4	105	491						
	0.59	2335	27500	27500	SAF	87 R57	DT	71D4	125	491						
					S	87 R57	DT	71D4	110	491						
0.67	2054	27500	27500	SF	87 R57	DT	71D4	130	491							
				SA	87 R57	DT	71D4	105	491							

# Helical-Worm Gearmotors

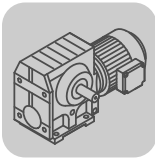
## Selection tables for particularly low output speeds [Nm]



6

$M_{a \max}$ [Nm]	$n_a$ [1/min]	$i$	$F_{Ra}^{1)}$ [N]					$m$ [kg]	
<b>2500</b>	0.75	1824	27500	<b>S</b>	<b>87 R57</b>	<b>DT</b>	<b>80K4</b>	110	491
	0.83	1631	27500	<b>SF</b>	<b>87 R57</b>	<b>DT</b>	<b>80K4</b>	135	491
	1.0	1332	27500	<b>SA</b>	<b>87 R57</b>	<b>DT</b>	<b>80K4</b>	110	491
	1.1	1191	27500	<b>SAF</b>	<b>87 R57</b>	<b>DT</b>	<b>80K4</b>	125	491
	1.3	1032	27500	<b>S</b>	<b>87 R57</b>	<b>DT</b>	<b>80N4</b>	110	491
	1.5	930	27500	<b>SF</b>	<b>87 R57</b>	<b>DT</b>	<b>80N4</b>	135	491
	1.7	831	27500	<b>SA</b>	<b>87 R57</b>	<b>DT</b>	<b>80N4</b>	110	491
				<b>SAF</b>	<b>87 R57</b>	<b>DT</b>	<b>80N4</b>	125	491
	1.9	719	27500	<b>S</b>	<b>87 R57</b>	<b>DT</b>	<b>90S4</b>	115	491
	2.2	624	27500	<b>SF</b>	<b>87 R57</b>	<b>DT</b>	<b>90S4</b>	140	491
	2.5	558	27500	<b>SA</b>	<b>87 R57</b>	<b>DT</b>	<b>90S4</b>	115	491
				<b>SAF</b>	<b>87 R57</b>	<b>DT</b>	<b>90S4</b>	130	491
	2.9	485	27500	<b>S</b>	<b>87 R57</b>	<b>DT</b>	<b>90L4</b>	120	491
				<b>SF</b>	<b>87 R57</b>	<b>DT</b>	<b>90L4</b>	140	491
			<b>SA</b>	<b>87 R57</b>	<b>DT</b>	<b>90L4</b>	115	491	
			<b>SAF</b>	<b>87 R57</b>	<b>DT</b>	<b>90L4</b>	135	491	
<b>2450</b>	3.2	435	27600	<b>S</b>	<b>87 R57</b>	<b>DT</b>	<b>90L4</b>	120	491
	3.7	378	27600	<b>SF</b>	<b>87 R57</b>	<b>DT</b>	<b>90L4</b>	140	491
				<b>SA</b>	<b>87 R57</b>	<b>DT</b>	<b>90L4</b>	115	491
				<b>SAF</b>	<b>87 R57</b>	<b>DT</b>	<b>90L4</b>	135	491
<b>2400</b>	4.4	323	27700	<b>S</b>	<b>87 R57</b>	<b>DV</b>	<b>100M4</b>	125	491
	5.0	281	27700	<b>SF</b>	<b>87 R57</b>	<b>DV</b>	<b>100M4</b>	150	491
				<b>SA</b>	<b>87 R57</b>	<b>DV</b>	<b>100M4</b>	125	491
				<b>SAF</b>	<b>87 R57</b>	<b>DV</b>	<b>100M4</b>	140	491
<b>4200</b>	0.04	33818	32800						
	0.04	31154	32800						
	0.05	27847	32800						
	0.06	24641	32800						
	0.06	21537	32800	<b>S</b>	<b>97 R57</b>	<b>DR</b>	<b>63S4</b>	170	491
	0.07	18749	32800	<b>SF</b>	<b>97 R57</b>	<b>DR</b>	<b>63S4</b>	200	491
	0.09	16233	32800	<b>SA</b>	<b>97 R57</b>	<b>DR</b>	<b>63S4</b>	165	491
	0.09	14576	32800	<b>SAF</b>	<b>97 R57</b>	<b>DR</b>	<b>63S4</b>	190	491
	0.11	12752	32800						
	0.12	11267	32800						
	0.14	10078	32800						
	0.15	8608	32800	<b>S</b>	<b>97 R57</b>	<b>DR</b>	<b>63M4</b>	170	491
	0.17	7554	32800	<b>SF</b>	<b>97 R57</b>	<b>DR</b>	<b>63M4</b>	200	491
	0.20	6640	31300	<b>SA</b>	<b>97 R57</b>	<b>DR</b>	<b>63M4</b>	165	491
	0.23	5780	31300	<b>SAF</b>	<b>97 R57</b>	<b>DR</b>	<b>63M4</b>	190	491
	0.27	4937	31300						
	0.29	4444	31300	<b>S</b>	<b>97 R57</b>	<b>DR</b>	<b>63L4</b>	170	491
	0.32	4017	31300	<b>SF</b>	<b>97 R57</b>	<b>DR</b>	<b>63L4</b>	200	491
	0.38	3453	31300	<b>SA</b>	<b>97 R57</b>	<b>DR</b>	<b>63L4</b>	165	491
				<b>SAF</b>	<b>97 R57</b>	<b>DR</b>	<b>63L4</b>	190	491
	0.44	3108	31300	<b>S</b>	<b>97 R57</b>	<b>DT</b>	<b>71D4</b>	170	491
	0.52	2654	31300	<b>SF</b>	<b>97 R57</b>	<b>DT</b>	<b>71D4</b>	205	491
	0.59	2329	31300	<b>SA</b>	<b>97 R57</b>	<b>DT</b>	<b>71D4</b>	165	491
				<b>SAF</b>	<b>97 R57</b>	<b>DT</b>	<b>71D4</b>	190	491
	0.65	2081	31300	<b>S</b>	<b>97 R57</b>	<b>DT</b>	<b>80K4</b>	170	491
	0.73	1860	31300	<b>SF</b>	<b>97 R57</b>	<b>DT</b>	<b>80K4</b>	205	491
	0.86	1574	31300	<b>SA</b>	<b>97 R57</b>	<b>DT</b>	<b>80K4</b>	165	491
				<b>SAF</b>	<b>97 R57</b>	<b>DT</b>	<b>80K4</b>	195	491
	0.99	1394	31300	<b>S</b>	<b>97 R57</b>	<b>DT</b>	<b>80N4</b>	170	491
	1.1	1223	31300	<b>SF</b>	<b>97 R57</b>	<b>DT</b>	<b>80N4</b>	205	491
	1.3	1070	31300	<b>SA</b>	<b>97 R57</b>	<b>DT</b>	<b>80N4</b>	165	491
				<b>SAF</b>	<b>97 R57</b>	<b>DT</b>	<b>80N4</b>	195	491
	1.5	928	31300	<b>S</b>	<b>97 R57</b>	<b>DT</b>	<b>90S4</b>	175	491
	1.7	824	31300	<b>SF</b>	<b>97 R57</b>	<b>DT</b>	<b>90S4</b>	210	491
			<b>SA</b>	<b>97 R57</b>	<b>DT</b>	<b>90S4</b>	170	491	
			<b>SAF</b>	<b>97 R57</b>	<b>DT</b>	<b>90S4</b>	200	491	

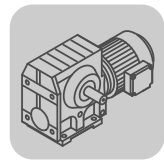
6



## Helical-Worm Gearmotors

Selection tables for particularly low output speeds [Nm]

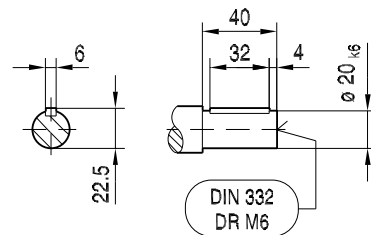
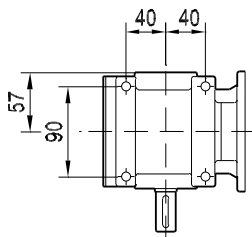
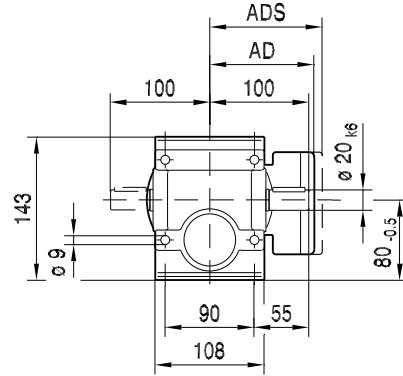
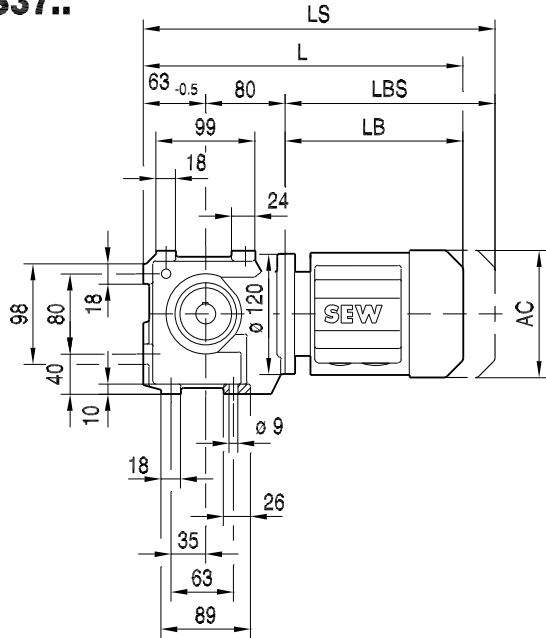
$M_{a \max}$ [Nm]	$n_a$ [1/min]	$i$	$F_{Ra}^{1)}$ [N]					$m$ [kg]	
4200	2.0	714	32800	S	97 R57	DT	90L4	180	491
				SF	97 R57	DT	90L4	210	491
				SA	97 R57	DT	90L4	175	491
				SAF	97 R57	DT	90L4	200	491
	2.9	484	31400	S	97 R57	DV	100M4	185	491
				SF	97 R57	DV	100M4	220	491
				SA	97 R57	DV	100M4	180	491
	3.4	420	31400	SAF	97 R57	DV	100M4	205	491
				SA	97 R57	DV	100M4	180	491
	3.8	376	31400	SF	97 R57	DV	100M4	220	491
				S	97 R57	DV	100L4	190	491
	4.3	327	31500	SF	97 R57	DV	100L4	225	491
				SA	97 R57	DV	100L4	185	491
	4.9	287	31500	SAF	97 R57	DV	100L4	210	491
				S	97 R57	DV	112M4	195	491
	5.6	252	31500	SF	97 R57	DV	112M4	230	491
				SA	97 R57	DV	112M4	190	491
	6.5	219	31600	SAF	97 R57	DV	112M4	220	491
				S	97 R57	DV	112M4	220	491



6.5 Dimension sheets [mm]

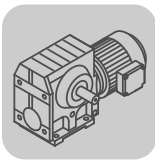
05 007 03 00

S37..



6

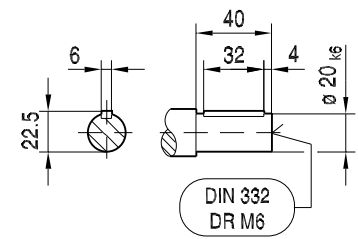
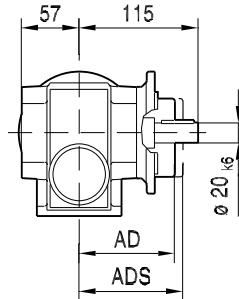
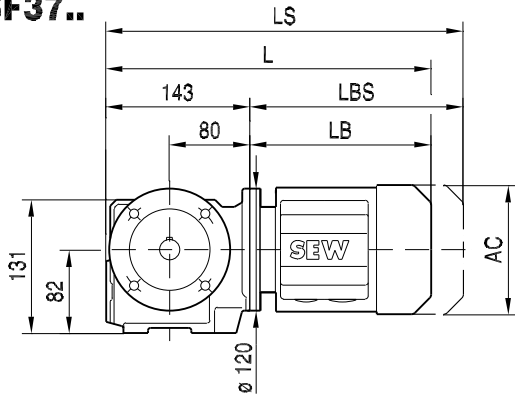
(→ 14)	DR63..	DT71D	DT80..	DT90..						
AC	132	145	145	197						
AD	105	122	122	154						
ADS	105	127	127	161						
L	334	349	399	419						
LS	389	412	462	504						
LB	191	206	256	276						
LBS	246	269	319	361						



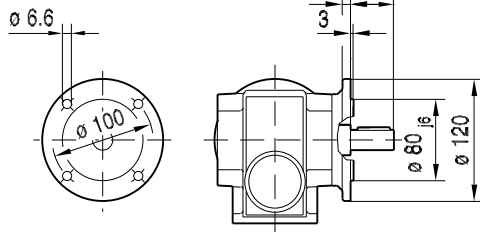
**Helical-Worm Gearmotors**  
Dimension sheets [mm]

05 014 03 00

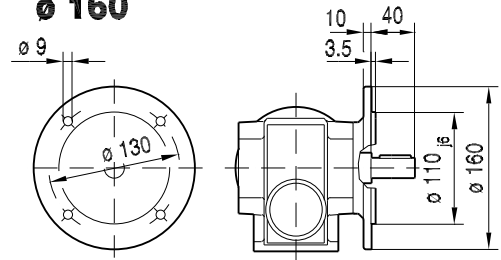
**SF37..**



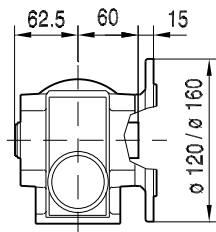
**ø 120**



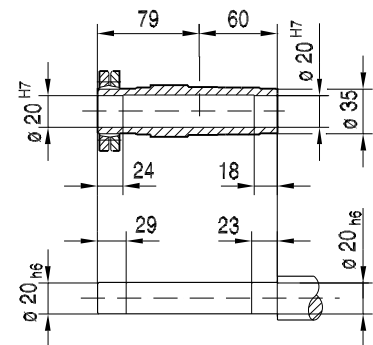
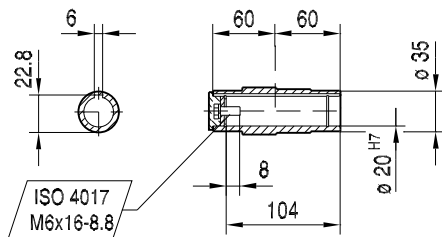
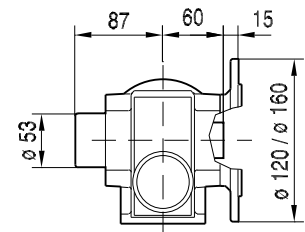
**ø 160**



**SAF37..**

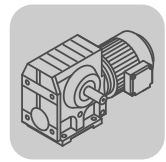


**SHF37..**



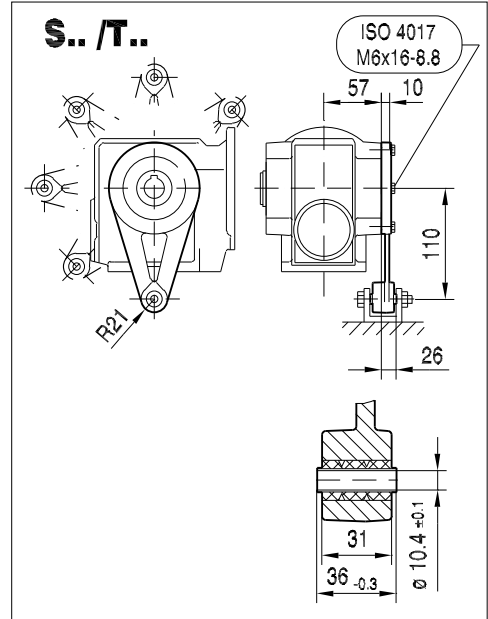
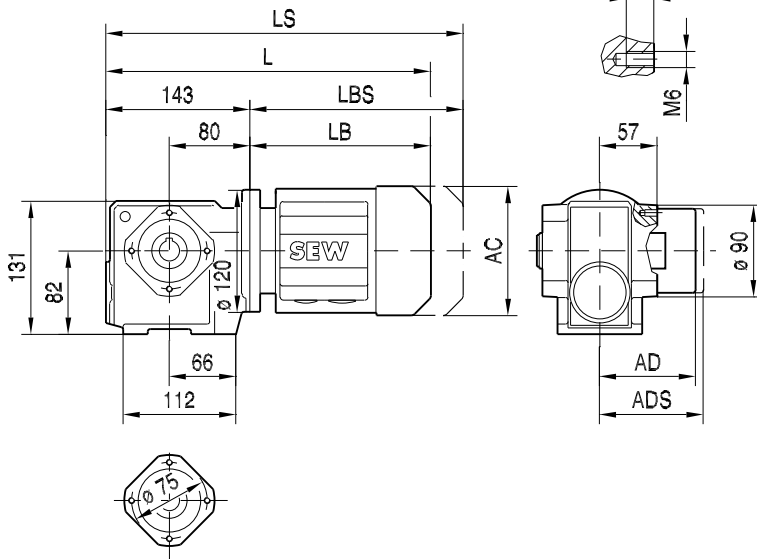
(→ 14)	DR63..	DT71D	DT80..	DT90..						
AC	132	145	145	197						
AD	105	122	122	154						
ADS	105	127	127	161						
L	334	349	399	419						
LS	389	412	462	504						
LB	191	206	256	276						
LBS	246	269	319	361						



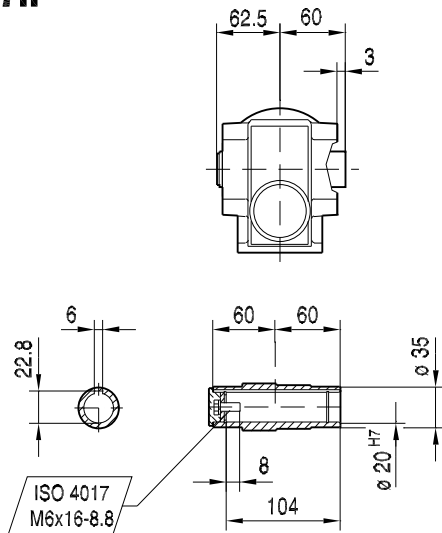


28 001 03 00

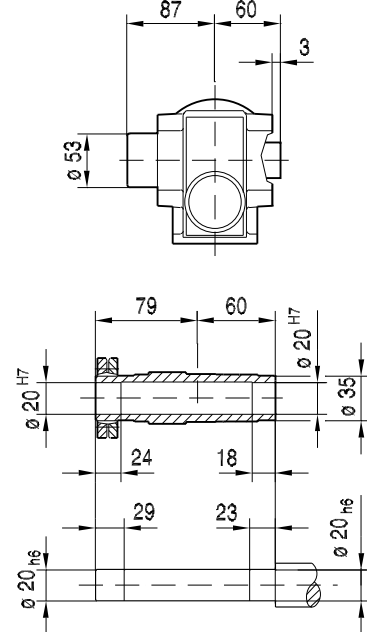
**SA37..**



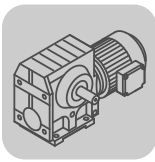
**SA37..**



**SH37..**



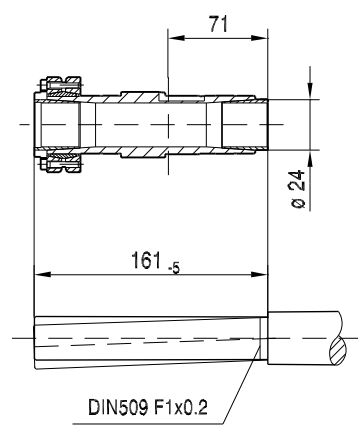
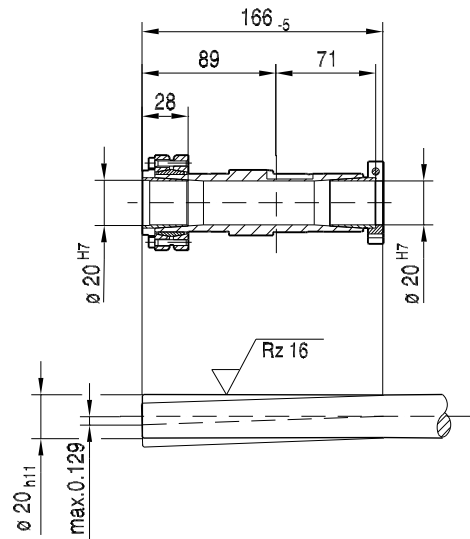
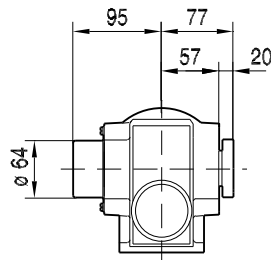
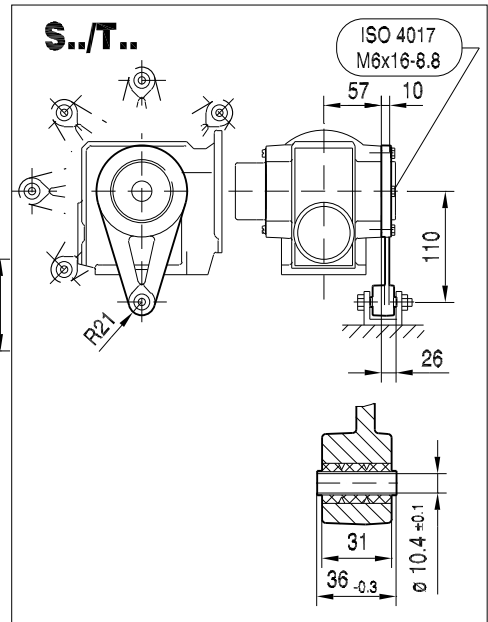
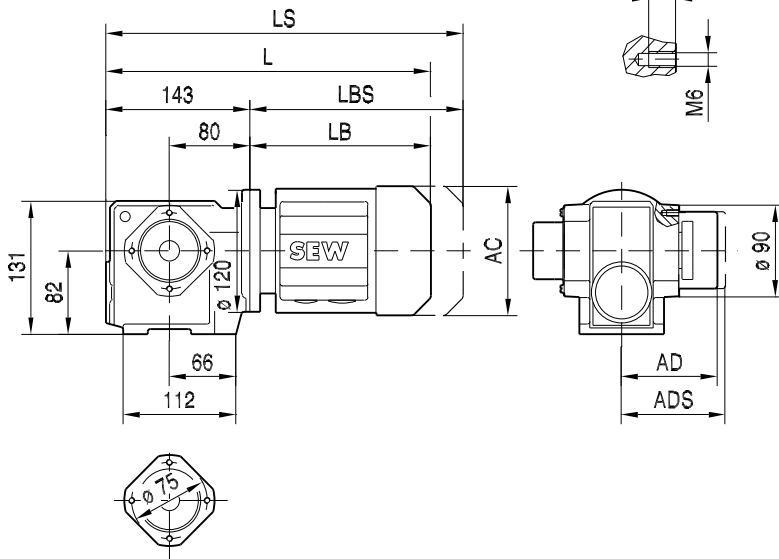
(→ 14)	DR63..	DT71D	DT80..	DT90..						
AC	132	145	145	197						
AD	105	122	122	154						
ADS	105	127	127	161						
L	334	349	399	419						
LS	389	412	462	504						
LB	191	206	256	276						
LBS	246	269	319	361						



**Helical-Worm Gearmotors**  
Dimension sheets [mm]

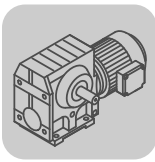
02 005 01 03

**ST37..**



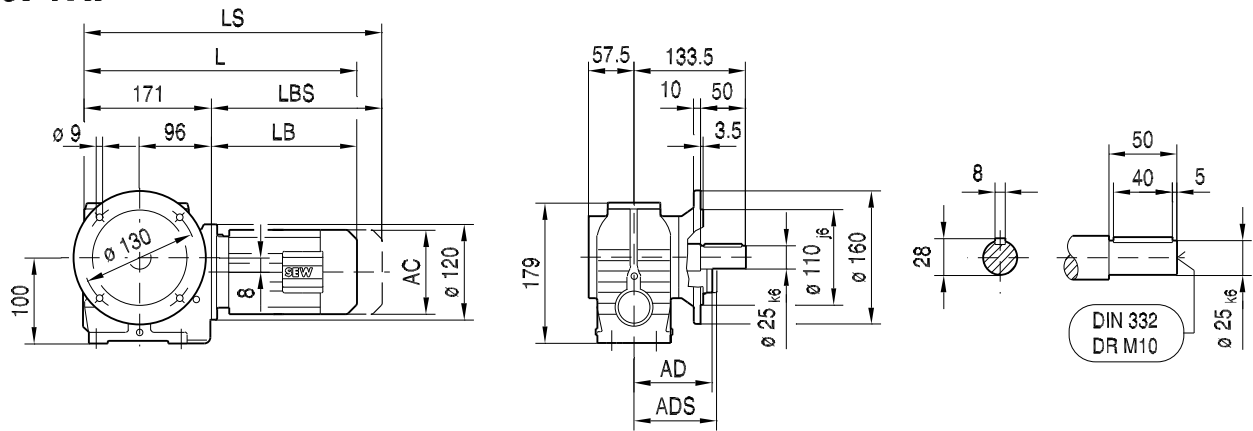
(→ 14)	DR63..	DT71D	DT80..	DT90..						
AC	132	145	145	197						
AD	105	122	122	154						
ADS	105	127	127	161						
L	334	349	399	419						
LS	389	412	462	504						
LB	191	206	256	276						
LBS	246	269	319	361						



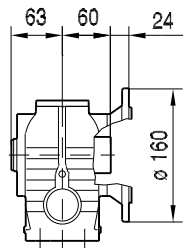


05 015 03 00

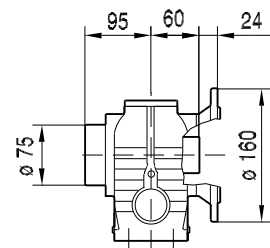
**SF47..**



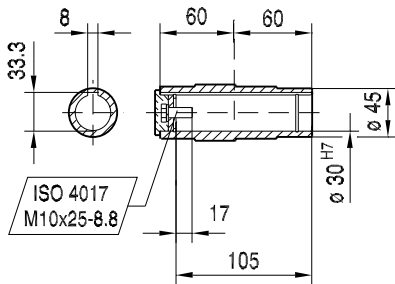
**SAF47..**



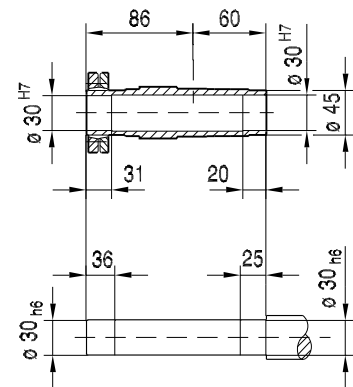
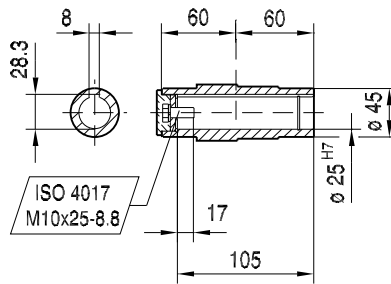
**SHF47..**



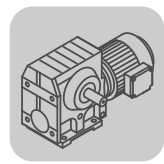
**$\phi 30$  H7**



**$\phi 25$  H7**

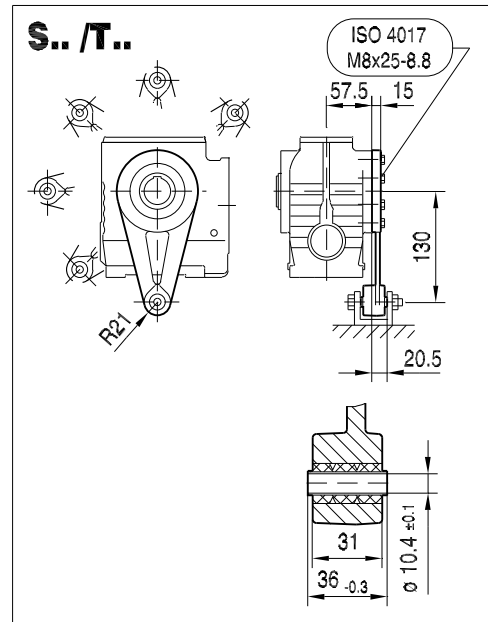
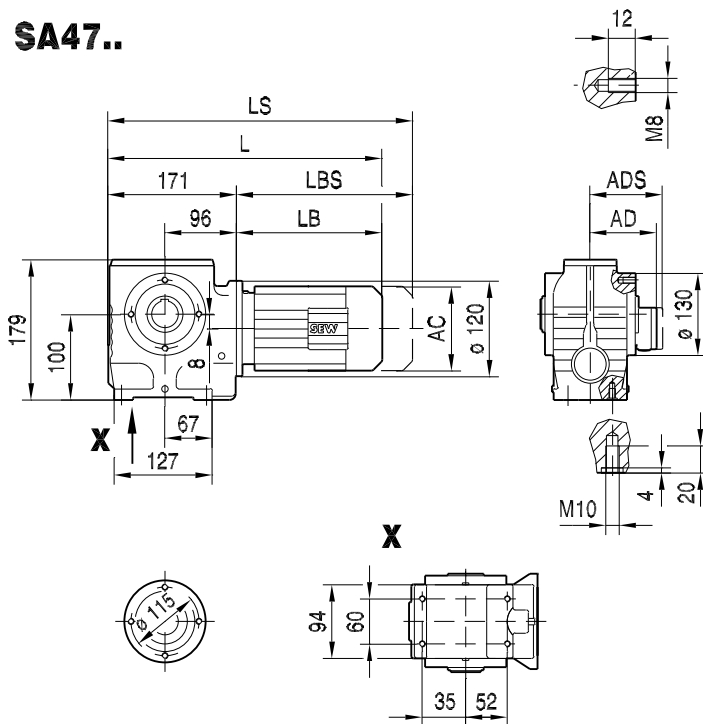


(→ 14)	DR63..	DT71D	DT80..	DT90..						
AC	132	145	145	197						
AD	105	122	122	154						
ADS	105	127	127	161						
L	362	377	427	447						
LS	417	440	490	532						
LB	191	206	256	276						
LBS	246	269	319	361						

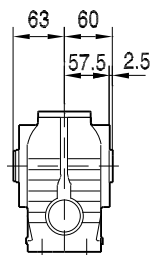


28 002 04 00

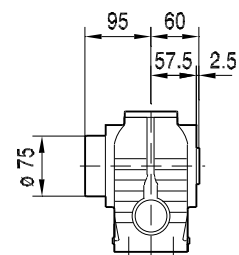
SA47..



