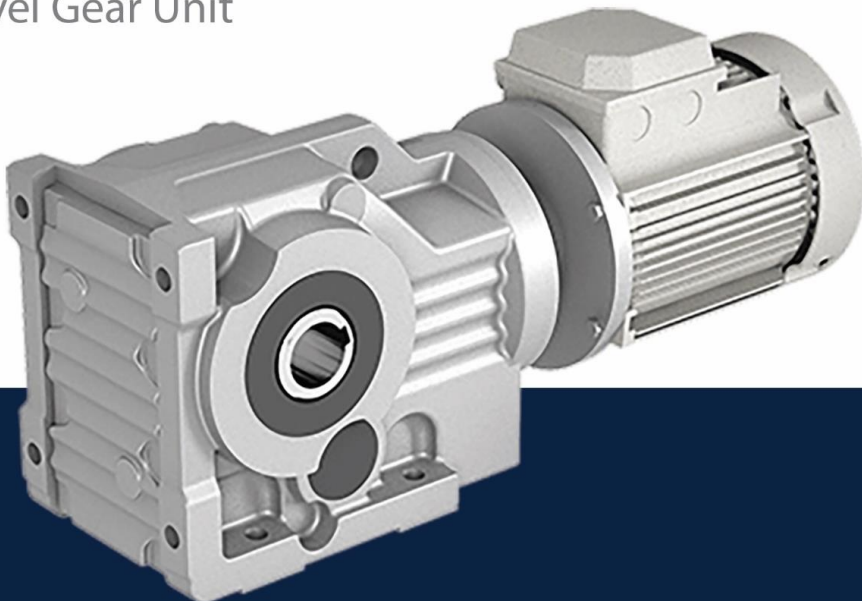




شرکت شریف
SHARIF CO.

Product Catalogue

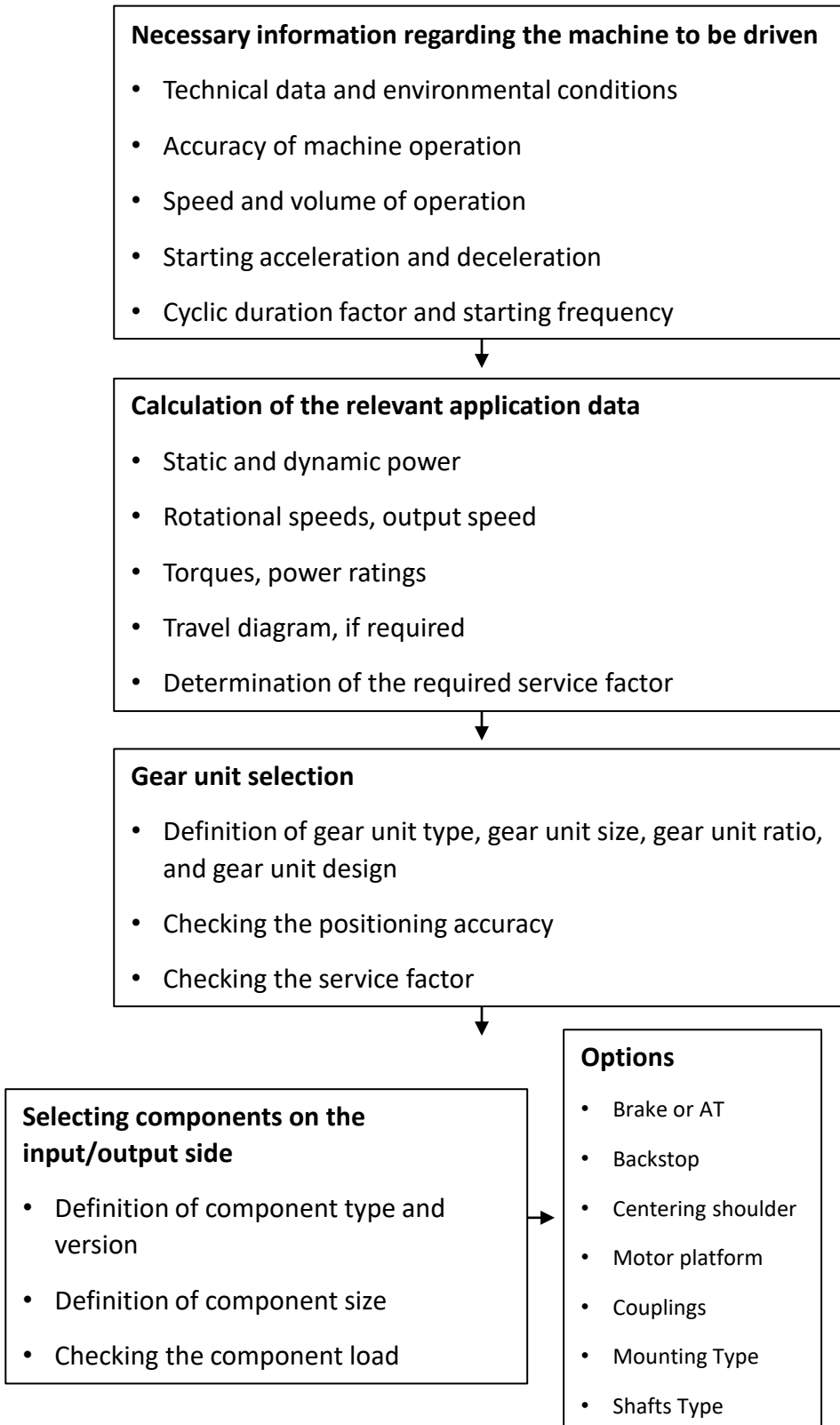
Helical Bevel Gear Unit





Project planning sequence

The following flow chart shows the steps for planning a project including a gear unit with a component on the input side.





Service factor

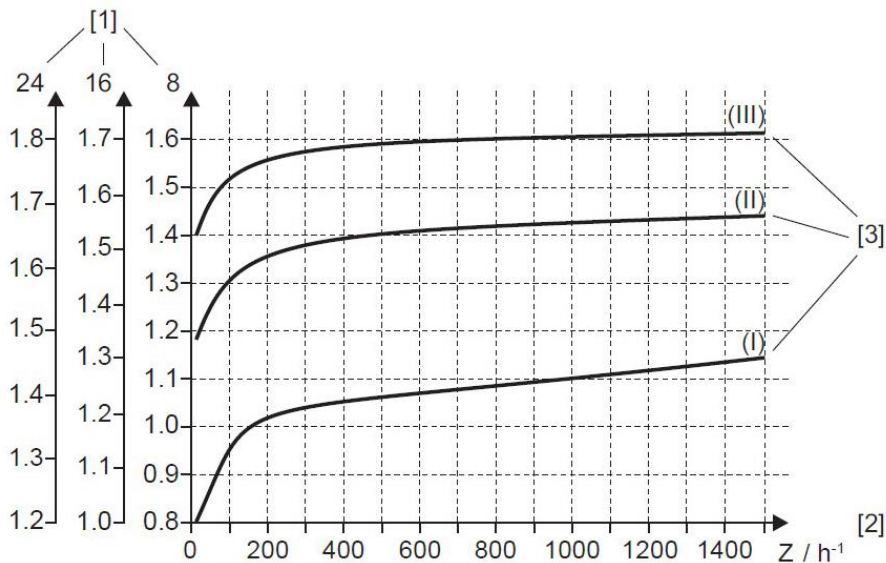
The method for determining the maximum permitted continuous torque and using the value to derive the service factor is not defined in a standard and varies greatly from manufacturer to manufacturer. Customer should take required service factor into consideration while selecting a gear unit. With a service factor of less than 1, customer is held responsible of any operating failures of the gear unit. If in doubt contact Sharif Gearbox.

