



## 20.1 Overview

Highly rigid helical-geared right-angle geared motor

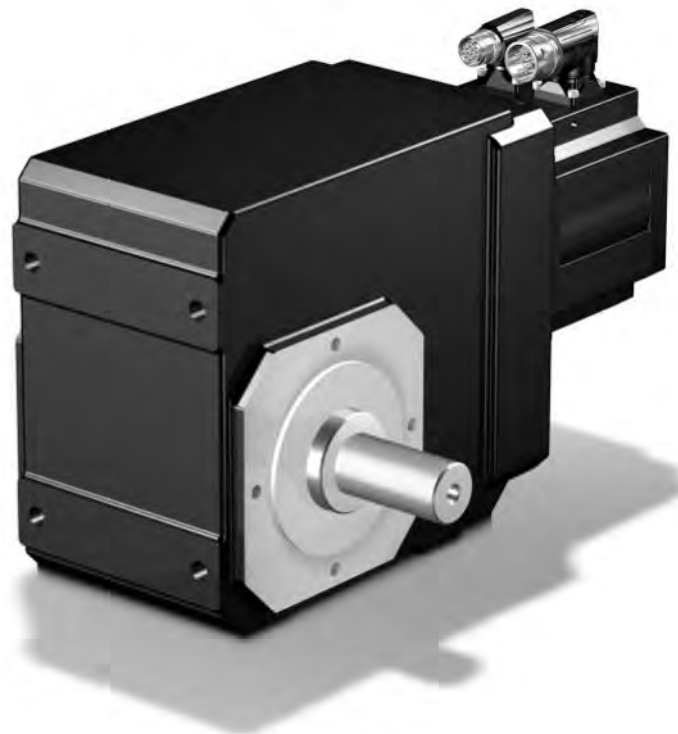
### Technical data

$i$	4 – 381
$M_{2acc}$	23 – 13200 Nm
$\Delta\varphi_2$	1.5 – 12 arcmin
$\eta$	$\leq 94 - 97 \%$

### Features

Power density	★★★★☆
Backlash	★★★★☆
Price category	€€
Shaft load	★★★★☆
Smooth operation	★★★★☆
Torsional stiffness	★★★★☆
Mass moment of inertia	★★★★★
Helical gearing	✓
Maintenance-free (K1 – K4)	✓
FKM seal ring at the input	✓
Reinforced output bearing (K5 – K8)	✓ (on request)
Compact and highly dynamic due to direct motor attachment	✓

Key: ★★★★★ good | ★★★★★ excellent





## 20.2 Selection tables

The technical data specified in the selection tables applies to:

- Installation altitudes up to 1000 m above sea level
- Surrounding temperatures from 0 °C to 40 °C
- Drives with convection-cooled motors (e.g. EZ401U)

You can calculate the technical data for drives with forced ventilated motors (for example EZ401B) at <http://products.stoeber.de>.

Formula symbol	Unit	Explanation
$a_{th}$	–	Parameter for calculating $K_{mot,th}$
$C_2$	Nm/ arcmin	Torsional stiffness of gear unit (final stiffness) relative to the gear unit output
$\Delta\varphi_2$	arcmin	Backlash at the output shaft with a blocked input (standard/class II/class I)
$\eta$	%	Efficiency
$i$	–	Gear ratio
$i_{exakt}$	–	Mathematically exact gear ratio
$J_1$	$10^{-4}kgm^2$	Mass moment of inertia relative to the gear unit input
$m$	kg	Weight
$M_{2,0}$	Nm	Stall torque on the gear unit output
$M_{2acc}$	Nm	Maximum permitted acceleration torque on the gear unit output
$M_{2acc,max}$	Nm	Maximum permitted acceleration torque of a group of geared motors whose size and nominal torque $n_{1N}$ are the same
$M_{2N}$	Nm	Nominal torque on the gear unit output (relative to $n_{1N}$ )
$M_{2NOT}$	Nm	Gear unit emergency-off torque on the gear unit output for max. 1000 load changes
$n_{1maxDBH}$	rpm	Maximum permitted input speed of the gear unit in continuous operation Installation positions EL1, EL2 (at surrounding temperature of 20 °C)
$n_{1maxDBV}$	rpm	Maximum permitted input speed of the gear unit in continuous operation Installation positions EL3, EL4, EL5, EL6 (at surrounding temperature of 20 °C)
$n_{1maxZB}$	$min^{-1}$	Maximum permitted input speed of the gear unit in cyclic operation (at surrounding temperature of 20 °C)
$n_{1N}$	$min^{-1}$	Nominal speed at the gear unit input
$n_{2N}$	$min^{-1}$	Nominal speed at the gear unit output
$S$	–	Load value: Quotient of gear unit and motor nominal torque without regard to the thermal performance limit. Represents a value for the reserve of the geared motor.



20 K helical bevel geared motors  
20.2 Selection tables



$n_{2N}$	$M_{2N}$	$M_{2,0}$	$a_{in}$	S	Type	$M_{2acc}$	$M_{2NOT}$	i	$i_{exakt}$	$n_{1max}$ DBH	$n_{1max}$ DBV	$n_{1max}$ ZB	$J_1$ [10 <sup>-4</sup> kgm <sup>2</sup> ]	$\Delta\varphi_2$ [arcmin]	$C_2$ [Nm/ arcmin]	m
[rpm]	[Nm]	[Nm]				[Nm]	[Nm]			[rpm]	[rpm]	[rpm]				[kg]
<b>K1 (<math>n_{1N} = 3000</math> rpm, <math>M_{2acc,max} = 140</math> Nm)</b>																
53	51	52	6.5	1.7	K102_0560 EZ301U	86	110	56.10	1178/21	4000	4000	6000	0.21	12/6	6.8	11
64	42	43	5.2	2.4	K102_0470 EZ301U	120	200	46.92	2299/49	4000	4000	6000	0.22	12/6	6.8	11
64	72	76	8.9	1.4	K102_0470 EZ302U	120	200	46.92	2299/49	4000	4000	6000	0.32	12/6	6.8	12
74	36	37	8.3	1.7	K102_0400 EZ301U	62	77	40.30	403/10	4000	4000	6000	0.21	12/6	6.8	11
85	32	32	4.6	3.4	K102_0350 EZ301U	95	190	35.11	3686/105	4000	4000	6000	0.23	12/6	6.8	11
85	54	57	7.9	2.0	K102_0350 EZ302U	140	190	35.11	3686/105	4000	4000	6000	0.33	12/6	6.8	12
85	70	75	10	1.5	K102_0350 EZ303U	140	190	35.11	3686/105	4000	4000	6000	0.44	12/6	6.8	12
85	95	102	14	1.1	K102_0350 EZ401U	140	240	35.11	3686/105	4000	4000	6000	0.97	12/6	6.8	14
89	30	31	6.7	2.4	K102_0340 EZ301U	88	150	33.71	4719/140	4000	4000	6000	0.22	12/6	6.8	11
89	52	55	11	1.4	K102_0340 EZ302U	88	150	33.71	4719/140	4000	4000	6000	0.32	12/6	6.8	12
107	25	26	4.7	3.9	K102_0280 EZ301U	76	170	28.05	589/21	4000	4000	6000	0.25	12/6	6.8	11
107	43	46	8.1	2.3	K102_0280 EZ302U	130	170	28.05	589/21	4000	4000	6000	0.35	12/6	6.8	12
107	56	60	11	1.8	K102_0280 EZ303U	130	170	28.05	589/21	4000	4000	6000	0.46	12/6	6.8	12
107	76	82	14	1.3	K102_0280 EZ401U	140	240	28.05	589/21	4000	4000	6000	0.99	12/6	6.8	14
119	23	23	4.8	4.2	K102_0250 EZ301U	68	140	25.22	1261/50	4000	4000	6000	0.24	12/6	6.8	11
119	39	41	8.1	2.5	K102_0250 EZ302U	110	140	25.22	1261/50	4000	4000	6000	0.34	12/6	6.8	12
119	51	54	11	1.9	K102_0250 EZ303U	110	140	25.22	1261/50	4000	4000	6000	0.45	12/6	6.8	12
119	68	73	14	1.4	K102_0250 EZ401U	120	190	25.22	1261/50	4000	4000	6000	0.98	12/6	6.8	14
129	21	21	4.8	4.4	K102_0230 EZ301U	63	160	23.27	1140/49	4000	4000	6000	0.28	12/6	6.8	11
129	36	38	8.2	2.6	K102_0230 EZ302U	110	160	23.27	1140/49	4000	4000	6000	0.38	12/6	6.8	12
129	47	49	11	2.0	K102_0230 EZ303U	130	160	23.27	1140/49	4000	4000	6000	0.49	12/6	6.8	12
129	63	68	14	1.5	K102_0230 EZ401U	140	240	23.27	1140/49	4000	4000	6000	1.0	12/6	6.8	14
149	18	19	4.9	4.9	K102_0200 EZ301U	55	120	20.15	403/20	4000	4000	6000	0.26	12/6	6.8	11
149	31	33	8.3	2.9	K102_0200 EZ302U	97	120	20.15	403/20	4000	4000	6000	0.36	12/6	6.8	12
149	40	43	11	2.2	K102_0200 EZ303U	97	120	20.15	403/20	4000	4000	6000	0.47	12/6	6.8	12
149	55	59	15	1.6	K102_0200 EZ401U	130	220	20.15	403/20	4000	4000	6000	1.0	12/6	6.8	14
149	84	92	22	1.1	K102_0200 EZ501U	130	220	20.15	403/20	4000	4000	6000	3.0	12/6	6.8	15
171	16	16	4.9	3.0	K102_0175 EZ301U	48	60	17.56	2090/119	4000	3800	5500	0.32	12/6	6.8	11
171	27	29	8.4	3.1	K102_0175 EZ302U	85	130	17.56	2090/119	4000	3800	5500	0.42	12/6	6.8	12
171	35	37	11	2.4	K102_0175 EZ303U	100	130	17.56	2090/119	4000	3800	5500	0.53	12/6	6.8	12
171	48	51	15	1.8	K102_0175 EZ401U	140	240	17.56	2090/119	4000	3800	5500	1.1	12/6	6.8	14
171	73	80	23	1.2	K102_0175 EZ501U	140	240	17.56	2090/119	4000	3800	5500	3.0	12/6	6.8	15
171	80	89	25	1.1	K102_0175 EZ402U	140	240	17.56	2090/119	4000	3800	5500	1.8	12/6	6.8	15
179	15	15	4.9	2.9	K102_0165 EZ301U	44	55	16.71	117/7	4000	4000	6000	0.29	12/6	6.8	11
179	26	27	8.4	3.2	K102_0165 EZ302U	81	110	16.71	117/7	4000	4000	6000	0.39	12/6	6.8	12
179	34	36	11	2.5	K102_0165 EZ303U	91	110	16.71	117/7	4000	4000	6000	0.50	12/6	6.8	12
179	45	49	15	1.8	K102_0165 EZ401U	130	210	16.71	117/7	4000	4000	6000	1.0	12/6	6.8	14
179	70	76	23	1.2	K102_0165 EZ501U	130	210	16.71	117/7	4000	4000	6000	3.0	12/6	6.8	15
179	76	84	25	1.1	K102_0165 EZ402U	130	210	16.71	117/7	4000	4000	6000	1.7	12/6	6.8	15
213	13	13	5.0	3.0	K102_0140 EZ301U	38	48	14.11	494/35	4000	3800	5500	0.37	12/6	6.8	11
213	22	23	8.5	3.6	K102_0140 EZ302U	68	100	14.11	494/35	4000	3800	5500	0.47	12/6	6.8	12
213	28	30	11	2.8	K102_0140 EZ303U	82	100	14.11	494/35	4000	3800	5500	0.58	12/6	6.8	12
213	38	41	15	2.1	K102_0140 EZ401U	120	210	14.11	494/35	4000	3800	5500	1.1	12/6	6.8	14
213	59	64	23	1.3	K102_0140 EZ501U	140	240	14.11	494/35	4000	3800	5500	3.1	12/6	6.8	15
213	64	71	25	1.2	K102_0140 EZ402U	140	210	14.11	494/35	4000	3800	5500	1.8	12/6	6.8	15
238	11	12	5.0	3.0	K102_0125 EZ301U	34	43	12.62	429/34	4000	3800	5500	0.34	12/6	6.8	11
238	19	21	8.6	3.8	K102_0125 EZ302U	61	92	12.62	429/34	4000	3800	5500	0.44	12/6	6.8	12
238	25	27	11	2.9	K102_0125 EZ303U	73	92	12.62	429/34	4000	3800	5500	0.55	12/6	6.8	12
238	34	37	15	2.2	K102_0125 EZ401U	100	180	12.62	429/34	4000	3800	5500	1.1	12/6	6.8	14
238	53	58	23	1.4	K102_0125 EZ501U	130	220	12.62	429/34	4000	3800	5500	3.1	12/6	6.8	15
238	58	64	25	1.3	K102_0125 EZ402U	130	180	12.62	429/34	4000	3800	5500	1.8	12/6	6.8	15
259	10	11	5.1	3.0	K102_0115 EZ301U	31	39	11.57	266/23	3600	3300	5000	0.43	12/6	6.8	11
259	18	19	8.7	3.8	K102_0115 EZ302U	56	84	11.57	266/23	3600	3300	5000	0.53	12/6	6.8	12
259	23	25	11	2.9	K102_0115 EZ303U	67	84	11.57	266/23	3600	3300	5000	0.64	12/6	6.8	12
259	31	34	15	2.3	K102_0115 EZ401U	95	170	11.57	266/23	3600	3300	5000	1.2	12/6	6.8	14
259	48	53	23	1.5	K102_0115 EZ501U	140	240	11.57	266/23	3600	3300	5000	3.1	12/6	6.8	15
259	53	58	26	1.4	K102_0115 EZ402U	130	170	11.57	266/23	3600	3300	5000	1.9	12/6	6.8	15
296	16	17	8.8	3.8	K102_0100 EZ302U	49	74	10.14	507/50	4000	3800	5500	0.50	12/6	6.8	12
296	20	22	11	2.9	K102_0100 EZ303U	59	74	10.14	507/50	4000	3800	5500	0.61	12/6	6.8	12

K



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## 20.2 Selection tables



$n_{2N}$	$M_{2N}$	$M_{2,0}$	$a_{th}$	S	Type	$M_{2acc}$	$M_{2NOT}$	i	$i_{exakt}$	$n_{1max}$	$n_{1max}$	$n_{1max}$	$J_1$	$\Delta\varphi_2$	$C_2$	m
[rpm]	[Nm]	[Nm]				[Nm]	[Nm]			DBH	DBV	ZB	[10 <sup>-4</sup> kgm <sup>2</sup> ]	[arcmin]	[Nm/arcmin]	[kg]
<b>K1 (<math>n_{1N} = 3000</math> rpm, <math>M_{2acc,max} = 140</math> Nm)</b>																
296	28	30	15	2.6	K102_0100 EZ401U	84	150	10.14	507/50	4000	3800	5500	1.1	12/6	6.8	14
296	42	46	24	1.7	K102_0100 EZ501U	130	220	10.14	507/50	4000	3800	5500	3.1	12/6	6.8	15
296	46	51	26	1.5	K102_0100 EZ402U	120	150	10.14	507/50	4000	3800	5500	1.8	12/6	6.8	15
296	68	85	38	1.0	K102_0100 EZ404U	130	220	10.14	507/50	4000	3800	5500	3.2	12/6	6.8	17
324	14	15	8.9	3.8	K102_0092 EZ302U	45	67	9.249	1748/189	3600	3300	5000	0.62	12/6	6.8	12
324	19	20	12	2.9	K102_0092 EZ303U	54	67	9.249	1748/189	3600	3300	5000	0.73	12/6	6.8	12
324	25	27	16	2.7	K102_0092 EZ401U	76	130	9.249	1748/189	3600	3300	5000	1.3	12/6	6.8	14
324	39	42	24	1.8	K102_0092 EZ501U	130	240	9.249	1748/189	3600	3300	5000	3.2	12/6	6.8	15
324	42	47	26	1.6	K102_0092 EZ402U	110	130	9.249	1748/189	3600	3300	5000	2.0	12/6	6.8	15
324	62	77	38	1.1	K102_0092 EZ404U	130	240	9.249	1748/189	3600	3300	5000	3.3	12/6	6.8	17
324	66	72	41	1.0	K102_0092 EZ502U	130	240	9.249	1748/189	3600	3300	5000	5.5	12/6	6.8	16
324	66	74	41	1.0	K102_0092 EZ701U	130	240	9.249	1748/189	3600	3300	5000	8.8	12/6	6.8	18
361	13	14	8.9	3.8	K102_0083 EZ302U	40	60	8.309	1911/230	3600	3300	5000	0.58	12/6	6.8	12
361	17	18	12	2.9	K102_0083 EZ303U	48	60	8.309	1911/230	3600	3300	5000	0.69	12/6	6.8	12
361	23	24	16	2.9	K102_0083 EZ401U	69	120	8.309	1911/230	3600	3300	5000	1.2	12/6	6.8	14
361	35	38	24	1.9	K102_0083 EZ501U	120	220	8.309	1911/230	3600	3300	5000	3.2	12/6	6.8	15
361	38	42	26	1.7	K102_0083 EZ402U	97	120	8.309	1911/230	3600	3300	5000	1.9	12/6	6.8	15
361	56	69	39	1.2	K102_0083 EZ404U	120	220	8.309	1911/230	3600	3300	5000	3.3	12/6	6.8	17
361	60	64	42	1.1	K102_0083 EZ502U	120	220	8.309	1911/230	3600	3300	5000	5.5	12/6	6.8	16
361	60	67	42	1.1	K102_0083 EZ701U	120	220	8.309	1911/230	3600	3300	5000	8.8	12/6	6.8	18
452	10	11	9.1	3.8	K102_0066 EZ302U	32	48	6.644	299/45	3600	3300	5000	0.69	12/6	6.8	12
452	13	14	12	2.9	K102_0066 EZ303U	39	48	6.644	299/45	3600	3300	5000	0.80	12/6	6.8	12
452	18	19	16	3.4	K102_0066 EZ401U	55	97	6.644	299/45	3600	3300	5000	1.3	12/6	6.8	14
452	28	30	25	2.2	K102_0066 EZ501U	100	190	6.644	299/45	3600	3300	5000	3.3	12/6	6.8	15
452	30	34	27	2.0	K102_0066 EZ402U	77	97	6.644	299/45	3600	3300	5000	2.0	12/6	6.8	15
452	44	55	39	1.4	K102_0066 EZ404U	120	190	6.644	299/45	3600	3300	5000	3.4	12/6	6.8	17
452	48	52	42	1.3	K102_0066 EZ502U	120	190	6.644	299/45	3600	3300	5000	5.6	12/6	6.8	16
452	48	53	42	1.3	K102_0066 EZ701U	120	190	6.644	299/45	3600	3300	5000	8.9	12/6	6.8	18
500	9.3	9.8	9.2	3.8	K102_0060 EZ302U	29	44	6.000	6/1	3300	2800	4500	0.76	12/6	6.8	12
500	12	13	12	2.9	K102_0060 EZ303U	35	44	6.000	6/1	3300	2800	4500	0.87	12/6	6.8	12
500	16	17	16	3.6	K102_0060 EZ401U	49	87	6.000	6/1	3300	2800	4500	1.4	12/6	6.8	14
500	25	27	25	2.4	K102_0060 EZ501U	93	170	6.000	6/1	3300	2800	4500	3.4	12/6	6.8	15
500	27	30	27	2.2	K102_0060 EZ402U	70	87	6.000	6/1	3300	2800	4500	2.1	12/6	6.8	15
500	40	50	40	1.5	K102_0060 EZ404U	110	170	6.000	6/1	3300	2800	4500	3.5	12/6	6.8	17
500	43	47	43	1.4	K102_0060 EZ502U	110	170	6.000	6/1	3300	2800	4500	5.7	12/6	6.8	16
500	43	48	43	1.4	K102_0060 EZ701U	110	170	6.000	6/1	3300	2800	4500	9.0	12/6	6.8	18
500	56	65	56	1.0	K102_0060 EZ503U	110	170	6.000	6/1	3300	2800	4500	8.1	12/6	6.8	18
539	8.6	9.1	9.2	3.8	K102_0056 EZ302U	27	41	5.568	1520/273	3300	2800	4500	0.95	12/6	6.8	12
539	11	12	12	2.9	K102_0056 EZ303U	32	41	5.568	1520/273	3300	2800	4500	1.1	12/6	6.8	12
539	15	16	16	3.8	K102_0056 EZ401U	46	81	5.568	1520/273	3300	2800	4500	1.6	12/6	6.8	14
539	23	25	25	2.5	K102_0056 EZ501U	86	160	5.568	1520/273	3300	2800	4500	3.6	12/6	6.8	15
539	25	28	27	2.3	K102_0056 EZ402U	65	81	5.568	1520/273	3300	2800	4500	2.3	12/6	6.8	15
539	37	46	40	1.5	K102_0056 EZ404U	110	160	5.568	1520/273	3300	2800	4500	3.6	12/6	6.8	17
539	40	43	43	1.4	K102_0056 EZ502U	110	160	5.568	1520/273	3300	2800	4500	5.9	12/6	6.8	16
539	40	45	43	1.4	K102_0056 EZ701U	110	160	5.568	1520/273	3300	2800	4500	9.2	12/6	6.8	18
539	52	60	56	1.1	K102_0056 EZ503U	110	160	5.568	1520/273	3300	2800	4500	8.2	12/6	6.8	18
750	8.0	8.5	12	2.9	K102_0040 EZ303U	23	29	4.000	4/1	3300	2800	4500	1.3	12/6	6.8	12
750	11	12	17	4.3	K102_0040 EZ401U	33	58	4.000	4/1	3300	2800	4500	1.8	12/6	6.8	14
750	17	18	26	3.1	K102_0040 EZ501U	62	120	4.000	4/1	3300	2800	4500	3.8	12/6	6.8	15
750	18	20	28	2.6	K102_0040 EZ402U	47	58	4.000	4/1	3300	2800	4500	2.5	12/6	6.8	15
750	27	33	41	1.9	K102_0040 EZ404U	93	120	4.000	4/1	3300	2800	4500	3.8	12/6	6.8	17
750	29	31	44	1.8	K102_0040 EZ502U	93	120	4.000	4/1	3300	2800	4500	6.1	12/6	6.8	16
750	29	32	44	1.8	K102_0040 EZ701U	78	120	4.000	4/1	3300	2800	4500	9.4	12/6	6.8	18
750	38	43	58	1.4	K102_0040 EZ503U	93	120	4.000	4/1	3300	2800	4500	8.4	12/6	6.8	18
<b>K1 (<math>n_{1N} = 6000</math> rpm, <math>M_{2acc,max} = 140</math> Nm)</b>																
107	48	52	6.2	1.8	K102_0560 EZ301U	86	110	56.10	1178/21	4000	4000	6000	0.21	12/6	6.8	11
128	41	43	5.5	2.3	K102_0470 EZ301U	120	200	46.92	2299/49	4000	4000	6000	0.22	12/6	6.8	11
128	68	76	9.2	1.4	K102_0470 EZ302U	120	200	46.92	2299/49	4000	4000	6000	0.32	12/6	6.8	12
149	35	37	8.0	1.8	K102_0400 EZ301U	62	77	40.30	403/10	4000	4000	6000	0.21	12/6	6.8	11



20 K helical bevel geared motors  
20.2 Selection tables



$n_{2N}$	$M_{2N}$	$M_{2,0}$	$a_{in}$	S	Type	$M_{2acc}$	$M_{2NOT}$	i	$i_{exakt}$	$n_{1max}$ DBH	$n_{1max}$ DBV	$n_{1max}$ ZB	$J_1$ [10 <sup>-4</sup> kgm <sup>2</sup> ]	$\Delta\phi_2$ [arcmin]	$C_2$ [Nm/ arcmin]	m
[rpm]	[Nm]	[Nm]				[Nm]	[Nm]			[rpm]	[rpm]	[rpm]				[kg]
<b>K1 (<math>n_{1N} = 6000</math> rpm, <math>M_{2acc,max} = 140</math> Nm)</b>																
171	30	32	5.6	2.8	K102_0350 EZ301U	95	190	35.11	3686/105	4000	4000	6000	0.23	12/6	6.8	11
171	51	57	9.4	1.7	K102_0350 EZ302U	140	190	35.11	3686/105	4000	4000	6000	0.33	12/6	6.8	12
171	67	77	12	1.3	K102_0350 EZ303U	140	190	35.11	3686/105	4000	4000	6000	0.44	12/6	6.8	12
171	78	95	14	1.1	K102_0350 EZ401U	140	240	35.11	3686/105	4000	4000	6000	0.97	12/6	6.8	14
178	29	31	6.4	2.5	K102_0340 EZ301U	88	150	33.71	4719/140	4000	4000	6000	0.22	12/6	6.8	11
178	49	55	11	1.5	K102_0340 EZ302U	88	150	33.71	4719/140	4000	4000	6000	0.32	12/6	6.8	12
214	24	26	5.7	3.2	K102_0280 EZ301U	76	170	28.05	589/21	4000	4000	6000	0.25	12/6	6.8	11
214	41	46	9.6	1.9	K102_0280 EZ302U	130	170	28.05	589/21	4000	4000	6000	0.35	12/6	6.8	12
214	53	61	13	1.5	K102_0280 EZ303U	130	170	28.05	589/21	4000	4000	6000	0.46	12/6	6.8	12
214	63	76	15	1.3	K102_0280 EZ401U	140	240	28.05	589/21	4000	4000	6000	0.99	12/6	6.8	14
238	22	23	5.7	3.5	K102_0250 EZ301U	68	140	25.22	1261/50	4000	4000	6000	0.24	12/6	6.8	11
238	37	41	9.7	2.1	K102_0250 EZ302U	110	140	25.22	1261/50	4000	4000	6000	0.34	12/6	6.8	12
238	48	55	13	1.6	K102_0250 EZ303U	110	140	25.22	1261/50	4000	4000	6000	0.45	12/6	6.8	12
238	56	68	15	1.3	K102_0250 EZ401U	120	190	25.22	1261/50	4000	4000	6000	0.98	12/6	6.8	14
258	20	21	5.8	3.7	K102_0230 EZ301U	63	160	23.27	1140/49	4000	4000	6000	0.28	12/6	6.8	11
258	34	38	9.7	2.2	K102_0230 EZ302U	110	160	23.27	1140/49	4000	4000	6000	0.38	12/6	6.8	12
258	44	51	13	1.7	K102_0230 EZ303U	130	160	23.27	1140/49	4000	4000	6000	0.49	12/6	6.8	12
258	52	63	15	1.4	K102_0230 EZ401U	140	240	23.27	1140/49	4000	4000	6000	1.0	12/6	6.8	14
298	17	19	5.9	4.0	K102_0200 EZ301U	55	120	20.15	403/20	4000	4000	6000	0.26	12/6	6.8	11
298	29	33	9.9	2.4	K102_0200 EZ302U	97	120	20.15	403/20	4000	4000	6000	0.36	12/6	6.8	12
298	38	44	13	1.8	K102_0200 EZ303U	97	120	20.15	403/20	4000	4000	6000	0.47	12/6	6.8	12
298	45	55	15	1.6	K102_0200 EZ401U	130	220	20.15	403/20	4000	4000	6000	1.0	12/6	6.8	14
298	66	86	22	1.1	K102_0200 EZ501U	130	220	20.15	403/20	4000	4000	6000	3.0	12/6	6.8	15
298	68	96	23	1.0	K102_0200 EZ402U	130	220	20.15	403/20	4000	4000	6000	1.7	12/6	6.8	15
359	14	15	5.9	4.6	K102_0165 EZ301U	45	110	16.71	117/7	4000	4000	6000	0.29	12/6	6.8	11
359	24	27	10	2.7	K102_0165 EZ302U	81	110	16.71	117/7	4000	4000	6000	0.39	12/6	6.8	12
359	32	36	13	2.1	K102_0165 EZ303U	91	110	16.71	117/7	4000	4000	6000	0.50	12/6	6.8	12
359	37	45	15	1.8	K102_0165 EZ401U	130	210	16.71	117/7	4000	4000	6000	1.0	12/6	6.8	14
359	55	71	23	1.2	K102_0165 EZ501U	130	210	16.71	117/7	4000	4000	6000	3.0	12/6	6.8	15
359	57	79	23	1.2	K102_0165 EZ402U	130	210	16.71	117/7	4000	4000	6000	1.7	12/6	6.8	15
<b>K2 (<math>n_{1N} = 3000</math> rpm, <math>M_{2acc,max} = 220</math> Nm)</b>																
17	161	164	4.1	1.2	K203_1810 EZ301U	220	390	181.0	86903/480	4000	3900	5500	0.24	10/6/2.5	11	22
22	120	123	3.8	1.7	K203_1350 EZ301U	220	390	135.3	30315/224	4000	3900	5500	0.24	10/6/2.5	11	22
27	97	99	3.6	2.1	K203_1090 EZ301U	220	390	109.5	26273/240	4000	3900	5500	0.25	10/6/2.5	11	22
33	81	82	3.4	2.5	K203_0910 EZ301U	220	390	90.79	46483/512	4000	3900	5500	0.25	10/6/2.5	11	22
33	138	146	5.9	1.4	K203_0910 EZ302U	220	390	90.79	46483/512	4000	3900	5500	0.35	10/6/2.5	11	22
38	121	128	5.7	1.7	K203_0800 EZ302U	220	390	79.62	26273/330	4000	3900	5500	0.35	10/6/2.5	11	22
38	158	167	7.4	1.3	K203_0800 EZ303U	220	390	79.62	26273/330	4000	3900	5500	0.46	10/6/2.5	11	23
43	107	113	8.4	1.2	K202_0690 EZ302U	160	260	69.43	6665/96	4000	3900	5500	0.33	10/5/1.5	11	19
44	104	110	5.5	1.9	K203_0680 EZ302U	220	390	68.42	26273/384	4000	3900	5500	0.36	10/6/2.5	11	22
44	135	143	7.1	1.5	K203_0680 EZ303U	220	390	68.42	26273/384	4000	3900	5500	0.47	10/6/2.5	11	23
45	100	106	5.4	2.0	K203_0660 EZ302U	220	390	66.03	46483/704	4000	3900	5500	0.35	10/6/2.5	11	22
45	131	138	7.1	1.5	K203_0660 EZ303U	220	390	66.03	46483/704	4000	3900	5500	0.46	10/6/2.5	11	23
54	86	91	6.6	1.9	K202_0560 EZ302U	190	280	55.54	1333/24	4000	3900	5500	0.34	10/5/1.5	11	19
54	112	118	8.6	1.4	K202_0560 EZ303U	190	280	55.54	1333/24	4000	3900	5500	0.45	10/5/1.5	11	20
55	82	87	5.2	2.4	K203_0540 EZ302U	220	350	54.25	135407/2496	4000	3900	5500	0.37	10/6/2.5	11	22
55	107	114	6.7	1.9	K203_0540 EZ303U	220	350	54.25	135407/2496	4000	3900	5500	0.48	10/6/2.5	11	23
55	145	156	9.1	1.4	K203_0540 EZ401U	220	350	54.25	135407/2496	4000	3900	5500	1.0	10/6/2.5	11	24
59	78	82	11	1.2	K202_0500 EZ302U	120	190	50.49	6665/132	4000	3900	5500	0.33	10/5/1.5	11	19
60	76	80	5.0	2.6	K203_0500 EZ302U	220	320	49.76	26273/528	4000	3900	5500	0.36	10/6/2.5	11	22
60	98	104	6.6	2.0	K203_0500 EZ303U	220	320	49.76	26273/528	4000	3900	5500	0.47	10/6/2.5	11	23
60	133	143	8.9	1.5	K203_0500 EZ401U	220	320	49.76	26273/528	4000	3900	5500	1.0	10/6/2.5	11	24
65	71	75	5.0	2.8	K202_0460 EZ302U	210	260	46.23	1849/40	4000	3900	5500	0.36	10/5/1.5	11	19
65	93	98	6.5	2.2	K202_0460 EZ303U	210	260	46.23	1849/40	4000	3900	5500	0.47	10/5/1.5	11	20
65	126	135	8.9	1.6	K202_0460 EZ401U	220	400	46.23	1849/40	4000	3900	5500	1.0	10/5/1.5	11	21
66	69	73	4.9	2.9	K203_0450 EZ302U	220	290	45.22	58609/1296	4000	3900	5500	0.38	10/6/2.5	11	22
66	89	95	6.4	2.2	K203_0450 EZ303U	220	290	45.22	58609/1296	4000	3900	5500	0.49	10/6/2.5	11	23
66	121	130	8.7	1.7	K203_0450 EZ401U	220	290	45.22	58609/1296	4000	3900	5500	1.0	10/6/2.5	11	24
74	62	66	8.4	1.9	K202_0400 EZ302U	140	200	40.39	1333/33	4000	3900	5500	0.35	10/5/1.5	11	19

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# 20 K helical bevel geared motors

## 20.2 Selection tables



$n_{2N}$	$M_{2N}$	$M_{2,0}$	$a_{th}$	S	Type	$M_{zacc}$	$M_{2NOT}$	i	$i_{exakt}$	$n_{1max}$	$n_{1max}$	$n_{1max}$	$J_1$	$\Delta\varphi_2$	$C_2$	m
[rpm]	[Nm]	[Nm]				[Nm]	[Nm]			DBH	DBV	ZB	[10 <sup>-4</sup> kgm <sup>2</sup> ]	[arcmin]	[Nm/arcmin]	[kg]
<b>K2 (<math>n_{1N} = 3000</math> rpm, <math>M_{zacc,max} = 220</math> Nm)</b>																
74	81	86	11	1.4	K202_0400 EZ303U	140	200	40.39	1333/33	4000	3900	5500	0.46	10/5/1.5	11	20
76	60	63	4.8	3.3	K203_0390 EZ302U	190	250	39.45	135407/3432	4000	3900	5500	0.37	10/6/2.5	11	22
76	78	83	6.3	2.5	K203_0390 EZ303U	200	250	39.45	135407/3432	4000	3900	5500	0.48	10/6/2.5	11	23
76	106	113	8.5	1.9	K203_0390 EZ401U	200	250	39.45	135407/3432	4000	3900	5500	1.0	10/6/2.5	11	24
87	53	56	4.9	3.2	K202_0350 EZ302U	170	210	34.55	1935/56	4000	3900	5500	0.41	10/5/1.5	11	19
87	69	73	6.4	2.5	K202_0350 EZ303U	170	210	34.55	1935/56	4000	3900	5500	0.52	10/5/1.5	11	20
87	94	101	8.7	2.0	K202_0350 EZ401U	220	400	34.55	1935/56	4000	3900	5500	1.1	10/5/1.5	11	21
87	144	158	13	1.3	K202_0350 EZ501U	220	400	34.55	1935/56	4000	3900	5500	3.0	10/5/1.5	11	22
89	52	55	6.0	2.9	K202_0340 EZ302U	150	190	33.62	1849/55	4000	3900	5500	0.37	10/5/1.5	11	19
89	68	71	7.8	2.2	K202_0340 EZ303U	150	190	33.62	1849/55	4000	3900	5500	0.48	10/5/1.5	11	20
89	91	98	11	1.7	K202_0340 EZ401U	180	310	33.62	1849/55	4000	3900	5500	1.0	10/5/1.5	11	21
107	43	46	5.0	3.7	K202_0280 EZ302U	140	200	27.95	559/20	4000	3900	5500	0.46	10/5/1.5	11	19
107	56	59	6.5	2.9	K202_0280 EZ303U	160	200	27.95	559/20	4000	3900	5500	0.57	10/5/1.5	11	20
107	76	81	8.8	2.3	K202_0280 EZ401U	220	380	27.95	559/20	4000	3900	5500	1.1	10/5/1.5	11	21
107	117	127	14	1.5	K202_0280 EZ501U	220	400	27.95	559/20	4000	3900	5500	3.1	10/5/1.5	11	22
107	127	141	15	1.4	K202_0280 EZ402U	220	380	27.95	559/20	4000	3900	5500	1.8	10/5/1.5	11	22
119	39	41	5.1	3.2	K202_0250 EZ302U	120	160	25.13	1935/77	4000	3900	5500	0.42	10/5/1.5	11	19
119	50	53	6.6	2.5	K202_0250 EZ303U	120	160	25.13	1935/77	4000	3900	5500	0.53	10/5/1.5	11	20
119	68	73	8.9	2.5	K202_0250 EZ401U	210	300	25.13	1935/77	4000	3900	5500	1.1	10/5/1.5	11	21
119	105	115	14	1.6	K202_0250 EZ501U	220	400	25.13	1935/77	4000	3900	5500	3.0	10/5/1.5	11	22
119	115	127	15	1.5	K202_0250 EZ402U	220	300	25.13	1935/77	4000	3900	5500	1.8	10/5/1.5	11	22
129	36	38	5.1	3.8	K202_0230 EZ302U	110	170	23.18	2967/128	4000	3900	5500	0.52	10/5/1.5	11	19
129	47	49	6.6	2.9	K202_0230 EZ303U	130	170	23.18	2967/128	4000	3900	5500	0.63	10/5/1.5	11	20
129	63	67	9.0	2.6	K202_0230 EZ401U	190	340	23.18	2967/128	4000	3900	5500	1.2	10/5/1.5	11	21
129	97	106	14	1.7	K202_0230 EZ501U	220	400	23.18	2967/128	4000	3900	5500	3.1	10/5/1.5	11	22
129	106	117	15	1.6	K202_0230 EZ402U	220	340	23.18	2967/128	4000	3900	5500	1.9	10/5/1.5	11	22
148	31	33	5.2	3.7	K202_0200 EZ302U	99	150	20.33	1118/55	4000	3900	5500	0.48	10/5/1.5	11	19
148	41	43	6.7	2.9	K202_0200 EZ303U	120	150	20.33	1118/55	4000	3900	5500	0.59	10/5/1.5	11	20
148	55	59	9.1	2.9	K202_0200 EZ401U	170	280	20.33	1118/55	4000	3900	5500	1.1	10/5/1.5	11	21
148	85	93	14	1.9	K202_0200 EZ501U	220	400	20.33	1118/55	4000	3900	5500	3.1	10/5/1.5	11	22
148	93	103	15	1.7	K202_0200 EZ402U	220	280	20.33	1118/55	4000	3900	5500	1.8	10/5/1.5	11	22
148	136	170	22	1.2	K202_0200 EZ404U	220	400	20.33	1118/55	4000	3900	5500	3.2	10/5/1.5	11	24
148	146	158	24	1.1	K202_0200 EZ502U	220	400	20.33	1118/55	4000	3900	5500	5.4	10/5/1.5	11	24
148	146	164	24	1.1	K202_0200 EZ701U	220	400	20.33	1118/55	4000	3900	5500	8.7	10/5/1.5	11	26
172	27	28	5.2	3.8	K202_0175 EZ302U	85	130	17.47	559/32	3900	3500	5000	0.65	10/5/1.5	11	19
172	35	37	6.8	2.9	K202_0175 EZ303U	100	130	17.47	559/32	3900	3500	5000	0.76	10/5/1.5	11	20
172	47	51	9.2	3.2	K202_0175 EZ401U	140	250	17.47	559/32	3900	3500	5000	1.3	10/5/1.5	11	21
172	73	80	14	2.1	K202_0175 EZ501U	220	400	17.47	559/32	3900	3500	5000	3.3	10/5/1.5	11	22
172	80	88	15	1.9	K202_0175 EZ402U	200	250	17.47	559/32	3900	3500	5000	2.0	10/5/1.5	11	22
172	117	146	23	1.3	K202_0175 EZ404U	220	400	17.47	559/32	3900	3500	5000	3.3	10/5/1.5	11	24
172	125	136	24	1.2	K202_0175 EZ502U	220	400	17.47	559/32	3900	3500	5000	5.6	10/5/1.5	11	24
172	125	141	24	1.2	K202_0175 EZ701U	220	400	17.47	559/32	3900	3500	5000	8.9	10/5/1.5	11	26
178	26	27	5.2	3.8	K202_0170 EZ302U	82	120	16.86	2967/176	4000	3900	5500	0.55	10/5/1.5	11	19
178	34	36	6.8	2.9	K202_0170 EZ303U	98	120	16.86	2967/176	4000	3900	5500	0.66	10/5/1.5	11	20
178	46	49	9.2	3.3	K202_0170 EZ401U	140	250	16.86	2967/176	4000	3900	5500	1.2	10/5/1.5	11	21
178	70	77	14	2.1	K202_0170 EZ501U	220	400	16.86	2967/176	4000	3900	5500	3.2	10/5/1.5	11	22
178	77	85	15	1.9	K202_0170 EZ402U	200	250	16.86	2967/176	4000	3900	5500	1.9	10/5/1.5	11	22
178	113	141	23	1.3	K202_0170 EZ404U	220	400	16.86	2967/176	4000	3900	5500	3.2	10/5/1.5	11	24
178	121	131	24	1.2	K202_0170 EZ502U	220	400	16.86	2967/176	4000	3900	5500	5.5	10/5/1.5	11	24
178	121	136	24	1.2	K202_0170 EZ701U	220	400	16.86	2967/176	4000	3900	5500	8.8	10/5/1.5	11	26
217	21	23	5.3	3.8	K202_0140 EZ302U	67	100	13.85	2881/208	3900	3500	5000	0.79	10/5/1.5	11	19
217	28	29	6.9	2.9	K202_0140 EZ303U	81	100	13.85	2881/208	3900	3500	5000	0.90	10/5/1.5	11	20
217	38	40	9.4	3.7	K202_0140 EZ401U	110	200	13.85	2881/208	3900	3500	5000	1.4	10/5/1.5	11	21
217	58	63	14	2.4	K202_0140 EZ501U	210	400	13.85	2881/208	3900	3500	5000	3.4	10/5/1.5	11	22
217	63	70	16	2.2	K202_0140 EZ402U	160	200	13.85	2881/208	3900	3500	5000	2.1	10/5/1.5	11	22
217	93	116	23	1.5	K202_0140 EZ404U	220	400	13.85	2881/208	3900	3500	5000	3.5	10/5/1.5	11	24
217	99	107	25	1.4	K202_0140 EZ502U	220	400	13.85	2881/208	3900	3500	5000	5.7	10/5/1.5	11	24
217	99	112	25	1.4	K202_0140 EZ701U	220	400	13.85	2881/208	3900	3500	5000	9.0	10/5/1.5	11	26
217	130	149	32	1.1	K202_0140 EZ503U	220	400	13.85	2881/208	3900	3500	5000	8.1	10/5/1.5	11	25



## 20 K helical bevel geared motors 20.2 Selection tables

STOBER

n <sub>2N</sub> [rpm]	M <sub>2N</sub> [Nm]	M <sub>2,0</sub> [Nm]	a <sub>in</sub>	S	Type	M <sub>2acc</sub> [Nm]	M <sub>2NOT</sub> [Nm]	i	i <sub>exakt</sub>	n <sub>1max</sub> DBH [rpm]	n <sub>1max</sub> DBV [rpm]	n <sub>1max</sub> ZB [rpm]	J <sub>1</sub> [10 <sup>-4</sup> kgm <sup>2</sup> ]	Δφ <sub>2</sub> [arcmin]	C <sub>2</sub> [Nm/ arcmin]	m [kg]
<b>K2 (n<sub>1N</sub> = 3000 rpm, M<sub>2acc,max</sub> = 220 Nm)</b>																
236	20	21	5.4	3.8	K202_0125 EZ302U	62	92	12.71	559/44	3900	3500	5000	0.70	10/5/1.5	11	19
236	26	27	7.0	2.9	K202_0125 EZ303U	74	92	12.71	559/44	3900	3500	5000	0.81	10/5/1.5	11	20
236	35	37	9.4	3.9	K202_0125 EZ401U	100	180	12.71	559/44	3900	3500	5000	1.3	10/5/1.5	11	21
236	53	58	15	2.6	K202_0125 EZ501U	200	370	12.71	559/44	3900	3500	5000	3.3	10/5/1.5	11	22
236	58	64	16	2.3	K202_0125 EZ402U	150	180	12.71	559/44	3900	3500	5000	2.0	10/5/1.5	11	22
236	85	106	23	1.6	K202_0125 EZ404U	220	370	12.71	559/44	3900	3500	5000	3.4	10/5/1.5	11	24
236	91	99	25	1.5	K202_0125 EZ502U	220	370	12.71	559/44	3900	3500	5000	5.6	10/5/1.5	11	24
236	91	102	25	1.5	K202_0125 EZ701U	220	400	12.71	559/44	3900	3500	5000	8.9	10/5/1.5	11	26
236	120	137	33	1.1	K202_0125 EZ503U	220	370	12.71	559/44	3900	3500	5000	8.0	10/5/1.5	11	25
260	18	19	5.4	3.8	K202_0115 EZ302U	56	84	11.55	1247/108	3500	3100	4500	0.95	10/5/1.5	11	19
260	23	25	7.0	2.9	K202_0115 EZ303U	67	84	11.55	1247/108	3500	3100	4500	1.1	10/5/1.5	11	20
260	31	34	9.5	4.2	K202_0115 EZ401U	95	170	11.55	1247/108	3500	3100	4500	1.6	10/5/1.5	11	21
260	48	53	15	2.7	K202_0115 EZ501U	180	340	11.55	1247/108	3500	3100	4500	3.6	10/5/1.5	11	22
260	53	58	16	2.5	K202_0115 EZ402U	130	170	11.55	1247/108	3500	3100	4500	2.3	10/5/1.5	11	22
260	77	96	23	1.7	K202_0115 EZ404U	220	340	11.55	1247/108	3500	3100	4500	3.6	10/5/1.5	11	24
260	83	90	25	1.6	K202_0115 EZ502U	220	340	11.55	1247/108	3500	3100	4500	5.9	10/5/1.5	11	24
260	83	93	25	1.6	K202_0115 EZ701U	220	400	11.55	1247/108	3500	3100	4500	9.2	10/5/1.5	11	26
260	109	124	33	1.2	K202_0115 EZ503U	220	340	11.55	1247/108	3500	3100	4500	8.2	10/5/1.5	11	25
298	16	16	5.5	3.8	K202_0100 EZ302U	49	73	10.07	2881/286	3900	3500	5000	0.87	10/5/1.5	11	19
298	20	21	7.1	2.9	K202_0100 EZ303U	59	73	10.07	2881/286	3900	3500	5000	0.98	10/5/1.5	11	20
298	27	29	9.6	4.3	K202_0100 EZ401U	83	150	10.07	2881/286	3900	3500	5000	1.5	10/5/1.5	11	21
298	42	46	15	3.0	K202_0100 EZ501U	160	290	10.07	2881/286	3900	3500	5000	3.5	10/5/1.5	11	22
298	46	51	16	2.6	K202_0100 EZ402U	120	150	10.07	2881/286	3900	3500	5000	2.2	10/5/1.5	11	22
298	67	84	24	1.9	K202_0100 EZ404U	220	290	10.07	2881/286	3900	3500	5000	3.6	10/5/1.5	11	24
298	72	78	25	1.7	K202_0100 EZ502U	220	290	10.07	2881/286	3900	3500	5000	5.8	10/5/1.5	11	24
298	72	81	25	1.7	K202_0100 EZ701U	200	400	10.07	2881/286	3900	3500	5000	9.1	10/5/1.5	11	26
298	95	108	33	1.3	K202_0100 EZ503U	220	290	10.07	2881/286	3900	3500	5000	8.2	10/5/1.5	11	25
298	117	141	41	1.1	K202_0100 EZ702U	220	400	10.07	2881/286	3900	3500	5000	14	10/5/1.5	11	28
326	18	20	7.2	2.9	K202_0092 EZ303U	53	67	9.190	2279/248	3500	3100	4500	1.3	10/5/1.5	11	20
326	25	27	9.7	4.3	K202_0092 EZ401U	76	130	9.190	2279/248	3500	3100	4500	1.8	10/5/1.5	11	21
326	38	42	15	3.2	K202_0092 EZ501U	140	270	9.190	2279/248	3500	3100	4500	3.8	10/5/1.5	11	22
326	42	46	16	2.6	K202_0092 EZ402U	110	130	9.190	2279/248	3500	3100	4500	2.5	10/5/1.5	11	22
326	62	77	24	2.0	K202_0092 EZ404U	210	270	9.190	2279/248	3500	3100	4500	3.9	10/5/1.5	11	24
326	66	71	26	1.8	K202_0092 EZ502U	210	270	9.190	2279/248	3500	3100	4500	6.1	10/5/1.5	11	24
326	66	74	26	1.8	K202_0092 EZ701U	180	400	9.190	2279/248	3500	3100	4500	9.4	10/5/1.5	11	26
326	86	99	34	1.4	K202_0092 EZ503U	210	270	9.190	2279/248	3500	3100	4500	8.5	10/5/1.5	11	25
326	107	128	42	1.1	K202_0092 EZ702U	220	400	9.190	2279/248	3500	3100	4500	15	10/5/1.5	11	28
326	120	143	47	1.0	K202_0092 EZ505U	220	400	9.190	2279/248	3500	3100	4500	13	10/5/1.5	11	28
357	17	18	7.2	2.9	K202_0084 EZ303U	49	61	8.397	2494/297	3500	3100	4500	1.2	10/5/1.5	11	20
357	23	24	9.8	4.3	K202_0084 EZ401U	69	120	8.397	2494/297	3500	3100	4500	1.7	10/5/1.5	11	21
357	35	38	15	3.4	K202_0084 EZ501U	130	240	8.397	2494/297	3500	3100	4500	3.7	10/5/1.5	11	22
357	38	42	16	2.6	K202_0084 EZ402U	98	120	8.397	2494/297	3500	3100	4500	2.4	10/5/1.5	11	22
357	56	70	24	2.1	K202_0084 EZ404U	200	240	8.397	2494/297	3500	3100	4500	3.7	10/5/1.5	11	24
357	60	65	26	2.0	K202_0084 EZ502U	200	240	8.397	2494/297	3500	3100	4500	6.0	10/5/1.5	11	24
357	60	68	26	2.0	K202_0084 EZ701U	160	400	8.397	2494/297	3500	3100	4500	9.3	10/5/1.5	11	26
357	79	90	34	1.5	K202_0084 EZ503U	200	240	8.397	2494/297	3500	3100	4500	8.3	10/5/1.5	11	25
357	98	117	42	1.2	K202_0084 EZ702U	220	400	8.397	2494/297	3500	3100	4500	14	10/5/1.5	11	28
357	110	130	47	1.1	K202_0084 EZ505U	220	400	8.397	2494/297	3500	3100	4500	13	10/5/1.5	11	28
421	30	32	15	3.8	K202_0071 EZ501U	110	210	7.118	2107/296	3000	2600	4000	4.2	10/5/1.5	11	22
421	48	59	24	2.3	K202_0071 EZ404U	170	210	7.118	2107/296	3000	2600	4000	4.3	10/5/1.5	11	24
421	51	55	26	2.2	K202_0071 EZ502U	170	210	7.118	2107/296	3000	2600	4000	6.5	10/5/1.5	11	24
421	51	57	26	2.2	K202_0071 EZ701U	140	400	7.118	2107/296	3000	2600	4000	9.8	10/5/1.5	11	26
421	67	77	34	1.7	K202_0071 EZ503U	170	210	7.118	2107/296	3000	2600	4000	8.9	10/5/1.5	11	25
421	83	99	42	1.4	K202_0071 EZ702U	210	400	7.118	2107/296	3000	2600	4000	15	10/5/1.5	11	28
421	93	110	48	1.2	K202_0071 EZ505U	210	400	7.118	2107/296	3000	2600	4000	13	10/5/1.5	11	28
449	13	14	7.4	2.9	K202_0067 EZ303U	39	49	6.683	2279/341	3500	3100	4500	1.5	10/5/1.5	11	20
449	18	19	10	4.3	K202_0067 EZ401U	55	97	6.683	2279/341	3500	3100	4500	2.0	10/5/1.5	11	21
449	28	30	15	3.9	K202_0067 EZ501U	100	190	6.683	2279/341	3500	3100	4500	4.0	10/5/1.5	11	22
449	30	34	17	2.6	K202_0067 EZ402U	78	97	6.683	2279/341	3500	3100	4500	2.7	10/5/1.5	11	22

