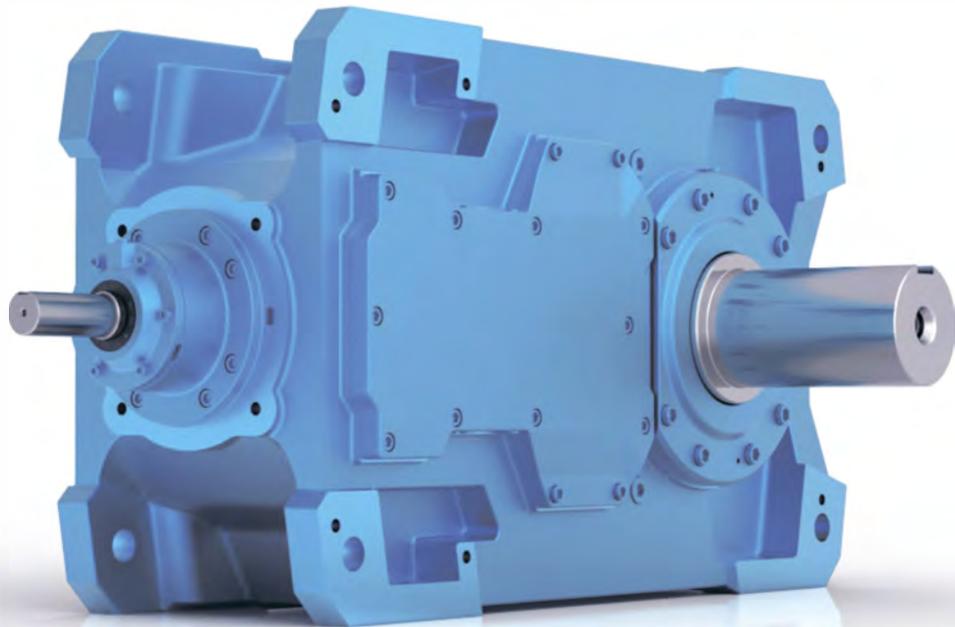


BONENG



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

03/2019



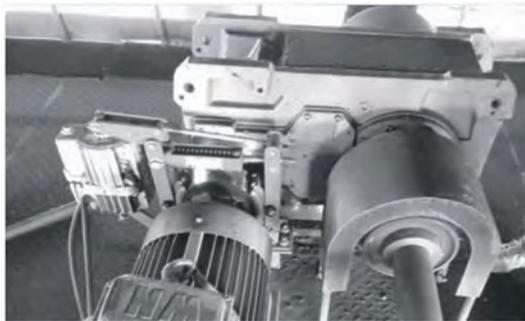
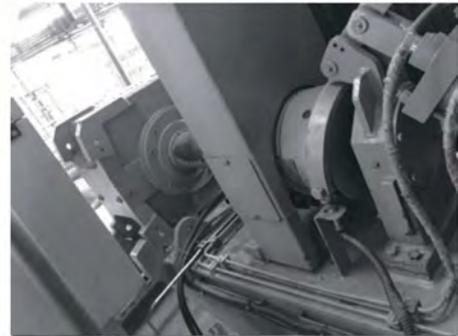
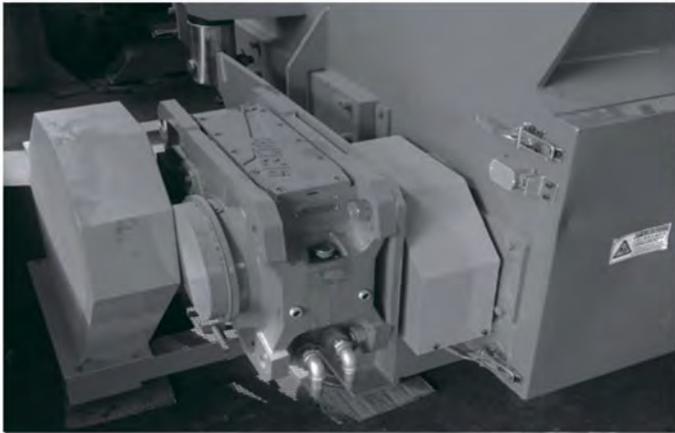
H Helical Gearbox & B Bevel-helical Gearbox



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

注意事项！
必须严格遵守以下各项！

- ◆ 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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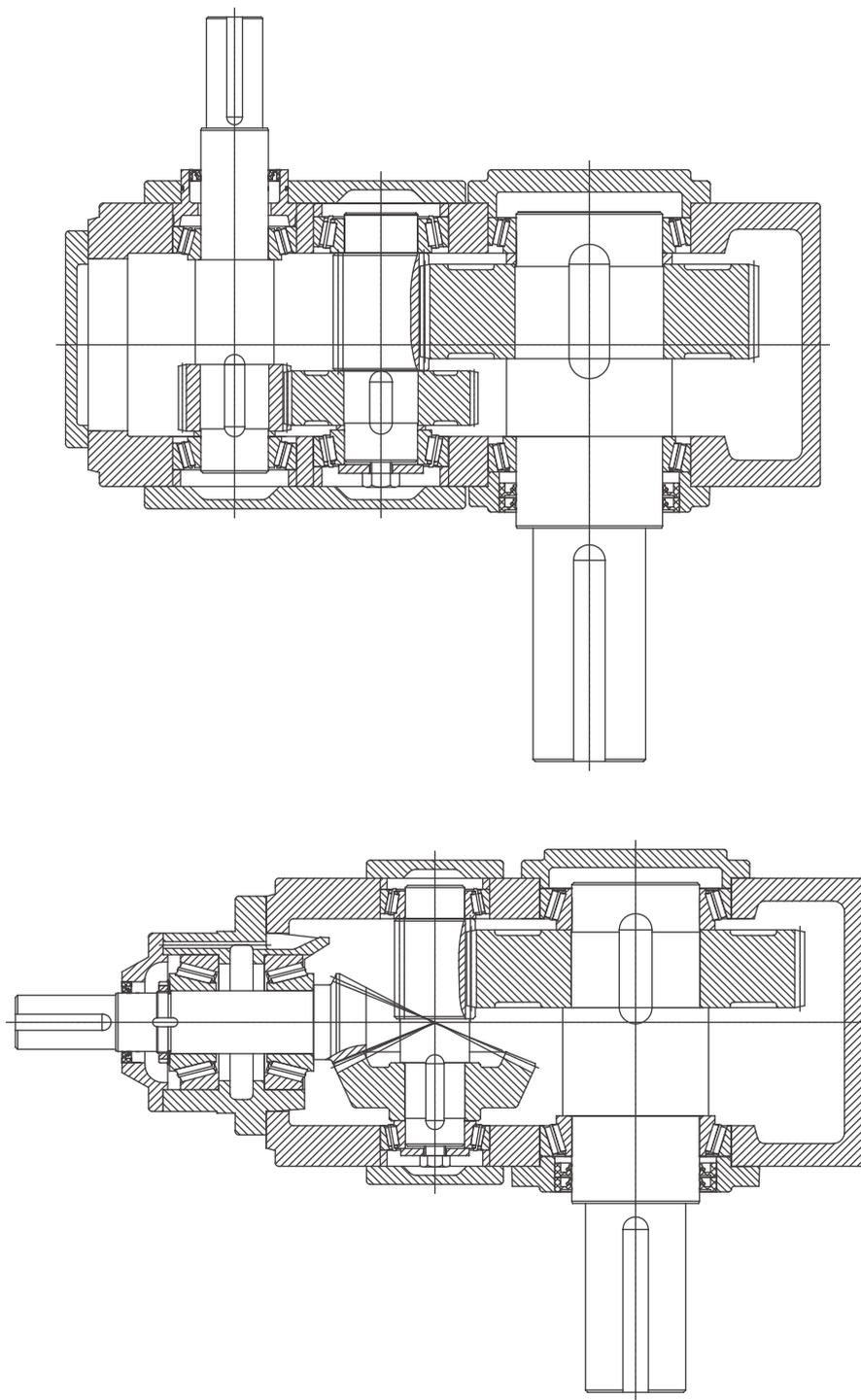
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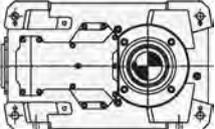
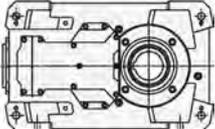
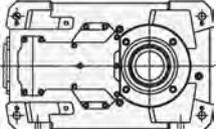
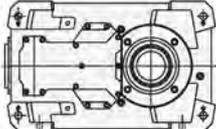
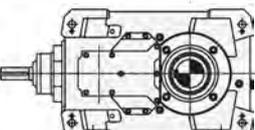
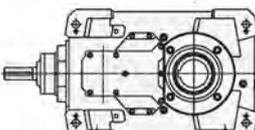
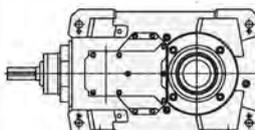
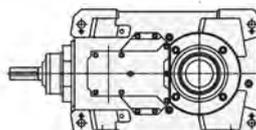
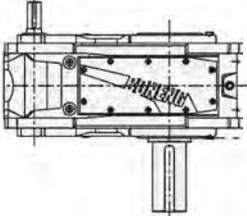
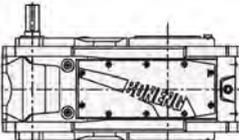
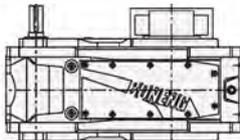
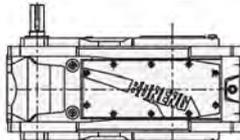
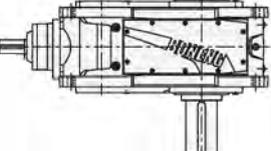
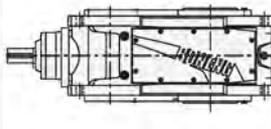
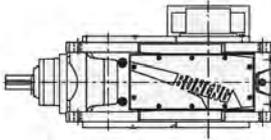
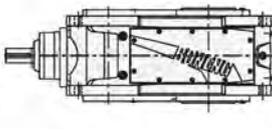
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1 结构示意图:

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
	Solid shaft	Hollow shaft	Hollow shaft with shrink disk	Hollow shaft with involute spline
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 i _N = 6.3 - 450	 H...VS	 H...VH	 H...VD	 H...VK
B series i _N = 6.3 - 400	 B...VS	 B...VH	 B...VD	 B...VK

3.Selection:

3 选型:

Serial	Definition	Symbol	Parameter calculation					
1	Driven equipment factor 被驱动设备系数	f_1	见05页f1表Refer to page5 f1 table					
2	Prime mover factor 原动机系数	f_2	Prime mover factor/原动机		f_2			
			Motor, hydraulic motor, turbine/电机、液压马达、汽轮机		1.0			
			4-6 Cylinder piston engine, cyclic variation 1:100 to 1: 200 4-6 缸活塞发动机, 周期变化1: 100至1: 200		1.25			
			1-3 Cylinder piston engine, cyclic variation 1:100 1-3 缸活塞发动机, 周期变化1: 100		1.5			
3	Gear unit safety factor 齿轮箱可靠度系数	SF	Refer to page4 sf table/见04页SF表					
4	Relation between input and output shafts 输入与输出轴关系	H、B	Parallel shaft select H series, right angle, select B series 平行选H系列, 垂直选B系列					
5	Transmission efficiency of gear unit 齿轮箱传动效率	η	2-stage:96%, 3-stage:94%, 4-stage:92% 二级2-stage:96%, 三级3-stage:94%, 四级4-stage:92%					
6	Input speed输入转速	n_1	$\leq 1800r/min$ For higher speed, please consult us./更高转速敬请垂询					
7	Determination of ratio确定减速比	i	$i=n_1/n_2$					
8	Confirm gear unit input power with torque or power needed by driven equipment. 以被驱动设备所需的扭矩或功率, 确认齿轮箱输入功率	P_1	$P_1=T_2 \cdot n_1/(9550 \cdot i \cdot \eta)$ 或 $P_1=P_2/\eta$					
9	According to calculation, check transmission capacity table to determine gear unit size 根据计算, 查传动能力表, 确定齿轮箱机座号	T_{2N} 、 P_{1N}	$T_{2N} \geq T_2 \cdot f_1 \cdot f_2 \cdot SF$ 或 $P_{1N} \geq P_1 \cdot f_1 \cdot f_2 \cdot SF$ If it doesn't satisfy conditions: $3.33 \cdot P_1 \geq P_{1N}$, Please consult us. 如果不满足条件: $3.33 \cdot P_1 \geq P_{1N}$, 敬请垂询。					
10	Peak torque verification* 峰值扭矩校核*	T_A	$P_{1N} \geq T_A \cdot n_1 \cdot f_3/9550$	Load peaks per hour 每小时峰值负荷次数				
				f_3	1-5	6-30	31-100	> 100
				Single direction loading 单向载荷	0.5	0.65	0.7	0.85
Alternate loading 交变载荷	0.7	0.95	1.10	1.25				
11	After selecting connection mounting and accessories, check allowable strength of the shaft 选定连接安装和附件后, 校核轴许用强度	Fr_1/Fr_2 Fa_1/Fa_2	Radial load need to be checked when radial load imposed by belt pulley, chain sprocket and gear are present. (See page 32) 当输入、输出轴为皮带轮、链轮或齿轮等明显有附加径向力传动时必须校核径向力。(见33页)					
12	Determine lubrication method, select lubrication oil 确认润滑方式、选择润滑油	Horizontal mounting/卧式安装		Vertical mounting/立式安装				
		Lubrication methods for selection:/可供选择的润滑方式 1) Splash lubrication/飞溅润滑 2) Dip-in lubrication/浸油润滑 3) Forced lubrication/强制润滑 Shaft end pump lubrication/轴端泵润滑 Motor oil pump lubrication/电机油泵润滑 Oil station lubrication/用户自备稀油站润滑		Lubrication methods for selection:/可供选择的润滑方式 1) Dip-in lubrication/浸油润滑 2) Forced lubrication/强制润滑 Shaft end pump lubrication/轴端泵润滑 Motor oil pump lubrication/电机油泵润滑 Oil station lubrication/用户自备稀油站润滑				
13	Determine cooling method 确认冷却方式		<p>1) If it satisfies the following condition, the gear unit will not be equipped with auxiliary cooling device. $P_1 \leq P_{GA} \times f_4 \times f_8$</p> <p>2) If it satisfies the following condition, the gear unit will be equipped with cooling fan. $P_1 \leq P_{GB} \times f_4 \times f_8$</p> <p>3) If it satisfies the following condition, the gear unit will be equipped with water-oil cooler. $P_1 \leq P_{GD} \times f_5 \times f_8$</p> <p>4) 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).</p> <p>1) 如满足以下条件, 则齿轮箱不带辅助冷却装置。$P_1 \leq P_{GA} \times f_4 \times f_8$</p> <p>2) 如满足以下条件, 则齿轮箱带冷却风扇可满足要求。$P_1 \leq P_{GB} \times f_4 \times f_8$</p> <p>3) 如满足以下条件, 则齿轮箱带水油式冷却器可满足要求。$P_1 \leq P_{GD} \times f_5 \times f_8$</p> <p>4) 另外齿轮箱可配置其他冷却附件: 风冷却器及用户可以自己配置稀油站提供循环冷却油(f4、f5、f8见04页)。</p>					
14	Determine each item according to type designation 按型号表示方法确定各项		Refer to page 4./型号表示方法见04页					

* 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		S _F
For ordinary equipment, only single machine stops production when gear unit fails. easy to replace spare parts and minor loss occurred.		1.0 ≤ S _F ≤ 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 ≤ 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		f ₄				
Gear unit without cooling or with fan						
Ambient temperature 环境温度	Operating cycle per hour 每小时工作周期 (ED) 百分比%					
	100	80	60	40	20	
10 °C	1.11	1.31	1.60	2.14	3.64	
20 °C	1.00	1.18	1.44	1.93	3.28	
30 °C	0.88	1.04	1.27	1.70	2.89	
40 °C	0.75	0.89	1.08	1.45	2.46	
50 °C	0.63	0.74	0.91	1.22	2.07	

Thermal factor		f ₅				
Gear unit with water-oil cooler						
Ambient temperature 环境温度	Operating cycle per hour 每小时工作周期 (ED) 百分比%					
	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	

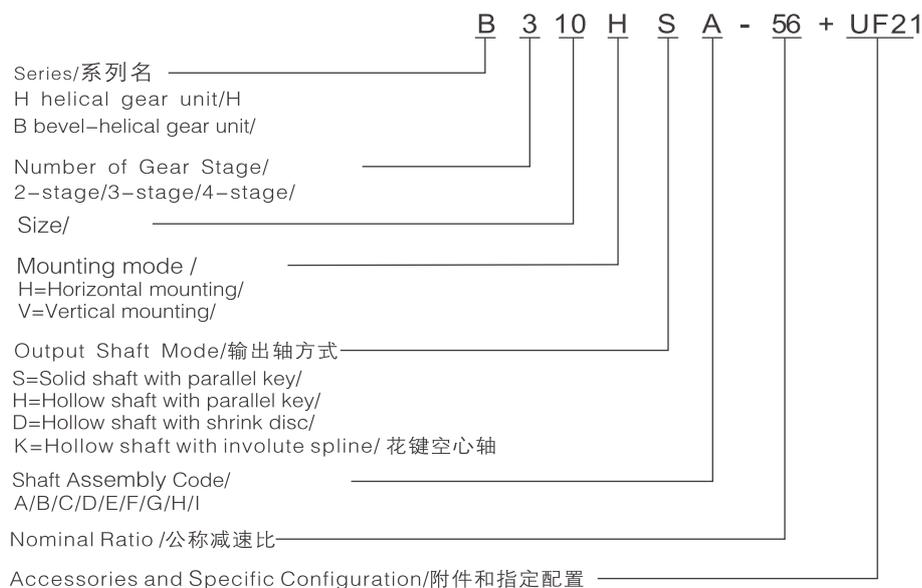
⚠ Note: Operating cycle ED: $ED = \frac{tf}{tf+tr} \cdot 100\%$
 tf: Working time with loading; tr: Stop time.

注: 工作周期ED: $ED = \frac{tf}{tf+tr} \cdot 100\%$
 tf: 带负载的工作时间; tr: 停歇时间。

Vertical mounted gear unit oil supply factor. For horizontally mounted gear unit f ₈ =1.0 <small>When forced lubrication applied, f₈=1.05</small> 立式安装齿轮箱供油系数。对于卧式安装齿轮箱 f ₈ =1.0; 当采用强制润滑时, f ₈ =1.05						f ₈
Gear unit type	Oil supply method	Without auxiliary cooling device	With cooling fan	With cooling coil	With fan and cooling coil	
H2..V, H3..V H4..V	Dip-in lubrication	0.95	*	0.95	*	
	Forced lubrication	1.15	*	1.05	*	
B2..V, B3..V B4..V	Dip-in lubrication	0.95	0.95	0.95	0.95	
	Forced lubrication	1.15	1.10	1.10	1.10	

* Please consult us.

