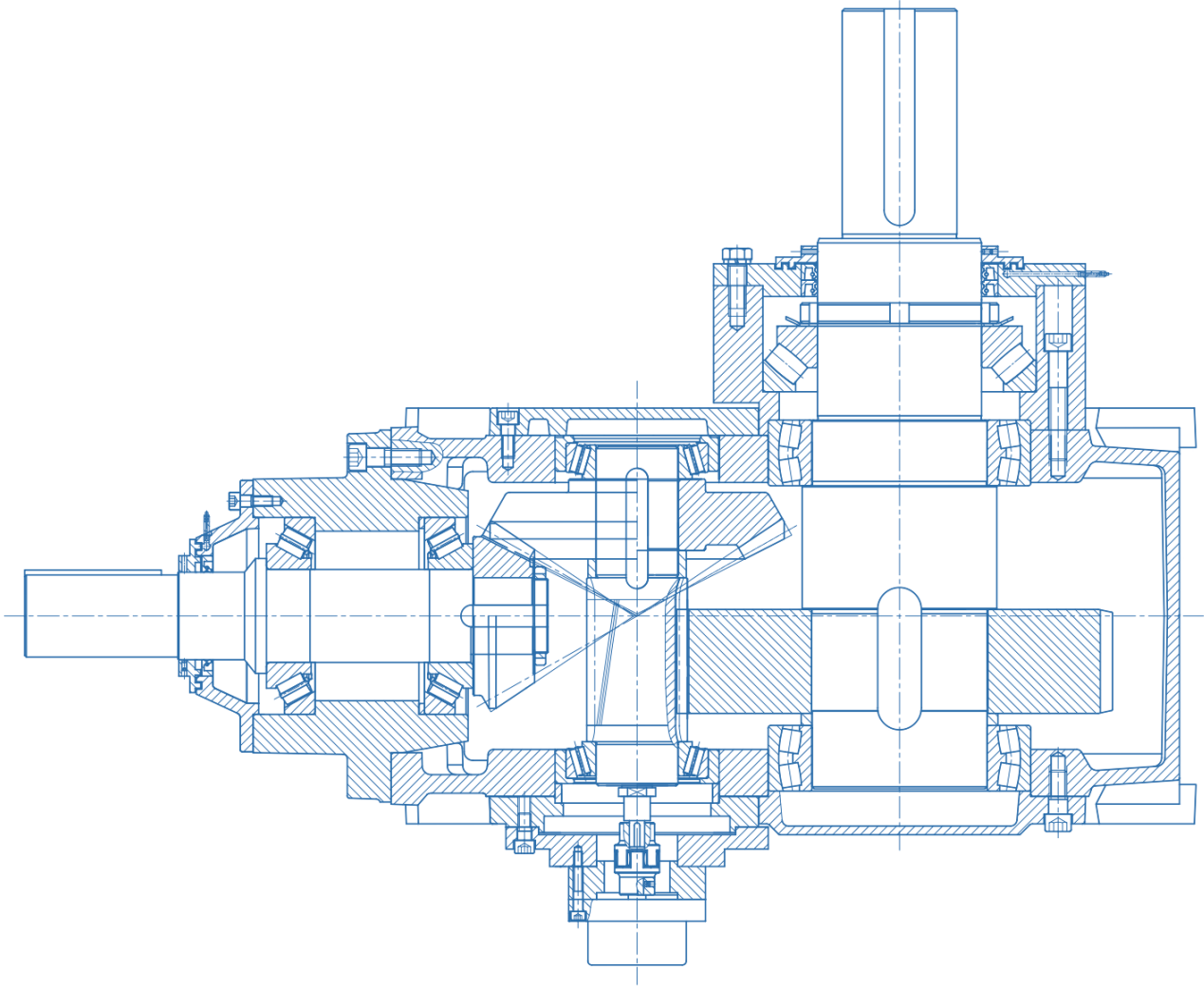


HBX Helical and Bevel Helical Gearbox for Cooling Towers

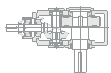
Modified date 04/2022



HBX Helical and Bevel Helical Gearbox for Cooling Towers

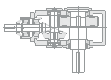
- » Unique modular design, general applications of components are maximized, which is convenient for international production. Storage quantity is small, supplement circle is short.
- » Unique modular design, allocation exchange degree of functional attachments flexibly satisfy various kinds of required structures, arrangement form and different working situations of customer equipment.
- » Transmission shaft is in line layout, under the same volume, transmission central distance is larger, bearing capacity is larger.
- » Wheel pair meshing contact ratio increases, transmission is more stable, noise is lower.
- » The appearance design shows world-wide product design idea of TGE Transmission, it owns intellectual property rights.
- » Frame type load-carrying structure design, the whole structure is stronger, footing is more fastened.
- » Improved cooling fan design can effectively reduce the temperature during gearbox running.
- » Output shaft sealing applies double oil sealing, the sealing is more reliable, the applications are wider.





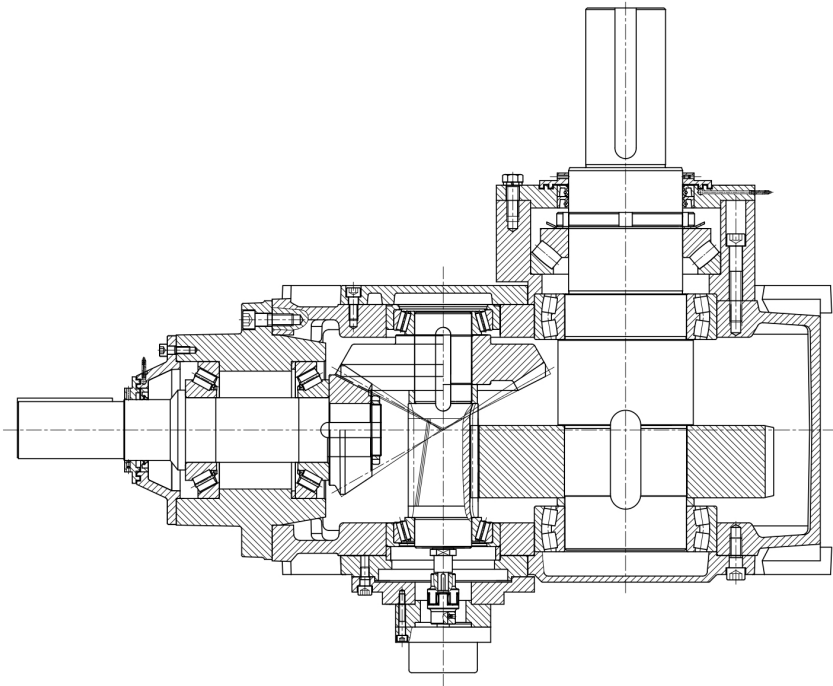
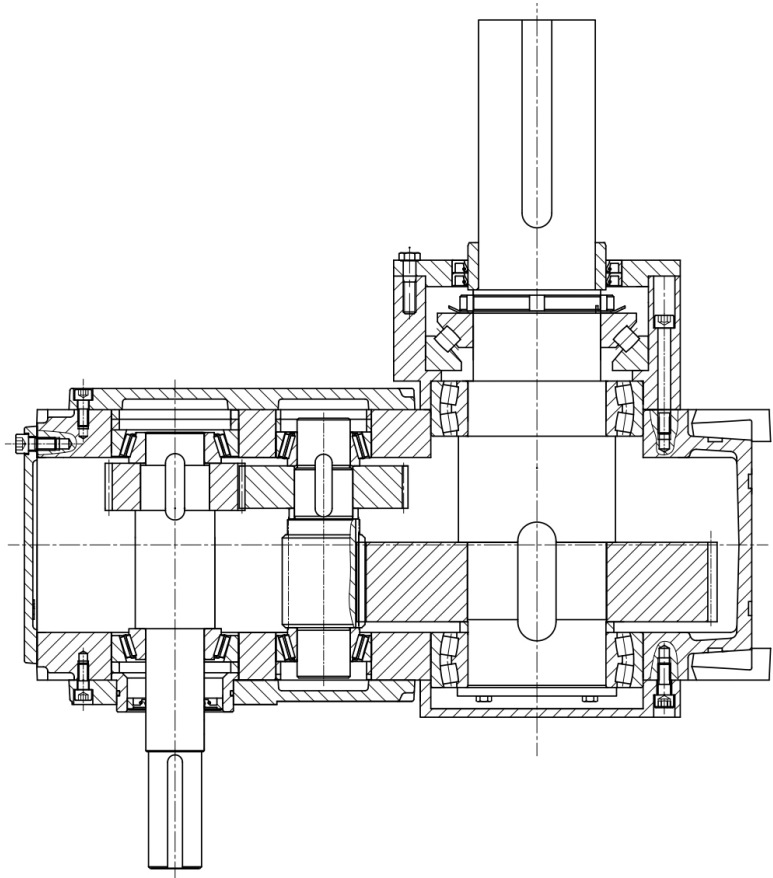
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7	Rated thermal capacity table	12
8	Outline dimension	16
9	Shaft and centre hole	20
10	Dimension of parallel key and keyway	21
11	Accessory	22



