

BONENG



H&B Industrial Gear Units

04 / 2013

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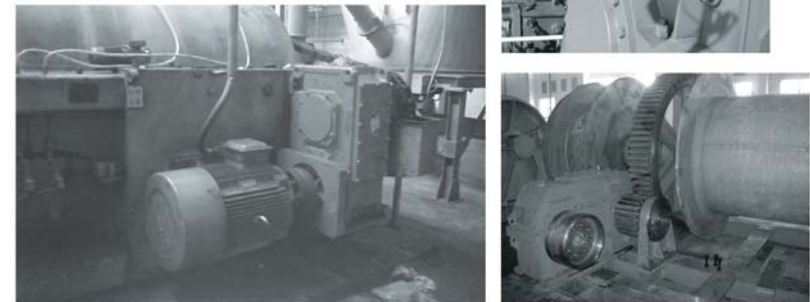


On the basis of summarizing gear units design and manufacturing experiences in the past twenty years, analyzing and absorbing advanced technology of international industrial gear units production, Boneng transmission makes innovative development, pushing forward the new type H&B industrial gear unit to better satisfy customer requirements.

Compared with internationally advanced gear units and the original H&B industrial gear units of Boneng, the new type H&B industrial gear units have the following characteristics:

- ◆ 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 Boneng Transmission, it owns intellectual property rights.
- ◆ Frame type load-carrying structure design, the whole structure is stronger, footing is more fastened.
- ◆ Improved cooling fan and cooling coil design can effectively reduce the temperature during gear unit running.
- ◆ Output shaft sealing applies double oil sealing, the sealing is more reliable, the applications are wider.
- ◆ Fluororubber sealing piece, it has good high-temperature resistant, anti-aging and anti-abrasion performance. It is safer and has longer lifespan under complex and bad working environment.

For coal, electric power, petroleum, metallurgy, cement, shipping, port, hoisting and conveying industries, the high-quality and long lifespan new type gear units of Boneng Transmission can satisfy your requirements.




Note:
you must conform to the following instructions!

Contents


- ◆ 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.
- ◆ Gear unit 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 gear units.
- ◆ You can only apply lubrication oil of internationally famous brand.

Product function mark

 Oil dipstick

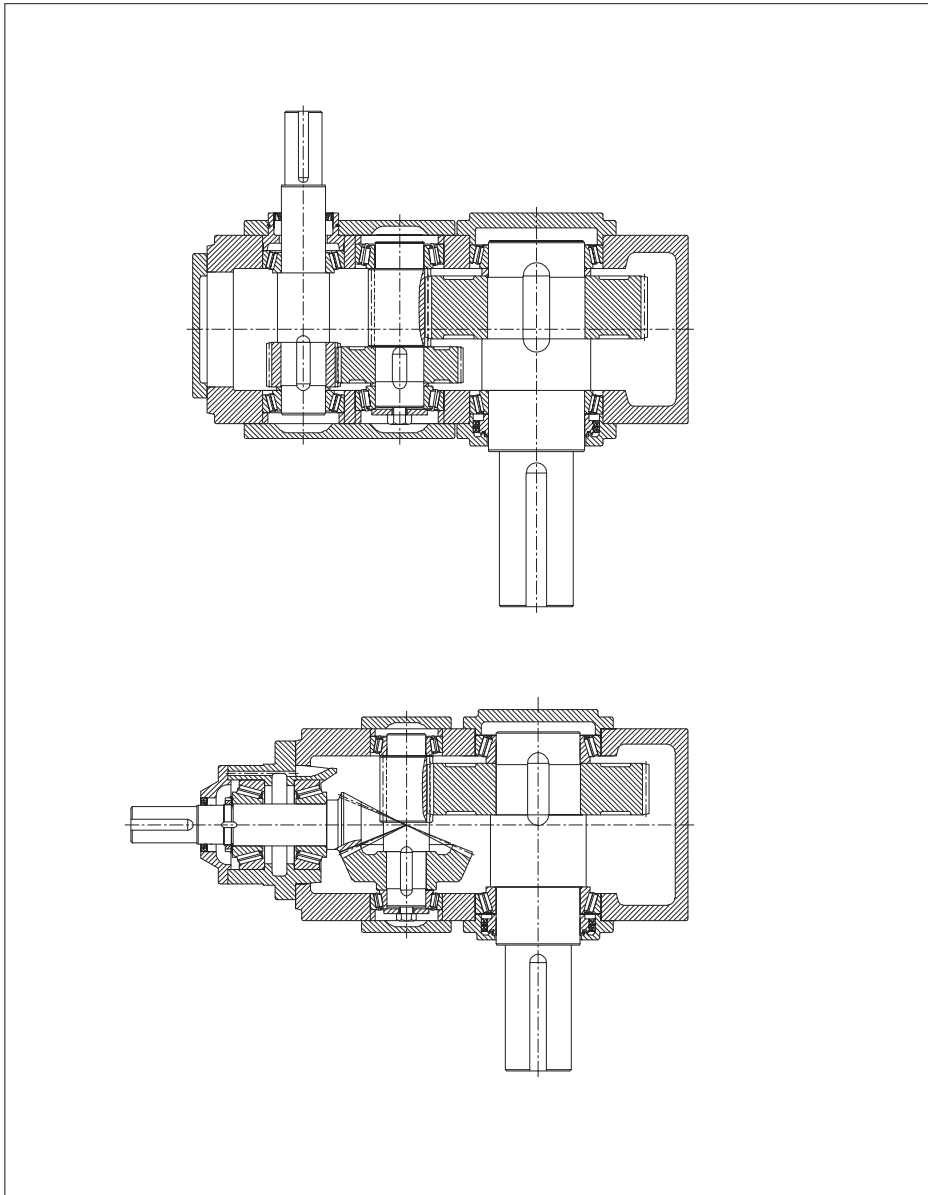
 Breather

 Oil filler

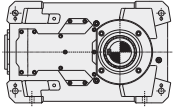
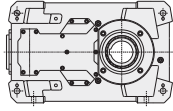
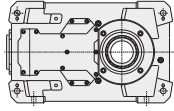
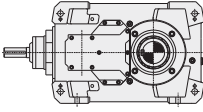
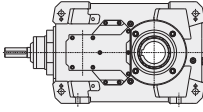
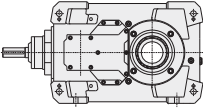
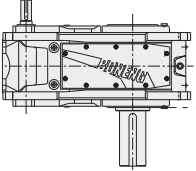
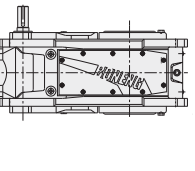
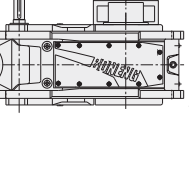
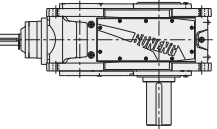
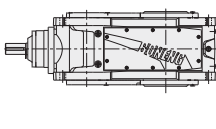
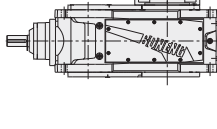
 Oil drain

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1. Structure scheme:



2. Mounting positions:

Horizontal mounting			
	Solid shaft	Hollow shaft	Hollow shaft with shrink disk
H series 6.3-450	 H...HS	 H...HH	 H...HD
B series 6.3-400	 B...HS	 B...HH	 B...HD
Vertical mounting			
	Solid shaft	Hollow shaft	Hollow shaft with shrink disk
H series i _N = 6.3 - 450	 H...VS	 H...VH	 H...VD
B series i _N = 6.3 - 400	 B...VS	 B...VH	 B...VD

3.Selection:

Serial number	Definition	Symbol	Parameter calculation																			
1	Driven equipment factor	f_1	Refer to page5 f1 table																			
2	Prime mover factor	f_2	Prime mover factor																			
			Motor, hydraulic motor, turbine																			
			4-6 Cylinder piston engine, cyclic variation 1:100 to 1: 200																			
3	Gear unit safety factor	SF	Refer to page4 sf table																			
4	Relation between input and output shafts	H、 B	Parallel shaft select H series, right angle, select B series																			
5	Transmission efficiency of gear unit	η	2-stage:96%, 3-stage:94%, 4-stage:92%																			
6	Input speed	n_1	$\leq 1800r/min$ For higher speed, please consult us.																			
7	Determination of ratio	i	$i=n_1/n_2$																			
8	Confirm gear unit input power with torque or power needed by driven equipment.	P_1	$P_1=T_2 \cdot n_1/(9550 \cdot i \cdot \eta)$ or $P_1=P_2/\eta$																			
9	According to calculation, check transmission capacity table to determine gear unit size	T_{2N} 、 P_{1N}	$T_{2N} \geq T_2 \cdot f_1 \cdot f_2 \cdot SF$ or $P_{1N} \geq P_1 \cdot f_1 \cdot f_2 \cdot SF$ If it doesn't satisfy conditions: $3.33 \cdot P_1 \geq P_{1N}$, Please consult us.																			
10	Peak torque verification *	T_A	$P_{1N} \geq T_A \cdot n_1 \cdot f_3/9550$																			
			<table border="1"> <thead> <tr> <th rowspan="2">f3</th> <th colspan="4">Load peaks per hour</th> </tr> <tr> <th>1-5</th> <th>6-30</th> <th>31-100</th> <th>>100</th> </tr> </thead> <tbody> <tr> <td>Single direction loading</td> <td>0.5</td> <td>0.65</td> <td>0.7</td> <td>0.85</td> </tr> <tr> <td>Alternate loading</td> <td>0.7</td> <td>0.95</td> <td>1.10</td> <td>1.25</td> </tr> </tbody> </table>	f3	Load peaks per hour				1-5	6-30	31-100	>100	Single direction loading	0.5	0.65	0.7	0.85	Alternate loading	0.7	0.95	1.10	1.25
			f3		Load peaks per hour																	
1-5	6-30	31-100		>100																		
Single direction loading	0.5	0.65	0.7	0.85																		
Alternate loading	0.7	0.95	1.10	1.25																		
11	After selecting connection mounting and accessories, check allowable strength of the shaft	F_{r1}/F_{r2} F_{a1}/F_{a2}	Radial load need to be checked when radial load imposed by belt pulley, chain sprocket and gear are present. (See page 32)																			
12	Determine lubrication method, select lubrication oil		Horizontal mounting																			
			Vertical mounting																			
13	Determine cooling method		1) If it satisfies the following condition, the gear unit will not be equipped with auxiliary cooling device. $P_1 \leq P_{GA} \times f_4 \times f_8$																			
			2) If it satisfies the following condition, the gear unit will be equipped with cooling fan. $P_1 \leq P_{GB} \times f_4 \times f_8$																			
			3) If it satisfies the following condition, the gear unit will be equipped with cooling coil. $P_1 \leq P_{GC} \times f_5 \times f_8$																			
			4) If it satisfies the following condition, the gear unit will be equipped with cooling coil and fan. $P_1 \leq P_{GD} \times f_5 \times f_8$																			
			5) Gear unit can be equipped with other cooling devices: air-oil cooler, water-oil cooler, users can equip petrol station by themselves to provide circulated cooling oil.(Refer to page4 for f_4 、 f_5 、 f_8).																			
14	Determine each item according to type designation		Refer to page4.																			

* Peak torque: maximum loading torque means the maximum torque caused by starting, braking or maximum pulse loading. (Under common working conditions, peak torque is the maximum torque may occur when a machine starts or brakes)

Gear unit safety factor		SF
For ordinary equipment, only single machine stops production when gear unit fails, easy to replace spare parts and minor loss occurred.		$1.0 \leq SF \leq 1.3$
For important equipment, the production line or the whole plant will stop production, when gear unit fails, great loss occurred, stopping accident loss is large.		$1.3 < SF \leq 1.5$
High reliability requirement, it may cause heavy production stop accident, when gear unit fails, causing large economic loss and even may cause human life accident.		$1.5 < SF$

Thermal factor		f_4				
Gear unit without cooling or with fan						
Ambient temperature	Operating cycle per hour					
	100	80	60	40	20	
10 °C	1.11	1.31	1.60	2.14	3.64	
20 °C	1.00	1.18	1.44	1.93	3.28	
30 °C	0.88	1.04	1.27	1.70	2.89	
40 °C	0.75	0.89	1.08	1.45	2.46	
50 °C	0.63	0.74	0.91	1.22	2.07	

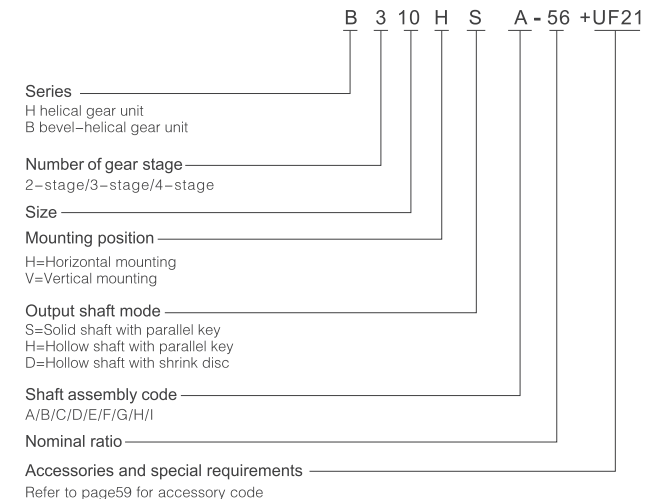
Thermal factor		f_5				
Gear unit with cooling coil or with cooling coil and fan						
Ambient temperature	Operating cycle per hour					
	100	80	60	40	20	
10 °C	1.05	1.23	1.50	2.03	3.41	
20 °C	1.00	1.17	1.43	1.93	3.25	
30 °C	0.93	1.09	1.33	1.79	3.02	
40 °C	0.87	1.02	1.24	1.68	2.83	
50 °C	0.81	0.95	1.16	1.56	2.63	

△ Note: Operating cycle $ED:ED = \frac{t_f}{t_f+t_r} \cdot 100\%$ t_f : Working time with loading; t_r : Stop time.

Vertical mounted gear unit oil supply factor. For horizontally mounted gear unit $f_8=1.0$ When forced lubrication applied, $f_8=1.05$						f_8
Gear unit type	Oil supply method	Without auxiliary cooling device	With cooling fan	With cooling coil	With fan and cooling coil	
H2.V, H3.V H4.V	Dip-in lubrication	0.95	*	0.95	*	
	Forced lubrication	1.15	*	1.05	*	
B2.V, B3.V B4.V	Dip-in lubrication	0.95	0.95	0.95	0.95	
	Forced lubrication	1.15	1.10	1.10	1.10	

* Please consult us.

Type designation:



4 Service factor:

Driven equipment factor				f ₁			
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 conveyors150kW	1.0	1.2	1.3
Collector	1.0	1.2	1.3	Belt conveyors150kW	1.1	1.3	1.4
Vertical,rotary group				Elevators for goods*	-	1.2	1.5
Blended collector	1.0	1.3	1.5	Elevators for customers*	-	1.5	1.8
Concentrator	-	1.1	1.3	Scraper conveyor	-	1.2	1.5
Screw pump	-	1.3	1.5	Automatic ladder	1.0	1.2	1.4
Water wheel machine	-	-	2.0	Rail traveling mechanism	-	1.5	-
Pump				Various frequency device	-	1.8	2.0
Centrifugal pump	1.0	1.2	1.3				
Volume-down pump				Reciprocating compressor	-	1.8	1.9
1Piston	1.3	1.4	1.8				
>1Piston	1.2	1.4	1.5	Hoisting mechanism**			
Dredge				Rotary mechanism*		1.4	1.8
Bucket conveyor	-	1.6	1.6	Pitching mechanism		1.1	1.4
Unloading device	-	1.3	1.5	Traveling mechanism		1.6	2.0
Carterpillar traveling mechanism	1.2	1.6	1.8	Lifting mechanism		1.1	1.4
Bucket digger				Jibcrane		1.2	1.6
Be used for picking up	-	1.7	1.7	Cooling tower			
Be used for rough materials	-	2.2	2.2	Cooling tower fan	-	-	2.0
Chopper	-	2.2	2.2	Fan (Shaft flow and centrifugal type)	-	1.4	1.5
Traveling mechanism*	-	1.4	1.8				
Plate blender	-	1.0	1.0	Food industry			
				Sugar production			
Chemical industry				Sugar-cane cutter*	-	-	1.7
Extruder	-	-	1.6	Sugar crane mill	-	-	1.7
Paste mixer	-	1.8	1.8	Beet sugar production	-	-	1.7
Rubber calendar	-	1.5	1.5	Beet masher	-	-	1.2
Cooling cylinder	-	1.3	1.4	Squeeze machine,	-	-	1.4
Material mixer,be used for				mechanical refrigerator,	-	-	1.4
Uniform medium	1.0	1.3	1.4	cooking machine	-	-	1.5
Non-uniform medium	1.4	1.6	1.7	Beet cleaner	-	-	1.5
Blender,be used for				Beet chopper	-	-	1.5
Uniform density medium	1.0	1.3	1.5	Paper-making machinery			
Un-uniformed medium	1.2	1.4	1.6	Various kinds***	-	1.8	2.0
Un-uniformed gas absorption	1.4	1.6	1.8	Pulper driving device		Supply goods according to customer requirements	
Oven	1.0	1.3	1.5	Centrifugal compressor	-	1.4	1.5
Centrifugal machine	1.0	1.2	1.3				
Metal processing equipment				Rope way cable car			
Plate turnover	1.0	1.0	1.2	Delivery ropeway	-	1.3	1.4
Steel pushing device	1.0	1.2	1.2	Cableway of shuttle system	-	1.6	1.8
Winding machine	-	1.6	1.6	T rod elevator	-	1.3	1.4
Cooling bed transverse frame	-	1.5	1.5	Continuous cableway	-	1.4	1.6
Roller leveler	-	1.6	1.6	Cement industry			
Roller path				Concrete blender	-	1.5	1.5
Continuous	-	1.5	1.5	Crusher*	-	1.2	1.4
Interval	-	2.0	2.0	Rotary kiln	-	-	2.0
Reversing mill	-	1.8	1.8	Tube mill	-	-	2.0
Cutter				Powder concentrator	-	1.6	1.6
Continuous*	-	1.5	1.5	Roller press	-	-	2.0
Crank type*	1.0	1.0	1.0				
Continuous casting driving device	-	1.4	1.4				
Rolling mill							
Reversing cogging mill	-	2.5	2.5				
Reversing plate slab mill	-	2.5	2.5				
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	-				

Driven equipment factor				f ₁			
Driven equipment	Daily running time with load(hour)			Driven equipment	Daily running time with load(hour)		
	≤ 2	> 2-10	> 10		≤ 2	> 2-10	> 10
Wood industry				Plastics industry			
Barking machine				Miller, compound grinding	1.25	1.25	1.25
Feed drive	1.25	1.25	1.50	Coating, film			
Main drive	1.75	1.75	1.75	Conveying pipe, Pulling rod, thin type			
Conveyor				Pipe type, Pile drawer	1.25	1.25	1.50
Burner, repeating saw	1.25	1.25	1.50	Continuous mixer, Calender	1.50	1.50	1.50
Rotary tower, transit transport	1.50	1.50	1.50	Blow film, to plasticizing			
Main loading, heavy loading	1.75	1.75	2.00	Batch mixer	1.75	1.75	1.75
Main original wood, land base				Rubber industry			
Conveying chain				Continuous strong inner mixer, Mix roller,			
Floor	1.50	1.50	1.50	Batch feeding mixer (except for double sticks)	1.50	1.50	1.50
Green-wood	1.50	1.50	1.75	Refiner, calender			
Cutting Chain				Double roller clamp feeding and mixed miller	1.25	1.25	1.50
Saw transmission, traction	1.50	1.50	1.75	Batch strong inner mixer,			
Peeling barrel	1.75	1.75	2.00	Double stick single groove grain stick	1.75	1.75	1.75
Feed drive				Miller heater, double sticks			
Edging, wood trimmer	1.25	1.25	1.50	Batch feeding mixer			
Planer feed, assorting table,				Wave stick miller	2.00	2.00	2.00
Automatic incline lifting	1.75	1.75	1.75	Generator and exciter	1.00	1.00	1.25
Multi-shaft feed, raw wood				Hammer crusher	1.75	1.75	2.00
Transportation and rotation				Sand miller	1.25	1.25	1.50
Transportation							
Charging tray	1.50	1.50	1.75				
Plywood lathe drive							
Conveying chain, Lifting							

- △ Note: 1. Determine required power P₂ of the driven equipment;
 *) Determine rated power according to maximum torque
 **) The actual service factor should be selected according to accurate loading classification, for specific information, please consult us.
 ***) It is necessary to check thermal capacity.
 2. The factors are experience value. The premise of using these factors is that the above mechanical equipment should conform to common design regulation and loading conditions. If there is special situation, please consult us.
 3. For machines that are not listed in this table, please consult us.