Type designation:



4 Service factor

Driven equipment factor						f1			
Driven equipment	被驱动设备	Daily operating time with load(hour) 日带载运行时间 (小时)			Driven equipment	被驱动设备	Daily operating time with load(hour) 日带载运行时间 (小时)		
		≤ 2	> 2-10	> 10			≤ 2	> 2-10	> 10
Sewage treatment	污水处理				Conveying machine	输送机械			
Concentrator(Central Transmission)	浓缩器 (中心传动)	-	-	1.2	Bucket conveyor	斗式输送机	-	1.4	1.5
Compressed filter	压滤器	1.0	1.3	1.5	Winch	绞车	1.4	1.6	1.6
Flocculator	絮凝器	0.8	1.0	1.3	Hoist	卷扬机	-	1.5	1.8
Aerator	曝气机	-	1.8	2.0	Belt conveyor≤150kW	皮带输送机≤150kW	1.0	1.2	1.3
Collector	搜集设备	1.0	1.2	1.3	Belt conveyor≥150kW	皮带输送机≥150kW	1.1	1.3	1.4
Vertical,rotary group	纵向、回转组				Elevators for goods*	货用电梯*	-	1.2	1.5
Blended collector	合式搜集装置	1.0	1.3	1.5	Elevators for customers*	客用电梯*	-	1.5	1.8
Concentrator	浓缩器	-	1.1	1.3	Scraper conveyor	刮板式输送机	-	1.2	1.5
Screw pump	螺杆泵	-	1.3	1.5	Automatic ladder	自动扶梯	1.0	1.2	1.4
Water wheel machine	水轮机	-	-	2.0	Rail traveling mechanism	轨道行走机构	-	1.5	-
Pump	泵				Various frequency device	变频装置	-	1.8	2.0
Centrifugal pump	离心泵	1.0	1.2	1.3	Reciprocating compressor	往复式压缩机	-	1.8	1.9
Volume-down pump	容积式泵				Hoisting mechanism**	起重机械**			
1 Piston	1个活塞	1.3	1.4	1.8	Rotary mechanism*	回转机构*	-	1.4	1.8
>1 Piston	>1个活塞	1.2	1.4	1.5	Pitching mechanism	俯仰机构	-	1.1	1.4
Dredge	挖泥机				Traveling mechanism	行走机构	-	1.6	2.0
Bucket conveyor	斗式输送机	-	1.6	1.6	Lifting mechanism	提升机构	-	1.1	1.4
Unloading device	倾卸装置	-	1.3	1.5	Jibcrane	转臂式起重机	-	1.2	1.6
Caterpillar travelling mechanism	履带式行走机构	1.2	1.6	1.8	Cooling tower	冷却塔			
Bucket digger	斗式挖掘机	-	1.7	1.7	Cooling tower fan	冷却塔风扇	-	-	2.0
Be used for picking up	用于捡拾	-	1.7	1.7	Fan (Shaft flow and centrifugal type)	风机 (轴流和离心式)	-	1.4	1.5
Be used for rough materials	用于粗料	-	2.2	2.2	Food industry	食品工业			
Chopper	切碎机	-	2.2	2.2	Sugar production	蔗糖生产	-	-	1.7
Traveling mechanism*	行走机构*	-	1.4	1.8	Sugar-cane cutter*	甘蔗切碎机*	-	-	1.7
Plate blender	弯板机	-	1.0	1.0	Sugar crane mill	甘蔗碾磨机	-	-	1.7
Chemical industry	化学工业				Beet sugar production	甜菜糖生产	-	-	1.2
Extruder	挤压机	-	-	1.6	Beet masher	甜菜绞碎机	-	-	1.4
Paste mixer	调浆机	-	1.8	1.8	Squeeze machine, mechanical refrigerator,	榨取机,机械致冷机、蒸熏机	-	-	1.4
Rubber calendar	橡胶研光机	-	1.5	1.5	Cooking machine	冷机、蒸熏机	-	-	1.4
Cooling cylinder	冷却圆筒	-	1.3	1.4	Beet cleaner	甜菜清洗机	-	-	1.5
Material mixer, be used for	混料机,用于	-	1.3	1.4	Beet chopper	甜菜切碎机	-	-	1.5
Uniform medium	均匀介质	1.0	1.3	1.4	Paper-making machinery	造纸机械			
Non-uniform medium	非均匀介质	1.4	1.6	1.7	Various kinds***	各种类型***	-	1.8	2.0
Blender, be used for	搅拌机, 用于	1.0	1.3	1.5	Pulper driving device	碎浆机驱动装置	Supply goods according to customer requirements 根据客户要求供货		
Uniform density medium	密度均匀介质	1.2	1.4	1.6	Centrifugal compressor	离心式压缩机	-	1.4	1.5
Un-uniformed medium	不均匀介质	1.4	1.6	1.8	Rope way cable car	索道缆车			
Un-uniformed gas absorption	不均匀气体吸收	1.0	1.3	1.5	Delivery ropeway	运货索道	-	1.3	1.4
Oven	烘炉	1.0	1.3	1.5	Cableway of shuttle system	往返系统空中索道	-	1.6	1.8
Centrifugal machine	离心机	1.0	1.2	1.3	T rod elevator	T型杆升降机	-	1.3	1.4
Metal processing equipment	金属加工设备				Continuous cableway	连续索道	-	1.4	1.6
Plate turnover	翻板机	1.0	1.0	1.2	Cement industry	水泥工业			
Steel pushing device	推钢机	1.0	1.2	1.2	Concrete blender	混凝土搅拌机	-	1.5	1.5
Winding machine	绕线机	-	1.6	1.6	Crusher**	破碎机*	-	1.2	1.4
Cooling bed transverse frame	冷床横移架	-	1.5	1.5	Rotary kiln	回转窑	-	-	2.0
Roller leveler	辊式矫直机	-	1.6	1.6	Tube mill	管式磨机	-	-	2.0
Roller path	辊道	-	1.5	1.5	Powder concentrator	选粉机	-	1.6	1.6
Continuous	连续式	-	1.5	1.5	Roller press	辊压机	-	-	2.0
Interval	间歇式	-	2.0	2.0					
Reversing mill	可逆式轧管机	-	1.8	1.8					
Cutter	剪切机	-	1.5	1.5					
Continuous*	连续式*	1.0	1.0	1.0					
Crank type*	曲柄式*	-	1.4	1.4					
Continuous casting driving device	连铸机驱动装置	-	1.4	1.4					
Rolling mill	轧机	-	2.5	2.5					
Reversing cogging mill	可逆式开坯机	-	2.5	2.5					
Reversing plate slab mill	可逆式板坯轧机	-	1.8	1.8					
Reversing wire mill	可逆式线材轧机	-	2.0	2.0					
Reversing thin plate mill	可逆式薄板轧机	-	1.8	1.8					
Reversing middle thickness plate mill	可逆式中厚板轧机	0.9	1.0	-					
Roll gap adjusting and driving device	辊缝调节驱动装置								

Driven equipment factor						f ₁			
Driven equipment	被驱动设备	Daily running time with load(hour) 日带载运行时间 (小时)			Driven equipment	被驱动设备	Daily running time with load(hour) 日带载运行时间 (小时)		
		≤ 2	> 2-10	> 10			≤ 2	> 2-10	> 10
Wood industry	木材工业				Plastics industry	塑料工业			
Barking machine	剥皮机				Miller, compound grinding、	碾磨机、复式磨、	1.25	1.25	1.25
Feed drive	进给传动	1.25	1.25	1.50	Coating, film、	涂料、涂膜、			
Main drive	主传动	1.75	1.75	1.75	Conveying pipe, Pulling rod, thin type	输送管、拉杆、薄型	1.25	1.25	1.50
Conveyor	运送机				Pipe type, Pile drawer	管型、拔桩机			
Burner, repeating saw、	燃烧器、反复锯、	1.25	1.25	1.50	Continuous mixer, Calender、	连续混合机、压延机、	1.50	1.50	1.50
Rotary tower, transit transport	转塔式、转运输送	1.50	1.50	1.50	Blow film, to plasticizing	吹膜、欲塑化			
Main loading, heavy loading	主要载荷、重载	1.50	1.50	1.50	Batch mixer	分批混合机	1.75	1.75	1.75
Main original wood, land base	主原木、地坯	1.75	1.75	2.00					
Conveying chain	输送链				Rubber industry	橡胶工业			
Floor	地板	1.50	1.50	1.50	Continuous strong inner mixer, Mix roller,	连续式强力内式拌合机、			
Green-wood	生材	1.50	1.50	1.75	Batch feeding mixer (except for double sticks)	混合轧机、分批下料碾	1.50	1.50	1.50
Cutting Chain	切割链				Refiner, calender	磨机、(双光棍式除外)			
Saw transmission, traction	锯传动、牵引	1.50	1.50	1.75	Double roller clamp feeding and mixed miller	精炼机、压延机			
Peeling barrel	剥皮筒	1.75	1.75	2.00	Batch strong inner mixer,	双棍式夹持进给	1.25	1.25	1.50
Feed drive	进给传动				Double stick single groove grain stick	及混合碾磨机			
Edging, wood trimmer、	轧边、修木、	1.25	1.25	1.50	Miller heater, double sticks	分批式强力内式拌合机			
Planer feed, assorting table、	刨床进给、分类台、				Batch feeding mixer	双光棍式单槽纹观念棍碾	1.75	1.75	1.75
Automatic incline lifting	自动倾斜升降				Grinder, Crusher heater, double	碎机加热器、双光棍式			
Multi-shaft feed, raw wood	多轴送进、原木	1.75	1.75	1.75	Rolls, Batch charing grinder	分批下料碾磨机	2.00	2.00	2.00
Transportation and rotation	搬运和旋转				Wave roll crusher	波形棍式碾碎机			
Transportation	搬运								
Charging tray、	料盘、				Generator and exciter	发电机和励磁机	1.00	1.00	1.25
Plywood lathe drive、	胶合板车床传动、	1.50	1.50	1.75	Hammer crusher	锤式破碎机	1.75	1.75	2.00
Conveying chain, Lifting	输送链、起重式				Sand miller	砂碾机	1.25	1.25	1.50

Note: 1. Determine required power P₂ of the driven equipment;

*) Determine rated power according to maximum torque

**) The actual service factor should be selected according to accurate loading classification, for specific information, please consult us.

***) It is necessary to check thermal capacity.

2. The factors are experience value. The premise of using these factors is that the above mechanical equipment should conform to common design regulation and loading conditions. If there is special situation, please consult us.

3. For machines that are not listed in this table, please consult us.

5 Key to symbols:

Symbols	Instruction		Unit
i	Actual ratio	实际减速比	/
i_N	Nominal ratio	公称减速比	
i_{ex}	Exact ratio	精确减速比	
T_2	Output torque	输出扭矩	N · m
T_{2N}	Rated output torque	额定输出扭矩	
T_A	Max.Torque occurring on input shaft, e.g.Peak operating,starting or braking torque	输入轴上的扭矩, 例如峰值操作, 启动或制动扭矩	
$T_{n2atmax}$	Nominal output torque at highest speed	在最高转速时的额定输出扭矩	
$T_{n2atmin}$	Nominal output torque at lowest speed	在最低转速时的额定输出扭矩	
P_{1N}	Rated input power	减速机额定输入功率	kW
P_{GA}	Nominal thermal capacity of gearbox without auxiliary cooling equipment	齿轮箱不带冷却装置的额定发热容量	
P_{GB}	Nominal thermal capacity gearbox with cooling fan	齿轮箱带冷却风扇的额定热容量	
P_{GD}	Normal thermal capacity of gearbox with water-oil cooler	齿轮箱带水油冷却器的额定热容量	
P_1	Input power	输入功率	
P_2	Required power of driven machine	被驱动设备使用功率	
f_1	Driven machine factor	被驱动设备系数	/
f_2	Prime mover factor	原动机系数	
f_3	Peak load factor	峰值负荷系数	
f_4	Thermal factor(Without auxiliary cooling,or witho fan cooling)	环境温度系数 (不带辅助冷却装置或仅带冷却风扇)	
f_5	Thermal factor(with water-oil cooler)	环境温度系数 (带水油冷却器)	
f_8	Oil supply factor for vertical gearbox	立式安装齿轮箱供油系数	
S_F	Safety factor of gearbox	齿轮箱可靠度系数	
n_1	Input speed	输入转速	r/min
n_2	Output speed	输出转速	
n_{2N}	Nominal output speed	公称输出转速	
η	Efficiency	效率	/
f	Motor frequency	电机频率	Hz
U_m	Motor voltage	电机电压	V
ED	Operating cycle per hour	每小时工作周期	%

6 Selection example

6 选型举例

<p>Known conditions:</p> <p>Prime mover: Motor power: 90kW Motor speed: $n_1=1450r/min$ Maximum starting torque: $T_A=860N.m$ (This value is usually provided by the users.If not,normal torque$\times 1.6$ preails)</p> <p>Driven equipment (working machine): Type: Belt conveyor Speed: $n_2=33r/min$ Required power: $P_2=72kW$ Duty: 12 hours/day Starts per hour: 7 Operating cycle per hour: 100% Ambient temperature: 40°C Place of installation: Outdoor mounting Altitude: 500m</p> <p>Gear 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)</p>	<p>已知条件:</p> <p>原动机: 电机功率: 90kW 电机转速: $n_1=1450r/min$ 最大启动扭矩: $T_A=860N.m$ (由用户提供数据, 如果无法提供则按照电机额定扭矩的1.6倍估算)</p> <p>被驱动设备(工作机): 设备名称: 皮带输送机 设备转速: $n_2=33r/min$ 使用功率: $P_2=72kW$ 工作制: 12小时/天 每小时启动次数: 7 每小时工作周期: 100% 环境温度: 40°C 安装空间: 室外安装 海拔高度: 500m</p> <p>齿轮箱: 螺旋锥齿轮-斜齿齿轮箱,卧式安装,带平键实心轴输出, 轴布置形式 C 输出轴旋转方向: 面向输出轴顺时针旋转 配逆止器(附件代号UB11)</p>
<p>Selection procedure:</p> <p>1.Calculation of ratio: $i=n_1/n_2=1450/33=43.9 \quad i_N=45$</p> <p>2.Determine rated power of gear box $P_1=P_2/\eta=72/(94\%)=76.6kW$ $P_{1N} \geq P_1 \cdot f_1 \cdot f_2 \cdot S_F=76.6 \times 1.3 \times 1 \times 1.4=139.4kW$ Refer to transmission capacity table B3, select size 10 $P_{1N}=146kW$ $3.33 \cdot P_1=3.33 \times 76.6=255.1kW \geq P_{1N}$ Satisfy requirements</p> <p>3.Peak torque verification $P_{1N} \geq T_A \cdot n_1 \cdot f_3/9550=860 \times 1450 \times 0.65/9550=84.9kW$ $P_{1N}=146kW \geq 84.9kW$ Satisfy requirements</p> <p>4.Verify thermal capacity: $P_{GA} \cdot f_4 \cdot f_8=80.8 \times 0.75 \times 1=60.6kW \leq P_1=76.6kW$ Thermal capacity not sufficient $P_{GB} \cdot f_4 \cdot f_8=180 \times 0.75 \times 1=135kW \geq P_1=76.6kW$ Thermal capacity is sufficient When gear unit with cooling fan, thermal capacity is sufficient. Fan accessory code is UF 21</p> <p>5.Determine gear unit type:B310HSC-45+UF21+UB11</p>	<p>选型步骤:</p> <p>1.计算速比: $i=n_1/n_2=1450/33=43.9 \quad i_N=45$</p> <p>2.确定齿轮箱的额定功率: $P_1=P_2/\eta=72/(94\%)=76.6kW$ $P_{1N} \geq P_1 \cdot f_1 \cdot f_2 \cdot S_F=76.6 \times 1.3 \times 1 \times 1.4=139.4kW$ 根据传动能力表B3,机座号10 $P_{1N}=146kW$ $3.33 \cdot P_1=3.33 \times 76.6=255.1kW \geq P_{1N}$ 满足要求</p> <p>3.峰值扭矩校核: $P_{1N} \geq T_A \cdot n_1 \cdot f_3/9550=860 \times 1450 \times 0.65/9550=84.9kW$ $P_{1N}=146kW \geq 84.9kW$ 满足要求</p> <p>4.校核热容量: $P_{GA} \cdot f_4 \cdot f_8=80.8 \times 0.75 \times 1=60.6kW \leq P_1=76.6kW$ 不满足要求 $P_{GB} \cdot f_4 \cdot f_8=180 \times 0.75 \times 1=135kW \geq P_1=76.6kW$ 满足要求 所以齿轮箱配置冷却风扇可以满足热容量要求, 风扇附件代号为UF21</p> <p>5.确定型号: B310HSC-45+UF21+UB11</p>

7 Transmission Capacity table :

H2 (iN=6.3-22.4):

iN	n ₁ (r/min)	n _{2N} (r/min)	H204			H205			H206			H207			H208		
			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)
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} (r/min)	n ₁ (r/min)	i _N
T _{2N} (kN·m)	i _{ex}	P _{1N} (kW)	T _{2N} (kN·m)	i _{ex}	P _{1N} (kW)	T _{2N} (kN·m)	i _{ex}	P _{1N} (kW)	T _{2N} (kN·m)	i _{ex}	P _{1N} (kW)			
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($i_N=16-100$):

i_N	n_1 (r/min)	n_{2N} (r/min)	H305			H306			H307			H308		
			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)
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 _{2N} (r/min)	n ₁ (r/min)	i _N		
T _{2N} (kN·m)	i _{ex}	P _{1N} (kW)	T _{2N} (kN·m)	i _{ex}	P _{1N} (kW)	T _{2N} (kN·m)	i _{ex}	P _{1N} (kW)	T _{2N} (kN·m)	i _{ex}	P _{1N} (kW)					
35.7	15.4	407	51	15.2	566	64	15.3	724	78	15.3	888	109.0	1740	16		
		339			472			603			740				90.6	1450
		269			374			478			587				71.9	1150
		224			312			399			490				60.0	960
35.7	17.2	362	51	17.0	510	64	17.1	643	78	17.1	789	96.7	1740	18		
		301			425			536			658				80.6	1450
		239			337			425			522				63.9	1150
		200			281			355			435				53.3	960
35.7	20.3	325	51	20.1	450	64	19.0	579	78	19.0	710	87.0	1740	20		
		271			375			482			592				72.5	1450
		215			297			383			470				57.5	1150
		180			248			319			392				48.0	960
35.7	22.0	291	51	21.8	404	64	21.4	517	78	21.5	634	77.7	1740	22.4		
		242			337			431			529				64.7	1450
		192			267			342			419				51.3	1150
		160			223			285			350				42.9	960
35.7	25.7	260	51	25.4	378	64	24.7	462	78	24.7	568	69.6	1740	25		
		217			315			385			474				58.0	1450
		172			250			305			376				46.0	1150
		144			209			255			314				38.4	960
35.7	28.5	233	51	28.2	325	64	27.2	416	78	27.3	507	62.1	1740	28		
		194			271			347			423				51.8	1450
		154			215			275			335				41.1	1150
		128			179			230			280				34.3	960
35.7	29.9	208	51	29.5	304	64	32.0	370	78	32.1	450	55.2	1740	31.5		
		173			253			308			375				46.0	1450
		137			201			244			297				36.5	1150
		115			168			204			248				30.5	960
35.7	35.2	182	51	34.8	260	64	35.6	324	78	35.7	394	49.0	1740	35.5		
		152			217			270			328				40.8	1450
		121			172			214			260				32.4	1150
		101			144			179			217				27.0	960
35.7	38.2	164	51	37.7	241	64	40.1	293	78	40.2	356	43.5	1740	40		
		137			201			244			297				36.3	1450
		109			159			194			236				28.8	1150
		91			133			162			197				24.0	960
35.7	44.6	143	51	44.1	208	64	46.3	254	78	46.3	308	38.7	1740	45		
		119			173			212			257				32.2	1450
		94			137			168			204				25.6	1150
		79			115			140			170				21.3	960
35.7	49.4	130	51	48.8	188	64	51.0	230	78	51.1	281	34.8	1740	50		
		108			157			192			234				29.0	1450
		86			125			152			186				23.0	1150
		72			104			127			155				19.2	960
35.7	52.4	116	54	51.8	179	64	56.5	208	78	56.6	253	31.1	1740	56		
		97			149			173			211				25.9	1450
		77			118			137			167				20.5	1150
		64			99			115			140				17.1	960
35.7	59.6	103	54	58.8	158	64	62.9	185	78	63.0	226	27.6	1740	63		
		86			132			154			188				23.0	1450
		68			105			122			149				18.3	1150
		57			87			102			124				15.2	960
35.7	66.7	90	54	65.8	143	64	71.4	161	78	71.5	196	24.5	1740	71		
		75			119			134			163				20.4	1450
		59			94			106			129				16.2	1150
		50			79			89			108				13.5	960
35.7	74.0	82	54	73.1	121	64	79.3	145	78	79.40	175	21.8	1740	80		
		68			101			121			146				18.1	1450
		54			80			96			116				14.4	1150
		45.0			67			80			97				12.0	960
35.7	86.7	70	54	85.6	110	64	90.1	128	78	90.2	156	19.3	1740	90		
		58			92			107			130				16.1	1450
		46.0			73			85			103				12.8	1150
		38.4			61			71			86				10.7	960
35.7	93.2	63	54	92.0	98	64	103.4	115	78	103.5	140	17.4	1740	100		
		52			82			96			117				14.5	1450
		41.4			65			76			93				11.5	1150
		34.6			54			64			77				9.6	960