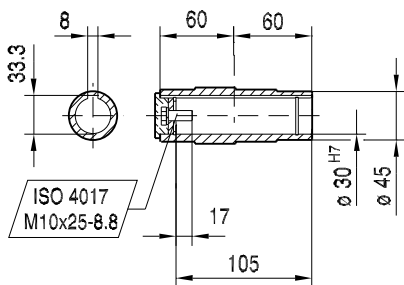
SA47..



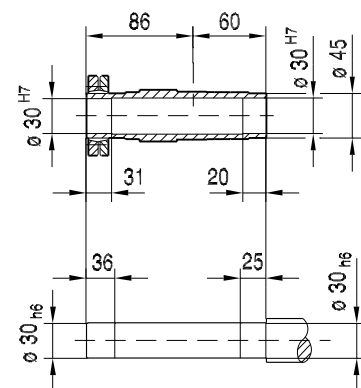
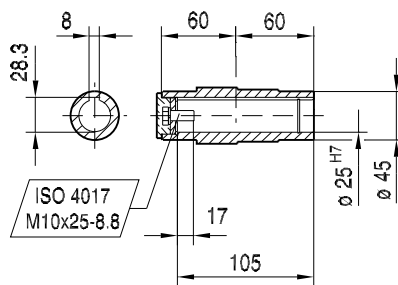
SH47..



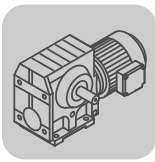
ø 30 H7



ø 25 H7



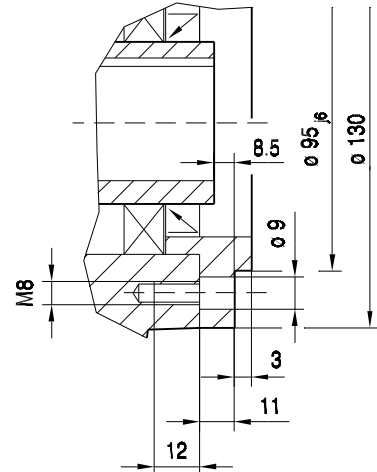
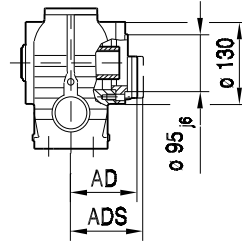
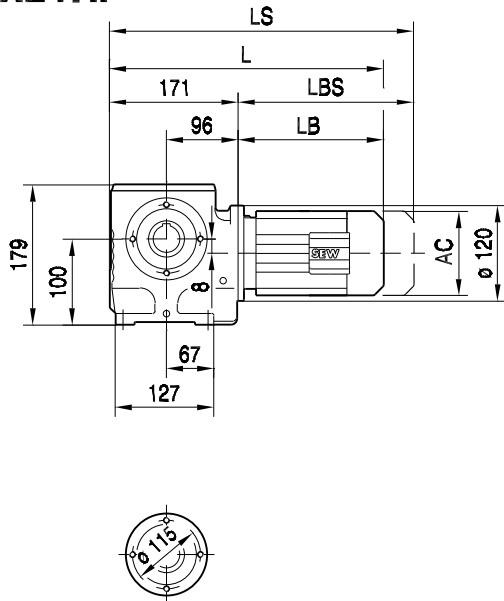
(→ 14)	DR63..	DT71D	DT80..	DT90..						
AC	132	145	145	197						
AD	105	122	122	154						
ADS	105	127	127	161						
L	362	377	427	447						
LS	417	440	490	532						
LB	191	206	256	276						
LBS	246	269	319	361						



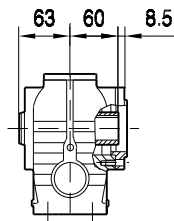
**Helical-Worm Gearmotors**  
Dimension sheets [mm]

28 008 04 00

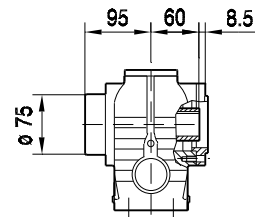
**SAZ47..**



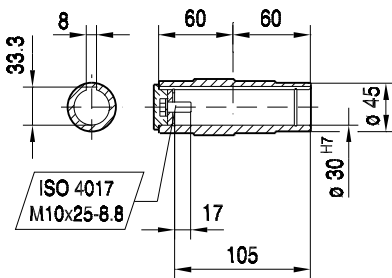
**SAZ47..**



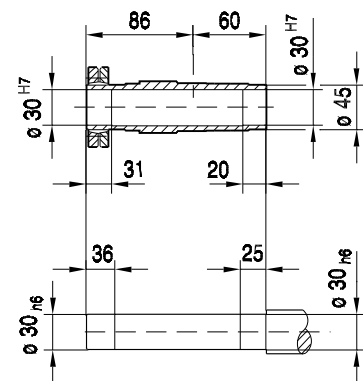
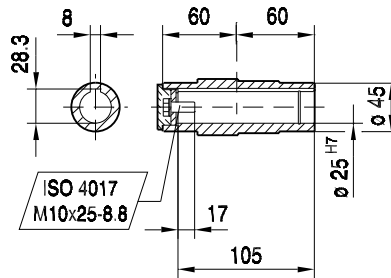
**SHZ47..**



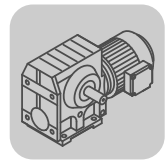
**ø 30 H7**



**ø 25 H7**

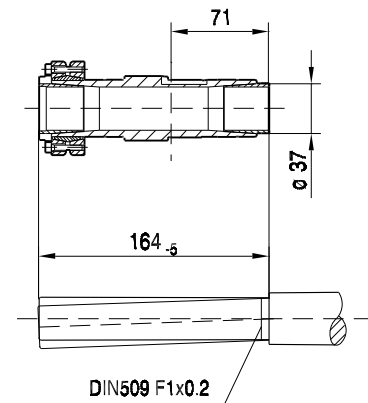
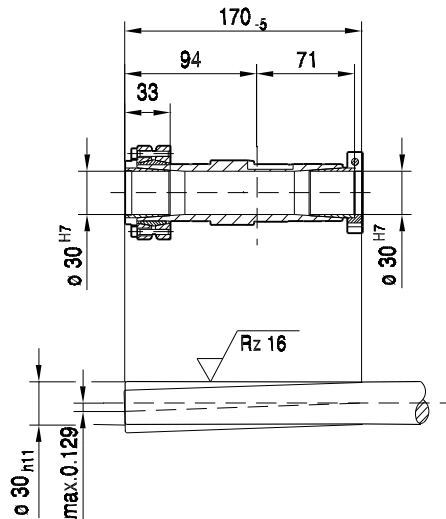
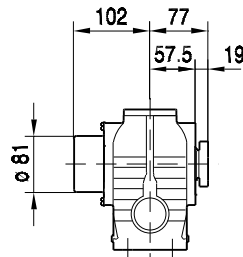
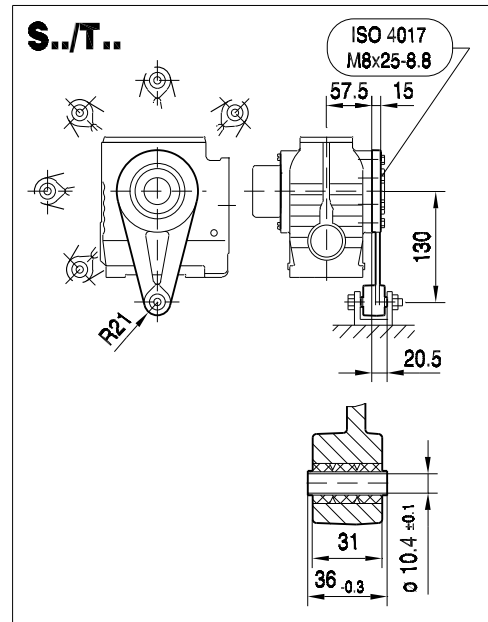
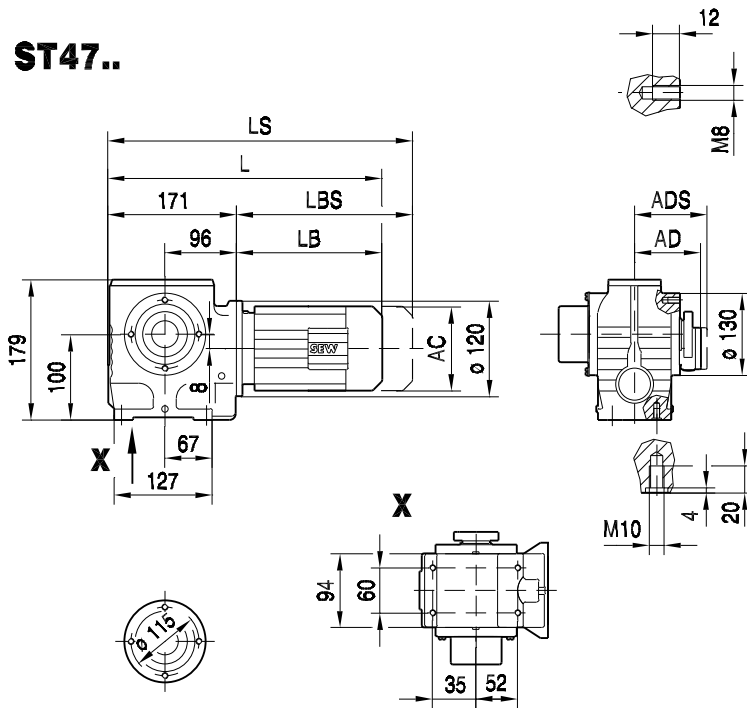


(→ 14)	DR63..	DT71D	DT80..	DT90..					
AC	132	145	145	197					
AD	105	122	122	154					
ADS	105	127	127	161					
L	362	377	427	447					
LS	417	440	490	532					
LB	191	206	256	276					
LBS	246	269	319	361					



**ST47..**

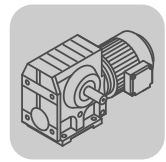
02 006 01 03



(→ 14)	DR63..	DT71D	DT80..	DT90..						
AC	132	145	145	197						
AD	105	122	122	154						
ADS	105	127	127	161						
L	362	377	427	447						
LS	417	440	490	532						
LB	191	206	256	276						
LBS	246	269	319	361						

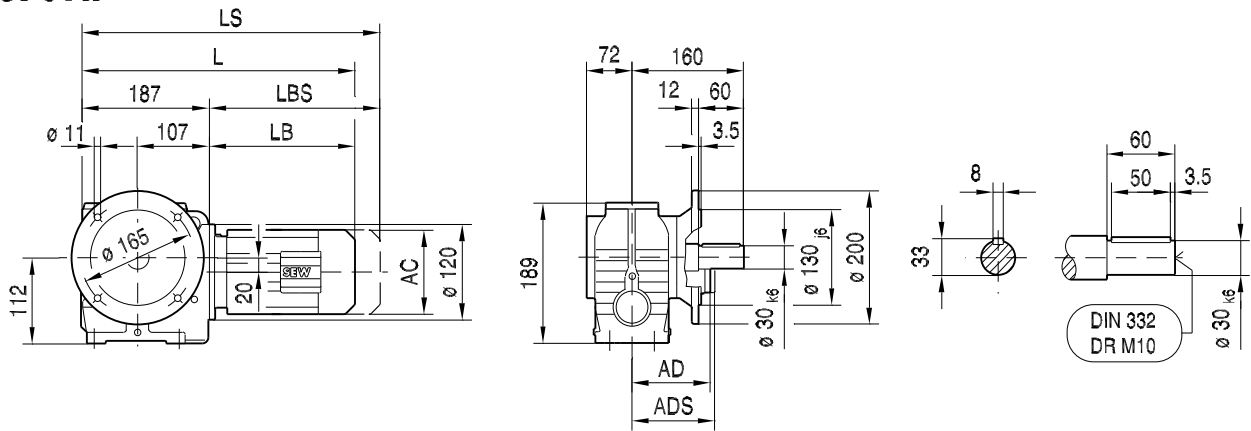




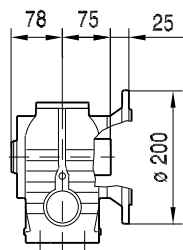


05 016 03 00

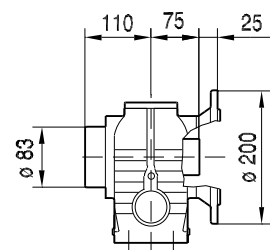
**SF57..**



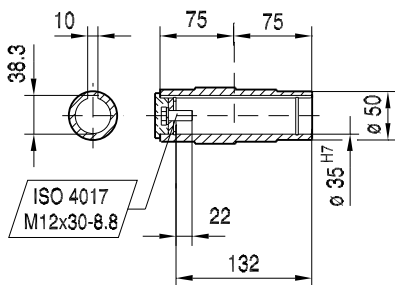
**SAF57..**



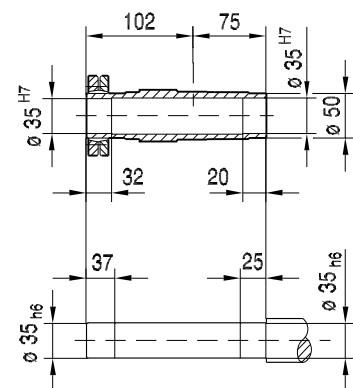
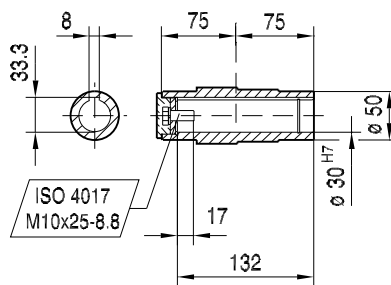
**SHF57..**



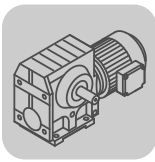
**$\phi 35$  H7**



**$\phi 30$  H7**



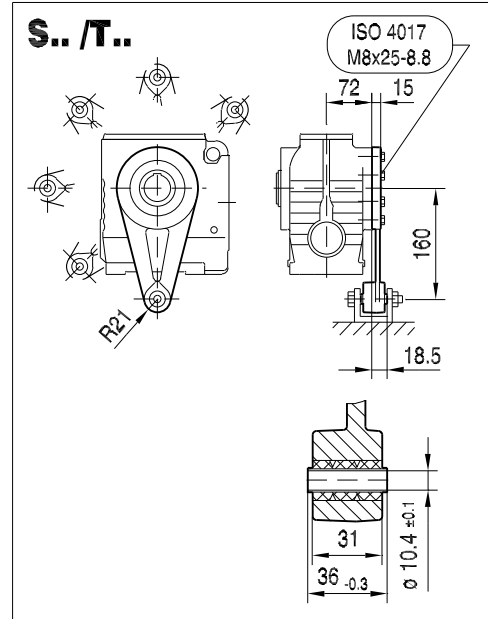
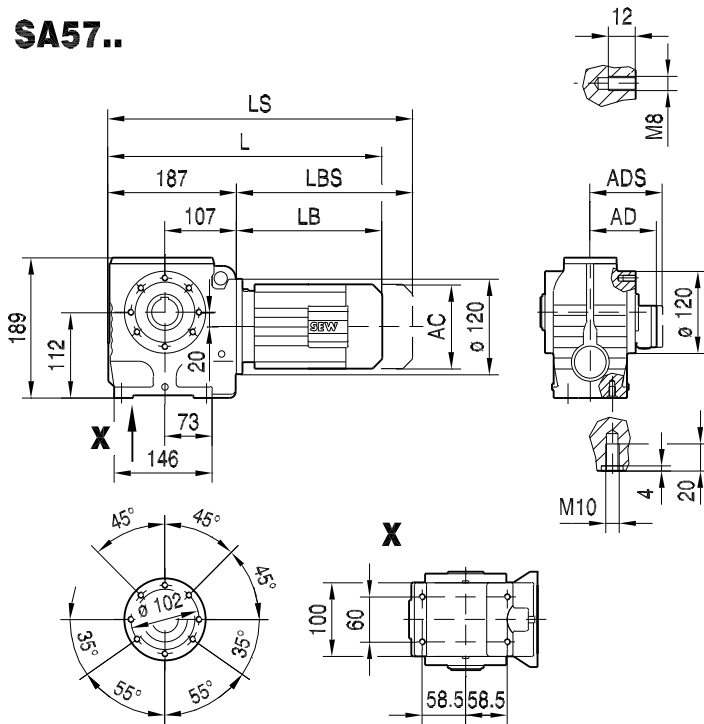
(→ 14)	DR63..	DT71D	DT80..	DT90..	DV100M	DV100L				
AC	132	145	145	197	197	197				
AD	105	122	122	154	166	166				
ADS	105	127	127	161	166	166				
L	378	393	443	463	515	545				
LS	433	456	506	548	600	630				
LB	191	206	256	276	328	358				
LBS	246	269	319	361	413	443				



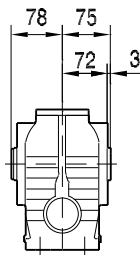
**Helical-Worm Gearmotors**  
Dimension sheets [mm]

28 003 03 00

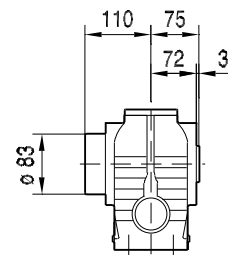
**SA57..**



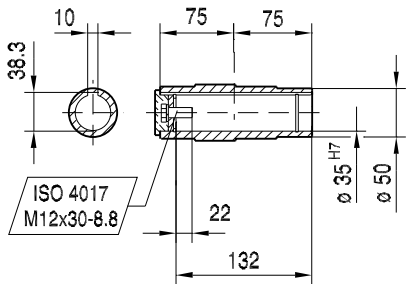
**SA57..**



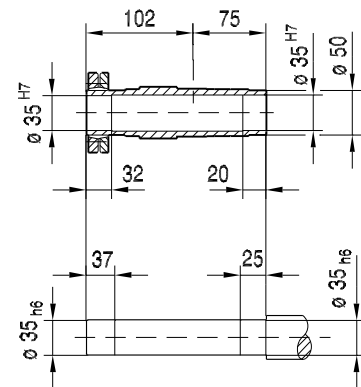
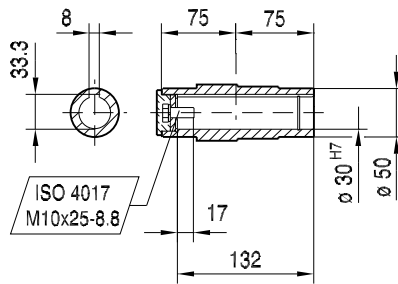
**SH57..**



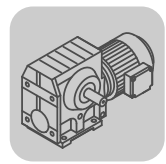
**ø 35 H7**



**ø 30 H7**

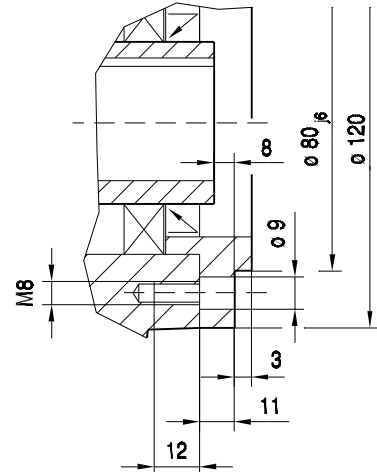
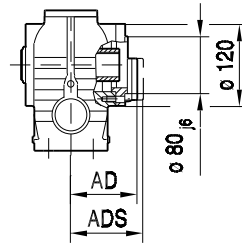
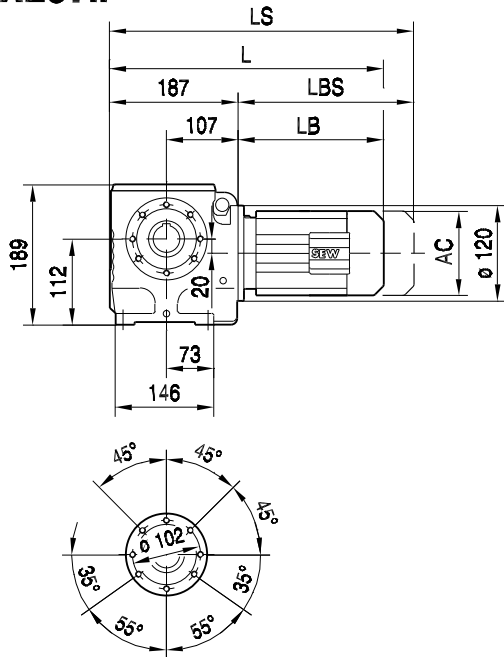


(→ 14)	DR63..	DT71D	DT80..	DT90..	DV100M	DV100L				
AC	132	145	145	197	197	197				
AD	105	122	122	154	166	166				
ADS	105	127	127	161	166	166				
L	378	393	443	463	515	545				
LS	433	456	506	548	600	630				
LB	191	206	256	276	328	358				
LBS	246	269	319	361	413	443				

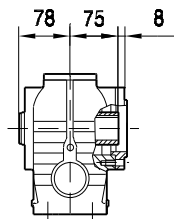


28 009 03 00

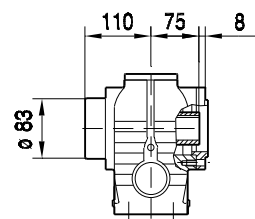
**SAZ57..**



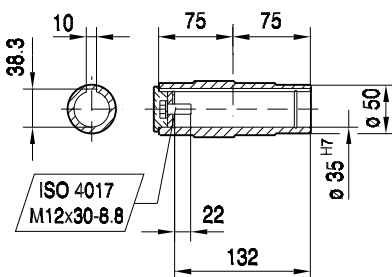
**SAZ57..**



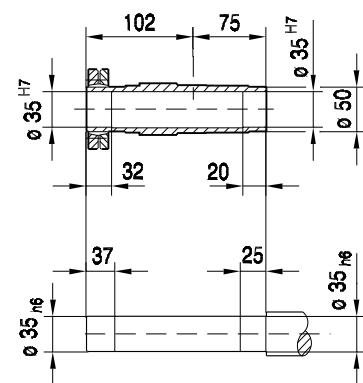
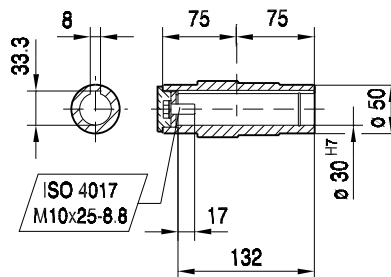
**SHZ57..**



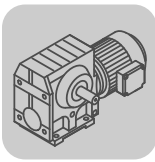
Ø 35 H7



Ø 30 H7

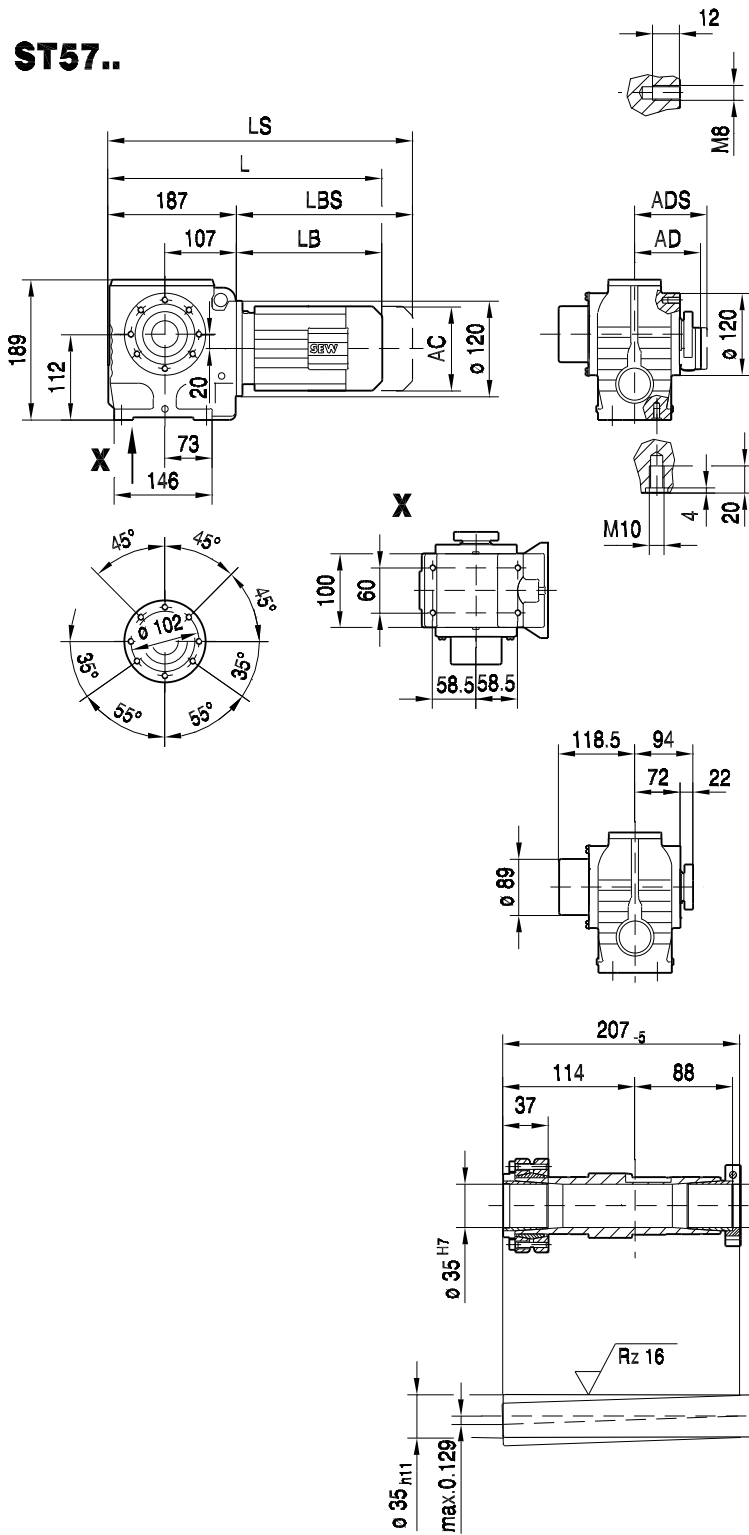


(→ 14)	DR63..	DT71D	DT80..	DT90..	DV100M	DV100L				
AC	132	145	145	197	197	197				
AD	105	122	122	154	166	166				
ADS	105	127	127	161	166	166				
L	378	393	443	463	515	545				
LS	433	456	506	548	600	630				
LB	191	206	256	276	328	358				
LBS	246	269	319	361	413	443				

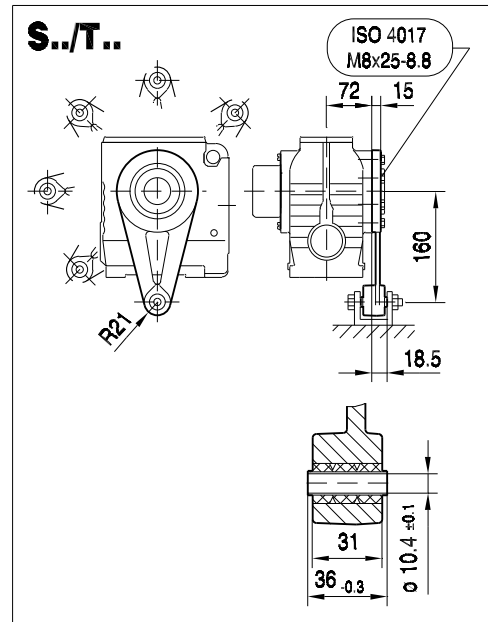


**Helical-Worm Gearmotors**  
Dimension sheets [mm]

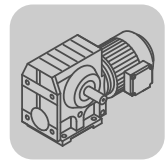
**ST57..**



02 007 01 03

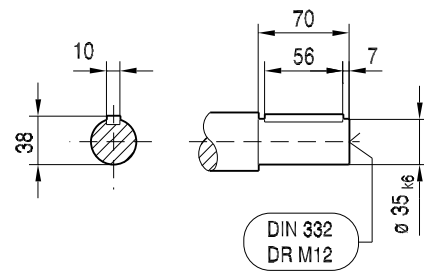
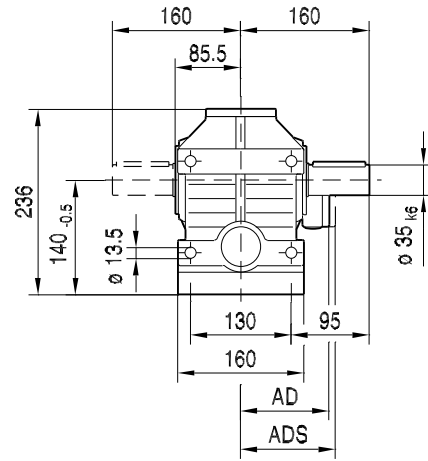
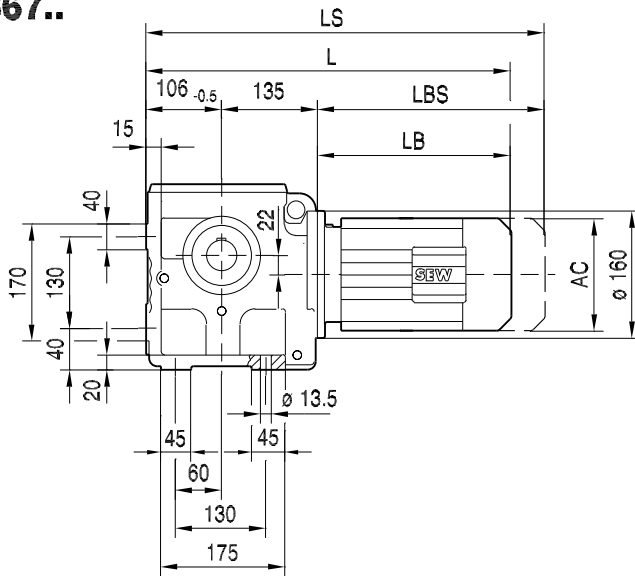


(→ 14)	DR63..	DT71D	DT80..	DT90..	DV100M	DV100L				
AC	132	145	145	197	197	197				
AD	105	122	122	154	166	166				
ADS	105	127	127	161	166	166				
L	378	393	443	463	515	545				
LS	433	456	506	548	600	630				
LB	191	206	256	276	328	358				
LBS	246	269	319	361	413	443				

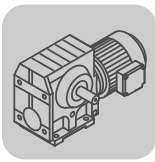


05 010 02 00

S67..



