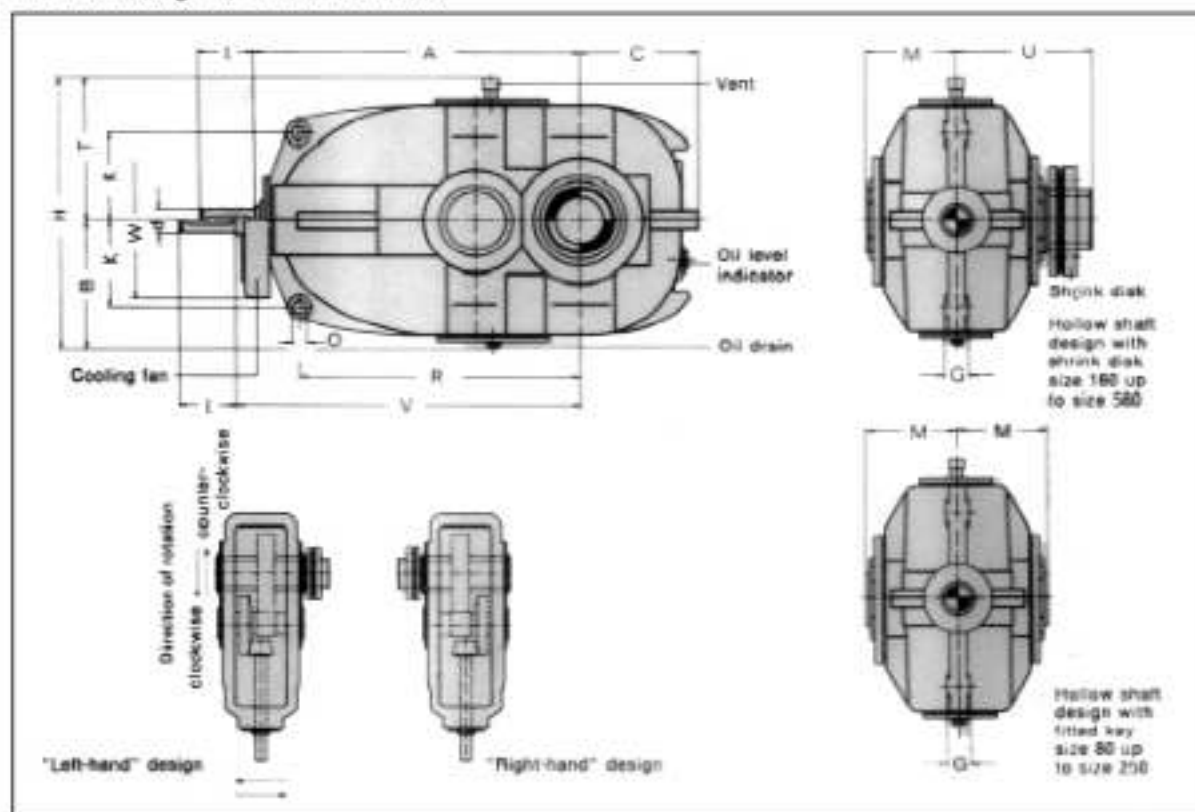




TGW modular gear units, shaftmounted Bevel Helical gear, double reduction



Example of a gear unit designation :

Gear unit KBA 200 R
 $P_n = 130$ [kW]; $n_1 = 1500$ rpm ;
 $n_2 = 150$ [rpm]; $i_n = 200 : 1$

Normal design, size 200

R: 'right - hand' design for transmission of 130 [kW]
 at an input speed of $n_1 = 1500$ [rpm] and a transmission ratio of $i_n = 10 : 1$

Size of gear unit	Input Shaft				Dimensions [mm]													Boreing	Average weight [kg]	Oil quantity [litres]		
	$i_n < 500$		$i_n > 500$		d	i	d	i	A	B	C	G	H	K	M	ØH11	R				T	L
80	16	40	16	40	250	115	100	20	255	75	80	10	215	140					350	180	24	0,5
90	20	50	20	50	280	130	115	22	280	80	90	12	240	150					380	180	30	0,7
100	20	50	20	50	315	145	125	25	305	85	100	15	270	160					415	180	42	1
110	25	60	20	50	350	160	140	25	345	95	110	18	305	185					450	230	55	1,5
125	30	80	25	60	395	175	155	28	375	105	120	18	340	200					500	230	80	2,5
140	35	80	30	80	440	195	175	30	415	120	135	20	370	220					545	300	105	3
160	40	110	35	80	500	215	190	32	465	135	145	20	435	250	225				605	300	145	4
180	42	110	40	110	565	240	215	35	515	155	160	25	495	275	250				685	380	190	5
200	50	110	45	110	625	260	240	45	555	170	175	30	560	295	275	745			745	380	250	8
225	55	110	50	110	705	290	260	50	610	185	190	35	625	320	295	835			835	380	330	12
250	60	140	55	110	785	315	290	55	660	205	210	40	690	345	325	910			910	530	460	15
280	65	140	60	140	875	345	325	60	720	225	230	45	770	375	360	1015			1015	530	620	21
315	75	140	70	140	975	380	355	70	810	260	260	50	875	430	420	1115			1115	650	840	30
355	90	170	80	170	1085	415	390	80	880	285	285	55	965	465	450	1220			1220	650	1130	40
400	100	210	90	170	1215	460	440	90	970	310	305	60	1090	510	490	1350			1350	650	1500	55
450	110	210	95	170	1365	515	490	105	1080	360	345	65	1215	565	550	1500			1500	650	2000	75
500	120	210	110	210	1525	575	550	105	1200	410	475	70	1360	625	715	1655			1655	650	3265	105
580	130	250	120	210	1705	645	610	110	1340	450	510	75	1530	695	760	1835			1835	650	4505	150

Larger gear box sizes of this design on enquiry.

Modification of dimensions reserved.

Shaft ends with keys according to DIN 6885, part 1, Shape A.

Shaft centering according to DIN 332, shape D6 (with thread)

Tolerance field for shaft ends ISO fit, up to 50 mm f 7 k 6; over 50 mm 1 m 8.



TGW modular gear units, shaftmounted Bevel Helical gear, double reduction

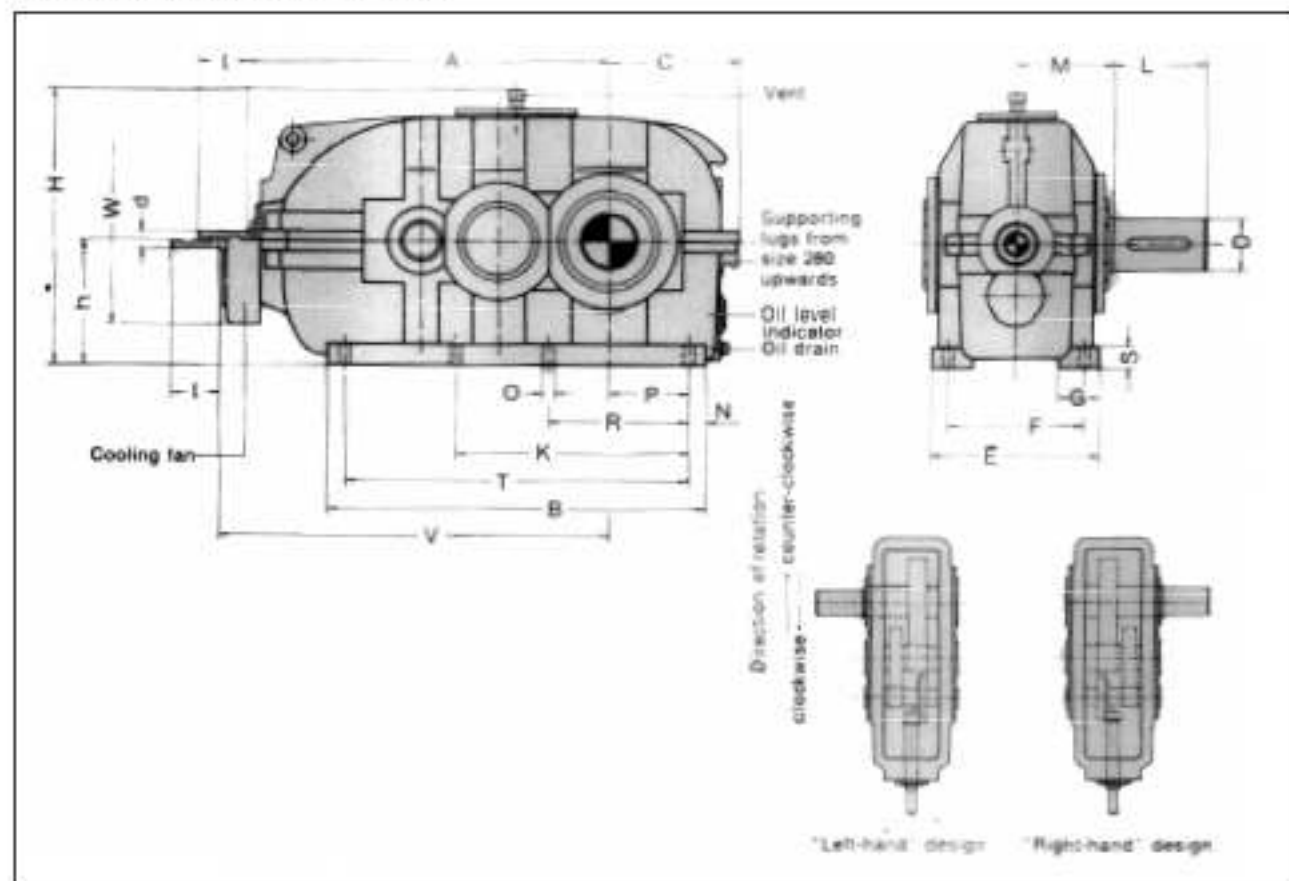
Nominal transmission ratio	input speeds (rpm) n1 n2		Size of gear unit																	
			Nominal gear box rating P _n (kW)																	
			80	90	100	110	125	140	160	180	200	225	250	280	315	355	400	450	500	560
6,3	1500	240	12	18	24	28	45	65	94	115	165	240	360	460	610	790	1290*	1850*	2100*	2400*
	1000	160	8	12	16	21	34	49	70	86	125	180	270	345	465	590	970	1380	1800	2200*
	750	120	6	9	12	17	24	40	56	71	100	145	210	275	380	490	790	1030	1450	1850
7,1	1500	210	12	16	24	28	45	65	94	115	155	225	345	460	610	790	1180*	1740*	2100*	2400*
	1000	140	8	11	16	21	32	49	70	86	115	170	265	345	465	590	890	1310	1800	2200*
	750	105	6	8	12	17	24	34	56	68	94	135	200	275	380	490	720	1030	1450	1850
8	1500	188	9	13	19	28	40	56	81	115	145	205	320	435	610	750	1080*	1680*	2100*	2400*
	1000	125	6	9	13	18	27	38	56	86	110	155	245	325	465	560	810	1260	1700	2200
	750	94	4,5	6,5	10	14	20	29	42	55	88	125	185	250	340	465	660	950	1400	1800
9	1500	167	8	12	18	25	36	51	74	100	135	190	290	395	540	680	990	1540*	2050*	2200*
	1000	111	5,5	8	12	16	24	34	49	76	100	145	220	295	415	510	740	1110	1560	1950
	750	83	4	6	9,5	13	19	26	38	51	79	120	175	230	315	420	600	830	1190	1500
10	1500	150	7,5	10	16	22	32	46	67	92	130	165	255	345	480	610	910	1370	1900*	2200*
	1000	100	5	7	11	15	22	30	44	69	94	125	195	260	360	465	620	950	1270	1700
	750	75	4	5,5	8,5	11	17	23	34	46	73	105	155	210	295	380	510	710	950	1300
11,2	1500	134	6,5	9,5	14	20	29	41	59	81	115	150	235	325	450	560	840	1200	1550	2000*
	1000	89	4,5	6,5	9,5	13	20	27	40	61	84	130	175	245	340	430	630	810	1030	1380
	750	67	3,5	4,8	7,5	10	15	21	31	41	65	98	140	185	240	350	470	610	780	1040
12,5	1500	120	5,5	8,5	13	18	26	36	53	75	105	140	210	285	390	500	790	980	1260	1550*
	1000	80	3,9	5,5	8,5	12	18	25	36	56	74	105	145	215	265	380	480	660	850	1110
	750	60	3	4,2	6,5	9	13	19	27	36	56	76	110	150	190	270	365	500	640	840
14	1500	107	5	7,5	10	14	23	32	48	66	81	125	190	260	345	465	580	780	1000	1150
	1000	71	3,5	5	6,5	9	15	21	31	42	54	84	110	165	205	310	415	520	680	900
	750	53	2,6	3,7	4,9	7	11	15	23	31	38	60	80	115	145	235	310	400	510	690
16	1500	94	4,3	6	7,5	11	18	24	37	51	60	105	135	205	260	410	480	600	840	1000
	1000	62	2,8	3,7	5	7,5	11	15	24	32	37	63	81	125	150	250	350	410	560	720
	750	47	2,1	2,8	3,7	5,5	8,5	11	17	23	27	46	59	88	110	180	260	305	425	600
18	1500	83	3,3	4,5	6	8,5	13													
	1000	56	2,2	2,9	3,9	5,5	8,5													
	750	41	1,6	2,2	2,9	4,2	6,5													
Nominal transmission ratio	input speeds (rpm) n1		Size of gear unit																	
			Thermal capacity P _{G1} (kW), for gear boxes without cooling																	
6,3 to 11,2	1500		11	16	21	26	31	38	50	65	90	125	140	170	220	275	355	430	550	675
	1000		10	15	20	24	29	36	48	62	86	110	135	165	210	270	340	420	545	665
	750		9	13	18	21	26	35	46	58	80	105	130	155	205	260	330	415	535	660
12,5 to 18	1500		10	15	18	24	28	36	48	62	86	110	135	165	215	265	340	420	545	665
	1000		9	13	16	22	25	34	45	54	78	105	125	160	205	260	335	415	535	655
	750		8	12	15	19	23	32	41	50	73	100	120	150	200	255	330	410	530	650
			Thermal capacity P _{G2} (kW), for gear boxes with fan cooling																	
			Thermal capacity P _{G3} (kW), for gear boxes with cooling coil																	
6,3 to 11,2	1500		28	35	45	56	70	90	110	150	195	250	330	380	510	620	800	990	1200	1500
	1000		26	33	42	52	63	82	100	140	175	230	305	350	450	550	700	830	1100	1400
	750		22	30	37	48	55	75	95	125	180	205	260	300	400	500	620	780	950	1300
12,5 to 18	1500		25	33	42	54	68	86	105	140	180	230	310	370	480	600	750	950	1150	1450
	1000		21	29	36	46	58	72	92	120	150	200	260	320	430	520	660	810	1000	1300
	750		16	24	30	40	50	64	82	105	135	180	230	280	380	480	600	740	930	1200
			Thermal capacity P _{G4} (kW), for gear boxes with fan and cooling coil																	
6,3 to 18	1500		20	26	32	42	56	70	90	110	135	170	210	260	330	425	575	760	975	1175
	1000		18	24	30	40	54	65	83	106	131	160	200	255	310	420	570	740	965	1165
	750		15	22	29	37	51	61	81	104	130	155	194	250	300	410	565	715	935	1110
6,3 to 18	1500		37	45	56	72	95	122	150	195	240	305	400	470	620	770	1020	1200	1500	2000
	1000		34	42	52	68	88	111	135	188	220	280	370	440	550	700	930	1150	1400	1900
	750		28	39	48	64	80	101	130	171	200	255	324	395	495	650	855	1080	1350	1750

