

KEB Geared Motors "Series 2"

Technical Information

19.03.2004



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Type designation



The type designation for geared motors describes the construction of the unit starting from the output side.

1. Gear

The designation for the gear consists of gear type, gear size and number of gear stages

Gear Type:: G – Helical gear unit
S – Helical-worm gear unit
ZG – Helical gear unit

e.g. G23 designates a helical gear unit, size 2, three-stage

2. Gear – Options

Gear type G: A – Foot mounted version
C – B5 Flange mounted version
E – Foot -B5 Flange mounted version

Gear type S: A – Foot mounted version
B – Shaft mounted version
C – B5 Flange mounted version
S – Hollow shaft with shrink disk
V – Solid shaft with key
T1 – Torque arm

3. Motor / Gear Input

The designation for the motor consists of motortype, frame-size and number of poles
e.g. DA90L4 designates a motor type DA, frame size 90L, 4-pole

Motor – Options

B - Brake
BMB – Brake with hand release
F - Forced ventilation
I - Incremental encoder
TW – PTC thermistor sensor
TS - Thermorelay

Example:

G23C DL80G4 B TW

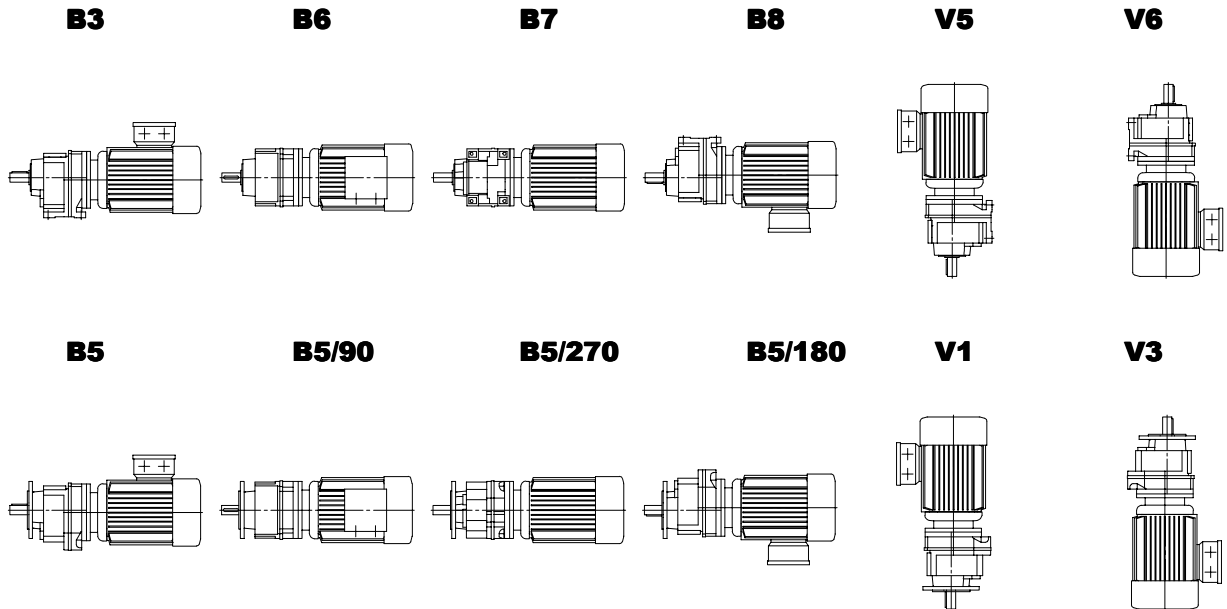
Helical Gear Units G, size 2, three-stage, B5 Flange mounted version
with motor DL, frame size 80, 4-pole, brake and PTC thermistor-sensor

For full identification of geared motors, additional information has to be added to the type designation.

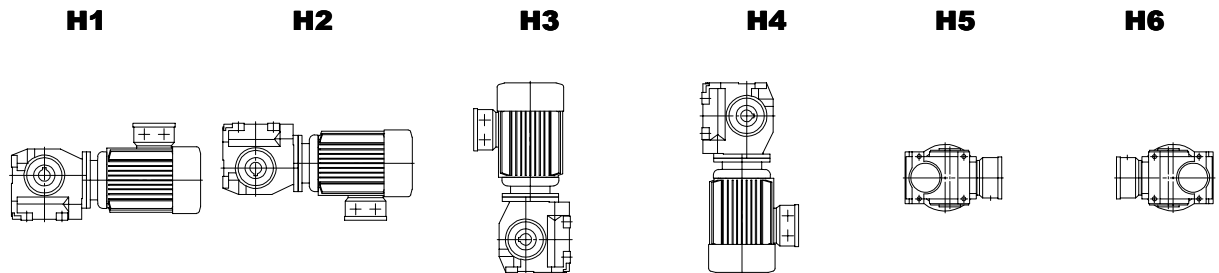
Mounting Position



Helical Gear Units G / ZG



Helical-Worm Gear Units S



Quantities of lubricant

Gear	Mounting position					
	Quantity of lubricant [l]					
	B3	B6	B7	B8	V5	V6
	B5	B5/90	B5/270	B5/180	V1	V3
G0 / ZG0	0.1	0.25	0.25	0.35	0.4	0.45
G1 / ZG1	0.15	0.4	0.4	0.55	0.65	0.65
G2 / ZG2	0.25	0.65	0.65	0.9	1.1	1.1
	H1	H2	H3	H4	H5	H6
S0	0.15	0.25	0.35	0.35	0.25	0.25
S1	0.3	0.55	1.0	0.75	0.6	0.6
S2	0.5	0.85	1.7	1.2	1.0	1.0

Drive selection



Permissible Radial Forces for the Output Shaft

If there are radial loads on the output shaft, they should be compared with the permissible values for radial forces.

The values in the table for the permissible radial forces apply under the following conditions

- gear unit with solid output shaft, normal shaft ends
- constant load in continuous operation
- radial load on the middle of the output shaft in the case of worst load direction
- no axial forces

If the radial force is not applied to the middle of the shaft, use the following formula for the conversion of the permissible radial force:

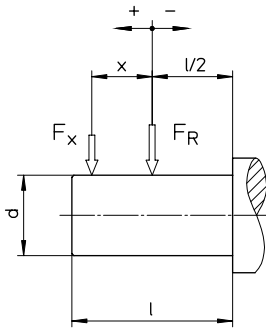
$$F_{Rx1} = F_{R1} \cdot \frac{1}{1 + \frac{x}{K_1}}$$

$$F_{Rx2} = F_{R2} \cdot \frac{1}{1 + \frac{x}{K_2}}$$

$$F_{Rxp} = \min(F_{Rx1}, F_{Rx2})$$

F_{R1}	[N]	permissible radial force for bearing lifetime application at middle of output shaft (table)
F_{R2}	[N]	permissible radial force for shaft strength application at middle of output shaft (table)
K_1, K_2	[mm]	Constant (table)
x	[mm]	Distance (subject to sign, see sketch)
F_{Rx1}	[N]	permissible radial force for bearing lifetime application at point x
F_{Rx2}	[N]	permissible radial force for shaft strength application at point x
F_{Rxp}	[N]	total value of permissible radial force application at point x

Gear	Output shaft dxl [mm]	K1 [mm]	K2 [mm]	F_{R2} [N]	F_{R1} [N]							
					<16 1/min	<25 1/min	<40 1/min	<63 1/min	<100 1/min	<160 1/min	<250 1/min	<400 1/min
G0	20x40	81.5	32.5	2540	2850	2430	1950	1630	1460	1200	1080	950
G1	20x40	90	20	4030	4450	3600	3040	2420	2020	1770	1600	1440
G2	25x50	110.5	25	5900	6000	4920	4180	3410	2860	2440	2240	2040
S02A	20x40	91	20	4030	5370	4410	3750	3100	2380	2080	1910	
S02C	20x40	109	20	4030	4490	3680	3130	2590	1980	1740	1590	
S1	25x50	128	25	5830	6400	5470	4170	3430	2510	2470	2230	
S2	30x60	161	30	7960	6120	4480	3660	3110	420	1490	1470	
ZG0	22x50	86.5	37.5	2200	2680	2290	1840	1530	1370	1130	1020	900
ZG1	28x60	100	42.5	3560	4000	3240	2740	2170	1820	1600	1440	1300
ZG2	32x80	125.5	55	4470	5280	4330	3680	3000	2430	1890	1970	1790

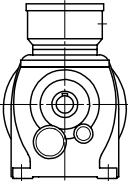
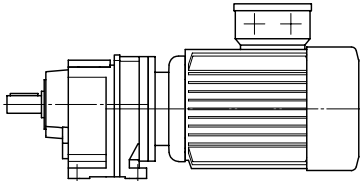


The radial force determined from the application must not exceed the permissible radial force for the gear unit.

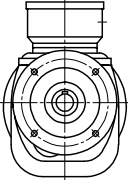
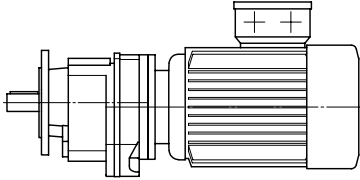
In certain conditions of force application, the gear unit is able to accept higher radial forces.

If the radial forces found for a special drive application are higher than the values in the table, or if radial and axial forces are acting at the same time, consultation with the manufacturer is necessary.

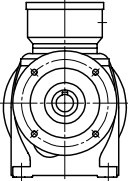
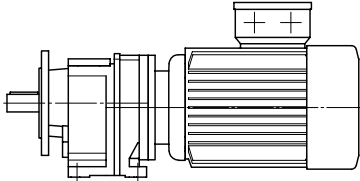
Helical Geared Motors G



Foot mounted version
Example: G02A DL63G4



B5 Flange mounted version
Example: G12C DL80G4



Foot -B5 Flange mounted version
Example: G22E DL90S4

Helical Geared Motors G



n2	M	cG	i	Type	Dimensions	Weight
[1/min]	[Nm]				Page	[kg]

0.12 kW

3.9	290	0.80	361.24	G22G12A DL63K4	13/14	17
4.5	250	0.95	312.61	G22G12C DL63K4		18
5.2	220	1.05	273.25			
5.9	192	1.20	240.74			
6.6	170	1.35	213.43			
7.4	151	1.55	190.16			
8.3	136	1.70	170.71			
<hr/>						
9.2	125	1.85	153.41	G23A DL63K4	13	12
11	107	2.2	131.06	G23C DL63K4		13
12	92	2.5	113.42			
14	81	2.9	99.14			
16	71	3.3	87.34			
18	63	3.7	77.43			
<hr/>						
7.3	150	0.80	192.31	G13G02A DL63K4	12/14	14
8.3	132	0.90	169.38	G13G02C DL63K4		14
9.7	114	1.05	145.94			
11	100	1.15	127.83			
<hr/>						
12	94	1.25	115.34	G13A DL63K4	12	9
14	79	1.45	97.78	G13C DL63K4		10
17	68	1.70	83.91			
19	59	2.00	72.69			
22	52	2.3	63.42			
25	45	2.6	55.63			
29	40	2.9	49.00			
33	35	3.3	43.09			
38	30	3.9	36.98			
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19	59	1.00	72.52	G03A DL63K4	11	9
23	50	1.20	61.26	G03C DL63K4		9
27	43	1.40	52.38			
31	37	1.65	45.19			
36	32	1.90	39.24			
41	28	2.2	34.25			
48	24	2.5	29.57			
55	21	2.9	25.51			
64	18	3.3	22.15			
73	16	3.8	19.33			
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83	14	4.3	16.97	G02A DL63K4	11	9
98	12	5.1	14.34	G02C DL63K4		9
115	10.0	6.0	12.26			
133	8.6	7.0	10.58			
154	7.5	7.8	9.18			
176	6.5	8.4	8.02			
201	5.7	8.9	7.02			
234	4.9	9.4	6.04			
271	4.2	10	5.21			
312	3.7	11	4.52			
357	3.2	12	3.95			
408	2.8	12	3.46			

n2	M	cG	i	Type	Dimensions	Weight
[1/min]	[Nm]				Page	[kg]

0.18 kW

5.9	290	0.80	240.74	G22G12A DL63G4	13/14	17
6.6	255	0.90	213.43	G22G12C DL63G4		18
7.4	225	1.05	190.16			
8.3	205	1.15	170.71			
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9.2	187	1.25	153.41	G23A DL63G4	13	12
11	160	1.45	131.06	G23C DL63G4		13
12	138	1.70	113.42			
14	121	1.95	99.14			
16	106	2.2	87.34			
18	94	2.5	77.43			
20	85	2.8	69.48			
23	74	3.1	60.74			
26	65	3.6	53.51			
30	58	4.0	47.44			
<hr/>						
11	150	0.80	127.83	G13G02A DL63G4	12/14	14
				G13G02C DL63G4		14
<hr/>						
12	141	0.85	115.34	G13A DL63G4	12	9
14	119	1.00	97.78	G13C DL63G4		10
17	102	1.15	83.91			
19	89	1.30	72.69			
22	77	1.50	63.42			
25	68	1.75	55.63			
29	60	1.95	49.00			
33	53	2.2	43.09			
38	45	2.6	36.98			
44	39	3.0	32.03			
50	34	3.4	27.95			
58	30	3.9	24.52			
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57	30	3.9	24.88	G12A DL63G4	12	9
				G12C DL63G4		10
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23	75	0.80	61.26	G03A DL63G4	11	9
27	64	0.95	52.38	G03C DL63G4		9
31	55	1.10	45.19			
36	48	1.25	39.24			
41	42	1.45	34.25			
48	36	1.65	29.57			
55	31	1.95	25.51			
64	27	2.2	22.15			
73	24	2.5	19.33			
<hr/>						
83	21	2.9	16.97	G02A DL63G4	11	9
98	17	3.4	14.34	G02C DL63G4		9
115	15	4.0	12.26			
133	13	4.7	10.58			
154	11	5.2	9.18			
176	9.8	5.6	8.02			
201	8.6	6.0	7.02			
234	7.4	6.3	6.04			
271	6.3	6.8	5.21			
312	5.5	7.3	4.52			
357	4.8	7.7	3.95			
408	4.2	8.3	3.46			

Helical Geared Motors G



n2	M	cG	i	Type	Dimensions	Weight
[1/min]	[Nm]				Page	[kg]