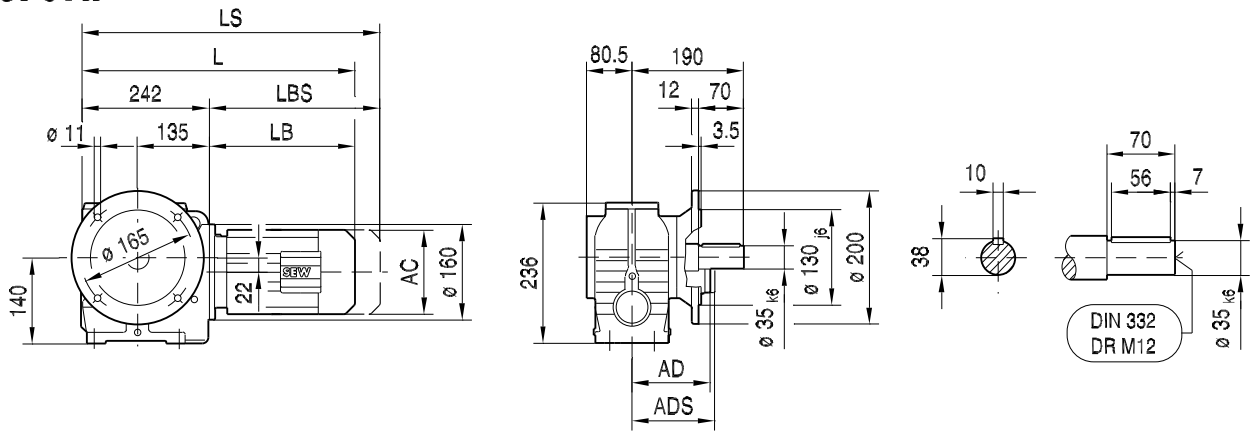
(→ 14)	DR63..	DT71D	DT80..	DT90..	DV100M	DV100L	DV112M	DV132S			
AC	132	145	145	197	197	197	221	221			
AD	105	122	122	154	166	166	179	179			
ADS	105	127	127	161	166	166	182	182			
L	426	440	490	510	560	590	595	643			
LS	481	504	554	595	645	675	675	723			
LB	185	199	249	269	319	349	354	402			
LBS	240	263	313	354	404	434	434	482			



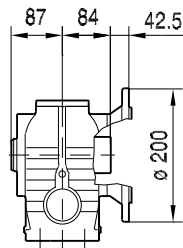
**Helical-Worm Gearmotors**  
Dimension sheets [mm]

05 017 03 00

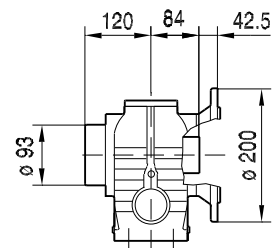
**SF67..**



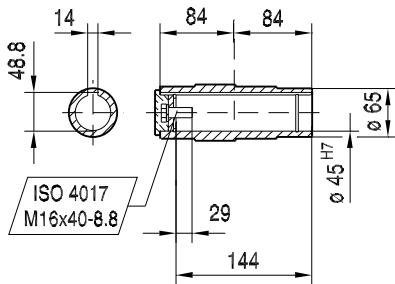
**SAF67..**



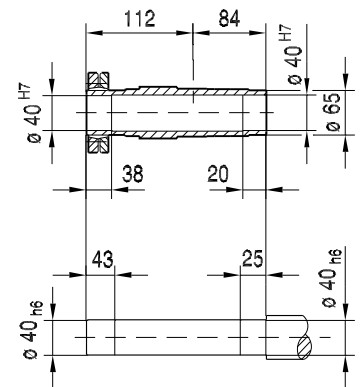
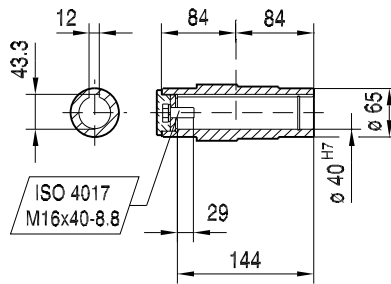
**SHF67..**



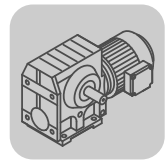
**$\phi 45$  H7**



**$\phi 40$  H7**

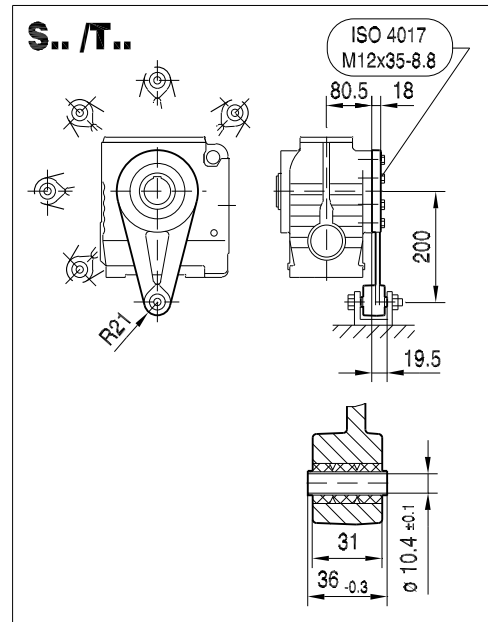
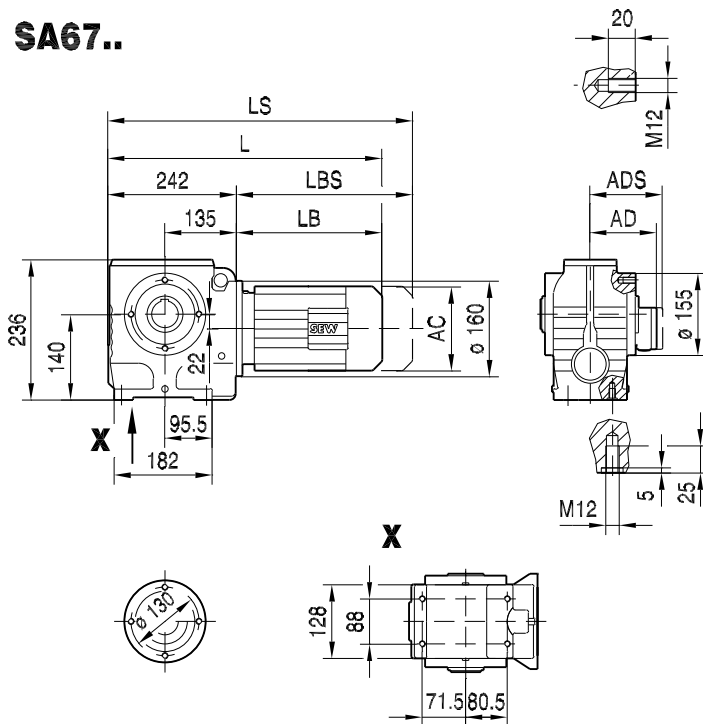


(→ 14)	DR63..	DT71D	DT80..	DT90..	DV100M	DV100L	DV112M	DV132S			
AC	132	145	145	197	197	197	221	221			
AD	105	122	122	154	166	166	179	179			
ADS	105	127	127	161	166	166	182	182			
L	427	441	491	511	561	591	596	644			
LS	482	505	555	596	646	676	676	724			
LB	185	199	249	269	319	349	354	402			
LBS	240	263	313	354	404	434	434	482			

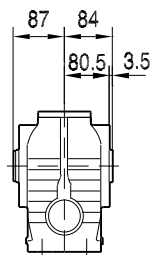


28 004 03 00

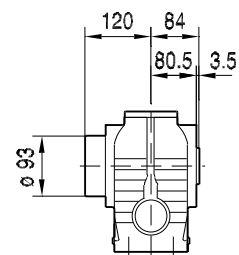
SA67..



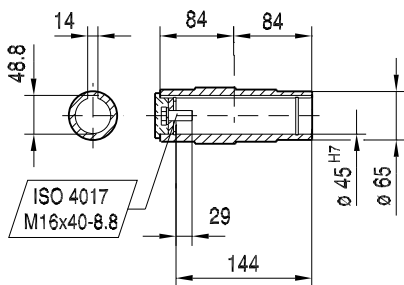
SA67..



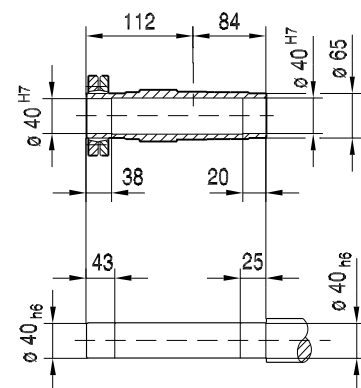
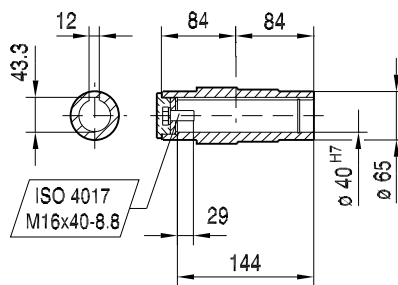
SH67..



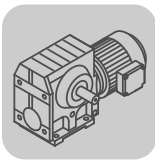
$\phi 45$  H7



$\phi 40$  H7



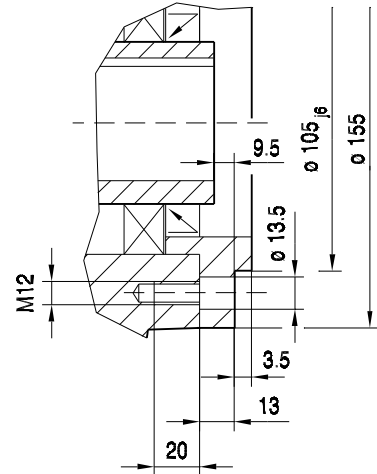
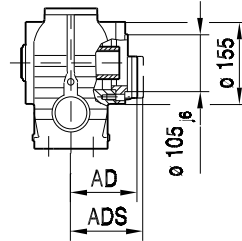
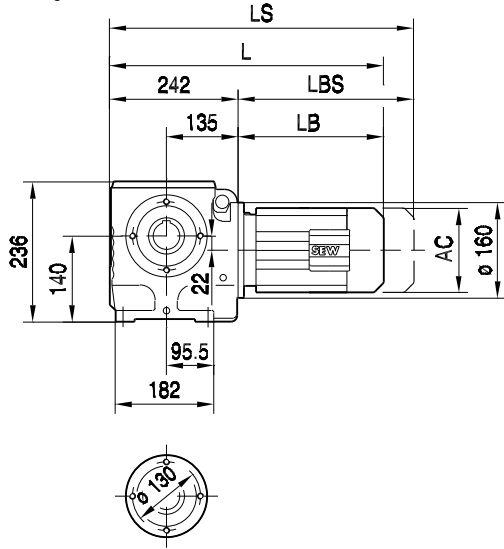
(→ 14)	DR63..	DT71D	DT80..	DT90..	DV100M	DV100L	DV112M	DV132S			
AC	132	145	145	197	197	197	221	221			
AD	105	122	122	154	166	166	179	179			
ADS	105	127	127	161	166	166	182	182			
L	427	441	491	511	561	591	596	644			
LS	482	505	555	596	646	676	676	724			
LB	185	199	249	269	319	349	354	402			
LBS	240	263	313	354	404	434	434	482			



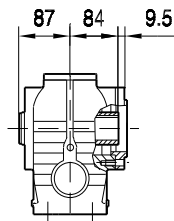
**Helical-Worm Gearmotors**  
Dimension sheets [mm]

28 010 03 00

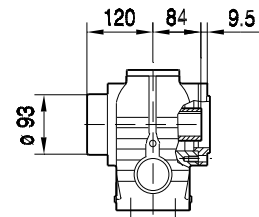
**SAZ67..**



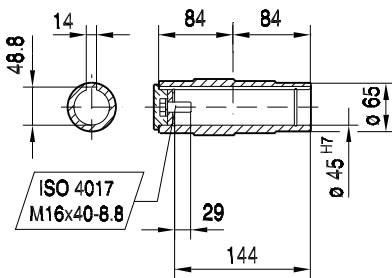
**SAZ67..**



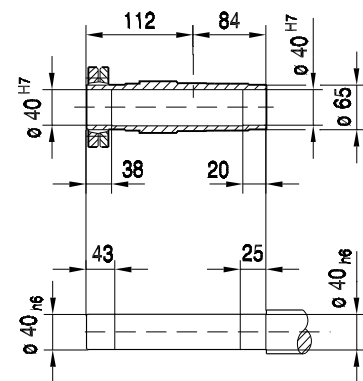
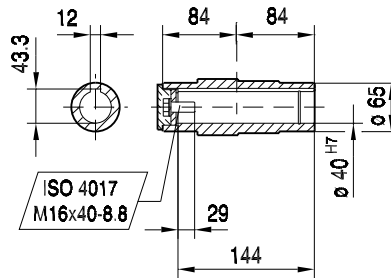
**SHZ67..**



**ø 45 H7**

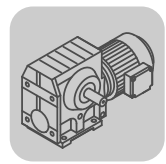


**ø 40 H7**



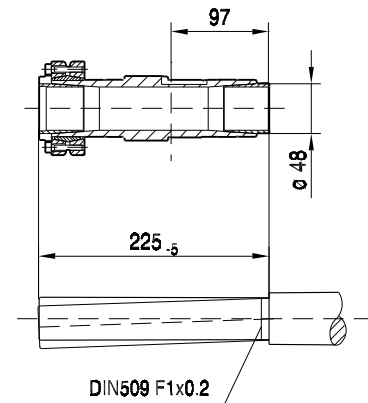
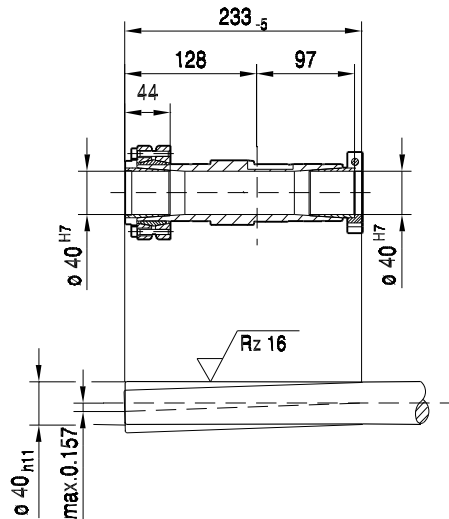
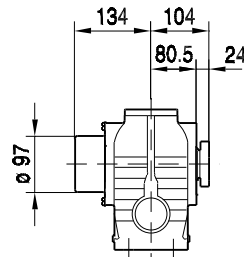
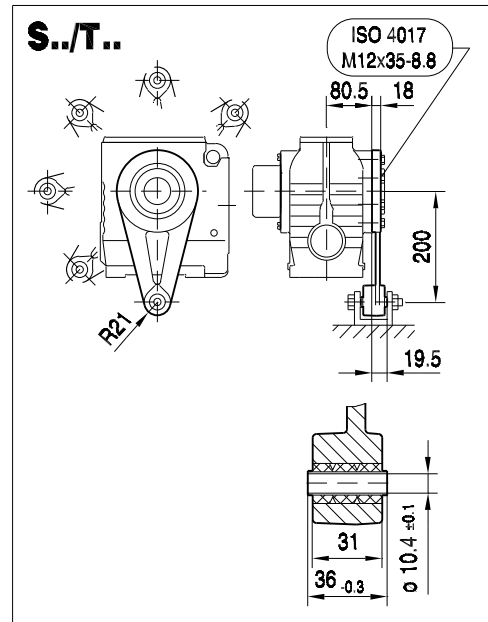
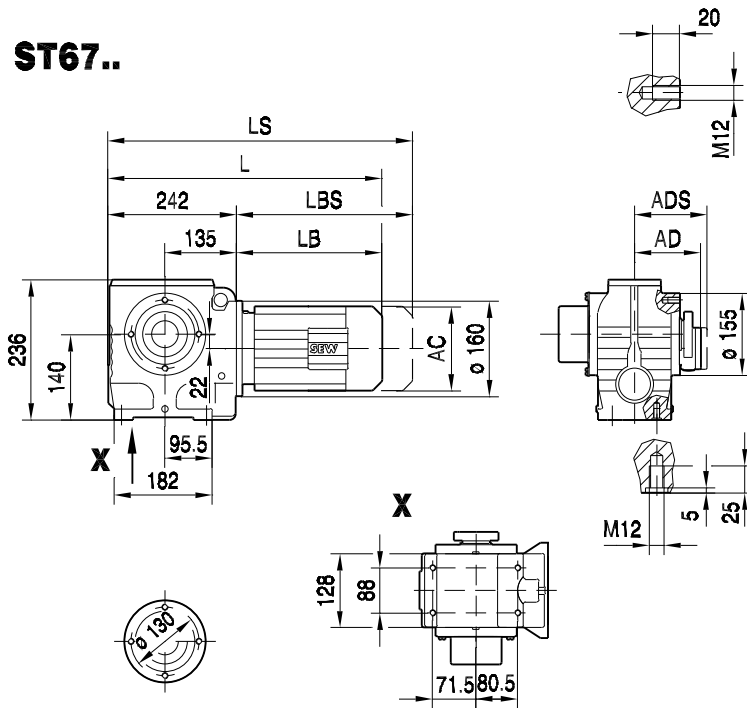
(→ 14)	DR63..	DT71D	DT80..	DT90..	DV100M	DV100L	DV112M	DV132S			
AC	132	145	145	197	197	197	221	221			
AD	105	122	122	154	166	166	179	179			
ADS	105	127	127	161	166	166	182	182			
L	427	441	491	511	561	591	596	644			
LS	482	505	555	596	646	676	676	724			
LB	185	199	249	269	319	349	354	402			
LBS	240	263	313	354	404	434	434	482			



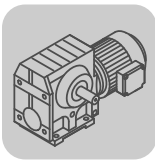


**ST67..**

02 008 01 03



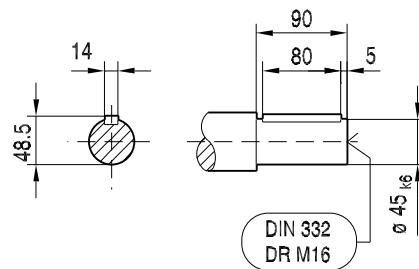
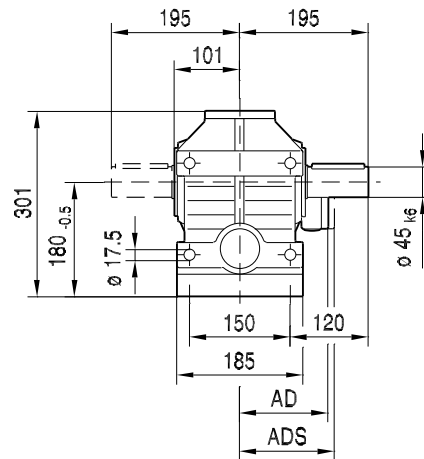
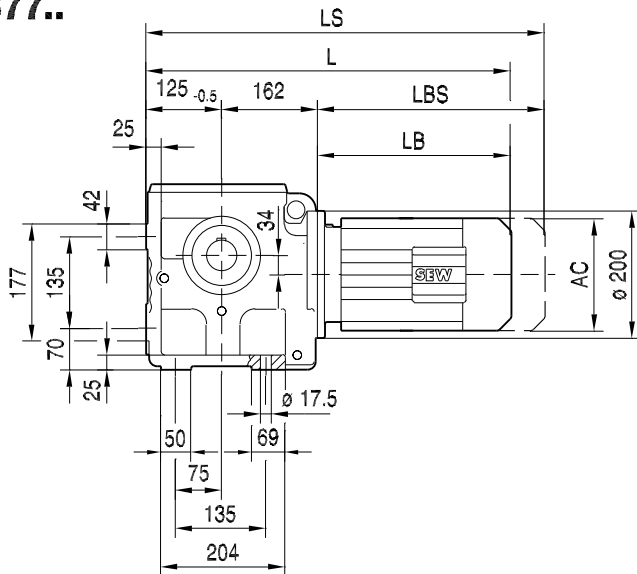
(→ 14)	DR63..	DT71D	DT80..	DT90..	DV100M	DV100L	DV112M	DV132S		
AC	132	145	145	197	197	197	221	221		
AD	105	122	122	154	166	166	179	179		
ADS	105	127	127	161	166	166	182	182		
L	427	441	491	511	561	591	596	644		
LS	482	505	555	596	646	676	676	724		
LB	185	199	249	269	319	349	354	402		
LBS	240	263	313	354	404	434	434	482		



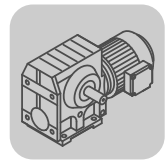
**Helical-Worm Gearmotors**  
Dimension sheets [mm]

05 011 03 00

**S77..**

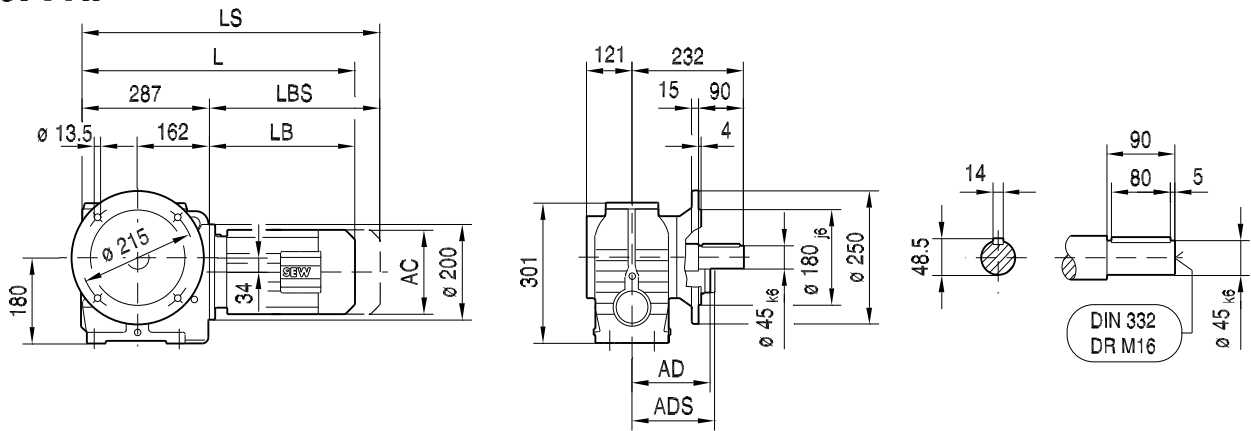


(→ 14)	DT80..	DT90..	DV100M	DV100L	DV112M	DV132S	DV132M	DV132ML			
AC	145	197	197	197	221	221	275	275			
AD	122	154	166	166	179	179	230	230			
ADS	127	161	166	166	182	182	230	230			
L	530	548	598	628	632	677	699	759			
LS	594	633	683	713	712	757	811	871			
LB	243	261	311	341	345	390	412	472			
LBS	307	346	396	426	425	470	524	584			

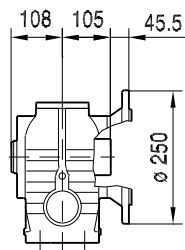


05 018 03 00

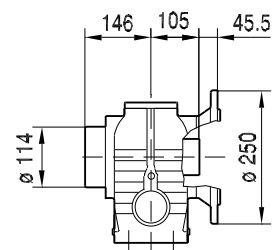
**SF77..**



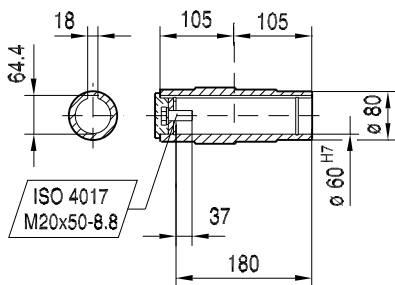
**SAF77..**



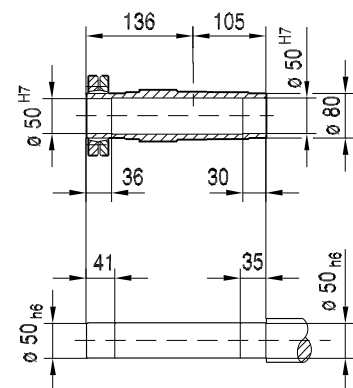
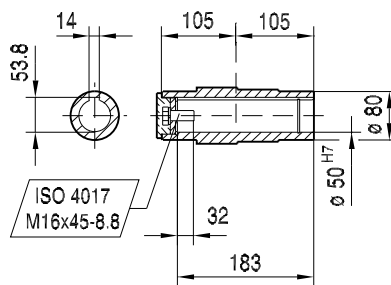
**SHF77..**



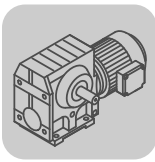
**$\phi 60$  H7**



**$\phi 50$  H7**



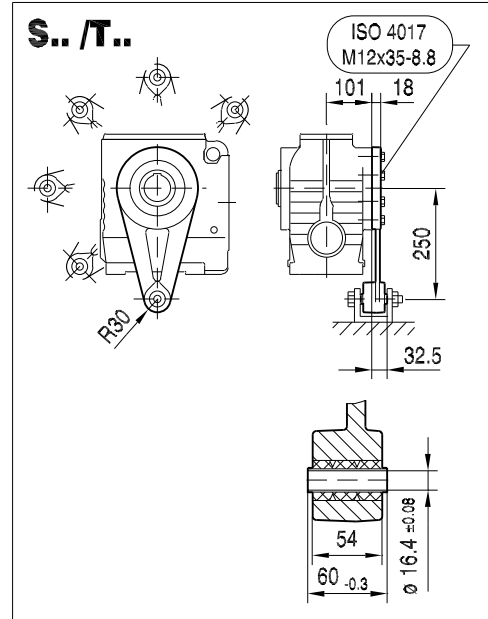
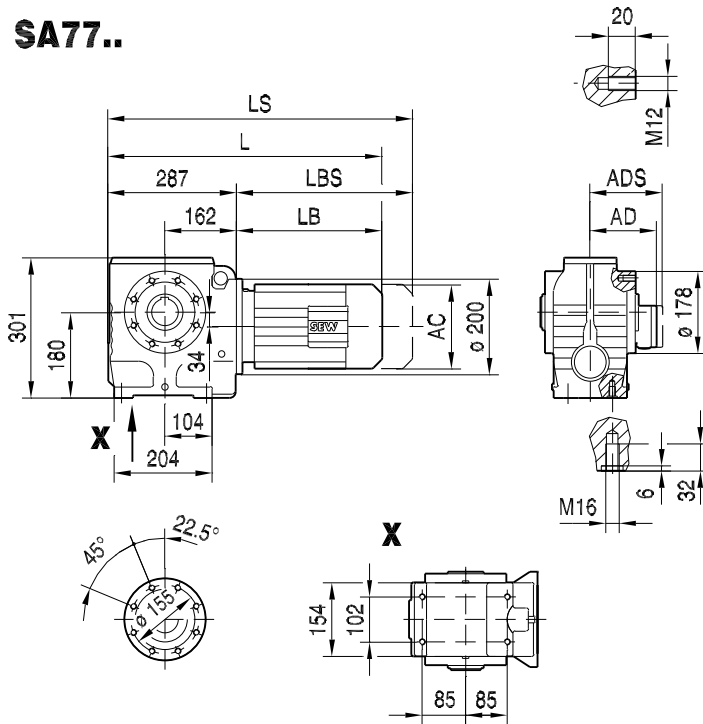
(→ 14)	DT80..	DT90..	DV100M	DV100L	DV112M	DV132S	DV132M	DV132ML			
AC	145	197	197	197	221	221	275	275			
AD	122	154	166	166	179	179	230	230			
ADS	127	161	166	166	182	182	230	230			
L	530	548	598	628	632	677	699	759			
LS	594	633	683	713	712	757	811	871			
LB	243	261	311	341	345	390	412	472			
LBS	307	346	396	426	425	470	524	584			



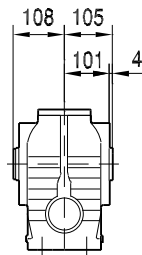
**Helical-Worm Gearmotors**  
Dimension sheets [mm]

28 005 03 00

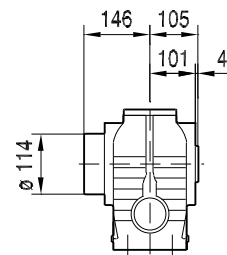
**SA77..**



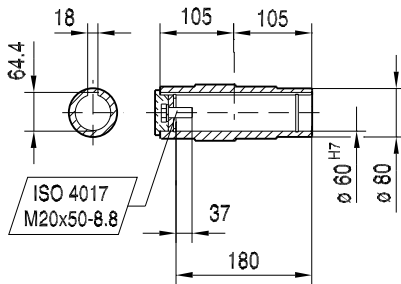
**SA77..**



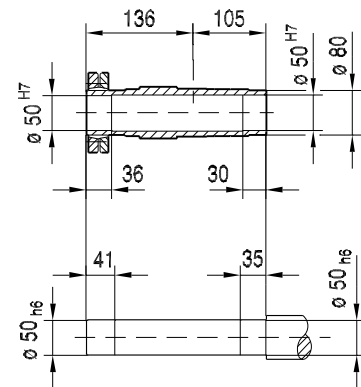
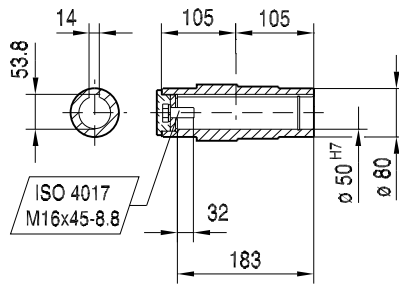
**SH77..**



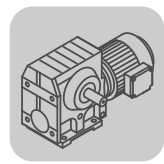
**∅ 60 H7**



**∅ 50 H7**

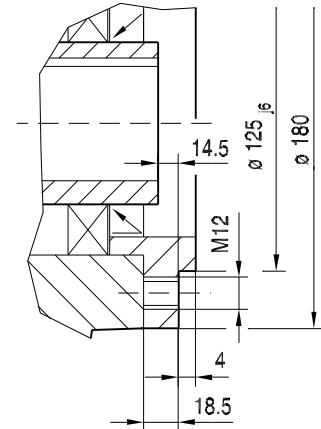
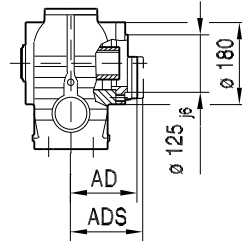
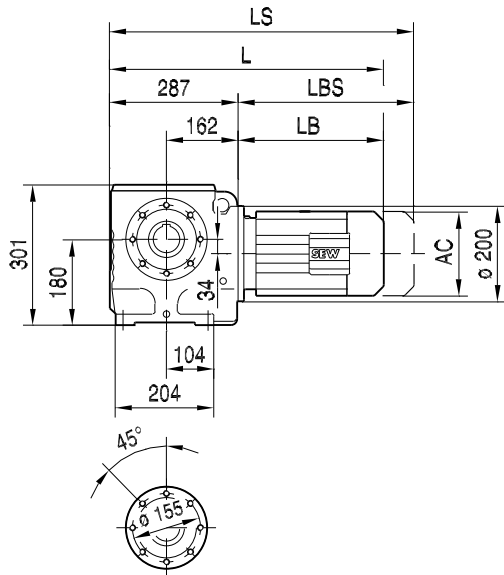


