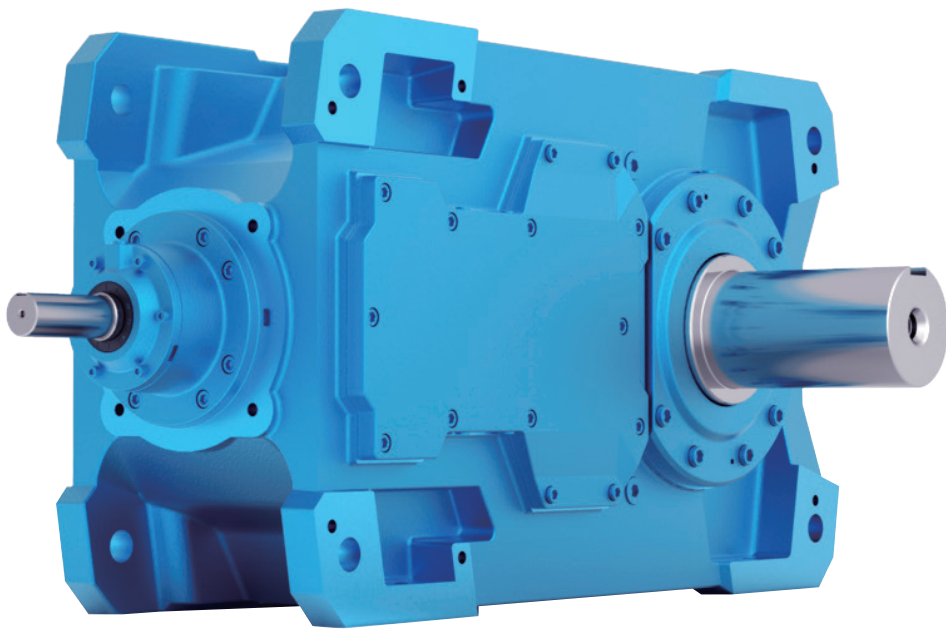


**BONENG**



**H Helical Gearbox &B  
Bevel-helical Gearbox Sizes 4-12**

Edit date 10/2021  
Selection Sample C05.0001-EN

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**Boneng Transmission**



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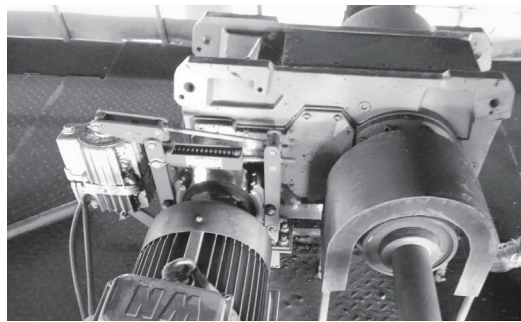
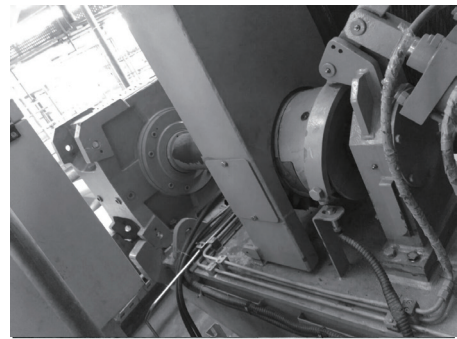
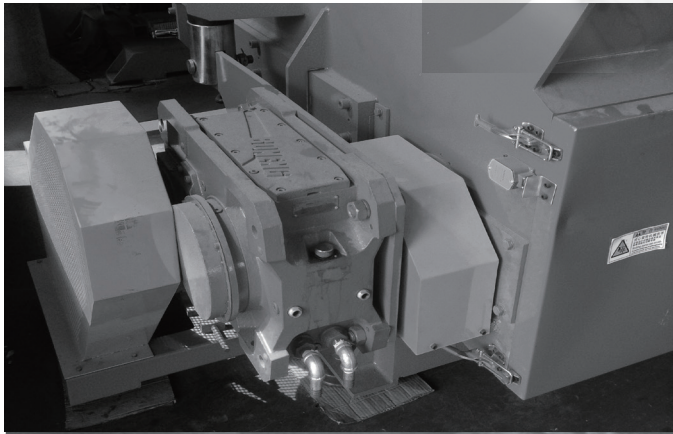
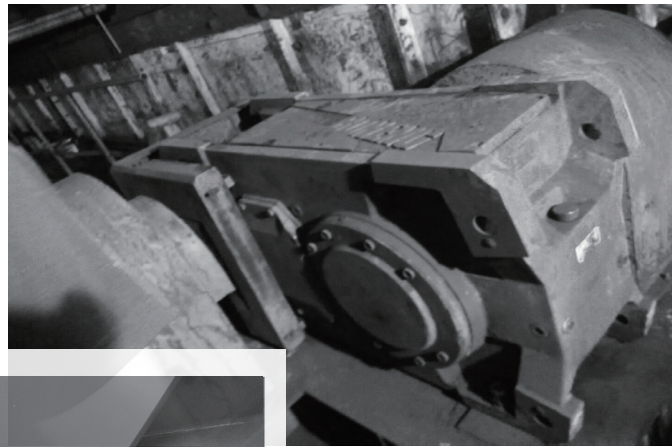
# **BONENG** H Helical Gearbox & B Bevel-helical Gearbox



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

Compared with internationally advanced gearbox and the original H&B industrial gearbox of Boneng, the new type H&B heavy duty gearbox 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 design can effectively reduce the temperature during gearbox running.
- ◆ Output shaft sealing applies double oil sealing, the sealing is more reliable, the applications are wider.



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

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

### Product Function Mark



Oil glass



Breather



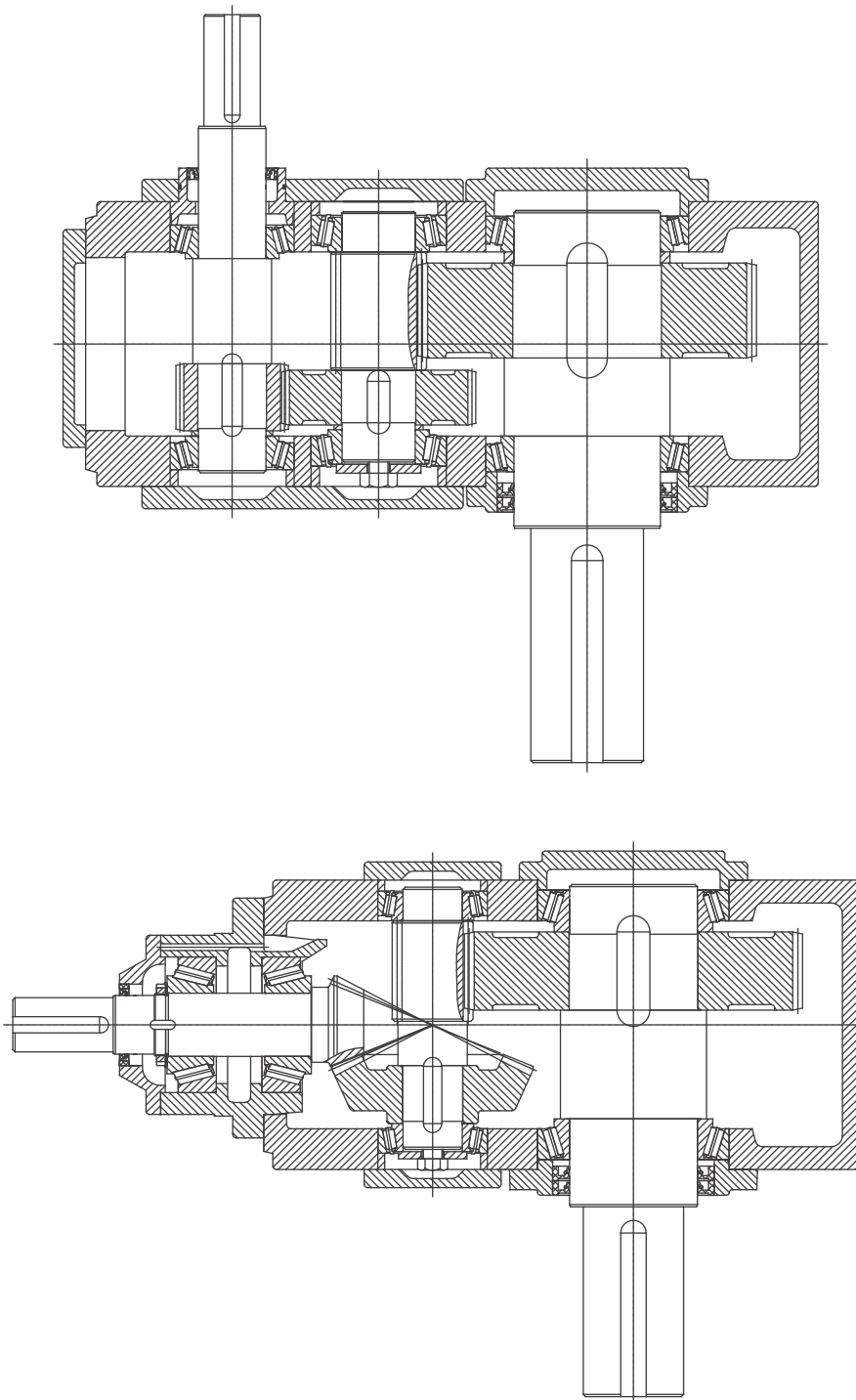
Oil filler



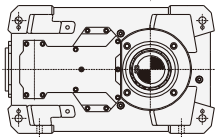
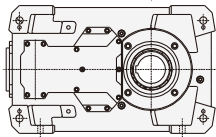
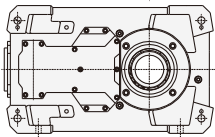
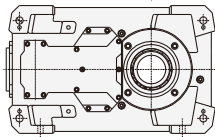
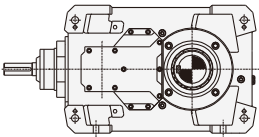
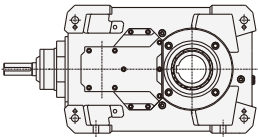
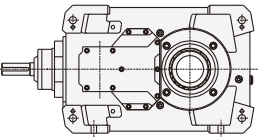
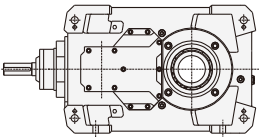
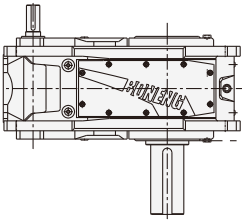
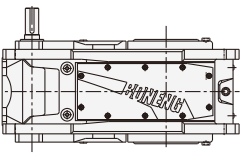
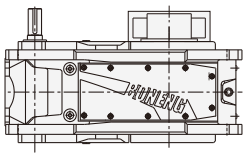
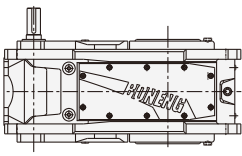
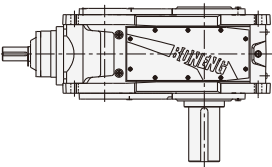
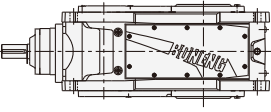
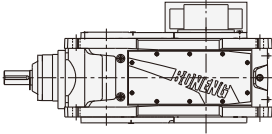
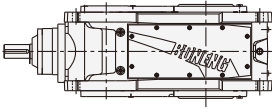
Oil drain

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**1. Structure scheme :**

**2.Mounting mode:**

Horizontal mounting				
	Solid shaft	Hollow shaft	Hollow shaft with shrink disk	Hollow shaft with involute spline
H series 6.3-450	 H...HS	 H...HH	 H...HD	 H...HK
B series 6.3-400	 B...HS	 B...HH	 B...HD	 B...HK
Vertical mounting				
	Solid shaft	Hollow shaft	Hollow shaft with shrink disk	Hollow shaft with involute spline
H series iN= 6.3 - 450	 H...VS	 H...VH	 H...VD	 H...VK
B series iN= 6.3 - 400	 B...VS	 B...VH	 B...VD	 B...VK



### 3.Selection:

Serial	Definition	Symbol	Parameter calculation					
1	Driven equipment factor	f1	Refer to page5 f1 table					
2	Prime mover factor	f2	Prime mover facto		f2			
			Motor, hydraulic motor, turbine		1.0			
			4-6 Cylinder piston engine, cyclic variation 1:100 to 1: 200		1.25			
			1-3 Cylinder piston engine, cyclic variation 1:100		1.5			
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	$\eta$	2-stage:96%, 3-stage:94%, 4-stage:92%					
6	Input speed	n1	$\leq 1800r/min$ For higher speed, please consult us.					
7	Determination of ratio	i	$i=n1/n2$					
8	Confirm gear unit input power with torque or power needed by driven equipment.	P1	$P1=T2 \cdot n1/(9550 \cdot i \cdot \eta)$ or $P1=P2/\eta$					
9	According to calculation, check transmission capacity table to determine gear unit size	T2N、 P1N	$T2N \geq T2 \cdot f1 \cdot f2 \cdot SF$ or $P1N \geq P1 \cdot f1 \cdot f2 \cdot SF$ If it doesn't satisfy conditions: $3.33 \cdot P1 \geq P1N$ , Please consult us.					
10	Peak torque verification *	TA	$P1N \geq TA \cdot n1 \cdot f3/9550$	Load peaks per hour				
				f3	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	Fr1/Fr2 Fa1/Fa2	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			
			Lubrication methods for selection: 1) Splash lubrication 2) Dip-in lubrication 3) Forced lubrication Shaft end pump lubrication Motor oil pump lubrication Oil station lubrication		Lubrication methods for selection: 1) Dip-in lubrication 2) Forced lubrication Shaft end pump lubrication Motor oil pump lubrication Oil station lubrication			
13	Determine cooling method		1) If it satisfies the following condition, the gear unit will not be equipped with auxiliary cooling device. $P1 \leq PGA \times f4 \times f8$ 2) If it satisfies the following condition, the gear unit will be equipped with cooling fan. $P1 \leq PGB \times f4 \times f8$ 3) If it satisfies the following condition, the gear unit will be equipped with cooling coil. $P1 \leq PGC \times f5 \times f8$ 4) If it satisfies the following condition, the gear unit will be equipped with water-oil cooler. $P1 \leq PGD \times f5 \times f8$ 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 f4、 f5、 f8).					
14	Determine each item according to type designation		Refer to page 4.					

\* 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)

Gearbox safety factor <b>S<sub>F</sub></b>	
For ordinary equipment, only single machine stops production when gear unit fails. easy to replace spare parts and minor loss occurred.	$1.0 \leq S_F \leq 1.3$
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.	$1.3 < S_F \leq 1.5$
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.	$1.5 < S_F$

Thermal factor <b>f<sub>4</sub></b>					
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

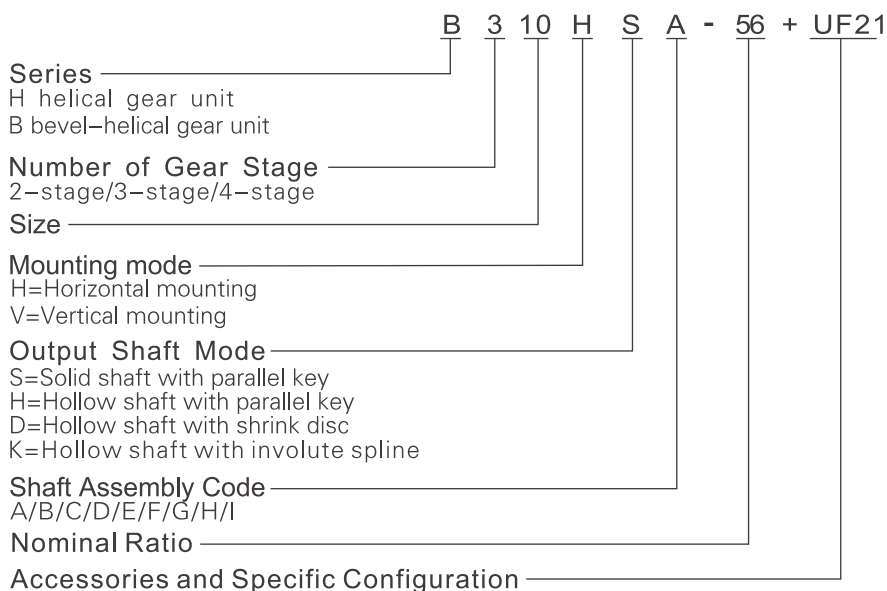
Thermal factor <b>f<sub>5</sub></b>					
Gear unit with cooling coil or with cooling coil and fan					
Ambient temperature	Operating cycle per hour				
	100	80	60	40	20
10 °C	1.05	1.23	1.50	2.03	3.41
20 °C	1.00	1.17	1.43	1.93	3.25
30 °C	0.93	1.09	1.33	1.79	3.02
40 °C	0.87	1.02	1.24	1.68	2.83
50 °C	0.81	0.95	1.16	1.56	2.63

⚠ Note: Operating cycle ED;  $ED = \frac{t_f}{t_f + t_r} \cdot 100\%$   
 t<sub>f</sub>: Working time with loading; t<sub>r</sub>: Stop time.

Vertical mounted gear unit oil supply factor. For horizontally mounted gear unit f <sub>8</sub> =1.0 When forced lubrication applied, f <sub>8</sub> =1.05 <b>f<sub>8</sub></b>					
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							f1
Driven equipment	Daily operating time with load (hour)			Driven equipment	Daily operating time with load (hour)		
	≤2	>2-10	>10		≤2	>2-10	>10
<b>Sewage treatment</b>				<b>Conveying machine</b>			
Concentrator(Central Transmission)	-	-	1.2	Bucket conveyor	-	1.4	1.5
Compressed filter	1.0	1.3	1.5	Winch	1.4	1.6	1.6
Flocculator	0.8	1.0	1.3	Hoist	-	1.5	1.8
Aerator	-	1.8	2.0	Belt conveyor≤150kW	1.0	1.2	1.3
Collector	1.0	1.2	1.3	Belt conveyor≥150kW	1.1	1.3	1.4
Vertical,rotary group				Elevators for goods*	-	1.2	1.5
Blended collector	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							
Centrifugal pump	1.0	1.2	1.3				
Volume-down pump							
1 Piston	1.3	1.4	1.8				
>1 Piston	1.2	1.4	1.5	Various frequency device	-	1.8	2.0
<b>Dredge</b>				<b>Reciprocating compressor</b>	-	1.8	1.9
Bucket conveyor	-	1.6	1.6				
Unloading device	-	1.3	1.5	<b>Hoisting mechanism**</b>			
Caterpillar travelling mechanism	1.2	1.6	1.8	Rotary mechanism*		1.4	1.8
Bucket digger				Pitching mechanism		1.1	1.4
Be used for picking up	-	1.7	1.7	Traveling mechanism		1.6	2.0
Be used for rough materials	-	2.2	2.2	Lifting mechanism		1.1	1.4
Chopper	-	2.2	2.2	Jibcrane		1.2	1.6
Traveling mechanism*	-	1.4	1.8				
<b>Plate blender</b>	-	1.0	1.0	<b>Cooling tower</b>			
				Cooling tower fan	-	-	2.0
<b>Chemical industry</b>				Fan (Shaft flow and centrifugal type)	-	1.4	1.5
Extruder	-	-	1.6				
Paste mixer	-	1.8	1.8	<b>Food industry</b>			
Rubber calendar	-	1.5	1.5	Sugar production	-	-	1.7
Cooling cylinder	-	1.3	1.4	Sugar-cane cutter*			
Material mixer, be used for				Sugar crane mill	-	-	1.7
Uniform medium	1.0	1.3	1.4	Beet sugar production			
Non-uniform medium	1.4	1.6	1.7	Beet masher	-	-	1.2
Blender, be used for				Squeeze machine, mechanical refrigerator,			
Uniform density medium	1.0	1.3	1.5	Cooking machine	-	-	1.4
Un-uniformed medium	1.2	1.4	1.6	Beet cleaner			
Un-uniformed gas absorption	1.4	1.6	1.8	Beet chopper	-	-	1.5
Oven	1.0	1.3	1.5				
Centrifugal machine	1.0	1.2	1.3	<b>Paper-making machinery</b>			
<b>Metal processing equipment</b>				Various kinds***	-	1.8	2.0
Plate turnover	1.0	1.0	1.2	Pulper driving device	Supply goods according to customer requirements		
Steel pushing device	1.0	1.2	1.2				
Winding machine	-	1.6	1.6	<b>Centrifugal compressor</b>	-	1.4	1.5
Cooling bed transverse frame	-	1.5	1.5				
Roller leveler	-	1.6	1.6	<b>Rope way cable car</b>			
Roller path				Delivery ropeway	-	1.3	1.4
Continuous	-	1.5	1.5	Cableway of shuttle system	-	1.6	1.8
Interval	-	2.0	2.0	T rod elevator	-	1.3	1.4
Reversing mill	-	1.8	1.8	Continuous cableway	-	1.4	1.6
Cutter							
Continuous*	-	1.5	1.5	<b>Cement industry</b>			
Crank type*	1.0	1.0	1.0	Concrete blender	-	1.5	1.5
Continuous casting driving device	-	1.4	1.4	Crusher**	-	1.2	1.4
Rolling mill				Rotary kiln	-	-	2.0
Reversing cogging mill	-	2.5	2.5	Tube mill	-	-	2.0
Reversing plate slab mill	-	2.5	2.5	Powder concentrator	-	1.6	1.6
Reversing wire mill	-	1.8	1.8	Roller press	-	-	2.0
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 <sub>1</sub>		
Driven equipment	Daily operating time with load (hour)			Driven equipment	Daily operating time with load (hour)				
	≤2	> 2-10	> 10		≤2	> 2-10	> 10		
<b>Wood industry</b>				<b>Plastics industry</b>					
Barking machine				Miller, compound grinding、					
Feed drive	1.25	1.25	1.50	Coating, film、	1.25	1.25	1.25		
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				Blow film, to plasticizing					
Main loading, heavy loading	1.50	1.50	1.50	Batch mixer	1.75	1.75	1.75		
Main original wood, land base	1.75	1.75	2.00						
Conveying chain				<b>Rubber industry</b>					
Floor	1.50	1.50	1.50	Continuous strong inner mixer, Mix roller,	1.50	1.50	1.50		
Green-wood	1.50	1.50	1.75	Batch feeding mixer (except for double sticks)					
Cutting Chain				Refiner, calender					
Saw transmission, traction	1.50	1.50	1.75	Double roller clamp feeding and mixed miller	1.25	1.25	1.50		
Peeling barrel	1.75	1.75	2.00	Batch strong inner mixer, Double stick single groove grain stick					
Feed drive				Miller heater, double sticks					
Edging, wood trimmer、				Batch feeding mixer	1.75	1.75	1.75		
Planer feed, assorting table,	1.25	1.25	1.50	Grinder, Crusher heater, double					
Automatic incline lifting				Rolls, Batch charing grinder	2.00	2.00	2.00		
Multi-shaft feed, raw wood	1.75	1.75	1.75	Wave roll crusher					
Transportation and rotation				<b>Generator and exciter</b>	1.00	1.00	1.25		
Transportation				<b>Hammer crusher</b>	1.75	1.75	2.00		
Charging tray、				<b>Sand miller</b>	1.25	1.25	1.50		
Plywood lathe drive、	1.50	1.50	1.75						
Conveying chain, Lifting									

- ⚠ Note: 1. Determine required power P<sub>2</sub> 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.
- 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.
  - 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	$N \cdot m$
$T_{2N}$	Rated output torque	
$T_A$	Max.Torque occurring on input shaft, e.g.Peak operating,starting or braking torque	
$T_{n2atmax}$	Nominal output torque at highest speed	
$T_{n2atmin}$	Nominal output torque at lowest speed	
$P_{1N}$	Rated input power	kW
$P_{GA}$	Nominal thermal capacity of gearbox without auxiliary cooling equipment	
$P_{GB}$	Nominal thermal capacity gearbox with cooling fan	
$P_{GC}$	Nominal thermal capacity of gearbox with cooling coil	
$P_{GD}$	Normal thermal capacity of gearbox with water–oil cooler	
$P_1$	Input power	
$P_2$	Required power of driven machine	
$f_1$	Driven machine factor	/
$f_2$	Prime mover factor	
$f_3$	Peak load factor	
$f_4$	Thermal factor(Without auxiliary cooling,or with fan cooling)	
$f_5$	Thermal factor(with water–oil cooler)	
$f_8$	Oil supply factor for vertical gearbox	
$S_F$	Safety factor of gearbox	
$n_1$	Input speed	r/min
$n_2$	Output speed	
$n_{2N}$	Nominal output speed	
$\eta$	Efficiency	/
$f$	Motor frequency	Hz
$U_m$	Motor voltage	V
ED	Operating cycle per hour	%

## 6 Selection example

### Known conditions:

#### Prime mover:

Motor power: 90kW

Motor speed:  $n_1=1450\text{r/min}$

Maximum starting torque:  $T_A=860\text{N.m}$

(This value is usually provided by the users.If not,normal torque $\times 1.6$  preails)

#### Driven equipment (working machine):

Type: Belt conveyor

Speed:  $n_2=33\text{r/min}$

Required power:  $P_2=72\text{kW}$

Duty: 12 hours/day

Starts per hour: 7

Operating cycle per hour: 100%

Ambient temperature:  $40^\circ\text{C}$

Place of installation: Outdoor mounting

Altitude: 500m

#### Gear box:

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)

### Selection procedure:

#### 1.Calculation of ratio:

$$i=n_1/n_2=1450/33=43.9 \quad i_N=45$$

#### 2.Determine rated power of gear box

$$P_1=P_2/\eta=72/(94\%)=76.6\text{kW}$$

$$P_{1N} \geq P_1 \cdot f_1 \cdot f_2 \cdot S_F=76.6 \times 1.3 \times 1 \times 1.4=139.4\text{kW}$$

Refer to transmission capacity table B3, select size 10  $P_{1N}=146\text{kW}$

$$3.33 \cdot P_1=3.33 \times 76.6=255.1\text{kW} \geq P_{1N} \quad \text{Satisfy requirements}$$

#### 3.Peak torque verification

$$P_{1N} \geq T_A \cdot n_1 \cdot f_3/9550 =860 \times 1450 \times 0.65/9550=84.9\text{kW}$$

$$P_{1N}=146\text{kW} \geq 84.9\text{kW} \quad \text{Satisfy requirements}$$

#### 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

#### 5.Determine gear unit type:B310HSC-45+UF21+UB11

## 7 Transmission Capacity table: H2 (iN=1.8–5.6):

iN	n <sub>1</sub> (r/min)	n <sub>2N</sub> (r/min)	H204		H205			H206			H207			H208						
			T <sub>2N</sub> (kN•m)	i <sub>ex</sub>	P <sub>1N</sub> (kW)	T <sub>2N</sub> (kN•m)	i <sub>ex</sub>	P <sub>1N</sub> (kW)	T <sub>2N</sub> (kN•m)	i <sub>ex</sub>	P <sub>1N</sub> (kW)	T <sub>2N</sub> (kN•m)	i <sub>ex</sub>	P <sub>1N</sub> (kW)	T <sub>2N</sub> (kN•m)	i <sub>ex</sub>	P <sub>1N</sub> (kW)			
1.8	1740	967	4.5	1.781	460															
	1450	806			384															
	1150	639			304															
	960	533			254															
2	1740	870	4.4	1.950	411			6.8	1.949		636									
	1450	725			343					530										
	1150	575			272					420										
	960	480			227					351										
2.24	1740	777	4.7	2.305	371			6.8	2.182		568			14	2.205	1157				
	1450	647			310					473			964							
	1150	513			246					375			764							
	960	429			205					313			638							
2.5	1740	696	4.5	2.583	317			6.2	2.573		439			14	2.466	1034				
	1450	580			265					366			862							
	1150	460			210					290			684							
	960	384			175					242			571							
2.8	1740	621	4.6	2.758	304			6	2.792		392			15	2.744	996				
	1450	518			253					326			830							
	1150	411			201					259			658							
	960	343			168					216			549							
3.15	1740	552	4.5	3.155	260			6.8	3.260		380			16.5	3.091	973				
	1450	460			217					317			810							
	1150	365			172					251			643							
	960	305			143					210			537							
3.55	1740	490	3.2	3.508	166			6.8	3.612		343			16.5	3.563	844				
	1450	408			139					286			703							
	1150	324			110					227			558							
	960	270			92					189			466							
4	1740	435	3.2	3.978	147			5.5	3.831		262			16.3	3.931	755				
	1450	363			122					218			630							
	1150	288			97					173			499							
	960	240			81					144			417							
4.5	1740	387	3.2	4.459	131			5.3	4.354		222			15.2	4.354	636				
	1450	322			109					185			530							
	1150	256			86					147			420							
	960	213			72					122			351							
5	1740	348	3.2	5.089	115			5.2	4.872		194			14.8	4.845	557				
	1450	290			95					162			464							
	1150	230			76					129			368							
	960	192			63					107			307							
5.6	1740	311	3.2	5.424	107			5.2	5.410		175			14.2	5.499	471				
	1450	259			90					146			392							
	1150	205			71					116			311							
	960	171			59					97			260							

Note: Forced lubrication required on horizontal gearbox.