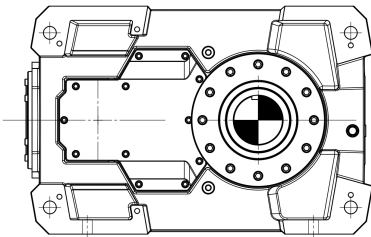
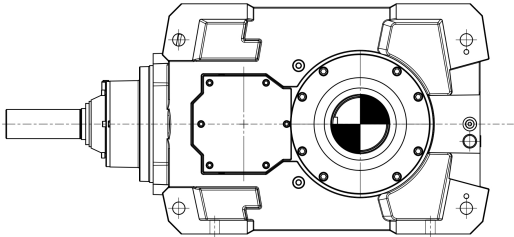
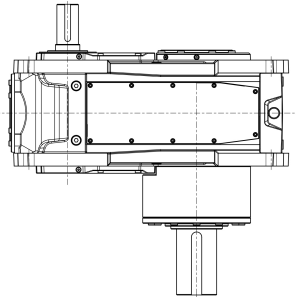
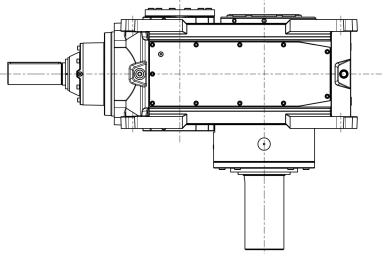
1 Structure scheme

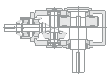
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2 Mounting mode

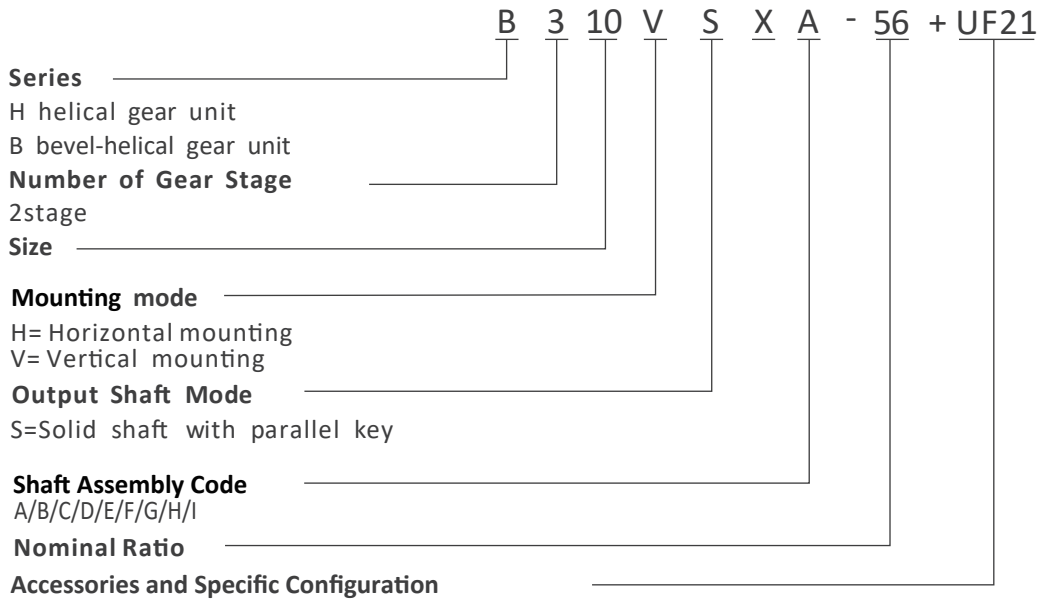
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Horizontal mounting	
	Solid shaft
H series 6.3-22,4	 <p>H...HS</p>
B series 6.3-22,4	 <p>B...HS</p>
Vertical mounting	
	Solid shaft
H series iN= 6.3 - 22.4	 <p>H...VS</p>
B series iN= 6.3 - 14	 <p>B...VS</p>



3 Type designation

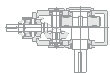
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4 Service factor

Driven equipment factor							f1
Driven equipment	Daily operating time with load (hour)			Driven equipment	Daily operating time with load (hour)		
	≤2	>2-10	>10		≤2	>2-10	>10
Sewage treatment				Conveying machine			
Concentrator (Central Transmission)	-	-	1.2	Bucket conveyor	-	1.4	1.5
Compressed filter	1.0	1.3	1.5	Winch	1.4	1.6	1.6
Flocculator	0.8	1.0	1.3	Hoist	-	1.5	1.8
Aerator	-	1.8	2.0	Belt conveyor ≤150kW	1.0	1.2	1.3
Collector	1.0	1.2	1.3	Belt conveyor ≥150kW	1.1	1.3	1.4
Vertical, rotary group				Elevators for goods*	-	1.2	1.5
Blended collector				Elevators for customers*	-	1.5	1.8
Concentrator	1.0	1.3	1.5	Scraper conveyor	-	1.2	1.5
Screw pump	-	1.1	1.3	Automatic ladder	1.0	1.2	1.4
Water wheel machine	-	1.3	1.5	Rail traveling mechanism	-	1.5	-
Pump	-	-	2.0				
Centrifugal pump				Various frequency device	-	1.8	2.0
Volume-down pump							
1Piston	1.0	1.2	1.3				
>1Piston	1.3	1.4	1.8				
	1.2	1.4	1.5	Reciprocating compressor	-	1.8	1.9
Dredge				Hoisting mechanism**			
Bucket conveyor	-	1.6	1.6	Rotary mechanism*		1.4	1.8
Unloading device	-	1.3	1.5	Pitching mechanism		1.1	1.4
Caterpillar travelling mechanism	1.2	1.6	1.8	Traveling mechanism		1.6	2.0
Bucket digger				Lifting mechanism		1.1	1.4
Be used for picking up				Jib crane		1.2	1.6
Be used for rough materials	-	1.7	1.7				
Chopper	-	2.2	2.2				
Traveling mechanism*	-	2.2	2.2				
	-	1.4	1.8				
Plate blender	-	1.0	1.0	Cooling tower			
				Cooling tower fan	-	-	2.0
Chemical industry				Fan (Shaft flow and centrifugal type)	-	1.4	1.5
Extruder	-	-	1.6				
Paste mixer	-	1.8	1.8	Food industry			
Rubber calendar	-	1.5	1.5	Sugar production	-	-	1.7
Cooling cylinder	-	1.3	1.4	Sugar-cane cutter*	-	-	1.7
Material mixer, be used for				Sugar crane mill	-	-	1.7
Uniform medium	1.0	1.3	1.4	Beet sugar production	-	-	1.2
Non-uniform medium	1.4	1.6	1.7	Beet masher	-	-	1.2
Blender, be used for				Squeeze machine, mechanical refrigerator,	-	-	1.4
Uniform density medium				Cooking machine	-	-	1.4
Un-uniformed medium	1.0	1.3	1.5	Beet cleaner	-	-	1.5
Un-uniformed gas absorption	1.2	1.4	1.6	Beet chopper	-	-	1.5
Oven	1.4	1.6	1.8				
Centrifugal machine	1.0	1.3	1.5				
	1.0	1.2	1.3	Paper-making machinery			
Metal processing equipment				Various kinds***	-	1.8	2.0
Plate turnover	1.0	1.0	1.2	Pulper driving device	Supply goods according to customer requirements		
Steel pushing device	1.0	1.2	1.2	Centrifugal compressor	-	1.4	1.5
Winding machine	-	1.6	1.6				
Cooling bed transverse frame	-	1.5	1.5	Rope way cable car			
Roller leveler	-	1.6	1.6	Delivery ropeway	-	1.3	1.4
Roller path				Cableway of shuttle system	-	1.6	1.8
Continuous	-	1.5	1.5	T rod elevator	-	1.3	1.4
Interval	-	2.0	2.0	Continuous cableway	-	1.4	1.6
Reversing mill	-	1.8	1.8				
Cutter				Cement industry			
Continuous*	-	1.5	1.5	Concrete blender	-	1.5	1.5
Crank type*	1.0	1.0	1.0	Crusher**	-	1.2	1.4
Continuous casting driving device	-	1.4	1.4	Rotary kiln	-	-	2.0
Rolling mill				Tubemill	-	-	2.0
Reversing cogging mill	-	2.5	2.5	Powder concentrator	-	1.6	1.6
Reversing plate slab mill	-	2.5	2.5	Roller press	-	-	2.0
Reversing wire mill	-	1.8	1.8				
Reversing thin plate mill	-	2.0	2.0				
Reversing middle thickness plate mill	-	1.8	1.8				
Roll gap adjusting and driving device	0.9	1.0	-				

HB

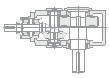


5 Key to symbols

Symbols	Instruction	Unit
i	Actual ratio	/
i _N	Nominal ratio	
i _{ex}	Exact ratio	
T ₂	Output torque	N·m
T _{2N}	Reted output torque	
T _A	Max.Torque occurring on input shaft, e.g.Peak operating,starting or braking torque	
T _{n2atmax}	Nominal output torque at highest speed	
T _{n2atmin}	Nominal output torque at lowest speed	
P _{1N}	Rated input power	kW
P _{GA}	Nominal thermal capacity of gearbox without auxiliary cooling equipment	
P _{GB}	Nominal thermal capacity gearbox with cooling fan	
P _{GD}	Normal thermal capacity of gearbox with water-oil cooler	
P ₁	Input power	
P ₂	Required power of driven machine	