(→ 14)	DT80..	DT90..	DV100M	DV100L	DV112M	DV132S	DV132M	DV132ML			
AC	145	197	197	197	221	221	275	275			
AD	122	154	166	166	179	179	230	230			
ADS	127	161	166	166	182	182	230	230			
L	530	548	598	628	632	677	699	759			
LS	594	633	683	713	712	757	811	871			
LB	243	261	311	341	345	390	412	472			
LBS	307	346	396	426	425	470	524	584			



28 011 03 00

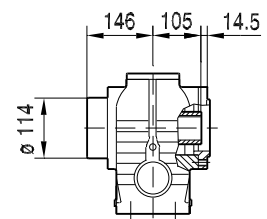
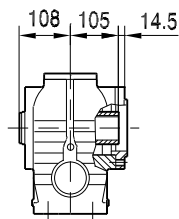
**SAZ77..**



6

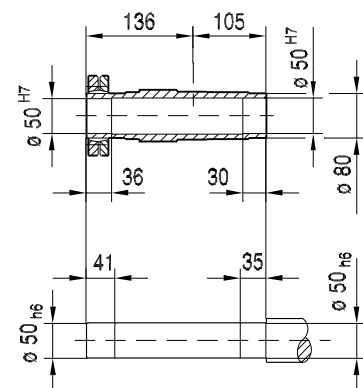
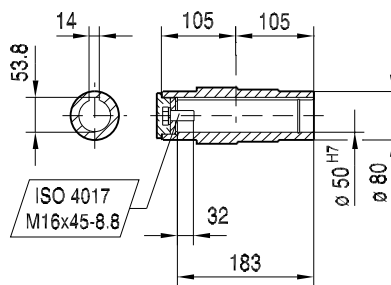
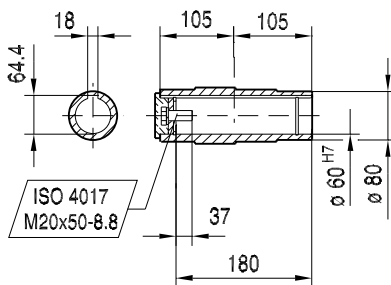
**SAZ77..**

**SHZ77..**

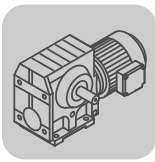


**ø 60 H7**

**ø 50 H7**

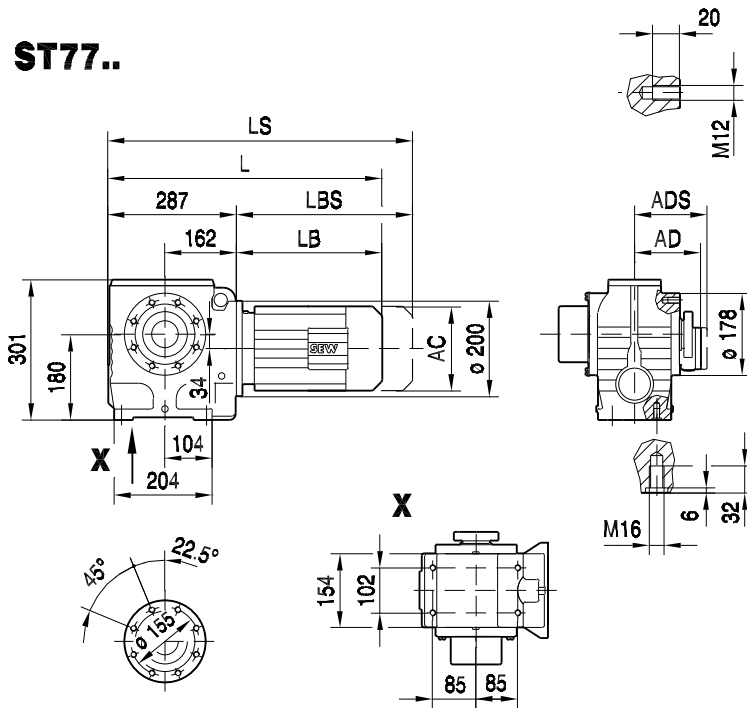


(→ 14)	DT80..	DT90..	DV100M	DV100L	DV112M	DV132S	DV132M	DV132ML			
AC	145	197	197	197	221	221	275	275			
AD	122	154	166	166	179	179	230	230			
ADS	127	161	166	166	182	182	230	230			
L	530	548	598	628	632	677	699	759			
LS	594	633	683	713	712	757	811	871			
LB	243	261	311	341	345	390	412	472			
LBS	307	346	396	426	425	470	524	584			

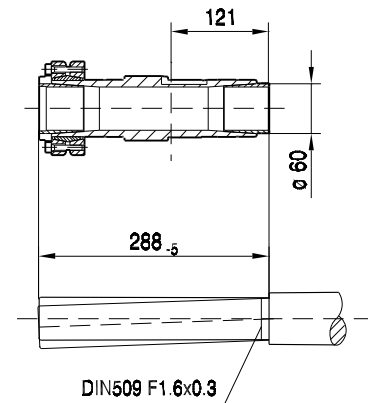
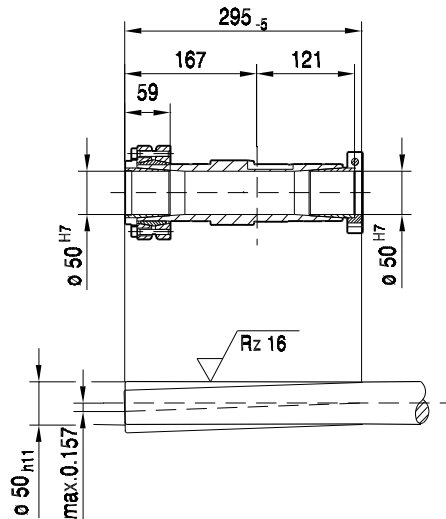
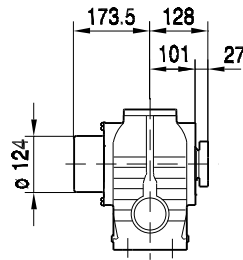
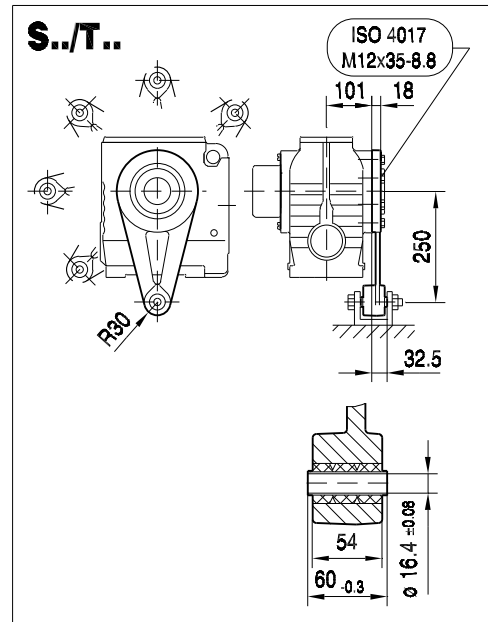


**Helical-Worm Gearmotors**  
Dimension sheets [mm]

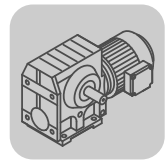
**ST77..**



02 009 01 03

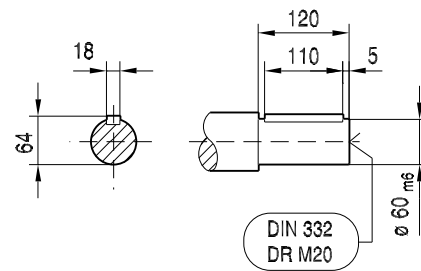
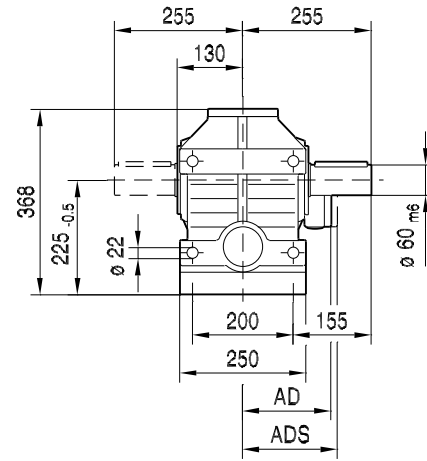
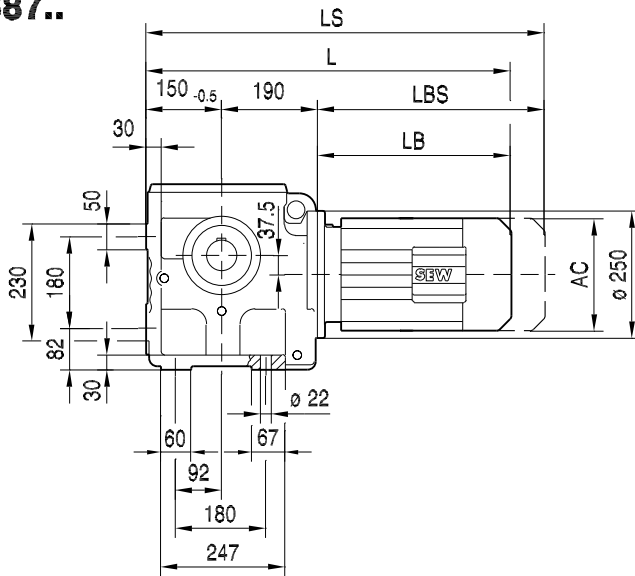


(→ 14)	DT80..	DT90..	DV100M	DV100L	DV112M	DV132S	DV132M	DV132ML			
AC	145	197	197	197	221	221	275	275			
AD	122	154	166	166	179	179	230	230			
ADS	127	161	166	166	182	182	230	230			
L	530	548	598	628	632	677	699	759			
LS	594	633	683	713	712	757	811	871			
LB	243	261	311	341	345	390	412	472			
LBS	307	346	396	426	425	470	524	584			



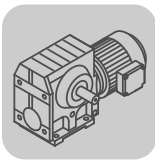
05 012 03 00

S87..



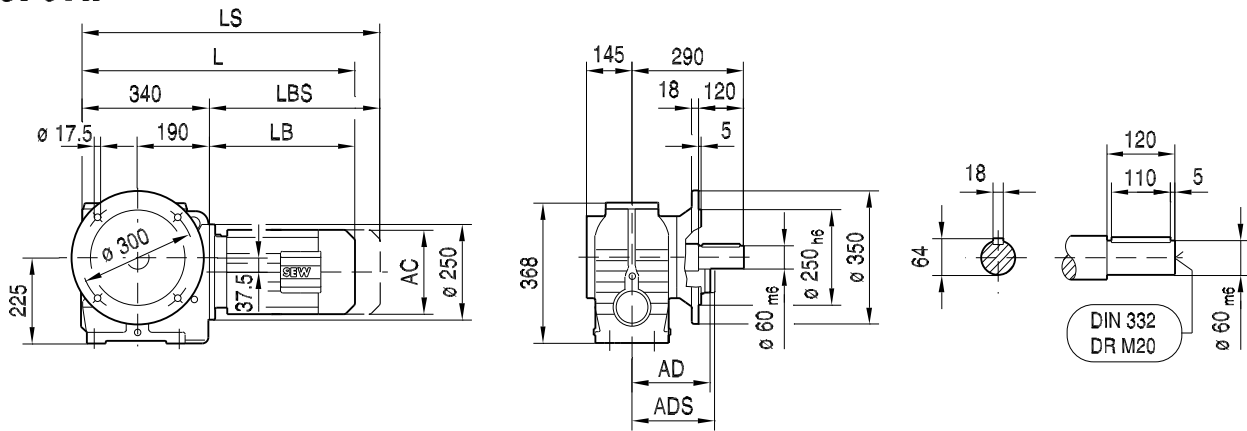
6

(→ 14)	DT80..	DT90..	DV100M	DV100L	DV112M	DV132S	DV132M	DV132ML	DV160M	DV160L	
AC	145	197	197	197	221	221	275	275	275	331	
AD	122	154	166	166	179	179	230	230	230	258	
ADS	127	161	166	166	182	182	230	230	230	258	
L	578	597	647	677	680	725	747	807	807	854	
LS	642	682	732	762	760	805	859	919	919	1010	
LB	238	257	307	337	340	385	407	467	467	514	
LBS	302	342	392	422	420	465	519	579	579	670	

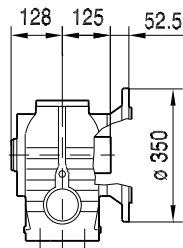


05 019 03 00

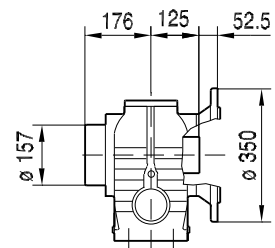
**SF87..**



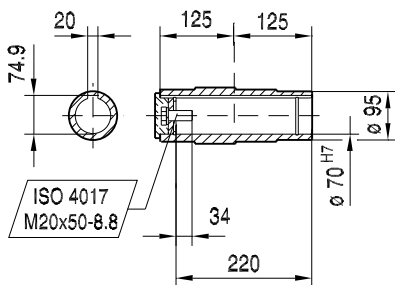
**SAF87..**



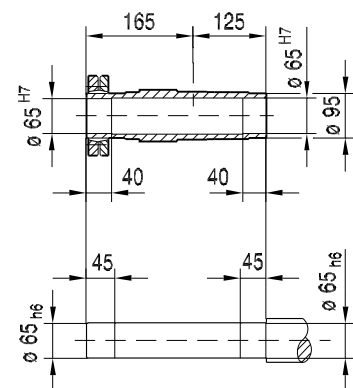
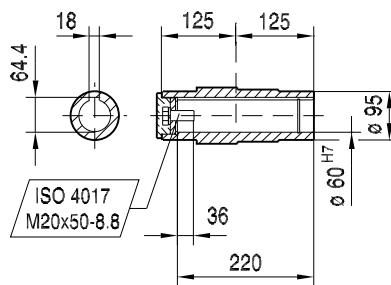
**SHF87..**



**$\phi 70\text{ H7}$**

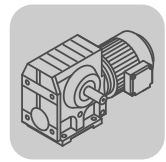


**$\phi 60\text{ H7}$**



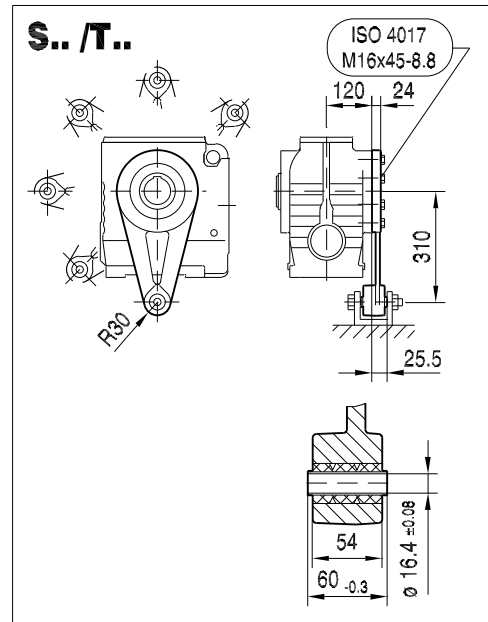
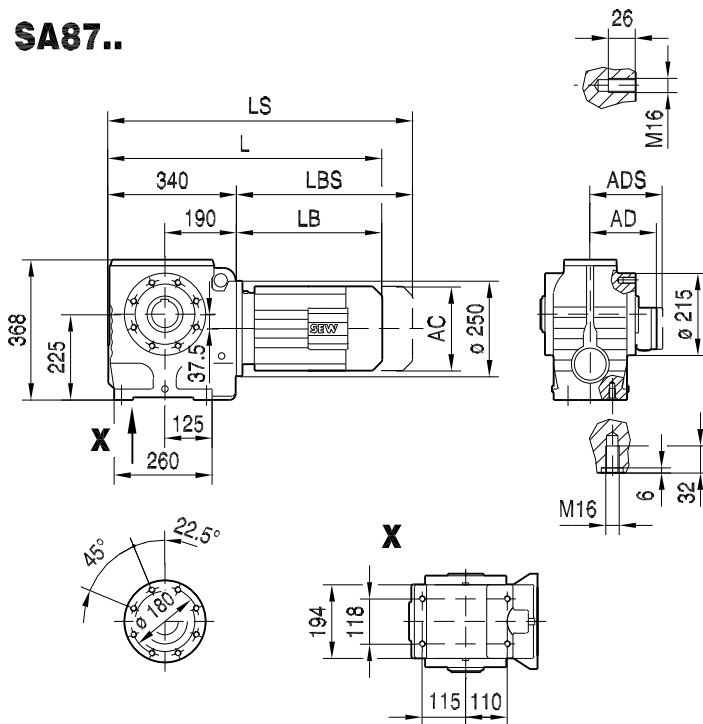
(→ 14)	DT80..	DT90..	DV100M	DV100L	DV112M	DV132S	DV132M	DV132ML	DV160M	DV160L	
AC	145	197	197	197	221	221	275	275	275	331	
AD	122	154	166	166	179	179	230	230	230	258	
ADS	127	161	166	166	182	182	230	230	230	258	
L	578	597	647	677	680	725	747	807	807	854	
LS	642	682	732	762	760	805	859	919	919	1010	
LB	238	257	307	337	340	385	407	467	467	514	
LBS	302	342	392	422	420	465	519	579	579	670	



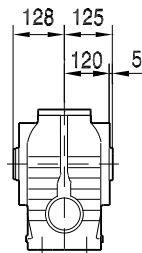


SA87..

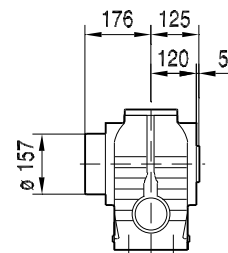
28 006 03 00



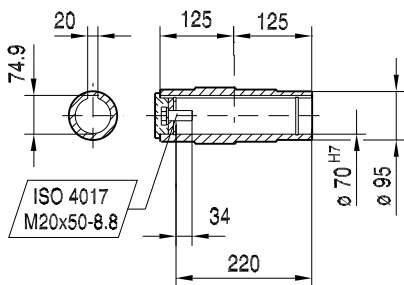
SA87..



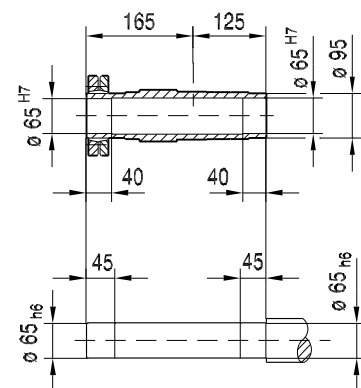
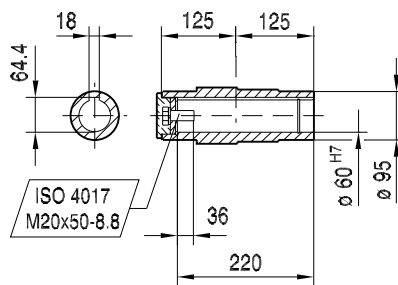
SH87..



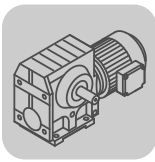
$\phi 70 H7$



$\phi 60 H7$



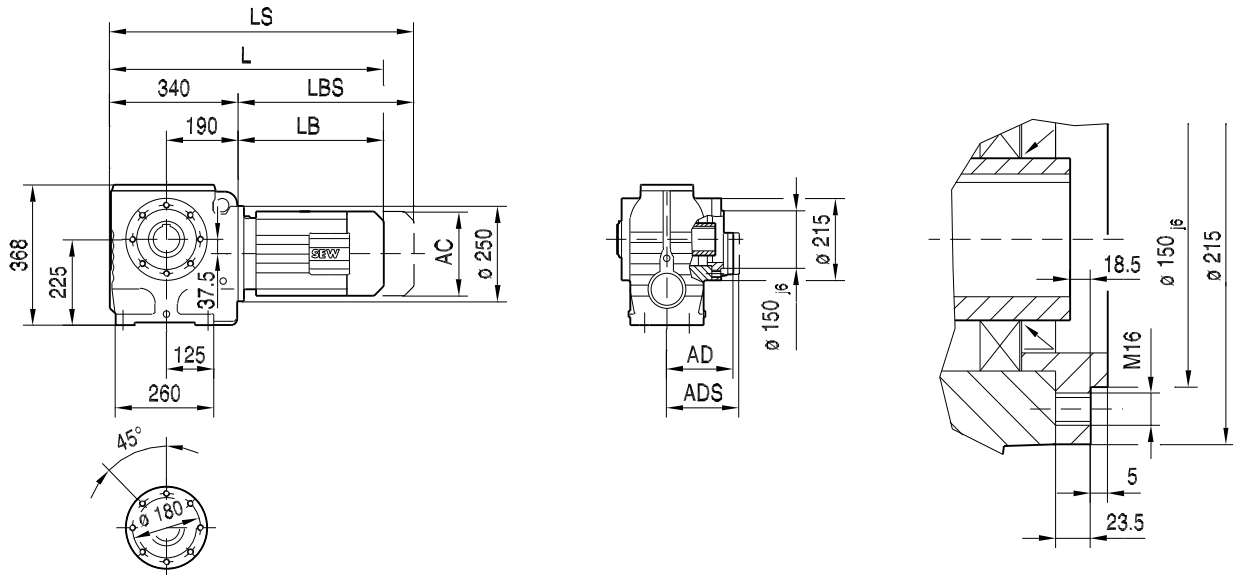
(→ 14)	DT80..	DT90..	DV100M	DV100L	DV112M	DV132S	DV132M	DV132ML	DV160M	DV160L
AC	145	197	197	197	221	221	275	275	275	331
AD	122	154	166	166	179	179	230	230	230	258
ADS	127	161	166	166	182	182	230	230	230	258
L	578	597	647	677	680	725	747	807	807	854
LS	642	682	732	762	760	805	859	919	919	1010
LB	238	257	307	337	340	385	407	467	467	514
LBS	302	342	392	422	420	465	519	579	579	670



**Helical-Worm Gearmotors**  
Dimension sheets [mm]

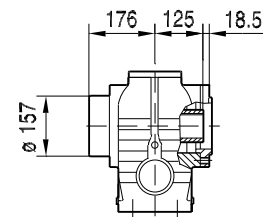
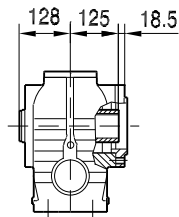
28 012 03 00

**SAZ87..**



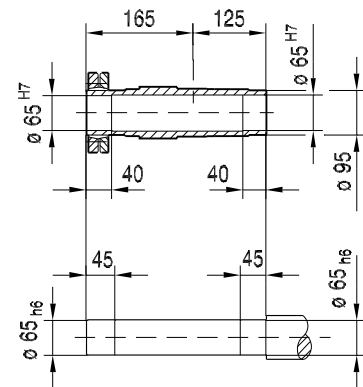
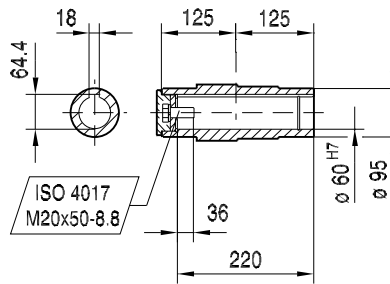
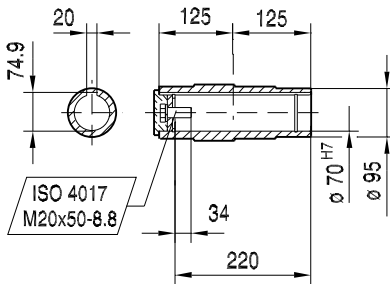
**SAZ87..**

**SHZ87..**

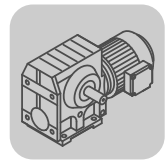


**ø 70 H7**

**ø 60 H7**

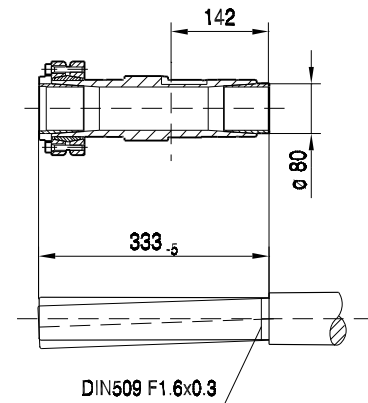
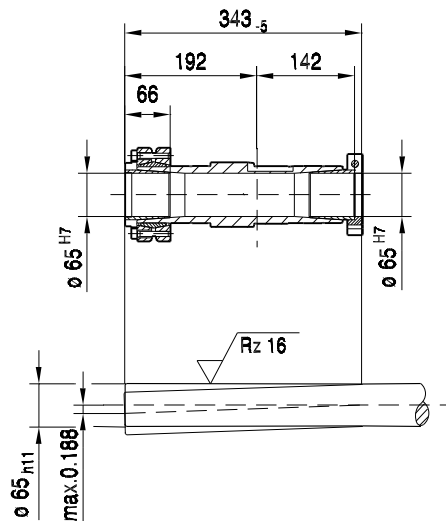
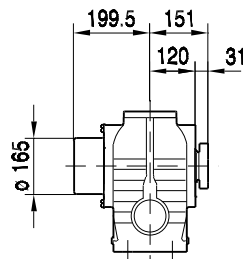
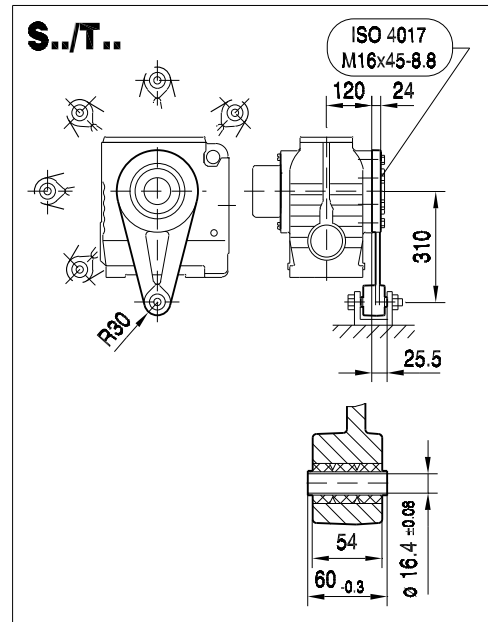
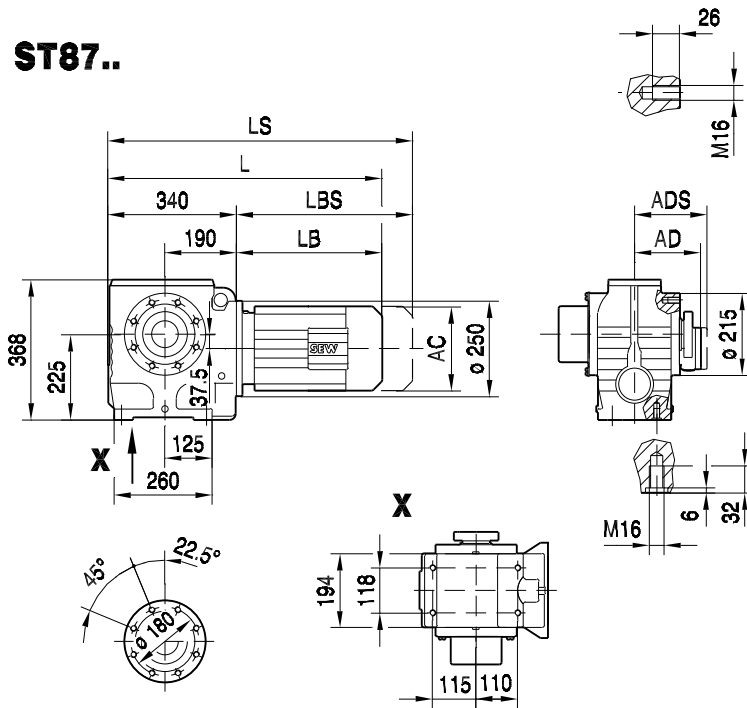


(→ 14)	DT80..	DT90..	DV100M	DV100L	DV112M	DV132S	DV132M	DV132ML	DV160M	DV160L	
AC	145	197	197	197	221	221	275	275	275	331	
AD	122	154	166	166	179	179	230	230	230	258	
ADS	127	161	166	166	182	182	230	230	230	258	
L	578	597	647	677	680	725	747	807	807	854	
LS	642	682	732	762	760	805	859	919	919	1010	
LB	238	257	307	337	340	385	407	467	467	514	
LBS	302	342	392	422	420	465	519	579	579	670	

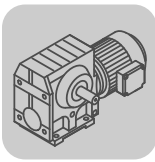


**ST87..**

02 010 01 03



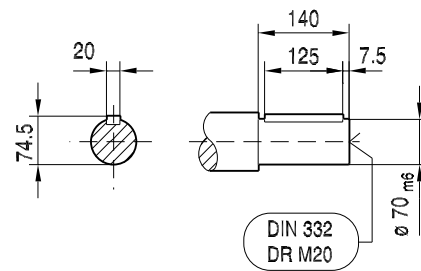
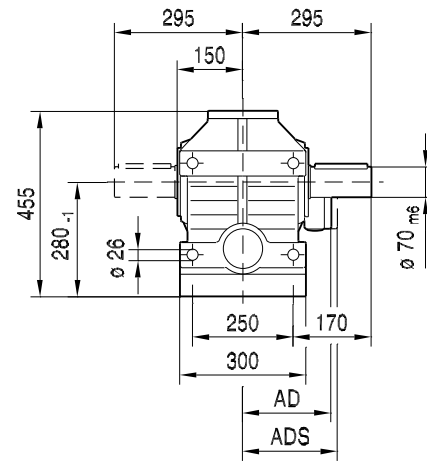
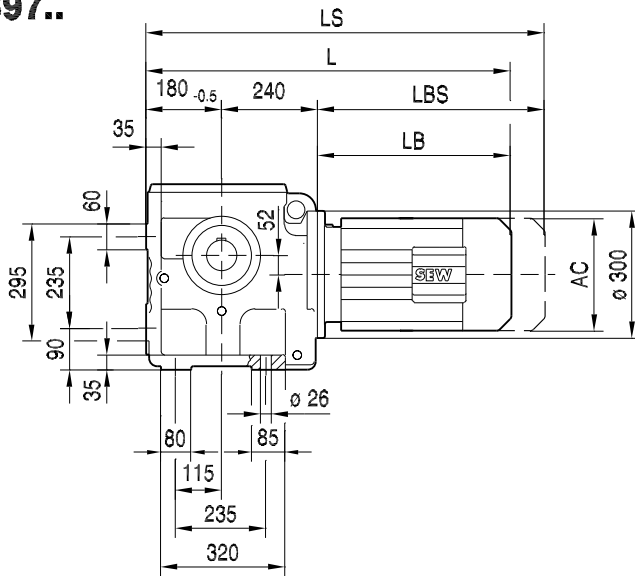
(→ 14)	DT80..	DT90..	DV100M	DV100L	DV112M	DV132S	DV132M	DV132ML	DV160M	DV160L
AC	145	197	197	197	221	221	275	275	275	331
AD	122	154	166	166	179	179	230	230	230	258
ADS	127	161	166	166	182	182	230	230	230	258
L	578	597	647	677	680	725	747	807	807	854
LS	642	682	732	762	760	805	859	919	919	1010
LB	238	257	307	337	340	385	407	467	467	514
LBS	302	342	392	422	420	465	519	579	579	670



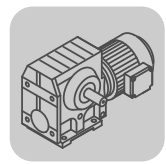
**Helical-Worm Gearmotors**  
Dimension sheets [mm]

05 013 03 00

**S97..**

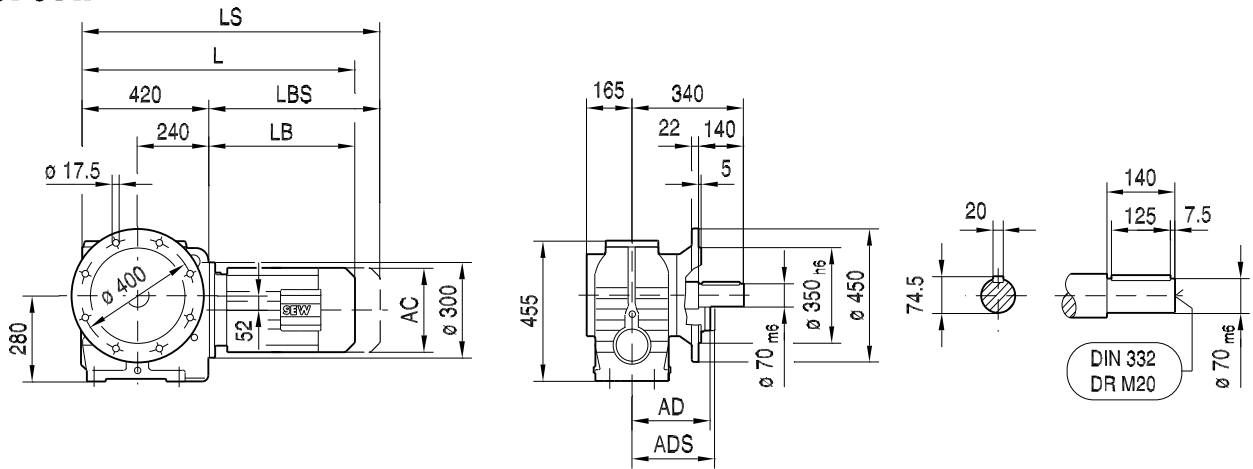


(→ 14)	DT90..	DV100M	DV100L	DV112M	DV132S	DV132M	DV132ML	DV160M	DV160L	DV180..
AC	197	197	197	221	221	275	275	275	331	331
AD	154	166	166	179	179	230	230	230	258	258
ADS	161	166	166	182	182	230	230	230	258	258
L	671	721	751	755	800	822	882	882	929	1001
LS	756	806	836	835	880	934	994	994	1085	1157
LB	251	301	331	335	380	402	462	462	509	581
LBS	336	386	416	415	460	514	574	574	665	737



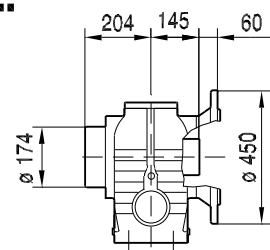
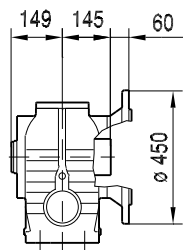
SF97..