for power ratings indicated in heavy type check of the thermal capacity is always necessary (see the example of a calculation).

At normal type print this is necessary only at an ambient temperature deviating from 20°C. Thermal capacity, P_{G2}[kW] and dimension for gears with fan cooling on request. The nominal transmission ratio is maintained with a tolerance of about - 3% intermediate transmission ratios are possible.



TGW modular gear units Bevel Helical gear, triple reduction



Example of a gear unit designation :

Gear unit KCN 200 R
 $P_N = 36$ [kW]; $n_1 = 1500$ rpm ;
 $n_2 = 38$ [rpm]; $i_N = 40 : 1$

Normal design, size 200

R: 'right - hand' design for transmission of 36 [kW]
 at an input speed of $n_1 = 1500$ [rpm] and a transmission ratio of $i_N = 40 : 1$

Size of gear unit	Input Shaft upto size = 450		Output shaft		Dimensions [mm]																	Scaling	Average weight [kg]	Oil quantity [litres]		
	$i_N \leq 45$		$i_N > 45$		D	L	A	B	C	E	F	G	h	H	K	M	O	P	R	S	T				V	
	d	l	d	l																						
110	16	40	16	40	48	110	360	385	140	180	150	50	125	310		110	20	14	80	140	25	345	460	230	70	3,5
125	20	50	20	50	55	110	405	435	155	200	170	55	140	340		120	20	14	95	170	25	395	505	230	95	4,5
140	20	50	20	50	60	140	455	490	175	220	190	60	160	380		135	20	14	110	195	30	450	555	300	130	6,5
160	25	60	20	50	70	140	510	555	190	250	210	65	180	430		145	30	18	115	210	35	495	610	300	175	9
180	30	80	25	60	80	170	575	625	215	270	230	70	200	475		160	30	18	135	240	35	565	680	380	235	13
200	35	80	30	80	90	170	640	685	240	300	250	75	225	520		175	35	23	145	255	40	615	745	380	320	18
225	40	110	35	80	100	210	725	775	260	320	270	80	250	570		190	35	23	165	290	45	705	830	380	430	26
250	42	110	40	110	110	210	815	860	285	370	310	90	280	625		210	40	27	180	315	50	780	935	530	580	33
280	50	110	45	110	120	210	905	970	325	400	340	100	315	690		230	45	27	200	355	55	880	1025	530	780	46
315	55	110	50	110	140	250	1020	1085	355	450	380	110	355	785	655	260	50	33	220	405	60	985	1150	650	1060	65
355	60	140	55	110	160	300	1140	1220	390	480	410	120	400	865	740	285	55	33	245	450	65	1110	1265	650	1430	90
400	65	140	60	140	170	300	1275	1355	440	530	460	130	450	960	840	305	55	33	280	510	70	1245	1415	650	1930	125
450	75	140	70	140	190	350	1425	1520	490	600	510	140	500	1065	940	345	60	39	315	575	80	1400	1565	650	2590	180
500	90	170	80	170	220	350	1585	1690	550	650	560	150	560	1185	1050	475	70	39	350	645	90	1550	1720	650	4280	240
560	100	210	90	170	250	410	1775	1895	610	750	640	160	630	1325	1165	510	80	45	390	715	100	1735	1910	650	5580	335
630	110	210	95	170	300	470	1895	2145	675	800	690	170	710	1460	1305	560	80	45	445	800	110	1985	2130	650	7950	480
710	120	210	110	210	340	550	2235	2400	750	900	770	190	800	1665	1490	600	90	45	500	900	125	2220	2365	650	10650	590
800	130	250	120	210	400	650	2505	2700	840	1000	870	200	900	1870	1680	645	90	45	560	1100	140	2520	2635	650	14700	940

Larger gear box sizes of this design on enquiry.

Modification of dimensions reserved.

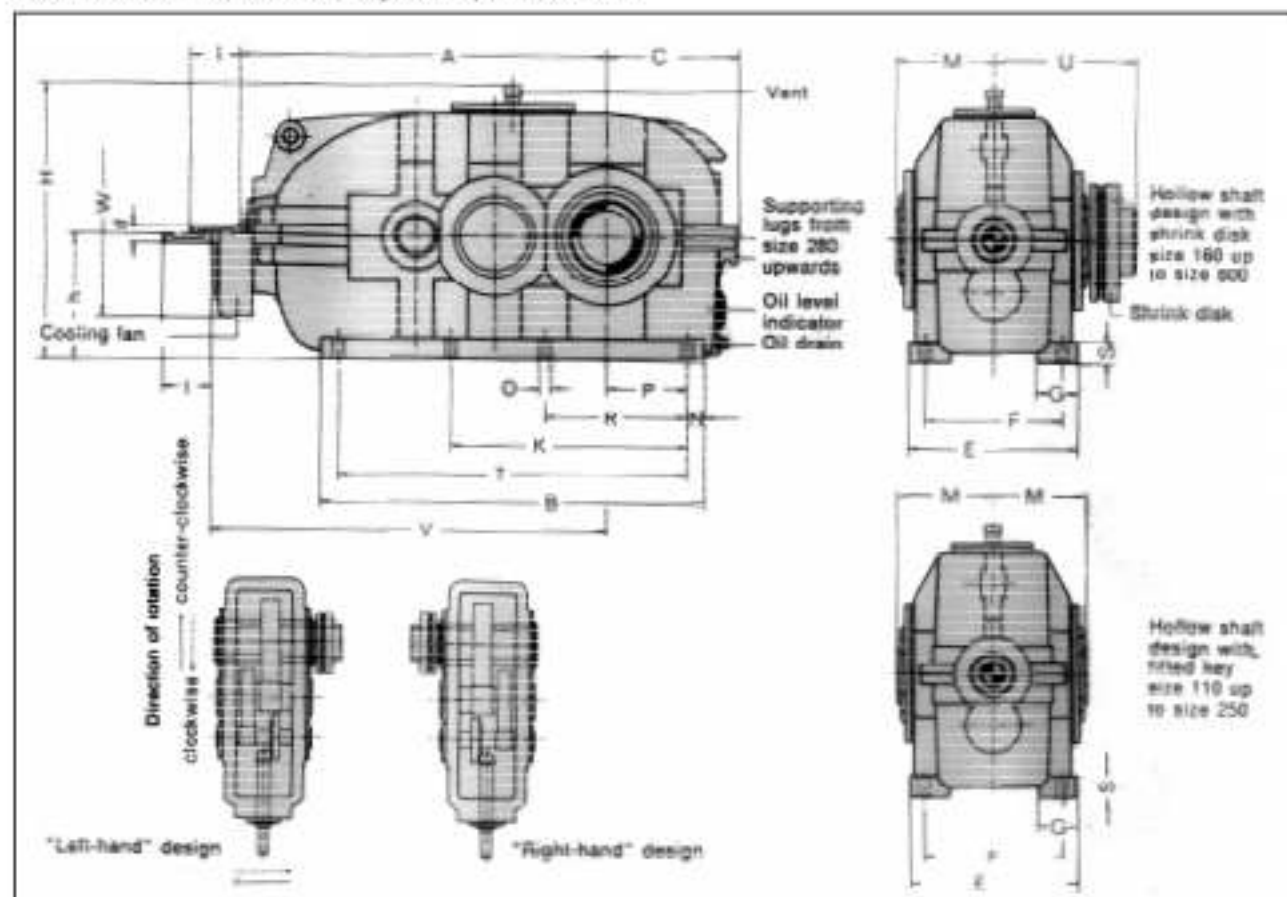
Shaft ends with keys according to DIN 6885, part 1, Shape A.

Shaft centering according to DIN 332, shape DS (with thread)

Tolerance fields for shaft ends (ISO fit, up to 50 mm f_7/k_6 ; over 50 mm f_8/m_6).



TGW modular gear units, hollow shaft footmounted - Bevel Helical gear, triple reduction



Example of a gear unit designation :

Gear unit KCH 200 R

$P_N = 36$ [kW]; $n_1 = 1500$ rpm ;

$n_2 = 38$ [rpm]; $i_N = 40 : 1$

Normal design, size 200

R: 'right - hand' design for transmission of 36 [kW]

at an input speed of $n_1 = 1500$ [rpm] and a transmission ratio of $i_N = 40 : 1$

Size of gear unit	Input shaft upto size = 450 $i_N \leq 45$ $i_N > 45$		size 500 and above $i_N \leq 50$ $i_N > 50$		Dimensions [mm]																	Rn cooling	Average weight [kg]	Oil quantity [litres]	
	d	l	d	l	A	B	C	E	F	G	N	H	K	M	N	O	P	R	S	T	U				V
110	16	40	16	40	360	385	140	180	150	50	125	310		110	20	14	80	140	25	345		460	230	70	3.5
125	20	50	20	50	405	435	155	200	170	55	140	340		120	20	14	95	170	25	395		505	230	95	4.5
140	20	50	20	50	455	490	175	220	190	60	160	380		135	20	14	110	195	30	450		555	300	130	6.5
160	25	60	20	50	510	555	190	250	210	65	180	430		145	30	18	115	210	35	495	225	610	300	175	9
180	30	80	25	60	575	625	215	270	230	70	200	475		160	30	18	135	240	35	565	250	680	380	235	13
200	35	80	30	80	640	685	240	300	250	75	225	520		175	35	23	145	265	40	615	275	745	380	320	18
225	40	110	35	80	725	775	260	320	270	80	250	570		190	35	23	165	290	45	705	295	830	380	430	26
250	42	110	40	110	815	860	285	370	310	90	280	625		210	40	27	180	315	50	780	325	935	530	580	33
280	50	110	45	110	905	970	325	400	340	100	315	690		230	45	27	200	355	55	880	360	1025	530	780	46
315	55	110	50	110	1020	1085	355	450	380	110	355	785	655	260	50	33	220	405	60	985	420	1150	650	1060	65
355	60	140	55	110	1140	1220	390	480	410	120	400	865	740	285	55	33	245	450	65	1110	450	1265	650	1430	90
400	65	140	60	140	1275	1355	440	530	460	130	450	960	840	305	55	33	280	510	70	1245	490	1415	650	1930	125
450	75	140	70	140	1425	1520	490	600	510	140	500	1085	940	345	60	39	315	575	80	1400	550	1565	650	2590	180
500	90	170	80	170	1585	1690	550	650	560	150	560	1185	1050	475	70	39	350	654	90	1550	715	1720	650	4280	240
560	100	210	90	170	1775	1895	610	750	640	160	630	1325	1165	510	80	45	390	715	100	1735	760	1910	650	5580	335
630	110	210	95	170	1995	2145	675	800	690	170	710	1460	1305	560	80	45	445	800	110	1985	840	2130	650	7950	480
710	120	210	110	210	2235	2400	760	900	770	190	800	1665	1490	600	90	45	500	900	125	2220	890	2365	650	10650	690
800	130	250	120	210	2505	2700	840	1000	870	200	900	1870	1680	645	90	45	560	1100	140	2520	955	2635	650	14700	940

Larger gear box sizes of this design on enquiry.