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}	Rated output torque	
T _A	Peak torque	
T _{n2atmax}	Rated output torque under highest speed	
T _{n2atmin}	Rated output torque under lowest speed	
P _{1N}	Rated input power of gear unit	kW
P _{GA}	Rated thermal capacity of gear unit without auxiliary cooling	
P _{GB}	Rated thermal capacity of gear unit with cooling fan	
P _{GC}	Rated thermal capacity of gear unit with cooling coil	
P _{GD}	Rated thermal capacity of gear unit with cooling coil and fan	
P ₁	Input power	
P ₂	Power of driven equipment	/
f ₁	Driven equipment factor	
f ₂	Prime mover factor	
f ₃	Peak torque factor	
f ₄	Thermal factor	
f ₅	Thermal factor	/
f ₈	Vertical mounting gear unit oil supply factor	
S _F	Gear unit safety factor	r/min
n ₁	Input speed	
n ₂	Output speed	
n _{2N}	Nominal output speed	/
η	Efficiency	
f	Motor frequency	Hz
U _m	Motor voltage	V
ED	Duty cycle per hour	%

6 Selection example

Known conditions:
<p>Prime mover: Motor power: 90kW Motor speed: n₁=1450r/min Maximum starting torque: T_A=860N.m (Calculate max starting by multiplying rated torque of motor by 1.6)</p> <p>Driven equipment (working machine): Type: Belt conveyor Speed: n₂=33r/min Required power: P₂=72kW Duty: 12 hours/day Starts per hour: 7 Operating cycle per hour: 100% Ambient temperature: 40°C Place of installation: Outdoor mounting Altitude: 500m</p> <p>Gear unit: Bevel-helical gear unit, horizontal mounting, with parallel key solid shaft output Shaft arrangement form C Output shaft direction of rotation: run clockwise to output shaft With backstop (accessory code UB11)</p>
Selection procedure:
<p>1. Calculation of ratio: $i = n_1/n_2 = 1450/33 = 43.9$ $i_N = 45$</p> <p>2. Determine rated power of gear unit: $P_1 = P_2/\eta = 72/(94\%) = 76.6\text{kW}$ $P_{1N} \geq P_1 \cdot f_1 \cdot f_2 \cdot S_F = 76.6 \times 1.3 \times 1 \times 1.4 = 139.4\text{kW}$ Refer to transmission capacity table B3, select size 10 $P_{1N} = 146\text{kW}$ $3.33 \cdot P_1 = 3.33 \times 76.6 = 255.1\text{kW} \geq P_{1N}$ Satisfy requirements</p> <p>3. Peak torque verification $P_{1N} \geq T_A \cdot n_1 \cdot f_3/9550 = 860 \times 1450 \times 0.65/9550 = 84.9\text{kW}$ $P_{1N} = 146\text{kW} \geq 84.9\text{kW}$ Satisfy requirements</p> <p>4. Verify thermal capacity: $P_{GA} \cdot f_4 \cdot f_8 = 80.8 \times 0.75 \times 1 = 60.6\text{kW} \leq P_1 = 76.6\text{kW}$ Thermal capacity not sufficient $P_{GB} \cdot f_4 \cdot f_8 = 180 \times 0.75 \times 1 = 135\text{kW} \geq P_1 = 76.6\text{kW}$ Thermal capacity is sufficient When gear unit with cooling fan, thermal capacity is sufficient. Fan accessory code is UF 21</p> <p>5. Determine gear unit type: B310HSC-45+UF21+UB11</p>

7 Transmission Capacity table:

H2 (in=6.3-22.4):

iN	n1 (r/min)	n2N (r/min)	H204			H205			H206			H207			H208					
			T2N (kN·m)	ieX	P1N (kW)	T2N (kN·m)	ieX	P1N (kW)	T2N (kN·m)	ieX	P1N (kW)	T2N (kN·m)	ieX	P1N (kW)	T2N (kN·m)	ieX	P1N (kW)			
6.3	1740	276	6.7	6.33	187	11.2	6.08	312	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	287	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	256	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	227	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	198	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	178	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	162	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	145	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	127	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	109	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	101	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	21.2	89	11.2	21.2	135	16.5	21.8	160	20.3	22.7	160	27.5	22.4	224			
	1450	64.7			74												113	133	133	187
	1150	51.3			59												90	105	105	148
	960	42.9			49.0												75	88	88	124

iN	n1 (r/min)	n2N (r/min)	H209			H210			H211			H212			n2N (r/min)	n1 (r/min)	iN					
			T2N (kN·m)	ieX	P1N (kW)	T2N (kN·m)	ieX	P1N (kW)	T2N (kN·m)	ieX	P1N (kW)	T2N (kN·m)	ieX	P1N (kW)								
6.3	6.3	6.3	33.7	6.28	44.2	6.20	60	6.09	74	6.09	74	6.09	2140	276	1740	6.3						
																	973	1279	1714	2140	276	1740
																	811	1066	1428	1783	230	1450
																	643	845	1133	1414	183	1150
																	537	706	945	1180	152	960
7.1	7.1	7.1	33.7	7.08	44.2	6.99	60	6.91	74	6.92	74	6.92	1898	245	1740	7.1						
																	863	1144	1519	1582	204	1450
																	719	954	1266	1582	204	1450
																	570	756	1004	1255	162	1150
																	476	631	838	1047	135	960
8	8	8	33.7	8.18	44.2	8.08	60	7.87	74	7.88	74	7.88	1685	218	1740	8						
																	769	1001	1354	1685	218	1740
																	641	834	1128	1404	181	1450
																	508	662	895	1114	144	1150
																	424	552	747	930	120	960
9	9	9	33.7	9.33	44.2	9.22	60	8.61	74	8.62	74	8.62	1496	193	1740	9						
																	683	886	1201	1247	161	1450
																	569	738	1001	1247	161	1450
																	451	585	794	989	128	1150
																	377	489	663	826	107	960
10	10	10	33.7	10.0	44.2	9.88	60	9.60	74	9.61	74	9.61	1344	174	1740	10						
																	613	831	1080	1344	174	1740
																	511	692	900	1120	145	1450
																	405	549	714	888	115	1150
																	338	458	596	742	96.0	960
11.2	11.2	11.2	33.7	10.8	46.5	10.7	60	10.9	74	10.9	74	10.9	1201	155	1740	11.2						
																	547	773	965	1201	155	1740
																	456	644	804	1001	129	1450
																	362	511	638	794	103	1150
																	302	426	532	663	85.7	960
12.5	12.5	12.5	33.7	12.5	46.5	12.3	60	12.3	74	12.4	74	12.4	1075	139	1740	12.5						
																	491	675	864	1075	139	1740
																	409	562	720	896	116	1450
																	324	446	571	711	92.0	1150
																	271	372	477	593	76.8	960
14	14	14	33.7	14.0	46.5	13.8	60	14.2	74	14.2	74	14.2	958	124	1740	14						
																	437	608	770	958	124	1740
																	364	507	642	798	104	1450
																	289	402	509	633	82.1	1150
																	241	336	425	528	68.6	960
16	16	16	33.7	15.7	46.5	15.5	60	16.2	74	16.2	74	16.2	842	109	1740	16						
																	384	544	677	842	109	1740
																	320	453	564	702	90.6	1450
																	254	359	447	557	71.9	1150
																	212	300	373	465	60.0	960
18	18	18	33.7	17.4	48.5	17.2	60	17.9	74	17.9	74	17.9	744	96.7	1740	18						
																	338	495	598	744	96.7	1740
																	282	412	498	620	80.6	1450
																	224	327	395	492	63.9	1150
																	187	273	330	410	53.3	960
20	20	20	33.7	19.6	48.5	19.3	60	20.1	74	20.1	74	20.1	672	87.0	1740	20						
																	306	443	540	672	87.0	1740
																	255	370	450	560	72.5	1450
																	202	293	357	444	57.5	1150
																	169	245	298	371	48.0	960
22.4	22.4	22.4	33.1	21.7	48.5	21.4	60	22.1	74	22.2	74	22.2	600	77.7	1740	22.4						
																	269	403	474	600	77.7	1740
																	224	336	395	500	64.7	1450
																	178	266	313	397	51.3	1150
																	148	222	262	331	42.9	960

7 Transmission Capacity table:

H3 (in=16-100):

in	n ₁ (r/min)	n _{2N} (r/min)	H305			H306			H307			H308							
			T _{2N} (kN·m)	ie _x	P _{1N} (kW)	T _{2N} (kN·m)	ie _x	P _{1N} (kW)	T _{2N} (kN·m)	ie _x	P _{1N} (kW)	T _{2N} (kN·m)	ie _x	P _{1N} (kW)					
16	1740	109.0	11.6	15.0	131	17.5	15.4	202	21.7	15.5	246	29.0	15.3	328					
	1450	90.6			109									169	205	273			
	1150	71.9			87									134	162	217			
	960	60.0			72									112	136	181			
18	1740	96.7	11.6	17.1	117	17.5	17.5	179	21.7	16.9	218	29.0	16.7	301					
	1450	80.6			97			150			182			251					
	1150	63.9			77			119			144			199					
	960	53.3			64			99			120			166					
20	1740	87.0	11.6	19.8	105	17.5	20.3	156	21.7	20.0	197	29.0	19.8	257					
	1450	72.5			88			130			164			214					
	1150	57.5			69			103			130			170					
	960	48.0			58			86			108			142					
22.4	1740	77.7	11.6	21.6	94	17.5	22.1	144	21.7	22.4	175	29.0	22.2	231					
	1450	64.7			78			120			146			192					
	1150	51.3			62			95			116			153					
	960	42.9			52			79			97			127					
25	1740	69.6	11.6	24.3	84	17.5	24.9	129	21.7	24.0	157	29.0	23.7	217					
	1450	58.0			70			107			131			181					
	1150	46.0			56			85			104			143					
	960	38.4			46.3			71			87			120					
28	1740	62.1	11.6	26.7	76	17.5	27.4	116	21.7	27.4	142	29.0	27.1	191					
	1450	51.8			63			97			118			159					
	1150	41.1			50			77			94			126					
	960	34.3			41.7			64			78			105					
31.5	1740	55.2	11.6	30.3	67	17.5	31.1	103	21.7	31.0	126	29.0	30.6	170					
	1450	46.0			56			86			105			142					
	1150	36.5			44.4			68			83			113					
	960	30.5			37.1			57			70			94					
35.5	1740	49.0	11.6	35.2	59	17.5	36.1	90	21.7	36.6	110	29.0	36.2	145					
	1450	40.8			49.0			75			92			121					
	1150	32.4			38.9			59			73			96					
	960	27.0			32.4			49			61			80					
40	1740	43.5	11.6	38.3	53	18.5	39.3	83	21.7	41.1	100	29.0	40.5	131					
	1450	36.3			44.0			69			83			109					
	1150	28.8			34.9			55			66			86					
	960	24.0			29.1			45.6			55			72					
45	1740	38.7	11.6	43.1	46.8	18.5	44.2	74	21.7	43.8	86	30.0	43.3	122					
	1450	32.2			39.0			62			72			102					
	1150	25.6			30.9			48.9			57			81					
	960	21.3			25.8			40.8			47.7			68					
50	1740	34.8	11.6	47.3	42.0	18.5	48.5	68	21.7	50.2	79	30.0	49.5	108					
	1450	29.0			35.0			56			66			90					
	1150	23.0			27.8			44.8			52			71					
	960	19.2			23.2			37.4			43.7			60					
56	1740	31.1	11.6	54.6	37.2	18.5	56.0	59	21.7	55.8	71	30.0	55.0	97					
	1450	25.9			31.0			49.3			59			81					
	1150	20.5			24.6			39.1			47			64					
	960	17.1			20.5			32.6			39.1			54					
63	1740	27.6	11.6	58.2	33.6	18.5	59.7	62	21.7	63.2	86	30.0	62.4	116					
	1450	23.0			28.0			46.4			52			72					
	1150	18.3			22.2			36.8			41.2			57					
	960	15.2			18.5			30.7			34.4			47.7					
71	1740	24.5	11.6	67.2	28.8	18.5	69.0	54	21.7	70.9	78	30.0	69.9	110					
	1450	20.4			24.0			40.4			45.0			65					
	1150	16.2			19.0			32.1			35.7			52					
	960	13.5			15.9			26.8			29.8			43.0					
80	1740	21.8	11.6	76.4	26.4	18.5	78.4	42.9	21.7	80.9	49.2	30.0	79.8	68					
	1450	18.1			22.0			35.8			41.0			57					
	1150	14.4			17.4			28.4			32.5			45.2					
	960	12.0			14.6			23.7			27.1			37.7					
90	1740	19.3	11.6	84.9	22.8	18.5	87.1	38.8	21.7	86.2	44.4	30.0	85.1	62.4					
	1450	16.1			19.0			32.4			37.0			52.0					
	1150	12.8			15.1			25.7			29.3			41.2					
	960	10.7			12.6			21.4			24.5			34.4					
100	1740	17.4																	
	1450	14.5																	
	1150	11.5																	
	960	9.6																	

H309			H310			H311			H312			n _{2N} (r/min)	n ₁ (r/min)	in				
T _{2N} (kN·m)	ie _x	P _{1N} (kW)	T _{2N} (kN·m)	ie _x	P _{1N} (kW)	T _{2N} (kN·m)	ie _x	P _{1N} (kW)	T _{2N} (kN·m)	ie _x	P _{1N} (kW)							
35.7	15.4	51	15.2	64	15.3	407	78	15.3	566	724	888	109.0	1740	16				
						339			472						603	740	90.6	1450
						269			374						478	587	71.9	1150
						224			312						399	490	60.0	960
35.7	17.2	51	17.0	64	17.1	362	78	17.1	510	643	789	96.7	1740	18				
						301			425						536	658	80.6	1450
						239			337						425	522	63.9	1150
						200			281						355	435	53.3	960
35.7	20.3	51	20.1	64	19.0	325	78	19.0	450	579	710	87.0	1740	20				
						271			375						482	592	72.5	1450
						215			297						383	470	57.5	1150
						180			248						319	392	48.0	960
35.7	22.0	51	21.8	64	21.4	291	78	21.5	404	517	634	77.7	1740	22.4				
						242			337						431	529	64.7	1450
						192			267						342	419	51.3	1150
						160			223						285	350	42.9	960
35.7	25.7	51	25.4	64	24.7	260	78	24.7	378	462	568	69.6	1740	25				
						217			315						385	474	58.0	1450
						172			250						305	376	46.0	1150
						144			209						255	314	38.4	960
35.7	28.5	51	28.2	64	27.2	233	78	27.2	325	416	507	62.1	1740	28				
						194			271						347	423	51.8	1450
						154			215						275	335	41.1	1150
						128			179						230	280	34.3	960
35.7	29.9	51	29.5	64	30.6	208	78	30.7	304	370	450	55.2	1740	31.5				
						173			253						308	375	46.0	1450
						137			201						244	297	36.5	1150
						115			168						204	248	30.5	960
35.7	35.2	51	34.8	64	34.1	182	78	34.1	260	324	394	49.0	1740	35.5				
						152			217						270	328	40.8	1450
						121			172						214	260	32.4	1150
						101			144						179	217	27.0	960
35.7	38.2	51	37.7	64	38.4	164	78	38.4	241	293	356	43.5	1740	40				
						137			201						244	297	36.3	1450
						109			159						194	236	28.8	1150
						91			133						162	197	24.0	960
35.7	44.6	51	44.1	64	44.2	143	78	44.3	208	254	308	38.7	1740	45				
						119			173						212	257	32.2	1450
						94			137						168	204	25.6	1150
						79			115						140	170	21.3	960
35.7	49.4	51	48.8	64	48.8	130	78	48.9	188	230	281	34.8	1740	50				
						108			157						192	234	29.0	1450
						86			125						152	186	23.0	1150
						72			104						127	155	19.2	960
35.7	52.4	54	51.8	64	54.1	116	78	54.1	179	208	253	31.1	1740	56				
						97			149						173	211	25.9	1450
						77			118						137	167	20.5	1150
						64			99						115	140	17.1	960
35.7	59.6	54	58.8	64	60.2	103	78	60.3	158	185	226	27.6	1740	63				
						86			132						154	188	23.0	1450
						68			105						122	149	18.3	1150
						57			87						102	124	15.2	960
35.7	66.7	54	65.8	64	68.3	90	78	68.4	143	161	196	24.5	1740	71				
						75			119						134	163	20.4	1450
						59			94						106	129	16.2	1150
						50			79						89	108	13.5	960
35.7	74.0	54	73.1	64	75.8	82	78	75.9	121	145	175	21.8	1740	80				
						68			101						121	146	18.1	1450
						54			80						96	116	14.4	1150
						45.0			67						80	97	12.0	960
35.7	86.7	54	85.6	64	86.2	70	78	86.3	110	128	156	19.3	1740	90				
						58			92						107	130	16.1	1450
						46.0			73						85	103	12.8	1150
						38.4			61						71	86	10.7	960
35.7	93.2	54	92.0	64	98.9	63	78	99.0	98	115	140	17.4	1740	100				
						52			82						96	117	14.5	1450
						41.4			65						76	93	11.5	1150
						34.6			54						64	77	9.6	960

7 Transmission Capacity table:

H4 (in=71-400)

in	n ₁ (r/min)	n _{2N} (r/min)	H407			H408			H409		
			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)
71	1740	24.5	21.7	71.2	56	28.5	70.3	35.7	65.9	91	
	1450	20.4			46.5					76	
	1150	16.2			36.9					60	
	960	13.5			30.8					50	
80	1740	21.8	21.7	81.1	48.7	28.5	80.0	35.7	74.9	81	
	1450	18.1			40.6					67	
	1150	14.4			32.2					53	
	960	12.0			26.9					44.5	
90	1740	19.3	21.7	89.9	43.3	28.5	88.7	35.7	86.8	72	
	1450	16.1			36.1					60	
	1150	12.8			28.6					47.4	
	960	10.7			23.9					39.5	
100	1740	17.4	21.7	103.1	39.6	28.5	101.8	35.7	94.6	65	
	1450	14.5			33.0					54	
	1150	11.5			26.2					42.8	
	960	9.6			21.8					35.8	
112	1740	15.5	21.7	116.0	34.8	28.5	114.5	35.7	106.4	58	
	1450	12.9			29.0					48.0	
	1150	10.3			23.0					38.1	
	960	8.57			19.2					31.8	
125	1740	13.9	21.7	126.6	31.2	28.5	125.0	35.7	117.1	52	
	1450	11.6			26.0					43.0	
	1150	9.20			20.6					34.1	
	960	7.68			17.2					28.5	
140	1740	12.4	21.7	144.1	27.6	28.5	142.2	35.7	133.1	45.6	
	1450	10.4			23.0					38.0	
	1150	8.21			18.2					30.1	
	960	6.86			15.2					25.2	
160	1740	10.9	21.7	159.8	24.0	28.5	157.7	35.7	154.3	40.8	
	1450	9.06			20.0					34.0	
	1150	7.19			15.9					27.0	
	960	6.00			13.2					22.5	
180	1740	9.67	21.7	183.3	21.6	28.5	180.9	35.7	168.2	36.0	
	1450	8.06			18.0					30.0	
	1150	6.39			14.3					23.8	
	960	5.33			11.9					19.9	
200	1740	8.70	21.7	206.2	19.2	28.5	203.5	35.7	189.2	32.4	
	1450	7.25			16.0					27.0	
	1150	5.75			12.7					21.4	
	960	4.80			10.6					17.9	
224	1740	7.77	21.7	230.5	18.0	28.5	227.4	35.7	207.4	28.8	
	1450	6.47			15.0					24.0	
	1150	5.13			11.9					19.0	
	960	4.29			9.9					15.9	
250	1740	6.96	21.7	256.6	15.6	28.5	253.3	35.7	239.6	25.2	
	1450	5.80			13.0					21.0	
	1150	4.60			10.3					16.7	
	960	3.84			8.6					13.9	
280	1740	6.21	21.7	281.2	14.4	28.5	277.5	35.7	255.5	22.8	
	1450	5.18			12.0					19.0	
	1150	4.11			9.5					15.1	
	960	3.43			7.9					12.6	
315	1740	5.52	21.7	305.8	12.0	28.5	301.8	35.7	295	20.4	
	1450	4.60			10.0					17.0	
	1150	3.65			7.9					13.5	
	960	3.05			6.6					11.3	
355	1740	4.90						35.7	335.4	18.0	
	1450	4.08								15.0	
	1150	3.24								11.9	
	960	2.70								9.9	
400	1740	4.35						35.7	372.7	16.0	
	1450	3.63								13.3	
	1150	2.88								10.6	
	960	2.40								8.8	

in	n ₁ (r/min)	n _{2N} (r/min)	H410			H411			H412			n _{2N} (r/min)	n ₁ (r/min)	in
			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)			
57	65.0	78	67.6	62	147	78	67.7	78	67.7	201	24.5	1740	71	
					122					131				
					97					104				
					81					87				
57	73.9	78	74.0	62	130	78	74.1	78	74.1	176	21.8	1740	80	
					108					116				
					86					92				
					72					77				
57	85.7	78	87.5	62	113	78	87.6	78	87.6	156	19.3	1740	90	
					94					103				
					75					82				
					62					68				
57	93.5	78	98.0	62	104	78	98.1	78	98.1	140	17.4	1740	100	
					87					93				
					69					74				
					57					62				
57	105.1	78	104.7	62	93	78	104.8	78	104.8	126	15.5	1740	112	
					78					83				
					62					66				
					51					55				
57	115.6	78	119.7	62	84	78	119.9	78	119.9	114	13.9	1740	125	
					70					74				
					56					59				
					46.4					49.0				
57	131.4	78	135.3	62	74	78	135.5	78	135.5	101	12.4	1740	140	
					62					67				
					49.2					53				
					41.1					44.4				
57	152.4	78	160.0	62	65	78	160.2	78	160.2	88	10.9	1740	160	
					54					58				
					42.8					46.0				
					35.7					38.4				
57	166.1	78	179.2	62	60	78	179.5	78	179.5	78	9.67	1740	180	
					50					51				
					39					40.4				
					33					33.8				
57	186.8	78	191.4	62	53	78	191.7	78	191.7	71	8.70	1740	200	
					44.4					46.0				
					35.2					36.5				
					29.4					30.5				
57	204.8	78	219.0	62	48.0	78	219.3	78	219.3	62	7.77	1740	224	
					40.0					42.0				
					31.7					33.3				
					26.5					27.8				
57	236.6	78	243.4	62	42.5	78	243.8	78	243.8	56	6.96	1740	250	
					35.4					37.0				
					28.1					29.3				
					23.5					24.5				
57	252.3	78	276.1	62	38.4	78	276.5	78	276.5	52	6.21	1740	280	
					32.0					33.0				
					25.4					26.2				
					21.2					21.8				
57	291.3	78	309.4	62	33.6	78	309.9	78	309.9	45.6	5.52	1740	315	
					28.0					29.0				
					22.2					23.0				
					18.5					19.2				
57	331.2	78	353.2	62	30.0	78	353.7	78	353.7	39.6	4.90	1740	355	
					25.0					26.0				
					19.8					20.6				
					16.6					17.2				
57	368	78	376.4	62	26.4	78	376.9	78	376.9	36.0	4.35	1740	400	
					22.0					23.1				
					17.4					18.3				
					14.6					15.3				

7 Transmission Capacity table:

B2 (iN=6.3-14)

iN	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}
6.3	1740	276	6.2	6.33	179								
	1450	230			149								
	1150	183			118								
	960	152			99								
7.1	1740	245	6.2	7.13	157	9.4	6.96	12.0	7.14	307	19.0	7.14	486
	1450	204			131					256			405
	1150	162			104					203			321
	960	135			87					169			268
8	1740	218	6.2	8.26	142	9.4	8.06	12.0	8.27	274	19.0	8.27	434
	1450	181			118					228			362
	1150	144			94					181			287
	960	120			78					151			240
9	1740	193	6.2	8.93	125	9.4	8.71	12.0	8.94	242	19.0	8.94	385
	1450	161			104					202			321
	1150	128			82					160			255
	960	107			69					134			213
10	1740	174	6.2	10.1	113	9.4	9.88	12.0	10.1	218	19.0	10.1	346
	1450	145			94					182			288
	1150	115			75					144			228
	960	96.0			62					120			191
11.2	1740	155	6.2	11.1	100	9.4	10.9	12.0	11.1	194	19.0	11.1	308
	1450	129			83					162			257
	1150	103			66					128			204
	960	85.7			55					107			170
12.5	1740	139	6.2	12.9	89	9.4	12.5	12.0	12.9	174	19.0	12.9	276
	1450	116			74					145			230
	1150	92.0			59					115			183
	960	76.8			49.2					96			152
14	1740	124	6.2	13.9	80	9.4	13.6	12.0	13.9	156	19.0	13.9	247
	1450	104			66					130			206
	1150	82.1			53					103			163
	960	68.6			44.0					86			136