0.25 kW

8.1	290	0.80	170.71	G22G12A DL71K4 G22G12C DL71K4	13/14	17 18
9.0	265	0.90	153.41	G23A DL71K4	13	12
11	225	1.05	131.06	G23C DL71K4		13
12	196	1.20	113.42			
14	171	1.35	99.14			
16	151	1.55	87.34			
18	133	1.75	77.43			
20	120	1.95	69.48			
23	105	2.2	60.74			
26	92	2.5	53.51			
29	82	2.8	47.44			
33	72	3.3	41.53			
38	63	3.7	36.59			
17	145	0.80	83.91	G13A DL71K4	12	9
19	125	0.95	72.69	G13C DL71K4		10
22	109	1.05	63.42			
25	96	1.20	55.63			
28	84	1.40	49.00			
32	74	1.60	43.09			
37	64	1.85	36.98			
43	55	2.1	32.03			
50	48	2.4	27.95			
56	42	2.8	24.52			
64	37	3.1	21.59			
56	43	2.7	24.88	G12A DL71K4	12	9
65	37	3.2	21.25	G12C DL71K4		10
75	32	3.7	18.39			
35	68	0.90	39.24	G03A DL71K4	11	9
40	59	1.00	34.25	G03C DL71K4		9
47	51	1.20	29.57			
54	44	1.35	25.51			
63	38	1.55	22.15			
72	33	1.80	19.33			
82	29	2.1	16.97	G02A DL71K4	11	9
97	25	2.4	14.34	G02C DL71K4		9
113	21	2.8	12.26			
131	18	3.3	10.58			
151	16	3.7	9.18			
173	14	4.0	8.02			
197	12	4.2	7.02			
229	10	4.4	6.04			
266	9.0	4.8	5.21			
306	7.8	5.1	4.52			
351	6.8	5.4	3.95			
401	6.0	5.9	3.46			

n2	M	cG	i	Type	Dimensions	Weight
[1/min]	[Nm]				Page	[kg]

0.37 kW

12	290	0.80	113.42	G23A DL71G4	13	13
14	255	0.90	99.14	G23C DL71G4		14
16	225	1.05	87.34			
18	198	1.20	77.43			
20	178	1.30	69.48			
23	156	1.50	60.74			
26	137	1.70	53.51			
29	121	1.90	47.44			
33	106	2.2	41.53			
38	94	2.5	36.59			
43	83	2.8	32.44			
48	74	3.1	28.90			
53	66	3.5	25.95			
61	58	4.0	22.65			
47	75	3.1	29.22	G22A DL71G4	13	13
55	64	3.6	25.09	G22C DL71G4		14
25	142	0.80	55.63	G13A DL71G4	12	10
28	125	0.95	49.00	G13C DL71G4		11
32	110	1.05	43.09			
37	95	1.25	36.98			
43	82	1.45	32.03			
49	72	1.65	27.95			
56	63	1.85	24.52			
64	55	2.1	21.59			
55	64	1.85	24.88	G12A DL71G4	12	10
65	54	2.1	21.25	G12C DL71G4		11
75	47	2.5	18.39			
86	41	2.8	16.08			
97	36	3.2	14.16			
110	32	3.6	12.56			
47	76	0.80	29.57	G03A DL71G4	11	10
54	65	0.90	25.51	G03C DL71G4		10
62	57	1.05	22.15			
71	50	1.20	19.33			
81	43	1.40	16.97	G02A DL71G4	11	10
96	37	1.65	14.34	G02C DL71G4		10
113	31	1.90	12.26			
130	27	2.2	10.58			
150	24	2.5	9.18			
172	21	2.7	8.02			
197	18	2.8	7.02			
229	15	3.0	6.04			
265	13	3.2	5.21			
305	12	3.5	4.52			
350	10	3.7	3.95			
399	8.9	4.0	3.46			

Helical Geared Motors G



n2	M	cG	i	Type	Dimensions	Weight
[1/min]	[Nm]				Page	[kg]

0.55 kW

20	260	0.90	69.48	G23A DL80K4	13	17
23	225	1.05	60.74	G23C DL80K4		18
26	199	1.15	53.51			
30	177	1.30	47.44			
34	155	1.50	41.53			
39	136	1.70	36.59			
43	121	1.95	32.44			
49	108	2.2	28.90			
54	97	2.4	25.95			
62	84	2.7	22.65			
71	74	3.2	19.83			
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65	81	2.9	21.82	G22A DL80K4	13	17
74	71	3.3	19.18	G22C DL80K4		18
83	63	3.7	17.00			
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38	138	0.85	36.98	G13A DL80K4	12	15
44	119	1.00	32.03	G13C DL80K4		15
50	104	1.10	27.95			
58	91	1.30	24.52			
65	80	1.45	21.59			
<hr/>						
77	69	1.70	18.39	G12A DL80K4	12	15
88	60	1.95	16.08	G12C DL80K4		15
100	53	2.2	14.16			
112	47	2.5	12.56			
126	42	2.8	11.19			
140	37	3.0	10.04			
161	33	3.2	8.77			
184	29	3.5	7.68			
200	26	3.7	7.06			
227	23	4.0	6.22			
256	21	4.2	5.51			
287	18	4.5	4.91			
320	16	4.8	4.41			
366	14	5.2	3.85			
418	13	5.5	3.37			
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115	46	1.30	12.26	G02A DL80K4	11	14
133	39	1.50	10.58	G02C DL80K4		15
154	34	1.70	9.18			
176	30	1.85	8.02			
201	26	1.95	7.02			
234	22	2.0	6.04			
271	19	2.2	5.21			
312	17	2.4	4.52			
357	15	2.5	3.95			
408	13	2.7	3.46			

n2	M	cG	i	Type	Dimensions	Weight
[1/min]	[Nm]				Page	[kg]

0.75 kW

26	275	0.85	53.51	G23A DL80G4	13	18
30	245	0.95	47.44	G23C DL80G4		19
34	210	1.10	41.53			
38	187	1.25	36.59			
43	166	1.40	32.44			
48	148	1.60	28.90			
54	133	1.75	25.95			
62	116	2.00	22.65			
71	101	2.3	19.83			
<hr/>						
64	112	2.1	21.82	G22A DL80G4	13	18
73	98	2.4	19.18	G22C DL80G4		19
82	87	2.7	17.00			
92	78	3.0	15.16			
103	70	3.3	13.60			
113	63	3.7	12.36			
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50	143	0.80	27.95	G13A DL80G4	12	16
57	125	0.95	24.52	G13C DL80G4		16
65	110	1.05	21.59			
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76	94	1.25	18.39	G12A DL80G4	12	16
87	82	1.40	16.08	G12C DL80G4		16
99	72	1.60	14.16			
111	64	1.80	12.56			
125	57	2.0	11.19			
139	51	2.2	10.04			
160	45	2.4	8.77			
182	39	2.5	7.68			
198	36	2.7	7.06			
225	32	2.9	6.22			
254	28	3.1	5.51			
285	25	3.3	4.91			
318	23	3.5	4.41			
364	20	3.8	3.85			
415	17	4.0	3.37			
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114	63	0.95	12.26	G02A DL80G4	11	15
132	54	1.10	10.58	G02C DL80G4		16
152	47	1.25	9.18			
175	41	1.35	8.02			
199	36	1.40	7.02			
232	31	1.50	6.04			
269	27	1.60	5.21			
310	23	1.75	4.52			
355	20	1.85	3.95			
405	18	2.00	3.46			

Helical Geared Motors G



n2	M	cG	i	Type	Dimensions	Weight
[1/min]	[Nm]				Page	[kg]

1.1 kW

39	270	0.85	36.59	G23A DL90S4	13	22
44	240	0.95	32.44	G23C DL90S4		22
49	215	1.10	28.90			
55	192	1.20	25.95			
63	168	1.35	22.65			
72	147	1.60	19.83			

74	142	1.65	19.18	G22A DL90S4	13	22
84	126	1.85	17.00	G22C DL90S4		22
94	112	2.1	15.16			
104	101	2.3	13.60			
115	91	2.5	12.36			
130	81	2.9	10.90			
147	71	3.1	9.65			
164	64	3.4	8.64			
189	56	4.2	7.52			
202	52	3.2	7.04			
225	47	3.5	6.31			
247	42	4.8	5.74			
281	37	4.5	5.06			
317	33	4.6	4.48			
354	30	4.8	4.01			
407	26	8.0	3.49			

88	119	1.00	16.08	G12A DL90S4	12	19
100	105	1.10	14.16	G12C DL90S4		20
113	93	1.25	12.56			
127	83	1.40	11.19			
141	74	1.50	10.04			
162	65	1.65	8.77			
185	57	1.75	7.68			
201	52	1.85	7.06			
228	46	2.0	6.22			
258	41	2.1	5.51			
289	36	2.3	4.91			
322	33	2.4	4.41			
369	28	2.6	3.85			
421	25	2.8	3.37			

1.5 kW

49	295	0.80	28.90	G23A DL90L4	13	24
54	265	0.90	25.95	G23C DL90L4		25
62	230	1.00	22.65			
71	200	1.15	19.83			

73	196	1.20	19.18	G22A DL90L4	13	24
83	173	1.35	17.00	G22C DL90L4		25
93	155	1.50	15.16			
103	139	1.70	13.60			
114	126	1.85	12.36			
129	111	2.1	10.90			
146	98	2.2	9.65			
163	88	2.4	8.64			
187	77	3.0	7.52			
200	72	2.3	7.04			
222	64	2.5	6.31			
245	59	3.5	5.74			
278	52	3.2	5.06			
314	46	3.3	4.48			
350	41	3.5	4.01			
403	36	5.8	3.49			

n2	M	cG	i	Type	Dimensions	Weight
[1/min]	[Nm]				Page	[kg]

1.5 kW

99	144	0.80	14.16	G12A DL90L4	12	22
112	128	0.90	12.56	G12C DL90L4		22
126	114	1.05	11.19			
140	102	1.10	10.04			
160	89	1.20	8.77			
183	78	1.30	7.68			
199	72	1.35	7.06			
226	63	1.45	6.22			
255	56	1.55	5.51			
286	50	1.65	4.91			
319	45	1.75	4.41			
365	39	1.90	3.85			
417	34	2.0	3.37			

2.2 kW

84	250	0.95	17.00	G22A DL100L4	13	29
94	225	1.05	15.16	G22C DL100L4		30
104	200	1.15	13.60			
115	183	1.25	12.36			
130	161	1.45	10.90			
147	143	1.55	9.65			
164	128	1.70	8.64			
189	111	2.1	7.52			
202	104	1.60	7.04			
225	93	1.75	6.31			
247	85	2.4	5.74			
281	75	2.2	5.06			
317	66	2.3	4.48			
354	59	2.4	4.01			
407	52	4.0	3.49			

3.0 kW

106	270	0.85	13.60	G22A DL100LX4	13	36
116	245	0.95	12.36	G22C DL100LX4		37
132	220	1.05	10.90			
149	193	1.15	9.65			
166	172	1.25	8.64			
191	150	1.55	7.52			
204	141	1.20	7.04			
227	126	1.30	6.31			
250	115	1.75	5.74			
284	101	1.65	5.06			
320	89	1.70	4.48			
358	80	1.75	4.01			
411	70	3.0	3.49			

Helical Geared Motors G for very low Output Speeds



n ₂ [1/min]	i	Type	Dimensions Page	Weight [kg]
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235 Nm

0.14	10074	G23G13A DL63K4	13/14	17
0.17	8540.3	G23G13C DL63K4		18
0.19	7329.5			
0.22	6349.2			
0.25	5539.5			
0.29	4859.3			
0.33	4279.9			
0.37	3763.4			
0.44	3229.8			
0.50	2797.9			
0.58	2441.1			
0.65	2164.1			

0.72	1960.4	G22G13A DL63K4	13/14	17
0.85	1661.9	G22G13C DL63K4		18
0.99	1426.3			
1.1	1235.5			
1.3	1078.0			
1.5	945.59			
1.7	832.84			
1.9	732.34			
2.2	628.51			
2.6	544.45			
3.0	475.02			

3.3	422.82	G22G12A DL63K4	13/14	17
		G22G12C DL63K4		18

117 Nm

0.23	6085.3	G13G03A DL63K4	12/14	14
0.27	5140.9	G13G03C DL63K4		14
0.32	4395.3			
0.37	3791.8			
0.43	3293.2			
0.49	2874.3			
0.57	2481.0			
0.66	2140.3			
0.76	1858.8			
0.87	1622.4			

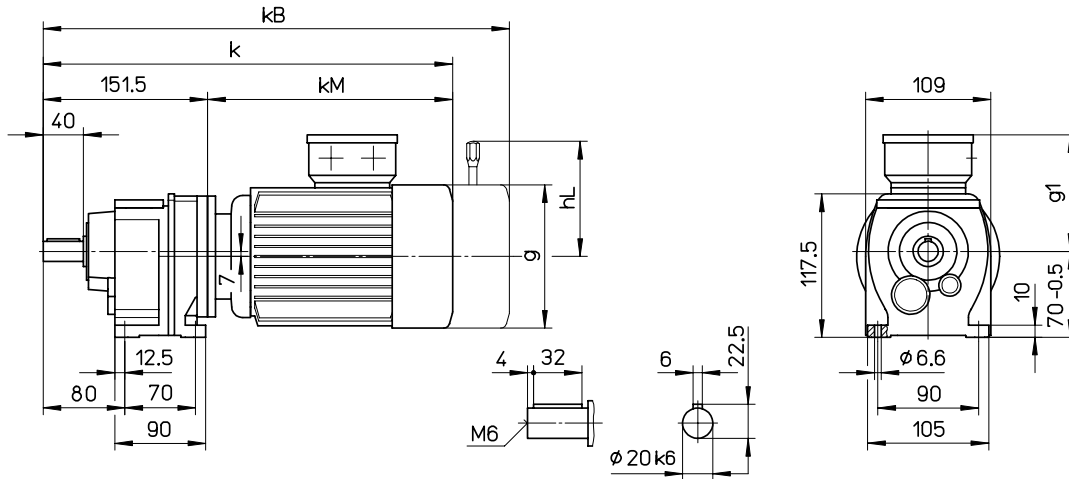
0.99	1424.2	G13G02A DL63K4	12/14	14
1.2	1203.2	G13G02C DL63K4		14
1.4	1028.7			
1.6	887.43			
1.8	770.74			
2.1	672.72			
2.4	589.22			
2.8	506.43			
3.2	436.89			
3.7	379.44			
4.3	331.18			
4.9	290.08			
5.6	251.28			
6.4	219.23			