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# 20 K helical bevel geared motors

## 20.2 Selection tables



**STÖBER**

$n_{2N}$	$M_{2N}$	$M_{2,0}$	$a_{th}$	S	Type	$M_{Zacc}$	$M_{2NOT}$	i	$i_{exakt}$	$n_{1max}$	$n_{1max}$	$n_{1max}$	$J_1$	$\Delta\varphi_2$	$C_2$	m
[rpm]	[Nm]	[Nm]				[Nm]	[Nm]			DBH	DBV	ZB	[10 <sup>-4</sup> kgm <sup>2</sup> ]	[arcmin]	[Nm/ arcmin]	[kg]
<b>K2 (<math>n_{1N} = 3000</math> rpm, <math>M_{Zacc,max} = 220</math> Nm)</b>																
449	45	56	25	2.4	K202_0067 EZ404U	160	190	6.683	2279/341	3500	3100	4500	4.1	10/5/1.5	11	24
449	48	52	26	2.3	K202_0067 EZ502U	160	190	6.683	2279/341	3500	3100	4500	6.3	10/5/1.5	11	24
449	48	54	26	2.3	K202_0067 EZ701U	130	400	6.683	2279/341	3500	3100	4500	9.6	10/5/1.5	11	26
449	63	72	35	1.7	K202_0067 EZ503U	160	190	6.683	2279/341	3500	3100	4500	8.7	10/5/1.5	11	25
449	78	93	43	1.4	K202_0067 EZ702U	210	400	6.683	2279/341	3500	3100	4500	15	10/5/1.5	11	28
449	88	104	48	1.3	K202_0067 EZ505U	210	400	6.683	2279/341	3500	3100	4500	13	10/5/1.5	11	28
449	107	135	59	1.0	K202_0067 EZ703U	210	400	6.683	2279/341	3500	3100	4500	23	10/5/1.5	11	30
500	16	17	10	4.3	K202_0060 EZ401U	49	87	6.000	6/1	3000	2600	4000	2.6	10/5/1.5	11	21
500	25	27	15	4.2	K202_0060 EZ501U	93	170	6.000	6/1	3000	2600	4000	4.6	10/5/1.5	11	22
500	27	30	17	2.6	K202_0060 EZ402U	70	87	6.000	6/1	3000	2600	4000	3.3	10/5/1.5	11	22
500	40	50	25	2.6	K202_0060 EZ404U	140	170	6.000	6/1	3000	2600	4000	4.7	10/5/1.5	11	24
500	43	47	27	2.5	K202_0060 EZ502U	140	170	6.000	6/1	3000	2600	4000	6.9	10/5/1.5	11	24
500	43	48	27	2.5	K202_0060 EZ701U	120	400	6.000	6/1	3000	2600	4000	10	10/5/1.5	11	26
500	56	65	35	1.9	K202_0060 EZ503U	140	170	6.000	6/1	3000	2600	4000	9.3	10/5/1.5	11	25
500	70	84	43	1.5	K202_0060 EZ702U	200	400	6.000	6/1	3000	2600	4000	15	10/5/1.5	11	28
500	79	93	48	1.3	K202_0060 EZ505U	200	400	6.000	6/1	3000	2600	4000	14	10/5/1.5	11	28
500	96	121	59	1.1	K202_0060 EZ703U	200	400	6.000	6/1	3000	2600	4000	23	10/5/1.5	11	30
579	22	24	16	4.7	K202_0052 EZ501U	80	150	5.177	2107/407	3000	2600	4000	4.5	10/5/1.5	11	22
579	35	43	25	2.9	K202_0052 EZ404U	120	150	5.177	2107/407	3000	2600	4000	4.6	10/5/1.5	11	24
579	37	40	27	2.7	K202_0052 EZ502U	120	150	5.177	2107/407	3000	2600	4000	6.8	10/5/1.5	11	24
579	37	42	27	2.7	K202_0052 EZ701U	100	380	5.177	2107/407	3000	2600	4000	10	10/5/1.5	11	26
579	49	56	35	2.1	K202_0052 EZ503U	120	150	5.177	2107/407	3000	2600	4000	9.2	10/5/1.5	11	25
579	60	72	44	1.7	K202_0052 EZ702U	190	380	5.177	2107/407	3000	2600	4000	15	10/5/1.5	11	28
579	68	80	49	1.5	K202_0052 EZ505U	190	380	5.177	2107/407	3000	2600	4000	14	10/5/1.5	11	28
579	83	104	60	1.2	K202_0052 EZ703U	190	380	5.177	2107/407	3000	2600	4000	23	10/5/1.5	11	30
687	12	13	10	4.3	K202_0044 EZ401U	36	63	4.364	48/11	3000	2600	4000	3.0	10/5/1.5	11	21
687	18	20	16	2.8	K202_0044 EZ501U	51	63	4.364	48/11	3000	2600	4000	5.0	10/5/1.5	11	22
687	20	22	17	2.6	K202_0044 EZ402U	51	63	4.364	48/11	3000	2600	4000	3.7	10/5/1.5	11	22
687	29	36	25	3.3	K202_0044 EZ404U	100	130	4.364	48/11	3000	2600	4000	5.1	10/5/1.5	11	24
687	31	34	27	3.0	K202_0044 EZ502U	100	130	4.364	48/11	3000	2600	4000	7.3	10/5/1.5	11	24
687	31	35	27	3.0	K202_0044 EZ701U	85	320	4.364	48/11	3000	2600	4000	11	10/5/1.5	11	26
687	41	47	36	2.3	K202_0044 EZ503U	100	130	4.364	48/11	3000	2600	4000	9.7	10/5/1.5	11	25
687	51	61	44	1.9	K202_0044 EZ702U	170	320	4.364	48/11	3000	2600	4000	16	10/5/1.5	11	28
687	57	68	50	1.7	K202_0044 EZ505U	180	320	4.364	48/11	3000	2600	4000	14	10/5/1.5	11	28
687	70	88	61	1.4	K202_0044 EZ703U	180	320	4.364	48/11	3000	2600	4000	24	10/5/1.5	11	30
750	11	12	10	4.3	K202_0040 EZ401U	33	58	4.000	4/1	3000	2600	4000	3.3	10/5/1.5	11	21
750	17	18	16	2.8	K202_0040 EZ501U	47	58	4.000	4/1	3000	2600	4000	5.3	10/5/1.5	11	22
750	18	20	17	2.6	K202_0040 EZ402U	47	58	4.000	4/1	3000	2600	4000	4.0	10/5/1.5	11	22
750	27	33	26	3.4	K202_0040 EZ404U	93	120	4.000	4/1	3000	2600	4000	5.4	10/5/1.5	11	24
750	29	31	27	3.2	K202_0040 EZ502U	93	120	4.000	4/1	3000	2600	4000	7.6	10/5/1.5	11	24
750	29	32	27	3.2	K202_0040 EZ701U	78	290	4.000	4/1	3000	2600	4000	11	10/5/1.5	11	26
750	38	43	36	2.5	K202_0040 EZ503U	93	120	4.000	4/1	3000	2600	4000	10	10/5/1.5	11	25
750	47	56	45	2.0	K202_0040 EZ702U	160	290	4.000	4/1	3000	2600	4000	16	10/5/1.5	11	28
750	52	62	50	1.8	K202_0040 EZ505U	170	290	4.000	4/1	3000	2600	4000	15	10/5/1.5	11	28
750	64	81	61	1.4	K202_0040 EZ703U	170	290	4.000	4/1	3000	2600	4000	24	10/5/1.5	11	30
<b>K2 (<math>n_{1N} = 4500</math> rpm, <math>M_{Zacc,max} = 220</math> Nm)</b>																
447	93	149	37	1.2	K202_0100 EZ505U	220	400	10.07	2881/286	3900	3500	5000	13	10/5/1.5	11	28
490	85	136	38	1.3	K202_0092 EZ505U	220	400	9.190	2279/248	3500	3100	4500	13	10/5/1.5	11	28
536	77	125	38	1.3	K202_0084 EZ505U	220	400	8.397	2494/297	3500	3100	4500	13	10/5/1.5	11	28
536	99	163	48	1.0	K202_0084 EZ703U	220	400	8.397	2494/297	3500	3100	4500	22	10/5/1.5	11	30
673	62	99	39	1.6	K202_0067 EZ505U	210	400	6.683	2279/341	3500	3100	4500	13	10/5/1.5	11	28
673	78	130	49	1.2	K202_0067 EZ703U	210	400	6.683	2279/341	3500	3100	4500	23	10/5/1.5	11	30
<b>K3 (<math>n_{1N} = 3000</math> rpm, <math>M_{Zacc,max} = 390</math> Nm)</b>																
17	275	291	4.5	1.3	K303_1810 EZ302U	380	690	181.0	86903/480	3800	3500	5000	0.35	10/5/2.5	16	29
22	207	218	4.1	1.7	K303_1360 EZ302U	380	690	136.0	14147/104	3800	3500	5000	0.35	10/5/2.5	16	29
22	269	285	5.3	1.3	K303_1360 EZ303U	380	690	136.0	14147/104	3800	3500	5000	0.46	10/5/2.5	16	30
27	166	175	3.9	2.1	K303_1090 EZ302U	380	690	109.2	167743/1536	3800	3500	5000	0.36	10/5/2.5	16	29
27	216	229	5.0	1.6	K303_1090 EZ303U	380	690	109.2	167743/1536	3800	3500	5000	0.47	10/5/2.5	16	30
33	139	147	3.7	2.5	K303_0910 EZ302U	380	590	91.23	26273/288	3800	3500	5000	0.37	10/5/2.5	16	29





## 20 K helical bevel geared motors

### 20.2 Selection tables

**STOBER**

$n_{2N}$	$M_{2N}$	$M_{2,0}$	$a_{in}$	S	Type	$M_{2acc}$	$M_{2NOT}$	i	$i_{exakt}$	$n_{1max}$ DBH	$n_{1max}$ DBV	$n_{1max}$ ZB	$J_1$ [10 <sup>-4</sup> kgm <sup>2</sup> ]	$\Delta\varphi_2$ [arcmin]	$C_2$ [Nm/ arcmin]	m [kg]
[rpm]	[Nm]	[Nm]				[Nm]	[Nm]			[rpm]	[rpm]	[rpm]				
<b>K3 (<math>n_{1N} = 3000</math> rpm, <math>M_{2acc,max} = 390</math> Nm)</b>																
33	181	191	4.8	1.9	K303_0910 EZ303U	380	590	91.23	26273/288	3800	3500	5000	0.48	10/5/2.5	16	30
33	244	262	6.5	1.4	K303_0910 EZ401U	380	590	91.23	26273/288	3800	3500	5000	1.0	10/5/2.5	16	31
38	121	128	4.4	2.4	K303_0790 EZ302U	380	510	79.42	167743/2112	3800	3500	5000	0.36	10/5/2.5	16	29
38	157	166	5.7	1.8	K303_0790 EZ303U	380	510	79.42	167743/2112	3800	3500	5000	0.47	10/5/2.5	16	30
38	213	228	7.7	1.3	K303_0790 EZ401U	380	510	79.42	167743/2112	3800	3500	5000	1.0	10/5/2.5	16	31
43	107	113	5.8	2.0	K302_0690 EZ302U	250	310	69.43	6665/96	3800	3500	5000	0.37	10/4/1.5	16	24
43	139	147	7.5	1.5	K302_0690 EZ303U	250	310	69.43	6665/96	3800	3500	5000	0.48	10/4/1.5	16	25
44	103	109	3.5	3.3	K303_0680 EZ302U	320	430	67.73	74777/1104	3800	3500	5000	0.38	10/5/2.5	16	29
44	134	142	4.6	2.6	K303_0680 EZ303U	350	430	67.73	74777/1104	3800	3500	5000	0.49	10/5/2.5	16	30
44	181	194	6.2	1.9	K303_0680 EZ401U	350	430	67.73	74777/1104	3800	3500	5000	1.0	10/5/2.5	16	31
45	101	107	4.4	2.7	K303_0660 EZ302U	320	430	66.35	26273/396	3800	3500	5000	0.37	10/5/2.5	16	29
45	131	139	5.8	2.0	K303_0660 EZ303U	340	430	66.35	26273/396	3800	3500	5000	0.48	10/5/2.5	16	30
45	178	190	7.8	1.5	K303_0660 EZ401U	340	430	66.35	26273/396	3800	3500	5000	1.0	10/5/2.5	16	31
54	86	91	4.4	2.7	K302_0560 EZ302U	230	290	55.71	2451/44	3800	3500	5000	0.40	10/4/1.5	16	24
54	112	118	5.7	2.1	K302_0560 EZ303U	230	290	55.71	2451/44	3800	3500	5000	0.51	10/4/1.5	16	25
54	151	162	7.7	1.8	K302_0560 EZ401U	320	530	55.71	2451/44	3800	3500	5000	1.0	10/4/1.5	16	26
55	83	88	3.6	3.4	K303_0550 EZ302U	260	350	54.58	70735/1296	3800	3500	5000	0.40	10/5/2.5	16	29
55	108	114	4.6	2.6	K303_0550 EZ303U	280	350	54.58	70735/1296	3800	3500	5000	0.51	10/5/2.5	16	30
55	146	157	6.3	1.9	K303_0550 EZ401U	280	350	54.58	70735/1296	3800	3500	5000	1.0	10/5/2.5	16	31
56	222	242	8.8	1.6	K303_0540 EZ501U	380	690	53.88	8729/162	3800	3500	5000	3.1	10/5/2.5	16	32
59	78	82	7.3	2.0	K302_0500 EZ302U	180	220	50.49	6665/132	3800	3500	5000	0.37	10/4/1.5	16	24
59	101	107	9.6	1.5	K302_0500 EZ303U	180	220	50.49	6665/132	3800	3500	5000	0.48	10/4/1.5	16	25
61	75	79	4.5	3.3	K303_0490 EZ302U	240	320	49.26	74777/1518	3800	3500	5000	0.39	10/5/2.5	16	29
61	97	103	5.8	2.6	K303_0490 EZ303U	250	320	49.26	74777/1518	3800	3500	5000	0.50	10/5/2.5	16	30
61	132	141	7.8	1.9	K303_0490 EZ401U	250	320	49.26	74777/1518	3800	3500	5000	1.0	10/5/2.5	16	31
62	200	219	8.5	1.8	K303_0490 EZ501U	380	690	48.63	184556/3795	3800	3500	5000	3.1	10/5/2.5	16	32
65	71	75	3.2	2.7	K302_0460 EZ302U	190	240	46.23	1849/40	3800	3500	5000	0.45	10/4/1.5	16	24
65	93	98	4.2	2.1	K302_0460 EZ303U	190	240	46.23	1849/40	3800	3500	5000	0.56	10/4/1.5	16	25
65	126	135	5.7	2.7	K302_0460 EZ401U	380	510	46.23	1849/40	3800	3500	5000	1.1	10/4/1.5	16	26
65	193	211	8.7	1.8	K302_0460 EZ501U	390	690	46.23	1849/40	3800	3500	5000	3.1	10/4/1.5	16	27
65	211	233	9.5	1.6	K302_0460 EZ402U	390	510	46.23	1849/40	3800	3500	5000	1.8	10/4/1.5	16	27
67	185	202	8.4	1.9	K303_0450 EZ501U	380	690	44.89	11223/250	3800	3500	5000	3.1	10/5/2.5	16	32
74	62	66	5.6	2.7	K302_0410 EZ302U	170	210	40.51	4902/121	3800	3500	5000	0.41	10/4/1.5	16	24
74	81	86	7.2	2.1	K302_0410 EZ303U	170	210	40.51	4902/121	3800	3500	5000	0.52	10/4/1.5	16	25
74	110	118	9.8	1.8	K302_0410 EZ401U	230	390	40.51	4902/121	3800	3500	5000	1.1	10/4/1.5	16	26
77	161	176	8.2	2.1	K303_0390 EZ501U	380	690	39.19	34916/891	3800	3500	5000	3.1	10/5/2.5	16	32
84	147	161	8.2	2.3	K303_0360 EZ501U	380	630	35.83	215/6	3800	3500	5000	3.2	10/5/2.5	16	32
84	253	274	14	1.3	K303_0360 EZ502U	380	630	35.83	215/6	3800	3500	5000	5.5	10/5/2.5	16	34
86	54	57	3.1	3.4	K302_0350 EZ302U	170	230	34.73	903/26	3800	3500	5000	0.54	10/4/1.5	16	24
86	70	74	4.0	2.6	K302_0350 EZ303U	180	230	34.73	903/26	3800	3500	5000	0.65	10/4/1.5	16	25
86	94	101	5.5	3.5	K302_0350 EZ401U	290	430	34.73	903/26	3800	3500	5000	1.2	10/4/1.5	16	26
86	145	158	8.4	2.3	K302_0350 EZ501U	390	700	34.73	903/26	3800	3500	5000	3.2	10/4/1.5	16	27
86	158	175	9.2	2.1	K302_0350 EZ402U	340	430	34.73	903/26	3800	3500	5000	1.9	10/4/1.5	16	27
86	232	290	13	1.4	K302_0350 EZ404U	390	700	34.73	903/26	3800	3500	5000	3.2	10/4/1.5	16	29
86	249	270	14	1.3	K302_0350 EZ502U	390	700	34.73	903/26	3800	3500	5000	5.5	10/4/1.5	16	29
86	249	280	14	1.3	K302_0350 EZ701U	390	700	34.73	903/26	3800	3500	5000	8.8	10/4/1.5	16	31
89	52	55	4.1	2.7	K302_0340 EZ302U	140	180	33.62	1849/55	3800	3500	5000	0.46	10/4/1.5	16	24
89	68	71	5.3	2.1	K302_0340 EZ303U	140	180	33.62	1849/55	3800	3500	5000	0.57	10/4/1.5	16	25
89	91	98	7.2	2.7	K302_0340 EZ401U	280	370	33.62	1849/55	3800	3500	5000	1.1	10/4/1.5	16	26
89	140	153	11	1.8	K302_0340 EZ501U	300	500	33.62	1849/55	3800	3500	5000	3.1	10/4/1.5	16	27
89	153	170	12	1.6	K302_0340 EZ402U	300	370	33.62	1849/55	3800	3500	5000	1.8	10/4/1.5	16	27
92	134	147	8.3	2.4	K303_0330 EZ501U	380	580	32.65	44892/1375	3800	3500	5000	3.1	10/5/2.5	16	32
92	231	250	14	1.4	K303_0330 EZ502U	380	580	32.65	44892/1375	3800	3500	5000	5.4	10/5/2.5	16	34
108	43	45	3.2	3.8	K302_0280 EZ302U	140	200	27.88	3569/128	3800	3500	5000	0.65	10/4/1.5	16	24
108	56	59	4.1	2.9	K302_0280 EZ303U	160	200	27.88	3569/128	3800	3500	5000	0.76	10/4/1.5	16	25
108	76	81	5.6	4.1	K302_0280 EZ401U	230	410	27.88	3569/128	3800	3500	5000	1.3	10/4/1.5	16	26
108	116	127	8.5	2.7	K302_0280 EZ501U	390	700	27.88	3569/128	3800	3500	5000	3.3	10/4/1.5	16	27
108	127	141	9.3	2.4	K302_0280 EZ402U	320	410	27.88	3569/128	3800	3500	5000	2.0	10/4/1.5	16	27
108	187	233	14	1.7	K302_0280 EZ404U	390	700	27.88	3569/128	3800	3500	5000	3.3	10/4/1.5	16	29

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## 20 K helical bevel geared motors

### 20.2 Selection tables



$n_{2N}$	$M_{2N}$	$M_{2,0}$	$a_{th}$	S	Type	$M_{zacc}$	$M_{2NOT}$	i	$i_{exakt}$	$n_{1max}$	$n_{1max}$	$n_{1max}$	$J_1$	$\Delta\varphi_2$	$C_2$	m
[rpm]	[Nm]	[Nm]				[Nm]	[Nm]			DBH	DBV	ZB	[10 <sup>-4</sup> kgm <sup>2</sup> ]	[arcmin]	[Nm/ arcmin]	[kg]
<b>K3 (<math>n_{1N} = 3000 \text{ rpm}, M_{zacc,max} = 390 \text{ Nm}</math>)</b>																
108	200	216	15	1.5	K302_0280 EZ502U	390	700	27.88	3569/128	3800	3500	5000	5.6	10/4/1.5	16	29
108	200	224	15	1.5	K302_0280 EZ701U	390	700	27.88	3569/128	3800	3500	5000	8.9	10/4/1.5	16	31
119	39	41	3.2	3.4	K302_0250 EZ302U	120	170	25.26	3612/143	3800	3500	5000	0.57	10/4/1.5	16	24
119	51	54	4.1	2.6	K302_0250 EZ303U	130	170	25.26	3612/143	3800	3500	5000	0.68	10/4/1.5	16	25
119	69	74	5.6	3.6	K302_0250 EZ401U	210	310	25.26	3612/143	3800	3500	5000	1.2	10/4/1.5	16	26
119	105	115	8.6	2.8	K302_0250 EZ501U	390	600	25.26	3612/143	3800	3500	5000	3.2	10/4/1.5	16	27
119	115	127	9.4	2.2	K302_0250 EZ402U	250	310	25.26	3612/143	3800	3500	5000	1.9	10/4/1.5	16	27
119	169	211	14	1.8	K302_0250 EZ404U	390	600	25.26	3612/143	3800	3500	5000	3.3	10/4/1.5	16	29
119	181	196	15	1.6	K302_0250 EZ502U	390	600	25.26	3612/143	3800	3500	5000	5.5	10/4/1.5	16	29
119	181	203	15	1.6	K302_0250 EZ701U	390	600	25.26	3612/143	3800	3500	5000	8.8	10/4/1.5	16	31
119	238	272	19	1.3	K302_0250 EZ503U	390	600	25.26	3612/143	3800	3500	5000	7.9	10/4/1.5	16	30
129	36	38	3.2	3.8	K302_0230 EZ302U	110	170	23.29	559/24	3800	3500	5000	0.77	10/4/1.5	16	24
129	47	49	4.2	2.9	K302_0230 EZ303U	140	170	23.29	559/24	3800	3500	5000	0.88	10/4/1.5	16	25
129	63	68	5.6	4.3	K302_0230 EZ401U	190	340	23.29	559/24	3800	3500	5000	1.4	10/4/1.5	16	26
129	97	106	8.7	3.0	K302_0230 EZ501U	360	640	23.29	559/24	3800	3500	5000	3.4	10/4/1.5	16	27
129	106	117	9.5	2.6	K302_0230 EZ402U	270	340	23.29	559/24	3800	3500	5000	2.1	10/4/1.5	16	27
129	156	194	14	1.9	K302_0230 EZ404U	390	640	23.29	559/24	3800	3500	5000	3.5	10/4/1.5	16	29
129	167	181	15	1.7	K302_0230 EZ502U	390	640	23.29	559/24	3800	3500	5000	5.7	10/4/1.5	16	29
129	167	188	15	1.7	K302_0230 EZ701U	390	700	23.29	559/24	3800	3500	5000	9.0	10/4/1.5	16	31
129	219	251	20	1.3	K302_0230 EZ503U	390	640	23.29	559/24	3800	3500	5000	8.1	10/4/1.5	16	30
148	31	33	3.2	3.8	K302_0200 EZ302U	98	150	20.28	3569/176	3800	3500	5000	0.69	10/4/1.5	16	24
148	41	43	4.2	2.9	K302_0200 EZ303U	120	150	20.28	3569/176	3800	3500	5000	0.80	10/4/1.5	16	25
148	55	59	5.7	4.3	K302_0200 EZ401U	170	300	20.28	3569/176	3800	3500	5000	1.3	10/4/1.5	16	26
148	85	92	8.8	3.3	K302_0200 EZ501U	310	510	20.28	3569/176	3800	3500	5000	3.3	10/4/1.5	16	27
148	92	102	9.6	2.6	K302_0200 EZ402U	240	300	20.28	3569/176	3800	3500	5000	2.0	10/4/1.5	16	27
148	136	169	14	2.0	K302_0200 EZ404U	390	510	20.28	3569/176	3800	3500	5000	3.4	10/4/1.5	16	29
148	146	157	15	1.9	K302_0200 EZ502U	390	510	20.28	3569/176	3800	3500	5000	5.6	10/4/1.5	16	29
148	146	163	15	1.9	K302_0200 EZ701U	390	700	20.28	3569/176	3800	3500	5000	8.9	10/4/1.5	16	31
148	191	218	20	1.5	K302_0200 EZ503U	390	510	20.28	3569/176	3800	3500	5000	8.0	10/4/1.5	16	30
148	236	283	24	1.2	K302_0200 EZ702U	390	700	20.28	3569/176	3800	3500	5000	14	10/4/1.5	16	33
173	47	50	5.8	4.3	K302_0175 EZ401U	140	250	17.29	1591/92	3500	3100	5000	1.7	10/4/1.5	16	26
173	72	79	8.9	3.7	K302_0175 EZ501U	270	500	17.29	1591/92	3500	3100	5000	3.7	10/4/1.5	16	27
173	79	87	9.7	2.6	K302_0175 EZ402U	200	250	17.29	1591/92	3500	3100	5000	2.4	10/4/1.5	16	27
173	116	144	14	2.3	K302_0175 EZ404U	390	500	17.29	1591/92	3500	3100	5000	3.7	10/4/1.5	16	29
173	124	134	15	2.1	K302_0175 EZ502U	390	500	17.29	1591/92	3500	3100	5000	6.0	10/4/1.5	16	29
173	124	139	15	2.1	K302_0175 EZ701U	340	700	17.29	1591/92	3500	3100	5000	9.3	10/4/1.5	16	31
173	163	186	20	1.6	K302_0175 EZ503U	390	500	17.29	1591/92	3500	3100	5000	8.3	10/4/1.5	16	30
173	201	242	25	1.3	K302_0175 EZ702U	390	700	17.29	1591/92	3500	3100	5000	14	10/4/1.5	16	33
173	226	268	28	1.2	K302_0175 EZ505U	390	700	17.29	1591/92	3500	3100	5000	13	10/4/1.5	16	33
177	34	36	4.3	2.9	K302_0170 EZ303U	99	120	16.94	559/33	3800	3500	5000	0.94	10/4/1.5	16	25
177	46	49	5.8	4.3	K302_0170 EZ401U	140	250	16.94	559/33	3800	3500	5000	1.5	10/4/1.5	16	26
177	71	77	8.9	3.7	K302_0170 EZ501U	260	470	16.94	559/33	3800	3500	5000	3.4	10/4/1.5	16	27
177	77	85	9.7	2.6	K302_0170 EZ402U	200	250	16.94	559/33	3800	3500	5000	2.2	10/4/1.5	16	27
177	113	141	14	2.3	K302_0170 EZ404U	380	470	16.94	559/33	3800	3500	5000	3.5	10/4/1.5	16	29
177	122	131	15	2.2	K302_0170 EZ502U	380	470	16.94	559/33	3800	3500	5000	5.7	10/4/1.5	16	29
177	122	136	15	2.2	K302_0170 EZ701U	330	700	16.94	559/33	3800	3500	5000	9.0	10/4/1.5	16	31
177	159	182	20	1.6	K302_0170 EZ503U	380	470	16.94	559/33	3800	3500	5000	8.1	10/4/1.5	16	30
177	197	237	25	1.3	K302_0170 EZ702U	390	700	16.94	559/33	3800	3500	5000	14	10/4/1.5	16	33
177	222	263	28	1.2	K302_0170 EZ505U	390	700	16.94	559/33	3800	3500	5000	13	10/4/1.5	16	33
215	58	64	9.0	4.2	K302_0140 EZ501U	220	410	13.94	1505/108	3500	3100	5000	3.9	10/4/1.5	16	27
215	93	116	15	2.6	K302_0140 EZ404U	320	410	13.94	1505/108	3500	3100	5000	4.0	10/4/1.5	16	29
215	100	108	16	2.5	K302_0140 EZ502U	320	410	13.94	1505/108	3500	3100	5000	6.2	10/4/1.5	16	29
215	100	112	16	2.5	K302_0140 EZ701U	270	700	13.94	1505/108	3500	3100	5000	9.5	10/4/1.5	16	31
215	131	150	20	1.9	K302_0140 EZ503U	320	410	13.94	1505/108	3500	3100	5000	8.6	10/4/1.5	16	30
215	162	195	25	1.5	K302_0140 EZ702U	390	700	13.94	1505/108	3500	3100	5000	15	10/4/1.5	16	33
215	182	216	28	1.3	K302_0140 EZ505U	390	700	13.94	1505/108	3500	3100	5000	13	10/4/1.5	16	33
215	223	281	35	1.1	K302_0140 EZ703U	390	700	13.94	1505/108	3500	3100	5000	23	10/4/1.5	16	35
239	34	37	5.9	4.3	K302_0125 EZ401U	100	180	12.58	3182/253	3500	3100	5000	1.8	10/4/1.5	16	26
239	52	57	9.1	4.5	K302_0125 EZ501U	200	370	12.58	3182/253	3500	3100	5000	3.8	10/4/1.5	16	27



20 K helical bevel geared motors  
20.2 Selection tables

STOBER

$n_{2N}$ [rpm]	$M_{2N}$ [Nm]	$M_{2,0}$ [Nm]	$a_{in}$	S	Type	$M_{2acc}$ [Nm]	$M_{2NOT}$ [Nm]	$i$	$i_{exakt}$	$n_{1max}$ DBH [rpm]	$n_{1max}$ DBV [rpm]	$n_{1max}$ ZB [rpm]	$J_1$ [ $10^{-4}$ kgm $^2$ ]	$\Delta\phi_2$ [arcmin]	$C_2$ [Nm/ arcmin]	$m$ [kg]
<b>K3 (<math>n_{1N} = 3000</math> rpm, <math>M_{2acc,max} = 390</math> Nm)</b>																
239	57	63	10	2.6	K302_0125 EZ402U	150	180	12.58	3182/253	3500	3100	5000	2.5	10/4/1.5	16	27
239	84	105	15	2.8	K302_0125 EZ404U	290	370	12.58	3182/253	3500	3100	5000	3.8	10/4/1.5	16	29
239	90	98	16	2.6	K302_0125 EZ502U	290	370	12.58	3182/253	3500	3100	5000	6.1	10/4/1.5	16	29
239	90	101	16	2.6	K302_0125 EZ701U	240	700	12.58	3182/253	3500	3100	5000	9.4	10/4/1.5	16	31
239	118	135	21	2.0	K302_0125 EZ503U	290	370	12.58	3182/253	3500	3100	5000	8.4	10/4/1.5	16	30
239	146	176	25	1.6	K302_0125 EZ702U	390	700	12.58	3182/253	3500	3100	5000	15	10/4/1.5	16	33
239	165	195	29	1.4	K302_0125 EZ505U	390	700	12.58	3182/253	3500	3100	5000	13	10/4/1.5	16	33
239	201	254	35	1.2	K302_0125 EZ703U	390	700	12.58	3182/253	3500	3100	5000	22	10/4/1.5	16	35
258	48	53	9.2	4.8	K302_0115 EZ501U	180	340	11.61	1161/100	3200	2800	4200	4.3	10/4/1.5	16	27
258	78	97	15	3.0	K302_0115 EZ404U	270	340	11.61	1161/100	3200	2800	4200	4.4	10/4/1.5	16	29
258	83	90	16	2.8	K302_0115 EZ502U	270	340	11.61	1161/100	3200	2800	4200	6.6	10/4/1.5	16	29
258	83	93	16	2.8	K302_0115 EZ701U	230	700	11.61	1161/100	3200	2800	4200	9.9	10/4/1.5	16	31
258	109	125	21	2.1	K302_0115 EZ503U	270	340	11.61	1161/100	3200	2800	4200	9.0	10/4/1.5	16	30
258	135	162	26	1.7	K302_0115 EZ702U	390	700	11.61	1161/100	3200	2800	4200	15	10/4/1.5	16	33
258	152	180	29	1.5	K302_0115 EZ505U	390	700	11.61	1161/100	3200	2800	4200	14	10/4/1.5	16	33
258	186	234	35	1.2	K302_0115 EZ703U	390	700	11.61	1161/100	3200	2800	4200	23	10/4/1.5	16	35
296	68	85	15	3.3	K302_0100 EZ404U	240	290	10.14	3010/297	3500	3100	5000	4.2	10/4/1.5	16	29
296	73	79	16	3.0	K302_0100 EZ502U	240	290	10.14	3010/297	3500	3100	5000	6.4	10/4/1.5	16	29
296	73	82	16	3.0	K302_0100 EZ701U	200	700	10.14	3010/297	3500	3100	5000	9.7	10/4/1.5	16	31
296	95	109	21	2.3	K302_0100 EZ503U	240	290	10.14	3010/297	3500	3100	5000	8.8	10/4/1.5	16	30
296	118	142	26	1.9	K302_0100 EZ702U	390	700	10.14	3010/297	3500	3100	5000	15	10/4/1.5	16	33
296	133	157	29	1.7	K302_0100 EZ505U	390	700	10.14	3010/297	3500	3100	5000	13	10/4/1.5	16	33
296	162	204	36	1.4	K302_0100 EZ703U	390	700	10.14	3010/297	3500	3100	5000	23	10/4/1.5	16	35
324	62	77	15	3.5	K302_0093 EZ404U	220	270	9.267	1075/116	3200	2800	4200	4.9	10/4/1.5	16	29
324	67	72	16	3.2	K302_0093 EZ502U	220	270	9.267	1075/116	3200	2800	4200	7.1	10/4/1.5	16	29
324	67	75	16	3.2	K302_0093 EZ701U	180	670	9.267	1075/116	3200	2800	4200	10	10/4/1.5	16	31
324	87	100	21	2.5	K302_0093 EZ503U	220	270	9.267	1075/116	3200	2800	4200	9.5	10/4/1.5	16	30
324	108	129	26	2.0	K302_0093 EZ702U	370	670	9.267	1075/116	3200	2800	4200	16	10/4/1.5	16	33
324	121	144	29	1.8	K302_0093 EZ505U	390	670	9.267	1075/116	3200	2800	4200	14	10/4/1.5	16	33
324	148	187	36	1.4	K302_0093 EZ703U	390	670	9.267	1075/116	3200	2800	4200	24	10/4/1.5	16	35
355	57	70	15	3.5	K302_0084 EZ404U	200	250	8.444	2322/275	3200	2800	4200	4.6	10/4/1.5	16	29
355	61	66	16	3.2	K302_0084 EZ502U	200	250	8.444	2322/275	3200	2800	4200	6.8	10/4/1.5	16	29
355	61	68	16	3.4	K302_0084 EZ701U	160	610	8.444	2322/275	3200	2800	4200	10	10/4/1.5	16	31
355	79	91	21	2.5	K302_0084 EZ503U	200	250	8.444	2322/275	3200	2800	4200	9.2	10/4/1.5	16	30
355	98	118	26	2.1	K302_0084 EZ702U	340	610	8.444	2322/275	3200	2800	4200	15	10/4/1.5	16	33
355	111	131	30	1.9	K302_0084 EZ505U	390	610	8.444	2322/275	3200	2800	4200	14	10/4/1.5	16	33
355	135	170	36	1.5	K302_0084 EZ703U	390	610	8.444	2322/275	3200	2800	4200	23	10/4/1.5	16	35
406	53	60	16	3.7	K302_0074 EZ701U	140	540	7.391	473/64	2700	2300	3800	11	10/4/1.5	16	31
406	86	103	27	2.3	K302_0074 EZ702U	290	540	7.391	473/64	2700	2300	3800	16	10/4/1.5	16	33
406	97	115	30	2.1	K302_0074 EZ505U	380	540	7.391	473/64	2700	2300	3800	15	10/4/1.5	16	33
406	118	149	37	1.7	K302_0074 EZ703U	380	540	7.391	473/64	2700	2300	3800	24	10/4/1.5	16	35
445	45	56	15	3.5	K302_0067 EZ404U	160	200	6.740	2150/319	3200	2800	4200	5.2	10/4/1.5	16	29
445	48	52	17	3.2	K302_0067 EZ502U	160	200	6.740	2150/319	3200	2800	4200	7.5	10/4/1.5	16	29
445	48	54	17	4.0	K302_0067 EZ701U	130	490	6.740	2150/319	3200	2800	4200	11	10/4/1.5	16	31
445	63	73	22	2.5	K302_0067 EZ503U	160	200	6.740	2150/319	3200	2800	4200	9.8	10/4/1.5	16	30
445	78	94	27	2.5	K302_0067 EZ702U	270	490	6.740	2150/319	3200	2800	4200	16	10/4/1.5	16	33
445	88	105	30	2.2	K302_0067 EZ505U	360	490	6.740	2150/319	3200	2800	4200	14	10/4/1.5	16	33
445	108	136	37	1.8	K302_0067 EZ703U	360	490	6.740	2150/319	3200	2800	4200	24	10/4/1.5	16	35
500	40	50	16	3.5	K302_0060 EZ404U	140	170	6.000	6/1	2700	2300	3800	6.5	10/4/1.5	16	29
500	43	47	17	3.2	K302_0060 EZ502U	140	170	6.000	6/1	2700	2300	3800	8.7	10/4/1.5	16	29
500	43	48	17	4.3	K302_0060 EZ701U	120	440	6.000	6/1	2700	2300	3800	12	10/4/1.5	16	31
500	56	65	22	2.5	K302_0060 EZ503U	140	170	6.000	6/1	2700	2300	3800	11	10/4/1.5	16	30
500	70	84	27	2.7	K302_0060 EZ702U	240	440	6.000	6/1	2700	2300	3800	17	10/4/1.5	16	33
500	79	93	30	2.4	K302_0060 EZ505U	350	440	6.000	6/1	2700	2300	3800	16	10/4/1.5	16	33
500	96	121	37	1.9	K302_0060 EZ703U	350	440	6.000	6/1	2700	2300	3800	25	10/4/1.5	16	35
500	124	176	48	1.5	K302_0060 EZ705U	350	700	6.000	6/1	2700	2300	3800	37	10/4/1.5	16	41
558	39	43	17	4.6	K302_0054 EZ701U	100	390	5.375	43/8	2700	2300	3800	12	10/4/1.5	16	31
558	63	75	27	2.9	K302_0054 EZ702U	210	390	5.375	43/8	2700	2300	3800	17	10/4/1.5	16	33
558	70	83	31	2.5	K302_0054 EZ505U	310	390	5.375	43/8	2700	2300	3800	15	10/4/1.5	16	33

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# 20 K helical bevel geared motors

## 20.2 Selection tables

$n_{2N}$	$M_{2N}$	$M_{2,0}$	$a_{th}$	S	Type	$M_{2acc}$	$M_{2NOT}$	$i$	$i_{exakt}$	$n_{1max}$	$n_{1max}$	$n_{1max}$	$J_1$	$\Delta\phi_2$	$C_2$	$m$
[rpm]	[Nm]	[Nm]				[Nm]	[Nm]			[rpm]	[rpm]	[rpm]	[ $10^{-4}$ kgm <sup>2</sup> ]	[arcmin]	[Nm/arcmin]	[kg]
<b>K3 (<math>n_{1N} = 3000</math> rpm, <math>M_{2acc,max} = 390</math> Nm)</b>																
558	86	108	38	2.1	K302_0054 EZ703U	310	390	5.375	43/8	2700	2300	3800	25	10/4/1.5	16	35
687	29	36	16	3.5	K302_0044 EZ404U	100	130	4.364	48/11	2700	2300	3800	7.3	10/4/1.5	16	29
687	31	34	17	3.2	K302_0044 EZ502U	100	130	4.364	48/11	2700	2300	3800	9.5	10/4/1.5	16	29
687	31	35	17	3.2	K302_0044 EZ701U	85	130	4.364	48/11	2700	2300	3800	13	10/4/1.5	16	31
687	41	47	22	2.5	K302_0044 EZ503U	100	130	4.364	48/11	2700	2300	3800	12	10/4/1.5	16	30
687	51	61	28	3.3	K302_0044 EZ702U	170	320	4.364	48/11	2700	2300	3800	18	10/4/1.5	16	33
687	57	68	31	2.9	K302_0044 EZ505U	250	320	4.364	48/11	2700	2300	3800	16	10/4/1.5	16	33
687	70	88	38	2.4	K302_0044 EZ703U	250	320	4.364	48/11	2700	2300	3800	26	10/4/1.5	16	35
687	90	128	49	1.8	K302_0044 EZ705U	310	700	4.364	48/11	2700	2300	3800	38	10/4/1.5	16	41
750	47	56	28	3.5	K302_0040 EZ702U	160	290	4.000	4/1	2700	2300	3800	19	10/4/1.5	16	33
750	52	62	31	3.1	K302_0040 EZ505U	230	290	4.000	4/1	2700	2300	3800	17	10/4/1.5	16	33
750	64	81	38	2.5	K302_0040 EZ703U	230	290	4.000	4/1	2700	2300	3800	27	10/4/1.5	16	35
750	83	117	50	2.0	K302_0040 EZ705U	310	700	4.000	4/1	2700	2300	3800	39	10/4/1.5	16	41
<b>K3 (<math>n_{1N} = 4500</math> rpm, <math>M_{2acc,max} = 390</math> Nm)</b>																
260	159	257	22	1.4	K302_0175 EZ505U	390	700	17.29	1591/92	3500	3100	5000	13	10/4/1.5	16	33
266	156	251	22	1.5	K302_0170 EZ505U	390	700	16.94	559/33	3800	3500	5000	13	10/4/1.5	16	33
323	128	207	23	1.7	K302_0140 EZ505U	390	700	13.94	1505/108	3500	3100	5000	13	10/4/1.5	16	33
323	164	270	29	1.3	K302_0140 EZ703U	390	700	13.94	1505/108	3500	3100	5000	23	10/4/1.5	16	35
358	116	187	23	1.8	K302_0125 EZ505U	390	700	12.58	3182/253	3500	3100	5000	13	10/4/1.5	16	33
358	148	244	29	1.4	K302_0125 EZ703U	390	700	12.58	3182/253	3500	3100	5000	22	10/4/1.5	16	35
444	93	150	23	2.1	K302_0100 EZ505U	390	700	10.14	3010/297	3500	3100	5000	13	10/4/1.5	16	33
444	119	197	30	1.6	K302_0100 EZ703U	390	700	10.14	3010/297	3500	3100	5000	23	10/4/1.5	16	35
<b>K4 (<math>n_{1N} = 2000</math> rpm, <math>M_{2acc,max} = 520</math> Nm)</b>																
333	254	385	63	1.3	K402_0060 EZ805U	520	1100	6.000	6/1	2600	2200	3500	139	10/4/1.5	31	82
369	230	348	63	1.3	K402_0054 EZ805U	510	1050	5.422	1849/341	2600	2200	3500	139	10/4/1.5	31	82
458	185	280	64	1.5	K402_0044 EZ805U	470	850	4.364	48/11	2600	2200	3500	141	10/4/1.5	31	82
500	170	256	65	1.6	K402_0040 EZ805U	460	780	4.000	4/1	2600	2200	3500	142	10/4/1.5	31	82
<b>K4 (<math>n_{1N} = 3000</math> rpm, <math>M_{2acc,max} = 600</math> Nm)</b>																
14	332	350	4.1	1.3	K403_2180 EZ302U	510	850	218.2	38399/176	3600	3300	5000	0.35	10/5/2.5	31	42
17	276	291	3.4	1.8	K403_1810 EZ302U	590	980	181.4	14147/78	3600	3300	5000	0.35	10/5/2.5	31	42
17	359	380	4.4	1.4	K403_1810 EZ303U	590	980	181.4	14147/78	3600	3300	5000	0.46	10/5/2.5	31	43
22	207	219	3.4	2.2	K403_1360 EZ302U	590	810	136.1	196037/1440	3600	3300	5000	0.36	10/5/2.5	31	42
22	269	285	4.4	1.7	K403_1360 EZ303U	590	810	136.1	196037/1440	3600	3300	5000	0.47	10/5/2.5	31	43
22	364	390	5.9	1.3	K403_1360 EZ401U	590	810	136.1	196037/1440	3600	3300	5000	1.0	10/5/2.5	31	44
28	165	175	3.3	2.7	K403_1090 EZ302U	520	700	108.8	62651/576	3600	3300	5000	0.38	10/5/2.5	31	42
28	215	228	4.4	2.0	K403_1090 EZ303U	560	700	108.8	62651/576	3600	3300	5000	0.49	10/5/2.5	31	43
28	291	312	5.9	1.5	K403_1090 EZ401U	560	700	108.8	62651/576	3600	3300	5000	1.0	10/5/2.5	31	44
33	139	147	3.4	3.0	K403_0910 EZ302U	440	590	91.23	26273/288	3600	3300	5000	0.39	10/5/2.5	31	42
33	181	191	4.4	2.3	K403_0910 EZ303U	470	590	91.23	26273/288	3600	3300	5000	0.50	10/5/2.5	31	43
33	244	262	5.9	1.7	K403_0910 EZ401U	470	590	91.23	26273/288	3600	3300	5000	1.0	10/5/2.5	31	44
33	370	405	6.9	1.5	K403_0900 EZ501U	590	1080	90.06	16211/180	3600	3300	5000	3.1	10/5/2.5	31	45
38	120	127	4.2	2.7	K403_0790 EZ302U	380	510	79.11	62651/792	3600	3300	5000	0.38	10/5/2.5	31	42
38	157	166	5.5	2.0	K403_0790 EZ303U	410	510	79.11	62651/792	3600	3300	5000	0.49	10/5/2.5	31	43
38	212	227	7.5	1.5	K403_0790 EZ401U	410	510	79.11	62651/792	3600	3300	5000	1.0	10/5/2.5	31	44
38	321	351	6.7	1.7	K403_0780 EZ501U	590	1080	78.10	38657/495	3600	3300	5000	3.1	10/5/2.5	31	45
43	289	316	9.7	1.3	K402_0690 EZ501U	440	590	69.34	5547/80	3600	3300	5000	3.0	10/4/1.5	31	41
44	104	109	3.3	3.4	K403_0680 EZ302U	330	440	68.17	34357/504	3600	3300	5000	0.43	10/5/2.5	31	42
44	135	143	4.3	2.6	K403_0680 EZ303U	350	440	68.17	34357/504	3600	3300	5000	0.54	10/5/2.5	31	43
44	182	196	5.9	1.9	K403_0680 EZ401U	350	440	68.17	34357/504	3600	3300	5000	1.1	10/5/2.5	31	44
45	277	302	6.4	2.0	K403_0670 EZ501U	590	1080	67.30	21199/315	3600	3300	5000	3.1	10/5/2.5	31	45
45	101	107	4.3	3.0	K403_0660 EZ302U	320	430	66.35	26273/396	3600	3300	5000	0.40	10/5/2.5	31	42
45	131	139	5.6	2.3	K403_0660 EZ303U	340	430	66.35	26273/396	3600	3300	5000	0.51	10/5/2.5	31	43
45	178	190	7.5	1.7	K403_0660 EZ401U	340	430	66.35	26273/396	3600	3300	5000	1.0	10/5/2.5	31	44
46	269	294	6.4	2.0	K403_0650 EZ501U	590	1010	65.50	32422/495	3600	3300	5000	3.1	10/5/2.5	31	45
54	232	254	8.1	1.8	K402_0560 EZ501U	510	850	55.71	2451/44	3600	3300	5000	3.1	10/4/1.5	31	41
56	221	241	6.1	2.5	K403_0540 EZ501U	590	950	53.69	38657/720	3600	3300	5000	3.2	10/5/2.5	31	45
56	380	411	10	1.4	K403_0540 EZ502U	590	950	53.69	38657/720	3600	3300	5000	5.5	10/5/2.5	31	46
59	210	230	12	1.3	K402_0500 EZ501U	320	430	50.43	5547/110	3600	3300	5000	3.0	10/4/1.5	31	41
61	201	220	5.9	2.7	K403_0490 EZ501U	590	870	48.94	169592/3465	3600	3300	5000	3.1	10/5/2.5	31	45