Symbols	Instruction	Unit
f_1	Driven machine factor	/
f_2	Prime mover factor	
f_3	Peak load factor	
f_4	Thermal factor(Without auxiliary cooling,or witho fan cooling)	
f_5	Thermal factor(with water-oil cooler)	
f_8	Oil supply factor for vertical gearbox	
S_F	Safety factor of gearbox	
n_1	Input speed	r/min
n_2	Output speed	
n_{2N}	Nominal output speed	
η	Efficiency	/
f	Motor frequency	Hz
U_m	Motor voltage	V
ED	Operating cycle per hour	%

HB



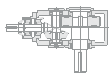
6 Transmission capacity table

6.1 H2 (iN=6.3-22.4):

i _N	n ₁ (r/min)	n _{2N} (r/min)	H204			H205			H206			H207			H208		
			T2N (kN·m)	i _{ex}	P1N (kW)	T2N (kN·m)	i _{ex}	P1N (kW)	T2N (kN·m)	i _{ex}	P1N (kW)	T2N (kN·m)	i _{ex}	P1N (kW)	T2N (kN·m)	i _{ex}	P1N (kW)
6.3	1740	276	6.7	6.33	187	11.2	6.08	15.2	6.24	442	20.3	6.27	586	27.5	6.19	780	
	1450	230			156					260			368			488	650
	1150	183			124					206			292			387	515
	960	152			103					172			244			323	430
7.1	1740	245	6.7	6.93	166	11.2	6.81	15.2	6.98	398	20.3	7.02	520	27.5	6.92	703	
	1450	204			138					239			332			433	585
	1150	162			109					190			263			343	464
	960	135			91					158			220			287	388
8	1740	218	6.7	8.19	152	11.2	8.02	15.2	8.23	341	20.3	7.81	463	27.5	7.70	636	
	1450	181			127					213			284			386	530
	1150	144			101					169			226			306	420
	960	120			84					141			188			256	351
9	1740	193	6.7	9.18	136	11.2	8.71	15.2	8.93	316	20.3	8.79	410	27.5	8.68	569	
	1450	161			113					189			264			342	475
	1150	128			89					150			209			271	376
	960	107			74					125			174			226	314
10	1740	174	6.7	9.80	118	11.2	10.2	15.2	10.4	274	20.3	10.1	368	27.5	10.0	499	
	1450	145			98					165			228			307	416
	1150	115			77					131			181			243	330
	960	96.0			65					109			151			203	275
11.2	1740	155	6.7	11.2	106	11.2	11.3	15.2	11.6	249	20.3	11.2	330	27.5	11.0	435	
	1450	129			88					148			207			275	362
	1150	103			70					117			164			218	287
	960	85.7			58					98			137			182	240
12.5	1740	139	6.7	12.5	97	11.2	11.9	16.5	12.3	235	20.3	12.4	294	27.5	12.2	395	
	1450	116			81					135			196			245	329
	1150	92.0			64					107			155			194	261
	960	76.8			53					89			130			162	218
14	1740	124	6.7	14.1	87	11.2	13.6	16.5	13.9	209	20.3	13.8	263	27.5	13.6	358	
	1450	104			72					121			174			219	298
	1150	82.1			57					96			138			174	236
	960	68.6			48					80			115			145	197
16	1740	109	6.7	15.8	75	11.2	15.2	16.5	15.6	188	20.3	15.6	230	27.5	15.4	318	
	1450	90.6			62					106			156			192	265
	1150	71.9			50					84			124			152	210
	960	60.0			41.6					70			104			127	175
18	1740	96.7	6.7	18.1	66	11.2	16.9	16.5	17.3	170	20.3	17.4	198	27.5	17.1	288	
	1450	80.6			55					91			142			165	240
	1150	63.9			43.6					72			112			131	190
	960	53.3			36.4					60			94			109	159
20	1740	87.0	6.7	19.3	59	11.2	19.8	16.5	20.3	147	20.3	19.7	178	27.5	19.5	255	
	1450	72.5			49.3					84			122			148	213
	1150	57.5			39.1					67			97			117	169
	960	48.0			32.6					56			81			98	141
22.4	1740	77.7	6.7	22.4	49	11.2	21.2	16.5	21.8	135	20.3	22.7	160	27.5	22.4	224	
	1450	64.7			37					74			113			133	187
	1150	51.3			28					59			90			105	148
	960	42.9			22					49.0			75			88	124

H209			H210			H211			H212			n _{2N} (r/min)	n ₁ (r/min)	i _N
T2N (kN·m)	i _{ex}	P1N (kW)	T2N (kN·m)	i _{ex}	P1N (kW)	T2N (kN·m)	i _{ex}	P1N (kW)	T2N (kN·m)	i _{ex}	P1N (kW)			
33.7	6.28	973	44.2	6.20	1279	60	6.09	1714	74	6.09	2140	276	1740	6.3
		811			1066			1428			1783	230	1450	
		643			845			1133			1414	183	1150	
		537			706			945			1180	152	960	
33.7	7.08	863	44.2	6.99	1144	60	6.91	1519	74	6.92	1898	245	1740	7.1
		719			954			1266			1582	204	1450	
		570			756			1004			1255	162	1150	
		476			631			838			1047	135	960	
33.7	8.18	769	44.2	8.08	1001	60	7.87	1354	74	7.88	1685	218	1740	8
		641			834			1128			1404	181	1450	
		508			662			895			1114	144	1150	
		424			552			747			930	120	960	
33.7	9.33	683	44.2	9.22	886	60	8.61	1201	74	8.62	1496	193	1740	9
		569			738			1001			1247	161	1450	
		451			585			794			989	128	1150	
		377			489			663			826	107	960	
33.7	10.0	613	44.2	9.88	831	60	9.60	1080	74	9.61	1344	174	1740	10
		511			692			900			1120	145	1450	
		405			549			714			888	115	1150	
		338			458			596			742	96.0	960	
33.7	10.8	547	46.5	10.7	773	60	10.9	965	74	10.9	1201	155	1740	11.2
		456			644			804			1001	129	1450	
		362			511			638			794	103	1150	
		302			426			532			663	85.7	960	
33.7	12.5	491	46.5	12.3	675	60	12.3	864	74	12.4	1075	139	1740	12.5
		409			562			720			896	116	1450	
		324			446			571			711	92.0	1150	
		271			372			477			593	76.8	960	
33.7	14.0	437	46.5	13.8	608	60	14.2	770	74	14.2	958	124	1740	14
		364			507			642			798	104	1450	
		289			402			509			633	82.1	1150	
		241			336			425			528	68.6	960	
33.7	15.7	384	46.5	15.5	544	60	16.2	677	74	16.2	842	109	1740	16
		320			453			564			702	90.6	1450	
		254			359			447			557	71.9	1150	
		212			300			373			465	60.0	960	
33.7	17.4	338	48.5	17.2	495	60	17.9	598	74	17.9	744	96.7	1740	18
		282			412			498			620	80.6	1450	
		224			327			395			492	63.9	1150	
		187			273			330			410	53.3	960	
33.7	19.6	306	48.5	19.3	443	60	20.1	540	74	20.1	672	87.0	1740	20
		255			370			450			560	72.5	1450	
		202			293			357			444	57.5	1150	
		169			245			298			371	48.0	960	
33.1	21.7	269	48.5	21.4	403	60	22.1	474	74	22.2	600	77.7	1740	22.4
		224			336			395			500	64.7	1450	
		178			266			313			397	51.3	1150	
		148			222			262			331	42.9	960	

HB




6.2 B2(iN=6.3-14)

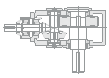
i _N	n ₁ (r/min)	n _{2N} (r/min)	B204			B205			B206			B207		
			T _{2N} (kN·m)	i _{ex}	P _{1N} (kW)	T _{2N} (kN·m)	i _{ex}	P _{1N} (kW)	T _{2N} (kN·m)	i _{ex}	P _{1N} (kW)	T _{2N} (kN·m)	i _{ex}	P _{1N} (kW)
5	1740	348	6.2	4.94	238	9.4	4.97				19.0	4.93	702	
	1450	290			199								287	585
	1150	230			158								228	464
	960	192			131								190	387
5.6	1740	311	6.2	5.57	203	9.4	5.75				19.0	5.56	623	
	1450	259			169								248	519
	1150	205			134								197	412
	960	171			112								164	344
6.3	1740	276	6.2	6.33	178	9.4	6.22	12.0	6.44		19.0	6.33	547	
	1450	230			149								229	456
	1150	183			118								182	361
	960	152			99								152	302
7.1	1740	245	6.2	7.13	157	9.4	6.96	12.0	7.14		19.0	7.14	486	
	1450	204			131								200	405
	1150	162			104								159	321
	960	135			87								132	268
8	1740	218	6.2	8.26	142	9.4	8.06	12.0	8.27		19.0	8.27	434	
	1450	181			118								179	362
	1150	144			94								142	287
	960	120			78								119	240
9	1740	193	6.2	8.93	125	9.4	8.71	12.0	8.94		19.0	8.94	385	
	1450	161			104								159	321
	1150	128			82								126	255
	960	107			69								105	213
10	1740	174	6.2	10.1	113	9.4	9.88	12.0	10.1		19.0	10.1	346	
	1450	145			94								142	288
	1150	115			75								113	228
	960	96.0			62								94	191
11.2	1740	155	6.2	11.1	100	9.4	10.9	12.0	11.1		19.0	11.1	308	
	1450	129			83								127	257
	1150	103			66								101	204
	960	85.7			55								84	170
12.5	1740	139	6.2	12.9	89	9.4	12.5	12.0	12.9		19.0	12.9	276	
	1450	116			74								114	230
	1150	92.0			59								90	183
	960	76.8			49.2								75	152
14	1740	124	6.2	13.9	80	9.4	13.6	12.0	13.9		19.0	13.9	247	
	1450	104			66								102	206
	1150	82.1			53								81	163
	960	68.6			44.0								67	136