7 Transmission Capacity table:

H4 (i_N=71-400)

i _N	n ₁ (r/min)	n _{2N} (r/min)	H407			H408			H409		
			T _{2N} (kN·m)	i _{ex}	P _{1N} (kW)	T _{2N} (kN·m)	i _{ex}	P _{1N} (kW)	T _{2N} (kN·m)	i _{ex}	P _{1N} (kW)
71	1740	24.5	21.7	71.2	56	28.5	70.3	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 _{2N} (r/min)	n ₁ (r/min)	i _N
T _{2N} (kN·m)	i _{ex}	P _{1N} (kW)	T _{2N} (kN·m)	i _{ex}	P _{1N} (kW)	T _{2N} (kN·m)	i _{ex}	P _{1N} (kW)			
57	65.0	147	62	70.7	157	78	70.8	201	24.5	1740	71
		122			131			167	20.4	1450	
		97			104			133	16.2	1150	
		81			87			111	13.5	960	
57	73.9	130	62	77.4	139	78	77.5	176	21.8	1740	80
		108			116			147	18.1	1450	
		86			92			117	14.4	1150	
		72			77			97	12.0	960	
57	85.7	113	62	91.5	123	78	91.6	156	19.3	1740	90
		94			103			130	16.1	1450	
		75			82			103	12.8	1150	
		62			68			86	10.7	960	
57	93.5	104	62	102.5	112	78	102.6	140	17.4	1740	100
		87			93			117	14.5	1450	
		69			74			93	11.5	1150	
		57			62			77	9.6	960	
57	105.1	93	62	109.4	100	78	109.6	126	15.5	1740	112
		78			83			105	12.9	1450	
		62			66			84	10.3	1150	
		51			55			70	8.57	960	
57	115.6	84	62	125.2	89	78	125.4	114	13.9	1740	125
		70			74			95	11.6	1450	
		56			59			75	9.20	1150	
		46.4			49.0			63	7.68	960	
57	131.4	74	62	141.5	80	78	141.7	101	12.4	1740	140
		62			67			84	10.4	1450	
		49.2			53			67	8.21	1150	
		41.1			44.4			56	6.86	960	
57	152.4	65	62	167.3	70	78	167.5	88	10.9	1740	160
		54			58			73	9.06	1450	
		42.8			46.0			58	7.19	1150	
		35.7			38.4			48.3	6.00	960	
57	166.1	60	62	187.4	61	78	187.7	78	9.67	1740	180
		50			51			65	8.06	1450	
		39			40.4			52	6.39	1150	
		33			33.8			43.0	5.33	960	
57	186.8	53	62	200.1	55	78	200.4	71	8.70	1740	200
		44.4			46.0			59	7.25	1450	
		35.2			36.5			46.8	5.75	1150	
		29.4			30.5			39.1	4.80	960	
57	204.8	48.0	62	229.0	50	78	229.3	62	7.77	1740	224
		40.0			42.0			52	6.47	1450	
		31.7			33.3			41.2	5.13	1150	
		26.5			27.8			34.4	4.29	960	
57	236.6	42.5	62	254.5	44.4	78	254.9	56	6.96	1740	250
		35.4			37.0			47.0	5.80	1450	
		28.1			29.3			37.3	4.60	1150	
		23.5			24.5			31.1	3.84	960	
57	252.3	38.4	62	288.7	39.6	78	289.1	52	6.21	1740	280
		32.0			33.0			43.0	5.18	1450	
		25.4			26.2			34.1	4.11	1150	
		21.2			21.8			28.5	3.43	960	
57	291.3	33.6	62	323.5	34.8	78	324.0	45.6	5.52	1740	315
		28.0			29.0			38.0	4.60	1450	
		22.2			23.0			30.1	3.65	1150	
		18.5			19.2			25.2	3.05	960	
57	331.2	30.0	62	369.3	31.2	78	369.8	39.6	4.90	1740	355
		25.0			26.0			33.0	4.08	1450	
		19.8			20.6			26.2	3.24	1150	
		16.6			17.2			21.8	2.70	960	
57	368	26.4	62	393.6	27.7	78	394.1	36.0	4.35	1740	400
		22.0			23.1			30.0	3.63	1450	
		17.4			18.3			23.8	2.88	1150	
		14.6			15.3			19.9	2.40	960	

7 Transmission Capacity table:

B2 (iN=6.3-14)

iN	n ₁ (r/min)	n _{2N} (r/min)	B204			B205			B206			B207		
			T _{2N} (kN·m)	i _{ex}	P _{1N} (kW)	T _{2N} (kN·m)	i _{ex}	P _{1N} (kW)	T _{2N} (kN·m)	i _{ex}	P _{1N} (kW)	T _{2N} (kN·m)	i _{ex}	P _{1N} (kW)
5	1740	348	6.2	4.74	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							1663				290		1450
					730							1319				230		1150
					610							1101				192		960
			29.9	5.56	980				54	5.56	1780*				313	1740	5.6	
					817							1475				259		1450
					648							1170				205		1150
					541							976				171		960
23.8	6.25	694	29.9	6.25	872	38.0	6.44	1075	54	6.17	1604*	63	6.18	1868*	276	1740	6.3	
		578			726			896			1329			1548	230	1450		
		459			576			711			1054			1228	183	1150		
		383			481			593			880			1025	152	960		
23.8	7.05	610	29.9	7.05	766	38.0	6.96	973	54	6.96	1342	63	6.97	1560	245	1740	7.1	
		508			638			811			1118			1300	204	1450		
		403			506			643			887			1031	162	1150		
		336			422			537			740			861	135	960		
23.8	8.16	542	29.9	8.16	682	38.0	8.06	868	54	8.06	1234	63	8.07	1441	218	1740	8	
		452			568			723			1028			1201	181	1450		
		358			450			573			815			953	144	1150		
		299			376			479			681			795	120	960		
23.8	8.82	482	29.9	8.82	606	38.0	8.71	770	54	8.71	1096	67	8.73	1322	193	1740	9	
		402			505			642			913			1102	161	1450		
		319			401			509			724			874	128	1150		
		266			334			425			604			730	107	960		
23.8	10.0	433	29.9	10.0	544	38.0	9.88	691	54	9.88	984	67	9.89	1207	174	1740	10	
		361			453			576			820			1006	145	1450		
		286			359			457			650			798	115	1150		
		239			300			381			543			666	96.0	960		
23.8	11.0	386	29.9	11.0	486	38.0	10.9	618	54	10.9	878	67	10.9	1079	155	1740	11.2	
		322			405			515			732			899	129	1450		
		255			321			408			581			713	103	1150		
		213			268			341			485			595	85.7	960		
23.8	12.7	347	29.9	12.7	435	38.0	12.5	553	54	12.5	787	67	12.6	966	139	1740	12.5	
		289			363			461			656			805	116	1450		
		229			288			366			520			638	92.0	1150		
		191			240			305			434			533	76.8	960		
23.8	13.8	308	29.9	13.8	389	38.0	13.6	493	54	13.6	703	67	13.6	860	124	1740	14	
		257			324			411			586			717	104	1450		
		204			257			326			464			569	82.1	1150		
		170			215			272			388			475	68.6	960		

注: * 卧式安装齿轮箱要求采用强制润滑。
* 敬请垂询

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

7 Transmission Capacity table:

B3 (iN=16-90)

iN	n ₁ (r/min)	n _{2N} (r/min)	B304			B305			B306			B307		
			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)
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 ₁ (r/min)	n _{2N} (r/min)	B405			B406			B407			B408		
			T _{2N} (kN·m)	i _{ex}	P _{1N} (kW)	T _{2N} (kN·m)	i _{ex}	P _{1N} (kW)	T _{2N} (kN·m)	i _{ex}	P _{1N} (kW)	T _{2N} (kN·m)	i _{ex}	P _{1N} (kW)
100	1740	17.4	11.6	96.3	20.9	15.5	98.9	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} (r/min)	n ₁ (r/min)	i _N		
T _{2N} (kN·m)	i _{ex}	P _{1N} (kW)	T _{2N} (kN·m)	i _{ex}	P _{1N} (kW)	T _{2N} (kN·m)	i _{ex}	P _{1N} (kW)	T _{2N} (kN·m)	i _{ex}	P _{1N} (kW)					
36.0	104.8	65	44.5	103.5	80	62	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 Rated thermal capacity(kW)

H2 (kW)

iN		H204				H205				H206				H207			
		960	1150	1450	1740	960	1150	1450	1740	960	1150	1450	1740	960	1150	1450	1740
6.3	P _{GA}	54.1	49.2	48.5	40.6	66.5	54.6	48.8	*	87	58.3	51	*	90.3	67.4	*	*
	P _{GB}	106	112	132	144	143	146	172	181	158	159	186	185	221	220	256	263
	P _{GD}	162	176	210	236	256	276	327	361	278	290	352	367	417	445	525	574
7.1	P _{GA}	56.1	51.8	51.6	44.6	69	58.4	53.9	*	75	62.4	56.6	*	89.8	70.3	*	*
	P _{GB}	109	116	137	150	146	151	177	189	161	164	193	194	214	215	252	262
	P _{GD}	165	180	214	240	256	276	327	363	278	299	352	371	394	422	499	548
8	P _{GA}	54.4	50.9	51.4	45.7	68.3	59.5	56.4	*	74.5	63.6	59.2	*	89.1	72.9	64.9	*
	P _{GB}	104	111	132	145	142	149	175	188	157	162	191	204	208	212	249	262
	P _{GD}	155	170	202	228	245	266	316	352	266	288	341	379	376	404	479	529
9	P _{GA}	53.4	51.1	52.4	48.3	67.9	61.6	60.5	50.5	78.1	69.8	67.8	54.7	89.3	77.5	73.2	*
	P _{GB}	101	109	129	143	139	147	174	189	159	167	198	214	202	210	248	266
	P _{GD}	150	164	196	221	234	255	303	340	266	289	344	384	357	386	458	510
10	P _{GA}	51.1	49.5	51.4	48.5	65.4	60.9	61.1	53.7	77.4	71.3	70.9	61	88.3	79.5	77.7	63.7
	P _{GB}	95.7	103	123	136	131	140	165	181	156	166	196	214	193	204	241	261
	P _{GD}	139	153	182	207	217	237	282	318	255	278	331	372	337	367	436	489
11.2	P _{GA}	49.3	48.2	50.4	48.3	63.4	60.1	61.2	55.6	76	71.4	72.2	64.6	90.7	83.7	83.4	72.1
	P _{GB}	91.7	100	118	132	126	135	160	177	151	161	191	210	196	208	246	269
	P _{GD}	132	145	174	197	205	225	268	303	245	268	319	359	336	366	436	490
12.5	P _{GA}	47.8	47.1	49.5	47.9	63	60.4	62.1	57.7	72.3	68.9	70.5	64.6	90.2	84.6	85.6	76.5
	P _{GB}	87.6	95.8	113	127	123	133	157	174	142	153	181	200	191	204	242	266
	P _{GD}	126	139	166	189	201	220	263	297	226	248	295	333	327	357	425	480
14	P _{GA}	45.5	45.1	47.6	46.5	60	58.2	60.4	57	69.8	67.3	69.5	65	83.8	79.8	81.7	75
	P _{GB}	82.9	90.9	108	120	116	126	150	166	135	147	174	193	175	189	224	247
	P _{GD}	118	130	155	177	186	204	243	276	213	234	279	316	294	322	384	434
16	P _{GA}	41.8	41.7	44.1	43.5	56.6	55.4	57.8	55.4	68.9	67.1	69.8	66.4	79	76.1	78.6	73.6
	P _{GB}	75.7	83.1	98.9	110	108	118	140	155	131	143	169	188	163	177	210	232
	P _{GD}	107	118	141	160	171	189	225	256	208	229	273	310	269	295	352	399
18	P _{GA}	40.1	40.2	42.7	42.3	54.4	53.7	56.4	54.7	65.7	64.5	67.6	65.2	76.1	74.2	77.3	73.7
	P _{GB}	72.1	79.3	94.4	105	103	113	134	150	124	136	162	180	157	170	202	225
	P _{GD}	100	111	132	151	162	179	213	242	194	214	255	290	257	283	338	383
20	P _{GA}	39.3	39.5	42	41.8	51.1	50.6	53.3	52.1	61.7	60.9	64	62.2	71.3	69.9	73.1	70.2
	P _{GB}	70.2	77.4	92.1	103	96.8	106	126	140	115	126	150	168	145	158	188	210
	P _{GD}	97.4	107	128	146	150	166	198	225	179	197	235	268	236	260	310	352
22.4	P _{GA}					47.5	47.1	49.7	48.6	59	58.3	61.3	59.6	68.7	67.5	70.7	68
	P _{GB}					89.4	98	116	130	111	121	144	161	139	152	181	202
	P _{GD}					137	151	181	205	169	187	223	253	224	247	295	335

On request.

H208				H209				H210				H211				H212				in	
960	1150	1450	1740	960	1150	1450	1740	960	1150	1450	1740	960	1150	1450	1740	960	1150	1450	1740		
101	71.4	*	*	116	*	*	*	118	*	*	*	134	*	*	*	142	*	*	*	P _{GA}	6.3
250	245	283	275	293	279	322	319	304	286	328	324	450	382	428	366	510	412	456	414	P _{GB}	
474	504	594	637	626	658	774	832	689	718	844	896	951	966	1124	1154	1243	1243	1443	1365	P _{GD}	
100	74.5	*	*	117	*	*	*	119	*	*	*	145	*	*	*	154	*	*	*	P _{GA}	7.1
242	239	279	281	286	278	323	325	297	285	329	328	454	400	453	408	515	432	483	431	P _{GB}	
448	478	565	616	589	624	735	797	648	681	802	866	931	956	1117	1163	1217	1231	1434	1405	P _{GD}	
99	77.3	*	*	118	88	*	*	120	*	*	*	152	*	*	*	161	*	*	*	P _{GA}	8
235	236	276	287	279	276	322	330	290	283	328	332	449	410	469	441	509	443	501	444	P _{GB}	
428	458	542	595	562	599	707	772	618	654	772	837	895	929	1088	1149	1170	1197	1397	1449	P _{GD}	
100	84.3	77.2	*	120	97.8	86.3	*	124	97.3	*	*	160	*	*	*	182	*	*	*	P _{GA}	9
228	234	275	293	272	277	324	341	283	285	333	347	437	419	484	481	520	482	553	530	P _{GB}	
405	437	518	574	536	576	682	753	582	622	736	809	833	878	1033	1113	1149	1197	1405	1494	P _{GD}	
100	88.1	84.2	65.2	119	102	96	*	125	104	95.3	*	164	121	*	*	193	*	*	*	P _{GA}	10
222	232	273	294	262	272	320	342	278	285	335	355	424	420	489	501	516	498	577	577	P _{GB}	
386	419	498	555	505	546	648	720	556	599	710	787	786	836	987	1077	1106	1167	1375	1485	P _{GD}	
99	89.7	88	73.2	116	103	99.9	79.4	124	108	103	*	173	138	119	*	195	144	*	*	P _{GA}	11.2
214	226	267	290	249	262	309	333	270	281	331	355	430	435	509	533	495	491	572	587	P _{GB}	
367	400	475	533	473	514	610	682	528	572	679	756	784	841	995	1095	1020	1086	1283	1401	P _{GD}	
95.6	88.4	88.3	76.6	116	105	104	87.5	122	109	106	86.5	178	149	135	*	194	154	*	*	P _{GA}	12.5
205	218	258	282	244	258	305	332	259	273	322	348	425	436	512	543	475	480	562	587	P _{GB}	
346	378	450	506	455	496	589	661	498	542	644	720	766	825	978	1083	960	1029	1218	1340	P _{GD}	
97.7	92	93.2	83.7	114	106	106	93.7	119	109	108	92.7	173	151	142	*	202	169	153	*	P _{GA}	14
207	222	263	289	236	252	298	326	247	262	310	338	403	420	494	530	483	496	583	618	P _{GB}	
345	377	449	507	432	472	562	632	465	507	603	677	711	770	914	1018	958	1032	1223	1355	P _{GD}	
97	92.6	94.9	87.3	108	102	104	94.2	117	109	110	98	166	148	144	116	206	179	169	*	P _{GA}	16
201	216	257	283	221	237	281	309	240	256	303	333	377	397	469	507	476	496	583	625	P _{GB}	
336	368	438	496	397	435	518	584	449	491	584	658	650	706	839	939	932	1009	1197	1333	P _{GD}	
89.7	86.8	89.8	84.5	103	99	101	94.5	114	109	111	102	156	144	143	122	200	180	175	142	P _{GA}	18
184	200	237	263	208	225	266	295	231	249	296	326	352	375	443	483	450	474	560	606	P _{GB}	
301	331	395	447	371	407	486	550	425	465	555	627	609	664	790	887	864	938	1115	1249	P _{GD}	
85.2	82.9	86.3	82	100	97.1	100	94.4	109	104	107	99.9	152	142	142	125	189	172	170	144	P _{GA}	20
172	187	222	246	200	217	257	285	217	235	278	308	339	362	428	469	419	444	525	571	P _{GB}	
276	304	363	411	355	390	465	527	392	430	512	580	575	628	747	842	786	856	1019	1143	P _{GD}	
81.1	79.1	82.4	78.5	92.3	89.4	92.6	87.3	102	98.6	101	94.7	142	133	133	118	175	160	159	135	P _{GA}	22.4
165	179	213	237	185	201	239	265	203	220	261	289	314	336	397	436	390	414	489	533	P _{GB}	
263	290	346	392	320	352	420	476	366	401	478	541	524	573	682	768	736	802	954	1071	P _{GD}	

On request.

8 Rated thermal capacity(kW)

H3 (kW)

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

On request.