20 K helical bevel geared motors  
20.2 Selection tables



n <sub>2N</sub>	M <sub>2N</sub>	M <sub>2,0</sub>	a <sub>in</sub>	S	Type	M <sub>2acc</sub>	M <sub>2NOT</sub>	i	i <sub>exakt</sub>	n <sub>1max</sub> DBH	n <sub>1max</sub> DBV	n <sub>1max</sub> ZB	J <sub>1</sub> [10 <sup>-4</sup> kgm <sup>2</sup> ]	Δφ <sub>2</sub> [arcmin]	C <sub>2</sub> [Nm/ arcmin]	m [kg]
[rpm]	[Nm]	[Nm]				[Nm]	[Nm]			[rpm]	[rpm]	[rpm]				
<b>K4 (n<sub>1N</sub> = 3000 rpm, M<sub>2acc,max</sub> = 600 Nm)</b>																
61	346	374	10	1.6	K403_0490 EZ502U	590	870	48.94	169592/3465	3600	3300	5000	5.4	10/5/2.5	31	46
65	193	211	6.1	2.8	K402_0460 EZ501U	600	980	46.31	602/13	3600	3300	5000	3.2	10/4/1.5	31	41
65	332	359	11	1.6	K402_0460 EZ502U	600	980	46.31	602/13	3600	3300	5000	5.5	10/4/1.5	31	42
65	332	373	11	1.6	K402_0460 EZ701U	600	980	46.31	602/13	3600	3300	5000	8.8	10/4/1.5	31	44
67	183	200	5.9	3.0	K403_0450 EZ501U	590	790	44.54	1247/28	3600	3300	5000	3.2	10/5/2.5	31	45
67	315	341	10	1.7	K403_0450 EZ502U	590	790	44.54	1247/28	3600	3300	5000	5.5	10/5/2.5	31	46
74	169	185	10	1.8	K402_0410 EZ501U	370	620	40.51	4902/121	3600	3300	5000	3.1	10/4/1.5	31	41
77	161	175	6.1	3.1	K403_0390 EZ501U	550	690	39.05	38657/990	3600	3300	5000	3.2	10/5/2.5	31	45
77	276	299	11	1.8	K403_0390 EZ502U	550	690	39.05	38657/990	3600	3300	5000	5.5	10/5/2.5	31	46
77	362	414	14	1.4	K403_0390 EZ503U	550	690	39.05	38657/990	3600	3300	5000	7.9	10/5/2.5	31	48
84	147	161	6.0	3.4	K403_0360 EZ501U	510	630	35.72	13717/384	3600	3300	5000	3.3	10/5/2.5	31	45
84	253	273	10	2.0	K403_0360 EZ502U	510	630	35.72	13717/384	3600	3300	5000	5.6	10/5/2.5	31	46
84	331	379	14	1.5	K403_0360 EZ503U	510	630	35.72	13717/384	3600	3300	5000	8.0	10/5/2.5	31	48
86	145	158	6.1	3.4	K402_0350 EZ501U	540	810	34.76	4171/120	3600	3300	5000	3.4	10/4/1.5	31	41
86	249	270	10	2.0	K402_0350 EZ502U	600	810	34.76	4171/120	3600	3300	5000	5.7	10/4/1.5	31	42
86	249	280	10	2.0	K402_0350 EZ701U	600	1100	34.76	4171/120	3600	3300	5000	9.0	10/4/1.5	31	44
86	327	374	14	1.5	K402_0350 EZ503U	600	810	34.76	4171/120	3600	3300	5000	8.0	10/4/1.5	31	44
89	140	154	7.8	2.8	K402_0340 EZ501U	470	710	33.68	4816/143	3600	3300	5000	3.2	10/4/1.5	31	41
89	242	261	13	1.6	K402_0340 EZ502U	470	710	33.68	4816/143	3600	3300	5000	5.5	10/4/1.5	31	42
89	242	271	13	1.6	K402_0340 EZ701U	470	710	33.68	4816/143	3600	3300	5000	8.8	10/4/1.5	31	44
93	133	146	6.2	3.4	K403_0320 EZ501U	460	570	32.39	2494/77	3600	3300	5000	3.2	10/5/2.5	31	45
93	229	248	11	2.0	K403_0320 EZ502U	460	570	32.39	2494/77	3600	3300	5000	5.5	10/5/2.5	31	46
93	300	344	14	1.5	K403_0320 EZ503U	460	570	32.39	2494/77	3600	3300	5000	7.9	10/5/2.5	31	48
108	116	127	6.2	4.0	K402_0280 EZ501U	430	750	27.77	1333/48	3600	3300	5000	3.6	10/4/1.5	31	41
108	199	216	11	2.3	K402_0280 EZ502U	600	750	27.77	1333/48	3600	3300	5000	5.9	10/4/1.5	31	42
108	199	224	11	2.3	K402_0280 EZ701U	540	1100	27.77	1333/48	3600	3300	5000	9.2	10/4/1.5	31	44
108	261	299	14	1.8	K402_0280 EZ503U	600	750	27.77	1333/48	3600	3300	5000	8.2	10/4/1.5	31	44
108	323	388	17	1.4	K402_0280 EZ702U	600	1100	27.77	1333/48	3600	3300	5000	14	10/4/1.5	31	47
108	364	431	19	1.3	K402_0280 EZ505U	600	1100	27.77	1333/48	3600	3300	5000	13	10/4/1.5	31	47
119	105	115	6.3	4.3	K402_0250 EZ501U	390	590	25.28	4171/165	3600	3300	5000	3.4	10/4/1.5	31	41
119	181	196	11	2.5	K402_0250 EZ502U	470	590	25.28	4171/165	3600	3300	5000	5.7	10/4/1.5	31	42
119	181	204	11	2.5	K402_0250 EZ701U	490	1000	25.28	4171/165	3600	3300	5000	9.0	10/4/1.5	31	44
119	238	272	14	1.9	K402_0250 EZ503U	470	590	25.28	4171/165	3600	3300	5000	8.1	10/4/1.5	31	44
119	294	353	17	1.5	K402_0250 EZ702U	600	1000	25.28	4171/165	3600	3300	5000	14	10/4/1.5	31	47
119	331	392	20	1.4	K402_0250 EZ505U	600	1000	25.28	4171/165	3600	3300	5000	13	10/4/1.5	31	47
129	97	106	6.3	4.5	K402_0230 EZ501U	360	680	23.29	559/24	3600	3300	5000	3.8	10/4/1.5	31	41
129	167	181	11	2.6	K402_0230 EZ502U	540	680	23.29	559/24	3600	3300	5000	6.1	10/4/1.5	31	42
129	167	188	11	2.6	K402_0230 EZ701U	450	1100	23.29	559/24	3600	3300	5000	9.4	10/4/1.5	31	44
129	219	251	14	2.0	K402_0230 EZ503U	540	680	23.29	559/24	3600	3300	5000	8.4	10/4/1.5	31	44
129	271	325	18	1.6	K402_0230 EZ702U	600	1100	23.29	559/24	3600	3300	5000	15	10/4/1.5	31	47
129	305	361	20	1.4	K402_0230 EZ505U	600	1100	23.29	559/24	3600	3300	5000	13	10/4/1.5	31	47
149	84	92	6.4	4.9	K402_0200 EZ501U	310	540	20.20	1333/66	3600	3300	5000	3.6	10/4/1.5	31	41
149	145	157	11	2.9	K402_0200 EZ502U	430	540	20.20	1333/66	3600	3300	5000	5.9	10/4/1.5	31	42
149	145	163	11	2.9	K402_0200 EZ701U	390	1100	20.20	1333/66	3600	3300	5000	9.2	10/4/1.5	31	44
149	190	217	14	2.2	K402_0200 EZ503U	430	540	20.20	1333/66	3600	3300	5000	8.3	10/4/1.5	31	44
149	235	282	18	1.8	K402_0200 EZ702U	600	1100	20.20	1333/66	3600	3300	5000	14	10/4/1.5	31	47
149	264	313	20	1.6	K402_0200 EZ505U	600	1100	20.20	1333/66	3600	3300	5000	13	10/4/1.5	31	47
149	323	407	24	1.3	K402_0200 EZ703U	600	1100	20.20	1333/66	3600	3300	5000	22	10/4/1.5	31	49
172	125	135	11	3.2	K402_0175 EZ502U	410	510	17.41	731/42	3400	3000	4500	6.6	10/4/1.5	31	42
172	125	140	11	3.2	K402_0175 EZ701U	340	1100	17.41	731/42	3400	3000	4500	9.9	10/4/1.5	31	44
172	164	187	15	2.4	K402_0175 EZ503U	410	510	17.41	731/42	3400	3000	4500	9.0	10/4/1.5	31	44
172	203	243	18	2.0	K402_0175 EZ702U	600	1100	17.41	731/42	3400	3000	4500	15	10/4/1.5	31	47
172	228	270	20	1.7	K402_0175 EZ505U	600	1100	17.41	731/42	3400	3000	4500	14	10/4/1.5	31	47
172	279	351	25	1.4	K402_0175 EZ703U	600	1100	17.41	731/42	3400	3000	4500	23	10/4/1.5	31	49
177	122	131	11	3.2	K402_0170 EZ502U	390	490	16.94	559/33	3600	3300	5000	6.2	10/4/1.5	31	42
177	122	136	11	3.2	K402_0170 EZ701U	330	1010	16.94	559/33	3600	3300	5000	9.5	10/4/1.5	31	44
177	159	182	15	2.5	K402_0170 EZ503U	390	490	16.94	559/33	3600	3300	5000	8.5	10/4/1.5	31	44
177	197	237	18	2.0	K402_0170 EZ702U	600	1010	16.94	559/33	3600	3300	5000	15	10/4/1.5	31	47
177	222	263	20	1.8	K402_0170 EZ505U	600	1010	16.94	559/33	3600	3300	5000	13	10/4/1.5	31	47



# 20 K helical bevel geared motors

## 20.2 Selection tables



$n_{2N}$	$M_{2N}$	$M_{2,0}$	$a_{th}$	S	Type	$M_{2acc}$	$M_{2NOT}$	i	$i_{exakt}$	$n_{1max}$ DBH	$n_{1max}$ DBV	$n_{1max}$ ZB	$J_1$ [10 <sup>-4</sup> kgm <sup>2</sup> ]	$\Delta\varphi_2$ [arcmin]	$C_2$ [Nm/ arcmin]	m [kg]
[rpm]	[Nm]	[Nm]				[Nm]	[Nm]			[rpm]	[rpm]	[rpm]				
<b>K4 (<math>n_{1N} = 3000</math> rpm, <math>M_{2acc,max} = 600</math> Nm)</b>																
177	271	342	25	1.4	K402_0170 EZ703U	600	1010	16.94	559/33	3600	3300	5000	23	10/4/1.5	31	49
216	100	112	11	3.7	K402_0140 EZ701U	270	1010	13.89	1333/96	3400	3000	4500	10	10/4/1.5	31	44
216	162	194	18	2.3	K402_0140 EZ702U	550	1010	13.89	1333/96	3400	3000	4500	16	10/4/1.5	31	47
216	182	215	21	2.0	K402_0140 EZ505U	600	1010	13.89	1333/96	3400	3000	4500	14	10/4/1.5	31	47
216	222	280	25	1.7	K402_0140 EZ703U	600	1010	13.89	1333/96	3400	3000	4500	24	10/4/1.5	31	49
216	287	407	33	1.3	K402_0140 EZ705U	600	1100	13.89	1333/96	3400	3000	4500	36	10/4/1.5	31	54
237	91	98	11	3.2	K402_0125 EZ502U	290	370	12.66	2924/231	3400	3000	4500	6.8	10/4/1.5	31	42
237	91	102	11	3.9	K402_0125 EZ701U	250	870	12.66	2924/231	3400	3000	4500	10	10/4/1.5	31	44
237	119	136	15	2.5	K402_0125 EZ503U	290	370	12.66	2924/231	3400	3000	4500	9.1	10/4/1.5	31	44
237	147	177	18	2.4	K402_0125 EZ702U	500	870	12.66	2924/231	3400	3000	4500	15	10/4/1.5	31	47
237	166	196	21	2.1	K402_0125 EZ505U	600	870	12.66	2924/231	3400	3000	4500	14	10/4/1.5	31	47
237	203	255	25	1.8	K402_0125 EZ703U	600	870	12.66	2924/231	3400	3000	4500	23	10/4/1.5	31	49
237	262	371	33	1.4	K402_0125 EZ705U	600	1100	12.66	2924/231	3400	3000	4500	36	10/4/1.5	31	54
237	274	456	34	1.3	K402_0125 EZ802U	600	1100	12.66	2924/231	3400	3000	4500	60	10/4/1.5	31	62
260	83	93	11	4.2	K402_0115 EZ701U	220	840	11.52	645/56	3000	2600	4000	11	10/4/1.5	31	44
260	134	161	19	2.6	K402_0115 EZ702U	460	840	11.52	645/56	3000	2600	4000	16	10/4/1.5	31	47
260	151	179	21	2.3	K402_0115 EZ505U	600	840	11.52	645/56	3000	2600	4000	15	10/4/1.5	31	47
260	184	232	26	1.9	K402_0115 EZ703U	600	840	11.52	645/56	3000	2600	4000	24	10/4/1.5	31	49
260	238	337	33	1.5	K402_0115 EZ705U	600	1100	11.52	645/56	3000	2600	4000	37	10/4/1.5	31	54
260	249	414	35	1.4	K402_0115 EZ802U	600	1100	11.52	645/56	3000	2600	4000	61	10/4/1.5	31	62
297	72	81	12	4.6	K402_0100 EZ701U	200	730	10.10	1333/132	3400	3000	4500	11	10/4/1.5	31	44
297	118	141	19	2.8	K402_0100 EZ702U	400	730	10.10	1333/132	3400	3000	4500	16	10/4/1.5	31	47
297	132	157	21	2.5	K402_0100 EZ505U	590	730	10.10	1333/132	3400	3000	4500	14	10/4/1.5	31	47
297	162	204	26	2.0	K402_0100 EZ703U	590	730	10.10	1333/132	3400	3000	4500	24	10/4/1.5	31	49
297	209	296	33	1.6	K402_0100 EZ705U	600	1100	10.10	1333/132	3400	3000	4500	36	10/4/1.5	31	54
297	218	363	35	1.5	K402_0100 EZ802U	600	1100	10.10	1333/132	3400	3000	4500	60	10/4/1.5	31	62
325	66	74	12	4.8	K402_0092 EZ701U	180	670	9.238	2365/256	3000	2600	4000	12	10/4/1.5	31	44
325	108	129	19	3.0	K402_0092 EZ702U	370	670	9.238	2365/256	3000	2600	4000	17	10/4/1.5	31	47
325	121	143	21	2.7	K402_0092 EZ505U	540	670	9.238	2365/256	3000	2600	4000	16	10/4/1.5	31	47
325	148	186	26	2.2	K402_0092 EZ703U	540	670	9.238	2365/256	3000	2600	4000	25	10/4/1.5	31	49
325	191	271	34	1.7	K402_0092 EZ705U	600	1100	9.238	2365/256	3000	2600	4000	38	10/4/1.5	31	54
325	200	332	35	1.6	K402_0092 EZ802U	600	1100	9.238	2365/256	3000	2600	4000	62	10/4/1.5	31	62
325	238	432	42	1.3	K402_0092 EZ803U	600	1100	9.238	2365/256	3000	2600	4000	87	10/4/1.5	31	68
358	98	117	19	3.2	K402_0084 EZ702U	330	610	8.377	645/77	3000	2600	4000	17	10/4/1.5	31	47
358	110	130	22	2.8	K402_0084 EZ505U	490	610	8.377	645/77	3000	2600	4000	15	10/4/1.5	31	47
358	134	169	26	2.3	K402_0084 EZ703U	490	610	8.377	645/77	3000	2600	4000	25	10/4/1.5	31	49
358	173	245	34	1.8	K402_0084 EZ705U	590	1100	8.377	645/77	3000	2600	4000	37	10/4/1.5	31	54
358	181	301	36	1.7	K402_0084 EZ802U	590	1100	8.377	645/77	3000	2600	4000	61	10/4/1.5	31	62
358	216	392	42	1.4	K402_0084 EZ803U	590	1100	8.377	645/77	3000	2600	4000	86	10/4/1.5	31	68
402	87	104	19	3.4	K402_0075 EZ702U	300	540	7.456	1849/248	2600	2200	3500	19	10/4/1.5	31	47
402	98	116	22	3.1	K402_0075 EZ505U	430	540	7.456	1849/248	2600	2200	3500	17	10/4/1.5	31	47
402	119	150	27	2.5	K402_0075 EZ703U	430	540	7.456	1849/248	2600	2200	3500	27	10/4/1.5	31	49
402	154	218	34	1.9	K402_0075 EZ705U	560	1100	7.456	1849/248	2600	2200	3500	39	10/4/1.5	31	54
402	161	268	36	1.9	K402_0075 EZ802U	560	1100	7.456	1849/248	2600	2200	3500	63	10/4/1.5	31	62
402	192	349	43	1.6	K402_0075 EZ803U	560	1100	7.456	1849/248	2600	2200	3500	88	10/4/1.5	31	68
446	78	94	19	3.7	K402_0067 EZ702U	270	490	6.719	215/32	3000	2600	4000	18	10/4/1.5	31	47
446	88	104	22	3.3	K402_0067 EZ505U	390	490	6.719	215/32	3000	2600	4000	16	10/4/1.5	31	47
446	108	136	27	2.7	K402_0067 EZ703U	390	490	6.719	215/32	3000	2600	4000	26	10/4/1.5	31	49
446	139	197	35	2.1	K402_0067 EZ705U	550	1100	6.719	215/32	3000	2600	4000	38	10/4/1.5	31	54
446	145	242	36	2.0	K402_0067 EZ802U	550	1100	6.719	215/32	3000	2600	4000	62	10/4/1.5	31	62
446	173	314	43	1.7	K402_0067 EZ803U	550	1100	6.719	215/32	3000	2600	4000	88	10/4/1.5	31	68
500	43	47	12	3.2	K402_0060 EZ502U	140	170	6.000	6/1	2600	2200	3500	12	10/4/1.5	31	42
500	43	48	12	3.2	K402_0060 EZ701U	120	170	6.000	6/1	2600	2200	3500	15	10/4/1.5	31	44
500	56	65	16	2.5	K402_0060 EZ503U	140	170	6.000	6/1	2600	2200	3500	14	10/4/1.5	31	44
500	70	84	20	4.0	K402_0060 EZ702U	240	440	6.000	6/1	2600	2200	3500	21	10/4/1.5	31	47
500	79	93	22	3.5	K402_0060 EZ505U	350	440	6.000	6/1	2600	2200	3500	19	10/4/1.5	31	47
500	96	121	27	2.9	K402_0060 EZ703U	350	440	6.000	6/1	2600	2200	3500	28	10/4/1.5	31	49
500	124	176	35	2.2	K402_0060 EZ705U	520	1100	6.000	6/1	2600	2200	3500	41	10/4/1.5	31	54
500	130	216	37	2.1	K402_0060 EZ802U	520	1100	6.000	6/1	2600	2200	3500	65	10/4/1.5	31	62



20 K helical bevel geared motors  
20.2 Selection tables



$n_{2N}$	$M_{2N}$	$M_{2,0}$	$a_{in}$	S	Type	$M_{2acc}$	$M_{2NOT}$	i	$i_{exakt}$	$n_{1max}$ DBH	$n_{1max}$ DBV	$n_{1max}$ ZB	$J_1$ [10 <sup>-4</sup> kgm <sup>2</sup> ]	$\Delta\phi_2$ [arcmin]	$C_2$ [Nm/ arcmin]	m [kg]
[rpm]	[Nm]	[Nm]				[Nm]	[Nm]			[rpm]	[rpm]	[rpm]				
<b>K4 (<math>n_{1N} = 3000</math> rpm, <math>M_{2acc,max} = 600</math> Nm)</b>																
500	155	281	44	1.8	K402_0060 EZ803U	520	1100	6.000	6/1	2600	2200	3500	90	10/4/1.5	31	68
553	63	76	20	4.3	K402_0054 EZ702U	220	390	5.422	1849/341	2600	2200	3500	20	10/4/1.5	31	47
553	71	84	22	3.8	K402_0054 EZ505U	320	390	5.422	1849/341	2600	2200	3500	18	10/4/1.5	31	47
553	87	109	27	3.1	K402_0054 EZ703U	320	390	5.422	1849/341	2600	2200	3500	28	10/4/1.5	31	49
553	112	159	35	2.4	K402_0054 EZ705U	510	1050	5.422	1849/341	2600	2200	3500	40	10/4/1.5	31	54
553	117	195	37	2.3	K402_0054 EZ802U	510	1050	5.422	1849/341	2600	2200	3500	64	10/4/1.5	31	62
553	140	254	44	1.9	K402_0054 EZ803U	510	1050	5.422	1849/341	2600	2200	3500	89	10/4/1.5	31	68
687	31	34	12	3.2	K402_0044 EZ502U	100	130	4.364	48/11	2600	2200	3500	14	10/4/1.5	31	42
687	31	35	12	3.2	K402_0044 EZ701U	85	130	4.364	48/11	2600	2200	3500	17	10/4/1.5	31	44
687	41	47	16	2.5	K402_0044 EZ503U	100	130	4.364	48/11	2600	2200	3500	16	10/4/1.5	31	44
687	51	61	20	4.9	K402_0044 EZ702U	170	320	4.364	48/11	2600	2200	3500	22	10/4/1.5	31	47
687	57	68	23	4.4	K402_0044 EZ505U	250	320	4.364	48/11	2600	2200	3500	21	10/4/1.5	31	47
687	70	88	28	3.6	K402_0044 EZ703U	250	320	4.364	48/11	2600	2200	3500	30	10/4/1.5	31	49
687	90	128	36	2.8	K402_0044 EZ705U	440	850	4.364	48/11	2600	2200	3500	42	10/4/1.5	31	54
687	94	157	38	2.6	K402_0044 EZ802U	420	850	4.364	48/11	2600	2200	3500	66	10/4/1.5	31	62
687	113	204	45	2.2	K402_0044 EZ803U	470	850	4.364	48/11	2600	2200	3500	92	10/4/1.5	31	68
750	47	56	20	5.0	K402_0040 EZ702U	160	290	4.000	4/1	2600	2200	3500	23	10/4/1.5	31	47
750	52	62	23	4.4	K402_0040 EZ505U	230	290	4.000	4/1	2600	2200	3500	22	10/4/1.5	31	47
750	64	81	28	3.6	K402_0040 EZ703U	230	290	4.000	4/1	2600	2200	3500	31	10/4/1.5	31	49
750	83	117	36	2.9	K402_0040 EZ705U	400	780	4.000	4/1	2600	2200	3500	44	10/4/1.5	31	54
750	87	144	38	2.8	K402_0040 EZ802U	390	780	4.000	4/1	2600	2200	3500	68	10/4/1.5	31	62
750	103	187	45	2.4	K402_0040 EZ803U	460	780	4.000	4/1	2600	2200	3500	93	10/4/1.5	31	68
<b>K4 (<math>n_{1N} = 4500</math> rpm, <math>M_{2acc,max} = 600</math> Nm)</b>																
162	256	412	16	1.6	K402_0280 EZ505U	600	1100	27.77	1333/48	3600	3300	5000	13	10/4/1.5	31	47
178	233	375	16	1.7	K402_0250 EZ505U	600	1000	25.28	4171/165	3600	3300	5000	13	10/4/1.5	31	47
193	215	346	16	1.8	K402_0230 EZ505U	600	1100	23.29	559/24	3600	3300	5000	13	10/4/1.5	31	47
193	273	452	20	1.4	K402_0230 EZ703U	600	1100	23.29	559/24	3600	3300	5000	22	10/4/1.5	31	49
223	186	300	16	2.0	K402_0200 EZ505U	600	1100	20.20	1333/66	3600	3300	5000	13	10/4/1.5	31	47
223	237	392	21	1.5	K402_0200 EZ703U	600	1100	20.20	1333/66	3600	3300	5000	22	10/4/1.5	31	49
259	160	258	16	2.2	K402_0175 EZ505U	600	1100	17.41	731/42	3400	3000	4500	14	10/4/1.5	31	47
259	204	338	21	1.7	K402_0175 EZ703U	600	1100	17.41	731/42	3400	3000	4500	23	10/4/1.5	31	49
266	156	251	16	2.2	K402_0170 EZ505U	600	1010	16.94	559/33	3600	3300	5000	13	10/4/1.5	31	47
266	199	329	21	1.7	K402_0170 EZ703U	600	1010	16.94	559/33	3600	3300	5000	23	10/4/1.5	31	49
324	128	206	17	2.5	K402_0140 EZ505U	600	1010	13.89	1333/96	3400	3000	4500	14	10/4/1.5	31	47
324	163	269	21	2.0	K402_0140 EZ703U	600	1010	13.89	1333/96	3400	3000	4500	24	10/4/1.5	31	49
324	221	404	29	1.5	K402_0140 EZ705U	600	1100	13.89	1333/96	3400	3000	4500	36	10/4/1.5	31	54
356	117	188	17	2.7	K402_0125 EZ505U	600	870	12.66	2924/231	3400	3000	4500	14	10/4/1.5	31	47
356	129	424	19	2.4	K402_0125 EZ802U	600	1100	12.66	2924/231	3400	3000	4500	60	10/4/1.5	31	62
356	149	246	21	2.1	K402_0125 EZ703U	600	870	12.66	2924/231	3400	3000	4500	23	10/4/1.5	31	49
356	201	368	29	1.5	K402_0125 EZ705U	600	1100	12.66	2924/231	3400	3000	4500	36	10/4/1.5	31	54
446	93	150	17	3.1	K402_0100 EZ505U	590	730	10.10	1333/132	3400	3000	4500	14	10/4/1.5	31	47
446	103	338	19	2.8	K402_0100 EZ802U	600	1100	10.10	1333/132	3400	3000	4500	60	10/4/1.5	31	62
446	119	196	22	2.4	K402_0100 EZ703U	590	730	10.10	1333/132	3400	3000	4500	24	10/4/1.5	31	49
446	161	294	29	1.8	K402_0100 EZ705U	600	1100	10.10	1333/132	3400	3000	4500	36	10/4/1.5	31	54
<b>K5 (<math>n_{1N} = 2000</math> rpm, <math>M_{2acc,max} = 1000</math> Nm)</b>																
173	483	731	47	1.5	K513_0115 EZ805U	1000	1800	11.57	10759/930	2300	2200	3600	141	10/5/2	50	87
197	424	641	48	1.7	K513_0100 EZ805U	1000	1800	10.15	203/20	1900	1800	3000	143	10/5/2	50	87
218	383	579	48	1.8	K513_0092 EZ805U	1000	1750	9.168	1421/155	1900	1800	3000	144	10/5/2	50	87
246	340	514	48	1.9	K513_0081 EZ805U	1000	1560	8.134	17081/2100	1900	1800	3000	147	10/5/2	50	87
272	307	464	48	2.1	K513_0073 EZ805U	1000	1400	7.347	551/75	1900	1800	3000	149	10/5/2	50	87
<b>K5 (<math>n_{1N} = 3000</math> rpm, <math>M_{2acc,max} = 1000</math> Nm)</b>																
18	681	744	8.4	1.3	K514_1680 EZ501U	1000	1800	168.2	841/5	3400	3000	4500	3.1	10/6/3	50	51
20	603	659	8.1	1.5	K514_1490 EZ501U	1000	1800	149.0	26071/175	3400	3000	4500	3.2	10/6/3	50	51
22	544	595	7.8	1.7	K514_1350 EZ501U	1000	1780	134.6	3364/25	3400	3000	4500	3.2	10/6/3	50	51
24	505	553	7.7	1.8	K514_1250 EZ501U	1000	1800	124.9	599633/4800	3400	3000	4500	3.2	10/6/3	50	51
27	457	499	7.4	2.0	K514_1130 EZ501U	1000	1660	112.8	135401/1200	3400	3000	4500	3.2	10/6/3	50	51
31	397	434	8.5	1.9	K513_0970 EZ501U	920	1460	96.64	38657/400	3400	3000	4500	3.2	10/5/2	50	47
32	381	416	7.0	2.4	K514_0940 EZ501U	1000	1620	94.15	338923/3600	3400	3000	4500	3.3	10/6/3	50	51
32	656	709	12	1.4	K514_0940 EZ502U	1000	1620	94.15	338923/3600	3400	3000	4500	5.6	10/6/3	50	53

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## 20 K helical bevel geared motors

### 20.2 Selection tables



$n_{2N}$	$M_{2N}$	$M_{2,0}$	$a_{th}$	S	Type	$M_{zacc}$	$M_{2NOT}$	i	$i_{exakt}$	$n_{1max}$	$n_{1max}$	$n_{1max}$	$J_1$	$\Delta\varphi_2$	$C_2$	m
[rpm]	[Nm]	[Nm]				[Nm]	[Nm]			[rpm]	[rpm]	[rpm]	[10 <sup>-4</sup> kgm <sup>2</sup> ]	[arcmin]	[Nm/arcmin]	[kg]
<b>K5 (<math>n_{1N} = 3000</math> rpm, <math>M_{zacc,max} = 1000</math> Nm)</b>																
34	359	392	9.1	1.9	K513_0870 EZ501U	830	1320	87.29	8729/100	3400	3000	4500	3.2	10/5/2	50	47
35	344	376	6.8	2.6	K514_0850 EZ501U	1000	1470	85.03	76531/900	3400	3000	4500	3.3	10/6/3	50	51
35	592	640	12	1.5	K514_0850 EZ502U	1000	1470	85.03	76531/900	3400	3000	4500	5.6	10/6/3	50	53
39	319	349	6.7	2.8	K513_0780 EZ501U	1000	1410	77.59	26071/336	3400	3000	4500	3.3	10/5/2	50	47
39	549	593	12	1.6	K513_0780 EZ502U	1000	1410	77.59	26071/336	3400	3000	4500	5.6	10/5/2	50	48
39	549	616	12	1.6	K513_0780 EZ701U	1000	1410	77.59	26071/336	3400	3000	4500	8.9	10/5/2	50	50
43	288	315	7.2	2.8	K513_0700 EZ501U	980	1280	70.08	841/12	3400	3000	4500	3.4	10/5/2	50	47
43	496	536	12	1.7	K513_0700 EZ502U	980	1280	70.08	841/12	3400	3000	4500	5.7	10/5/2	50	48
43	496	556	12	1.7	K513_0700 EZ701U	980	1280	70.08	841/12	3400	3000	4500	9.0	10/5/2	50	50
43	650	744	16	1.3	K513_0700 EZ503U	980	1280	70.08	841/12	3400	3000	4500	8.0	10/5/2	50	50
46	265	290	6.4	3.4	K513_0650 EZ501U	990	1270	64.54	12586/195	3400	3000	4500	3.5	10/5/2	50	47
46	457	494	11	2.0	K513_0650 EZ502U	1000	1270	64.54	12586/195	3400	3000	4500	5.8	10/5/2	50	48
46	457	512	11	2.0	K513_0650 EZ701U	1000	1800	64.54	12586/195	3400	3000	4500	9.1	10/5/2	50	50
46	599	685	14	1.5	K513_0650 EZ503U	1000	1270	64.54	12586/195	3400	3000	4500	8.2	10/5/2	50	50
51	240	262	6.2	3.8	K513_0580 EZ501U	890	1150	58.30	11368/195	3400	3000	4500	3.5	10/5/2	50	47
51	412	446	11	2.2	K513_0580 EZ502U	920	1150	58.30	11368/195	3400	3000	4500	5.8	10/5/2	50	48
51	412	463	11	2.2	K513_0580 EZ701U	1000	1800	58.30	11368/195	3400	3000	4500	9.1	10/5/2	50	50
51	541	619	14	1.7	K513_0580 EZ503U	920	1150	58.30	11368/195	3400	3000	4500	8.2	10/5/2	50	50
62	198	216	5.8	4.4	K513_0480 EZ501U	740	1080	48.16	2697/56	3400	3000	4500	3.9	10/5/2	50	47
62	341	368	10	2.5	K513_0480 EZ502U	870	1080	48.16	2697/56	3400	3000	4500	6.2	10/5/2	50	48
62	341	382	10	2.6	K513_0480 EZ701U	920	1800	48.16	2697/56	3400	3000	4500	9.5	10/5/2	50	50
62	447	511	13	1.9	K513_0480 EZ503U	870	1080	48.16	2697/56	3400	3000	4500	8.6	10/5/2	50	50
62	553	663	16	1.6	K513_0480 EZ702U	1000	1800	48.16	2697/56	3400	3000	4500	15	10/5/2	50	52
62	622	737	18	1.4	K513_0480 EZ505U	1000	1800	48.16	2697/56	3400	3000	4500	13	10/5/2	50	52
69	179	195	5.7	4.4	K513_0440 EZ501U	670	980	43.50	87/2	3400	3000	4500	3.9	10/5/2	50	47
69	308	333	9.8	2.5	K513_0440 EZ502U	780	980	43.50	87/2	3400	3000	4500	6.2	10/5/2	50	48
69	308	345	9.8	2.9	K513_0440 EZ701U	830	1800	43.50	87/2	3400	3000	4500	9.5	10/5/2	50	50
69	403	462	13	1.9	K513_0440 EZ503U	780	980	43.50	87/2	3400	3000	4500	8.6	10/5/2	50	50
69	499	599	16	1.8	K513_0440 EZ702U	1000	1800	43.50	87/2	3400	3000	4500	15	10/5/2	50	52
69	561	665	18	1.6	K513_0440 EZ505U	1000	1800	43.50	87/2	3400	3000	4500	13	10/5/2	50	52
78	158	173	5.5	2.8	K513_0390 EZ501U	440	550	38.53	2697/70	3400	3000	4500	4.3	10/5/2	50	47
78	273	295	9.4	2.9	K513_0390 EZ502U	800	1000	38.53	2697/70	3400	3000	4500	6.6	10/5/2	50	48
78	273	306	9.4	3.3	K513_0390 EZ701U	740	1800	38.53	2697/70	3400	3000	4500	9.9	10/5/2	50	50
78	357	409	12	2.2	K513_0390 EZ503U	800	1000	38.53	2697/70	3400	3000	4500	9.0	10/5/2	50	50
78	442	530	15	2.0	K513_0390 EZ702U	1000	1800	38.53	2697/70	3400	3000	4500	15	10/5/2	50	52
78	497	589	17	1.8	K513_0390 EZ505U	1000	1800	38.53	2697/70	3400	3000	4500	14	10/5/2	50	52
78	608	766	21	1.5	K513_0390 EZ703U	1000	1800	38.53	2697/70	3400	3000	4500	23	10/5/2	50	54
86	143	156	5.3	2.8	K513_0350 EZ501U	400	500	34.80	174/5	3400	3000	4500	4.4	10/5/2	50	47
86	246	266	9.1	2.9	K513_0350 EZ502U	720	910	34.80	174/5	3400	3000	4500	6.7	10/5/2	50	48
86	246	276	9.1	3.7	K513_0350 EZ701U	670	1780	34.80	174/5	3400	3000	4500	10	10/5/2	50	50
86	323	369	12	2.2	K513_0350 EZ503U	720	910	34.80	174/5	3400	3000	4500	9.1	10/5/2	50	50
86	399	479	15	2.3	K513_0350 EZ702U	1000	1780	34.80	174/5	3400	3000	4500	15	10/5/2	50	52
86	449	532	17	2.0	K513_0350 EZ505U	1000	1780	34.80	174/5	3400	3000	4500	14	10/5/2	50	52
86	549	692	20	1.6	K513_0350 EZ703U	1000	1780	34.80	174/5	3400	3000	4500	23	10/5/2	50	54
93	229	256	8.9	3.9	K513_0320 EZ701U	620	1800	32.31	20677/640	3400	3000	4500	10	10/5/2	50	50
93	371	445	14	2.4	K513_0320 EZ702U	1000	1800	32.31	20677/640	3400	3000	4500	16	10/5/2	50	52
93	417	494	16	2.2	K513_0320 EZ505U	1000	1800	32.31	20677/640	3400	3000	4500	14	10/5/2	50	52
93	510	642	20	1.8	K513_0320 EZ703U	1000	1800	32.31	20677/640	3400	3000	4500	24	10/5/2	50	54
103	206	232	8.9	4.2	K513_0290 EZ701U	560	1660	29.18	4669/160	3400	3000	4500	11	10/5/2	50	50
103	335	402	14	2.6	K513_0290 EZ702U	1000	1660	29.18	4669/160	3400	3000	4500	16	10/5/2	50	52
103	377	446	16	2.3	K513_0290 EZ505U	1000	1660	29.18	4669/160	3400	3000	4500	14	10/5/2	50	52
103	460	580	20	1.9	K513_0290 EZ703U	1000	1660	29.18	4669/160	3400	3000	4500	24	10/5/2	50	54
123	172	193	9.0	4.8	K513_0240 EZ701U	470	1620	24.35	11687/480	2800	2500	4000	11	10/5/2	50	50
123	279	335	15	2.9	K513_0240 EZ702U	950	1620	24.35	11687/480	2800	2500	4000	17	10/5/2	50	52
123	314	372	16	2.6	K513_0240 EZ505U	1000	1620	24.35	11687/480	2800	2500	4000	15	10/5/2	50	52
123	384	484	20	2.1	K513_0240 EZ703U	1000	1620	24.35	11687/480	2800	2500	4000	25	10/5/2	50	54
123	496	703	26	1.7	K513_0240 EZ705U	1000	1800	24.35	11687/480	2800	2500	4000	37	10/5/2	50	60
136	252	303	15	3.1	K513_0220 EZ702U	860	1470	21.99	2639/120	2800	2500	4000	17	10/5/2	50	52
136	284	336	16	2.8	K513_0220 EZ505U	1000	1470	21.99	2639/120	2800	2500	4000	15	10/5/2	50	52





20 K helical bevel geared motors  
20.2 Selection tables



$n_{2N}$	$M_{2N}$	$M_{2.0}$	$a_{in}$	S	Type	$M_{zacc}$	$M_{2NOT}$	i	$i_{\text{exakt}}$	$n_{1\text{max}}$ DBH	$n_{1\text{max}}$ DBV	$n_{1\text{max}}$ ZB	$J_1$	$\Delta\varphi_2$	$C_2$	m
[rpm]	[Nm]	[Nm]				[Nm]	[Nm]			[rpm]	[rpm]	[rpm]	[10 <sup>-4</sup> kgm <sup>2</sup> ]	[arcmin]	[Nm/ arcmin]	[kg]
<b>K5 (<math>n_{1N} = 3000 \text{ rpm}</math>, <math>M_{zacc,max} = 1000 \text{ Nm}</math>)</b>																
136	347	437	20	2.3	K513_0220 EZ703U	1000	1470	21.99	2639/120	2800	2500	4000	25	10/5/2	50	54
136	448	635	26	1.8	K513_0220 EZ705U	1000	1800	21.99	2639/120	2800	2500	4000	37	10/5/2	50	60
155	222	266	15	3.4	K513_0195 EZ702U	760	1390	19.35	27869/1440	2800	2500	4000	18	10/5/2	50	52
155	250	296	16	3.0	K513_0195 EZ505U	1000	1390	19.35	27869/1440	2800	2500	4000	16	10/5/2	50	52
155	305	385	20	2.5	K513_0195 EZ703U	1000	1390	19.35	27869/1440	2800	2500	4000	26	10/5/2	50	54
155	394	559	26	1.9	K513_0195 EZ705U	1000	1800	19.35	27869/1440	2800	2500	4000	38	10/5/2	50	60
155	413	686	27	1.8	K513_0195 EZ802U	1000	1800	19.35	27869/1440	2800	2500	4000	62	10/5/2	50	68
172	201	241	15	3.7	K513_0175 EZ702U	690	1250	17.48	6293/360	2800	2500	4000	18	10/5/2	50	52
172	226	267	17	3.3	K513_0175 EZ505U	1000	1250	17.48	6293/360	2800	2500	4000	16	10/5/2	50	52
172	276	348	20	2.7	K513_0175 EZ703U	1000	1250	17.48	6293/360	2800	2500	4000	26	10/5/2	50	54
172	356	505	26	2.1	K513_0175 EZ705U	1000	1800	17.48	6293/360	2800	2500	4000	38	10/5/2	50	60
172	373	620	27	2.0	K513_0175 EZ802U	1000	1800	17.48	6293/360	2800	2500	4000	62	10/5/2	50	68
186	185	222	15	3.9	K513_0160 EZ702U	630	1150	16.09	26071/1620	2300	2200	3600	19	10/5/2	50	52
186	208	246	17	3.4	K513_0160 EZ505U	920	1150	16.09	26071/1620	2300	2200	3600	17	10/5/2	50	52
186	254	320	20	2.8	K513_0160 EZ703U	920	1150	16.09	26071/1620	2300	2200	3600	27	10/5/2	50	54
186	328	465	26	2.2	K513_0160 EZ705U	1000	1800	16.09	26071/1620	2300	2200	3600	39	10/5/2	50	60
186	343	571	27	2.1	K513_0160 EZ802U	1000	1800	16.09	26071/1620	2300	2200	3600	63	10/5/2	50	68
186	409	742	33	1.7	K513_0160 EZ803U	1000	1800	16.09	26071/1620	2300	2200	3600	89	10/5/2	50	74
206	167	200	15	4.1	K513_0145 EZ702U	570	1040	14.54	5887/405	2300	2200	3600	19	10/5/2	50	52
206	188	222	17	3.7	K513_0145 EZ505U	830	1040	14.54	5887/405	2300	2200	3600	18	10/5/2	50	52
206	229	289	20	3.0	K513_0145 EZ703U	830	1040	14.54	5887/405	2300	2200	3600	27	10/5/2	50	54
206	296	420	26	2.3	K513_0145 EZ705U	1000	1800	14.54	5887/405	2300	2200	3600	40	10/5/2	50	60
206	310	516	28	2.2	K513_0145 EZ802U	1000	1800	14.54	5887/405	2300	2200	3600	64	10/5/2	50	68
206	370	670	33	1.9	K513_0145 EZ803U	1000	1800	14.54	5887/405	2300	2200	3600	89	10/5/2	50	74
234	261	370	26	2.5	K513_0130 EZ705U	1000	1800	12.81	1537/120	2300	2200	3600	41	10/5/2	50	60
234	273	454	28	2.4	K513_0130 EZ802U	1000	1800	12.81	1537/120	2300	2200	3600	65	10/5/2	50	68
234	326	590	33	2.0	K513_0130 EZ803U	1000	1800	12.81	1537/120	2300	2200	3600	91	10/5/2	50	74
259	236	334	26	2.7	K513_0115 EZ705U	1000	1800	11.57	10759/930	2300	2200	3600	42	10/5/2	50	60
259	247	410	28	2.6	K513_0115 EZ802U	1000	1800	11.57	10759/930	2300	2200	3600	66	10/5/2	50	68
259	294	533	33	2.2	K513_0115 EZ803U	1000	1800	11.57	10759/930	2300	2200	3600	91	10/5/2	50	74
296	207	293	27	3.0	K513_0100 EZ705U	1000	1800	10.15	203/20	1900	1800	3000	44	10/5/2	50	60
296	216	360	28	2.8	K513_0100 EZ802U	970	1800	10.15	203/20	1900	1800	3000	68	10/5/2	50	68
296	258	468	33	2.4	K513_0100 EZ803U	1000	1800	10.15	203/20	1900	1800	3000	94	10/5/2	50	74
327	187	265	27	3.2	K513_0092 EZ705U	910	1750	9.168	1421/155	1900	1800	3000	45	10/5/2	50	60
327	195	325	28	3.0	K513_0092 EZ802U	880	1750	9.168	1421/155	1900	1800	3000	69	10/5/2	50	68
327	233	422	33	2.5	K513_0092 EZ803U	1000	1750	9.168	1421/155	1900	1800	3000	95	10/5/2	50	74
369	166	235	27	3.4	K513_0081 EZ705U	810	1560	8.134	17081/2100	1900	1800	3000	48	10/5/2	50	60
369	173	288	28	3.3	K513_0081 EZ802U	780	1560	8.134	17081/2100	1900	1800	3000	72	10/5/2	50	68
369	207	375	33	2.8	K513_0081 EZ803U	1000	1560	8.134	17081/2100	1900	1800	3000	98	10/5/2	50	74
408	150	212	27	3.7	K513_0073 EZ705U	730	1400	7.347	551/75	1900	1800	3000	50	10/5/2	50	60
408	157	261	28	3.5	K513_0073 EZ802U	700	1400	7.347	551/75	1900	1800	3000	74	10/5/2	50	68
408	187	339	34	3.0	K513_0073 EZ803U	1000	1400	7.347	551/75	1900	1800	3000	99	10/5/2	50	74
<b>K5 (<math>n_{1N} = 4500 \text{ rpm}</math>, <math>M_{zacc,max} = 1000 \text{ Nm}</math>)</b>																
93	437	704	13	2.1	K513_0480 EZ505U	1000	1800	48.16	2697/56	3400	3000	4500	13	10/5/2	50	52
103	395	636	13	2.2	K513_0440 EZ505U	1000	1800	43.50	87/2	3400	3000	4500	13	10/5/2	50	52
117	350	564	13	2.4	K513_0390 EZ505U	1000	1800	38.53	2697/70	3400	3000	4500	14	10/5/2	50	52
117	446	737	17	1.9	K513_0390 EZ703U	1000	1800	38.53	2697/70	3400	3000	4500	23	10/5/2	50	54
129	316	509	13	2.6	K513_0350 EZ505U	1000	1780	34.80	174/5	3400	3000	4500	14	10/5/2	50	52
129	403	665	17	2.0	K513_0350 EZ703U	1000	1780	34.80	174/5	3400	3000	4500	23	10/5/2	50	54
139	293	473	13	2.7	K513_0320 EZ505U	1000	1800	32.31	20677/640	3400	3000	4500	14	10/5/2	50	52
139	374	618	17	2.1	K513_0320 EZ703U	1000	1800	32.31	20677/640	3400	3000	4500	24	10/5/2	50	54
154	265	427	13	2.9	K513_0290 EZ505U	1000	1660	29.18	4669/160	3400	3000	4500	14	10/5/2	50	52
154	338	558	17	2.3	K513_0290 EZ703U	1000	1660	29.18	4669/160	3400	3000	4500	24	10/5/2	50	54
<b>K6 (<math>n_{1N} = 2000 \text{ rpm}</math>, <math>M_{zacc,max} = 1600 \text{ Nm}</math>)</b>																
105	794	1200	39	1.4	K613_0190 EZ805U	1600	2900	18.99	17019/896	2600	2300	3600	140	10/5/2	83	109
117	717	1084	39	1.5	K613_0170 EZ805U	1600	2900	17.16	549/32	2600	2300	3600	141	10/5/2	83	109
126	663	1003	39	1.6	K613_0160 EZ805U	1600	2900	15.87	54839/3456	2200	2000	3200	143	10/5/2	83	109
140	599	906	39	1.7	K613_0145 EZ805U	1600	2740	14.33	12383/864	2200	2000	3200	143	10/5/2	83	109
158	528	798	39	1.9	K613_0125 EZ805U	1600	2410	12.63	3233/256	2200	2000	3200	147	10/5/2	83	109

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## 20.2 Selection tables

$n_{2N}$	$M_{2N}$	$M_{2,0}$	$a_{th}$	S	Type	$M_{2acc}$	$M_{2NOT}$	$i$	$i_{exakt}$	$n_{1max}$	$n_{1max}$	$n_{1max}$	$J_1$	$\Delta\varphi_2$	$C_2$	$m$
[rpm]	[Nm]	[Nm]				[Nm]	[Nm]			DBH	DBV	ZB	[10 <sup>-4</sup> kgm <sup>2</sup> ]	[arcmin]	[Nm/ arcmin]	[kg]
<b>K6 (<math>n_{1N} = 2000</math> rpm, <math>M_{2acc,max} = 1600</math> Nm)</b>																
175	477	721	40	2.0	K613_0115 EZ805U	1590	2180	11.41	22631/1984	2200	2000	3200	148	10/5/2	83	109
199	420	635	40	2.2	K613_0100 EZ805U	1530	2900	10.05	92659/9216	1800	1700	2900	152	10/5/2	83	109
220	379	574	40	2.4	K613_0091 EZ805U	1480	2900	9.081	20923/2304	1800	1700	2900	154	10/5/2	83	109
247	339	512	40	2.5	K613_0081 EZ805U	1420	2900	8.107	85095/10496	1800	1700	2900	160	10/5/2	83	109
273	306	463	40	2.7	K613_0073 EZ805U	1370	2630	7.323	19215/2624	1800	1700	2900	162	10/5/2	83	109
<b>K6 (<math>n_{1N} = 3000</math> rpm, <math>M_{2acc,max} = 1600</math> Nm)</b>																
11	1076	1176	7.2	1.2	K614_2660 EZ501U	1580	2630	265.9	829661/3120	3100	2800	4000	3.1	10/6/3	83	72
12	997	1090	6.4	1.5	K614_2460 EZ501U	1600	2900	246.3	1261297/5120	3100	2800	4000	3.1	10/6/3	83	72
13	900	984	6.2	1.6	K614_2230 EZ501U	1600	2800	222.5	284809/1280	3100	2800	4000	3.1	10/6/3	83	72
16	747	816	5.9	1.9	K614_1850 EZ501U	1600	2290	184.6	383873/2080	3100	2800	4000	3.2	10/6/3	83	72
18	674	737	5.7	2.1	K614_1670 EZ501U	1600	2070	166.7	86681/520	3100	2800	4000	3.2	10/6/3	83	72
20	600	655	5.5	2.4	K614_1480 EZ501U	1600	2170	148.2	4551637/30720	3100	2800	4000	3.2	10/6/3	83	72
20	1032	1115	9.5	1.4	K614_1480 EZ502U	1600	2170	148.2	4551637/30720	3100	2800	4000	5.5	10/6/3	83	73
22	542	592	5.6	2.5	K614_1340 EZ501U	1570	1960	133.8	1027789/7680	3100	2800	4000	3.2	10/6/3	83	72
22	932	1007	9.7	1.5	K614_1340 EZ502U	1570	1960	133.8	1027789/7680	3100	2800	4000	5.5	10/6/3	83	73
24	498	545	5.2	2.9	K614_1230 EZ501U	1600	2000	123.2	1261297/10240	3100	2800	4000	3.3	10/6/3	83	72
24	858	927	9.0	1.7	K614_1230 EZ502U	1600	2000	123.2	1261297/10240	3100	2800	4000	5.6	10/6/3	83	73
27	450	492	5.5	3.0	K614_1110 EZ501U	1450	1810	111.3	284809/2560	3100	2800	4000	3.3	10/6/3	83	72
27	775	838	9.5	1.7	K614_1110 EZ502U	1450	1810	111.3	284809/2560	3100	2800	4000	5.6	10/6/3	83	73
31	392	429	6.6	2.7	K613_0950 EZ501U	1290	1630	95.41	293105/3072	3100	2800	4000	3.5	10/5/2	83	68
31	675	730	11	1.6	K613_0950 EZ502U	1290	1630	95.41	293105/3072	3100	2800	4000	5.8	10/5/2	83	70
31	675	757	11	1.6	K613_0950 EZ701U	1290	1630	95.41	293105/3072	3100	2800	4000	9.1	10/5/2	83	71
32	376	411	5.2	3.4	K614_0930 EZ501U	1290	1610	92.83	712907/7680	3100	2800	4000	3.4	10/6/3	83	72
32	646	699	9.0	2.0	K614_0930 EZ502U	1290	1610	92.83	712907/7680	3100	2800	4000	5.7	10/6/3	83	73
32	847	970	12	1.5	K614_0930 EZ503U	1290	1610	92.83	712907/7680	3100	2800	4000	8.1	10/6/3	83	75
35	354	387	7.1	2.7	K613_0860 EZ501U	1170	1470	86.18	66185/768	3100	2800	4000	3.5	10/5/2	83	68
35	610	659	12	1.6	K613_0860 EZ502U	1170	1470	86.18	66185/768	3100	2800	4000	5.8	10/5/2	83	70
35	610	684	12	1.6	K613_0860 EZ701U	1170	1470	86.18	66185/768	3100	2800	4000	9.1	10/5/2	83	71
36	339	371	5.6	3.4	K614_0840 EZ501U	1170	1460	83.84	160979/1920	3100	2800	4000	3.5	10/6/3	83	72
36	584	631	9.6	2.0	K614_0840 EZ502U	1170	1460	83.84	160979/1920	3100	2800	4000	5.8	10/6/3	83	73
36	765	876	13	1.5	K614_0840 EZ503U	1170	1460	83.84	160979/1920	3100	2800	4000	8.1	10/6/3	83	75
39	313	342	4.6	3.8	K613_0760 EZ501U	1160	1500	76.14	126697/1664	3100	2800	4000	3.7	10/5/2	83	68
39	539	582	7.9	2.2	K613_0760 EZ502U	1200	1500	76.14	126697/1664	3100	2800	4000	6.0	10/5/2	83	70
39	539	604	7.9	2.7	K613_0760 EZ701U	1460	2900	76.14	126697/1664	3100	2800	4000	9.3	10/5/2	83	71
39	706	808	10	1.7	K613_0760 EZ503U	1200	1500	76.14	126697/1664	3100	2800	4000	8.4	10/5/2	83	71
39	873	1048	13	1.7	K613_0760 EZ702U	1600	2900	76.14	126697/1664	3100	2800	4000	15	10/5/2	83	74
39	983	1165	14	1.5	K613_0760 EZ505U	1600	2900	76.14	126697/1664	3100	2800	4000	13	10/5/2	83	74
44	283	309	4.9	3.8	K613_0690 EZ501U	1050	1360	68.77	28609/416	3100	2800	4000	3.8	10/5/2	83	68
44	487	526	8.4	2.2	K613_0690 EZ502U	1080	1360	68.77	28609/416	3100	2800	4000	6.1	10/5/2	83	70
44	487	546	8.4	2.7	K613_0690 EZ701U	1310	2630	68.77	28609/416	3100	2800	4000	9.4	10/5/2	83	71
44	638	730	11	1.7	K613_0690 EZ503U	1080	1360	68.77	28609/416	3100	2800	4000	8.4	10/5/2	83	71
44	789	947	14	1.7	K613_0690 EZ702U	1580	2630	68.77	28609/416	3100	2800	4000	15	10/5/2	83	74
44	888	1052	15	1.5	K613_0690 EZ505U	1580	2630	68.77	28609/416	3100	2800	4000	13	10/5/2	83	74
47	262	286	4.3	4.1	K613_0640 EZ501U	970	1330	63.71	130479/2048	3100	2800	4000	4.0	10/5/2	83	68
47	451	487	7.5	2.4	K613_0640 EZ502U	1060	1330	63.71	130479/2048	3100	2800	4000	6.3	10/5/2	83	70
47	451	506	7.5	3.2	K613_0640 EZ701U	1220	2900	63.71	130479/2048	3100	2800	4000	9.6	10/5/2	83	71
47	591	676	9.8	1.8	K613_0640 EZ503U	1060	1330	63.71	130479/2048	3100	2800	4000	8.7	10/5/2	83	71
47	731	877	12	2.0	K613_0640 EZ702U	1600	2900	63.71	130479/2048	3100	2800	4000	15	10/5/2	83	74
47	822	975	14	1.8	K613_0640 EZ505U	1600	2900	63.71	130479/2048	3100	2800	4000	13	10/5/2	83	74
52	237	259	4.2	4.1	K613_0580 EZ501U	880	1200	57.55	29463/512	3100	2800	4000	4.1	10/5/2	83	68
52	407	440	7.3	2.4	K613_0580 EZ502U	960	1200	57.55	29463/512	3100	2800	4000	6.4	10/5/2	83	70
52	407	457	7.3	3.6	K613_0580 EZ701U	1100	2800	57.55	29463/512	3100	2800	4000	9.7	10/5/2	83	71
52	534	611	9.5	1.8	K613_0580 EZ503U	960	1200	57.55	29463/512	3100	2800	4000	8.7	10/5/2	83	71
52	660	792	12	2.2	K613_0580 EZ702U	1600	2800	57.55	29463/512	3100	2800	4000	15	10/5/2	83	74
52	743	880	13	1.9	K613_0580 EZ505U	1600	2800	57.55	29463/512	3100	2800	4000	13	10/5/2	83	74
52	908	1144	16	1.6	K613_0580 EZ703U	1600	2800	57.55	29463/512	3100	2800	4000	23	10/5/2	83	76
63	338	379	7.3	4.0	K613_0480 EZ701U	910	2290	47.73	39711/832	3100	2800	4000	10	10/5/2	83	71
63	548	657	12	2.5	K613_0480 EZ702U	1600	2290	47.73	39711/832	3100	2800	4000	16	10/5/2	83	74
63	616	730	13	2.2	K613_0480 EZ505U	1600	2290	47.73	39711/832	3100	2800	4000	14	10/5/2	83	74