Helical Geared Motors G



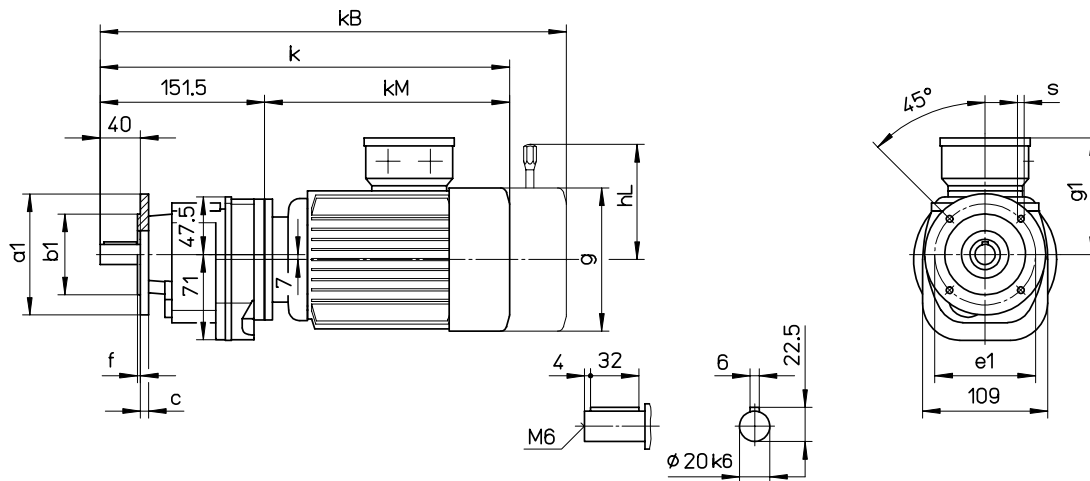
G02A / G03A

Foot mounted version



G02C / G03C

B5 Flange mounted version



	k	kB	kM	g	g1	hL
G0_DL63/71	353	407	201	126	113	106
G0_DL80	396	453	244	142	121	114

Flange	a1	e1	b1	s	c	f
Ø120	120	100	80 j6	6.6	8	3

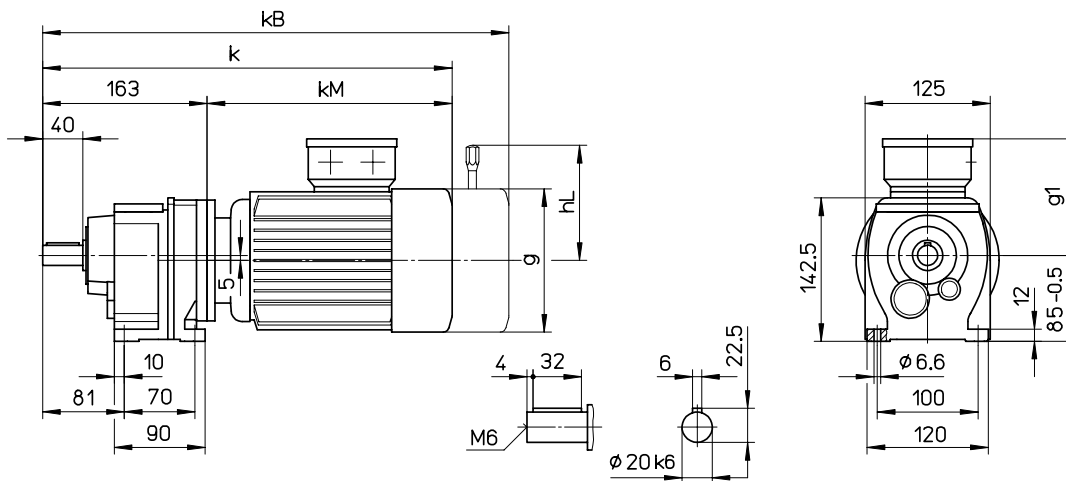
Dimensions kB and hL apply to geared motors with brake.

Helical Geared Motors G



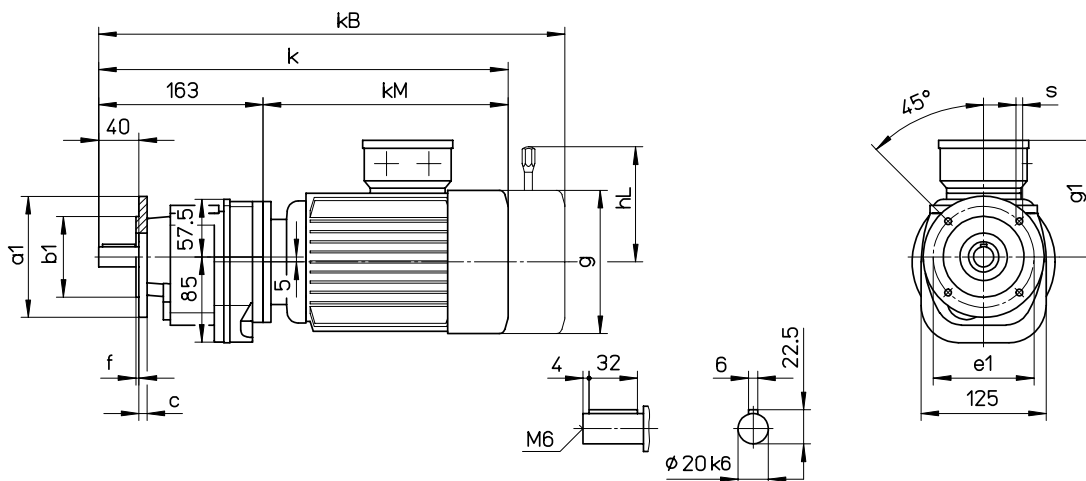
G12A / G13A

Foot mounted version



G12C / G13C

B5 Flange mounted version



	k	kB	kM	g	g1	hL
G1_DL63/71	363	417	200	126	113	106
G1_DL80	406	463	243	142	121	114
G1_DL90	447	512	284	160	130	128

Flange	a1	e1	b1	s	c	f
Ø120	120	100	80 j6	6.6	8	3
Ø140	140	115	95 j6	9	9	3

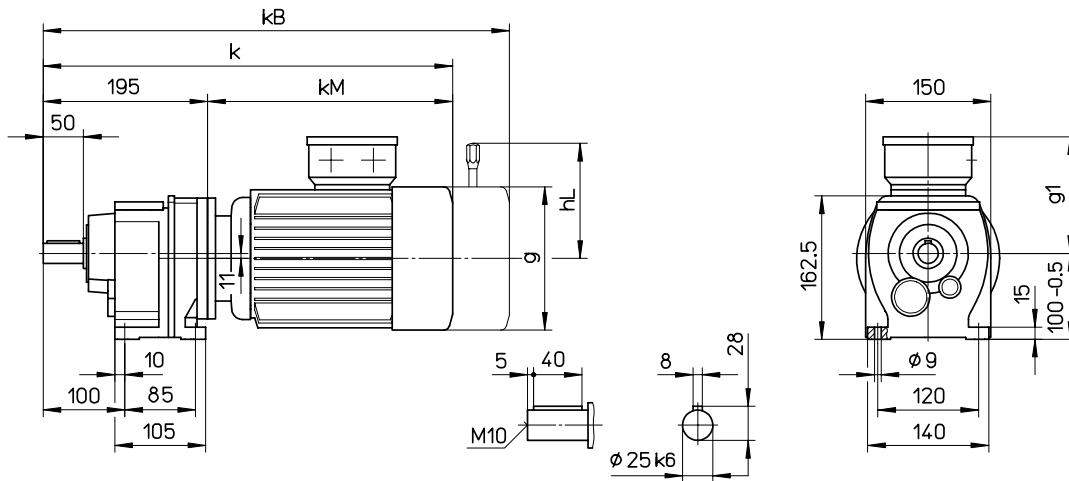
Dimensions kB and hL apply to geared motors with brake.

Helical Geared Motors G



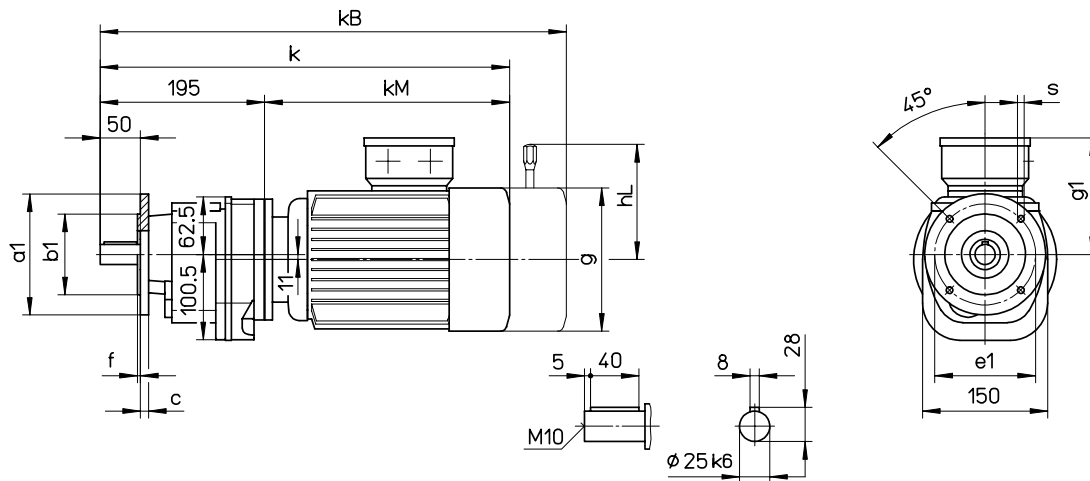
G22A / G23A

Foot mounted version



G22C / G23C

B5 Flange mounted version



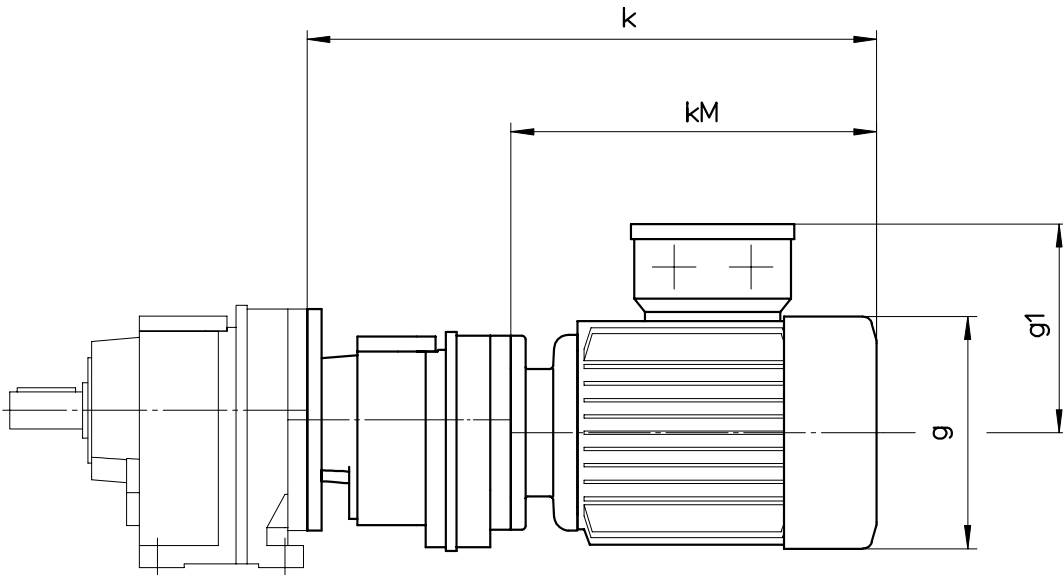
	k	kB	kM	g	g1	hL
G2_DL63/71	392	446	197	126	113	106
G2_DL80	435	492	240	142	121	114
G2_DL90	479	544	284	160	130	128
G2_DL100	532	603	337	180	141	168

Flange	a1	e1	b1	s	c	f
Ø140	140	115	95 j6	9	9	3
Ø160	160	130	110 j6	9	9	3.5

Dimensions kB and hL apply to geared motors with brake.

Helical Geared Motors G for very low Output Speeds

KEB



	k	kM	g	g1
G1_G0_DL63/71	313	201	126	113
G2_G1_DL63/71	323	200	126	113

Helical Gear Units G



i	M [Nm] cG=1	n2 [1/min] n1=1400	Pmax [kW]
G03			
72.52	60	19	0.12
61.26	60	23	0.14
52.38	60	27	0.17
45.19	60	31	0.19
39.24	60	36	0.22
34.25	60	41	0.26
29.57	60	47	0.30
25.51	60	55	0.34
22.15	60	63	0.40
19.33	60	72	0.45
G02			
16.97	60	82	0.52
14.34	60	98	0.61
12.26	60	114	0.72
10.58	60	132	0.75
9.18	58	152	0.75
8.02	55	175	0.75
7.02	51	199	0.75
6.04	46	232	0.75
5.21	43	269	0.75
4.52	40	310	0.75
3.95	37	355	0.75
3.46	35	405	0.75
G13G03			
6085.3	117	0.23	<0.05
5140.9	117	0.27	<0.05
4395.3	117	0.32	<0.05
3791.8	117	0.37	<0.05
3293.2	117	0.43	<0.05
2874.3	117	0.49	<0.05
2481.0	117	0.56	<0.05
2140.3	117	0.65	<0.05
1858.8	117	0.75	<0.05
1622.4	117	0.86	<0.05
G13G02			
1424.2	117	0.98	<0.05
1203.2	117	1.2	<0.05
1028.7	117	1.4	<0.05
887.43	117	1.6	<0.05
770.74	117	1.8	<0.05
672.72	117	2.1	<0.05
589.22	117	2.4	<0.05
506.43	117	2.8	<0.05
436.89	117	3.2	<0.05
379.44	117	3.7	<0.05
331.18	117	4.2	0.05
290.08	117	4.8	0.06
251.28	117	5.6	0.07
219.23	117	6.4	0.08
192.31	117	7.3	0.09
169.38	117	8.3	0.11
145.94	117	9.6	0.12
127.83	117	11	0.14

i	M [Nm] cG=1	n2 [1/min] n1=1400	Pmax [kW]
G13			
115.34	117	12	0.15
97.78	117	14	0.18
83.91	117	17	0.20
72.69	117	19	0.24
63.42	117	22	0.27
55.63	117	25	0.31
49.00	117	29	0.35
43.09	117	32	0.40
36.98	117	38	0.46
32.03	117	44	0.54
27.95	117	50	0.61
24.52	117	57	0.70
21.59	117	65	0.79
G12			
24.88	117	56	0.69
21.25	117	66	0.81
18.39	117	76	0.93
16.08	117	87	1.1
14.16	117	99	1.2
12.56	117	111	1.4
11.19	117	125	1.5
10.04	112	139	1.5
8.77	106	160	1.5
7.68	100	182	1.5
7.06	97	198	1.5
6.22	92	225	1.5
5.51	87	254	1.5
4.91	83	285	1.5
4.41	79	318	1.5
3.85	74	364	1.5
3.37	69	415	1.5