Modification of dimensions reserved.

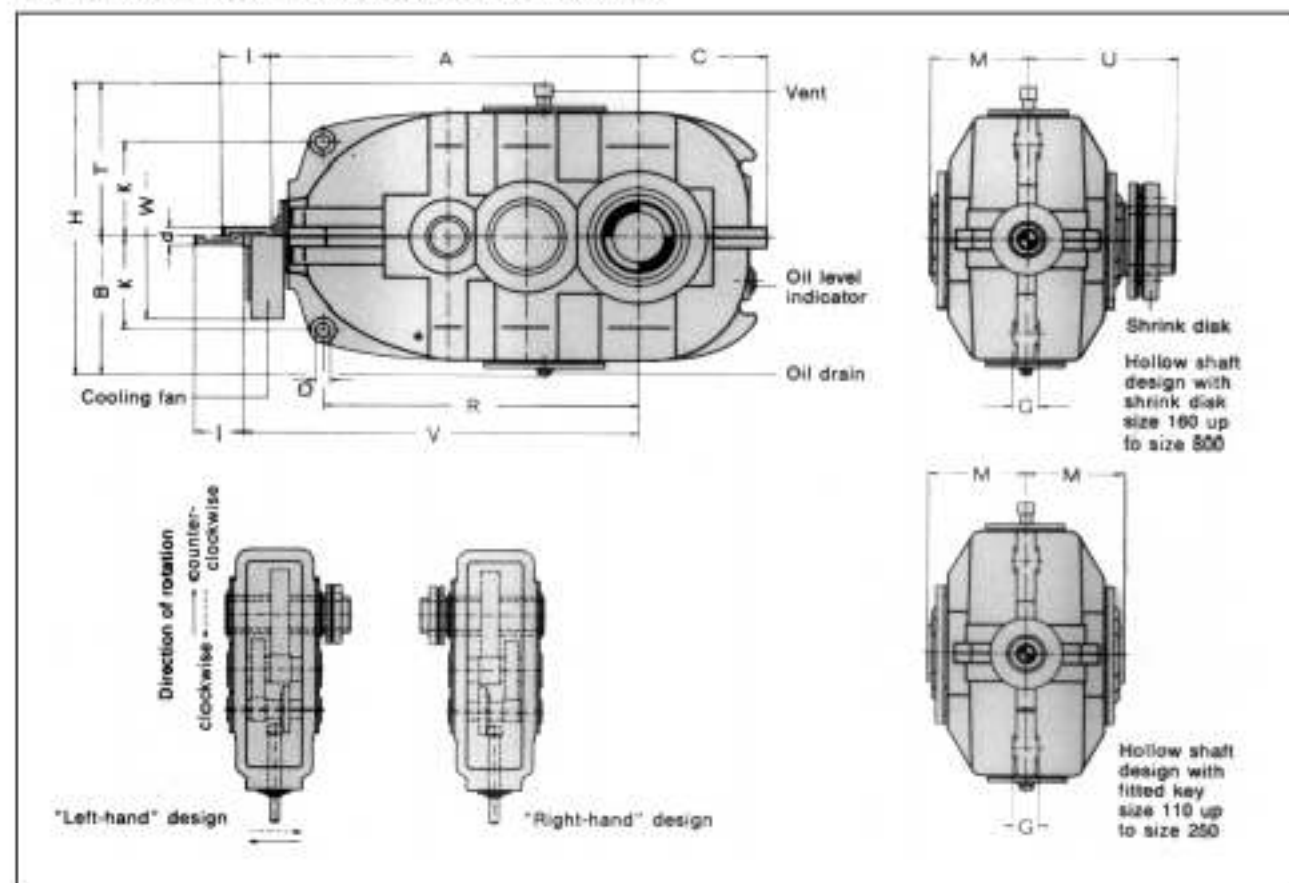
Shaft ends with keys according to DIN 6885, part 1, Shape A.

Shaft centering according to DIN 332, shape DS (with thread)

Tolerance field for shaft ends ISO ft, up to 50 mm f_7 k 6; over 50 mm f_8 m 6.



TGW modular gear units, shaftmounted Bevel Helical gear, double reduction



Example of a gear unit designation :

Gear unit KCA 200 R

$P_N = 36$ [kW]; $n_1 = 1500$ rpm ;

$n_2 = 38$ [rpm]; $i_N = 40 : 1$

Normal design, size 200

R: 'right - hand' design for transmission of 36 [kW]

at an input speed of $n_1 = 1500$ [rpm] and a transmission

ratio of $i_N = 40 : 1$

Size of gear unit	Input Shaft				Dimensions [mm]												Ekel-Fig		Average weight [kg]	Oil quantity [litres]
	$d_i < 500$		$d_i > 500$		A	B	C	G	H	K	M	CH11	R	T	U	V	W			
	d	l	d	l																
110	16	40	16	40	360	160	140	25	345	95	110	18	315	185		450	230	65	2	
125	20	50	20	50	405	175	155	28	375	105	120	18	355	200		505	230	85	3	
140	20	50	20	50	455	195	175	30	415	120	135	20	395	220		555	300	115	4	
160	25	60	20	50	510	215	190	32	465	135	145	20	435	250	225	610	300	150	6	
180	30	80	25	60	575	240	215	35	515	155	160	25	495	275	250	680	380	205	8	
200	35	80	30	80	640	260	240	45	555	170	175	30	555	295	275	745	380	280	12	
225	40	110	35	80	725	290	260	50	610	185	190	35	635	320	295	830	380	370	17	
250	42	110	40	110	815	315	285	55	660	205	210	40	710	345	325	935	530	500	21	
280	50	110	45	110	905	345	325	60	720	225	230	45	800	375	360	1025	530	670	28	
315	55	110	50	110	1020	380	355	70	810	260	260	50	895	430	420	1150	650	910	40	
355	60	140	55	110	1140	415	390	80	880	285	285	55	995	465	450	1255	650	1170	55	
400	65	140	60	140	1275	460	440	90	970	310	305	60	1110	510	490	1415	650	1580	80	
450	75	140	70	140	1425	515	490	105	1080	360	345	65	1245	565	550	1565	650	2070	115	
500	90	170	80	170	1585	575	550	105	1200	410	475	70	1400	625	715	1720	650	3420	150	
560	100	210	90	170	1775	645	610	110	1340	450	510	75	1580	695	760	1910	650	4500	215	
630	110	210	95	170	1995	725	675	115	1500	465	560	80	1795	775	840	2130	650	6400	300	
710	120	210	110	210	2235	830	760	120	1695	535	600	85	2020	865	890	2365	650	8585	420	
800	130	250	120	210	2505	940	840	125	1910	605	645	90	2280	975	955	2635	650	11550	580	

Larger gear box sizes of this design on enquiry.

Modification of dimensions reserved.

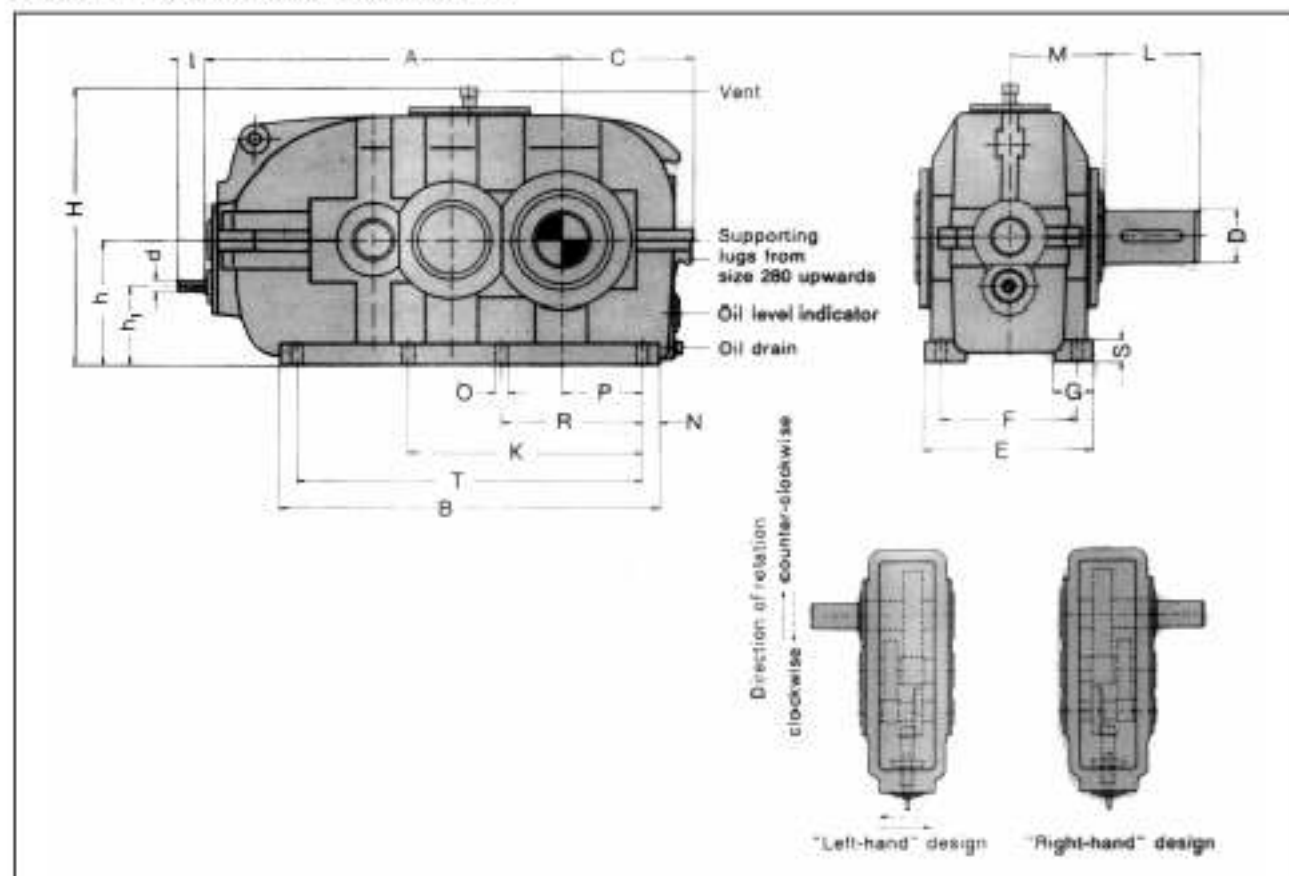
Shaft ends with keys according to DIN 6885, part 1, Shape A.

Shaft centering according to DIN 332, shape DS (with thread).

Tolerance field for shaft ends ISO fit, up to 50 mm f 7 k 6; over 50 mm f 8 m 6.



TGW modular gear units, Bevel Helical gear, quadruple reduction



Example of a gear unit designation :

Gear unit KCA 280 R

$P_N = 22$ [kW]; $n_1 = 1500$ rpm ;

$n_2 = 7.5$ [rpm]; $i_N = 200 : 1$

Normal design, size 280

R: 'right - hand' design for transmission of 22 [kW] at an input speed of $n_1 = 1500$ [rpm] and a transmission ratio of $i_N = 200 : 1$

Size of gear unit	Input Shaft				Output	Dimensions [mm]																	Average weight [kg]	Oil quantity [litres]		
	$i_N \leq 355$		$i_N > 355$			D	L	A	B	C	E	F	G	h	hl	H	K	M	N	O	P	R			S	T
	d	l	d	l																						
160	19	40	19	40	70	140	510	555	190	250	210	65	180	100	430		145	30	18	115	210	35	495	175	9	
180	19	40	19	40	80	170	575	625	215	270	230	70	200	120	475		160	30	18	135	240	35	565	235	13	
200	19	40	19	40	90	170	640	685	240	300	250	75	225	145	520		175	35	23	145	255	40	615	320	18	
225	22	50	22	50	100	210	725	775	260	320	270	80	250	160	570		190	35	23	165	290	45	705	430	26	
250	25	60	22	50	110	210	815	860	285	370	310	90	280	180	625		210	40	27	180	315	50	780	580	33	
280	30	80	25	60	120	210	905	970	325	400	340	100	315	205	690		230	45	27	200	355	55	880	780	46	
315	35	80	30	80	140	250	1020	1085	355	450	380	110	355	230	785	655	260	50	33	220	405	60	985	1060	65	
355	45	110	35	80	160	300	1140	1220	390	480	410	120	400	260	865	740	285	55	33	245	450	65	1110	1430	90	
400	50	110	40	110	170	300	1275	1355	440	530	460	130	450	290	960	840	305	55	33	280	510	70	1245	1930	125	
450	55	110	45	110	190	350	1425	1520	490	600	510	140	500	320	1065	940	345	60	39	315	575	80	1400	2590	180	
500	60	140	50	110	220	350	1585	1690	550	650	560	150	560	360	1185	1050	475	70	39	350	645	90	1550	4280	240	
560	70	140	55	110	250	410	1775	1895	610	750	640	160	630	405	1325	1165	510	80	45	390	715	100	1735	5850	385	
630	75	140	60	140	300	470	1995	2145	675	800	690	170	710	460	1460	1305	560	80	45	445	800	110	1985	7950	480	
710	85	170	70	140	340	550	2235	2400	760	900	770	190	800	520	1665	1490	600	90	45	500	900	125	2220	10650	690	
800	100	210	90	170	400	650	2505	2700	840	1000	870	200	900	585	1870	1680	645	90	45	560	100	140	2520	14700	940	

Larger gear box sizes of this design on enquiry.