H309				H310				H311				H312				iN	
960	1150	1450	1740	960	1150	1450	1740	960	1150	1450	1740	960	1150	1450	1740		
101	94.6	96.1	89.7	101	94.9	90.8	84.7	158	144	142	115	197	175	165	132	P _{GA}	16
160	164	191	197	164	167	200	210	265	261	305	306	316	302	361	359	P _{GB}	
332	353	421	463	392	424	504	554	622	650	777	844	724	752	889	962	P _{GD}	
100	95.1	97.1	91.7	101	95.5	92.6	87.2	154	142	141	117	191	172	164	135	P _{GA}	18
158	163	190	198	161	166	198	209	256	254	297	301	305	295	351	353	P _{GB}	
322	344	410	452	382	414	491	541	587	617	736	802	682	713	843	916	P _{GD}	
100	95.6	98.0	93.6	101	96.0	94.4	89.8	151	140	140	120	186	169	163	138	P _{GA}	20
156	162	189	199	159	165	196	208	247	247	290	297	294	288	342	348	P _{GB}	
312	336	399	442	372	403	479	529	553	585	698	762	644	677	801	873	P _{GD}	
100	96.1	99.0	95.6	101	96.6	96.2	92.5	148	138	139	123	180	165	162	140	P _{GA}	22.4
154	161	188	200	157	164	194	207	238	241	282	293	284	282	333	342	P _{GB}	
302	327	388	431	362	393	467	517	522	555	661	725	607	642	760	831	P _{GD}	
99.3	96.6	100	97.7	100	97.2	98.1	95.3	145	136	138	126	174	162	161	143	P _{GA}	25
152	160	187	201	155	163	192	206	230	235	275	289	274	275	325	337	P _{GB}	
293	319	378	421	352	384	455	505	492	527	626	689	572	610	721	792	P _{GD}	
99	97.1	101	99.8	100	97.8	100	98.1	142	134	137	129	169	159	160	146	P _{GA}	28
150	159	186	202	153	162	190	205	222	229	268	285	264	269	316	332	P _{GB}	
284	311	368	411	342	374	443	493	464	500	593	655	540	579	685	755	P _{GD}	
96.9	95.8	100	100	100	98.4	102	101	138	132	137	131	164	156	159	149	P _{GA}	31.5
146	157	183	199	151	165	196	208	247	247	290	297	294	288	342	348	P _{GB}	
273	300	355	397	*	*	*	*	443	481	570	632	509	549	650	719	P _{GD}	
93.9	93.6	98.7	99.2	99.8	99	104	104	134	130	135	132	159	153	158	152	P _{GA}	35.5
142	153	178	195	149	160	186	203	208	220	257	277	246	257	300	322	P _{GB}	
262	289	342	383	*	*	*	*	422	460	544	606	480	521	617	685	P _{GD}	
88.9	88.9	93.9	94.9	96.5	96.2	101	101	129	126	132	130	155	150	156	151	P _{GA}	40
134	145	170	186	145	156	182	199	199	212	248	268	238	251	293	315	P _{GB}	
244	270	319	357	*	*	*	*	397	434	514	573	457	497	589	655	P _{GD}	
85.6	85.9	90.8	92	94	93.9	99.1	99.9	128	126	132	131	149	145	151	147	P _{GA}	45
128	139	162	178	141	152	177	194	199	212	247	268	229	242	283	305	P _{GB}	
232	256	303	340	*	*	*	*	389	427	505	563	434	474	561	624	P _{GD}	
84.2	85.2	90.6	92.9	89.4	90.3	95.9	98	127	127	134	135	145	144	151	152	P _{GA}	50
126	137	160	177	133	145	169	186	195	210	246	269	222	238	278	303	P _{GB}	
225	250	295	332	*	*	*	*	381	421	497	558	411	452	534	598	P _{GD}	
80.4	81.8	87.3	90.1	86.2	87.7	93.4	96.2	118	119	127	129	145	146	154	157	P _{GA}	56
120	131	153	169	128	140	164	181	181	197	230	253	221	240	280	307	P _{GB}	
212	236	278	314	*	*	*	*	345	383	452	508	403	446	527	592	P _{GD}	
76.2	78	83.5	86.8	84.6	86.5	92.5	96	113	115	122	126	143	145	154	159	P _{GA}	63
112	124	145	160	124	137	160	177	171	188	219	242	216	236	276	304	P _{GB}	
197	220	259	293	*	*	*	*	321	357	421	475	395	439	518	584	P _{GD}	
74.6	76.4	81.8	85.1	80.5	82.4	88.2	91.6	110	112	120	124	133	135	144	149	P _{GA}	71
110	122	142	158	119	131	153	170	166	182	213	235	200	219	256	283	P _{GB}	
191	214	252	285	*	*	*	*	309	345	407	458	357	398	469	529	P _{GD}	
70.6	72.4	77.6	80.8	76.1	78	83.5	86.8	104	106	113	118	125	128	136	141	P _{GA}	80
104	114	134	148	111	123	143	159	156	172	201	222	188	207	241	267	P _{GB}	
179	200	236	266	*	*	*	*	286	319	377	425	332	370	437	492	P _{GD}	
67.1	68.8	73.8	76.9	74.3	76.2	81.6	85	100	103	110	114	123	125	134	139	P _{GA}	90
98.8	109	127	141	108	119	140	155	151	166	194	215	183	201	235	260	P _{GB}	
166	186	219	247	*	*	*	*	275	307	362	409	321	358	422	476	P _{GD}	
63.8	66	70.1	73.8	70.7	72.7	78	81.6	94.3	98	105	109	116	119	128	133	P _{GA}	100
94.2	104	121	135	103	114	133	148	143	158	184	204	173	191	223	247	P _{GB}	
155	174	204	230	*	*	*	*	254	285	336	380	297	332	392	442	P _{GD}	

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

H410				H411				H412					iN
960	1150	1450	1740	960	1150	1450	1740	960	1150	1450	1740		
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	48.3	47.2	35.3	*	58.7	53.4	*	*					77.4	66	*	*				
	PGB	113	132	139	149	145	178	184	193					246	276	283	283				
	PGD	194	228	249	276	263	338	336	376					468	538	581	630				
6	PGA	47.7	47.5	38.6	*	57.2	56.5	44	*					78.3	70.8	*	*				
	PGB	109	128	135	147	137	177	169	185					232	265	274	282				
	PGD	187	221	241	268	243	330	313	359					432	501	543	593				
6.3	PGA	47	47.3	40	31	58.7	58.7	*	*	68.3	65.1	*	*	75.8	70.5	*	*	89.9	81.4	*	*
	PGB	105	125	132	144	145	145	178	193	170	197	215	232	216	249	261	279	261	298	314	332
	PGD	179	212	231	258	263	308	339	376	359	419	484	536	393	458	500	553	548	636	695	765
7.1	PGA	45	45.8	40.6	34	57.2	56.4	44	*	69	67.5	50.6	*	74.3	71.4	*	*	88.9	83.8	*	*
	PGB	99	117	125	136	137	161	169	182	166	194	204	219	203	237	248	263	246	285	298	313
	PGD	164	194	213	238	243	286	313	347	349	410	447	495	362	424	462	511	506	590	642	707
8	PGA	42.8	43.9	39.9	35	54.8	54.8	45.1	*	67.2	66.7	53.4	*	72.1	70.6	53	*	86.1	83	*	*
	PGB	92.9	110	117	129	128	151	160	173	157	185	195	211	192	225	236	253	229	267	280	298
	PGD	152	181	198	222	225	265	290	323	324	382	417	464	336	395	430	477	459	539	586	649
9	PGA	41	42.3	39.3	35	52.7	53.2	45.7	36	64.5	64.8	54.4	*	70.2	69.7	55.8	*	82.7	81.1	61.6	*
	PGB	87.8	105	111	123	121	144	153	166	148	176	186	202	182	214	226	244	215	253	266	285
	PGD	141	167	183	206	206	244	267	298	299	353	386	430	316	373	407	453	424	498	543	603
10	PGA	34.6	35.8	33.7	31	49.3	50.1	44	36	61.1	61.8	53.3	43	66.4	66.5	55.1	*	79.2	78.5	62.3	*
	PGB	72.8	87.1	92.8	102	111	132	140	154	138	164	174	190	169	199	211	229	202	238	251	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	33.5	34.8	33	30	44.4	45.3	40.4	34	58.4	59.3	52.1	43	59.8	60.2	51	40	76.1	75.9	61.9	57.7
	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
	PGD	107	128	140	157	162	192	210	235	252	298	327	365	252	298	326	363	368	434	474	528
12.5	PGA	30.2	31.5	30.3	28.3	42.4	43.5	39.5	34	54.5	55.7	50.1	43	55.8	56.5	49	40	72.2	72.7	61.7	48
	PGB	63.0	75.4	80.2	88.1	94	112	118.5	130	119	142	151	166	136	162	172	188	179	212	224	244
	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	28.8	30.2	29.6	28.3	39.6	40.8	38	34	49	50.3	46	40	50.2	51	45	37	65.2	66.1	57.4	47
	PGB	59.8	71.2	76.0	83.4	85.8	102	108	120	106	127	135	149	121	145	154	169	159	189	200	218
	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

* 敬請垂詢。

B209				B210				B211				B212				iN	
960	1150	1450	1740	960	1150	1450	1740	960	1150	1450	1740	960	1150	1450	1740		
87.1	*	*	*					*	*	*	*					PGA	6.3
297	325	328	313					487	500	478	392					PGB	
578	657	705	753					984	1085	1144	1174					PGD	
90.2	75.8	*	*					120	*	*	*					PGA	7.1
282	316	322	321					481	512	504	453					PGB	
535	614	662	716					943	1058	1126	1182					PGD	
89.4	78.6	*	*	98.3	83.8	*	*	122	*	*	*	142	*	*	*	PGA	6.3
265	301	315	330	300	337	354	367	441	480	479	514	556	591	581	606	PGB	
489	566	617	676	643	740	809	884	834	944	1010	1161	1340	1500	1596	1795	PGD	
89.1	82.4	*	*	99.3	89.8	*	*	132	108	*	*	158	*	*	*	PGA	7.1
250	288	299	311	284	325	336	346	436	485	493	485	546	598	601	572	PGB	
451	525	570	625	594	689	747	817	808	925	996	1073	1278	1451	1556	1659	PGD	
87.4	83	*	*	97.7	91.2	*	*	129	112	*	*	155	127	*	*	PGA	8
237	274	287	302	267	308	321	336	400	451	463	467	498	555	564	556	PGB	
419	490	533	588	541	631	686	754	719	830	896	973	1129	1293	1392	1500	PGD	
85.8	83.2	59.6	*	95.3	91.1	*	*	129	116	*	*	162	140	*	*	PGA	9
226	264	277	295	251	292	306	324	383	437	452	465	490	554	568	574	PGB	
396	465	507	561	500	585	637	703	679	788	853	933	1094	1261	1363	1480	PGD	
81.9	80.3	60.8	*	91.7	88.9	63.9	*	125	115	*	*	153	137	*	*	PGA	10
212	249	261	280	237	277	291	310	359	413	429	447	447	508	525	537	PGB	
363	426	465	516	462	542	591	654	626	729	791	868	972	1126	1218	1329	PGD	
74.5	73.6	57.7	65.2	89	87	65.2	*	114	106	*	*	150	136	*	*	PGA	11.2
187	220	232	250	226	265	279	299	318	367	382	401	426	488	506	522	PGB	
316	372	406	451	438	514	561	622	543	633	688	757	918	1066	1156	1265	PGD	
70.7	70.5	57.5	54.2	85.1	84.3	66.9	*	109	103	*	*	145	135	*	*	PGA	12.5
174	205	217	200	212	250	264	284	298	346	405	381	400	462	481	503	PGB	
289	341	373	414	401	472	515	573	497	581	632	697	845	985	1070	1176	PGD	
63.8	64.1	53.7	53	77	76.9	63.1	*	98.6	94	*	*	131	125	*	*	PGA	14
155	183	194	179	189	223	236	255	266	309	362	342	353	409	428	451	PGB	
251	297	326	362	348	411	449	500	431	506	551	608	733	856	931	1027	PGD	

On request

8 Rated thermal capacity(kW)

B3 (kW)

iN		B304				B305				B306				B307				B308			
		960	1150	1450	1740	960	1150	1450	1740	960	1150	1450	1740	960	1150	1450	1740	960	1150	1450	1740
16	PGA	35.2	37	36.8	36.8	47.9	49.5	48.3	46.7	55.4	57	55.4	53.1	74	75.7	72.9	68.5	86.2	87.5	83.3	76.8
	PGB	61.3	70	78.6	86.9	87.5	99.5	110	121	100	113	126	138	137	156	172	187	158	178	196	212
	PGD	92.2	105	121	136	149	171	195	218	165	190	216	241	257	294	334	372	285	326	369	410
18	PGA	34.3	36	35.9	35.9	46.5	48.1	47.2	45.9	53.7	55.5	54.1	52.2	71.7	73.6	71.1	67.4	83.2	84.8	81.1	75.5
	PGB	59.5	67.9	76.4	84.5	84.8	96.5	107	118	97.1	110	122	134	133	151	167	182	153	173	191	207
	PGD	89.5	102	117	132	144	166	189	212	159	183	208	233	247	284	322	360	277	317	359	400
20	PGA	32.4	34	34	34.1	44.6	46.4	45.6	44.5	51.9	53.7	52.6	51	68.9	70.9	68.8	65.7	79.4	81.2	78	73.3
	PGB	56.1	64.1	72.1	79.9	81.3	92.6	103	113	93.5	106	118	129	127	145	161	175	145	165	182	198
	PGD	84.3	96.9	111	125	138	159	181	203	154	176	201	225	236	270	307	344	261	300	340	379
22.4	PGA	31.6	33.3	33.3	33.6	44	45.8	45.1	44.3	50.4	52.3	51.4	50.1	66.8	68.9	67.2	64.6	77.4	79.4	76.7	72.7
	PGB	54.6	62.4	70.3	77.9	80	91.1	101	112	90.7	103	115	126	123	140	155	170	141	160	177	193
	PGD	82.2	94.5	108	122	137	158	180	202	149	171	195	219	226	260	296	331	253	290	330	368
25	PGA	30.1	31.8	31.9	32.3	41.8	43.7	43.3	43	48.6	50.6	50.1	49.4	65	67.4	66.2	64.6	74.7	77.1	75.2	72.5
	PGB	51.7	59.1	66.7	74.1	75.5	86.2	96.6	106	86.9	99	110	122	119	135	151	165	134	153	170	186
	PGD	77.4	89	102	115	128	147	168	189	142	163	186	209	217	249	284	319	243	279	317	355
28	PGA	29	30.7	30.9	31.4	40.6	42.6	42.5	42.6	48	50.3	50	49.9	62.1	64.8	64.1	63.4	72.7	75.5	74.4	72.9
	PGB	49.4	56.6	63.9	71.1	72.7	83	93.3	103	85.5	97.5	109	121	112	127	143	157	130	148	165	182
	PGD	73.1	84.2	96.7	109	121	139	159	179	141	162	185	209	201	231	264	296	234	268	306	344
31.5	PGA	27.5	29.1	29.4	30.1	38.6	40.6	40.7	41	45.5	47.8	47.8	48	59.2	62	61.7	61.6	70.3	73.4	72.7	72
	PGB	46.8	53.7	60.7	67.6	68.7	78.5	88.5	98.1	80.6	92.1	103	114	106	121	136	150	125	143	160	177
	PGD	68.6	78.9	90.8	102	113	130	149	169	133	153	175	197	188	216	247	278	222	255	292	328
35.5	PGA	25.9	27.5	27.8	28.5	36.4	38.4	38.6	39.1	44	46.3	46.4	46.9	56.4	59.2	59.1	59.4	67	70.2	69.8	69.7
	PGB	43.8	50.2	56.8	63.3	64.3	73.6	83	92.1	77.5	88.6	99.8	110	100	114	129	142	119	136	152	168
	PGD	63.1	72.7	83.7	94.6	104	120	138	155	126	144	166	187	174	200	229	258	207	238	272	306
40	PGA	22.6	24	24.3	25	31.7	33.5	33.7	34.2	41.8	44.1	44.3	44.9	49.4	52	52	52.4	64.1	67.3	67.1	67.2
	PGB	38.1	43.7	49.4	55.1	55.5	63.5	71.6	79.6	73.3	83.8	94.6	105	87.1	99.6	112	124	112	128	144	160
	PGD	53.2	61.3	70.6	79.8	87	100	115	129	117	135	155	175	144	166	191	215	193	222	254	286
45	PGA	22.1	23.5	23.8	24.5	30.9	32.7	32.9	33.5	39.3	41.5	41.8	42.5	48	50.6	50.8	51.3	60.9	64	64	64.4
	PGB	37.2	42.6	48.3	53.9	54	61.8	69.8	77.7	68.5	78.4	88.5	98.4	84.1	96.1	108	120	106	121	137	151
	PGD	51.8	59.7	68.7	77.7	84	96.7	111	125	107	124	142	161	139	159	183	206	179	205	236	265
50	PGA	22.4	23.8	24.2	24.9	30.8	32.7	33	33.9	34.4	36.4	36.8	37.7	47.6	50.3	50.7	51.7	53.6	56.6	56.9	57.8
	PGB	37.4	42.9	48.7	54.4	53.3	61.1	69.2	77.1	59.4	68	76.9	85.7	82.5	94.5	106	118	92.5	105	119	132
	PGD	51.6	59.4	68.5	77.5	81.9	94.3	108	122	90.3	103	119	135	134	154	177	200	149	172	197	223
56	PGA	20.7	22	22.4	23.1	28.5	30.2	30.7	31.6	33.6	35.7	36.2	37.2	44.3	47	47.5	48.7	52.1	55.2	55.7	57
	PGB	34.4	39.4	44.8	50	49.3	56.5	64	71.4	57.8	66.3	75.1	83.7	76.7	87.9	99.5	110	89.6	102	116	129
	PGD	46.8	53.9	62.1	70.3	74.1	85.4	98.3	111	87.2	100	115	130	122	141	162	183	143	165	190	215
63	PGA	19.9	21.2	21.6	22.3	27.4	29.1	29.5	30.4	33.4	35.5	36	37.1	42.8	45.5	46.1	47.3	51.5	54.6	55.2	56.6
	PGB	33.1	38	43.2	48.3	47.3	54.3	61.6	68.7	57.1	65.5	74.2	82.9	74.1	84.9	96.2	107	88.1	100	114	127
	PGD	44.3	51	58.9	66.7	70.1	80.8	93	105	85.1	98	112	127	116	134	154	174	140	161	185	210
71	PGA	18.4	19.6	20	20.7	26.1	27.7	28.2	29.1	30.8	32.8	33.3	34.3	40.8	43.3	43.9	45.2	47.8	50.8	51.4	52.7
	PGB	30.7	35.3	40	44.8	44.9	51.6	58.5	65.3	52.6	60.3	68.4	76.3	70.5	80.9	91.7	102	81.7	93.6	106	118
	PGD	40.4	46.6	53.7	60.8	65.2	75.1	86.5	97.9	77.1	88.8	102	115	108	125	143	162	127	146	168	190
80	PGA	20.7	22.0	19.2	19.9	30.1	32.1	27.0	27.9	29.5	31.4	31.9	32.9	39.1	41.5	42.1	43.4	46.2	49.1	49.7	51.1
	PGB	34.6	39.7	38.5	43.2	51.9	59.6	56.4	63.0	50.6	58.1	65.9	73.6	67.8	77.9	88	98.4	79	90.5	102	114
	PGD	46.7	53.8	50.9	57.6	79.1	91.6	82.0	92.8	72.8	83.9	96.7	109	101.98	118	136	154	121	139	160	182
90	PGA	19.9	21.2	18.3	19.0	28.3	30.0	25.8	26.7	28.2	30	30.5	31.5	37.4	39.6	40.3	41.6	44	46.8	47.4	48.8
	PGB	33.0	37.9	36.7	41.1	48.7	55.8	53.6	59.9	48.1	55.2	62.7	70	64.5	74.1	83.7	93.6	75.1	86.1	97.6	108
	PGD	44.3	51.0	47.4	53.9	72.3	83.7	76.4	86.8	67.9	78.2	90.1	102	95.1	110	127	144	112	129	149	168