T _{2N} (kN·m)	i _{ex}	P _{1N} (kW)	B209		B210			B211			B212			n _{2N} (r/min)	n ₁ (r/min)	iN			
			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)		
														276	1740	6.3			
														230	1450				
														183	1150				
														152	960				
23.8	7.05	610	29.9	7.05	766	38.0	6.96	54	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	54	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	54	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	54	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	54	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	54	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	54	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	

7 Transmission Capacity table:

B3 (in=16-90)

in	n1 (r/min)	n2N (r/min)	B304			B305			B306			B307					
			T2N (kW·m)	ieX	P1N (kW)	T2N (kW·m)	ieX	P1N (kW)	T2N (kW·m)	ieX	P1N (kW)	T2N (kW·m)	ieX	P1N (kW)			
16	1740	109.0	6.7	15.6	74	10.5	14.9	120	12.0	15.3	137	20.0	15.5	226			
	1450	90.6												62	100	114	188
	1150	71.9												49.2	79	90	149
	960	60.0												41.0	66	75	124
18	1740	96.7	6.7	17.6	67	11.6	16.8	114	12.6	17.3	126	21.7	17.5	212			
	1450	80.6												56	95	105	177
	1150	63.9												44.4	75	83	140
	960	53.3												37.1	63	70	117
20	1740	87.0	6.7	18.7	60	11.6	17.9	106	13.2	18.4	120	21.7	20.2	197			
	1450	72.5												50	88	100	164
	1150	57.5												39.7	70	79	130
	960	48.0												33.1	58	66	109
22.4	1740	77.7	6.7	22.0	54	11.6	21.1	94	14.2	21.6	115	21.7	21.9	176			
	1450	64.7												45.0	78	96	147
	1150	51.3												35.7	62	76	117
	960	42.9												29.8	52	64	97
25	1740	69.6	6.7	24.9	49.2	11.6	23.9	84	15.5	24.5	113	21.7	24.8	157			
	1450	58.0												41.0	70	94	131
	1150	46.0												32.5	56	75	104
	960	38.4												27.1	46.3	62	87
28	1740	62.1	6.7	27.7	43.2	11.6	26.5	76	15.5	27.2	101	21.7	28.3	142			
	1450	51.8												36.0	84	84	118
	1150	41.1												28.6	50	67	94
	960	34.3												23.8	41.7	56	78
31.5	1740	55.2	6.7	31.2	38.4	11.6	29.9	67	15.5	30.7	89	21.7	31.9	126			
	1450	46.0												32.0	56	74	105
	1150	36.5												25.4	44.4	59	83
	960	30.5												21.2	37.1	49.0	70
35.5	1740	49.0	6.7	33.2	33.6	11.6	31.8	59	15.5	32.7	79	21.7	37.0	110			
	1450	40.8												28.0	49.0	66	92
	1150	32.4												22.2	38.9	52	73
	960	27.0												18.5	32.4	43.7	61
40	1740	43.5	6.7	39.1	30.0	11.6	37.5	53	15.5	38.4	71	21.7	40.0	100			
	1450	36.3												25.0	44.0	59	83
	1150	28.8												19.8	34.9	46.8	66
	960	24.0												16.6	29.1	39.1	55
45	1740	38.7	6.7	44.3	26.4	11.6	42.5	46.8	15.5	43.6	61	21.7	45.3	86			
	1450	32.2												22.0	39.0	51	72
	1150	25.6												17.4	30.9	40.4	57
	960	21.3												14.6	25.8	33.8	47.7
50	1740	34.8	6.7	48.7	24.0	11.6	46.7	42.0	15.5	47.9	55	21.7	49.8	79			
	1450	29.0												20.0	35.0	46.0	66
	1150	23.0												15.9	27.8	36.5	52
	960	19.2												13.2	23.2	30.5	43.7
56	1740	31.1	6.7	56.2	21.6	11.6	53.9	37.2	15.5	55.3	50	21.7	57.5	71			
	1450	25.9												18.0	31.0	42.0	59
	1150	20.5												14.3	24.6	33.3	46.8
	960	17.1												11.9	20.5	27.8	39.1
63	1740	27.6	6.7	60.9	19.2	11.6	58.4	32.4	15.5	59.9	44.4	21.7	62.3	61			
	1450	23.0												16.0	27.0	37.0	51
	1150	18.3												12.7	21.4	29.3	40.4
	960	15.2												10.6	17.9	24.5	33.8
71	1740	24.5	6.7	68.7	16.8	11.6	65.8	28.8	15.5	67.5	39.6	20.0	70.2	50			
	1450	20.4												14.0	24.0	33.0	42.0
	1150	16.2												11.1	19.0	26.2	33.3
	960	13.5												9.3	15.9	21.8	27.8
80	1740	21.8	6.7	78.8	14.9	11.6	75.5	25.2	15.5	77.5	34.8	20.0	80.5	44.7			
	1450	18.1												12	21.0	29.0	37
	1150	14.4												9.9	16.7	23.0	29.6
	960	12.0												8.2	13.9	19.2	24.7
90	1740	19.3	6.7	85.8	13.3	11.6	82.3	22.8	15.5	84.4	31.2	20.0	87.8	39.8			
	1450	16.1												11.0	19.0	26.0	33
	1150	12.8												8.8	15.1	20.6	26.3
	960	10.7												7.3	12.6	17.2	21.9

T2N (kW·m)	ieX	P1N (kW)	T2N (kW·m)	ieX	P1N (kW)	T2N (kW·m)	ieX	P1N (kW)	T2N (kW·m)	ieX	P1N (kW)	T2N (kW·m)	ieX	P1N (kW)	n2N (r/min)	n1 (r/min)	in						
																		B308	B309	B310	B311	B312	
21.5	15.3	204	31.0	15.6	295	35.6	15.4	406	60	15.4	683	67	15.5	756	109.0	1740	16						
																		224	338	569	630	90.6	1450
																		162	268	451	500	71.9	1150
																		135	195	377	417	60.0	960
23.1	17.2	193	34.0	17.6	284	37.5	17.4	341	62	17.4	624	70	17.4	661	87.0	1740	18						
																		232	377	520	470	60.0	960
																		153	225	412	463	63.9	1150
																		128	188	344	387	53.3	960
25.0	19.9	227	35.7	20.4	325	39.3	20.1	358	64	20.1	577	73	20.2	661	87.0	1740	20						
																		189	271	298	481	55.7	1450
																		150	215	236	381	43.7	1150
																		125	179	197	318	36.5	960
27.2	21.6	215	35.7	22.1	290	43.8	21.8	340	64	21.8	516	78	21.8	614	77.7	1740	22.4						
																		179	242	283	430	51.2	1450
																		142	192	224	341	40.6	1150
																		119	160	187	285	33.9	960
27.2	24.4	164	35.7	25.0	217	43.8	24.7	319	64	24.7	462	78	24.7	563	69.6	1740	25						
																		130	172	211	305	37.2	1450
																		109	144	176	255	31.1	1150
																		87	115	141	204	24.8	960
27.2	27.9	148	35.7	27.1	194	43.8	26.7	239	64	27.7	347	78	27.7	421	51.8	1740	28						
																		117	154	190	275	33.4	1150
																		98	128	158	230	27.9	960
																		87	115	141	204	24.8	960
27.2	31.5	131	35.7	30.5	173	43.8	30.1	213	64	31.2	308	78	31.2	375	46.0	1450	31.5						
																		104	137	169	244	29.7	1150
																		87	115	141	204	24.8	960
																		76	101	123	179	21.7	960
27.2	36.5	138	35.7	35.4	182	43.8	34.9	223	64	36.1	324	78	36.1	394	49.0	1740	35.5						
																		115	152	186	270	32.8	1450
																		91	121	148	214	26.0	1150
																		76	101	123	179	21.7	960
27.2	39.4	125	35.7	38.2	164	43.8	37.8	202	64	39.0	293	78	39.1	356	43.5	1740	40						
																		104	137	168	244	29.7	1150
																		82	109	133	194	23.6	960
																		69	91	111	162	19.7	960
27.2	44.7	108	35.7	43.3	143	43.8	42.8	175	64	44.2	254	78	44.3	308	38.7	1740	45						
																		90	119	146	212	25.7	1450
																		71	94	116	168	20.4	1150
																		60	79	97	140	17.0	960
27.2	49.2	82	35.7	47.7	130	43.8	47.1	158	64	48.7	230	78	48.7	281	34.8	1740	50						
																		82	108	132	192	23.4	1450
																		65	86	105	152	18.6	1150
																		54	72	87	127	15.5	960
27.2	56.7	88	35.7	55.0	116	43.8	54.3	143	64	56.2	208	78	56.2	211	25.9	1450	56						
																		73	97	119	173	16.7	1150
																		58	77	94	137	16.7	1150
																		48.3	64	79	115	14.0	960
27.2	61.5	79	35.7	59.6	103	43.8	58.8	127	64	60.8	185	78	60.9	226	27.6	1740	63						
																		66	86	106	154	18.8	1450
																		52	68	84	122	14.9	1150
																		43.7	57	70	102	12.4	960
27.2	69.3	68	34.0	67.2	86	43.8	66.3	112	60	68.6	152	78	68.7	196	24.5	1740	71						
																		57	72	93	127	16.3	1450
																		45.2	57	74	101	12.9	1150
																		37.7	47.7	62	84	10.8	960
27.2	79.5	50	34.0	77.0	77	43.8	76.1	100	60	78.6	135	78	78.8	175	21.8	1740	80						
																		39.7	64	83	113	14.6	1450
																		33.1	51	66	89	11.6	1150
																		33.1	42.3	55	75	9.7	960
25.2	86.6	52	34.0	84.0	62	43.8	82.9	88	60	85.7	120	78	85.8	152	19.3	1740	90						
																		43.0	57	73	100	12.7	1450
																		34.1	45.0	58	79	10.1	1150
																		28.5	37.6	48.3	66	8.4	960

7 Transmission Capacity table:

B4(i_n=100-400) :

i _n	n ₁ (r/min)	n _{2N} (r/min)	B405			B406			B407			B408		
			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)
100	1740	17.4	11.6	96.3	20.9	15.5	98.9	22.0	98.4	39.6	27.5	97.1	49.2	
	1450	14.5			17.4					27.8			33.0	41.0
	1150	11.5			13.8					18.4			26.2	32.5
	960	9.6			11.5					15.4			21.8	27.1
112	1740	15.5	11.6	109.2	18.6	15.5	112.0	22.0	111.5	34.8	27.5	110.0	44.4	
	1450	12.9			15.5					24.4			34.8	37.0
	1150	10.3			12.3					20.3			29.0	30.3
	960	8.57			10.3					16.1			23.0	29.3
125	1740	13.9	11.6	119.4	16.2	15.5	122.6	22.0	123.9	31.2	27.5	122.2	39.6	
	1450	11.6			13.5					18.4			26.0	33.0
	1150	9.20			10.7					14.6			20.6	26.2
	960	7.68			8.9					12.2			17.2	21.8
140	1740	12.4	11.6	134.6	14.5	15.5	138.1	22.0	139.6	27.6	27.5	137.8	34.8	
	1450	10.4			12.1					16.4			23.0	29.0
	1150	8.21			9.6					13.0			18.2	23.0
	960	6.86			8.0					10.9			15.2	19.2
160	1740	10.9	11.6	143.3	12.7	15.5	147.1	22.0	148.6	24.0	27.5	146.7	30.0	
	1450	9.06			10.6					14.5			20.0	25.0
	1150	7.19			8.4					11.5			15.9	19.8
	960	6.00			7.0					9.6			13.2	16.6
180	1740	9.67	11.6	168.6	11.6	15.5	173.0	22.0	174.9	21.6	27.5	172.6	27.6	
	1450	8.06			9.7					12.6			18.0	23.0
	1150	6.39			7.7					10.0			14.3	18.2
	960	5.33			6.4					8.3			11.9	15.2
200	1740	8.70	11.6	191.1	10.6	15.5	196.1	22.0	198.2	19.2	27.5	195.6	24.0	
	1450	7.25			8.8					11.6			16.0	20.0
	1150	5.75			7.0					9.2			12.7	15.9
	960	4.80			5.8					7.7			10.6	13.2
224	1740	7.77	11.6	210.2	9.4	15.5	215.7	22.0	218.0	18.0	27.5	215.1	21.6	
	1450	6.47			7.8					10.3			15.0	18.0
	1150	5.13			6.2					8.2			11.9	14.3
	960	4.29			5.2					6.8			9.9	11.9
250	1740	6.96	11.6	242.5	8.4	15.5	248.9	22.0	251.6	15.6	27.5	248.2	19.2	
	1450	5.80			7.0					9.4			13.0	16.0
	1150	4.60			5.6					7.5			10.3	12.7
	960	3.84			4.63					6.2			8.6	10.6
280	1740	6.21	11.6	262.7	7.6	15.5	269.6	22.0	272.5	14.4	27.5	268.9	18.0	
	1450	5.18			6.3					8.4			12.0	15.0
	1150	4.11			5.0					6.7			9.5	11.9
	960	3.43			4.17					5.6			7.9	9.9
315	1740	5.52	11.2	296.2	6.5	15.5	303.9	20.5	307.2	12.0	27.5	303.2	15.6	
	1450	4.60			5.4					7.4			10.0	13.0
	1150	3.65			4.28					5.9			7.9	10.3
	960	3.05			3.58					4.90			6.6	8.6
355	1740	4.90	11.2	339.7	5.6	15.5	348.6	20.5	352.3	10.6	26.5	347.7	13.2	
	1450	4.08			4.70					6.6			9	11.0
	1150	3.24			3.73					5.2			7.0	8.7
	960	2.70			3.11					4.37			5.8	7.3
400	1740	4.35	11.2	370.2	5.0	14.5	379.9	20.5	384.0	9.4	26.5	379.0	12.0	
	1450	3.63			4.20					6.5			8	10.0
	1150	2.88			3.33					4.36			6.2	7.9
	960	2.40			2.78					3.64			5.2	6.6

B409			B410			B411			B412			n _{2N} (r/min)	n ₁ (r/min)	i _n
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)			
36.0	104.8	65	44.5	103.5	80	62	95.4	112	78	95.6	142	17.4	1740	
		54			67			93			118	14.5	1450	
		42.8			53			74			94	11.5	1150	
		35.8			44.4			62			78	9.6	960	
36.0	116.5	58	44.5	115.0	72	62	108.1	100	78	108.3	126	15.5	1740	
		48.0			60			83			105	12.9	1450	
		38.1			47.6			66			83	10.3	1150	
		31.8			39.7			55			70	8.57	960	
36.0	131.3	52	44.5	129.6	64	62	123.6	89	78	123.8	114	13.9	1740	
		43.0			53			74			95	11.6	1450	
		34.1			42.0			59			75	9.20	1150	
		28.5			35.1			49			63	7.68	960	
36.0	139.8	45.6	44.5	138.0	56	62	139.3	80	78	139.5	101	12.4	1740	
		38.0			47.0			67			84	10.4	1450	
		30.1			37.3			53			67	8.21	1150	
		25.2			31.1			44.4			56	6.86	960	
36.0	164.4	40.8	44.5	162.4	50	62	161.3	70	78	161.6	88	10.9	1740	
		34.0			42.0			58			73	9.06	1450	
		27.0			33.3			46.0			58	7.19	1150	
		22.5			27.8			38.4			48.3	6.00	960	
36.0	186.3	36.0	44.5	184.0	44.4	62	174.5	61	78	174.8	78	9.67	1740	
		30.0			37.0			51			65	8.06	1450	
		23.8			29.3			40.4			52	6.39	1150	
		19.9			24.5			33.8			43.0	5.33	960	
36.0	205.0	32.4	44.5	202.4	39.6	62	197.8	55	78	198.1	71	8.70	1740	
		27.0			33.0			46.0			59	7.25	1450	
		21.4			26.2			36.5			46.8	5.75	1150	
		17.9			21.8			30.5			39.1	4.80	960	
36.0	236.5	28.8	44.5	233.5	36.0	62	217.6	50	78	217.9	62	7.77	1740	
		24.0			30.0			42.0			52	6.47	1450	
		19.0			23.8			33.3			41.2	5.13	1150	
		15.9			19.9			27.8			34.4	4.29	960	
36.0	256.2	25.2	44.5	253.0	31.2	62	251.0	44.4	78	251.4	56	6.96	1740	
		21.0			26.0			37.0			47.0	5.80	1450	
		16.7			20.6			29.3			37.3	4.60	1150	
		13.9			17.2			24.5			31.1	3.84	960	
36.0	288.8	22.8	44.5	285.2	27.6	62	271.9	39.6	78	272.3	52	6.21	1740	
		19.0			23.0			33.0			43.0	5.18	1450	
		15.1			18.2			26.2			34.1	4.11	1150	
		12.6			15.2			21.8			28.5	3.43	960	
34.0	331.3	19.2	44.5	327.1	25.2	62	306.6	34.8	78	307.0	45.6	5.52	1740	
		16.0			21.0			29.0			38.0	4.60	1450	
		12.7			16.7			23.0			30.1	3.65	1150	
		10.6			13.9			19.2			25.2	3.05	960	
34.0	361.0	16.8	44.5	356.5	22.8	60	351.6	30.8	78	352.1	39.6	4.90	1740	
		14.0			19.0			26			33.0	4.08	1450	
		11.1			15.1			20.4			26.2	3.24	1150	
		9.3			12.6			17.0			21.8	2.70	960	
						60	383.2	27.4	74	383.7	33.6	4.35	1740	
					23			28.0			36.0	3.63	1450	
					18.1			22.2			28.8	2.88	1150	
					15.1			18.5			2.40	960		

8 Rated thermal capacity(kW)

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	P _{GA}	54.1	49.2	48.5	40.6	66.5	54.6	48.8	*	87	58.3	51	*	90.3	67.4	*	*
	P _{GB}	106	112	132	144	143	146	172	181	158	159	186	185	221	220	256	263
	P _{GC}	120	126	146	157	190	196	226	239	206	212	243	241	305	311	357	373
	P _{GD}	162	176	210	236	256	276	327	361	278	290	352	367	417	445	525	574
7.1	P _{GA}	56.1	51.8	51.6	44.6	69	58.4	53.9	*	75	62.4	56.6	*	89.8	70.3	*	*
	P _{GB}	109	116	137	150	146	151	177	189	161	164	193	194	214	215	252	262
	P _{GC}	121	127	148	159	189	196	226	241	205	212	243	246	287	294	338	355
	P _{GD}	165	180	214	240	256	276	327	363	278	299	352	371	394	422	499	548
8	P _{GA}	54.4	50.9	51.4	45.7	68.3	59.5	56.4	*	74.5	63.6	59.2	*	89.1	72.9	64.9	*
	P _{GB}	104	111	132	145	142	149	175	188	157	162	191	204	208	212	249	262
	P _{GC}	115	121	140	152	182	189	219	234	197	204	236	251	272	281	323	342
	P _{GD}	155	170	202	228	245	266	316	352	266	288	341	379	376	404	479	529
9	P _{GA}	53.4	51.1	52.4	48.3	67.9	61.6	60.5	50.5	78.1	69.8	67.8	54.7	89.3	77.5	73.2	*
	P _{GB}	101	109	129	143	139	147	174	189	159	167	198	214	202	210	248	266
	P _{GC}	109	116	135	146	174	182	211	227	197	206	238	256	259	269	311	332
	P _{GD}	150	164	196	221	234	255	303	340	266	289	344	384	357	386	458	510
10	P _{GA}	51.1	49.5	51.4	48.5	65.4	60.9	61.1	53.7	77.4	71.3	70.9	61	88.3	79.5	77.7	63.7
	P _{GB}	95.7	103	123	136	131	140	165	181	156	166	196	214	193	204	241	261
	P _{GC}	102	108	126	137	160	169	196	211	189	198	230	248	243	255	295	317
	P _{GD}	139	153	182	207	217	237	282	318	255	278	331	372	337	367	436	489
11.2	P _{GA}	49.3	48.2	50.4	48.3	63.4	60.1	61.2	55.6	76	71.4	72.2	64.6	90.7	83.7	83.4	72.1
	P _{GB}	91.7	100	118	132	126	135	160	177	151	161	191	210	196	208	246	269
	P _{GC}	97	103	120	130	151	159	185	200	180	190	221	239	241	254	294	317
	P _{GD}	132	145	174	197	205	225	268	303	245	268	319	359	336	366	436	490
12.5	P _{GA}	47.8	47.1	49.5	47.9	63	60.4	62.1	57.7	72.3	68.9	70.5	64.6	90.2	84.6	85.6	76.5
	P _{GB}	87.6	95.8	113	127	123	133	157	174	142	153	181	200	191	204	242	266
	P _{GC}	93.6	99.8	116	126	149	158	183	199	165	175	204	221	236	249	289	313
	P _{GD}	126	139	166	189	201	220	263	297	226	248	295	333	327	357	425	480
14	P _{GA}	45.5	45.1	47.6	46.5	60	58.2	60.4	57	69.8	67.3	69.5	65	83.8	79.8	81.7	75
	P _{GB}	82.9	90.9	108	120	116	126	150	166	135	147	174	193	175	189	224	247
	P _{GC}	87.5	93.4	108	118	138	147	171	186	156	166	193	209	211	223	259	281
	P _{GD}	118	130	155	177	186	204	243	276	213	234	279	316	294	322	384	434
16	P _{GA}	41.8	41.7	44.1	43.5	56.6	55.4	57.8	55.4	68.9	67.1	69.8	66.4	79	76.1	78.6	73.6
	P _{GB}	75.7	83.1	98.9	110	108	118	140	155	131	143	169	188	163	177	210	232
	P _{GC}	78.8	84.3	98.1	107	126	135	157	171	154	164	191	207	194	206	239	260
	P _{GD}	107	118	141	160	171	189	225	256	208	229	273	310	269	295	352	399
18	P _{GA}	40.1	40.2	42.7	42.3	54.4	53.7	56.4	54.7	65.7	64.5	67.6	65.2	76.1	74.2	77.3	73.7
	P _{GB}	72.1	79.3	94.4	105	103	113	134	150	124	136	162	180	157	170	202	225
	P _{GC}	71.1	79.3	92.4	101	119	127	148	161	142	152	177	192	185	196	229	249
	P _{GD}	100	111	132	151	162	179	213	242	194	214	255	290	257	283	338	383
20	P _{GA}	39.3	39.5	42	41.8	51.1	50.6	53.3	52.1	61.7	60.9	64	62.2	71.3	69.9	73.1	70.2
	P _{GB}	70.2	77.4	92.1	103	96.8	106	126	140	115	126	150	168	145	158	188	210
	P _{GC}	71.7	76.7	89.4	97.8	111	118	138	150	131	140	162	177	169	180	209	228
	P _{GD}	97.4	107	128	146	150	166	198	225	179	197	235	268	236	260	310	352
22.4	P _{GA}					47.5	47.1	49.7	48.6	59	58.3	61.3	59.6	68.7	67.5	70.7	68
	P _{GB}					89.4	98	116	130	111	121	144	161	139	152	181	202
	P _{GC}					101	107	125	136	124	133	155	169	161	172	200	218
	P _{GD}					137	151	181	205	169	187	223	253	224	247	295	335

* Please consult.