H209			H210			H211			H212			n <sub>2N</sub> (r/min)	n <sub>1</sub> (r/min)	i <sub>N</sub>		
T <sub>2N</sub> (kN•m)	i <sub>ex</sub>	P <sub>1N</sub> (kW)	T <sub>2N</sub> (kN•m)	i <sub>ex</sub>	P <sub>1N</sub> (kW)	T <sub>2N</sub> (kN•m)	i <sub>ex</sub>	P <sub>1N</sub> (kW)	T <sub>2N</sub> (kN•m)	i <sub>ex</sub>	P <sub>1N</sub> (kW)					
												967	1740	1.8		
												806	1450			
												639	1150			
												533	960			
												870	1740	2		
												725	1450			
												575	1150			
												480	960			
28	2.238	2280				42	2.175	3518				777	1740	2.24		
		1900						2932			647	1450				
		1507						2325			513	1150				
		1258						1941			429	960				
28	2.523	2022				44	2.471	3245				696	1740	2.5		
		1685						2704			580	1450				
		1336						2145			460	1150				
		1115						1790			384	960				
29	2.915	1813				46	2.814	2978				621	1740	2.8		
		1511						2482			518	1450				
		1198						1968			411	1150				
		1000						1643			343	960				
29	3.325	1589				42	3.077	2487				552	1740	3.15		
		1324						2073			460	1450				
		1050						1644			365	1150				
		877						1372			305	960				
30	3.563	1534				42	3.431	2230	58	3.566	2964	490	1740	3.55		
		1279						1858					2470		408	1450
		1014						1474					1959		324	1150
		847						1230					1635		270	960
30	3.850	1420				42	3.904	1960	63	4.050	2834	435	1740	4		
		1183						1634					2362		363	1450
		938						1296					1873		288	1150
		783						1082					1564		240	960
26	4.453	1064				40	4.412	1652	67	4.613	2646	387	1740	4.5		
		886						1377					2205		322	1450
		703						1092					1749		256	1150
		587						911					1460		213	960
24	4.975	879				40	5.066	1438	62	5.044	2240	348	1740	5		
		732						1199					1866		290	1450
		581						951					1480		230	1150
		485						794					1236		192	960
22	5.608	715				38	5.798	1194	64	5.625	2073	311	1740	5.6		
		596						995					1728		259	1450
		472						789					1370		205	1150
		394						659					1144		171	960



## 7 Transmission Capacity table:

H2 (iN=6.3-22.4):

iN	n <sub>1</sub> (r/min)	n <sub>2N</sub> (r/min)	H204			H205			H206			H207			H208			
			T <sub>2N</sub> (kN·m)	i <sub>ex</sub>	P <sub>1N</sub> (kW)	T <sub>2N</sub> (kN·m)	i <sub>ex</sub>	P <sub>1N</sub> (kW)	T <sub>2N</sub> (kN·m)	i <sub>ex</sub>	P <sub>1N</sub> (kW)	T <sub>2N</sub> (kN·m)	i <sub>ex</sub>	P <sub>1N</sub> (kW)	T <sub>2N</sub> (kN·m)	i <sub>ex</sub>	P <sub>1N</sub> (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					21.2	89	16.5	21.8	135	20.3	22.7	160	27.5	22.4	224	
	1450	64.7						74			113			133			187	
	1150	51.3						59			90			105			148	
	960	42.9						49.0			75			88			124	

H209			H210			H211			H212			$n_{2N}$	$n_1$	$i_N$
$T_{2N}$ (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)	(r/min)	(r/min)	
33.7	6.28	973	44.2	6.20	1279	60	6.09	1714	74	6.09	2140	276	1740	6.3
		811			1066			1428			1783	230	1450	
		643			845			1133			1414	183	1150	
		537			706			945			1180	152	960	
33.7	7.08	863	44.2	6.99	1144	60	6.91	1519	74	6.92	1898	245	1740	7.1
		719			954			1266			1582	204	1450	
		570			756			1004			1255	162	1150	
		476			631			838			1047	135	960	
33.7	8.18	769	44.2	8.08	1001	60	7.87	1354	74	7.88	1685	218	1740	8
		641			834			1128			1404	181	1450	
		508			662			895			1114	144	1150	
		424			552			747			930	120	960	
33.7	9.33	683	44.2	9.22	886	60	8.61	1201	74	8.62	1496	193	1740	9
		569			738			1001			1247	161	1450	
		451			585			794			989	128	1150	
		377			489			663			826	107	960	
33.7	10.0	613	44.2	9.88	831	60	9.60	1080	74	9.61	1344	174	1740	10
		511			692			900			1120	145	1450	
		405			549			714			888	115	1150	
		338			458			596			742	96.0	960	
33.7	10.8	547	46.5	10.7	773	60	10.9	965	74	10.9	1201	155	1740	11.2
		456			644			804			1001	129	1450	
		362			511			638			794	103	1150	
		302			426			532			663	85.7	960	
33.7	12.5	491	46.5	12.3	675	60	12.3	864	74	12.4	1075	139	1740	12.5
		409			562			720			896	116	1450	
		324			446			571			711	92.0	1150	
		271			372			477			593	76.8	960	
33.7	14.0	437	46.5	13.8	608	60	14.2	770	74	14.2	958	124	1740	14
		364			507			642			798	104	1450	
		289			402			509			633	82.1	1150	
		241			336			425			528	68.6	960	
33.7	15.7	384	46.5	15.5	544	60	16.2	677	74	16.2	842	109	1740	16
		320			453			564			702	90.6	1450	
		254			359			447			557	71.9	1150	
		212			300			373			465	60.0	960	
33.7	17.4	338	48.5	17.2	495	60	17.9	598	74	17.9	744	96.7	1740	18
		282			412			498			620	80.6	1450	
		224			327			395			492	63.9	1150	
		187			273			330			410	53.3	960	
33.7	19.6	306	48.5	19.3	443	60	20.1	540	74	20.1	672	87.0	1740	20
		255			370			450			560	72.5	1450	
		202			293			357			444	57.5	1150	
		169			245			298			371	48.0	960	
33.1	21.7	269	48.5	21.4	403	60	22.1	474	74	22.2	600	77.7	1740	22.4
		224			336			395			500	64.7	1450	
		178			266			313			397	51.3	1150	
		148			222			262			331	42.9	960	

## 7 Transmission Capacity table:

H3(iN=16-100):

iN	n <sub>1</sub> (r/min)	n <sub>2N</sub> (r/min)	H305			H306			H307			H308		
			T <sub>2N</sub> (kN·m)	i <sub>ex</sub>	P <sub>1N</sub> (kW)	T <sub>2N</sub> (kN·m)	i <sub>ex</sub>	P <sub>1N</sub> (kW)	T <sub>2N</sub> (kN·m)	i <sub>ex</sub>	P <sub>1N</sub> (kW)	T <sub>2N</sub> (kN·m)	i <sub>ex</sub>	P <sub>1N</sub> (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	56	21.7	63.2	62	30.0	62.4	86
	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	48.5	21.7	70.9	54	30.0	69.9	78
	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 <sub>2N</sub> (r/min)	n <sub>1</sub> (r/min)	i <sub>N</sub>		
T <sub>2N</sub> (kN·m)	i <sub>ex</sub>	P <sub>1N</sub> (kW)	T <sub>2N</sub> (kN·m)	i <sub>ex</sub>	P <sub>1N</sub> (kW)	T <sub>2N</sub> (kN·m)	i <sub>ex</sub>	P <sub>1N</sub> (kW)	T <sub>2N</sub> (kN·m)	i <sub>ex</sub>	P <sub>1N</sub> (kW)					
35.7	15.4	407	47	15.2	535	64	15.3	724	78	15.3	888	109.0	1740	16		
		339			446			603			740				90.6	1450
		269			354			478			587				71.9	1150
		224			295			399			490				60.0	960
35.7	17.2	362	47	17.0	476	64	17.1	643	78	17.1	789	96.7	1740	18		
		301			396			536			658				80.6	1450
		239			314			425			522				63.9	1150
		200			262			355			435				53.3	960
35.7	20.3	325	47	20.1	428	64	19.0	579	78	19.0	710	87.0	1740	20		
		271			357			482			592				72.5	1450
		215			283			383			470				57.5	1150
		180			236			319			392				48.0	960
35.7	22.0	291	47	21.8	382	64	21.4	517	78	21.5	634	77.7	1740	22.4		
		242			319			431			529				64.7	1450
		192			253			342			419				51.3	1150
		160			211			285			350				42.9	960
35.7	25.7	260	47	25.4	343	64	24.7	462	78	24.7	568	69.6	1740	25		
		217			285			385			474				58.0	1450
		172			226			305			376				46.0	1150
		144			189			255			314				38.4	960
35.7	28.5	233	47	28.2	306	64	27.2	416	78	27.3	507	62.1	1740	28		
		194			255			347			423				51.8	1450
		154			202			275			335				41.1	1150
		128			169			230			280				34.3	960
35.7	29.9	208	47	29.5	272	64	32.0	370	78	32.1	450	55.2	1740	31.5		
		173			227			308			375				46.0	1450
		137			180			244			297				36.5	1150
		115			150			204			248				30.5	960
35.7	35.2	182	47	34.8	241	64	35.6	324	78	35.7	394	49.0	1740	35.5		
		152			201			270			328				40.8	1450
		121			159			214			260				32.4	1150
		101			133			179			217				27.0	960
35.7	38.2	164	47	37.7	214	64	40.1	293	78	40.2	356	43.5	1740	40		
		137			178			244			297				36.3	1450
		109			141			194			236				28.8	1150
		91			118			162			197				24.0	960
35.7	44.6	143	47	44.1	190	64	46.3	254	78	46.3	308	38.7	1740	45		
		119			159			212			257				32.2	1450
		94			126			168			204				25.6	1150
		79			105			140			170				21.3	960
35.7	49.4	130	47	48.8	171	64	51.0	230	78	51.1	281	34.8	1740	50		
		108			143			192			234				29.0	1450
		86			113			152			186				23.0	1150
		72			94			127			155				19.2	960
35.7	52.4	116	47	51.8	153	64	56.5	208	78	56.6	253	31.1	1740	56		
		97			127			173			211				25.9	1450
		77			101			137			167				20.5	1150
		64			84			115			140				17.1	960
35.7	59.6	103	47	58.8	136	64	62.9	185	78	63.0	226	27.6	1740	63		
		86			113			154			188				23.0	1450
		68			90			122			149				18.3	1150
		57			75			102			124				15.2	960
35.7	66.7	90	47	65.8	121	64	71.4	161	78	71.5	196	24.5	1740	71		
		75			101			134			163				20.4	1450
		59			80			106			129				16.2	1150
		50			67			89			108				13.5	960
35.7	74.0	82	47	73.1	107	64	79.3	145	78	79.40	175	21.8	1740	80		
		68			89			121			146				18.1	1450
		54			71			96			116				14.4	1150
		45.0			59			80			97				12.0	960
35.7	86.7	70	47	85.6	95	64	90.1	128	78	90.2	156	19.3	1740	90		
		58			76			107			130				16.1	1450
		46.0			63			85			103				12.8	1150
		38.4			52			71			86				10.7	960
35.7	93.2	63	47	92.0	86	64	103.4	115	78	103.5	140	17.4	1740	100		
		52			71			96			117				14.5	1450
		41.4			57			76			93				11.5	1150
		34.6			47.2			64			77				9.6	960

## 7 Transmission Capacity table:

H4 (iN=71-400)

iN	n <sub>1</sub> (r/min)	n <sub>2N</sub> (r/min)	H407			H408			H409		
			T <sub>2N</sub> (kN·m)	i <sub>ex</sub>	P <sub>1N</sub> (kW)	T <sub>2N</sub> (kN·m)	i <sub>ex</sub>	P <sub>1N</sub> (kW)	T <sub>2N</sub> (kN·m)	i <sub>ex</sub>	P <sub>1N</sub> (kW)
71	1740	24.5	21.7	71.2	56	28.5	70.3	71	35.7	65.9	91
	1450	20.4			46.5			59			76
	1150	16.2			36.9			46.8			60
	960	13.5			30.8			39.1			50
80	1740	21.8	21.7	81.1	48.7	28.5	80.0	62	35.7	74.9	81
	1450	18.1			40.6			52			67
	1150	14.4			32.2			41.2			53
	960	12.0			26.9			34.4			44.5
90	1740	19.3	21.7	89.9	43.3	28.5	88.7	56	35.7	86.8	72
	1450	16.1			36.1			47.0			60
	1150	12.8			28.6			37.3			47.4
	960	10.7			23.9			31.1			39.5
100	1740	17.4	21.7	103.1	39.6	28.5	101.8	50	35.7	94.6	65
	1450	14.5			33.0			42.0			54
	1150	11.5			26.2			33.3			42.8
	960	9.6			21.8			27.8			35.8
112	1740	15.5	21.7	116.0	34.8	28.5	114.5	44.6	35.7	106.4	58
	1450	12.9			29.0			37.2			48.0
	1150	10.3			23.0			29.5			38.1
	960	8.57			19.2			24.6			31.8
125	1740	13.9	21.7	126.6	31.2	28.5	125.0	40.9	35.7	117.1	52
	1450	11.6			26.0			34.1			43.0
	1150	9.20			20.6			27.0			34.1
	960	7.68			17.2			22.6			28.5
140	1740	12.4	21.7	144.1	27.6	28.5	142.2	36.2	35.7	133.1	45.6
	1450	10.4			23.0			30.2			38.0
	1150	8.21			18.2			24.0			30.1
	960	6.86			15.2			20.0			25.2
160	1740	10.9	21.7	159.8	24.0	28.5	157.7	32.4	35.7	154.3	40.8
	1450	9.06			20.0			27.0			34.0
	1150	7.19			15.9			21.4			27.0
	960	6.00			13.2			17.9			22.5
180	1740	9.67	21.7	183.3	21.6	28.5	180.9	28.8	35.7	168.2	36.0
	1450	8.06			18.0			24.0			30.0
	1150	6.39			14.3			19.0			23.8
	960	5.33			11.9			15.9			19.9
200	1740	8.70	21.7	206.2	19.2	28.5	203.5	25.7	35.7	189.2	32.4
	1450	7.25			16.0			21.4			27.0
	1150	5.75			12.7			17.0			21.4
	960	4.80			10.6			14.2			17.9
224	1740	7.77	21.7	230.5	18.0	28.5	227.4	23.2	35.7	207.4	28.8
	1450	6.47			15.0			19.3			24.0
	1150	5.13			11.9			15.3			19.0
	960	4.29			9.9			12.8			15.9
250	1740	6.96	21.7	256.6	15.6	28.5	253.3	20.9	35.7	239.6	25.2
	1450	5.80			13.0			17.4			21.0
	1150	4.60			10.3			13.8			16.7
	960	3.84			8.6			11.5			13.9
280	1740	6.21	21.7	281.2	14.4	28.5	277.5	18.0	35.7	255.5	22.8
	1450	5.18			12.0			15.0			19.0
	1150	4.11			9.5			11.9			15.1
	960	3.43			7.9			9.9			12.6
315	1740	5.52	21.7	305.8	12.0	28.5	301.8	16.8	35.7	295	20.4
	1450	4.60			10.0			14.0			17.0
	1150	3.65			7.9			11.1			13.5
	960	3.05			6.6			9.3			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			

H410			H411			H412			n <sub>2N</sub> (r/min)	n <sub>1</sub> (r/min)	i <sub>N</sub>
T <sub>2N</sub> (kN·m)	i <sub>ex</sub>	P <sub>1N</sub> (kW)	T <sub>2N</sub> (kN·m)	i <sub>ex</sub>	P <sub>1N</sub> (kW)	T <sub>2N</sub> (kN·m)	i <sub>ex</sub>	P <sub>1N</sub> (kW)			
47	65.0	121	62	70.7	157	78	70.8	201	24.5	1740	71
		101			131			167	20.4	1450	
		80			104			133	16.2	1150	
		67			87			111	13.5	960	
47	73.9	107	62	77.4	139	78	77.5	176	21.8	1740	80
		89			116			147	18.1	1450	
		71			92			117	14.4	1150	
		59			77			97	12.0	960	
47	85.7	95	62	91.5	123	78	91.6	156	19.3	1740	90
		79			103			130	16.1	1450	
		63			82			103	12.8	1150	
		52			68			86	10.7	960	
47	93.5	86	62	102.5	112	78	102.6	140	17.4	1740	100
		71			93			117	14.5	1450	
		57			74			93	11.5	1150	
		47.2			62			77	9.6	960	
47	105.1	76	62	109.4	100	78	109.6	126	15.5	1740	112
		64			83			105	12.9	1450	
		51			66			84	10.3	1150	
		42.2			55			70	8.57	960	
47	115.6	69	62	125.2	89	78	125.4	114	13.9	1740	125
		57			74			95	11.6	1450	
		45.3			59			75	9.20	1150	
		37.8			49.0			63	7.68	960	
47	131.4	61	62	141.5	80	78	141.7	101	12.4	1740	140
		51			67			84	10.4	1450	
		40.4			53			67	8.21	1150	
		33.7			44.4			56	6.86	960	
47	152.4	54	62	167.3	70	78	167.5	88	10.9	1740	160
		44.6			58			73	9.06	1450	
		35.4			46.0			58	7.19	1150	
		29.5			38.4			48.3	6.00	960	
47	166.1	47.6	62	187.4	61	78	187.7	78	9.67	1740	180
		39.6			51			65	8.06	1450	
		31.4			40.4			52	6.39	1150	
		26.2			33.8			43.0	5.33	960	
47	186.8	42.8	62	200.1	55	78	200.4	71	8.70	1740	200
		35.7			46.0			59	7.25	1450	
		28.3			36.5			46.8	5.75	1150	
		23.6			30.5			39.1	4.80	960	
47	204.8	38.2	62	229.0	50	78	229.3	62	7.77	1740	224
		31.9			42.0			52	6.47	1450	
		25.3			33.3			41.2	5.13	1150	
		21.1			27.8			34.4	4.29	960	
47	236.6	34.3	62	254.5	44.4	78	254.9	56	6.96	1740	250
		28.5			37.0			47.0	5.80	1450	
		22.6			29.3			37.3	4.60	1150	
		18.9			24.5			31.1	3.84	960	
47	252.3	30.6	62	288.7	39.6	78	289.1	52	6.21	1740	280
		25.5			33.0			43.0	5.18	1450	
		20.2			26.2			34.1	4.11	1150	
		16.9			21.8			28.5	3.43	960	
47	291.3	27.2	62	323.5	34.8	78	324.0	45.6	5.52	1740	315
		22.7			29.0			38.0	4.60	1450	
		18			23.0			30.1	3.65	1150	
		15			19.2			25.2	3.05	960	
47	331.2	24.1	62	369.3	31.2	78	369.8	39.6	4.90	1740	355
		20.1			26.0			33.0	4.08	1450	
		15.9			20.6			26.2	3.24	1150	
		13.3			17.2			21.8	2.70	960	
47	368	21.4	62	393.6	27.7	78	394.1	36.0	4.35	1740	400
		17.8			23.1			30.0	3.63	1450	
		14.1			18.3			23.8	2.88	1150	
		11.8			15.3			19.9	2.40	960	

## 7 Transmission Capacity table:

B2 (iN=6.3-14)

iN	n <sub>1</sub> (r/min)	n <sub>2N</sub> (r/min)	B204			B205			B206			B207		
			T <sub>2N</sub> (kN·m)	i <sub>ex</sub>	P <sub>1N</sub> (kW)	T <sub>2N</sub> (kN·m)	i <sub>ex</sub>	P <sub>1N</sub> (kW)	T <sub>2N</sub> (kN·m)	i <sub>ex</sub>	P <sub>1N</sub> (kW)	T <sub>2N</sub> (kN·m)	i <sub>ex</sub>	P <sub>1N</sub> (kW)
5	1740	348	6.2	4.94	238	9.4	4.97	345				19.0	4.93	702
	1450	290			199			287						585
	1150	230			158			228						464
	960	192			131			190						387
5.6	1740	311	6.2	5.57	203	9.4	5.75	298				19.0	5.56	623
	1450	259			169			248						519
	1150	205			134			197						412
	960	171			112			164						344
6.3	1740	276	6.2	6.33	178	9.4	6.22	275	12.0	6.44		19.0	6.33	547
	1450	230			149			229						456
	1150	183			118			182						361
	960	152			99			152						302
7.1	1740	245	6.2	7.13	157	9.4	6.96	240	12.0	7.14		19.0	7.14	486
	1450	204			131			200						405
	1150	162			104			159						321
	960	135			87			132						268
8	1740	218	6.2	8.26	142	9.4	8.06	215	12.0	8.27		19.0	8.27	434
	1450	181			118			179						362
	1150	144			94			142						287
	960	120			78			119						240
9	1740	193	6.2	8.93	125	9.4	8.71	191	12.0	8.94		19.0	8.94	385
	1450	161			104			159						321
	1150	128			82			126						255
	960	107			69			105						213
10	1740	174	6.2	10.1	113	9.4	9.88	170	12.0	10.1		19.0	10.1	346
	1450	145			94			142						288
	1150	115			75			113						228
	960	96.0			62			94						191
11.2	1740	155	6.2	11.1	100	9.4	10.9	152	12.0	11.1		19.0	11.1	308
	1450	129			83			127						257
	1150	103			66			101						204
	960	85.7			55			84						170
12.5	1740	139	6.2	12.9	89	9.4	12.5	137	12.0	12.9		19.0	12.9	276
	1450	116			74			114						230
	1150	92.0			59			90						183
	960	76.8			49.2			75						152
14	1740	124	6.2	13.9	80	9.4	13.6	122	12.0	13.9		19.0	13.9	247
	1450	104			66			102						206
	1150	82.1			53			81						163
	960	68.6			44.0			67						136

B208			B209			B210			B211			B212			$n_{2N}$	$n_1$	$i_N$			
$T_{2N}$ (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)	$T_{2N}$ (kN·m)	$i_{ex}$	$P_{1N}$ (kW)	(r/min)	(r/min)				
			29.9	4.93	1105*				54	4.93	2007*				350	1740	5			
					921														290	1450
					730														230	1150
					610														192	960
			29.9	5.56	980				54	5.56	1780*				313	1740	5.6			
					817														259	1450
					648														205	1150
					541														171	960
23.8	6.25	694	29.9	6.25	872	38.0	6.44	1075	54	6.17	1604*	63	6.18	1868*	276	1740	6.3			
		578			726			896			1329			1548	230	1450				
		459			576			711			1054			1228	183	1150				
		383			481			593			880			1025	152	960				
23.8	7.05	610	29.9	7.05	766	38.0	6.96	973	54	6.96	1342	63	6.97	1560	245	1740	7.1			
		508			638			811			1118			1300	204	1450				
		403			506			643			887			1031	162	1150				
		336			422			537			740			861	135	960				
23.8	8.16	542	29.9	8.16	682	38.0	8.06	868	54	8.06	1234	63	8.07	1441	218	1740	8			
		452			568			723			1028			1201	181	1450				
		358			450			573			815			953	144	1150				
		299			376			479			681			795	120	960				
23.8	8.82	482	29.9	8.82	606	38.0	8.71	770	54	8.71	1096	67	8.73	1322	193	1740	9			
		402			505			642			913			1102	161	1450				
		319			401			509			724			874	128	1150				
		266			334			425			604			730	107	960				
23.8	10.0	433	29.9	10.0	544	38.0	9.88	691	54	9.88	984	67	9.89	1207	174	1740	10			
		361			453			576			820			1006	145	1450				
		286			359			457			650			798	115	1150				
		239			300			381			543			666	96.0	960				
23.8	11.0	386	29.9	11.0	486	38.0	10.9	618	54	10.9	878	67	10.9	1079	155	1740	11.2			
		322			405			515			732			899	129	1450				
		255			321			408			581			713	103	1150				
		213			268			341			485			595	85.7	960				
23.8	12.7	347	29.9	12.7	435	38.0	12.5	553	54	12.5	787	67	12.6	966	139	1740	12.5			
		289			363			461			656			805	116	1450				
		229			288			366			520			638	92.0	1150				
		191			240			305			434			533	76.8	960				
23.8	13.8	308	29.9	13.8	389	38.0	13.6	493	54	13.6	703	67	13.6	860	124	1740	14			
		257			324			411			586			717	104	1450				
		204			257			326			464			569	82.1	1150				
		170			215			272			388			475	68.6	960				

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



## 7 Transmission Capacity table:

B3 (iN=16-90)

iN	n <sub>1</sub> (r/min)	n <sub>2N</sub> (r/min)	B304			B305			B306			B307		
			T <sub>2N</sub> (kN·m)	i <sub>ex</sub>	P <sub>1N</sub> (kW)	T <sub>2N</sub> (kN·m)	i <sub>ex</sub>	P <sub>1N</sub> (kW)	T <sub>2N</sub> (kN·m)	i <sub>ex</sub>	P <sub>1N</sub> (kW)	T <sub>2N</sub> (kN·m)	i <sub>ex</sub>	P <sub>1N</sub> (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			63			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

B308			B309			B310			B311			B312			$n_{2N}$	$n_1$	$i_N$
$T_{2N}$ (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)	$T_{2N}$ (kN·m)	$i_{ex}$	$P_{1N}$ (kW)	(r/min)	(r/min)	
21.5	15.3	245	31.0	15.6	354	35.6	15.4	406	60	15.4	683	67	15.5	756	109.0	1740	16
		204			295			338			569			630	90.6	1450	
		162			234			268			451			500	71.9	1150	
		135			195			224			377			417	60.0	960	
23.1	17.2	232	34.0	17.6	341	37.5	17.4	377	62	17.4	624	70	17.4	701	96.7	1740	18
		193			284			314			520			584	80.6	1450	
		153			225			249			412			463	63.9	1150	
		128			188			208			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			551	72.5	1450	
		150			215			236			381			437	57.5	1150	
		125			179			197			318			365	48.0	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			512	64.7	1450	
		142			192			224			341			406	51.3	1150	
		119			160			187			285			339	42.9	960	
27.2	24.4	197	35.7	25.0	260	43.8	24.7	319	64	24.7	462	78	24.7	563	69.6	1740	25
		164			217			266			385			469	58.0	1450	
		130			172			211			305			372	46.0	1150	
		109			144			176			255			311	38.4	960	
27.2	27.9	178	35.7	27.1	233	43.8	26.7	287	64	28.9	416	78	29.0	505	62.1	1740	28
		148			194			239			347			421	51.8	1450	
		117			154			190			275			334	41.1	1150	
		98			128			158			230			279	34.3	960	
27.2	31.5	157	35.7	30.5	208	43.8	30.1	256	64	32.6	370	78	32.6	450	55.2	1740	31.5
		131			173			213			308			375	46.0	1450	
		104			137			169			244			297	36.5	1150	
		87			115			141			204			248	30.5	960	
27.2	36.5	138	35.7	35.4	182	43.8	34.9	223	64	37.7	324	78	37.8	394	49.0	1740	35.5
		115			152			186			270			328	40.8	1450	
		91			121			148			214			260	32.4	1150	
		76			101			123			179			217	27.0	960	
27.2	39.4	125	35.7	38.2	164	43.8	37.8	202	64	40.8	293	78	40.9	356	43.5	1740	40
		104			137			168			244			297	36.3	1450	
		82			109			133			194			236	28.8	1150	
		69			91			111			162			197	24.0	960	
27.2	44.7	108	35.7	43.3	143	43.8	42.8	175	64	46.3	254	78	46.3	308	38.7	1740	45
		90			119			146			212			257	32.2	1450	
		71			94			116			168			204	25.6	1150	
		60			79			97			140			170	21.3	960	
27.2	49.2	98	35.7	47.7	130	43.8	47.1	158	64	50.9	230	78	51.0	281	34.8	1740	50
		82			108			132			192			234	29.0	1450	
		65			86			105			152			186	23.0	1150	
		54			72			87			127			155	19.2	960	
27.2	56.7	88	35.7	55.0	116	43.8	54.3	143	64	58.7	208	78	58.8	253	31.1	1740	56
		73			97			119			173			211	25.9	1450	
		58			77			94			137			167	20.5	1150	
		48.3			64			79			115			140	17.1	960	
27.2	61.5	79	35.7	59.6	103	43.8	58.8	127	64	63.6	185	78	63.7	226	27.6	1740	63
		66			86			106			154			188	23.0	1450	
		52			68			84			122			149	18.3	1150	
		43.7			57			70			102			124	15.2	960	
27.2	69.3	68	34.0	67.2	86	43.8	66.3	112	60	71.7	152	78	71.8	196	24.5	1740	71
		57			72			93			127			163	20.4	1450	
		45.2			57			74			101			129	16.2	1150	
		37.7			47.7			62			84			108	13.5	960	
27.2	79.5	60	34.0	77.0	77	43.8	76.1	100	60	82.2	135	78	82.3	175	21.8	1740	80
		50			64			83			113			146	18.1	1450	
		39.7			51			66			89			116	14.4	1150	
		33.1			42.3			55			75			97	12.0	960	
25.2	86.6	52	34.0	84.0	68	43.8	82.9	88	60	89.6	120	78	89.7	152	19.3	1740	90
		43.0			57			73			100			127	16.1	1450	
		34.1			45.0			58			79			101	12.8	1150	
		28.5			37.6			48.3			66			84	10.7	960	

## 7 Transmission Capacity table:

B4(iN=100-400):

iN	n <sub>1</sub> (r/min)	n <sub>2N</sub> (r/min)	B405			B406			B407			B408		
			T <sub>2N</sub> (kN·m)	i <sub>ex</sub>	P <sub>1N</sub> (kW)	T <sub>2N</sub> (kN·m)	i <sub>ex</sub>	P <sub>1N</sub> (kW)	T <sub>2N</sub> (kN·m)	i <sub>ex</sub>	P <sub>1N</sub> (kW)	T <sub>2N</sub> (kN·m)	i <sub>ex</sub>	P <sub>1N</sub> (kW)
100	1740	17.4	11.6	96.3	20.9	15.5	98.9	27.8	22.0	98.4	39.6	27.5	97.1	49.2
	1450	14.5			17.4			23.2			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	24.4	22.0	111.5	34.8	27.5	110.0	44.4
	1450	12.9			15.5			20.3			29.0			37.0
	1150	10.3			12.3			16.1			23.0			29.3
	960	8.57			10.3			13.4			19.2			24.5
125	1740	13.9	11.6	119.4	16.2	15.5	122.6	22.1	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	19.7	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	17.4	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	15.1	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	13.9	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	12.4	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	11.3	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	10.1	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	8.9	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	7.9	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	6.6	20.5	384.0	9.4	26.5	379.0	12.0
	1450	3.63			4.20			5.5			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			$n_{2N}$	$n_1$	$i_N$
$T_{2N}$ (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)	(r/min)	(r/min)	
36.0	104.8	65	44.5	103.5	80	62	99.8	112	78	99.9	142	17.4	1740	100
		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	113.1	100	78	113.2	126	15.5	1740	112
		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	129.2	89	78	129.4	114	13.9	1740	125
		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	145.7	80	78	145.9	101	12.4	1740	140
		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	168.7	70	78	168.9	88	10.9	1740	160
		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	182.5	61	78	182.7	78	9.67	1740	180
		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	206.8	55	78	207.1	71	8.70	1740	200
		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	227.5	50	78	227.8	62	7.77	1740	224
		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	262.5	44.4	78	262.8	56	6.96	1740	250
		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	284.3	39.6	78	284.7	52	6.21	1740	280
		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	320.5	34.8	78	321.0	45.6	5.52	1740	315
		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	327.6	30.8	78	368.2	39.6	4.90	1740	355
		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	400.7	27.4	74	401.2	33.6	4.35	1740	400
								23			28.0	3.63	1450	
								18.1			22.2	2.88	1150	
								15.1			18.5	2.40	960	