Required service factor

The operating conditions are considered in order to determine the required service factor for the gearmotor selection. Decisive factors are the requirements of the driven machine, as well as the ambient temperature and gear unit type, if applicable.

Application service factor

The effect of the driven machine on the gear unit is taken into account to a sufficient level of accuracy using the application service factor. The service factor is determined according to the daily operating time and switching frequency Z . Three load classifications are taken into account depending on the mass acceleration factor. You can read the service factor applicable to your application from the following diagram.





[1] Service factor in relation to the daily operating time in hours/day

[2] Switching frequency Z: The cycles include all starting and braking procedures as well as changeovers from low to high speed and vice versa.

[3] Curves for load classification I, II and III

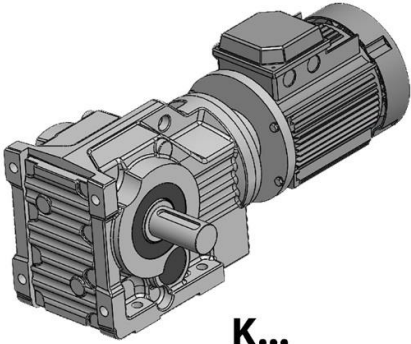
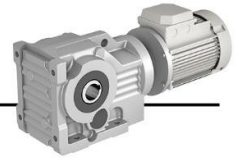
The following 3 load classifications are distinguished:

- Load classification I: Uniform, almost no shock load, permitted mass acceleration factor ≤ 0.2
- Load classification II: Non-uniform, moderate shock load, permitted mass acceleration factor ≤ 3
- Load classification III: Very non-uniform. Severe shock load, permitted mass acceleration factor ≤ 10

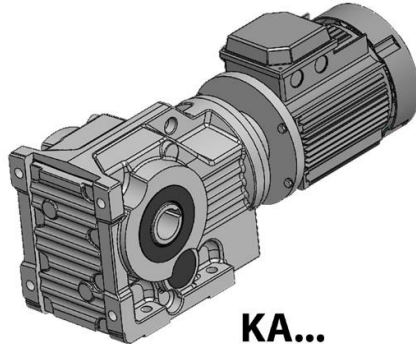
Service factor at low temperature

At an ambient temperature of below -30 C , observe the additional service factor of 1.2.

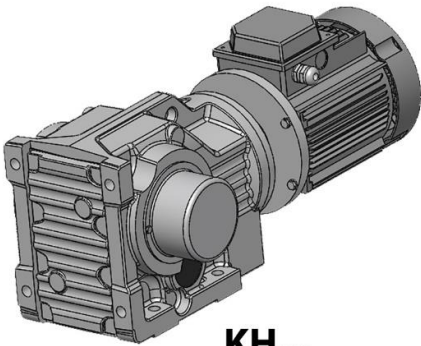




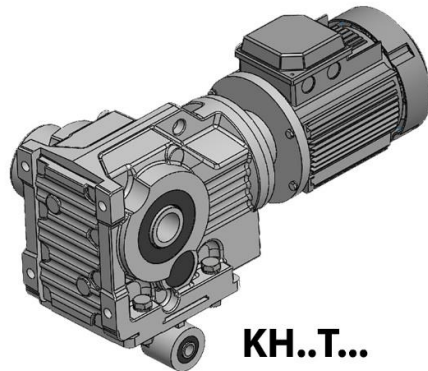
K...



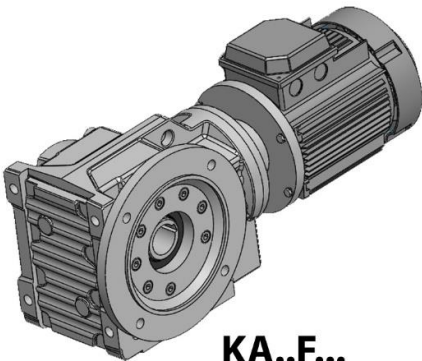
KA...



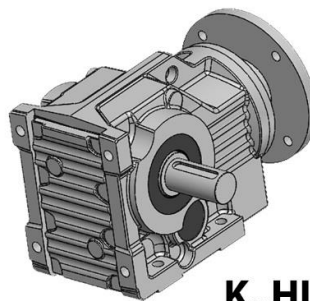
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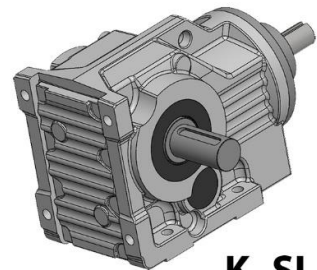
KH..T...



KA..F...