B309				B310				B311				B312				iN	
960	1150	1450	1740	960	1150	1450	1740	960	1150	1450	1740	960	1150	1450	1740		
99.4	100	94.3	85.1	110	110	103	90.8	133	129	114	89.8	155	147	125	*	PGA	16
193	218	239	258	214	240	262	281	300	334	358	375	347	384	407	419	PGB	
388	444	500	555	434	496	558	618	569	648	719	787	724	823	907	986	PGD	
96.5	97.7	92.5	84.4	102	102	96.3	86.1	132	129	115	93.1	156	149	129	*	PGA	18
187	211	232	250	197	222	243	261	293	328	353	371	347	386	411	426	PGB	
375	429	485	539	399	457	514	570	558	635	707	776	726	825	913	995	PGD	
92.8	94.3	89.8	82.9	105	106	100	90.8	126	124	112	93.3	147	141	124	96	PGA	20
179	202	223	241	203	228	251	270	280	314	339	358	323	360	385	401	PGB	
360	412	466	519	410	469	529	588	531	605	676	743	672	764	848	926	PGD	
90.7	92.5	88.6	82.7	97.5	98.9	93.9	86.2	122	120	110	93.7	148	144	128	102	PGA	22.4
175	198	218	237	186	210	231	250	266	298	324	343	324	361	388	407	PGB	
348	399	452	504	375	429	485	539	495	565	632	697	671	764	850	932	PGD	
87.3	89.7	86.9	82.8	94.3	96.4	92.8	87.2	117	117	109	97.2	144	142	130	110	PGA	25
166	188	209	228	178	202	223	243	250	281	307	329	309	346	375	398	PGB	
324	371	422	471	359	411	466	520	454	519	584	647	640	730	817	901	PGD	
83.9	86.8	85	82.5	92.7	95.6	93.1	89.4	113	114	109	100	140	140	131	117	PGA	28
157	179	199	218	174	197	220	240	238	269	296	320	295	332	363	390	PGB	
302	346	395	442	349	400	455	509	424	486	549	611	596	682	767	851	PGD	
80.6	83.9	82.7	81.3	89.1	92.4	90.7	88.4	108	111	106	100	133	135	129	118	PGA	31.5
149	170	190	209	165	188	210	230	225	254	282	306	276	312	344	371	PGB	
282	324	370	415	324	372	424	476	395	453	514	573	548	627	709	788	PGD	
76.9	80.3	79.6	78.9	85.3	88.8	87.7	86.3	105	108	105	100	128	131	125	118	PGA	35.5
141	161	181	199	156	178	199	219	215	244	271	296	262	296	328	356	PGB	
260	298	341	384	302	347	396	445	373	428	487	544	509	584	661	738	PGD	
72.1	75.4	75	74.7	81.6	85.2	84.4	83.6	99.6	102	100	97	122	125	121	115	PGA	40
131	150	168	186	149	170	191	211	201	229	255	279	246	279	310	337	PGB	
235	270	309	348	283	325	372	418	344	395	449	503	473	542	616	688	PGD	
66.4	69.6	69.4	69.5	77.7	81.3	80.8	80.4	91.6	95	93.2	90.8	117	121	118	113	PGA	45
120	137	154	170	140	160	180	199	184	210	234	257	236	268	298	326	PGB	
211	243	279	314	260	299	342	384	311	357	407	457	449	515	585	655	PGD	
65.5	69.1	69.3	70.2	73.1	77	77	77.7	92.4	96.6	95.8	95.2	112	116	115	113	PGA	50
117	133	151	167	131	150	169	188	181	207	232	256	221	251	281	310	PGB	
203	234	269	303	236	272	312	352	301	346	396	445	411	472	539	606	PGD	
60.7	64.3	64.8	66.1	67.7	71.5	72	73.2	84.5	88.9	88.9	89.4	103	108	108	108	PGA	56
108	124	140	156	120	137	155	173	164	188	211	234	203	232	260	288	PGB	
182	210	241	272	213	245	281	318	268	308	354	398	370	426	488	549	PGD	
58.7	62.2	62.8	64.2	66.5	70.4	71	72.5	81.7	86.1	86.3	87.3	103	108	108	108	PGA	63
104	119	135	150	117	134	151	168	158	180	203	226	198	227	255	283	PGB	
173	199	229	259	203	234	269	304	253	291	334	377	358	411	471	531	PGD	
55	58.3	59	60.4	61.7	65.3	65.9	67.4	75.7	79.9	80.2	81.3	94.8	99.8	99.9	100	PGA	71
97.8	112	126	141	108	124	140	156	146	167	189	210	180	206	232	257	PGB	
157	181	209	236	183	211	243	275	228	262	301	340	319	367	421	474	PGD	
53.2	56.3	57	58.6	59.6	63.1	63.8	65.3	73.1	77.2	77.644	78.8	90.7	95.5	95.8	96.9	PGA	80
94.6	108	121	136	105	120	136	151	142	162	183.6	203	173	198	224	248	PGB	
150	172	199	226	174	200	231	261	217	248	286.14	323	300	345	396	447	PGD	
50.6	53.7	54.4	56	55.9	59.3	60	61.5	68.6	72.6	73.02	74.2	84.5	89.2	89.6	90.9	PGA	90
89.9	103.0	116	129	98.4	112	127	142	133	151	171.45	191	161	184	208	231	PGB	
138	160	185	209	159	183	210	238	198	227	260.12	295	271	311	357	403	PGD	

8 Rated thermal capacity(kW)

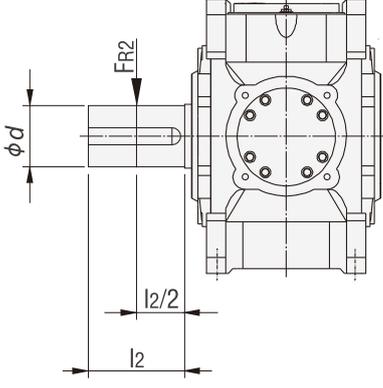
B4 (kW)

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

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

9 Permissible additional radial force on output shaft

9.1 Permissible additional radial force on output shaft d:

Permissible additional radial force F_{R2} (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	10	28	35	35
H3..HS	A+B+G+H			29	29	40	40	40	60	85	85
	C+D			18	18	26	26	18	40	50	50
H4..HS	C+D					40	40	40	60	85	85
	A+B+G+H			18	18	26	26	18	40	50	50
B2..HS	A+C		13	27	27	37	37	38	55	78	78
	B+D		12	15	15	17	17	10	30	35	38
B3..HS	A+C		14	29	29	40	40	40	60	85	85
	B+D			18	18	26	26	18	40	50	50
B4..HS	A+C			29	29	40	40	40	60	85	85
	B+D			18	18	26	26	18	40	50	50

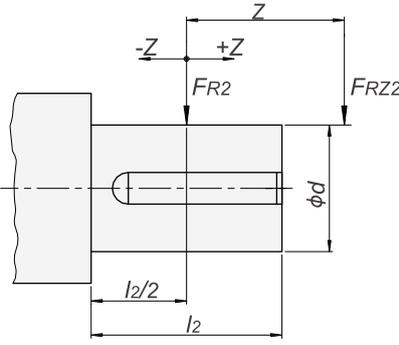
- Note: 1. If the angle of applied force and the direction of rotation are given, higher additional force can mostly be allowed. Please consult us.
 2. When the force is not applied at the midpoint of the shaft, please refer to 9.2.
 3. The lowest performance level of the foundation bolt is 8.8. The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

$$F_{R22} = F_{R2} \times k$$



F_{R22} Permissible external radial force

F_{R2} 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:

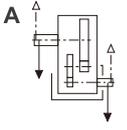
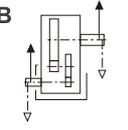
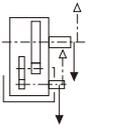
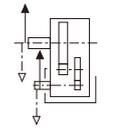
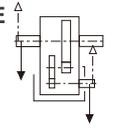
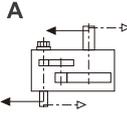
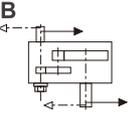
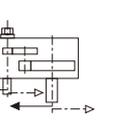
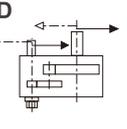
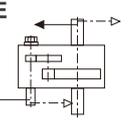
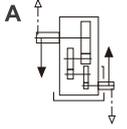
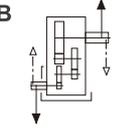
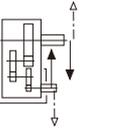
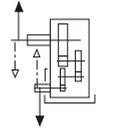
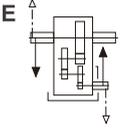
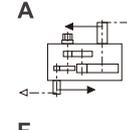
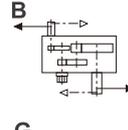
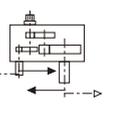
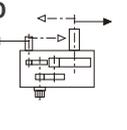
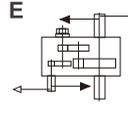
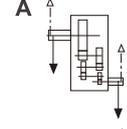
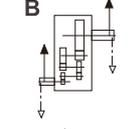
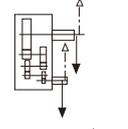
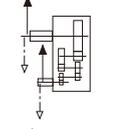
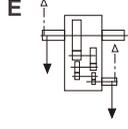
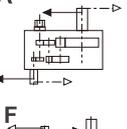
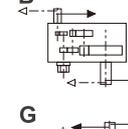
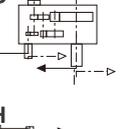
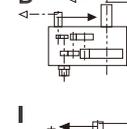
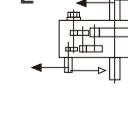
10.1.1 Shaft assemblies:

Parallel key solid shaft	A	B	C	D	E	F				
	G*	H*	I*							
H...HS H...VS										
Parallel key hollow shaft	A	B	C	D	E	F				
	G*	H*	I*							
H...HH H...VH										
Hollow shaft with shrink disc H...HD H...VD	A	B	C	D	G*	H*				
Hollow shaft with involute spline H...HK H...VK	A	B	C	D	G*	H*				
Size Type iN	04	05	06	07	08	09	10	11	12	
H2	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:

10.1.2 旋转方向关系:

<p>H2..H</p>	<p>A</p> 	<p>B</p> 	<p>C</p> 	<p>D</p> 	<p>E</p> 
<p>H2..V</p>	<p>A</p> 	<p>B</p> 	<p>C</p> 	<p>D</p> 	<p>E</p> 
<p>H3..H</p>	<p>A</p> 	<p>B</p> 	<p>C</p> 	<p>D</p> 	<p>E</p> 
<p>H3..V</p>	<p>A</p> 	<p>B</p> 	<p>C</p> 	<p>D</p> 	<p>E</p> 
<p>H4..H</p>	<p>A</p> 	<p>B</p> 	<p>C</p> 	<p>D</p> 	<p>E</p> 
<p>H4..V</p>	<p>A</p> 	<p>B</p> 	<p>C</p> 	<p>D</p> 	<p>E</p> 

Note: Direction of rotation is reversible, "□" is shaft end oil pump.

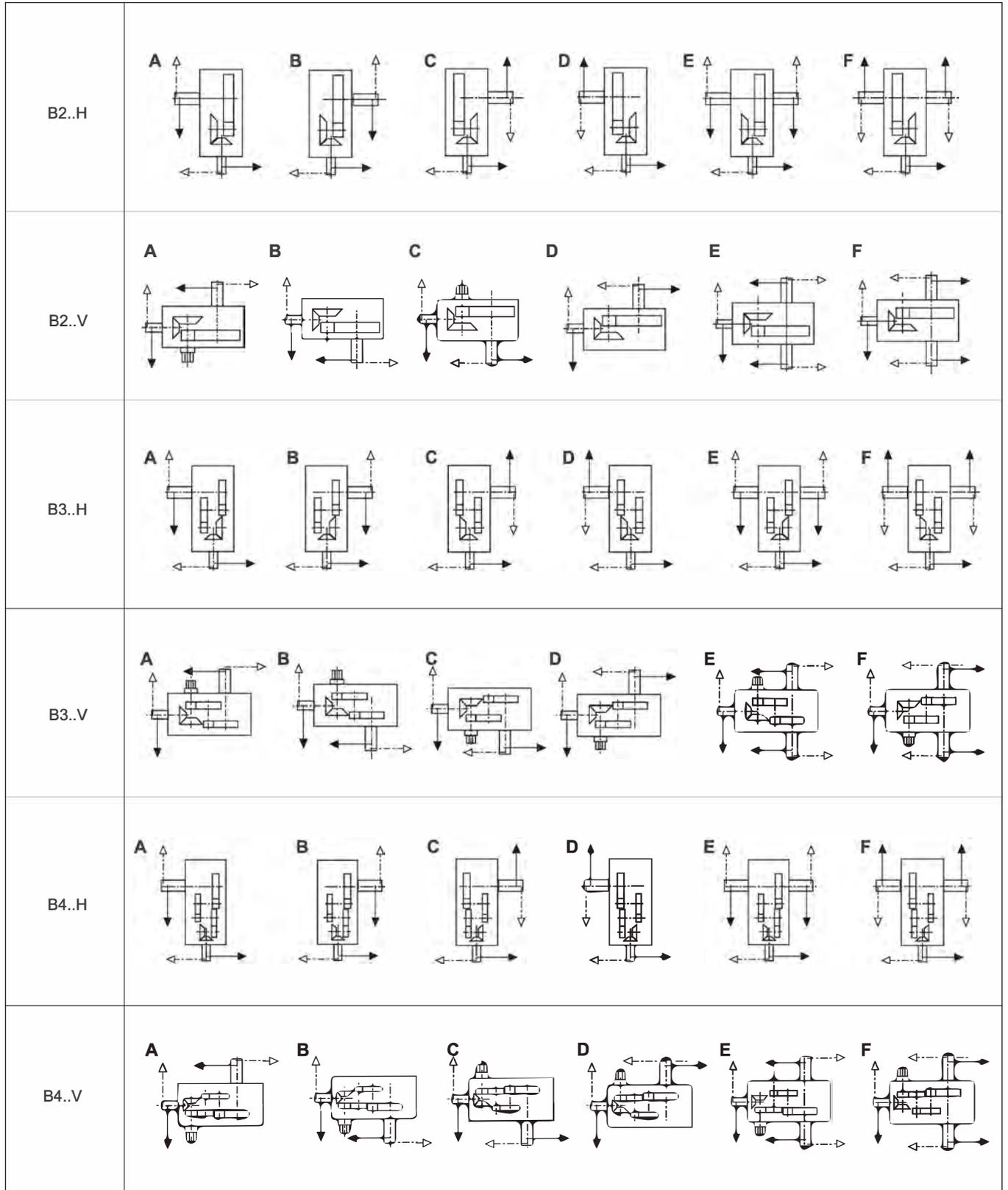


10.2 B series shaft assemblies:

10.2.1 Shaft assemblies:

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

10.2.2 Direction of rotation:



- Note:** 1. Direction of rotation is reversible, "☐" is shaft end oil pump. 注: 1. 齿轮箱可双向运转, 图中“☐”为轴端油泵。
 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:

10.3 逆止器布置及轴旋转方向关系:

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

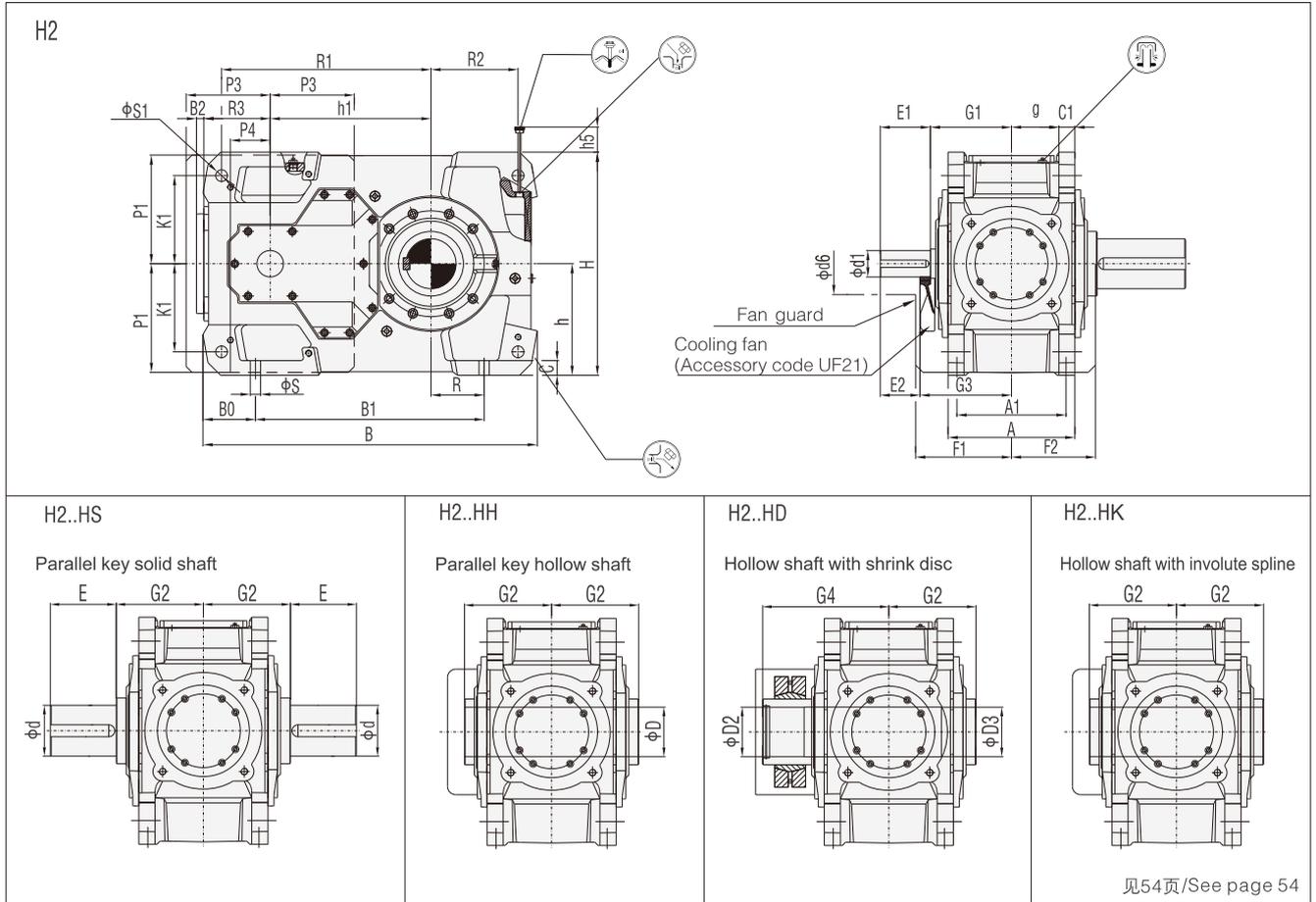
Note: 1. Gearbox with backstop only makes unidirectional rotation.
Output shaft rotation direction has to be indicated when being ordered.



注:

- H2 series doesn't have backstop.
- 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

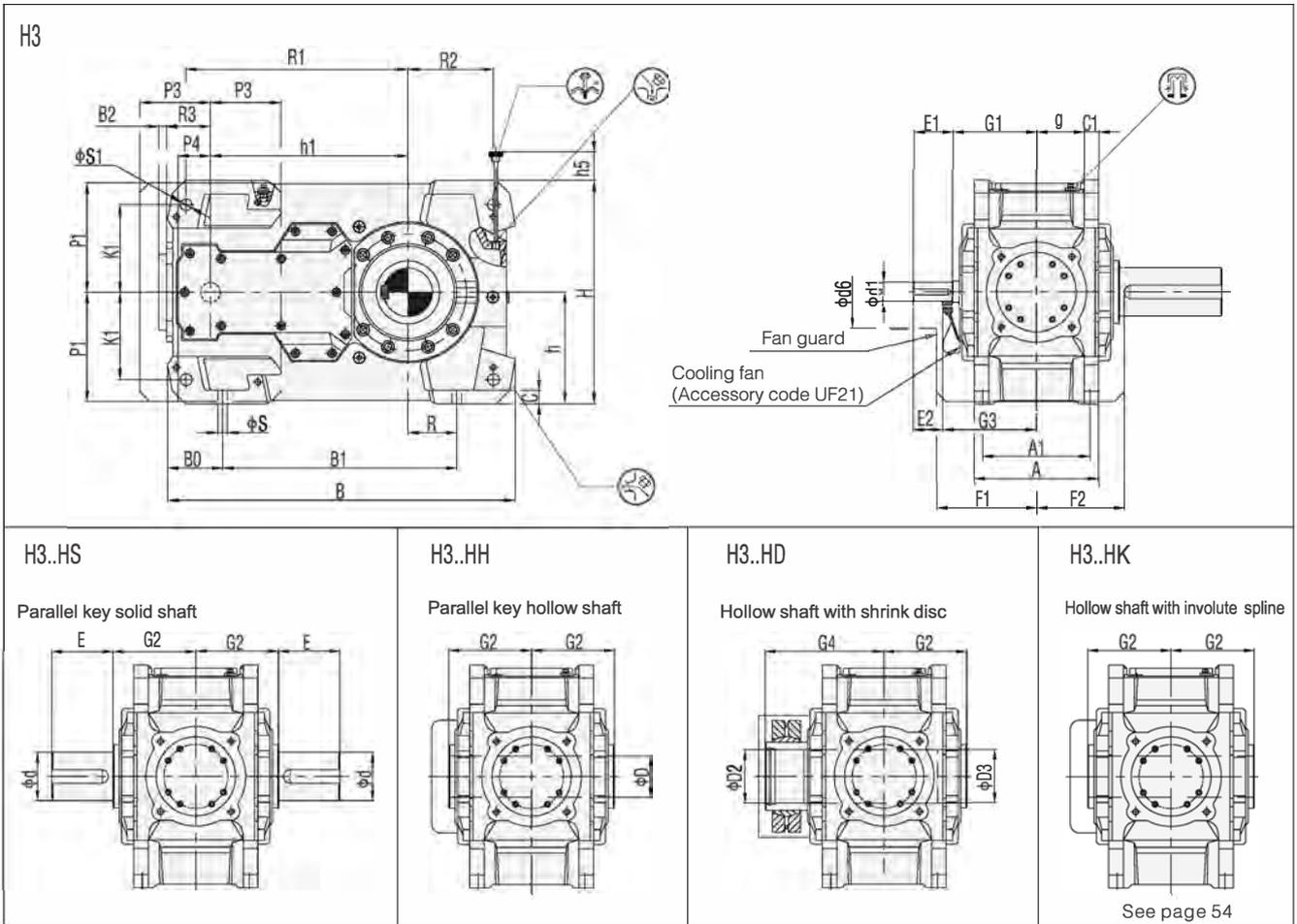


Size	in ≤ 11.2			in ≥ 12.5			A	A1	B	B0	B1	B2	C	C1	d	d6	D	D2	D3	E
	d1	E1	E2	d1	E1	E2														
04	45k6	110	90	32k6	80	60	215	180	586	112	355	16	28	30 ± 1	80m6	140	80H7	85H7	85H7	170
05	50k6	110	90	38k6	80	60	255	220	667	113	430	16	28	30 ± 1	100m6	150	95H7	100H7	100H7	210
06	50k6	110	90	38k6	80	60	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	300	260	920	131	650	20	35	36 ± 1	130m6	200	125H7	130H7	130H7	250
09	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	430	370	1132	178	775	25	50	54 ± 1.5	170m6	220	165H7	165H7	165H7	300
12	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