## 8 额定热容量 ( kW )

H2 ( kW )

i N		H204				H205				H206				H207			
		960	1150	1450	1740	960	1150	1450	1740	960	1150	1450	1740	960	1150	1450	1740
1.8	P <sub>GA</sub>	69	63	61.5	52.5												
	P <sub>GB</sub>	159	168	198	216												
	P <sub>GC</sub>	144	151.5	175.5	189												
	P <sub>GD</sub>	243	264	315	354												
2	P <sub>GA</sub>	72	66.8	66.6	57					89	60	52	*				
	P <sub>GB</sub>	163.5	174	205.5	225					190	191	223	222				
	P <sub>GC</sub>	145.3	153	177	190.7					198	204	233	232				
	P <sub>GD</sub>	247.5	270	321	360					334	348	422	440				
2.24	P <sub>GA</sub>	69	64.5	66	58.5					77	63	58	*				
	P <sub>GB</sub>	156	166.5	198	217.5					193	197	231	232				
	P <sub>GC</sub>	138	145.5	168	183					197	204	232	236				
	P <sub>GD</sub>	232.5	255	303	342					334	359	422	445				
2.5	P <sub>GA</sub>	67.5	64.5	67.5	61.5					76	65	60	*				
	P <sub>GB</sub>	151.5	163.5	193.5	214.5					188	195	229	245				
	P <sub>GC</sub>	130.5	139.5	162	175.5					189	196	227	241				
	P <sub>GD</sub>	225	246	294	331.5					319	346	409	454				
2.8	P <sub>GA</sub>	64.5	63	66	61.5					79	71	70	*				
	P <sub>GB</sub>	143.55	154.5	184.5	204					191	200	238	257				
	P <sub>GC</sub>	123	129	151.5	165					190	198	228	246				
	P <sub>GD</sub>	208.5	229.5	273	310.5					319	346	413	461				
3.15	P <sub>GA</sub>	63	61.5	64.5	61.5					79	73	72	*				
	P <sub>GB</sub>	137.55	150	177	198					187	200	235	256				
	P <sub>GC</sub>	117	123	144	156					181	190	221	237				
	P <sub>GD</sub>	198	217.5	261	295.5					306	334	397	446				
3.55	P <sub>GA</sub>	61.5	60	63	61.5					78	74	73	*				
	P <sub>GB</sub>	131.4	143.7	169.5	190.2					181	194	229	252				
	P <sub>GC</sub>	112.5	120	139.3	151.5					173	182	213	229				
	P <sub>GD</sub>	189	208.5	249	283.1					294	322	383	431				
4	P <sub>GA</sub>	58.5	57	60.6	60.7					73	71	72	*				
	P <sub>GB</sub>	124.4	136.35	162	180					170	184	217	240				
	P <sub>GC</sub>	105	112.5	129	141					158	168	196	212				
	P <sub>GD</sub>	177	195	232.5	265.2					271	298	354	400				
4.5	P <sub>GA</sub>	54	52.5	55.7	55.1					71	68	71	*				
	P <sub>GB</sub>	113.55	124.65	148.35	165					162	176	208	232				
	P <sub>GC</sub>	94.5	100.5	117	129					150	160	185	200				
	P <sub>GD</sub>	160.5	177	211.5	240					256	281	335	379				
5	P <sub>GA</sub>	51.1	51.2	54.2	54.7					71	68	71	*				
	P <sub>GB</sub>	108.15	118.95	141.6	157.1					157	172	203	225				
	P <sub>GC</sub>	88.5	94.5	111	121.5					148	157	184	199				
	P <sub>GD</sub>	150	166.5	198	226.7					250	275	327	372				
5.6	P <sub>GA</sub>	49.5	51	54	53.8					67	66	68	*				
	P <sub>GB</sub>	105.3	116.1	138.2	154.5					149	163	195	216				
	P <sub>GC</sub>	85.5	91.5	108	117					137	146	170	185				
	P <sub>GD</sub>	146.1	160.5	192	219					233	257	306	348				

\* 敬请垂询。

H208				H209				H210				H211				H212				i N			
960	1150	1450	1740	960	1150	1450	1740	960	1150	1450	1740	960	1150	1450	1740	960	1150	1450	1740				
																				P <sub>GA</sub>	1.8		
																						P <sub>GB</sub>	
																						P <sub>GC</sub>	
																						P <sub>GD</sub>	
																					P <sub>GA</sub>	2	
																					P <sub>GB</sub>		
																					P <sub>GC</sub>		
																					P <sub>GD</sub>		
108	77	*	*	93	*	*	*					107	*	*	*						P <sub>GA</sub>	2.24	
315	309	357	347	476	485	567	597					581	493	552	472						P <sub>GB</sub>		
353	355	408	413	564	581	669	707					719	686	770	756						P <sub>GC</sub>		
597	635	748	803	938	1008	1194	1318					1227	1246	1450	1489						P <sub>GD</sub>		
107	79	*	*	95	*	*	*					109	*	*	*							P <sub>GA</sub>	2.5
305	301	352	354	459	476	560	599					586	516	584	526						P <sub>GB</sub>		
331	336	387	401	529	550	634	676					699	677	764	761						P <sub>GC</sub>		
564	602	712	776	884	956	1134	1260					1201	1233	1441	1500						P <sub>GD</sub>		
106	83	*	*	96	*	*	*					116	*	*	*							P <sub>GA</sub>	2.8
296	297	348	362	436	459	541	583					579	529	605	569						P <sub>GB</sub>		
315	321	370	389	494	516	599	641					667	655	743	751						P <sub>GC</sub>		
539	577	683	750	828	900	1068	1194					1155	1198	1404	1482						P <sub>GD</sub>		
107	91	*	*	97	*	*	*					125	*	*	*							P <sub>GA</sub>	3.15
287	295	347	369	427	452	534	581					564	541	624	620						P <sub>GB</sub>		
296	307	355	377	480	501	581	627					618	620	708	730						P <sub>GC</sub>		
510	551	653	723	796	868	1031	1157					1075	1133	1333	1436						P <sub>GD</sub>		
107	95	*	*	98	*	*	*					179	*	*	*	141	*	*	*			P <sub>GA</sub>	3.55
280	292	344	370	413	441	522	571					547	542	631	646	556	467	522	465		P <sub>GB</sub>		
282	295	340	364	452	474	550	593					582	591	679	710	800	761	853	797		P <sub>GC</sub>		
486	528	627	699	756	826	984	1106					1014	1078	1273	1389	1314	1329	1549	1517		P <sub>GD</sub>		
106	96	*	*	99	*	*	*					130	*	*	*	148	*	*	*			P <sub>GA</sub>	4
270	285	336	365	387	415	492	541					555	561	657	688	550	478	541	480		P <sub>GB</sub>		
266	280	324	348	413	438	508	550					578	593	684	720	764	737	831	824		P <sub>GC</sub>		
462	504	599	672	695	761	907	1022					1011	1085	1284	1413	1264	1293	1509	1565		P <sub>GD</sub>		
102	95	*	*	100	*	*	*					115	*	*	*	167	*	*	*			P <sub>GA</sub>	4.5
258	275	325	355	364	394	466	516					548	562	660	700	562	521	597	572		P <sub>GB</sub>		
252	265	307	331	387	410	474	515					566	586	676	717	744	737	836	851		P <sub>GC</sub>		
436	476	567	638	649	712	851	963					988	1064	1262	1397	1241	1293	1517	1614		P <sub>GD</sub>		
105	98	*	*	101	*	*	*					120	*	*	*	177	*	*	*			P <sub>GA</sub>	5
261	280	331	364	350	380	450	499					520	542	637	684	557	538	623	623		P <sub>GB</sub>		
249	265	306	331	369	392	457	495					525	546	631	673	710	713	814	842		P <sub>GC</sub>		
435	475	566	639	621	683	814	922					917	993	1179	1313	1194	1260	1485	1604		P <sub>GD</sub>		
103	100	*	*	103	*	*	*					122	*	*	*	179	*	*	*			P <sub>GA</sub>	5.6
253	272	324	357	324	352	418	464					486	512	605	654	535	530	618	634		P <sub>GB</sub>		
244	258	300	325	333	354	410	446					479	501	579	622	653	664	762	797		P <sub>GC</sub>		
423	464	552	625	560	616	735	833					839	911	1082	1211	1102	1173	1386	1513		P <sub>GD</sub>		

\* 敬请垂询。

## 8 Rated thermal capacity(kW)

H2 ( kW )

i N		H204				H205				H206				H207			
		960	1150	1450	1740	960	1150	1450	1740	960	1150	1450	1740	960	1150	1450	1740
6.3	P <sub>GA</sub>	46	42	41	35	57	46	41	*	74	50	43	*	77	57	*	*
	P <sub>GB</sub>	106	112	132	144	143	146	172	181	158	159	186	185	221	220	256	263
	P <sub>GC</sub>	96	101	117	126	152	157	181	191	165	170	194	193	244	249	286	298
	P <sub>GD</sub>	162	176	210	236	256	276	327	361	278	290	352	367	417	445	525	574
7.1	P <sub>GA</sub>	48	44	44	38	59	50	46	*	64	53	48	*	76	60	*	*
	P <sub>GB</sub>	109	116	137	150	146	151	177	189	161	164	193	194	214	215	252	262
	P <sub>GC</sub>	97	102	118	127	151	157	181	193	164	170	194	197	230	235	270	284
	P <sub>GD</sub>	165	180	214	240	256	276	327	363	278	299	352	371	394	422	499	548
8	P <sub>GA</sub>	46	43	44	39	58	51	48	*	63	54	50	*	76	62	55	*
	P <sub>GB</sub>	104	111	132	145	142	149	175	188	157	162	191	204	208	212	249	262
	P <sub>GC</sub>	92	97	112	122	146	151	175	187	158	163	189	201	218	225	258	274
	P <sub>GD</sub>	155	170	202	228	245	266	316	352	266	288	341	379	376	404	479	529
9	P <sub>GA</sub>	45	43	45	41	58	52	51	43	66	59	58	46	76	66	62	*
	P <sub>GB</sub>	101	109	129	143	139	147	174	189	159	167	198	214	202	210	248	266
	P <sub>GC</sub>	87	93	108	117	139	146	169	182	158	165	190	205	207	215	249	266
	P <sub>GD</sub>	150	164	196	221	234	255	303	340	266	289	344	384	357	386	458	510
10	P <sub>GA</sub>	43	42	44	41	*	52	52	46	66	61	60	52	75	68	66	54
	P <sub>GB</sub>	95.7	103	123	136	131	140	165	181	156	166	196	214	193	204	241	261
	P <sub>GC</sub>	82	86	101	110	128	135	157	169	151	158	184	198	194	204	236	254
	P <sub>GD</sub>	139	153	182	207	217	237	282	318	255	278	331	372	337	367	436	489
11.2	P <sub>GA</sub>	42	41	43	41	54	51	52	47	65	61	61	55	77	71	71	61
	P <sub>GB</sub>	91.7	100	118	132	126	135	160	177	151	161	191	210	196	208	246	269
	P <sub>GC</sub>	78	82	96	104	121	127	148	160	144	152	177	191	193	203	235	254
	P <sub>GD</sub>	132	145	174	197	205	225	268	303	245	268	319	359	336	366	436	490
12.5	P <sub>GA</sub>	41	40	42	41	54	51	53	49	61	59	60	55	77	72	73	65
	P <sub>GB</sub>	87.6	95.8	113	127	123	133	157	174	142	153	181	200	191	204	242	266
	P <sub>GC</sub>	75	80	93	101	119	126	146	159	132	140	163	177	189	199	231	250
	P <sub>GD</sub>	126	139	166	189	201	220	263	297	226	248	295	333	327	357	425	480
14	P <sub>GA</sub>	39	38	40	40	51	49	51	48	59	57	59	55	71	68	69	64
	P <sub>GB</sub>	82.9	90.9	108	120	116	126	150	166	135	147	174	193	175	189	224	247
	P <sub>GC</sub>	70	75	86	94	110	118	137	149	125	133	154	167	169	178	207	225
	P <sub>GD</sub>	118	130	155	177	186	204	243	276	213	234	279	316	294	322	384	434
16	P <sub>GA</sub>	36	35	37	37	48	47	49	47	59	57	59	56	67	65	67	63
	P <sub>GB</sub>	75.7	83.1	98.9	110	108	118	140	155	131	143	169	188	163	177	210	232
	P <sub>GC</sub>	63	67	78	86	101	108	126	137	123	131	153	166	155	165	191	208
	P <sub>GD</sub>	107	118	141	160	171	189	225	256	208	229	273	310	269	295	352	399
18	P <sub>GA</sub>	34	34	36	36	46	46	46	46	56	55	57	55	65	63	66	63
	P <sub>GB</sub>	72.1	79.3	94.4	105	103	113	134	150	124	136	162	180	157	170	202	225
	P <sub>GC</sub>	59	63	74	81	95	102	118	129	114	122	142	154	148	157	183	199
	P <sub>GD</sub>	100	111	132	151	162	179	213	242	194	214	255	290	257	283	338	383
20	P <sub>GA</sub>	33	34	36	36	43	43	45	44	52	52	54	53	61	59	62	60
	P <sub>GB</sub>	70.2	77.4	92.1	103	96.8	106	126	140	115	126	150	168	145	158	188	210
	P <sub>GC</sub>	57	61	72	78	89	94	110	120	105	112	130	142	135	144	167	182
	P <sub>GD</sub>	97.4	107	128	146	150	166	198	225	179	197	235	268	236	260	310	352
22.4	P <sub>GA</sub>					40	40	42	41	50	50	52	51	58	57	60	58
	P <sub>GB</sub>					89.4	98	116	130	111	121	144	161	139	152	181	202
	P <sub>GC</sub>					81	86	100	109	99	106	124	135	129	138	160	174
	P <sub>GD</sub>					137	151	181	205	169	187	223	253	224	247	295	335

On request.

H208				H209				H210				H211				H212					i N	
960	1150	1450	1740	960	1150	1450	1740	960	1150	1450	1740	960	1150	1450	1740	960	1150	1450	1740			
86	61	*	*	99	*	*	*	100	*	*	*	114	*	*	*	121	*	*	*		P <sub>GA</sub>	
250	245	283	275	293	279	322	319	304	286	328	324	450	382	428	366	510	412	456	414		P <sub>GB</sub>	6. 3
280	282	324	328	380	380	434	446	422	420	477	486	557	532	597	586	762	714	797	715		P <sub>GC</sub>	
474	504	594	637	626	658	774	832	689	718	844	896	951	966	1124	1154	1243	1243	1443	1365		P <sub>GD</sub>	
85	63	*	*	99	*	*	*	101	*	*	*	123	*	*	*	131	*	*	*		P <sub>GA</sub>	
242	239	279	281	286	278	323	325	297	285	329	328	454	400	453	408	515	432	483	431		P <sub>GB</sub>	7. 1
263	267	307	318	358	361	413	429	397	398	454	470	542	525	592	590	741	705	790	738		P <sub>GC</sub>	
448	478	565	616	589	624	735	797	648	681	802	866	931	956	1117	1163	1217	1231	1434	1405		P <sub>GD</sub>	
84	66	*	*	100	75	*	*	102	*	*	*	129	*	*	*	137	*	*	*		P <sub>GA</sub>	
235	236	276	287	279	276	322	330	290	283	328	332	449	410	469	441	509	443	501	444		P <sub>GB</sub>	8
250	255	294	309	340	346	397	415	378	382	436	454	517	508	576	582	707	682	769	763		P <sub>GC</sub>	
428	458	542	595	562	599	707	772	618	654	772	837	895	929	1088	1149	1170	1197	1397	1449		P <sub>GD</sub>	
85	72	66	*	102	83	73	*	105	83	*	*	136	*	*	*	155	*	*	*		P <sub>GA</sub>	
228	234	275	293	272	277	324	341	283	285	333	347	437	419	484	481	520	482	553	530		P <sub>GB</sub>	9
235	244	282	299	322	332	382	404	354	362	417	438	479	481	549	566	689	682	774	788		P <sub>GC</sub>	
405	437	518	574	536	576	682	753	582	622	736	809	833	878	1033	1113	1149	1197	1405	1494		P <sub>GD</sub>	
85	75	72	55	101	87	82	*	106	88	81	*	139	103	*	*	164	*	*	*		P <sub>GA</sub>	
222	232	273	294	262	272	320	342	278	285	335	355	424	420	489	501	516	498	577	577		P <sub>GB</sub>	10
224	234	270	289	302	314	362	386	338	349	402	427	451	458	526	550	657	660	754	780		P <sub>GC</sub>	
386	419	498	555	505	546	648	720	556	599	710	787	786	836	987	1077	1106	1167	1375	1485		P <sub>GD</sub>	
84	76	75	62	99	88	85	67	105	92	88	*	147	117	101	*	166	122	*	*		P <sub>GA</sub>	
214	226	267	290	249	262	309	333	270	281	331	355	430	435	509	533	495	491	572	587		P <sub>GB</sub>	11. 2
211	222	257	276	282	295	342	366	318	331	383	410	448	460	530	558	605	615	706	738		P <sub>GC</sub>	
367	400	475	533	473	514	610	682	528	572	679	756	784	841	995	1095	1020	1086	1283	1401		P <sub>GD</sub>	
81	75	75	65	99	89	88	74	104	93	90	74	151	127	115	*	165	131	*	*		P <sub>GA</sub>	
205	218	258	282	244	258	305	332	259	273	322	348	425	436	512	543	475	480	562	587		P <sub>GB</sub>	12. 5
200	210	244	263	274	286	332	358	300	314	363	390	439	454	524	556	568	582	670	706		P <sub>GC</sub>	
346	378	450	506	455	496	589	661	498	542	644	720	766	825	978	1083	960	1029	1218	1340		P <sub>GD</sub>	
83	78	79	71	97	90	90	80	101	93	92	79	147	128	121	*	172	144	130	*		P <sub>GA</sub>	
207	222	263	289	236	252	298	326	247	262	310	338	403	420	494	530	483	496	583	618		P <sub>GB</sub>	14
198	210	243	263	258	271	314	339	279	294	340	366	407	423	489	522	564	583	673	714		P <sub>GC</sub>	
345	377	449	507	432	472	562	632	465	507	603	677	711	770	914	1018	958	1032	1223	1355		P <sub>GD</sub>	
82	79	81	74	92	87	88	80	99	93	94	83	141	126	122	99	175	152	144	*		P <sub>GA</sub>	
201	216	257	283	221	237	281	309	240	256	303	333	377	397	469	507	476	496	583	625		P <sub>GB</sub>	16
194	205	238	258	236	250	290	314	271	286	331	358	371	388	449	482	550	573	662	706		P <sub>GC</sub>	
336	368	438	496	397	435	518	584	449	491	584	658	650	706	839	939	932	1009	1197	1333		P <sub>GD</sub>	
76	74	76	72	88	84	86	80	97	93	94	87	133	122	122	104	170	153	149	121		P <sub>GA</sub>	
184	200	237	263	208	225	266	295	231	249	296	326	352	375	443	483	450	474	560	606		P <sub>GB</sub>	18
174	185	214	234	221	234	271	294	255	270	314	339	346	364	422	454	508	531	615	660		P <sub>GC</sub>	
301	331	395	447	371	407	486	550	425	465	555	627	609	664	790	887	864	938	1115	1249		P <sub>GD</sub>	
72	70	73	70	85	83	85	80	93	88	91	85	129	121	121	106	161	146	145	122		P <sub>GA</sub>	
172	187	222	246	200	217	257	285	217	235	278	308	339	362	428	469	419	444	525	571		P <sub>GB</sub>	20
159	170	198	214	211	224	261	283	234	249	290	314	326	344	399	431	462	485	562	604		P <sub>GC</sub>	
276	304	363	411	355	390	465	527	392	430	512	580	575	628	747	842	789	856	1019	1143		P <sub>GD</sub>	
69	67	70	67	78	76	79	74	87	84	86	80	121	113	113	100	149	136	135	115		P <sub>GA</sub>	
165	179	213	237	185	201	239	265	203	220	261	289	314	336	397	436	390	414	489	533		P <sub>GB</sub>	22. 4
152	162	188	205	190	202	234	255	218	232	270	293	297	314	363	393	432	454	526	566		P <sub>GC</sub>	
263	290	346	392	320	352	420	476	366	401	478	541	524	573	682	768	736	802	954	1071		P <sub>GD</sub>	

On request.







## 8 Rated thermal capacity(kW)

H4 ( kW )

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

H410				H411				H412					iN
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	PGA	71
71.7	73.5	78.7	81.5	92.4	99.1	102	108.7	110	115	122	131	PGA	80
68.3	71.7	76.4	78.7	92.4	95.5	103	105.1	106	110	119	127	PGA	90
65.6	68.3	73.5	76.4	90.1	92.4	99.1	102	103	110	115	122	PGA	100
63.7	65.6	71.7	73.5	89.4	92.4	99.1	103	102	106	115	119	PGA	112
61.1	63.7	68.3	71.7	85.8	89	95.5	99.8	99.7	103	110	115	PGA	125
58.5	61.1	65.6	69	83	86.5	92.8	97.3	98.9	102	110	115	PGA	140
56.7	59.4	63.7	67.1	79	82.5	88.5	93	95.3	99.4	106	111	PGA	160
54.9	57.7	61.9	65.3	76.2	80	85.8	90.4	91.8	96.2	103	108	PGA	180
51.8	54.5	58.5	61.9	72	75.7	81.3	85.8	87.6	92.1	98.9	104	PGA	200
49.6	52.4	56.2	59.5	69	72.8	78.1	82.7	84.4	89	95.5	101	PGA	224
48.2	50.8	54.5	57.7	65.6	69.2	74.2	78.5	79.7	84	90.2	95.4	PGA	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	PGA	280
44.1	46.5	49.9	52.8	61.6	64.9	69.7	73.7	72.7	76.7	82.2	87	PGA	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	PGA	355
40.8	43.1	46.2	48.9	55.9	58.9	63.2	66.8	68.3	72	77.3	81.8	PGA	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
5	PGA	41	40	30	*	50	45	*	*					66	56	*	*				
	PGB	113	132	139	149	145	178	184	193					246	276	283	283				
	PGC	110	122	127	136	148	182	190	184					255	282	294	306				
	PGD	194	228	249	276	263	338	336	376					468	538	581	630				
5.6	PGA	41	40	33	*	49	48	37	*					67	60	*	*				
	PGB	109	128	135	147	137	177	169	185					232	265	274	282				
	PGC	106	118	123	131	137	178	159	185					234	261	272	285				
	PGD	187	221	241	268	243	330	313	359					432	501	543	593				
6.3	PGA	40	40	34	26	50	50	*	*	58	55	*	*	64	60	*	*	76	69	*	*
	PGB	105	125	132	144	145	145	178	193	170	197	215	232	216	249	261	279	261	298	314	332
	PGC	101	113	118	126	148	165	174	184	211	234	260	275	213	236	248	262	310	345	362	380
	PGD	179	212	231	258	263	308	339	376	359	419	484	536	393	458	500	553	548	636	695	765
7.1	PGA	38	39	35	29	49	48	37	*	59	57	43	*	63	61	*	*	76	71	*	*
	PGB	99	117	125	136	137	161	169	182	166	194	204	219	203	237	248	263	246	285	298	313
	PGC	93	103	108	116	137	152	159	170	206	229	238	254	195	218	227	241	286	318	331	350
	PGD	164	194	213	238	243	286	313	347	349	410	447	495	362	424	462	511	506	590	642	707
8	PGA	36	37	34	30	47	47	38	*	57	57	45	*	61	60	45	*	73	71	*	*
	PGB	92.9	110	117	129	128	151	160	173	157	185	195	211	192	225	236	253	229	267	280	298
	PGC	86	95	99	106	126	140	146	156	190	211	221	235	181	202	210	223	258	287	300	318
	PGD	152	181	198	222	225	265	290	323	324	382	417	464	336	395	430	477	459	539	586	649
9	PGA	35	36	33	30	45	45	39	31	55	55	46	*	60	59	47	*	70	69	52	*
	PGB	87.8	105	111	123	121	144	153	166	148	176	186	202	182	214	226	244	215	253	266	285
	PGC	79	88	92	98	115	129	134	144	174	194	202	217	170	189	197	210	238	265	277	294
	PGD	141	167	183	206	206	244	267	298	299	353	386	430	316	373	407	453	424	498	543	603
10	PGA	29	30	29	26	42	43	37	31	52	53	45	37	56	57	47	*	67	67	53	*
	PGB	72.8	87.1	92.8	102	111	132	140	154	138	164	174	190	169	199	211	229	202	238	251	271
	PGC	63	70	74	79	103	115	120	129	160	179	186	200	154	171	179	191	219	244	254	271
	PGD	112	134	147	164	185	219	240	268	276	326	356	398	288	340	372	414	392	462	505	561
11.2	PGA	28	30	28	26	38	39	34	29	50	50	44	37	51	51	43	34	65	65	53	49
	PGB	70.3	84.3	89.8	99	99.5	118	125	137	131	155	165	180	150	177	188	204	192	227	240	259
	PGC	60	67	70	75	90	101	105	113	146	163	170	183	134	150	156	167	206	229	238	255
	PGD	107	128	140	157	162	192	210	235	252	298	327	365	252	298	326	363	368	434	474	528
12.5	PGA	26	27	26	24	36	37	34	29	46	47	43	37	47	48	42	34	61	62	52	41
	PGB	63	75.4	80.2	88.1	94	112	118.5	130	119	142	151	166	136	162	172	188	179	212	224	244
	PGC	53	59	61	66	82	92	96	103	130	146	151	162	120	134	138	148	187	209	218	233
	PGD	93.7	112	123	138	148	176	192.9	216	225	267	292	327	225	267	291	325	337	398	435	485
14	PGA	24	26	25	24	34	35	32	29	42	43	39	34	43	43	38	31	55	56	49	40
	PGB	59.8	71.2	76	83.4	85.8	102	108	120	106	127	135	149	121	145	154	169	159	189	200	218
	PGC	48	54	56	60	74	82	85	91	114	127	133	142	105	117	122	130	164	182	190	204
	PGD	85.6	102.6	113	126	132	157	172	193	196	232	255	285	196	232	254	283	293	347	380	424

On request

B209				B210				B211				B212				iN	
960	1150	1450	1740	960	1150	1450	1740	960	1150	1450	1740	960	1150	1450	1740		
74	*	*	*					*	*	*	*					PGA	5
297	325	328	313					487	500	478	392					PGB	
318	353	367	376					542	595	619	612					PGC	
578	657	705	753					984	1085	1144	1174					PGD	
77	64	*	*					102	*	*	*					PGA	5.6
282	316	322	321					481	512	504	453					PGB	
294	325	339	351					514	567	590	595					PGC	
535	614	662	716					943	1058	1126	1182					PGD	6.3
76	67	*	*	84	71	*	*	104	*	*	*	121	*	*	*	PGA	
265	301	315	330	300	337	354	367	441	480	479	514	556	591	581	606	PGB	
266	296	309	323	368	408	426	445	453	500	521	565	781	861	896	954	PGC	
489	566	617	676	643	740	809	884	834	944	1010	1161	1340	1500	1596	1795	PGD	7.1
76	70	*	*	84	76	*	*	112	92	*	*	134	*	*	*	PGA	
250	288	299	311	284	325	336	346	436	485	493	485	546	598	601	572	PGB	
245	272	283	298	338	374	390	410	436	483	503	520	745	823	858	878	PGC	8
451	525	570	625	594	689	747	817	808	925	996	1073	1278	1451	1556	1659	PGD	
74	71	*	*	83	78	*	*	110	95	*	*	132	108	*	*	PGA	
237	274	287	302	267	308	321	336	400	451	463	467	498	555	564	556	PGB	
226	252	262	278	306	341	355	374	386	428	446	464	654	723	754	778	PGC	9
419	490	533	588	541	631	686	754	719	830	896	973	1129	1293	1392	1500	PGD	
73	71	51	*	81	77	*	*	110	99	*	*	138	119	*	*	PGA	
226	264	277	295	251	292	306	324	383	437	452	465	490	554	568	574	PGB	10
214	238	248	263	282	314	327	346	363	404	421	441	633	702	732	762	PGC	
396	465	507	561	500	585	637	703	679	788	853	933	1094	1261	1363	1480	PGD	
70	68	52	*	78	76	54	*	106	98	*	*	130	116	*	*	PGA	
212	249	261	280	237	277	291	310	359	413	429	447	447	508	525	537	PGB	11.2
195	218	227	242	260	290	302	320	334	370	386	406	560	622	648	678	PGC	
363	426	465	516	462	542	591	654	626	729	791	868	972	1126	1218	1329	PGD	
63	63	49	55	76	74	55	*	97	90	*	*	128	116	*	*	PGA	12.5
187	220	232	250	226	265	279	299	318	367	382	401	426	488	506	522	PGB	
170	189	197	210	246	273	285	303	289	321	334	353	527	586	611	641	PGC	
316	372	406	451	438	514	561	622	543	633	688	757	918	1066	1156	1265	PGD	
60	60	49	46	72	72	57	*	93	88	*	*	123	115	*	*	PGA	14
174	205	217	200	212	250	264	284	298	346	405	381	400	462	481	503	PGB	
154	172	180	191	224	250	261	278	263	294	306	323	483	538	561	590	PGC	
289	341	373	414	401	472	515	573	497	581	632	697	845	985	1070	1176	PGD	14
54	54	46	45	65	65	54	*	84	80	*	*	111	106	*	*	PGA	
155	183	194	179	189	223	236	255	266	309	362	342	353	409	428	451	PGB	
135	150	158	167	194	217	226	242	229	255	266	282	418	464	484	512	PGC	
251	297	326	362	348	411	449	500	431	506	551	608	733	856	931	1027	PGD	

On request







## 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	PGA	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	PGA	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	PGA	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	PGA	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	PGA	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	PGA	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	PGA	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	PGA	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	PGA	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	PGA	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	PGA	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	PGA	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	PGA	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	PGA	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	PGA	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	PGA	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	PGA	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	PGA	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	PGA	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	PGA	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	PGA	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	PGA	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	PGA	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	PGA	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	PGA	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	PGA									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 $FR_2$ ( kN ) , applied at midpoint 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
C + D			10	13	13	18	18	20	28	35	35
H3..HS	A + B + G + H			29	29	40	40	40	60	85	85
	C + D			18	18	26	26	30	40	50	50
H4..HS	C + D					40	40	40	60	85	85
	A + B + G + H			18	18	26	26	30	40	50	50
B2..HS	A + C		13	27	27	37	37	38	55	78	78
	B + D		12	15	15	17	17	20	30	35	38
B3..HS	A + C		14	29	29	40	40	40	60	85	85
	B + D			18	18	26	26	30	40	50	50
B4..HS	A + C			29	29	40	40	40	60	85	85
	B + D			18	18	26	26	30	40	50	50

- Note: 1. If the angle of applied force and the direction of rotation are given, higher additional force can mostly be allowed. Please consult us.  
 2. When the force is not applied at the midpoint of the shaft, please refer to 9.2.  
 3. The lowest performance level of the 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  $d_1$ . Please consult us.