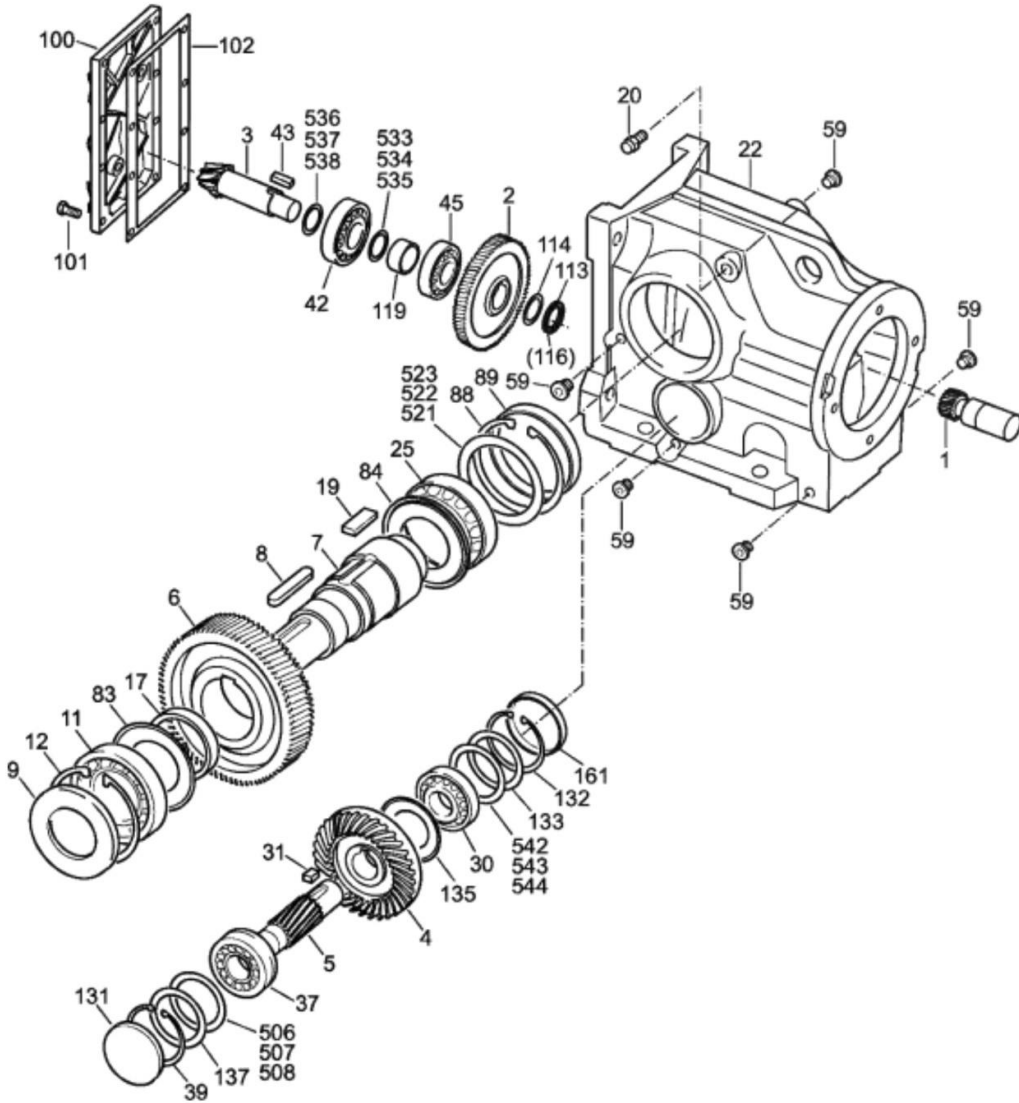
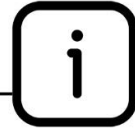


K..HI...

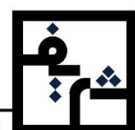


K..SI...





1. Pinion	22. Gear Case	100. Gear Case Cover
2. Gear	25. Anti-Friction Bearing	101. Hex Head Bolt
3. Pinion Shaft	30. Anti-Friction Bearing	102. Sealing Compound
4. Gear	31. Gear	113. Slotted Round Nut
5. Pinion Shaft	37. Anti-Friction Bearing	114. Multi-Tag Washer
6. Gear	39. Circlip	116. Thread Lock
7. Output Shaft	42. Anti-Friction Bearing	119. Spacer
8. Key	43. Key	131. Closing Cap
9. Oil Seal	45. Anti-Friction Bearing	132. Circlip
11. Anti-Friction Bearing	59. Screw Plug	133. Spacer
12. Circlip	83. Nilos Ring	135. Nilos Ring
17. Spacer	84. Nilos Ring	161. Closing Cap
19. Key	88. Circlip	506 ... 544. Shim Ring
20. Breather Valve	89. Closing Cap	





Information on the selection table

P (kw)	n2 (rpm)	Ratio	T (Nm)	Fs	Motor	K Type
--------	----------	-------	--------	----	-------	--------

P (kw): Power supplied by electric motor in KW

n2: Output Rotation of the gear unit RPM

Calculation: $n2 = n1/i$

for the purpose of the catalogue n1 assumptions are as follows:

4 Pole electric motor = 1450 rpm

6 Pole electric motor = 950 rpm

Ratio: reduction ratio of the gear unit (i)

T: The output torque in Nm

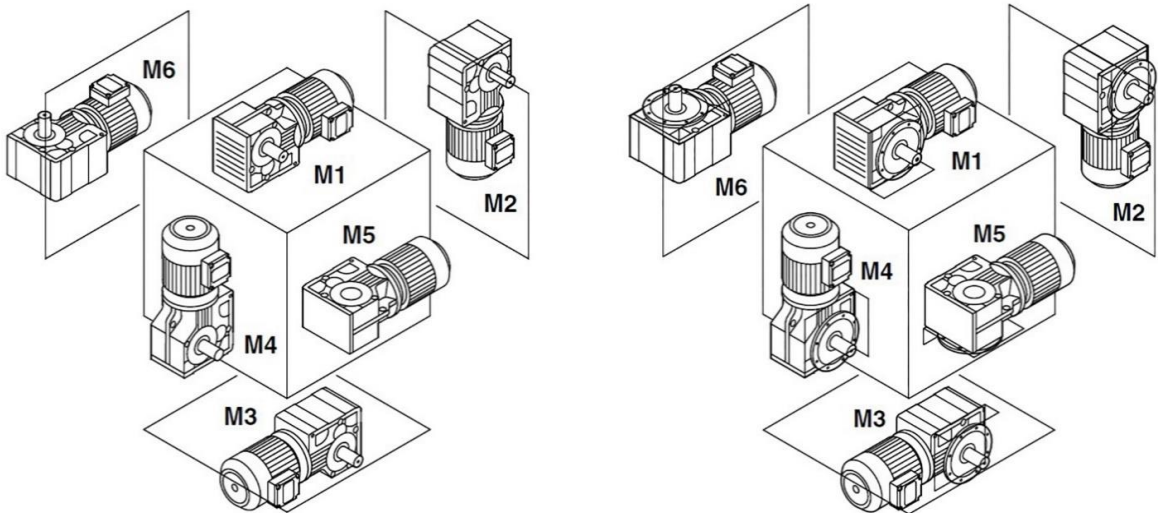
Calculation: $9550 * (P(kw)/n2)$

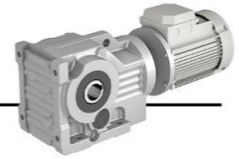
Fs: Total service factor of the unit

Motor: Number of poles of the electric motor

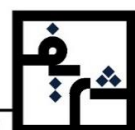
K type: Type number offered

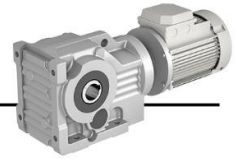
Mounting positions





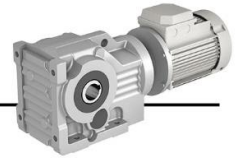
P (kw)	n2 (rpm)	Ratio	T (Nm)	Fs	Motor	K Type
0.37	9	155	393	3.6	4P	77
	8	115.89	442	3.6	6p	
	6	155	589	2.34		67
	15	60.7	236	2.84	6P	
	21	45.35	168	4.24		57
	18	54.13	196	2.56	6P	
	22	42.74	161	3.12		
	27	54.13	131	3.92		
	34	42.74	104	4.8		
	44	32.63	80	6.1		
	54	27.05	65	7.5	4P	
	65	22.34	54	9.1		
	72	20.15	49	10		
95	15.36	37	12			
0.55	8	117.51	657	3.73	6P	87
	10	96.77	525	4		
	9	155	584	2.4		77
	12	115.89	438	3.64	4P	
	16	90.59	328	4.4		
	6	155	875	1.56		67
	8	115.89	657	2.4	6P	
	11	90.59	478	3		
	16	60.7	328	1.89	6P	57
	21	45.35	250	2.83		
	24	60.7	219	2.85	4P	
	17	54.13	309	1.71		57
	22	42.74	239	2	6P	
	27	54.13	195	2.6		
	34	42.74	154	3.2		
	44	32.63	119	4.1		
	54	27.05	97	5	4P	
65	22.34	81	6.1			
72	20.15	73	6.6			
95	15.38	55	8.4			
0.75	8	117.51	895	2.8	6P	87
	10	96.77	716	3		
	9	155	796	1.8		77
	12	115.89	597	2.73	4P	
	16	90.59	448	3.33		
	6	155	1194	1.17		67
	8	115.89	895	1.8	6P	
	11	90.59	651	2.25		
	16	60.7	448	1.4	6P	
	21	45.35	341	2.12		