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		
101	71.4	*	*	116	*	*	*	118	*	*	*	134	*	*	*	142	*	*	*	P _{GA}	6.3
250	245	283	275	293	279	322	319	304	286	328	324	450	382	428	366	510	412	456	414	P _{GB}	
350	353	405	410	475	475	542	558	527	525	596	607	696	665	746	732	952	893	996	894	P _{GC}	
474	504	594	637	626	658	774	832	689	718	844	896	951	966	1124	1154	1243	1243	1443	1365	P _{GD}	
100	74.5	*	*	117	*	*	*	119	*	*	*	145	*	*	*	154	*	*	*	P _{GA}	7.1
242	239	279	281	286	278	323	325	297	285	329	328	454	400	453	408	515	432	483	431	P _{GB}	
329	334	384	398	447	451	516	536	496	498	567	587	677	656	740	738	926	881	988	923	P _{GC}	
448	478	565	616	589	624	735	797	648	681	802	866	931	956	1117	1163	1217	1231	1434	1405	P _{GD}	
99	77.3	*	*	118	88	*	*	120	*	*	*	152	*	*	*	161	*	*	*	P _{GA}	8
235	236	276	287	279	276	322	330	290	283	328	332	449	410	469	441	509	443	501	444	P _{GB}	
312	319	367	386	425	432	496	519	472	477	545	567	646	635	720	728	884	853	961	954	P _{GC}	
428	458	542	595	562	599	707	772	618	654	772	837	895	929	1088	1149	1170	1197	1397	1449	P _{GD}	
100	84.3	77.2	*	120	97.8	86.3	*	124	97.3	*	*	160	*	*	*	182	*	*	*	P _{GA}	9
228	234	275	293	272	277	324	341	283	285	333	347	437	419	484	481	520	482	553	530	P _{GB}	
294	305	352	374	403	415	477	505	442	453	521	548	599	601	686	707	861	852	968	985	P _{GC}	
405	437	518	574	536	576	682	753	582	622	736	809	833	878	1033	1113	1149	1197	1405	1494	P _{GD}	
100	88.1	84.2	65.2	119	102	96	*	125	104	95.3	*	164	121	*	*	193	*	*	*	P _{GA}	10
222	232	273	294	262	272	320	342	278	285	335	355	424	420	489	501	516	498	577	577	P _{GB}	
280	292	338	361	378	392	453	483	422	436	503	534	564	573	657	687	821	825	943	975	P _{GC}	
386	419	498	555	505	546	648	720	556	599	710	787	786	836	987	1077	1106	1167	1375	1485	P _{GD}	
99	89.7	88	73.2	116	103	99.9	79.4	124	108	103	*	173	138	119	*	195	144	*	*	P _{GA}	11.2
214	226	267	290	249	262	309	333	270	281	331	355	430	435	509	533	495	491	572	587	P _{GB}	
264	277	321	345	353	369	427	457	398	414	479	512	560	575	662	698	756	769	882	923	P _{GC}	
367	400	475	533	473	514	610	682	528	572</												

8 Rated thermal capacity(kW)
H3 (kW)

iN		H305				H306				H307				H308			
		960	1150	1450	1740	960	1150	1450	1740	960	1150	1450	1740	960	1150	1450	1740
16	P _{GA}	58.3	57.2	59.4	58.4	68.5	65.6	68.7	67.5	70.8	68.3	70.7	68.1	75.6	71.8	73.8	69.9
	P _{GB}	85.3	90.4	105	114	99.3	105	123	136	102	110	130	139	112	121	137	151
	P _{GC}	129	146	162	180	153	169	195	207	177	184	212	231	186	197	233	246
	P _{GD}	157	170	199	224	181	194	236	255	205	221	261	292	212	227	268	301
18	P _{GA}	56.1	55.3	57.6	57.0	65.8	63.6	66.7	65.8	71.4	69.4	72.0	69.9	76.2	72.9	75.2	71.9
	P _{GB}	82.1	87.4	102	111	95.5	101	118	131	104	112	132	141	113	122	138	152
	P _{GC}	123	137	153	170	145	159	183	195	175	183	211	230	183	195	230	244
	P _{GD}	149	161	190	213	171	185	223	243	204	221	261	292	211	227	268	301
20	P _{GA}	53.9	53.4	55.9	55.6	63.3	61.6	64.7	64.3	72.1	70.4	73.4	71.8	76.7	74.0	76.7	74.0
	P _{GB}	79.1	84.6	98.7	107	91.8	98.0	114	127	106	114	134	144	114	123	140	154
	P _{GC}	116	128	145	160	137	150	172	185	173	182	210	229	181	193	226	242
	P _{GD}	140	153	180	202	162	176	211	232	203	221	261	292	210	227	268	301
22.4	P _{GA}	51.9	51.6	54.2	54.2	60.8	59.6	62.8	62.7	72.8	71.5	74.7	73.7	77.3	75.1	78.2	76.1
	P _{GB}	76.2	81.8	95.5	104	88.3	94.6	111	122	108	116	136	147	115	124	142	156
	P _{GC}	111	120	137	151	129	141	162	175	171	181	209	228	179	191	223	240
	P _{GD}	132	145	171	192	153	167	200	221	202	221	261	292	209	227	268	301
25	P _{GA}	49.9	49.8	52.5	52.9	58.5	57.8	61.0	61.2	73.5	72.6	76.1	75.6	77.9	76.3	79.7	78.3
	P _{GB}	73.4	79.1	92.4	101	85.0	91.4	107	117	110	118	138	150	116	125	144	158
	P _{GC}	105	113	130	143	122	132	153	165	169	180	208	227	177	189	220	238
	P _{GD}	125	138	163	183	145	159	190	210	201	221	261	292	208	227	268	301
28	P _{GA}	48	48.1	50.9	51.6	56.2	56.0	59.2	59.7	74.2	73.7	77.5	77.6	78.5	77.4	81.2	80.6
	P _{GB}	70.7	76.5	89.4	97.9	81.7	88.3	103	113	112	120	140	153	117	126	146	160
	P _{GC}	99.7	106	123	135	*	*	*	*	167	179	207	226	175	187	217	236
	P _{GD}	118	131	155	174	*	*	*	*	200	221	261	292	207	227	268	301
31.5	P _{GA}	46.7	47.1	49.9	50.9	54	54.2	57.4	58.3	71.4	71.3	75.3	76	79.1	78.6	82.8	82.9
	P _{GB}	68.5	74.4	86.9	95.5	78.6	85.3	99.6	109	107	115	135	147	118	127	148	162
	P _{GC}	95.6	102	118	130	*	*	*	*	*	*	*	*	*	*	*	*
	P _{GD}	114	126	149	168	*	*	*	*	*	*	*	*	*	*	*	*
35.5	P _{GA}	45.2	45.7	48.6	49.8	51.9	52.5	55.7	56.9	69.4	69.7	73.9	75.1	79.7	79.8	84.4	85.3
	P _{GB}	66.2	72.2	84.3	92.9	75.6	82.4	96.2	105	104	113	132	145	119	128	150	164
	P _{GC}	91.3	98.3	113	124	103	110	127	140	151	163	188	206	171	183	211	232
	P _{GD}	109	121	143	161	123	137	161	182	183	202	239	268	205	227	268	301
40	P _{GA}	42.7	43.3	46.3	47.3	50.4	51.1	54.3	55.7	66	66.5	70.6	72	76.6	76.9	81.4	82.7
	P _{GB}	62.3	68.1	79.5	87.7	73.3	80	93.4	102	98.9	107	125	138	113	123	144	158
	P _{GC}	84.8	91.3	105	116	*	*	*	*	*	*	*	*	*	*	*	*
	P _{GD}	101	112	133	149	*	*	*	*	*	*	*	*	*	*	*	*
45	P _{GA}	40.8	41.5	44.2	45.5	48.7	49.4	52.5	53.9	63.6	64.2	68.2	69.7	74.3	74.7	79.2	80.6
	P _{GB}	59.6	65.2	76.1	84	70.7	77.3	90.2	99.5	95	103	120	132	110	120	140	154
	P _{GC}	80.1	86.3	99.7	109	94.4	101	117	129	134	144	167	183	155	166	192	211
	P _{GD}	96	106	126	141	113	125	148	166	162	180	212	239	186	206	243	273
50	P _{GA}	39.6	40.4	43.2	44.7	46.1	47	50.1	51.9	60.1	61.2	65.2	67.3	70.9	71.9	76.6	78.7
	P _{GB}	57.5	63.2	73.8	81.7	66.7	73.2	85.5	94.6	89.6	98.2	114	126	104	114	133	147
	P _{GC}	77.3	83.5	96.4	106	*	*	*	*	*	*	*	*	*	*	*	*
	P _{GD}	92.8	103	122	137	*	*	*	*	*	*	*	*	*	*	*	*
56	P _{GA}	37.6	38.5	41.2	42.9	44.3	45.3	48.5	50.4	57.5	58.7	62.7	65	68.4	69.7	74.4	77
	P _{GB}	54.5	60.1	70.1	77.7	63.9	70.4	82.2	91.1	85.2	93.7	109	121	100	110	129	143
	P _{GC}	72.6	78.5	90.6	99.9	*	*	*	*	*	*	*	*	*	*	*	*
	P _{GD}	86.7	96.9	114	129	99.7	111	131	148	143	160	188	212	166	185	218	246
63	P _{GA}	35.5	36.4	39.1	40.8	42.7	43.9	47	49	53.7	55.1	59	61.5	64.7	66.4	71	73.9
	P _{GB}	51.2	56.6	66.1	73.4	61.4	67.9	79.2	88	79.4	87.6	102	113	95.1	105	122	135
	P _{GC}	67.3	72.8	84.1	92.7	*	*	*	*	*	*	*	*	*	*	*	*
	P _{GD}	80.6	90.2	106	120	*	*	*	*	*	*	*	*	*	*	*	*
71	P _{GA}	35.1	36.1	38.7	40.4	40.5	41.6	44.6	46.6	52.1	53.5	57.3	59.8	61.6	63.2	67.7	70.5
	P _{GB}	50.6	56	65.3	72.6	58.1	64.3	75	83.3	76.7	84.8	98.9	109	90.4	99.8	116	129
	P _{GC}	66.5	72	83.1	91.7	*	*	*	*	*	*	*	*	*	*	*	*
	P _{GD}	79.7	89.2	105	118	*	*	*	*	*	*	*	*	*	*	*	*
80	P _{GA}	33.3	34.3	36.8	38.4	38.2	39.2	42.1	44	50.9	52.3	56	58.5	57.6	59.1	63.3	66
	P _{GB}	47.9	53	61.9	68.8	54.5	60.3	70.3	78.2	74.9	82.8	96.6	107	84.1	92.9	108	120
	P _{GC}	61.8	66.9	77.3	85.3	*	*	*	*	*	*	*	*	*	*	*	*
	P _{GD}	74.2	83	97.9	110	*	*	*	*	*	*	*	*	*	*	*	*
90	P _{GA}	32.9	33.9	36.3	38	37.8	38.9	41.8	43.6	48.1	49.5	53.1	55.4	55.7	57.2	61.4	64
	P _{GB}	47.3	52.4	61.1	67.9	54.1	59.8	69.8	77.6	70.7	78.3	91.3	101	81.1	89.7	104	116
	P _{GC}	60.1	65.1	75.1	82.9	*	*	*	*	*	*	*	*	*	*	*	*
	P _{GD}	72.3	81	95.5	107	*	*	*	*	*	*	*	*	*	*	*	*
100	P _{GA}																
	P _{GB}																
	P _{GC}																
	P _{GD}																

* Please consult.

iN		H309				H310				H311				H312				
		960	1150	1450	1740	960	1150	1450	1740	960	1150	1450	1740	960	1150	1450	1740	
16	P _{GA}	96.0	94.6	96.1	89.7	101	94.9	90.8	84.7	158	144	142	115	197	175	165	132	P _{GA}
	P _{GB}	160	164	191	197	164	167	200	210	265	261	305	306	316	302	361	359	P _{GB}
	P _{GC}	282	292	336	363	339	358	411	443	547	560	647	691	645	656	755	794	P _{GC}
	P _{GD}	332	353	421	463	392	424	504	554	622	650	777	844	724	752	889	962	P _{GD}
18	P _{GA}	100	95.1	97.1	91.7	101	95.5	92.6	87.2	154	142	141	117	191	172	164	135	P _{GA}
	P _{GB}	158	163	190	198	161	166	198	209	256	254	297	301	305	295	351	353	P _{GB}
	P _{GC}	273	284	327	354	330	348	401	432	512	527	609	652	603	617	710	750	P _{GC}
	P _{GD}	322	344	410	452	382	414	491	541	587	617	736	802	682	713	843	916	P _{GD}
20	P _{GA}	100	95.6	98.0	93.6	101	96.0	94.4	89.8	151	140	140	120	186	169	163	138	P _{GA}
	P _{GB}	156	162	189	199	159	165	196	208	247	247	290	297	294	288	342	348	P _{GB}
	P _{GC}	264	277	319	346	320	339	390	422	479	496	573	615	564	580	668	709	P _{GC}
	P _{GD}	312	336	399	442	372	403	479	529	553	585	698	762	644	677	801	873	P _{GD}
22.4	P _{GA}	100	96.1	99.0	95.6	101	96.6	96.2	92.5	148	138	139	123	180	165	162	140	P _{GA}
	P _{GB}	154	161	188	200	157	164	194	207	238	241	282	293	284	282	333	342	P _{GB}
	P _{GC}	255	269	310	337	311	330	380	412	448	467	539	580	527	54			

8 Rated thermal capacity(kW)

H4 (kW)

iN		H407				H408				H409			
		960	1150	1450	1740	960	1150	1450	1740	960	1150	1450	1740
71	P _{GA}	48.7	49.5	53.2	56.7	56.9	76.1	82.4	84.2	70.7	72.5	75	77.3
80	P _{GA}	47.1	48.7	51.1	54.8	55.2	56.9	78.6	82.4	67.6	70.7	72.5	75
90	P _{GA}	45.4	47.1	49.5	53.2	52.5	55.2	76.1	78.6	65.1	67.6	70.7	72.5
100	P _{GA}	43.6	45.4	48.7	51.1	50.5	52.5	56.9	76.1	60.8	65.1	67.6	70.7
112	P _{GA}	42	43.9	47.1	49.5	49	50.5	55.2	56.9	58.2	60.6	65.1	68.2
125	P _{GA}	40.8	42.7	45.8	48.1	46.8	49	52.5	55.2	56.4	58.8	63.1	66.3
140	P _{GA}	38.7	40.6	43.5	45.9	44.9	47.1	50.5	53.2	54.6	57.1	61.3	64.5
160	P _{GA}	37.2	39.1	41.9	44.2	43.6	45.7	49.1	51.7	51.6	54.1	58	61.1
180	P _{GA}	35.8	37.7	40.4	42.7	41.4	43.6	46.7	49.4	49.4	52	55.8	58.9
200	P _{GA}	34.4	36.3	38.9	41.2	39.9	42	45.1	47.7	47.8	50.3	54	57.1
224	P _{GA}	32.4	34.2	36.7	38.9	38.2	40.3	43.2	45.7	45.9	48.4	52	55
250	P _{GA}	31	32.7	35.1	37.1	37	39	41.9	44.3	43.8	46.2	49.6	52.5
280	P _{GA}	30.1	31.7	34	36	34.7	36.6	39.3	41.6	42.5	44.9	48.2	51
315	P _{GA}	29.4	31.1	33.3	35.3	33.3	35.1	37.6	39.8	40.5	42.8	45.9	48.6
355	P _{GA}									39.8	42	45.1	47.7
400	P _{GA}									37.9	40	43	45.5

H410				H411				H412					iN
960	1150	1450	1740	960	1150	1450	1740	960	1150	1450	1740		
960	1150	1450	1740	960	1150	1450	1740	960	1150	1450	1740		
73.5	76.4	81.5	83.9	95.5	99.1	105.1	113.1	110	115	127	135	P _{GA}	71
71.7	73.5	78.7	81.5	92.4	99.1	102	108.7	110	115	122	131	P _{GA}	80
68.3	71.7	76.4	78.7	92.4	95.5	103	105.1	106	110	119	127	P _{GA}	90
65.6	68.3	73.5	76.4	90.1	92.4	99.1	102	103	110	115	122	P _{GA}	100
63.7	65.6	71.7	73.5	89.4	92.4	99.1	103	102	106	115	119	P _{GA}	112
61.1	63.7	68.3	71.7	85.8	89	95.5	99.8	99.7	103	110	115	P _{GA}	125
58.5	61.1	65.6	69	83	86.5	92.8	97.3	98.9	102	110	115	P _{GA}	140
56.7	59.4	63.7	67.1	79	82.5	88.5	93	95.3	99.4	106	111	P _{GA}	160
54.9	57.7	61.9	65.3	76.2	80	85.8	90.4	91.8	96.2	103	108	P _{GA}	180
51.8	54.5	58.5	61.9	72	75.7	81.3	85.8	87.6	92.1	98.9	104	P _{GA}	200
49.6	52.4	56.2	59.5	69	72.8	78.1	82.7	84.4	89	95.5	101	P _{GA}	224
48.2	50.8	54.5	57.7	65.6	69.2	74.2	78.5	79.7	84	90.2	95.4	P _{GA}	250
46.2	48.7	52.3	55.3	63.1	66.6	71.4	75.6	76.7	80.9	86.8	91.8	P _{GA}	280
44.1	46.5	49.9	52.8	61.6	64.9	69.7	73.7	72.7	76.7	82.2	87	P _{GA}	315
42.8	45.2	48.5	51.3	58.6	61.8	66.3	70.1	69.9	73.8	79.2	83.8	P _{GA}	355
40.8	43.1	46.2	48.9	55.9	58.9	63.2	66.8	68.3	72	77.3	81.8	P _{GA}	400

8 Rated thermal capacity(kW)

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
6.3	P _{GA}	47	47.3	40	31	58.7	56.6	*	*	68.3	65.1	*	*	75.8	70.5	*	*	89.9	81.4	*	*
	P _{GB}	105	125	132	144	145	169	178	193	170	197	215	232	216	249	261	279	261	298	314	332
	P _{GC}	126	141	147	157	185	206	217	230	264	293	325	344	266	295	310	327	388	431	452	475
	P _{GD}	179	212	231	258	263	308	339	376	359	419	484	536	393	458	500	553	548	636	695	765
7.1	P _{GA}	45	45.8	40.6	34	57.2	56.4	44	*	69	67.5	50.6	*	74.3	71.4	*	*	88.9	83.8	*	*
	P _{GB}	99	117	125	136	137	161	169	182	166	194	204	219	203	237	248	263	246	285	298	313
	P _{GC}	116	129	135	145	171	190	199	212	257	286	298	317	244	272	284	301	357	397	414	437
	P _{GD}	164	194	213	238	243	286	313	347	349	410	447	495	362	424	462	511	506	590	642	707
8	P _{GA}	42.8	43.9	39.9	35	54.8	54.8	45.1	*	67.2	66.7	53.4	*	72.1	70.6	53	*	86.1	83	*	*
	P _{GB}	92.9	110	117	129	128	151	160	173	157	185	195	211	192	225	236	253	229	267	280	298
	P _{GC}	107	119	124	133	157	175	182	195	237	264	276	294	226	252	263	279	323	359	375	397
	P _{GD}	152	181	198	222	225	265	290	323	324	382	417	464	336	395	430	477	459	539	586	649
9	P _{GA}	41	42.3	39.3	35	52.7	53.2	45.7	36	64.5	64.8	54.4	*	70.2	69.7	55.8	*	82.7	81.1	61.6	*
	P _{GB}	87.8	105	111	123	121	144	153	166	148	176	186	202	182	214	226	244	215	253	266	285
	P _{GC}	98.8	110	115	123	144	161	168	180	218	243	253	271	212	236	246	263	297	331	346	368
	P _{GD}	141	167	183	206	206	244	267	298	299	353	386	430	316	373	407	453	424	498	543	603
10	P _{GA}	34.6	35.8	33.7	31	49.3	50.1	44	36	61.1	61.8	53.3	43	66.4	66.5	55.1	*	79.2	78.5	62.3	*
	P _{GB}	72.8	87.1	92.8	102	111	132	140	154	138	164	174	190	169	199	211	229	202	238	251	271
	P _{GC}	78.9	88.1	91.9	99	129	144	150	161	200	224	233	250	192	214	224	239	274	305	318	339
	P _{GD}	112	134	147	164	185	219	240	268	276	326	356	398	288	340	372	414	392	462	505	561
11.2	P _{GA}	33.5	34.8	33	30	44.4	45.3	40.4	34	58.4	59.3	52.1	43	59.8	60.2	51	40	76.1	75.9	61.9	57.7
	P _{GB}	70.3	84.3	89.8	99	99.5	118	125	137	131	155	165	180	150	177	188	204	192	227	240	259
	P _{GC}	75.4	84.2	87.9	94	113	126	131	141	183	204	213	229	168	187	195	209	257	286	298	319
	P _{GD}	107	128	140	157	162	192	210	235	252	298	327	365	252	298	326	363	368	434	474	528
12.5	P _{GA}	30.2	31.5	30.3	28.3	42.4	43.5	39.5	34	54.5	55.7	50.1	43	55.8	56.5	49	40	72.2	72.7	61.7	48
	P _{GB}	63.0	75.4	80.2	88.1	94	112	118.5	130	119	142	151	166	136	162	172	188	179	212	224	244
	P _{GC}	66.0	73.7	76.8	82.3	103	115	119.8	129	163	182	189	203	150	167	173	185	234	261	272	291
	P _{GD}	93.7	112	123	138	148	176	192.9	216	225	267	292	327	225	267	291	325	337	398	435	485
14	P _{GA}	28.8	30.2	29.6	28.3	39.6	40.8	38	34	49	50.3	46	40	50.2	51	45	37	65.2	66.1	57.4	47
	P _{GB}	59.8	71.2	76.0	83.4	85.8	102	108	120	106	127	135	149	121	145	154	169	159	189	200	218
	P _{GC}	60.4	67.1	70.2	75.4	92	102	106	114	142	159	166	178	131	146	152	162	205	228	238	255
	P _{GD}	85.6	102.6	113	126	132	157	172	193	196	232	255	285	196	232	254	283	293	347	380	424

*Please consult.