### 9.2 Additional radial force allowed on output shaft d:

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

$FR_{Z2} = FR_2 \times k$

$FR_{Z2}$  Permissible external radial force

$FR_2$  Permissible additional radial force  
Determined according to table 9.1

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

#### 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

## 10 Shaft assemblies:

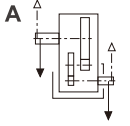
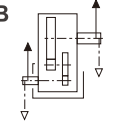
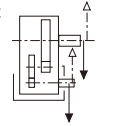
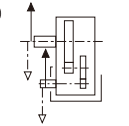
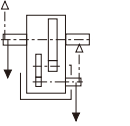
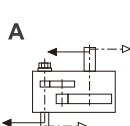
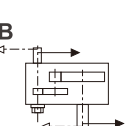
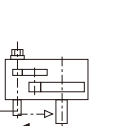
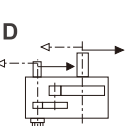
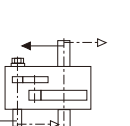
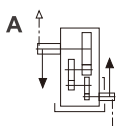
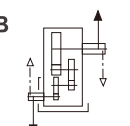
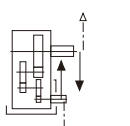
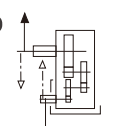
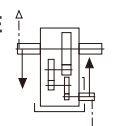
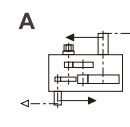
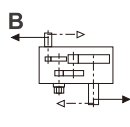
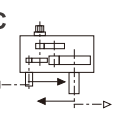
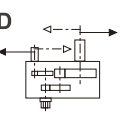
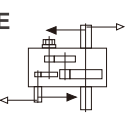
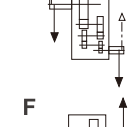
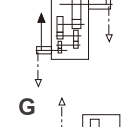
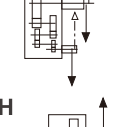
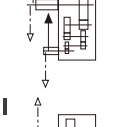
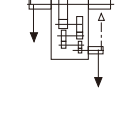
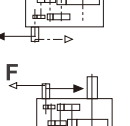
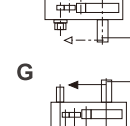
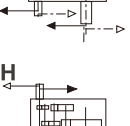
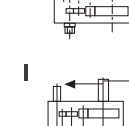
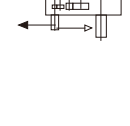
### 10.1 H series shaft assemblies:

#### 10.1.1 Shaft assemblies:

Parallel key solid shaft	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>	<b>F</b>				
	<b>G*</b>	<b>H*</b>	<b>I*</b>							
H...HS H...VS										
Parallel key hollow shaft	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>	<b>F</b>				
	<b>G*</b>	<b>H*</b>	<b>I*</b>							
H...HH H...VH										
Hollow shaft with shrink disc H...HD H...VD	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>G*</b>	<b>H*</b>				
Hollow shaft with involute spline H...HK H...VK	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>G*</b>	<b>H*</b>				
Size Type iN	04	05	06	07	08	09	10	11	12	
H2	1.8-4 6.3-14	6.3-14	2-4.5 6.3-14	6.3-14	2.24-5 6.3-14	2.24-5 6.3-14	6.3-14	2.24-5 6.3-14	3.55-5.6 6.3-14	
H3	/	16-63								
H4	/	/	/	71-200		71-280				

Note: \*Shaft assemblies G/H/I is available when nominal ratio is within the range of value showed in right table.

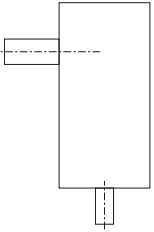
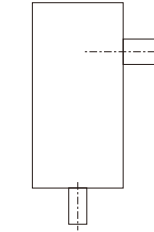
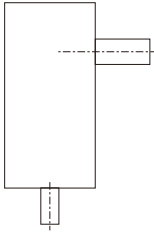
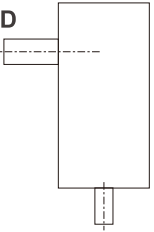
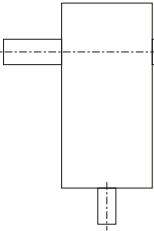
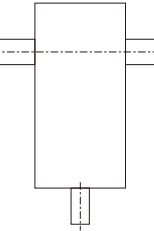
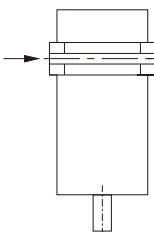
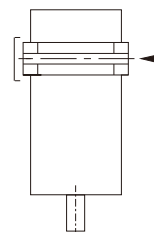
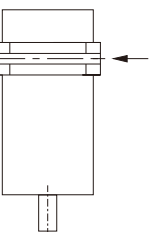
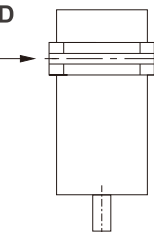
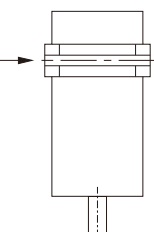
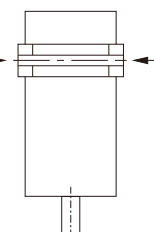
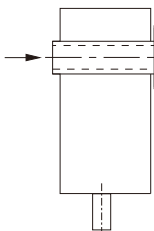
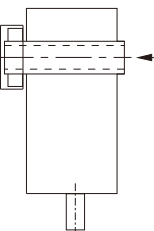
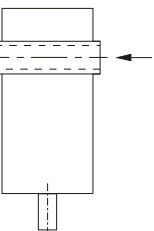
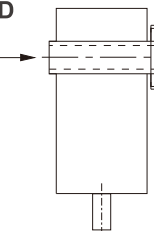
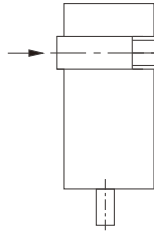
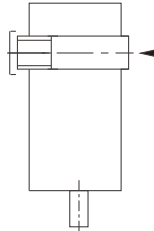
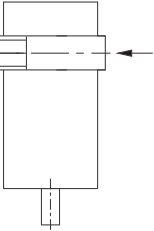
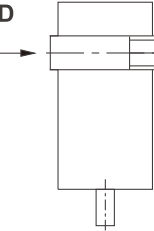
## 10.1.2 Direction of rotation:

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:

<p>Parallel key solid shaft</p> <p>B...HS B...VS</p>	<p><b>A</b></p> 	<p><b>B</b></p> 	<p><b>C</b></p> 	<p><b>D</b></p> 	<p><b>E</b></p> 	<p><b>F</b></p> 
<p>Parallel key hollow shaft</p> <p>B...HH B...VH</p>	<p><b>A</b></p> 	<p><b>B</b></p> 	<p><b>C</b></p> 	<p><b>D</b></p> 	<p><b>E</b></p> 	<p><b>F</b></p> 
<p>Hollow shaft with shrink disc</p> <p>B...HD B...VD</p>	<p><b>A</b></p> 	<p><b>B</b></p> 	<p><b>C</b></p> 	<p><b>D</b></p> 		
<p>Hollow shaft with involute spline</p> <p>B...HK B...VK</p>	<p><b>A</b></p> 	<p><b>B</b></p> 	<p><b>C</b></p> 	<p><b>D</b></p> 		

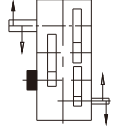
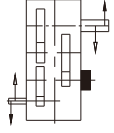
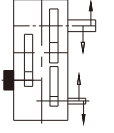
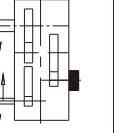
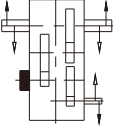
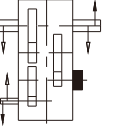
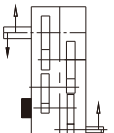

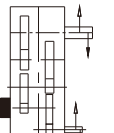

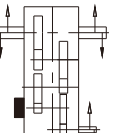

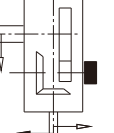
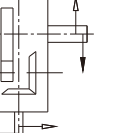
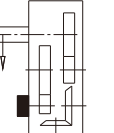
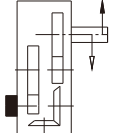
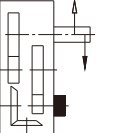
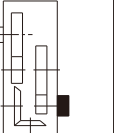

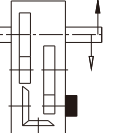
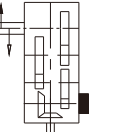
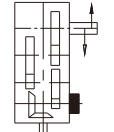
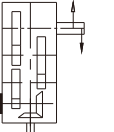
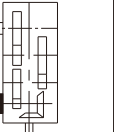
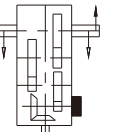
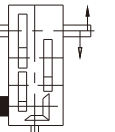
## 10.2.2 Direction of rotation:

B2..H	
B2..V	
B3..H	
B3..V	
B4..H	
B4..V	

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.

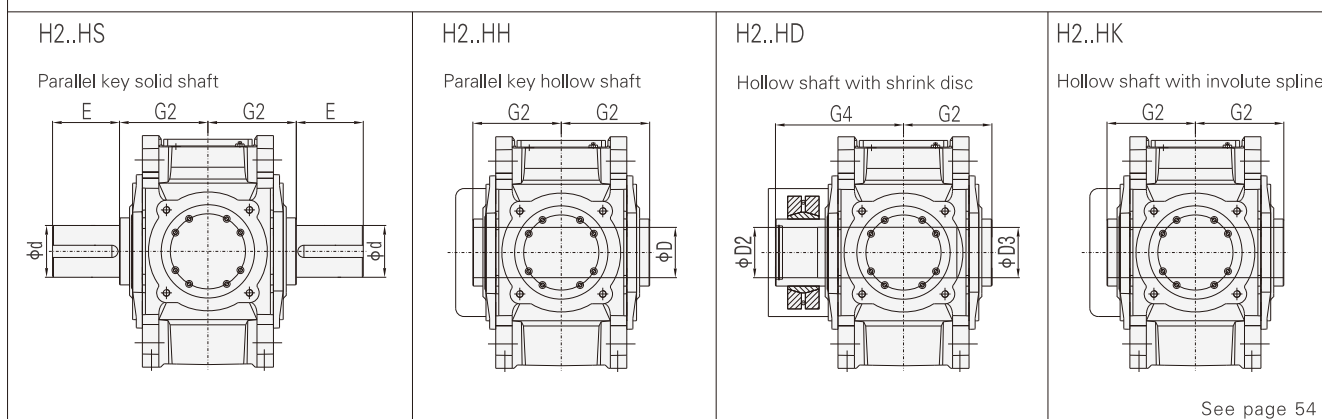
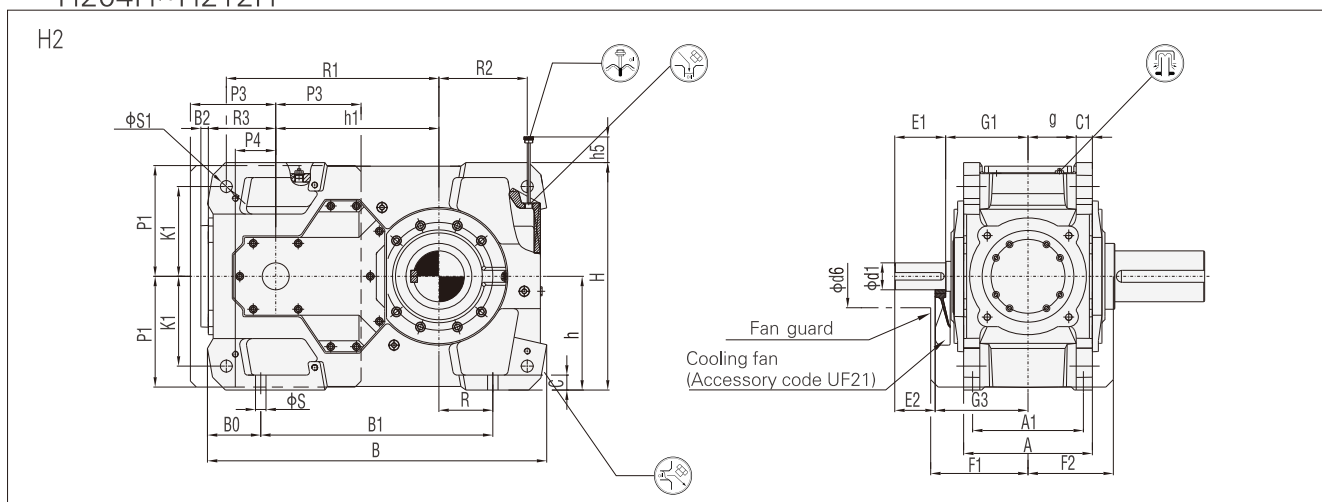
10.3 Backstop assemblies and direction of shaft rotation direction:

<p>H3...S H3...H H3...D H3...K</p>	<p><b>A</b></p> 	<p><b>B</b></p> 	<p><b>C</b></p> 	<p><b>D</b></p> 	<p><b>E</b></p> 	<p><b>F</b></p> 
<p>H4...S H4...H H4...D H4...K</p>	<p><b>A</b></p> 	<p><b>B</b></p> 	<p><b>C</b></p> 	<p><b>D</b></p> 	<p><b>E</b></p> 	<p><b>F</b></p> 
<p>B2...S B2...H B2...D B2...K</p>	<p><b>A</b></p> 	<p>///</p>	<p><b>C</b></p> 	<p>///</p>	<p>///</p>	<p>///</p>
<p>B3...S B3...H B3...D B3...K</p>	<p><b>A</b></p> 	<p><b>B</b></p> 	<p><b>C</b></p> 	<p><b>D</b></p> 	<p><b>E</b></p> 	<p><b>F</b></p> 
<p>B4...S B4...H B4...D B4...K</p>	<p><b>A</b></p> 	<p><b>B</b></p> 	<p><b>C</b></p> 	<p><b>D</b></p> 	<p><b>E</b></p> 	<p><b>F</b></p> 

- Note: 1. Gearbox with backstop only makes unidirectional rotation. Output shaft rotation direction has to be indicated when being ordered.  
 2. H2 series doesn't have backstop.  
 3. Shaft end oil pump can not be installed with backstop for all HB series, please consult us if both shaft end oil pump and backstop needed to be installed.

# 11 Outline dimension

H204H~H212H



See page 54

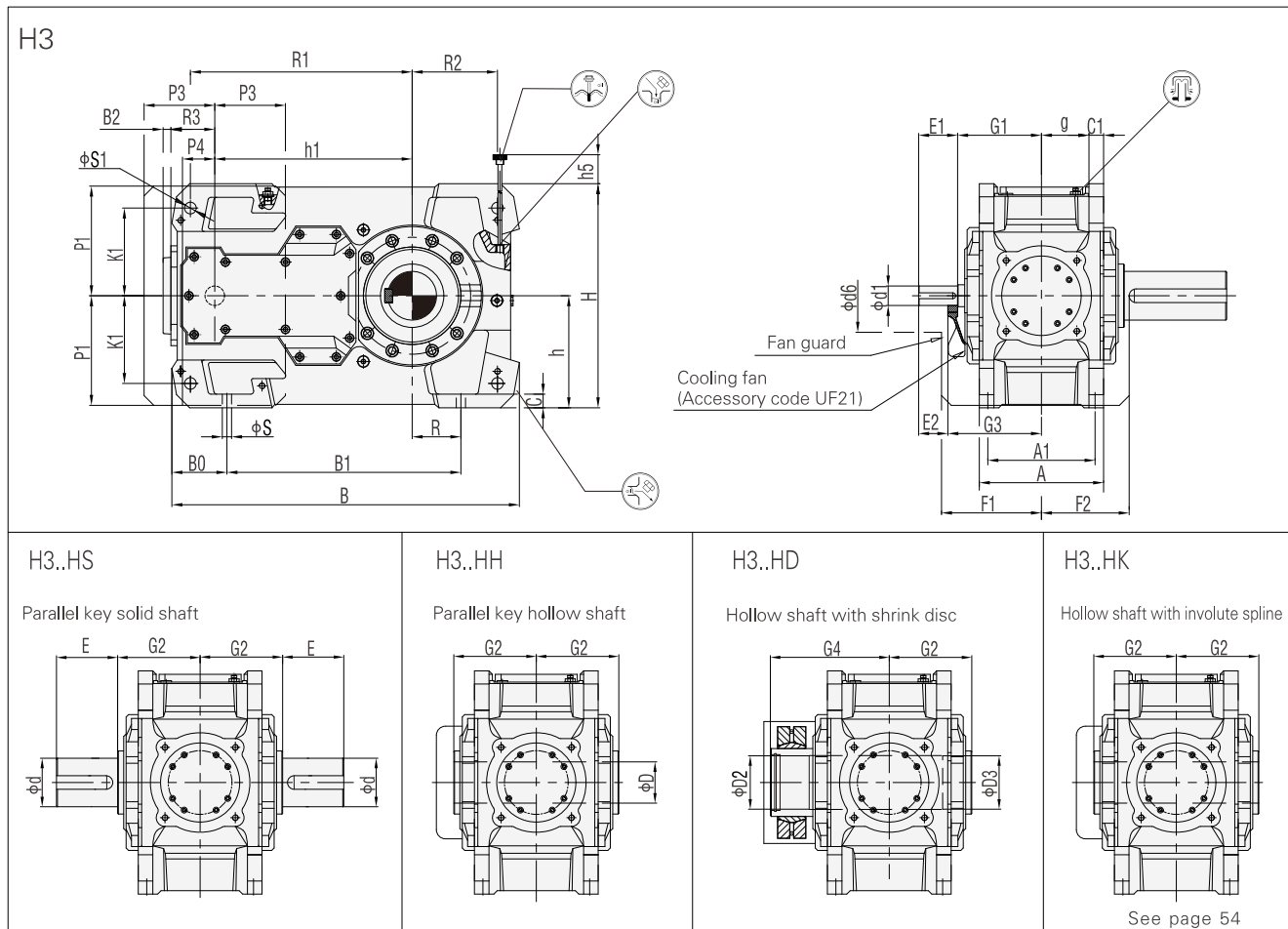
Size	iN≤3.15 (Size:04) iN≤3.55 (Size:06) iN≤4 (Size:08,09,11) iN≤5.6 (Size:12)			3.55≤iN≤5.6 (Size:04) 4≤iN≤5.6 (Size:06) 4.5≤iN≤5.6 (Size:08,09,11)			6.3≤iN≤11.2			12.5≤iN≤22.4			A	A1	B	B0	B1	B2	C	C1	d	d6	D	D2	D3	E
	d1	E1	E2	d1	E1	E2	d1	E1	E2	d1	E1	E2														
04	45k6	110	90	32k6	80	60	45k6	110	90	32k6	80	60	215	180	586	112	355	16	28	30±1	80m6	140	80H7	85H7	85H7	170
05	/	/	/	/	/	/	50k6	110	90	38k6	80	60	255	220	667	113	430	16	28	30±1	100m6	150	95H7	100H7	100H7	210
06	50k6	110	90	38k6	80	60	50k6	110	90	38k6	80	60	255	220	743	113	510	16	28	30±1	110m6	150	105H7	110H7	110H7	210
07	/	/	/	/	/	/	60m6	140	110	50k6	110	80	300	260	816	131	545	20	35	36±1	120m6	200	115H7	120H7	120H7	210
08	60m6	140	110	50k6	110	80	60m6	140	110	50k6	110	80	300	260	920	131	650	20	35	36±1	130m6	200	125H7	130H7	130H7	250
09	75m6	140	110	60m6	140	110	75m6	140	110	60m6	140	110	370	320	957	156	635	20	40	45±1.5	140m6	210	135H7	140H7	140H7	250
10	/	/	/	/	/	/	75m6	140	110	60m6	140	110	370	320	1062	156	735	20	40	45±1.5	160m6	210	150H7	150H7	150H7	300
11	90m6	170	135	70m6	140	105	90m6	170	135	70m6	140	105	430	370	1132	178	775	25	50	54±1.5	170m6	220	165H7	165H7	165H7	300
12	90m6	170	135	/	/	/	90m6	170	135	70m6	140	105	430	370	1292	178	930	25	50	54±1.5	180m6	220	180H7	180H7	180H7	300

Size	F1	F2	G1	G2	G3	G4	g	H	h	h1	h5	K1	P1	P3	P4	R	R1	R2	R3	S	S1	weight (kg)
04	205	160	170	140	190	205	77.5	405	200	270	15	150	195	155	40	85	345	160	110	19	24H9	195
05	230	180	195	165	215	240	97.5	460	230	315	15	180	225	165	55	100	405	175	130	19	24H9	310
06	230	180	195	165	215	240	97.5	490	230	350	0	180	225	165	55	145	440	220	130	19	24H9	385
07	255	210	210	195	240	280	114	560	280	385	0	215	270	220	70	130	500	215	160	24	28H9	519
08	255	210	210	195	240	285	114	580	280	430	0	215	270	220	70	190	545	275	160	24	28H9	624
09	285	245	240	235	270	330	140	640	320	450	10	245	310	240	95	155	585	260	185	28	36H9	828
10	285	245	240	235	270	350	140	670	320	500	0	245	310	240	95	205	635	310	185	28	36H9	1044
11	325	285	275	270	310	400	161	760	380	545	30	300	370	285	125	180	710	295	225	35	40H9	1371
12	325	285	275	270	310	405	161	790	380	615	5	300	370	285	125	265	780	380	225	35	40H9	1644



# 11 Outline dimension

H305H~H312H

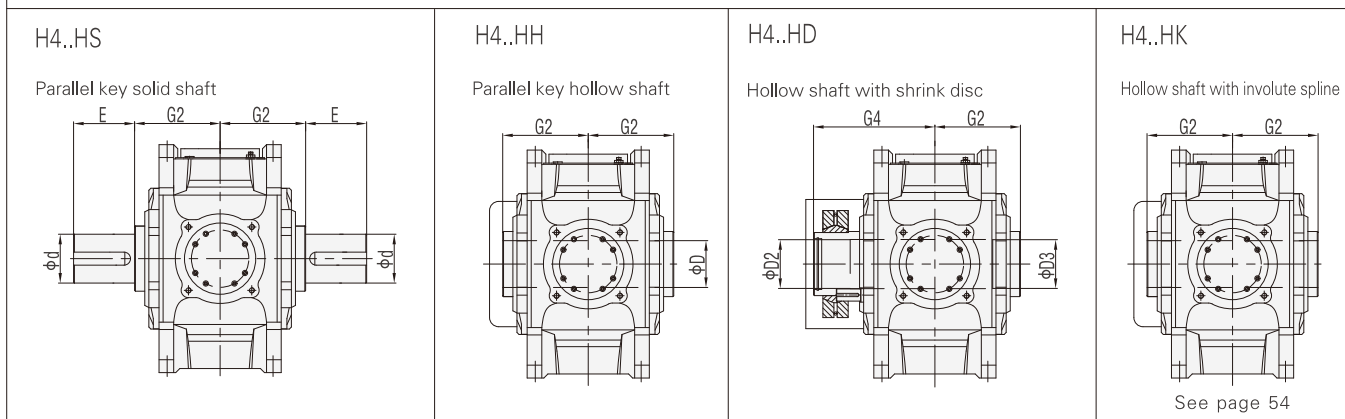
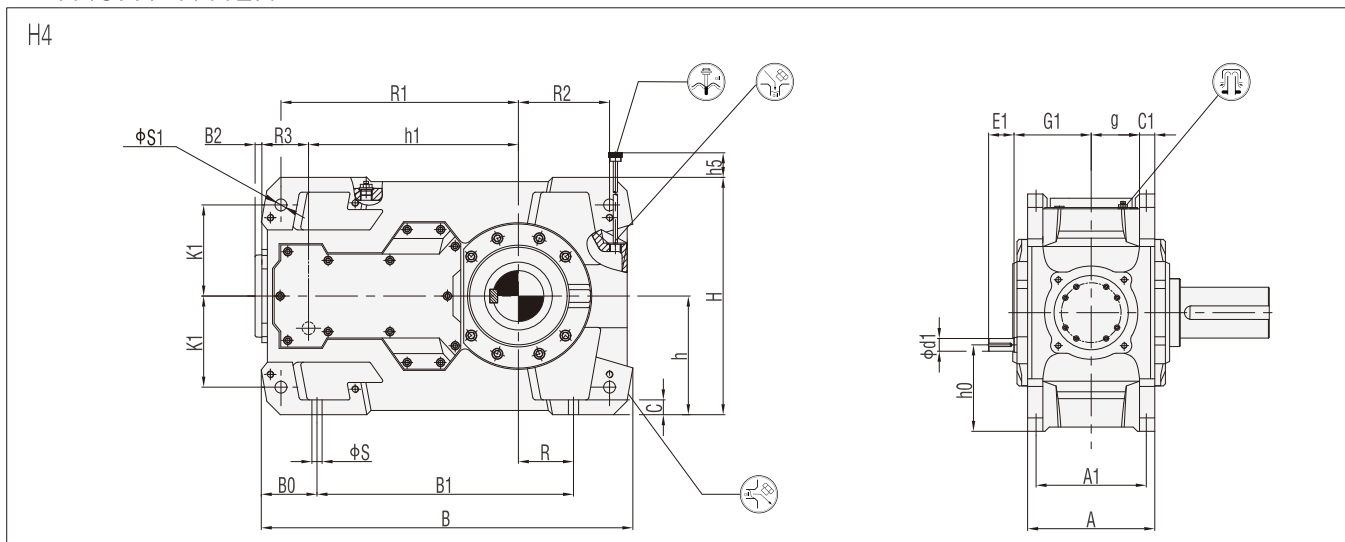


Size	iN ≤ 45			iN ≤ 50			iN ≥ 50			iN ≥ 56			A	A1	B	B0	B1	B2	C	C1	d	d6	D	D2	D3
	d1	E1	E2	d1	E1	E2	d1	E1	E2	d1	E1	E2													
05	40k6	80	60				30k6	60	40				255	220	713	113	480	16	28	30 ± 1	100m6	150	95H7	100H7	100H7
06	40k6	80	60				30k6	60	40				255	220	793	113	560	16	28	30 ± 1	110m6	150	105H7	110H7	110H7
07				45k6	110	80				35k6	80	50	300	260	876	131	605	16	35	36 ± 1	120m6	200	115H7	120H7	120H7
08				45k6	110	80				35k6	80	50	300	260	981	131	710	16	35	36 ± 1	130m6	200	125H7	130H7	130H7
09				60m6	140	110				45k6	110	80	370	320	1033	156	710	20	40	45 ± 1.5	140m6	210	135H7	140H7	140H7
10				60m6	140	110				45k6	110	80	370	320	1131	156	810	20	40	45 ± 1.5	160m6	210	150H7	150H7	150H7
11				70m6	140	105				50k6	110	75	430	370	1227	178	870	20	50	54 ± 1.5	170m6	220	165H7	165H7	165H7
12				70m6	140	105				50k6	110	75	430	370	1382	178	1025	20	50	54 ± 1.5	180m6	220	180H7	180H7	180H7

Size	E	F1	F2	G1	G2	G3	G4	g	H	h	h1	h5	K1	P1	P3	P4	R	R1	R2	R3	S	S1	weight (kg)
05	210	205	180	170	165	190	240	97.5	460	230	405	40	180	225	145	55	100	455	175	90	19	24H9	324
06	210	205	180	170	165	190	240	97.5	490	230	440	10	180	225	145	55	145	490	220	90	19	24H9	403
07	210	255	210	210	195	240	280	114	560	280	495	0	215	270	220	70	130	560	215	110	24	28H9	558
08	250	255	210	210	195	240	285	114	580	280	540	0	215	270	220	70	190	605	275	110	24	28H9	663
09	250	285	245	240	235	270	330	140	640	320	580	15	245	310	240	95	155	660	260	130	28	36H9	899
10	300	285	245	240	235	270	350	140	670	320	630	0	245	310	240	95	205	710	310	130	28	36H9	1113
11	300	325	285	275	270	310	400	161	760	380	705	30	300	370	285	125	180	805	295	160	35	40H9	1481
12	300	325	285	275	270	310	405	161	790	380	775	5	300	370	285	125	265	875	380	160	35	40H9	1742

# 11 Outline dimension

H407H~H412H

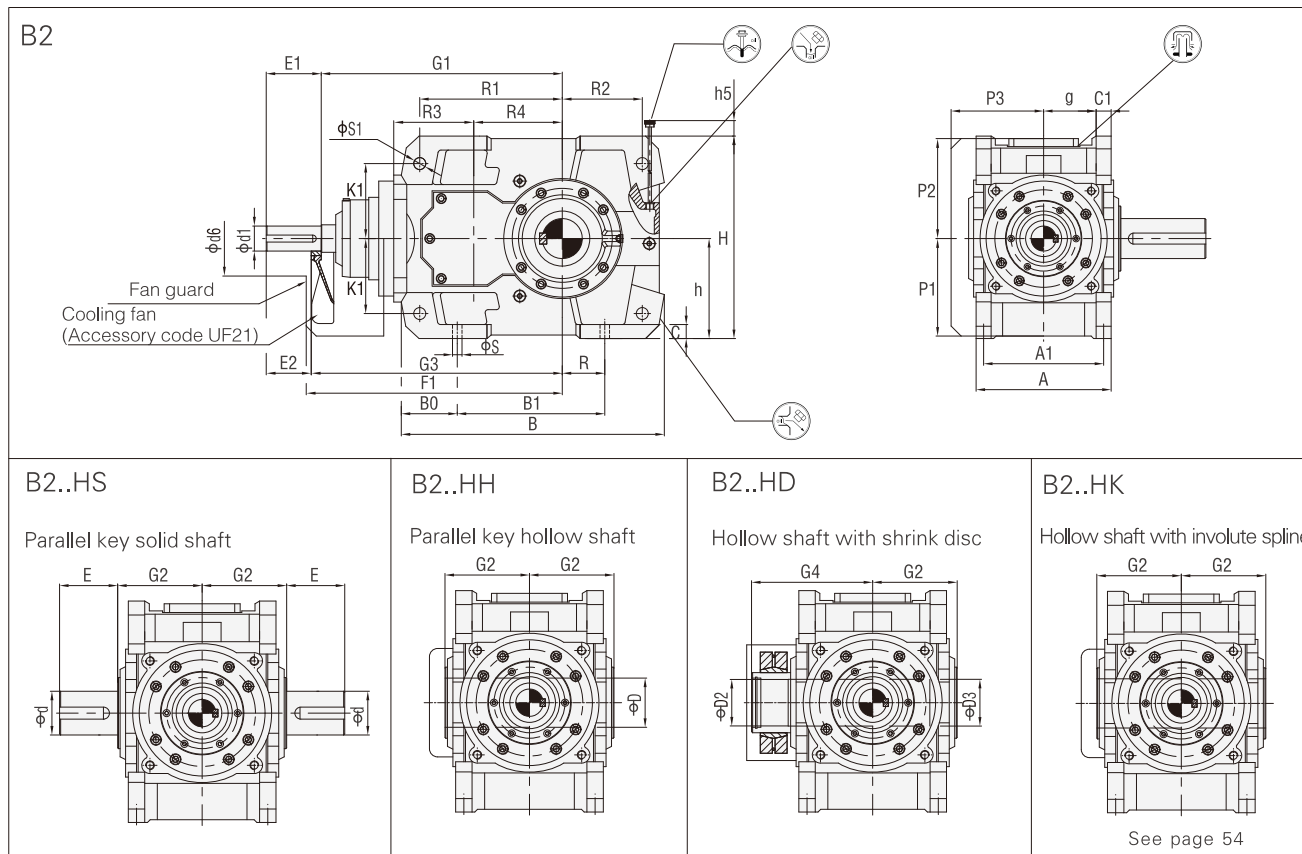


Size	iN ≤ 200		iN ≤ 224		iN ≥ 224		iN ≥ 250		A	A1	B	B0	B1	B2	C	C1	d	D	D2	D3
	d1	E1	d1	E1	d1	E1	d1	E1												
07	30k6	60			24k6	50			300	260	876	131	605	16	35	36 ± 1	120m6	115H7	120H7	120H7
08	30k6	60			24k6	50			300	260	981	131	710	16	35	36 ± 1	130m6	125H7	130H7	130H7
09	35k6	80			28k6	60			370	320	1033	156	710	20	40	45 ± 1.5	140m6	135H7	140H7	140H7
10	35k6	80			28k6	60			370	320	1131	156	810	20	40	45 ± 1.5	160m6	150H7	150H7	150H7
11			45k6	110			32k6	80	430	370	1227	178	870	20	50	54 ± 1.5	170m6	165H7	165H7	165H7
12			45k6	110			32k6	80	430	370	1382	178	1025	20	50	54 ± 1.5	180m6	180H7	180H7	180H7