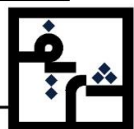


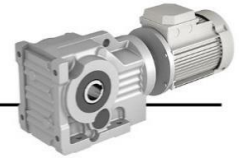
P (kw)	n2 (rpm)	Ratio	T (Nm)	Fs	Motor	K Type	
0.75	24	60.7	298	2.14	4P	67	
	32	45.35	224	3.2			
	27	54.13	265	1.96	4P	57	
	34	42.74	211	2.4			
	44	32.63	163	3			
	54	27.05	133	3.76			
	65	22.34	110	4.58			
	70	20.65	102	4.78			
	82	17.64	87	5.7			
	95	15.41	75	6.34			
107	13.46	67	7.2				
1.1	8	117.51	1313	1.87			6P
	10	96.77	1051	2			
	12	79.13	875	2.72			
	15	65.17	700	2.85			
	16	91.6	657	3.6	4P	77	
	12	115.89	875	1.82	4P		
	16	90.59	657	2.22			
	23	61.7	457	2.86			
	31	46.21	339	3.74			
	8	115.89	1313	1.2	6P		67
	11	90.59	955	1.5	6P		
	21	45.35	500	1.41			
	24	60.7	438	1.43			
	32	45.35	328	2.15	4P		
	41	35.41	256	2.9			
	51	28.46	206	2.9			
	63	22.88	167	4			
	27	54.13	389	1.31	4P	57	
	34	42.74	309	1.6			
	44	32.63	239	2			
54	27.05	195	2.51				
65	22.34	162	3				
70	20.65	150	3.19				
82	17.64	128	3.8				
95	15.41	111	4.23				
107	13.46	98	4.81				
1.5	5	187.72	2101	1.43			6P
	8	115.71	1791	2.4			
	10	99.47	1433	2.5			
	10	139.54	1433	3.1	4P	87	
	10	96.77	1433	1.52	6P		
	12	79.13	1194	2			
	15	65.17	955	2.14			
	16	91.6	895	2.7	4P		



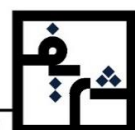


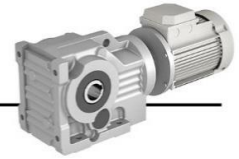
P (kw)	n2 (rpm)	Ratio	T (Nm)	Fs	Motor	K Type
1.5	12	115.89	1194	1.37	4P	77
	16	90.59	895	1.67		
	20	73.57	716	1.82		
	23	61.7	623	2.15		
	31	46.13	462	3.27		
	24	60.7	597	1	4P	67
	32	45.35	448	1.61		
	41	35.41	349	2.19		
	47	30.63	305	2		
	51	28.46	281	2.12		
	63	22.8	227	3		
	81	17.87	177	4.2		
	100	14.36	143	4.9		
	34	42.74	421	1.2	4P	57
	44	32.63	326	1.54		
	54	27.05	265	1.88		
	65	22.34	220	2.29		
	70	20.65	205	2.39		
	82	17.64	175	2.85		
95	15.41	151	3.17			
107	13.46	134	3.61			
123	11.74	116	4.19			
144	10.05	99	4.45			
156	9.27	92	5.3			
2.2	10	139.54	2101	2	4P	97
	13	107.61	1616	2.45		
	7	139.54	3001	1.35	6P	
	11	85.76	1910	1.68		
	15	64.19	1401	2.83		
	10	96.77	2101	1	6P	
	12	117.51	1751	1.43	4P	87
	16	91.6	1313	1.8		
	25	57.44	840	2.77		
	30	47.3	700	2.77		
	17	55	1236	1.21	6P	77
	22	42.99	955	1.44		
	28	34.55	750	1.88		
	20	73.57	1051	1.2	4P	
	23	61.7	913	1.43		
	31	46.13	678	2.18		
	40	36.06	525	2.44		
	50	29.28	420	2.87		
	41	35.41	512	1.46	4P	67
51	28.46	412	1.41			
63	22.88	333	2			



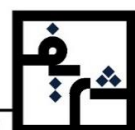


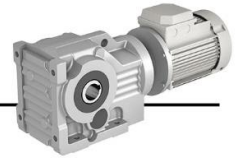
P (kw)	n2 (rpm)	Ratio	T (Nm)	Fs	Motor	K Type
2.2	81	17.87	259	2.8	4P	67
	100	14.36	210	3.27		
	65	22.34	323	1.53	4P	57
	70	20.65	300	1.59		
	82	17.64	256	1.9		
	95	15.41	221	1.97		
	107	13.46	196	2.4		
	123	11.74	171	2.79		
	144	10.05	146	2.97		
156	9.27	135	3.53			
3	7	195.82	3001	1.8	4P	107
	10	140.53	2101	2.33		
	16	90.51	1313	3.7		
	5	179.04	4202	1.35	6P	107
	8	113.58	2626	1.58		
	10	90.51	2101	2.45		
	12	78.67	2388	2.9		
	9	99.47	3183	1.26	6P	107
	15	64.19	1910	2.12		
	20	47.28	1433	3.11		
	7	203.08	4093	1	4P	97
	10	139.54	2865	1.56		
	13	115.71	2204	1.84		
	17	82.48	1685	1.84		
	20	71.12	1433	1.84		
	24	61.31	1194	3.3		
	12	117.51	2388	1	4P	87
	15	96.77	1910	1.12		
	18	79.13	1592	1.55		
	25	57.44	1146	2		
	30	47.3	955	2		
	34	42.69	843	2.77		
	41	35.16	699	3.65		
	22	42.69	1302	1.83	6P	87
	27	35.16	1061	2.4		
	26	55	1102	1.38	4P	77
	31	46.13	924	1.64		
40	36.06	716	1.83			
50	29.28	573	2.15			
54	27	531	2.37			
66	21.89	434	3.3			
40	35.41	716	1.1	4P	67	
63	22.88	455	1.53			
81	17.87	354	2.1			