05 020 03 00



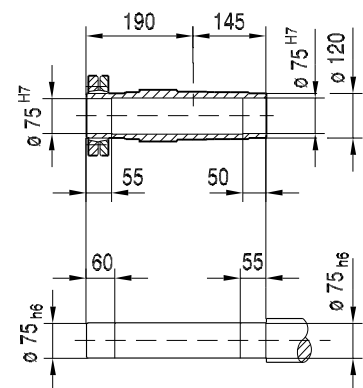
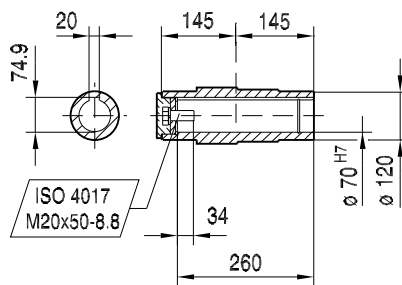
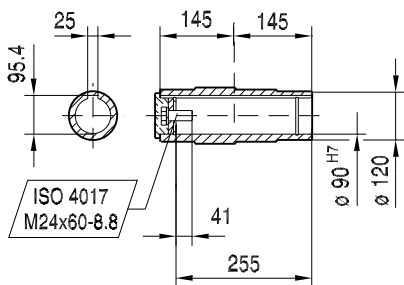
SAF97..

SHF97..



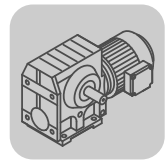
$\phi 90_{H7}$

$\phi 70_{H7}$



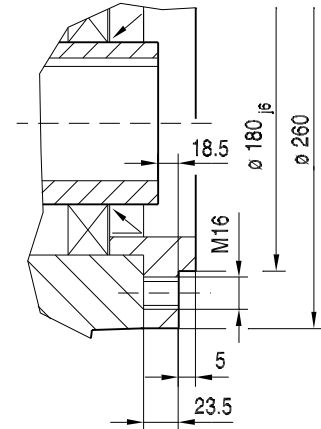
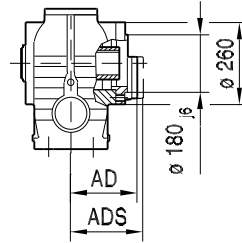
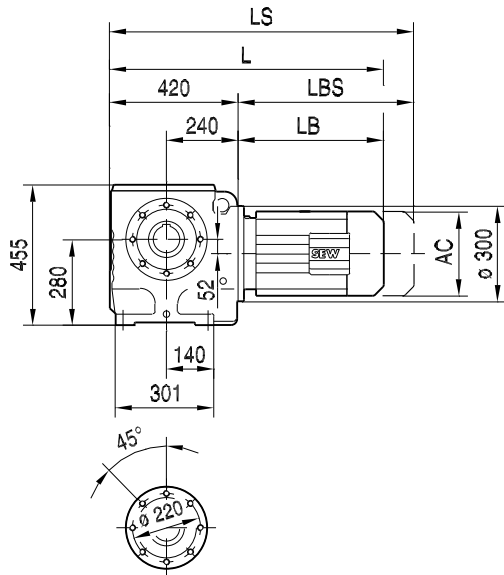
(→ 14)	DT90..	DV100M	DV100L	DV112M	DV132S	DV132M	DV132ML	DV160M	DV160L	DV180..
AC	197	197	197	221	221	275	275	275	331	331
AD	154	166	166	179	179	230	230	230	258	258
ADS	161	166	166	182	182	230	230	230	258	258
L	671	721	751	755	800	822	882	882	929	1001
LS	756	806	836	835	880	934	994	994	1085	1157
LB	251	301	331	335	380	402	462	462	509	581
LBS	336	386	416	415	460	514	574	574	665	737





28 013 03 00

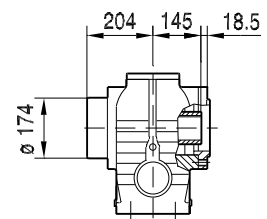
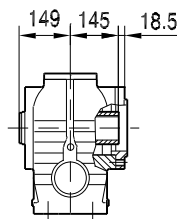
SAZ97..



6

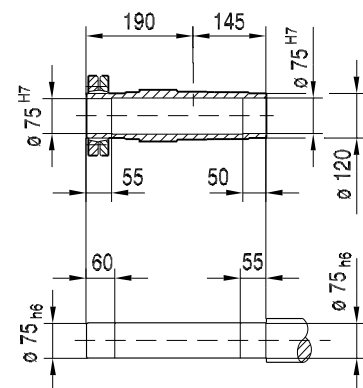
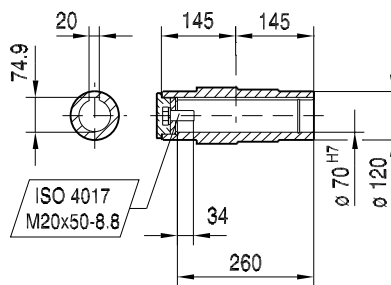
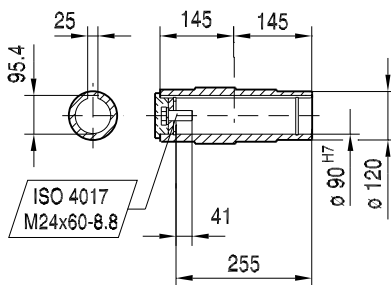
SAZ97..

SHZ97..

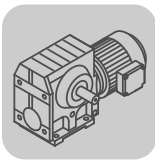


∅ 90 H7

∅ 70 H7

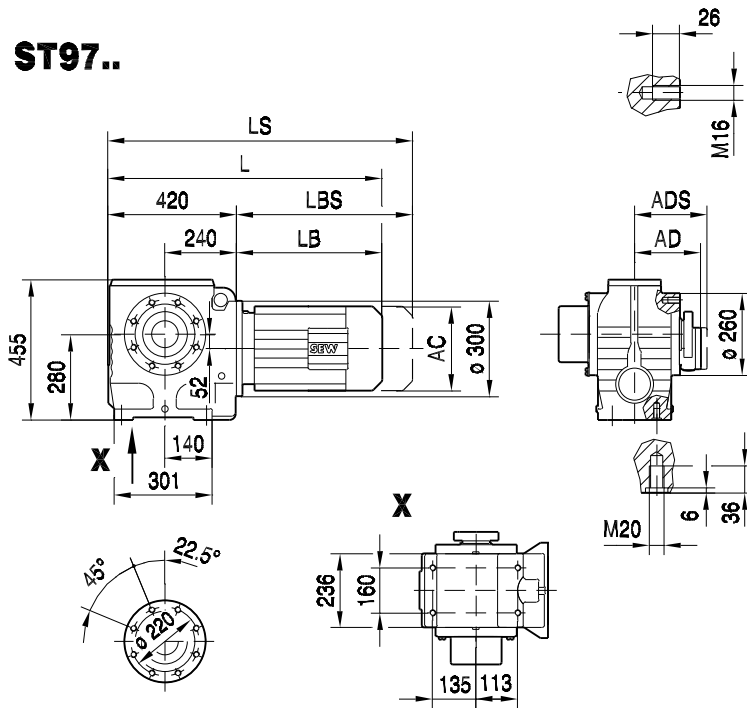


(→ 14)	DT90..	DV100M	DV100L	DV112M	DV132S	DV132M	DV132ML	DV160M	DV160L	DV180..
AC	197	197	197	221	221	275	275	275	331	331
AD	154	166	166	179	179	230	230	230	258	258
ADS	161	166	166	182	182	230	230	230	258	258
L	671	721	751	755	800	822	882	882	929	1001
LS	756	806	836	835	880	934	994	994	1085	1157
LB	251	301	331	335	380	402	462	462	509	581
LBS	336	386	416	415	460	514	574	574	665	737

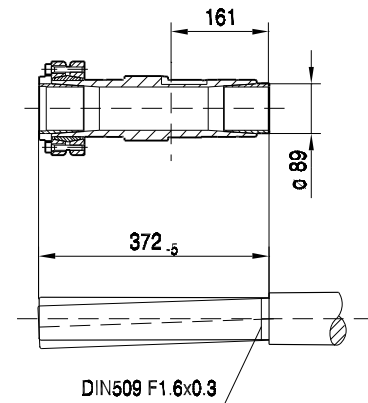
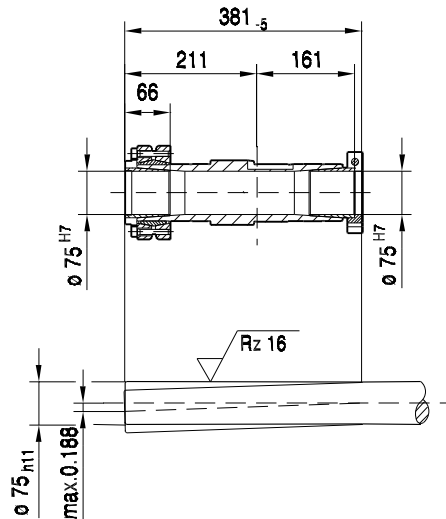
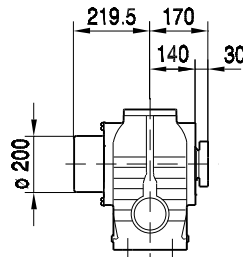
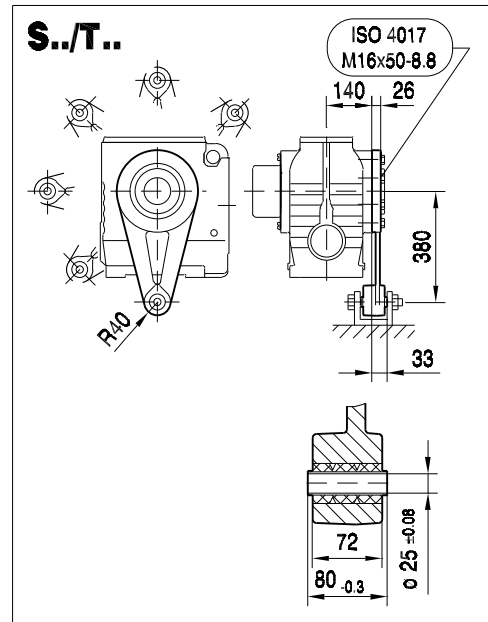


**Helical-Worm Gearmotors**  
Dimension sheets [mm]

**ST97..**

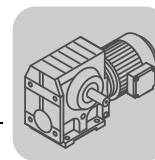


02 011 01 03

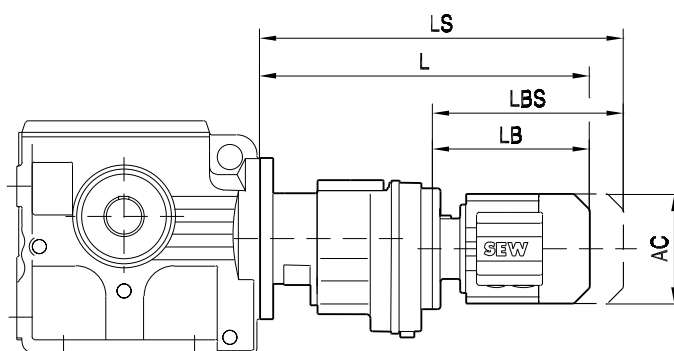


(→ 14)	DT90..	DV100M	DV100L	DV112M	DV132S	DV132M	DV132ML	DV160M	DV160L	DV180..
AC	197	197	197	221	221	275	275	275	331	331
AD	154	166	166	179	179	230	230	230	258	258
ADS	161	166	166	182	182	230	230	230	258	258
L	671	721	751	755	800	822	882	882	929	1001
LS	756	806	836	835	880	934	994	994	1085	1157
LB	251	301	331	335	380	402	462	462	509	581
LBS	336	386	416	415	460	514	574	574	665	737



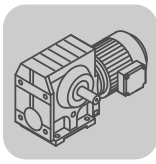


05 021 02 00



(→ 14)		AC	L	LS	LB	LBS
S..37R17	DR63..	132	324	379	149	204
	DT71D	145	339	403	164	228
	DT80..	145	389	453	214	278
S..47R17 S..57R17	DR63..	132	324	379	149	204
	DT71D	145	339	403	164	228
	DT80..	145	389	453	214	278
S..67R37	DR63..	132	356	411	191	246
	DT71D	145	371	435	206	270
	DT80..	145	421	485	256	320
S..77R37	DR63..	132	348	403	191	246
	DT71D	145	363	427	206	270
	DT80..	145	413	477	256	320
	DT90..	197	433	518	276	361
S..87R57	DR63..	132	401	456	185	240
	DT71D	145	415	479	199	263
	DT80..	145	465	529	249	313
	DT90..	197	485	570	269	354
	DV100M	197	535	620	319	404
	DV100L	197	565	650	349	434
S..97R57	DR63..	132	396	451	185	240
	DT71D	145	410	474	199	263
	DT80..	145	460	524	249	313
	DT90..	197	480	565	269	354
	DV100M	197	530	615	319	404
	DV100L	197	560	645	349	434
	DV112M	221	565	645	354	434

6



## Helical-Worm Gearmotors

### Technical data S, SF, SA, SAF 37

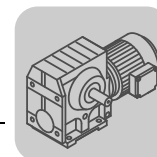
#### 6.6 Technical data S, SF, SA, SAF 37

3400 - 2800 1/min

02 955 097

$i_{ges}$	$i_{sch}$	$n_e = 3400 \text{ 1/min}$				$n_e = 3200 \text{ 1/min}$				$n_e = 2800 \text{ 1/min}$			
		$n_a$ [1/min]	$M_{amax}$ [Nm]	$P_e$ [kW]	$\eta$ [%]	$n_a$ [1/min]	$M_{amax}$ [Nm]	$P_e$ [kW]	$\eta$ [%]	$n_a$ [1/min]	$M_{amax}$ [Nm]	$P_e$ [kW]	$\eta$ [%]
157.43	38/1	22	78	0.31	57	20	80	0.30	57	18	82	0.27	57
144.40		24	76	0.33	58	22	78	0.31	58	19	80	0.28	57
122.94		28	74	0.37	58	26	75	0.35	58	23	78	0.32	58
106.00		32	71	0.41	59	30	72	0.39	59	26	76	0.36	59
98.80		34	70	0.43	59	32	72	0.41	59	28	75	0.38	59
86.36		39	68	0.47	60	37	69	0.45	60	32	72	0.41	60
80.96		42	66	0.49	60	40	68	0.47	60	35	72	0.43	60
71.44		48	55	0.47	58	45	64	0.50	60	39	70	0.47	61
63.33		54	37	0.41	51	51	51	0.47	57	44	67	0.51	61
53.83		63	29	0.39	49	59	32	0.40	50	52	53	0.49	59
55.93		61	70	0.58	77	57	71	0.56	76	50	72	0.50	76
51.30	27/2	66	68	0.61	77	62	70	0.60	77	55	72	0.54	76
43.68		78	66	0.70	77	73	67	0.67	77	64	70	0.61	77
37.66		90	64	0.78	78	85	65	0.74	78	74	68	0.68	78
35.10		97	62	0.81	78	91	64	0.78	78	80	66	0.71	78
30.68		111	61	0.90	78	104	62	0.87	78	91	64	0.78	78
28.76		118	58	0.92	78	111	61	0.91	78	97	64	0.83	78
25.38		134	47	0.86	77	126	53	0.90	78	110	62	0.91	79
22.50		151	31	0.69	71	142	43	0.84	76	124	57	0.94	79
19.13		178	24	0.65	69	167	27	0.67	70	146	44	0.87	77
19.89		171	42	0.88	86	161	43	0.85	86	141	44	0.76	86
18.24		186	41	0.93	86	175	42	0.90	86	154	44	0.83	86
15.53	24/5	219	39	1.0	86	206	40	1.0	86	180	42	0.92	86
13.39		254	37	1.1	86	239	39	1.1	86	209	41	1.0	86
12.48		272	37	1.2 *	86	256	38	1.2 *	86	224	40	1.1	86
10.91		312	35	1.3 *	86	293	36	1.3 *	86	257	39	1.2 *	87
10.23		332	35	1.4 *	87	313	36	1.4 *	87	274	38	1.3 *	87
9.02		377	31	1.4 *	86	355	34	1.5 *	87	310	36	1.3 *	87
8.00		425	20	1.1	82	400	29	1.4 *	86	350	35	1.5 *	87
6.80		500	16	1.0	81	471	18	1.1	82	412	29	1.4 *	86

\*  $P_{emax} = 1.1 \text{ kW}$



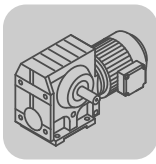
2200 - 1400 1/min

02 955 097

$i_{ges}$	$i_{sch}$	$n_e = 2200 \text{ 1/min}$				$n_e = 1700 \text{ 1/min}$				$n_e = 1400 \text{ 1/min}$			
		$n_a$ [1/min]	$M_{amax}$ [Nm]	$P_e$ [kW]	$\eta$ [%]	$n_a$ [1/min]	$M_{amax}$ [Nm]	$P_e$ [kW]	$\eta$ [%]	$n_a$ [1/min]	$M_{amax}$ [Nm]	$P_e$ [kW]	$\eta$ [%]
157.43	38/1	14	87	0.23	56	11	91	0.19	54	8.9	92	0.16	53
144.40		15	86	0.24	56	12	90	0.20	55	9.7	92	0.17	54
122.94		18	83	0.27	57	14	87	0.22	56	11	91	0.20	55
106.00		21	81	0.30	58	16	86	0.25	57	13	88	0.22	56
98.80		22	80	0.32	58	17	85	0.27	57	14	87	0.23	56
86.36		25	78	0.35	59	20	82	0.29	58	16	86	0.25	57
80.96		27	77	0.37	60	21	82	0.31	59	17	85	0.27	58
71.44		31	75	0.40	60	24	80	0.33	60	20	84	0.29	59
63.33		35	73	0.44	61	27	79	0.37	60	22	82	0.32	60
53.83		41	69	0.48	62	32	76	0.41	61	26	80	0.36	61
55.93	27/2	39	77	0.42	75	30	81	0.35	74	25	81	0.29	73
51.30		43	76	0.45	76	33	80	0.37	75	27	81	0.31	74
43.68		50	74	0.51	76	39	78	0.42	76	32	81	0.36	75
37.66		58	72	0.57	77	45	76	0.47	76	37	79	0.41	76
35.10		63	71	0.60	77	48	75	0.50	77	40	78	0.43	76
30.68		72	70	0.67	78	55	73	0.55	77	46	76	0.47	76
28.76		76	68	0.70	78	59	73	0.58	77	49	75	0.50	77
25.38		87	67	0.77	79	67	71	0.64	78	55	74	0.55	77
22.50		98	66	0.85	79	76	70	0.70	79	62	73	0.61	78
19.13		115	63	0.95	80	89	68	0.80	79	73	71	0.69	79
19.89	24/5	111	48	0.65	85	85	50	0.53	85	70	52	0.46	84
18.24		121	47	0.70	85	93	49	0.56	85	77	52	0.50	84
15.53		142	45	0.78	86	109	48	0.64	85	90	50	0.56	85
13.39		164	44	0.88	86	127	47	0.73	86	105	49	0.63	85
12.48		176	43	0.92	86	136	46	0.76	86	112	48	0.66	86
10.91		202	42	1.0	87	156	45	0.85	86	128	48	0.75	86
10.23		215	41	1.1	87	166	45	0.90	87	137	47	0.78	86
9.02		244	40	1.2 *	87	188	43	0.98	87	155	46	0.86	87
8.00		275	39	1.3 *	87	213	43	1.1	87	175	45	0.95	87
6.80		324	37	1.4 *	88	250	41	1.2 *	88	206	43	1.1	87

\*  $P_{emax} = 1.1 \text{ kW}$

6



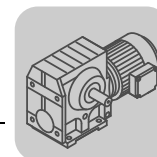
## Helical-Worm Gearmotors

Technical data S, SF, SA, SAF 37

1100 - 700 1/min

02 956 097

$i_{ges}$	$i_{sch}$	$n_e = 1100 \text{ 1/min}$				$n_e = 900 \text{ 1/min}$				$n_e = 700 \text{ 1/min}$			
		$n_a$ [1/min]	$M_{amax}$ [Nm]	$P_e$ [kW]	$\eta$ [%]	$n_a$ [1/min]	$M_{amax}$ [Nm]	$P_e$ [kW]	$\eta$ [%]	$n_a$ [1/min]	$M_{amax}$ [Nm]	$P_e$ [kW]	$\eta$ [%]
157.43	38/1	7.0	92	0.13	52	5.7	92	0.11	50	4.4	92	0.09	49
144.40		7.6	92	0.14	52	6.2	92	0.12	51	4.8	92	0.09	50
122.94		8.9	92	0.16	54	7.3	92	0.14	52	5.7	92	0.11	51
106.00		10	92	0.18	55	8.5	92	0.15	53	6.6	92	0.12	52
98.80		11	92	0.19	55	9.1	92	0.16	54	7.1	92	0.13	52
86.36		13	90	0.21	56	10	92	0.18	55	8.1	92	0.15	53
80.96		14	89	0.22	57	11	92	0.19	55	8.6	92	0.16	54
71.44		15	87	0.24	57	13	91	0.21	56	9.8	92	0.17	55
63.33		17	86	0.27	58	14	89	0.23	57	11	92	0.19	56
53.83		20	84	0.30	60	17	87	0.26	58	13	91	0.22	57
55.93	27/2	20	87	0.25	72	16	91	0.21	71	13	92	0.17	70
51.30		21	87	0.27	73	18	90	0.23	72	14	92	0.19	71
43.68		25	84	0.30	74	21	87	0.26	73	16	92	0.22	71
37.66		29	82	0.34	75	24	86	0.29	74	19	89	0.24	72
35.10		31	82	0.36	75	26	84	0.31	74	20	88	0.25	73
30.68		36	80	0.40	76	29	82	0.34	75	23	87	0.28	74
28.76		38	79	0.42	76	31	82	0.36	75	24	86	0.30	74
25.38		43	78	0.46	77	35	81	0.40	76	28	84	0.33	75
22.50		49	77	0.51	77	40	79	0.43	76	31	82	0.36	75
19.13		58	75	0.58	78	47	78	0.50	77	37	81	0.41	76
19.89	24/5	55	55	0.38	83	45	58	0.33	83	35	60	0.27	82
18.24		60	54	0.41	84	49	56	0.35	83	38	60	0.29	82
15.53		71	53	0.47	84	58	55	0.40	84	45	58	0.33	83
13.39		82	52	0.53	85	67	54	0.45	84	52	56	0.37	83
12.48		88	51	0.55	85	72	53	0.47	84	56	55	0.39	84
10.91		101	50	0.62	86	82	52	0.53	85	64	54	0.43	84
10.23		108	49	0.64	86	88	51	0.55	85	68	54	0.46	84
9.02		122	48	0.71	86	100	50	0.61	86	78	53	0.51	85
8.00		138	47	0.78	87	113	49	0.67	86	88	52	0.56	85
6.80		162	46	0.90	87	132	48	0.77	87	103	51	0.64	86

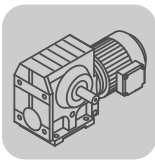


500 - 10 1/min

02 956 097

i <sub>ges</sub>	i <sub>sch</sub>	n <sub>e</sub> = 500 1/min				n <sub>e</sub> = 250 1/min				n <sub>e</sub> = 10 1/min			
		n <sub>a</sub> [1/min]	M <sub>amax</sub> [Nm]	P <sub>e</sub> [kW]	η [%]	n <sub>a</sub> [1/min]	M <sub>amax</sub> [Nm]	P <sub>e</sub> [kW]	η [%]	n <sub>a</sub> [1/min]	M <sub>amax</sub> [Nm]	P <sub>e</sub> [kW]	η [%]
157.43	38/1	3.2	92	0.06	47	1.6	92	0.033	46	0.06	92	< 0.05	26
144.40		3.5	92	0.07	48	1.7	92	0.036	46	0.07	92	< 0.05	27
122.94		4.1	92	0.08	49	2.0	92	0.042	46	0.08	92	< 0.05	29
106.00		4.7	92	0.09	50	2.4	92	0.049	47	0.09	92	< 0.05	30
98.80		5.1	92	0.10	50	2.5	92	0.05	47	0.10	92	< 0.05	31
86.36		5.8	92	0.11	51	2.9	92	0.06	47	0.12	92	< 0.05	32
80.96		6.2	92	0.12	51	3.1	92	0.06	47	0.12	92	< 0.05	33
71.44		7.0	92	0.13	52	3.5	92	0.07	48	0.14	92	< 0.05	35
63.33		7.9	92	0.14	53	3.9	92	0.08	49	0.16	92	< 0.05	37
53.83		9.3	92	0.16	55	4.6	92	0.09	50	0.19	92	< 0.05	39
55.93	27/2	8.9	92	0.13	69	4.5	92	0.06	67	0.18	92	< 0.05	48
51.30		9.7	92	0.14	69	4.9	92	0.07	67	0.19	92	< 0.05	49
43.68		11	92	0.16	70	5.7	92	0.08	67	0.23	92	< 0.05	51
37.66		13	92	0.18	71	6.6	92	0.10	67	0.27	92	< 0.05	53
35.10		14	92	0.19	71	7.1	92	0.10	68	0.28	92	< 0.05	54
30.68		16	92	0.22	72	8.1	92	0.11	68	0.33	92	< 0.05	56
28.76		17	91	0.23	72	8.7	92	0.12	69	0.35	92	< 0.05	57
25.38		20	89	0.25	73	9.9	92	0.14	69	0.39	92	< 0.05	59
22.50		22	87	0.28	74	11	92	0.15	70	0.44	92	< 0.05	61
19.13		26	85	0.31	75	13	92	0.18	71	0.52	92	< 0.05	62
19.89	24/5	25	68	0.22	81	13	72	0.12	79	0.50	72	< 0.05	65
18.24		27	66	0.23	81	14	72	0.13	79	0.55	72	< 0.05	66
15.53		32	63	0.26	82	16	72	0.15	79	0.64	72	< 0.05	68
13.39		37	61	0.29	82	19	72	0.18	80	0.75	72	< 0.05	71
12.48		40	59	0.30	82	20	72	0.19	80	0.80	72	< 0.05	72
10.91		46	58	0.34	83	23	71	0.21	81	0.92	71	< 0.05	73
10.23		49	57	0.35	83	24	70	0.22	81	0.98	70	< 0.05	73
9.02		55	56	0.39	84	28	66	0.24	81	1.1	66	< 0.05	74
8.00		63	55	0.43	84	31	63	0.25	82	1.2	63	< 0.05	74
6.80		74	54	0.49	85	37	61	0.29	82	1.5	61	< 0.05	75

6



## Helical-Worm Gearmotors

### Technical data S, SF, SA, SAF 47

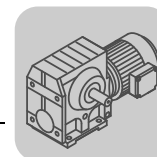
#### 6.7 Technical data S, SF, SA, SAF 47