HB

B208			B209			B210			B211			B212			n _{2N}	n ₁	i _N			
T2N (kN·m)	i _{ex}	P1N (kW)	T2N (kN·m)	i _{ex}	P1N (kW)	T2N (kN·m)	i _{ex}	P1N (kW)	T2N (kN·m)	i _{ex}	P1N (kW)	T2N (kN·m)	i _{ex}	P1N (kW)	(r/min)	(r/min)				
			29.9	4.93	1105				54	4.93	2007*				350	1740	5			
					921							1663							290	1450
					730							1319							230	1150
					610							1101							192	960
			29.9	5.56	980				54	5.56	1780*				313	1740	5.6			
					817							1475							259	1450
					648							1170							205	1150
					541							976							171	960
23.8	6.25	694	29.9	6.25	872	38.0	6.44	1075	54	6.17	1604*	63	6.18	1868*	276	1740	6.3			
		578			726			896			1329			1548	230	1450				
		459			576			711			1054			1228	183	1150				
		383			481			593			880			1025	152	960				
23.8	7.05	610	29.9	7.05	766	38.0	6.96	973	54	6.96	1342	63	6.97	1560	245	1740	7.1			
		508			638			811			1118			1300	204	1450				
		403			506			643			887			1031	162	1150				
		336			422			537			740			861	135	960				
23.8	8.16	542	29.9	8.16	682	38.0	8.06	868	54	8.06	1234	63	8.07	1441	218	1740	8			
		452			568			723			1028			1201	181	1450				
		358			450			573			815			953	144	1150				
		299			376			479			681			795	120	960				
23.8	8.82	482	29.9	8.82	606	38.0	8.71	770	54	8.71	1096	67	8.73	1322	193	1740	9			
		402			505			642			913			1102	161	1450				
		319			401			509			724			874	128	1150				
		266			334			425			604			730	107	960				
23.8	10.0	433	29.9	10.0	544	38.0	9.88	691	54	9.88	984	67	9.89	1207	174	1740	10			
		361			453			576			820			1006	145	1450				
		286			359			457			650			798	115	1150				
		239			300			381			543			666	96.0	960				
23.8	11.0	386	29.9	11.0	486	38.0	10.9	618	54	10.9	878	67	10.9	1079	155	1740	11.2			
		322			405			515			732			899	129	1450				
		255			321			408			581			713	103	1150				
		213			268			341			485			595	85.7	960				
23.8	12.7	347	29.9	12.7	435	38.0	12.5	553	54	12.5	787	67	12.6	966	139	1740	12.5			
		289			363			461			656			805	116	1450				
		229			288			366			520			638	92.0	1150				
		191			240			305			434			533	76.8	960				
23.8	13.8	308	29.9	13.8	389	38.0	13.6	493	54	13.6	703	67	13.6	860	124	1740	14			
		257			324			411			586			717	104	1450				
		204			257			326			464			569	82.1	1150				
		170			215			272			388			475	68.6	960				

 Note: Forced lubrication required on horizontal gearbox.
On request.

HB



7 Rated thermal capacity (kW)

7.1 H2 (kW)

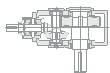
iN		H204				H205				H206				H207			
		960	1150	1450	1740	960	1150	1450	1740	960	1150	1450	1740	960	1150	1450	1740
6.3	PGA	46	42	41	35	57	46	41	*	74	50	43	*	77	57	*	*
	PGB	106	112	132	144	143	146	172	181	158	159	186	185	221	220	256	263
7.1	PGA	48	44	44	38	59	50	46	*	64	53	48	*	76	60	*	*
	PGB	109	116	137	150	146	151	177	189	161	164	193	194	214	215	252	262
8	PGA	46	43	44	39	58	51	48	*	63	54	50	*	76	62	55	*
	PGB	104	111	132	145	142	149	175	188	157	162	191	204	208	212	249	262
9	PGA	45	43	45	41	58	52	51	43	66	59	58	46	76	66	62	*
	PGB	101	109	129	143	139	147	174	189	159	167	198	214	202	210	248	266
10	PGA	43	42	44	41	*	52	52	46	66	61	60	52	75	68	66	54
	PGB	95.7	103	123	136	131	140	165	181	156	166	196	214	193	204	241	261
11.2	PGA	42	41	43	41	54	51	52	47	65	61	61	55	77	71	71	61
	PGB	91.7	100	118	132	126	135	160	177	151	161	191	210	196	208	246	269
12.5	PGA	41	40	42	41	54	51	53	49	61	59	60	55	77	72	73	65
	PGB	87.6	95.8	113	127	123	133	157	174	142	153	181	200	191	204	242	266
14	PGA	39	38	40	40	51	49	51	48	59	57	59	55	71	68	69	64
	PGB	82.9	90.9	108	120	116	126	150	166	135	147	174	193	175	189	224	247
16	PGA	36	35	37	37	48	47	49	47	59	57	59	56	67	65	67	63
	PGB	75.7	83.1	98.9	110	108	118	140	155	131	143	169	188	163	177	210	232
18	PGA	34	34	36	36	46	46	48	46	56	55	57	55	65	63	66	63
	PGB	72.1	79.3	94.4	105	103	113	134	150	124	136	162	180	157	170	202	225
20	PGA	33	34	36	36	43	43	45	44	52	52	54	53	61	59	62	60
	PGB	70.2	77.4	92.1	103	96.8	106	126	140	115	126	150	168	145	158	188	210
22.4	PGA					40	40	42	41	50	50	52	51	58	57	60	58
	PGB					89.4	98	116	130	111	121	144	161	139	152	181	202

*On request.

H208				H209				H210				H211				H212				iN	
960	1150	1450	1740	960	1150	1450	1740	960	1150	1450	1740	960	1150	1450	1740	960	1150	1450	1740		
86	61	*	*	99	*	*	*	100	*	*	*	114	*	*	*	121	*	*	*	PGA	6.3
250	245	283	275	293	279	322	319	304	286	328	324	450	382	428	366	510	412	456	414	PGB	
85	63	*	*	99	*	*	*	101	*	*	*	123	*	*	*	131	*	*	*	PGA	7.1
242	239	279	281	286	278	323	325	297	285	329	328	454	400	453	408	515	432	483	431	PGB	
84	66	*	*	100	75	*	*	102	*	*	*	129	*	*	*	137	*	*	*	PGA	8
235	236	276	287	279	276	322	330	290	283	328	332	449	410	469	441	509	443	501	444	PGB	
85	72	66	*	102	83	73	*	105	83	*	*	136	*	*	*	155	*	*	*	PGA	9
228	234	275	293	272	277	324	341	283	285	333	347	437	419	484	481	520	482	553	530	PGB	
85	75	72	55	101	87	82	*	106	88	81	*	139	103	*	*	164	*	*	*	PGA	10
222	232	273	294	262	272	320	342	278	285	335	355	424	420	489	501	516	498	577	577	PGB	
84	76	75	62	99	88	85	67	105	92	88	*	147	117	101	*	166	122	*	*	PGA	11.2
214	226	267	290	249	262	309	333	270	281	331	355	430	435	509	533	495	491	572	587	PGB	
81	75	75	65	99	89	88	74	104	93	90	74	151	127	115	*	165	131	*	*	PGA	12.5
205	218	258	282	244	258	305	332	259	273	322	348	425	436	512	543	475	480	562	587	PGB	
83	78	79	71	97	90	90	80	101	93	92	79	147	128	121	*	172	144	130	*	PGA	14
207	222	263	289	236	252	298	326	247	262	310	338	403	420	494	530	483	496	583	618	PGB	
82	79	81	74	92	87	88	80	99	93	94	83	141	126	122	99	175	152	144	*	PGA	16
201	216	257	283	221	237	281	309	240	256	303	333	377	397	469	507	476	496	583	625	PGB	
76	74	76	72	88	84	86	80	97	93	94	87	133	122	122	104	170	153	149	121	PGA	18
184	200	237	263	208	225	266	295	231	249	296	326	352	375	443	483	450	474	560	606	PGB	
72	70	73	70	85	83	85	80	93	88	91	85	129	121	121	106	161	146	145	122	PGA	20
172	187	222	246	200	217	257	285	217	235	278	308	339	362	428	469	419	444	525	571	PGB	
69	67	70	67	78	76	79	74	87	84	86	80	121	113	113	100	149	136	135	115	PGA	22.4
165	179	213	237	185	201	239	265	203	220	261	289	314	336	397	436	390	414	489	533	PGB	

*On request.