Modification of dimensions reserved.

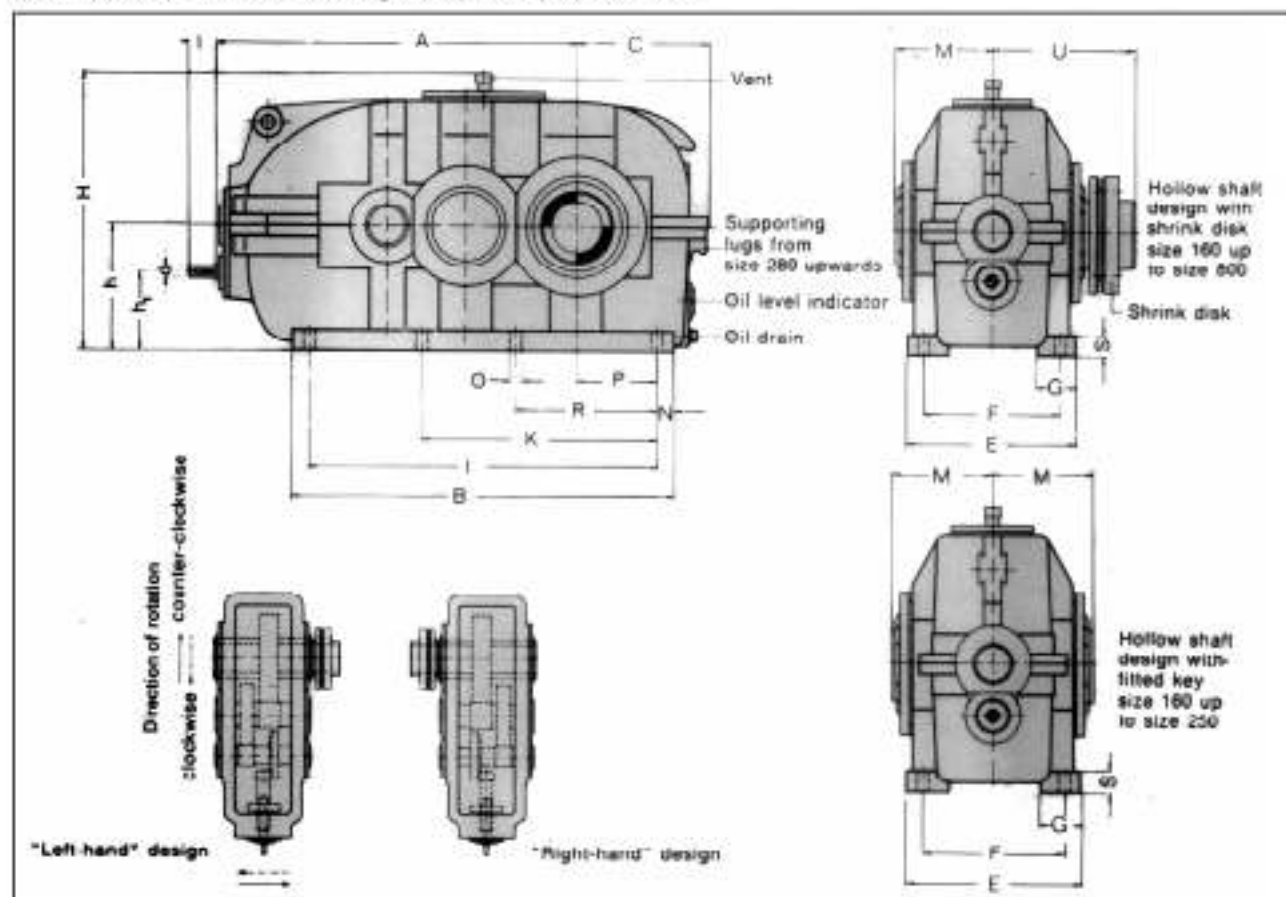
Shaft ends with keys according to DIN 6885, part 1, Shape A.

Shaft centering according to DIN 332, shape DS (with thread).

Tolerance field for shaft ends ISO fit, up to 50 mm f 7 k 6; over 50 mm f 8 m 6.



TGW modular gear units, hollow shaft footmounted - Bevel Helical gear, quadruple reduction



Example of a gear unit designation :

Gear unit KDH 200 R

$P_N = 22$ [kW]; $n_1 = 1500$ [rpm] ;

$n_2 = 7.5$ [rpm]; $i_N = 200 : 1$

Normal design, size 280

R: 'right - hand' design for transmission of 22 [kW]

at an input speed of $n_1 = 1500$ [rpm] and a transmission ratio of $i_N = 200 : 1$

Size of gear unit	Input Shaft		Dimensions [mm]																			Average weight [kg]	Oil quantity [litres]	
	$i_N \leq 500$	$i_N > 500$																						
	d	l	d	l	A	B	C	E	F	G	h	h1	H	K	M	N	O	P	R	S	T			U
160	19	40			510	555	190	250	210	65	180	100	430		145	30	18	115	210	35	495	225	175	9
180	19	40			575	625	215	270	230	70	200	120	475		160	30	18	135	240	35	565	250	235	13
200	19	40			640	685	240	300	250	75	225	145	520		175	35	23	145	255	40	615	275	320	18
225	22	50			725	775	260	320	270	80	250	160	570		190	35	23	165	290	45	705	295	430	26
250	25	60	22	50	815	860	285	370	310	90	280	180	625		210	40	27	180	315	50	780	325	580	33
280	30	80	25	60	905	970	325	400	340	100	315	205	690		230	45	27	200	355	55	880	360	780	46
315	35	80	30	80	1020	1085	355	450	380	110	355	230	785	655	260	50	33	220	405	60	985	420	1060	65
355	45	110	35	80	1140	1220	390	480	410	120	400	260	865	740	285	55	33	245	450	65	1110	450	1430	90
400	50	110	40	110	1275	1355	440	530	460	130	450	290	960	840	305	55	33	280	510	70	1245	490	1930	125
450	55	110	45	110	1425	1520	490	600	510	140	500	320	1065	940	345	60	39	315	575	80	1400	550	2590	180
500	60	140	50	110	1585	1690	550	650	560	150	560	360	1185	1050	475	70	39	350	645	90	1550	715	4280	240
560	70	140	55	110	1775	1895	610	750	640	160	630	405	1325	1165	510	80	45	390	715	100	1735	760	5850	335
630	75	140	60	140	1995	2145	675	800	690	170	710	460	1460	1305	560	80	45	445	800	110	1985	840	7950	480
710	85	170	70	140	2235	2400	760	900	770	190	800	520	1665	1490	600	90	45	500	900	125	2220	890	10550	690
800	100	210	90	170	2505	2700	840	1000	870	200	900	585	1870	1680	645	90	45	560	1100	140	2520	955	14700	940

Larger gear box sizes of this design on enquiry.

Modification of dimensions reserved.

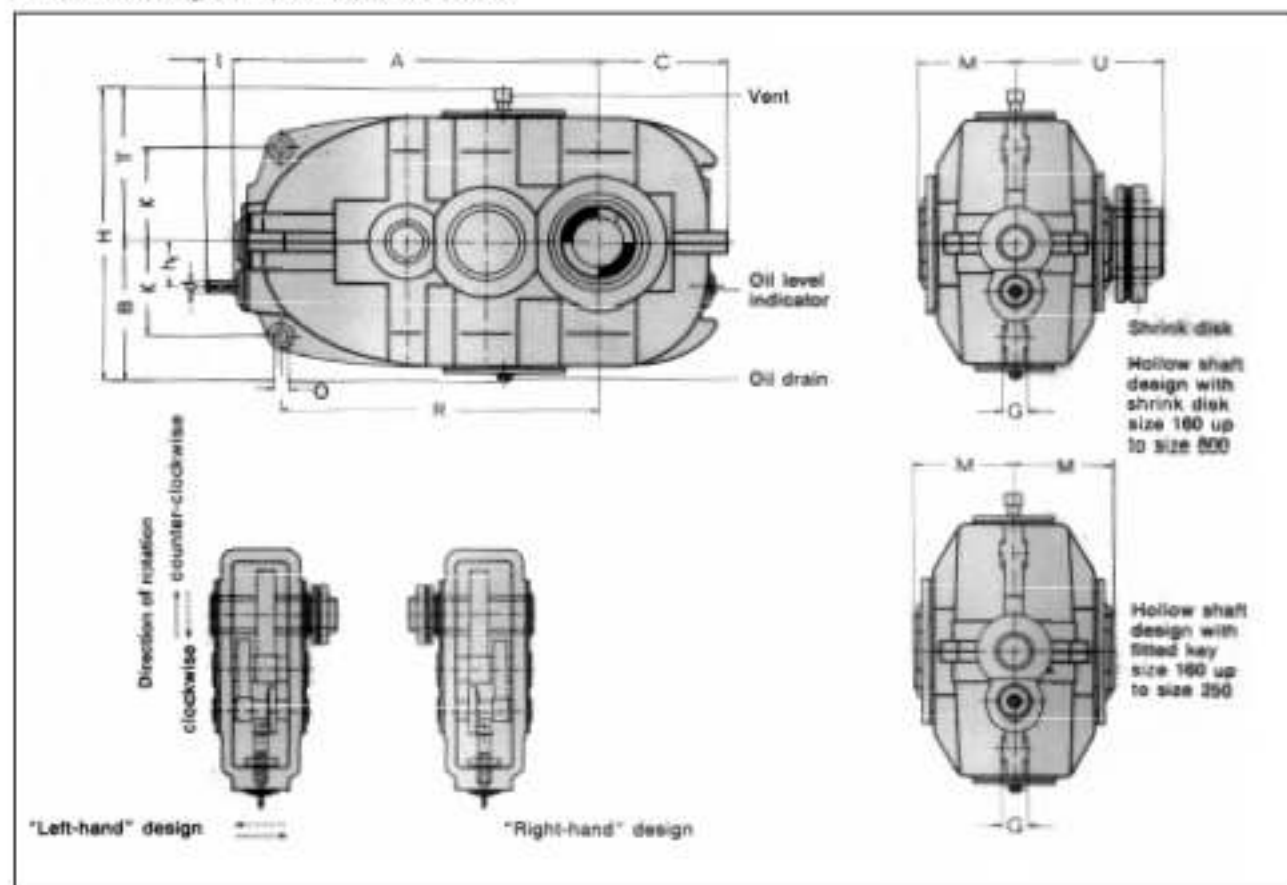
Shaft ends with keys according to DIN 6885, part 1, Shape A.

Shaft centering according to DIN 332, shape DS (with thread)

Tolerance field for shaft ends ISO ft, up to 50 mm f_7/k_6 ; over 50 mm f_8/m_6 .



TGW modular gear units, shaftmounted Bevel Helical gear, quadruple reduction



Example of a gear unit designation :

Gear unit KDA 280 R

$P_N = 22$ [kW]; $n_1 = 1500$ [rpm];

$n_2 = 7.5$ [rpm]; $i_N = 200 : 1$

Normal design, size 280

R: 'right - hand' design for transmission of 22 [kW]

at an input speed of $n_1 = 1500$ [rpm] and a transmission ratio of $i_N = 200 : 1$

Size of gear unit	Input Shaft				Dimensions [mm]													Average weight [kg]	Oil quantity [litres]
	$i_N \leq 500$		$i_N > 500$		A	B	C	G	h1	H	K	M	CH11	R	T	U			
	d	l	d	l															
160	19	40			510	215	190	32	80	465	136	145	20	435	250	225	150	6	
180	19	40			575	240	215	35	80	515	155	160	25	495	275	250	205	8	
200	19	40			640	260	240	45	80	555	170	175	30	555	295	275	280	12	
225	22	50			725	290	260	50	90	610	185	190	35	635	320	295	370	17	
250	25	60	22	50	815	315	285	55	100	660	205	210	40	710	345	325	500	21	
280	30	80	25	60	905	345	325	60	110	720	225	230	45	800	375	360	670	28	
315	35	80	30	80	1020	380	355	70	125	810	260	260	50	895	430	420	910	40	
355	45	110	35	80	1140	415	390	80	140	880	285	285	55	995	465	450	1170	55	
400	50	110	40	110	1275	460	440	90	160	970	310	305	60	1110	510	490	1580	80	
450	55	110	45	110	1425	515	490	105	180	1080	360	345	65	1245	565	550	2070	115	
500	60	140	50	110	1585	575	550	105	200	1200	410	475	70	1400	625	715	3350	150	
560	70	140	55	110	1775	645	610	110	225	1340	450	510	75	1580	695	760	4800	215	
630	75	140	60	140	1995	725	675	115	250	1500	465	560	80	1795	775	840	6400	300	
710	85	170	70	140	2235	830	760	120	280	1695	535	600	85	2020	865	890	8750	420	
800	100	210	90	170	2505	940	840	125	315	1910	605	645	90	2280	970	966	11200	580	

Larger gear box sizes of this design on enquiry.