Helical Gear Units G



i	M [Nm] cG=1	n2 [1/min] n1=1400	Pmax [kW]
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G23G13

10074	235	0.14	<0.05
8540.3	235	0.16	<0.05
7329.5	235	0.19	<0.05
6349.2	235	0.22	<0.05
5539.5	235	0.25	<0.05
4859.3	235	0.29	<0.05
4279.9	235	0.33	<0.05
3763.4	235	0.37	<0.05
3229.8	235	0.43	<0.05
2797.9	235	0.50	<0.05
2441.1	235	0.57	<0.05
2164.1	235	0.65	<0.05

G22G13

1960.4	235	0.71	<0.05
1661.9	235	0.84	<0.05
1426.3	235	0.98	<0.05
1235.5	235	1.1	<0.05
1078.0	235	1.3	<0.05
945.59	235	1.5	<0.05
832.84	235	1.7	<0.05
732.34	235	1.9	<0.05
628.51	235	2.2	0.06
544.45	235	2.6	0.07
475.02	235	2.9	0.07

G22G12

422.82	235	3.3	0.08
361.24	235	3.9	0.10
312.61	235	4.5	0.11
273.25	235	5.1	0.13
240.74	235	5.8	0.14
213.43	235	6.6	0.16
190.16	235	7.4	0.18
170.71	235	8.2	0.20

G23

153.41	235	9.1	0.22
131.06	235	11	0.26
113.42	235	12	0.30
99.14	235	14	0.34
87.34	235	16	0.39
77.43	235	18	0.44
69.48	235	20	0.49
60.74	235	23	0.56
53.51	235	26	0.64
47.44	235	30	0.72
41.53	235	34	0.82
36.59	235	38	0.93
32.44	235	43	1.1
28.90	235	48	1.2
25.95	235	54	1.3
22.65	230	62	1.5
19.83	235	71	1.7

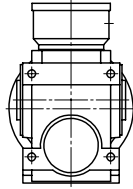
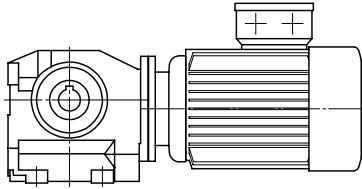
i	M [Nm] cG=1	n2 [1/min] n1=1400	Pmax [kW]
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G22

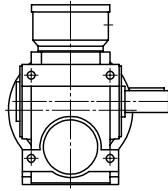
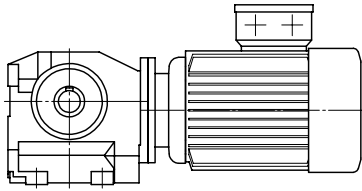
29.22	235	48	1.2
25.09	235	56	1.4
21.82	235	64	1.6
19.18	235	73	1.8
17.00	235	82	2.0
15.16	235	92	2.3
13.60	235	103	2.5
12.36	235	113	2.8
10.90	230	128	3.0
9.65	220	145	3.0
8.64	215	162	3.0
7.52	235	186	3.0
7.04	167	199	3.0
6.31	164	222	3.0
5.74	200	244	3.0
5.06	167	277	3.0
4.48	153	312	3.0
4.01	142	349	3.0
3.49	205	401	3.0

Helical-Worm Geared Motors S

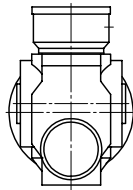
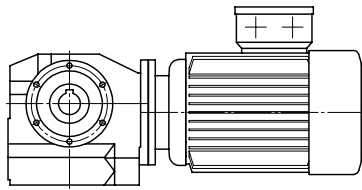
KEB



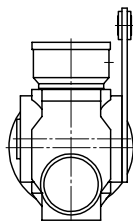
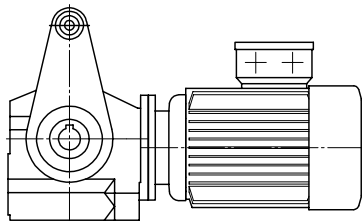
Foot mounted version
with hollow shaft and keyway
Example: S22A DL90L4



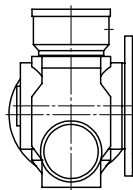
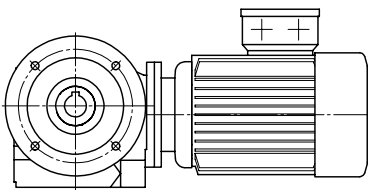
Foot mounted version
with solid shaft and key
Example: S12AV DL80G4



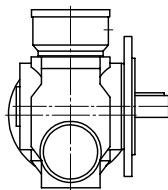
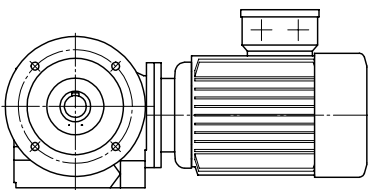
Shaft mounted version
with hollow shaft and keyway
Example: S02B DL63G4



Shaft mounted version
with hollow shaft and keyway
with torque arm T1
Example: S12BT1 DL80K4



B5 Flange mounted version
with hollow shaft and keyway
Example: S22C DA100L4



B5 Flange mounted version
with solid shaft and key
Example: S4.2CV DA100LX4

Helical-Worm Geared Motors S



n2	M	cG	i	Type	Dimensions	Weight
[1/min]	[Nm]				Page	[kg]

0.12 kW

1.5	385	0.85	925.37	S22G12A DL63K4	25/26	21
1.7	360	0.95	850.54	S22G12B DL63K4		21
1.9	320	1.05	749.33	S22G12C DL63K4		23
2.1	285	1.15	664.32			
2.4	260	1.30	591.90			
2.7	235	1.40	531.34			
3.0	210	1.55	463.77			
3.5	187	1.75	406.20			
3.9	169	1.90	362.38			
4.3	153	2.1	325.05			
4.8	140	2.3	295.42			
5.4	125	2.5	260.46			
6.1	113	2.8	230.68			
6.8	102	3.1	206.44			
7.8	91	3.4	179.67			
<hr/>						
2.5	220	0.85	561.65	S12G02A DL63K4	24/26	16
2.9	197	0.90	490.22	S12G02B DL63K4		16
3.3	177	1.00	429.37	S12G02C DL63K4		17
3.8	159	1.15	375.31			
4.3	141	1.25	330.65			
4.8	127	1.40	293.14			
5.4	114	1.55	261.18			
6.0	104	1.70	234.46			
6.9	92	1.90	204.64			
7.9	83	2.1	179.24			
<hr/>						
8.4	78	2.2	168.00	S12A DL63K4	24	12
9.8	69	2.4	143.53	S12B DL63K4		12
11	61	2.7	124.21	S12C DL63K4		13
13	55	3.0	108.57			
15	49	3.3	95.65			
17	44	3.5	84.80			
19	40	3.8	75.56			
<hr/>						
7.5	73	0.80	189.00	S02A DL63K4	23	9
8.8	63	0.90	159.35	S02B DL63K4		9
10	55	1.05	135.95	S02C DL63K4		10
12	49	1.15	117.00			
14	43	1.25	101.35			
16	39	1.35	88.20			
18	35	1.50	77.00			
20	38	1.80	69.00			
24	33	2.0	58.18			
28	29	2.3	49.63			
33	25	2.6	42.71			
38	22	2.8	37.00			
44	19	3.1	32.20			
50	17	3.4	28.11			
56	17	3.7	25.00			
67	14	4.2	21.08			
78	12	4.7	17.98			
91	11	5.3	15.48			
105	9.4	5.8	13.41			
113	9.1	7.3	12.50			
121	8.3	6.4	11.67			
134	7.7	8.4	10.54			
138	7.2	7.1	10.19			
157	6.7	9.4	8.99			
182	5.8	11	7.74			
210	5.0	12	6.70			
242	4.4	13	5.83			
277	3.8	14	5.09			

n2	M	cG	i	Type	Dimensions	Weight
[1/min]	[Nm]				Page	[kg]

0.18 kW

2.4	390	0.85	591.90	S22G12A DL63G4	25/26	21
2.7	355	0.95	531.34	S22G12B DL63G4		21
3.0	315	1.05	463.77	S22G12C DL63G4		23
3.5	280	1.15	406.20			
3.9	255	1.30	362.38			
4.3	230	1.40	325.05			
4.8	210	1.55	295.42			
5.4	188	1.70	260.46			
6.1	169	1.90	230.68			
6.8	153	2.1	206.44			
7.8	136	2.3	179.67			
<hr/>						
6.8	154	2.0	207.20	S22A DL63G4	25	17
7.9	135	2.3	177.88	S22B DL63G4		17
9.1	120	2.5	154.74	S22C DL63G4		19
10	108	2.8	136.00			
12	98	3.0	120.52			
<hr/>						
4.3	210	0.85	330.65	S12G02A DL63G4	24/26	16
4.8	190	0.95	293.14	S12G02B DL63G4		16
5.4	172	1.05	261.18	S12G02C DL63G4		17
6.0	156	1.15	234.46			
6.9	139	1.25	204.64			
7.9	124	1.40	179.24			
<hr/>						
8.4	117	1.45	168.00	S12A DL63G4	24	12
9.8	103	1.65	143.53	S12B DL63G4		12
11	92	1.80	124.21	S12C DL63G4		13
13	82	1.95	108.57			
15	74	2.2	95.65			
17	66	2.4	84.80			
19	60	2.6	75.56			
21	55	2.8	67.83			
23	57	2.9	60.90			
24	49	3.0	59.20			
27	49	3.3	52.03			
27	43	3.3	51.85			
31	43	3.7	45.03			
<hr/>						
14	65	0.85	101.35	S02A DL63G4	23	9
16	58	0.90	88.20	S02B DL63G4		9
18	52	1.00	77.00	S02C DL63G4		10
20	57	1.20	69.00			
24	49	1.35	58.18			
28	43	1.55	49.63			
33	38	1.70	42.71			
38	33	1.90	37.00			
44	29	2.1	32.20			
50	26	2.3	28.11			
56	25	2.5	25.00			
67	22	2.8	21.08			
78	19	3.2	17.98			
91	16	3.5	15.48			
105	14	3.9	13.41			
113	14	4.9	12.50			
121	12	4.3	11.67			
134	12	5.6	10.54			
138	11	4.7	10.19			
157	10	6.3	8.99			
182	8.7	7.0	7.74			
210	7.5	7.8	6.70			
242	6.5	8.7	5.83			
277	5.7	9.6	5.09			

Helical-Worm Geared Motors S



n2	M	cG	i	Type	Dimensions	Weight
[1/min]	[Nm]				Page	[kg]
0.25 kW						
3.4	395	0.80	406.20	S22G12A DL71K4	25/26	21
3.8	360	0.90	362.38	S22G12B DL71K4		21
4.3	325	1.00	325.05	S22G12C DL71K4		23
4.7	295	1.10	295.42			
5.3	265	1.20	260.46			
6.0	240	1.35	230.68			
6.7	215	1.45	206.44			
7.7	192	1.60	179.67			
6.7	215	1.45	207.20	S22A DL71K4	25	17
7.8	190	1.65	177.88	S22B DL71K4		17
9.0	169	1.80	154.74	S22C DL71K4		19
10	152	2.00	136.00			
11	138	2.2	120.52			
13	125	2.3	107.52			
14	113	2.5	96.44			
16	104	2.7	87.65			
18	93	3.0	77.28			
5.9	220	0.80	234.46	S12G02A DL71K4	24/26	16
6.8	196	0.90	204.64	S12G02B DL71K4		16
7.7	175	1.00	179.24	S12G02C DL71K4		17
8.2	165	1.05	168.00	S12A DL71K4	24	12
9.6	145	1.15	143.53	S12B DL71K4		12
11	129	1.30	124.21	S12C DL71K4		13
13	116	1.40	108.57			
14	104	1.55	95.65			
16	93	1.70	84.80			
18	84	1.80	75.56			
20	77	1.95	67.83			
23	80	2.1	60.90			
23	69	2.1	59.20			
27	69	2.4	52.03			
27	61	2.3	51.85			
31	61	2.6	45.03			
35	54	2.9	39.36			
40	48	3.2	34.67			
45	43	3.5	30.74			
51	39	3.8	27.39			
20	81	0.85	69.00	S02A DL71K4	23	9
24	70	0.95	58.18	S02B DL71K4		9
28	60	1.10	49.63	S02C DL71K4		10
32	53	1.20	42.71			
37	46	1.35	37.00			
43	41	1.45	32.20			
49	36	1.60	28.11			
55	36	1.75	25.00			
66	31	2.00	21.08			
77	26	2.2	17.98			
89	23	2.5	15.48			
103	20	2.8	13.41			
111	19	3.5	12.50			
119	17	3.0	11.67			
131	16	4.0	10.54			
136	15	3.4	10.19			
154	14	4.5	8.99			
179	12	5.0	7.74			
207	11	5.6	6.70			
237	9.3	6.2	5.83			
272	8.1	6.8	5.09			

n2	M	cG	i	Type	Dimensions	Weight
[1/min]	[Nm]				Page	[kg]
0.37 kW						
5.3	395	0.80	260.46	S22G12A DL71G4	25/26	22
6.0	355	0.90	230.68	S22G12B DL71G4		22
6.7	320	1.00	206.44	S22G12C DL71G4		24
7.7	285	1.10	179.67			
6.7	320	1.00	207.20	S22A DL71G4	25	17
7.8	280	1.10	177.88	S22B DL71G4		17
8.9	250	1.20	154.74	S22C DL71G4		19
10	225	1.35	136.00			
11	205	1.45	120.52			
13	186	1.60	107.52			
14	168	1.70	96.44			
16	155	1.85	87.65			
18	139	2.0	77.28			
19	141	2.2	71.53			
20	124	2.2	68.44			
22	123	2.4	61.41			
26	108	2.7	53.42			
29	97	3.0	46.95			
9.6	215	0.80	143.53	S12A DL71G4	24	12
11	192	0.85	124.21	S12B DL71G4		12
13	173	0.95	108.57	S12C DL71G4		14
14	154	1.05	95.65			
16	139	1.15	84.80			
18	125	1.25	75.56			
20	114	1.30	67.83			
23	119	1.40	60.90			
23	102	1.45	59.20			
27	103	1.60	52.03			
27	91	1.55	51.85			
31	91	1.75	45.03			
35	81	1.95	39.36			
40	72	2.1	34.67			
45	64	2.4	30.74			
50	57	2.6	27.39			
56	52	2.8	24.59			
61	51	3.0	22.68			
64	45	3.1	21.46			
71	44	3.4	19.38			
73	40	3.3	18.80			
82	38	3.8	16.77			
32	79	0.80	42.71	S02A DL71G4	23	9
37	69	0.90	37.00	S02B DL71G4		9
43	61	1.00	32.20	S02C DL71G4		10
49	54	1.10	28.11			
55	53	1.20	25.00			
65	46	1.35	21.08			
77	39	1.50	17.98			
89	34	1.70	15.48			
103	30	1.85	13.41			
110	29	2.3	12.50			
118	26	2.0	11.67			
131	24	2.7	10.54			
135	23	2.3	10.19			
153	21	3.0	8.99			
178	18	3.4	7.74			
206	16	3.8	6.70			
237	14	4.2	5.83			
271	12	4.6	5.09			