B209				B210				B211				B212				iN	
960	1150	1450	1740	960	1150	1450	1740	960	1150	1450	1740	960	1150	1450	1740		
960	1150	1450	1740	960	1150	1450	1740	960	1150	1450	1740	960	1150	1450	1740	6.3	
89.4	78.6	*	*	98.3	83.8	*	*	122	*	*	*	142	*	*	*		P _{GA}
265	301	315	330	300	337	354	367	441	480	479	514	556	591	581	606		P _{GB}
333	370	386	404	460	510	532	556	566	625	651	706	976	1076	1120	1192		P _{GC}
489	566	617	676	643	740	809	884	834	944	1010	1161	1340	1500	1596	1795	P _{GD}	
89.1	82.4	*	*	99.3	89.8	*	*	132	108	*	*	158	*	*	*	7.1	
250	288	299	311	284	325	336	346	436	485	493	485	546	598	601	572		P _{GB}
306	340	354	372	422	468	488	512	545	604	629	650	931	1029	1072	1097		P _{GC}
451	525	570	625	594	689	747	817	808	925	996	1073	1278	1451	1556	1659		P _{GD}
87.4	83	*	*	97.7	91.2	*	*	129	112	*	*	155	127	*	*	8	
237	274	287	302	267	308	321	336	400	451	463	467	498	555	564	556		P _{GB}
283	315	328	347	383	426	444	468	482	535	557	580	817	904	942	973		P _{GC}
419	490	533	588	541	631	686	754	719	830	896	973	1129	1293	1392	1500		P _{GD}
85.8	83.2	59.6	*	95.3	91.1	*	*	129	116	*	*	162	140	*	*	9	
226	264	277	295	251	292	306	324	383	437	452	465	490	554	568	574		P _{GB}
267	297	310	329	352	392	409	433	454	505	526	551	791	877	915	952		P _{GC}
396	465	507	561	500	585	637	703	679	788	853	933	1094	1261	1363	1480		P _{GD}
81.9	80.3	60.8	*	91.7	88.9	63.9	*	125	115	*	*	153	137	*	*	10	
212	249	261	280	237	277	291	310	359	413	429	447	447	508	525	537		P _{GB}
244	272	284	302	325	362	377	400	417	463	483	508	700	777	810	847		P _{GC}
363	426	465	516	462	542	591	654	626	729	791	868	972	1126	1218	1329		P _{GD}
74.5	73.6	57.7	65.2	89	87	65.2	*	114	106	*	*	150	136	*	*	11.2	
187	220	232	250	226	265	279	299	318	367	382	401	426	488	506	522		P _{GB}
212	236	246	262	307	341	356	379	361	401	418	441	659	733	764	801		P _{GC}
316	372	406	451	438	514	561	622	543	633	688	757	918	1066	1156	1265		P _{GD}
70.7	70.5	57.5	54.2	85.1	84.3	66.9	*	109	103	*	*	145	135	*	*	12.5	
174	205	217	200	212	250	264	284	298	346	405	381	400	462	481	503		P _{GB}
193	215	225	239	280	312	326	347	329	367	383	404	604	672	701	738		P _{GC}
289	341	373	414	401	472	515	573	497	581	632	697	845	985	1070	1176		P _{GD}
63.8	64.1	53.7	53	77	76.9	63.1	*	98.6	94	*	*	131	125	*	*	14	
155	183	194	179	189	223	236	255	266	309	362	342	353	409	428	451		P _{GB}
169	188	197	209	243	271	283	302	286	319	332	352	522	580	605	640		P _{GC}
251	297	326	362	348	411	449	500	431	506	551	608	733	856	931	1027		P _{GD}

*Please consult.

8 Rated thermal capacity(kW)
B3 (kW)

iN		B304				B305				B306				B307				B308			
		960	1150	1450	1740	960	1150	1450	1740	960	1150	1450	1740	960	1150	1450	1740	960	1150	1450	1740
16	P _{GA}	35.2	37	36.8	36.8	47.9	49.5	48.3	46.7	55.4	57	55.4	53.1	74	75.7	72.9	68.5	86.2	87.5	83.3	76.8
	P _{GB}	61.3	70	78.6	86.9	87.5	99.5	110	121	100	113	126	138	137	156	172	187	158	178	196	212
	P _{GC}	70.8	78.8	87.4	95.9	115	128	141	154	128	142	157	171	200	223	244	266	223	248	272	295
	P _{GD}	92.2	105	121	136	149	171	195	218	165	190	216	241	257	294	334	372	285	326	369	410
18	P _{GA}	34.3	36	35.9	35.9	46.5	48.1	47.2	45.9	53.7	55.5	54.1	52.2	71.7	73.6	71.1	67.4	83.2	84.8	81.1	75.5
	P _{GB}	59.5	67.9	76.4	84.5	84.8	96.5	107	118	97.1	110	122	134	133	151	167	182	153	173	191	207
	P _{GC}	68.5	76.3	84.7	93	111	123	136	149	122	136	150	164	192	214	235	256	217	241	265	287
	P _{GD}	89.5	102	117	132	144	166	189	212	159	183	208	233	247	284	322	360	277	317	359	400
20	P _{GA}	32.4	34	34	34.1	44.6	46.4	45.6	44.5	51.9	53.7	52.6	51	68.9	70.9	68.8	65.7	79.4	81.2	78	73.3
	P _{GB}	56.1	64.1	72.1	79.9	81.3	92.6	103	113	93.5	106	118	129	127	145	161	175	145	165	182	198
	P _{GC}	64.8	72.2	80.1	88	107	119	131	143	118	132	145	159	184	205	225	246	204	227	249	271
	P _{GD}	84.3	96.9	111	125	138	159	181	203	154	176	201	225	236	270	307	344	261	300	340	379
22.4	P _{GA}	31.6	33.3	33.3	33.6	44	45.8	45.1	44.3	50.4	52.3	51.4	50.1	66.8	68.9	67.2	64.6	77.4	79.4	76.7	72.7
	P _{GB}	54.6	62.4	70.3	77.9	80	91.1	101	112	90.7	103	115	126	123	140	155	170	141	160	177	193
	P _{GC}	63	70.2	77.9	85.7	105	117	130	142	115	128	142	155	178	198	218	238	198	220	242	263
	P _{GD}	82.2	94.5	108	122	137	158	180	202	149	171	195	219	226	260	296	331	253	290	330	368
25	P _{GA}	30.1	31.8	31.9	32.3	41.8	43.7	43.3	43	48.6	50.6	50.1	49.4	65	67.4	66.2	64.6	74.7	77.1	75.2	72.5
	P _{GB}	51.7	59.1	66.7	74.1	75.5	86.2	96.6	106	86.9	99	110	122	119	135	151	165	134	153	170	186
	P _{GC}	59.4	66.1	73.6	80.9	99.4	110	122	134	110	122	135	148	169	188	208	227	189	211	232	254
	P _{GD}	77.4	89	102	115	128	147	168	189	142	163	186	209	217	249	284	319	243	279	317	355
28	P _{GA}	29	30.7	30.9	31.4	40.6	42.6	42.5	42.6	48	50.3	50	49.9	62.1	64.8	64.1	63.4	72.7	75.5	74.4	72.9
	P _{GB}	49.4	56.6	63.9	71.1	72.7	83	93.3	103	85.5	97.5	109	121	112	127	143	157	130	148	165	182
	P _{GC}	56	62.4	69.4	76.5	94	104	116	127	109	121	134	147	156	174	193	211	183	204	225	246
	P _{GD}	73.1	84.2	96.7	109	121	139	159	179	141	162	185	209	201	231	264	296	234	268	306	344
31.5	P _{GA}	27.5	29.1	29.4	30.1	38.6	40.6	40.7	41	45.5	47.8	47.8	48	59.2	62	61.7	61.6	70.3	73.4	72.7	72
	P _{GB}	46.8	53.7	60.7	67.6	68.7	78.5	88.5	98.1	80.6	92.1	103	114	106	121	136	150	125	143	160	177
	P _{GC}	52.5	58.5	65.2	71.8	87.6	97.5	108	119	102	114	126	139	146	162	180	198	174	194	215	236
	P _{GD}	68.6	78.9	90.8	102	113	130	149	169	133	153	175	197	188	216	247	278	222	259	292	328
35.5	P _{GA}	25.9	27.5	27.8	28.5	36.4	38.4	38.6	39.1	44	46.3	46.4	46.9	56.4	59.2	59.1	59.4	67	70.2	69.8	69.7
	P _{GB}	43.8	50.2	56.8	63.3	64.3	73.6	83	92.1	77.5	88.6	99.8	110	100	114	129	142	119	136	152	168
	P _{GC}	48.3	53.8	59.9	66.1	80.2	89.3	99.3	109	96.8	107	119	131	135	151	167	184	162	180	200	219
	P _{GD}	63.1	72.7	83.7	94.6	104	120	138	155	126	144	166	187	174	200	229	258	207	238	272	306
40	P _{GA}	22.6	24	24.3	25	31.7	33.5	33.7	34.2	41.8	44.1	44.3	44.9	49.4	52	52.4	64.1	67.3	67.1	67.2	
	P _{GB}	38.1	43.7	49.4	55.1	55.5	63.5	71.6	79.6	73.3	83.8	94.6	105	87.1	99.6	112	124	112	128	144	160
	P _{GC}	40.7	45.3	50.5	55.7	66.7	74.3	82.7	91	90.4	100	111	123	112	125	138	152	151	168	187	205
	P _{GD}	53.2	61.3	70.6	79.8	87	100	115	129	117	135	155	175	144	166	191	213	193	222	254	286
45	P _{GA}	22.1	23.5	23.8	24.5	30.9	32.7	32.9	33.5	39.3	41.5	41.8	42.5	48	50.6	50.8	51.3	60.9	64	64	64.4
	P _{GB}	37.2	42.6	48.3	53.9	54	61.8	69.8	77.7	68.5	78.4	88.5	98.4	84.1	96.1	108	120	106	121	137	151
	P _{GC}	39.5	44	49	54.1	64.3	71.6	79.7	87.8	82.9	92.3	102	113	108	120	133	147	139	155	172	190
	P _{GD}	51.8	59.7	68.7	77.7	84	96.7	111	125	107	124	142	161	139	159	183	206	179	205	236	265
50	P _{GA}	22.4	23.8	24.2	24.9	30.8	32.7	33	33.9	34.4	36.4	36.8	37.7	47.6	50.3	50.7	51.7	53.6	56.6	56.9	57.8
	P _{GB}	37.4	42.9	48.7	54.4	53.3	61.1	69.2	77.1	59.4	68	76.9	85.7	82.5	94.5	106	118	92.5	105	119	132
	P _{GC}	39.5	44	49.1	54.2	62.6	69.7	77.7	85.7	69.2	77	85.8	94.6	104	116	129	142	116	129	144	158
	P _{GD}	51.6	59.4	68.5	77.5	81.9	94.3	108	122	90.3	103	119	135	134	154	177	200	149	172	197	223
56	P _{GA}	20.7	22	22.4	23.1	28.5	30.2	30.7	31.6	33.6	35.7	36.2	37.2	44.3	47	47.5	48.7	52.1	55.2	55.7	57
	P _{GB}	34.4	39.4	44.8	50	49.3	56.5	64	71.4	57.8	66.3	75.1	83.7	76.7	87.9	99.5	110	89.6	102	116	129
	P _{GC}	35.6	39.6	44.2	48.9	56.4	62.8	70.1	77.4	66.7	74.3	82.9	91.4	94.7	105	117	129	111	123	138	152
	P _{GD}	46.8	53.9	62.1	70.3	74.1	85.4	98.3	111	87.2	100	115	130	122	141	162	183	143	165	190	215
63	P _{GA}	19.9	21.2	21.6	22.3	27.4	29.1	29.5	30.4	33.4	35.5	36	37.1	42.8	45.5	46.1	47.3	51.5	54.6	55.2	56.6
	P _{GB}	33.1	38	43.2	48.3	47.3	54.3	61.6	68.7	57.1	65.5	74.2	82.9	74.1	84.9	96.2	107	88.1	100	114	127
	P _{GC}	33.7	37.5	41.9	46.3	53.3	59.3	66.2	73.1	65	72.4	80.8	89.2	89.8	100	111	123	108	120	134	147
	P _{GD}	44.3	51	58.9	66.7	70.1	80.8	93	105	85.1	98	112	127	116	134	154	174	140	161	185	210
71	P _{GA}	18.4	19.6	20	20.7	26.1	27.7	28.2	29.1	30.8	32.8	33.3	34.3	40.8	43.3	43.9	45.2	47.8	50.8	51.4	52.7
	P _{GB}	30.7	35.3	40	44.8	44.9	51.6	58.5	65.3	52.6	60.3	68.4	76.3	70.5	80.9	91.7	102	81.7	93.6	106	118
	P _{GC}	30.6	34.1	38	42	49.3	54.9	61.3	67.7	58.8	65.4	73	80.6	83.1	92.5	103	113	98.3	109	122	134
	P _{GD}	40.4	46.6	53.7	60.8	65.2	75.1	86.5	97.9	77.1	88.8	102	115	108	125	143	162	127	146	168	190
80	P _{GA}	20.7	22.0	19.2	19.9	30.1	32.1	32.0	27.9	29.5	31.4	31.9	32.9	39.1	41.5	42.1	43.4	46.2	49.1	49.7	51.1
	P _{GB}	34.6	39.7	38.5	43.2	51.9	59.6	66.4	63.0	50.6	58.1	65.9	73.6	67.8	77.9	88	98.4	79	90.5	102	114
	P _{GC}	35.6	39.6	35.8	39.6	60.3	67.3	57.8	63.8	55.4	61.7	68.8	76	78.3	87.3	97.1	107	93.2	103	115	127
	P _{GD}	46.7	53.8	50.9	57.6	79.1	91.6	82.0	92.8	72.8	83.9	96.7	109	101.98	118	136	154	121	139	160	182
90	P _{GA}	19.9	21.2	18.3	19.0	28.3	30.0	25.8	26.7	28.2	30	30.5	31.5	37.4	39.6	40.3	41.6	44	46.8	47.4	48.8
	P _{GB}	33.0	37.9	36.7	41.1	48.7	55.8	53.6	59.9	48.1	55.2	62.7	70	64.5	74.1	83.7	93.6	75.1	86.1	97.6	108
	P _{GC}	33.6	37.4	33.2	36.7	55.0	61.2	53.6	59.2	51.4	57.2	63.8	70.5	72.6	80.9	90	99.3	85.3	86.1	107	118
	P _{GD}	44.3	51.0	47.4	53.9	72.3	83.7	76.4	86.8	67.9	78.2	90.1	102	95.1	110	127	144	112	129		

8 Rated thermal capacity(kW)

B4 (kW)

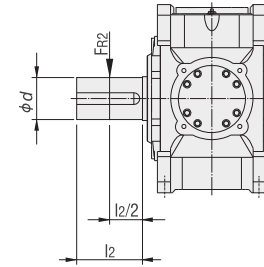
iN		B405				B406				B407				B408			
		960	1150	1450	1740	960	1150	1450	1740	960	1150	1450	1740	960	1150	1450	1740
100	P _{GA}	26.6	28.5	29.6	30.9	30.6	32.7	34	35.4	38.8	41.4	43.1	44.8	45.3	48.2	50.2	52
112	P _{GA}	25.6	27.5	28.6	29.8	29.9	32	33.3	34.7	37.4	39.9	41.5	43.2	44	46.9	48.8	50.6
125	P _{GA}	24.5	26.3	27.4	28.5	28.6	30.6	31.8	33.2	35.7	38.2	39.7	41.4	41.6	44.4	46.2	48
140	P _{GA}	23.4	25.1	26.1	27.3	27.5	29.5	30.7	32	33.9	36.3	37.8	39.4	40.1	42.9	44.6	46.5
160	P _{GA}	21.5	23.1	24.1	25.2	26.3	28.2	29.4	30.7	30.9	33.2	34.5	36.1	38.2	41	42.7	44.5
180	P _{GA}	21.1	22.7	23.6	24.7	25.1	27	28.1	29.4	30.1	32.4	33.7	35.2	36.4	39	40.7	42.5
200	P _{GA}	20.4	21.9	22.8	23.9	23.1	24.9	25.9	27.1	29.9	32.1	33.5	35	33.2	35.7	37.2	38.9
224	P _{GA}	19	20.4	21.3	22.3	22.7	24.4	25.4	26.7	27.8	30	31.2	32.7	32.4	34.9	36.4	38.1
250	P _{GA}	18.5	20	20.8	21.8	21.8	23.5	24.5	25.7	26.9	29	30.2	31.7	32.1	34.6	36	37.8
280	P _{GA}	17.6	19	19.8	20.9	20.4	22	22.9	24.1	25.2	27.2	28.4	29.8	30	32.3	33.7	35.4
315	P _{GA}	16.5	17.8	18.6	19.5	19.8	21.4	22.3	23.5	23.6	25.5	26.6	27.9	28.8	31.1	32.4	34.1
355	P _{GA}	16.0	17.3	18.1	19.0	19	20.5	21.3	22.4	22.7	24.4	25.4	26.6	27.1	29.2	30.4	32
400	P _{GA}	15.4	16.6	17.3	18.1	17.7	19.1	19.9	21	21.2	22.7	23.7	24.9	25.4	27.4	28.6	30

iN		B409				B410				B411				B412			
		960	1150	1450	1740	960	1150	1450	1740	960	1150	1450	1740	960	1150	1450	1740
100	P _{GA}	55.6	59.1	61.5	63.6	60.4	64.1	66.7	68.8	84.4	88.9	92.4	94.7	101	106	110	112
112	P _{GA}	53.5	56.9	59.2	61.4	59	62.7	65.3	67.5	80.4	84.9	88.3	90.7	97.6	102	106	109
125	P _{GA}	51	54.4	56.6	58.8	56	59.7	62.1	64.3	77	81.5	84.8	87.3	93.2	98.4	102	105
140	P _{GA}	48.1	51.4	53.5	55.6	53.9	57.5	59.9	62.2	72.8	77.3	80.4	83.1	88.8	94.1	97.8	100
160	P _{GA}	44	47	49	51	51.3	54.9	57.2	59.5	66.4	70.7	73.6	76.2	85.1	90.4	94.1	97.2
180	P _{GA}	42.9	46	47.9	50	48.7	52.2	54.3	56.6	64.6	69	71.8	74.6	80.6	85.9	89.3	92.6
200	P _{GA}	42	45.1	47	49.1	44.6	47.8	49.8	52	63.2	67.7	70.5	73.4	73.6	78.7	81.9	85.2
224	P _{GA}	39.3	42.3	44	46.1	43.4	46.7	48.6	50.9	59.4	63.8	66.5	69.5	71.8	77	80.2	83.7
250	P _{GA}	37.9	40.8	42.5	44.6	42.5	45.8	47.8	50.1	57.5	61.9	64.5	67.6	70.1	75.4	78.6	82.3
280	P _{GA}	36.1	39	40.6	42.7	39.8	43	44.8	47.1	55	59.3	61.8	65	65.8	71	74	77.7
315	P _{GA}	33.9	36.6	38.2	40.1	38.4	41.5	43.2	45.4	51.3	55.4	57.8	60.7	63.7	68.7	71.6	75.2
355	P _{GA}	31.9	34.4	35.8	37.6	36.6	39.6	41.2	43.3	48.9	52.9	55.1	57.9	60.8	65.6	68.4	71.8
400	P _{GA}									46.6	52.9	52.5	55.2	56.7	61.2	63.8	67

9 Permissible additional radial force on output shaft

9.1 Permissible additional radial force on output shaft d:

Permissible additional radial force FR2 (kN) , applied at midpoin of extension of output shaft.												
Type	Arrangement	04	05	06	07	08	09	10	11	12		
H2..HS	A+B+G+H	10	22	22	30	30	30	45	64	64		
	C+D	10	13	13	18	18	10	28	35	35		
H3..HS	A+B+G+H		29	29	40	40	40	60	85	85		
	C+D		18	18	26	26	18	40	50	50		
H4..HS	C+D				40	40	40	60	85	85		
	A+B+G+H		18	18	26	26	18	40	50	50		
B2..HS	A+C	13	27	27	37	37	38	55	78	78		
	B+D	12	15	15	17	17	10	30	35	38		
B3..HS	A+C	14	29	29	40	40	40	60	85	85		
	B+D		18	18	26	26	18	40	50	50		
B4..HS	A+C		29	29	40	40	40	60	85	85		
	B+D		18	18	26	26	18	40	50	50		



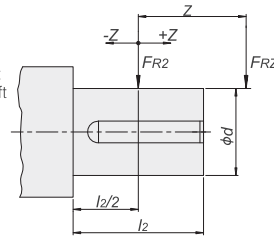
- △Note: 1. If the angle of applied force and the direction of rotation are given, higher additional force can mostly allowed. Please consult us.
 2. When the force is not applied at mid point of shaft, please refer to 9.2.
 3. Lowest performance level of foundation bolt is 8.8. The foundation should be dry and grease free. If customers have requirements, radial force is allowed to be applied at input shaft d1. Please consult us.