Modification of dimensions reserved.

Shaft ends with keys according to DIN 6885, part 1, Shape A.

Shaft centering according to DIN 332, shape DS (with thread)

Tolerance field for shaft ends ISO ft, up to 50 mm f_7 k 6; over 50 mm f_8 m 6.



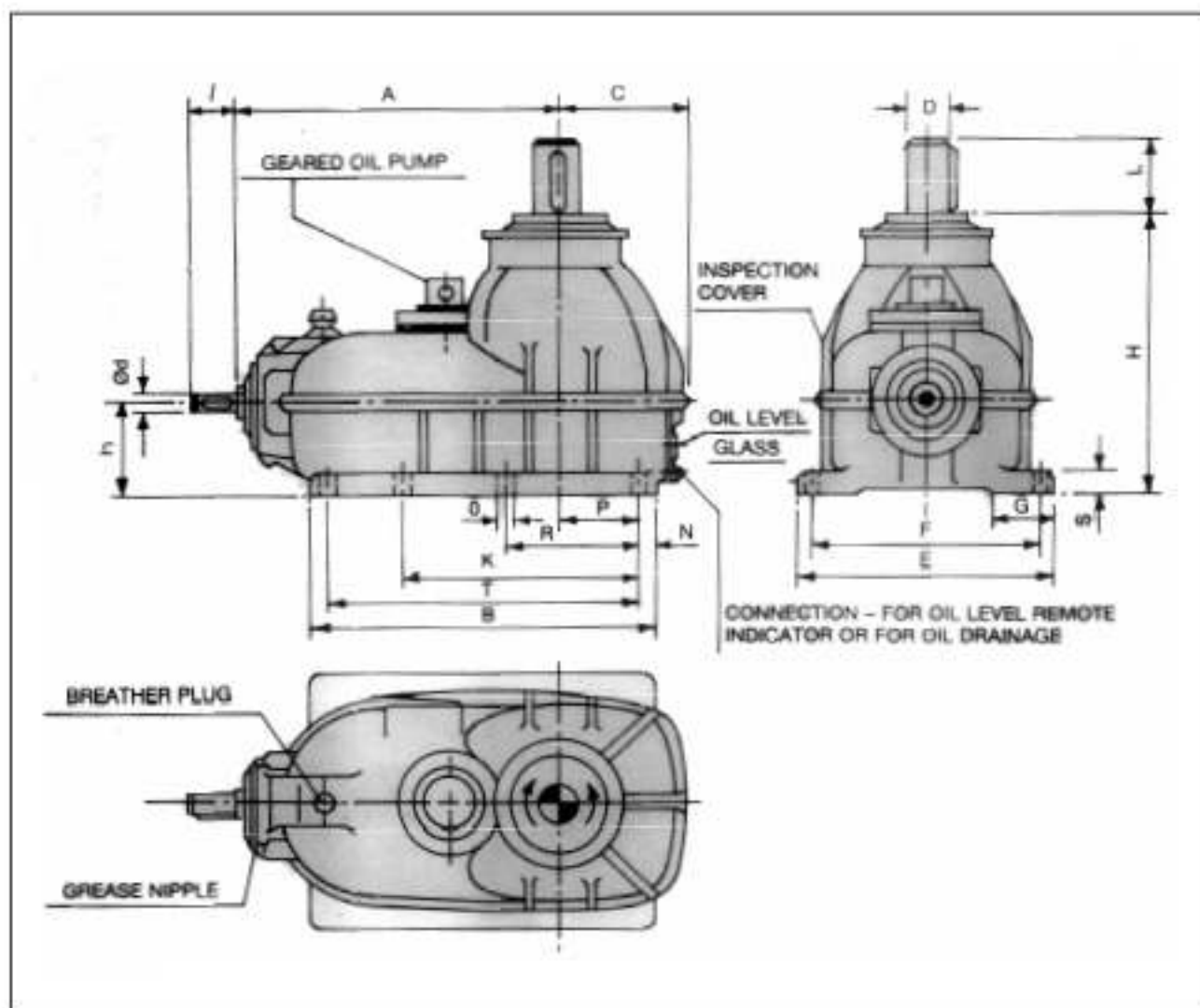
Power rating

Nominal transmission ratio i_n	Input speeds (rpm)		Size of gear unit															
			160	180	200	225	250	280	315	355	400	450	500	560	630	710	800	
			Nominal gear box rating P_n (kW)															
100	1500	15							41	65	98	135	180	290	400	540	780	1130
	1000	10							27	44	65	84	120	190	270	360	520	750
	750	7.5							21	33	50	64	90	145	250	270	395	560
112	1500	13.4	6	9.5	13	21	27	37	59	86	110	160	255	360	480	680	900	
	1000	8.9	4.1	7	9.5	14	18	25	39	60	70	105	170	240	320	470	670	
	750	6.7	3	5	7	10	14	19	29	44	53	83	130	185	235	355	500	
125	1500	12	5.5	9	12	18	24	33	52	78	97	145	230	320	425	610	880	
	1000	8	3.7	6	8.5	12	16	23	34	53	65	95	155	210	285	420	570	
	750	6	2.7	4.6	6.5	9	12	17	26	40	48	71	115	160	210	310	440	
140	1500	10.7	4.9	8	11	16	22	29	46	70	87	130	205	290	380	550	800	
	1000	7.15	3.3	5.5	7.5	11	15	21	31	48	58	85	135	190	250	365	520	
	750	5.4	2.5	4.1	5.5	8	11	16	23	36	44	65	100	145	190	275	395	
160	1500	9.37	4.4	7.5	10	14	20	27	41	63	76	115	180	255	340	495	710	
	1000	6.25	2.9	4.9	7	9.5	13	18	27	42	51	75	120	170	225	330	470	
	750	4.68	2.2	3.6	5	7.5	10	14	21	32	39	58	91	130	170	250	360	
180	1500	8.34	3.9	6.5	9	13	17	24	37	57	69	100	160	225	295	435	630	
	1000	5.58	2.6	4.3	6	8.5	12	16	25	38	46	68	105	150	200	290	420	
	750	4.17	2	3.2	4.5	6.5	9	12	19	29	35	51	81	115	155	220	320	
200	1500	7.5	3.5	5.8	8	12	15	22	33	51	62	92	145	205	270	395	560	
	1000	5	2.3	3.8	5.5	8	10	14	22	34	41	61	96	135	180	260	375	
	750	3.75	1.9	2.9	4.3	6	8	11	17	26	30	44	72	100	135	200	280	
224	1500	6.7	3.1	5	7	10	14	19	30	45	55	82	130	185	240	355	500	
	1000	4.47	2.1	3.4	4.7	7	9	13	20	30	37	54	86	120	160	235	340	
	750	3.35	1.7	2.6	3.8	5	7	10	15	23	28	41	65	92	120	175	255	
250	1500	6	2.8	4.6	6.5	9.5	12	17	26	40	48	71	115	165	215	315	450	
	1000	4	1.9	3.1	4.7	6	8.5	12	17	27	32	48	77	110	145	210	300	
	750	3	1.5	2.3	3.4	4.5	6.5	9	13	20	24	36	58	82	110	155	225	
280	1500	5.35	2.7	3.4	5.5	8	11	15	23	36	44	65	100	145	190	275	395	
	1000	3.57	1.7	2.3	3.8	5.5	7.5	11	16	24	29	43	67	95	125	185	265	
	750	2.67	1.2	1.6	2.7	4.1	5.5	8	12	18	22	32	50	71	95	140	195	
315	1500	4.76	2.3	3.1	5	7.5	9.5	14	21	32	39	58	91	130	170	250	335	
	1000	3.17	1.6	2.1	3.5	4.8	6.5	9	14	21	25	37	60	86	115	165	225	
	750	2.38	1.2	1.5	2.6	3.7	5	7	11	16	20	29	46	65	86	125	170	
355	1500	4.23	2.1	2.8	4.6	6.5	8.5	11	18	23	35	43	62	115	155	205	275	
	1000	2.82	1.3	1.9	3	4.3	6	7.5	12	16	23	29	53	75	99	135	185	
	750	2.12	1.0	1.3	2.3	3.2	4.4	5.5	9	12	17	21	41	58	77	105	140	
400	1500	3.75	1.7	2.4	3.8	5	7.5	9	15	19	28	35	71	100	120	170	240	
	1000	2.5	1.1	1.5	2.5	3.3	5	6	10	13	19	24	47	68	81	115	160	
	750	1.88	0.8	1.2	1.9	2.5	3.7	4.5	7.5	9.5	14	17	35	52	61	85	120	
450	1500	3.33	1.3	2.1	3	5	7	9	13	19	28	35	57	88	105	150	215	
	1000	2.22	0.9	1.4	2	3.3	5	6	9	13	19	24	38	61	73	100	145	
	750	1.88	0.7	1.1	1.5	2.5	3.7	4.5	7	9.5	14	17	28	45	54	76	105	
500	1500	3				3.8	6	7	9.5	16	22	25	43	70	96	145	185	
	1000	2				2.5	4	4.6	6.5	11	15	17	29	47	64	99	125	
	750	1.5				1.9	3.1	3.4	4.8	8	11	12	21	35	48	73	92	
560	1500	2.68					5.5	6	8.5	14	20	22	38	62	85	130	165	
	1000	1.79					3.6	4	5.5	9.5	13	15	25	42	57	87	110	
	750	1.34					2.7	3	4.2	7	10	11	19	31	43	64	82	
630	1500	2.38						4.8	7	11	14	17	29	43	70	105	140	
	1000	1.59						3.2	4.6	7.5	9.5	11	19	29	46	69	93	
	750	1.19						2.4	3.4	5.5	7	8.5	14	21	35	52	70	
Nominal transmission ratio i_n	Input speeds (rpm)		Size of gear unit															
			160	180	200	225	250	280	315	355	400	450	500	560	630	710	800	
			Thermal capacity, P_{G1} (kW), for gear boxes without cooling															
100 to 630	1500		17	22	28	36	45	60	76	100	122	152	195	240	305	390	510	
	1000		15	18	24	32	40	55	66	85	110	135	175	230	290	365	490	
	750		14	16	23	30	35	45	62	80	102	130	160	205	285	345	470	

For power ratings indicated in heavy type a check of the thermal capacity is always necessary (see the example of a calculation). At normal type print this is necessary only at an ambient temperature deviating from 20°C. Thermal capacity, P_{G2} [kW] and dimension for gears with fan cooling on request. The nominal transmission ratio is maintained with a tolerance of about - 3% intermediate transmission ratios are possible.



COOLING TOWER GEAR



Gear Size	DRIVE SHAFT				OUTPUT	Dimensions [mm]															weight [kg]	Oil quantity [litres]	
	$l_b \leq 10$		$l_b > 10$			D	L	A	B	C	E	F	G	H	h	K	N	O	P	R			S
160	40	110	35	80	70	140	500	500	190	400	360	110	420	140		30	18	115	210	35	440	220	8
180	42	110	40	110	80	170	565	565	215	450	410	120	480	160		30	18	135	240	35	505	290	11
200	50	110	45	110	90	170	625	625	240	500	450	130	540	180		35	23	145	255	40	555	375	16
225	55	110	50	110	100	210	705	705	260	550	500	140	600	200		35	23	165	290	45	635	490	21
250	60	140	55	110	110	210	785	785	290	620	560	145	680	225		40	27	180	315	50	705	645	29
280	65	140	60	140	120	210	875	875	325	690	630	160	750	250		45	27	200	355	55	785	845	39
315	75	140	70	140	140	250	975	975	355	770	700	170	840	280		50	33	220	405	60	875	1170	51
355	90	170	80	170	160	300	1085	1085	390	840	770	180	950	315		55	33	245	450	75	975	1620	67
400	100	210	90	170	170	300	1215	1215	440	930	860	190	1070	355		55	33	280	510	90	1105	2230	87
450	110	210	95	170	190	350	1365	1365	490	1030	940	200	1200	400	940	60	39	315	575	100	1245	3080	115

Shaft ends with key as per DIN - 6885, Sheet 1, from A
 Shaft centering as per din-332 form DS (With threads)
 Tolerance field for shaft ends ISO fit up to \varnothing 50mm K5 over \varnothing 50mm m6
 Changes of dimension reserved.