Size	E	G1	G2	G4	g	H	h	h0	h1	h5	K1	R	R1	R2	R3	S	S1	weight (kg)
07	210	180	195	280	114	560	280	204	495	0	215	130	560	215	110	24	28H9	559
08	250	180	195	285	114	580	280	204	540	0	215	190	605	275	110	24	28H9	664
09	250	215	235	330	140	640	320	226.5	580	15	245	155	660	260	130	28	36H9	901
10	300	215	235	350	140	670	320	226.5	630	0	245	205	710	310	130	28	36H9	1115
11	300	250	270	400	161	760	380	260	705	30	300	180	805	295	160	35	40H9	1487
12	300	250	270	405	161	790	380	260	775	5	300	265	875	380	160	35	40H9	1747

# 11 Outline dimension

B204H~B212H

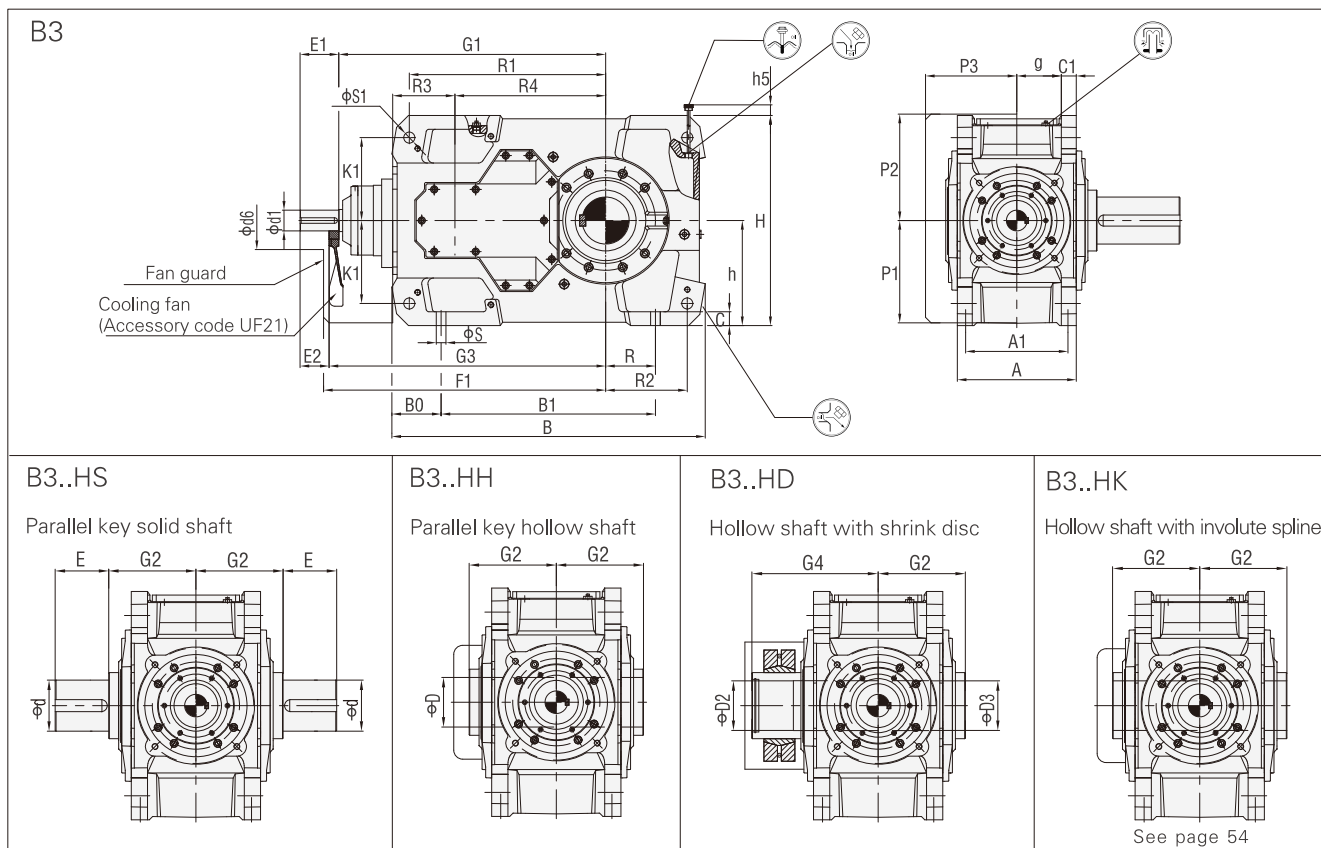


Size	iN ≤ 14			A	A1	B	B0	B1	C	C1	d	d6	D	D2	D3	E	F1
	d1	E1	E2														
04	50k6	110	90	270	235	530	125	295	28	30 ± 1	80m6	150	80H7	85H7	85H7	170	517
05	60m6	140	110	320	285	595	130	355	28	30 ± 1	100m6	160	95H7	100H7	100H7	210	596
06	60m6	140	110	320	285	680	135	435	28	30 ± 1	110m6	160	105H7	110H7	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	weight (kg)
04	482	140	502	205	105	400	200	15	150	195	200	185	85	285	160	160	177	19	24H9	217
05	551	165	581	240	130	460	230	30	180	220	235	215	100	330	175	185	201	19	24H9	349
06	590	165	620	240	130	490	230	0	180	220	235	215	145	365	220	185	240	19	24H9	437
07	660	195	690	280	154	560	280	35	215	270	285	250	130	405	215	225	240	24	28H9	599
08	700	195	730	285	154	580	280	25	215	270	285	250	190	450	275	225	280	24	28H9	723
09	755	235	790	330	172	640	320	10	245	310	325	250	155	480	260	265	280	28	36H9	921
10	815	235	850	350	172	670	320	0	245	310	325	250	205	530	310	265	340	28	36H9	1158
11	945	270	980	400	211	760	380	55	300	370	385	330	180	580	295	320	340	35	40H9	1516
12	995	270	1030	405	211	790	380	30	300	370	385	330	265	650	380	320	390	35	40H9	1833

# 11 Outline dimension

B304H~B312H



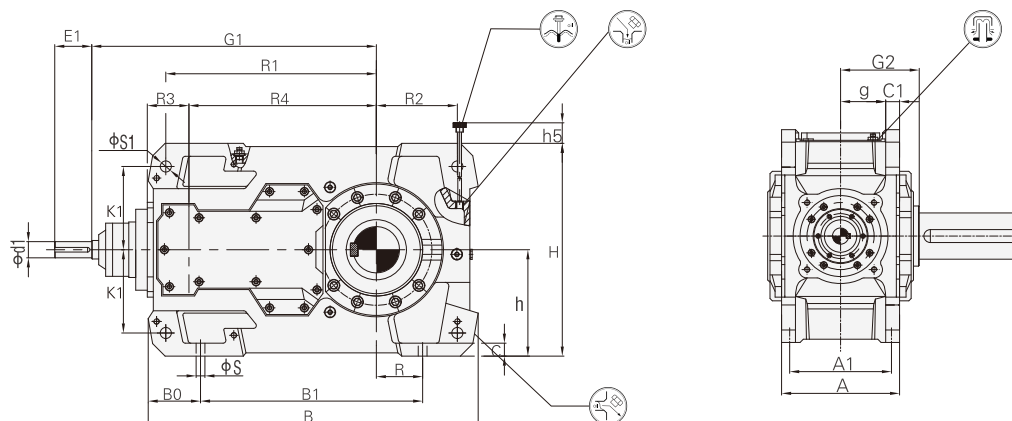
Size	iN ≤ 63			iN ≥ 71			A	A1	B	B0	B1	C	C1	d	d6	E	F1	D	D2	D3
	d1	E1	E2	d1	E1	E2														
04	35k6	80	60	30k6	60	40	215	180	586	112	355	28	30 ± 1	80m6	150	170	530	80H7	85H7	85H7
05	45k6	110	80	35k6	80	50	255	220	667	113	430	28	30 ± 1	100m6	160	210	620	95H7	100H7	100H7
06	45k6	110	80	35k6	80	50	255	220	743	113	510	28	30 ± 1	110m6	160	210	655	105H7	110H7	110H7
07	50k6	110	90	40k6	80	60	300	260	816	131	545	35	36 ± 1	120m6	210	210	720	115H7	120H7	120H7
08	50k6	110	90	40k6	80	60	300	260	920	131	650	35	36 ± 1	130m6	210	250	765	125H7	130H7	130H7
09	60m6	140	110	50k6	110	80	370	320	957	156	635	40	45 ± 1.5	140m6	220	250	845	135H7	140H7	140H7
10	60m6	140	110	50k6	110	80	370	320	1062	156	735	40	45 ± 1.5	160m6	220	300	895	150H7	150H7	150H7
11	75m6	140	115	60m6	140	115	430	370	1132	178	775	50	54 ± 1.5	170m6	210	300	1015	165H7	165H7	165H7
12	75m6	140	115	60m6	140	115	430	370	1292	178	930	50	54 ± 1.5	180m6	210	300	1085	180H7	180H7	180H7

Size	G1	G2	G3	G4	g	H	h	h5	K1	P1	P2	P3	R	R1	R2	R3	R4	S	S1	weight (kg)
04	500	140	520	205	77.5	400	200	15	150	195	200	185	85	345	160	110	270	19	24H9	210
05	575	165	605	240	97.5	460	230	15	180	220	235	215	100	405	175	130	315	19	24H9	337
06	610	165	640	240	97.5	490	230	0	180	220	235	215	145	440	220	130	350	19	24H9	412
07	690	195	710	280	114	560	280	0	215	270	285	250	130	500	215	160	385	24	28H9	555
08	735	195	755	285	114	580	280	0	215	270	285	250	190	545	275	160	430	24	28H9	660
09	800	235	830	330	140	640	320	10	245	310	325	250	155	585	260	185	450	28	36H9	891
10	850	235	880	350	140	670	320	0	245	310	325	250	205	635	310	185	500	28	36H9	1106
11	965	270	990	400	161	760	380	30	300	370	385	330	180	710	295	225	545	35	40H9	1484
12	1035	270	1060	405	161	790	380	5	300	370	385	330	265	780	380	225	615	35	40H9	1757

## 11 Outline dimension

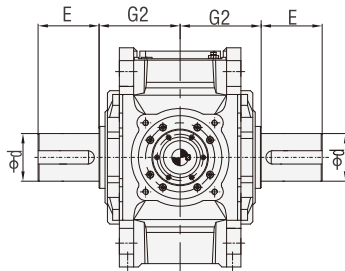
B405H~B412H

B4



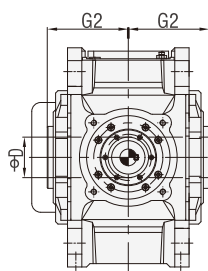
B4..HS

Parallel key solid shaft



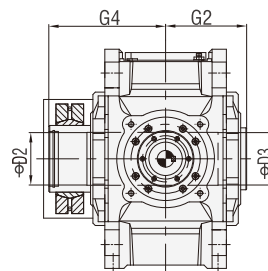
B4..HH

Parallel key hollow shaft



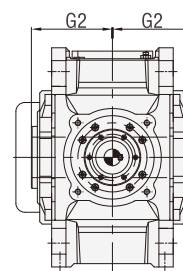
B4..HD

Hollow shaft with shrink disc



B4..HK

Hollow shaft with involute spline



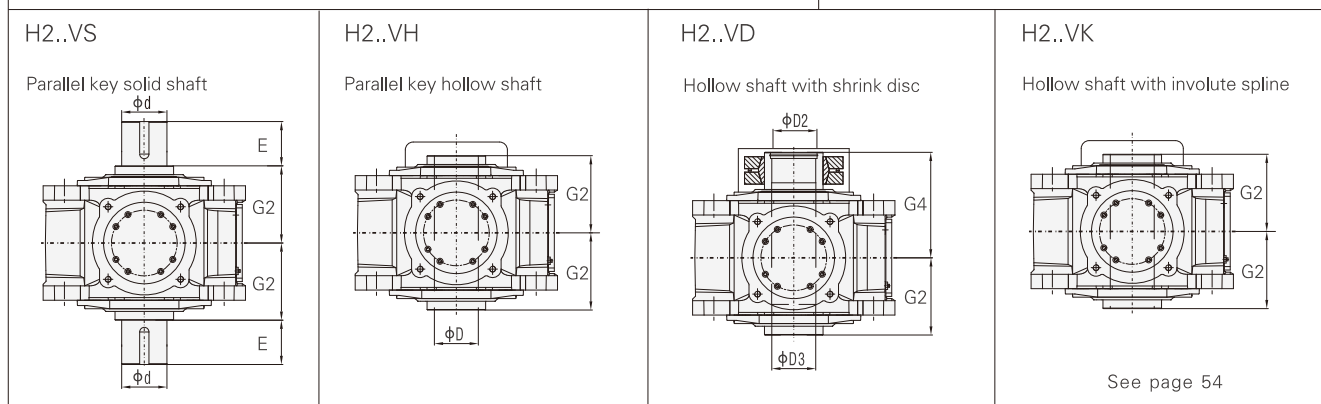
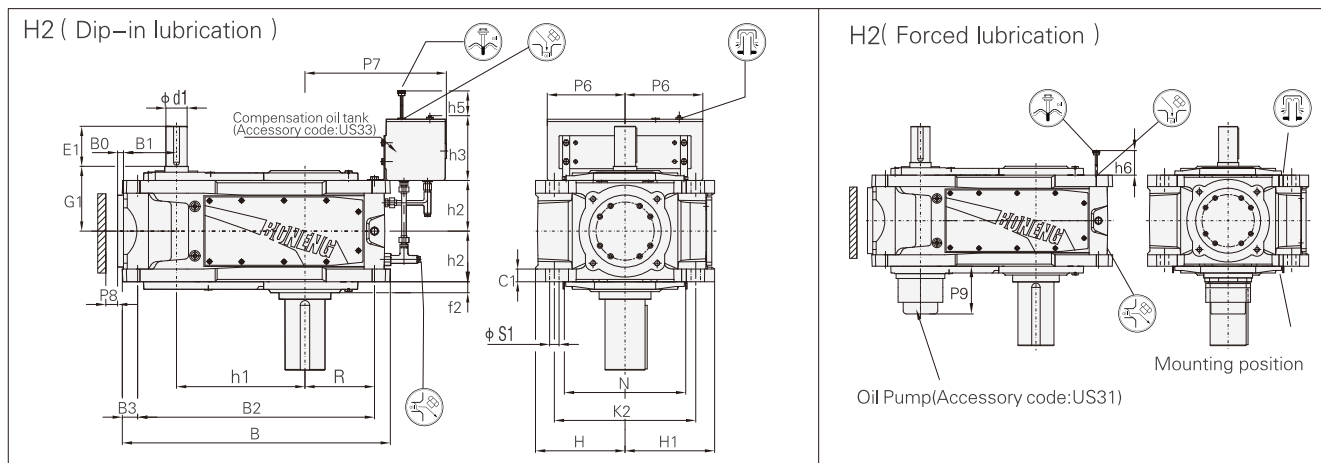
See page 54

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	weight (kg)
05	100H7	100H7	210	615	165	240	97.5	460	230	40	180	100	455	175	90	405	19	24H9	337
06	110H7	110H7	210	650	165	240	97.5	490	230	10	180	145	490	220	90	440	19	24H9	416
07	120H7	120H7	210	725	195	280	114	560	280	0	215	130	560	215	110	495	24	28H9	573
08	130H7	130H7	250	770	195	285	114	580	280	0	215	190	605	275	110	540	24	28H9	677
09	140H7	140H7	250	840	235	330	140	640	320	15	245	155	660	260	130	580	28	36H9	925
10	150H7	150H7	300	890	235	350	140	670	320	0	245	205	710	310	130	630	28	36H9	1139
11	165H7	165H7	300	1010	270	400	161	760	380	30	300	180	805	295	160	705	35	40H9	1514
12	180H7	180H7	300	1080	270	405	161	790	380	5	300	265	875	380	160	775	35	40H9	1775

# 11 Outline dimension

H204V~H212V



See page 54

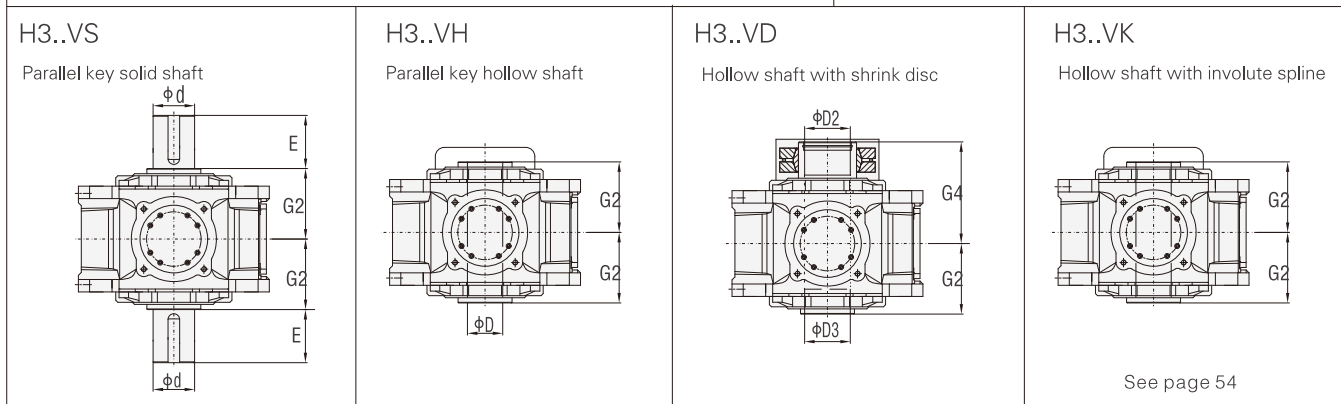
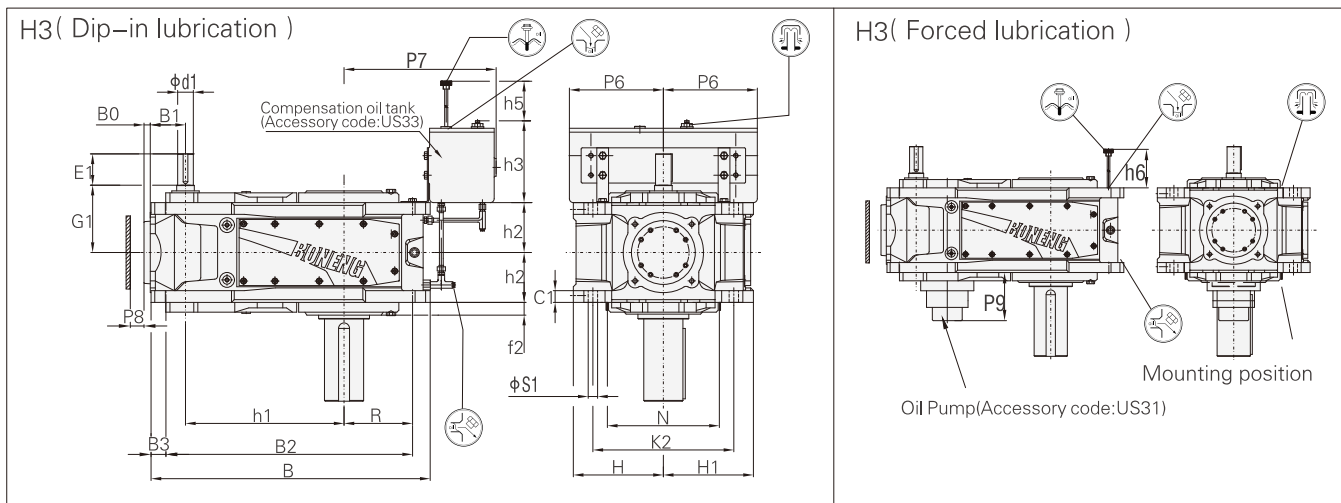
Size	iN≤3.15 (Size:04) iN≤3.55 (Size:06) iN≤4 (Size:08,09,11) iN≤5.6 (Size:12)		3.55≤iN≤5.6 (Size:04) 4≤iN≤5.6 (Size:06) 4.5≤iN≤5.6 (Size:08,09,11)		6.3≤iN≤11.2		12.5≤iN≤22.4		B	B0	B1	B2	B3	C1	d	D	D2	D3	E	f2
	d1	E1	d1	E1	d1	E1	d1	E1												
04	45k6	110	32k6	80	45k6	110	32k6	80	586	16	110	505	37	30±1	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	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	60m6	140	50k6	110	920	20	160	820	46	36±1	130m6	125H7	130H7	130H7	250	35
09	75m6	140	60m6	140	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	90m6	170	70m6	140	1132	25	225	1005	63	54±1.5	170m6	165H7	165H7	165H7	300	42
12	90m6	170	/	/	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	weight (kg)
04	170	140	205	200	200	270	107.5	175	140	85	300	250	150	340	35	132	160	24H9	195
05	195	165	240	230	230	315	127.5	210	160	105	360	310	240	405	35	145	175	24H9	310
06	195	165	240	230	260	350	127.5	210	160	105	360	310	240	450	35	145	220	24H9	385
07	210	195	280	280	280	385	150	210	160	120	430	360	240	445	35	143	215	28H9	519
08	210	195	285	280	300	430	150	210	160	120	430	360	240	505	35	143	275	28H9	624
09	240	235	330	320	320	450	185	285	200	155	490	410	330	585	40	135	260	36H9	828
10	240	235	350	320	350	500	185	285	200	155	490	430	330	635	40	135	310	36H9	1044
11	275	270	400	380	380	545	215	285	200	150	600	500	330	620	50	142	295	40H9	1371
12	275	270	405	380	410	615	215	285	200	150	600	500	330	705	50	142	380	40H9	1644

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

# 11 Outline dimension

H305V~H312V



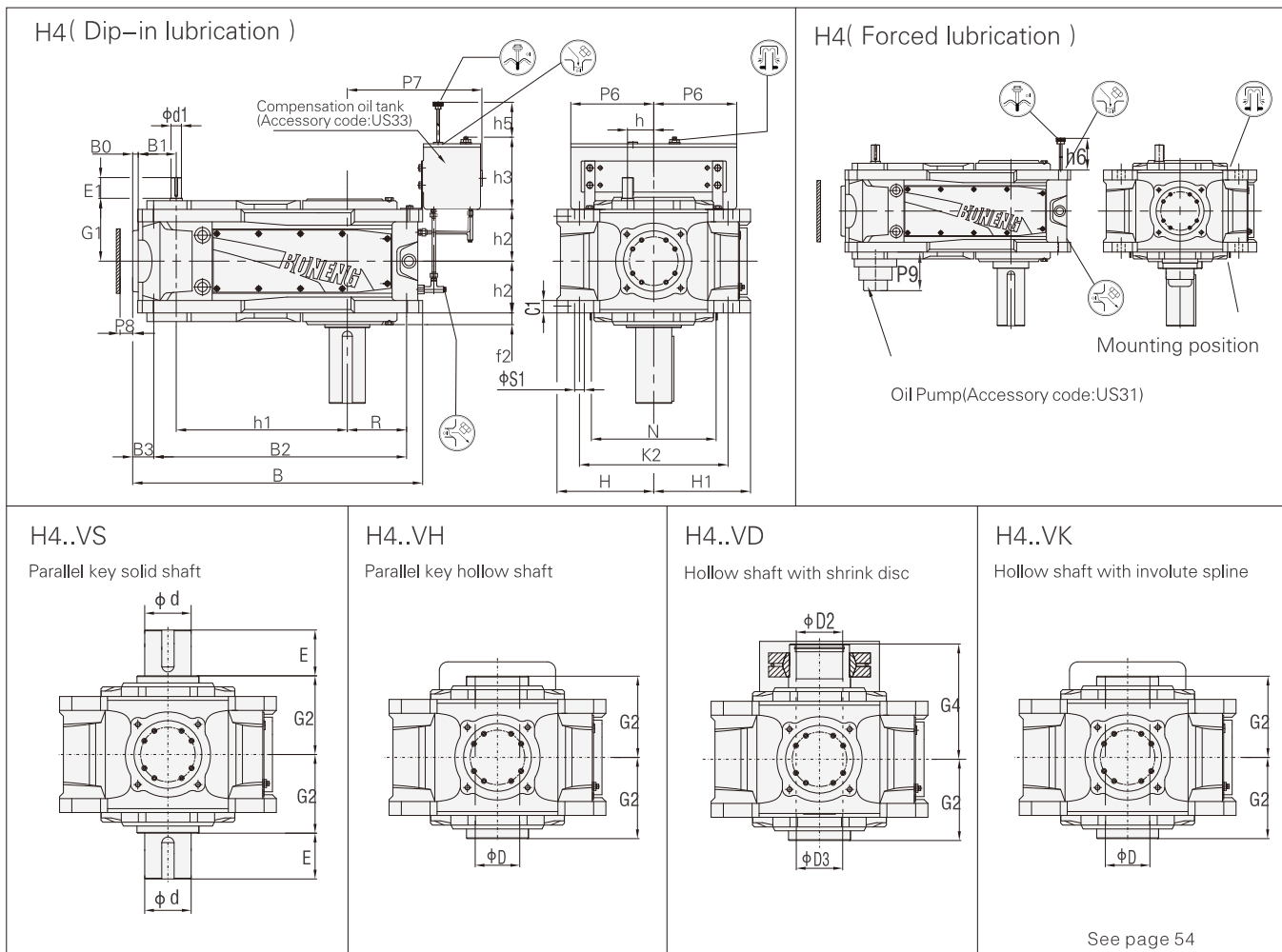
Size	iN ≤ 45		iN ≤ 50		iN ≥ 50		iN ≥ 56		B	B0	B1	B2	B3	C1	d	D	D2	D3
	d1	E1	d1	E1	d1	E1	d1	E1										
05	40k6	80			30k6	60			713	16	90	630	38	30 ± 1	100m6	95H7	100H7	100H7
06	40k6	80			30k6	60			793	16	90	710	38	30 ± 1	110m6	105H7	110H7	110H7
07			45k6	110			35k6	80	876	16	110	775	46	36 ± 1	120m6	115H7	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	weight (kg)
05	210	30	170	165	240	230	230	405	127.5	210	160	105	360	310	240	405	35	145	175	24H9	324
06	210	30	170	165	240	230	260	440	127.5	210	160	105	360	310	240	450	35	145	220	24H9	403
07	210	35	210	195	280	280	280	495	150	210	160	120	430	360	240	445	35	143	215	28H9	558
08	250	35	210	195	285	280	300	540	150	210	160	120	430	360	240	505	35	143	275	28H9	663
09	250	35	240	235	330	320	320	580	185	285	200	155	490	420	330	585	40	155	260	36H9	899
10	300	35	240	235	350	320	350	630	185	285	200	155	490	430	330	635	40	155	310	36H9	1113
11	300	42	275	270	400	380	380	705	215	285	200	150	600	510	330	620	50	162	295	40H9	1481
12	300	42	275	270	405	380	410	775	215	285	200	150	600	510	330	705	50	162	380	40H9	1742

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

# 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

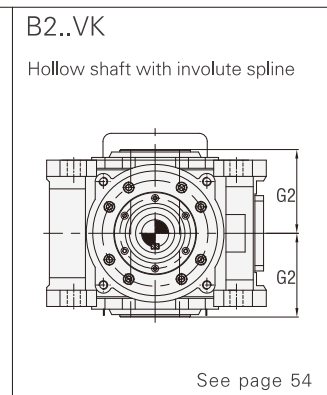
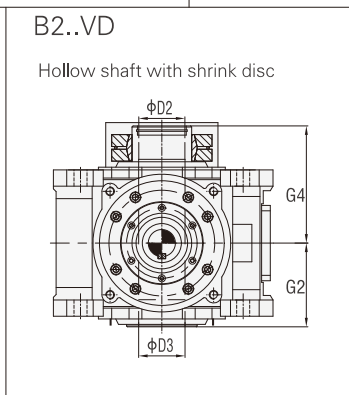
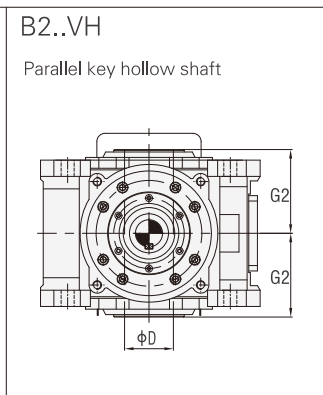
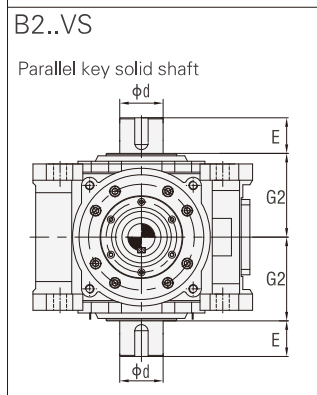
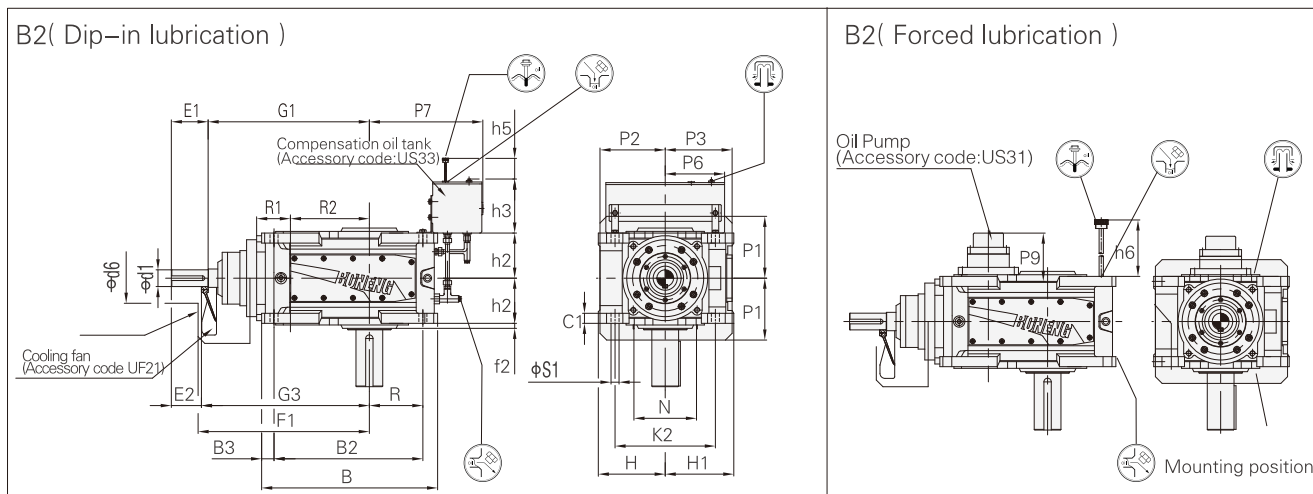
Size	f2	G1	G2	G4	H	H1	h	h1	h2	h3	h5	h6	K2	N	P6	P7	P8	P9	R	S1	weight (kg)
07	35	180	195	280	280	280	76	495	150	210	160	120	430	360	240	445	35	102	215	28H9	559
08	35	180	195	285	280	300	76	540	150	210	160	120	430	360	240	505	35	102	275	28H9	664
09	35	215	235	330	320	320	93.5	580	185	285	200	155	490	420	330	585	40	125	260	36H9	901
10	35	215	235	350	320	350	93.5	630	185	285	200	155	490	430	330	635	40	125	310	36H9	1115
11	42	250	270	400	380	380	120	705	215	285	200	150	600	510	330	620	50	140	295	40H9	1487
12	42	250	270	405	380	410	120	775	215	285	200	150	600	510	330	705	50	140	380	40H9	1747