20 K helical bevel geared motors  
20.2 Selection tables



$n_{2N}$ [rpm]	$M_{2N}$ [Nm]	$M_{2,0}$ [Nm]	$a_{in}$	S	Type	$M_{zacc}$ [Nm]	$M_{2NOT}$ [Nm]	i	$i_{exakt}$	$n_{1max}$ DBH [rpm]	$n_{1max}$ DBV [rpm]	$n_{1max}$ ZB [rpm]	$J_1$ [10 <sup>-4</sup> kgm <sup>2</sup> ]	$\Delta\varphi_2$ [arcmin]	$C_2$ [Nm/ arcmin]	m [kg]
<b>K6 (<math>n_{1N} = 3000</math> rpm, <math>M_{zacc,max} = 1600</math> Nm)</b>																
63	753	949	16	1.8	K613_0480 EZ703U	1600	2290	47.73	39711/832	3100	2800	4000	23	10/5/2	83	76
70	305	342	7.3	4.3	K613_0430 EZ701U	820	2070	43.11	8967/208	3100	2800	4000	10	10/5/2	83	71
70	495	593	12	2.7	K613_0430 EZ702U	1600	2070	43.11	8967/208	3100	2800	4000	16	10/5/2	83	74
70	556	659	13	2.4	K613_0430 EZ505U	1600	2070	43.11	8967/208	3100	2800	4000	14	10/5/2	83	74
70	680	857	16	1.9	K613_0430 EZ703U	1600	2070	43.11	8967/208	3100	2800	4000	24	10/5/2	83	76
78	271	304	7.4	4.7	K613_0380 EZ701U	730	2170	38.32	156953/4096	3100	2800	4000	11	10/5/2	83	71
78	440	528	12	2.9	K613_0380 EZ702U	1500	2170	38.32	156953/4096	3100	2800	4000	16	10/5/2	83	74
78	495	586	13	2.6	K613_0380 EZ505U	1600	2170	38.32	156953/4096	3100	2800	4000	15	10/5/2	83	74
78	604	762	16	2.1	K613_0380 EZ703U	1600	2170	38.32	156953/4096	3100	2800	4000	24	10/5/2	83	76
78	780	1106	21	1.6	K613_0380 EZ705U	1600	2900	38.32	156953/4096	3100	2800	4000	37	10/5/2	83	81
87	245	275	7.4	5.0	K613_0350 EZ701U	660	1960	34.61	35441/1024	3100	2800	4000	11	10/5/2	83	71
87	397	476	12	3.1	K613_0350 EZ702U	1360	1960	34.61	35441/1024	3100	2800	4000	16	10/5/2	83	74
87	447	529	13	2.7	K613_0350 EZ505U	1570	1960	34.61	35441/1024	3100	2800	4000	15	10/5/2	83	74
87	546	688	16	2.2	K613_0350 EZ703U	1570	1960	34.61	35441/1024	3100	2800	4000	24	10/5/2	83	76
87	705	999	21	1.7	K613_0350 EZ705U	1600	2900	34.61	35441/1024	3100	2800	4000	37	10/5/2	83	81
87	738	1228	22	1.7	K613_0350 EZ802U	1600	2900	34.61	35441/1024	3100	2800	4000	61	10/5/2	83	90
94	365	439	12	3.2	K613_0320 EZ702U	1250	2000	31.86	130479/4096	3100	2800	4000	17	10/5/2	83	74
94	411	487	14	2.9	K613_0320 EZ505U	1600	2000	31.86	130479/4096	3100	2800	4000	16	10/5/2	83	74
94	502	633	17	2.4	K613_0320 EZ703U	1600	2000	31.86	130479/4096	3100	2800	4000	25	10/5/2	83	76
94	649	920	21	1.8	K613_0320 EZ705U	1600	2900	31.86	130479/4096	3100	2800	4000	38	10/5/2	83	81
94	679	1130	22	1.7	K613_0320 EZ802U	1600	2900	31.86	130479/4096	3100	2800	4000	62	10/5/2	83	90
104	330	396	12	3.5	K613_0290 EZ702U	1130	1810	28.77	29463/1024	3100	2800	4000	17	10/5/2	83	74
104	371	440	14	3.1	K613_0290 EZ505U	1450	1810	28.77	29463/1024	3100	2800	4000	16	10/5/2	83	74
104	454	572	17	2.5	K613_0290 EZ703U	1450	1810	28.77	29463/1024	3100	2800	4000	25	10/5/2	83	76
104	586	831	21	2.0	K613_0290 EZ705U	1600	2900	28.77	29463/1024	3100	2800	4000	38	10/5/2	83	81
104	613	1020	22	1.9	K613_0290 EZ802U	1600	2900	28.77	29463/1024	3100	2800	4000	62	10/5/2	83	90
125	275	330	12	3.9	K613_0240 EZ702U	940	1720	24.01	24583/1024	2600	2300	3600	19	10/5/2	83	74
125	310	367	14	3.5	K613_0240 EZ505U	1380	1720	24.01	24583/1024	2600	2300	3600	18	10/5/2	83	74
125	379	477	17	2.9	K613_0240 EZ703U	1380	1720	24.01	24583/1024	2600	2300	3600	27	10/5/2	83	76
125	489	693	22	2.2	K613_0240 EZ705U	1600	2900	24.01	24583/1024	2600	2300	3600	40	10/5/2	83	81
125	512	851	23	2.1	K613_0240 EZ802U	1600	2900	24.01	24583/1024	2600	2300	3600	64	10/5/2	83	90
125	610	1106	27	1.8	K613_0240 EZ803U	1600	2900	24.01	24583/1024	2600	2300	3600	89	10/5/2	83	96
138	249	299	12	4.2	K613_0220 EZ702U	850	1550	21.68	5551/256	2600	2300	3600	20	10/5/2	83	74
138	280	332	14	3.7	K613_0220 EZ505U	1240	1550	21.68	5551/256	2600	2300	3600	18	10/5/2	83	74
138	342	431	17	3.1	K613_0220 EZ703U	1240	1550	21.68	5551/256	2600	2300	3600	27	10/5/2	83	76
138	442	626	22	2.4	K613_0220 EZ705U	1600	2900	21.68	5551/256	2600	2300	3600	40	10/5/2	83	81
138	462	769	23	2.3	K613_0220 EZ802U	1600	2900	21.68	5551/256	2600	2300	3600	64	10/5/2	83	90
138	551	999	27	1.9	K613_0220 EZ803U	1600	2900	21.68	5551/256	2600	2300	3600	89	10/5/2	83	96
158	218	261	12	4.6	K613_0190 EZ702U	740	1360	18.99	17019/896	2600	2300	3600	21	10/5/2	83	74
158	245	291	14	4.1	K613_0190 EZ505U	1090	1360	18.99	17019/896	2600	2300	3600	20	10/5/2	83	74
158	300	378	17	3.3	K613_0190 EZ703U	1090	1360	18.99	17019/896	2600	2300	3600	29	10/5/2	83	76
158	387	548	22	2.6	K613_0190 EZ705U	1600	2900	18.99	17019/896	2600	2300	3600	42	10/5/2	83	81
158	405	674	23	2.5	K613_0190 EZ802U	1600	2900	18.99	17019/896	2600	2300	3600	66	10/5/2	83	90
158	483	875	27	2.1	K613_0190 EZ803U	1600	2900	18.99	17019/896	2600	2300	3600	91	10/5/2	83	96
175	197	236	12	4.9	K613_0170 EZ702U	670	1230	17.16	549/32	2600	2300	3600	22	10/5/2	83	74
175	221	262	14	4.4	K613_0170 EZ505U	980	1230	17.16	549/32	2600	2300	3600	20	10/5/2	83	74
175	271	341	17	3.6	K613_0170 EZ703U	980	1230	17.16	549/32	2600	2300	3600	30	10/5/2	83	76
175	349	495	22	2.8	K613_0170 EZ705U	1600	2900	17.16	549/32	2600	2300	3600	42	10/5/2	83	81
175	366	608	23	2.6	K613_0170 EZ802U	1600	2900	17.16	549/32	2600	2300	3600	66	10/5/2	83	90
175	436	791	27	2.2	K613_0170 EZ803U	1600	2900	17.16	549/32	2600	2300	3600	92	10/5/2	83	96
189	323	458	22	2.9	K613_0160 EZ705U	1580	2900	15.87	54839/3456	2200	2000	3200	44	10/5/2	83	81
189	338	563	23	2.8	K613_0160 EZ802U	1520	2900	15.87	54839/3456	2200	2000	3200	68	10/5/2	83	90
189	404	731	27	2.3	K613_0160 EZ803U	1600	2900	15.87	54839/3456	2200	2000	3200	94	10/5/2	83	96
209	292	414	22	3.1	K613_0145 EZ705U	1420	2740	14.33	12383/864	2200	2000	3200	45	10/5/2	83	81
209	306	508	23	3.0	K613_0145 EZ802U	1370	2740	14.33	12383/864	2200	2000	3200	69	10/5/2	83	90
209	364	660	27	2.5	K613_0145 EZ803U	1600	2740	14.33	12383/864	2200	2000	3200	94	10/5/2	83	96
238	257	365	22	3.4	K613_0125 EZ705U	1260	2410	12.63	3233/256	2200	2000	3200	48	10/5/2	83	81
238	269	448	23	3.2	K613_0125 EZ802U	1210	2410	12.63	3233/256	2200	2000	3200	72	10/5/2	83	90
238	321	582	27	2.7	K613_0125 EZ803U	1600	2410	12.63	3233/256	2200	2000	3200	98	10/5/2	83	96





# 20 K helical bevel geared motors

## 20.2 Selection tables

$n_{2N}$	$M_{2N}$	$M_{2,0}$	$a_{th}$	S	Type	$M_{2acc}$	$M_{2NOT}$	i	$i_{exakt}$	$n_{1max}$	$n_{1max}$	$n_{1max}$	$J_1$	$\Delta\phi_2$	$C_2$	m
[rpm]	[Nm]	[Nm]				[Nm]	[Nm]			DBH	DBV	ZB	[ $10^{-4}$ kgm <sup>2</sup> ]	[arcmin]	[Nm/arcmin]	[kg]
<b>K6 (<math>n_{1N} = 3000</math> rpm, <math>M_{2acc,max} = 1600</math> Nm)</b>																
263	232	329	22	3.6	K613_0115 EZ705U	1130	2180	11.41	22631/1984	2200	2000	3200	49	10/5/2	83	81
263	243	405	23	3.5	K613_0115 EZ802U	1090	2180	11.41	22631/1984	2200	2000	3200	73	10/5/2	83	90
263	290	526	28	2.9	K613_0115 EZ803U	1580	2180	11.41	22631/1984	2200	2000	3200	98	10/5/2	83	96
<b>K7 (<math>n_{1N} = 2000</math> rpm, <math>M_{2acc,max} = 2600</math> Nm)</b>																
68	1223	1851	26	1.8	K713_0290 EZ805U	2600	4800	29.29	7497/256	2900	2600	3800	141	10/5/2	126	137
79	1052	1591	26	2.0	K713_0250 EZ805U	2600	4800	25.18	64449/2560	2400	2200	3400	144	10/5/2	126	137
88	950	1437	26	2.1	K713_0230 EZ805U	2600	4800	22.74	14553/640	2400	2200	3400	145	10/5/2	126	137
99	845	1279	26	2.3	K713_0200 EZ805U	2600	4800	20.23	119133/5888	2400	2200	3400	149	10/5/2	126	137
109	763	1155	26	2.4	K713_0185 EZ805U	2600	4800	18.28	26901/1472	2400	2200	3400	149	10/5/2	126	137
122	685	1036	26	2.6	K713_0165 EZ805U	2600	4800	16.39	6293/384	2000	1900	3000	154	10/5/2	126	137
135	618	935	26	2.8	K713_0150 EZ805U	2600	4800	14.80	1421/96	2000	1900	3000	155	10/5/2	126	137
153	545	824	26	3.0	K713_0130 EZ805U	2560	4680	13.04	3339/256	2000	1900	3000	162	10/5/2	126	137
170	492	744	26	3.2	K713_0120 EZ805U	2310	4220	11.78	23373/1984	2000	1900	3000	163	10/5/2	126	137
197	425	643	26	3.6	K713_0100 EZ805U	1990	3650	10.17	651/64	1700	1600	2700	174	10/5/2	126	137
218	384	581	27	3.8	K713_0092 EZ805U	1800	3290	9.188	147/16	1700	1600	2700	177	10/5/2	126	137
239	350	529	27	4.1	K713_0084 EZ805U	1640	3000	8.373	87885/10496	1700	1600	2700	188	10/5/2	126	137
264	316	478	27	4.4	K713_0076 EZ805U	1480	2710	7.563	19845/2624	1700	1600	2700	192	10/5/2	126	137
<b>K7 (<math>n_{1N} = 3000</math> rpm, <math>M_{2acc,max} = 2600</math> Nm)</b>																
7.9	1542	1685	6.2	1.2	K714_3810 EZ501U	2220	3330	381.0	195083/512	2900	2600	3800	3.1	10/6/3	126	105
8.7	1393	1522	6.7	1.2	K714_3440 EZ501U	2010	3010	344.1	44051/128	2900	2600	3800	3.1	10/6/3	126	105
9.8	1233	1348	5.3	1.7	K714_3050 EZ501U	2520	3150	304.8	195083/640	2900	2600	3800	3.2	10/6/3	126	105
11	1114	1218	5.7	1.7	K714_2750 EZ501U	2280	2850	275.3	44051/160	2900	2600	3800	3.2	10/6/3	126	105
12	1769	1984	7.3	1.4	K714_2540 EZ701U	2600	4800	254.0	520149/2048	2900	2600	3800	9.1	10/6/3	126	108
12	1015	1109	5.1	2.0	K714_2510 EZ501U	2260	2830	250.7	320943/1280	2900	2600	3800	3.2	10/6/3	126	105
13	1597	1792	7.1	1.5	K714_2290 EZ701U	2600	4800	229.4	117453/512	2900	2600	3800	9.1	10/6/3	126	108
13	916	1002	5.5	2.0	K714_2260 EZ501U	2040	2560	226.5	72471/320	2900	2600	3800	3.2	10/6/3	126	105
15	1360	1526	6.8	1.8	K714_1950 EZ701U	2600	4800	195.4	2600745/13312	2900	2600	3800	9.2	10/6/3	126	108
16	780	853	5.0	2.4	K714_1930 EZ501U	1940	2420	192.9	320943/1664	2900	2600	3800	3.3	10/6/3	126	105
16	1343	1452	8.7	1.4	K714_1930 EZ502U	1940	2420	192.9	320943/1664	2900	2600	3800	5.6	10/6/3	126	106
17	1229	1378	6.6	2.0	K714_1760 EZ701U	2600	4800	176.5	587265/3328	2900	2600	3800	9.2	10/6/3	126	108
17	705	770	5.4	2.4	K714_1740 EZ501U	1750	2190	174.2	72471/416	2900	2600	3800	3.3	10/6/3	126	105
17	1213	1311	9.3	1.4	K714_1740 EZ502U	1750	2190	174.2	72471/416	2900	2600	3800	5.6	10/6/3	126	106
20	1070	1200	6.3	2.2	K714_1540 EZ701U	2600	4800	153.7	39339/256	2900	2600	3800	9.3	10/6/3	126	108
20	614	671	5.0	2.9	K714_1520 EZ501U	1800	2250	151.7	24273/160	2900	2600	3800	3.5	10/6/3	126	105
20	1056	1142	8.5	1.7	K714_1520 EZ502U	1800	2250	151.7	24273/160	2900	2600	3800	5.8	10/6/3	126	106
22	966	1084	6.1	2.5	K714_1390 EZ701U	2600	4560	138.8	8883/64	2900	2600	3800	9.3	10/6/3	126	108
22	1567	1881	9.9	1.5	K714_1390 EZ702U	2600	4560	138.8	8883/64	2900	2600	3800	15	10/6/3	126	111
22	554	606	5.3	2.9	K714_1370 EZ501U	1630	2030	137.0	5481/40	2900	2600	3800	3.5	10/6/3	126	105
22	954	1032	9.2	1.7	K714_1370 EZ502U	1630	2030	137.0	5481/40	2900	2600	3800	5.8	10/6/3	126	106
24	884	992	6.0	2.7	K714_1270 EZ701U	2390	4530	127.0	520149/4096	2900	2600	3800	9.5	10/6/3	126	108
24	1434	1721	9.7	1.7	K714_1270 EZ702U	2600	4530	127.0	520149/4096	2900	2600	3800	15	10/6/3	126	111
24	507	554	4.9	3.2	K714_1250 EZ501U	1610	2020	125.4	320943/2560	2900	2600	3800	3.6	10/6/3	126	105
24	873	944	8.4	1.9	K714_1250 EZ502U	1610	2020	125.4	320943/2560	2900	2600	3800	5.9	10/6/3	126	106
26	799	896	5.8	3.0	K714_1150 EZ701U	2160	4090	114.7	117453/1024	2900	2600	3800	9.5	10/6/3	126	108
26	1295	1554	9.4	1.9	K714_1150 EZ702U	2600	4090	114.7	117453/1024	2900	2600	3800	15	10/6/3	126	111
26	458	501	5.3	3.2	K714_1130 EZ501U	1460	1820	113.2	72471/640	2900	2600	3800	3.6	10/6/3	126	105
26	789	852	9.0	1.9	K714_1130 EZ502U	1460	1820	113.2	72471/640	2900	2600	3800	5.9	10/6/3	126	106
30	687	770	5.5	3.5	K714_0990 EZ701U	1860	3820	98.60	1009701/10240	2900	2600	3800	9.7	10/6/3	126	108
30	1113	1336	9.0	2.2	K714_0990 EZ702U	2600	3820	98.60	1009701/10240	2900	2600	3800	15	10/6/3	126	111
30	1531	1930	12	1.6	K714_0990 EZ703U	2600	3820	98.60	1009701/10240	2900	2600	3800	23	10/6/3	126	113
30	697	782	7.3	2.7	K713_0990 EZ701U	1880	3330	98.54	100905/1024	2900	2600	3800	9.7	10/5/2	126	100
30	1130	1357	12	1.6	K713_0990 EZ702U	2220	3330	98.54	100905/1024	2900	2600	3800	15	10/5/2	126	102
34	620	696	5.6	3.7	K714_0890 EZ701U	1680	3450	89.06	227997/2560	2900	2600	3800	9.7	10/6/3	126	108
34	1006	1207	9.1	2.3	K714_0890 EZ702U	2600	3450	89.06	227997/2560	2900	2600	3800	15	10/6/3	126	111
34	1383	1743	13	1.6	K714_0890 EZ703U	2600	3450	89.06	227997/2560	2900	2600	3800	23	10/6/3	126	113
34	630	706	7.8	2.7	K713_0890 EZ701U	1700	3010	89.00	22785/256	2900	2600	3800	9.7	10/5/2	126	100
34	1021	1225	13	1.6	K713_0890 EZ702U	2010	3010	89.00	22785/256	2900	2600	3800	15	10/5/2	126	102
38	558	626	5.2	4.3	K713_0790 EZ701U	1510	3150	78.83	20181/256	2900	2600	3800	10	10/5/2	126	100
38	904	1085	8.5	2.7	K713_0790 EZ702U	2520	3150	78.83	20181/256	2900	2600	3800	15	10/5/2	126	102



20 K helical bevel geared motors  
20.2 Selection tables



$n_{2N}$	$M_{2N}$	$M_{2,0}$	$a_{in}$	S	Type	$M_{2acc}$	$M_{2NOT}$	i	$i_{exakt}$	$n_{1max}$ DBH	$n_{1max}$ DBV	$n_{1max}$ ZB	$J_1$ [10 <sup>-4</sup> kgm <sup>2</sup> ]	$\Delta\phi_2$ [arcmin]	$C_2$ [Nm/ arcmin]	m [kg]
[rpm]	[Nm]	[Nm]				[Nm]	[Nm]			[rpm]	[rpm]	[rpm]				
<b>K7 (n<sub>1N</sub> = 3000 rpm, M<sub>2acc,max</sub> = 2600 Nm)</b>																
38	1243	1568	12	1.9	K713_0790 EZ703U	2520	3150	78.83	20181/256	2900	2600	3800	23	10/5/2	126	104
42	504	565	5.6	4.3	K713_0710 EZ701U	1360	2850	71.20	4557/64	2900	2600	3800	10	10/5/2	126	100
42	817	980	9.1	2.7	K713_0710 EZ702U	2280	2850	71.20	4557/64	2900	2600	3800	16	10/5/2	126	102
42	1123	1416	13	1.9	K713_0710 EZ703U	2280	2850	71.20	4557/64	2900	2600	3800	23	10/5/2	126	104
46	459	515	4.9	4.9	K713_0650 EZ701U	1240	2830	64.85	33201/512	2900	2600	3800	11	10/5/2	126	100
46	744	893	8.0	3.0	K713_0650 EZ702U	2260	2830	64.85	33201/512	2900	2600	3800	16	10/5/2	126	102
46	1023	1289	11	2.2	K713_0650 EZ703U	2260	2830	64.85	33201/512	2900	2600	3800	24	10/5/2	126	104
46	1320	1872	14	1.8	K713_0650 EZ705U	2600	4800	64.85	33201/512	2900	2600	3800	36	10/5/2	126	110
51	414	465	4.8	4.9	K713_0590 EZ701U	1120	2560	58.57	7497/128	2900	2600	3800	11	10/5/2	126	100
51	672	806	7.8	3.0	K713_0590 EZ702U	2040	2560	58.57	7497/128	2900	2600	3800	16	10/5/2	126	102
51	924	1165	11	2.2	K713_0590 EZ703U	2040	2560	58.57	7497/128	2900	2600	3800	24	10/5/2	126	104
51	1193	1691	14	2.0	K713_0590 EZ705U	2600	4800	58.57	7497/128	2900	2600	3800	37	10/5/2	126	110
60	572	687	7.9	3.4	K713_0500 EZ702U	1940	2420	49.88	166005/3328	2900	2600	3800	18	10/5/2	126	102
60	787	992	11	2.5	K713_0500 EZ703U	1940	2420	49.88	166005/3328	2900	2600	3800	26	10/5/2	126	104
60	1016	1440	14	2.2	K713_0500 EZ705U	2600	4800	49.88	166005/3328	2900	2600	3800	38	10/5/2	126	110
60	1063	1769	15	2.1	K713_0500 EZ802U	2600	4800	49.88	166005/3328	2900	2600	3800	62	10/5/2	126	118
67	517	620	7.9	3.4	K713_0450 EZ702U	1750	2190	45.05	37485/832	2900	2600	3800	18	10/5/2	126	102
67	711	896	11	2.5	K713_0450 EZ703U	1750	2190	45.05	37485/832	2900	2600	3800	26	10/5/2	126	104
67	917	1301	14	2.4	K713_0450 EZ705U	2600	4800	45.05	37485/832	2900	2600	3800	38	10/5/2	126	110
67	960	1598	15	2.3	K713_0450 EZ802U	2600	4800	45.05	37485/832	2900	2600	3800	62	10/5/2	126	118
76	450	540	7.9	4.0	K713_0390 EZ702U	1540	2250	39.23	2511/64	2900	2600	3800	20	10/5/2	126	102
76	619	780	11	2.9	K713_0390 EZ703U	1800	2250	39.23	2511/64	2900	2600	3800	27	10/5/2	126	104
76	799	1133	14	2.6	K713_0390 EZ705U	2600	4800	39.23	2511/64	2900	2600	3800	40	10/5/2	126	110
76	836	1392	15	2.5	K713_0390 EZ802U	2600	4800	39.23	2511/64	2900	2600	3800	64	10/5/2	126	118
76	998	1808	18	2.1	K713_0390 EZ803U	2600	4800	39.23	2511/64	2900	2600	3800	89	10/5/2	126	124
85	407	488	8.0	4.0	K713_0350 EZ702U	1390	2030	35.44	567/16	2900	2600	3800	20	10/5/2	126	102
85	559	705	11	2.9	K713_0350 EZ703U	1630	2030	35.44	567/16	2900	2600	3800	28	10/5/2	126	104
85	722	1023	14	2.8	K713_0350 EZ705U	2600	4560	35.44	567/16	2900	2600	3800	40	10/5/2	126	110
85	755	1257	15	2.7	K713_0350 EZ802U	2600	4560	35.44	567/16	2900	2600	3800	64	10/5/2	126	118
85	901	1633	18	2.2	K713_0350 EZ803U	2600	4560	35.44	567/16	2900	2600	3800	89	10/5/2	126	124
93	372	446	8.0	4.3	K713_0320 EZ702U	1270	2020	32.42	33201/1024	2900	2600	3800	22	10/5/2	126	102
93	511	645	11	3.2	K713_0320 EZ703U	1610	2020	32.42	33201/1024	2900	2600	3800	29	10/5/2	126	104
93	660	936	14	3.0	K713_0320 EZ705U	2600	4530	32.42	33201/1024	2900	2600	3800	42	10/5/2	126	110
93	691	1150	15	2.8	K713_0320 EZ802U	2600	4530	32.42	33201/1024	2900	2600	3800	66	10/5/2	126	118
93	825	1494	18	2.4	K713_0320 EZ803U	2600	4800	32.42	33201/1024	2900	2600	3800	91	10/5/2	126	124
102	336	403	8.0	4.3	K713_0290 EZ702U	1150	1820	29.29	7497/256	2900	2600	3800	22	10/5/2	126	102
102	462	582	11	3.2	K713_0290 EZ703U	1460	1820	29.29	7497/256	2900	2600	3800	30	10/5/2	126	104
102	596	845	14	3.2	K713_0290 EZ705U	2600	4090	29.29	7497/256	2900	2600	3800	42	10/5/2	126	110
102	624	1039	15	3.0	K713_0290 EZ802U	2600	4090	29.29	7497/256	2900	2600	3800	66	10/5/2	126	118
102	745	1349	18	2.5	K713_0290 EZ803U	2600	4800	29.29	7497/256	2900	2600	3800	92	10/5/2	126	124
119	513	727	14	3.5	K713_0250 EZ705U	2500	4180	25.18	64449/2560	2400	2200	3400	46	10/5/2	126	110
119	537	893	15	3.3	K713_0250 EZ802U	2410	4180	25.18	64449/2560	2400	2200	3400	70	10/5/2	126	118
119	640	1160	18	2.8	K713_0250 EZ803U	2600	4800	25.18	64449/2560	2400	2200	3400	95	10/5/2	126	124
132	463	657	14	3.8	K713_0230 EZ705U	2260	3780	22.74	14553/640	2400	2200	3400	46	10/5/2	126	110
132	485	806	15	3.6	K713_0230 EZ802U	2170	3780	22.74	14553/640	2400	2200	3400	70	10/5/2	126	118
132	578	1048	18	3.0	K713_0230 EZ803U	2600	4800	22.74	14553/640	2400	2200	3400	96	10/5/2	126	124
148	412	584	14	4.1	K713_0200 EZ705U	2010	3550	20.23	119133/5888	2400	2200	3400	50	10/5/2	126	110
148	431	718	15	3.9	K713_0200 EZ802U	1930	3550	20.23	119133/5888	2400	2200	3400	74	10/5/2	126	118
148	515	932	18	3.2	K713_0200 EZ803U	2600	4800	20.23	119133/5888	2400	2200	3400	100	10/5/2	126	124
164	372	528	14	4.3	K713_0185 EZ705U	1820	3200	18.28	26901/1472	2400	2200	3400	51	10/5/2	126	110
164	390	648	15	4.1	K713_0185 EZ802U	1750	3200	18.28	26901/1472	2400	2200	3400	75	10/5/2	126	118
164	465	842	18	3.5	K713_0185 EZ803U	2530	4800	18.28	26901/1472	2400	2200	3400	100	10/5/2	126	124
183	334	473	15	4.7	K713_0165 EZ705U	1630	3130	16.39	6293/384	2000	1900	3000	55	10/5/2	126	110
183	349	581	15	4.5	K713_0165 EZ802U	1570	3130	16.39	6293/384	2000	1900	3000	79	10/5/2	126	118
183	417	755	18	3.7	K713_0165 EZ803U	2270	4800	16.39	6293/384	2000	1900	3000	105	10/5/2	126	124
203	301	427	15	5.0	K713_0150 EZ705U	1470	2820	14.80	1421/96	2000	1900	3000	56	10/5/2	126	110
203	316	525	15	4.8	K713_0150 EZ802U	1420	2820	14.80	1421/96	2000	1900	3000	80	10/5/2	126	118
203	376	682	18	4.0	K713_0150 EZ803U	2050	4800	14.80	1421/96	2000	1900	3000	106	10/5/2	126	124





# 20 K helical bevel geared motors

## 20.2 Selection tables

$n_{2N}$	$M_{2N}$	$M_{2,0}$	$a_{th}$	S	Type	$M_{2acc}$	$M_{2NOT}$	i	$i_{exakt}$	$n_{1max}$	$n_{1max}$	$n_{1max}$	$J_1$	$\Delta\varphi_2$	$C_2$	m
[rpm]	[Nm]	[Nm]				[Nm]	[Nm]			DBH	DBV	ZB	[ $10^{-4}$ kgm <sup>2</sup> ]	[arcmin]	[Nm/arcmin]	[kg]
<b>K7 (<math>n_{1N} = 3000</math> rpm, <math>M_{2acc,max} = 2600</math> Nm)</b>																
230	332	601	18	4.4	K713_0130 EZ803U	1810	4680	13.04	3339/256	2000	1900	3000	112	10/5/2	126	124
255	300	543	18	4.7	K713_0120 EZ803U	1630	4220	11.78	23373/1984	2000	1900	3000	114	10/5/2	126	124
<b>K8 (<math>n_{1N} = 2000</math> rpm, <math>M_{2acc,max} = 4650</math> Nm)</b>																
41	2047	3096	17	2.1	K813_0490 EZ805U	4650	6040	48.99	5487/112	2800	2500	3600	141	10/5/2	196	191
45	1849	2796	16	2.3	K813_0440 EZ805U	4370	5460	44.25	177/4	2800	2500	3600	142	10/5/2	196	191
50	1671	2528	16	2.5	K813_0400 EZ805U	4650	8400	40.01	12803/320	2800	2500	3600	145	10/5/2	196	191
55	1510	2284	16	2.7	K813_0360 EZ805U	4650	8400	36.14	2891/80	2800	2500	3600	146	10/5/2	196	191
62	1353	2047	16	2.9	K813_0320 EZ805U	4650	8400	32.39	31093/960	2800	2500	3600	150	10/5/2	196	191
68	1222	1849	16	3.1	K813_0290 EZ805U	4650	8400	29.25	7021/240	2800	2500	3600	151	10/5/2	196	191
78	1066	1612	16	3.4	K813_0260 EZ805U	4650	8400	25.51	140833/5520	2300	2100	3300	158	10/5/2	196	191
87	963	1456	16	3.6	K813_0230 EZ805U	4520	8260	23.04	31801/1380	2300	2100	3300	159	10/5/2	196	191
104	801	1212	16	4.1	K813_0190 EZ805U	3760	6880	19.18	133517/6960	2300	2100	3300	170	10/5/2	196	191
115	724	1095	16	4.3	K813_0175 EZ805U	3400	6210	17.33	30149/1740	2300	2100	3300	173	10/5/2	196	191
122	686	1038	16	4.5	K813_0165 EZ805U	3220	5890	16.43	42067/2560	1900	1800	2900	179	10/5/2	196	191
135	620	938	16	4.8	K813_0150 EZ805U	2910	5320	14.84	9499/640	1900	1800	2900	182	10/5/2	196	191
152	551	833	16	3.7	K813_0130 EZ805U	2020	2520	13.18	7316/555	1900	1800	2900	197	10/5/2	196	191
168	497	752	16	3.7	K813_0120 EZ805U	1820	2280	11.91	6608/555	1900	1800	2900	202	10/5/2	196	191
195	429	650	17	3.7	K813_0105 EZ805U	1570	1970	10.28	53041/5160	1600	1500	2600	225	10/5/2	196	191
215	388	587	17	3.7	K813_0093 EZ805U	1420	1780	9.284	11977/1290	1600	1500	2600	234	10/5/2	196	191
243	344	521	17	3.7	K813_0082 EZ805U	1260	1580	8.243	96937/11760	1600	1500	2600	261	10/5/2	196	191
269	311	470	17	3.7	K813_0074 EZ805U	1140	1420	7.445	3127/420	1600	1500	2600	275	10/5/2	196	191
<b>K8 (<math>n_{1N} = 3000</math> rpm, <math>M_{2acc,max} = 4650</math> Nm)</b>																
9.6	2165	2428	5.2	1.8	K814_3110 EZ701U	4650	7760	310.9	2149075/6912	2800	2500	3600	9.2	10/6/3	196	166
11	1956	2193	5.5	1.8	K814_2810 EZ701U	4330	7010	280.8	485275/1728	2800	2500	3600	9.3	10/6/3	196	166
12	1784	2001	5.1	2.1	K814_2560 EZ701U	4650	7070	256.2	8854189/34560	2800	2500	3600	9.3	10/6/3	196	166
12	2893	3472	8.2	1.3	K814_2560 EZ702U	4650	7070	256.2	8854189/34560	2800	2500	3600	15	10/6/3	196	169
13	1611	1807	5.4	2.1	K814_2310 EZ701U	4360	6390	231.4	1999333/8640	2800	2500	3600	9.4	10/6/3	196	166
13	2613	3136	8.8	1.3	K814_2310 EZ702U	4650	6390	231.4	1999333/8640	2800	2500	3600	15	10/6/3	196	169
16	1336	1499	4.9	2.7	K814_1920 EZ701U	3610	6040	191.9	85963/448	2800	2500	3600	9.6	10/6/3	196	166
16	2167	2600	8.0	1.6	K814_1920 EZ702U	4650	6040	191.9	85963/448	2800	2500	3600	15	10/6/3	196	169
17	1207	1354	5.3	2.7	K814_1730 EZ701U	3260	5460	173.3	2773/16	2800	2500	3600	9.6	10/6/3	196	166
17	1957	2348	8.6	1.6	K814_1730 EZ702U	4370	5460	173.3	2773/16	2800	2500	3600	15	10/6/3	196	169
19	1091	1224	4.9	3.1	K814_1570 EZ701U	2950	5380	156.7	601741/3840	2800	2500	3600	9.8	10/6/3	196	166
19	1769	2123	7.9	1.9	K814_1570 EZ702U	4300	5380	156.7	601741/3840	2800	2500	3600	15	10/6/3	196	169
19	2433	3067	11	1.4	K814_1570 EZ703U	4300	5380	156.7	601741/3840	2800	2500	3600	23	10/6/3	196	171
21	986	1105	5.3	3.1	K814_1420 EZ701U	2660	4860	141.5	135877/960	2800	2500	3600	9.8	10/6/3	196	166
21	1598	1918	8.5	1.9	K814_1420 EZ702U	3890	4860	141.5	135877/960	2800	2500	3600	15	10/6/3	196	169
21	2198	2770	12	1.4	K814_1420 EZ703U	3890	4860	141.5	135877/960	2800	2500	3600	23	10/6/3	196	171
24	883	991	4.8	3.7	K814_1270 EZ701U	2390	4910	126.9	1461371/11520	2800	2500	3600	10	10/6/3	196	166
24	1432	1719	7.7	2.3	K814_1270 EZ702U	3930	4910	126.9	1461371/11520	2800	2500	3600	15	10/6/3	196	169
24	1970	2483	11	1.6	K814_1270 EZ703U	3930	4910	126.9	1461371/11520	2800	2500	3600	23	10/6/3	196	171
26	798	895	5.1	3.7	K814_1150 EZ701U	2160	4440	114.6	329987/2880	2800	2500	3600	10	10/6/3	196	166
26	1294	1553	8.3	2.3	K814_1150 EZ702U	3550	4440	114.6	329987/2880	2800	2500	3600	15	10/6/3	196	169
26	1779	2243	11	1.6	K814_1150 EZ703U	3550	4440	114.6	329987/2880	2800	2500	3600	23	10/6/3	196	171
30	2065	3436	10	2.0	K814_0980 EZ802U	4650	8400	98.41	181071/1840	2800	2500	3600	61	10/6/3	196	184
31	687	771	4.7	4.2	K813_0970 EZ701U	1860	3650	97.17	31093/320	2800	2500	3600	11	10/5/2	196	153
31	1115	1338	7.6	2.6	K813_0970 EZ702U	2920	3650	97.17	31093/320	2800	2500	3600	16	10/5/2	196	156
31	1533	1932	10	1.9	K813_0970 EZ703U	2920	3650	97.17	31093/320	2800	2500	3600	24	10/5/2	196	158
34	1865	3103	10	2.3	K814_0890 EZ802U	4650	8260	88.89	40887/460	2800	2500	3600	61	10/6/3	196	184
34	621	696	5.0	4.2	K813_0880 EZ701U	1680	3300	87.76	7021/80	2800	2500	3600	11	10/5/2	196	153
34	1007	1208	8.1	2.6	K813_0880 EZ702U	2640	3300	87.76	7021/80	2800	2500	3600	16	10/5/2	196	156
34	1384	1745	11	1.9	K813_0880 EZ703U	2640	3300	87.76	7021/80	2800	2500	3600	24	10/5/2	196	158
38	562	630	3.4	4.7	K813_0790 EZ701U	1520	3290	79.38	45725/576	2800	2500	3600	12	10/5/2	196	153
38	911	1093	5.6	2.9	K813_0790 EZ702U	2630	3290	79.38	45725/576	2800	2500	3600	18	10/5/2	196	156
38	1252	1579	7.6	2.1	K813_0790 EZ703U	2630	3290	79.38	45725/576	2800	2500	3600	25	10/5/2	196	158
38	1616	2292	9.9	2.5	K813_0790 EZ705U	4650	7760	79.38	45725/576	2800	2500	3600	38	10/5/2	196	163
38	1692	2816	10	2.4	K813_0790 EZ802U	4650	7760	79.38	45725/576	2800	2500	3600	62	10/5/2	196	171
41	1553	2583	9.5	2.7	K814_0740 EZ802U	4650	6880	73.99	1201653/16240	2800	2500	3600	62	10/6/3	196	184
41	1852	3356	11	2.3	K814_0740 EZ803U	4650	6880	73.99	1201653/16240	2800	2500	3600	88	10/6/3	196	191



20 K helical bevel geared motors  
20.2 Selection tables



$n_{2N}$	$M_{2N}$	$M_{2,0}$	$a_{in}$	S	Type	$M_{2acc}$	$M_{2NOT}$	i	$i_{exakt}$	$n_{1max}$	$n_{1max}$	$n_{1max}$	$J_1$	$\Delta\phi_2$	$C_2$	m
[rpm]	[Nm]	[Nm]				[Nm]	[Nm]			DBH	DBV	ZB	[10 <sup>-4</sup> kgm <sup>2</sup> ]	[arcmin]	[Nm/ arcmin]	[kg]
<b>K8 (n<sub>IN</sub> = 3000 rpm, M<sub>2acc,max</sub> = 4650 Nm)</b>																
42	507	569	3.7	4.7	K813_0720 EZ701U	1370	2970	71.70	10325/144	2800	2500	3600	12	10/5/2	196	153
42	823	987	6.0	2.9	K813_0720 EZ702U	2380	2970	71.70	10325/144	2800	2500	3600	18	10/5/2	196	156
42	1131	1426	8.2	2.1	K813_0720 EZ703U	2380	2970	71.70	10325/144	2800	2500	3600	26	10/5/2	196	158
42	1460	2070	11	2.5	K813_0720 EZ705U	4330	7010	71.70	10325/144	2800	2500	3600	38	10/5/2	196	163
42	1529	2543	11	2.4	K813_0720 EZ802U	4330	7010	71.70	10325/144	2800	2500	3600	62	10/5/2	196	171
42	1823	3304	13	2.0	K813_0720 EZ803U	4330	7010	71.70	10325/144	2800	2500	3600	87	10/5/2	196	177
45	1402	2333	9.4	2.9	K814_0670 EZ802U	4650	6210	66.83	38763/580	2800	2500	3600	62	10/6/3	196	184
45	1673	3031	11	2.4	K814_0670 EZ803U	4650	6210	66.83	38763/580	2800	2500	3600	88	10/6/3	196	191
46	463	519	3.1	4.9	K813_0650 EZ701U	1250	2830	65.41	188387/2880	2800	2500	3600	14	10/5/2	196	153
46	750	900	5.0	3.0	K813_0650 EZ702U	2270	2830	65.41	188387/2880	2800	2500	3600	19	10/5/2	196	156
46	1032	1301	6.8	2.2	K813_0650 EZ703U	2270	2830	65.41	188387/2880	2800	2500	3600	27	10/5/2	196	158
46	1332	1889	8.8	3.2	K813_0650 EZ705U	4650	7080	65.41	188387/2880	2800	2500	3600	39	10/5/2	196	163
46	1395	2320	9.3	3.0	K813_0650 EZ802U	4650	7080	65.41	188387/2880	2800	2500	3600	63	10/5/2	196	171
46	1663	3014	11	2.5	K813_0650 EZ803U	4650	7080	65.41	188387/2880	2800	2500	3600	89	10/5/2	196	177
51	418	469	3.0	4.9	K813_0590 EZ701U	1130	2560	59.08	42539/720	2800	2500	3600	14	10/5/2	196	153
51	678	813	4.9	3.0	K813_0590 EZ702U	2050	2560	59.08	42539/720	2800	2500	3600	19	10/5/2	196	156
51	932	1175	6.7	2.2	K813_0590 EZ703U	2050	2560	59.08	42539/720	2800	2500	3600	27	10/5/2	196	158
51	1203	1706	8.7	3.4	K813_0590 EZ705U	4650	6390	59.08	42539/720	2800	2500	3600	40	10/5/2	196	163
51	1260	2095	9.1	3.3	K813_0590 EZ802U	4650	6390	59.08	42539/720	2800	2500	3600	64	10/5/2	196	171
51	1502	2722	11	2.8	K813_0590 EZ803U	4650	6390	59.08	42539/720	2800	2500	3600	89	10/5/2	196	177
61	562	674	4.9	3.8	K813_0490 EZ702U	1920	2690	48.99	5487/112	2800	2500	3600	22	10/5/2	196	156
61	773	974	6.8	2.8	K813_0490 EZ703U	2160	2690	48.99	5487/112	2800	2500	3600	30	10/5/2	196	158
61	998	1414	8.8	3.9	K813_0490 EZ705U	4650	6040	48.99	5487/112	2800	2500	3600	43	10/5/2	196	163
61	1044	1738	9.2	3.7	K813_0490 EZ802U	4650	6040	48.99	5487/112	2800	2500	3600	67	10/5/2	196	171
61	1246	2257	11	3.1	K813_0490 EZ803U	4650	6040	48.99	5487/112	2800	2500	3600	92	10/5/2	196	177
68	508	609	5.0	3.8	K813_0440 EZ702U	1730	2430	44.25	177/4	2800	2500	3600	23	10/5/2	196	156
68	698	880	6.8	2.8	K813_0440 EZ703U	1950	2430	44.25	177/4	2800	2500	3600	31	10/5/2	196	158
68	901	1278	8.8	4.2	K813_0440 EZ705U	4370	5460	44.25	177/4	2800	2500	3600	43	10/5/2	196	163
68	943	1569	9.2	4.0	K813_0440 EZ802U	4230	5460	44.25	177/4	2800	2500	3600	67	10/5/2	196	171
68	1125	2039	11	3.3	K813_0440 EZ803U	4370	5460	44.25	177/4	2800	2500	3600	93	10/5/2	196	177
75	815	1155	8.8	4.5	K813_0400 EZ705U	3980	5380	40.01	12803/320	2800	2500	3600	46	10/5/2	196	163
75	853	1419	9.2	4.3	K813_0400 EZ802U	3820	5380	40.01	12803/320	2800	2500	3600	70	10/5/2	196	171
75	1017	1844	11	3.6	K813_0400 EZ803U	4650	8400	40.01	12803/320	2800	2500	3600	96	10/5/2	196	177
83	736	1043	8.9	4.8	K813_0360 EZ705U	3590	4860	36.14	2891/80	2800	2500	3600	47	10/5/2	196	163
83	770	1282	9.3	4.6	K813_0360 EZ802U	3450	4860	36.14	2891/80	2800	2500	3600	71	10/5/2	196	171
83	919	1665	11	3.8	K813_0360 EZ803U	4650	8400	36.14	2891/80	2800	2500	3600	96	10/5/2	196	177
93	690	1149	9.3	4.9	K813_0320 EZ802U	3100	5190	32.39	31093/960	2800	2500	3600	75	10/5/2	196	171
93	824	1492	11	4.1	K813_0320 EZ803U	4490	8400	32.39	31093/960	2800	2500	3600	101	10/5/2	196	177
103	744	1348	11	4.4	K813_0290 EZ803U	4060	8400	29.25	7021/240	2800	2500	3600	102	10/5/2	196	177
118	649	1176	11	4.8	K813_0260 EZ803U	3540	8400	25.51	140833/5520	2300	2100	3300	108	10/5/2	196	177
<b>K9 (n<sub>IN</sub> = 2000 rpm, M<sub>2acc,max</sub> = 7700 Nm)</b>																
27	3133	4740	12	2.2	K913_0750 EZ805U	6820	8530	75.00	62403/832	2600	2500	3400	142	10/5	379	305
32	2635	3986	12	2.7	K913_0630 EZ805U	7700	14000	63.07	209901/3328	2600	2500	3400	146	10/5	379	305
41	2044	3092	11	3.4	K913_0490 EZ805U	7700	13790	48.94	100223/2048	2600	2500	3400	153	10/5	379	305
53	1589	2404	10	4.4	K913_0380 EZ805U	7460	12510	38.04	194773/5120	2600	2500	3400	163	10/5	379	305
62	1342	2029	9.5	3.2	K913_0320 EZ805U	4240	5300	32.12	47275/1472	2600	2500	3400	172	10/5	379	305
84	1000	1513	9.5	3.6	K913_0240 EZ805U	3590	4490	23.94	88877/3712	2200	2100	3100	193	10/5	379	305
<b>K9 (n<sub>IN</sub> = 3000 rpm, M<sub>2acc,max</sub> = 7700 Nm)</b>																
8.0	2602	2919	4.9	1.8	K914_3740 EZ701U	6450	9210	373.7	13775935/36864	2600	2500	3400	9.4	10/5	379	280
10	2046	2294	4.7	2.2	K914_2940 EZ701U	5530	8530	293.8	977647/3328	2600	2500	3400	9.6	10/5	379	280
10	3317	3981	7.7	1.4	K914_2940 EZ702U	6820	8530	293.8	977647/3328	2600	2500	3400	15	10/5	379	283
12	1720	1929	4.7	2.5	K914_2470 EZ701U	4650	7170	247.0	3288449/13312	2600	2500	3400	9.9	10/5	379	280
12	2789	3347	7.6	1.6	K914_2470 EZ702U	5730	7170	247.0	3288449/13312	2600	2500	3400	15	10/5	379	283
16	1335	1497	4.6	3.1	K914_1920 EZ701U	3610	6340	191.7	4710481/24576	2600	2500	3400	10	10/5	379	280
16	2164	2597	7.4	1.9	K914_1920 EZ702U	5070	6340	191.7	4710481/24576	2600	2500	3400	16	10/5	379	283
16	2976	3752	10	1.4	K914_1920 EZ703U	5070	6340	191.7	4710481/24576	2600	2500	3400	23	10/5	379	285
20	1038	1164	4.5	3.8	K914_1490 EZ701U	2800	5750	149.0	9154331/61440	2600	2500	3400	11	10/5	379	280
20	1682	2019	7.3	2.3	K914_1490 EZ702U	4600	5750	149.0	9154331/61440	2600	2500	3400	16	10/5	379	283
20	2313	2916	10	1.7	K914_1490 EZ703U	4600	5750	149.0	9154331/61440	2600	2500	3400	24	10/5	379	285





# 20 K helical bevel geared motors

## 20.2 Selection tables



$n_{2N}$	$M_{2N}$	$M_{2,0}$	$a_{th}$	S	Type	$M_{2acc}$	$M_{2NOT}$	i	$i_{exakt}$	$n_{1max}$	$n_{1max}$	$n_{1max}$	$J_1$	$\Delta\varphi_2$	$C_2$	m
[rpm]	[Nm]	[Nm]				[Nm]	[Nm]			DBH	DBV	ZB	[10 <sup>-4</sup> kgm <sup>2</sup> ]	[arcmin]	[Nm/arcmin]	[kg]
<b>K9 (<math>n_{1N} = 3000</math> rpm, <math>M_{2acc,max} = 7700</math> Nm)</b>																
20	3079	5123	8.2	2.1	K914_1470 EZ802U	7700	12510	146.7	5258871/35840	2600	2500	3400	62	10/5	379	299
24	876	982	4.4	4.3	K914_1260 EZ701U	2370	4870	125.8	2221925/17664	2600	2500	3400	12	10/5	379	280
24	1420	1704	7.2	2.6	K914_1260 EZ702U	3900	4870	125.8	2221925/17664	2600	2500	3400	17	10/5	379	283
24	1953	2462	9.9	1.9	K914_1260 EZ703U	3900	4870	125.8	2221925/17664	2600	2500	3400	25	10/5	379	285
24	2599	4325	8.1	2.4	K914_1240 EZ802U	7700	11510	123.9	1276425/10304	2600	2500	3400	62	10/5	379	299
24	3101	5619	9.7	2.0	K914_1240 EZ803U	7700	11510	123.9	1276425/10304	2600	2500	3400	88	10/5	379	305
31	2034	3384	8.7	2.6	K913_0950 EZ802U	6450	9210	95.41	293105/3072	2600	2500	3400	64	10/5	379	286
31	2426	4397	10	2.2	K913_0950 EZ803U	6450	9210	95.41	293105/3072	2600	2500	3400	90	10/5	379	292
32	1059	1271	8.6	2.7	K914_0940 EZ702U	2910	3630	93.78	4177219/44544	2600	2500	3400	18	10/5	379	283
32	1456	1835	12	2.0	K914_0940 EZ703U	2910	3630	93.78	4177219/44544	2600	2500	3400	26	10/5	379	285
32	1938	3224	8.1	2.9	K914_0920 EZ802U	6870	8580	92.35	2399679/25984	2600	2500	3400	64	10/5	379	299
32	2312	4189	9.6	2.4	K914_0920 EZ803U	6870	8580	92.35	2399679/25984	2600	2500	3400	89	10/5	379	305
40	1599	2660	6.2	4.3	K913_0750 EZ802U	6820	8530	75.00	62403/832	2600	2500	3400	68	10/5	379	286
40	1907	3456	7.4	3.6	K913_0750 EZ803U	6820	8530	75.00	62403/832	2600	2500	3400	93	10/5	379	292
48	1345	2237	5.9	4.3	K913_0630 EZ802U	5730	7170	63.07	209901/3328	2600	2500	3400	71	10/5	379	286
48	1604	2906	7.1	4.4	K913_0630 EZ803U	7700	14000	63.07	209901/3328	2600	2500	3400	97	10/5	379	292
61	1043	1736	5.5	4.9	K913_0490 EZ802U	4680	6340	48.94	100223/2048	2600	2500	3400	78	10/5	379	286
61	1244	2255	6.5	4.1	K913_0490 EZ803U	5070	6340	48.94	100223/2048	2600	2500	3400	103	10/5	379	292
79	967	1753	6.5	4.8	K913_0380 EZ803U	4600	5750	38.04	194773/5120	2600	2500	3400	113	10/5	379	292
<b>K10 (<math>n_{1N} = 3000</math> rpm, <math>M_{2acc,max} = 13200</math> Nm)</b>																
10	6093	10136	8.1	1.4	K1014_2900 EZ802U	13200	19570	290.4	392553/1352	2500	2300	3200	61	10/5	725	508
13	4982	8289	7.9	1.7	K1014_2370 EZ802U	12750	15940	237.4	49383/208	2500	2300	3200	62	10/5	725	508
16	3929	6537	7.7	2.0	K1014_1870 EZ802U	11440	14300	187.2	662067/3536	2500	2300	3200	63	10/5	725	508
16	4687	8492	9.2	1.7	K1014_1870 EZ803U	11440	14300	187.2	662067/3536	2500	2300	3200	88	10/5	725	514
20	3124	5198	7.6	2.4	K1014_1490 EZ802U	10620	13280	148.9	30969/208	2500	2300	3200	64	10/5	725	508
20	3727	6753	9.0	2.0	K1014_1490 EZ803U	10620	13280	148.9	30969/208	2500	2300	3200	90	10/5	725	514
25	2552	4246	7.5	2.8	K1014_1220 EZ802U	9040	11310	121.6	556605/4576	2500	2300	3200	66	10/5	725	508
25	3045	5517	8.9	2.3	K1014_1220 EZ803U	9040	11310	121.6	556605/4576	2500	2300	3200	91	10/5	725	514





## 20.3 Dimensional drawings

In this chapter you can find the dimensions of the geared motors.