3400 - 2800 1/min

02 957 097

$i_{ges}$	$i_{sch}$	$n_e = 3400 \text{ 1/min}$				$n_e = 3200 \text{ 1/min}$				$n_e = 2800 \text{ 1/min}$			
		$n_a$ [1/min]	$M_{amax}$ [Nm]	$P_e$ [kW]	$\eta$ [%]	$n_a$ [1/min]	$M_{amax}$ [Nm]	$P_e$ [kW]	$\eta$ [%]	$n_a$ [1/min]	$M_{amax}$ [Nm]	$P_e$ [kW]	$\eta$ [%]
201.00	42/1	17	150	0.44	60	16	150	0.42	60	14	150	0.37	59
184.80		18	150	0.48	60	17	150	0.45	60	15	150	0.40	59
158.12		22	150	0.55	61	20	150	0.52	61	18	150	0.46	60
137.05		25	150	0.63	62	23	150	0.59	62	20	150	0.52	61
128.10		27	150	0.67	63	25	150	0.63	62	22	150	0.56	62
110.73		31	138	0.70	63	29	148	0.71	63	25	150	0.63	63
94.08		36	113	0.69	62	34	123	0.70	63	30	146	0.72	63
84.00		40	95	0.66	61	38	107	0.69	62	33	130	0.71	63
71.75		47	58	0.55	53	45	82	0.64	60	39	107	0.70	63
67.20		51	53	0.54	52	48	68	0.60	57	42	99	0.69	62
56.61		60	40	0.51	49	57	46	0.53	51	49	75	0.65	60
69.39		49	140	0.91	79	46	140	0.86	78	40	140	0.76	78
63.80	53	140	0.99	79	50	140	0.93	79	44	140	0.82	78	
54.59	62	140	1.1	80	59	140	1.1	79	51	140	0.95	79	
47.32	72	139	1.3	80	68	140	1.2	80	59	140	1.1	80	
44.22	77	129	1.3	80	72	139	1.3	80	63	140	1.2	80	
38.23	29/2	89	112	1.3	80	84	120	1.3	80	73	139	1.3	80
32.48		105	91	1.3	79	99	100	1.3	80	86	117	1.3	80
29.00		117	76	1.2	78	110	86	1.3	79	97	104	1.3	80
24.77		137	47	0.94	72	129	66	1.2	77	113	87	1.3	80
23.20	147	42	0.90	71	138	54	1.0	75	121	79	1.3	79	
19.54	174	32	0.84	69	164	37	0.89	71	143	59	1.1	77	
20.33	167	100	2.0 *	88	157	100	1.9 *	88	138	100	1.6 *	88	
17.62	193	97	2.2 *	88	182	100	2.2 *	88	159	100	1.9 *	88	
16.47	206	90	2.2 *	88	194	97	2.2 *	88	170	100	2.0 *	88	
14.24	239	78	2.2 *	88	225	83	2.2 *	88	197	97	2.3 *	88	
12.10	27/5	281	63	2.1 *	88	264	69	2.2 *	88	231	82	2.2 *	88
10.80		315	53	2.0 *	87	296	60	2.1 *	88	259	72	2.2 *	88
9.23		368	32	1.5	83	347	45	1.9 *	86	303	60	2.2 *	88
8.64		394	29	1.5	82	370	37	1.7 *	85	324	55	2.1 *	88
7.28	467	22	1.3	81	440	25	1.4	82	385	41	1.9 *	86	

\*  $P_{emax} = 1.5 \text{ kW}$



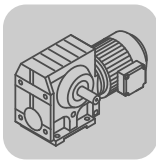
2200 - 1400 1/min

02 957 097

$i_{ges}$	$i_{sch}$	$n_e = 2200 \text{ 1/min}$				$n_e = 1700 \text{ 1/min}$				$n_e = 1400 \text{ 1/min}$			
		$n_a$ [1/min]	$M_{amax}$ [Nm]	$P_e$ [kW]	$\eta$ [%]	$n_a$ [1/min]	$M_{amax}$ [Nm]	$P_e$ [kW]	$\eta$ [%]	$n_a$ [1/min]	$M_{amax}$ [Nm]	$P_e$ [kW]	$\eta$ [%]
201.00	42/1	11	167	0.33	58	8.5	170	0.27	56	7.0	170	0.23	55
184.80		12	167	0.36	58	9.2	168	0.29	57	7.6	170	0.24	56
158.12		14	167	0.41	60	11	168	0.33	58	8.9	170	0.28	57
137.05		16	165	0.46	60	12	167	0.37	59	10	168	0.31	58
128.10		17	165	0.49	61	13	167	0.39	59	11	168	0.33	58
110.73		20	165	0.55	62	15	167	0.44	61	13	168	0.38	59
94.08		23	165	0.64	63	18	167	0.51	62	15	168	0.43	60
84.00		26	162	0.70	64	20	167	0.57	62	17	167	0.48	61
71.75		31	145	0.73	64	24	167	0.65	63	20	167	0.55	62
67.20		33	137	0.73	64	25	164	0.68	64	21	167	0.58	63
56.61		39	115	0.73	64	30	152	0.74	65	25	165	0.67	64
69.39		32	155	0.67	77	24	155	0.52	76	20	155	0.44	75
63.80	34	155	0.72	77	27	155	0.57	76	22	155	0.47	75	
54.59	40	155	0.84	78	31	155	0.66	77	26	155	0.55	76	
47.32	46	155	0.96	79	36	155	0.75	78	30	155	0.63	77	
44.22	50	155	1.0	79	38	155	0.80	78	32	155	0.67	77	
38.23	29/2	58	154	1.2	80	44	155	0.92	79	37	155	0.76	78
32.48		68	146	1.3	80	52	155	1.1	80	43	155	0.89	79
29.00	76	137	1.3	81	59	154	1.2	80	48	155	0.99	79	
24.77	89	117	1.3	81	69	145	1.3	81	57	155	1.1	80	
23.20	95	111	1.4	81	73	142	1.3	81	60	152	1.2	80	
19.54	113	92	1.3	81	87	123	1.4	81	72	144	1.3	81	
20.33	108	109	1.4	87	84	110	1.1	87	69	110	0.92	86	
17.62	125	108	1.6 *	88	96	109	1.3	87	79	110	1.1	86	
16.47	134	108	1.7 *	88	103	109	1.4	87	85	110	1.1	87	
14.24	154	108	2.0 *	88	119	109	1.6 *	88	98	110	1.3	87	
12.10	27/5	182	105	2.3 *	89	140	109	1.8 *	88	116	109	1.5	88
10.80		204	95	2.3 *	89	157	108	2.0 *	88	130	109	1.7 *	88
9.23		238	82	2.3 *	89	184	105	2.3 *	89	152	109	2.0 *	88
8.64		255	77	2.3 *	89	197	100	2.3 *	89	162	109	2.1 *	88
7.28	302	64	2.3 *	89	234	86	2.4 *	89	192	103	2.3 *	89	

\*  $P_{emax} = 1.5 \text{ kW}$

# 6



## Helical-Worm Gearmotors

Technical data S, SF, SA, SAF 47

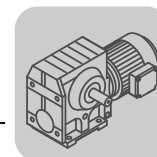
1100 - 700 1/min

02 958 097

$i_{ges}$	$i_{sch}$	$n_e = 1100 \text{ 1/min}$				$n_e = 900 \text{ 1/min}$				$n_e = 700 \text{ 1/min}$			
		$n_a$ [1/min]	$M_{amax}$ [Nm]	$P_e$ [kW]	$\eta$ [%]	$n_a$ [1/min]	$M_{amax}$ [Nm]	$P_e$ [kW]	$\eta$ [%]	$n_a$ [1/min]	$M_{amax}$ [Nm]	$P_e$ [kW]	$\eta$ [%]
201.00	42/1	5.5	176	0.19	53	4.5	180	0.16	52	3.5	185	0.13	51
184.80		6.0	174	0.20	54	4.9	178	0.17	53	3.8	183	0.14	51
158.12		7.0	172	0.23	55	5.7	176	0.20	54	4.4	180	0.16	52
137.05		8.0	171	0.26	56	6.6	172	0.22	55	5.1	178	0.18	53
128.10		8.6	171	0.27	57	7.0	172	0.23	55	5.5	176	0.19	54
110.73		9.9	169	0.30	58	8.1	171	0.26	56	6.3	174	0.21	55
94.08		12	169	0.35	59	9.6	171	0.30	57	7.4	172	0.24	56
84.00		13	169	0.39	60	11	169	0.32	58	8.3	171	0.26	57
71.75		15	169	0.45	61	13	169	0.37	60	9.8	171	0.30	58
67.20		16	169	0.47	61	13	169	0.40	60	10	171	0.32	58
56.61	29/2	19	169	0.55	63	16	169	0.46	61	12	171	0.37	60
69.39		16	173	0.39	74	13	176	0.33	73	10	180	0.27	71
63.80		17	173	0.42	74	14	175	0.35	73	11	180	0.29	72
54.59		20	171	0.48	75	16	173	0.40	74	13	176	0.33	73
47.32		23	171	0.55	76	19	173	0.46	75	15	175	0.37	73
44.22		25	171	0.58	76	20	171	0.49	75	16	175	0.39	74
38.23		29	169	0.66	77	24	171	0.56	76	18	173	0.44	75
32.48		34	169	0.77	78	28	171	0.65	77	22	171	0.51	75
29.00		38	170	0.86	78	31	171	0.72	77	24	171	0.57	76
24.77		44	169	0.99	79	36	170	0.83	78	28	171	0.66	77
23.20	27/5	47	164	1.0	79	39	170	0.88	79	30	171	0.70	77
19.54		56	154	1.1	80	46	165	1.0	79	36	170	0.81	78
20.33		54	112	0.75	85	44	114	0.63	84	34	116	0.50	83
17.62		62	112	0.86	86	51	113	0.71	85	40	115	0.57	84
16.47		67	112	0.91	86	55	113	0.76	85	43	114	0.60	84
14.24		77	111	1.0	86	63	112	0.86	86	49	113	0.69	85
12.10		91	111	1.2	87	74	111	1.0	86	58	113	0.80	85
10.80		102	111	1.4	87	83	111	1.1	87	65	112	0.88	86
9.23		119	110	1.6 *	88	98	111	1.3	87	76	112	1.0	86
8.64		127	109	1.7 *	88	104	111	1.4	87	81	112	1.1	87
7.28	151	109	2.0 *	88	124	111	1.6 *	88	96	111	1.3	87	

\*  $P_{emax} = 1.5 \text{ kW}$



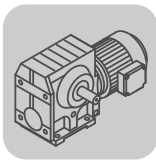


500 - 10 1/min

02 958 097

$i_{ges}$	$i_{sch}$	$n_e = 500 \text{ 1/min}$				$n_e = 250 \text{ 1/min}$				$n_e = 10 \text{ 1/min}$				
		$n_a$ [1/min]	$M_{amax}$ [Nm]	$P_e$ [kW]	$\eta$ [%]	$n_a$ [1/min]	$M_{amax}$ [Nm]	$P_e$ [kW]	$\eta$ [%]	$n_a$ [1/min]	$M_{amax}$ [Nm]	$P_e$ [kW]	$\eta$ [%]	
201.00	42/1	2.5	185	0.10	49	1.2	185	0.05	48	0.05	185	< 0.05	32	
184.80		2.7	185	0.11	49	1.4	185	0.05	48	0.05	185	< 0.05	32	
158.12		3.2	185	0.12	50	1.6	185	0.06	48	0.06	185	< 0.05	35	
137.05		3.6	185	0.14	51	1.8	185	0.07	48	0.07	185	< 0.05	37	
128.10		3.9	183	0.15	51	2.0	185	0.08	48	0.08	185	< 0.05	38	
110.73		4.5	181	0.16	52	2.3	185	0.09	49	0.09	185	< 0.05	40	
94.08		5.3	178	0.19	54	2.7	185	0.10	49	0.11	185	< 0.05	42	
84.00		6.0	176	0.20	54	3.0	185	0.12	50	0.12	185	< 0.05	43	
71.75		7.0	174	0.23	56	3.5	185	0.13	51	0.14	185	< 0.05	44	
67.20		7.4	172	0.24	56	3.7	185	0.14	51	0.15	185	< 0.05	44	
56.61		8.8	172	0.28	57	4.4	181	0.16	53	0.18	181	< 0.05	45	
69.39		7.2	185	0.20	70	3.6	185	0.10	68	0.14	185	< 0.05	56	
63.80		7.8	185	0.22	70	3.9	185	0.11	68	0.16	185	< 0.05	57	
54.59		9.2	185	0.25	71	4.6	185	0.13	68	0.18	185	< 0.05	60	
47.32		11	181	0.28	72	5.3	185	0.15	68	0.21	185	< 0.05	61	
44.22	29/2	11	180	0.30	72	5.7	185	0.16	69	0.23	185	< 0.05	62	
38.23		13	178	0.33	73	6.5	185	0.18	69	0.26	185	< 0.05	63	
32.48		15	174	0.38	74	7.7	185	0.21	70	0.31	185	< 0.05	64	
29.00		17	174	0.42	74	8.6	185	0.24	71	0.34	185	< 0.05	65	
24.77		20	172	0.48	75	10	183	0.27	71	0.40	183	< 0.05	66	
23.20		22	172	0.51	76	11	181	0.28	72	0.43	181	< 0.05	66	
19.54		26	172	0.60	77	13	178	0.33	73	0.51	178	< 0.05	67	
20.33		25	124	0.39	82	12	157	0.25	80	0.49	157	< 0.05	75	
17.62		28	120	0.43	83	14	149	0.28	80	0.57	149	< 0.05	76	
16.47		30	118	0.45	83	15	145	0.29	81	0.61	145	< 0.05	76	
14.24		35	116	0.51	84	18	138	0.31	81	0.70	138	< 0.05	77	
12.10		27/5	41	115	0.59	84	21	131	0.35	82	0.83	131	< 0.05	77
10.80			46	114	0.65	85	23	127	0.37	82	0.93	127	< 0.05	77
9.23			54	113	0.75	85	27	121	0.41	83	1.1	121	< 0.05	78
8.64			58	113	0.80	86	29	120	0.44	83	1.2	120	< 0.05	78
7.28	69		112	0.93	86	34	117	0.50	84	1.4	117	< 0.05	78	

6



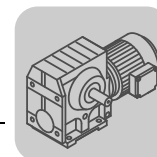
### 6.8 Technical data S, SF, SA, SAF 57

3400 - 2800 1/min

02 959 097

$i_{ges}$	$i_{sch}$	$n_e = 3400 \text{ 1/min}$				$n_e = 3200 \text{ 1/min}$				$n_e = 2800 \text{ 1/min}$			
		$n_a$ [1/min]	$M_{amax}$ [Nm]	$P_e$ [kW]	$\eta$ [%]	$n_a$ [1/min]	$M_{amax}$ [Nm]	$P_e$ [kW]	$\eta$ [%]	$n_a$ [1/min]	$M_{amax}$ [Nm]	$P_e$ [kW]	$\eta$ [%]
201.00	42/1	17	270	0.75	64	16	270	0.71	63	14	270	0.63	62
184.80		18	270	0.81	64	17	270	0.77	64	15	270	0.68	63
158.12		22	270	0.93	65	20	270	0.88	65	18	270	0.78	64
137.05		25	255	1.0	66	23	270	1.0	66	20	270	0.89	65
128.10		27	245	1.0	66	25	255	1.0	66	22	270	0.94	65
110.73		31	215	1.0	67	29	230	1.0	67	25	255	1.0	66
94.08		36	184	1.0	67	34	196	1.0	67	30	225	1.1	67
84.00		40	165	1.0	67	38	175	1.0	67	33	200	1.0	67
71.75		47	139	1.0	67	45	149	1.0	67	39	174	1.1	67
67.20		51	128	1.0	66	48	139	1.0	67	42	164	1.1	67
56.61		60	103	1.0	65	57	114	1.0	66	49	138	1.1	67
69.39		49	220	1.4	81	46	220	1.3	80	40	220	1.2	80
63.80	53	220	1.5	81	50	220	1.4	81	44	220	1.3	80	
54.59	62	220	1.8	81	59	220	1.7	81	51	220	1.5	81	
47.32	72	210	1.9	82	68	220	1.9	82	59	220	1.7	81	
44.22	77	197	1.9	82	72	205	1.9	82	63	220	1.8	81	
38.23	29/2	89	174	2.0	82	84	184	2.0	82	73	205	1.9	82
32.48		105	148	2.0	82	99	157	2.0	82	86	180	2.0	82
29.00		117	131	2.0	82	110	141	2.0	82	97	162	2.0	82
24.77		137	111	1.9	82	129	120	2.0	82	113	139	2.0	82
23.20	147	102	1.9	82	138	111	2.0	82	121	131	2.0	82	
19.54	174	81	1.8	81	164	90	1.9	82	143	109	2.0	82	
20.33	167	160	3.2 *	89	157	160	3.0	89	138	160	2.6	88	
17.62	193	140	3.2 *	89	182	149	3.2 *	89	159	160	3.0	89	
16.47	206	132	3.2 *	89	194	140	3.2 *	89	170	158	3.2 *	89	
14.24	239	116	3.2 *	89	225	123	3.2 *	89	197	139	3.2 *	89	
12.10	27/5	281	99	3.3 *	89	264	105	3.3 *	89	231	121	3.3 *	89
10.80		315	88	3.3 *	89	296	94	3.3 *	89	259	108	3.3 *	89
9.23		368	73	3.2 *	89	347	79	3.2 *	89	303	93	3.3 *	89
8.64		394	68	3.2 *	89	370	74	3.2 *	89	324	87	3.3 *	89
7.28		467	54	3.0	88	440	60	3.1 *	89	385	72	3.2 *	89

\*  $P_{emax} = 3.0 \text{ kW}$



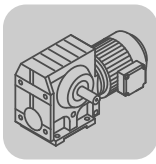
2200 - 1400 1/min

02 959 097

$i_{ges}$	$i_{sch}$	$n_e = 2200 \text{ 1/min}$				$n_e = 1700 \text{ 1/min}$				$n_e = 1400 \text{ 1/min}$			
		$n_a$ [1/min]	$M_{amax}$ [Nm]	$P_e$ [kW]	$\eta$ [%]	$n_a$ [1/min]	$M_{amax}$ [Nm]	$P_e$ [kW]	$\eta$ [%]	$n_a$ [1/min]	$M_{amax}$ [Nm]	$P_e$ [kW]	$\eta$ [%]
201.00	42/1	11	295	0.55	61	8.5	295	0.44	59	7.0	295	0.37	58
184.80		12	295	0.60	62	9.2	295	0.48	60	7.6	295	0.40	58
158.12		14	295	0.69	63	11	295	0.55	61	8.9	295	0.46	60
137.05		16	295	0.78	64	12	295	0.62	62	10	295	0.52	61
128.10		17	295	0.83	64	13	295	0.66	62	11	295	0.55	61
110.73		20	290	0.93	65	15	295	0.75	63	13	295	0.63	62
94.08		23	275	1.0	66	18	300	0.88	65	15	295	0.73	63
84.00		26	250	1.0	67	20	285	0.93	65	17	295	0.80	64
71.75		31	220	1.1	67	24	275	1.0	66	20	290	0.91	65
67.20		33	210	1.1	67	25	260	1.0	67	21	285	0.95	65
56.61		39	179	1.1	68	30	225	1.1	67	25	265	1.0	67
69.39	29/2	32	245	1.0	79	24	245	0.81	77	20	245	0.68	76
63.80		34	245	1.1	79	27	245	0.88	78	22	245	0.73	77
54.59		40	245	1.3	80	31	245	1.0	79	26	245	0.85	78
47.32		46	245	1.5	81	36	245	1.2	79	30	245	0.97	79
44.22		50	245	1.6	81	38	245	1.2	80	32	245	1.0	79
38.23		58	245	1.8	81	44	245	1.4	80	37	245	1.2	80
32.48		68	225	1.9	82	52	245	1.7	81	43	245	1.4	80
29.00		76	200	1.9	82	59	245	1.8	81	48	245	1.5	81
24.77		89	177	2.0	82	69	220	1.9	82	57	245	1.8	81
23.20		95	167	2.0	83	73	210	2.0	82	60	245	1.9	82
19.54		113	143	2.0	83	87	183	2.0	83	72	215	2.0	82
20.33	27/5	108	168	2.2	88	84	168	1.7	87	69	168	1.4	87
17.62		125	168	2.5	88	96	168	1.9	88	79	168	1.6	87
16.47		134	169	2.7	88	103	168	2.1	88	85	168	1.7	87
14.24		154	169	3.1 *	89	119	169	2.4	88	98	169	2.0	88
12.10		182	150	3.2 *	89	140	169	2.8	89	116	169	2.3	88
10.80		204	136	3.2 *	89	157	169	3.1 *	89	130	169	2.6	88
9.23		238	119	3.3 *	89	184	149	3.2 *	89	152	169	3.0	89
8.64		255	112	3.3 *	89	197	141	3.3 *	89	162	166	3.2 *	89
7.28		302	96	3.4 *	90	234	122	3.3 *	90	192	146	3.3 *	89

\*  $P_{emax} = 3.0 \text{ kW}$

# 6



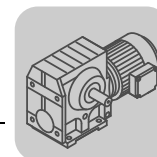
## Helical-Worm Gearmotors

Technical data S, SF, SA, SAF 57

1100 - 700 1/min

02 960 097

$i_{ges}$	$i_{sch}$	$n_e = 1100 \text{ 1/min}$				$n_e = 900 \text{ 1/min}$				$n_e = 700 \text{ 1/min}$			
		$n_a$ [1/min]	$M_{amax}$ [Nm]	$P_e$ [kW]	$\eta$ [%]	$n_a$ [1/min]	$M_{amax}$ [Nm]	$P_e$ [kW]	$\eta$ [%]	$n_a$ [1/min]	$M_{amax}$ [Nm]	$P_e$ [kW]	$\eta$ [%]
201.00		5.5	295	0.30	56	4.5	300	0.26	55	3.5	310	0.21	53
184.80		6.0	295	0.32	57	4.9	300	0.28	55	3.8	305	0.23	54
158.12		7.0	295	0.37	58	5.7	295	0.31	56	4.4	300	0.25	55
137.05		8.0	295	0.42	59	6.6	295	0.35	57	5.1	300	0.29	56
128.10		8.6	295	0.45	59	7.0	295	0.37	58	5.5	295	0.30	56
110.73	42/1	9.9	295	0.51	61	8.1	295	0.43	59	6.3	295	0.34	57
94.08		12	295	0.59	62	9.6	295	0.49	60	7.4	295	0.39	58
84.00		13	295	0.65	63	11	295	0.54	61	8.3	295	0.43	59
71.75		15	295	0.74	64	13	295	0.62	62	9.8	295	0.50	61
67.20		16	300	0.80	64	13	295	0.66	63	10	295	0.53	61
56.61		19	290	0.91	65	16	300	0.78	64	12	295	0.61	62
69.39		16	270	0.60	75	13	270	0.49	74	10	270	0.39	73
63.80		17	270	0.64	76	14	270	0.53	75	11	270	0.42	73
54.59		20	270	0.74	77	16	270	0.62	75	13	270	0.49	74
47.32		23	270	0.85	77	19	270	0.70	76	15	270	0.56	75
44.22		25	270	0.91	78	20	270	0.75	77	16	270	0.59	75
38.23	29/2	29	270	1.0	79	24	270	0.86	77	18	270	0.68	76
32.48		34	270	1.2	79	28	270	1.0	78	22	270	0.79	77
29.00		38	270	1.3	80	31	270	1.1	79	24	270	0.88	78
24.77		44	270	1.6	81	36	270	1.3	80	28	270	1.0	78
23.20		47	270	1.7	81	39	270	1.4	80	30	270	1.1	79
19.54		56	250	1.8	81	46	270	1.6	81	36	270	1.3	80
20.33		54	168	1.1	86	44	170	0.93	85	34	172	0.74	84
17.62		62	169	1.3	86	51	169	1.1	86	40	170	0.83	85
16.47		67	168	1.4	87	55	168	1.1	86	43	170	0.89	85
14.24		77	168	1.6	87	63	168	1.3	86	49	170	1.0	86
12.10	27/5	91	169	1.8	88	74	169	1.5	87	58	169	1.2	86
10.80		102	169	2.1	88	83	169	1.7	87	65	169	1.3	87
9.23		119	170	2.4	88	98	168	2.0	88	76	168	1.5	87
8.64		127	170	2.6	88	104	169	2.1	88	81	168	1.6	87
7.28		151	170	3.0	89	124	170	2.5	88	96	170	1.9	88

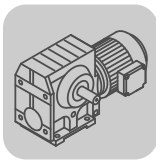


500 - 10 1/min

02 960 097

$i_{ges}$	$i_{sch}$	$n_e = 500 \text{ 1/min}$				$n_e = 250 \text{ 1/min}$				$n_e = 10 \text{ 1/min}$			
		$n_a$ [1/min]	$M_{amax}$ [Nm]	$P_e$ [kW]	$\eta$ [%]	$n_a$ [1/min]	$M_{amax}$ [Nm]	$P_e$ [kW]	$\eta$ [%]	$n_a$ [1/min]	$M_{amax}$ [Nm]	$P_e$ [kW]	$\eta$ [%]
201.00	42/1	2.5	330	0.17	51	1.2	330	0.09	49	0.05	330	< 0.05	42
184.80		2.7	330	0.18	51	1.4	330	0.10	49	0.05	330	< 0.05	43
158.12		3.2	315	0.20	52	1.6	330	0.11	49	0.06	330	< 0.05	44
137.05		3.6	310	0.22	53	1.8	330	0.13	50	0.07	330	< 0.05	45
128.10		3.9	305	0.23	54	2.0	330	0.14	50	0.08	330	< 0.05	46
110.73		4.5	300	0.26	55	2.3	330	0.15	51	0.09	330	< 0.05	46
94.08		5.3	300	0.30	56	2.7	330	0.18	51	0.11	330	< 0.05	47
84.00		6.0	295	0.32	57	3.0	325	0.19	52	0.12	325	< 0.05	47
71.75		7.0	295	0.37	58	3.5	310	0.21	53	0.14	310	< 0.05	48
67.20		7.4	295	0.39	58	3.7	310	0.23	54	0.15	310	< 0.05	48
56.61		8.8	295	0.46	60	4.4	300	0.25	55	0.18	300	< 0.05	48
69.39		7.2	300	0.32	71	3.6	300	0.17	68	0.14	300	< 0.05	63
63.80		7.8	300	0.34	71	3.9	300	0.18	68	0.16	300	< 0.05	64
54.59		9.2	300	0.40	72	4.6	300	0.21	69	0.18	300	< 0.05	65
47.32	11	300	0.45	73	5.3	300	0.24	70	0.21	300	< 0.05	66	
44.22	11	300	0.48	74	5.7	300	0.25	70	0.23	300	< 0.05	66	
38.23	29/2	13	295	0.54	74	6.5	300	0.29	71	0.26	300	< 0.05	67
32.48		15	295	0.63	75	7.7	300	0.34	71	0.31	300	< 0.05	67
29.00		17	295	0.70	76	8.6	300	0.38	72	0.34	300	< 0.05	67
24.77		20	295	0.81	77	10	300	0.43	73	0.40	300	< 0.05	68
23.20	22	295	0.86	77	11	300	0.46	73	0.43	300	< 0.05	68	
19.54	26	295	1.0	78	13	295	0.53	74	0.51	295	< 0.05	68	
20.33	25	181	0.56	83	12	215	0.35	80	0.49	215	< 0.05	77	
17.62	28	175	0.62	83	14	210	0.39	81	0.57	210	< 0.05	77	
16.47	30	174	0.66	84	15	205	0.40	81	0.61	205	< 0.05	78	
14.24	35	172	0.75	84	18	198	0.45	81	0.70	198	< 0.05	78	
12.10	27/5	41	170	0.87	85	21	188	0.49	82	0.83	188	< 0.05	78
10.80		46	170	0.97	85	23	184	0.54	83	0.93	184	< 0.05	78
9.23		54	170	1.1	86	27	177	0.60	83	1.1	177	< 0.05	79
8.64		58	170	1.2	86	29	175	0.64	83	1.2	175	< 0.05	79
7.28		69	170	1.4	87	34	172	0.73	84	1.4	172	< 0.05	79

6



## Helical-Worm Gearmotors

### Technical data S, SF, SA, SAF 67

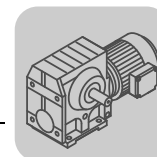
#### 6.9 Technical data S, SF, SA, SAF 67

3400 - 2800 1/min

02 961 097

$i_{ges}$	$i_{sch}$	$n_e = 3400 \text{ 1/min}$				$n_e = 3200 \text{ 1/min}$				$n_e = 2800 \text{ 1/min}$				
		$n_a$ [1/min]	$M_{amax}$ [Nm]	$P_e$ [kW]	$\eta$ [%]	$n_a$ [1/min]	$M_{amax}$ [Nm]	$P_e$ [kW]	$\eta$ [%]	$n_a$ [1/min]	$M_{amax}$ [Nm]	$P_e$ [kW]	$\eta$ [%]	
217.41	42/1	16	465	1.2	66	15	465	1.1	66	13	465	0.96	65	
190.11		18	465	1.3	67	17	465	1.2	67	15	465	1.1	66	
180.60		19	465	1.4	67	18	465	1.3	67	16	465	1.1	66	
158.45		21	465	1.5	68	20	465	1.5	68	18	465	1.3	67	
134.40		25	465	1.8	69	24	465	1.7	68	21	465	1.5	68	
121.33		28	455	1.9	69	26	465	1.9	69	23	465	1.6	68	
106.75		32	405	2.0	69	30	430	2.0	69	26	465	1.9	69	
100.80		34	380	1.9	69	32	410	2.0	69	28	465	2.0	69	
85.83		40	320	1.9	69	37	345	1.9	69	33	400	2.0	70	
78.00		44	285	1.9	69	41	310	1.9	69	36	365	2.0	70	
67.57		50	235	1.8	67	47	260	1.9	68	41	315	2.0	69	
58.80		58	184	1.7	65	54	215	1.8	67	48	270	1.9	69	
75.06		29/2	45	435	2.5	82	43	435	2.4	82	37	435	2.1	81
65.63			52	435	2.9	82	49	435	2.7	82	43	435	2.4	82
62.35	55		435	3.0	83	51	435	2.8	82	45	435	2.5	82	
54.70	62		435	3.4	83	59	435	3.2	83	51	435	2.8	83	
46.40	73		395	3.6	83	69	415	3.6	83	60	435	3.3	83	
41.89	81		355	3.6	83	76	380	3.6	83	67	430	3.6	83	
36.85	92		310	3.6	83	87	335	3.6	84	76	380	3.6	84	
34.80	98		295	3.6	83	92	315	3.6	84	80	365	3.7	84	
29.63	115		250	3.6	83	108	270	3.7	83	94	310	3.7	84	
26.93	126		220	3.5	83	119	240	3.6	83	104	280	3.6	84	
23.33	146		182	3.4	82	137	200	3.5	83	120	245	3.7	84	
20.30	167		141	3.1	81	158	164	3.3	82	138	205	3.6	83	
24.44	27/5		139	315	5.1	90	131	315	4.8	90	115	315	4.2	89
23.22			146	315	5.4	90	138	315	5.1	90	121	315	4.4	90
20.37		167	315	6.1 *	90	157	315	5.8 *	90	137	315	5.0	90	
17.28		197	270	6.2 *	90	185	290	6.2 *	90	162	315	5.9 *	90	
15.60		218	245	6.2 *	90	205	260	6.2 *	90	179	295	6.1 *	90	
13.73		248	215	6.2 *	90	233	230	6.2 *	90	204	265	6.3 *	90	
12.96		262	200	6.1 *	90	247	215	6.1 *	90	216	250	6.3 *	90	
11.03		308	169	6.1 *	90	290	183	6.2 *	90	254	215	6.3 *	90	
10.03		339	151	6.0 *	90	319	164	6.1 *	90	279	194	6.3 *	90	
8.69		391	124	5.7 *	89	368	137	5.9 *	90	322	166	6.2 *	90	
7.56		450	95	5.1 *	88	423	112	5.6 *	89	370	141	6.1 *	90	