Helical-Worm Geared Motors S



n2	M	cG	i	Type	Dimensions	Weight
[1/min]	[Nm]				Page	[kg]

0.55 kW

9.1	365	0.85	154.74	S22A DL80K4	25	22
10	330	0.90	136.00	S22B DL80K4		22
12	300	1.00	120.52	S22C DL80K4		24
13	270	1.10	107.52			
15	245	1.15	96.44			
16	225	1.25	87.65			
18	200	1.35	77.28			
21	181	1.50	68.44			
26	158	1.85	53.42			
30	141	2.0	46.95			
34	127	2.2	41.61			
38	114	2.4	37.12			
42	103	2.6	33.30			
47	94	2.8	30.26			
53	84	3.0	26.68			
60	74	3.3	23.63			

19	183	0.85	75.56	S12A DL80K4	24	17
21	167	0.90	67.83	S12B DL80K4		17
24	149	1.00	59.20	S12C DL80K4		18
27	132	1.05	51.85			
31	132	1.20	45.03			
36	118	1.35	39.36			
41	104	1.45	34.67			
46	93	1.60	30.74			
51	84	1.75	27.39			
57	75	1.90	24.59			
66	66	2.1	21.46			
75	58	2.3	18.80			
84	56	2.6	16.77			
96	49	2.9	14.66			
109	43	3.2	12.91			
123	39	3.5	11.45			
138	35	3.8	10.20			

78	57	1.05	17.98	S02A DL80K4	23	14
91	50	1.15	15.48	S02B DL80K4		14
105	43	1.25	13.41	S02C DL80K4		15
121	38	1.40	11.67			
138	33	1.55	10.19			
157	31	2.1	8.99			
182	27	2.3	7.74			
210	23	2.6	6.70			
242	20	2.8	5.83			
277	18	3.1	5.09			

n2	M	cG	i	Type	Dimensions	Weight
[1/min]	[Nm]				Page	[kg]

0.75 kW

13	370	0.80	107.52	S22A DL80G4	25	23
15	335	0.85	96.44	S22B DL80G4		23
16	310	0.90	87.65	S22C DL80G4		25
18	275	1.00	77.28			
20	250	1.10	68.44			
26	215	1.35	53.42			
30	193	1.50	46.95			
34	174	1.60	41.61			
38	156	1.75	37.12			
42	141	1.90	33.30			
46	129	2.0	30.26			
52	115	2.2	26.68			
59	102	2.4	23.63			
70	91	3.1	19.89			
80	81	3.5	17.49			
90	72	3.8	15.50			

27	181	0.80	51.85	S12A DL80G4	24	18
31	182	0.90	45.03	S12B DL80G4		18
36	161	0.95	39.36	S12C DL80G4		19
40	143	1.05	34.67			
46	128	1.15	30.74			
51	115	1.30	27.39			
57	104	1.40	24.59			
65	91	1.50	21.46			
74	80	1.65	18.80			
83	77	1.90	16.77			
96	68	2.1	14.66			
108	60	2.3	12.91			
122	53	2.6	11.45			
137	47	2.8	10.20			
153	43	3.0	9.16			
175	38	3.3	7.99			
200	33	3.6	7.00			

90	68	0.85	15.48	S02A DL80G4	23	15
104	59	0.95	13.41	S02B DL80G4		15
120	52	1.00	11.67	S02C DL80G4		16
137	45	1.15	10.19			
156	42	1.50	8.99			
181	36	1.65	7.74			
209	32	1.85	6.70			
240	27	2.1	5.83			
275	24	2.3	5.09			

Helical-Worm Geared Motors S



n2	M	cG	i	Type	Dimensions	Weight
[1/min]	[Nm]				Page	[kg]

1.1 kW

23	325	0.80	61.25	S22A DL90S4	25	26
27	285	0.90	53.31	S22B DL90S4		26
30	280	1.00	46.95	S22C DL90S4		28
34	250	1.10	41.61			
38	225	1.20	37.12			
43	205	1.30	33.30			
47	187	1.40	30.26			
53	166	1.50	26.68			
60	148	1.65	23.63			
67	133	1.75	21.15			
77	116	1.95	18.40			
81	117	2.4	17.49			
92	104	2.6	15.50			
103	93	2.8	13.82			
115	84	3.1	12.40			
126	76	3.3	11.27			
143	68	3.6	9.94			
161	60	3.9	8.80			
<hr/>						
46	185	0.80	30.74	S12A DL90S4	24	21
52	166	0.90	27.39	S12B DL90S4		21
58	150	0.95	24.59	S12C DL90S4		22
66	132	1.05	21.46			
76	116	1.15	18.80			
97	98	1.45	14.66			
110	86	1.60	12.91			
124	77	1.75	11.45			
139	69	1.90	10.20			
155	62	2.1	9.16			
178	54	2.3	7.99			
203	48	2.5	7.00			

1.5 kW

34	345	0.80	41.61	S22A DL90L4	25	29
38	310	0.85	37.12	S22B DL90L4		29
42	280	0.95	33.30	S22C DL90L4		31
46	255	1.00	30.26			
53	230	1.10	26.68			
59	205	1.20	23.63			
66	183	1.30	21.15			
76	160	1.40	18.40			
80	161	1.75	17.49			
91	144	1.90	15.50			
102	129	2.1	13.82			
113	116	2.2	12.40			
125	105	2.4	11.27			
141	93	2.6	9.94			
160	83	2.8	8.80			
178	75	3.1	7.88			
205	65	3.3	6.85			
<hr/>						
75	160	0.85	18.80	S12A DL90L4	24	24
96	135	1.05	14.66	S12B DL90L4		24
109	119	1.15	12.91	S12C DL90L4		25
123	106	1.30	11.45			
138	95	1.40	10.20			
153	85	1.50	9.16			
176	75	1.65	7.99			
201	66	1.80	7.00			

n2	M	cG	i	Type	Dimensions	Weight
[1/min]	[Nm]				Page	[kg]

2.2 kW

60	295	0.80	23.63	S22A DL100L4	25	33
67	265	0.90	21.15	S22B DL100L4		33
77	230	0.95	18.40	S22C DL100L4		35
92	210	1.30	15.50			
103	187	1.40	13.82			
115	168	1.55	12.40			
126	153	1.65	11.27			
143	135	1.80	9.94			
161	120	1.95	8.80			
180	108	2.1	7.88			
207	95	2.3	6.85			

3.0 kW

93	280	0.95	15.50	S22A DL100LX4	25	41
104	250	1.05	13.82	S22B DL100LX4		41
116	225	1.15	12.40	S22C DL100LX4		43
127	205	1.20	11.27			
144	183	1.35	9.94			
163	163	1.45	8.80			
182	146	1.55	7.88			
209	128	1.70	6.85			

Helical-Worm Geared Motors S for very low Output Speeds



n ₂ [1/min]	i	Type	Dimensions Page	Weight [kg]
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340 Nm

0.10	13901	S22G13A DL63K4	25/26	21
0.12	11784	S22G13B DL63K4		21
0.14	10114	S22G13C DL63K4		23
0.16	8761.0			
0.18	7643.7			
0.21	6705.1			
0.24	5905.6			
0.27	5193.0			
0.32	4456.7			
0.37	3860.7			
0.42	3368.3			

0.47	2998.2	S22G12A DL63K4	25/26	21
0.55	2561.5	S22G12B DL63K4		21
0.64	2216.7	S22G12C DL63K4		23
0.73	1937.6			
0.83	1707.1			
0.93	1513.4			
1.0	1348.4			
1.2	1210.5			
1.3	1056.5			

188 Nm

0.16	9007.5	S12G03A DL63K4	24/26	16
0.19	7609.6	S12G03B DL63K4		16
0.22	6505.9	S12G03C DL63K4		17
0.25	5612.6			
0.29	4874.5			
0.33	4254.6			
0.38	3672.3			
0.45	3168.0			
0.51	2751.5			
0.59	2401.5			

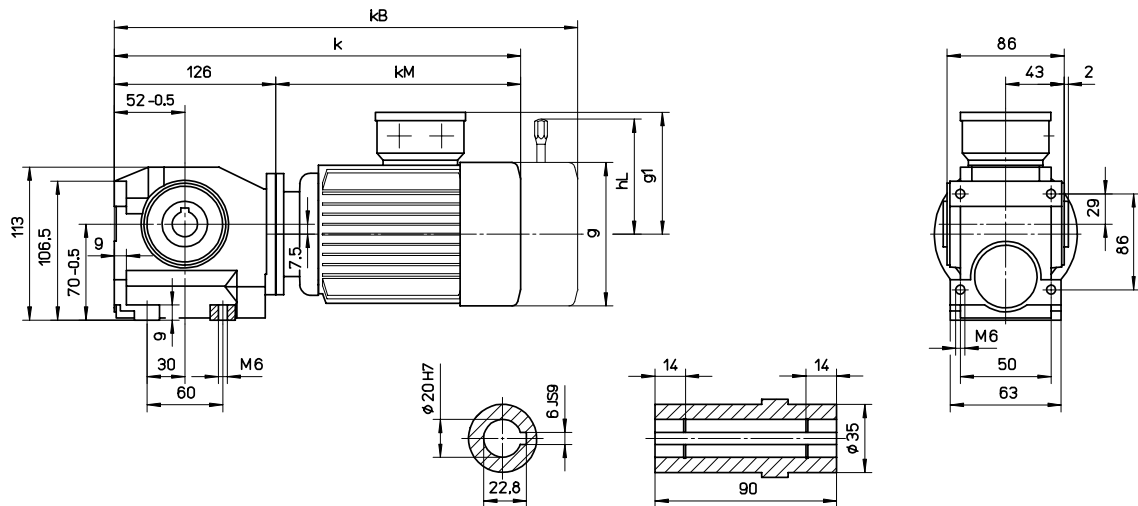
0.67	2108.1	S12G02A DL63K4	24/26	16
0.79	1781.0	S12G02B DL63K4		16
0.93	1522.7	S12G02C DL63K4		17
1.1	1313.6			
1.2	1140.8			
1.4	995.75			
1.6	872.16			
1.9	749.62			
2.2	646.68			

Helical-Worm Geared Motors S



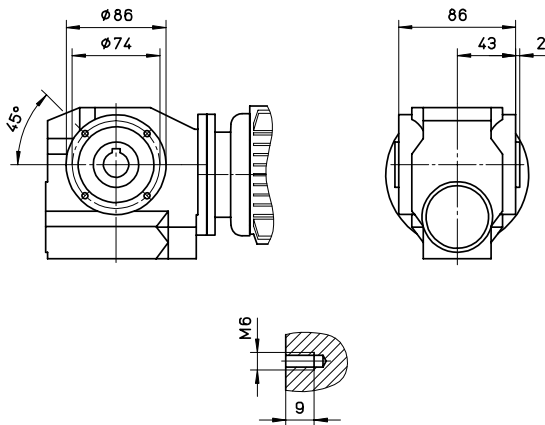
S02A

Foot mounted version



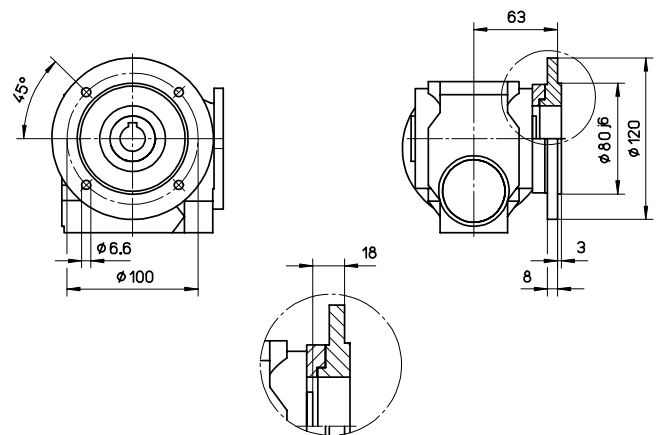
S02B version

Shaft mounted version



S02C

B5 Flange mounted



	k	kB	kM	g	g1	hL
S02_DL63/71	327	381	201	126	113	106
S02_DL80	370	427	244	142	121	114

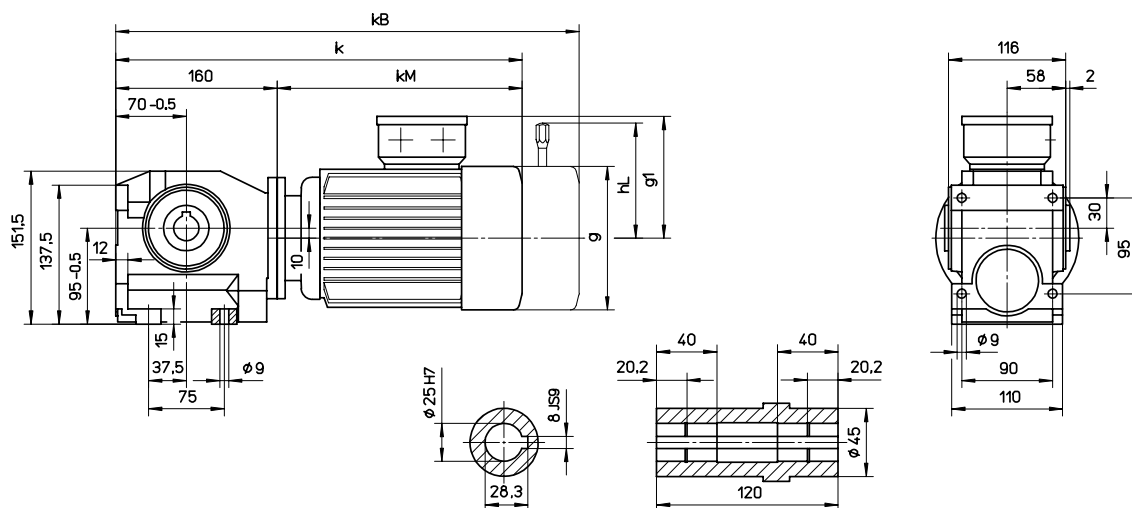
Dimensions kB and hL apply to geared motors with brake.