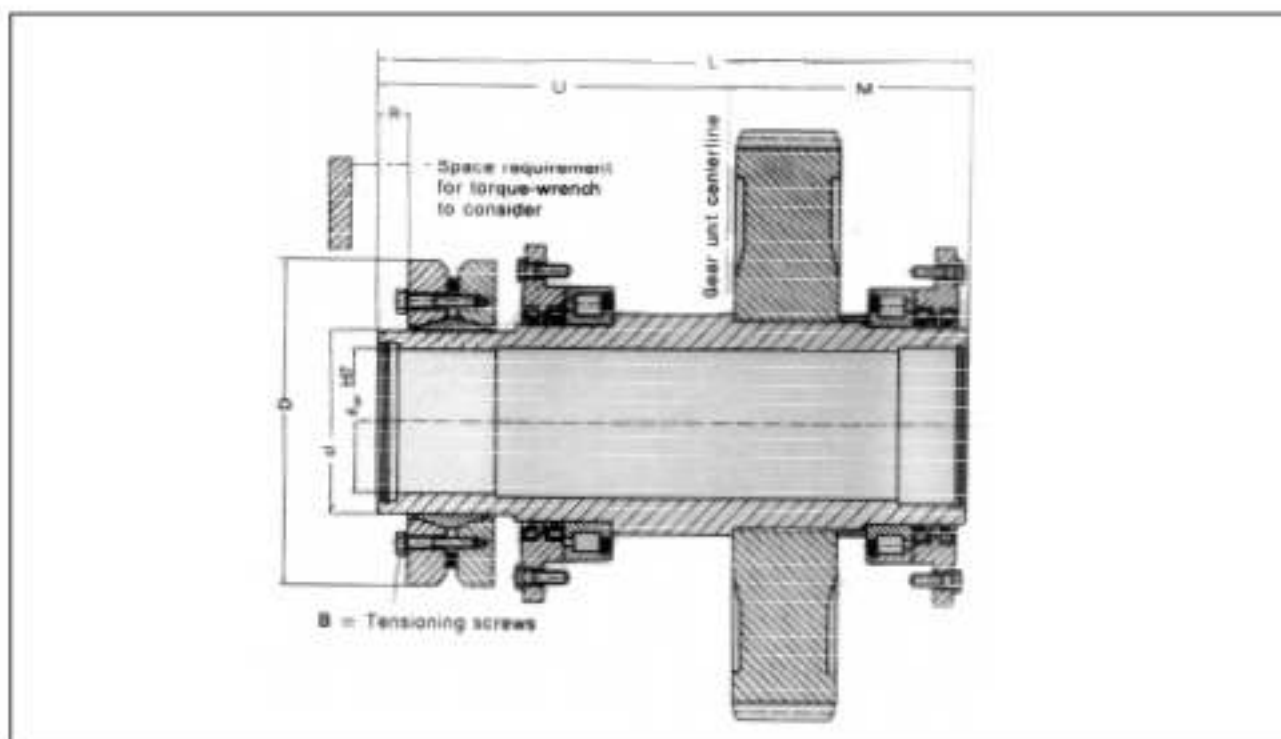
Nominal Gear ratio i_n	input speeds [rpm]; n1 n2		GEAR SIZE									
			160	180	200	225	250	280	315	355	400	450
			VENTILATOR CAPACITY P_e (kW)									
6.3	1500	240	54	74	102*	141*	194*	267*	370*	510*	708*	972*
	1000	160	36	49	68	94	129	178	247	340	472	648
7.1	1500	210	48	66	91	126*	174*	239*	332*	457*	632*	871*
	1000	140	32	44	61	84	116	159	221	305	421	581
8	1500	188	43	59	82	113	156	213*	296*	408*	565*	778*
	1000	125	29	39	55	75	104	142	197	272	376	519
9	1500	167	38	53	73	101	139	190	264*	364*	504*	694*
	1000	111	25	35	49	67	93	127	176	243	336	463
10	1500	150	34	47	65	90	124	170	236	325*	450*	620*
	1000	100	23	31	43	60	83	113	157	217	300	413
11.2	1500	134	30	42	58	80	111	152	211	290	402*	554*
	1000	89	20	28	39	53	74	101	141	193	268	396
12.5	1500	120	27	37	52	72	99	136	188	259	359	494
	1000	80	18	25	35	48	66	91	125	173	239	329
14	1500	107	24	33	46	64	88	121	168	231	320	441
	1000	71	16	22	31	43	59	81	112	154	213	294
16	1500	94	22	30	41	57	79	108	150	207	286	394
	1000	62	15	20	27	38	53	72	100	138	191	263
18	1500	83	19	27	37	51	70	96	134	184	255	352
	1000	56	13	18	25	34	47	64	89	123	170	235
			LIMITING THERMAL OUT PUT (P_G (kW)) FOR GEAR WITHOUT COOLING									
			65	80	100	125	160	200	250	315	400	500
			PERMISSIBLE AXIAL LOAD OF THE OUTPUT SHAFT									
			1600	1800	2000	2300	2650	3000	4000	5000	6000	7000

* THE CAPACITY MARKED WITH REQUIRE AN ADDITIONAL COOLING

ABOVE RATINGS ARE INCLUSIVE OF SF=2.0, HENCE NO SF IS TO BE CONSIDERED ON MOTOR POWER



Hollow shaft design
with shrink disc



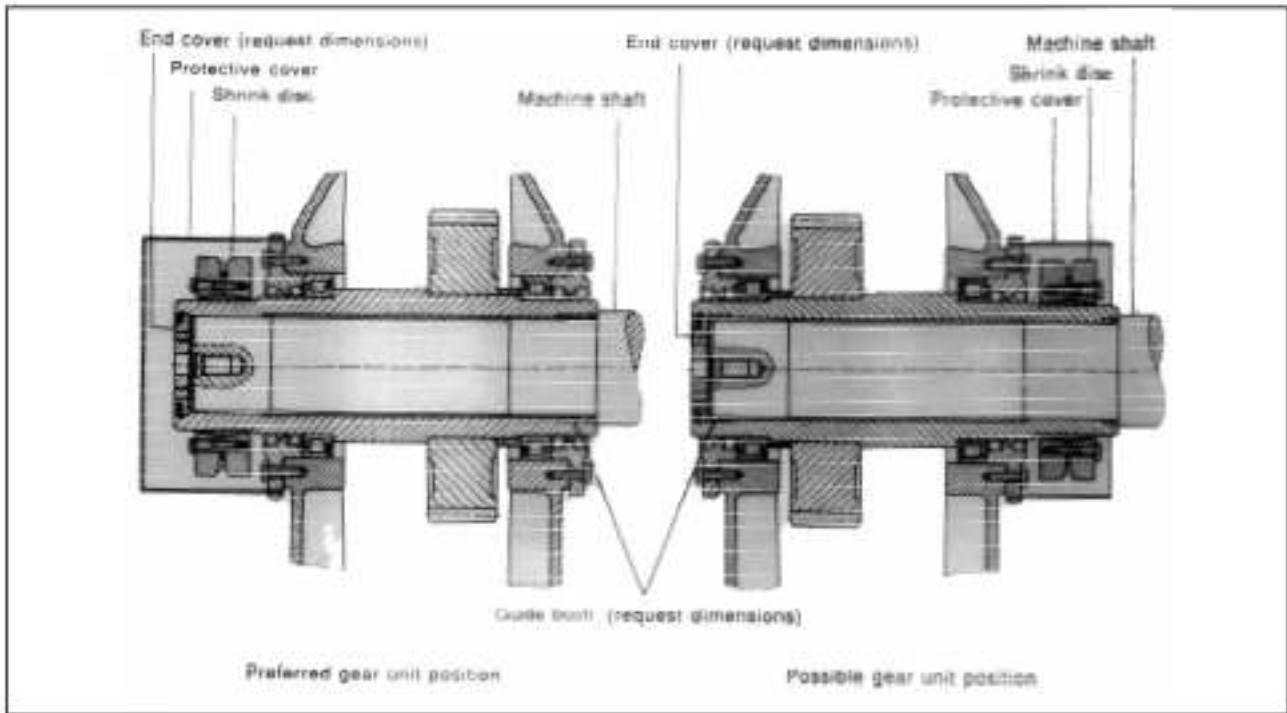
Size of Gear Unit	Hollow shaft					Shrink disc						Weight [kg]
	dw	L	M	R	U	Type	D	d	Mt [da Nm]	B	Ma [da Nm]	
160	80	370	145	26	225	110-72	185	110	900	M 10	5.8	5.9
180	90	410	160	27	250	125-72	215	125	1300	M 10	5.8	8.3
200	100	450	175	32	275	140-71	230	140	1760	M 12	10	10
225	110	485	190	33	295	155-71	263	155	2500	M 12	10	15
250	120	535	210	37	325	165-71	290	165	3500	M 12	24	22
280	135	590	230	35	360	175-71	300	175	4800	M 16	24	22
315	160	680	260	37	420	220-71	370	220	10000	M 16	24	54
355	180	735	285	38	450	240-71	405	240	13800	M 20	47	67
400	200	795	305	46	490	260-71	430	260	18400	M 20	47	82
450	220	895	345	48	550	280-71	460	280	24500	M 20	47	102
500	280	1190	475	61	715	350-71	570	350	50000	M 20	47	204
560	310	1270	510	67	760	390-71	660	390	71000	M 20	47	260
630	340	1400	560	71	840	420-71	690	420	84000	M 20	47	316
710	380	1490	600	73	890	460-71	770	460	114000	M 20	47	420
800	420	1600	645	82	955	500-71	850	500	160000	M 20	47	575

Ma = Required tightening torque.

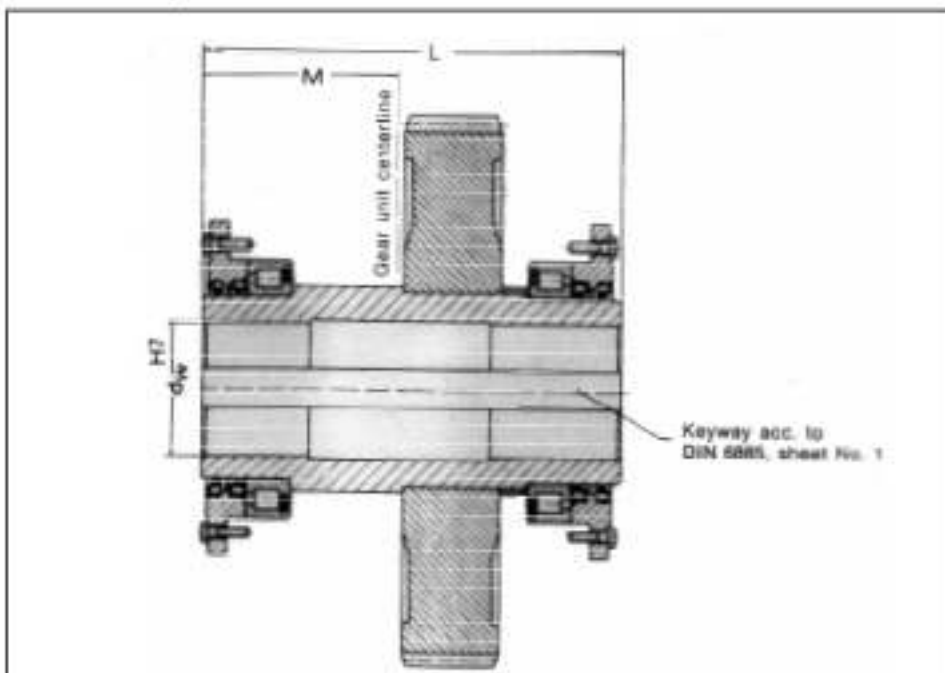
Mt = Maximum torque transmitted by shrink disc.



Hollow shaft gear unit design



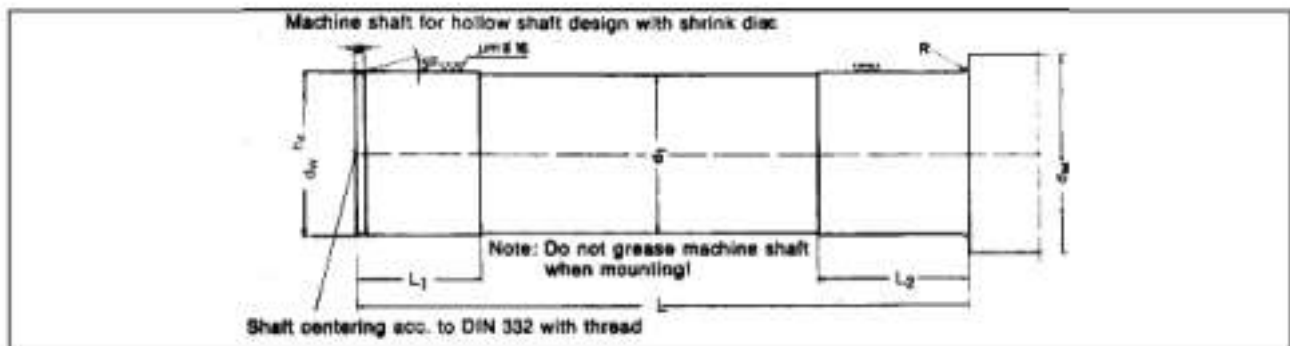
Hollow shaft design with fitted key



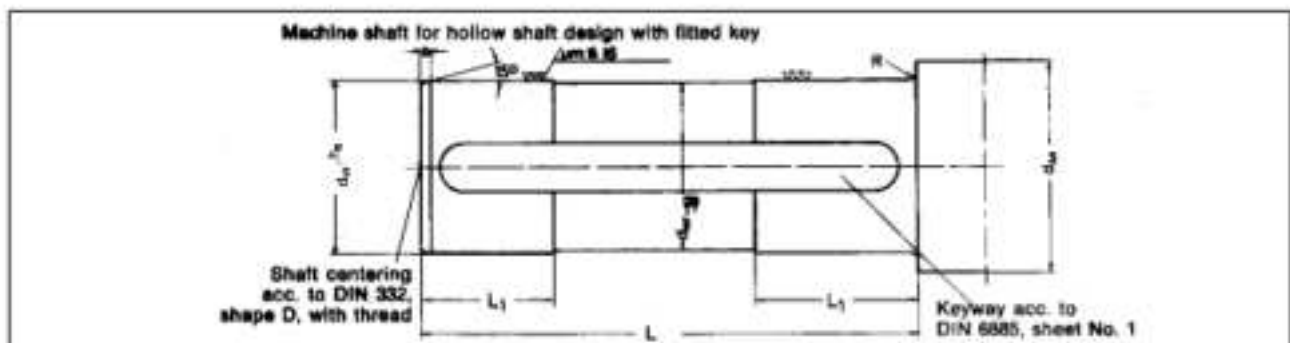
Size of Gear unit	dw (max)	L	M
80	35	160	80
90	40	180	90
100	50	200	100
110	55	220	110
125	60	240	120
140	70	270	135
160	75	290	145
180	90	320	160
200	105	350	175
225	110	380	190
250	120	420	210