\*  $P_{emax} = 5.5 \text{ kW}$



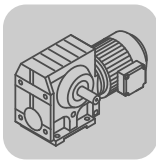
2200 - 1400 1/min

02 961 097

$i_{ges}$	$i_{sch}$	$n_e = 2200 \text{ 1/min}$				$n_e = 1700 \text{ 1/min}$				$n_e = 1400 \text{ 1/min}$				
		$n_a$ [1/min]	$M_{amax}$ [Nm]	$P_e$ [kW]	$\eta$ [%]	$n_a$ [1/min]	$M_{amax}$ [Nm]	$P_e$ [kW]	$\eta$ [%]	$n_a$ [1/min]	$M_{amax}$ [Nm]	$P_e$ [kW]	$\eta$ [%]	
217.41	42/1	10	520	0.86	64	7.8	520	0.69	62	6.4	520	0.58	61	
190.11		12	520	0.97	65	8.9	520	0.77	63	7.4	520	0.65	62	
180.60		12	520	1.0	65	9.4	520	0.81	63	7.8	520	0.68	62	
158.45		14	520	1.1	66	11	520	0.91	64	8.8	520	0.76	63	
134.40		16	520	1.3	67	13	520	1.1	65	10	520	0.88	64	
121.33		18	520	1.5	68	14	520	1.2	66	12	520	0.97	65	
106.75		21	520	1.6	68	16	520	1.3	67	13	520	1.1	66	
100.80		22	510	1.7	69	17	520	1.4	67	14	520	1.1	66	
85.83		26	490	1.9	69	20	520	1.6	68	16	520	1.3	67	
78.00		28	465	2.0	70	22	510	1.7	69	18	520	1.4	68	
67.57		33	410	2.0	70	25	495	1.9	69	21	520	1.6	69	
58.80		37	360	2.0	70	29	460	2.0	70	24	500	1.8	69	
75.06		29/2	29	480	1.8	81	23	480	1.4	79	19	480	1.2	79
65.63			34	480	2.1	81	26	480	1.6	80	21	480	1.4	79
62.35	35		480	2.2	81	27	480	1.7	80	22	480	1.4	79	
54.70	40		480	2.5	82	31	480	1.9	81	26	480	1.6	80	
46.40	47		480	2.9	82	37	480	2.3	82	30	480	1.9	81	
41.89	53		480	3.2	83	41	480	2.5	82	33	480	2.1	81	
36.85	60		475	3.6	83	46	480	2.8	82	38	480	2.3	82	
34.80	63		450	3.6	83	49	480	3.0	83	40	480	2.5	82	
29.63	74		395	3.7	84	57	480	3.5	83	47	480	2.9	83	
26.93	82		360	3.7	84	63	455	3.6	83	52	480	3.2	83	
23.33	94		320	3.8	84	73	405	3.7	84	60	480	3.6	83	
20.30	108		280	3.8	84	84	360	3.8	84	69	425	3.7	84	
24.44	27/5		90	340	3.6	89	70	340	2.8	88	57	340	2.3	88
23.22			95	340	3.8	89	73	340	2.9	89	60	340	2.4	88
20.37		108	340	4.3	89	83	340	3.3	89	69	340	2.8	88	
17.28		127	340	5.0	90	98	340	3.9	89	81	340	3.2	89	
15.60		141	340	5.6 *	90	109	340	4.3	89	90	340	3.6	89	
13.73		160	330	6.1 *	90	124	340	4.9	90	102	340	4.1	89	
12.96		170	315	6.2 *	90	131	340	5.2	90	108	340	4.3	89	
11.03		199	275	6.3 *	90	154	340	6.1 *	90	127	340	5.0	90	
10.03		219	250	6.3 *	91	169	315	6.2 *	90	140	340	5.5	90	
8.69		253	220	6.4 *	91	196	280	6.3 *	91	161	335	6.3 *	90	
7.56		291	192	6.5 *	91	225	250	6.5 *	91	185	295	6.3 *	91	

\*  $P_{emax} = 5.5 \text{ kW}$

6



## Helical-Worm Gearmotors

Technical data S, SF, SA, SAF 67

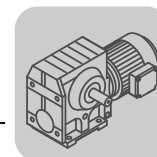
1100 - 700 1/min

02 962 097

$i_{ges}$	$i_{sch}$	$n_e = 1100 \text{ 1/min}$				$n_e = 900 \text{ 1/min}$				$n_e = 700 \text{ 1/min}$				
		$n_a$ [1/min]	$M_{amax}$ [Nm]	$P_e$ [kW]	$\eta$ [%]	$n_a$ [1/min]	$M_{amax}$ [Nm]	$P_e$ [kW]	$\eta$ [%]	$n_a$ [1/min]	$M_{amax}$ [Nm]	$P_e$ [kW]	$\eta$ [%]	
217.41	42/1	5.1	555	0.50	59	4.1	560	0.42	58	3.2	570	0.34	56	
190.11		5.8	555	0.56	60	4.7	560	0.47	59	3.7	565	0.38	57	
180.60		6.1	555	0.59	61	5.0	555	0.49	59	3.9	565	0.40	57	
158.45		6.9	550	0.65	62	5.7	555	0.55	60	4.4	560	0.44	58	
134.40		8.2	550	0.75	63	6.7	550	0.63	61	5.2	555	0.51	60	
121.33		9.1	550	0.82	63	7.4	550	0.69	62	5.8	555	0.56	60	
106.75		10	550	0.92	64	8.4	550	0.77	63	6.6	555	0.62	61	
100.80		11	550	0.97	65	8.9	550	0.81	63	6.9	555	0.66	62	
85.83		13	550	1.1	66	10	550	0.94	64	8.2	550	0.75	63	
78.00		14	550	1.2	66	12	550	1.0	65	9.0	550	0.82	63	
67.57		16	550	1.4	67	13	550	1.2	66	10	550	0.93	64	
58.80		19	530	1.5	68	15	550	1.3	67	12	550	1.0	65	
75.06		29/2	15	525	1.0	77	12	525	0.86	76	9.3	525	0.68	75
65.63			17	525	1.2	78	14	525	0.98	77	11	525	0.77	76
62.35	18		525	1.2	78	14	525	1.0	77	11	525	0.81	76	
54.70	20		525	1.4	79	16	525	1.2	78	13	525	0.92	77	
46.40	24		525	1.6	80	19	525	1.4	79	15	525	1.1	78	
41.89	26		525	1.8	80	21	525	1.5	79	17	525	1.2	78	
36.85	30		525	2.0	81	24	525	1.7	80	19	525	1.3	79	
34.80	32		525	2.1	81	26	525	1.8	80	20	525	1.4	79	
29.63	37		525	2.5	82	30	525	2.1	81	24	525	1.6	80	
26.93	41		525	2.7	82	33	525	2.3	81	26	525	1.8	80	
23.33	47		525	3.1	83	39	525	2.6	82	30	525	2.0	81	
20.30	54		520	3.5	83	44	525	3.0	82	34	525	2.3	81	
24.44	27/5		45	355	1.9	87	37	360	1.6	87	29	365	1.3	86
23.22			47	355	2.0	87	39	360	1.7	87	30	365	1.3	86
20.37		54	355	2.3	88	44	355	1.9	87	34	365	1.5	86	
17.28		64	355	2.7	88	52	355	2.2	88	41	360	1.8	87	
15.60		71	350	2.9	88	58	355	2.4	88	45	355	1.9	87	
13.73		80	350	3.3	89	66	355	2.8	88	51	355	2.2	88	
12.96		85	350	3.5	89	69	350	2.9	88	54	355	2.3	88	
11.03		100	350	4.1	89	82	350	3.4	89	63	355	2.7	88	
10.03		110	345	4.4	90	90	350	3.7	89	70	355	2.9	88	
8.69		127	345	5.1	90	104	350	4.2	89	81	350	3.3	89	
7.56		146	345	5.8 *	90	119	345	4.8	90	93	350	3.8	89	

\*  $P_{emax} = 5.5 \text{ kW}$



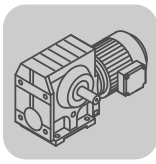


500 - 10 1/min

02 962 097

$i_{ges}$	$i_{sch}$	$n_e = 500 \text{ 1/min}$				$n_e = 250 \text{ 1/min}$				$n_e = 10 \text{ 1/min}$			
		$n_a$ [1/min]	$M_{amax}$ [Nm]	$P_e$ [kW]	$\eta$ [%]	$n_a$ [1/min]	$M_{amax}$ [Nm]	$P_e$ [kW]	$\eta$ [%]	$n_a$ [1/min]	$M_{amax}$ [Nm]	$P_e$ [kW]	$\eta$ [%]
217.41	42/1	2.3	570	0.25	54	1.1	570	0.13	51	0.05	570	< 0.05	47
190.11		2.6	570	0.29	55	1.3	570	0.15	51	0.05	570	< 0.05	48
180.60		2.8	570	0.30	55	1.4	570	0.16	51	0.06	570	< 0.05	48
158.45		3.2	570	0.34	56	1.6	570	0.18	52	0.06	570	< 0.05	49
134.40		3.7	565	0.38	57	1.9	570	0.21	53	0.07	570	< 0.05	50
121.33		4.1	560	0.42	58	2.1	570	0.23	53	0.08	570	< 0.05	50
106.75		4.7	560	0.47	59	2.3	570	0.26	54	0.09	570	< 0.05	50
100.80		5.0	560	0.49	59	2.5	570	0.27	55	0.10	570	< 0.05	50
85.83		5.8	555	0.56	60	2.9	570	0.31	56	0.12	570	< 0.05	51
78.00		6.4	555	0.61	61	3.2	570	0.34	56	0.13	570	< 0.05	51
67.57		7.4	555	0.69	62	3.7	565	0.38	57	0.15	565	< 0.05	51
58.80		8.5	550	0.78	63	4.3	560	0.43	58	0.17	560	< 0.05	51
75.06		29/2	6.7	570	0.54	73	3.3	570	0.28	70	0.13	570	< 0.05
65.63	7.6		570	0.61	74	3.8	570	0.32	71	0.15	570	< 0.05	68
62.35	8.0		570	0.64	74	4.0	570	0.34	71	0.16	570	< 0.05	69
54.70	9.1		570	0.73	75	4.6	570	0.38	71	0.18	570	< 0.05	69
46.40	11		570	0.85	76	5.4	570	0.44	72	0.22	570	< 0.05	69
41.89	12		570	0.93	76	6.0	570	0.49	73	0.24	570	< 0.05	69
36.85	14		570	1.1	77	6.8	570	0.55	73	0.27	570	< 0.05	69
34.80	14		570	1.1	77	7.2	570	0.58	74	0.29	570	< 0.05	69
29.63	17		565	1.3	78	8.4	570	0.68	75	0.34	570	< 0.05	70
26.93	19		565	1.4	79	9.3	570	0.74	75	0.37	570	< 0.05	70
23.33	21		565	1.6	79	11	570	0.84	76	0.43	570	< 0.05	70
20.30	25		565	1.8	80	12	570	0.96	77	0.49	570	< 0.05	70
24.44	27/5		20	365	0.93	85	10	355	0.46	82	0.41	355	0.019
23.22		22	365	0.97	85	11	355	0.49	82	0.43	355	< 0.05	80
20.37		25	380	1.1	85	12	365	0.57	83	0.49	365	< 0.05	80
17.28		29	365	1.3	86	14	435	0.79	83	0.58	435	< 0.05	81
15.60		32	365	1.4	86	16	430	0.86	84	0.64	430	< 0.05	81
13.73		36	365	1.6	87	18	415	0.94	84	0.73	415	< 0.05	81
12.96		39	360	1.7	87	19	410	0.98	84	0.77	410	< 0.05	81
11.03		45	355	1.9	87	23	390	1.1	85	0.91	390	< 0.05	81
10.03		50	355	2.1	88	25	380	1.2	85	1.0	380	< 0.05	81
8.69		58	355	2.4	88	29	370	1.3	86	1.2	370	0.06	81
7.56		66	355	2.8	88	33	365	1.5	86	1.3	365	0.06	81

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## Helical-Worm Gearmotors

Technical data S, SF, SA, SAF 77

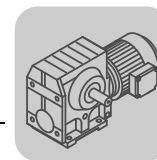
### 6.10 Technical data S, SF, SA, SAF 77

3400 - 2800 1/min

02 963 097

$i_{ges}$	$i_{sch}$	$n_e = 3400$ 1/min				$n_e = 3200$ 1/min				$n_e = 2800$ 1/min			
		$n_a$ [1/min]	$M_{amax}$ [Nm]	$P_e$ [kW]	$\eta$ [%]	$n_a$ [1/min]	$M_{amax}$ [Nm]	$P_e$ [kW]	$\eta$ [%]	$n_a$ [1/min]	$M_{amax}$ [Nm]	$P_e$ [kW]	$\eta$ [%]
256.47		13	1160	2.3	71	12	1160	2.1	71	11	1160	1.9	70
225.26		15	1130	2.5	72	14	1150	2.4	71	12	1160	2.1	71
214.00		16	1110	2.6	72	15	1140	2.5	71	13	1160	2.2	71
189.09		18	1080	2.8	72	17	1100	2.7	72	15	1140	2.5	71
161.60		21	1040	3.1	73	20	1050	3.0	73	17	1090	2.7	72
148.15		23	1010	3.3	73	22	1030	3.2	73	19	1070	2.9	73
130.00	40/1	26	970	3.6	74	25	990	3.5	74	22	1030	3.2	73
123.20		28	950	3.7	74	26	970	3.6	74	23	1010	3.3	73
107.83		32	900	4.0	74	30	920	3.9	74	26	970	3.6	74
97.14		35	860	4.2	75	33	880	4.1	74	29	930	3.8	74
85.22		40	770	4.3	75	38	820	4.3	75	33	880	4.1	75
75.20		45	675	4.3	74	43	725	4.3	75	37	830	4.3	75
66.67		51	585	4.2	74	48	635	4.3	75	42	745	4.4	75
56.92		60	485	4.1	73	56	530	4.2	74	49	635	4.4	75
75.09		45	1020	5.6	86	43	1020	5.3	86	37	1020	4.6	86
71.33		48	1020	5.9	87	45	1020	5.5	86	39	1020	4.9	86
63.03		54	1020	6.6	87	51	1020	6.2	87	44	1020	5.5	86
53.87		63	980	7.4	87	59	1000	7.1	87	52	1020	6.4	87
49.38		69	950	7.8	87	65	970	7.5	87	57	1010	6.9	87
43.33	40/3	78	910	8.5	88	74	930	8.2	88	65	970	7.5	87
41.07		83	900	8.9	88	78	910	8.5	88	68	950	7.8	87
35.94		95	800	9.0	88	89	850	9.0	88	78	910	8.5	88
32.38		105	725	9.1	88	99	770	9.1	88	86	880	9.1	88
28.41		120	635	9.1	88	113	680	9.1	88	99	780	9.1	88
25.07		136	560	9.1	88	128	600	9.1	88	112	695	9.2	88
22.22		153	485	8.9	88	144	525	9.0	88	126	615	9.2	88
18.97		179	395	8.5	87	169	440	8.9	88	148	520	9.1	88
22.89		149	590	10.0 *	91	140	590	9.5	91	122	590	8.3	91
20.99		162	590	10.9 *	92	152	590	10.3 *	92	133	590	9.0	91
18.42		185	590	12.4 *	92	174	590	11.7 *	92	152	590	10.3 *	92
17.45		195	590	13.1 *	92	183	590	12.4 *	92	160	590	10.8 *	92
15.28	34/6	223	530	13.5 *	92	209	560	13.4 *	92	183	590	12.3 *	92
13.76		247	480	13.5 *	92	233	505	13.4 *	92	203	585	13.6 *	92
12.07		282	415	13.3 *	92	265	445	13.4 *	92	232	515	13.6 *	92
10.65		319	365	13.3 *	92	300	390	13.4 *	92	263	455	13.6 *	92
9.44		360	315	13.0 *	92	339	345	13.3 *	92	297	405	13.7 *	92
8.06		422	260	12.6 *	91	397	285	12.9 *	92	347	340	13.5 *	92

\*  $P_{emax} = 9.2$  kW



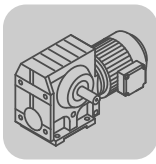
2200 - 1400 1/min

02 963 097

$i_{ges}$	$i_{sch}$	$n_e = 2200$ 1/min				$n_e = 1700$ 1/min				$n_e = 1400$ 1/min			
		$n_a$ [1/min]	$M_{amax}$ [Nm]	$P_e$ [kW]	$\eta$ [%]	$n_a$ [1/min]	$M_{amax}$ [Nm]	$P_e$ [kW]	$\eta$ [%]	$n_a$ [1/min]	$M_{amax}$ [Nm]	$P_e$ [kW]	$\eta$ [%]
256.47		8.6	1260	1.6	69	6.6	1270	1.3	67	5.5	1270	1.1	66
225.26		9.8	1230	1.8	69	7.5	1270	1.5	68	6.2	1270	1.2	67
214.00		10	1220	1.9	70	7.9	1270	1.6	68	6.5	1270	1.3	67
189.09		12	1200	2.1	70	9.0	1240	1.7	69	7.4	1270	1.5	68
161.60		14	1160	2.3	71	11	1220	1.9	70	8.7	1260	1.7	69
148.15		15	1140	2.5	72	11	1200	2.1	70	9.4	1240	1.8	69
130.00	40/1	17	1100	2.7	72	13	1170	2.3	71	11	1210	1.9	70
123.20		18	1080	2.8	73	14	1150	2.3	71	11	1200	2.0	70
107.83		20	1040	3.0	73	16	1110	2.5	72	13	1170	2.2	71
97.14		23	1010	3.3	74	18	1090	2.8	73	14	1140	2.4	72
85.22		26	970	3.5	74	20	1050	3.0	73	16	1100	2.6	72
75.20		29	920	3.8	74	23	1010	3.2	74	19	1070	2.9	73
66.67		33	880	4.1	75	25	970	3.5	74	21	1040	3.1	73
56.92		39	830	4.5	75	30	920	3.9	75	25	990	3.4	74
75.09		29	1100	4.0	85	23	1100	3.1	84	19	1100	2.6	83
71.33		31	1100	4.2	85	24	1100	3.2	85	20	1100	2.7	84
63.03		35	1100	4.7	86	27	1100	3.7	85	22	1100	3.0	84
53.87		41	1100	5.5	86	32	1100	4.3	86	26	1100	3.5	85
49.38		45	1080	5.8	87	34	1100	4.6	86	28	1100	3.8	85
43.33		51	1050	6.4	87	39	1100	5.2	86	32	1100	4.3	86
41.07	40/3	54	1030	6.6	87	41	1100	5.5	86	34	1100	4.6	86
35.94		61	980	7.2	87	47	1060	6.1	87	39	1100	5.2	86
32.38		68	960	7.8	88	53	1040	6.6	87	43	1090	5.7	87
28.41		77	920	8.5	88	60	990	7.1	87	49	1050	6.2	87
25.07		88	870	9.1	88	68	960	7.8	88	56	1020	6.8	87
22.22		99	790	9.3	88	77	920	8.4	88	63	980	7.4	87
18.97		116	680	9.4	88	90	860	9.2	88	74	930	8.2	88
22.89		96	710	7.9	91	74	705	6.1	90	61	705	5.0	90
20.99		105	710	8.6	91	81	705	6.6	91	67	705	5.5	90
18.42		119	720	9.9	91	92	710	7.6	91	76	705	6.2	90
17.45		126	720	10.4 *	91	97	710	8.0	91	80	710	6.6	91
15.28	34/6	144	720	11.9 *	92	111	720	9.2	91	92	710	7.5	91
13.76		160	725	13.2 *	92	124	720	10.2 *	91	102	710	8.3	91
12.07		182	650	13.5 *	92	141	725	11.7 *	92	116	720	9.6 *	91
10.65		207	580	13.6 *	92	160	725	13.2 *	92	131	720	10.8 *	92
9.44		233	520	13.8 *	92	180	655	13.4 *	92	148	725	12.3 *	92
8.06		273	445	13.8 *	92	211	575	13.8 *	92	174	680	13.5 *	92

\*  $P_{emax} = 9.2$  kW

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## Helical-Worm Gearmotors

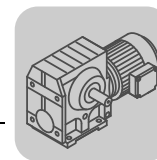
Technical data S, SF, SA, SAF 77

1100 - 700 1/min

02 964 097

$i_{ges}$	$i_{sch}$	$n_e = 1100 \text{ 1/min}$				$n_e = 900 \text{ 1/min}$				$n_e = 700 \text{ 1/min}$			
		$n_a$ [1/min]	$M_{amax}$ [Nm]	$P_e$ [kW]	$\eta$ [%]	$n_a$ [1/min]	$M_{amax}$ [Nm]	$P_e$ [kW]	$\eta$ [%]	$n_a$ [1/min]	$M_{amax}$ [Nm]	$P_e$ [kW]	$\eta$ [%]
256.47	40/1	4.3	1270	0.89	64	3.5	1270	0.75	63	2.7	1270	0.60	61
225.26		4.9	1270	1.0	65	4.0	1270	0.84	63	3.1	1270	0.67	62
214.00		5.1	1270	1.0	65	4.2	1270	0.88	64	3.3	1270	0.70	62
189.09		5.8	1270	1.2	66	4.8	1270	0.98	65	3.7	1270	0.78	63
161.60		6.8	1270	1.3	67	5.6	1270	1.1	66	4.3	1270	0.90	64
148.15		7.4	1270	1.5	68	6.1	1270	1.2	66	4.7	1270	0.97	65
130.00		8.5	1260	1.6	69	6.9	1270	1.4	67	5.4	1270	1.1	66
123.20		8.9	1250	1.7	69	7.3	1270	1.4	68	5.7	1270	1.1	66
107.83		10	1220	1.9	70	8.3	1260	1.6	69	6.5	1270	1.3	67
97.14		11	1200	2.0	70	9.3	1250	1.8	69	7.2	1270	1.4	68
85.22		13	1170	2.2	71	11	1220	1.9	70	8.2	1270	1.6	69
75.20		15	1140	2.4	72	12	1190	2.1	71	9.3	1250	1.8	69
66.67		16	1110	2.6	72	13	1160	2.3	71	10	1220	1.9	70
56.92		19	1060	2.9	73	16	1120	2.6	72	12	1190	2.2	71
75.09		15	1120	2.1	83	12	1130	1.7	82	9.3	1170	1.4	81
71.33		15	1120	2.2	83	13	1130	1.8	82	9.8	1120	1.4	81
63.03	17	1120	2.5	83	14	1120	2.0	82	11	1130	1.6	81	
53.87	20	1120	2.9	84	17	1120	2.4	83	13	1120	1.9	82	
49.38	22	1120	3.1	84	18	1120	2.6	83	14	1120	2.0	82	
43.33	25	1130	3.5	85	21	1120	2.9	84	16	1120	2.3	83	
41.07	27	1130	3.7	85	22	1120	3.1	84	17	1120	2.4	83	
35.94	31	1150	4.3	85	25	1130	3.5	85	19	1120	2.7	84	
32.38	34	1130	4.7	86	28	1130	3.9	85	22	1120	3.0	84	
28.41	39	1110	5.2	86	32	1150	4.5	86	25	1130	3.4	85	
25.07	44	1080	5.7	87	36	1120	4.9	86	28	1130	3.9	85	
22.22	50	1050	6.3	87	41	1100	5.4	86	32	1150	4.4	86	
18.97	58	1010	7.0	87	47	1060	6.1	87	37	1120	5.0	86	
22.89	48	695	3.9	89	39	695	3.2	89	31	705	2.6	88	
20.99	52	705	4.3	90	43	695	3.5	89	33	705	2.8	88	
18.42	60	700	4.9	90	49	700	4.0	89	38	700	3.1	89	
17.45	63	700	5.1	90	52	700	4.2	90	40	700	3.3	89	
15.28	72	710	5.9	90	59	700	4.8	90	46	700	3.8	89	
13.76	80	710	6.6	91	65	700	5.3	90	51	700	4.2	90	
12.07	91	710	7.5	91	75	710	6.1	90	58	700	4.7	90	
10.65	103	715	8.5	91	85	710	6.9	91	66	710	5.4	90	
9.44	117	720	9.6 *	91	95	715	7.8	91	74	710	6.1	90	
8.06	136	725	11.3 *	92	112	720	9.2	91	87	710	7.1	91	

\*  $P_{emax} = 9.2 \text{ kW}$

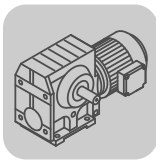


500 - 10 1/min

02 964 097

$i_{ges}$	$i_{sch}$	$n_e = 500 \text{ 1/min}$				$n_e = 250 \text{ 1/min}$				$n_e = 10 \text{ 1/min}$			
		$n_a$ [1/min]	$M_{amax}$ [Nm]	$P_e$ [kW]	$\eta$ [%]	$n_a$ [1/min]	$M_{amax}$ [Nm]	$P_e$ [kW]	$\eta$ [%]	$n_a$ [1/min]	$M_{amax}$ [Nm]	$P_e$ [kW]	$\eta$ [%]
256.47	40/1	1.9	1270	0.44	59	0.97	1270	0.23	56	0.04	1270	< 0.05	54
225.26		2.2	1270	0.49	60	1.1	1270	0.26	56	0.04	1270	< 0.05	55
214.00		2.3	1270	0.52	60	1.2	1270	0.28	56	0.05	1270	< 0.05	55
189.09		2.6	1270	0.58	61	1.3	1270	0.31	57	0.05	1270	< 0.05	55
161.60		3.1	1270	0.67	62	1.5	1270	0.36	58	0.06	1270	< 0.05	55
148.15		3.4	1270	0.72	62	1.7	1270	0.39	58	0.07	1270	< 0.05	55
130.00		3.8	1270	0.81	63	1.9	1270	0.43	59	0.08	1270	< 0.05	55
123.20		4.1	1270	0.85	64	2.0	1270	0.46	59	0.08	1270	< 0.05	55
107.83		4.6	1270	0.95	65	2.3	1270	0.51	60	0.09	1270	< 0.05	56
97.14		5.1	1270	1.0	65	2.6	1270	0.56	61	0.10	1270	< 0.05	56
85.22		5.9	1270	1.2	66	2.9	1270	0.63	62	0.12	1270	< 0.05	56
75.20		6.6	1270	1.3	67	3.3	1270	0.71	62	0.13	1270	< 0.05	56
66.67		7.5	1270	1.5	68	3.7	1270	0.79	63	0.15	1270	< 0.05	56
56.92		8.8	1260	1.7	69	4.4	1270	0.91	64	0.18	1270	< 0.05	56
75.09		6.7	1160	1.0	79	3.3	1120	0.51	76	0.13	1120	< 0.05	75
71.33		7.0	1110	1.0	79	3.5	1060	0.51	77	0.14	1060	< 0.05	75
63.03	7.9	1230	1.3	80	4.0	1200	0.65	77	0.16	1200	< 0.05	76	
53.87	9.3	1180	1.4	81	4.6	1240	0.77	78	0.19	1240	< 0.05	76	
49.38	10	1160	1.5	81	5.1	1240	0.84	78	0.20	1240	< 0.05	76	
43.33	12	1120	1.7	82	5.8	1240	0.95	79	0.23	1240	< 0.05	76	
41.07	40/3	12	1120	1.7	82	6.1	1240	1.0	79	0.24	1240	< 0.05	76
35.94		14	1120	2.0	82	7.0	1240	1.1	79	0.28	1240	< 0.05	76
32.38		15	1120	2.2	83	7.7	1240	1.3	80	0.31	1240	0.05	76
28.41		18	1120	2.5	83	8.8	1190	1.4	80	0.35	1190	0.06	76
25.07	20	1120	2.8	84	10	1170	1.5	81	0.40	1170	0.06	76	
22.22	23	1130	3.2	84	11	1130	1.6	81	0.45	1130	0.07	76	
18.97	26	1130	3.7	85	13	1120	1.9	82	0.53	1120	0.08	76	
22.89	22	690	1.8	87	11	675	0.91	85	0.44	675	< 0.05	83	
20.99	24	725	2.1	87	12	740	1.1	85	0.48	740	< 0.05	83	
18.42	27	705	2.3	88	14	830	1.4	86	0.54	830	0.06	83	
17.45	29	705	2.4	88	14	810	1.4	86	0.57	810	0.06	83	
15.28	34/6	33	705	2.7	88	16	785	1.6	86	0.65	785	0.06	83
13.76		36	695	3.0	89	18	770	1.7	87	0.73	770	0.07	83
12.07		41	695	3.4	89	21	750	1.9	87	0.83	750	0.08	83
10.65		47	695	3.8	89	23	725	2.0	87	0.94	725	0.09	83
9.44	53	705	4.4	90	26	705	2.2	88	1.1	705	0.09	83	
8.06	62	705	5.1	90	31	705	2.6	88	1.2	705	0.11	83	

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## Helical-Worm Gearmotors

### Technical data S, SF, SA, SAF 87

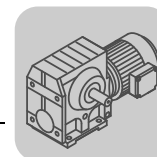
#### 6.11 Technical data S, SF, SA, SAF 87