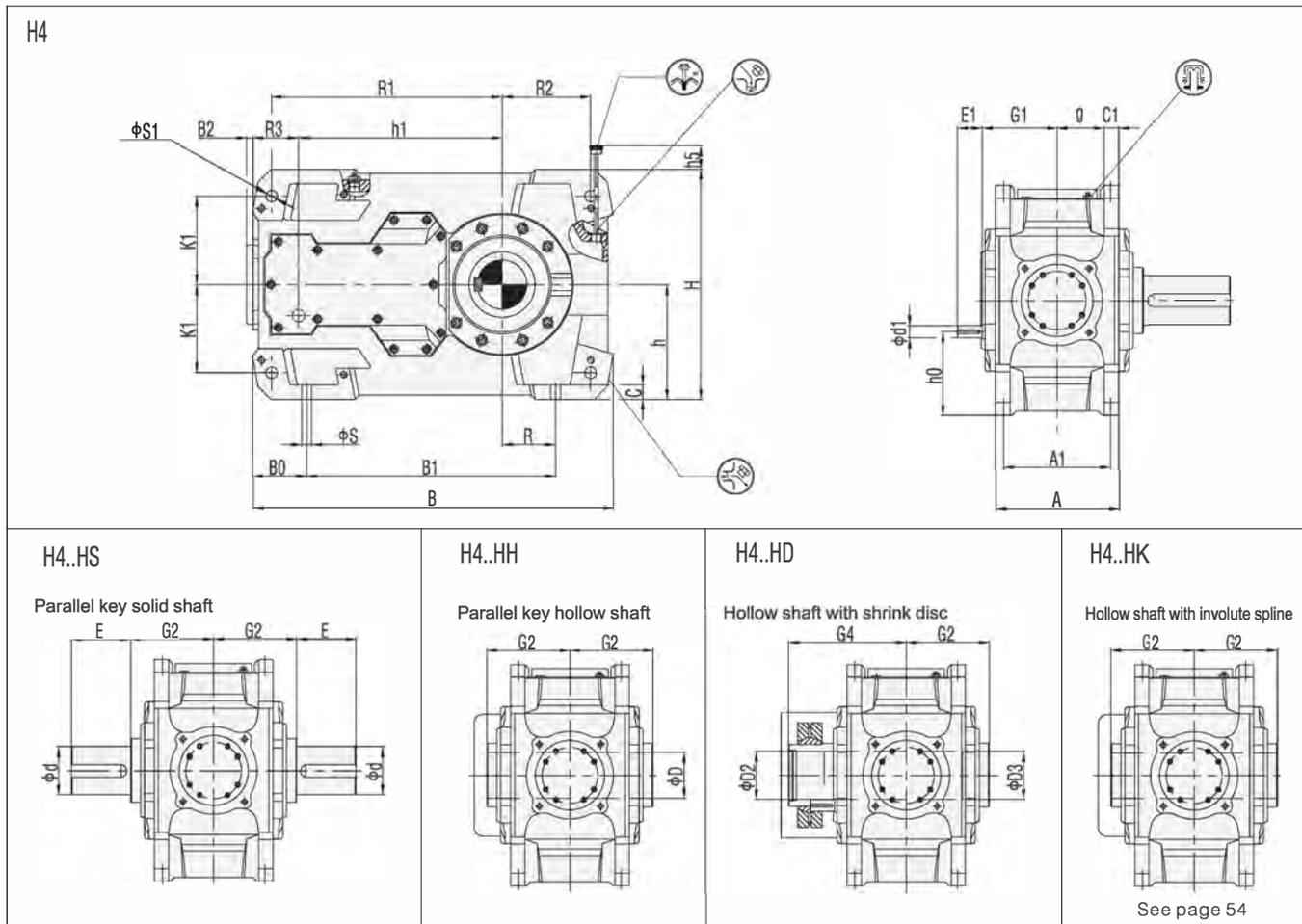


Size	in ≤ 45			in ≤ 50			in ≥ 50			in ≥ 56			A	A1	B	B0	B1	B2	C	C1	d	d6	D	D2	D3
	d1	E1	E2	d1	E1	E2	d1	E1	E2	d1	E1	E2													
05	40k6	80	60				30k6	60	40				255	220	713	113	480	16	28	30 ± 1	100m6	150	95H7	100H7	100H7
06	40k6	80	60				30k6	60	40				255	220	793	113	560	16	28	30 ± 1	110m6	150	105H7	110H7	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

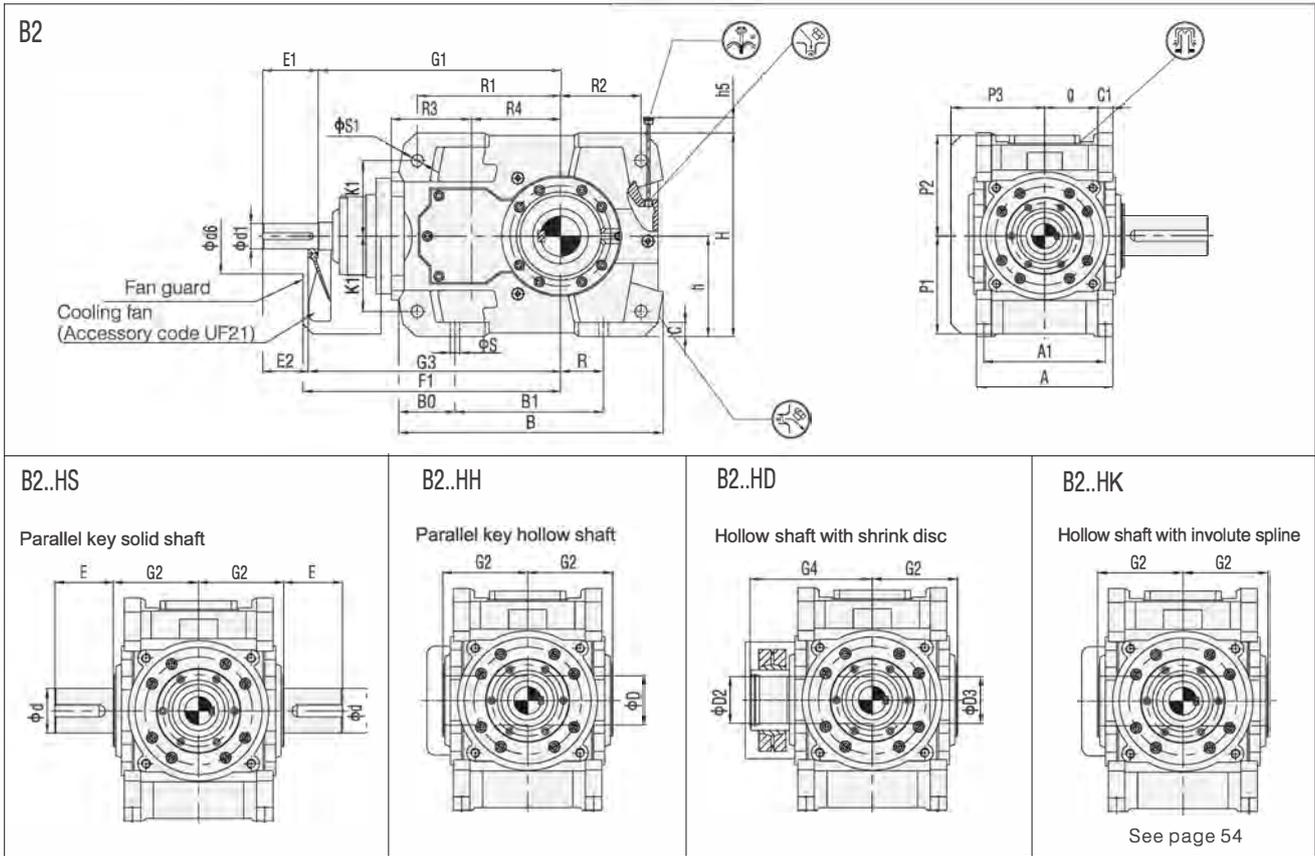
H407H ~ H412H



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

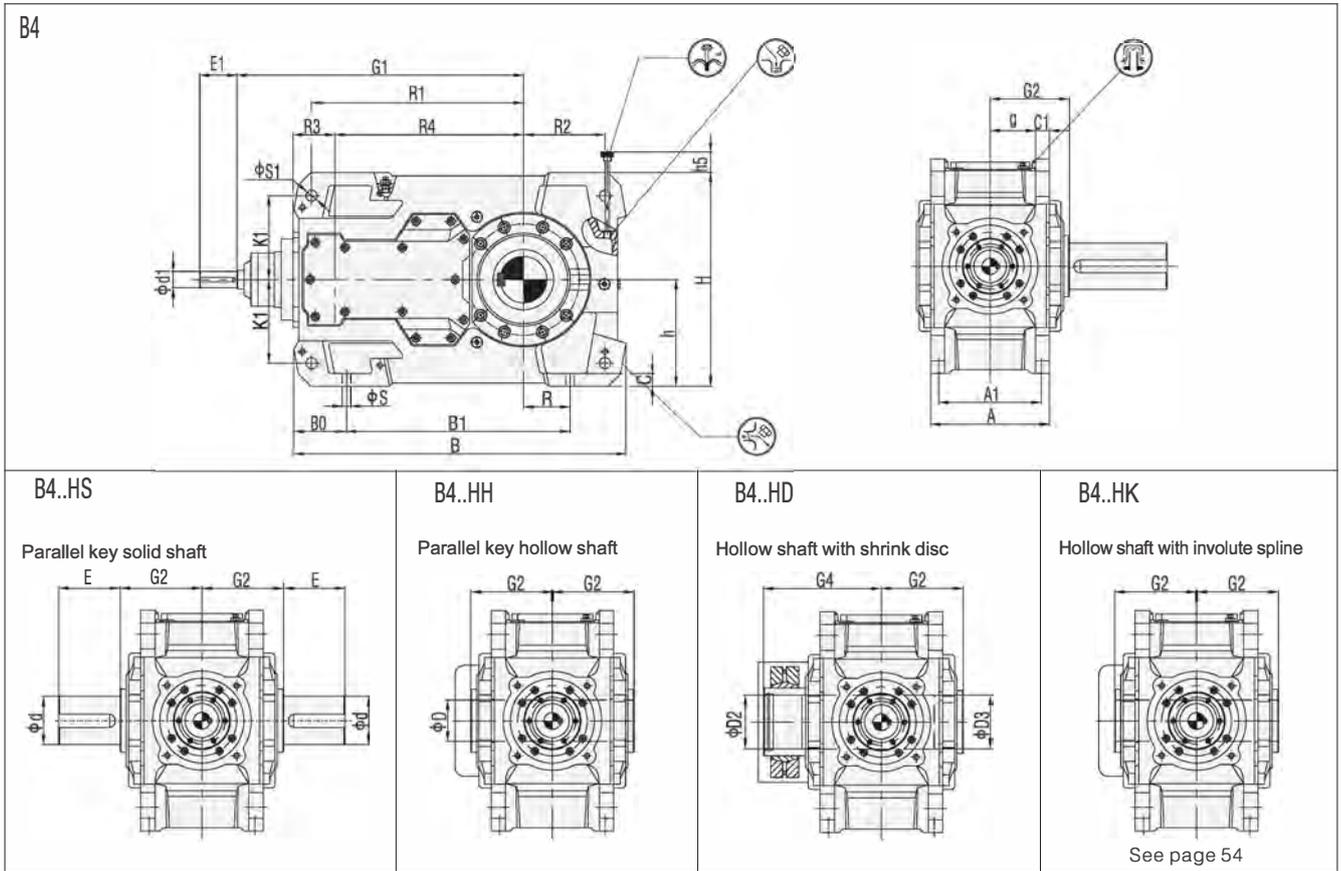
11 Outline dimension B204H ~ B212H



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

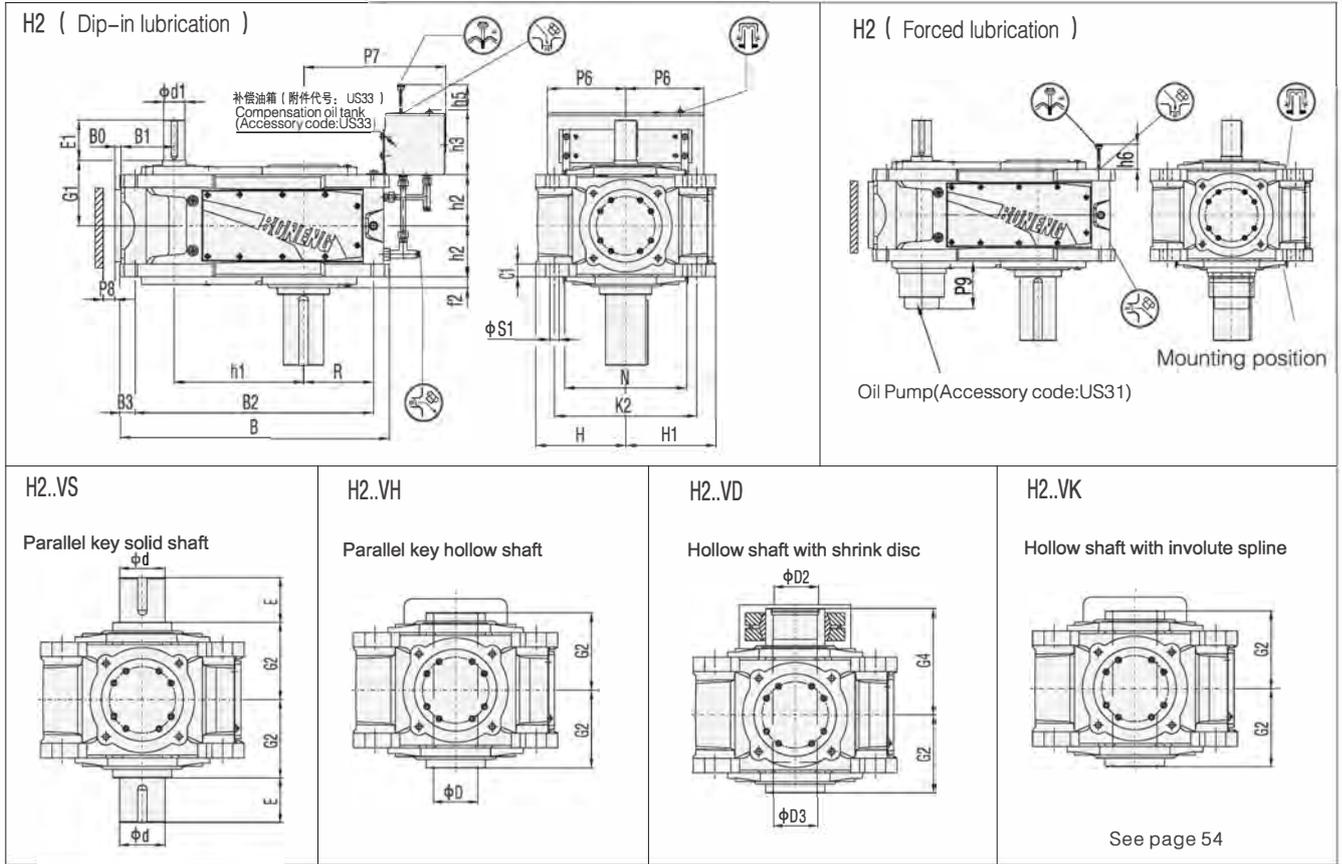
11 Outline dimension
B405H ~ B412H



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

Size	D2	D3	E	G1	G2	G4	g	H	h	h5	K1	R	R1	R2	R3	R4	S	S1	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



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

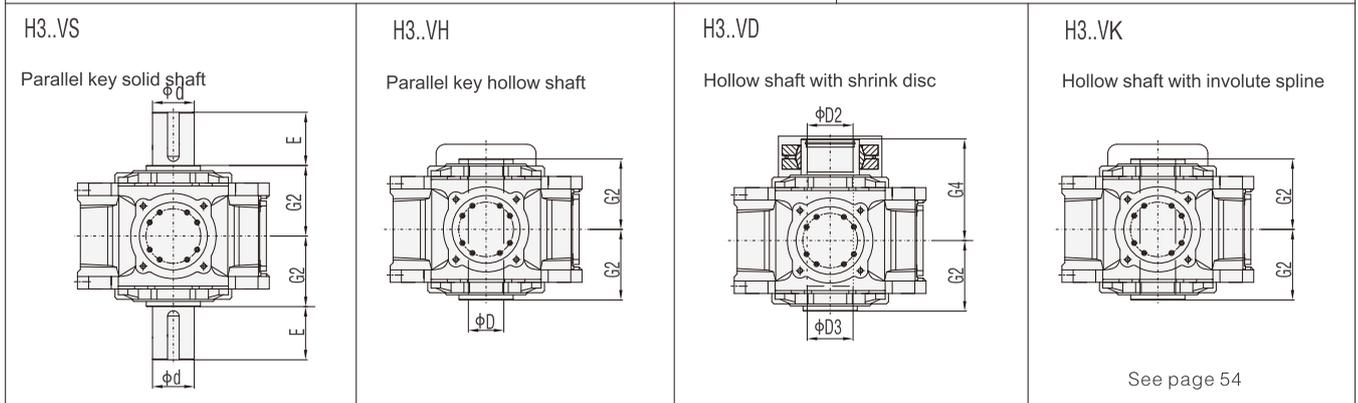
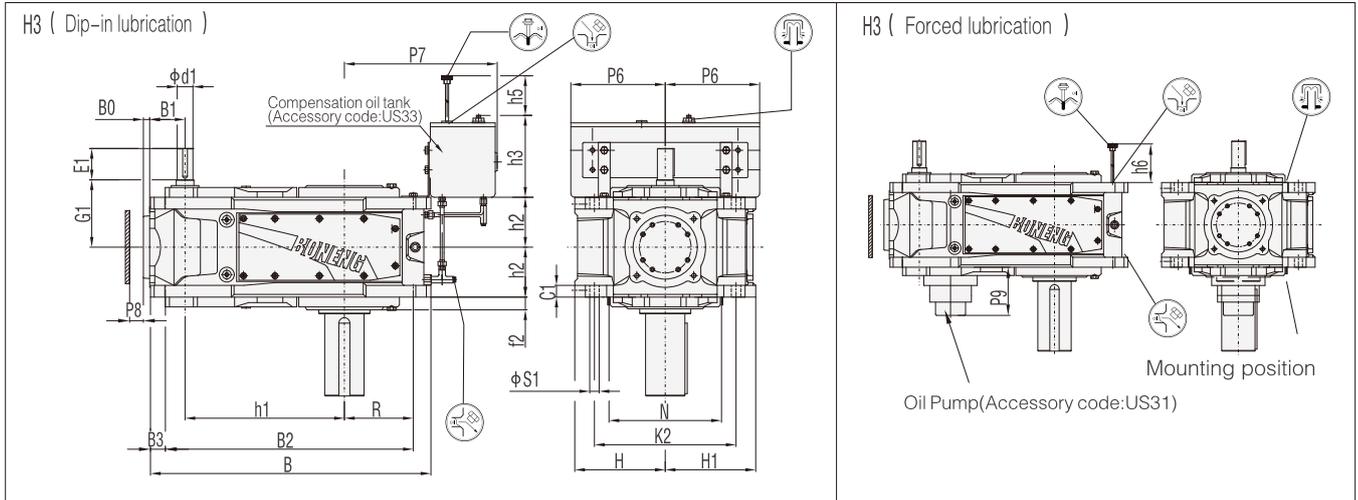
Size	G1	G2	G4	H	H1	h1	h2	h3	h5	h6	K2	N	P6	P7	P8	P9	R	S1	weight (kg)
04	170	140	205	200	200	270	107.5	175	140	85	300	250	150	340	35	132	160	24H9	195
05	195	165	240	230	230	315	127.5	210	160	105	360	310	240	405	35	145	175	24H9	310
06	195	165	240	230	260	350	127.5	210	160	105	360	310	240	450	35	145	220	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	310	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.