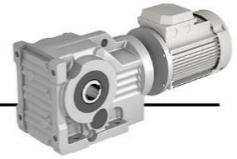
P (kw)	n2 (rpm)	Ratio	T (Nm)	Fs	Motor	K Type
3	100	14.36	287	2.45	4P	67
	110	13.29	260	2.2		
	145	9.93	198	3.3		
	70	20.65	409	1.2		
	82	17.64	349	1.43		
	95	15.41	302	1.48		
	107	13.46	268	1.8		
	123	11.74	233	2.1		
	144	10.05	199	2.23		
	156	9.27	184	2.65		
4	7	195.82	5457	1.31	4P	107
	10	140.53	3820	1.69		
	16	90.51	2388	2.69		
	12	78.67	3183	2.1	6P	97
	15	64.19	2547	1.54	6P	
	20	47.28	1910	2.26	6P	
	16	89.29	2388	1.3	4P	87
	20	71.12	1910	1.34		
	24	61.31	1592	2.44		
	30	47.28	1273	3.44		
	18	79.13	2122	1.13	4P	77
	25	57.44	1528	1.5		
	30	47.3	1273	1.5		
	34	42.69	1124	2		
	41	35.16	932	2.65		
	50	29.51	764	3.27		
	31	46.13	1232	1.19	4P	67
	40	36.06	955	1.33		
	50	29.28	764	1.57		
	54	27	707	1.72		
	66	21.89	579	2.4		
	78	18.39	490	2.42		
	43	21.89	888	1.58	6P	57
	55	17.11	695	2.16		
	63	22.88	606	1.11	4P	67
	81	17.87	472	1.53		
	100	14.36	382	1.78		
	110	13.29	347	1.61		
	145	9.93	263	2.4		
	95	15.41	402	1.15	4P	57
107	13.46	357	1.31			
123	11.74	311	1.52			
144	10.05	265	1.62			
156	9.27	245	1.93			





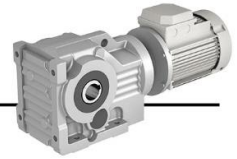
P (kw)	n2 (rpm)	Ratio	T (Nm)	Fs	Motor	K Type	
4	205	7.08	186	2.42	4P	57	
5.5	12	78.67	4377	1.55	6P	107	
	8	179.04	6566	1	4P		
	10	140.53	5253	1.24			
	17	86.04	3090	2			
	24	61.75	2189	3.3			
	15	61.31	3502	1.18	6P		97
	20	47.28	2626	1.66	4P		
	24	61.31	2189	1.79			
	30	47.28	1751	2.5			
	38	37.68	1382	2.72			
	34	42.69	1545	1.48	4P	87	
	41	35.16	1281	1.95			
	50	28.75	1051	2.14			
	63	23	834	3			
	27	35.16	1945	1.28			6P
	35	27.41	1501	1.62			
	40	23.68	1313	1.86			
	47	19.87	1118	2.3			
55	17.11	955	1.58	6P	77		
42	34.55	1251	1.14	4P			
54	27.01	973	1.26				
66	21.89	796	1.76				
78	18.39	673	1.77				
84	17.11	625	2.4				
105	13.75	500	2.72		4P	67	
100	14.36	525	1.31				
110	13.29	478	1.18				
145	9.93	362	1.78				
187	7.76	281	2.43				
7.5	11	82.76	4775	1.11			6P
	15	61.75	4775	1.63			
	17	86.04	4213	1.56			
	23	61.75	3114	2.48	4P		
	29	49.91	2470	3			
	24	61.31	2984	1.34		4P	97
	30	47.28	2388	1.89			
	38	37.68	1885	2			
	42	34.12	1705	2.32			
	51	28.2	1404	2.77			
	20	47.28	3581	1.25	6P		
	34	28.2	2107	1.83			
	44	21.75	1628	2.58			
	55	17.33	1302	3.2			





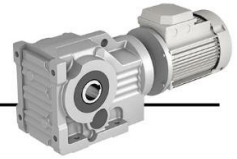
P (kw)	n2 (rpm)	Ratio	T (Nm)	Fs	Motor	K Type				
7.5	35	27.41	2046	1.22	6P	87				
	41	23	1747	1.5						
	34	42.69	2107	1.11	4P					
	41	35.16	1747	1.46						
	50	29.51	1433	1.8						
	63	23	1137	2.28						
	73	19.87	981	2.62						
	84	17.19	853	2.86						
	100	14.42	716	3.5	4P					
	66	21.89	1085	1.32						
	85	17.11	843	1.81						
	105	13.75	682	2						
	123	11.78	582	2						
	135	10.75	531	2.8						
11	165	8.81	434	3.1	4P	77				
	66	21.89	1085	1.32						
	85	17.11	843	1.81						
	105	13.75	682	2						
	123	11.78	582	2						
	135	10.75	531	2.8						
	11	15	61.75	4775	1		6P	107		
		19	49.91	5529	1.33					
		26	36.36	4040	1.6					
		18	86.04	5836	1.17					
		24	61.75	4377	1.65		4P			
		29	49.91	3622	2					
		36	39.77	2918	2.13					
		40	36.36	2626	2.42					
		30	47.28	3502	1.26					
		38	37.68	2764	1.36					
		11	42	34.12	2501		1.55		4P	97
			51	28.2	2060		1.85			
			66	21.57	1592		2.6			
			72	20.11	1459		2.87			
	28		34.12	3752	1		6P			
33	28.7		3183	1.2						
44	21.75		2388	1.72						
55	17.33		1910	2.19						
11	50	29.51	2101	1.2	4P	87				
	63	23	1667	1.52						
	73	19.87	1439	1.74						
	84	17.19	1251	1.91						
	100	14.42	1051	2.36						
	118	12.27	890	2.35						
	85	17.11	1236	1.2	4P					
	105	13.75	1000	1.3						
	123	11.78	854	1.34						
	135	10.75	778	1.88						
165	8.81	637	2							





P (kw)	n2 (rpm)	Ratio	T (Nm)	Fs	Motor	K Type		
15	19	49.91	5529	1	6P	107		
	24	61.75	5969	1.24	4P			
	29	49.91	4940	1.5				
	36	39.77	3979	1.6				
	40	36.36	3581	1.82				
	50	28.54	2865	2.57				
	63	23.07	2274	3.25				
	18.5	44	21.75	3256	1.29	6P	97	
		55	17.33	2605	1.64	4P		
		33	43.71	4341	1			
		51	28.2	2809	1.38			
		66	21.75	2170	1.95			
		72	20.11	1990	2.15			
		84	17.33	1705	2.52			
96		14.99	1492	2.49				
63		23	2274	1.14	4P			
73		19.87	1962	1.31				
84	17.19	1705	1.43					
100	14.42	1433	1.77					
118	12.27	1214	1.77					
18.5	143	10.11	1002	2.35	107			
	29	49.91	6092	1.2		4P		
	36	39.77	4908	1.28				
	40	36.36	4417	1.45				
	50	28.54	3534	2				
	63	23.07	2804	2.6				
	69	20.97	2561	2.6				
	22	33	28.54	5354		1.35	6P	97
		41	23.07	4309		1.69	6P	
		44	21.75	4015		1		
		55	17.33	3212		1.3		
		66	21.75	2677		1.56		
		72	20.11	2454		1.72		
		84	17.33	2103		2		
96		14.99	1840	1.99				
115		12.61	1536	2.33				
125		11.56	1413	2.8				
22	84	17.19	2103	1.15	4P	87		
	100	14.42	1767	1.41				
	118	12.27	1497	1.41				
	143	10.11	1235	1.88				
	29	49.91	6092	1			4P	
36	39.77	4908	1					
40	36.36	5253	1.2					