Helical-Worm Geared Motors S



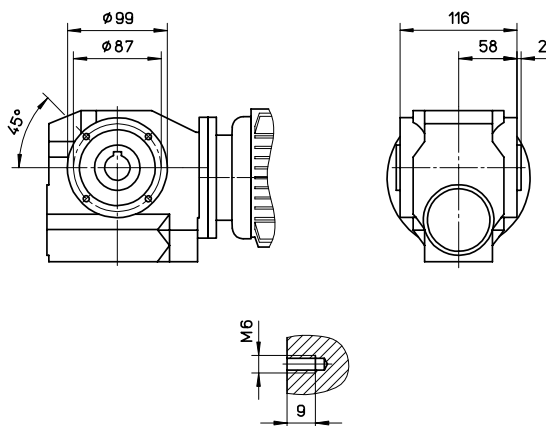
S12A

Foot mounted version



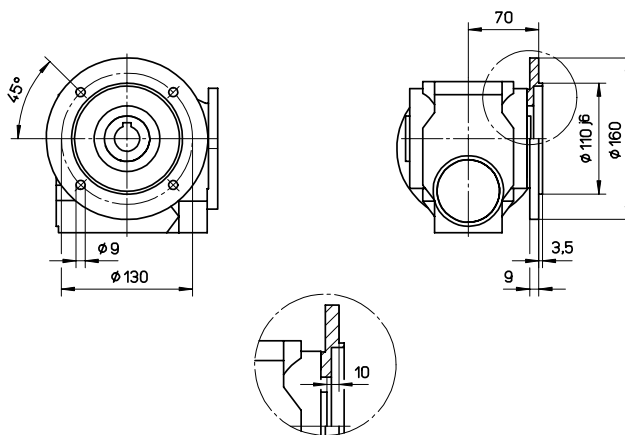
S12B version

Shaft mounted version



S12C

B5 Flange mounted



	k	kB	kM	g	g1	hL
S12_DL63/71	360	414	200	126	113	106
S12_DL80	403	460	243	142	121	114
S12_DL90	444	509	284	160	130	128

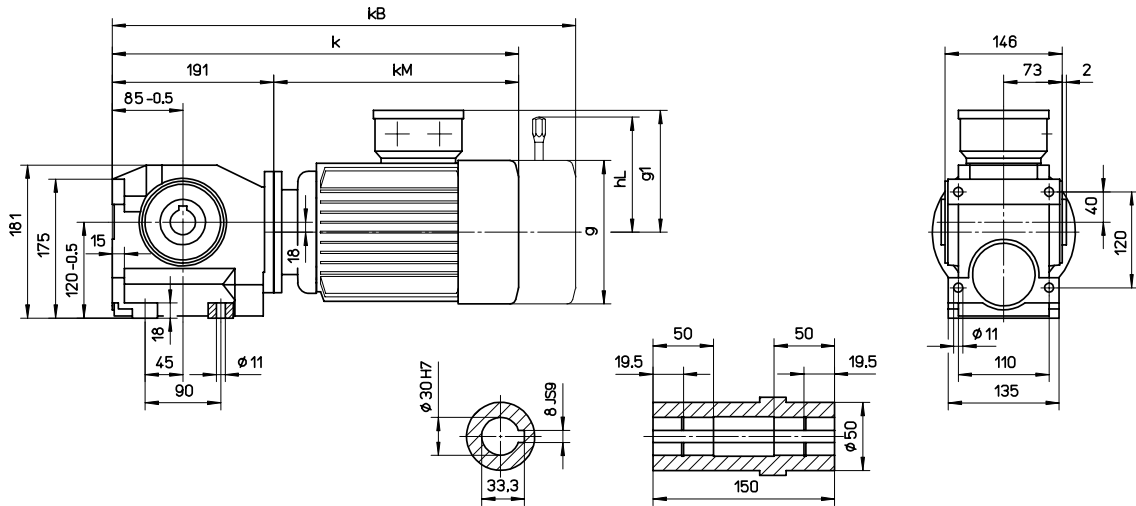
Dimensions kB and hL apply to geared motors with brake.

Helical-Worm Geared Motors S



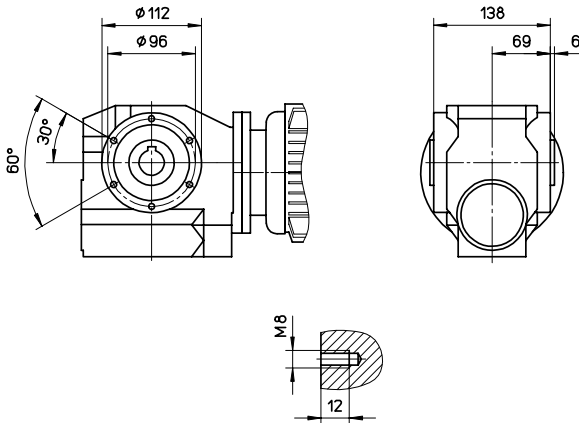
S22A

Foot mounted version



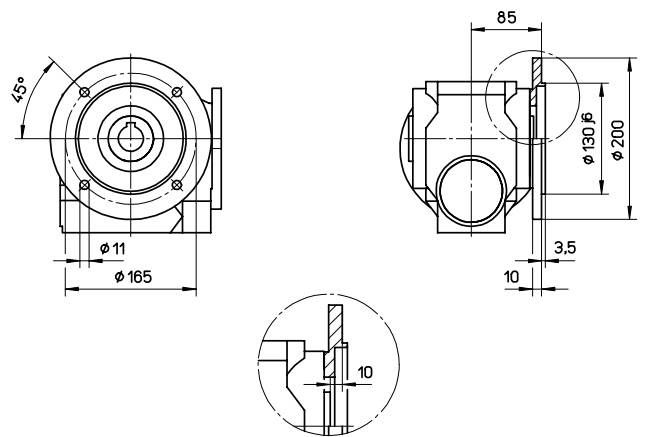
S22B version

Shaft mounted version



S22C

B5 Flange mounted

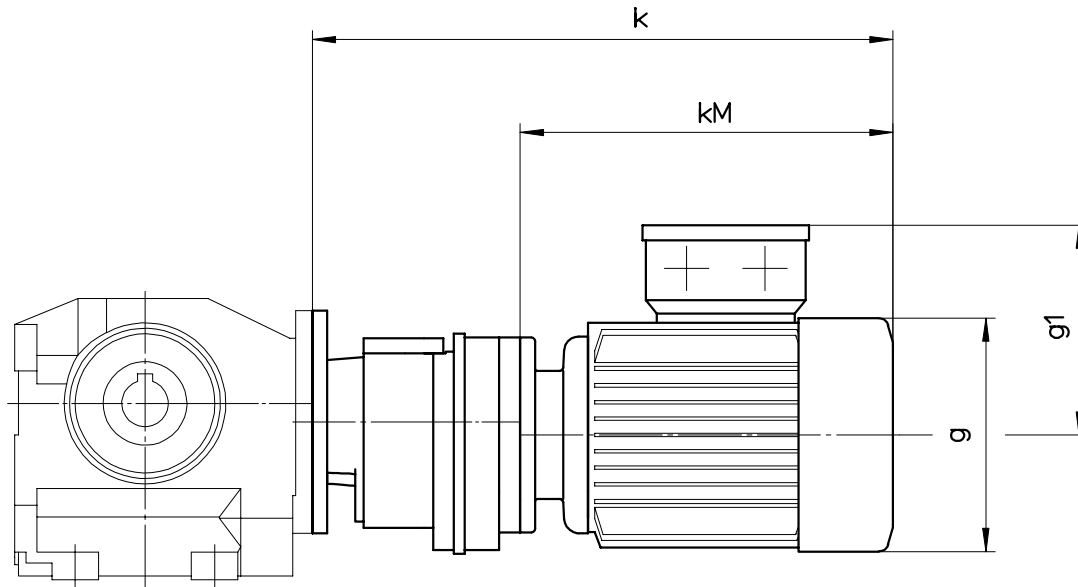


	k	kB	kM	g	g1	hL
S22_DL63/71	388	442	197	126	113	106
S22_DL80	431	488	240	142	121	114
S22_DL90	475	540	284	160	130	128
S22_DL100	528	599	337	180	141	168

Dimensions kB and hL apply to geared motors with brake.

Helical-Worm Geared Motors S for very low Output Speeds

KEB

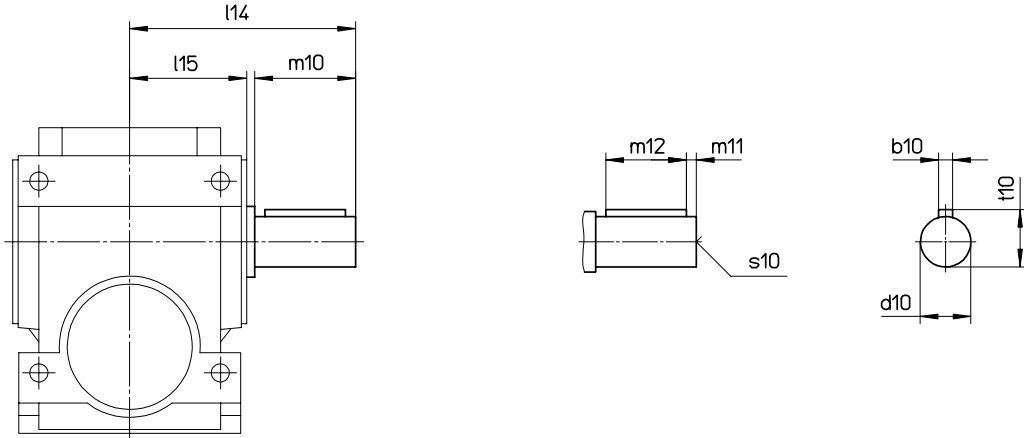


	k	kM	g	g1
S12G0 DL63/71	313	201	126	113
S22G1 DL63/71	323	200	126	113

Helical-Worm Gear Units S

Version with Solid shaft

KEB

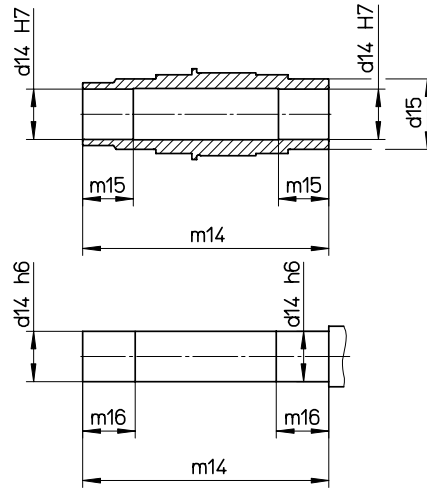
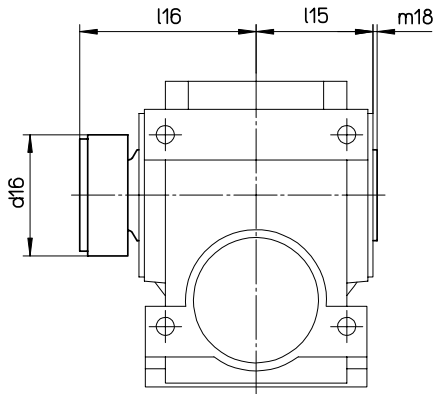


Gear	d10	m10	m11	m12	b10	t10	s10	l14	l15
S0.2A S0.2C	20	40	4	32	6	22.5	M6	85 103	43
S1	25	50	5	40	8	28	M10	120	58
S2	30	60	5	50	8	33	M10	145	73

Helical-Worm Gear Units S

Version with Hollow shaft and Shrink disc

KEB

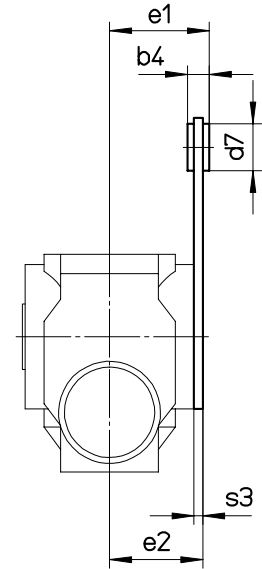
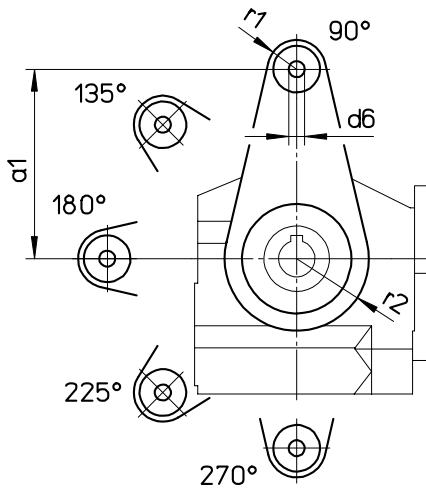


Gear	d14	d15	d16	m14	m15	m16	m18	l15	l16
S1	25	45	60	143	25	27	2	58	87
S2	30	50	72	174	30	32	2	73	104.5

Helical-Worm Gear Units S

Torque arm T1

KEB



Gear	a1	b4	d6	d7	e1	e2	s3	r1	r2
S0	100	15	11	32	52.5	46.5	4	20	43
S1	130	15	11	32	76.5	66	6	20	49.5
S2	160	22	11	32	84	77	8	20	56