There is a dimensional drawing for every possible shaft/housing design, each with the tables for gear unit dimensions, motor dimensions and geared motor dimensions.

Dimensions can exceed the specifications of ISO 2768-mK due to casting tolerances or accumulation of individual tolerances.

We reserve the right to make dimensional changes due to ongoing technical development.

You can download CAD models of our standard drives at <http://cad.stober.de>.

Combination options and the dimensions of forced ventilated geared motors can be found at <http://cad.stober.de>.

### Tolerances

Axis height in accordance with DIN 747	Tolerance
Up to 50 mm	-0.4 mm
Up to 250 mm	-0.5 mm
Up to 630 mm	-0.6 mm

Solid shaft	Tolerance
Fit of shaft end $\varnothing \leq 50$ mm	DIN 748-1, ISO k6
Fit of shaft end $\varnothing > 50$ mm	DIN 748-1, ISO m6
Feather keys	DIN 6885-1, high form A

Hollow shaft	Tolerance
Hollow shaft hole fit	ISO H7

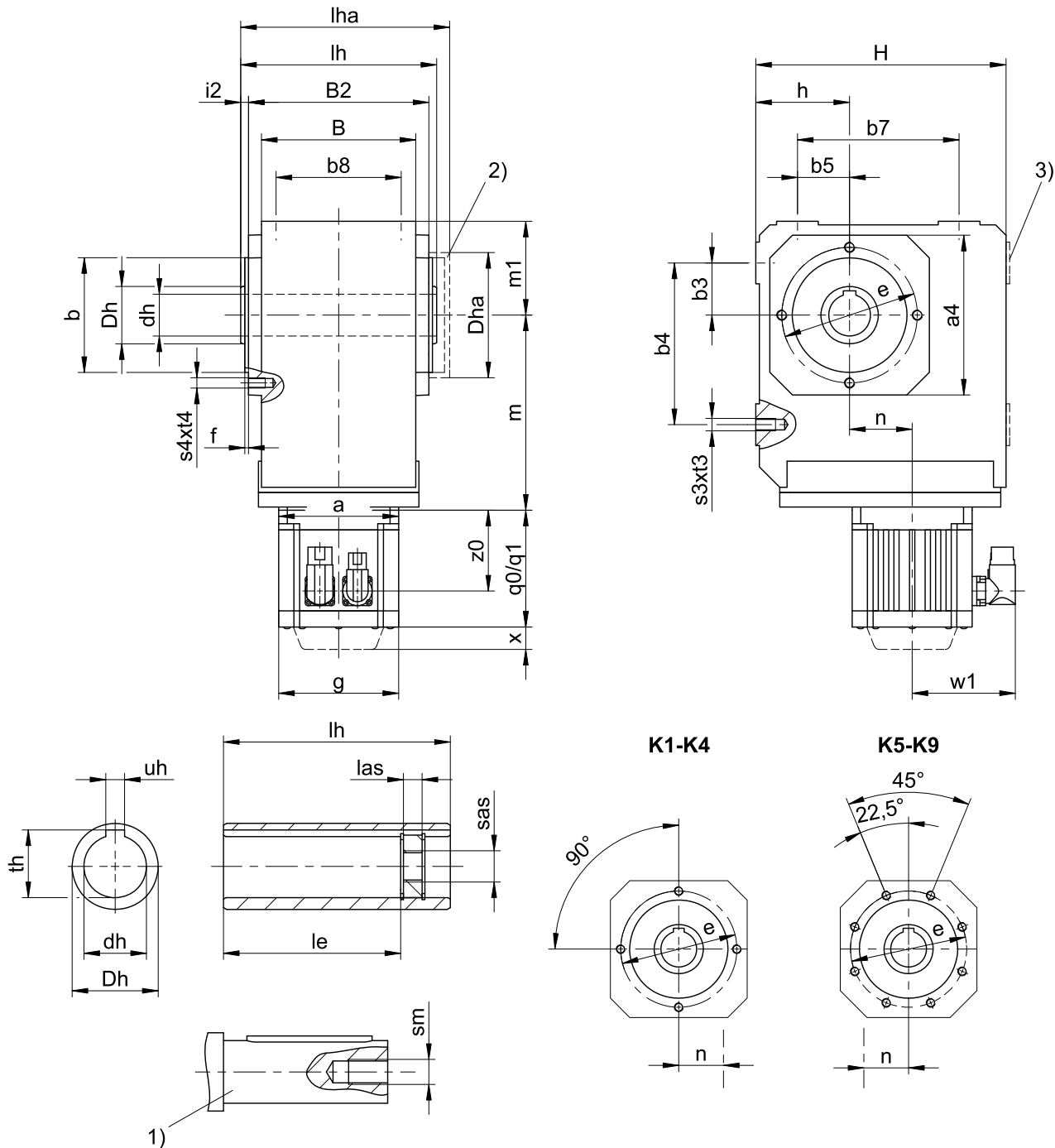
Flange	Pilot tolerance
Up to 300 mm	ISO j6
Starting at 350 mm	ISO h6

### Centering holes in solid shafts in accordance with DIN 332-2, DR form

Thread size	M4	M5	M6	M8	M10	M12	M16	M20	M24
Gewindetiefe	10	12.5	16	19	22	28	36	42	50



### 20.3.1 A shaft design (hollow shaft), G housing design (pitch circle diameter)



q0	Applies to motors without brake.	q1	Applies to motors with brake.
x	Applies to encoders using an optical measuring concept.	w1	For variation for One Cable Solution (OCS), see Chapter <a href="#">[ 22.4 ]</a>
1)	The length of the machine shaft must be at least $2.2 \times \varnothing dh$ and the length of the feather key must be at least $2 \times \varnothing dh$ .	2)	Cover (optional)
3)	Only for K1 (other sizes on request)		



**Dimensions of gear units**

Type	□a4	∅b	b3	b4	b5	b7	b8	B	B2	∅dh	∅Dh	Dha	∅e	f	h	H	i2	le	lh	las	lha	m1	s3	s4	sm	sas	t3	t4	th	uh
K1	105	75 <sub>6</sub>	30	90	30	90	70	90	106	25 <sup>H7</sup>	40	□105	90	3.0	60	160	7.0	98.0	120	12	127.0	60	M8	M8	M10	M12	13	13	28.3	8 <sup>JS9</sup>
K1	105	75 <sub>6</sub>	30	90	30	90	70	90	106	30 <sup>H7</sup>	40	□105	90	3.0	60	160	7.0	93.5	120	12	127.0	60	M8	M8	M10	M12	13	13	32.0	8 <sup>JS9</sup>
K2	116	82 <sub>6</sub>	35	115	35	115	90	115	134	30 <sup>H7</sup>	45	□116	100	3.0	65	190	7.0	121.5	148	12	156.0	65	M10	M8	M10	M12	16	13	33.3	8 <sup>JS9</sup>
K3	132	95 <sub>6</sub>	40	130	40	130	105	130	146	35 <sup>H7</sup>	50	□132	115	3.0	75	213	7.0	125.0	160	12	168.0	75	M10	M8	M12	M16	16	13	38.3	10 <sup>JS9</sup>
K4	152	110 <sub>6</sub>	50	155	50	155	120	148	173	40 <sup>H7</sup>	55	□152	130	3.5	90	240	7.5	157.0	188	12	197.5	90	M12	M10	M16	M20	19	16	43.3	12 <sup>JS9</sup>
K5	145	110 <sub>6</sub>	40	140	100	140	125	160	185	50 <sup>H7</sup>	65	□145	130	3.5	160	260	7.5	164.0	200	12	209.5	100	M16	M10	M16	M20	26	16	53.8	14 <sup>JS9</sup>
K6	180	140 <sub>6</sub>	50	160	110	160	130	168	200	50 <sup>H7</sup>	70	∅183	165	3.5	190	310	7.5	179.0	215	12	224.5	120	M16	M10	M16	M20	26	16	53.8	14 <sup>JS9</sup>
K7	195	155 <sub>6</sub>	55	180	125	180	145	190	226	60 <sup>H7</sup>	85	∅205	185	3.5	212	342	8.0	214.0	242	12	252.0	125	M20	M12	M20	M24	33	19	64.4	18 <sup>JS9</sup>
K8	226	185 <sub>6</sub>	75	240	165	240	185	235	282	70 <sup>H7</sup>	100	∅184	215	4.0	265	410	9.0	263.0	300	20	307.0	145	M24	M12	M20	M24	38	19	74.9	20 <sup>JS9</sup>
K9	280	230 <sub>6</sub>	95	280	185	280	225	285	330	90 <sup>H7</sup>	120	∅230	265	5.0	315	495	10.0	302.0	350	26	356.0	180	M30	M16	M24	M30	48	26	95.4	25 <sup>JS9</sup>

**Dimensions of motors**

Type	□g	q0	q1	w1	x	z0
EZ301U	72	114.0	154.0	55.5	21	78.5
EZ302U	72	136.0	176.0	55.5	21	100.5
EZ303U	72	158.0	198.0	55.5	21	122.5
EZ401U	98	118.5	167.0	91.0	22	76.5
EZ402U	98	143.5	192.0	91.0	22	101.5
EZ404U	98	193.5	242.0	91.0	22	151.5
EZ501U	115	112.0	166.5	100.0	22	77.5
EZ502U	115	137.0	191.5	100.0	22	102.5
EZ503U	115	162.0	216.5	100.0	22	127.5
EZ505U	115	212.0	266.5	100.0	22	177.5
EZ701U	145	125.0	184.0	115.0	22	87.0
EZ702U	145	150.0	209.0	115.0	22	112.0
EZ703U	145	175.0	234.0	115.0	22	137.0
EZ705U	145	230.0	289.0	134.0	22	188.0
EZ802U	190	232.5	309.5	156.5	22	178.5
EZ803U	190	273.5	350.5	156.5	22	219.5
EZ805U	190	355.5	432.5	156.5	22	301.5

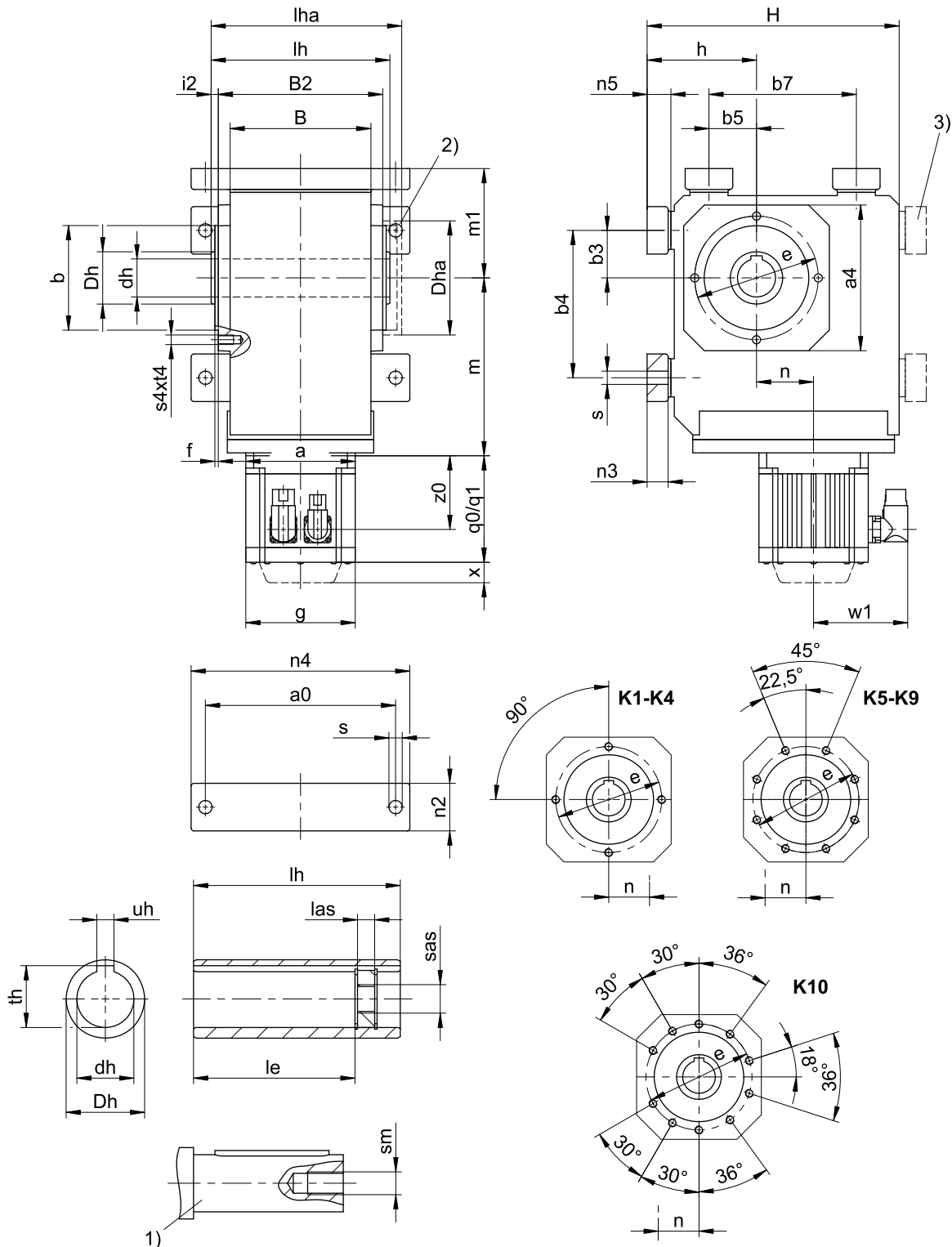
**Dimensions of geared motors**

Type	EZ3			EZ4			EZ5			EZ7			EZ8		
	a	m	n	a	m	n	a	m	n	a	m	n	a	m	n
K102	□72	124	36.0	□98	124	36.0	□115	128	36.0	□145	130	36.0	-	-	-
K202	□72	143	46.0	□98	143	46.0	□115	147	46.0	□145	149	46.0	-	-	-
K203	∅140	180	46.0	∅140	180	46.0	-	-	-	-	-	-	-	-	-
K302	∅140	163	52.5	∅140	163	52.5	□115	167	52.5	□145	169	52.5	-	-	-
K303	∅140	200	52.5	∅140	200	52.5	∅160	210	16.0	-	-	-	-	-	-
K402	-	-	-	-	-	-	∅160	187	60.0	□145	189	60.0	□190	192	60.0
K403	∅140	220	60.0	∅140	220	60.0	∅160	230	23.0	-	-	-	-	-	-
K513	-	-	-	-	-	-	∅160	172	15.0	□145	174	15.0	□190	177	15.0
K514	-	-	-	-	-	-	∅160	215	15.0	-	-	-	-	-	-
K613	-	-	-	-	-	-	∅160	191	18.0	∅200	193	18.0	□190	196	18.0
K614	-	-	-	-	-	-	∅160	234	18.0	-	-	-	-	-	-
K713	-	-	-	-	-	-	-	-	-	∅200	221	20.0	□190	224	20.0
K714	-	-	-	-	-	-	∅160	263	20.0	∅200	283	20.0	-	-	-
K813	-	-	-	-	-	-	-	-	-	∅200	247	24.0	∅250	249	24.0
K814	-	-	-	-	-	-	-	-	-	∅200	308	24.0	∅250	320	5.0
K913	-	-	-	-	-	-	-	-	-	-	-	-	∅250	294	25.0
K914	-	-	-	-	-	-	-	-	-	∅200	353	25.0	∅250	365	25.0





### 20.3.2 A shaft design (hollow shaft), NG housing design (base + pitch circle diameter)



q0	Applies to motors without brake.	q1	Applies to motors with brake.
x	Applies to encoders using an optical measuring concept.	w1	For variation for One Cable Solution (OCS), see Chapter <a href="#">[ 22.4 ]</a>
1)	The length of the machine shaft must be at least $2.2 \times \varnothing dh$ and the length of the feather key must be at least $2 \times \varnothing dh$ .	2)	Cover (optional)



3) Only for K1 (other sizes on request)

**Dimensions of gear units**

Type	a0	□a4	∅b	b3	b4	b5	b7	B	B2	∅dh	∅Dh	Dha	∅e	f	h	H	i2	le	lh	las	lha	m1	n2	n3	n4	n5	∅s	s4	sm	sas	t4	th	uh
K1	115	105	75 <sub>h6</sub>	30	90	30	90	90	106	25 <sup>H7</sup>	40	□105	90	3.0	75	175	7.0	98.0	120	12	127.0	75	30	13	140	15	9.0	M8	M10	M12	13	28.3	8 <sup>JS9</sup>
K1	115	105	75 <sub>h6</sub>	30	90	30	90	90	106	30 <sup>H7</sup>	40	□105	90	3.0	75	175	7.0	93.5	120	12	127.0	75	30	13	140	15	9.0	M8	M10	M12	13	32.0	8 <sup>JS9</sup>
K2	155	116	82 <sub>h6</sub>	35	115	35	115	115	134	30 <sup>H7</sup>	45	□116	100	3.0	88	213	7.0	121.5	148	12	156.0	88	40	20	185	23	11.0	M8	M10	M12	13	33.3	8 <sup>JS9</sup>
K3	170	132	95 <sub>h6</sub>	40	130	40	130	130	146	35 <sup>H7</sup>	50	□132	115	3.0	98	236	7.0	125.0	160	12	168.0	98	45	20	200	23	11.0	M8	M12	M16	13	38.3	10 <sup>JS9</sup>
K4	200	152	110 <sub>h6</sub>	50	155	50	155	148	173	40 <sup>H7</sup>	55	□152	130	3.5	115	265	7.5	157.0	188	12	197.5	115	50	22	230	25	14.0	M10	M16	M20	16	43.3	12 <sup>JS9</sup>
K5	200	145	110 <sub>h6</sub>	40	140	100	140	160	185	50 <sup>H7</sup>	65	□145	130	3.5	190	290	7.5	164.0	200	12	209.5	130	60	27	240	30	18.0	M10	M16	M20	16	53.8	14 <sup>JS9</sup>
K6	210	180	140 <sub>h6</sub>	50	160	110	160	168	200	50 <sup>H7</sup>	70	∅183	165	3.5	220	340	7.5	179.0	215	12	224.5	150	65	27	250	30	18.5	M10	M16	M20	16	53.8	14 <sup>JS9</sup>
K7	241	195	155 <sub>h6</sub>	55	180	125	180	190	226	60 <sup>H7</sup>	85	∅205	185	3.5	250	380	8.0	214.0	242	12	252.0	163	70	35	290	38	23.0	M12	M20	M24	19	64.4	18 <sup>JS9</sup>
K8	300	226	185 <sub>h6</sub>	75	240	165	240	235	282	70 <sup>H7</sup>	100	∅184	215	4.0	310	455	9.0	263.0	300	20	307.0	190	85	41	360	45	27.0	M12	M20	M24	19	74.9	20 <sup>JS9</sup>
K9	360	280	230 <sub>h6</sub>	95	280	185	280	285	330	90 <sup>H7</sup>	120	∅230	265	5.0	365	545	10.0	302.0	350	26	356.0	230	95	46	430	50	34.0	M16	M24	M30	26	95.4	25 <sup>JS9</sup>
K10	330	340	250 <sub>h6</sub>	115	350	265	420	400	356	100 <sup>H7</sup>	130	∅200	300	20.0	420	636	27.0	361.0	410	26	421.0	270	120	-	400	45	39.0	M20	M24	M30	33	106.4	28 <sup>JS9</sup>

**Dimensions of motors**

Type	□g	q0	q1	w1	x	z0
EZ301U	72	114.0	154.0	55.5	21	78.5
EZ302U	72	136.0	176.0	55.5	21	100.5
EZ303U	72	158.0	198.0	55.5	21	122.5
EZ401U	98	118.5	167.0	91.0	22	76.5
EZ402U	98	143.5	192.0	91.0	22	101.5
EZ404U	98	193.5	242.0	91.0	22	151.5
EZ501U	115	112.0	166.5	100.0	22	77.5
EZ502U	115	137.0	191.5	100.0	22	102.5
EZ503U	115	162.0	216.5	100.0	22	127.5
EZ505U	115	212.0	266.5	100.0	22	177.5
EZ701U	145	125.0	184.0	115.0	22	87.0
EZ702U	145	150.0	209.0	115.0	22	112.0
EZ703U	145	175.0	234.0	115.0	22	137.0
EZ705U	145	230.0	289.0	134.0	22	188.0
EZ802U	190	232.5	309.5	156.5	22	178.5
EZ803U	190	273.5	350.5	156.5	22	219.5
EZ805U	190	355.5	432.5	156.5	22	301.5

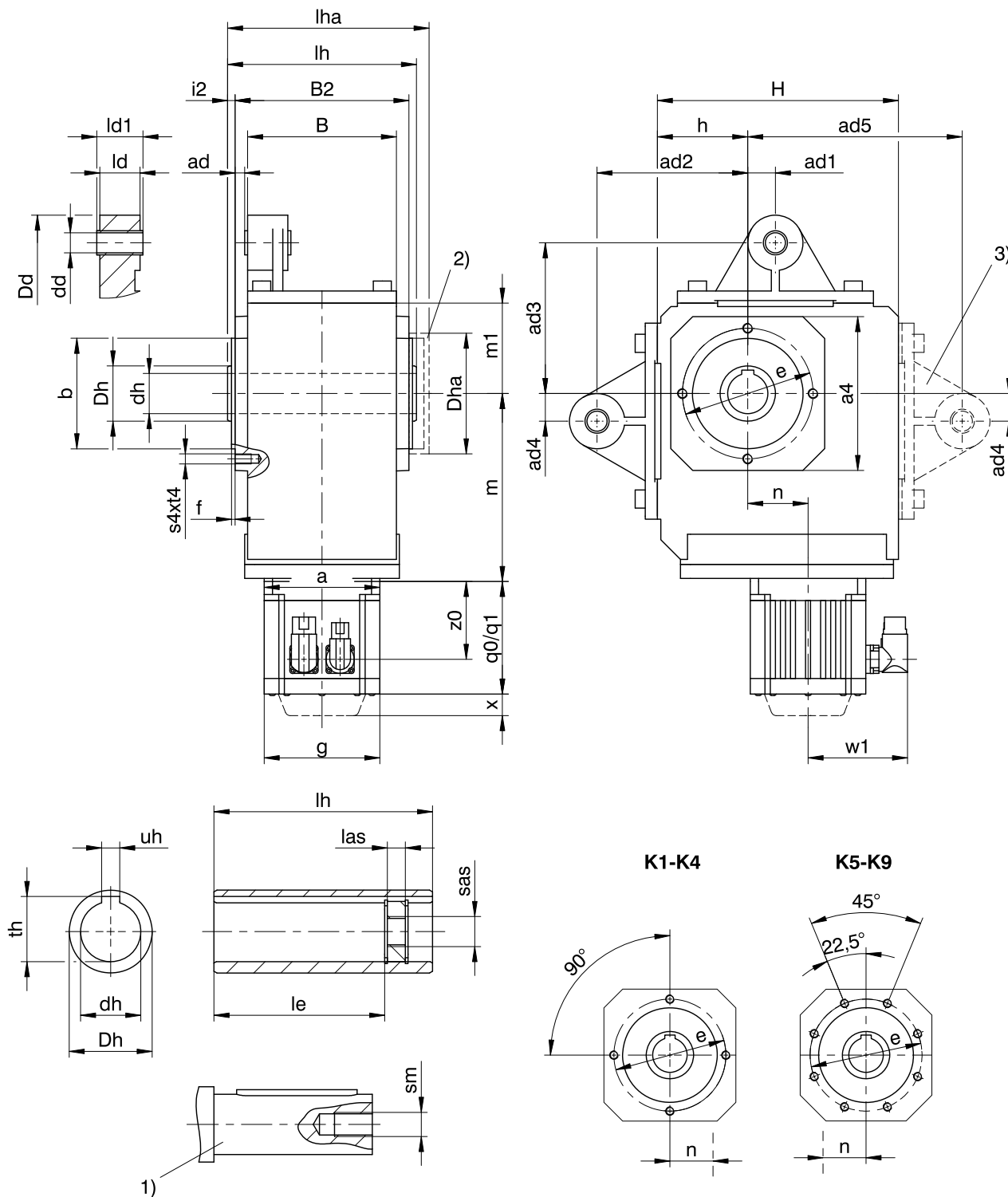
**Dimensions of geared motors**

Type	EZ3			EZ4			EZ5			EZ7			EZ8		
	a	m	n	a	m	n	a	m	n	a	m	n	a	m	n
K102	□72	124	36.0	□98	124	36.0	□115	128	36.0	□145	130	36.0	-	-	-
K202	□72	143	46.0	□98	143	46.0	□115	147	46.0	□145	149	46.0	-	-	-
K203	∅140	180	46.0	∅140	180	46.0	-	-	-	-	-	-	-	-	-
K302	∅140	163	52.5	∅140	163	52.5	□115	167	52.5	□145	169	52.5	-	-	-
K303	∅140	200	52.5	∅140	200	52.5	∅160	210	16.0	-	-	-	-	-	-
K402	-	-	-	-	-	-	∅160	187	60.0	□145	189	60.0	□190	192	60.0
K403	∅140	220	60.0	∅140	220	60.0	∅160	230	23.0	-	-	-	-	-	-
K513	-	-	-	-	-	-	∅160	172	15.0	□145	174	15.0	□190	177	15.0
K514	-	-	-	-	-	-	∅160	215	15.0	-	-	-	-	-	-
K613	-	-	-	-	-	-	∅160	191	18.0	∅200	193	18.0	□190	196	18.0
K614	-	-	-	-	-	-	∅160	234	18.0	-	-	-	-	-	-
K713	-	-	-	-	-	-	-	-	-	∅200	221	20.0	□190	224	20.0
K714	-	-	-	-	-	-	∅160	263	20.0	∅200	283	20.0	-	-	-
K813	-	-	-	-	-	-	-	-	-	∅200	247	24.0	∅250	249	24.0
K814	-	-	-	-	-	-	-	-	-	∅200	308	24.0	∅250	320	5.0
K913	-	-	-	-	-	-	-	-	-	-	-	-	∅250	294	25.0
K914	-	-	-	-	-	-	-	-	-	∅200	353	25.0	∅250	365	25.0
K1014	-	-	-	-	-	-	-	-	-	-	-	-	∅250	450	28.0

**K**



### 20.3.3 A shaft design (hollow shaft), GD housing design (pitch circle diameter + torque arm)



q0	Applies to motors without brake.	q1	Applies to motors with brake.
x	Applies to encoders using an optical measuring concept.	w1	For variation for One Cable Solution (OCS), see Chapter <a href="#">[ 22.4 ]</a>
1)	The length of the machine shaft must be at least $2.2 \times \varnothing dh$ and the length of the feather key must be at least $2 \times \varnothing dh$ .	2)	Cover (optional)



3)	Only for K1 (other sizes on request)	–	If you brace the gear units without the factory-adjusted torque arms provided for this purpose, the dimensions for ad2 and ad3 must meet the specified value.
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**Dimensions of gear units**

Type	□a4	ad	ad1	ad2	ad3	ad4	ad5	Øb	B	B2	Ødd	Ødh	ØDd	ØDh	Dha	Øe	f
K1	105	6.0	15.0	90	90	15.0	130	75 <sub>6</sub>	90	106	12 <sup>H9</sup>	25 <sup>H7</sup>	43	40	□105	90	3.0
K1	105	6.0	15.0	90	90	15.0	130	75 <sub>6</sub>	90	106	12 <sup>H9</sup>	30 <sup>H7</sup>	43	40	□105	90	3.0
K2	116	6.5	22.5	100	100	22.5	–	82 <sub>6</sub>	115	134	16 <sup>H9</sup>	30 <sup>H7</sup>	45	45	□116	100	3.0
K3	132	5.0	25.0	120	120	25.0	–	95 <sub>6</sub>	130	146	16 <sup>H9</sup>	35 <sup>H7</sup>	45	50	□132	115	3.0
K4	152	9.5	27.5	150	150	27.5	–	110 <sub>6</sub>	148	173	20 <sup>H9</sup>	40 <sup>H7</sup>	55	55	□152	130	3.5
K5	145	9.5	30.0	250	190	30.0	–	110 <sub>6</sub>	160	185	20 <sup>H9</sup>	50 <sup>H7</sup>	58	65	□145	130	3.5
K6	180	13.0	30.0	250	180	30.0	–	140 <sub>6</sub>	168	200	20 <sup>H9</sup>	50 <sup>H7</sup>	58	70	Ø183	165	3.5
K7	195	15.0	35.0	300	213	35.0	–	155 <sub>6</sub>	190	226	20 <sup>H9</sup>	60 <sup>H7</sup>	68	85	Ø205	185	3.5
K8	226	17.0	45.0	350	230	45.0	–	185 <sub>6</sub>	235	282	24 <sup>H9</sup>	70 <sup>H7</sup>	72	100	Ø184	215	4.0
K9	280	16.0	45.0	450	315	45.0	–	230 <sub>6</sub>	285	330	24 <sup>H9</sup>	90 <sup>H7</sup>	75	120	Ø230	265	5.0

**Dimensions of gear units**

Type	h	H	i2	ld	ld1	le	lh	las	lha	m1	s4	sm	sas	t4	th	uh
K1	60	160	7.0	24	28	98.0	120	12	127.0	60	M8	M10	M12	13	28.3	8 <sup>JS9</sup>
K1	60	160	7.0	24	28	93.5	120	12	127.0	60	M8	M10	M12	13	32.0	8 <sup>JS9</sup>
K2	65	190	7.0	32	38	121.5	148	12	156.0	65	M8	M10	M12	13	33.3	8 <sup>JS9</sup>
K3	75	213	7.0	32	38	125.0	160	12	168.0	75	M8	M12	M16	13	38.3	10 <sup>JS9</sup>
K4	90	240	7.5	40	46	157.0	188	12	197.5	90	M10	M16	M20	16	43.3	12 <sup>JS9</sup>
K5	160	260	7.5	40	46	164.0	200	12	209.5	100	M10	M16	M20	16	53.8	14 <sup>JS9</sup>
K6	190	310	7.5	40	46	179.0	215	12	224.5	120	M10	M16	M20	16	53.8	14 <sup>JS9</sup>
K7	212	342	8.0	64	70	214.0	242	12	252.0	125	M12	M20	M24	19	64.4	18 <sup>JS9</sup>
K8	265	410	9.0	102	115	263.0	300	20	307.0	145	M12	M20	M24	19	74.9	20 <sup>JS9</sup>
K9	315	495	10.0	102	115	302.0	350	26	356.0	180	M16	M24	M30	26	95.4	25 <sup>JS9</sup>

**Dimensions of motors**

Type	□g	q0	q1	w1	x	z0
EZ301U	72	114.0	154.0	55.5	21	78.5
EZ302U	72	136.0	176.0	55.5	21	100.5
EZ303U	72	158.0	198.0	55.5	21	122.5
EZ401U	98	118.5	167.0	91.0	22	76.5
EZ402U	98	143.5	192.0	91.0	22	101.5
EZ404U	98	193.5	242.0	91.0	22	151.5
EZ501U	115	112.0	166.5	100.0	22	77.5
EZ502U	115	137.0	191.5	100.0	22	102.5
EZ503U	115	162.0	216.5	100.0	22	127.5
EZ505U	115	212.0	266.5	100.0	22	177.5
EZ701U	145	125.0	184.0	115.0	22	87.0
EZ702U	145	150.0	209.0	115.0	22	112.0
EZ703U	145	175.0	234.0	115.0	22	137.0
EZ705U	145	230.0	289.0	134.0	22	188.0
EZ802U	190	232.5	309.5	156.5	22	178.5
EZ803U	190	273.5	350.5	156.5	22	219.5
EZ805U	190	355.5	432.5	156.5	22	301.5

The dimensions a, m and n can be found on the next page.

**K**



## 20 K helical bevel geared motors

### 20.3 Dimensional drawings

#### Dimensions of geared motors

Type	EZ3			EZ4			EZ5			EZ7			EZ8		
	a	m	n	a	m	n	a	m	n	a	m	n	a	m	n
K102	□72	124	36.0	□98	124	36.0	□115	128	36.0	□145	130	36.0	-	-	-
K202	□72	143	46.0	□98	143	46.0	□115	147	46.0	□145	149	46.0	-	-	-
K203	∅140	180	46.0	∅140	180	46.0	-	-	-	-	-	-	-	-	-
K302	∅140	163	52.5	∅140	163	52.5	□115	167	52.5	□145	169	52.5	-	-	-
K303	∅140	200	52.5	∅140	200	52.5	∅160	210	16.0	-	-	-	-	-	-
K402	-	-	-	-	-	-	∅160	187	60.0	□145	189	60.0	□190	192	60.0
K403	∅140	220	60.0	∅140	220	60.0	∅160	230	23.0	-	-	-	-	-	-
K513	-	-	-	-	-	-	∅160	172	15.0	□145	174	15.0	□190	177	15.0
K514	-	-	-	-	-	-	∅160	215	15.0	-	-	-	-	-	-
K613	-	-	-	-	-	-	∅160	191	18.0	∅200	193	18.0	□190	196	18.0
K614	-	-	-	-	-	-	∅160	234	18.0	-	-	-	-	-	-
K713	-	-	-	-	-	-	-	-	-	∅200	221	20.0	□190	224	20.0
K714	-	-	-	-	-	-	∅160	263	20.0	∅200	283	20.0	-	-	-
K813	-	-	-	-	-	-	-	-	-	∅200	247	24.0	∅250	249	24.0
K814	-	-	-	-	-	-	-	-	-	∅200	308	24.0	∅250	320	5.0
K913	-	-	-	-	-	-	-	-	-	-	-	-	∅250	294	25.0
K914	-	-	-	-	-	-	-	-	-	∅200	353	25.0	∅250	365	25.0



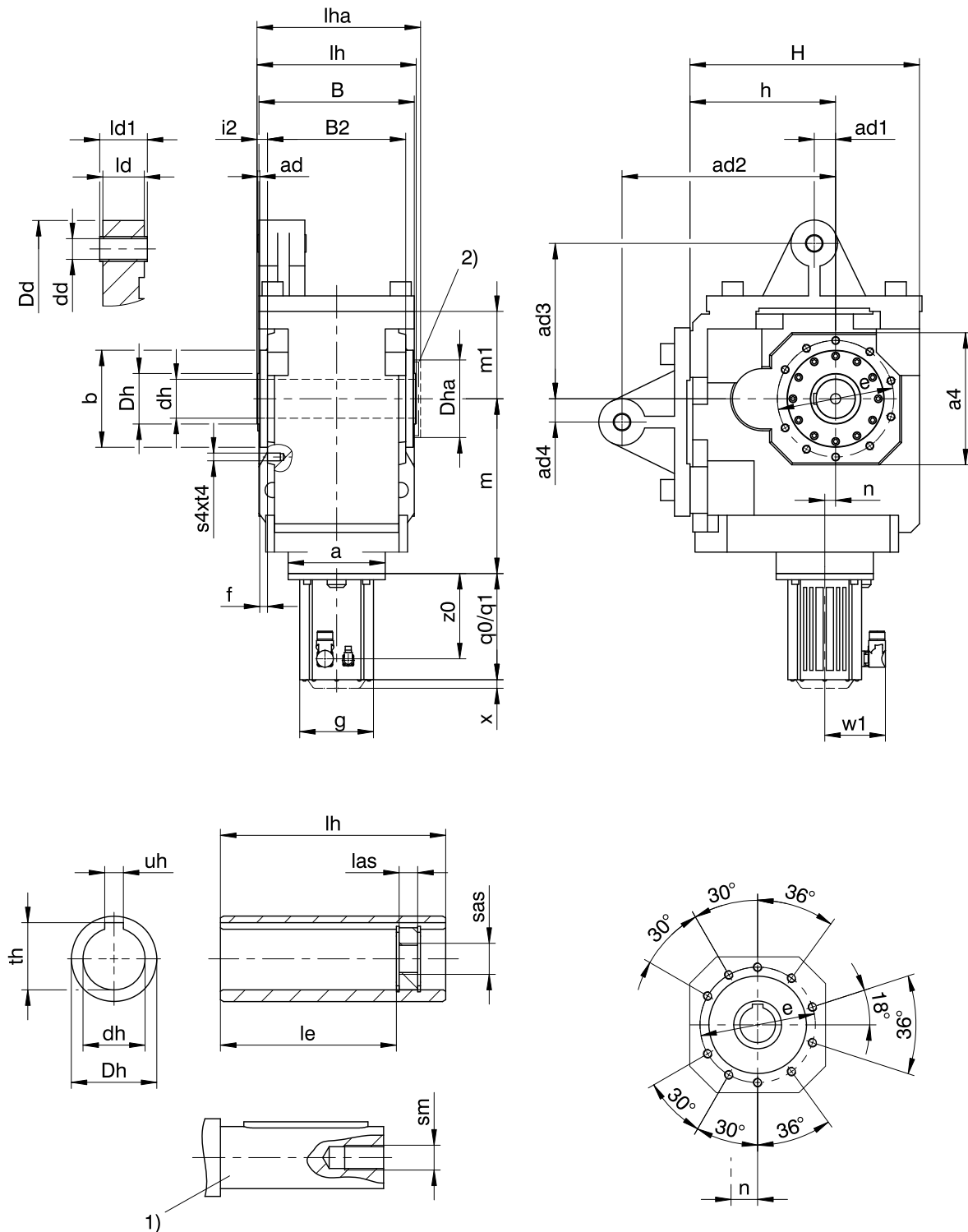


20 K helical bevel geared motors  
20.3 Dimensional drawings





### 20.3.4 A shaft design (hollow shaft), NGD housing design (base + pitch circle diameter + torque arm)



q0	Applies to motors without brake.	q1	Applies to motors with brake.
x	Applies to encoders using an optical measuring concept.	w1	For variation for One Cable Solution (OCS), see Chapter <a href="#">[ 22.4 ]</a>
1)	The length of the machine shaft must be at least $2.2 \times \varnothing dh$ and the length of the feather key must be at least $2 \times \varnothing dh$ .	2)	Cover (optional)



-	If you brace the gear units without the factory-adjusted torque arms provided for this purpose, the dimensions for ad2 and ad3 must meet the specified value.	
---	---	--

**Dimensions of gear units**

Type	□a4	ad	ad1	ad2	ad3	ad4	Øb	B	B2	Ødd	Ødh	ØDd	ØDh	Dha	Øe	f
K10	340	5	60	550	400	55	250 <sub>h6</sub>	400	356	40 <sup>H9</sup>	100 <sup>H7</sup>	120	130	Ø200	300	20

**Dimensions of gear units**

Type	h	H	i2	ld	ld1	le	lh	las	lha	m1	s4	sm	sas	t4	th	uh
K10	375	591	27	118	124	361	410	26	421	225	M20	M24	M30	33	106.4	28 <sup>JS9</sup>

**Dimensions of motors**

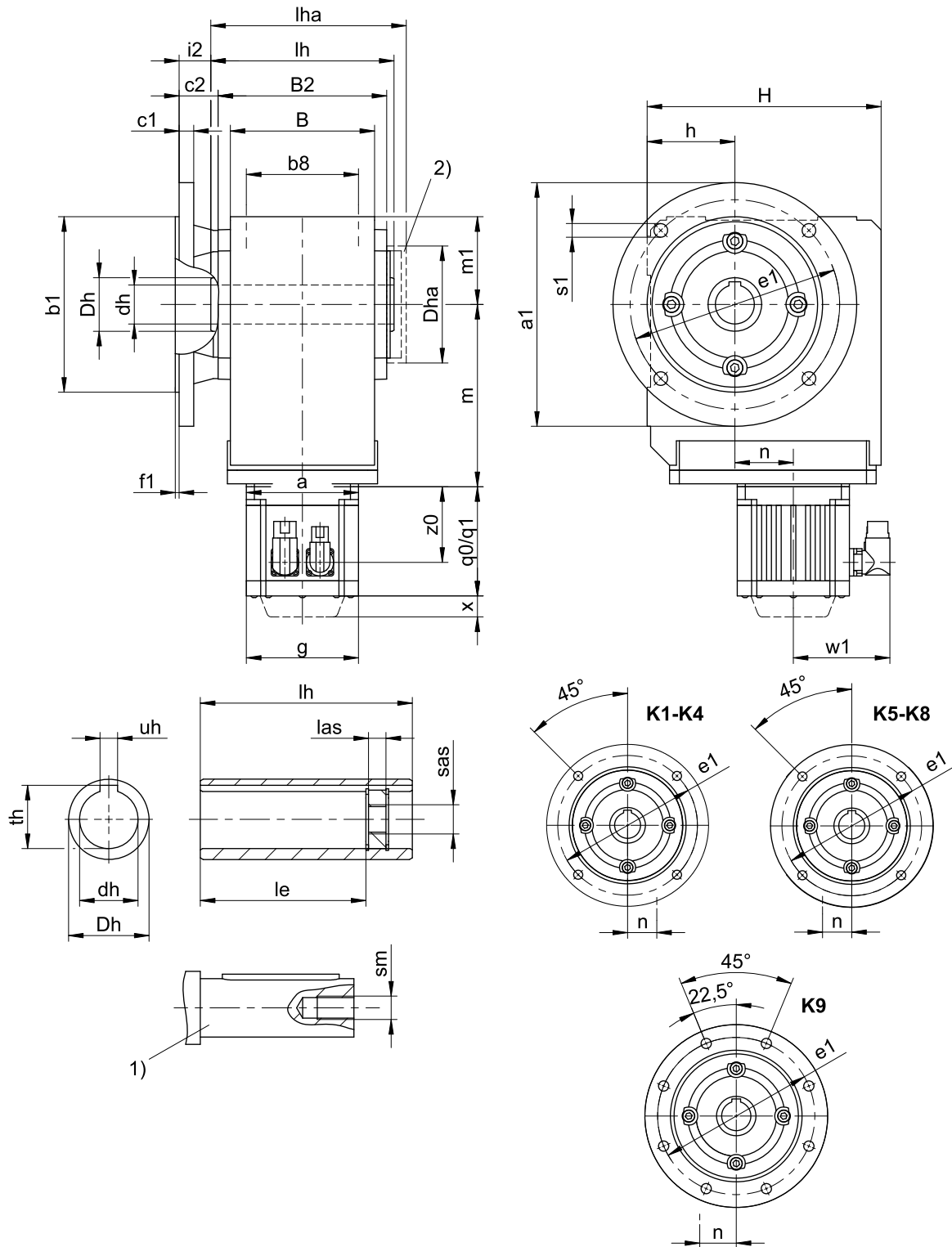
Type	□g	q0	q1	w1	x	z0
EZ802U	190	232.5	309.5	156.5	22	178.5
EZ803U	190	273.5	350.5	156.5	22	219.5

**Dimensions of geared motors**

Type	a	EZ8	n
		m	
K1014	Ø250	450	28.0



### 20.3.5 A shaft design (hollow shaft), F housing design (round flange)



q0	Applies to motors without brake.	q1	Applies to motors with brake.
x	Applies to encoders using an optical measuring concept.	w1	For variation for One Cable Solution (OCS), see Chapter <a href="#">[ 22.4 ]</a>
1)	The length of the machine shaft must be at least $2.2 \times \varnothing dh$ and the length of the feather key must be at least $2 \times \varnothing dh$ .	2)	Cover (optional)



**Dimensions of gear units**

Type	Øa1	Øb1	b8	B	B2	c1	c2	Ødh	ØDh	Dha	Øe1	f1	h	H	i2	le	lh	las	lha	m1	Øs1	sm	sas	th	uh
K1	160	110 <sub>js</sub>	70	90	106	10	32.0	25 <sup>H7</sup>	40	□105	130	3.5	60	160	25.0	98.0	120	12	127.0	60	9	M10	M12	28.3	8 <sup>JS9</sup>
K1	160	110 <sub>js</sub>	70	90	106	10	32.0	30 <sup>H7</sup>	40	□105	130	3.5	60	160	25.0	93.5	120	12	127.0	60	9	M10	M12	32.0	8 <sup>JS9</sup>
K2	200	130 <sub>js</sub>	90	115	134	12	32.0	30 <sup>H7</sup>	45	□116	165	3.5	65	190	25.0	121.5	148	12	156.0	65	11	M10	M12	33.3	8 <sup>JS9</sup>
K3	200	130 <sub>js</sub>	105	130	146	14	38.0	35 <sup>H7</sup>	50	□132	165	3.5	75	213	31.0	125.0	160	12	168.0	75	11	M12	M16	38.3	10 <sup>JS9</sup>
K4	250	180 <sub>js</sub>	120	148	173	15	40.0	40 <sup>H7</sup>	55	□152	215	4.0	90	240	32.5	157.0	188	12	197.5	90	14	M16	M20	43.3	12 <sup>JS9</sup>
K5	250	180 <sub>js</sub>	125	160	185	15	39.5	50 <sup>H7</sup>	65	□145	215	4.0	160	260	32.0	164.0	200	12	209.5	100	14	M16	M20	53.8	14 <sup>JS9</sup>
K6	300	230 <sub>js</sub>	130	168	200	17	36.0	50 <sup>H7</sup>	70	Ø183	265	4.0	190	310	28.5	179.0	215	12	224.5	120	14	M16	M20	53.8	14 <sup>JS9</sup>
K7	350	250 <sub>js</sub>	145	190	226	18	44.0	60 <sup>H7</sup>	85	Ø205	300	5.0	212	342	36.0	214.0	242	12	252.0	125	18	M20	M24	64.4	18 <sup>JS9</sup>
K8	400	300 <sub>js</sub>	185	235	282	20	45.0	70 <sup>H7</sup>	100	Ø184	350	5.0	265	410	36.0	263.0	300	20	307.0	145	18	M20	M24	74.9	20 <sup>JS9</sup>
K9	450	350 <sub>js</sub>	225	285	330	23	50.0	90 <sup>H7</sup>	120	Ø230	400	5.0	315	495	40.0	302.0	350	26	356.0	180	18	M24	M30	95.4	25 <sup>JS9</sup>

**Dimensions of additional round flanges**

Type	Øa1	Øb1	c1	Øe1	f1	Øs1
K1	140	95 <sub>js</sub>	10	115	3.0	9
K2	160	110 <sub>js</sub>	12	130	3.5	9
K3	160	110 <sub>js</sub>	14	130	3.5	9
K3	250	180 <sub>js</sub>	14	215	4.0	14
K8	350	250 <sub>js</sub>	18	300	5.0	18
K8	450	350 <sub>js</sub>	20	400	5.0	18

**Dimensions of motors**

Type	□g	q0	q1	w1	x	z0
EZ301U	72	114.0	154.0	55.5	21	78.5
EZ302U	72	136.0	176.0	55.5	21	100.5
EZ303U	72	158.0	198.0	55.5	21	122.5
EZ401U	98	118.5	167.0	91.0	22	76.5
EZ402U	98	143.5	192.0	91.0	22	101.5
EZ404U	98	193.5	242.0	91.0	22	151.5
EZ501U	115	112.0	166.5	100.0	22	77.5
EZ502U	115	137.0	191.5	100.0	22	102.5
EZ503U	115	162.0	216.5	100.0	22	127.5
EZ505U	115	212.0	266.5	100.0	22	177.5
EZ701U	145	125.0	184.0	115.0	22	87.0
EZ702U	145	150.0	209.0	115.0	22	112.0
EZ703U	145	175.0	234.0	115.0	22	137.0
EZ705U	145	230.0	289.0	134.0	22	188.0
EZ802U	190	232.5	309.5	156.5	22	178.5
EZ803U	190	273.5	350.5	156.5	22	219.5
EZ805U	190	355.5	432.5	156.5	22	301.5

The dimensions a, m and n can be found on the next page.