9.2 Additional radial force allowed on output shaft d:

Applied force factor k													
Size	Distance z (mm)												
	-100	-75	-50	-25	0	25	50	75	100	150	200	250	300
04			1.17	1.08	1	0.86	0.76	0.68	0.62	0.52	0.44		
05/06		1.22	1.14	1.06	1	0.88	0.79	0.72	0.66	0.62	0.52	0.44	
07/08		1.19	1.12	1.06	1	0.89	0.81	0.74	0.68	0.58	0.51	0.46	0.41
09/10	1.22	1.15	1.1	1.05	1	0.9	0.82	0.76	0.7	0.61	0.54	0.48	0.44
11/12	1.18	1.13	1.08	1.04	1	0.91	0.84	0.78	0.73	0.64	0.57	0.51	0.47

Force is not applied at midpoint of shaft extension of output shaft

$$FR_{Z2} = FR_2 \times k$$



FR_{Z2} Permissible external radial force

FR₂ Permissible additional radial force Determined according to table 9.1

k Applied force factor should be determined according to the following table

10 Shaft assemblies:

10.1 H series shaft assemblies:

10.1.1 Shaft assemblies:

Parallel key solid shaft											
H...HS H...VS											
Parallel key hollow shaft											
H...HH H...VH											
Hollow shaft with shrink disc											
H...HD H...VD											
*)Shaft assemblies G/H/I is available when nominal is within the range of value showed in right table.	Size in	04	05	06	07	08	09	10	11	12	
	H2	6.3-14									
	H3	/									
H4	/	/	/	71-200			71-280				

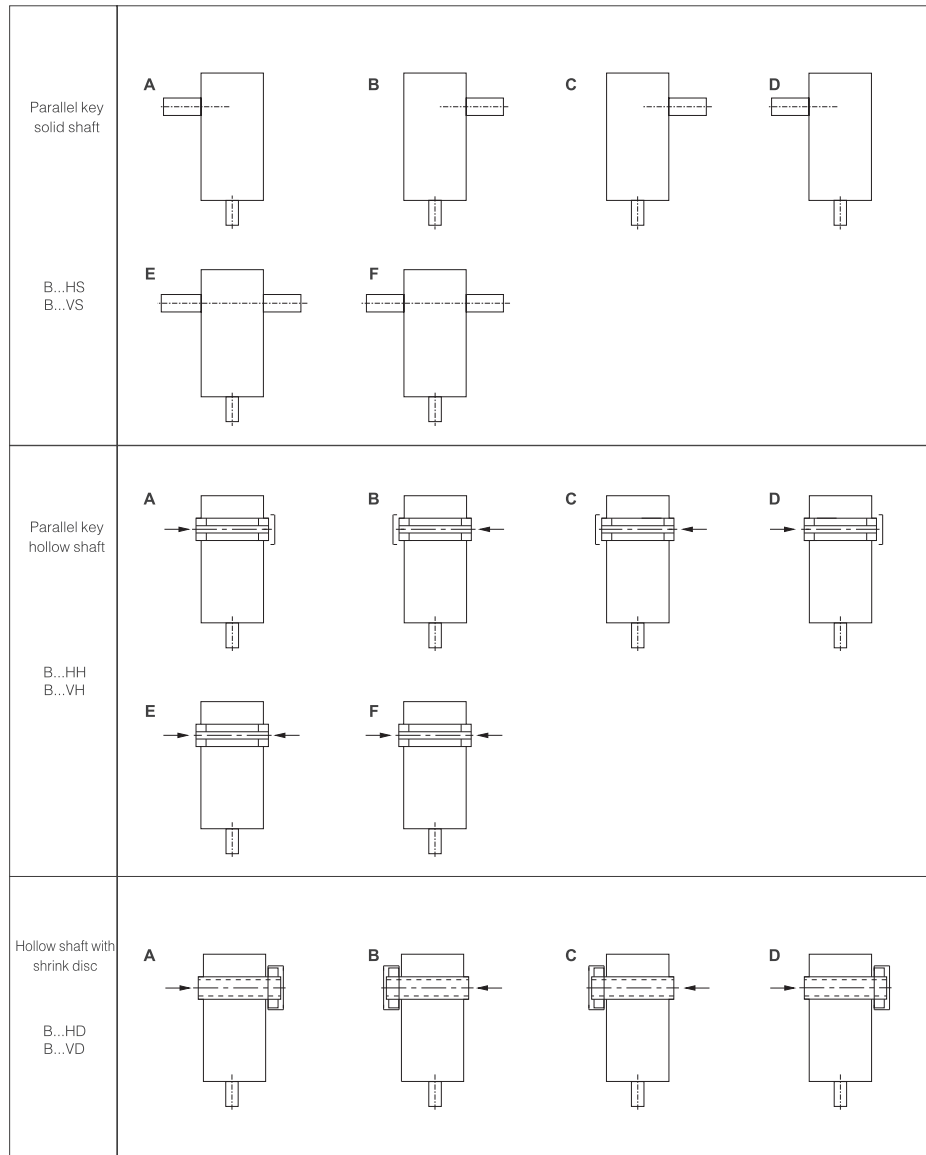
10.1.2 Direction of rotation:

H2..H					
H2..V					
H3..H					
H3..V					
H4..H					
H4..V					

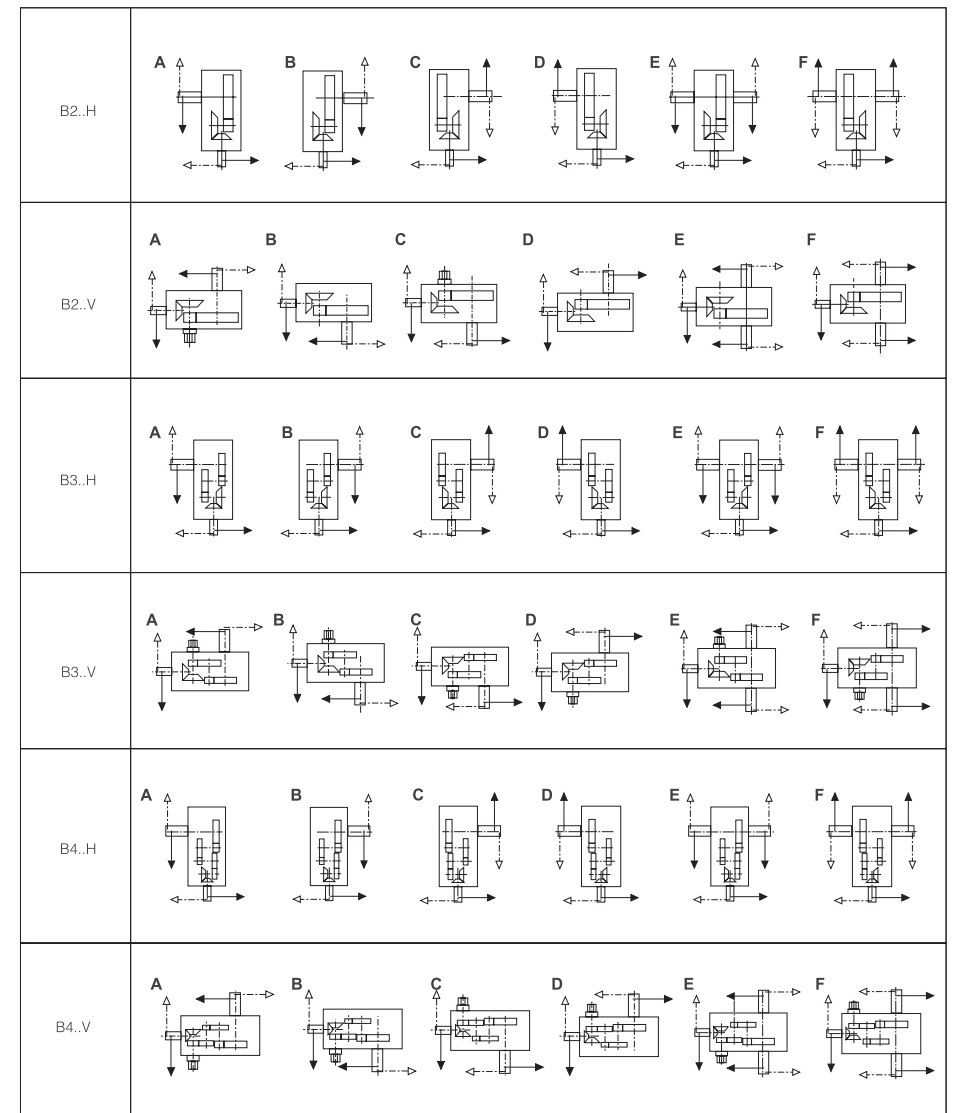
⚠ Note: Direction of rotation is reversible, * is shaft end oil pump.

10.2 B series shaft assemblies:

10.2.1 Shaft assemblies:



10.2.2 Direction of rotation:

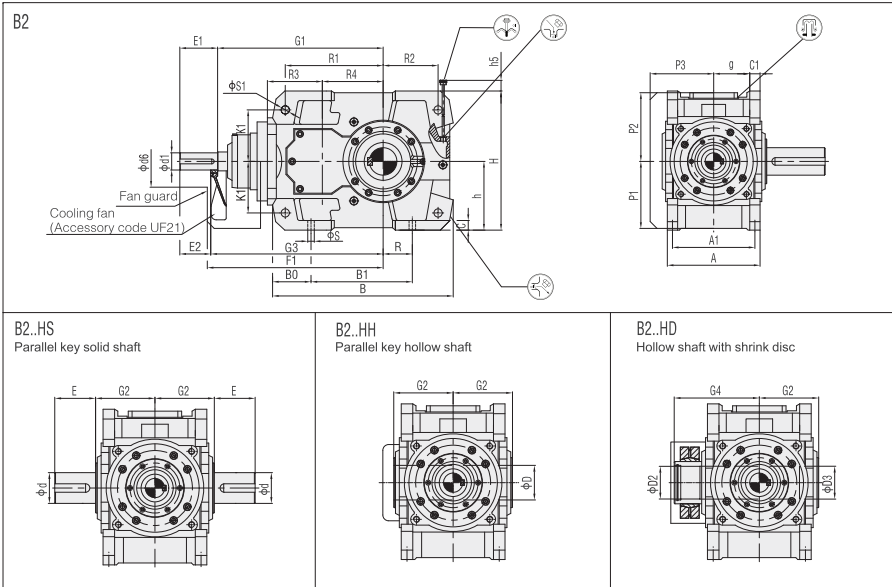


⚠ Note: 1.Direction of rotation is reversible, "▴" is shaft end oil pump.

2.Two stage reduction B series gear unit is not equipped with backstop and shaft end oil pump when solid and hollow output shaft assemblies is B/D/E/F, please consult us if shaft end oil pump and backstop are needed.

11 Outline dimension

B204H ~ B212H

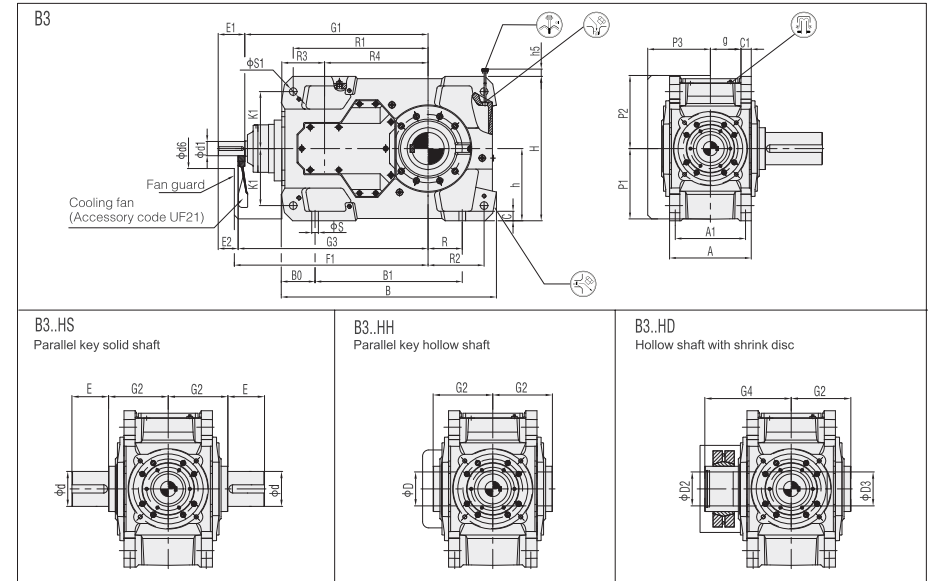


Size	IN ≤ 14			A	A1	B	B0	B1	C	C1	d	d6	D	D2	D3	E	F1
	d1	E1	E2														
04	50k6	110	90	270	235	530	125	295	28	30 ± 1	80m6	150	80H7	85H7	85H7	170	517
05	60m6	140	110	320	285	595	130	355	28	30 ± 1	100m6	160	95H7	100H7	100H7	210	596
06	60m6	140	110	320	285	680	135	435	28	30 ± 1	110m6	160	105H7	110H7	110H7	210	635
07	75m6	140	110	380	340	725	145	450	35	36 ± 1	120m6	210	115H7	120H7	120H7	210	705
08	75m6	140	110	380	340	825	140	555	35	36 ± 1	130m6	210	125H7	130H7	130H7	250	745
09	85m6	170	135	440	390	860	175	530	40	48 ± 1.5	140m6	220	135H7	140H7	140H7	250	805
10	85m6	170	135	440	390	970	185	630	40	48 ± 1.5	160m6	220	150H7	150H7	150H7	300	865
11	95m6	170	135	530	470	1030	205	645	50	54 ± 1.5	170m6	250	165H7	165H7	165H7	300	1005
12	95m6	170	135	530	470	1165	185	800	50	54 ± 1.5	180m6	250	180H7	180H7	180H7	300	1055

Size	G1	G2	G3	G4	g	H	h	h5	K1	P1	P2	P3	R	R1	R2	R3	R4	S	S1H9
05	551	170	581	245	130	460	230	30	180	220	235	215	100	330	175	185	201	19	24H9
06	590	170	620	250	130	490	230	0	180	220	235	215	145	365	220	185	240	19	24H9
07	660	210	690	300	154	560	280	35	215	270	285	250	130	405	215	225	240	24	28H9
08	700	210	730	303	154	580	280	25	215	270	285	250	190	450	275	225	280	24	28H9
09	755	245	790	345	172	640	320	10	245	310	325	250	155	480	260	285	280	28	36H9
10	815	245	850	360	172	670	320	0	245	310	325	250	205	530	310	265	340	28	36H9
11	945	290	980	420	211	760	380	55	300	370	385	330	180	580	295	320	340	35	40H9
12	995	290	1030	430	211	790	380	30	300	370	385	330	265	650	380	320	390	35	40H9

11 Outline dimension

B304H ~ B312H

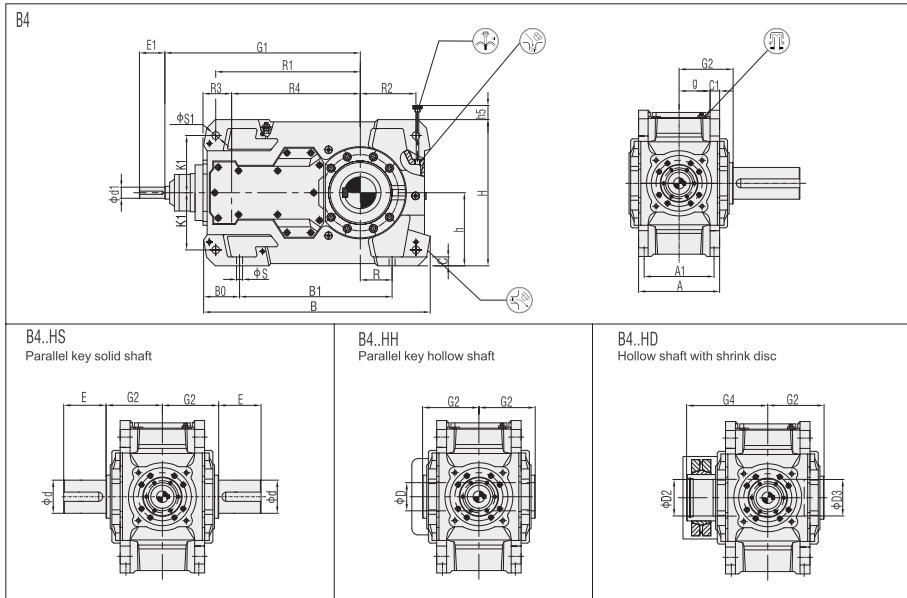


Size	IN ≤ 63			IN ≥ 71			A	A1	B	B0	B1	C	C1	d	d6	E	F1	D	D2	D3
	d1	E1	E2	d1	E1	E2														
04	35k6	80	60	30k6	60	40	215	180	586	112	355	28	30 ± 1	80m6	150	170	540	80H7	85H7	85H7
05	45k6	110	80	35k6	80	50	255	220	667	113	430	28	30 ± 1	100m6	160	210	630	95H7	100H7	100H7
06	45k6	110	80	35k6	80	50	255	220	743	113	510	28	30 ± 1	110m6	160	210	665	105H7	110H7	110H7
07	50k6	110	90	40k6	80	60	300	260	816	131	545	35	36 ± 1	120m6	210	210	735	115H7	120H7	120H7
08	50k6	110	90	40k6	80	60	300	260	920	131	650	35	36 ± 1	130m6	210	250	780	125H7	130H7	130H7
09	60m6	140	110	50k6	110	80	370	320	957	156	635	40	45 ± 1.5	140m6	220	250	860	135H7	140H7	140H7
10	60m6	140	110	50k6	110	80	370	320	1062	156	735	40	45 ± 1.5	160m6	220	300	910	150H7	150H7	150H7
11	75m6	140	110	60m6	140	110	430	370	1132	178	775	50	54 ± 1.5	170m6	210	300	1025	165H7	165H7	165H7
12	75m6	140	110	60m6	140	110	430	370	1292	178	930	50	54 ± 1.5	180m6	210	300	1095	180H7	180H7	180H7

Size	G1	G2	G3	G4	g	H	h	h5	K1	P1	P2	P3	R	R1	R2	R3	R4	S	S1
05	575	170	605	245	97.5	460	230	15	180	220	235	215	100	405	175	130	315	19	24H9
06	610	170	640	250	97.5	490	230	0	180	220	235	215	145	440	220	130	350	19	24H9
07	690	210	710	300	114	560	280	0	215	270	285	250	130	500	215	160	385	24	28H9
08	735	210	755	303	114	580	280	0	215	270	285	250	190	545	275	160	430	24	28H9
09	800	245	835	345	140	640	320	10	245	310	325	250	155	585	260	185	450	28	36H9
10	850	245	885	360	140	670	320	0	245	310	325	250	205	635	310	185	500	28	36H9
11	965	290	1000	420	161	760	380	30	300	370	385	330	180	710	295	225	545	35	40H9
12	1035	290	1070	430	161	790	380	5	300	370	385	330	265	780	380	225	615	35	40H9

11 Outline dimension

B405H ~ B412H

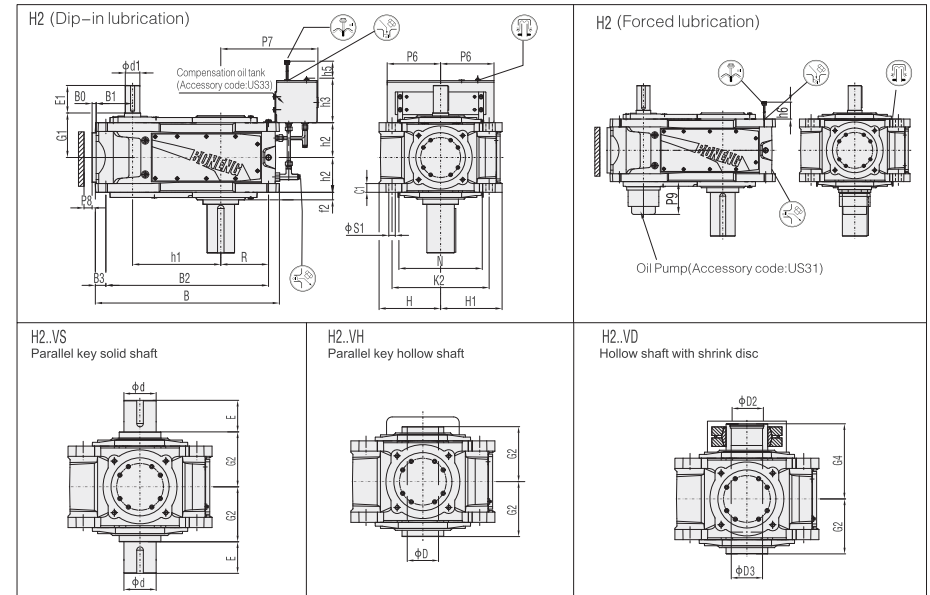


Size	IN ≤ 250		IN ≤ 280		IN ≥ 280		IN ≥ 315		A	A1	B	B0	B1	C	C1	d	D
	d1	E1	d1	E1	d1	E1	d1	E1									
05			35k6	80			25k6	50	255	220	713	113	480	28	30 ± 1	100m6	95H7
06			35k6	80			25k6	50	255	220	793	113	560	28	30 ± 1	110m6	105H7
07			35k6	80			30k6	60	300	260	876	131	605	35	36 ± 1	120m6	115H7
08			35k6	80			30k6	60	300	260	981	131	710	35	36 ± 1	130m6	125H7
09	45k6	110			35k6	80			370	320	1033	156	710	40	45 ± 1.5	140m6	135H7
10	45k6	110			35k6	80			370	320	1131	156	810	40	45 ± 1.5	160m6	150H7
11			50k6	110			40k6	80	430	370	1227	178	870	50	54 ± 1.5	170m6	165H7
12			50k6	110			40k6	80	430	370	1382	178	1025	50	54 ± 1.5	180m6	180H7

Size	D2	D3	E	G1	G2	G4	g	H	h	h5	K1	R	R1	R2	R3	R4	S	S1
05	100H7	100H7	210	615	170	245	97.5	460	230	40	180	100	455	175	90	405	19	24H9
06	110H7	110H7	210	650	170	250	97.5	490	230	10	180	145	490	220	90	440	19	24H9
07	120H7	120H7	210	725	210	300	114	560	280	0	215	130	560	215	110	495	24	28H9
08	130H7	130H7	250	770	210	303	114	580	280	0	215	190	605	275	110	540	24	28H9
09	140H7	140H7	250	840	245	345	140	640	320	15	245	155	660	260	130	580	28	36H9
10	150H7	150H7	300	890	245	360	140	670	320	0	245	205	710	310	130	630	28	36H9
11	165H7	165H7	300	1010	290	420	161	760	380	30	300	180	805	295	160	705	35	40H9
12	180H7	180H7	300	1080	290	430	161	790	380	5	300	265	875	380	160	775	35	40H9

11 Outline dimension

H204V~H212V

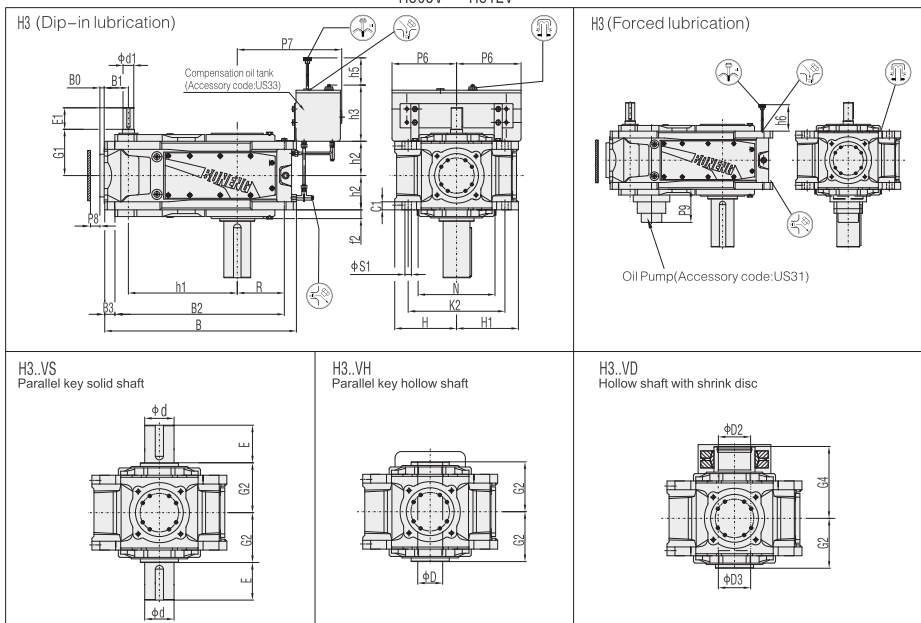


Size	IN ≤ 11.2		IN ≥ 12.5		B	B0	B1	B2	B3	C1	d	D	D2	D3	E	f2
	d1	E1	d1	E1												
04	45k6	110	32k6	80	586	16	110	505	37	30 ± 1	80m6	80H7	85H7	85H7	170	35
05	50k6	110	38k6	80	667	16	130	580	38	30 ± 1	100m6	95H7	100H7	100H7	210	30
06	50k6	110	38k6	80	743	16	130	660	38	30 ± 1	110m6	105H7	110H7	110H7	210	30
07	60m6	140	50k6	110	816	20	160	715	46	36 ± 1	120m6	115H7	120H7	120H7	210	35
08	60m6	140	50k6	110	920	20	160	820	46	36 ± 1	130m6	125H7	130H7	130H7	250	35
09	75m6	140	60m6	140	957	20	185	845	51	45 ± 1.5	140m6	135H7	140H7	140H7	250	35
10	75m6	140	60m6	140	1062	20	185	945	51	45 ± 1.5	160m6	150H7	150H7	150H7	300	35
11	90m6	170	70m6	140	1132	25	225	1005	63	54 ± 1.5	170m6	165H7	165H7	165H7	300	42
12	90m6	170	70m6	140	1292	25	225	1160	63	54 ± 1.5	180m6	180H7	180H7	180H7	300	42