Machine shafts



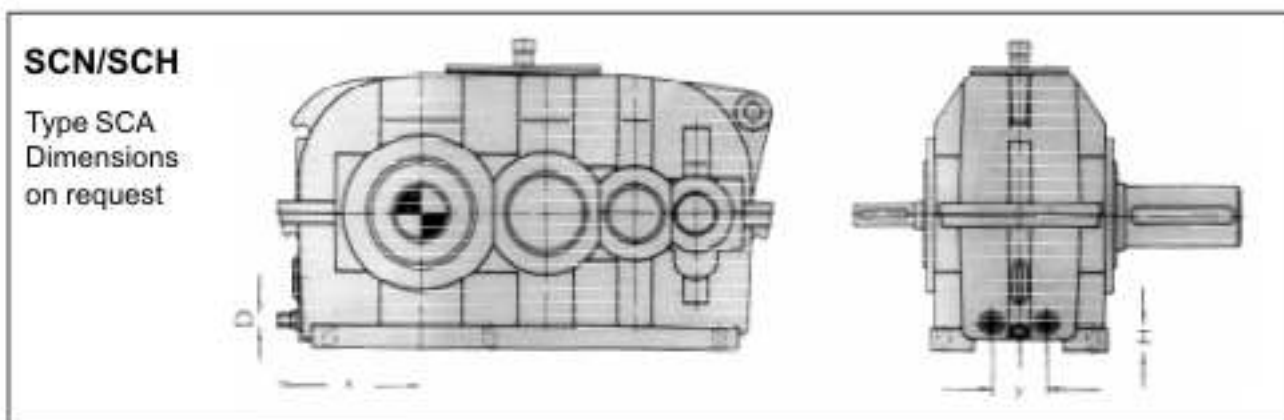
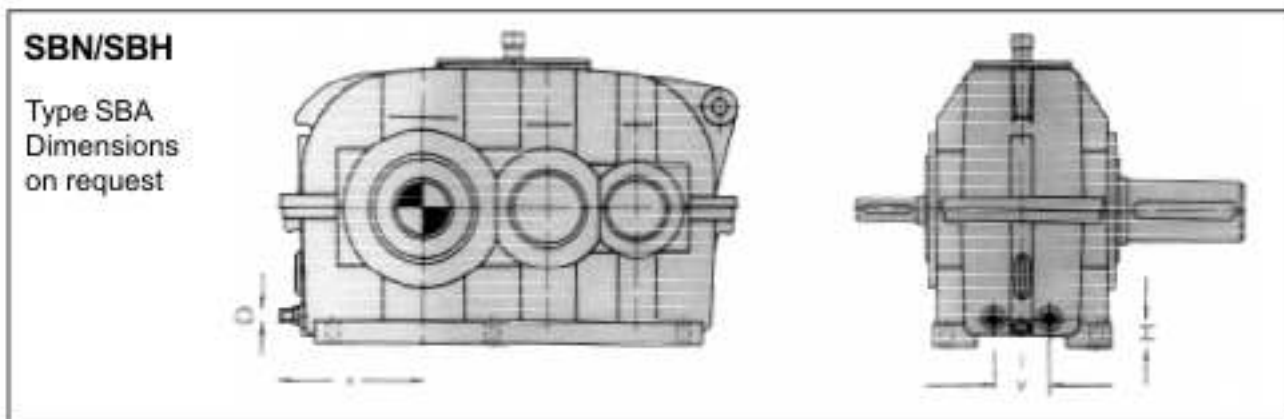
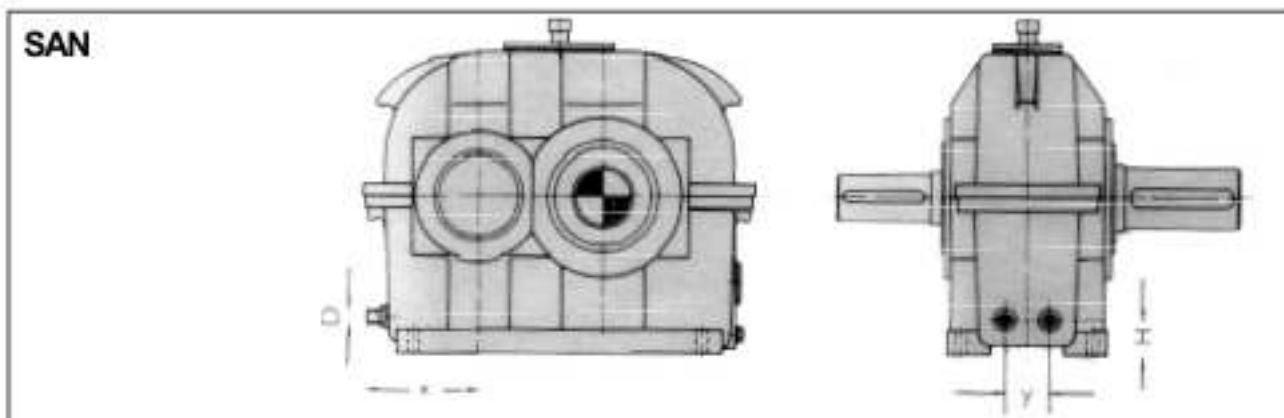
Size of gear unit	a	dm (min)	dw	d1	L	L1	L2	R
160	5	100	80	78	355	65	90	1,6
180	5	110	90	88	395	70	100	1,6
200	5	125	100	98	430	75	110	1,6
225	5	135	110	108	465	80	120	1,6
250	6	150	120	118	510	90	130	2,5
280	6	165	135	133	565	100	140	2,5
315	6	190	160	158	655	120	160	2,5
355	6	210	180	178	710	125	170	2,5
400	8	240	200	198	765	145	190	4
450	8	260	220	218	860	150	200	4
500	10	320	280	278	1145	240	290	4
560	10	350	310	308	1225	260	310	4
630	12	380	340	338	1355	280	330	6
710	12	430	380	378	1440	300	350	6
800	12	470	420	418	1550	320	380	6



Size of gear unit	a	dm (min)	dw	L	L1	R
80	3	55	35	157	35	2,5
90	3	60	40	177	40	2,5
100	3	70	50	197	50	2,5
110	4	75	55	217	55	2,5
125	4	80	60	237	60	2,5
140	4	90	70	267	70	2,5
160	5	95	75	287	75	4
180	5	110	80	317	80	4
200	5	125	105	347	105	4
225	5	135	110	377	115	4
250	6	150	120	417	130	6



Water cooling/Cooling coils
Dimensions for connections



Type of gear unit	Dimensions	Size of gear unit																	On request																																																																									
		80	90	100	110	125	140	160	180	200	225	250	280	315	355	400	450	500		560	630	710	800																																																																					
SAN	D	On request										R 1/2"					R 3/4"					On request																																																																						
	H	On request										45					50						60					70					100					130																																																						
	k	On request										135					145						155					170					180					200					215					235					255					280					305					335					375					405					445					480				
	y	On request										40					55						80					100					150					200																																																						
SBN/SBH	D	On request										R 3/8"					R 1/2"					R 3/4"					On request																																																																	
	H	On request										37					40					45						65					65					70					80					105																																												
	k	On request										160					180					195						215					230					250					270					295					325					350					380					425					470					515					570					630				
	y	On request										56					70					100						170					230																																																											
SCN/SCH	D	On request										R 3/8"					R 1/2"					R 3/4"					On request																																																																	
	H	On request										40					45					65						65					70					80					105																																																	
	k	On request										215					230					250						270					295					325					350					380					425					470					515					570					630																			
	y	On request										70					100					170						230																																																																

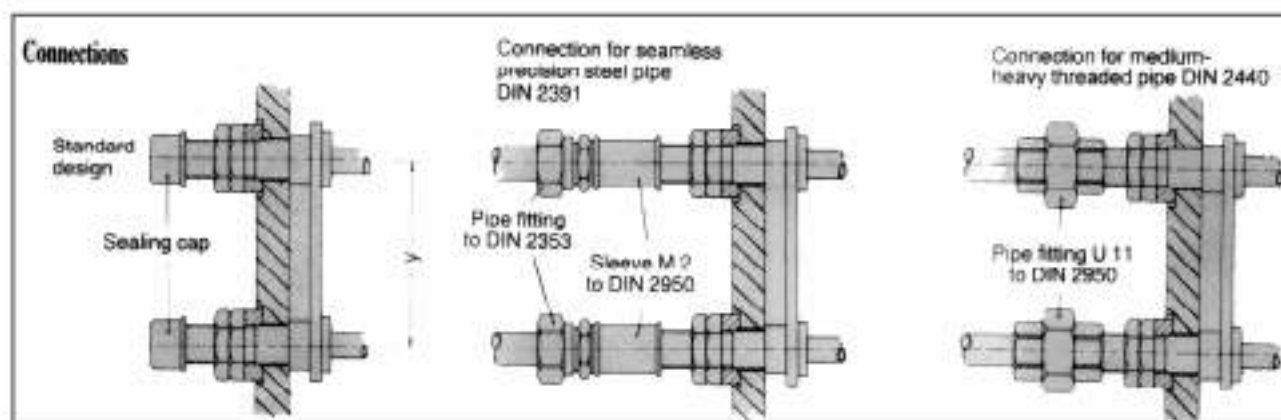
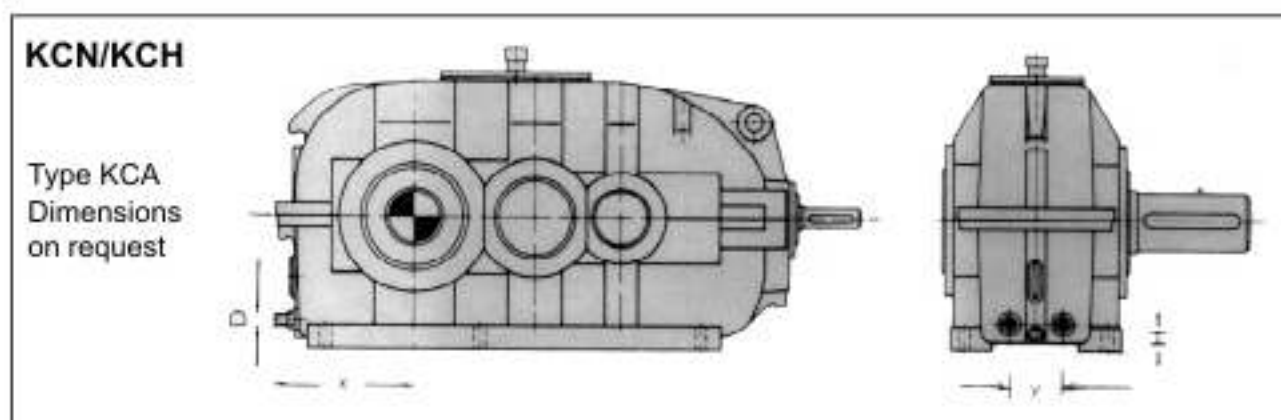
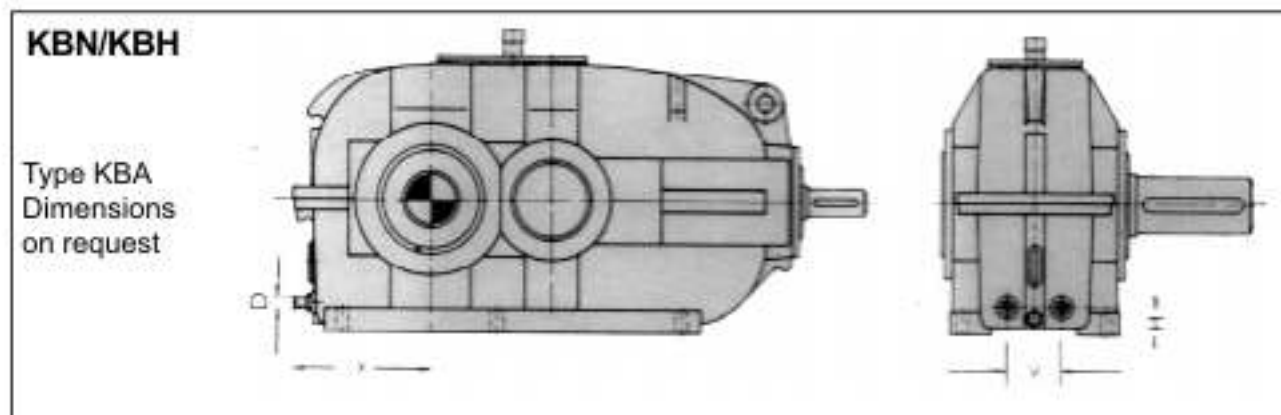
Thermal capacities for gear units with built-in cooling coil according to the values in the power tables (see also calculation example).