HB



7.2 B2 (kW)

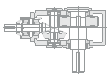
iN		B204				B205				B206				B207				B208			
		960	1150	1450	1740	960	1150	1450	1740	960	1150	1450	1740	960	1150	1450	1740	960	1150	1450	1740
5	PGA	41	40	30	*	50	45	*	*					66	56	*	*				
	PGB	113	132	139	149	145	178	184	193					246	276	283	283				
5.6	PGA	41	40	33	*	49	48	37	*					67	60	*	*				
	PGB	109	128	135	147	137	177	169	185					232	265	274	282				
6.3	PGA	40	40	34	26	50	50	*	*	58	55	*	*	64	60	*	*	76	69	*	*
	PGB	105	125	132	144	145	145	178	193	170	197	215	232	216	249	261	279	261	298	314	332
7.1	PGA	38	39	35	29	49	48	37	*	59	57	43	*	63	61	*	*	76	71	*	*
	PGB	99	117	125	136	137	161	169	182	166	194	204	219	203	237	248	263	246	285	298	313
8	PGA	36	37	34	30	47	47	38	*	57	57	45	*	61	60	45	*	73	71	*	*
	PGB	92.9	110	117	129	128	151	160	173	157	185	195	211	192	225	236	253	229	267	280	298
9	PGA	35	36	33	30	45	45	39	31	55	55	46	*	60	59	47	*	70	69	52	*
	PGB	87.8	105	111	123	121	144	153	166	148	176	186	202	182	214	226	244	215	253	266	285
10	PGA	29	30	29	26	42	43	37	31	52	53	45	37	56	57	47	*	67	67	53	*
	PGB	72.8	87.1	92.8	102	111	132	140	154	138	164	174	190	169	199	211	229	202	238	251	271
11.2	PGA	28	30	28	26	38	39	34	29	50	50	44	37	51	51	43	34	65	65	53	49
	PGB	70.3	84.3	89.8	99	99.5	118	125	137	131	155	165	180	150	177	188	204	192	227	240	259
12.5	PGA	26	27	26	24	36	37	34	29	46	47	43	37	47	48	42	34	61	62	52	41
	PGB	63	75.4	80.2	88.1	94	112	118.5	130	119	142	151	166	136	162	172	188	179	212	224	244
14	PGA	24	26	25	24	34	35	32	29	42	43	39	34	43	43	38	31	55	56	49	40
	PGB	59.8	71.2	76	83.4	85.8	102	108	120	106	127	135	149	121	145	154	169	159	189	200	218

*On request.

B209				B210				B211				B212				iN	
960	1150	1450	1740	960	1150	1450	1740	960	1150	1450	1740	960	1150	1450	1740		
74	*	*	*					*	*	*	*					PGA	5
297	325	328	313					487	500	478	392					PGB	
77	64	*	*					102	*	*	*					PGA	5.6
282	316	322	321					481	512	504	453					PGB	
76	67	*	*	84	71	*	*	104	*	*	*	121	*	*	*	PGA	6.3
265	301	315	330	300	337	354	367	441	480	479	514	556	591	581	606	PGB	
76	70	*	*	84	76	*	*	112	92	*	*	134	*	*	*	PGA	7.1
250	288	299	311	284	325	336	346	436	485	493	485	546	598	601	572	PGB	
74	71	*	*	83	78	*	*	110	95	*	*	132	108	*	*	PGA	8
237	274	287	302	267	308	321	336	400	451	463	467	498	555	564	556	PGB	
73	71	51	*	81	77	*	*	110	99	*	*	138	119	*	*	PGA	9
226	264	277	295	251	292	306	324	383	437	452	465	490	554	568	574	PGB	
70	68	52	*	78	76	54	*	106	98	*	*	130	116	*	*	PGA	10
212	249	261	280	237	277	291	310	359	413	429	447	447	508	525	537	PGB	
63	63	49	55	76	74	55	*	97	90	*	*	128	116	*	*	PGA	11.2
187	220	232	250	226	265	279	299	318	367	382	401	426	488	506	522	PGB	
60	60	49	46	72	72	57	*	93	88	*	*	123	115	*	*	PGA	12.5
174	205	217	200	212	250	264	284	298	346	405	381	400	462	481	503	PGB	
54	54	46	45	65	65	54	*	84	80	*	*	111	106	*	*	PGA	14
155	183	194	179	189	223	236	255	266	309	362	342	353	409	428	451	PGB	

*On request.