Size	G1	G2	G4	H	H1	h1	h2	h3	h5	h6	K2	N	P6	P7	P8	P9	R	S1
04	170	155	224	200	200	270	107.5	175	140	85	300	250	150	340	35	132	160	24H9
05	195	170	245	230	230	315	127.5	210	160	105	360	310	240	405	35	145	175	24H9
06	195	170	250	230	260	350	127.5	210	160	105	360	310	240	450	35	145	220	24H9
07	210	210	300	280	280	385	150	210	160	120	430	360	240	445	35	143	215	28H9
08	210	210	303	280	310	430	150	210	160	120	430	360	240	505	35	143	275	28H9
09	240	245	345	320	320	450	185	285	200	155	490	410	330	585	40	135	260	36H9
10	240	245	360	320	350	500	185	285	200	155	490	430	330	635	40	135	310	36H9
11	275	290	420	380	380	545	215	285	200	150	600	500	330	620	50	142	295	40H9
12	275	290	430	380	410	615	215	285	200	150	600	500	330	705	50	142	380	40H9

11 Outline dimension

H305V ~ H312V

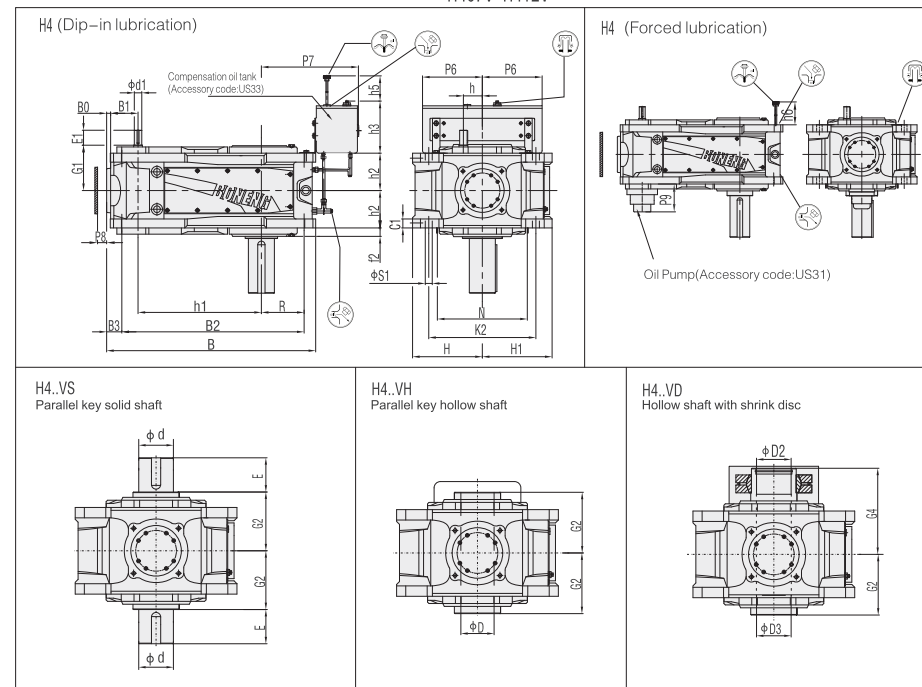


Size	in ≤ 45		in ≤ 50		in ≥ 50		in ≥ 56		B	B0	B1	B2	B3	C1	d	D	D2	D3
	d1	E1	d1	E1	d1	E1	d1	E1										
05	40k6	80			30k6	60			713	16	90	630	38	30 ± 1	100m6	95H7	100H7	100H7
06	40k6	80			30k6	60			793	16	90	710	38	30 ± 1	110m6	105H7	110H7	110H7
07			45k6	110			35k6	80	876	16	110	775	46	36 ± 1	120m6	115H7	120H7	120H7
08			45k6	110			35k6	80	981	16	110	880	46	36 ± 1	130m6	125H7	130H7	130H7
09			60m6	140			45k6	110	1033	20	130	920	51	45 ± 1.5	140m6	135H7	140H7	140H7
10			60m6	140			45k6	110	1131	20	130	1020	51	45 ± 1.5	160m6	150H7	150H7	150H7
11			70m6	140			50k6	110	1227	20	160	1100	63	54 ± 1.5	170m6	165H7	165H7	165H7
12			70m6	140			50k6	110	1382	20	160	1255	63	54 ± 1.5	180m6	180H7	180H7	180H7

Size	E	f2	G1	G2	G4	H	H1	h1	h2	h3	h5	h6	K2	N	P6	P7	P8	P9	R	S1
05	210	30	170	170	245	230	230	405	127.5	210	160	105	360	310	240	405	35	145	175	24H9
06	210	30	170	170	250	230	260	440	127.5	210	160	105	360	310	240	450	35	145	220	24H9
07	210	35	210	210	300	280	280	495	150	210	160	120	430	360	240	445	35	143	215	28H9
08	250	35	210	210	303	280	310	540	150	210	160	120	430	360	240	505	35	143	275	28H9
09	250	35	240	245	345	320	320	580	185	285	200	155	490	420	330	585	40	155	260	36H9
10	300	35	240	245	360	320	350	630	185	285	200	155	490	430	330	635	40	155	310	36H9
11	300	42	275	290	420	380	380	705	215	285	200	150	600	510	330	620	50	162	295	40H9
12	300	42	275	290	430	380	410	775	215	285	200	150	600	510	330	705	50	162	380	40H9

11 Outline dimension

H407V~H412V

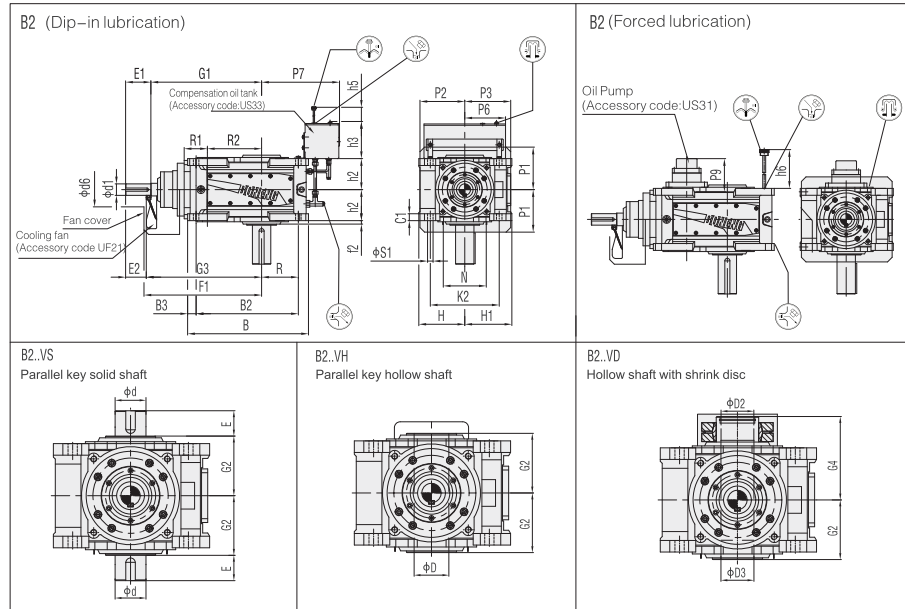


Size	in ≤ 200		in ≤ 224		in ≥ 224		in ≥ 250		B	B0	B1	B2	B3	C1	d	D	D2	D3	E
	d1	E1	d1	E1	d1	E1	d1	E1											
07	30k6	60			24k6	50			876	16	110	775	46	36 ± 1	120m6	115H7	120H7	120H7	210
08	30k6	60			24k6	50			981	16	110	880	46	36 ± 1	130m6	125H7	130H7	130H7	250
09	35k6	80			28k6	60			1033	20	130	920	51	45 ± 1.5	140m6	135H7	140H7	140H7	250
10	35k6	80			28k6	60			1131	20	130	1020	51	45 ± 1.5	160m6	150H7	150H7	150H7	300
11			45k6	110			32k6	80	1227	20	160	1100	63	54 ± 1.5	170m6	165H7	165H7	165H7	300
12			45k6	110			32k6	80	1382	20	160	1255	63	54 ± 1.5	180m6	180H7	180H7	180H7	300

Size	f2	G1	G2	G4	H	H1	h	h1	h2	h3	h5	h6	K2	N	P6	P7	P8	P9	R	S1
07	35	180	210	300	280	280	76	495	150	210	160	120	430	360	240	445	35	102	215	28H9
08	35	180	210	303	280	310	76	540	150	210	160	120	430	360	240	505	35	102	275	28H9
09	35	215	245	345	320	320	93.5	580	185	285	200	155	490	420	330	585	40	125	260	36H9
10	35	215	245	360	320	350	93.5	630	185	285	200	155	490	430	330	635	40	125	310	36H9
11	42	250	290	420	380	380	120	705	215	285	200	150	600	510	330	620	50	140	295	40H9
12	42	250	290	430	380	410	120	775	215	285	200	150	600	510	330	705	50	140	380	40H9

11 Outline dimension

B204V ~ B212V

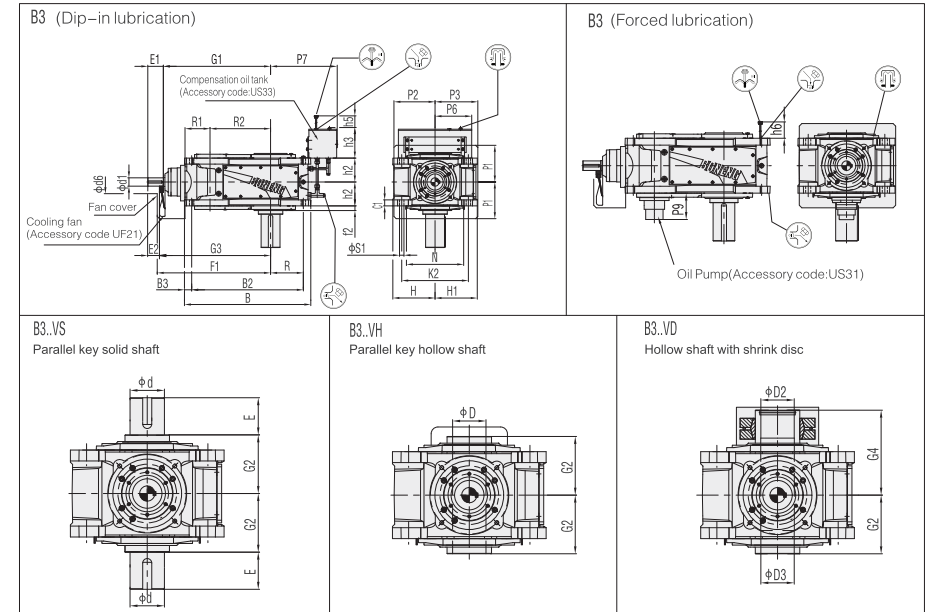


Size	IN ≤ 14			B	B2	B3	C1	d	d6	D	D2	D3	E	F1	f2	G1	G2
	d1	E1	E2														
04	50k6	110	90	530	445	50	30 ± 1	80m6	150	80H7	85H7	85H7	170	517	20	482	155
05	60m6	140	110	595	505	55	30 ± 1	100m6	160	95H7	100H7	100H7	210	596	10	551	170
06	60m6	140	110	680	585	60	30 ± 1	110m6	160	105H7	110H7	110H7	210	635	10	590	170
07	75m6	140	110	725	620	60	36 ± 1	120m6	210	115H7	120H7	120H7	210	705	15	660	210
08	75m6	140	110	825	725	55	36 ± 1	130m6	210	125H7	130H7	130H7	250	745	15	700	210
09	85m6	170	135	860	740	70	48 ± 1.5	140m6	220	135H7	140H7	140H7	250	805	20	755	245
10	85m6	170	135	970	840	80	48 ± 1.5	160m6	220	150H7	150H7	150H7	300	865	20	815	245
11	95m6	170	135	1030	875	90	54 ± 1.5	170m6	250	165H7	165H7	165H7	300	1005	15	945	290
12	95m6	170	135	1165	1030	70	54 ± 1.5	180m6	250	180H7	180H7	180H7	300	1055	15	995	290

Size	G3	G4	H	H1	h2	h3	h5	h6	K2	N	P1	P2	P3	P6	P7	P9	R	R1	R2	S1
05	581	245	230	230	160	210	160	145	360	310	215	220	235	240	405	132	175	185	201	24H9
06	620	250	230	260	160	210	160	145	360	310	215	220	235	240	450	132	220	185	240	24H9
07	690	300	280	280	190	210	160	180	430	360	250	270	285	240	445	150	215	225	240	28H9
08	730	303	280	310	190	210	160	180	430	360	250	270	285	240	505	150	275	225	280	28H9
09	790	345	320	320	220	285	200	165	490	390	250	310	325	330	585	160	260	265	280	36H9
10	850	360	320	350	220	285	200	165	490	430	250	310	325	330	635	160	310	265	340	36H9
11	980	420	380	380	265	285	200	140	600	450	330	370	385	330	620	161	295	320	340	40H9
12	1030	430	380	410	265	285	200	140	600	490	330	370	385	330	705	161	380	320	390	40H9

11 Outline dimension

B304V ~ B312V

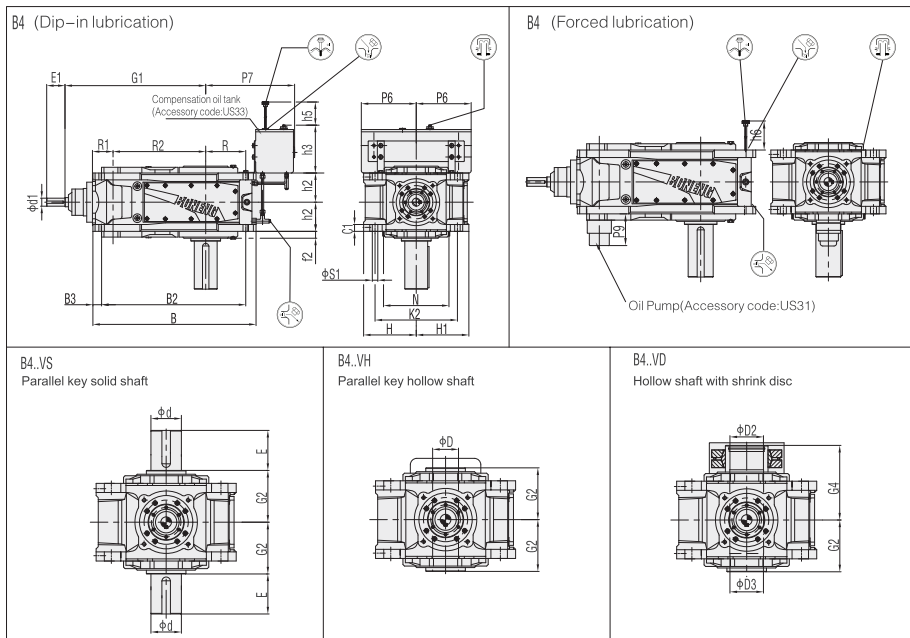


Size	IN ≤ 63			IN ≥ 71			B	B2	B3	C1	d	d6	E	F1	f2	D	D2	D3	G1
	d1	E1	E2	d1	E1	E2													
04	35k6	80	60	30k6	60	40	586	505	37	30 ± 1	80m6	150	170	540	30	80H7	85H7	85H7	500
05	45k6	110	80	35k6	80	50	667	580	38	30 ± 1	100m6	160	210	630	30	95H7	100H7	100H7	575
06	45k6	110	80	35k6	80	50	743	660	38	30 ± 1	110m6	160	210	665	35	105H7	110H7	110H7	610
07	50k6	110	90	40k6	80	60	816	715	46	36 ± 1	120m6	210	210	735	36	115H7	120H7	120H7	690
08	50k6	110	90	40k6	80	60	920	820	46	36 ± 1	130m6	210	250	780	35	125H7	130H7	130H7	735
09	60m6	140	110	50k6	110	80	957	845	51	45 ± 1.5	140m6	220	250	860	35	135H7	140H7	140H7	800
10	60m6	140	110	50k6	110	80	1062	945	51	45 ± 1.5	160m6	220	300	910	35	150H7	150H7	150H7	850
11	75m6	140	110	60m6	140	110	1132	1005	63	54 ± 1.5	170m6	210	300	1025	42	165H7	165H7	165H7	965
12	75m6	140	110	60m6	140	110	1292	1160	63	54 ± 1.5	180m6	210	300	1095	42	180H7	180H7	180H7	1035

Size	G2	G3	G4	H	H1	h2	h3	h5	h6	K2	N	P1	P2	P3	P6	P7	P9	R	R1	R2	S1
05	170	605	245	230	230	127.5	210	160	105	360	310	215	220	235	240	405	145	175	130	315	24H9
06	170	640	250	230	260	127.5	210	160	105	360	310	215	220	235	240	450	145	220	130	350	24H9
07	210	710	300	280	280	150	210	160	120	430	360	250	270	285	240	445	143	215	160	385	28H9
08	210	755	303	280	310	150	210	160	120	430	360	250	270	285	240	505	143	275	160	430	28H9
09	245	835	345	320	320	185	285	200	155	490	410	250	310	325	330	585	155	260	185	450	36H9
10	245	885	360	320	350	185	285	200	155	490	430	250	310	325	330	635	155	310	185	500	36H9
11	290	1000	420	380	380	215	285	200	150	600	500	330	370	385	330	620	162	295	225	545	40H9
12	290	1070	430	380	410	215	285	200	150	600	500	330	370	385	330	705	162	380	225	615	40H9

11 Outline dimension

B405V ~ B412V

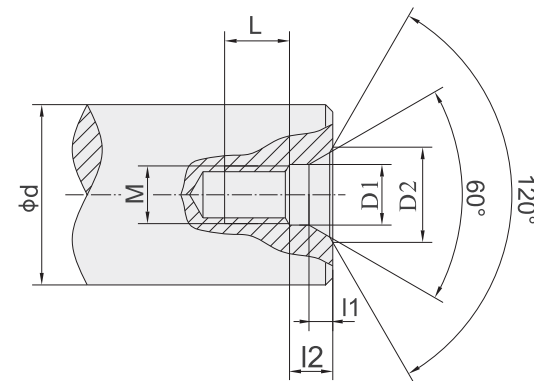


Size	IN ≤ 250		IN ≤ 280		IN ≥ 280		IN ≥ 315		B	B2	B3	C1	d	D	D2	D3	E	f2
	d1	E1	d1	E1	d1	E1	d1	E1										
05			35k6	80			25k6	50	713	630	38	30 ± 1	100m6	95H7	100H7	100H7	210	30
06			35k6	80			25k6	50	793	710	38	30 ± 1	110m6	105H7	110H7	110H7	210	30
07			35k6	80			30k6	60	876	775	46	36 ± 1	120m6	115H7	120H7	120H7	210	35
08			35k6	80			30k6	60	981	880	46	36 ± 1	130m6	125H7	130H7	130H7	250	35
09	45k6	110			35k6	80			1033	920	51	45 ± 1.5	140m6	135H7	140H7	140H7	250	35
10	45k6	110			35k6	80			1131	1020	51	45 ± 1.5	160m6	150H7	150H7	150H7	300	35
11			50k6	110			40k6	80	1227	1100	63	54 ± 1.5	170m6	165H7	165H7	165H7	300	42
12			50k6	110			40k6	80	1382	1255	63	54 ± 1.5	180m6	180H7	180H7	180H7	300	42

Size	G1	G2	G4	H	H1	h2	h3	h5	h6	K2	N	P6	P7	P9	R	R1	R2	S1
05	615	170	245	230	230	127.5	210	160	105	360	310	240	405	120	175	90	405	24H9
06	650	170	250	230	260	127.5	210	160	105	360	310	240	450	120	220	90	440	24H9
07	725	210	300	280	280	150	210	160	120	430	360	240	445	102	215	110	495	28H9
08	770	210	303	280	310	150	210	160	120	430	360	240	505	102	275	110	540	28H9
09	840	245	345	320	320	185	285	200	155	490	420	330	585	125	260	130	580	36H9
10	890	245	360	320	350	185	285	200	155	490	430	330	635	125	310	130	630	36H9
11	1010	290	420	380	380	215	285	200	150	600	510	330	620	140	295	160	705	40H9
12	1080	290	430	380	410	215	285	200	150	600	510	330	705	140	380	160	775	40H9

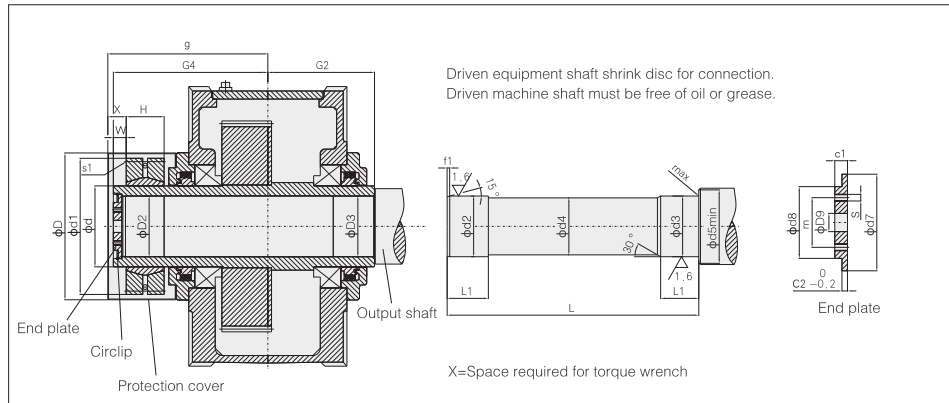
12 Shaft end central hole:

Shaft end C Type screw central hole



d	M	L	I2	I1	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

14.2 Hollow shaft for shrink Disks:



Type H2...D, H3...D, H4...D, B3...D, B4...D (Size 04-12)