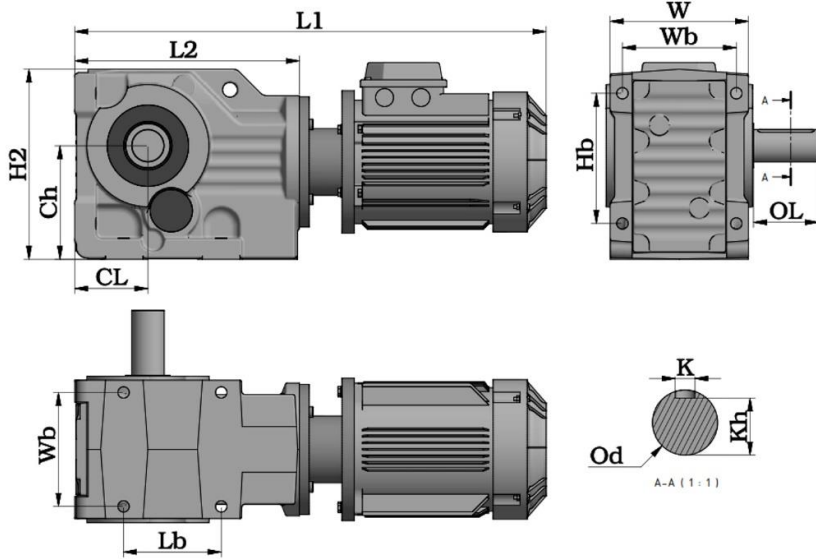


P (kw)	n2 (rpm)	Ratio	T (Nm)	Fs	Motor	K Type	
22	50	28.54	4202	1.71	4P	107	
	63	23.07	3335	2.16			
	75	19.18	2801	2.19			
	96	15.05	2189	3.12			
	120	12.16	1751	3.95			
	30	33	28.54	6367	1.13	6P	97
		41	23.07	5124	1.41		
		50	19.18	4202	1.45		
		55	17.33	3820	1.1		
		66	21.75	3183	1.3		
37		72	20.11	2918	1.43	4P	107
		84	17.33	2501	1.68		
		96	14.99	2189	1.66		
		115	12.61	1827	1.95		
		125	11.56	1681	2.33		
	45	84	17.33	3411	1.26	4P	97
		96	14.99	2984	1.24		
		115	12.61	2491	1.46		
		125	11.56	2292	1.75		
		51	28.54	5618	1		
63		23.07	5609	1.3			
75		19.18	4711	1.31			
96		15.05	3681	1.87			
120		12.16	2945	2.37			
45		63	23.07	5609	1.08	4P	107
	75	19.18	4711	1.1			
	96	15.05	4477	1.56			
	120	12.16	3581	1.97			

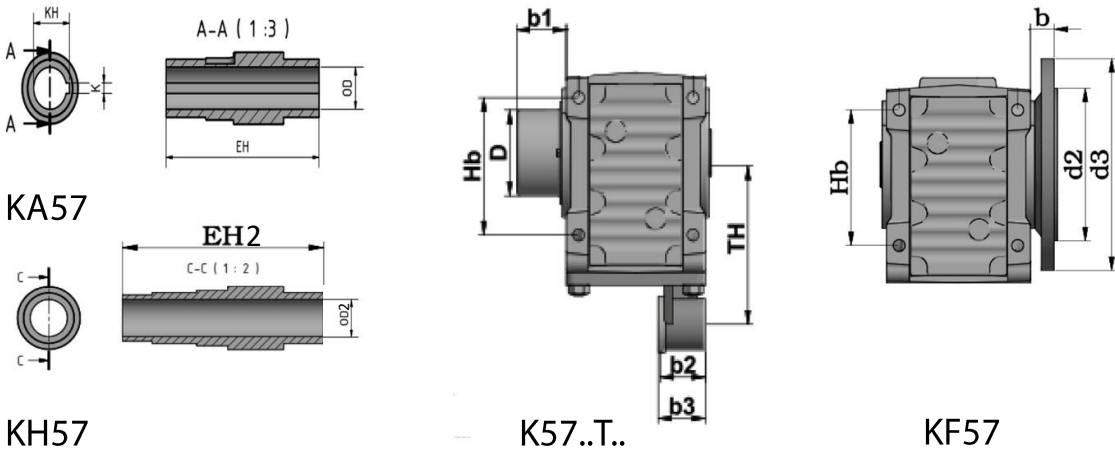




K57



L1	L2	H2	Ch	CL	W	Wb
**	265	221	132	80	158	130
Hb	OL	Lb	Od	K	Kh	
150	70	130	35	10	30	

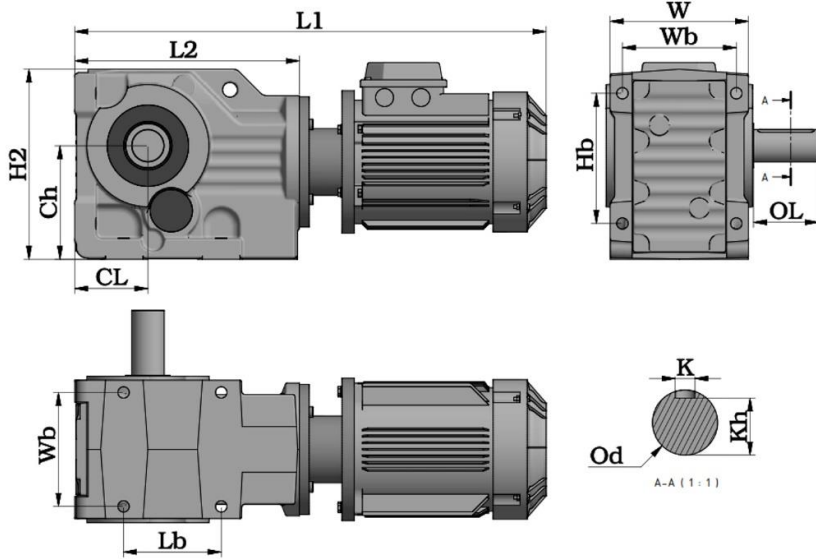


OD	EH	K	KH	OD2	EH2	Hb	
35	168	10	38.3	40	197	150	
D	b1	b2	b3	TH	d2	d3	b
N/A	N/A	55	60	192	N/A	N/A	N/A

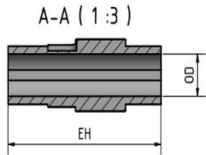
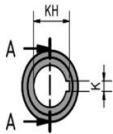




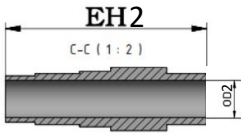
K67



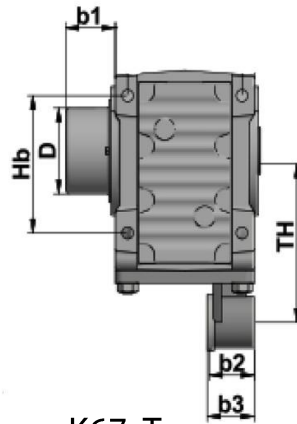
L1	L2	H2	Ch	CL	W	Wb
**	276	234	140	90	170	140
Hb	OL	Lb	Od	K	Kh	
160	80	120	40	120	35	



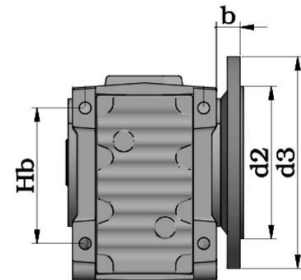
KA67



KH67



K67..T..