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



## 11 Outline dimension

B204V~B212V



See page 54

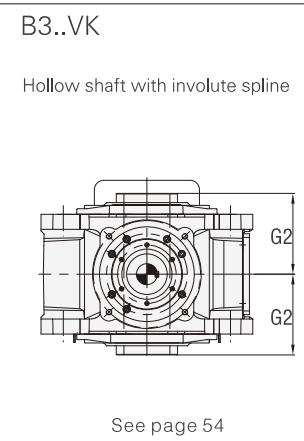
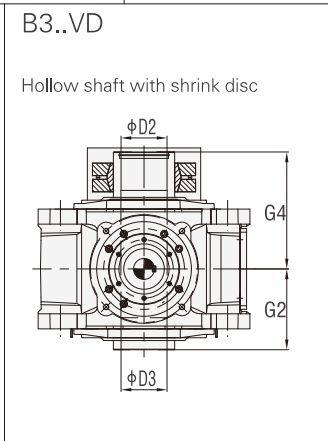
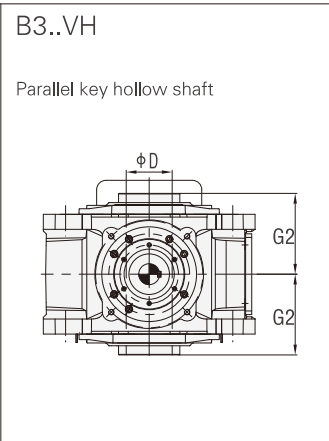
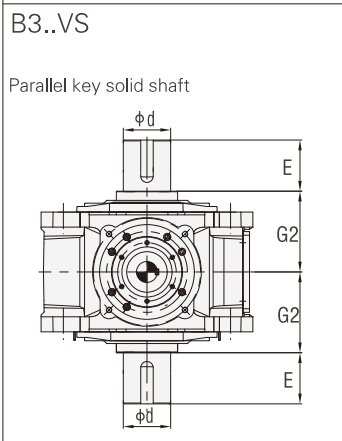
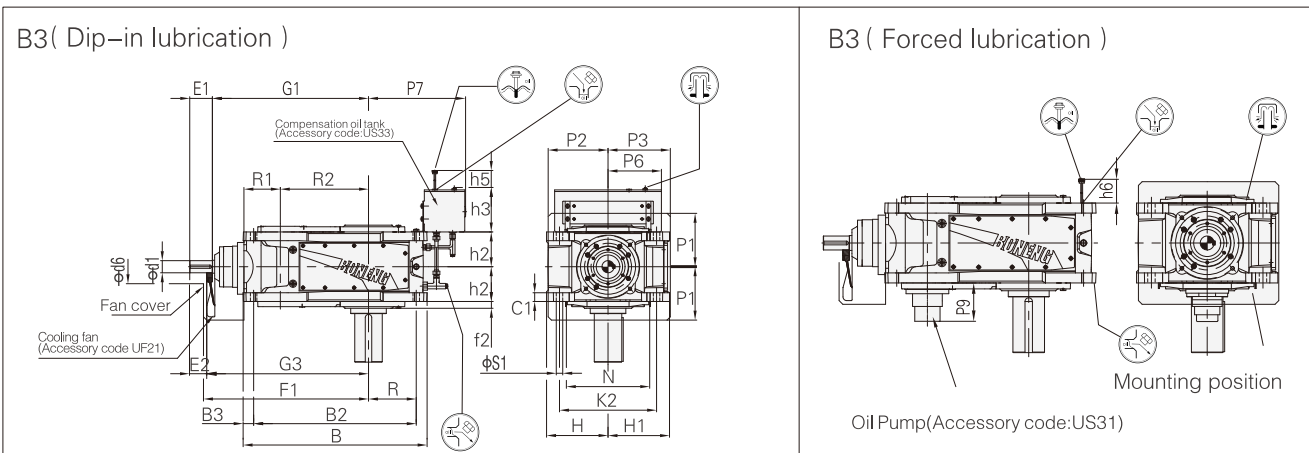
Size	iN ≤ 14			B	B2	B3	C1	d	d6	D	D2	D3	E	F1	f2	G1	G2
	d1	E1	E2														
04	50k6	110	90	530	445	50	30 ± 1	80m6	150	80H7	85H7	85H7	170	517	20	482	140
05	60m6	140	110	595	505	55	30 ± 1	100m6	160	95H7	100H7	100H7	210	596	10	551	165
06	60m6	140	110	680	585	60	30 ± 1	110m6	160	105H7	110H7	110H7	210	635	10	590	165
07	75m6	140	110	725	620	60	36 ± 1	120m6	210	115H7	120H7	120H7	210	705	15	660	195
08	75m6	140	110	825	725	55	36 ± 1	130m6	210	125H7	130H7	130H7	250	745	15	700	195
09	85m6	170	135	860	740	70	48 ± 1.5	140m6	220	135H7	140H7	140H7	250	805	20	755	235
10	85m6	170	135	970	840	80	48 ± 1.5	160m6	220	150H7	150H7	150H7	300	865	20	815	235
11	95m6	170	135	1030	875	90	54 ± 1.5	170m6	250	165H7	165H7	165H7	300	1005	15	945	270
12	95m6	170	135	1165	1030	70	54 ± 1.5	180m6	250	180H7	180H7	180H7	300	1055	15	995	270

Size	G3	G4	H	H1	h2	h3	h5	h6	K2	N	P1	P2	P3	P6	P7	P9	R	R1	R2	S1	weight (kg)
04	502	205	200	200	135	175	140	130	300	250	185	195	200	150	340	140	160	160	177	24H9	217
05	581	240	230	230	160	210	160	145	360	310	215	220	235	240	405	132	175	185	201	24H9	349
06	620	240	230	260	160	210	160	145	360	310	215	220	235	240	450	132	220	185	240	24H9	437
07	690	280	280	280	190	210	160	180	430	360	250	270	285	240	445	150	215	225	240	28H9	599
08	730	285	280	300	190	210	160	180	430	360	250	270	285	240	505	150	275	225	280	28H9	723
09	790	330	320	320	220	285	200	165	490	390	250	310	325	330	585	160	260	265	280	36H9	921
10	850	350	320	350	220	285	200	165	490	430	250	310	325	330	635	160	310	265	340	36H9	1158
11	980	400	380	380	265	285	200	140	600	450	330	370	385	330	620	161	295	320	340	40H9	1516
12	1030	405	380	410	265	285	200	140	600	490	330	370	385	330	705	161	380	320	390	40H9	1833

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

# 11 Outline dimension

B304V~B312V



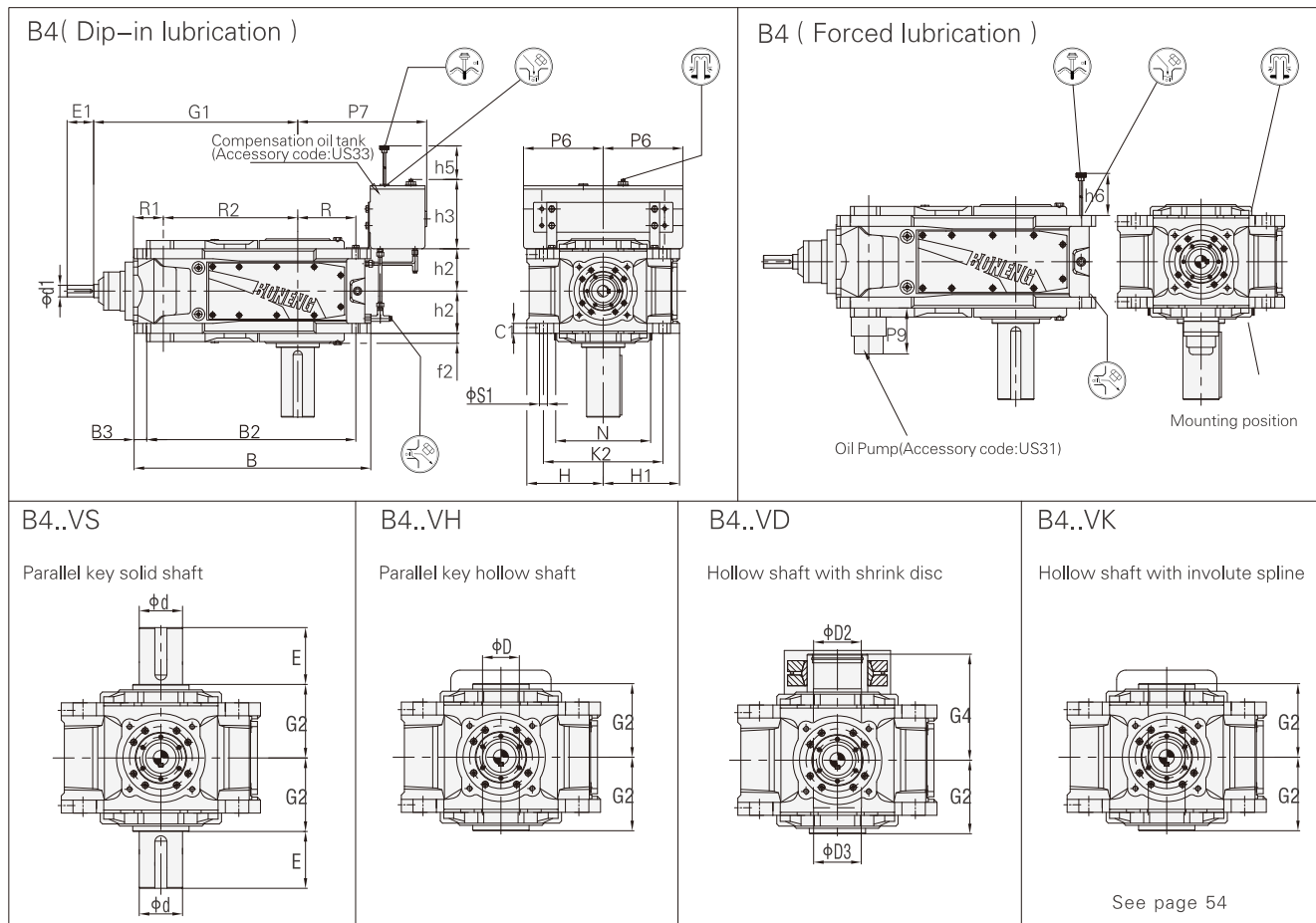
Size	iN ≤ 63			iN ≥ 71			B	B2	B3	C1	d	d6	E	F1	f2	D	D2	D3	G1
	d1	E1	E2	d1	E1	E2													
04	35k6	80	60	30k6	60	40	586	505	37	30 ± 1	80m6	150	170	530	30	80H7	85H7	85H7	500
05	45k6	110	80	35k6	80	50	667	580	38	30 ± 1	100m6	160	210	620	30	95H7	100H7	100H7	575
06	45k6	110	80	35k6	80	50	743	660	38	30 ± 1	110m6	160	210	655	35	105H7	110H7	110H7	610
07	50k6	110	90	40k6	80	60	816	715	46	36 ± 1	120m6	210	210	720	36	115H7	120H7	120H7	690
08	50k6	110	90	40k6	80	60	920	820	46	36 ± 1	130m6	210	250	765	35	125H7	130H7	130H7	735
09	60m6	140	110	50k6	110	80	957	845	51	45 ± 1.5	140m6	220	250	845	35	135H7	140H7	140H7	800
10	60m6	140	110	50k6	110	80	1062	945	51	45 ± 1.5	160m6	220	300	895	35	150H7	150H7	150H7	850
11	75m6	140	115	60m6	140	115	1132	1005	63	54 ± 1.5	170m6	210	300	1015	42	165H7	165H7	165H7	965
12	75m6	140	115	60m6	140	115	1292	1160	63	54 ± 1.5	180m6	210	300	1085	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	weight (kg)
04	140	520	205	200	200	107.5	175	140	85	300	250	185	195	200	150	340	142	160	110	270	24H9	210
05	165	605	240	230	230	127.5	210	160	105	360	310	215	220	235	240	405	145	175	130	315	24H9	337
06	165	640	240	230	260	127.5	210	160	105	360	310	215	220	235	240	450	145	220	130	350	24H9	412
07	195	710	280	280	280	150	210	160	120	430	360	250	270	285	240	445	143	215	160	385	28H9	555
08	195	755	285	280	300	150	210	160	120	430	360	250	270	285	240	505	143	275	160	430	28H9	660
09	235	830	330	320	320	185	285	200	155	490	410	250	310	325	330	585	155	260	185	450	36H9	891
10	235	880	350	320	350	185	285	200	155	490	430	250	310	325	330	635	155	310	185	500	36H9	1106
11	270	990	400	380	380	215	285	200	150	600	500	330	370	385	330	620	162	295	225	545	40H9	1484
12	270	1060	405	380	410	215	285	200	150	600	500	330	370	385	330	705	162	380	225	615	40H9	1757

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

## 11 Outline dimension

B405V~B412V



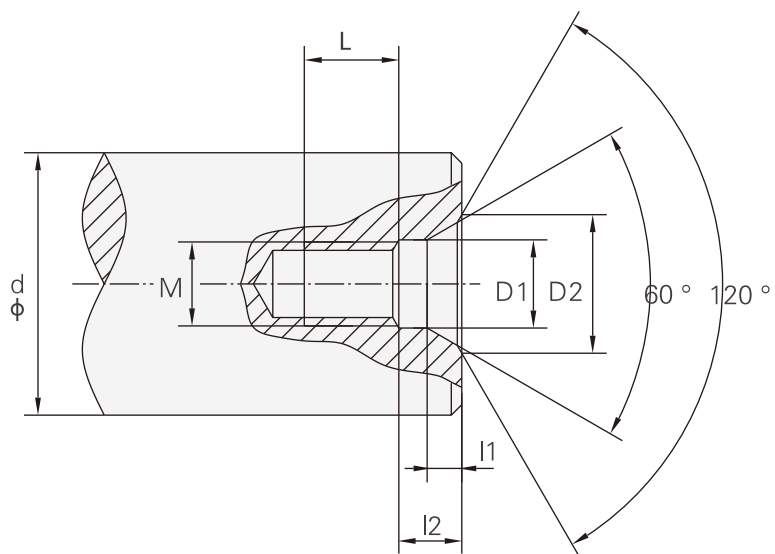
Size	iN ≤ 250		iN ≤ 280		iN ≥ 280		iN ≥ 315		B	B2	B3	C1	d	D	D2	D3	E	f2
	d1	E1	d1	E1	d1	E1	d1	E1										
05			35k6	80			25k6	50	713	630	38	30 ± 1	100m6	95H7	100H7	100H7	210	30
06			35k6	80			25k6	50	793	710	38	30 ± 1	110m6	105H7	110H7	110H7	210	30
07			35k6	80			30k6	60	876	775	46	36 ± 1	120m6	115H7	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	weight (kg)
05	615	165	240	230	230	127.5	210	160	105	360	310	240	405	120	175	90	405	24H9	337
06	650	165	240	230	260	127.5	210	160	105	360	310	240	450	120	220	90	440	24H9	416
07	725	195	280	280	280	150	210	160	120	430	360	240	445	102	215	110	495	28H9	573
08	770	195	285	280	300	150	210	160	120	430	360	240	505	102	275	110	540	28H9	677
09	840	235	330	320	320	185	285	200	155	490	420	330	585	125	260	130	580	36H9	925
10	890	235	350	320	350	185	285	200	155	490	430	330	635	125	310	130	630	36H9	1139
11	1010	270	400	380	380	215	285	200	150	600	510	330	620	140	295	160	705	40H9	1514
12	1080	270	405	380	410	215	285	200	150	600	510	330	705	140	380	160	775	40H9	1775

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

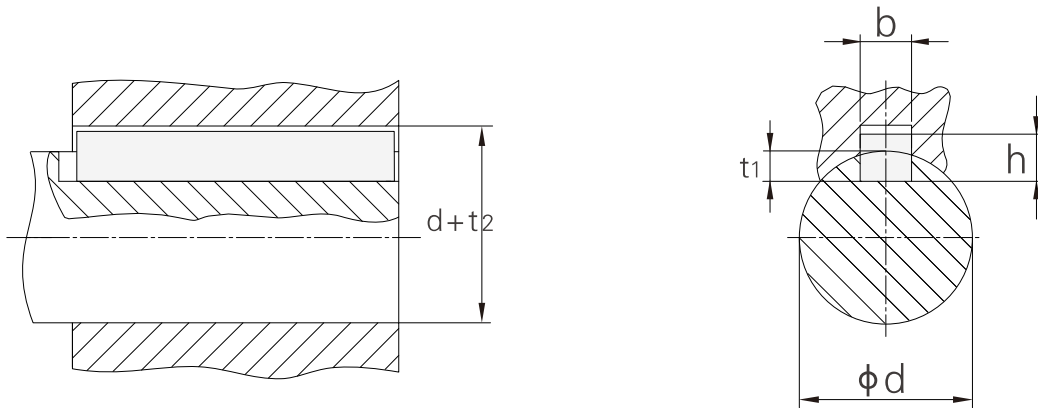
## 12 Shaft end central hole:

Shaft end C Type screw central hole



d	M	L	l <sub>2</sub>	l <sub>1</sub>	D <sub>1</sub>	D <sub>2</sub>
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

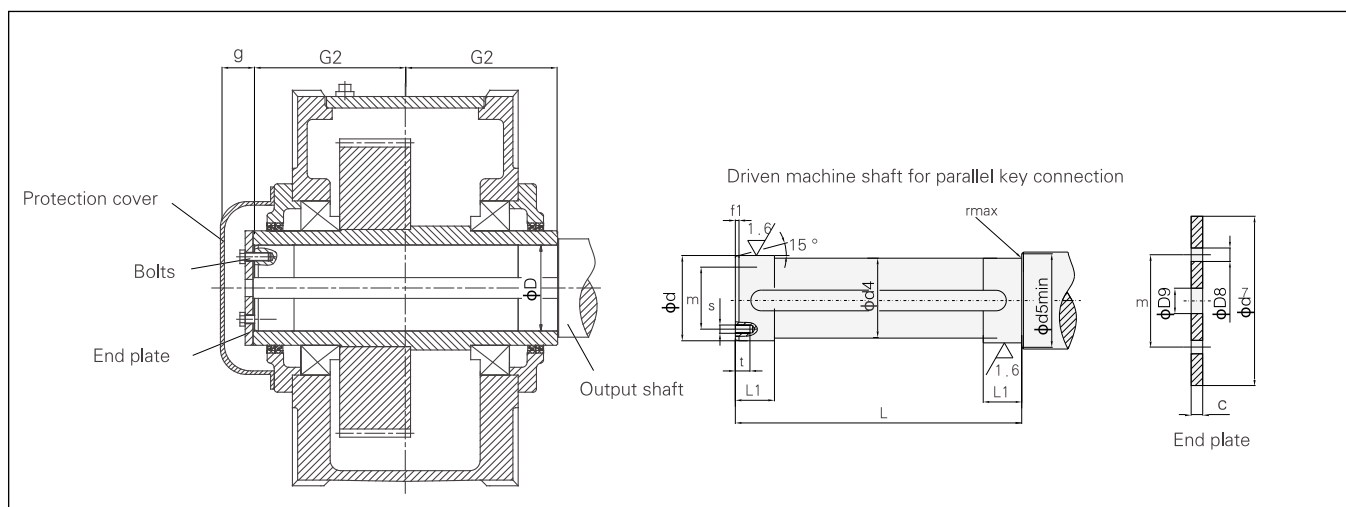
**13 Dimension of parallel key and keyway:**



d	b	h	t <sub>1</sub>	d + t <sub>2</sub>
8 < d ≤ 10	3	3	1.8	d + 1.4
10 < d ≤ 12	4	4	2.5	d + 1.8
12 < d ≤ 17	5	5	3	d + 2.3
17 < d ≤ 22	6	6	3.5	d + 2.8
22 < d ≤ 30	8	7	4	d + 3.3
30 < d ≤ 38	10	8	5	d + 3.3
38 < d ≤ 44	12	8	5	d + 3.3
44 < d ≤ 50	14	9	5.5	d + 3.8
50 < d ≤ 58	16	10	6	d + 4.3
58 < d ≤ 65	18	11	7	d + 4.4
65 < d ≤ 75	20	12	7.5	d + 4.9
75 < d ≤ 85	22	14	9	d + 5.4
85 < d ≤ 95	25	14	9	d + 5.4
95 < d ≤ 110	28	16	10	d + 6.4
110 < d ≤ 130	32	18	11	d + 7.4
130 < d ≤ 150	36	20	12	d + 8.4
150 < d ≤ 170	40	22	13	d + 9.4
170 < d ≤ 200	45	25	15	d + 10.4
200 < d ≤ 230	50	28	17	d + 11.4
230 < d ≤ 260	56	32	20	d + 12.4

## 14 Suggested output connection dimensions:

### 14.1 Hollow shaft with parallel key connection:



#### Type H2...H,H3...H,H4...H,B3...H,B4...H(Size 04–12)

Size	Driven equipment shaft										End plate					Bolt		Hollow shaft		
	d	d4	d5	f1	L	L1	r	s	t	c	D8	D9	d7	m	Size	Qty.	D	G2	g	
04	80h6	79.5	88	4	278	35	1.2	M10	18	10	11	22	100	60	M10 × 25	2	80H7	140	30.5	
05	95h6	94.5	105	5	328	40	1.6	M10	18	10	11	26	120	70	M10 × 25	2	95H7	165	30.5	
06	105h6	104.5	116	5	328	45	1.6	M10	18	10	11	26	120	70	M10 × 25	2	105H7	165	30.5	
07	115h6	114.5	126	5	388	50	1.6	M12	20	12	13.5	26	140	80	M12 × 30	2	115H7	195	37	
08	125h6	124.5	136	6	388	55	2.5	M12	20	12	13.5	26	150	85	M12 × 30	2	125H7	195	37	
09	135h6	134.5	147	6	467	60	2.5	M12	20	12	13.5	33	160	90	M12 × 30	2	135H7	235	32	
10	150h6	149.5	162	6	467	65	2.5	M12	20	12	13.5	33	185	110	M12 × 30	2	150H7	235	37	
11	165h6	164.5	177	7	537	70	2.5	M16	28	15	17.5	33	195	120	M16 × 40	2	165H7	270	40	
12	180h6	179.5	192	7	537	75	2.5	M16	28	15	17.5	33	220	130	M16 × 40	2	180H7	270	50	

#### Type B2...H(Size 04–12)

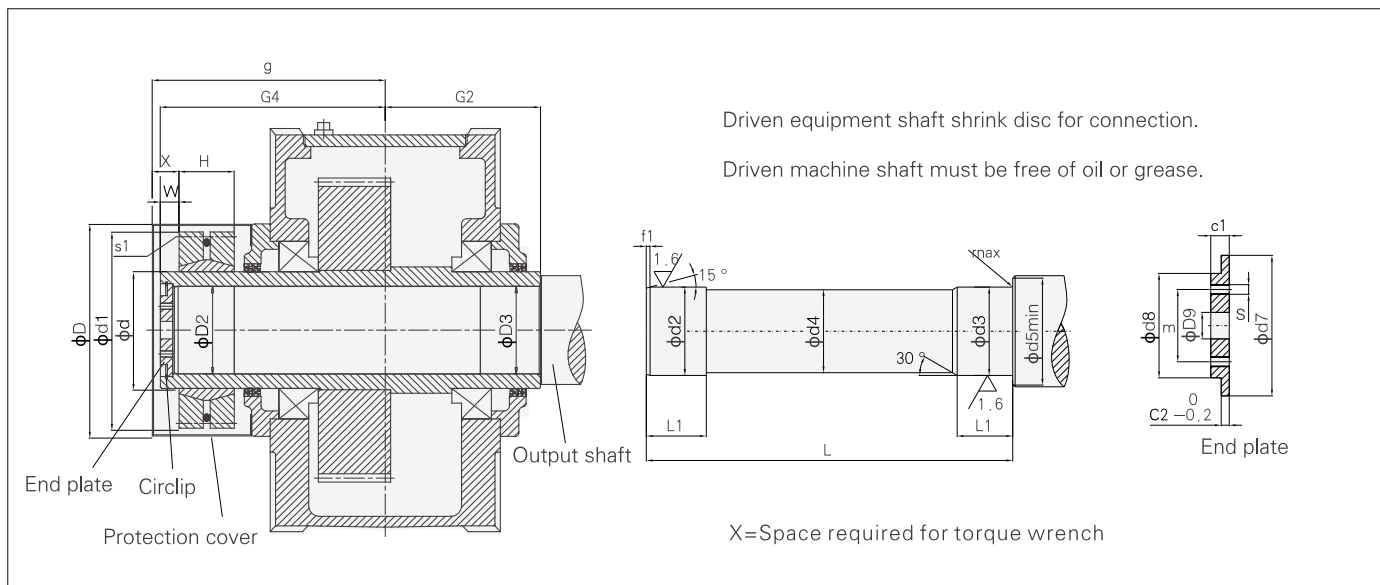
Size	Driven equipment shaft										End plate					Bolt		Hollow shaft		
	d	d4	d5	f1	L	L1	r	s	t	c	D8	D9	d7	m	Size	Qty.	D	G2	g	
04	80h6	79.5	88	4	278	35	1.2	M10	18	10	11	22	100	60	M10 × 25	2	80H7	140	38	
05	95h6	94.5	105	5	328	40	1.6	M10	18	10	11	26	120	70	M10 × 25	2	95H7	165	43	
06	105h6	104.5	116	5	328	45	1.6	M10	18	10	11	26	120	70	M10 × 25	2	105H7	165	43	
07	115h6	114.5	126	5	388	50	1.6	M12	20	12	13.5	26	140	80	M12 × 30	2	115H7	195	52	
08	125h6	124.5	136	6	388	55	2.5	M12	20	12	13.5	26	150	85	M12 × 30	2	125H7	195	52	
09	135h6	134.5	147	6	467	60	2.5	M12	20	12	13.5	33	160	90	M12 × 30	2	135H7	235	52	
10	150h6	149.5	162	6	467	65	2.5	M12	20	12	13.5	33	185	110	M12 × 30	2	150H7	235	57	
11	165h6	164.5	177	7	537	70	2.5	M16	28	15	17.5	33	195	120	M16 × 40	2	165H7	270	55	
12	180h6	179.5	192	7	537	75	2.5	M16	28	15	17.5	33	220	130	M16 × 40	2	180H7	270	65	

Note: 1. Material of driven equipment shaft: 40Cr or steel with higher strength.