## 20 K helical bevel geared motors

### 20.3 Dimensional drawings

#### Dimensions of geared motors

Type	EZ3			EZ4			EZ5			EZ7			EZ8		
	a	m	n	a	m	n	a	m	n	a	m	n	a	m	n
K102	□72	124	36.0	□98	124	36.0	□115	128	36.0	□145	130	36.0	-	-	-
K202	□72	143	46.0	□98	143	46.0	□115	147	46.0	□145	149	46.0	-	-	-
K203	∅140	180	46.0	∅140	180	46.0	-	-	-	-	-	-	-	-	-
K302	∅140	163	52.5	∅140	163	52.5	□115	167	52.5	□145	169	52.5	-	-	-
K303	∅140	200	52.5	∅140	200	52.5	∅160	210	16.0	-	-	-	-	-	-
K402	-	-	-	-	-	-	∅160	187	60.0	□145	189	60.0	□190	192	60.0
K403	∅140	220	60.0	∅140	220	60.0	∅160	230	23.0	-	-	-	-	-	-
K513	-	-	-	-	-	-	∅160	172	15.0	□145	174	15.0	□190	177	15.0
K514	-	-	-	-	-	-	∅160	215	15.0	-	-	-	-	-	-
K613	-	-	-	-	-	-	∅160	191	18.0	∅200	193	18.0	□190	196	18.0
K614	-	-	-	-	-	-	∅160	234	18.0	-	-	-	-	-	-
K713	-	-	-	-	-	-	-	-	-	∅200	221	20.0	□190	224	20.0
K714	-	-	-	-	-	-	∅160	263	20.0	∅200	283	20.0	-	-	-
K813	-	-	-	-	-	-	-	-	-	∅200	247	24.0	∅250	249	24.0
K814	-	-	-	-	-	-	-	-	-	∅200	308	24.0	∅250	320	5.0
K913	-	-	-	-	-	-	-	-	-	-	-	-	∅250	294	25.0
K914	-	-	-	-	-	-	-	-	-	∅200	353	25.0	∅250	365	25.0

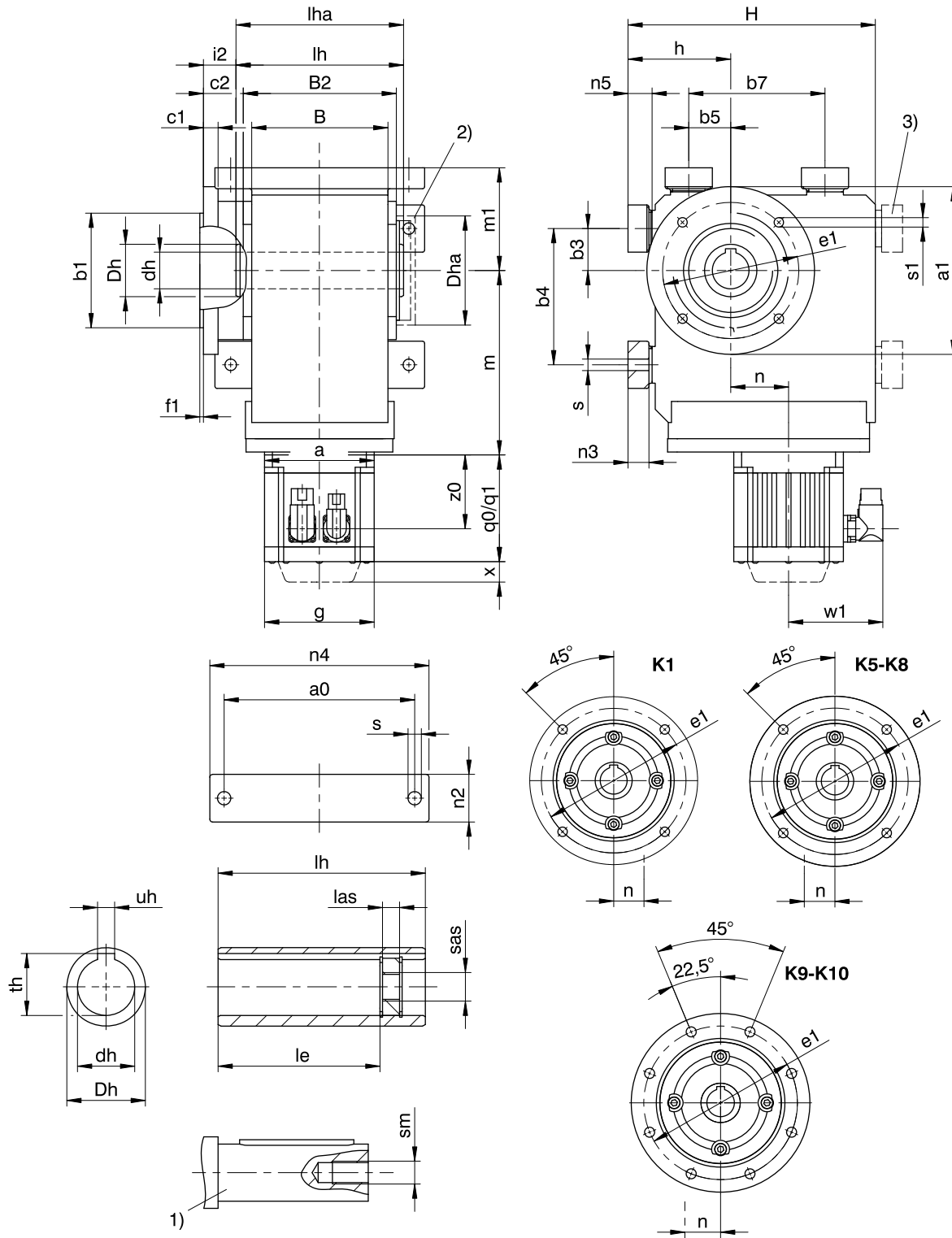


20 K helical bevel geared motors  
20.3 Dimensional drawings





20.3.6 A shaft design (hollow shaft), NF housing design (base + round flange)



q0	Applies to motors without brake.	q1	Applies to motors with brake.
x	Applies to encoders using an optical measuring concept.	w1	For variation for One Cable Solution (OCS), see Chapter <a href="#">[ 22.4 ]</a>
1)	The length of the machine shaft must be at least $2.2 \times \varnothing dh$ and the length of the feather key must be at least $2 \times \varnothing dh$ .	2)	Cover (optional)
3)	Only for K1 (other sizes on request)		





Dimensions of gear units

Type	a0	Øa1	Øb1	b3	b4	b5	b7	B	B2	c1	c2	Ødh	ØDh	Dha	Øe1	f1	h
K1	115	160	110 <sub>js</sub>	30	90	30	90	90	106	10	32.0	25 <sup>H7</sup>	40	□105	130	3.5	75
K1	115	160	110 <sub>js</sub>	30	90	30	90	90	106	10	32.0	30 <sup>H7</sup>	40	□105	130	3.5	75
K5	200	250	180 <sub>js</sub>	40	140	100	140	160	185	15	39.5	50 <sup>H7</sup>	65	□145	215	4.0	190
K6	210	300	230 <sub>js</sub>	50	160	110	160	168	200	17	36.0	50 <sup>H7</sup>	70	Ø183	265	4.0	220
K7	241	350	250 <sub>h6</sub>	55	180	125	180	190	226	18	44.0	60 <sup>H7</sup>	85	Ø205	300	5.0	250
K8	300	400	300 <sub>h6</sub>	75	240	165	240	235	282	20	45.0	70 <sup>H7</sup>	100	Ø184	350	5.0	310
K9	360	450	350 <sub>h6</sub>	95	280	185	280	285	330	23	50.0	90 <sup>H7</sup>	120	Ø230	400	5.0	365
K10	330	550	450 <sub>h6</sub>	115	350	265	420	400	356	25	78.0	100 <sup>H7</sup>	130	Ø200	500	5.0	420

Dimensions of gear units

Type	H	i2	le	lh	las	lha	m1	n2	n3	n4	n5	Øs	Øs1	sm	sas	th	uh
K1	175	25.0	98.0	120	12	127.0	75	30	13	140	15	9.0	9	M10	M12	28.3	8 <sup>JS9</sup>
K1	175	25.0	93.5	120	12	127.0	75	30	13	140	15	9.0	9	M10	M12	32.0	8 <sup>JS9</sup>
K5	290	32.0	164.0	200	12	209.5	130	60	27	240	30	18.0	14	M16	M20	53.8	14 <sup>JS9</sup>
K6	340	28.5	179.0	215	12	224.5	150	65	27	250	30	18.5	14	M16	M20	53.8	14 <sup>JS9</sup>
K7	380	36.0	214.0	242	12	252.0	163	70	35	290	38	23.0	18	M20	M24	64.4	18 <sup>JS9</sup>
K8	455	36.0	263.0	300	20	307.0	190	85	41	360	45	27.0	18	M20	M24	74.9	20 <sup>JS9</sup>
K9	545	40.0	302.0	350	26	356.0	230	95	46	430	50	34.0	18	M24	M30	95.4	25 <sup>JS9</sup>
K10	636	51.0	361.0	410	26	421.0	270	120	-	400	45	39.0	18	M24	M30	106.4	28 <sup>JS9</sup>

Dimensions of additional round flanges

Type	Øa1	Øb1	c1	Øe1	f1	Øs1
K1	140	95 <sub>js</sub>	10	115	3.0	9
K2	160	110 <sub>js</sub>	12	130	3.5	9
K3	160	110 <sub>js</sub>	14	130	3.5	9
K3	250	180 <sub>js</sub>	14	215	4.0	14
K8	350	250 <sub>h6</sub>	18	300	5.0	18
K8	450	350 <sub>h6</sub>	20	400	5.0	18

Dimensions of motors

Type	□g	q0	q1	w1	x	z0
EZ301U	72	114.0	154.0	55.5	21	78.5
EZ302U	72	136.0	176.0	55.5	21	100.5
EZ303U	72	158.0	198.0	55.5	21	122.5
EZ401U	98	118.5	167.0	91.0	22	76.5
EZ402U	98	143.5	192.0	91.0	22	101.5
EZ404U	98	193.5	242.0	91.0	22	151.5
EZ501U	115	112.0	166.5	100.0	22	77.5
EZ502U	115	137.0	191.5	100.0	22	102.5
EZ503U	115	162.0	216.5	100.0	22	127.5
EZ505U	115	212.0	266.5	100.0	22	177.5
EZ701U	145	125.0	184.0	115.0	22	87.0
EZ702U	145	150.0	209.0	115.0	22	112.0
EZ703U	145	175.0	234.0	115.0	22	137.0
EZ705U	145	230.0	289.0	134.0	22	188.0
EZ802U	190	232.5	309.5	156.5	22	178.5
EZ803U	190	273.5	350.5	156.5	22	219.5
EZ805U	190	355.5	432.5	156.5	22	301.5

The dimensions a, m and n can be found on the next page.



## 20 K helical bevel geared motors

### 20.3 Dimensional drawings

#### Dimensions of geared motors

Type	EZ3			EZ4			EZ5			EZ7			EZ8		
	a	m	n	a	m	n	a	m	n	a	m	n	a	m	n
K102	□72	124	36.0	□98	124	36.0	□115	128	36.0	□145	130	36.0	-	-	-
K513	-	-	-	-	-	-	∅160	172	15.0	□145	174	15.0	□190	177	15.0
K514	-	-	-	-	-	-	∅160	215	15.0	-	-	-	-	-	-
K613	-	-	-	-	-	-	∅160	191	18.0	∅200	193	18.0	□190	196	18.0
K614	-	-	-	-	-	-	∅160	234	18.0	-	-	-	-	-	-
K713	-	-	-	-	-	-	-	-	-	∅200	221	20.0	□190	224	20.0
K714	-	-	-	-	-	-	∅160	263	20.0	∅200	283	20.0	-	-	-
K813	-	-	-	-	-	-	-	-	-	∅200	247	24.0	∅250	249	24.0
K814	-	-	-	-	-	-	-	-	-	∅200	308	24.0	∅250	320	5.0
K913	-	-	-	-	-	-	-	-	-	-	-	-	∅250	294	25.0
K914	-	-	-	-	-	-	-	-	-	∅200	353	25.0	∅250	365	25.0
K1014	-	-	-	-	-	-	-	-	-	-	-	-	∅250	450	28.0

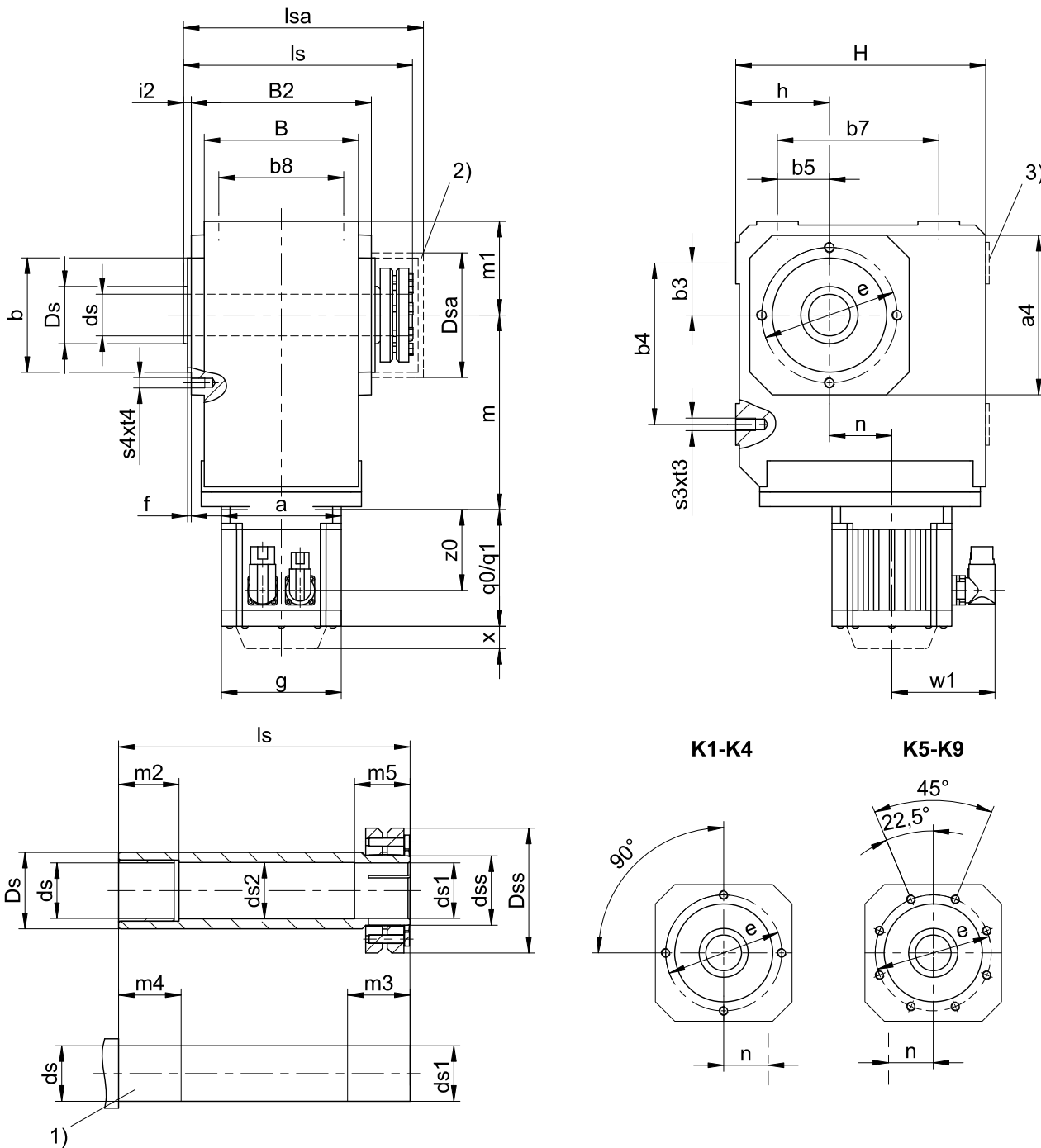


20 K helical bevel geared motors  
20.3 Dimensional drawings





### 20.3.7 S shaft design (hollow shaft with shrink disk), G housing design (pitch circle diameter)



q0	Applies to motors without brake.	q1	Applies to motors with brake.
x	Applies to encoders using an optical measuring concept.	w1	For variation for One Cable Solution (OCS), see Chapter <a href="#">[ 22.4 ]</a>
1)	Machine shaft: The dimension ls must meet or exceed the specified value.	2)	Cover (optional)
3)	Only for K1 (other sizes on request)		



**Dimensions of gear units**

Type	□a4	∅b	b3	b4	b5	b7	b8	B	B2	∅ds	∅ds1	∅ds2	∅dss	∅Ds	∅Dsa	∅Dss	∅e	f	h	H	i2	ls	lsa	m1	m2	m3	m4	m5	s3	s4	t3	t4
K1	105	75 <sub>js</sub>	30	90	30	90	70	90	106	25 <sub>h9</sub>	25 <sub>h9</sub> <sup>H7</sup>	25.5	30	40	80	60	90	3.0	60	160	7.0	149	163	60	20	34	25	29	M8	M8	13	13
K2	116	82 <sub>js</sub>	35	115	35	115	90	115	134	30 <sub>h9</sub>	30 <sub>h9</sub> <sup>H7</sup>	30.5	36	45	88	72	100	3.0	65	190	7.0	178	193	65	25	39	30	34	M10	M8	16	13
K3	132	95 <sub>js</sub>	40	130	40	130	105	130	146	35 <sub>h9</sub>	35 <sub>h9</sub> <sup>H7</sup>	35.5	44	50	101	80	115	3.0	75	213	7.0	190	206	75	30	39	35	34	M10	M8	16	13
K4	152	110 <sub>js</sub>	50	155	50	155	120	148	173	40 <sub>h9</sub>	40 <sub>h9</sub> <sup>H7</sup>	40.5	50	55	114	90	130	3.5	90	240	7.5	220	243	90	40	39	45	34	M12	M10	19	16
K5	145	110 <sub>js</sub>	40	140	100	140	125	160	185	50 <sub>h9</sub>	50 <sub>h9</sub> <sup>H7</sup>	50.5	62	65	116	106	130	3.5	160	260	7.5	237	254	100	40	44	45	39	M16	M10	26	16
K6	180	140 <sub>js</sub>	50	160	110	160	130	168	200	50 <sub>h9</sub>	50 <sub>h9</sub> <sup>H7</sup>	50.5	62	70	128	106	165	3.5	190	310	7.5	254	276	120	40	45	45	40	M16	M10	26	16
K7	195	155 <sub>js</sub>	55	180	125	180	145	190	226	60 <sub>h6</sub>	60 <sub>h6</sub> <sup>H7</sup>	62.0	75	85	161.5	138	185	3.5	212	342	8.0	278	314	125	40	45	45	40	M20	M12	33	19
K8	226	185 <sub>js</sub>	75	240	165	240	185	235	282	70 <sub>h6</sub>	70 <sub>h6</sub> <sup>H7</sup>	72.0	90	100	193	155	215	4.0	265	410	9.0	352	378	145	50	60	60	50	M24	M12	38	19
K9	280	230 <sub>js</sub>	95	280	185	280	225	285	330	90 <sub>h6</sub>	90 <sub>h6</sub> <sup>H7</sup>	92.0	120	120	244	200	265	5.0	315	495	10.0	418	428	180	60	70	70	60	M30	M16	48	26

**Dimensions of motors**

Type	□g	q0	q1	w1	x	z0
EZ301U	72	114.0	154.0	55.5	21	78.5
EZ302U	72	136.0	176.0	55.5	21	100.5
EZ303U	72	158.0	198.0	55.5	21	122.5
EZ401U	98	118.5	167.0	91.0	22	76.5
EZ402U	98	143.5	192.0	91.0	22	101.5
EZ404U	98	193.5	242.0	91.0	22	151.5
EZ501U	115	112.0	166.5	100.0	22	77.5
EZ502U	115	137.0	191.5	100.0	22	102.5
EZ503U	115	162.0	216.5	100.0	22	127.5
EZ505U	115	212.0	266.5	100.0	22	177.5
EZ701U	145	125.0	184.0	115.0	22	87.0
EZ702U	145	150.0	209.0	115.0	22	112.0
EZ703U	145	175.0	234.0	115.0	22	137.0
EZ705U	145	230.0	289.0	134.0	22	188.0
EZ802U	190	232.5	309.5	156.5	22	178.5
EZ803U	190	273.5	350.5	156.5	22	219.5
EZ805U	190	355.5	432.5	156.5	22	301.5

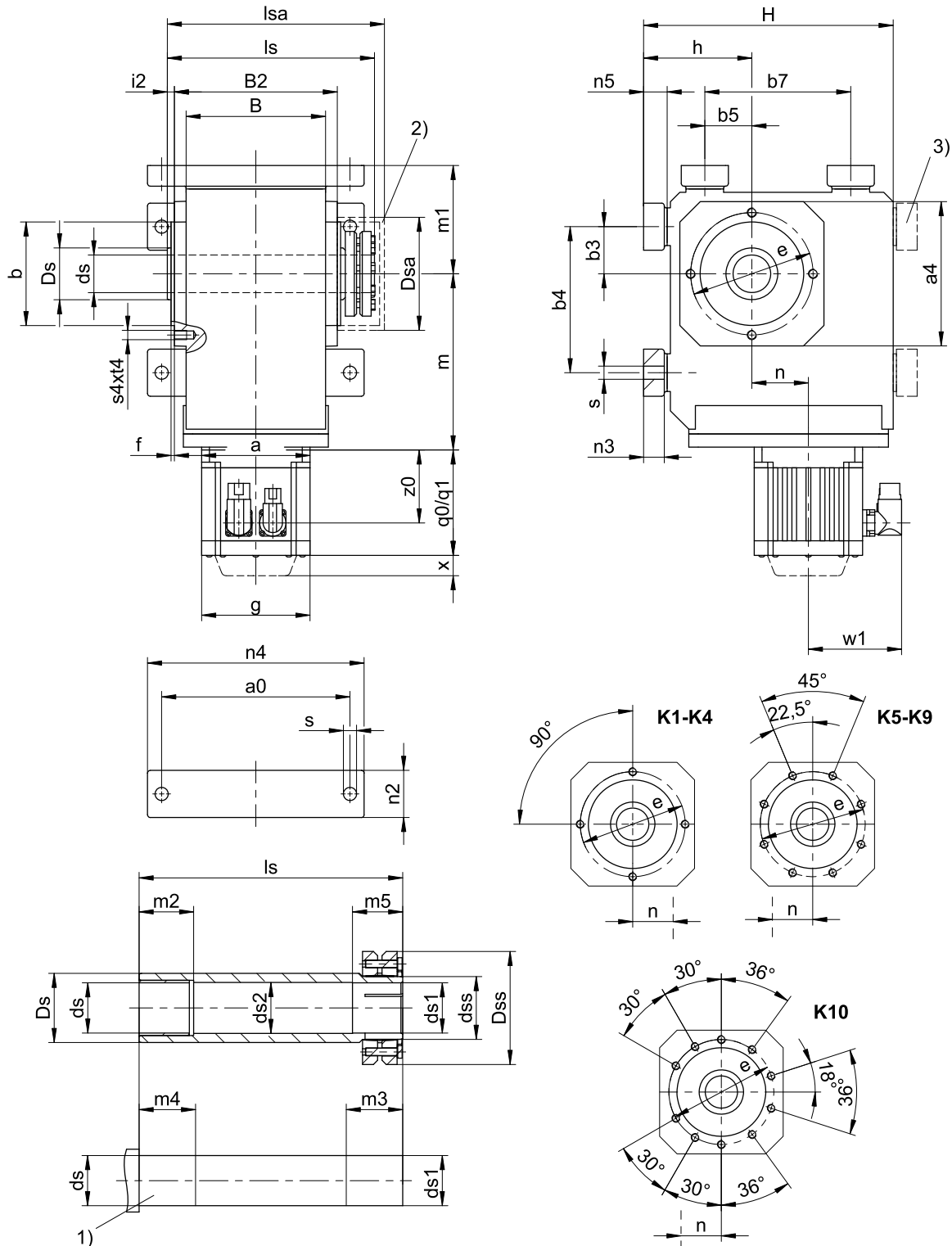
**Dimensions of geared motors**

Type	EZ3			EZ4			EZ5			EZ7			EZ8		
	a	m	n	a	m	n	a	m	n	a	m	n	a	m	n
K102	□72	124	36.0	□98	124	36.0	□115	128	36.0	□145	130	36.0	-	-	-
K202	□72	143	46.0	□98	143	46.0	□115	147	46.0	□145	149	46.0	-	-	-
K203	∅140	180	46.0	∅140	180	46.0	-	-	-	-	-	-	-	-	-
K302	∅140	163	52.5	∅140	163	52.5	□115	167	52.5	□145	169	52.5	-	-	-
K303	∅140	200	52.5	∅140	200	52.5	∅160	210	16.0	-	-	-	-	-	-
K402	-	-	-	-	-	-	∅160	187	60.0	□145	189	60.0	□190	192	60.0
K403	∅140	220	60.0	∅140	220	60.0	∅160	230	23.0	-	-	-	-	-	-
K513	-	-	-	-	-	-	∅160	172	15.0	□145	174	15.0	□190	177	15.0
K514	-	-	-	-	-	-	∅160	215	15.0	-	-	-	-	-	-
K613	-	-	-	-	-	-	∅160	191	18.0	∅200	193	18.0	□190	196	18.0
K614	-	-	-	-	-	-	∅160	234	18.0	-	-	-	-	-	-
K713	-	-	-	-	-	-	-	-	-	∅200	221	20.0	□190	224	20.0
K714	-	-	-	-	-	-	∅160	263	20.0	∅200	283	20.0	-	-	-
K813	-	-	-	-	-	-	-	-	-	∅200	247	24.0	∅250	249	24.0
K814	-	-	-	-	-	-	-	-	-	∅200	308	24.0	∅250	320	5.0
K913	-	-	-	-	-	-	-	-	-	-	-	-	∅250	294	25.0
K914	-	-	-	-	-	-	-	-	-	∅200	353	25.0	∅250	365	25.0





### 20.3.8 S shaft design (hollow shaft with shrink disk), NG housing design (base + pitch circle diameter)



q0	Applies to motors without brake.	q1	Applies to motors with brake.
x	Applies to encoders using an optical measuring concept.	w1	For variation for One Cable Solution (OCS), see Chapter <a href="#">[ 22.4 ]</a>
1)	Machine shaft: The dimension ls must meet or exceed the specified value.	2)	Cover (optional)
3)	Only for K1 (other sizes on request)		



**Dimensions of gear units**

Type	a0	a4	Øb	b3	b4	b5	b7	B	B2	Øds	Øds1	Øds2	Ødss	ØDs	ØDsa
K1	115	105	75 <sub>f6</sub>	30	90	30	90	90	106	25 <sub>h9</sub>	25 <sub>h7</sub>	25.5	30	40	80
K2	155	116	82 <sub>f6</sub>	35	115	35	115	115	134	30 <sub>h9</sub>	30 <sub>h7</sub>	30.5	36	45	88
K3	170	132	95 <sub>f6</sub>	40	130	40	130	130	146	35 <sub>h9</sub>	35 <sub>h7</sub>	35.5	44	50	101
K4	200	152	110 <sub>f6</sub>	50	155	50	155	148	173	40 <sub>h9</sub>	40 <sub>h7</sub>	40.5	50	55	114
K5	200	145	110 <sub>f6</sub>	40	140	100	140	160	185	50 <sub>h9</sub>	50 <sub>h7</sub>	50.5	62	65	116
K6	210	180	140 <sub>f6</sub>	50	160	110	160	168	200	50 <sub>h9</sub>	50 <sub>h7</sub>	50.5	62	70	128
K7	241	195	155 <sub>f6</sub>	55	180	125	180	190	226	60 <sub>h6</sub>	60 <sub>h7</sub>	62.0	75	85	161.5
K8	300	226	185 <sub>f6</sub>	75	240	165	240	235	282	70 <sub>h6</sub>	70 <sub>h7</sub>	72.0	90	100	193
K9	360	280	230 <sub>f6</sub>	95	280	185	280	285	330	90 <sub>h6</sub>	90 <sub>h7</sub>	92.0	120	120	244
K10	330	340	250 <sub>h6</sub>	115	350	265	420	400	356	100 <sub>h6</sub>	100 <sub>h7</sub>	102.0	130	130	274

**Dimensions of gear units**

Type	ØDss	Øe	f	h	H	i2	ls	lsa	m1	m2	m3	m4	m5	n2	n3	n4	n5	Øs	s4	t4
K1	60	90	3.0	75	175	7.0	149	163	75	20	34	25	29	30	13	140	15	9.0	M8	13
K2	72	100	3.0	88	213	7.0	178	193	88	25	39	30	34	40	20	185	23	11.0	M8	13
K3	80	115	3.0	98	236	7.0	190	206	98	30	39	35	34	45	20	200	23	11.0	M8	13
K4	90	130	3.5	115	265	7.5	220	243	115	40	39	45	34	50	22	230	25	14.0	M10	16
K5	106	130	3.5	190	290	7.5	237	254	130	40	44	45	39	60	27	240	30	18.0	M10	16
K6	106	165	3.5	220	340	7.5	254	276	150	40	45	45	40	65	27	250	30	18.5	M10	16
K7	138	185	3.5	250	380	8.0	278	314	163	40	45	45	40	70	35	290	38	23.0	M12	19
K8	155	215	4.0	310	455	9.0	352	378	190	50	60	60	50	85	41	360	45	27.0	M12	19
K9	200	265	5.0	365	545	10.0	418	428	230	60	70	70	60	95	46	430	50	34.0	M16	26
K10	230	300	20.0	420	636	27.0	483	497	270	60	80	70	70	120	-	400	45	39.0	M20	33

**Dimensions of motors**

Type	□g	q0	q1	w1	x	z0
EZ301U	72	114.0	154.0	55.5	21	78.5
EZ302U	72	136.0	176.0	55.5	21	100.5
EZ303U	72	158.0	198.0	55.5	21	122.5
EZ401U	98	118.5	167.0	91.0	22	76.5
EZ402U	98	143.5	192.0	91.0	22	101.5
EZ404U	98	193.5	242.0	91.0	22	151.5
EZ501U	115	112.0	166.5	100.0	22	77.5
EZ502U	115	137.0	191.5	100.0	22	102.5
EZ503U	115	162.0	216.5	100.0	22	127.5
EZ505U	115	212.0	266.5	100.0	22	177.5
EZ701U	145	125.0	184.0	115.0	22	87.0
EZ702U	145	150.0	209.0	115.0	22	112.0
EZ703U	145	175.0	234.0	115.0	22	137.0
EZ705U	145	230.0	289.0	134.0	22	188.0
EZ802U	190	232.5	309.5	156.5	22	178.5
EZ803U	190	273.5	350.5	156.5	22	219.5
EZ805U	190	355.5	432.5	156.5	22	301.5

The dimensions a, m and n can be found on the next page.





# 20 K helical bevel geared motors

## 20.3 Dimensional drawings



### Dimensions of geared motors

Type	EZ3			EZ4			EZ5			EZ7			EZ8		
	a	m	n	a	m	n	a	m	n	a	m	n	a	m	n
K102	□72	124	36.0	□98	124	36.0	□115	128	36.0	□145	130	36.0	-	-	-
K202	□72	143	46.0	□98	143	46.0	□115	147	46.0	□145	149	46.0	-	-	-
K203	∅140	180	46.0	∅140	180	46.0	-	-	-	-	-	-	-	-	-
K302	∅140	163	52.5	∅140	163	52.5	□115	167	52.5	□145	169	52.5	-	-	-
K303	∅140	200	52.5	∅140	200	52.5	∅160	210	16.0	-	-	-	-	-	-
K402	-	-	-	-	-	-	∅160	187	60.0	□145	189	60.0	□190	192	60.0
K403	∅140	220	60.0	∅140	220	60.0	∅160	230	23.0	-	-	-	-	-	-
K513	-	-	-	-	-	-	∅160	172	15.0	□145	174	15.0	□190	177	15.0
K514	-	-	-	-	-	-	∅160	215	15.0	-	-	-	-	-	-
K613	-	-	-	-	-	-	∅160	191	18.0	∅200	193	18.0	□190	196	18.0
K614	-	-	-	-	-	-	∅160	234	18.0	-	-	-	-	-	-
K713	-	-	-	-	-	-	-	-	-	∅200	221	20.0	□190	224	20.0
K714	-	-	-	-	-	-	∅160	263	20.0	∅200	283	20.0	-	-	-
K813	-	-	-	-	-	-	-	-	-	∅200	247	24.0	∅250	249	24.0
K814	-	-	-	-	-	-	-	-	-	∅200	308	24.0	∅250	320	5.0
K913	-	-	-	-	-	-	-	-	-	-	-	-	∅250	294	25.0
K914	-	-	-	-	-	-	-	-	-	∅200	353	25.0	∅250	365	25.0
K1014	-	-	-	-	-	-	-	-	-	-	-	-	∅250	450	28.0



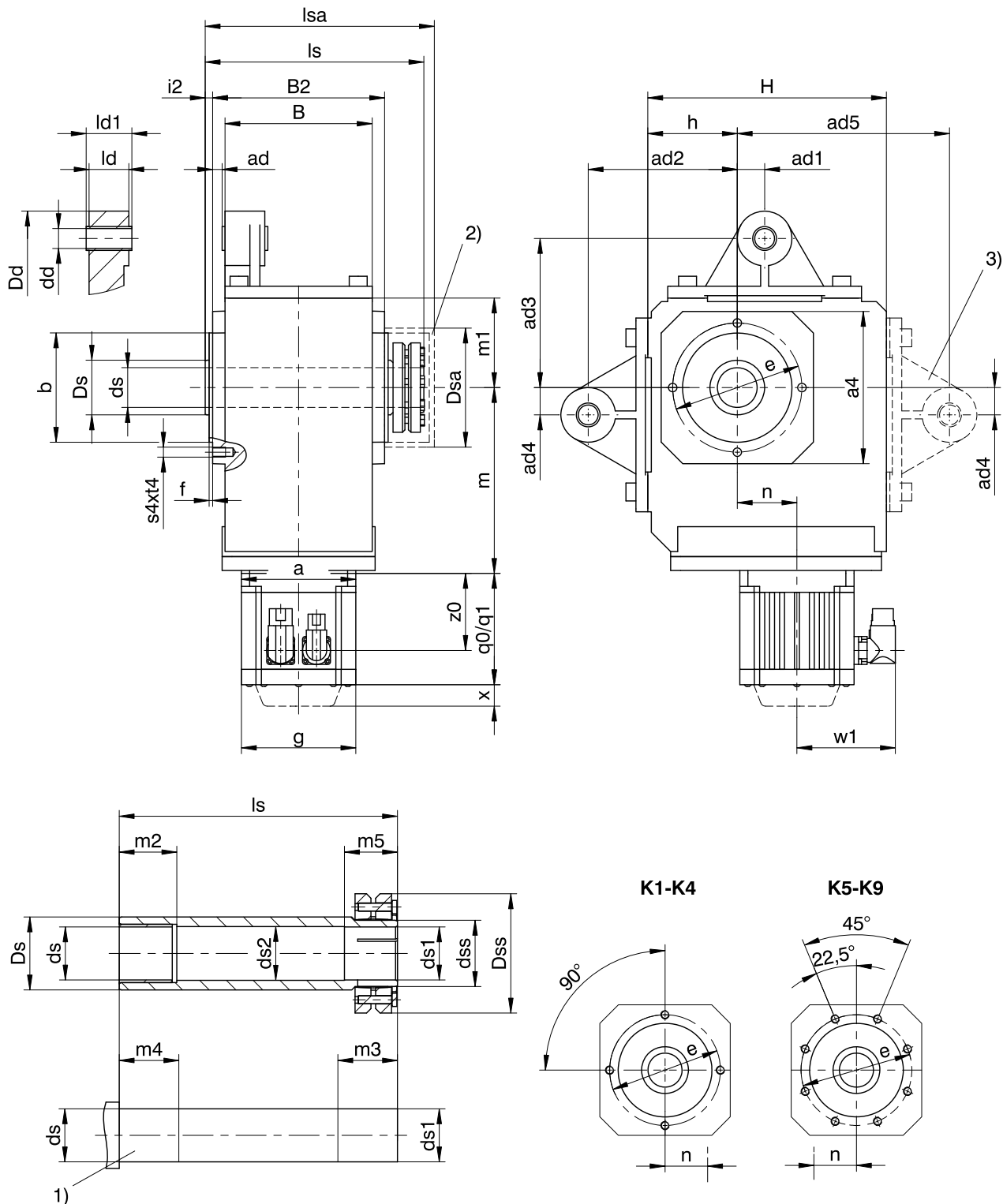


20 K helical bevel geared motors  
20.3 Dimensional drawings





### 20.3.9 S shaft design (hollow shaft with shrink disk), GD housing design (pitch circle diameter + torque arm)



q0	Applies to motors without brake.	q1	Applies to motors with brake.
x	Applies to encoders using an optical measuring concept.	w1	For variation for One Cable Solution (OCS), see Chapter <a href="#">▶ 22.4</a>
1)	Machine shaft: The dimension ls must meet or exceed the specified value.	2)	Cover (optional)



3)	Only for K1 (other sizes on request)	–	If you brace the gear units without the factory-adjusted torque arms provided for this purpose, the dimensions for ad2 and ad3 must meet the specified value.
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**Dimensions of gear units**

Type	□a4	ad	ad1	ad2	ad3	ad4	ad5	Øb	B	B2	Ødd	Øds	Øds1	Øds2	Ødss	ØDd	ØDs	ØDsa
K1	105	6.0	15.0	90	90	15.0	130	75 <sub>f6</sub>	90	106	12 <sup>H9</sup>	25 <sub>h9</sub>	25 <sub>h9</sub> <sup>H7</sup>	25.5	30	43	40	80
K2	116	6.5	22.5	100	100	22.5	–	82 <sub>f6</sub>	115	134	16 <sup>H9</sup>	30 <sub>h9</sub>	30 <sub>h9</sub> <sup>H7</sup>	30.5	36	45	45	88
K3	132	5.0	25.0	120	120	25.0	–	95 <sub>f6</sub>	130	146	16 <sup>H9</sup>	35 <sub>h9</sub>	35 <sub>h9</sub> <sup>H7</sup>	35.5	44	45	50	101
K4	152	9.5	27.5	150	150	27.5	–	110 <sub>f6</sub>	148	173	20 <sup>H9</sup>	40 <sub>h9</sub>	40 <sub>h9</sub> <sup>H7</sup>	40.5	50	55	55	114
K5	145	9.5	30.0	250	190	30.0	–	110 <sub>f6</sub>	160	185	20 <sup>H9</sup>	50 <sub>h9</sub>	50 <sub>h9</sub> <sup>H7</sup>	50.5	62	58	65	116
K6	180	13.0	30.0	250	180	30.0	–	140 <sub>f6</sub>	168	200	20 <sup>H9</sup>	50 <sub>h9</sub>	50 <sub>h9</sub> <sup>H7</sup>	50.5	62	58	70	128
K7	195	15.0	35.0	300	213	35.0	–	155 <sub>h6</sub>	190	226	20 <sup>H9</sup>	60 <sub>h6</sub>	60 <sub>h6</sub> <sup>H7</sup>	62.0	75	68	85	161.5
K8	226	17.0	45.0	350	230	45.0	–	185 <sub>h6</sub>	235	282	24 <sup>H9</sup>	70 <sub>h6</sub>	70 <sub>h6</sub> <sup>H7</sup>	72.0	90	72	100	193
K9	280	16.0	45.0	450	315	45.0	–	230 <sub>h6</sub>	285	330	24 <sup>H9</sup>	90 <sub>h6</sub>	90 <sub>h6</sub> <sup>H7</sup>	92.0	120	75	120	244

**Dimensions of gear units**

Type	ØDss	Øe	f	h	H	i2	ld	ld1	ls	lsa	m1	m2	m3	m4	m5	s4	t4
K1	60	90	3.0	60	160	7.0	24	28	149	163	60	20	34	25	29	M8	13
K2	72	100	3.0	65	190	7.0	32	38	178	193	65	25	39	30	34	M8	13
K3	80	115	3.0	75	213	7.0	32	38	190	206	75	30	39	35	34	M8	13
K4	90	130	3.5	90	240	7.5	40	46	220	243	90	40	39	45	34	M10	16
K5	106	130	3.5	160	260	7.5	40	46	237	254	100	40	44	45	39	M10	16
K6	106	165	3.5	190	310	7.5	40	46	254	276	120	40	45	45	40	M10	16
K7	138	185	3.5	212	342	8.0	64	70	278	314	125	40	45	45	40	M12	19
K8	155	215	4.0	265	410	9.0	102	115	352	378	145	50	60	60	50	M12	19
K9	200	265	5.0	315	495	10.0	102	115	418	428	180	60	70	70	60	M16	26

**Dimensions of motors**

Type	□g	q0	q1	w1	x	z0
EZ301U	72	114.0	154.0	55.5	21	78.5
EZ302U	72	136.0	176.0	55.5	21	100.5
EZ303U	72	158.0	198.0	55.5	21	122.5
EZ401U	98	118.5	167.0	91.0	22	76.5
EZ402U	98	143.5	192.0	91.0	22	101.5
EZ404U	98	193.5	242.0	91.0	22	151.5
EZ501U	115	112.0	166.5	100.0	22	77.5
EZ502U	115	137.0	191.5	100.0	22	102.5
EZ503U	115	162.0	216.5	100.0	22	127.5
EZ505U	115	212.0	266.5	100.0	22	177.5
EZ701U	145	125.0	184.0	115.0	22	87.0
EZ702U	145	150.0	209.0	115.0	22	112.0
EZ703U	145	175.0	234.0	115.0	22	137.0
EZ705U	145	230.0	289.0	134.0	22	188.0
EZ802U	190	232.5	309.5	156.5	22	178.5
EZ803U	190	273.5	350.5	156.5	22	219.5
EZ805U	190	355.5	432.5	156.5	22	301.5

The dimensions a, m and n can be found on the next page.





## 20 K helical bevel geared motors

### 20.3 Dimensional drawings

#### Dimensions of geared motors

Type	EZ3			EZ4			EZ5			EZ7			EZ8		
	a	m	n	a	m	n	a	m	n	a	m	n	a	m	n
K102	□72	124	36.0	□98	124	36.0	□115	128	36.0	□145	130	36.0	-	-	-
K202	□72	143	46.0	□98	143	46.0	□115	147	46.0	□145	149	46.0	-	-	-
K203	∅140	180	46.0	∅140	180	46.0	-	-	-	-	-	-	-	-	-
K302	∅140	163	52.5	∅140	163	52.5	□115	167	52.5	□145	169	52.5	-	-	-
K303	∅140	200	52.5	∅140	200	52.5	∅160	210	16.0	-	-	-	-	-	-
K402	-	-	-	-	-	-	∅160	187	60.0	□145	189	60.0	□190	192	60.0
K403	∅140	220	60.0	∅140	220	60.0	∅160	230	23.0	-	-	-	-	-	-
K513	-	-	-	-	-	-	∅160	172	15.0	□145	174	15.0	□190	177	15.0
K514	-	-	-	-	-	-	∅160	215	15.0	-	-	-	-	-	-
K613	-	-	-	-	-	-	∅160	191	18.0	∅200	193	18.0	□190	196	18.0
K614	-	-	-	-	-	-	∅160	234	18.0	-	-	-	-	-	-
K713	-	-	-	-	-	-	-	-	-	∅200	221	20.0	□190	224	20.0
K714	-	-	-	-	-	-	∅160	263	20.0	∅200	283	20.0	-	-	-
K813	-	-	-	-	-	-	-	-	-	∅200	247	24.0	∅250	249	24.0
K814	-	-	-	-	-	-	-	-	-	∅200	308	24.0	∅250	320	5.0
K913	-	-	-	-	-	-	-	-	-	-	-	-	∅250	294	25.0
K914	-	-	-	-	-	-	-	-	-	∅200	353	25.0	∅250	365	25.0

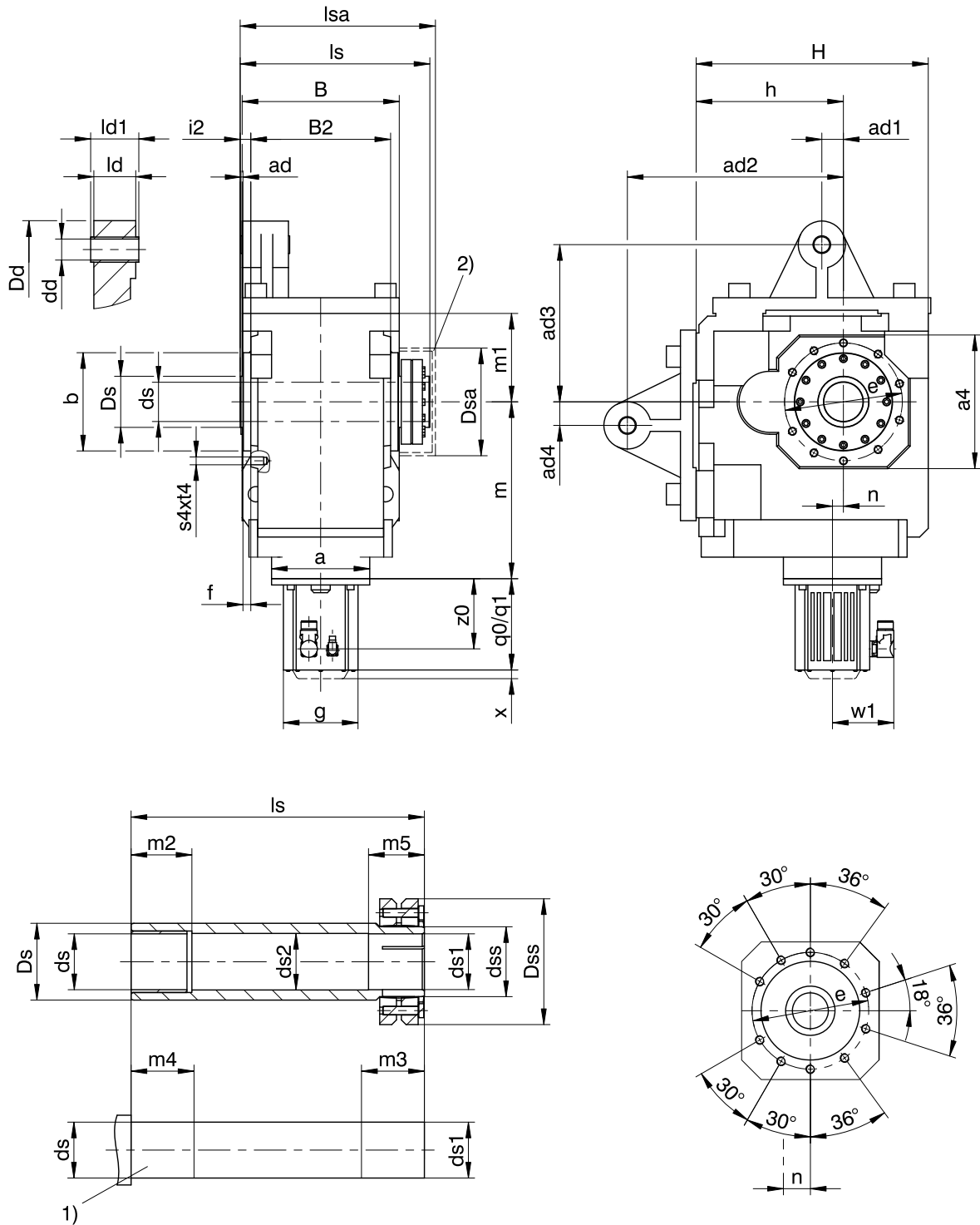


20 K helical bevel geared motors  
20.3 Dimensional drawings





### 20.3.10 S shaft design (hollow shaft with shrink disk), NGD housing design (base + pitch circle diameter + torque arm)



q0	Applies to motors without brake.	q1	Applies to motors with brake.
x	Applies to encoders using an optical measuring concept.	w1	For variation for One Cable Solution (OCS), see Chapter <a href="#">[ 22.4 ]</a>
1)	Machine shaft: The dimension ls must meet or exceed the specified value.	2)	Cover (optional)



-	If you brace the gear units without the factory-adjusted torque arms provided for this purpose, the dimensions for ad2 and ad3 must meet the specified value.	
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#### Dimensions of gear units

Type	□a4	ad	ad1	ad2	ad3	ad4	Øb	B	B2	Ødd	Øds	Øds1	Øds2	Ødss	ØDd	ØDs	ØDsa
K10	340	5	55	550	400	60	250 <sub>h6</sub>	400	356	40 <sup>H9</sup>	100 <sub>h6</sub>	100 <sub>h6</sub> <sup>H7</sup>	102	130	120	130	274

#### Dimensions of gear units

Type	ØDss	Øe	f	h	H	i2	ld	ld1	ls	lsa	m1	m2	m3	m4	m5	s4	t4
K10	230	300	20	375	591	27	118	124	483	497	225	60	80	70	70	M20	33

#### Dimensions of motors

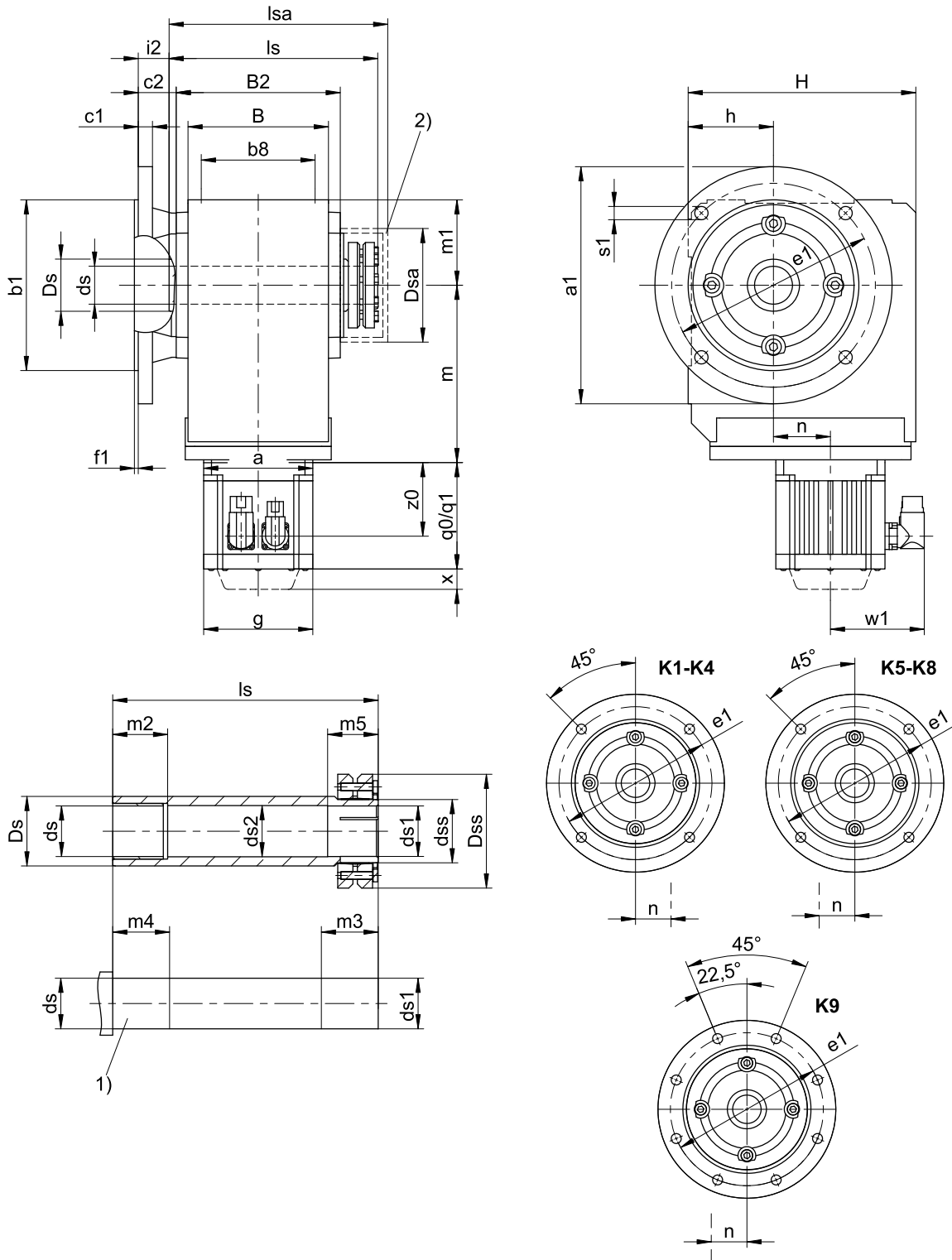
Type	□g	q0	q1	w1	x	z0
EZ802U	190	232.5	309.5	156.5	22	178.5
EZ803U	190	273.5	350.5	156.5	22	219.5

#### Dimensions of geared motors

Type	a	EZ8 m	n
K1014	Ø250	450	28.0



### 20.3.11 S shaft design (hollow shaft with shrink disk), F housing design (round flange)



q0	Applies to motors without brake.	q1	Applies to motors with brake.
x	Applies to encoders using an optical measuring concept.	w1	For variation for One Cable Solution (OCS), see Chapter <a href="#">22.4</a>
1)	Machine shaft: The dimension ls must meet or exceed the specified value.	2)	Cover (optional)





**Dimensions of gear units**

Type	Øa1	Øb1	b8	B	B2	c1	c2	Øds	Øds1	Øds2	Ødss	ØDs	ØDsa	ØDss	Øe1	f1	h	H	i2	ls	lsa	m1	m2	m3	m4	m5	Øs1
K1	160	110 <sub>h6</sub>	70	90	106	10	32.0	25 <sub>h9</sub>	25 <sub>h9</sub> <sup>H7</sup>	25.5	30	40	80	60	130	3.5	60	160	25.0	149	163	60	20	34	25	29	9
K2	200	130 <sub>h6</sub>	90	115	134	12	32.0	30 <sub>h9</sub>	30 <sub>h9</sub> <sup>H7</sup>	30.5	36	45	88	72	165	3.5	65	190	25.0	178	193	65	25	39	30	34	11
K3	200	130 <sub>h6</sub>	105	130	146	14	38.0	35 <sub>h9</sub>	35 <sub>h9</sub> <sup>H7</sup>	35.5	44	50	101	80	165	3.5	75	213	31.0	190	206	75	30	39	35	34	11
K4	250	180 <sub>h6</sub>	120	148	173	15	40.0	40 <sub>h9</sub>	40 <sub>h9</sub> <sup>H7</sup>	40.5	50	55	114	90	215	4.0	90	240	32.5	220	243	90	40	39	45	34	14
K5	250	180 <sub>h6</sub>	125	160	185	15	39.5	50 <sub>h9</sub>	50 <sub>h9</sub> <sup>H7</sup>	50.5	62	65	116	106	215	4.0	160	260	32.0	237	254	100	40	44	45	39	14
K6	300	230 <sub>h6</sub>	130	168	200	17	36.0	50 <sub>h9</sub>	50 <sub>h9</sub> <sup>H7</sup>	50.5	62	70	128	106	265	4.0	190	310	28.5	254	276	120	40	45	45	40	14
K7	350	250 <sub>h6</sub>	145	190	226	18	44.0	60 <sub>h6</sub>	60 <sub>h6</sub> <sup>H7</sup>	62.0	75	85	161.5	138	300	5.0	212	342	36.0	278	314	125	40	45	45	40	18
K8	400	300 <sub>h6</sub>	185	235	282	20	45.0	70 <sub>h6</sub>	70 <sub>h6</sub> <sup>H7</sup>	72.0	90	100	193	155	350	5.0	265	410	36.0	352	378	145	50	60	60	50	18
K9	450	350 <sub>h6</sub>	225	285	330	23	50.0	90 <sub>h6</sub>	90 <sub>h6</sub> <sup>H7</sup>	92.0	120	120	244	200	400	5.0	315	495	40.0	418	428	180	60	70	70	60	18

**Dimensions of additional round flanges**

Type	Øa1	Øb1	c1	Øe1	f1	Øs1
K1	140	95 <sub>h6</sub>	10	115	3.0	9
K2	160	110 <sub>h6</sub>	12	130	3.5	9
K3	160	110 <sub>h6</sub>	14	130	3.5	9
K3	250	180 <sub>h6</sub>	14	215	4.0	14
K8	350	250 <sub>h6</sub>	18	300	5.0	18
K8	450	350 <sub>h6</sub>	20	400	5.0	18

**Dimensions of motors**

Type	□g	q0	q1	w1	x	z0
EZ301U	72	114.0	154.0	55.5	21	78.5
EZ302U	72	136.0	176.0	55.5	21	100.5
EZ303U	72	158.0	198.0	55.5	21	122.5
EZ401U	98	118.5	167.0	91.0	22	76.5
EZ402U	98	143.5	192.0	91.0	22	101.5
EZ404U	98	193.5	242.0	91.0	22	151.5
EZ501U	115	112.0	166.5	100.0	22	77.5
EZ502U	115	137.0	191.5	100.0	22	102.5
EZ503U	115	162.0	216.5	100.0	22	127.5
EZ505U	115	212.0	266.5	100.0	22	177.5
EZ701U	145	125.0	184.0	115.0	22	87.0
EZ702U	145	150.0	209.0	115.0	22	112.0
EZ703U	145	175.0	234.0	115.0	22	137.0
EZ705U	145	230.0	289.0	134.0	22	188.0
EZ802U	190	232.5	309.5	156.5	22	178.5
EZ803U	190	273.5	350.5	156.5	22	219.5
EZ805U	190	355.5	432.5	156.5	22	301.5

The dimensions a, m and n can be found on the next page.