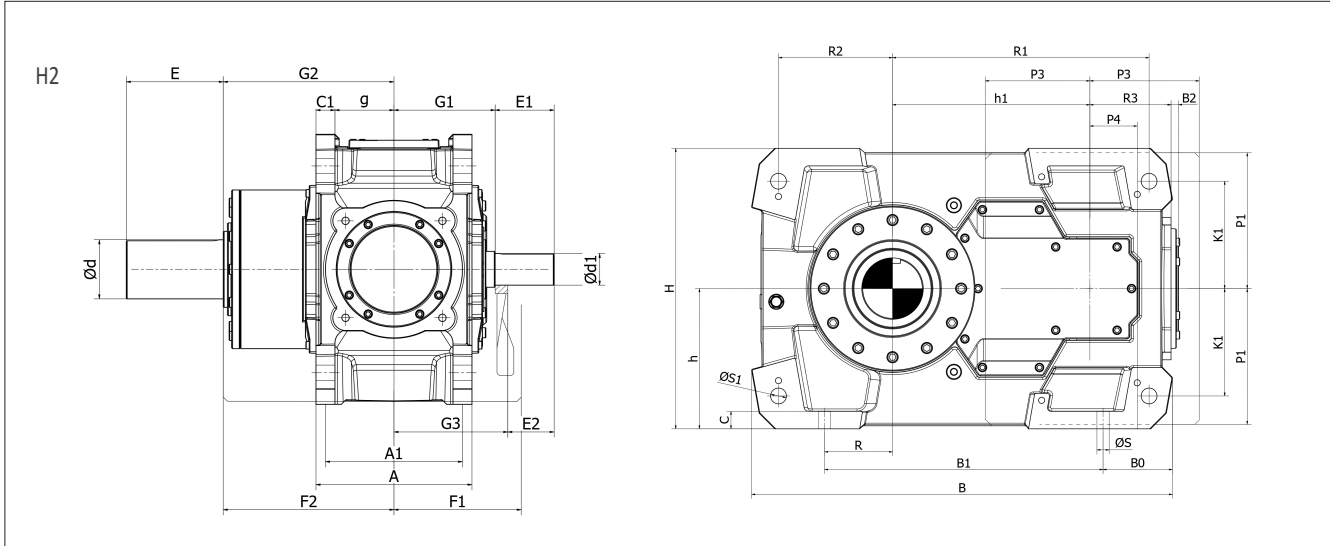
HB



8 Outline dimension

8.1 H204H-H212H

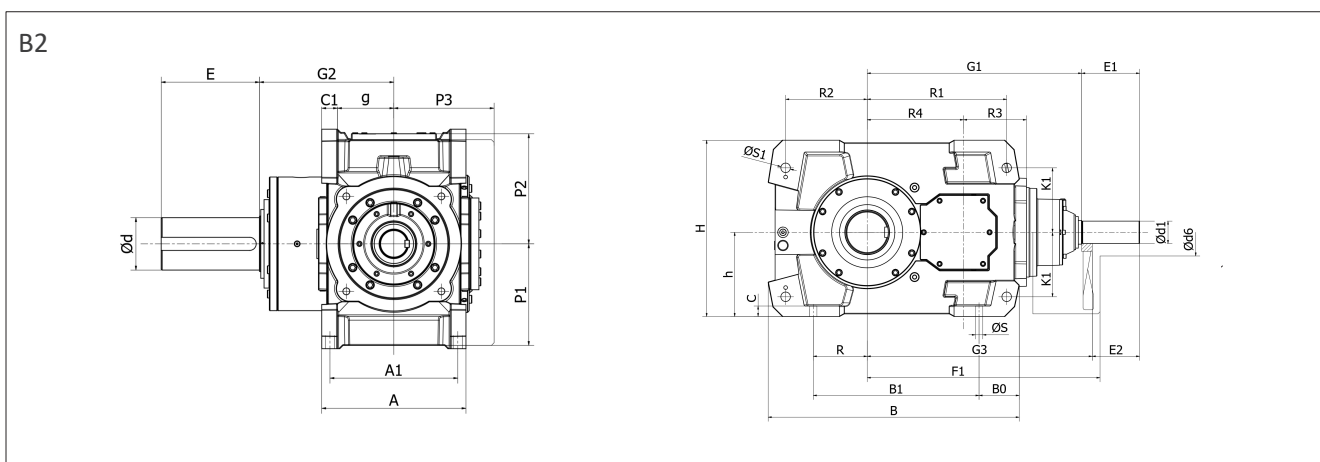
HB



Size	iN≤11.2			iN≥12.5			A	A1	B	B0	B1	B2	C	C1	d	d6	E
	d1	E1	E2	d1	E1	E2											
04	45k6	110	90	32k6	80	60	215	180	586	112	355	16	28	30±1	80m6	140	170
05	50k6	110	90	38k6	80	60	255	220	667	113	430	16	28	30±1	100m6	150	210
06	50k6	110	90	38k6	80	60	255	220	743	113	510	16	28	30±1	110m6	150	210
07	60m6	140	110	50k6	110	80	300	260	816	131	545	20	35	36±1	120m6	200	210
08	60m6	140	110	50k6	110	80	300	260	920	131	650	20	35	36±1	130m6	200	250
09	75m6	140	110	60m6	140	110	370	320	957	156	635	20	40	45±1.5	140m6	210	250
10	75m6	140	110	60m6	140	110	370	320	1062	156	735	20	40	45±1.5	160m6	210	300
11	90m6	170	135	70m6	140	105	430	370	1132	178	775	25	50	54±1.5	170m6	220	300
12	90m6	170	135	70m6	140	105	430	370	1292	178	930	25	50	54±1.5	180m6	220	300

Size	F1	F2	G1	G2	G3	g	H	h	h1	h5	K1	P1	P3	P4	R	R1	R2	R3	S	S1	weight (kg)
04	205	160	170	140	190	77.5	405	200	270	15	150	195	155	40	85	345	160	110	19	24H9	195
05	230	180	195	165	215	97.5	460	230	315	15	180	225	165	55	100	405	175	130	19	24H9	310
06	230	180	195	165	215	97.5	490	230	350	0	180	225	165	55	145	440	220	130	19	24H9	385
07	255	210	210	195	240	114	560	280	385	0	215	270	220	70	130	500	215	160	24	28H9	519
08	255	210	210	195	240	114	580	280	430	0	215	270	220	70	190	545	275	160	24	28H9	624
09	285	245	240	235	270	140	640	320	450	10	245	310	240	95	155	585	260	185	28	36H9	828
10	285	245	240	235	270	140	670	320	500	0	245	310	240	95	205	635	310	185	28	36H9	1044
11	325	285	275	270	310	161	760	380	545	30	300	370	285	125	180	710	295	225	35	40H9	1371
12	325	285	275	270	310	161	790	380	615	5	300	370	285	125	265	780	380	225	35	40H9	1644

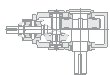
8.2 B204H-B212H



HB

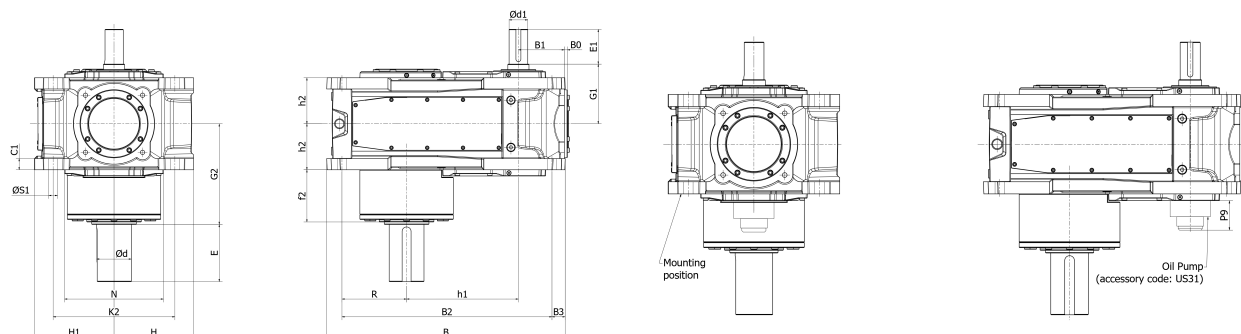
Size	iN≤14			A	A1	B	B0	B1	C	C1	d	d6	E	F1
	d1	E1	E2											
04	50k6	110	90	270	235	530	125	295	28	30±1	80m6	150	170	517
05	60m6	140	110	320	285	595	130	355	28	30±1	100m6	160	210	596
06	60m6	140	110	320	285	680	135	435	28	30±1	110m6	160	210	635
07	75m6	140	110	380	340	725	145	450	35	36±1	120m6	210	210	705
08	75m6	140	110	380	340	825	140	555	35	36±1	130m6	210	250	745
09	85m6	170	135	440	390	860	175	530	40	48±1.5	140m6	220	250	805
10	85m6	170	135	440	390	970	185	630	40	48±1.5	160m6	220	300	865
11	95m6	170	135	530	470	1030	205	645	50	54±1.5	170m6	250	300	1005
12	95m6	170	135	530	470	1165	185	800	50	54±1.5	180m6	250	300	1055

Size	G1	G2	G3	g	H	h	h5	K1	P1	P2	P3	R	R1	R2	R3	R4	S	S1H9	weight (kg)
04	482	140	502	105	400	200	15	150	195	200	185	85	285	160	160	177	19	24H9	217
05	551	165	581	130	460	230	30	180	220	235	215	100	330	175	185	201	19	24H9	349
06	590	165	620	130	490	230	0	180	220	235	215	145	365	220	185	240	19	24H9	437
07	660	195	690	154	560	280	35	215	270	285	250	130	405	215	225	240	24	28H9	599
08	700	195	730	154	580	280	25	215	270	285	250	190	450	275	225	280	24	28H9	723
09	755	235	790	172	640	320	10	245	310	325	250	155	480	260	265	280	28	36H9	921
10	815	235	850	172	670	320	0	245	310	325	250	205	530	310	265	340	28	36H9	1158
11	945	270	980	211	760	380	55	300	370	385	330	180	580	295	320	340	35	40H9	1516
12	995	270	1030	211	790	380	30	300	370	385	330	265	650	380	320	390	35	40H9	1833



8.3 H204V-H212V

H2 (Dip-in lubrication)

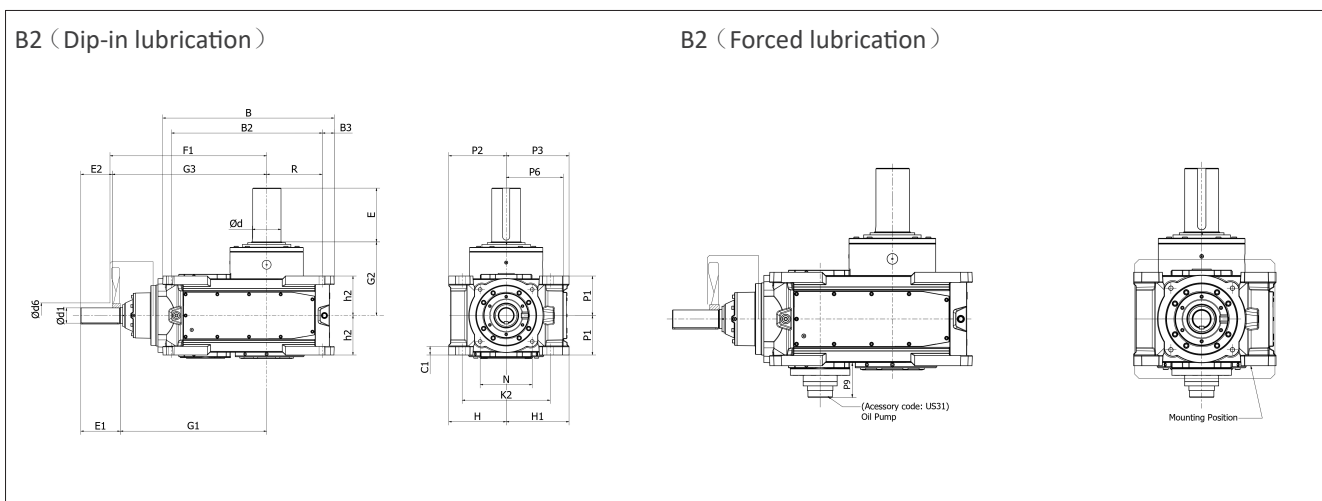


Size	$iN \leq 11.2$		$iN \geq 12.5$		B	B0	B1	B2	B3	C1	d	E	f2
	d1	E1	d1	E1									
04	45k6	110	32k6	80	586	16	110	505	37	30±1	80m6	170	35
05	50k6	110	38k6	80	667	16	130	580	38	30±1	100m6	210	30
06	50k6	110	38k6	80	743	16	130	660	38	30±1	110m6	210	30
07	60m6	140	50k6	110	816	20	160	715	46	36±1	120m6	210	35
08	60m6	140	50k6	110	920	20	160	820	46	36±1	130m6	250	35
09	75m6	140	60m6	140	957	20	185	845	51	45±1.5	140m6	250	35
10	75m6	140	60m6	140	1062	20	185	945	51	45±1.5	160m6	300	35
11	90m6	170	70m6	140	1132	25	225	1005	63	54±1.5	170m6	300	42
12	90m6	170	70m6	140	1292	25	225	1160	63	54±1.5	180m6	300	42

Size	G1	G2	H	H1	h1	h2	h3	h5	h6	K2	N	P6	P7	P8	P9	R	S1	weight (kg)
04	170	140	200	200	270	107.5	175	140	85	300	250	150	340	35	132	160	24H9	195
05	195	165	230	230	315	127.5	210	160	105	360	310	240	405	35	145	175	24H9	310
06	195	165	230	260	350	127.5	210	160	105	360	310	240	450	35	145	220	24H9	385
07	210	195	280	280	385	150	210	160	120	430	360	240	445	35	143	215	28H9	519
08	210	195	280	310	430	150	210	160	120	430	360	240	505	35	143	275	28H9	624
09	240	235	320	320	450	185	285	200	155	490	410	330	585	40	135	260	36H9	828
10	240	235	320	350	500	185	285	200	155	490	430	330	635	40	135	310	36H9	1044
11	275	270	380	380	545	215	285	200	150	600	500	330	620	50	142	295	40H9	1371
12	275	270	380	410	615	215	285	200	150	600	500	330	705	50	142	380	40H9	1644

*The general mounting is up position, if down mounting position, please mention in the order.