Helical-Worm Gear Units S



S02

i	is	n1=2800 1/min				n1=1400 1/min				n1=930 1/min				n1=700 1/min			
		n2 [1/min]	M [Nm]	Pmax [kW]	η	n2 [1/min]	M [Nm]	Pmax [kW]	η	n2 [1/min]	M [Nm]	Pmax [kW]	η	n2 [1/min]	M [Nm]	Pmax [kW]	η
189.00	1/63	15	54	0.16	0.53	7.4	58	0.10	0.47	4.9	61	0.07	0.43	3.7	62	0.06	0.41
159.35	1/63	18	52	0.17	0.55	8.8	58	0.11	0.49	5.8	60	0.08	0.45	4.4	61	0.07	0.42
135.95	1/63	21	51	0.19	0.56	10	57	0.12	0.50	6.8	59	0.09	0.46	5.1	61	0.08	0.43
117.00	1/63	24	49	0.21	0.58	12	56	0.14	0.51	7.9	58	0.10	0.48	6.0	60	0.08	0.45
101.35	1/63	28	47	0.23	0.59	14	55	0.15	0.52	9.2	57	0.11	0.49	6.9	59	0.09	0.46
88.20	1/63	32	45	0.25	0.60	16	53	0.16	0.54	11	57	0.13	0.50	7.9	58	0.10	0.48
77.00	1/63	36	43	0.27	0.61	18	52	0.18	0.55	12	56	0.14	0.51	9.1	57	0.11	0.49
69.00	1/23	41	61	0.35	0.73	20	69	0.21	0.68	13	72	0.16	0.64	10	73	0.13	0.62
58.18	1/23	48	59	0.40	0.75	24	67	0.24	0.70	16	71	0.18	0.66	12	72	0.14	0.63
49.63	1/23	56	56	0.44	0.76	28	66	0.27	0.71	19	69	0.20	0.67	14	72	0.16	0.64
42.71	1/23	66	54	0.48	0.77	33	64	0.30	0.72	22	68	0.22	0.69	16	70	0.18	0.66
37.00	1/23	76	52	0.52	0.78	38	62	0.34	0.73	25	67	0.25	0.70	19	69	0.20	0.67
32.20	1/23	87	49	0.56	0.79	43	60	0.37	0.74	29	65	0.28	0.71	22	68	0.22	0.69
28.11	1/23	100	47	0.61	0.79	50	58	0.41	0.75	33	64	0.31	0.72	25	67	0.25	0.70
25.00	3/25	112	54	0.73	0.87	56	63	0.44	0.83	37	66	0.32	0.80	28	67	0.25	0.79
21.08	3/25	133	52	0.75	0.87	66	61	0.50	0.84	44	65	0.37	0.81	33	66	0.29	0.80
17.98	3/25	156	49	0.75	0.88	78	59	0.56	0.85	52	63	0.42	0.83	39	66	0.33	0.80
15.48	3/25	181	47	0.75	0.88	90	57	0.63	0.86	60	62	0.46	0.84	45	64	0.37	0.82
13.41	3/25	209	45	0.75	0.88	104	55	0.70	0.86	69	60	0.52	0.85	52	63	0.42	0.83
12.50	6/25	224	58	0.75	0.92	112	67	0.75	0.90	74	70	0.62	0.88	56	72	0.49	0.87
11.67	3/25	240	42	0.75	0.89	120	53	0.75	0.87	80	59	0.57	0.85	60	62	0.46	0.84
10.54	6/25	266	56	0.75	0.92	133	65	0.75	0.90	88	69	0.72	0.88	66	71	0.57	0.87
10.19	3/25	275	40	0.75	0.89	137	51	0.75	0.87	91	57	0.63	0.86	69	61	0.52	0.85
8.99	6/25	311	53	0.75	0.93	156	63	0.75	0.91	103	68	0.75	0.89	78	70	0.65	0.88
7.74	6/25	362	50	0.75	0.93	181	61	0.75	0.92	120	66	0.75	0.90	90	69	0.74	0.89
6.70	6/25	418	48	0.75	0.93	209	59	0.75	0.92	139	64	0.75	0.91	104	67	0.75	0.89
5.83	6/25	480	45	0.75	0.94	240	57	0.75	0.92	159	63	0.75	0.91	120	66	0.75	0.90
5.09	6/25	550	43	0.75	0.94	275	55	0.75	0.92	183	61	0.75	0.92	137	65	0.75	0.91

Helical-Worm Gear Units S



S12

i	is	n1=2800 1/min				n1=1400 1/min				n1=930 1/min				n1=700 1/min			
		n2 [1/min]	M [Nm]	Pmax [kW]	η	n2 [1/min]	M [Nm]	Pmax [kW]	η	n2 [1/min]	M [Nm]	Pmax [kW]	η	n2 [1/min]	M [Nm]	Pmax [kW]	η
168.00	1/40	17	156	0.43	0.64	8.3	171	0.26	0.57	5.5	177	0.19	0.54	4.2	179	0.15	0.52
143.53	1/40	20	152	0.47	0.65	9.8	168	0.29	0.59	6.5	175	0.22	0.55	4.9	178	0.17	0.53
124.21	1/40	23	148	0.52	0.67	11	165	0.32	0.61	7.5	173	0.24	0.56	5.6	176	0.19	0.54
108.57	1/40	26	143	0.57	0.68	13	162	0.35	0.62	8.6	171	0.27	0.58	6.4	175	0.21	0.55
95.65	1/40	29	139	0.62	0.69	15	160	0.39	0.63	9.7	168	0.29	0.59	7.3	173	0.24	0.56
84.80	1/40	33	134	0.67	0.69	17	157	0.42	0.64	11	166	0.32	0.60	8.3	171	0.26	0.57
75.56	1/40	37	129	0.71	0.70	19	153	0.46	0.65	12	163	0.34	0.62	9.3	169	0.28	0.58
67.83	1/40	41	124	0.76	0.71	21	150	0.49	0.66	14	161	0.37	0.63	10	167	0.30	0.60
60.90	2/29	46	150	0.89	0.81	23	166	0.52	0.76	15	172	0.37	0.74	11	175	0.29	0.72
59.20	1/40	47	119	0.82	0.72	24	146	0.54	0.67	16	158	0.41	0.64	12	164	0.33	0.61
52.03	2/29	54	145	0.99	0.82	27	163	0.59	0.77	18	170	0.43	0.74	13	174	0.33	0.73
51.85	1/40	54	113	0.88	0.72	27	141	0.59	0.68	18	154	0.45	0.65	14	161	0.37	0.62
45.03	2/29	62	140	1.1	0.83	31	160	0.66	0.79	21	168	0.48	0.75	16	172	0.38	0.74
39.36	2/29	71	135	1.2	0.83	36	156	0.73	0.80	24	166	0.54	0.76	18	170	0.43	0.74
34.67	2/29	81	131	1.3	0.84	40	153	0.80	0.81	27	163	0.59	0.77	20	168	0.47	0.75
30.74	2/29	91	126	1.4	0.84	46	150	0.88	0.81	30	160	0.65	0.79	23	166	0.52	0.76
27.39	2/29	102	121	1.5	0.85	51	146	0.96	0.82	34	157	0.70	0.80	26	164	0.57	0.77
24.59	2/29	114	116	1.5	0.85	57	143	1.0	0.82	38	155	0.76	0.80	28	162	0.62	0.78
22.68	5/27	123	136	1.5	0.91	62	152	1.1	0.88	41	158	0.79	0.86	31	161	0.61	0.85
21.46	2/29	130	110	1.5	0.86	65	138	1.1	0.83	43	151	0.85	0.81	33	158	0.68	0.79
19.38	5/27	145	131	1.5	0.91	72	149	1.3	0.88	48	156	0.91	0.87	36	160	0.70	0.86
18.80	2/29	149	104	1.5	0.86	74	133	1.2	0.83	49	147	0.93	0.82	37	155	0.75	0.80
16.77	5/27	167	126	1.5	0.92	83	146	1.4	0.89	55	154	1.0	0.87	42	158	0.80	0.86
14.66	5/27	191	121	1.5	0.92	96	142	1.5	0.90	63	152	1.1	0.88	48	156	0.90	0.87
12.91	5/27	217	117	1.5	0.92	108	139	1.5	0.90	72	149	1.3	0.88	54	154	1.0	0.87
11.45	5/27	245	112	1.5	0.93	122	136	1.5	0.91	81	146	1.4	0.89	61	152	1.1	0.88
10.20	5/27	275	108	1.5	0.93	137	132	1.5	0.91	91	143	1.5	0.90	69	150	1.2	0.88
9.16	5/27	306	103	1.5	0.93	153	129	1.5	0.91	102	141	1.5	0.90	76	148	1.3	0.89
7.99	5/27	350	98	1.5	0.93	175	124	1.5	0.92	116	137	1.5	0.91	88	144	1.5	0.90
7.00	5/27	400	92	1.5	0.93	200	120	1.5	0.92	133	133	1.5	0.91	100	141	1.5	0.90

Helical-Worm Gear Units S

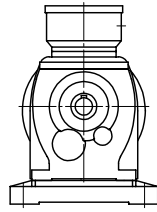
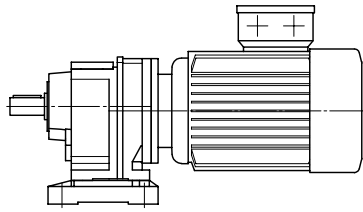


S22

i	is	n1=2800 1/min				n1=1400 1/min				n1=930 1/min				n1=700 1/min			
		n2 [1/min]	M [Nm]	Pmax [kW]	η	n2 [1/min]	M [Nm]	Pmax [kW]	η	n2 [1/min]	M [Nm]	Pmax [kW]	η	n2 [1/min]	M [Nm]	Pmax [kW]	η
207.20	1/42	14	290	0.61	0.68	6.8	315	0.37	0.61	4.5	325	0.26	0.58	3.4	325	0.20	0.56
177.88	1/42	16	285	0.68	0.69	7.9	310	0.41	0.62	5.2	320	0.30	0.59	3.9	325	0.23	0.57
154.74	1/42	18	275	0.75	0.70	9.0	305	0.46	0.64	6.0	315	0.33	0.60	4.5	325	0.26	0.58
136.00	1/42	21	270	0.82	0.71	10	300	0.50	0.65	6.8	315	0.37	0.61	5.1	320	0.29	0.59
120.52	1/42	23	265	0.89	0.72	12	295	0.54	0.67	7.7	310	0.41	0.62	5.8	320	0.32	0.60
107.52	1/42	26	255	0.96	0.73	13	295	0.59	0.68	8.6	310	0.44	0.63	6.5	315	0.36	0.61
96.44	1/42	29	250	1.0	0.73	15	290	0.64	0.68	9.6	305	0.48	0.64	7.3	315	0.39	0.61
87.65	1/42	32	245	1.1	0.74	16	285	0.69	0.69	11	300	0.51	0.65	8.0	310	0.42	0.62
77.28	1/42	36	235	1.2	0.75	18	275	0.75	0.70	12	295	0.56	0.67	9.1	305	0.46	0.64
71.53	2/29	39	270	1.3	0.83	20	305	0.81	0.77	13	315	0.57	0.75	9.8	320	0.45	0.73
68.44	1/42	41	225	1.3	0.75	20	270	0.82	0.71	14	290	0.61	0.68	10	300	0.50	0.65
61.41	2/29	46	260	1.5	0.83	23	295	0.91	0.78	15	310	0.65	0.76	11	315	0.51	0.74
61.25	1/42	46	215	1.4	0.76	23	265	0.88	0.72	15	285	0.66	0.69	11	300	0.54	0.66
53.42	2/29	52	250	1.6	0.84	26	290	1.0	0.79	17	305	0.73	0.76	13	315	0.58	0.75
53.31	1/42	53	205	1.5	0.76	26	255	0.97	0.73	17	280	0.73	0.70	13	290	0.59	0.68
46.95	2/29	60	245	1.8	0.84	30	285	1.1	0.80	20	305	0.81	0.77	15	310	0.64	0.76
41.61	2/29	67	235	1.9	0.85	34	280	1.2	0.82	22	300	0.89	0.78	17	310	0.71	0.76
37.12	2/29	75	225	2.1	0.85	38	275	1.3	0.82	25	295	0.98	0.79	19	305	0.78	0.77
33.30	2/29	84	220	2.3	0.85	42	265	1.4	0.83	28	290	1.1	0.80	21	300	0.85	0.78
30.26	2/29	93	210	2.4	0.86	46	260	1.5	0.83	31	285	1.1	0.81	23	295	0.92	0.78
26.68	2/29	105	200	2.6	0.86	52	250	1.6	0.84	35	275	1.2	0.82	26	290	1.0	0.79
26.64	5/27	105	265	3.0	0.91	53	295	1.8	0.89	35	310	1.3	0.87	26	315	1.00	0.87
23.63	2/29	118	191	2.7	0.86	59	245	1.8	0.84	39	270	1.3	0.83	30	285	1.1	0.80
22.87	5/27	122	255	3.0	0.92	61	290	2.1	0.89	41	305	1.5	0.88	31	305	1.1	0.87
21.15	2/29	132	181	2.9	0.87	66	235	1.9	0.85	44	265	1.5	0.83	33	280	1.2	0.82
19.89	5/27	141	245	3.0	0.92	70	285	2.3	0.90	47	300	1.7	0.88	35	305	1.3	0.87
18.40	2/29	152	170	3.0	0.87	76	225	2.1	0.85	51	255	1.6	0.84	38	270	1.3	0.82
17.49	5/27	160	235	3.0	0.92	80	280	2.6	0.90	53	295	1.9	0.89	40	300	1.4	0.88
15.50	5/27	181	225	3.0	0.93	90	270	2.8	0.91	60	290	2.1	0.89	45	295	1.6	0.88
13.82	5/27	203	220	3.0	0.93	101	265	3.0	0.91	67	285	2.3	0.89	51	290	1.7	0.88
12.40	5/27	226	210	3.0	0.93	113	260	3.0	0.91	75	280	2.5	0.90	56	285	1.9	0.89
11.27	5/27	248	205	3.0	0.94	124	255	3.0	0.92	83	275	2.6	0.90	62	290	2.1	0.89
9.94	5/27	282	192	3.0	0.94	141	245	3.0	0.92	94	270	2.9	0.91	70	285	2.3	0.90
8.80	5/27	318	183	3.0	0.94	159	235	3.0	0.92	106	265	3.0	0.91	80	280	2.6	0.90
7.88	5/27	356	173	3.0	0.94	178	230	3.0	0.93	118	255	3.0	0.92	89	275	2.8	0.91
6.85	5/27	409	162	3.0	0.94	204	220	3.0	0.93	136	245	3.0	0.92	102	265	3.0	0.91

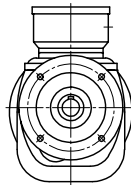
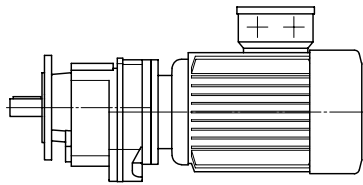
Helical Geared Motors ZG