K



## 20 K helical bevel geared motors

### 20.3 Dimensional drawings

#### Dimensions of geared motors

Type	EZ3			EZ4			EZ5			EZ7			EZ8		
	a	m	n	a	m	n	a	m	n	a	m	n	a	m	n
K102	□72	124	36.0	□98	124	36.0	□115	128	36.0	□145	130	36.0	-	-	-
K202	□72	143	46.0	□98	143	46.0	□115	147	46.0	□145	149	46.0	-	-	-
K203	∅140	180	46.0	∅140	180	46.0	-	-	-	-	-	-	-	-	-
K302	∅140	163	52.5	∅140	163	52.5	□115	167	52.5	□145	169	52.5	-	-	-
K303	∅140	200	52.5	∅140	200	52.5	∅160	210	16.0	-	-	-	-	-	-
K402	-	-	-	-	-	-	∅160	187	60.0	□145	189	60.0	□190	192	60.0
K403	∅140	220	60.0	∅140	220	60.0	∅160	230	23.0	-	-	-	-	-	-
K513	-	-	-	-	-	-	∅160	172	15.0	□145	174	15.0	□190	177	15.0
K514	-	-	-	-	-	-	∅160	215	15.0	-	-	-	-	-	-
K613	-	-	-	-	-	-	∅160	191	18.0	∅200	193	18.0	□190	196	18.0
K614	-	-	-	-	-	-	∅160	234	18.0	-	-	-	-	-	-
K713	-	-	-	-	-	-	-	-	-	∅200	221	20.0	□190	224	20.0
K714	-	-	-	-	-	-	∅160	263	20.0	∅200	283	20.0	-	-	-
K813	-	-	-	-	-	-	-	-	-	∅200	247	24.0	∅250	249	24.0
K814	-	-	-	-	-	-	-	-	-	∅200	308	24.0	∅250	320	5.0
K913	-	-	-	-	-	-	-	-	-	-	-	-	∅250	294	25.0
K914	-	-	-	-	-	-	-	-	-	∅200	353	25.0	∅250	365	25.0

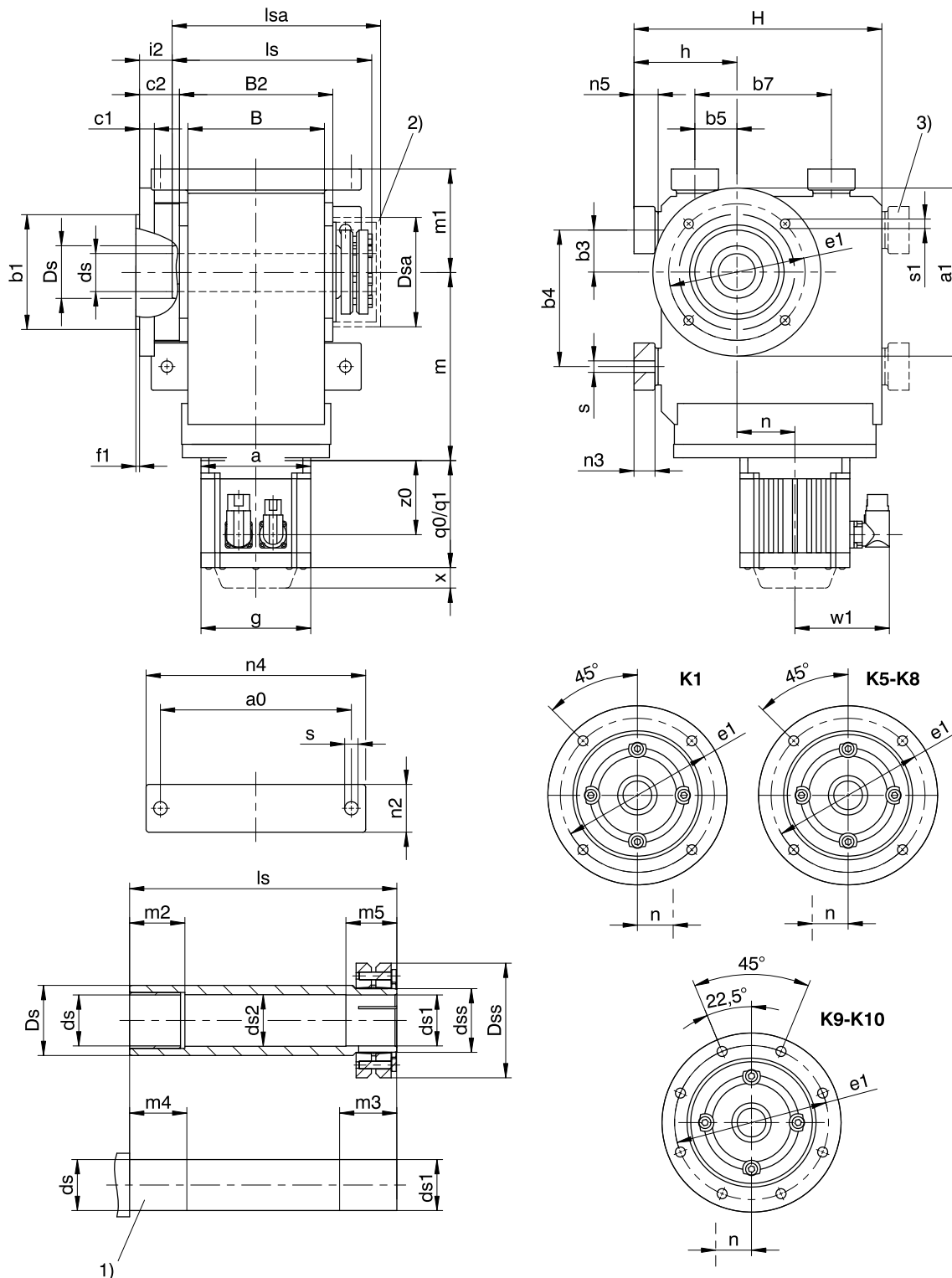


20 K helical bevel geared motors  
20.3 Dimensional drawings





### 20.3.12 S shaft design (hollow shaft with shrink disk), NF housing design (base + round flange)



q0	Applies to motors without brake.	q1	Applies to motors with brake.
x	Applies to encoders using an optical measuring concept.	w1	For variation for One Cable Solution (OCS), see Chapter <a href="#">[ 22.4 ]</a>
1)	Machine shaft: The dimension $l_s$ must meet or exceed the specified value.	2)	Cover (optional)
3)	Only for K1 (other sizes on request)		



**Dimensions of gear units**

Type	a0	Øa1	Øb1	b3	b4	b5	b7	B	B2	c1	Øds	Øds1	Øds2	Ødss	ØDs	ØDsa	ØDss
K1	115	160	110 <sub>f6</sub>	30	90	30	90	90	106	10	25 <sub>H9</sub>	25 <sub>H7</sub>	25.5	30	40	80	60
K5	200	250	180 <sub>f6</sub>	40	140	100	140	160	185	15	50 <sub>H9</sub>	50 <sub>H7</sub>	50.5	62	65	116	106
K6	210	300	230 <sub>f6</sub>	50	160	110	160	168	200	17	50 <sub>H9</sub>	50 <sub>H7</sub>	50.5	62	70	128	106
K7	241	350	250 <sub>H6</sub>	55	180	125	180	190	226	18	60 <sub>H6</sub>	60 <sub>H7</sub>	62.0	75	85	161.5	138
K8	300	400	300 <sub>H6</sub>	75	240	165	240	235	282	20	70 <sub>H6</sub>	70 <sub>H7</sub>	72.0	90	100	193	155
K9	360	450	350 <sub>H6</sub>	95	280	185	280	285	330	23	90 <sub>H6</sub>	90 <sub>H7</sub>	92.0	120	120	244	200
K10	330	550	450 <sub>H6</sub>	115	350	265	420	400	356	25	100 <sub>H6</sub>	100 <sub>H7</sub>	102.0	130	130	274	230

**Dimensions of gear units**

Type	Øe1	f1	h	H	i2	ls	lsa	m1	m2	m3	m4	m5	n2	n3	n4	n5	Øs	Øs1
K1	130	3.5	75	175	25.0	149	163	75	20	34	25	29	30	13	140	15	9.0	9
K5	215	4.0	190	290	32.0	237	254	130	40	44	45	39	60	27	240	30	18.0	14
K6	265	4.0	220	340	28.5	254	276	150	40	45	45	40	65	27	250	30	18.5	14
K7	300	5.0	250	380	36.0	278	314	163	40	45	45	40	70	35	290	38	23.0	18
K8	350	5.0	310	455	36.0	352	378	190	50	60	60	50	85	41	360	45	27.0	18
K9	400	5.0	365	545	40.0	418	428	230	60	70	70	60	95	46	430	50	34.0	18
K10	500	5.0	420	636	51.0	483	497	270	60	80	70	70	120	-	400	45	39.0	18

**Dimensions of additional round flanges**

Type	Øa1	Øb1	c1	Øe1	f1	Øs1
K1	140	95 <sub>f6</sub>	10	115	3.0	9
K2	160	110 <sub>f6</sub>	12	130	3.5	9
K3	160	110 <sub>f6</sub>	14	130	3.5	9
K3	250	180 <sub>f6</sub>	14	215	4.0	14
K8	350	250 <sub>H6</sub>	18	300	5.0	18
K8	450	350 <sub>H6</sub>	20	400	5.0	18

**Dimensions of motors**

Type	□g	q0	q1	w1	x	z0
EZ301U	72	114.0	154.0	55.5	21	78.5
EZ302U	72	136.0	176.0	55.5	21	100.5
EZ303U	72	158.0	198.0	55.5	21	122.5
EZ401U	98	118.5	167.0	91.0	22	76.5
EZ402U	98	143.5	192.0	91.0	22	101.5
EZ404U	98	193.5	242.0	91.0	22	151.5
EZ501U	115	112.0	166.5	100.0	22	77.5
EZ502U	115	137.0	191.5	100.0	22	102.5
EZ503U	115	162.0	216.5	100.0	22	127.5
EZ505U	115	212.0	266.5	100.0	22	177.5
EZ701U	145	125.0	184.0	115.0	22	87.0
EZ702U	145	150.0	209.0	115.0	22	112.0
EZ703U	145	175.0	234.0	115.0	22	137.0
EZ705U	145	230.0	289.0	134.0	22	188.0
EZ802U	190	232.5	309.5	156.5	22	178.5
EZ803U	190	273.5	350.5	156.5	22	219.5
EZ805U	190	355.5	432.5	156.5	22	301.5

The dimensions a, m and n can be found on the next page.

K



## 20 K helical bevel geared motors

### 20.3 Dimensional drawings

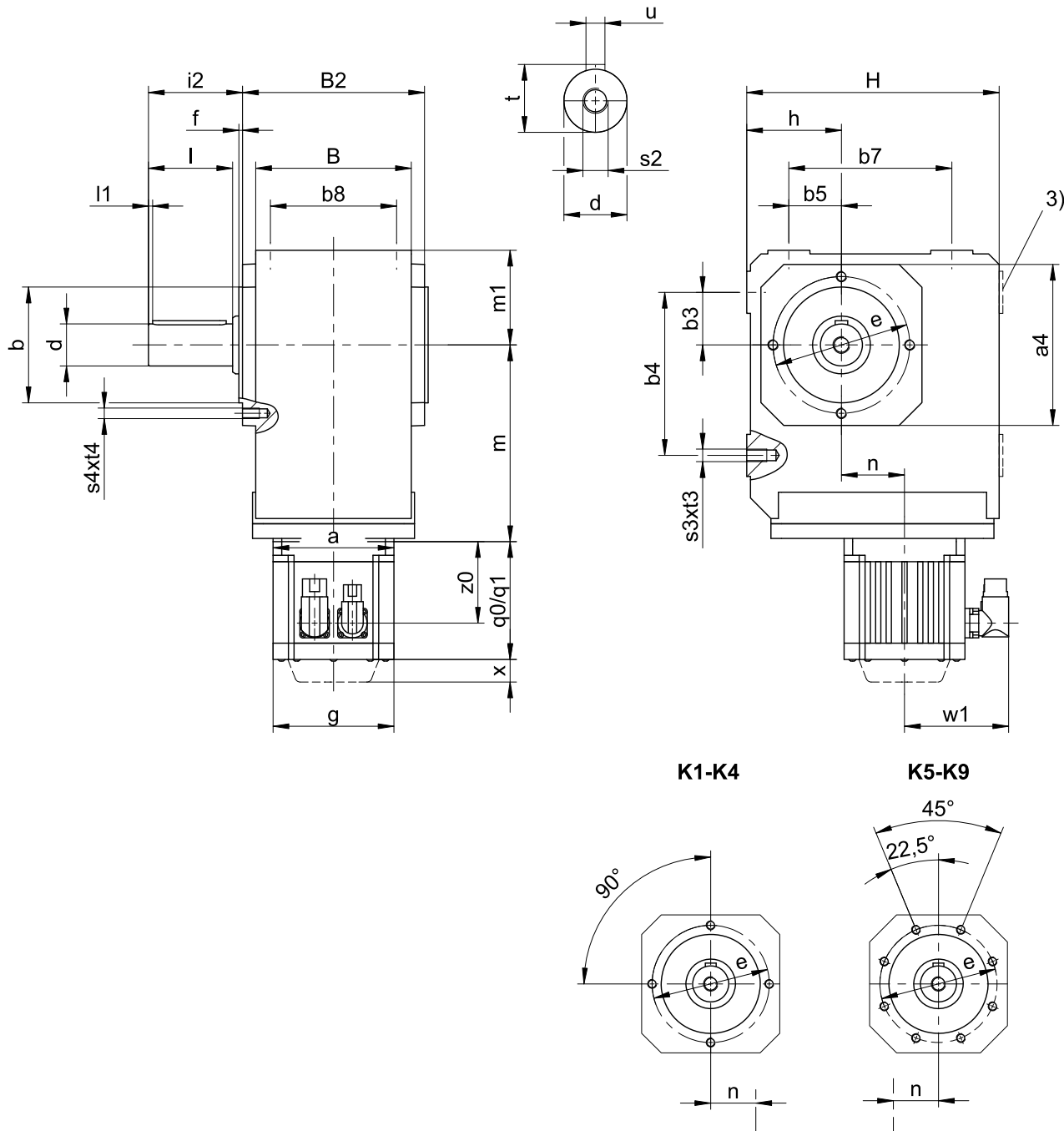
#### Dimensions of geared motors

Type	EZ3			EZ4			EZ5			EZ7			EZ8		
	a	m	n	a	m	n	a	m	n	a	m	n	a	m	n
K102	□72	124	36.0	□98	124	36.0	□115	128	36.0	□145	130	36.0	-	-	-
K513	-	-	-	-	-	-	∅160	172	15.0	□145	174	15.0	□190	177	15.0
K514	-	-	-	-	-	-	∅160	215	15.0	-	-	-	-	-	-
K613	-	-	-	-	-	-	∅160	191	18.0	∅200	193	18.0	□190	196	18.0
K614	-	-	-	-	-	-	∅160	234	18.0	-	-	-	-	-	-
K713	-	-	-	-	-	-	-	-	-	∅200	221	20.0	□190	224	20.0
K714	-	-	-	-	-	-	∅160	263	20.0	∅200	283	20.0	-	-	-
K813	-	-	-	-	-	-	-	-	-	∅200	247	24.0	∅250	249	24.0
K814	-	-	-	-	-	-	-	-	-	∅200	308	24.0	∅250	320	5.0
K913	-	-	-	-	-	-	-	-	-	-	-	-	∅250	294	25.0
K914	-	-	-	-	-	-	-	-	-	∅200	353	25.0	∅250	365	25.0
K1014	-	-	-	-	-	-	-	-	-	-	-	-	∅250	450	28.0





### 20.3.13 A shaft design (solid shaft), G housing design (pitch circle diameter)



q0	Applies to motors without brake.	q1	Applies to motors with brake.
x	Applies to encoders using an optical measuring concept.	w1	For variation for One Cable Solution (OCS), see Chapter <a href="#">[ 22.4 ]</a>
3)	Only for K1 (other sizes on request)	-	K1 – K4: solid shaft without feather key available, on request starting at K5.
-	K1 – K9: Solid shaft on both sides available.		





Dimensions of gear units

Type	□a4	∅b	b3	b4	b5	b7	b8	B	B2	∅d	∅e	f	h	H	i2	l	l1	m1	s2	s3	s4	t	t3	t4	u
K1	105	75 <sub>β</sub>	30	90	30	90	70	90	106	25 <sub>k6</sub>	90	3.0	60	160	62.0	50	4	60	M10	M8	M8	28.0	13	13	A8x7x40
K2	116	82 <sub>β</sub>	35	115	35	115	90	115	134	30 <sub>k6</sub>	100	3.0	65	190	68.0	60	4	65	M10	M10	M8	33.0	16	13	A8x7x50
K3	132	95 <sub>β</sub>	40	130	40	130	105	130	146	30 <sub>k6</sub>	115	3.0	75	213	69.0	60	4	75	M10	M10	M8	33.0	16	13	A8x7x50
K4	152	110 <sub>β</sub>	50	155	50	155	120	148	173	40 <sub>k6</sub>	130	3.5	90	240	89.5	80	4	90	M16	M12	M10	43.0	19	16	A12x8x70
K5	145	110 <sub>β</sub>	40	140	100	140	125	160	185	45 <sub>k6</sub>	130	3.5	160	260	129.5	90	4	100	M16	M16	M10	48.5	26	16	A14x9x80
K6	180	140 <sub>β</sub>	50	160	110	160	130	168	200	50 <sub>k6</sub>	165	3.5	190	310	136.0	100	4	120	M16	M16	M10	53.5	26	16	A14x9x90
K7	195	155 <sub>β</sub>	55	180	125	180	145	190	226	60 <sub>m6</sub>	185	3.5	212	342	164.0	120	4	125	M20	M20	M12	64.0	33	19	A18x11x110
K8	226	185 <sub>β</sub>	75	240	165	240	185	235	282	70 <sub>m6</sub>	215	4.0	265	410	185.0	140	5	145	M20	M24	M12	74.5	38	19	A20x12x125
K9	280	230 <sub>β</sub>	95	280	185	280	225	285	330	90 <sub>m6</sub>	265	5.0	315	495	220.0	170	8	180	M24	M30	M16	95.0	48	26	A25x14x140

Dimensions of motors

Type	□g	q0	q1	w1	x	z0
EZ301U	72	114.0	154.0	55.5	21	78.5
EZ302U	72	136.0	176.0	55.5	21	100.5
EZ303U	72	158.0	198.0	55.5	21	122.5
EZ401U	98	118.5	167.0	91.0	22	76.5
EZ402U	98	143.5	192.0	91.0	22	101.5
EZ404U	98	193.5	242.0	91.0	22	151.5
EZ501U	115	112.0	166.5	100.0	22	77.5
EZ502U	115	137.0	191.5	100.0	22	102.5
EZ503U	115	162.0	216.5	100.0	22	127.5
EZ505U	115	212.0	266.5	100.0	22	177.5
EZ701U	145	125.0	184.0	115.0	22	87.0
EZ702U	145	150.0	209.0	115.0	22	112.0
EZ703U	145	175.0	234.0	115.0	22	137.0
EZ705U	145	230.0	289.0	134.0	22	188.0
EZ802U	190	232.5	309.5	156.5	22	178.5
EZ803U	190	273.5	350.5	156.5	22	219.5
EZ805U	190	355.5	432.5	156.5	22	301.5

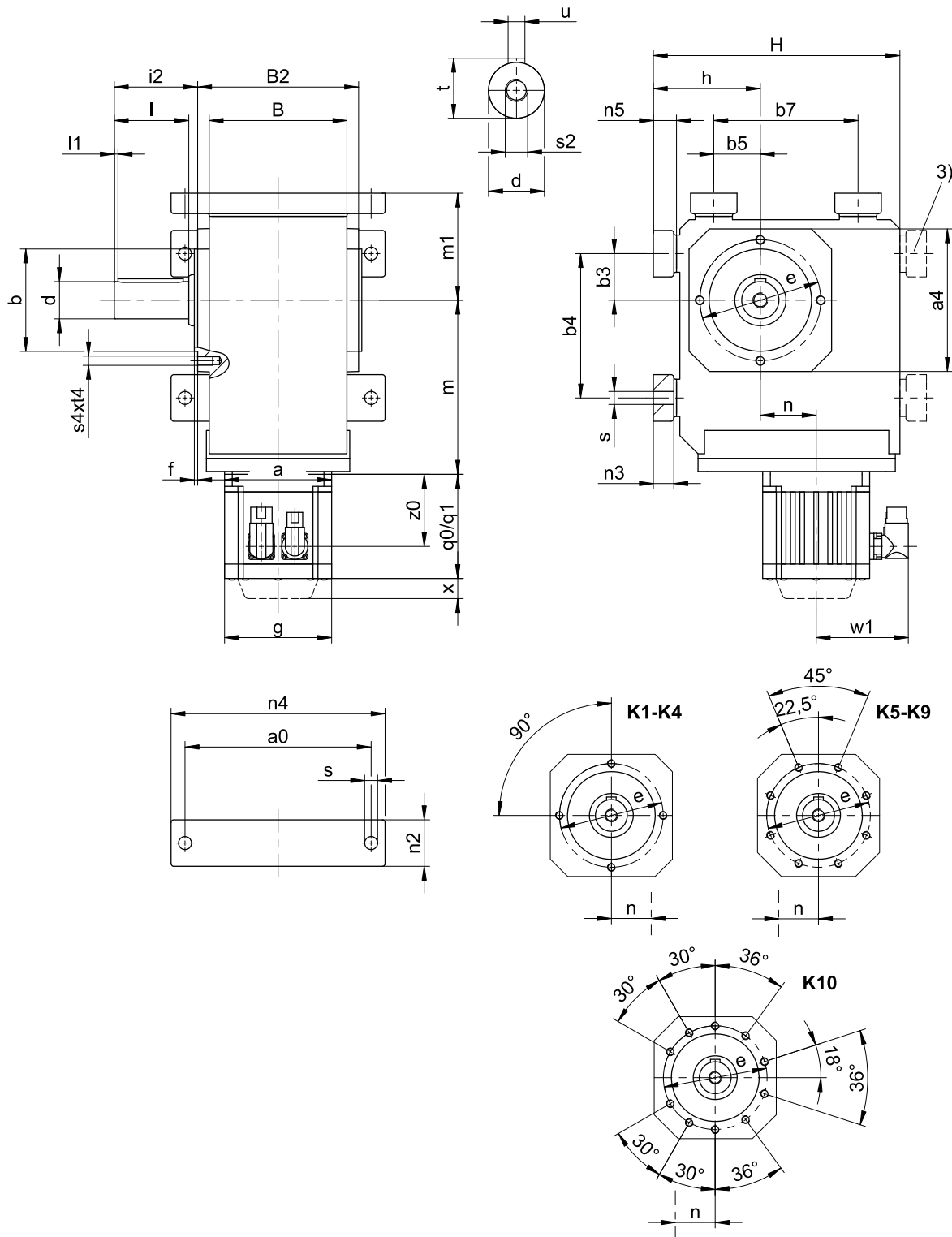
Dimensions of geared motors

Type	EZ3			EZ4			EZ5			EZ7			EZ8		
	a	m	n	a	m	n	a	m	n	a	m	n	a	m	n
K102	□72	124	36.0	□98	124	36.0	□115	128	36.0	□145	130	36.0	-	-	-
K202	□72	143	46.0	□98	143	46.0	□115	147	46.0	□145	149	46.0	-	-	-
K203	∅140	180	46.0	∅140	180	46.0	-	-	-	-	-	-	-	-	-
K302	∅140	163	52.5	∅140	163	52.5	□115	167	52.5	□145	169	52.5	-	-	-
K303	∅140	200	52.5	∅140	200	52.5	∅160	210	16.0	-	-	-	-	-	-
K402	-	-	-	-	-	-	∅160	187	60.0	□145	189	60.0	□190	192	60.0
K403	∅140	220	60.0	∅140	220	60.0	∅160	230	23.0	-	-	-	-	-	-
K513	-	-	-	-	-	-	∅160	172	15.0	□145	174	15.0	□190	177	15.0
K514	-	-	-	-	-	-	∅160	215	15.0	-	-	-	-	-	-
K613	-	-	-	-	-	-	∅160	191	18.0	∅200	193	18.0	□190	196	18.0
K614	-	-	-	-	-	-	∅160	234	18.0	-	-	-	-	-	-
K713	-	-	-	-	-	-	-	-	-	∅200	221	20.0	□190	224	20.0
K714	-	-	-	-	-	-	∅160	263	20.0	∅200	283	20.0	-	-	-
K813	-	-	-	-	-	-	-	-	-	∅200	247	24.0	∅250	249	24.0
K814	-	-	-	-	-	-	-	-	-	∅200	308	24.0	∅250	320	5.0
K913	-	-	-	-	-	-	-	-	-	-	-	-	∅250	294	25.0
K914	-	-	-	-	-	-	-	-	-	∅200	353	25.0	∅250	365	25.0

K



### 20.3.14 V shaft design (solid shaft), NG housing design (base + pitch circle diameter)



q0	Applies to motors without brake.	q1	Applies to motors with brake.
x	Applies to encoders using an optical measuring concept.	w1	For variation for One Cable Solution (OCS), see Chapter <a href="#">[ 22.4 ]</a>
3)	Only for K1 (other sizes on request)	-	K1 – K4: solid shaft without feather key available, on request starting at K5.
-	K1 – K10: Solid shaft on both sides available.		



**Dimensions of gear units**

Type	a0	□a4	Øb	b3	b4	b5	b7	B	B2	Ød	Øe	f	h	H	i2	l	l1	m1	n2	n3	n4	n5	Øs	s2	s4	t	t4	u
K1	115	105	75 <sub>h6</sub>	30	90	30	90	90	106	25 <sub>h6</sub>	90	3.0	75	175	62.0	50	4	75	30	13	140	15	9.0	M10	M8	28.0	13	A8x7x40
K2	155	116	82 <sub>h6</sub>	35	115	35	115	115	134	30 <sub>h6</sub>	100	3.0	88	213	68.0	60	4	88	40	20	185	23	11.0	M10	M8	33.0	13	A8x7x50
K3	170	132	95 <sub>h6</sub>	40	130	40	130	130	146	30 <sub>h6</sub>	115	3.0	98	236	69.0	60	4	98	45	20	200	23	11.0	M10	M8	33.0	13	A8x7x50
K4	200	152	110 <sub>h6</sub>	50	155	50	155	148	173	40 <sub>h6</sub>	130	3.5	115	265	89.5	80	4	115	50	22	230	25	14.0	M16	M10	43.0	16	A12x8x70
K5	200	145	110 <sub>h6</sub>	40	140	100	140	160	185	45 <sub>h6</sub>	130	3.5	190	290	129.5	90	4	130	60	27	240	30	18.0	M16	M10	48.5	16	A14x9x80
K6	210	180	140 <sub>h6</sub>	50	160	110	160	168	200	50 <sub>h6</sub>	165	3.5	220	340	136.0	100	4	150	65	27	250	30	18.5	M16	M10	53.5	16	A14x9x90
K7	241	195	155 <sub>h6</sub>	55	180	125	180	190	226	60 <sub>h6</sub>	185	3.5	250	380	164.0	120	4	163	70	35	290	38	23.0	M20	M12	64.0	19	A18x11x110
K8	300	226	185 <sub>h6</sub>	75	240	165	240	235	282	70 <sub>h6</sub>	215	4.0	310	455	185.0	140	5	190	85	41	360	45	27.0	M20	M12	74.5	19	A20x12x125
K9	360	280	230 <sub>h6</sub>	95	280	185	280	285	330	90 <sub>h6</sub>	265	5.0	365	545	220.0	170	8	230	95	46	430	50	34.0	M24	M16	95.0	26	A25x14x140
K10	330	340	250 <sub>h6</sub>	115	350	265	420	400	356	110 <sub>h6</sub>	300	20.0	420	636	240.0	210	15	270	120	-	400	45	39.0	M24	M20	116.0	33	A28x16x180

**Dimensions of motors**

Type	□g	q0	q1	w1	x	z0
EZ301U	72	114.0	154.0	55.5	21	78.5
EZ302U	72	136.0	176.0	55.5	21	100.5
EZ303U	72	158.0	198.0	55.5	21	122.5
EZ401U	98	118.5	167.0	91.0	22	76.5
EZ402U	98	143.5	192.0	91.0	22	101.5
EZ404U	98	193.5	242.0	91.0	22	151.5
EZ501U	115	112.0	166.5	100.0	22	77.5
EZ502U	115	137.0	191.5	100.0	22	102.5
EZ503U	115	162.0	216.5	100.0	22	127.5
EZ505U	115	212.0	266.5	100.0	22	177.5
EZ701U	145	125.0	184.0	115.0	22	87.0
EZ702U	145	150.0	209.0	115.0	22	112.0
EZ703U	145	175.0	234.0	115.0	22	137.0
EZ705U	145	230.0	289.0	134.0	22	188.0
EZ802U	190	232.5	309.5	156.5	22	178.5
EZ803U	190	273.5	350.5	156.5	22	219.5
EZ805U	190	355.5	432.5	156.5	22	301.5

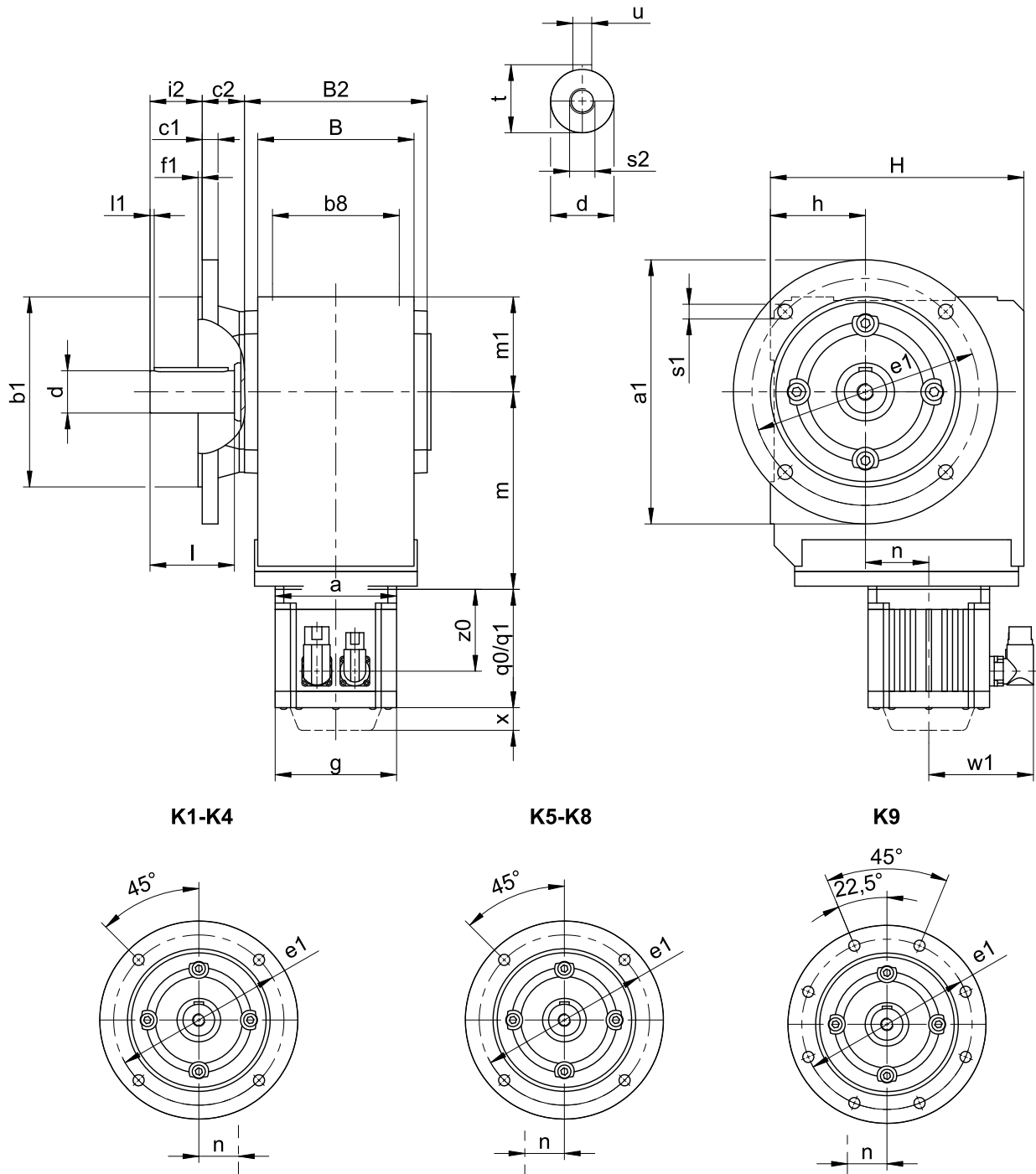
**Dimensions of geared motors**

Type	EZ3			EZ4			EZ5			EZ7			EZ8		
	a	m	n	a	m	n	a	m	n	a	m	n	a	m	n
K102	□72	124	36.0	□98	124	36.0	□115	128	36.0	□145	130	36.0	-	-	-
K202	□72	143	46.0	□98	143	46.0	□115	147	46.0	□145	149	46.0	-	-	-
K203	Ø140	180	46.0	Ø140	180	46.0	-	-	-	-	-	-	-	-	-
K302	Ø140	163	52.5	Ø140	163	52.5	□115	167	52.5	□145	169	52.5	-	-	-
K303	Ø140	200	52.5	Ø140	200	52.5	Ø160	210	16.0	-	-	-	-	-	-
K402	-	-	-	-	-	-	Ø160	187	60.0	□145	189	60.0	□190	192	60.0
K403	Ø140	220	60.0	Ø140	220	60.0	Ø160	230	23.0	-	-	-	-	-	-
K513	-	-	-	-	-	-	Ø160	172	15.0	□145	174	15.0	□190	177	15.0
K514	-	-	-	-	-	-	Ø160	215	15.0	-	-	-	-	-	-
K613	-	-	-	-	-	-	Ø160	191	18.0	Ø200	193	18.0	□190	196	18.0
K614	-	-	-	-	-	-	Ø160	234	18.0	-	-	-	-	-	-
K713	-	-	-	-	-	-	-	-	-	Ø200	221	20.0	□190	224	20.0
K714	-	-	-	-	-	-	Ø160	263	20.0	Ø200	283	20.0	-	-	-
K813	-	-	-	-	-	-	-	-	-	Ø200	247	24.0	Ø250	249	24.0
K814	-	-	-	-	-	-	-	-	-	Ø200	308	24.0	Ø250	320	5.0
K913	-	-	-	-	-	-	-	-	-	-	-	-	Ø250	294	25.0
K914	-	-	-	-	-	-	-	-	-	Ø200	353	25.0	Ø250	365	25.0
K1014	-	-	-	-	-	-	-	-	-	-	-	-	Ø250	450	28.0

K



### 20.3.15 V shaft design (solid shaft), F housing design (round flange)



K1-K4

K5-K8

K9

q0	Applies to motors without brake.	q1	Applies to motors with brake.
x	Applies to encoders using an optical measuring concept.	w1	For variation for One Cable Solution (OCS), see Chapter [▶ 22.4]
-	K1 – K4: solid shaft without feather key available, on request starting at K5.	-	K1 – K9: Solid shaft on both sides available.

#### Dimensions of gear units

Type	Øa1	Øb1	b8	B	B2	c1	c2	Ød	Øe1	f1	h	H	i2	l	l1	m1	Øs1	s2	t	u
K1	160	110 <sub>6</sub>	70	90	106	10	32.0	25 <sub>6</sub>	130	3.5	60	160	30.0	50	4	60	9	M10	28.0	A8x7x40
K2	200	130 <sub>6</sub>	90	115	134	12	32.0	30 <sub>6</sub>	165	3.5	65	190	36.0	60	4	65	11	M10	33.0	A8x7x50
K3	200	130 <sub>6</sub>	105	130	146	14	38.0	30 <sub>6</sub>	165	3.5	75	213	31.0	60	4	75	11	M10	33.0	A8x7x50



20 K helical bevel geared motors  
20.3 Dimensional drawings



Type	Øa1	Øb1	b8	B	B2	c1	c2	Ød	Øe1	f1	h	H	i2	l	l1	m1	Øs1	s2	t	u
K4	250	180 <sub>js</sub>	120	148	173	15	40.0	40 <sub>kg</sub>	215	4.0	90	240	49.5	80	4	90	14	M16	43.0	A12x8x70
K5	250	180 <sub>js</sub>	125	160	185	15	39.5	45 <sub>kg</sub>	215	4.0	160	260	90.0	90	4	100	14	M16	48.5	A14x9x80
K6	300	230 <sub>js</sub>	130	168	200	17	36.0	50 <sub>kg</sub>	265	4.0	190	310	100.0	100	4	120	14	M16	53.5	A14x9x90
K7	350	250 <sub>h6</sub>	145	190	226	18	44.0	60 <sub>ms</sub>	300	5.0	212	342	120.0	120	4	125	18	M20	64.0	A18x11x110
K8	400	300 <sub>h6</sub>	185	235	282	20	45.0	70 <sub>ms</sub>	350	5.0	265	410	140.0	140	5	145	18	M20	74.5	A20x12x125
K9	450	350 <sub>h6</sub>	225	285	330	23	50.0	90 <sub>ms</sub>	400	5.0	315	495	170.0	170	8	180	18	M24	95.0	A25x14x140

Dimensions of additional round flanges

Type	Øa1	Øb1	c1	Øe1	f1	Øs1
K1	140	95 <sub>js</sub>	10	115	3.0	9
K2	160	110 <sub>js</sub>	12	130	3.5	9
K3	160	110 <sub>js</sub>	14	130	3.5	9
K3	250	180 <sub>js</sub>	14	215	4.0	14
K8	350	250 <sub>h6</sub>	18	300	5.0	18
K8	450	350 <sub>h6</sub>	20	400	5.0	18

Dimensions of motors

Type	□g	q0	q1	w1	x	z0
EZ301U	72	114.0	154.0	55.5	21	78.5
EZ302U	72	136.0	176.0	55.5	21	100.5
EZ303U	72	158.0	198.0	55.5	21	122.5
EZ401U	98	118.5	167.0	91.0	22	76.5
EZ402U	98	143.5	192.0	91.0	22	101.5
EZ404U	98	193.5	242.0	91.0	22	151.5
EZ501U	115	112.0	166.5	100.0	22	77.5
EZ502U	115	137.0	191.5	100.0	22	102.5
EZ503U	115	162.0	216.5	100.0	22	127.5
EZ505U	115	212.0	266.5	100.0	22	177.5
EZ701U	145	125.0	184.0	115.0	22	87.0
EZ702U	145	150.0	209.0	115.0	22	112.0
EZ703U	145	175.0	234.0	115.0	22	137.0
EZ705U	145	230.0	289.0	134.0	22	188.0
EZ802U	190	232.5	309.5	156.5	22	178.5
EZ803U	190	273.5	350.5	156.5	22	219.5
EZ805U	190	355.5	432.5	156.5	22	301.5

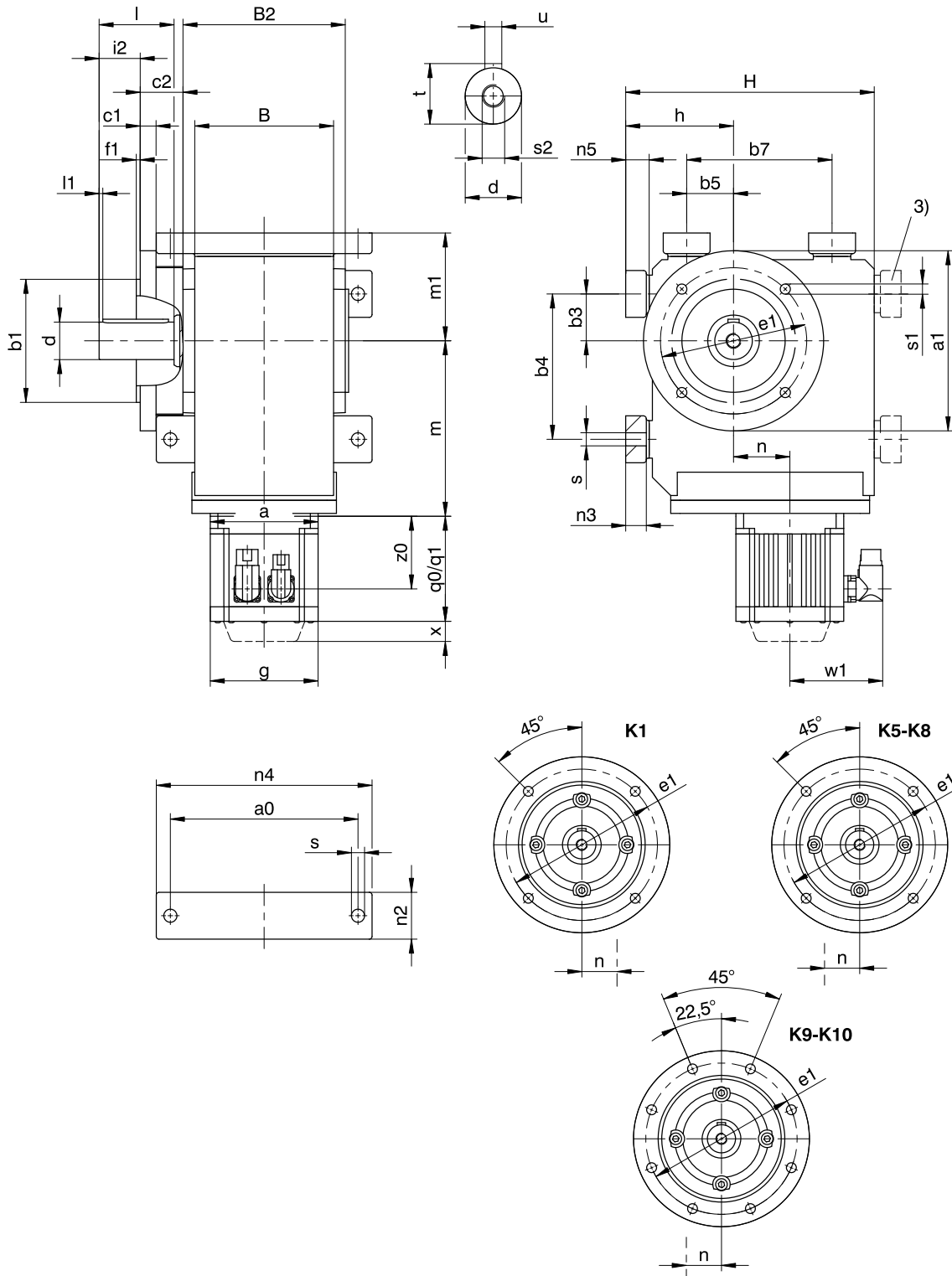
Dimensions of geared motors

Type	EZ3			EZ4			EZ5			EZ7			EZ8		
	a	m	n	a	m	n	a	m	n	a	m	n	a	m	n
K102	□72	124	36.0	□98	124	36.0	□115	128	36.0	□145	130	36.0	-	-	-
K202	□72	143	46.0	□98	143	46.0	□115	147	46.0	□145	149	46.0	-	-	-
K203	Ø140	180	46.0	Ø140	180	46.0	-	-	-	-	-	-	-	-	-
K302	Ø140	163	52.5	Ø140	163	52.5	□115	167	52.5	□145	169	52.5	-	-	-
K303	Ø140	200	52.5	Ø140	200	52.5	Ø160	210	16.0	-	-	-	-	-	-
K402	-	-	-	-	-	-	Ø160	187	60.0	□145	189	60.0	□190	192	60.0
K403	Ø140	220	60.0	Ø140	220	60.0	Ø160	230	23.0	-	-	-	-	-	-
K513	-	-	-	-	-	-	Ø160	172	15.0	□145	174	15.0	□190	177	15.0
K514	-	-	-	-	-	-	Ø160	215	15.0	-	-	-	-	-	-
K613	-	-	-	-	-	-	Ø160	191	18.0	Ø200	193	18.0	□190	196	18.0
K614	-	-	-	-	-	-	Ø160	234	18.0	-	-	-	-	-	-
K713	-	-	-	-	-	-	-	-	-	Ø200	221	20.0	□190	224	20.0
K714	-	-	-	-	-	-	Ø160	263	20.0	Ø200	283	20.0	-	-	-
K813	-	-	-	-	-	-	-	-	-	Ø200	247	24.0	Ø250	249	24.0
K814	-	-	-	-	-	-	-	-	-	Ø200	308	24.0	Ø250	320	5.0
K913	-	-	-	-	-	-	-	-	-	-	-	-	Ø250	294	25.0
K914	-	-	-	-	-	-	-	-	-	Ø200	353	25.0	Ø250	365	25.0

K



20.3.16 V shaft design (solid shaft), NF housing design (base + round flange)



q0	Applies to motors without brake.	q1	Applies to motors with brake.
x	Applies to encoders using an optical measuring concept.	w1	For variation for One Cable Solution (OCS), see Chapter <a href="#">[ 22.4 ]</a>
3)	Only for K1 (other sizes on request)	-	K1 – K4: solid shaft without feather key available, on request starting at K5.
-	K1 – K10: Solid shaft on both sides available.		