8.4 B204V-B212V

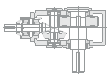


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Size	iN≤14			B	B2	B3	C1	d	d6	E	F1	f2	G1	G2
	d1	E1	E2											
04	50k6	110	90	530	445	50	30±1	80m6	150	170	57	20	482	140
05	60m6	140	110	595	505	55	30±1	100m6	160	210	56	10	551	165
06	60m6	140	110	680	585	60	30±1	110m6	160	210	63	10	590	165
07	75m6	140	110	725	620	60	36±1	120m6	210	210	705	15	660	195
08	75m6	140	110	825	725	55	36±1	130m6	210	250	745	15	700	195
09	85m6	170	135	860	740	70	48±1.5	140m6	220	250	805	20	755	235
10	85m6	170	135	970	840	80	48±1.5	160m6	220	300	865	20	815	235
11	95m6	170	135	1030	875	90	54±1.5	170m6	250	300	1005	15	945	270
12	95m6	170	135	1165	1030	70	54±1.5	180m6	250	300	1055	15	995	270

Size	G3	H	H1	h2	h3	h5	h6	K2	N	P1	P2	P3	P6	P7	P9	R	R1	R2	S1	weight (kg)
04	502	200	200	135	175	140	130	300	250	185	195	200	150	340	140	160	160	177	24H9	217
05	581	230	230	160	210	160	145	360	310	215	220	235	240	405	132	175	185	201	24H9	349
06	620	230	260	160	210	160	145	360	310	215	220	235	240	450	132	220	185	240	24H9	437
07	690	280	280	190	210	160	180	430	360	250	270	285	240	445	150	215	225	240	28H9	599
08	730	280	310	190	210	160	180	430	360	250	270	285	240	505	150	275	225	280	28H9	723
09	790	320	320	220	285	200	165	490	390	250	310	325	330	585	160	260	265	280	36H9	921
10	850	320	350	220	285	200	165	490	430	250	310	325	330	635	160	310	265	340	36H9	1158
11	980	380	380	265	285	200	140	600	450	330	370	385	330	620	161	295	320	340	40H9	1516
12	1030	380	410	265	285	200	140	600	490	330	370	385	330	705	161	380	320	390	40H9	1833

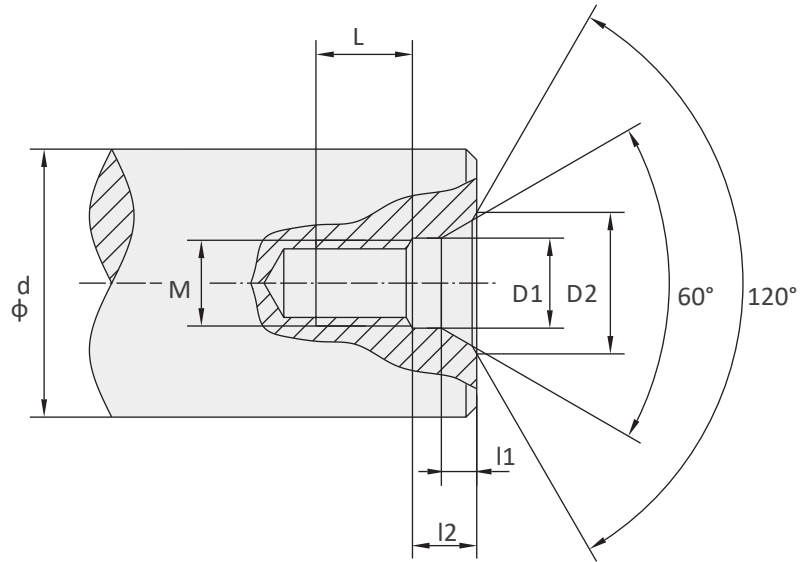
*The general mounting is up position, if down mounting position, please mention in the order.



9 Shaft end central hole

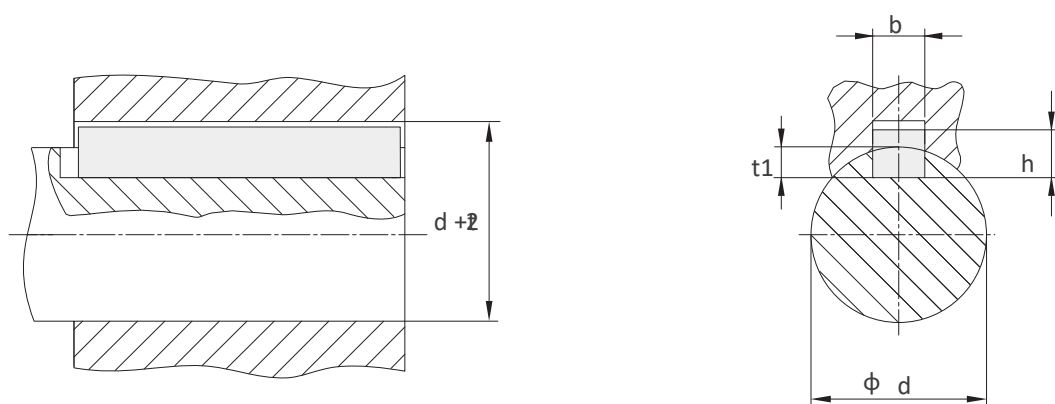
HB

Shaft end C Type screw central hole



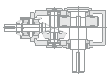
d	M	L	l2	l1	D1	D2
7<d≤10	M3	10	2.6	1.8	3.2	5.8
10<d≤13	M4	10	3.2	2.1	4.3	7.4
13<d≤16	M5	10	4	2.4	5.3	8.8
16<d≤21	M6	12	5	2.8	6.4	10.5
21<d≤24	M8	12	6	3.3	8.4	13.2
24<d≤30	M10	15	7.5	3.8	10.5	16.3
30<d≤38	M12	20	9.5	4.4	13	19.8
38<d≤50	M16	25	12	5.2	17	25.3
50<d≤85	M20	30	15	6.4	21	31.3
85<d≤130	M24	35	18	8	25	38
130<d≤225	M30	45	18	11	31	48