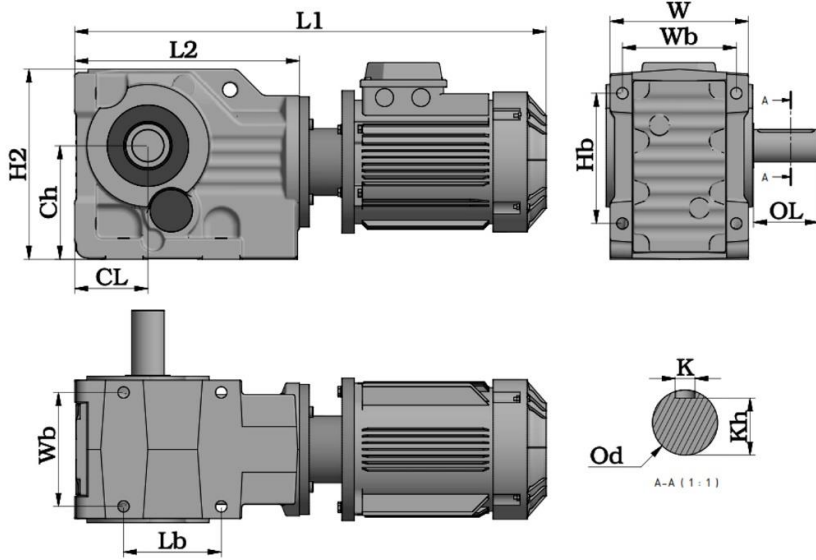
KF67

OD	EH	K	KH	OD2	EH2	Hb	
40	185	12	43.3	40	214	160	
D	b1	b2	b3	TH	d2	d3	b
110	54	55	60	200	180	250	23

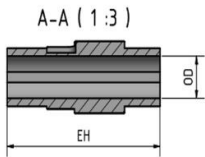
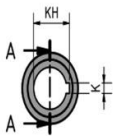




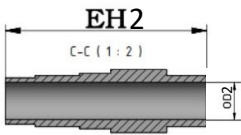
K77



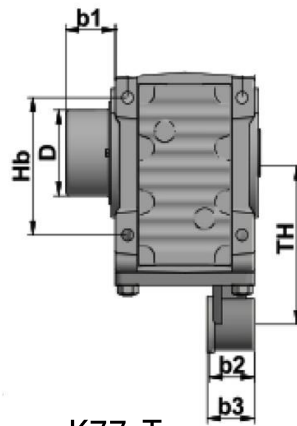
L1	L2	H2	Ch	CL	W	Wb
**	320	287	180	118	200	165
Hb	OL	Lb	Od	K	Kh	
200	100	150	50	14	44.5	



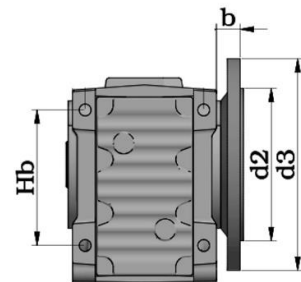
KA77



KH77



K77..T..



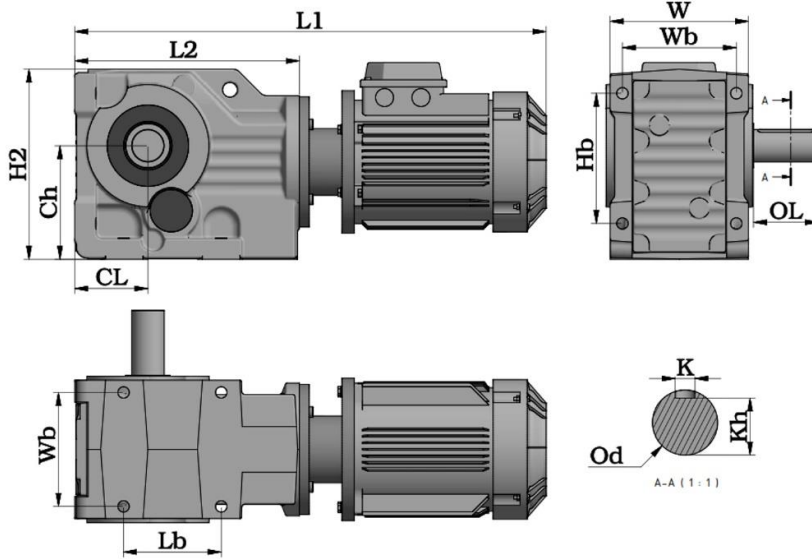
KF77

OD	EH	K	KH	OD2	EH2	Hb	
50	214	14	53.8	50	245	200	
D	b1	b2	b3	TH	d2	d3	b
130	58	55	60	252	230	300	37

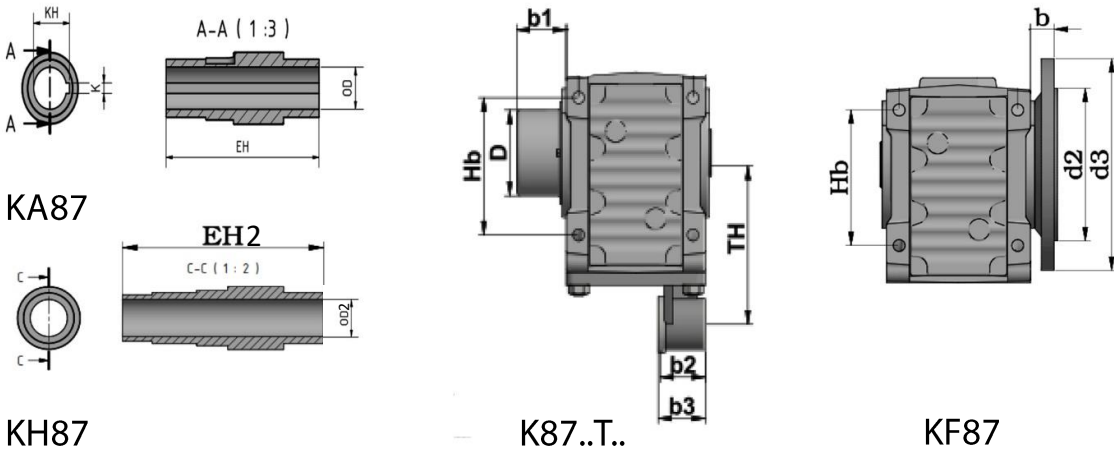




K87



L1	L2	H2	Ch	CL	W	Wb
**	389	345	212	132	235	180
Hb	OL	Lb	Od	K	Kh	
233	120	180	60	18	53	