**Dimensions of gear units**

Type	a0	Øa1	Øb1	b3	b4	b5	b7	B	B2	c1	c2	Ød	Øe1	f1	h	H	i2	l	l1	m1	n2	n3	n4	n5	Øs	Øs1	s2	t	u
K1	115	160	110 <sub>h6</sub>	30	90	30	90	90	106	10	32.0	25 <sub>h6</sub>	130	3.5	75	175	30.0	50	4	75	30	13	140	15	9.0	9	M10	28.0	A8x7x40
K5	200	250	180 <sub>h6</sub>	40	140	100	140	160	185	15	39.5	45 <sub>h6</sub>	215	4.0	190	290	90.0	90	4	130	60	27	240	30	18.0	14	M16	48.5	A14x9x80
K6	210	300	230 <sub>h6</sub>	50	160	110	160	168	200	17	36.0	50 <sub>h6</sub>	265	4.0	220	340	100.0	100	4	150	65	27	250	30	18.5	14	M16	53.5	A14x9x90
K7	241	350	250 <sub>h6</sub>	55	180	125	180	190	226	18	44.0	60 <sub>h6</sub>	300	5.0	250	380	120.0	120	4	163	70	35	290	38	23.0	18	M20	64.0	A18x11x110
K8	300	400	300 <sub>h6</sub>	75	240	165	240	235	282	20	45.0	70 <sub>h6</sub>	350	5.0	310	455	140.0	140	5	190	85	41	360	45	27.0	18	M20	74.5	A20x12x125
K9	360	450	350 <sub>h6</sub>	95	280	185	280	285	330	23	50.0	90 <sub>h6</sub>	400	5.0	365	545	170.0	170	8	230	95	46	430	50	34.0	18	M24	95.0	A25x14x140
K10	330	550	450 <sub>h6</sub>	115	350	265	420	400	356	25	78.0	110 <sub>h6</sub>	500	5.0	420	636	210.0	210	15	270	120	-	400	45	39.0	18	M24	116.0	A28x16x180

**Dimensions of additional round flanges**

Type	Øa1	Øb1	c1	Øe1	f1	Øs1
K1	140	95 <sub>h6</sub>	10	115	3.0	9
K2	160	110 <sub>h6</sub>	12	130	3.5	9
K3	160	110 <sub>h6</sub>	14	130	3.5	9
K3	250	180 <sub>h6</sub>	14	215	4.0	14
K8	350	250 <sub>h6</sub>	18	300	5.0	18
K8	450	350 <sub>h6</sub>	20	400	5.0	18

**Dimensions of motors**

Type	□g	q0	q1	w1	x	z0
EZ301U	72	114.0	154.0	55.5	21	78.5
EZ302U	72	136.0	176.0	55.5	21	100.5
EZ303U	72	158.0	198.0	55.5	21	122.5
EZ401U	98	118.5	167.0	91.0	22	76.5
EZ402U	98	143.5	192.0	91.0	22	101.5
EZ404U	98	193.5	242.0	91.0	22	151.5
EZ501U	115	112.0	166.5	100.0	22	77.5
EZ502U	115	137.0	191.5	100.0	22	102.5
EZ503U	115	162.0	216.5	100.0	22	127.5
EZ505U	115	212.0	266.5	100.0	22	177.5
EZ701U	145	125.0	184.0	115.0	22	87.0
EZ702U	145	150.0	209.0	115.0	22	112.0
EZ703U	145	175.0	234.0	115.0	22	137.0
EZ705U	145	230.0	289.0	134.0	22	188.0
EZ802U	190	232.5	309.5	156.5	22	178.5
EZ803U	190	273.5	350.5	156.5	22	219.5
EZ805U	190	355.5	432.5	156.5	22	301.5



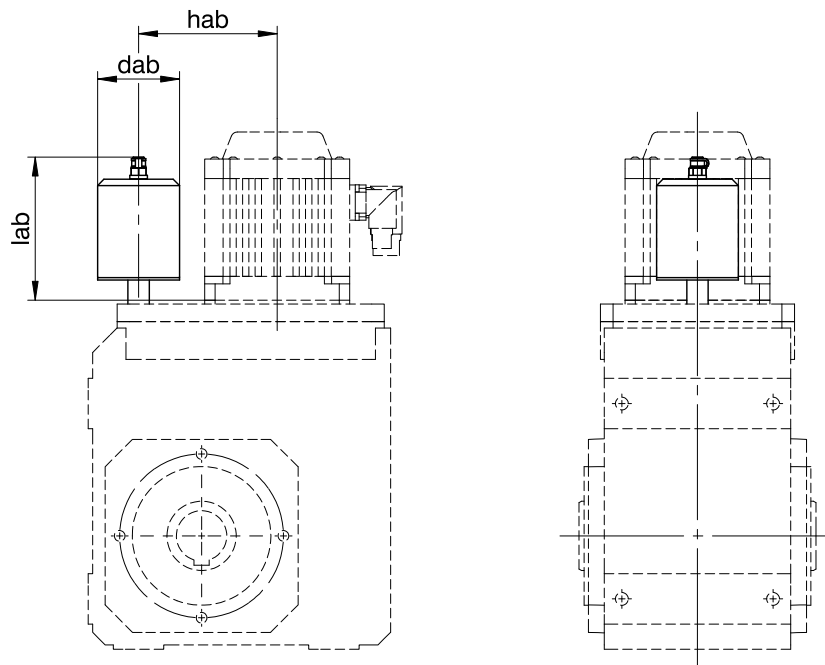
## 20 K helical bevel geared motors

### 20.3 Dimensional drawings

#### Dimensions of geared motors

Type	EZ3			EZ4			EZ5			EZ7			EZ8		
	a	m	n	a	m	n	a	m	n	a	m	n	a	m	n
K102	□72	124	36.0	□98	124	36.0	□115	128	36.0	□145	130	36.0	-	-	-
K513	-	-	-	-	-	-	∅160	172	15.0	□145	174	15.0	□190	177	15.0
K514	-	-	-	-	-	-	∅160	215	15.0	-	-	-	-	-	-
K613	-	-	-	-	-	-	∅160	191	18.0	∅200	193	18.0	□190	196	18.0
K614	-	-	-	-	-	-	∅160	234	18.0	-	-	-	-	-	-
K713	-	-	-	-	-	-	-	-	-	∅200	221	20.0	□190	224	20.0
K714	-	-	-	-	-	-	∅160	263	20.0	∅200	283	20.0	-	-	-
K813	-	-	-	-	-	-	-	-	-	∅200	247	24.0	∅250	249	24.0
K814	-	-	-	-	-	-	-	-	-	∅200	308	24.0	∅250	320	5.0
K913	-	-	-	-	-	-	-	-	-	-	-	-	∅250	294	25.0
K914	-	-	-	-	-	-	-	-	-	∅200	353	25.0	∅250	365	25.0
K1014	-	-	-	-	-	-	-	-	-	-	-	-	∅250	450	28.0

#### 20.3.17 Oil expansion tank



#### Dimensions

Type	EZ5			EZ7			EZ8		
	dab	hab	lab	dab	hab	lab	dab	hab	lab
K513	65	122.0	113.5	65	122.0	113.5	65	122.0	157.5
K613	65	149.0	114.0	65	149.0	114.0	65	150.5	111.5
K713	-	-	-	65	170.0	112.0	65	170.0	112.0
K813	-	-	-	73	205.0	126.0	73	205.0	126.0
K913	-	-	-	-	-	-	73	255.0	126.0

More information can be found in Chapter [▶ 20.6.4](#)





## 20.4 Type designation

In this chapter, you can find an explanation of the type designation with the associated options. Additional ordering information not included in the type designation can be found at the end of the chapter.

### Sample code

<b>K</b>	<b>4</b>	<b>0</b>	<b>2</b>	<b>A</b>	<b>G</b>	<b>0560</b>	<b>EZ501U</b>
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### Explanation

Code	Designation	Design
<b>K</b>	Type	Helical bevel gear unit
<b>4</b>	Size	4 (example)
<b>0</b>	Generation	Generation 0
<b>1</b>		Generation 1
<b>2</b>	Stages	Two-stage
<b>3</b>		Three-stage
<b>4</b>		Four-stage
<b>A</b>	Shaft	Hollow shaft with keyway
<b>S</b>		Hollow shaft with shrink disk
<b>V</b>		Solid shaft
<b>G</b>	Housing	Pitch circle diameter
<b>F</b>		Round flange
<b>NG</b>		Base + pitch circle diameter
<b>NF</b>		Base + round flange
<b>GD</b>		Pitch circle diameter + torque arm
<b>NGD</b>		Base + pitch circle diameter + torque arm
<b>0560</b>	Transmission ratio ( $i \times 10$ )	$i = 56$ (example)
<b>EZ501U</b>	Motor	EZ synchronous servo motor

### In order to complete the type designation, also specify:

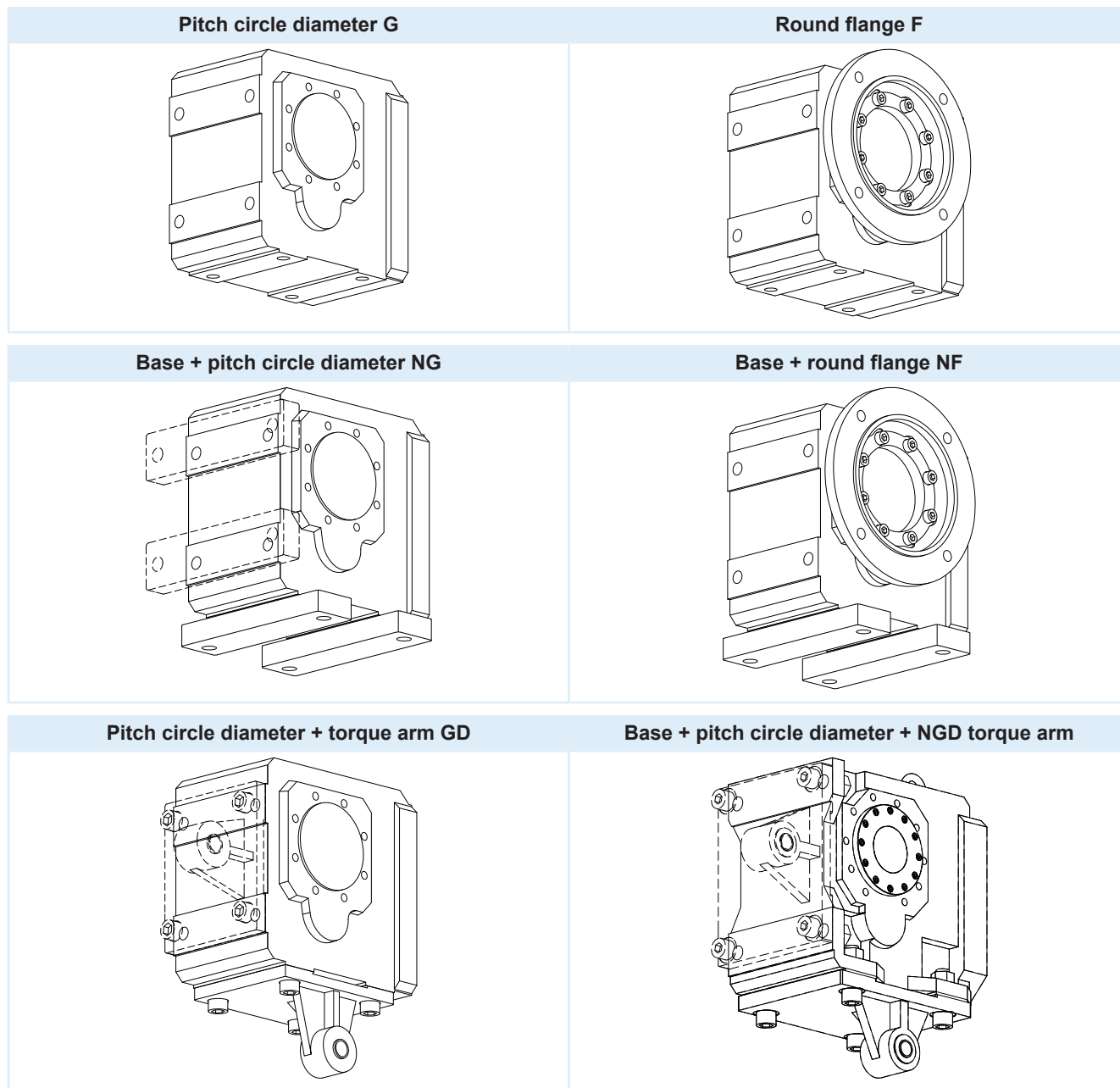
- A detailed type designation of the motor, see Chapter [\[ 22\]](#)
- The installation position, see Chapter [\[ 20.5.4\]](#)
- Attachment of solid shaft: gear unit side 3 or 4; solid shaft on both sides
- Attachment of hollow shaft with keyway: insertion side 3 or 4
- Attachment of hollow shaft with shrink disk: shrink disk on gear unit side 3 or 4
- Attachment of baseboards: gear unit side 1 or 5
- Attachment of flange: gear unit side 3 or 4
- Pitch circle diameter: gear unit side 3 or 4
- Attachment of torque arm: torque arm on gear unit side 1 or 5, eye on gear unit side 3 or 4
- The position of the plug connectors, see Chapter [\[ 20.5.6\]](#)
- Oil expansion tank (recommended for gear units in installation position EL5), see section [\[ 20.6.4\]](#)
- Backlash: standard/class II/class I. Backlash class II and class I for an additional charge.  
Backlash class I with reduced input speeds (see section [\[ 20.6.1\]](#)) and only possible in conjunction with synthetic oil.
- Standard or reinforced output bearing

An explanation of the gear unit sides can be found in Chapter [\[ 20.5.4\]](#).



## 20.5 Product description

### 20.5.1 Housing design



	G	F	NG	NF	GD	NGD
K1	✓	✓	✓	✓	✓	-
K2	✓	✓	✓	-	✓	-
K3	✓	✓	✓	-	✓	-
K4	✓	✓	✓	-	✓	-
K5	✓	✓	✓	✓	✓	-
K6	✓	✓	✓	✓	✓	-
K7	✓	✓	✓	✓	✓	-
K8	✓	✓	✓	✓	✓	-



	G	F	NG	NF	GD	NGD
K9	✓	✓	✓	✓	✓	-
K10	-	-	✓	✓	-	✓

### 20.5.2 Combinatorial shaft/housing design

Housing design							
Shaft design	Code	G	F	NG	NF	GD	NGD
Hollow shaft with keyway	A	AG	AF	ANG	ANF	AGD	ANGD
Hollow shaft with shrink disk	S	SG	SF	SNG	SNF	SGD	SNGD
Solid shaft <sup>1)</sup>	V	VG	VF	VNG	VNF	-	-

<sup>1)</sup> Gear units in sizes K1 – K10 come with a solid shaft with feather key as standard. Gear units in sizes K1 – K4 can be ordered with the option of a solid shaft without feather key. Only upon request starting at size K5.

### 20.5.3 Installation conditions

#### Hollow shaft

The hollow shaft hole tolerance is ISO H7. The tolerance of the machine shaft must be ISO k6.

Take care to align the machine shaft with the gear unit hollow shaft when attaching the gear unit.

Maximum deviation ≤ 0.03 mm.

For simpler assembly and disassembly of the machine shaft, the hollow shafts are equipped with a spiral groove (as a grease deposit).

A hardened, threaded dismounting disk is included in the scope of delivery. You also have the option to order the hollow shaft without a dismounting disk.

#### Hollow shaft with shrink disk

The tolerance of the hollow shaft hole is ISO H7.

The machine shaft must be executed as follows:

Gear unit type	Tolerance
K1 to K6	ISO h9
K7 to K10	ISO h6

Select a material for the machine shaft with a permitted surface pressure of  $p \geq 325 \text{ N/mm}^2$ .

Possible materials:

- C45E +QT
- 42CrMo4

#### Attaching the gear unit on the machine side using the pitch circle diameter

The specified torques and forces only apply when attaching gear units at the machine side using screws of quality 10.9. In addition, the gear housing must be adjusted at the pilot (H7).

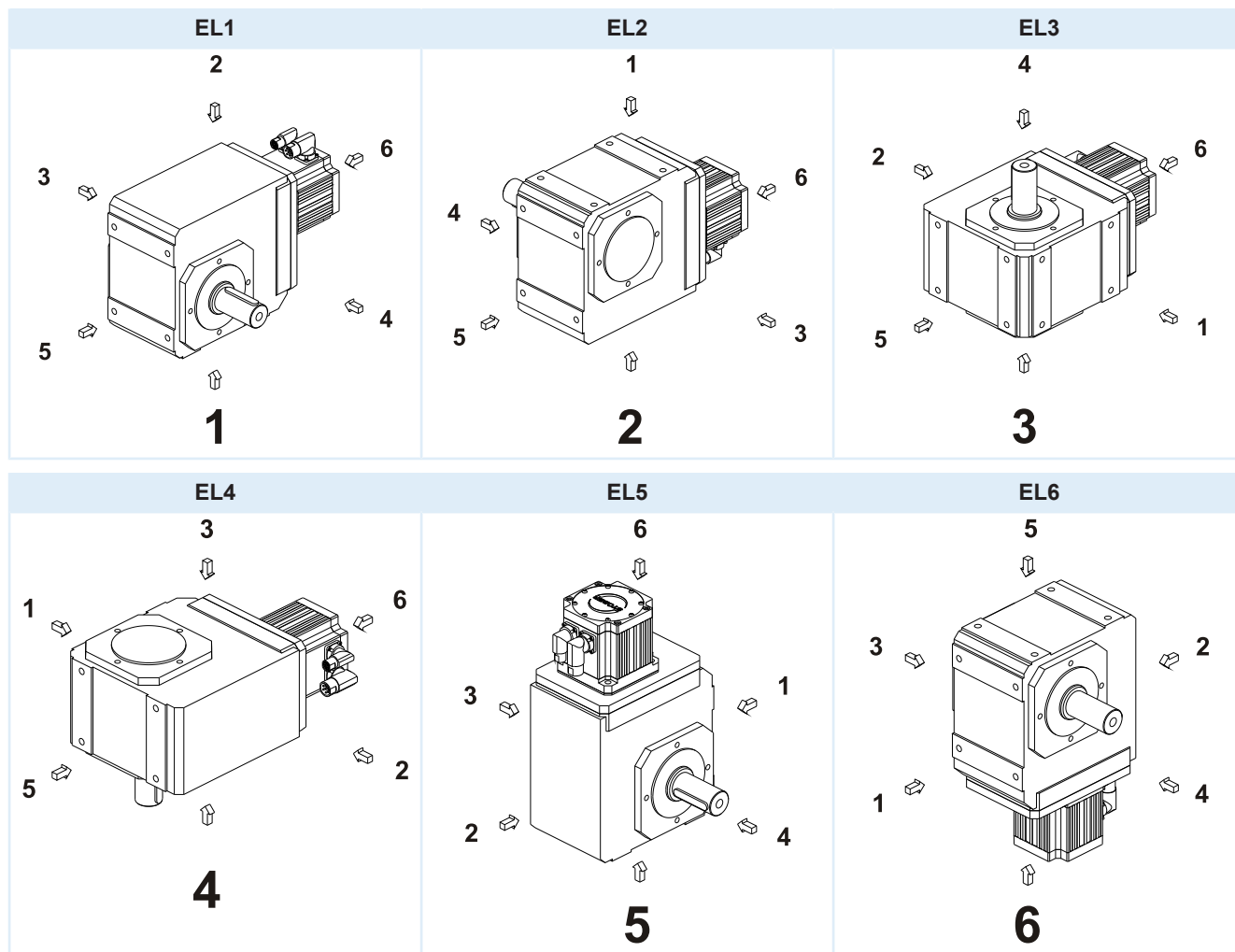
### 20.5.4 Installation positions

The following table shows the standard installation positions.

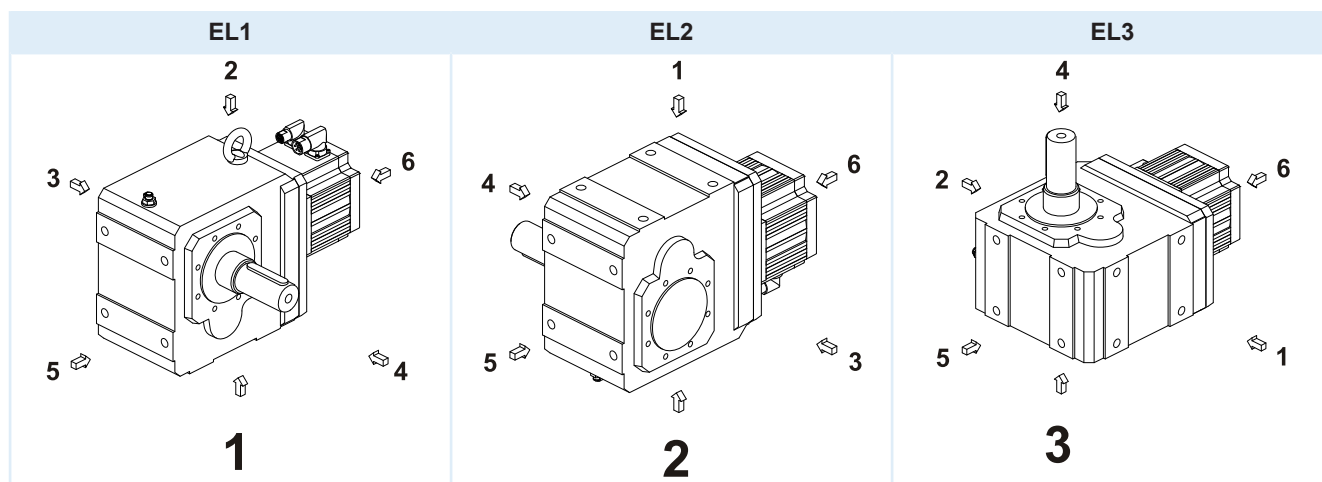
The numbers identify the gear unit sides. The installation position is defined by the gear side facing downwards.

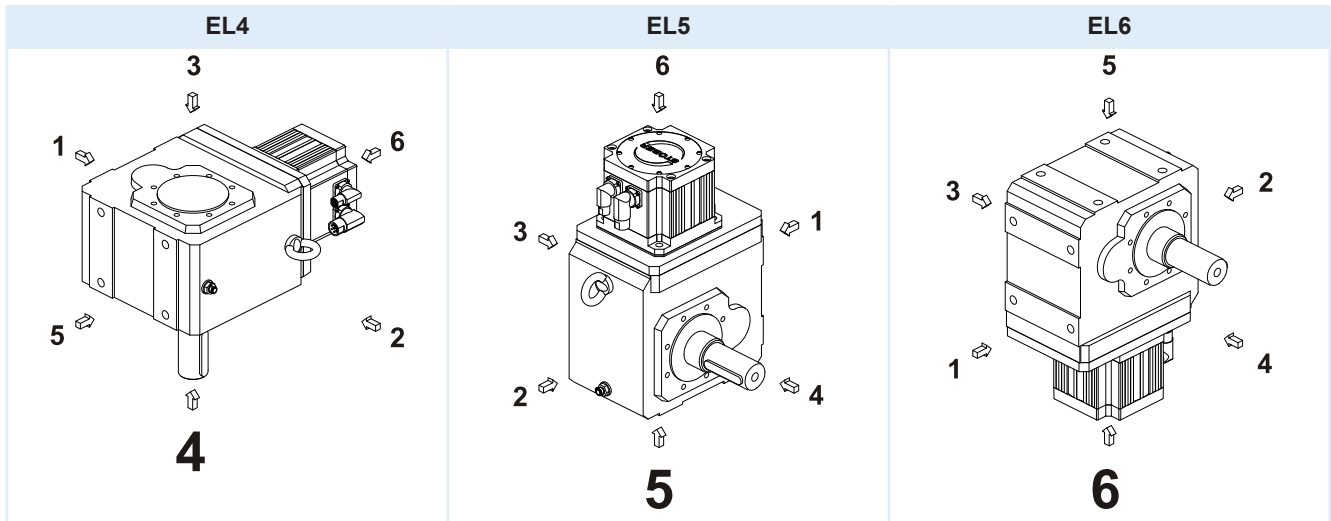


**Installation positions for gear unit sizes K1 – K4**



**Installation positions for gear unit sizes K5 – K10**





Since the lubricant filling volume of the gear unit depends on the installation position, the installation position must be specified when ordering.

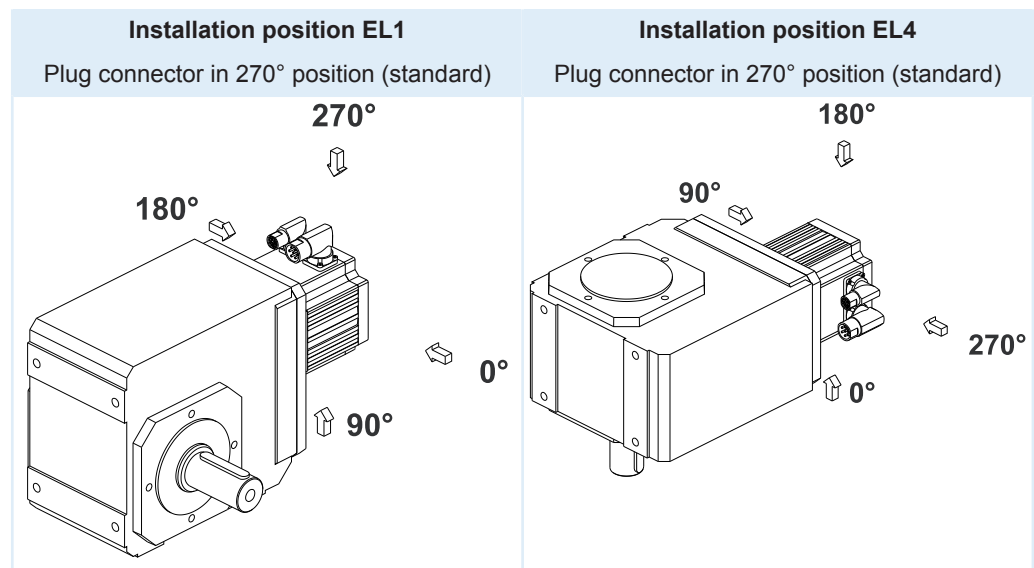
### 20.5.5 Lubricants

STOBBER fills the gear units with the amount and type of lubricant specified on the nameplate. The filling volume and the structure of the gear units depend on the installation position.

Only install the gear units in the intended installation position! Reposition the gear units only after consulting STOBBER. Otherwise, STOBBER assumes no liability for the gear units.

Lubricant filling quantities for gear units, document ID 441871, can be found online at <http://www.stoeber.de>

### 20.5.6 Position of the plug connectors



Indicate variations for your geared motor in the purchase order.

Note that the plug connector position rotates along with the geared motor if the geared motor is in another installation position.



## 20.5.7 Other product features

Feature	Value
Max. permitted gear unit temperature (on the surface of the gear unit)	≤ 80 °C
Paint	Black RAL 9005
(ATEX) Directive 2014/34/EU	Not suitable
<b>Protection class:</b> <sup>1</sup>	
Gear unit	IP65
Motor	IP56, optionally IP66

## 20.5.8 Maintenance

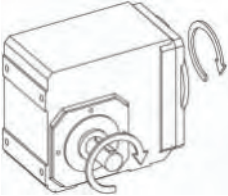
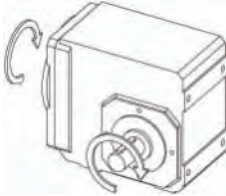
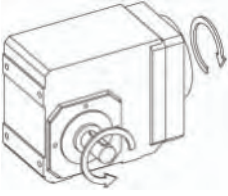
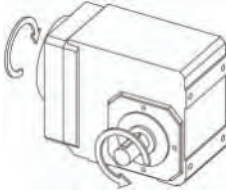
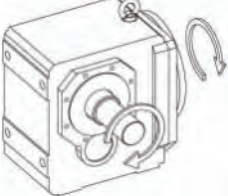
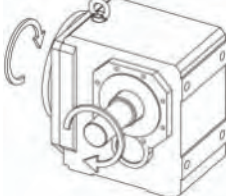
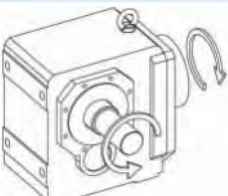
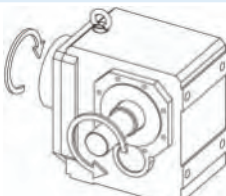
The instructions for maintenance can be found in the operating instructions, ID 441972, at <http://www.stoeber.de/en/download>.

### Ventilation

Air release valves are fitted as a standard feature for gear unit sizes K5 to K10.

## 20.5.9 Direction of rotation

Solid shaft (V), solid shaft on both sides (V), hollow shaft with keyway (A)

Type	Output side 4	Output side 3
K102 – K402		
K203 – K403		
K513 – K1013		
K514 – K1014		

The specified directions of rotation also apply to gear units with hollow shaft (A) if the insertion side of the machine shaft corresponds to the side of the solid shaft that is shown.

The pictures show installation position EL1.

<sup>1</sup> Observe the protection class of all the components.



**Hollow shaft with shrink disk (S)**

Type	Output side 4	Output side 3
K102 – K402		
K203 – K403		
K513 – K813		
K514 – K814		
K913 – K1013		
K914 – K1014		

The pictures show installation position EL1.

## 20.6 Project configuration

Project your drive using our SERVOnsoft designing software. You can receive SERVOnsoft for free from your adviser at one of our sales centers. Observe the limit conditions in this chapter to ensure a safe design for your drives.

The formula symbols for values actually present in the application are marked with \*.



Formula symbol	Unit	Explanation
$a_{th}$	–	Parameter for calculating $K_{mot,th}$
$a_{thEL}$	–	Parameters for calculating $K_{mot,th}$ (dependent on the installation position)
ED	%	Duty cycle relative to 20 minutes
$fB_{op}$	–	Operating mode operating factor
$fB_t$	–	Run-time operating factor
$fB_T$	–	Temperature operating factor
$F_{2ax}^*$	N	Actual axial force at the gear unit output
$F_{2ax20}$	N	Permitted axial force on the gear unit output for $n_{2m^*} \leq 20$ rpm
$F_{2axN}$	N	Permitted nominal axial force at the gear unit output
$F_{2rad}^*$	N	Actual radial force on the gear unit output
$F_{2rad20}$	N	Permitted radial force on the gear unit output for $n_{2m^*} \leq 20$ rpm
$F_{2radN}$	N	Permitted nominal radial force at the gear unit output
$i$	–	Gear ratio
$K_{mot,th}$	–	Factor for determining the thermal limit torque
$l$	mm	Length of the output shaft
$M_{op}$	Nm	Torque of motor at the operating point from the motor characteristic curve at $n_{1m^*}$
$ M_2 $	Nm	Amount of torque on the output
$M_{2,1^*} - M_{2,6^*}$	Nm	Actual torque in the respective time segment (1 to 6)
$M_{2,n^*}$	Nm	Actual torque in the n-th time segment
$M_{2acc}$	Nm	Maximum permitted acceleration torque on the gear unit output
$M_{2acc}^*$	Nm	Actual acceleration torque on the gear unit output
$M_{2eff}^*$	Nm	Actual effective torque on the gear unit output
$M_{2eq}^*$	Nm	Equivalent torque present on the gear unit output
$M_{2k20}$	Nm	Permitted breakdown torque on the gear unit output for $n_{2m^*} \leq 20$ rpm
$M_{2kN}$	Nm	Permitted nominal breakdown torque on the gear unit output
$M_{2k}^*$	Nm	Actual breakdown torque on the gear unit output
$M_{2N}$	Nm	Nominal torque on the gear unit output (relative to $n_{1N}$ )
$M_{2NOT}$	Nm	Gear unit emergency-off torque on the gear unit output for max. 1000 load changes
$M_{2NOT}^*$	Nm	Actual emergency off torque for the gear unit on the gear unit output
$M_{2th}$	Nm	Thermal limit torque on the gear unit output
$n_{1m^*}$	rpm	Actual average input speed
$n_{1max^*}$	rpm	Actual maximum input speed
$n_{1maxDBH}$	rpm	Maximum permitted input speed of the gear unit in continuous operation Installation positions EL1, EL2
$n_{1maxDBV}$	rpm	Maximum permitted input speed of the gear unit in continuous operation Installation positions EL3, EL4, EL5, EL6
$n_{1maxZB}$	$\text{min}^{-1}$	Maximum permitted input speed of the gear unit in cyclic operation
$ n_2 $	rpm	Value of output speed





Formula symbol	Unit	Explanation
$n_{2m^*}$	rpm	Actual average output speed
$n_{2m,1^*} - n_{2m,6^*}$	rpm	Actual average output speed in the respective time segment (1 to 6)
$n_{2m,n^*}$	rpm	Actual average output speed in the n-th time segment
$t$	s	Time
$t_{1^*} - t_{6^*}$	s	Duration of the respective time segment (1 to 6)
$t_{n^*}$	s	Duration of the n-th time segment
$S$	–	Load value: Quotient of gear unit and motor nominal torque without regard to the thermal performance limit. Represents a value for the reserve of the geared motor.
$x_2$	mm	Distance of the shaft shoulder to the force application point
$y_2$	mm	Distance of the shaft axis to the axial force application point
$z_2$	mm	Distance of the shaft shoulder to the middle of the output bearing

### 20.6.1 Calculation of the operating point

Check the following conditions for operating points other than the nominal point  $M_{2N}$  specified in the selection tables.

**For continuous operation in installation positions EL1, EL2:**

$$n_{1m^*} \leq \frac{n_{1maxDBH}}{fB_T}$$

**For continuous operation in installation positions EL3, EL4, EL5, EL6:**

$$n_{1m^*} \leq \frac{n_{1maxDBV}}{fB_T}$$

**For all installation positions:**

$$n_{1max^*} \leq \frac{n_{1maxZB}}{fB_T}$$

$$M_{2eff^*} \leq M_{2th}$$

$$M_{2acc^*} \leq M_{2acc}$$

$$M_{2NOT^*} \leq M_{2NOT}$$

$$M_{2eq^*} \leq M_{2N} \cdot \frac{S}{fB_{op} \cdot fB_t}$$

#### Notes

Note that for gear units with backlash class I the maximum permitted input speed of the gear unit in continuous operation is reduced by 20%.

The values for  $n_{1maxDBH}$  and  $n_{1maxDBV}$ ,  $n_{1maxZB}$ ,  $M_{2acc}$ ,  $M_{2NOT}$ ,  $M_{2N}$  and  $S$  can be found in the selection tables.

The values for  $fB_T$ ,  $fB_{op}$  and  $fB_t$  can be found in the corresponding tables in this chapter.

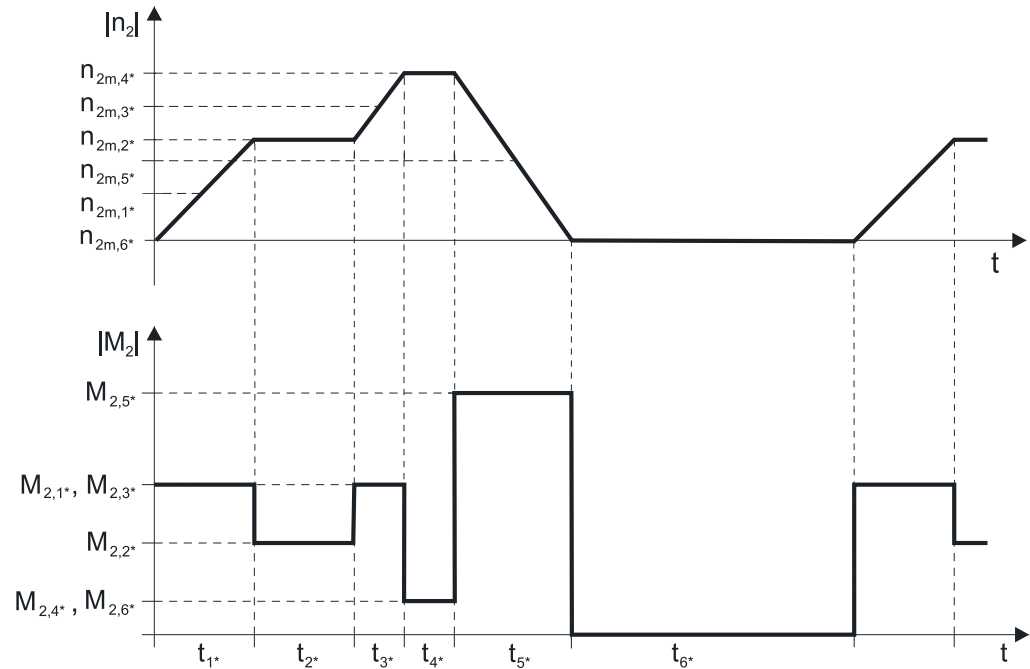
Calculate the thermal limit torque  $M_{2th}$  for a duty cycle > 50%.





### Example of cycle sequence

The following calculations are based on a representation of the power taken from the output based in accordance with the following example:



### Calculation of the actual average input speed

$$n_{1m^*} = n_{2m^*} \cdot i$$

$$n_{2m^*} = \frac{|n_{2m,1^*}| \cdot t_{1^*} + \dots + |n_{2m,n^*}| \cdot t_{n^*}}{t_{1^*} + \dots + t_{n^*}}$$

If  $t_{1^*} + \dots + t_{5^*} \geq 20$  min, calculate  $n_{2m^*}$  without the rest phase  $t_{6^*}$ .

The values for the ratio  $i$  can be found in the selection tables.

### Calculation of the actual effective torque

$$M_{2eff^*} = \sqrt{\frac{t_{1^*} \cdot M_{2,1^*}^2 + \dots + t_{n^*} \cdot M_{2,n^*}^2}{t_{1^*} + \dots + t_{n^*}}}$$

### Calculation of the actual equivalent torque

$$M_{2eq^*} = \sqrt[3]{\frac{|n_{2m,1^*}| \cdot t_{1^*} \cdot M_{2,1^*}^3 + \dots + |n_{2m,n^*}| \cdot t_{n^*} \cdot M_{2,n^*}^3}{|n_{2m,1^*}| \cdot t_{1^*} + \dots + |n_{2m,n^*}| \cdot t_{n^*}}}$$

### Calculation of the thermal limit torque

Calculate the thermal limit torque  $M_{2th}$  for a duty cycle  $ED > 50\%$  and the actual average input speed  $n_{1m^*}$ . (At  $K_{mot,th} \leq 0$  you must reduce the average input speed  $n_{1m^*}$  accordingly or select another geared motor size.)

$$M_{2th} = M_{op} \cdot i \cdot K_{mot,th}$$

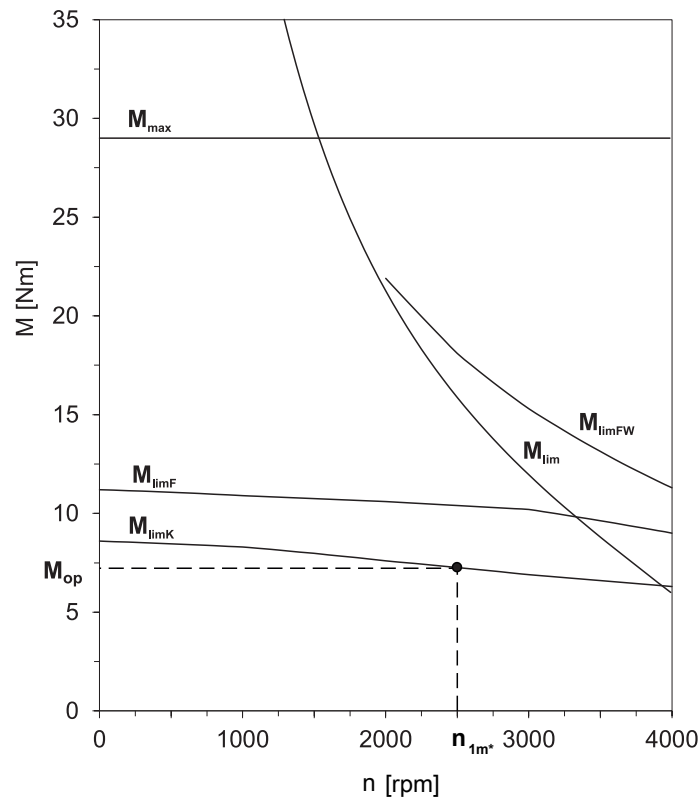
$$K_{mot,th} = 0,95 - \frac{a_{th}}{1000} \cdot athEL \cdot fB_T \cdot \left( \frac{n_{1m^*}}{1000} \right)^2$$



The values for  $i$  and  $a_{th}$  can be found in the selection tables.

The values for  $a_{thEL}$  and  $fB_T$  can be found in the corresponding tables in this chapter.

The value for the torque of the motor at operating point  $M_{op}$  with the determined average input speed  $n_{1m^*}$  can be found in the motor curve of Chapter [ 22.3]. Note the size, nominal speed  $n_N$  and cooling type of the motor. The figure below shows an example of reading the torque  $M_{op}$  of a motor with convection cooling at the operating point.



### Operating factors

#### Parameter $a_{thEL}$

Installation position	$a_{thEL}$
EL1, 2	1.0
EL3, 4, 5, 6	1.1

Operating mode	$fB_{op}$
Uniform continuous operation	1.00
Cyclic operation	1.25
Reversing load cyclic operation	1.40

Run time	$fB_t$
Daily run time $\leq 8$ h	1.00
Daily run time $\leq 16$ h	1.15
Daily run time $\leq 24$ h	1.20

K



Temperature		$fB_T$
Motor cooling	Surrounding temperature	
Motor with forced ventilation	$\leq 20\text{ °C}$	0.9
	$\leq 30\text{ °C}$	1.0
	$\leq 40\text{ °C}$	1.15
Motor with convection cooling	$\leq 20\text{ °C}$	1.0
	$\leq 30\text{ °C}$	1.1
	$\leq 40\text{ °C}$	1.25

**Notes**

- The maximum permitted gear unit temperature (see the "Other product features" chapter) must not be exceeded. Doing so may result in damage to the geared motor.
- For braking from full speed (for example when the power fails or when setting up the machine), note the permitted gear unit torques ( $M_{2acc}$ ,  $M_{2NOT}$ ) in the selection tables.

## 20.6.2 Permitted shaft loads for the output shaft

The values specified in the tables apply to the permitted shaft loads:

- For shaft dimensions in accordance with the catalog
- For output speeds  $n_{2m^*} \leq 20\text{ rpm}$  ( $F_{2axN} = F_{2ax20}$ ;  $F_{2radN} = F_{2rad20}$ ;  $M_{2kN} = M_{2k20}$ )
- Only if transverse forces on the gear unit are supported via its pilots (housing, flange shaft)

### 20.6.2.1 V shaft design

**Permitted shaft loads for V shaft design (solid shaft)**

Type	$z_2$ [mm]	$F_{2ax20}$ [N]	$F_{2rad20}$ [N]	$M_{2k20}$ [Nm]
K1	40.0	1900	5000	360
K2	42.0	2100	6000	430
K3	45.0	2400	7000	525
K4	52.0	3500	11200	1050
K5	72.0	3500	13450	1580
K6	72.0	4000	16000	1960
K8	60.0	7250	29000	3800
K9	87.0	16500	65000	11200
K10	84.0	25000	80000	15200

For the V solid shaft design on both sides, the values for  $F_{2rad20}$  and  $M_{2k20}$  must be multiplied by a factor of 0.7.

For other output speeds, download diagrams at <http://products.stoeber.de>.

The following applies to output speeds  $n_{2m^*} > 20\text{ rpm}$ :

$$F_{2axN} = \frac{F_{2ax20}}{\sqrt[3]{\frac{n_{2m^*}}{20\text{ rpm}}}} \quad F_{2radN} = \frac{F_{2rad20}}{\sqrt[3]{\frac{n_{2m^*}}{20\text{ rpm}}}} \quad M_{2kN} = \frac{M_{2k20}}{\sqrt[3]{\frac{n_{2m^*}}{20\text{ rpm}}}}$$

The values for  $F_{2ax20}$ ,  $F_{2rad20}$  and  $M_{2k20}$  can be found in the table "Permitted shaft loads" in this chapter.

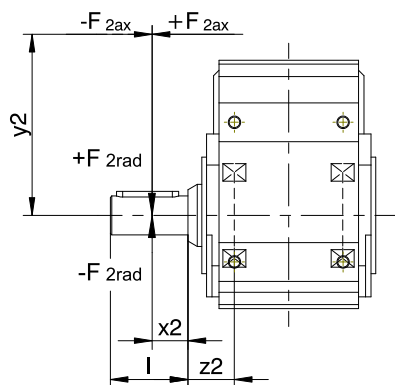


Fig. 1: Force application points for solid shaft

The specified values for  $F_{2rad20}$  are based on application of force at the middle of the output shaft:  $x_2 = l/2$ .

Shaft dimensions can be found in the "Dimensional drawings" chapter.

The following applies to other force application points:

$$M_{2k^*} = \frac{2 \cdot F_{2ax^*} \cdot y_2 + F_{2rad^*} \cdot (x_2 + z_2)}{1000} \leq M_{2kN}$$

$$F_{2rad^*} \leq F_{2radN}$$

$$F_{2ax^*} \leq F_{2axN}$$

For applications with multiple axial and/or radial forces, you must add the forces as vectors.

In the event of EMERGENCY OFF operation (max. 1000 load changes), you can multiply the permitted forces and torques for  $F_{2ax20}$ ,  $F_{2rad20}$  and  $M_{2k20}$  by a factor of two.

### 20.6.2.2 A and S shaft design

#### Permitted shaft loads for A shaft design (hollow shaft with keyway)

Type	$z_2$ [mm]	$F_{2ax20}$ [N]	$F_{2rad20}$ [N]	$M_{2k20}$ [Nm]
K1	40.0	1900	5000	240
K2	42.0	2100	6000	310
K3	45.0	2400	7000	380
K4	52.0	3500	11200	740
K5	39.0	2500	13450	1000
K6	42.0	3000	16000	1300
K7	45.0	4100	22000	2100
K8	50.0	5300	29000	2600
K9	56.0	7000	65000	3600
K10	56.0	9000	80000	5000

#### Permitted shaft loads for S shaft design (hollow shaft with shrink disk)

Type	$z_2$ [mm]	$F_{2ax20}$ [N]	$F_{2rad20}$ [N]	$M_{2k20}$ [Nm]
K1	40.0	1900	5000	240
K2	42.0	2100	6000	310



Type	$z_2$ [mm]	$F_{2ax20}$ [N]	$F_{2rad20}$ [N]	$M_{2k20}$ [Nm]
K3	45.0	2400	7000	380
K4	52.0	3500	11200	740
K5	39.0	2500	13450	1000
K6	42.0	3000	16000	1300
K7	45.0	4100	22000	2100
K8	50.0	5300	29000	2600
K9	56.0	7000	65000	3600
K10	56.0	9000	80000	5000

For other output speeds, download diagrams at <http://products.stoeber.de>.

The following applies to output speeds  $n_{2m^*} > 20$  rpm:

$$F_{2axN} = \frac{F_{2ax20}}{\sqrt[3]{\frac{n_{2m^*}}{20 \text{ rpm}}}} \quad F_{2radN} = \frac{F_{2rad20}}{\sqrt[3]{\frac{n_{2m^*}}{20 \text{ rpm}}}} \quad M_{2kN} = \frac{M_{2k20}}{\sqrt[3]{\frac{n_{2m^*}}{20 \text{ rpm}}}}$$

The values for  $F_{2ax20}$ ,  $F_{2rad20}$  and  $M_{2k20}$  can be found in the table "Permitted shaft loads" in this chapter.

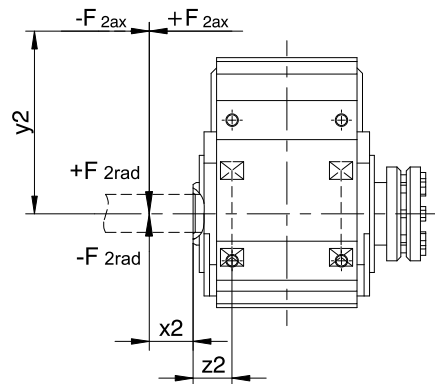


Fig. 2: Force application points for hollow shaft

The permitted transverse forces can be determined using the permitted breakdown torque  $M_{2kN}$ . The actual transverse forces must not exceed the permitted transverse forces. The permitted transverse forces are based on the end of the hollow shaft ( $x_2 = 0$ ).

$$M_{2k^*} = \frac{2 \cdot F_{2ax^*} \cdot y_2 + F_{2rad^*} \cdot (x_2 + z_2)}{1000} \leq M_{2kN}$$

$$F_{2ax^*} \leq F_{2axN}$$

For applications with multiple axial and/or radial forces, you must add the forces as vectors.

In the event of EMERGENCY OFF operation (max. 1000 load changes), you can multiply the permitted forces and torques for  $F_{2ax20}$ ,  $F_{2rad20}$  and  $M_{2k20}$  by a factor of two.



### 20.6.3 Radial shaft seal rings

#### Leak-proofness

Our gear units are equipped with high-quality radial shaft seal rings and checked for leak-proofness. However, a leak cannot be fully ruled out over the length of use of the gear unit. If you use the gear unit with goods incompatible with the lubricant, you must take measures to prevent direct contact with the gear unit lubricant in case of a leak.

### 20.6.4 Oil expansion tank

The gear units have a higher fill level in installation position EL5. The oil expansion tank prevents oil from escaping out of the gear unit.

#### Notes

- We recommend using an oil expansion tank in installation position EL5 (additional cost) for fast running gear units with an input speed  $n_1 > 1750$  rpm and gear ratios  $i < 20$ .
- It is not possible to use an oil expansion tank if the plug connector is at 90°!
- The oil expansion tank can only be used with certain sizes; see Chapter [▶ 20.3.17](#)

## 20.7 Additional documentation

Additional documentation related to the product can be found at <http://www.stoeber.de/en/download>

Enter the ID of the documentation in the Search... field.

Documentation	ID
Operating manual for gear units and motors	441972
Lubricant filling quantities for gear units	441871