10 Dimension of parallel key and keyway:



HB

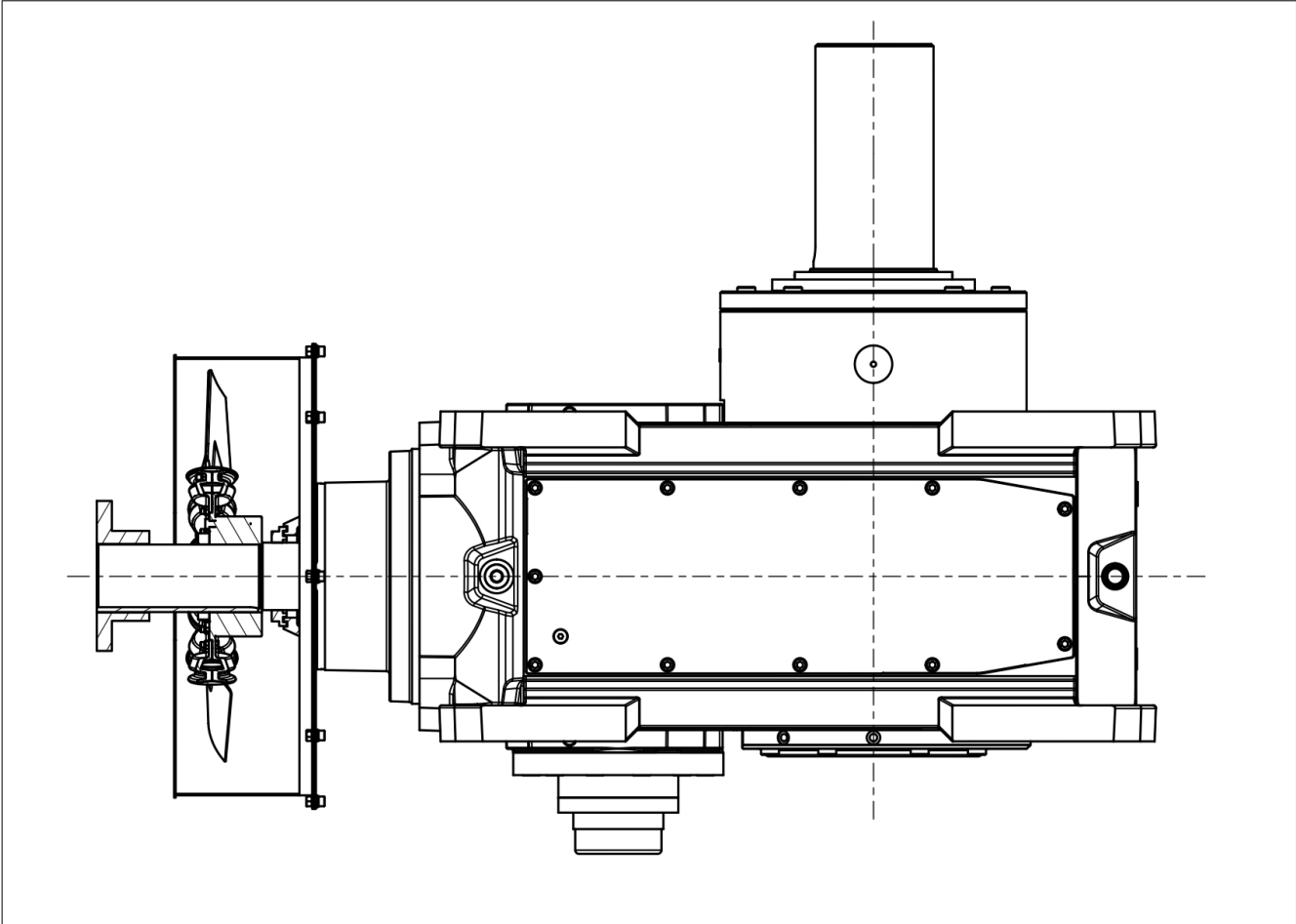
d	b	h	t1	d + t2
8 <math><d \le 10</math>	3	3	1.8	d + 1.4
10 <math><d \le 12</math>	4	4	2.5	d + 1.8
12 <math><d \le 17</math>	5	5	3	d + 2.3
17 <math><d \le 22</math>	6	6	3.5	d + 2.8
22 <math><d \le 30</math>	8	7	4	d + 3.3
30 <math><d \le 38</math>	10	8	5	d + 3.3
38 <math><d \le 44</math>	12	8	5	d + 3.3
44 <math><d \le 50</math>	14	9	5.5	d + 3.8
50 <math><d \le 58</math>	16	10	6	d + 4.3
58 <math><d \le 65</math>	18	11	7	d + 4.4
65 <math><d \le 75</math>	20	12	7.5	d + 4.9
75 <math><d \le 85</math>	22	14	9	d + 5.4
85 <math><d \le 95</math>	25	14	9	d + 5.4
95 <math><d \le 110</math>	28	16	10	d + 6.4
110 <math><d \le 130</math>	32	18	11	d + 7.4
130 <math><d \le 150</math>	36	20	12	d + 8.4
150 <math><d \le 170</math>	40	22	13	d + 9.4
170 <math><d \le 200</math>	45	25	15	d + 10.4
200 <math><d \le 230</math>	50	28	17	d + 11.4
230 <math><d \le 260</math>	56	32	20	d + 12.4



11 Accessory

11.1 Cooling fan (Accessory code:UF21)

HB



11.2 Lubrication Oil

11.3.1 Oil quantity

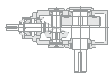
Oil Quantity Table (L)						
Size	H2..H	B2..H	H2..V		B2..V	
	①	①	②	③	②	③
04	10	10	25	—	28	—
05	15	16	23	10	41	20
06	16	19	27	11	50	23
07	27	31	58	22	75	35
08	30	34	62	25	90	38
09	42	48	100	42	115	53
10	45	50	110	46	135	60
11	71	80	160	60	190	86
12	76	95	180	70	215	95

Note: 1. ① Oil tank splash lubrication ② Dip-in lubrication ③ Forced lubrication.
2. The above data are average values.

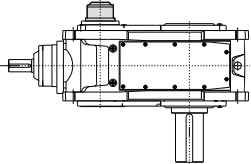
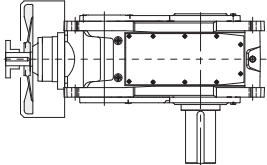
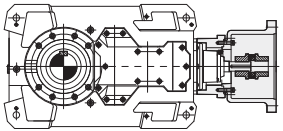
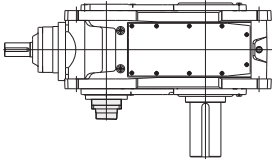
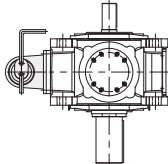
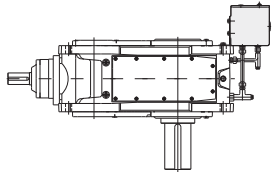
11.3.2 Lubrication oil (heavy-loading industrial gear oil) viscosity number selection [VG320 (Accessory code: UV32); VG460 (Accessory code: UV46)]

Ambient temperature °C	-20°C – +40°C	+30°C – +50°C
Viscosity number	VG320	VG460

Note: 1. Viscosity in the above table is ISO-VG Viscosity under 40 °C
2. When ambient temperature is lower than -10 °C, synthetic oil must be used.
3. To ensure product lifespan, we suggest synthetic oil.
4. If ambient temperature exceeds the above range, please consult.



11.4 Accessories code table:

Code	Accessories	Example
UB11	Backstop	
UF21	Cooling fan	
UF31	Input connection flange	
US31	Shaft end oil pump forced lubrication	
US32	Motor oil pump forced lubrication	
US33	Oil compensation tank dip-in oil lubrication	
UV32	Lubrication oil VG320	
UV46	Lubrication oil VG460	

HB

Note:

- ◆ The structure scheme, appearance diagram and other attached diagrams in sample are examples, there is no strict proportion requirement. (The unmarked dimension units are mm)
- ◆ The marked weight is average value, it has no constraint force.
- ◆ To prevent accidents, all the rotation parts are added with protective covers according to the safety regulations of the nation and region.
- ◆ Before debugging, you should carefully read instruction book.
- ◆ Gearbox is on running-permission status when delivered, you should add lubrication oil before putting it into running.
- ◆ The marked oil quantity in sample is only reference value, actual oil filling quantity should be the same with the mark on oil dipstick.
- ◆ Lubrication oil viscosity should be selected according to working situation and application environment temperature of gearbox.
- ◆ You can only apply lubrication oil of internationally famous brand.

Product Function Mark



Oil glass



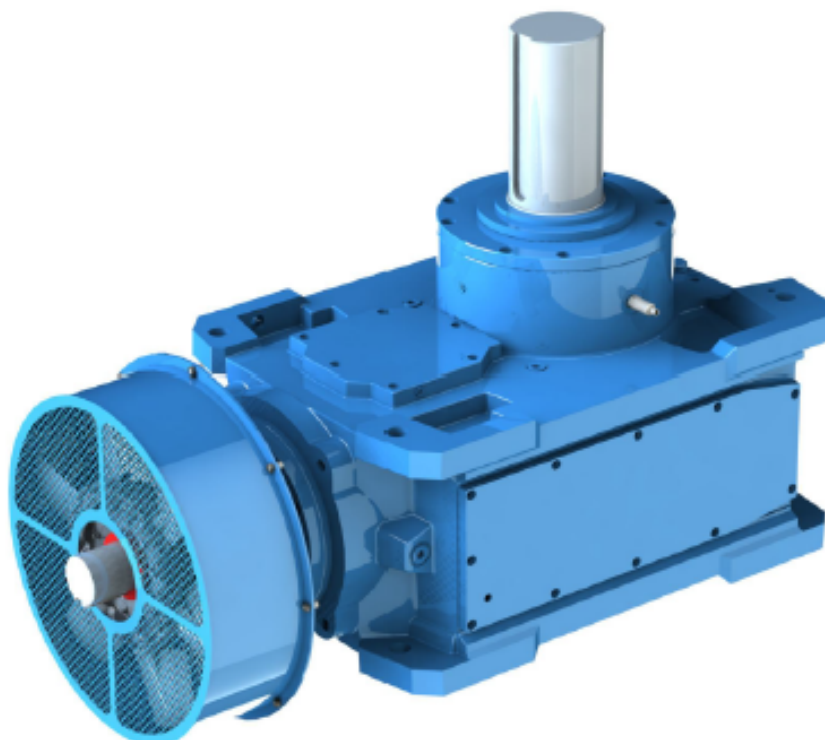
Oil filler



Breather



Oil drain





TGE Transmission s.r.o.

9. května 209,
268 01 Hořovice

Technical office Plzeň

Teslova 7b
301 00 Plzeň
info@tge.cz | www.tge.cz

Local dealer