2. Shaft and parallel key of driven equipment are not within the scope of supply. Please order if required.

3. Protection cover, end plate and bolts are supplied with gearbox as standard.

## 14.2 Hollow shaft for shrink Disks:



Types H2...D, H3...D, H4...D, B3...D, B4...D ( size 04–12 )

Size	Driven equipment shaft										End plate						Circlip	Hollow shaft				Shrink disc				Bolt	Protection cover		
	d2	d3	d4	d5	f1	L	L1	r	c1	c2	d7	d8	d9	m	s	Number		D2	D3	G2	G4	Type	d	d1	H		W	s1	D
04	85g6	85h6	84.5	95	4	326	48	2	17	7	90	70	22	50	M8	2	90	85H7	85H7	140	205	SP2-110	110	185	49	15	M12	212	226
05	100g6	100h6	99.5	114	5	383	53	2	20	8	105	80	26	55	M10	2	105	100H7	100H7	165	240	SP2-125	125	215	53	17	M12	252	266
06	110g6	110h6	109.5	124	5	383	58	3	20	8	115	85	26	60	M10	2	115	110H7	110H7	165	240	SP2-140	140	230	58	17	M12	252	266
07	120g6	120h6	119.5	134	5	453	68	3	20	8	125	90	26	65	M12	2	125	120H7	120H7	195	280	SP2-155	155	263	62	23	M12	322	322
08	130g6	130h6	129.5	145	6	458	73	3	20	8	135	100	26	70	M12	2	135	130H7	130H7	195	285	SP2-165	165	290	68	23	M16	322	322
09	140g6	140h6	139.5	160	6	539	82	4	23	10	150	110	33	80	M12	2	150	140H7	140H7	235	330	SP2-175	175	300	68	28	M16	322	357
10	150g6	150h6	149.5	170	6	559	92	4	23	10	160	120	33	90	M12	2	160	150H7	150H7	235	350	SP2-185	185	330	85	28	M16	392	392
11	165f6	165g6	164.5	185	7	644	112	4	23	10	175	130	33	90	M12	2	175	165H7	165H7	270	400	SP2-220	220	370	103	30	M16	392	430
12	180f6	180g6	179.5	200	7	649	122	4	23	10	190	140	33	100	M16	2	190	180H7	180H7	270	405	SP2-240	240	405	107	30	M20	483	450

Type B2...D(Size 04–12)

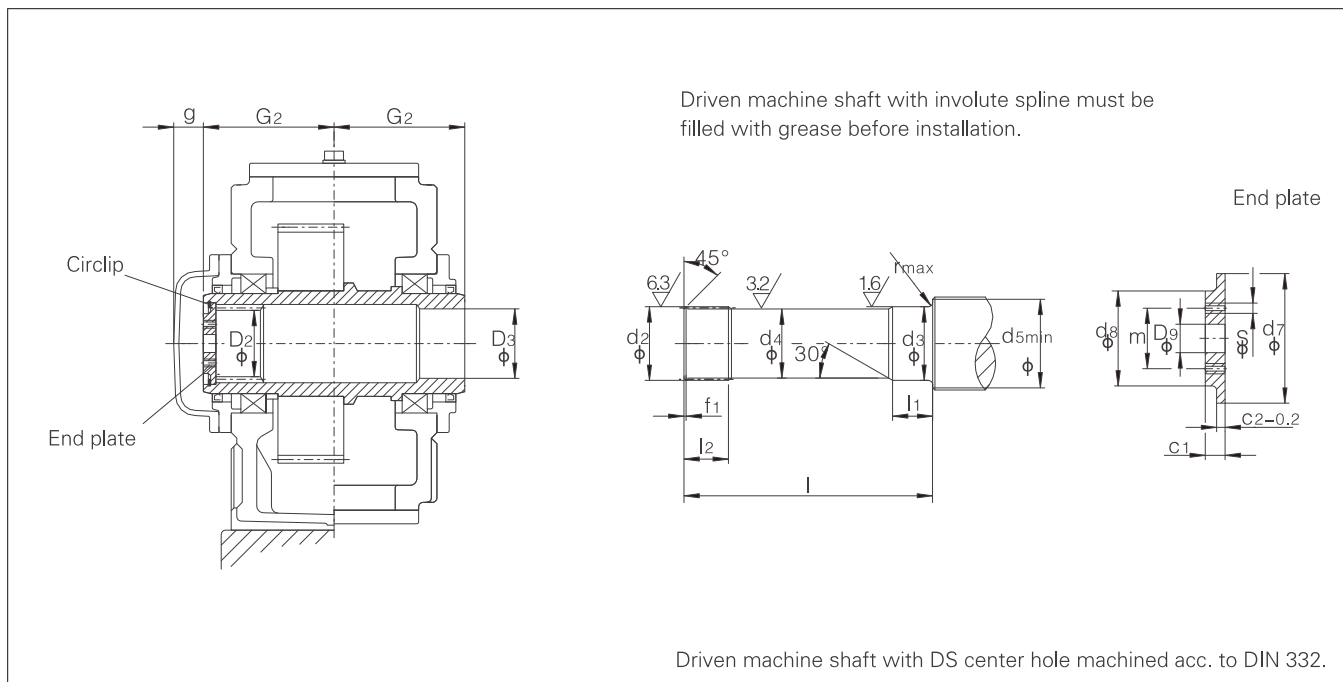
Size	Driven equipment shaft										End plate						Circlip	Hollow shaft				Shrink disc				Bolt	Protection cover		
	d2	d3	d4	d5	f1	L	L1	r	c1	c2	d7	d8	d9	m	s	Number		D2	D3	G2	G4	Type	d	d1	H		W	s1	D
04	85g6	85h6	84.5	95	4	326	48	2	17	7	90	70	22	50	M8	2	90	85H7	85H7	140	205	SP2-110	110	185	49	15	M12	212	233
05	100g6	100h6	99.5	114	5	383	53	2	20	8	105	80	26	55	M10	2	105	100H7	100H7	165	240	SP2-125	125	215	53	17	M12	252	278
06	110g6	110h6	109.5	124	5	383	58	3	20	8	115	85	26	60	M10	2	115	110H7	110H7	165	240	SP2-140	140	230	58	17	M12	252	278
07	120g6	120h6	119.5	134	5	453	68	3	20	8	125	90	26	65	M12	2	125	120H7	120H7	195	280	SP2-155	155	263	62	23	M12	322	337
08	130g6	130h6	129.5	145	6	458	73	3	20	8	135	100	26	70	M12	2	135	130H7	130H7	195	285	SP2-165	165	290	68	23	M16	322	337
09	140g6	140h6	139.5	160	6	539	82	4	23	10	150	110	33	80	M12	2	150	140H7	140H7	235	330	SP2-175	175	300	68	28	M16	322	377
10	150g6	150h6	149.5	170	6	559	92	4	23	10	160	120	33	90	M12	2	160	150H7	150H7	235	350	SP2-185	185	330	85	28	M16	392	412
11	165f6	165g6	164.5	185	7	644	112	4	23	10	175	130	33	90	M12	2	175	165H7	165H7	270	400	SP2-220	220	370	103	30	M16	392	445
12	180f6	180g6	179.5	200	7	649	122	4	23	10	190	140	33	100	M16	2	190	180H7	180H7	270	405	SP2-240	240	405	107	30	M20	483	465

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.

14.3 Hollow shaft with involute spline:



Types H2...K, H3...K, H4...K, B2...K, B3...K, B4...K (size 05-12)

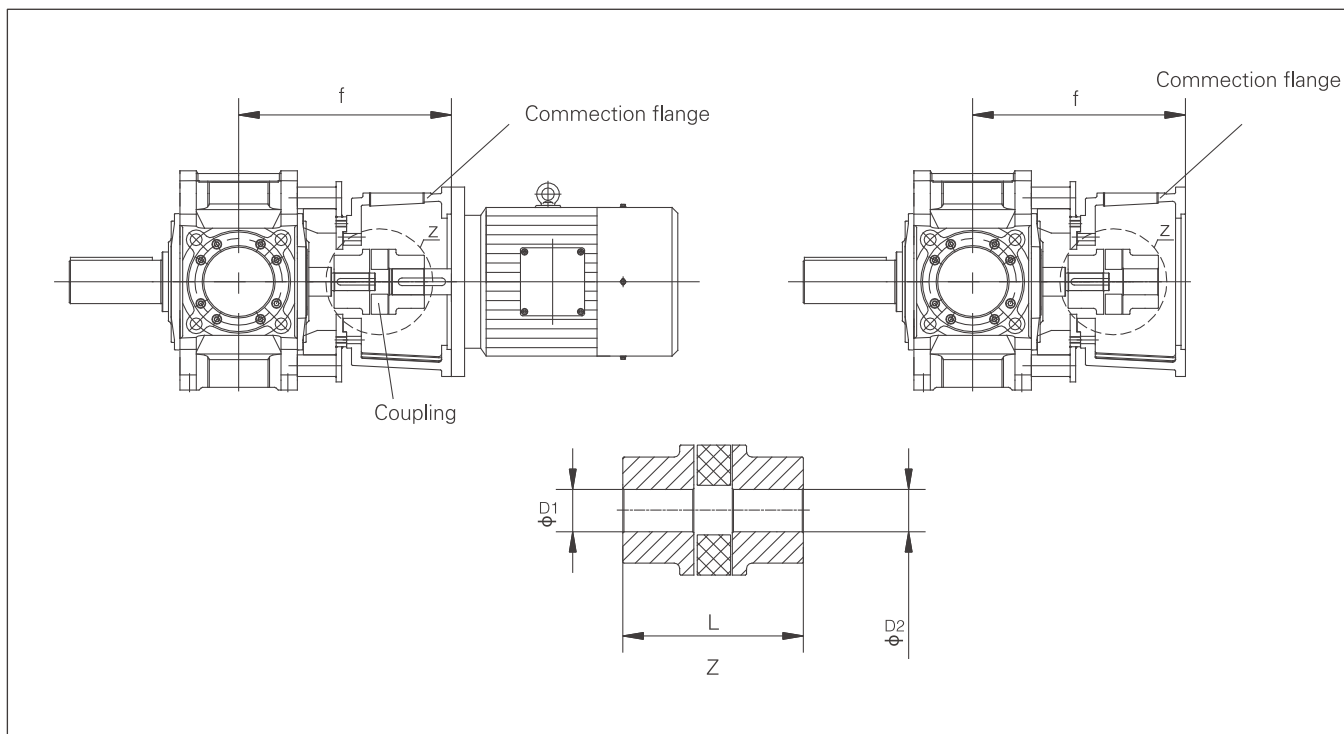
Size	Involute splines DIN5480	Driven equipment shaft										End plate							Circlip	Hollow shaft				Bolt
		d2	d3	d4	d5	f1	l	11	12	r	c1	c2	d7	d8	D9	m	s	Number		D2	D3	G2	G	
5	W95X3X30X30X8f	94.4h11	100h6	93	114	3	308	53	90	2	20	8	105d9	80	26	55	M10	2	105	89H11	100H7	165	31	M24
6	W95X3X30X30X8f	94.4h11	110h6	93	124	3	308	58	90	3	20	8	105d9	80	26	55	M10	2	105	89H11	110H7	165	31	M24
7	W120X3X30X38X8f	119.4h11	120h6	118	134	3	368	68	105	3	20	8	125d9	90	26	65	M12	2	125	114H11	120H7	195	37	M24
8	W120X3X30X38X8f	119.4h11	130h6	118	145	3	368	73	105	3	20	8	125d9	90	26	65	M12	2	125	114H11	130H7	195	37	M24
9	W140X3X30X45X8f	139.4h11	145h6	138	160	3	444	82	125	4	23	10	150d9	110	33	80	M12	2	150	134H11	145H7	235	32	M30
10	W140X3X30X45X8f	139.4h11	155h6	138	170	3	444	92	125	4	23	10	150d9	110	33	80	M12	2	150	134H11	155H7	235	37	M30
11	W170X5X30X32X8f	169h11	170g6	168	185	5	514	112	150	4	23	10	175d9	130	33	90	M12	2	175	160H11	170H7	270	40	M30
12	W170X5X30X32X8f	169h11	185g6	168	200	5	514	122	150	4	23	10	175d9	130	33	90	M12	2	175	160H11	185H7	270	50	M30

- 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.



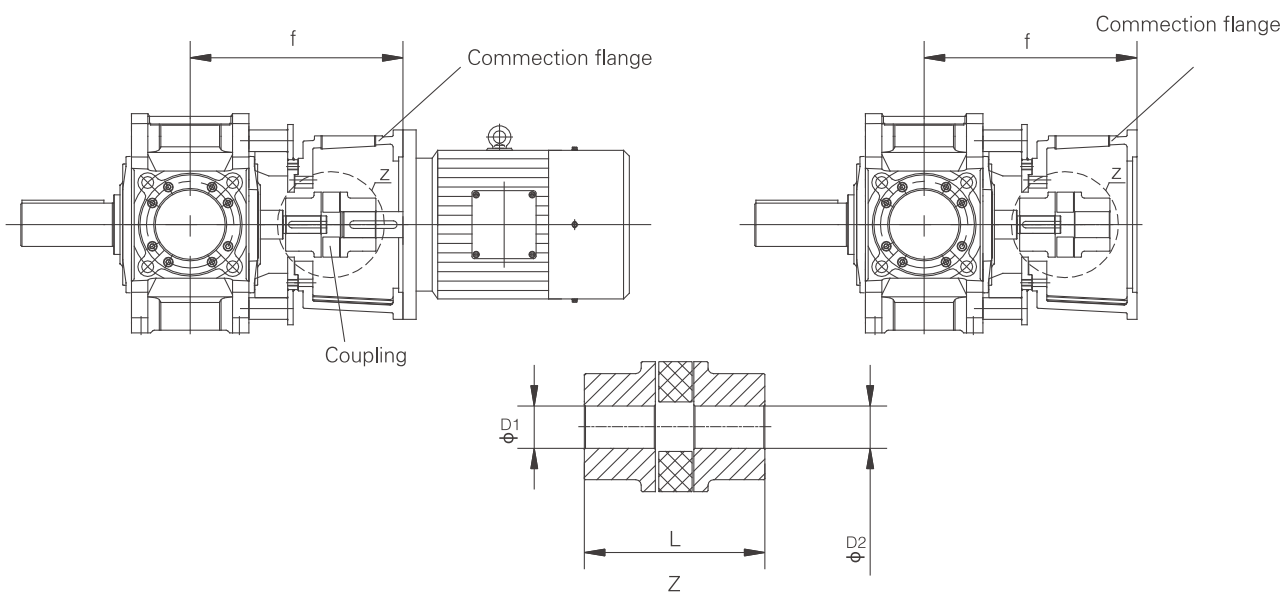
### 15 Input with motor and flange input(Accessory code:UF31)

H2



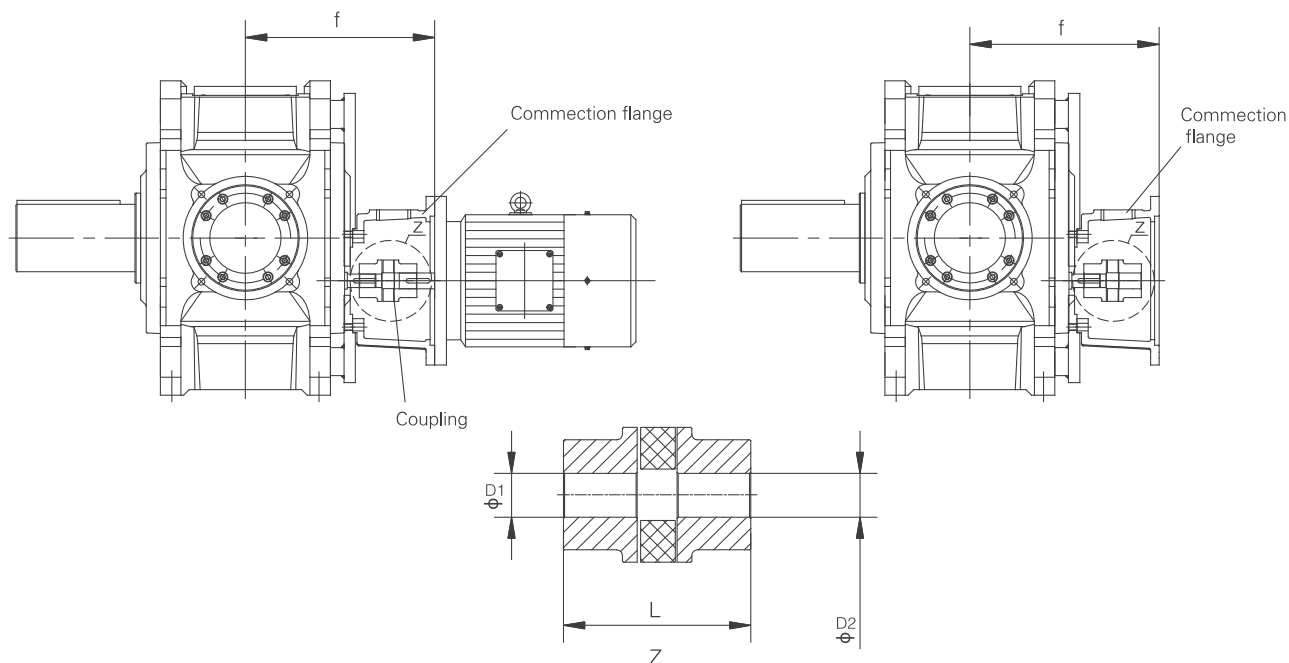
H2			$iN \leq 11.2$					$iN \geq 12.5$				
Size	Y Motor	F Flange	Coupling				f	Coupling				f
			Type	D1	D2	L		Type	D1	D2	L	
4	160							GA55	32	42	160	375
	180							GA55	32	48	160	375
	200							GA65	32	55	185	390
	225		GA65	45	60	185	425	GA65	32	60	185	425
5/6	200							GA65	38	55	185	415
	225							GA65	38	60	185	445
	250		GA75	50	65	210	460	GA75	38	65	210	460
	280		Ga75	50	75	210	460	GA75	38	75	210	460

**H3**



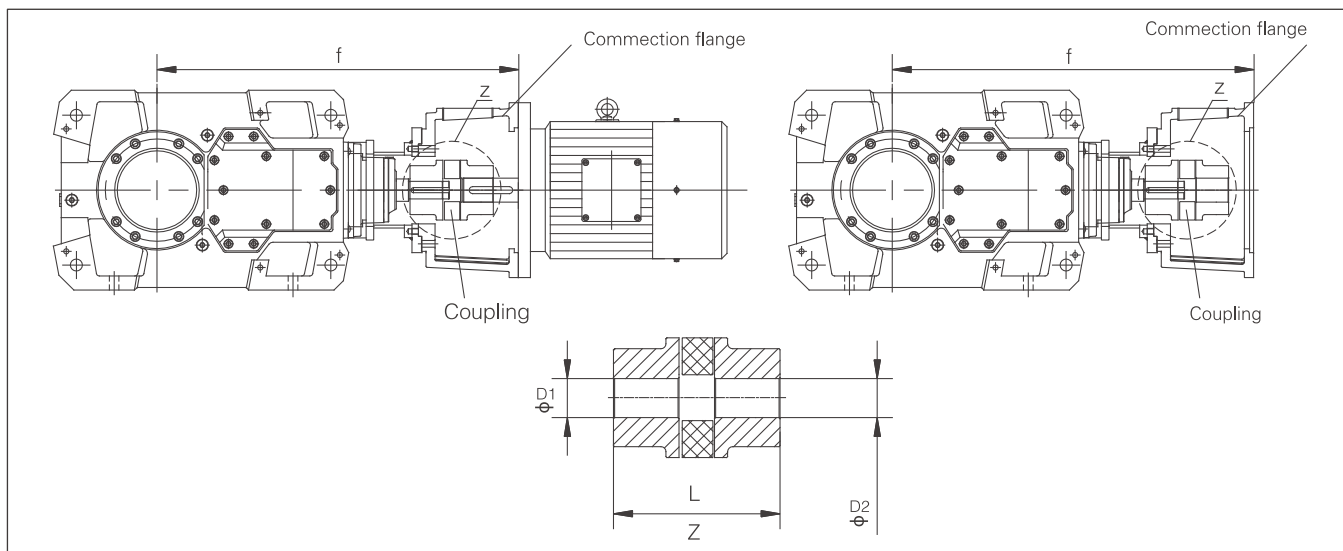
H3			iN ≤ 45 (Size: 5, 6) iN ≤ 50 (Size: 7, 8, 9, 10, 11, 12)				iN ≥ 50 (Size: 5, 6) iN ≥ 56 (Size: 7, 8, 9, 10, 11, 12)					
Size	Y Motor	F Flange	Coupling				f	Coupling				f
			Type	D1	D2	L		Type	D1	D2	L	
5/6	132						GA42	30	38	126	325	
	160		GA55	40	42	160	375	GA55	30	42	160	375
	180		GA55	40	48	160	375	GA55	30	48	160	375
	200		GA65	40	55	185	390	GA65	30	55	185	390
	225		GA65	40	60	185	420	GA65	30	60	185	420
7/8	160						GA55	35	42	160	415	
	180						GA55	35	48	160	415	
	200		GA65	45	55	185	435	GA65	35	55	185	435
	225		GA65	45	60	185	465	GA65	35	60	185	465
	250		GA75	45	65	210	475	GA75	35	65	210	475
	280		GA75	45	75	210	475					
9/10	160						GA55	45	42	160	470	
	180						GA55	45	48	160	470	
	200		GA65	60	55	185	495	GA65	45	55	185	495
	225		GA65	60	60	185	530	GA65	45	60	185	530
	250		GA75	60	65	210	530	GA75	45	65	210	530
	280		GA75	60	75	210	530					
11/12	225						GA65	50	60	185	535	
	250						GA75	50	65	210	565	
	280		GA75	70	75	210	565	GA75	50	75	210	565

## H4



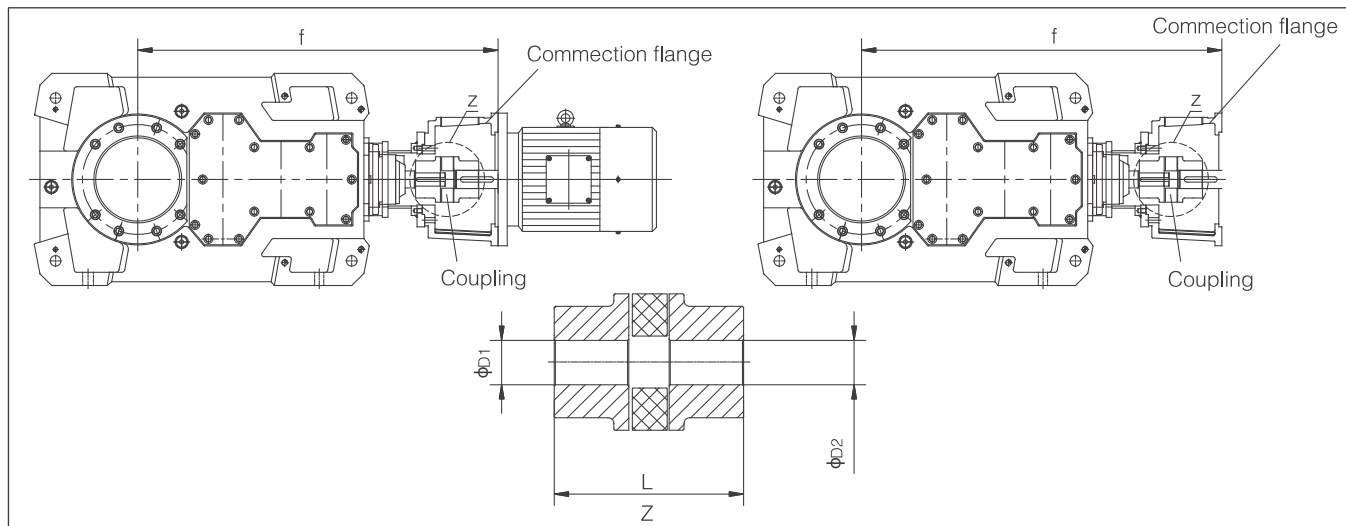
H4			$iN \leq 200$ (Size: 7, 8, 9, 10) $iN \leq 224$ (Size: 11, 12)					$iN \geq 224$ (Size: 7, 8, 9, 10) $iN \geq 250$ (Size: 11, 12)				
Size	Y Motor	F Flange	Coupling				f	Coupling				f
			Type	D1	D2	L		Type	D1	D2	L	
7/8	132		GA42	30	38	126	335	GA42	24	38	126	335
	160		GA55	30	42	160	385	GA55	24	42	160	385
	180		GA55	30	48	160	385	GA55	24	48	160	385
9/10	132							GA42	28	38	126	370
	160		GA55	35	42	160	420	GA55	28	42	160	420
	180		GA55	35	48	160	420	GA55	28	48	160	420
	200		GA65	35	55	185	435	GA65	28	55	185	435
	225		GA65	35	60	185	465	GA65	28	60	185	465
11/12	160							GA55	32	42	160	480
	180		GA55	45	48	160	480	GA55	32	48	160	480
	200		GA65	45	55	185	490	GA65	32	55	185	490
	225		GA65	45	60	185	510	GA65	32	60	185	510
	250		GA75	45	65	210	515					

**B3**



B3			iN≤63					iN≥71				
Size	Y Motor	F Flange	Coupling				f	Coupling				f
			Type	D1	D2	L		Type	D1	D2	L	
4	132											
	160		GA55	35	42	160	718	GA42	30	38	126	664
	180		GA55	35	48	160	718	GA55	30	42	160	718
	200		GA65	35	55	185	724	GA55	30	48	160	718
5	160		GA55	45	42	160	812	GA55	35	42	160	812
	180		GA55	45	48	160	812	GA55	35	48	160	812
	200		GA65	45	55	185	818	GA65	35	55	185	818
	225		GA65	45	60	185	848					
6	160		GA55	45	42	160	847	GA55	35	42	160	847
	180		GA55	45	48	160	847	GA55	35	48	160	847
	200		GA65	45	55	185	853	GA65	35	55	185	853
	225		GA65	45	60	185	883					
7	160							GA55	40	42	160	924
	180							GA55	40	48	160	924
	200		GA65	50	55	185	932	GA65	40	55	185	932
	225		GA65	50	60	185	962	GA65	40	60	185	962
	250		GA75	50	65	210	965	GA75	40	65	210	965
	280		GA75	50	75	210	965					
8	160							GA55	40	42	160	969
	180							GA55	40	48	160	969
	200		GA65	50	55	185	977	GA65	40	55	185	977
	225		GA65	50	60	185	1007	GA65	40	60	185	1007
	250		GA75	50	65	210	1010	GA75	40	65	210	1010
	280		GA75	50	75	210	1010					
9	200							GA65	50	55	185	1067
	225		GA65	60	60	185	1097	GA65	50	60	185	1097
	250		GA75	60	65	210	1100	GA75	50	65	210	1100
	280		GA75	60	75	210	1100	GA75	50	75	210	1100
10	200							GA65	50	55	185	1117
	225		GA65	60	60	185	1147	GA65	50	60	185	1147
	250		GA75	60	65	210	1150	GA75	50	65	210	1150
	280		GA75	60	75	210	1150	GA75	50	75	210	1150
11	225							GA65	60	60	185	1267
	250		GA75	75	65	210	1270	GA75	60	65	210	1270
	280		GA75	75	75	210	1270	GA75	60	75	210	1270
12	225							GA65	60	60	185	1337
	250		GA75	75	65	210	1340	GA75	60	65	210	1340
	280		GA75	75	75	210	1340	GA75	60	75	210	1340

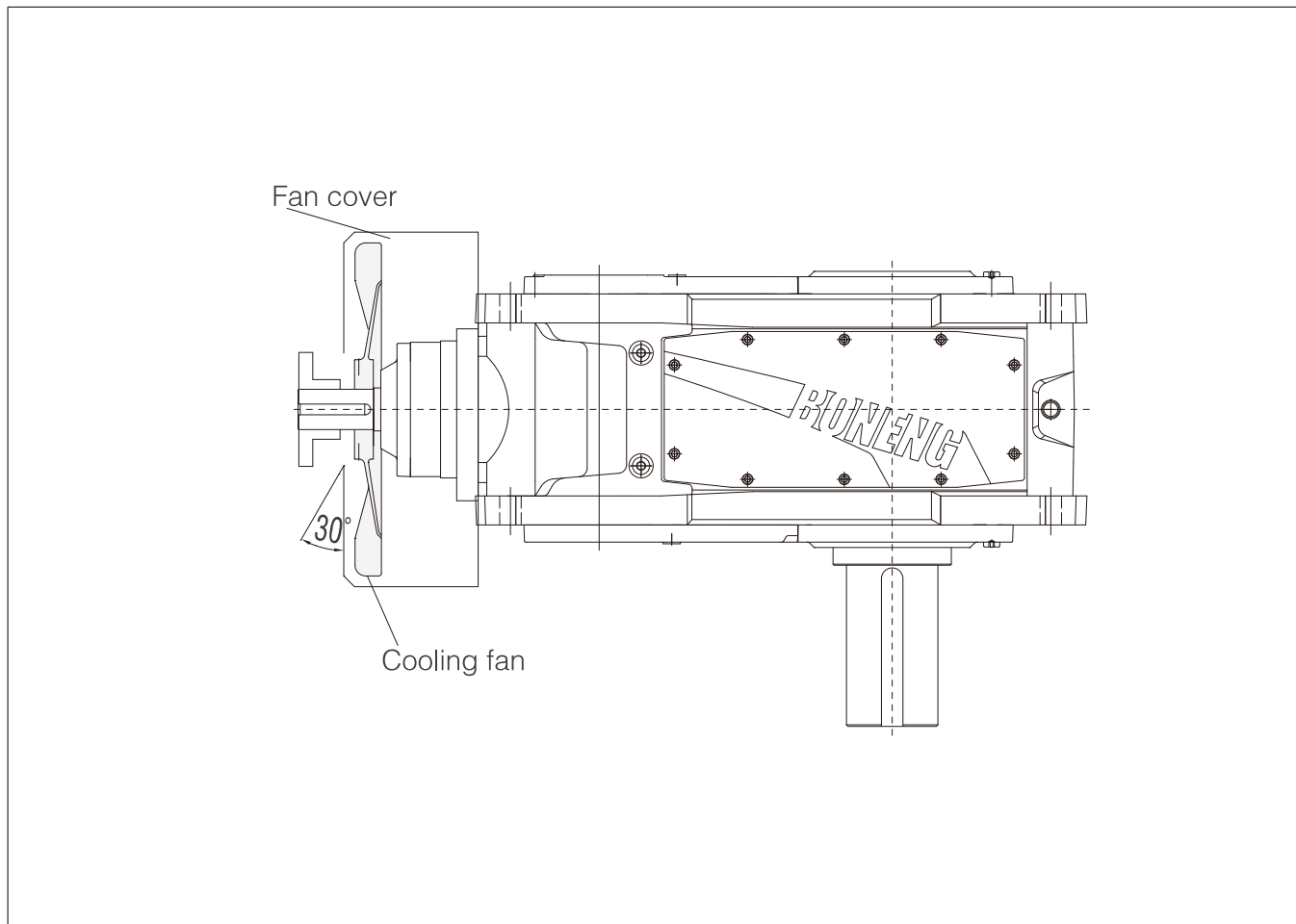
**B4**



B4			iN ≤ 250 (Size: 9, 10) iN ≤ 280 (Size: 5, 6, 7, 8, 11, 12)					iN ≥ 280 (Size: 9, 10) iN ≥ 315 (Size: 5, 6, 7, 8, 11, 12)				
Size	Y Motor	F Flange	Coupling				f	Coupling				f
			Type	D1	D2	L		Type	D1	D2	L	
5	132		GA42	35	38	126	784	GA42	25	38	126	784
	160		GA55	35	42	160	837					
6	132		GA42	35	38	126	817.5	GA42	25	38	126	817.5
	160		GA55	35	42	160	870.5					
7	132		GA42	35	38	126	889	GA42	30	38	126	889
	160		GA55	35	42	160	943	GA55	30	42	160	943
	180		GA55	35	48	160	943	GA55	30	48	160	943
	200		GA65	35	55	185	949					
8	132		GA42	35	38	126	934	GA42	30	38	126	934
	160		GA55	35	42	160	988	GA55	30	42	160	988
	180		GA55	35	48	160	988	GA55	30	48	160	988
	200		GA65	35	55	185	994					
9	132							GA42	35	38	126	1023
	160		GA55	45	42	160	1077	GA55	35	42	160	1077
	180		GA55	45	48	160	1077	GA55	35	48	160	1077
	200		GA65	45	55	185	1083					
	225		GA65	45	60	185	1113					
10	132							GA42	35	38	126	1073
	160		GA55	45	42	160	1127	GA55	35	42	160	1127
	180		GA55	45	48	160	1127	GA55	35	48	160	1127
	200		GA65	45	55	185	1133					
	225		GA65	45	60	185	1163					
11	160							GA55	40	42	160	1244
	180		GA55	50	48	160	1244	GA55	40	48	160	1244
	200		GA65	50	55	185	1252	GA65	40	55	185	1252
	225		GA65	50	60	185	1282	GA65	40	60	185	1282
	250		GA75	50	65	210	1285					
12	160							GA55	40	42	160	1314
	180		GA55	50	48	160	1314	GA55	40	48	160	1314
	200		GA65	50	55	185	1322	GA65	40	55	185	1322
	225		GA65	50	60	185	1352	GA65	40	60	185	1352
	250		GA75	50	65	210	1355					
	280		GA75	50	75	210	1355					