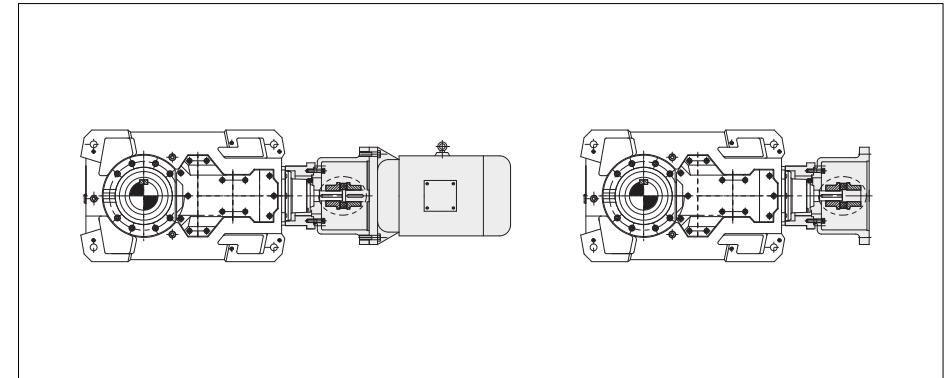
Size	Driven equipment shaft													End plate					Hollow shaft				Shrink disc					Bolt	Protection cover	
	d2	d3	d4	d5	f1	L	L1	r	c1	c2	d7	d8	d9	m	s	nutte	D2	D3	G2	G4	Type	d	d1	H	W	s1	D		g	
04	85g6	85h6	84.5	95	4	356	48	2	17	7	90	70	22	50	M8	2	90	85H7	85H7	155	224	SP2-110	110	185	49	20	M12	232	233	
05	100g6	100h6	99.5	114	5	393	53	2	20	8	105	80	26	55	M10	2	105	100H7	100H7	170	245	SP2-125	125	215	53	20	M12	277	260	
06	110g6	110h6	109.5	124	5	393	58	3	20	8	115	85	26	60	M10	2	115	110H7	110H7	170	250	SP2-140	140	230	58	20	M12	277	261	
07	120g6	120h6	119.5	134	5	488	68	3	20	8	125	90	26	65	M12	2	125	120H7	120H7	210	300	SP2-155	155	263	62	23	M12	347	321	
08	130g6	130h6	129.5	145	6	488	73	3	20	8	135	100	26	70	M12	2	135	130H7	130H7	210	303	SP2-165	165	290	68	23	M16	347	320	
09	140g6	140h6	139.5	160	6	564	82	4	23	10	150	110	33	80	M12	2	150	140H7	140H7	245	345	SP2-175	175	300	68	28	M16	362	390	
10	150g6	150h6	149.5	170	6	579	92	4	23	10	160	120	33	90	M12	2	160	150H7	150H7	245	360	SP2-185	185	330	85	28	M16	399	398	
11	165h6	165g6	164.5	185	7	684	112	4	23	10	175	130	33	90	M12	2	175	165H7	165H7	290	420	SP2-220	220	370	103	30	M16	399	455	
12	180h6	180g6	179.5	200	7	694	122	4	23	10	190	140	33	100	M16	2	190	180H7	180H7	290	430	SP2-240	240	405	107	30	M20	464	477	

Type B2...D (Size 04-12)

Size	Driven equipment shaft													End plate					Hollow shaft				Shrink disc					Bolt	Protection cover	
	d2	d3	d4	d5	f1	L	L1	r	c1	c2	d7	d8	d9	m	s	nutte	D2	D3	G2	G4	Type	d	d1	H	W	s1	D		g	
04	85g6	85h6	84.5	95	4	356	48	2	17	7	90	70	22	50	M8	2	90	85H7	85H7	155	224	SP2-110	110	185	49	20	M12	232	242	
05	100g6	100h6	99.5	114	5	393	53	2	20	8	105	80	26	55	M10	2	105	100H7	100H7	170	245	SP2-125	125	215	53	20	M12	277	272	
06	110g6	110h6	109.5	124	5	393	58	3	20	8	115	85	26	60	M10	2	115	110H7	110H7	170	250	SP2-140	140	230	58	20	M12	277	272	
07	120g6	120h6	119.5	134	5	488	68	3	20	8	125	90	26	65	M12	2	125	120H7	120H7	210	300	SP2-155	155	263	62	23	M12	347	340	
08	130g6	130h6	129.5	145	6	488	73	3	20	8	135	100	26	70	M12	2	135	130H7	130H7	210	303	SP2-165	165	290	68	23	M16	347	340	
09	140g6	140h6	139.5	160	6	564	82	4	23	10	150	110	33	80	M12	2	150	140H7	140H7	245	345	SP2-175	175	300	68	28	M16	362	410	
10	150g6	150h6	149.5	170	6	579	92	4	23	10	160	120	33	90	M12	2	160	150H7	150H7	245	360	SP2-185	185	330	85	28	M16	399	418	
11	165h6	165g6	164.5	185	7	684	112	4	23	10	175	130	33	90	M12	2	175	165H7	165H7	290	420	SP2-220	220	370	103	30	M16	399	435	
12	180h6	180g6	179.5	200	7	694	122	4	23	10	190	140	33	100	M16	2	190	180H7	180H7	290	430	SP2-240	240	405	107	30	M20	464	457	

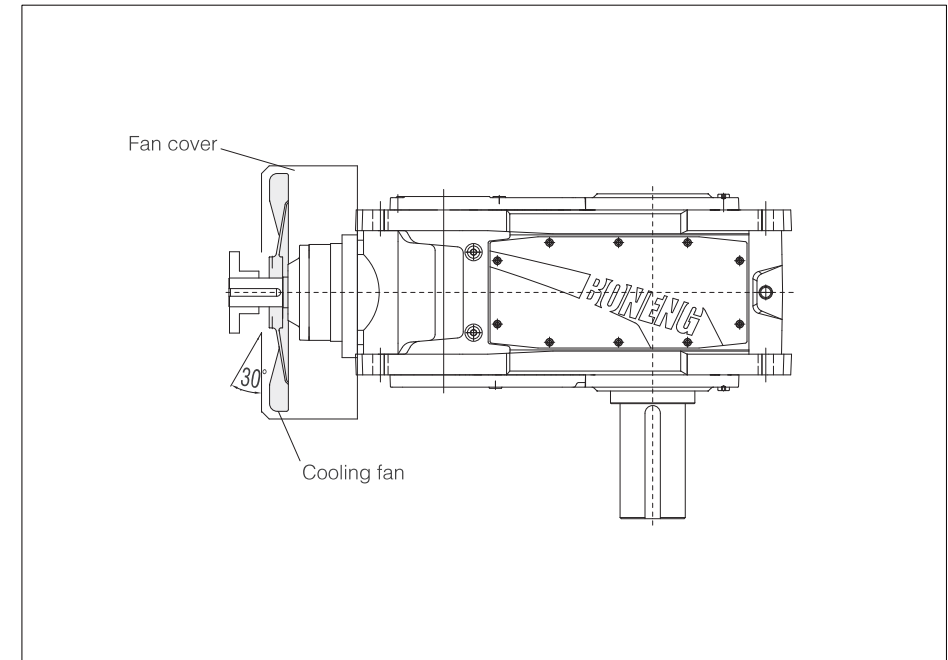
- ⚠ Note: 1. Material of driven equipment shaft: 40Cr or steel with higher strength.
 2. Driven equipment shaft is not in scope of supply, please order if required.
 3. Shrink disc, protection cover, end plate and circlip are supplied with gearbox as standard.

15 Input with motor and flange input (Please consult)



16 Accessory

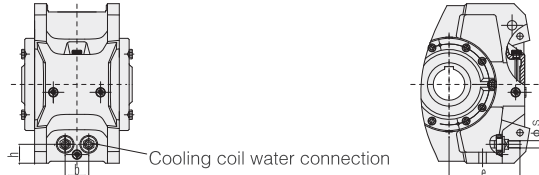
16.1 Cooling fan (Accessory code:UF21)



16.2 Cooling coil (Accessory code:UC21)

1) Horizontal mounting:

H2..H,H3..H,B2..H,B3..H

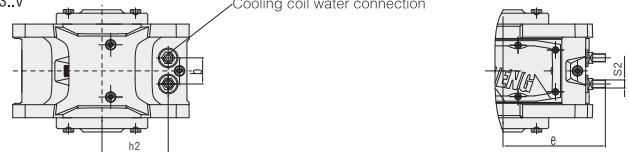


Size	H2..H / B3..H					H3..H					B2..H				
	b	e	h	s	Water quantity (l/min)	b	e	h	s	Water quantity (l/min)	b	e	h	s	Water quantity (l/min)
04	60	165	48	G1/2	4	-	-	-	-	-	60	170	48	G1/2	4
05	70	170	64	G1/2	4	70	170	64	G1/2	4	70	170	64	G1/2	8
06	70	225	55	G1/2	4	70	225	55	G1/2	4	70	225	55	G1/2	4
07	70	215	80	G1/2	4	70	215	80	G1/2	4	70	215	80	G1/2	8
08	70	275	75	G1/2	4	70	275	75	G1/2	4	70	275	75	G1/2	4
09	70	250	70	G1/2	8	70	250	70	G1/2	4	70	255	70	G1/2	8
10	70	300	70	G1/2	8	70	300	70	G1/2	4	70	305	70	G1/2	8
11	70	285	90	G1/2	8	70	285	90	G1/2	8	70	285	90	G1/2	8
12	70	370	90	G1/2	8	70	370	90	G1/2	8	70	370	90	G1/2	8

⚠ Note: 1.Cooling coil is appropriate for fresh water.Sea water and brachish water,maximum pressure of cooling water:8 bar.
2.For H306(in>25)、H307(in>28)、H308(in>28)、H310(in>28) there can be no cooling coil.

1) Vertical mounting:

H2..V,H3..V,B2..V,B3..V



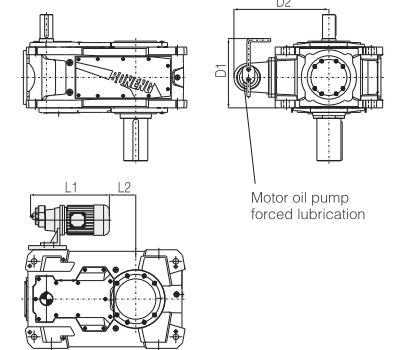
Size	H2..V / B3..V					H3..V					B2..V				
	b	e	h2	s2	Water quantity (l/min)	b	e	h2	s2	Water quantity (l/min)	b	e	h2	s2	Water quantity (l/min)
04	60	165	152	G1/2	4	-	-	-	-	-	60	165	152	G1/2	4
05	70	170	166	G1/2	4	70	170	166	G1/2	4	70	170	166	G1/2	8
06	70	225	175	G1/2	4	70	225	175	G1/2	4	70	225	175	G1/2	4
07	70	215	200	G1/2	4	70	215	200	G1/2	4	70	215	200	G1/2	8
08	70	275	205	G1/2	4	70	275	205	G1/2	4	70	275	205	G1/2	4
09	70	250	250	G1/2	8	70	250	250	G1/2	4	70	255	250	G1/2	8
10	70	300	250	G1/2	8	70	300	250	G1/2	4	70	305	250	G1/2	8
11	70	285	290	G1/2	8	70	285	290	G1/2	8	70	285	290	G1/2	8
12	70	370	290	G1/2	8	70	370	290	G1/2	8	70	370	290	G1/2	8

⚠ Note: 1.Cooling coil is appropriate for fresh water.Sea water and brachish water,maximum pressure of cooling water:8 bar.
2.For H306(in>25)、H307(in>28)、H308(in>28)、H310(in>28) there can be no cooling coil.

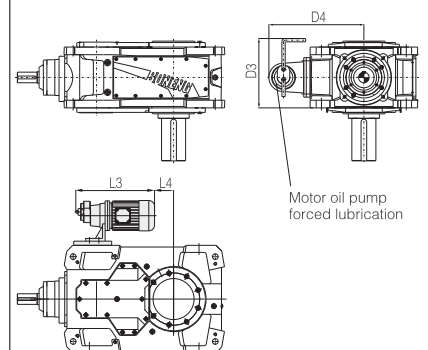
Type	Cooling coil is appropriate for			
	Size	Compensation oil tank dip-in lubrication	Flange pump forced lubrication	Motor oil pump forced lubrication
		Applicable shaft assemblies		
H2..V	04 - 12	A+B+C+D+E+F+G+H+I	Please consult	Applicable shaft assemblies
H3..V	05 - 12	A+B+C+D+E+F+G+H+I		
B2..V	04 - 12	A+B+C+D+E+F		
B3..V	04 - 12	A+B+C+D+E+F		

16.3 Motor oil pump forced lubrication(Accessory code:US32)

H3..V,H4..V



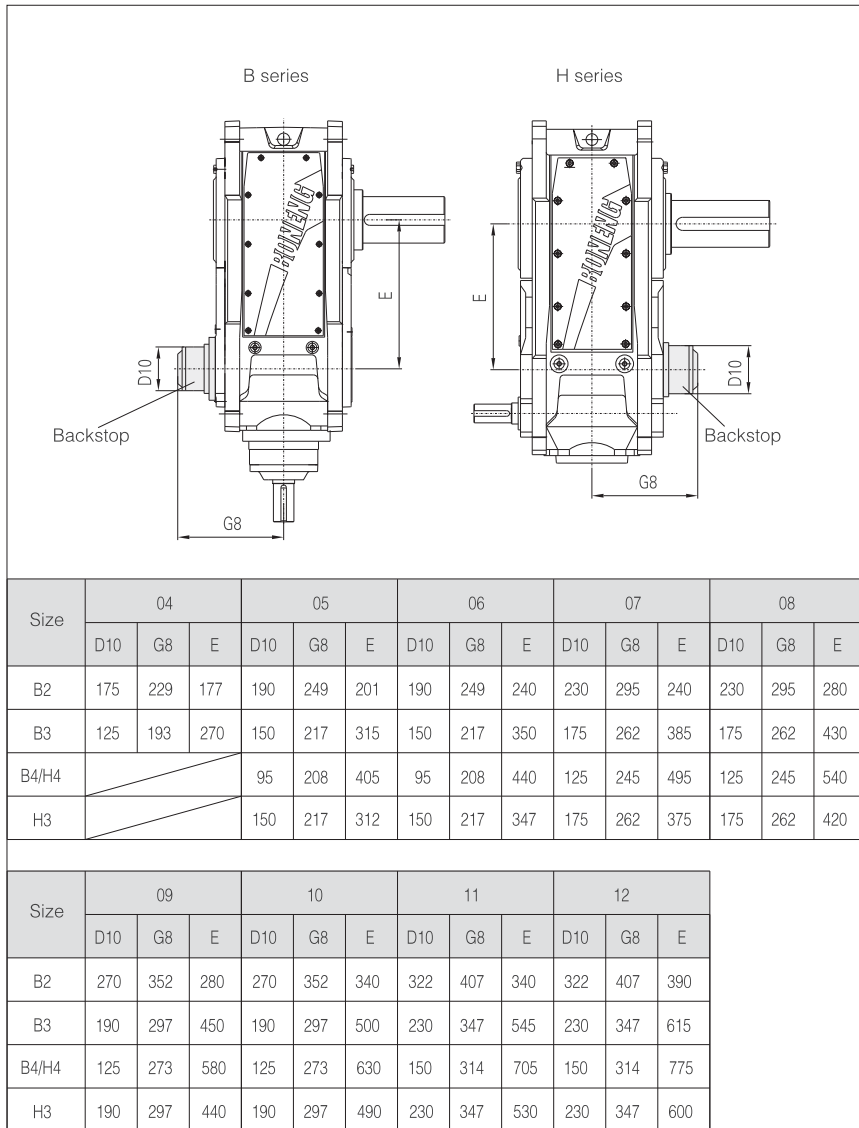
B2..V,B3..V,B4..V



Mounting dimension						
Type	Size	Shaft assemblies	L2	L1	D2	D1
H3..V	05 / 06	A + B + C + D	-30 / 5	560	480	385
	07 / 08	A + B + C + D	55 / 100	585	550	430
	09 / 10	A + B + C + D	140 / 190	610	565	500
	11 / 12	A + B + C + D	375 / 445	530	625	560
H4..V	07 / 08	A + C	55 / 100	600	550	430
		B + D	0 / 45	680	550	430
	09 / 10	A + C	140 / 190	625	565	500
		B + D	85 / 135	705	565	500
11 / 12	A + C	375 / 445	550	625	560	
		B + D	320 / 390	635	625	560

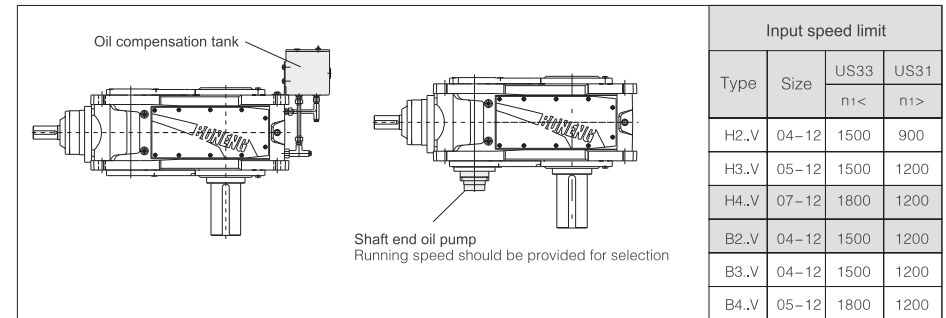
Mounting dimension						
Type	Size	Shaft assemblies	L4	L3	D4	D3
B2..V	05 / 06	A + B + C + D	-160 / -125	480	470	415
	07 / 08	A + B + C + D	5 / 50	480	525	510
	09 / 10	A + B + C + D	60 / 110	480	565	570
	11 / 12	A + B + C + D	150 / 220	480	625	660
B3..V	05 / 06	A + B + C + D	-85 / -50	480	480	365
		A + B + C + D	-5 / 40	480	550	430
	09 / 10	A + B + C + D	65 / 115	480	565	500
		A + B + C + D	280 / 350	480	625	560
B4..V	05 / 06	A + B + C + D	-35 / 0	480	480	385
	07 / 08	A + B + C + D	55 / 100	480	550	430
	09 / 10	A + B + C + D	140 / 190	615	565	500
	11 / 12	A + B + C + D	375 / 445	530	625	560

16.4 Backstop(Accessory code:UB11)



△ Note:Rotation direction means the rotation direction of output shaft d when facing output shaft.

16.5 Oil compensation tank(Accessory code:US33) and shaft end oil pump (Accessory code:US33)



16.6 Lubrication oil

16.6.1 Oil quantity

Size	Oil Quantity Table (L)																	
	H2..H	H3..H	H4..H	B2..H	B3..H	B4..H	H2..V	H3..V	H4..V	B2..V	B3..V	B4..V						
	①	①	①	①	①	①	② ③	② ③	② ③	② ③	② ③	② ③						
04	10	—	—	10	9	—	25	—	—	—	28	—	28	—	—			
05	15	15	—	16	14	16	23	10	35	13	—	41	20	32	12	36	15	
06	16	17	—	19	15	18	27	11	37	15	—	50	23	35	13	40	16	
07	27	28	25	31	25	30	58	22	60	25	50	20	75	35	52	22	60	30
08	30	30	27	34	28	33	62	25	72	30	60	25	90	38	67	28	70	35
09	42	45	48	48	40	48	100	42	100	40	95	38	115	53	115	48	110	60
10	45	46	50	50	42	50	110	46	110	45	110	45	135	60	125	52	130	67
11	71	85	80	80	66	80	160	60	170	66	165	65	190	86	180	75	180	75
12	76	90	87	95	72	90	180	70	190	75	180	75	215	95	200	85	195	85

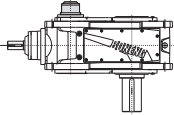
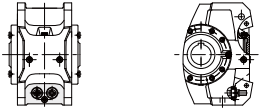
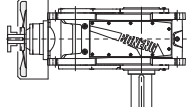
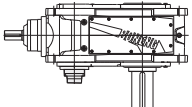
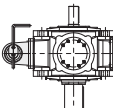
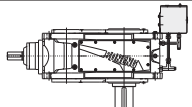
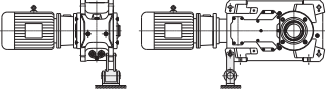
△ Note:1.① Oil tank splash lubrication ②Dip-in lubrication ③ Forced lubrication.
2.The above data are average values.

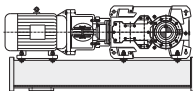
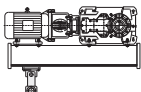
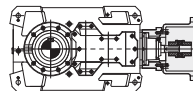
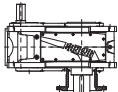
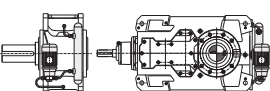
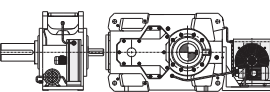
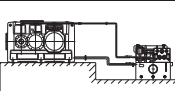
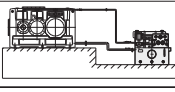
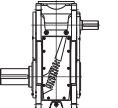

16.6.2 Lubrication oil (heavy-loading industrial gear oil) viscosity number selection[VG320(Accessory code:UV32);VG460(Accessory code:UV46)]

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.

16.7 Accessories code table:

Code	Accessories	Example
UB11	Backstop	
UC21	Inner cooling coil	
UF21	Cooling fan	
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	
Please consult	Torque arm	

Code	Accessories	Example
Please consult	Gear box swing base	
	Swing base with torque arm	
	Input connection flange	
	Mounting flange	
	External water-oil cooler	
	External wind air-oil cooler	
	Pipeline(Customer build oil station)	
	Oil station	
	Upright mounting	
	Electric heater	
	Shaft sealing of other categories	

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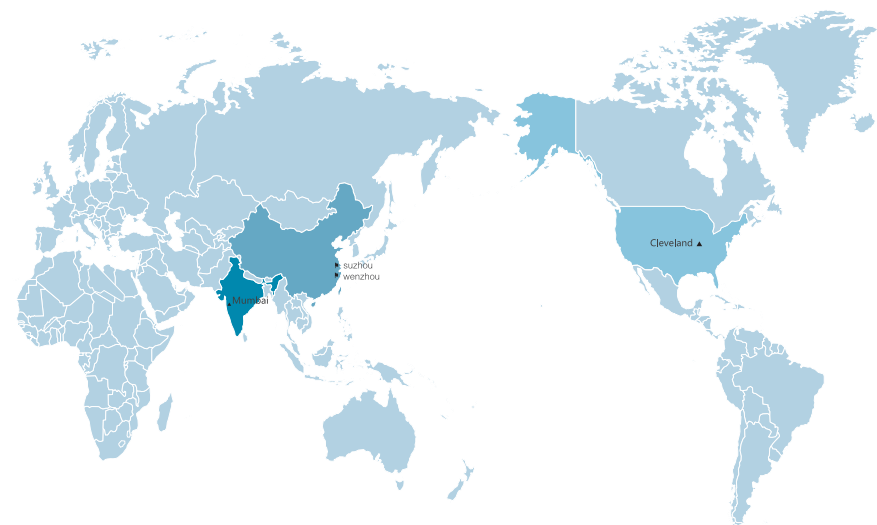
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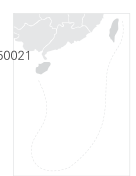


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Along with the technology advanced et.,the product of the manual of
Boneng will be changed,please forgive.