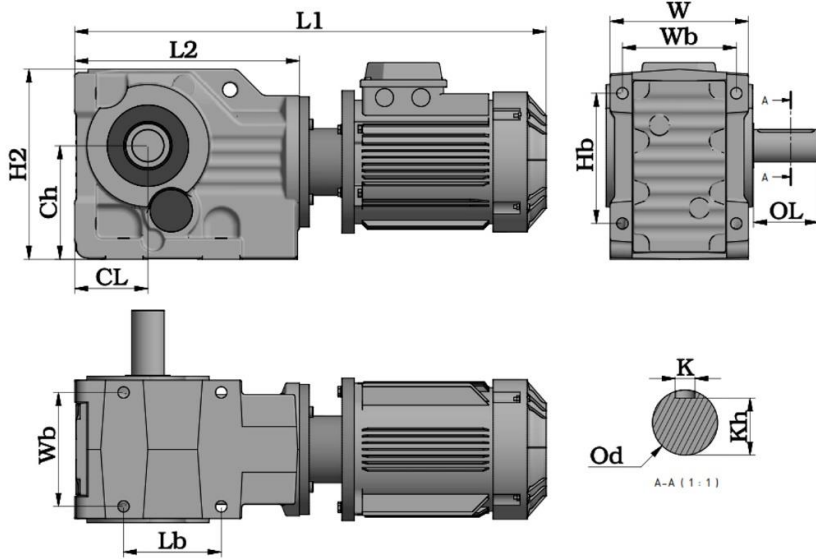


OD	EH	K	KH	OD2	EH2	Hb	
60	246	18	64.4	65	284	233	
D	b1	b2	b3	TH	d2	d3	b
164	63	72	80	302	250	350	30

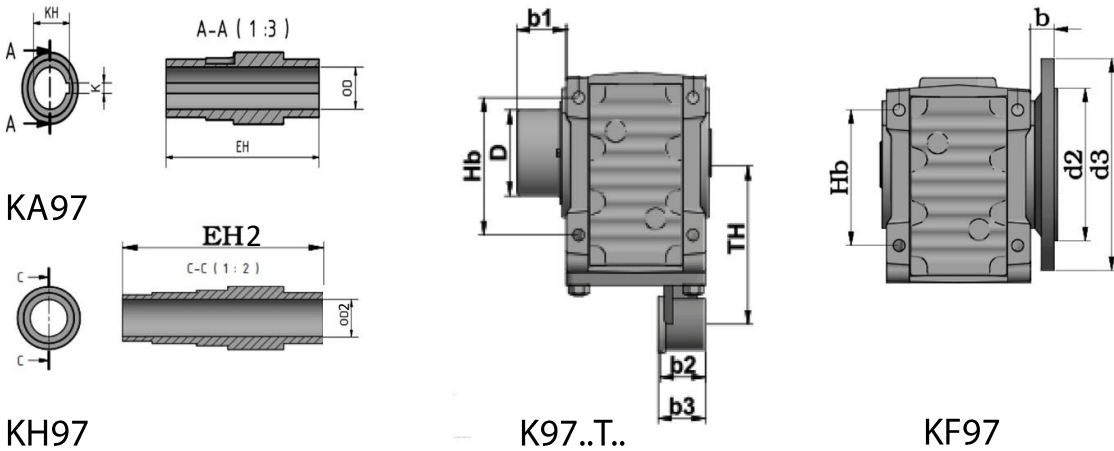




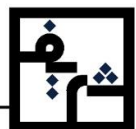
K97



L1	L2	H2	Ch	CL	W	Wb
**	455	422	265	160	290	240
Hb	OL	Lb	Od	K	Kh	
295	140	240	70	20	62.5	

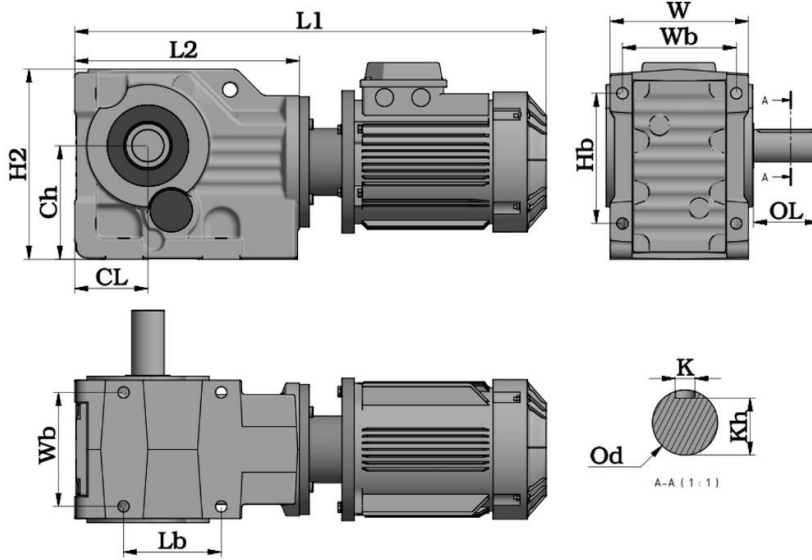


OD	EH	K	KH	OD2	EH2	Hb	
70	300	20	74.9	75	340	295	
D	b1	b2	b3	TH	d2	d3	b
210	65	92	100	352	350	450	41.5

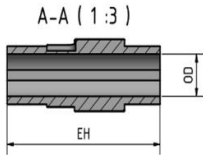
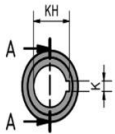




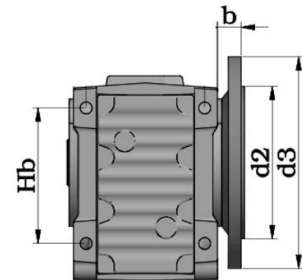
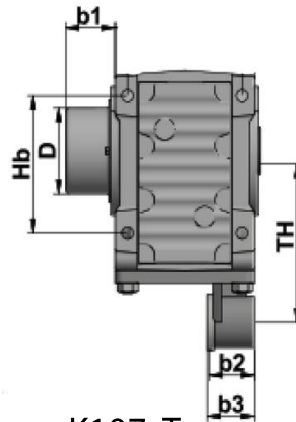
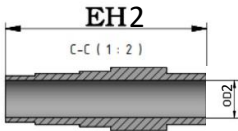
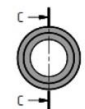
K107



L1	L2	H2	Ch	CL	W	Wb
**	542	511	315	200	340	270
Hb	OL	Lb	Od	K	Kh	
360	170	280	90	25	81	



KA107



KH107

K107..T..

KF107

OD	EH	K	KH	OD2	EH2	Hb	
90	355	25	95.4	95	409	360	
D	b1	b2	b3	TH	d2	d3	b
230	79	92	100	452	350	450	41



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