## 16 Accessory

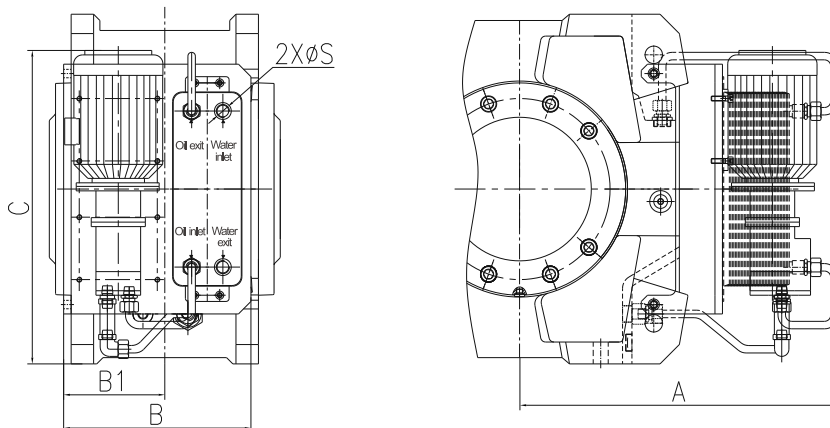
### 16.1 Cooling fan (Accessory code:UF21)



## 16.2 Water oil cooler (Accessory code:UC22)

1) Horizontal mounting:

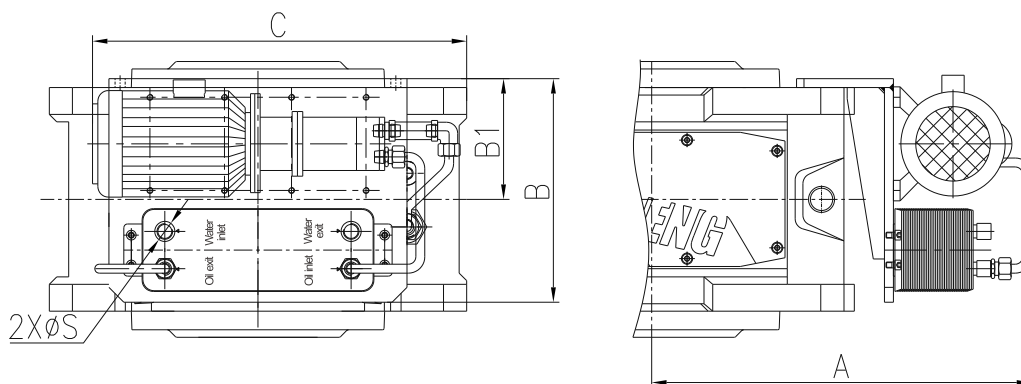
H2..H,H3..H,B2..H,B3..H



Size	A	B	B1	C	S	Water quantity (L/min)
04	435	225	117.5	429	G1/2	5
05	480	265	139.5	452	G1/2	5
06	525	265	139.5	452	G1/2	5
07	510	306	162	502	G1/2	5
08	580	306	162	502	G1/2	5
09	545	360	201	602	G1/2	5
10	595	360	201	602	G1/2	5
11	585	360	231	670	G1/2	5
12	670	360	231	670	G1/2	5

2) Vertical mounting:

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

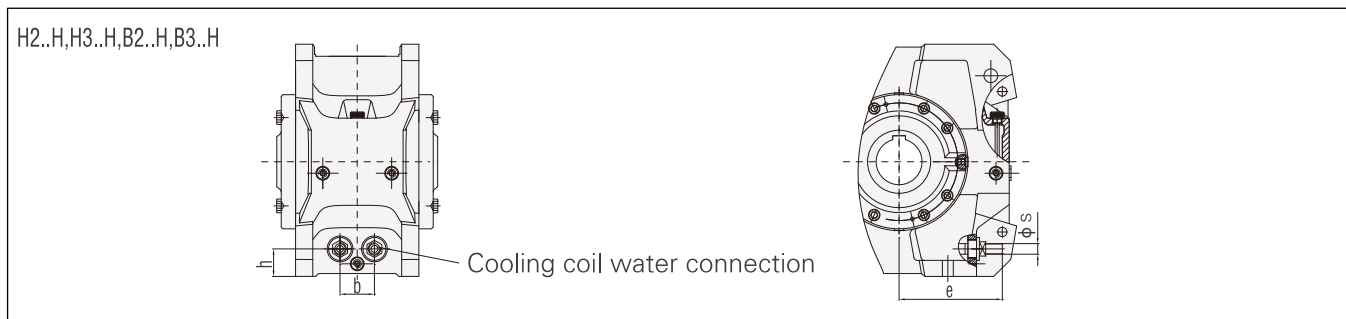


Size	A	B	B1	C	S	Water quantity (L/min)
04	435	225	117.5	429	G1/2	5
05	480	265	139.5	452	G1/2	5
06	525	265	139.5	452	G1/2	5
07	510	306	162	502	G1/2	5
08	580	306	162	502	G1/2	5
09	545	360	201	602	G1/2	5
10	595	360	201	602	G1/2	5
11	585	360	231	670	G1/2	5
12	670	360	231	670	G1/2	5

### 16.3 Cooling coil (Accessory code:UC21)

For exquisite vibrating applications the water–oil cooler is recommended(Accessory code:uc22)

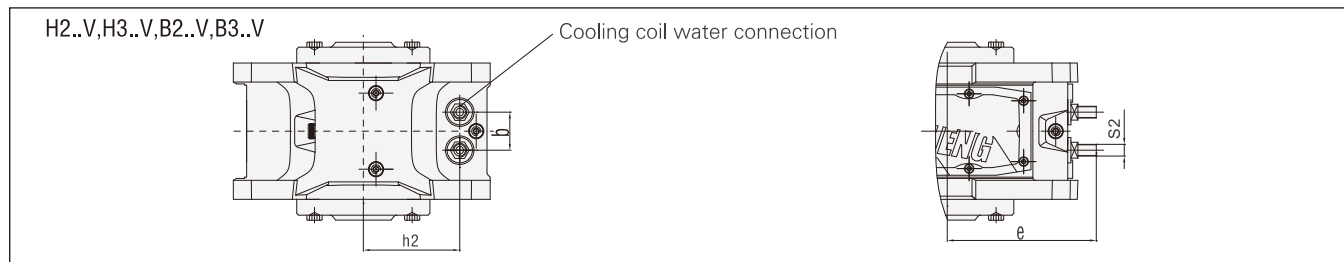
1) Horizontal mounting:



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	192	48	G1/2	6	-	-	-	-	-	60	192	48	G1/2	10
05	70	206	64	G1/2	6	70	200	64	G1/2	6	70	211	64	G1/2	10
06	70	254	55	G1/2	6	70	246	55	G1/2	6	70	253	55	G1/2	10
07	70	236	80	G1/2	6	70	236	80	G1/2	6	70	241	80	G1/2	10
08	70	283	75	G1/2	6	70	283	75	G1/2	6	70	293	75	G1/2	10
09	70	267.5	70	G1/2	10	70	267.5	70	G1/2	6	70	267.5	70	G1/2	10
10	70	316	70	G1/2	10	70	316	70	G1/2	6	70	316	70	G1/2	10
11	70	296	90	G1/2	10	70	296	90	G1/2	10	70	302	90	G1/2	10
12	70	381	90	G1/2	10	70	381	90	G1/2	10	70	386	90	G1/2	10



## 2) Vertical mounting:

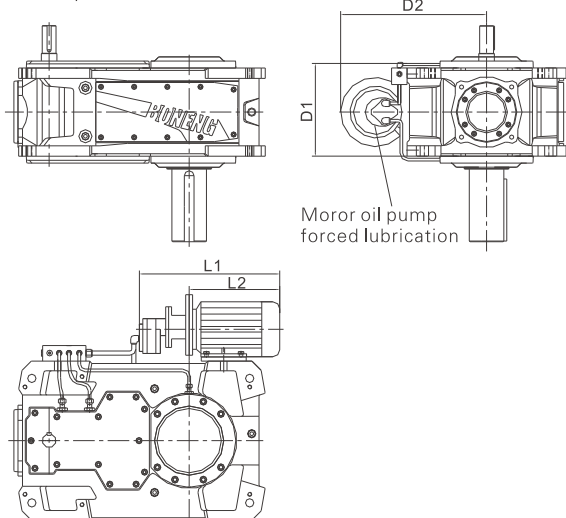


Size	H2..V / B3..V					H3..V					B2..V				
	b	e	h2	s2	Water quantity (l/min)	b	e	h2	s2	Water quantity (l/min)	b	e	h2	s2	Water quantity (l/min)
04	60	192	152	G1/2	6	-	-	-	-	-	60	192	152	G1/2	10
05	70	206	166	G1/2	6	70	200	166	G1/2	6	70	211	166	G1/2	10
06	70	254	175	G1/2	6	70	246	175	G1/2	6	70	253	175	G1/2	10
07	70	236	200	G1/2	6	70	236	200	G1/2	6	70	241	200	G1/2	10
08	70	283	205	G1/2	6	70	283	205	G1/2	6	70	293	205	G1/2	10
09	70	267.5	250	G1/2	10	70	267.5	250	G1/2	6	70	267.5	250	G1/2	10
10	70	316	250	G1/2	10	70	316	250	G1/2	6	70	316	250	G1/2	10
11	70	296	290	G1/2	10	70	296	290	G1/2	10	70	302	290	G1/2	10
12	70	381	290	G1/2	10	70	381	290	G1/2	10	70	386	290	G1/2	10

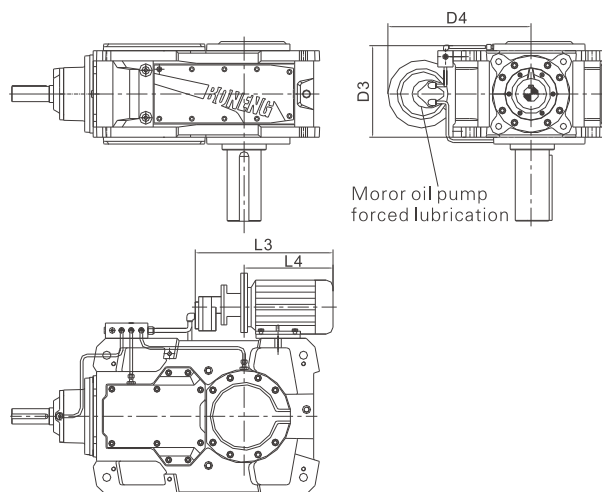
Type	Cooling coil is appropriate for			
	Size	Compensation oil tank dip-in lubrication	Flange pump forced lubrication	Motor oil pump forced lubrication
		Applicable shaft assemblies	Applicable shaft assemblies	Applicable shaft assemblies
H2..V	04 - 12	A+B+C+D+E+F+G+H+I	B+D+F+H	B+D+F+H
H3..V	05 - 12	A+B+C+D+E+F+G+H+I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

## 16.4 Motor oil pump forced lubrication(Accessory code:US32)

H3..V,H4..V



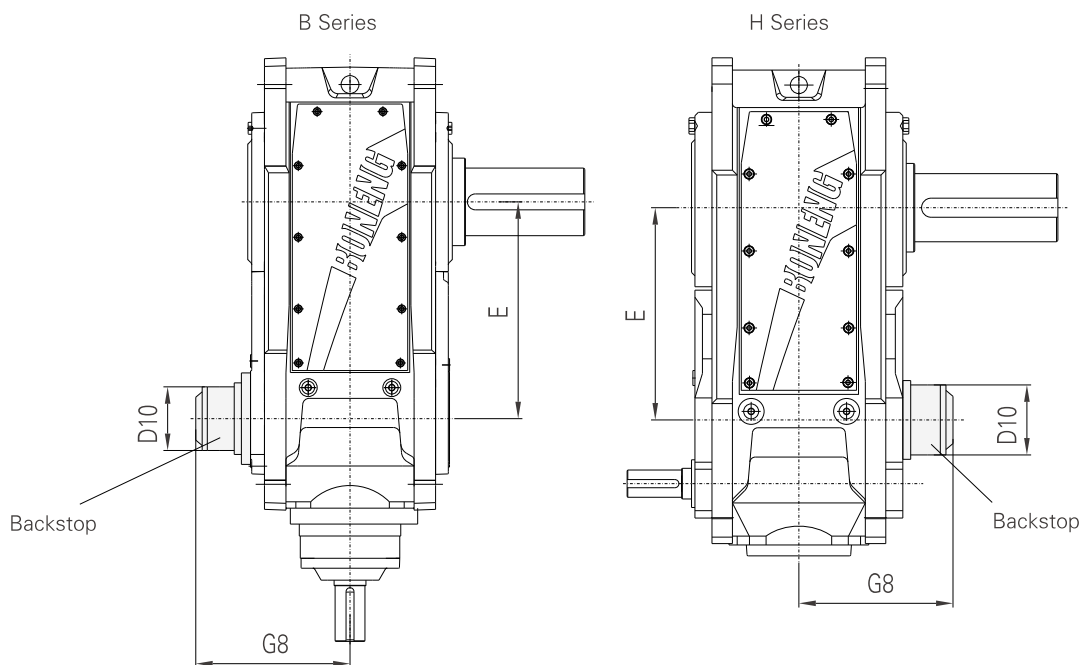
B2..V,B3..V,B4..V



Mounting dimension						
Type	Size	Shaft assemblies	L2	L1	D2	D1
H2...V	04	A+B+C+D+E+F+G+H+I	210	356	361	228
	05/06	A+B+C+D+E+F+G+H+I	262/307	406	422	268
	07/08	A+B+C+D+E+F+G+H+I	292/352	406	472	315
	09/10	A+B+C+D+E+F+G+H+I	317/367	406	512	383
	11/12	A+B+C+D+E+F+G+H+I	342/406	406	572	448
H3...V	05/06	A+B+C+D+E+F+G+H+I	262/307	406	422	268
	07/08	A+B+C+D+E+F+G+H+I	292/352	406	472	315
	09/10	A+B+C+D+E+F+G+H+I	317/367	406	512	383
H4...V	07/08	A+B+C+D+E+F+G+H+I	292/352	406	472	315
	09/10	A+B+C+D+E+F+G+H+I	317/367	406	512	383
	11/12	A+B+C+D+E+F+G+H+I	342/406	406	572	448

Mounting dimension						
Type	Size	Shaft assemblies	L4	L3	D4	D3
B2...V	04	A+B+C+D+E+F+G+H+I	210	356	361	263
	05/06	A+B+C+D+E+F+G+H+I	262/307	406	422	313
	07/08	A+B+C+D+E+F+G+H+I	292/352	406	472	370
	09/10	A+B+C+D+E+F+G+H+I	317/367	406	512	438
	11/12	A+B+C+D+E+F+G+H+I	342/406	406	572	513
	B3...V	04	A+B+C+D+E+F+G+H+I	210	356	361
05/06		A+B+C+D+E+F+G+H+I	262/307	406	422	268
07/08		A+B+C+D+E+F+G+H+I	292/352	406	472	315
09/10		A+B+C+D+E+F+G+H+I	317/367	406	512	383
11/12		A+B+C+D+E+F+G+H+I	342/406	406	572	448
B4...V	05/06	A+B+C+D+E+F+G+H+I	262/307	406	422	268
	07/08	A+B+C+D+E+F+G+H+I	292/352	406	472	315
	09/10	A+B+C+D+E+F+G+H+I	317/367	406	512	383
	11/12	A+B+C+D+E+F+G+H+I	342/406	406	572	448

16.5 Backstop (Accessory code Ub11)



Size	04			05			06			07			08		
	D10	G8	E	D10	G8	E	D10	G8	E	D10	G8	E	D10	G8	E
B2	175	229	177	190	249	201	190	249	240	230	295	240	230	295	280
B3	125	193	270	150	217	315	150	217	350	175	262	385	175	262	430
B4/H4				95	208	405	95	208	440	125	245	495	125	245	540
H3				150	217	312	150	217	347	175	262	375	175	262	420

Size	09			10			11			12		
	D10	G8	E	D10	G8	E	D10	G8	E	D10	G8	E
B2	270	352	280	270	352	340	322	407	340	322	407	390
B3	190	297	450	190	297	500	230	347	545	230	347	615
B4/H4	125	273	580	125	273	630	150	314	705	150	314	775
H3	190	297	440	190	297	490	230	347	530	230	347	600

Note: The rotation direction is the direction of output shaft d while face the output shaft.

### 16.6 Oil compensation tank(Accessory code:US33) and shaft end oil pump (Accessory code:US31)

		Input speed limit	
Type	Size	US33	US31
		n1<	n1>
H2..V	04-12	1500	900
H3..V	05-12	1500	1200
H4..V	07-12	1800	1200
B2..V	04-12	1500	1200
B3..V	04-12	1500	1200
B4..V	05-12	1800	1200

### 16.7 Lubrication oil

#### 16.7.1 Oil quantity

Oil Quantity Table ( L )																		
Size	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.

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

Ambient temperature℃	-20℃~+40℃	+30℃~+50℃
Viscosity number	VG320	VG460

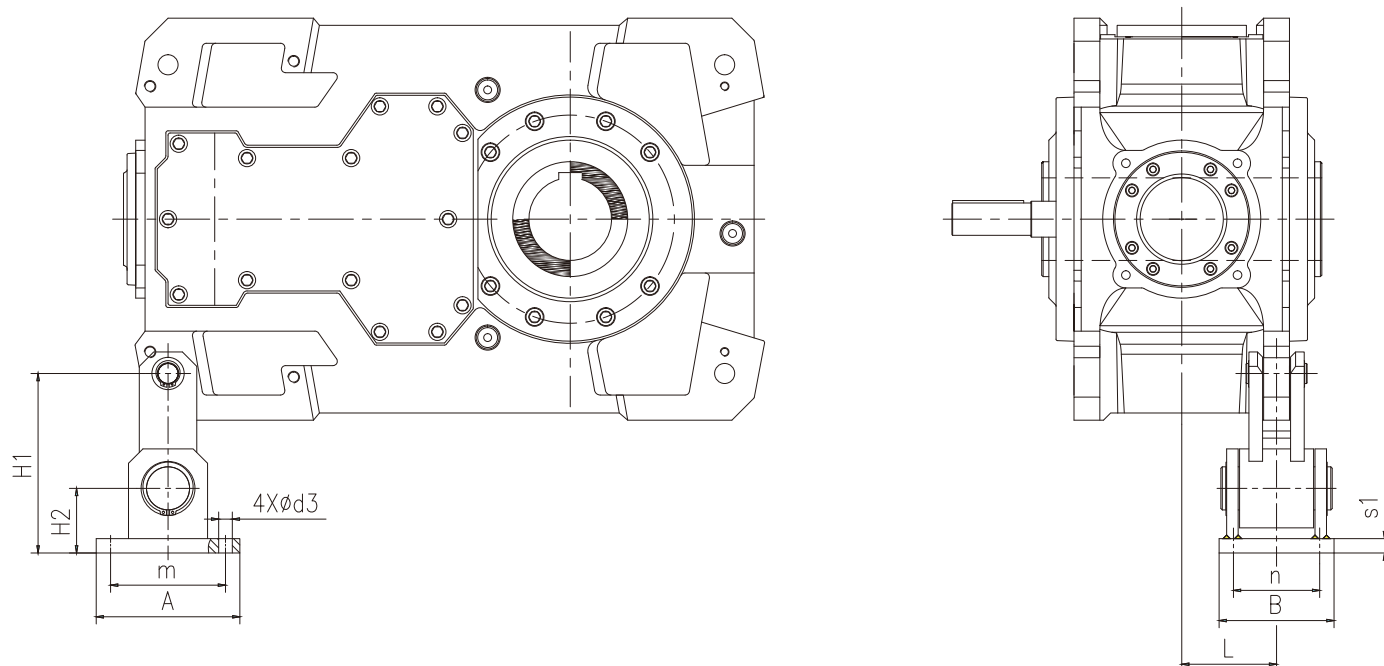
Note: 1.Viscosity in the above table is ISO-VG Viscosity under 40 °C

2.When ambient temperature is lower than-10℃,synthetic oil must be used.

3.To ensure product lifespan, we suggest synthetic oil.

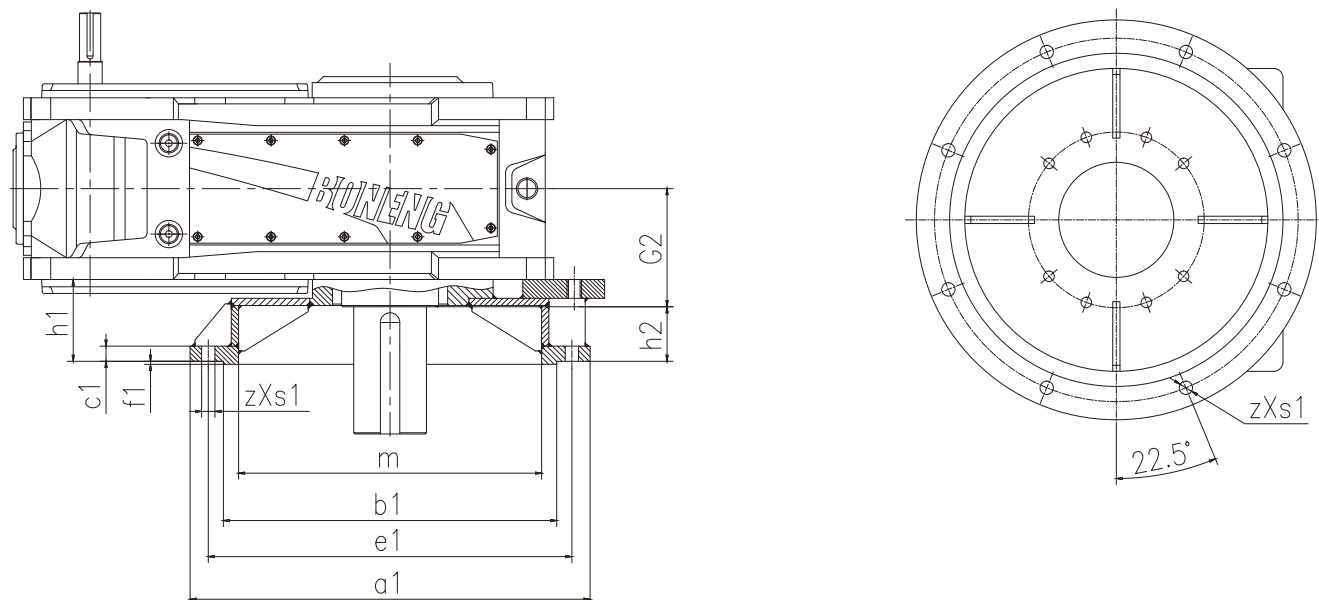
4.IF ambient temperature exceeds the above range, please consult.

16.8 扭力臂 (附件代号: UT61)



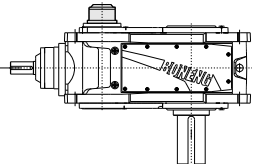
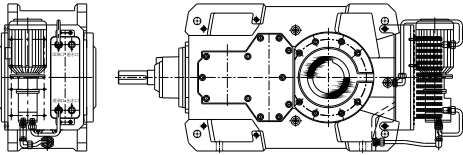
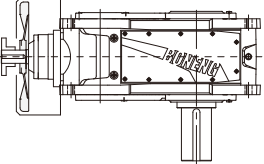
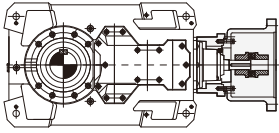
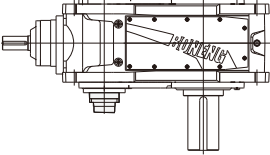
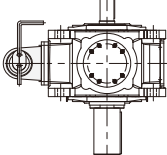
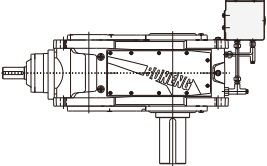
机座号	A	B	$\phi$ d3	H1	H2	m	n	s1	L		重量 (kg)
									B2	B3/B4/H2/H3/H4	
04	160	110	19	200	65	120	70	15	120	92.5	7.4
05	160	110	19	200	65	120	70	15	145	112.5	7.6
06	160	110	19	200	65	120	70	15	145	112.5	7.6
07	200	160	19	250	90	160	120	20	172	132	19.9
08	200	160	19	250	90	160	120	20	172	132	19.9
09	200	160	19	250	90	160	120	20	196	162.5	19.3
10	200	160	19	250	90	160	120	20	196	162.5	19.3
11	320	280	19	360	130	260	130	25	238	188	53.6
12	320	280	19	360	130	260	130	25	238	188	53.6

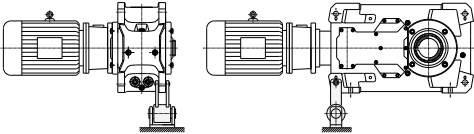
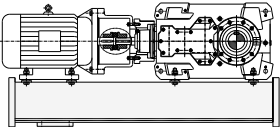
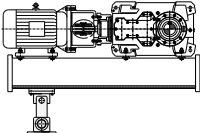
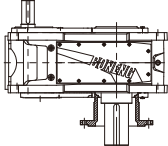
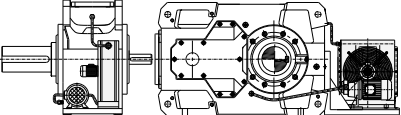
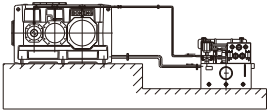
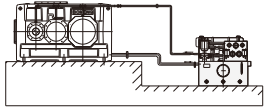
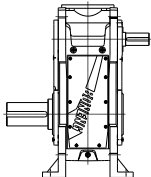

16.9 输出安装法兰 (附件代号: UF32)



机座号	a1	b1	c1	e1	f1	G2	h2	m	zxs1	h1		重量 (kg)
										B2	B3/B4/H2/H3/H4	
04	450	350f7	24.5	400	5	140	50	300	8x φ 17.5	75	82.5	36
05	550	450f7	25	500	5	165	52.5	420	8x φ 17.5	77.5	90	48
06	550	450f7	25	500	5	165	52.5	420	8x φ 17.5	77.5	90	52
07	660	550f7	25	600	5	195	90	500	8x φ 22	120	135	81
08	660	550f7	30	600	5	195	90	500	8x φ 22	120	135	81
09	660	550f7	29	600	6	235	84	500	12x φ 22	114	134	98
10	660	550f7	34	600	6	235	84	500	12x φ 26	114	134	102
11	800	680f7	44	740	6	270	129	620	12x φ 26	169	184	182
12	800	680f7	44	740	6	270	129	620	12x φ 26	169	184	226

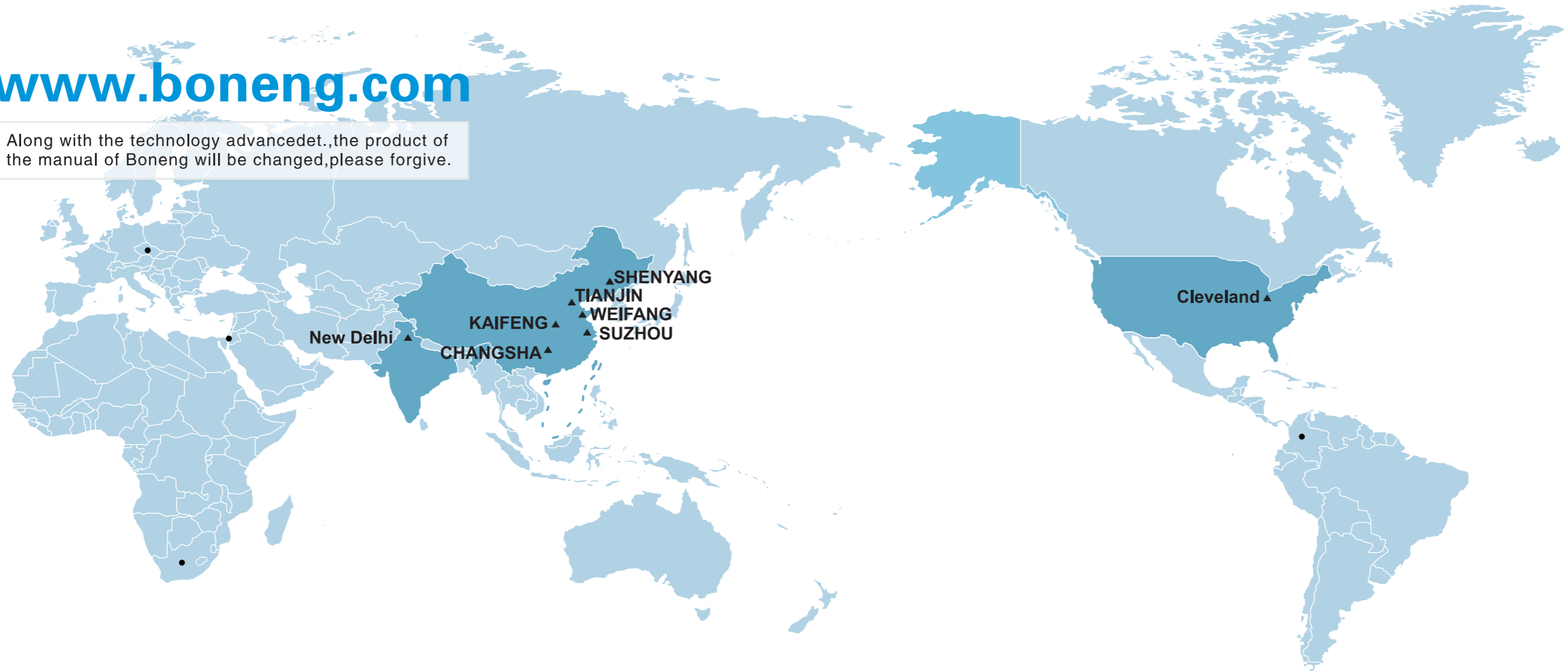
16.10 Accessories code table:

Code	Accessories	Example
UB11	Backstop	
UC22	Water–Oil cooler	
UF21	Cooling fan	
UF31	Input connection flange	
US31	Shaft end oil pump forced lubrication	
US32	Motor oil pump forced lubrication	
US33	Oil compensation tank dip–in oil lubrication	
UV32	Lubrication oil VG320	
UV46	Lubrication oil VG460	

Code	Accessories	Example
Please consult	Torque arm UT61	
	Gear box swing base	
	Swing base with torque arm	
	Mounting flange UF32	
	External wind air-oil cooler UC23	
	Pipeline(Customer build oil station)	
	Oil station	
	Upright mounting	
	Electric heater	
	Shaft sealing of other categories	



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



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