If desired an oil pump and external oil cooler can be offered instead of a cooling coil.

The values give in the power tables apply for a maximum inlet temperature of 20°C. At higher inlet temperatures, please inquire.



Water cooling/Cooling coils
Dimensions for connections



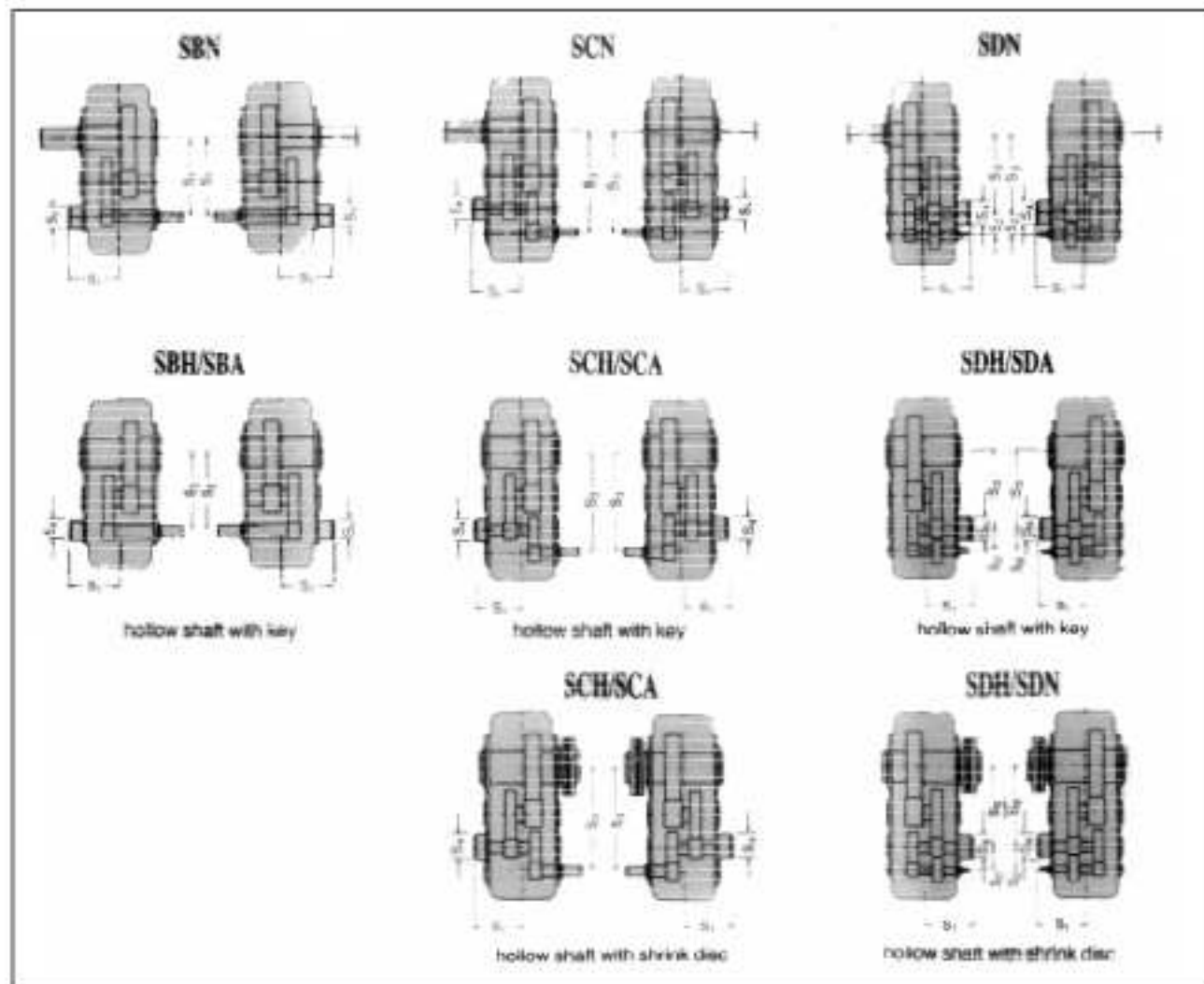
Type of gear unit	Dimensions	Size of gear unit																	On request															
		80	90	100	110	125	140	160	180	200	225	250	280	315	355	400	450	500		560	630	710	800											
KBN / KBH	D	R 1/2"										R 3/4"						On request																
	H	37										40		45		60			65		70		80		105									
	x	160		180		195		215		230		250		270		295			325		350		380		425		470		515		570		630	
	y	56		70												100			170		230													
KCN / KCH	D	R 1/2"										R 3/4"						On request																
	H	40										45		60		65			70		80		105											
	x					215		230		250		270		295		325			350		380		425		470		515		570		630			
	y			70		100										170			230															

Built-in cooling coils of normal design suitable for fresh water.
(mains and recirculated water and water not chemically polluted)
Sea water and brackish water require cooling coils of special design.
Maximum permissible pressure of water : 10 bar.
The direction of flow of the water is optional
Contact thermometers and water control valves can also be offered.

Missing data on request.



Backstops for helical gear units

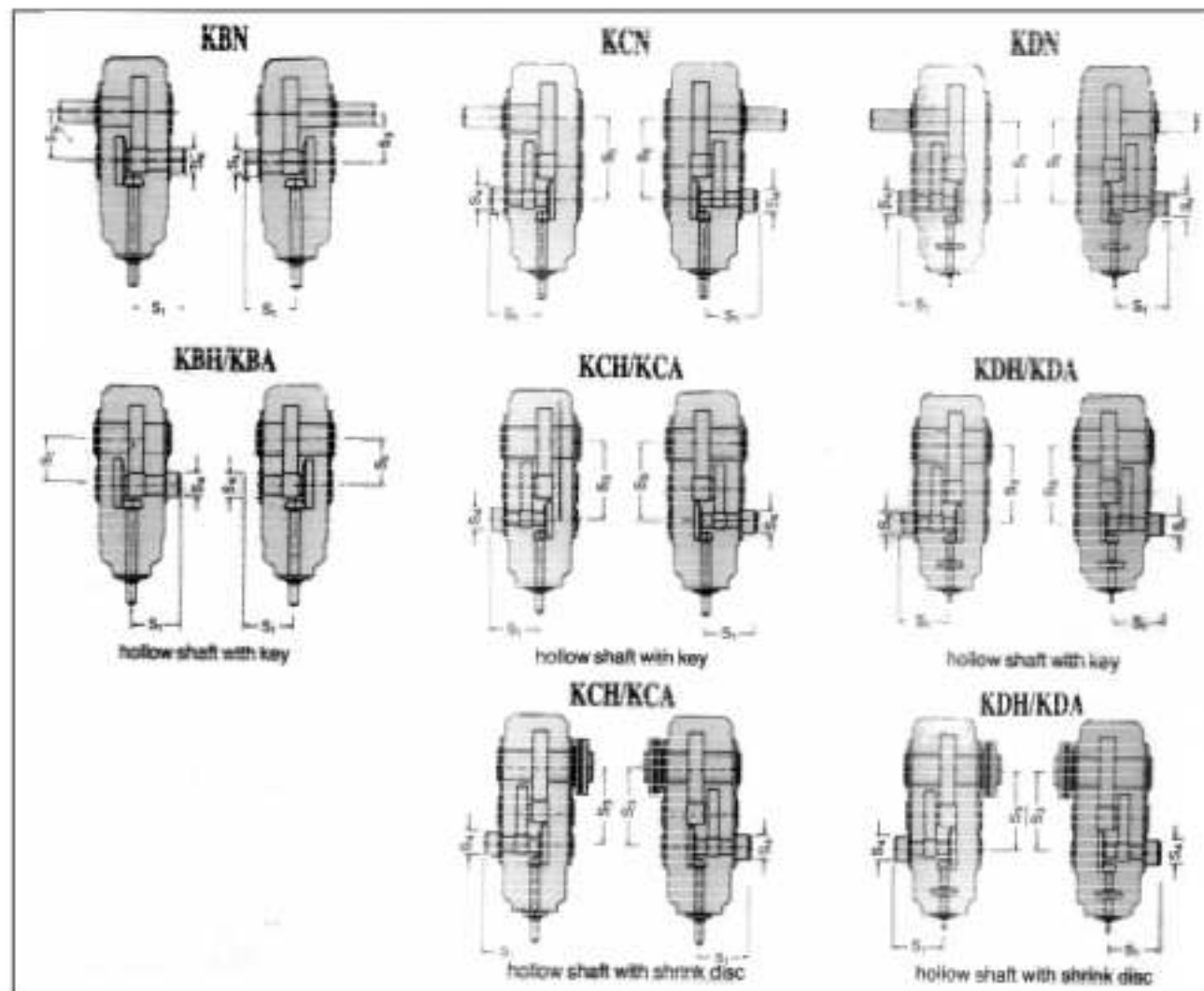


Gear unit types SBN/SBH/SBA						Gear unit types SCN/SCH/SCA						Gear unit types SDN/SDH/SDA						
Gear unit size	Dimension [mm]					Gear unit size	Dimension [mm]					Gear unit size	Dimension [mm]					
	S_1	S_2	S_3	S_4	S_5		S_1	S_2	S_3	S_4	S_5		S_1	S_2	S_3	S_4	S_5	
110	190	175	105	175	105	160	270	210	125	210	125	225	110	385	255	165	245	165
125	215	190	105	190	105	180	305	220	135	220	135	250	125	430	295	175	280	175
140	240	195	125	195	125	200	340	235	145	235	145	280	140	480	315	200	310	185
160	270	210	135	210	135	225	385	255	165	245	165	315	160	540	340	220	340	220
180	305	220	145	220	145	250	430	295	175	280	175	355	180	605	375	265	375	265
200	340	245	165	235	165	280	490	315	200	310	185	400	200	680	415	285	400	285
225	385	270	175	255	175	315	540	340	220	340	220	450	225	765	455	335	445	335
250	430	300	200	295	185	355	605	375	265	375	265	500	250	855	555	355	555	355
280	480	330	220	315	210	400	680	415	285	400	285	560	280	960	600	410	600	410
315	540	355	230	340	230	450	765	455	335	445	335	630	315	1080	640	420	640	420
355	605	390	265	375	265			$l_h \leq 28$	$l_h > 28$			710	355	1210	695	480	695	480
400	680	425	290	415	285	500	855	555	355	540	355	800	400	1360	735	520	735	520
450	765	470	320	455	300	560	960	600	410	575	375							
500	855	560	410	535	375	630	1080	640	420	635	420							
560	960	600	420	595	420	710	1210	695	480	675	480							
630	1080	660	430	640	420	800	1360	735	520	735	520							
710	1210	695	480	695	480													
800	1360	805	520	735	520													

Note : Gear unit type SDN, SDH and SDA - the input shaft is situated at a distance of h-h1 below the joint. (See dimensional drawing SDN/SDH.)



Backstops for helical gear units



Gear unit types KBN/KBH/KBA				Gear unit types KCN/KCH/KCA						Gear unit types KDN/KDH/KDA			
Size of gear unit	Dimension [mm]			Size of gear unit	Dimension [mm]					Size of gear unit	Dimension [mm]		
	S_1	S_2	S_3		S_1	S_1	S_2	S_3	S_4		S_5	S_1	S_2
80	105	150	80	110	190	175	105	175	105	160	270	210	125
90	105	160	90	125	215	190	105	190	105	180	305	220	135
100	105	170	100	140	240	195	105	195	105	200	340	235	145
110	125	175	110	160	270	210	125	210	125	225	385	245	165
125	135	190	125	180	305	220	135	220	135	250	430	280	175
140	145	195	140	200	340	235	145	235	145	280	480	310	185
160	165	220	160	225	385	255	165	245	165	315	540	340	220
180	175	245	180	250	430	295	175	280	175	355	605	375	265
200	200	265	200	280	480	315	200	310	185	400	680	400	285
225	220	275	225	315	540	340	220	340	220	450	765	445	335
250	265	315	250	355	605	375	265	375	265	500	855	540	355
280	285	345	280	400	680	415	285	400	285	560	960	575	375
315	335	380	315	450	765	455	335	445	335	630	1080	635	420
355	355	415	355							710	1210	675	480
400	410	440	400	500	855	555	355	540	355	800	1360	735	520
450	420	475	450	560	960	600	410	575	375				
500	480	580	500	630	1080	640	420	635	420				
560	520	620	560	710	1210	695	480	675	480				
				800	1360	735	520	735	520				

Backstops for types KBH and KAB with shrink disc on request.





Range of Reduction Gear Units