3400 - 2800 1/min

02 965 097

$i_{ges}$	$i_{sch}$	$n_e = 3400$ 1/min				$n_e = 3200$ 1/min				$n_e = 2800$ 1/min			
		$n_a$ [1/min]	$M_{amax}$ [Nm]	$P_e$ [kW]	$\eta$ [%]	$n_a$ [1/min]	$M_{amax}$ [Nm]	$P_e$ [kW]	$\eta$ [%]	$n_a$ [1/min]	$M_{amax}$ [Nm]	$P_e$ [kW]	$\eta$ [%]
288.00		12	2030	3.4	74	11	2070	3.3	73	9.7	2070	2.9	73
258.18		13	1990	3.7	74	12	2010	3.5	74	11	2070	3.2	73
222.40		15	1910	4.1	75	14	1950	4.0	74	13	2010	3.6	74
202.96		17	1850	4.3	75	16	1890	4.2	75	14	1970	3.8	74
180.00		19	1800	4.7	75	18	1830	4.5	75	16	1910	4.2	75
151.30		22	1690	5.3	75	21	1730	5.1	75	19	1800	4.6	75
139.05	40/1	24	1630	5.5	76	23	1680	5.4	76	20	1760	4.9	75
123.48		28	1570	6.0	76	26	1600	5.7	76	23	1690	5.3	76
110.40		31	1430	6.1	76	29	1540	6.2	76	25	1620	5.7	76
99.26		34	1260	6.0	75	32	1380	6.2	76	28	1550	6.0	76
86.15		39	1030	5.8	74	37	1150	6.0	75	33	1390	6.2	76
77.14		44	830	5.3	72	41	970	5.7	74	36	1220	6.1	76
64.00		53	500	4.3	65	50	620	4.7	68	44	960	5.9	75
91.20		37	1470	6.6	88	35	1470	6.2	87	31	1470	5.4	87
81.76		42	1470	7.3	88	39	1470	6.9	88	34	1470	6.0	87
70.43		48	1470	8.4	88	45	1470	7.9	88	40	1470	7.0	88
64.27		53	1470	9.2	88	50	1470	8.7	88	44	1470	7.6	88
57.00		60	1470	10.4	88	56	1470	9.8	88	49	1470	8.6	88
47.91		71	1470	12.3	89	67	1470	11.6	89	58	1470	10.2	88
44.03	38/3	77	1470	13.4	89	73	1470	12.6	89	64	1470	11.0	89
39.10		87	1300	13.3	89	82	1400	13.5	89	72	1470	12.4	89
34.96		97	1140	13.1	89	92	1240	13.4	89	80	1440	13.6	89
31.43		108	1000	12.8	88	102	1090	13.1	89	89	1290	13.5	89
27.28		125	810	12.1	88	117	910	12.7	88	103	1110	13.4	89
24.43		139	660	11.1	87	131	775	12.1	88	115	960	13.0	89
20.27		168	395	8.4	82	158	490	9.6	84	138	755	12.4	88
25.50		133	990	15.0	92	125	990	14.1	92	110	990	12.4	92
21.43		159	990	17.8 *	92	149	990	16.8 *	92	131	990	14.7	92
19.70		173	990	19 *	92	162	990	18.3 *	92	142	990	16.0 *	92
17.49		194	870	19 *	92	183	930	19 *	92	160	990	18.0 *	92
15.64		217	760	19 *	92	205	830	19 *	92	179	960	19 *	92
14.06	34/6	242	660	18.2 *	92	228	725	19 *	92	199	860	19 *	92
12.21		278	540	17.2 *	91	262	605	18.1 *	92	229	730	19 *	92
10.93		311	440	15. *8	90	293	510	17.1 *	91	256	645	19 *	92
9.07		375	255	11.5	87	353	325	13.5	89	309	500	17.7 *	92
7.88		431	200	10.5	86	406	230	11.3	87	355	375	15.5 *	90

\*  $P_{emax} = 15$  kW



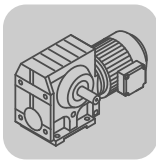
2200 - 1400 1/min

02 965 097

$i_{ges}$	$i_{sch}$	$n_e = 2200$ 1/min				$n_e = 1700$ 1/min				$n_e = 1400$ 1/min			
		$n_a$ [1/min]	$M_{amax}$ [Nm]	$P_e$ [kW]	$\eta$ [%]	$n_a$ [1/min]	$M_{amax}$ [Nm]	$P_e$ [kW]	$\eta$ [%]	$n_a$ [1/min]	$M_{amax}$ [Nm]	$P_e$ [kW]	$\eta$ [%]
288.00		7.6	2210	2.5	71	5.9	2280	2.0	70	4.9	2280	1.7	69
258.18		8.5	2170	2.7	72	6.6	2260	2.2	71	5.4	2280	1.9	69
222.40		9.9	2130	3.0	73	7.6	2210	2.5	71	6.3	2280	2.1	70
202.96		11	2080	3.2	73	8.4	2190	2.7	72	6.9	2260	2.3	71
180.00		12	2020	3.5	74	9.4	2130	2.9	73	7.8	2210	2.5	72
151.30		15	1940	4.0	75	11	2060	3.3	74	9.3	2150	2.9	73
139.05	40/1	16	1880	4.2	75	12	2020	3.5	74	10	2100	3.0	73
123.48		18	1820	4.5	75	14	1960	3.8	74	11	2060	3.3	74
110.40		20	1770	4.9	76	15	1900	4.1	75	13	2000	3.6	74
99.26		22	1700	5.2	76	17	1840	4.4	75	14	1960	3.9	75
86.15		26	1620	5.7	76	20	1770	4.8	76	16	1880	4.3	75
77.14		29	1540	6.0	76	22	1700	5.2	76	18	1820	4.6	76
64.00		34	1360	6.4	77	27	1580	5.7	77	22	1700	5.1	76
91.20		24	1540	4.5	87	19	1520	3.5	86	15	1510	2.9	85
81.76		27	1600	5.2	87	21	1600	4.0	86	17	1600	3.4	86
70.43		31	1600	6.0	87	24	1600	4.7	87	20	1600	3.9	86
64.27		34	1600	6.6	88	26	1600	5.1	87	22	1600	4.2	86
57.00		39	1600	7.4	88	30	1600	5.7	87	25	1600	4.8	87
47.91		46	1600	8.7	88	35	1600	6.8	88	29	1600	5.6	87
44.03	38/3	50	1600	9.5	88	39	1600	7.4	88	32	1600	6.1	87
39.10		56	1600	10.6	89	43	1600	8.3	88	36	1600	6.8	88
34.96		63	1600	11.9	89	49	1600	9.2	88	40	1600	7.6	88
31.43		70	1600	13.2	89	54	1600	10.2	89	45	1600	8.5	88
27.28		81	1450	13.7	89	62	1600	11.7	89	51	1600	9.7	89
24.43		90	1310	13.8	89	70	1600	13.1	89	57	1600	10.8	89
20.27		109	1080	13.8	89	84	1420	14.0	89	69	1600	13.0	89
25.50		86	1240	12.2	92	67	1240	9.5	91	55	1240	7.8	91
21.43		103	1240	14.5	92	79	1240	11.2	92	65	1240	9.3	91
19.70		112	1240	15.7 *	92	86	1240	12.2	92	71	1240	10.1	91
17.49		126	1240	17.7 *	92	97	1240	13.7	92	80	1240	11.3	92
15.64	34/6	141	1230	20 *	92	109	1240	15.3 *	92	90	1240	12.7	92
14.06		156	1110	20 *	92	121	1240	17.0 *	92	100	1240	14.1	92
12.21		180	970	20 *	93	139	1240	20 *	92	115	1240	16.1 *	92
10.93		201	870	20 *	93	156	1130	20 *	93	128	1240	18.0 *	92
9.07		243	720	20 *	92	187	950	20 *	93	154	1140	20 *	93
7.88		279	605	19 *	92	216	830	20 *	93	178	1010	20 *	93

\*  $P_{emax} = 15$  kW

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## Helical-Worm Gearmotors

Technical data S, SF, SA, SAF 87

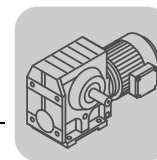
1100 - 700 1/min

02 966 097

$i_{ges}$	$i_{sch}$	$n_e = 1100 \text{ 1/min}$				$n_e = 900 \text{ 1/min}$				$n_e = 700 \text{ 1/min}$			
		$n_a$ [1/min]	$M_{amax}$ [Nm]	$P_e$ [kW]	$\eta$ [%]	$n_a$ [1/min]	$M_{amax}$ [Nm]	$P_e$ [kW]	$\eta$ [%]	$n_a$ [1/min]	$M_{amax}$ [Nm]	$P_e$ [kW]	$\eta$ [%]
288.00		3.8	2400	1.4	67	3.1	2450	1.2	66	2.4	2480	0.98	64
258.18		4.3	2380	1.6	68	3.5	2430	1.3	67	2.7	2470	1.1	65
222.40		4.9	2350	1.8	69	4.0	2400	1.5	68	3.1	2450	1.2	66
202.96		5.4	2330	1.9	70	4.4	2380	1.6	68	3.4	2430	1.3	67
180.00		6.1	2280	2.1	70	5.0	2350	1.8	69	3.9	2400	1.4	68
151.30		7.3	2240	2.4	71	5.9	2310	2.0	70	4.6	2350	1.7	69
139.05	40/1	7.9	2190	2.5	72	6.5	2260	2.2	71	5.0	2330	1.8	69
123.48		8.9	2150	2.8	73	7.3	2240	2.4	71	5.7	2310	2.0	70
110.40		10	2110	3.0	73	8.2	2190	2.6	72	6.3	2280	2.1	71
99.26		11	2070	3.3	74	9.1	2150	2.8	73	7.1	2240	2.3	71
86.15		13	2000	3.6	74	10	2090	3.1	73	8.1	2190	2.6	72
77.14		14	1940	3.9	75	12	2040	3.4	74	9.1	2150	2.8	73
64.00		17	1840	4.4	76	14	1960	3.9	75	11	2070	3.2	74
91.20		12	1490	2.2	84	9.9	1480	1.8	83	7.7	1460	1.4	82
81.76		13	1760	2.9	85	11	1760	2.4	84	8.6	1760	1.9	83
70.43		16	1760	3.4	85	13	1760	2.8	85	9.9	1760	2.2	83
64.27		17	1760	3.7	86	14	1760	3.0	85	11	1760	2.4	84
57.00		19	1760	4.1	86	16	1760	3.4	85	12	1760	2.7	84
47.91		23	1760	4.9	87	19	1760	4.0	86	15	1760	3.2	85
44.03	38/3	25	1760	5.3	87	20	1760	4.4	86	16	1760	3.4	85
39.10		28	1760	6.0	87	23	1760	4.9	87	18	1760	3.9	86
34.96		31	1760	6.6	88	26	1760	5.5	87	20	1760	4.3	86
31.43		35	1760	7.4	88	29	1760	6.1	87	22	1760	4.7	87
27.28		40	1760	8.4	88	33	1760	6.9	88	26	1760	5.4	87
24.43		45	1760	9.4	88	37	1760	7.7	88	29	1760	6.0	87
20.27		54	1760	11.3	89	44	1760	9.3	88	35	1760	7.2	88
25.50		43	1340	6.7	90	35	1340	5.5	90	27	1340	4.3	89
21.43		51	1340	7.9	91	42	1340	6.5	90	33	1340	5.1	90
19.70		56	1340	8.6	91	46	1340	7.1	91	36	1340	5.5	90
17.49		63	1340	9.7	91	51	1340	7.9	91	40	1340	6.2	90
15.64	34/6	70	1340	10.8	92	58	1340	8.9	91	45	1340	6.9	91
14.06		78	1340	12.0	92	64	1340	9.8	91	50	1340	7.7	91
12.21		90	1340	13.8	92	74	1340	11.3	92	57	1340	8.8	91
10.93		101	1340	15.3 *	92	82	1340	12.6	92	64	1340	9.8	91
9.07		121	1340	18.4 *	92	99	1340	15.1 *	92	77	1340	11.8	92
7.88		140	1260	20 *	93	114	1340	17.4 *	92	89	1340	13.6	92

\*  $P_{emax} = 15 \text{ kW}$



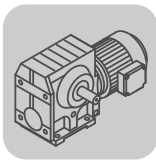


500 - 10 1/min

02 966 097

$i_{ges}$	$i_{sch}$	$n_e = 500 \text{ 1/min}$				$n_e = 250 \text{ 1/min}$				$n_e = 10 \text{ 1/min}$				
		$n_a$ [1/min]	$M_{amax}$ [Nm]	$P_e$ [kW]	$\eta$ [%]	$n_a$ [1/min]	$M_{amax}$ [Nm]	$P_e$ [kW]	$\eta$ [%]	$n_a$ [1/min]	$M_{amax}$ [Nm]	$P_e$ [kW]	$\eta$ [%]	
288.00	40/1	1.7	2500	0.73	62	0.87	2500	0.38	59	0.03	2500	< 0.05	58	
258.18		1.9	2500	0.80	63	0.97	2500	0.43	59	0.04	2500	< 0.05	58	
222.40		2.2	2500	0.92	64	1.1	2500	0.49	60	0.04	2500	< 0.05	59	
202.96		2.5	2480	0.99	64	1.2	2500	0.53	61	0.05	2500	< 0.05	59	
180.00		2.8	2480	1.1	65	1.4	2500	0.60	61	0.06	2500	< 0.05	59	
151.30		3.3	2430	1.3	67	1.7	2500	0.70	62	0.07	2500	< 0.05	59	
139.05		3.6	2430	1.4	67	1.8	2500	0.75	63	0.07	2500	< 0.05	59	
123.48		4.0	2400	1.5	68	2.0	2500	0.84	63	0.08	2500	< 0.05	59	
110.40		4.5	2380	1.6	69	2.3	2500	0.93	64	0.09	2500	< 0.05	59	
99.26		5.0	2330	1.8	69	2.5	2470	1.0	65	0.10	2470	< 0.05	59	
86.15		5.8	2310	2.0	70	2.9	2450	1.1	66	0.12	2450	0.05	59	
77.14		6.5	2260	2.2	71	3.2	2430	1.2	66	0.13	2430	0.06	59	
64.00		7.8	2220	2.5	72	3.9	2400	1.5	68	0.16	2400	0.07	59	
91.20		38/3	5.5	1450	1.0	81	2.7	1390	0.51	79	0.11	1390	< 0.05	78
81.76			6.1	1960	1.5	82	3.1	1880	0.76	79	0.12	1880	< 0.05	78
70.43			7.1	1980	1.8	82	3.5	1980	0.92	80	0.14	1980	< 0.05	79
64.27	7.8		1980	2.0	83	3.9	1980	1.0	80	0.16	1980	< 0.05	79	
57.00	8.8		1980	2.2	83	4.4	1980	1.1	80	0.18	1980	< 0.05	79	
47.91	10		1980	2.6	84	5.2	1980	1.3	81	0.21	1980	0.06	79	
44.03	11		1980	2.8	84	5.7	1980	1.4	81	0.23	1980	0.06	79	
39.10	13		1980	3.1	85	6.4	1980	1.6	82	0.26	1980	0.07	79	
34.96	14		1980	3.5	85	7.2	1980	1.8	82	0.29	1980	0.08	79	
31.43	16		1980	3.9	85	8.0	1980	2.0	83	0.32	1980	0.08	79	
27.28	18		1980	4.4	86	9.2	1980	2.3	83	0.37	1980	0.10	79	
24.43	20		1980	4.9	86	10	1980	2.5	84	0.41	1980	0.11	79	
20.27	25		1980	5.9	87	12	1980	3.0	85	0.49	1980	0.13	79	
25.50	34/6		20	1430	3.3	88	9.8	1390	1.6	87	0.39	1390	0.07	85
21.43			23	1420	3.9	89	12	1510	2.1	87	0.47	1510	0.09	85
19.70			25	1410	4.2	89	13	1570	2.4	87	0.51	1570	0.10	85
17.49		29	1390	4.6	89	14	1570	2.7	88	0.57	1570	0.11	85	
15.64		32	1390	5.2	90	16	1540	2.9	88	0.64	1540	0.12	85	
14.06		36	1390	5.7	90	18	1510	3.2	88	0.71	1510	0.13	85	
12.21		41	1390	6.6	90	20	1460	3.5	89	0.82	1460	0.15	85	
10.93		46	1390	7.3	91	23	1430	3.9	89	0.91	1430	0.16	85	
9.07		55	1410	8.9	91	28	1390	4.5	89	1.1	1390	0.19	85	
7.88		63	1410	10.3	91	32	1390	5.1	90	1.3	1390	0.22	85	

6



## Helical-Worm Gearmotors

### Technical data S, SF, SA, SAF 97

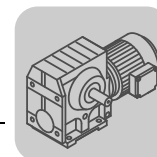
#### 6.12 Technical data S, SF, SA, SAF 97

3400 - 2800 1/min

02 967 097

$i_{ges}$	$i_{sch}$	$n_e = 3400 \text{ 1/min}$				$n_e = 3200 \text{ 1/min}$				$n_e = 2800 \text{ 1/min}$			
		$n_a$ [1/min]	$M_{amax}$ [Nm]	$P_e$ [kW]	$\eta$ [%]	$n_a$ [1/min]	$M_{amax}$ [Nm]	$P_e$ [kW]	$\eta$ [%]	$n_a$ [1/min]	$M_{amax}$ [Nm]	$P_e$ [kW]	$\eta$ [%]
286.40		12	3520	5.8	76	11	3590	5.6	76	9.8	3700	5.0	75
262.22		13	3450	6.2	76	12	3520	5.9	76	11	3630	5.4	75
231.67		15	3310	6.7	76	14	3380	6.4	76	12	3520	5.9	76
196.52		17	3120	7.4	77	16	3210	7.2	76	14	3350	6.6	76
180.95		19	3030	7.8	77	18	3120	7.5	77	15	3250	6.9	76
161.74		21	2910	8.3	77	20	2970	8.0	77	17	3120	7.4	77
145.60	40/1	23	2760	8.8	77	22	2850	8.5	77	19	3000	7.9	77
131.85		26	2660	9.4	77	24	2740	9.1	77	21	2880	8.3	77
116.92		29	2320	9.3	76	27	2550	9.5	77	24	2740	8.9	77
105.71		32	1980	8.9	75	30	2210	9.2	76	26	2630	9.5	77
89.60		38	1280	7.3	70	36	1670	8.5	74	31	2210	9.4	77
78.26		43	920	6.4	65	41	1040	6.7	67	36	1770	8.8	75
65.45		52	675	5.9	63	49	775	6.2	64	43	1030	6.8	68
80.85		42	3150	15.5	89	40	3150	14.6	89	35	3150	12.8	89
71.43		48	3090	17.2	90	45	3150	16.5	89	39	3150	14.5	89
60.59		56	2910	19	90	53	2970	18.3	90	46	3120	16.9	90
55.79		61	2820	20	90	57	2880	19	90	50	3030	17.8	90
49.87		68	2710	22	90	64	2760	21	90	56	2910	19	90
44.89	37/3	76	2430	21	90	71	2630	22	90	62	2790	20	90
40.65		84	2170	21	90	79	2350	22	90	69	2680	21	90
36.05		94	1830	20	89	89	2020	21	89	78	2400	22	90
32.60		104	1560	19	89	98	1760	20	89	86	2150	22	90
27.63		123	1010	15.2	86	116	1320	18.2	88	101	1740	21	89
24.13		141	725	12.9	83	133	820	13.6	84	116	1390	19	88
26.39		129	1750	25 *	93	121	1750	24 *	93	106	1750	21	93
23.59		144	1750	28 *	93	136	1750	27 *	93	119	1750	23 *	93
21.23		160	1750	32 *	93	151	1750	30 *	93	132	1750	26 *	93
19.23		177	1550	31 *	93	166	1680	31 *	93	146	1750	29 *	93
17.05		199	1320	30 *	93	188	1450	31 *	93	164	1730	32 *	93
15.42	35/6	220	1110	28 *	92	208	1260	30 *	93	182	1540	31 *	93
13.07		260	725	22	90	245	940	26 *	92	214	1240	30 *	93
11.41		298	515	18.3	88	280	585	19	89	245	1000	28 *	92
9.55		356	375	16.2	87	335	435	17.5	87	293	580	20	89
8.26		412	290	14.7	85	387	335	15.8	86	339	455	18.4	88

\*  $P_{emax} = 22 \text{ kW}$



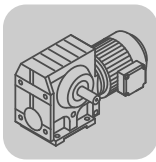
2200 - 1400 1/min

02 967 097

$i_{ges}$	$i_{sch}$	$n_e = 2200 \text{ 1/min}$				$n_e = 1700 \text{ 1/min}$				$n_e = 1400 \text{ 1/min}$			
		$n_a$ [1/min]	$M_{amax}$ [Nm]	$P_e$ [kW]	$\eta$ [%]	$n_a$ [1/min]	$M_{amax}$ [Nm]	$P_e$ [kW]	$\eta$ [%]	$n_a$ [1/min]	$M_{amax}$ [Nm]	$P_e$ [kW]	$\eta$ [%]
286.40		7.7	3920	4.2	74	5.9	4000	3.4	73	4.9	4000	2.9	72
262.22		8.4	3840	4.5	75	6.5	4000	3.7	73	5.3	4000	3.1	72
231.67		9.5	3770	5.0	75	7.3	3960	4.1	74	6.0	4000	3.5	73
196.52		11	3580	5.5	76	8.7	3840	4.7	75	7.1	4000	4.0	74
180.95		12	3510	5.9	76	9.4	3770	4.9	75	7.7	3920	4.3	74
161.74		14	3410	6.4	76	11	3650	5.3	76	8.7	3840	4.7	75
145.60	40/1	15	3270	6.8	77	12	3550	5.7	76	9.6	3730	5.0	75
131.85		17	3170	7.2	77	13	3440	6.1	76	11	3650	5.4	76
116.92		19	3020	7.7	77	15	3340	6.6	77	12	3510	5.8	76
105.71		21	2930	8.3	77	16	3210	7.0	77	13	3440	6.2	76
89.60		25	2730	9.1	77	19	3020	7.8	77	16	3240	6.9	77
78.26		28	2540	9.6	78	22	2870	8.4	78	18	3080	7.5	77
65.45		34	2120	9.7	77	26	2650	9.2	78	21	2900	8.3	78
80.85		27	3300	10.6	89	21	3270	8.2	88	17	3230	6.7	88
71.43		31	3300	12.0	89	24	3300	9.3	88	20	3300	7.7	88
60.59		36	3300	14.1	89	28	3300	10.9	89	23	3300	9.0	88
55.79		39	3270	15.1	89	30	3300	11.8	89	25	3300	9.8	88
49.87		44	3170	16.3	90	34	3300	13.2	89	28	3300	10.9	89
44.89	37/3	49	3050	17.5	90	38	3300	14.6	89	31	3300	12.1	89
40.65		54	2950	19	90	42	3230	15.8	90	34	3300	13.3	89
36.05		61	2810	20	90	47	3110	17.1	90	39	3300	15.0	89
32.60		67	2700	21	90	52	2980	18.1	90	43	3200	16.0	90
27.63		80	2390	22	90	62	2810	20	90	51	3010	17.8	90
24.13		91	2060	22	90	70	2670	22	90	58	2870	19	90
26.39		83	2550	24 *	93	64	2600	19	93	53	2600	15.6	92
23.59		93	2450	26 *	93	72	2600	21	93	59	2600	17.5	93
21.23		104	2380	28 *	93	80	2570	23 *	93	66	2600	19	93
19.23		114	2280	29 *	93	88	2500	25 *	93	73	2600	21	93
17.05		129	2170	31 *	93	100	2400	27 *	93	82	2570	24 *	93
15.42	35/6	143	2040	33 *	93	110	2300	28 *	93	91	2470	25 *	93
13.07		168	1720	32 *	93	130	2170	32 *	93	107	2330	28 *	93
11.41		193	1480	32 *	93	149	2000	33 *	93	123	2210	30 *	93
9.55		230	1200	31 *	93	178	1670	33 *	93	147	2040	33 *	94
8.26		266	980	30 *	93	206	1440	33 *	93	169	1770	34 *	94

\*  $P_{emax} = 22 \text{ kW}$

# 6



## Helical-Worm Gearmotors

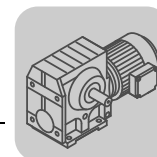
Technical data S, SF, SA, SAF 97

1100 - 700 1/min

02 968 097

$i_{ges}$	$i_{sch}$	$n_e = 1100 \text{ 1/min}$				$n_e = 900 \text{ 1/min}$				$n_e = 700 \text{ 1/min}$			
		$n_a$ [1/min]	$M_{amax}$ [Nm]	$P_e$ [kW]	$\eta$ [%]	$n_a$ [1/min]	$M_{amax}$ [Nm]	$P_e$ [kW]	$\eta$ [%]	$n_a$ [1/min]	$M_{amax}$ [Nm]	$P_e$ [kW]	$\eta$ [%]
286.40		3.8	4200	2.4	70	3.1	4200	2.0	69	2.4	4200	1.6	68
262.22		4.2	4200	2.6	71	3.4	4200	2.2	70	2.7	4200	1.7	68
231.67		4.7	4200	2.9	72	3.9	4200	2.4	70	3.0	4200	1.9	69
196.52		5.6	4160	3.4	73	4.6	4200	2.8	71	3.6	4200	2.2	70
180.95		6.1	4120	3.6	73	5.0	4200	3.0	72	3.9	4200	2.4	70
161.74		6.8	4030	3.9	74	5.6	4160	3.3	73	4.3	4200	2.7	71
145.60	40/1	7.6	3950	4.2	74	6.2	4080	3.6	73	4.8	4200	2.9	72
131.85		8.3	3880	4.5	75	6.8	4030	3.9	74	5.3	4200	3.2	72
116.92		9.4	3760	4.9	75	7.7	3910	4.2	74	6.0	4120	3.5	73
105.71		10	3650	5.3	76	8.5	3840	4.6	75	6.6	4030	3.8	74
89.60		12	3500	5.9	76	10	3690	5.1	76	7.8	3910	4.3	75
78.26		14	3370	6.5	77	12	3580	5.7	76	8.9	3800	4.7	75
65.45		17	3170	7.2	77	14	3400	6.4	77	11	3650	5.4	76
80.85		14	3230	5.3	87	11	3200	4.3	86	8.7	3170	3.4	85
71.43		15	3600	6.7	87	13	3600	5.5	87	9.8	3600	4.3	86
60.59		18	3600	7.8	88	15	3600	6.4	87	12	3600	5.0	86
55.79		20	3600	8.5	88	16	3600	7.0	87	13	3600	5.5	87
49.87		22	3600	9.4	88	18	3600	7.8	88	14	3600	6.1	87
44.89	37/3	25	3600	10.4	88	20	3600	8.6	88	16	3600	6.7	87
40.65		27	3600	11.5	89	22	3600	9.5	88	17	3600	7.4	88
36.05		31	3530	12.7	89	25	3600	10.6	89	19	3600	8.3	88
32.60		34	3420	13.5	89	28	3600	11.7	89	21	3600	9.2	88
27.63		40	3260	15.2	90	33	3460	13.2	89	25	3600	10.8	89
24.13		46	3130	16.6	90	37	3320	14.5	89	29	3560	12.2	89
26.39		42	2650	12.6	92	34	2620	10.2	92	27	2620	8.0	91
23.59		47	2650	14.0	92	38	2650	11.5	92	30	2620	8.9	91
21.23		52	2650	15.6	92	42	2650	12.8	92	33	2620	9.9	92
19.23		57	2650	17.2	93	47	2650	14.1	92	36	2620	10.9	92
17.05		65	2670	19	93	53	2650	15.9	92	41	2650	12.4	92
15.42	35/6	71	2670	21	93	58	2650	17.5	93	45	2650	13.7	92
13.07		84	2540	24 *	93	69	2670	21	93	54	2650	16.1	92
11.41		96	2420	26 *	93	79	2590	23 *	93	61	2650	18.4	93
9.55		115	2280	29 *	93	94	2440	26 *	93	73	2650	22	93
8.26		133	2140	32 *	94	109	2320	28 *	93	85	2540	24 *	93

\*  $P_{emax} = 22 \text{ kW}$

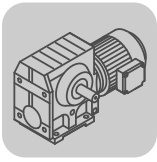


500 - 10 1/min

02 968 097

i <sub>ges</sub>	i <sub>sch</sub>	n <sub>e</sub> = 500 1/min				n <sub>e</sub> = 250 1/min				n <sub>e</sub> = 10 1/min			
		n <sub>a</sub> [1/min]	M <sub>amax</sub> [Nm]	P <sub>e</sub> [kW]	η [%]	n <sub>a</sub> [1/min]	M <sub>amax</sub> [Nm]	P <sub>e</sub> [kW]	η [%]	n <sub>a</sub> [1/min]	M <sub>amax</sub> [Nm]	P <sub>e</sub> [kW]	η [%]
286.40	40/1	1.7	4200	1.2	65	0.87	4200	0.62	62	0.03	4200	< 0.05	60
262.22		1.9	4200	1.3	66	0.95	4200	0.68	62	0.04	4200	< 0.05	60
231.67		2.2	4200	1.4	67	1.1	4200	0.76	63	0.04	4200	< 0.05	60
196.52		2.5	4200	1.6	68	1.3	4200	0.88	64	0.05	4200	< 0.05	60
180.95		2.8	4200	1.8	68	1.4	4200	0.95	64	0.06	4200	< 0.05	60
161.74		3.1	4200	2.0	69	1.5	4200	1.1	65	0.06	4200	< 0.05	60
145.60		3.4	4200	2.2	70	1.7	4200	1.2	65	0.07	4200	0.05	60
131.85		3.8	4200	2.4	70	1.9	4200	1.3	66	0.08	4200	0.06	60
116.92		4.3	4200	2.6	71	2.1	4200	1.4	67	0.09	4200	0.06	60
105.71		4.7	4200	2.9	72	2.4	4200	1.5	67	0.09	4200	0.07	60
89.60		5.6	4160	3.3	73	2.8	4200	1.8	69	0.11	4200	0.08	60
78.26		6.4	4080	3.7	74	3.2	4200	2.0	69	0.13	4200	0.09	60
65.45		7.6	3910	4.2	75	3.8	4200	2.4	70	0.15	4200	0.11	60
80.85		6.2	3110	2.4	84	3.1	3010	1.2	82	0.12	3010	< 0.05	80
71.43		7.0	4200	3.6	85	3.5	4160	1.9	82	0.14	4160	0.08	81
60.59		8.3	4200	4.3	85	4.1	4080	2.1	83	0.17	4080	0.09	81
55.79	9.0	4200	4.6	86	4.5	4200	2.4	83	0.18	4200	0.10	81	
49.87	10	4200	5.1	86	5.0	4200	2.6	83	0.20	4200	0.11	81	
44.89	37/3	11	4160	5.6	86	5.6	4200	2.9	84	0.22	4200	0.12	81
40.65		12	4120	6.1	87	6.2	4200	3.2	84	0.25	4200	0.13	81
36.05		14	4080	6.8	87	6.9	4200	3.6	85	0.28	4200	0.15	81
32.60		15	3990	7.3	87	7.7	4200	4.0	85	0.31	4200	0.17	81
27.63		18	3910	8.4	88	9.0	4200	4.7	86	0.36	4200	0.20	81
24.13		21	3800	9.3	88	10	4200	5.3	86	0.41	4200	0.23	81
26.39	35/6	19	2590	5.7	90	9.5	2540	2.8	89	0.38	2540	0.12	87
23.59		21	2590	6.3	91	11	2540	3.2	89	0.42	2540	0.13	87
21.23		24	2590	7.0	91	12	2570	3.6	89	0.47	2570	0.15	87
19.23		26	2620	7.8	91	13	2570	3.9	89	0.52	2570	0.16	87
17.05		29	2620	8.8	91	15	2570	4.4	90	0.59	2570	0.18	87
15.42		32	2620	9.7	92	16	2570	4.8	90	0.65	2570	0.20	87
13.07		38	2650	11.6	92	19	2590	5.7	90	0.77	2590	0.24	87
11.41		44	2650	13.2	92	22	2590	6.6	91	0.88	2590	0.27	87
9.55		52	2650	15.7	92	26	2620	7.9	91	1.0	2620	0.33	87
8.26		61	2650	18.1	93	30	2620	9.1	91	1.2	2620	0.38	87

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