KEB



Foot mounted version B3

Example: ZG22 DL100LX4, Foot mounted version B3



Flange mounted version B5

Example: ZG13 DL80G4, Flange mounted version B5

Helical Geared Motors ZG



kW	Type	1/min *)	kg B3	kg B5
0.12	ZG23 DL63K4	10-12.5	15	15
	ZG13 DL63K4	16	11	11
	ZG03 DL63K4	20-25-31.5-40-50-63	10	10
	ZG02 DL63K4	80-100-125-160-200-250-315-400	10	10
0.18	ZG23 DL63G4	10-12.5	15	15
	ZG13 DL63G4	16-20-25	11	11
	ZG03 DL63G4	31.5-40-50-63	10	10
	ZG02 DL63G4	80-100-125-160-200-250-315-400	10	10
0.25	ZG23 DL71K4	12.5-16	15	15
	ZG13 DL71K4	20-25-31.5-40-50	11	11
	ZG03 DL71K4	63	10	10
	ZG02 DL71K4	80-100-125-160-200-250-315-400	10	10
0.37	ZG23 DL71G4	16-20-25	16	16
	ZG13 DL71G4	31.5-40-50	12	12
	ZG03 DL71G4	63	11	11
	ZG02 DL71G4	80-100-125-160-200-250-315-400	10	10
0.55	ZG23 DL80K4	20-25-31.5-40-50	21	21
	ZG13 DL80K4	63	17	17
	ZG12 DL80K4	80	16	16
	ZG02 DL80K4	100-125-160-200-250-315-400	15	15
0.75	ZG23 DL80G4	31.5-40-50	21	21
	ZG13 DL80G4	63	18	18
	ZG12 DL80G4	80-100	17	17
	ZG02 DL80G4	125-160-200-250-315-400	16	16
1.1	ZG23 DL90S4	63	24	24
	ZG22 DL90S4	80	23	23
	ZG12 DL90S4	100-125-160-200-250-315-400	20	20
1.5	ZG23 DL90L4	63	27	27
	ZG22 DL90L4	80-100	26	26
	ZG12 DL90L4	125-160-200-250-315-400	23	23
2.2	ZG22 DL100L4	100-125-160-200-250-315-400	31	31
3	ZG22 DL100LX4	125-160-200-250-315-400	38	38

i	M [Nm] cG=1	n2 *) [1/min] n1=1400	Pmax [kW]
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ZG03

72.52	60	20	0.12
52.38	60	25	0.17
45.19	60	31.5	0.19
34.25	60	40	0.26
29.57	60	50	0.30
22.15	60	63	0.40

ZG02

16.97	60	80	0.52
12.26	60	100	0.72
10.58	60	125	0.75
9.18	58	160	0.75
7.02	51	200	0.75
5.21	43	250	0.75
4.52	40	315	0.75
3.46	35	400	0.75

ZG13

83.91	117	16	0.20
72.69	117	20	0.24
55.63	117	25	0.31
43.09	117	31.5	0.40
36.98	117	40	0.46
27.95	117	50	0.61
21.59	117	63	0.79

*) Nenndrehzahl

i	M [Nm] cG=1	n2 *) [1/min] n1=1400	Pmax [kW]
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ZG12

18.39	117	80	0.93
14.16	117	100	1.2
11.19	117	125	1.5
8.77	106	160	1.5
7.06	97	200	1.5
5.51	87	250	1.5
4.41	79	315	1.5
3.37	69	400	1.5

ZG23

153.41	235	10	0.22
113.42	235	12.5	0.30
87.34	235	16	0.39
69.48	235	20	0.49
53.51	235	25	0.64
47.44	235	31.5	0.72
36.59	235	40	0.93
28.90	235	50	1.2
22.65	230	63	1.5

ZG22

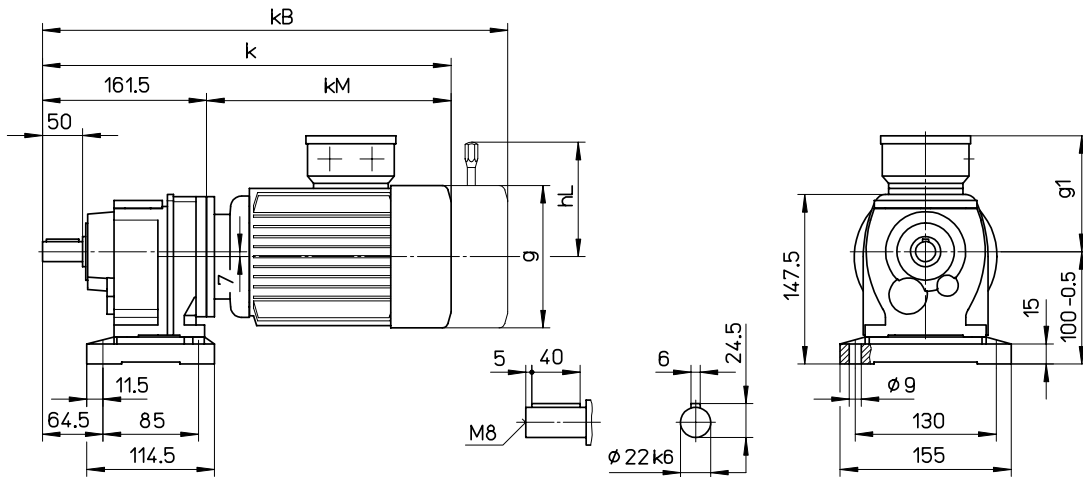
17.00	235	80	2.0
13.60	235	100	2.5
10.90	230	125	3.0
8.64	215	160	3.0
7.52	235	200	3.0
6.31	164	250	3.0
5.06	167	315	3.0
4.01	142	400	3.0

Helical Geared Motors ZG



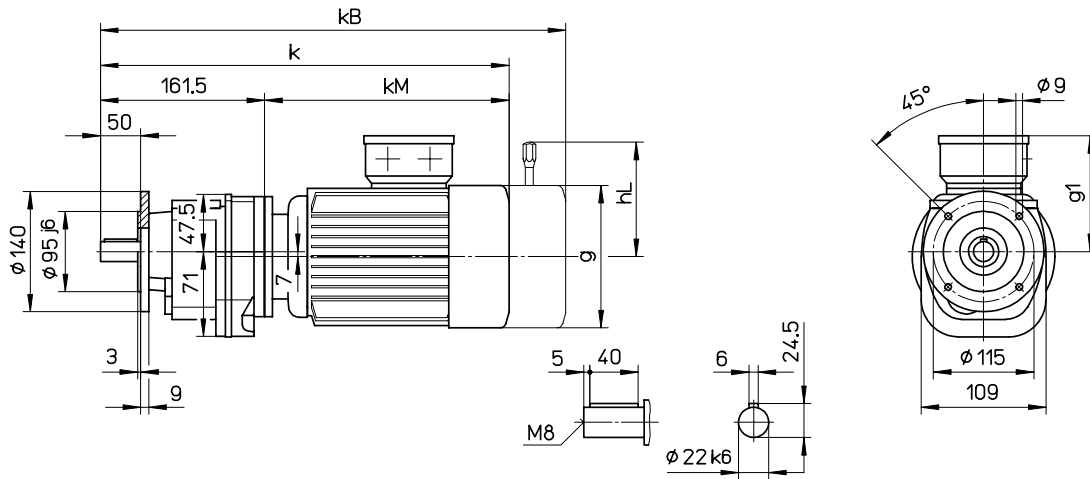
ZG02 / ZG03

Foot mounted version



ZG02 / ZG03

B5 Flange mounted version



	k	kB	kM	g	g1	hL
ZG0_DL63/71	363	417	201	126	113	106
ZG0_DL80	406	463	244	142	121	114

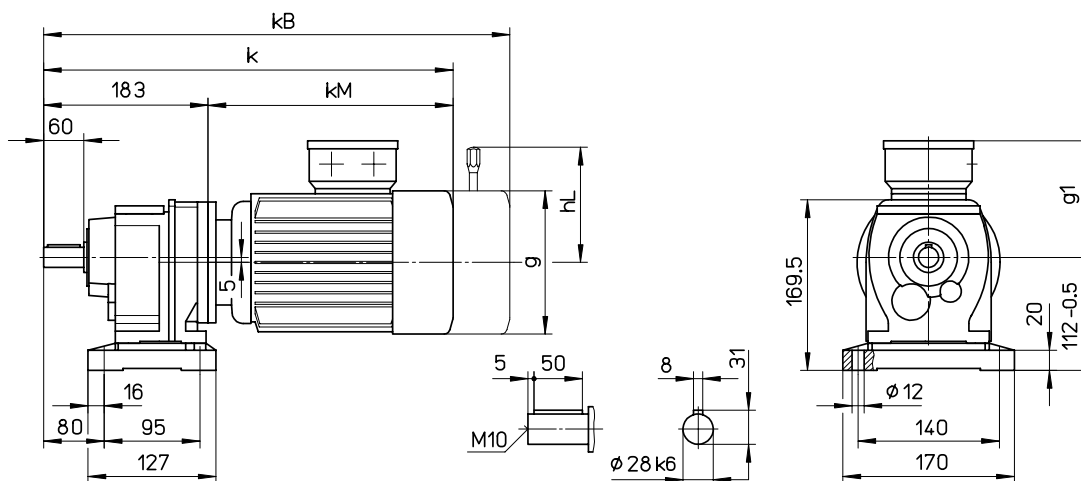
Dimensions kB and hL apply to geared motors with brake.

Helical Geared Motors ZG



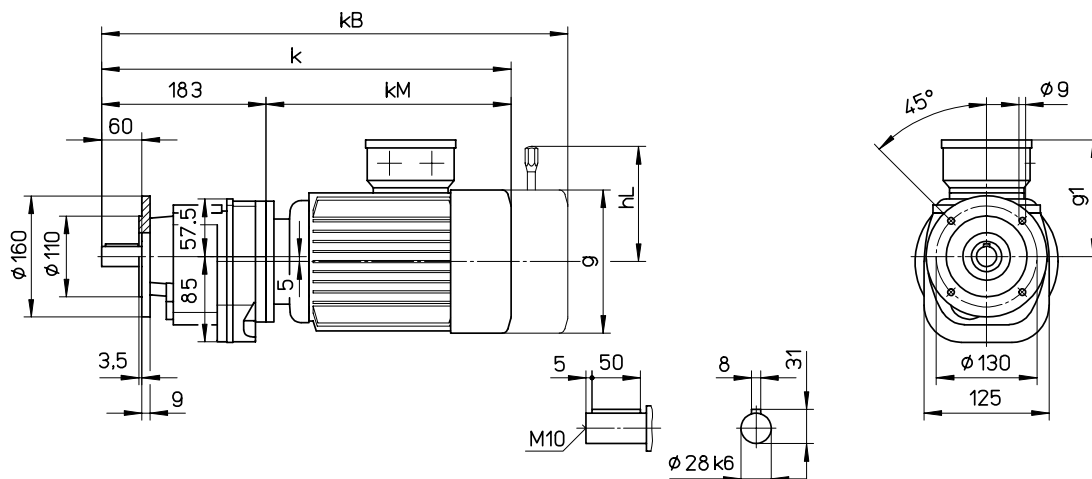
ZG12 / ZG13

Foot mounted version



ZG12 / ZG13

B5 Flange mounted version



	k	kB	kM	g	g1	hL
ZG1_DL63/71	383	437	200	126	113	106
ZG1_DL80	426	483	243	142	121	114
ZG1_DL90	467	532	284	160	130	128

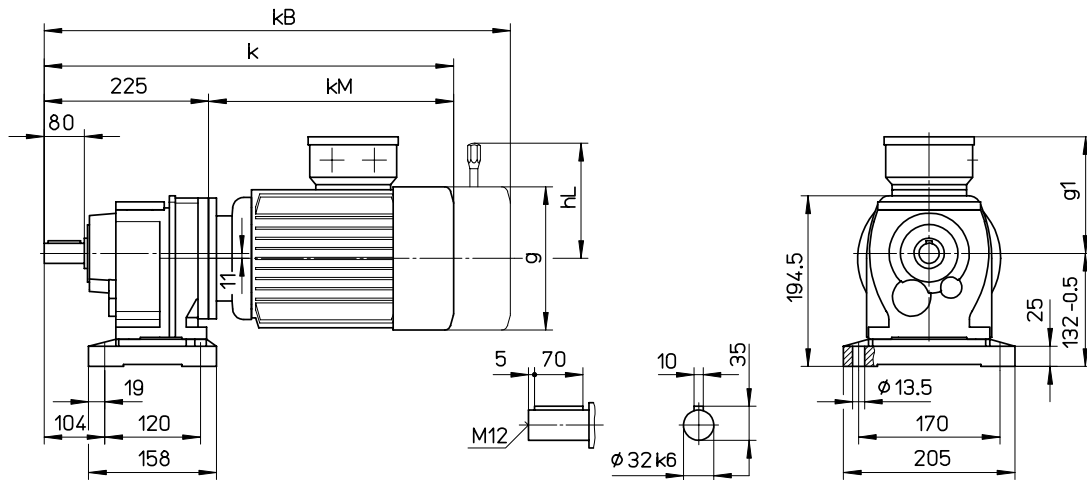
Dimensions kB and hL apply to geared motors with brake.

Helical Geared Motors ZG



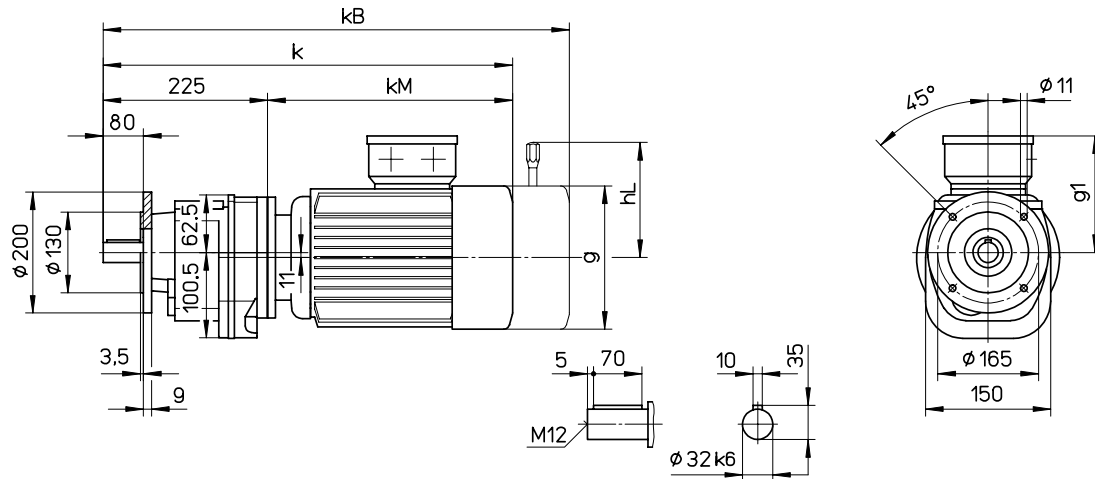
ZG22 / ZG23

Foot mounted version



ZG22 / ZG23

B5 Flange mounted version



	k	kB	kM	g	g1	hL
ZG2_DL63/71	422	476	197	126	113	106
ZG2_DL80	465	522	240	142	121	114
ZG2_DL90	509	574	284	160	130	128
ZG2_DL100	562	633	337	180	141	168

Dimensions kB and hL apply to geared motors with brake.