*默认安装面为下表面。以上表面为安装面请在订货时注明。

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

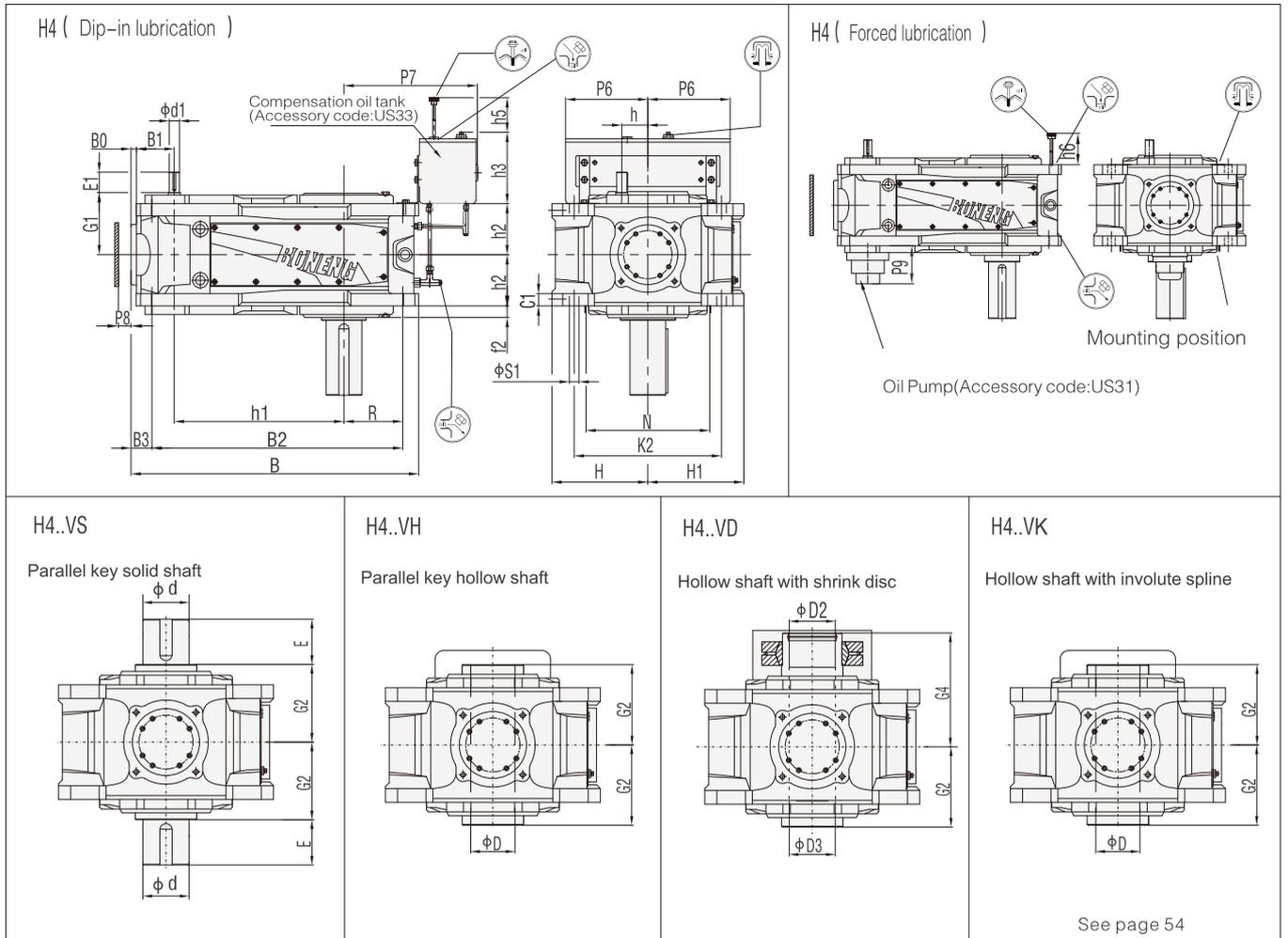
Size	E	f2	G1	G2	G4	H	H1	h1	h2	h3	h5	h6	K2	N	P6	P7	P8	P9	R	S1	weight (kg)
05	210	30	170	165	240	230	230	405	127.5	210	160	105	360	310	240	405	35	145	175	24H9	324
06	210	30	170	165	240	230	260	440	127.5	210	160	105	360	310	240	450	35	145	220	24H9	403
07	210	35	210	195	280	280	280	495	150	210	160	120	430	360	240	445	35	143	215	28H9	558
08	250	35	210	195	285	280	310	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.

*默认安装面为下表面，以上表面为安装面请在订货时注明。

11 Outline dimension
H407V~H412V

11 外型尺寸
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

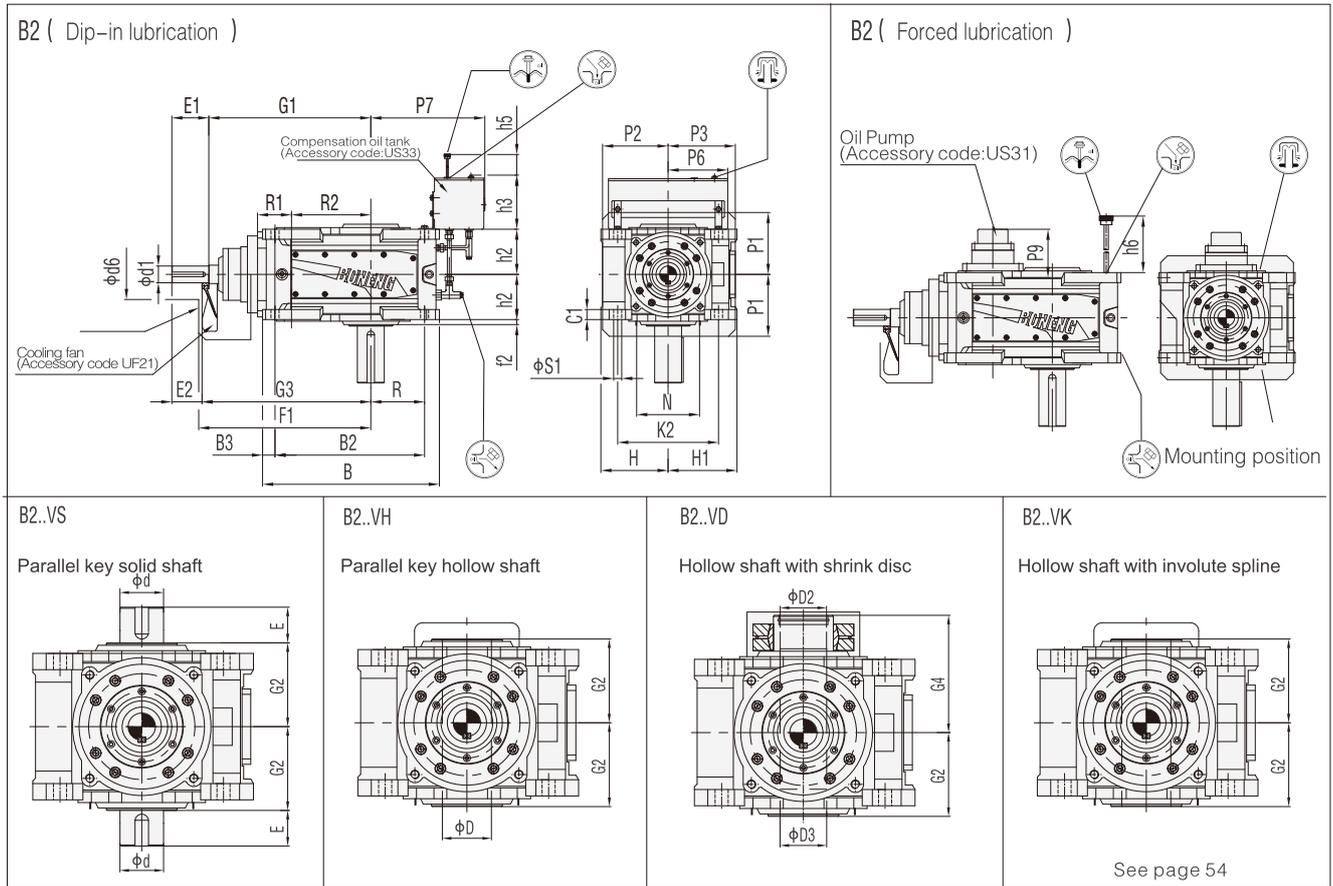
Size	f2	G1	G2	G4	H	H1	h	h1	h2	h3	h5	h6	K2	N	P6	P7	P8	P9	R	S1	weight (kg)
07	35	180	195	280	280	280	76	495	150	210	160	120	430	360	240	445	35	102	215	28H9	559
08	35	180	195	285	280	310	76	540	150	210	160	120	430	360	240	505	35	102	275	28H9	664
09	35	215	235	330	320	320	93.5	580	185	285	200	155	490	420	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.

*默认安装面为下表面，以上表面为安装面请在订货时注明。

11 Outline dimension B204V ~ B212V

11 外型尺寸 B204V ~ B212V



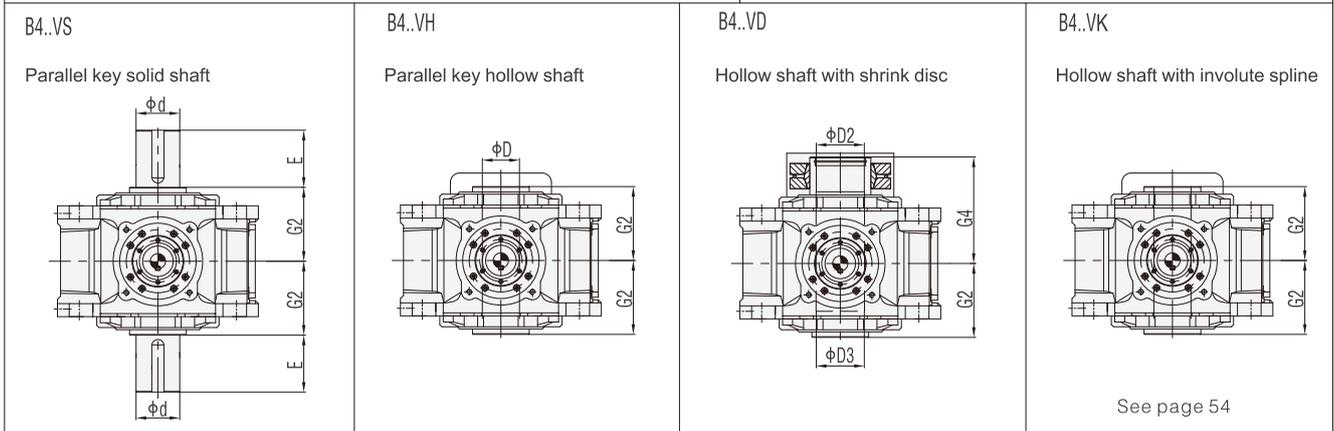
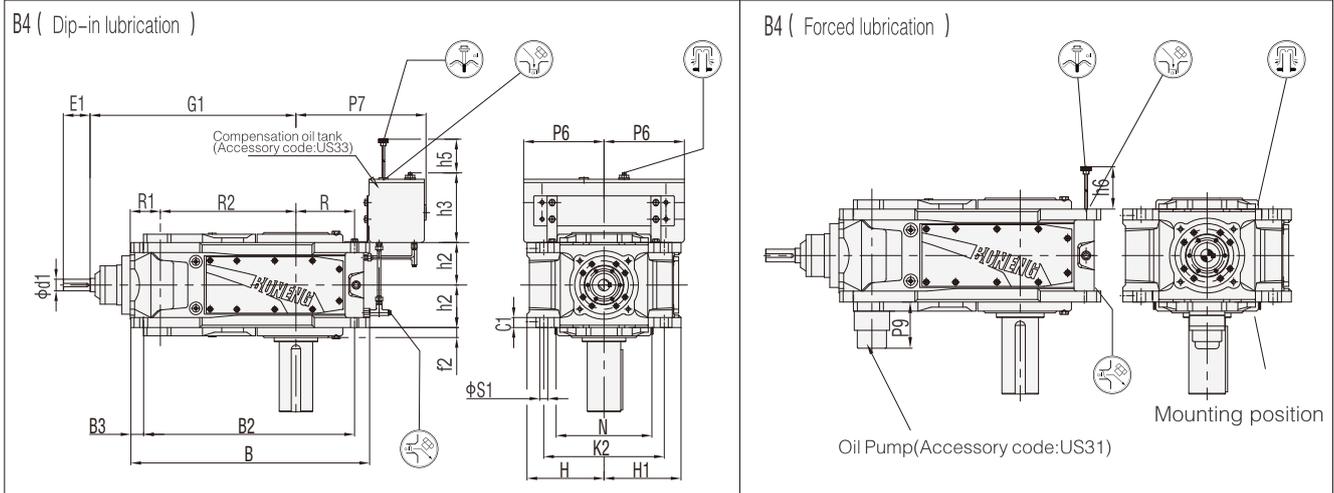
Size	in ≤ 14			B	B2	B3	C1	d	d6	D	D2	D3	E	F1	f2	G1	G2
	d1	E1	E2														
04	50k6	110	90	530	445	50	30 ± 1	80m6	150	80H7	85H7	85H7	170	517	20	482	140
05	60m6	140	110	595	505	55	30 ± 1	100m6	160	95H7	100H7	100H7	210	596	10	551	165
06	60m6	140	110	680	585	60	30 ± 1	110m6	160	105H7	110H7	110H7	210	635	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	310	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. *默认安装面为下表面, 以上表面为安装面请在订货时注明。

11 Outline dimension B405V ~ B412V

11 外型尺寸 B405V ~ B412V



See page 54

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	310	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

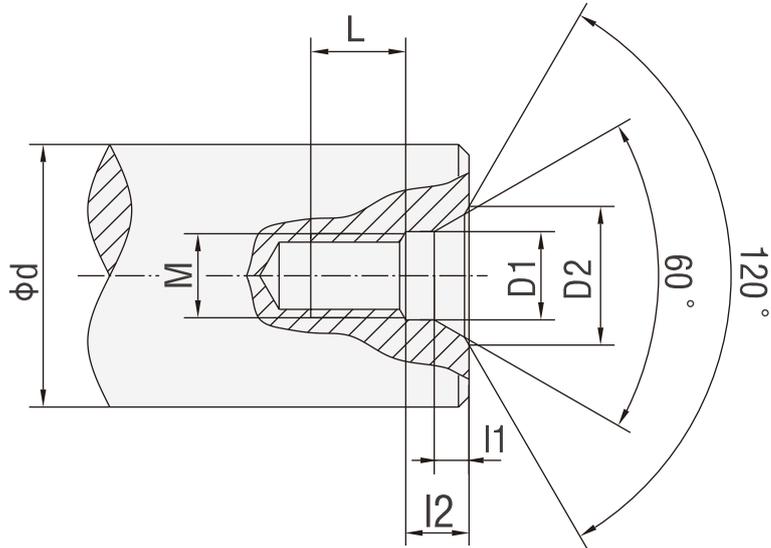
*The general mounting is up position, if down mounting position, please mention in the order.

*默认安装面为下表面，以上表面为安装面请在订货时注明。

12 Shaft end central hole:

12 轴端中心孔:

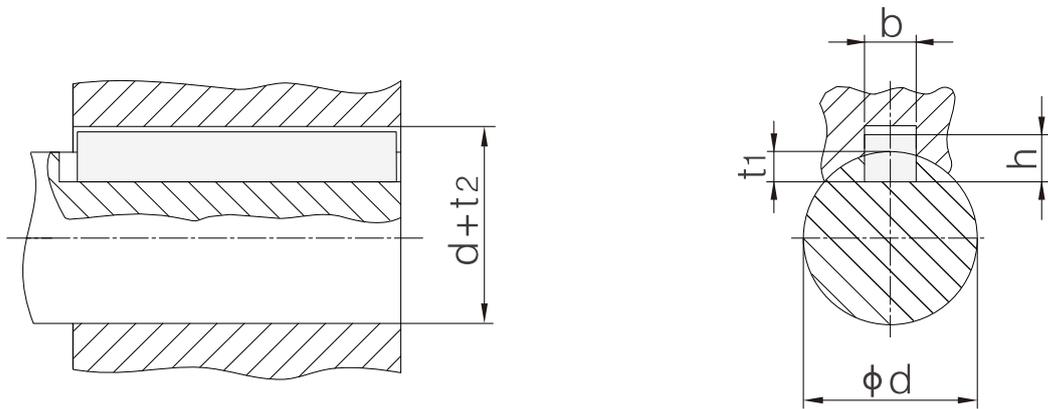
Shaft end C Type screw central hole



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

13 Dimension of parallel key and keyway:

13 平键与键槽的尺寸:



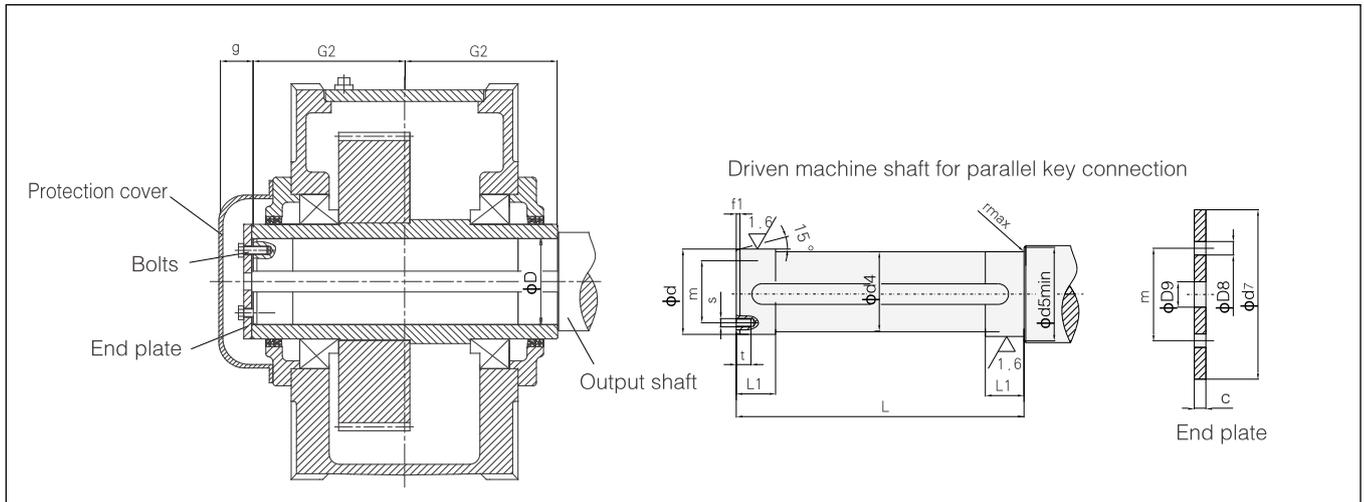
d	b	h	t ₁	d + t ₂
8 < d ≤ 10	3	3	1.8	d + 1.4
10 < d ≤ 12	4	4	2.5	d + 1.8
12 < d ≤ 17	5	5	3	d + 2.3
17 < d ≤ 22	6	6	3.5	d + 2.8
22 < d ≤ 30	8	7	4	d + 3.3
30 < d ≤ 38	10	8	5	d + 3.3
38 < d ≤ 44	12	8	5	d + 3.3
44 < d ≤ 50	14	9	5.5	d + 3.8
50 < d ≤ 58	16	10	6	d + 4.3
58 < d ≤ 65	18	11	7	d + 4.4
65 < d ≤ 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 建议输出联结尺寸图表:

14.1 Hollow shaft with parallel key connection:

14.1 带平键联接的空心轴尺寸图表:



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

型号H2...H,H3...H,H4...H,B3...H,B4...H(机座号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	50
05	95h6	94.5	105	5	328	40	1.6	M10	18	10	11	26	120	70	M10 × 25	2	95H7	165	45
06	105h6	104.5	116	5	328	45	1.6	M10	18	10	11	26	120	70	M10 × 25	2	105H7	165	45
07	115h6	114.5	126	5	388	50	1.6	M12	20	12	13.5	26	140	80	M12 × 30	2	115H7	195	55
08	125h6	124.5	136	6	388	55	2.5	M12	20	12	13.5	26	150	85	M12 × 30	2	125H7	195	55
09	135h6	134.5	147	6	467	60	2.5	M12	20	12	13.5	33	160	90	M12 × 30	2	135H7	235	55
10	150h6	149.5	162	6	467	65	2.5	M12	20	12	13.5	33	185	110	M12 × 30	2	150H7	235	55
11	165h6	164.5	177	7	537	70	2.5	M16	28	15	17.5	33	195	120	M16 × 40	2	165H7	270	65
12	180h6	179.5	192	7	537	75	2.5	M16	28	15	17.5	33	220	130	M16 × 40	2	180H7	270	65

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

型号B2...H(机座号04-12)

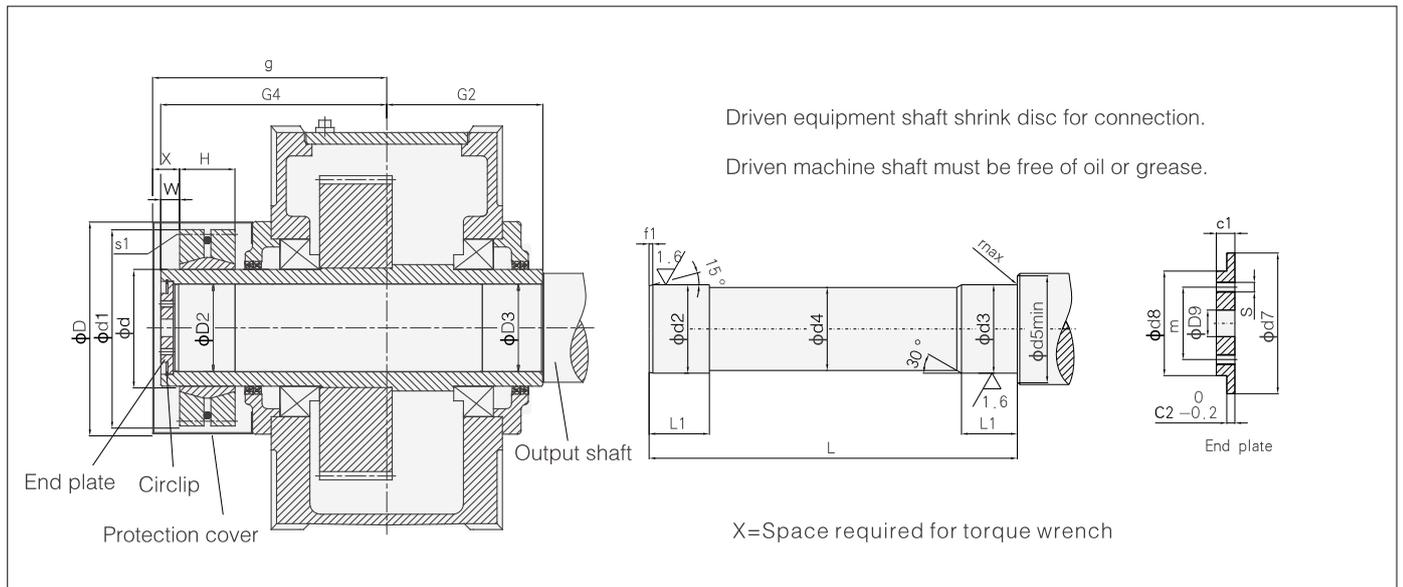
Size	Driven equipment shaft										End plate				Bolt		Hollow shaft		
	d	d4	d5	f1	L	L1	r	s	t	c	D8	D9	d7	m	Size	Qty.	D	G2	g
04	80h6	79.5	88	4	278	35	1.2	M10	18	10	11	22	100	60	M10 × 25	2	80H7	140	58
05	95h6	94.5	105	5	328	40	1.6	M10	18	10	11	26	120	70	M10 × 25	2	95H7	165	58
06	105h6	104.5	116	5	328	45	1.6	M10	18	10	11	26	120	70	M10 × 25	2	105H7	165	58
07	115h6	114.5	126	5	388	50	1.6	M12	20	12	13.5	26	140	80	M12 × 30	2	115H7	195	70
08	125h6	124.5	136	6	388	55	2.5	M12	20	12	13.5	26	150	85	M12 × 30	2	125H7	195	70
09	135h6	134.5	147	6	467	60	2.5	M12	20	12	13.5	33	160	90	M12 × 30	2	135H7	235	75
10	150h6	149.5	162	6	467	65	2.5	M12	20	12	13.5	33	185	110	M12 × 30	2	150H7	235	75
11	165h6	164.5	177	7	537	70	2.5	M16	28	15	17.5	33	195	120	M16 × 40	2	165H7	270	80
12	180h6	179.5	192	7	537	75	2.5	M16	28	15	17.5	33	220	130	M16 × 40	2	180H7	270	80

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.

注: 1. 被驱动设备的驱动轴材质: 40Cr或强度更高的钢。
 2. 被驱动设备的驱动轴及平键不在我们的供货范围之内。如果需要的话, 请另订货。
 3. 防护罩、端板及螺栓均为带平键联接空心轴的标准配制。

14.2 Hollow shaft for shrink Disks:

14.2 带锁紧盘联接的空心轴尺寸图表:



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

型号H2...D, H3...D, H4...D, B3...D, B4...D(机座号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	232	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	277	260
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	277	261
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	347	321
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	347	320
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	362	390
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	399	398
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	399	455
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	464	477

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

型号B2...D(机座号04-12)

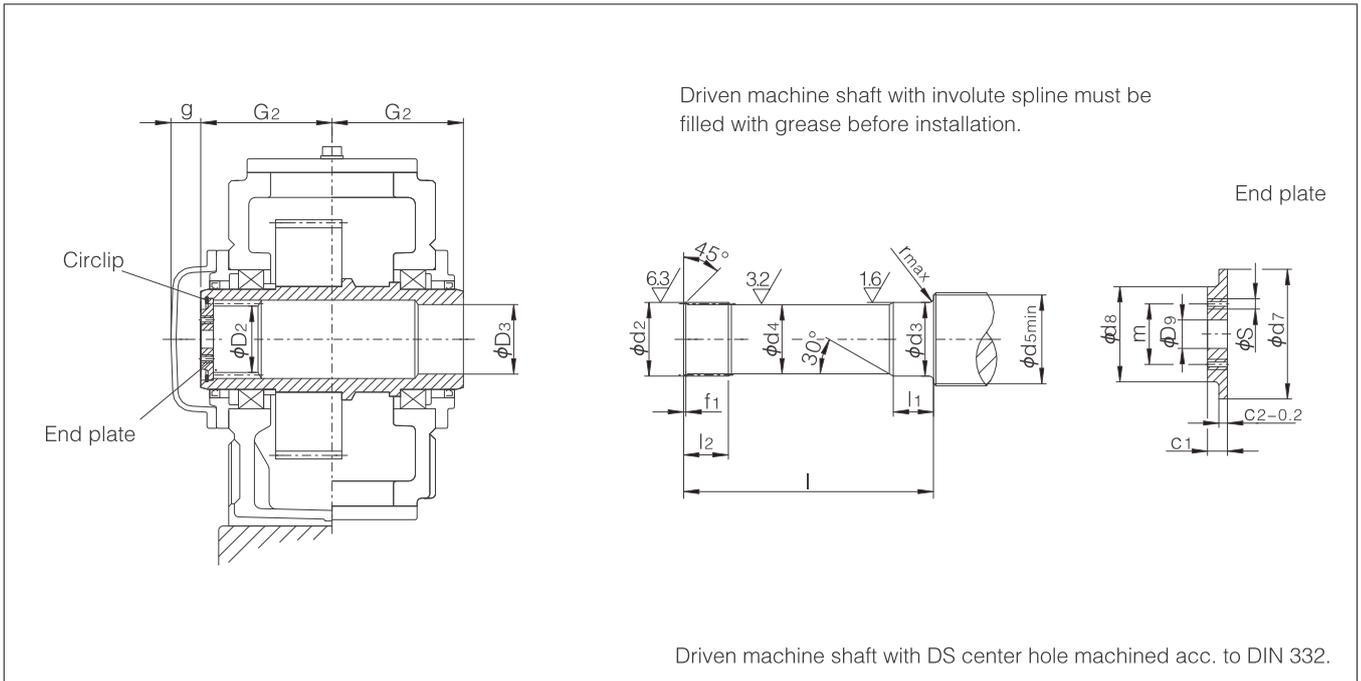
Size	Driven equipment shaft					End plate							Circlip	Hollow shaft				Shrink disc				Bolt	Protection cover						
	d2	d3	d4	d5	f1	L	L1	r	c1	c2	d7	d8		d9	m	s	Number	D2	D3	G2	G4		Type	d	d1	H	W	s1	D
04	85g6	85h6	84.5	95	4	326	48	2	17	7	90	70	22	50	M8	2	90	85H7	85H7	140	205	SP2-110	110	185	49	15	M12	232	242
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	277	272
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	277	272
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	347	335
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	347	335
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	362	410
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	399	418
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	399	450
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	464	452

- 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.

注:

14.3 Hollow shaft with involute spline:

14.3 带花键空心轴尺寸图表:



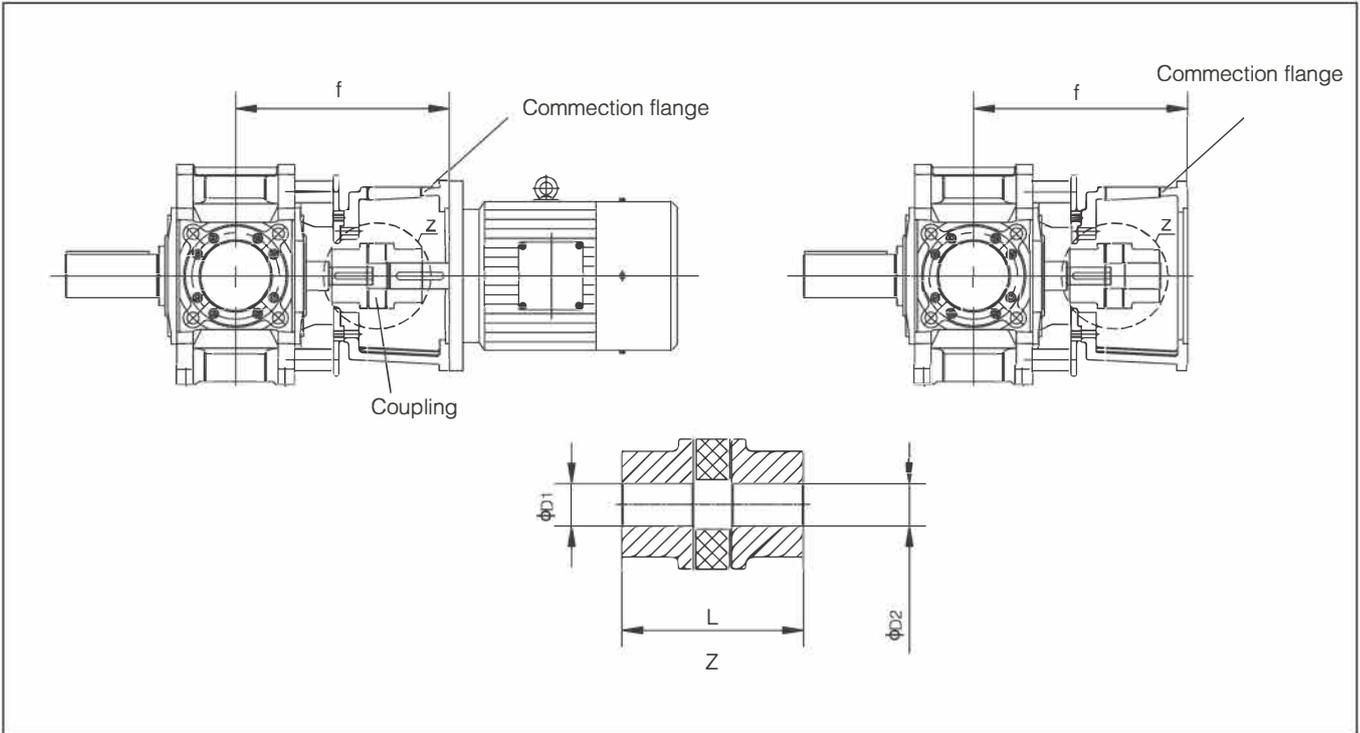
Types H2...K, H3...K, H4...K, B2...K, B3...K, B4...K (size 05-12)		型号H2...K, H3...K, H4...K, B2...K, B3...K, B4...K (机座号05-12)																						
Size	Involute splines DIN5480	Driven equipment shaft										End plate						Circlip	Hollow shaft				Bolt	
		d2	d3	d4	d5	f1	l	l1	l2	r	c1	c2	d7	d8	D9	m	s		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	45	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	45	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	55	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	55	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	55	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	55	M30
11	W170X5X30X32X8f	169h11	170g6	168	185	5	514	112	150	4	23	10	175d9	130	33	90	M12	2	175	160H11	170H7	270	65	M30
12	W170X5X30X32X8f	169h11	185g6	168	200	5	514	122	150	4	23	10	175d9	130	33	90	M12	2	175	160H11	185H7	270	65	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)

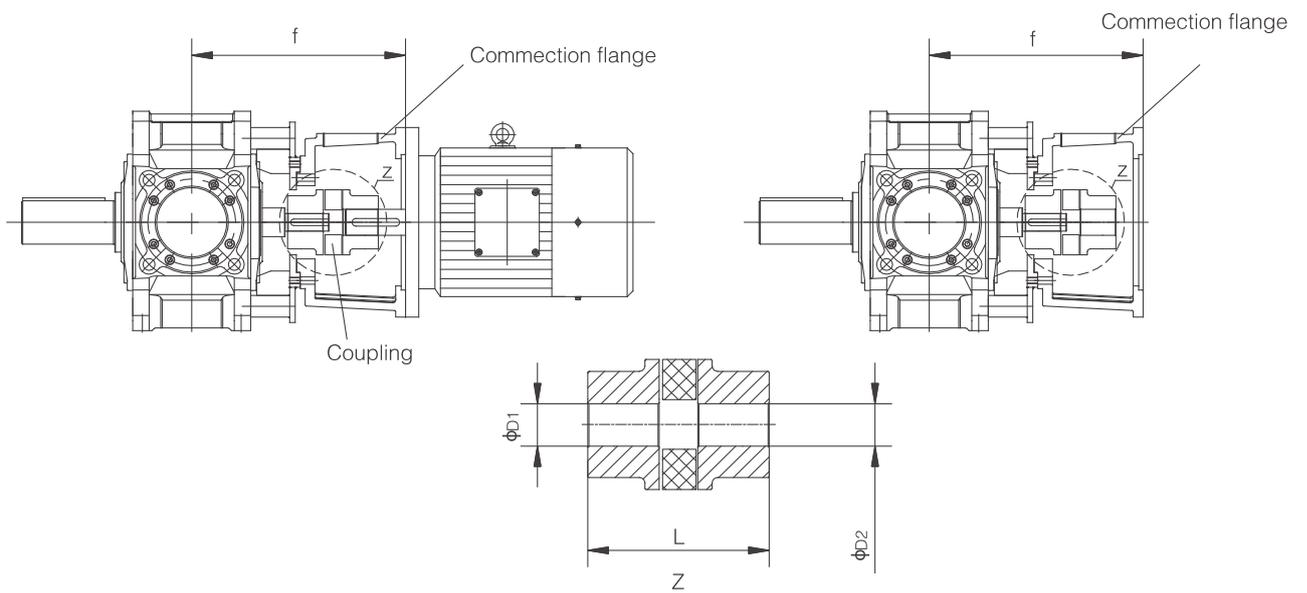
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H2



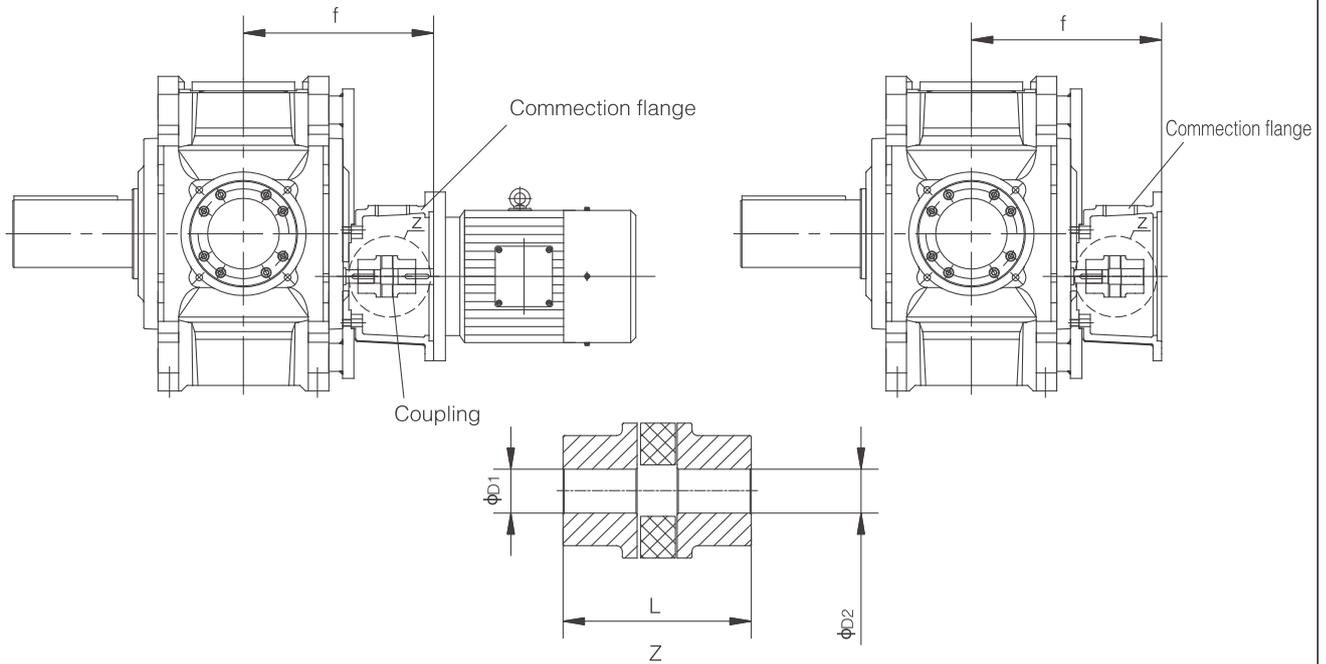
H2			$iN \leq 11.2$					$iN \geq 12.5$				
Size	Y Motor	F Flange	Coupling				f	/Coupling				f
			Type	D1	D2	L		Type	D1	D2	L	
4	160						GA55	32	42	160	389.5	
	180						GA55	32	48	160	389.5	
	200						GA65	32	55	185	395.5	
	225	GA65	45	60	185	425.5	GA65	32	60	185	425.5	
5/6	200						GA65	38	55	185	419.5	
	225						GA65	38	60	185	449.5	
	250	GA75	50	65	210	452.9	GA75	38	65	210	452.5	
	280	Ga75	50	75	210	452.9	GA75	38	75	210	452.5	

H3



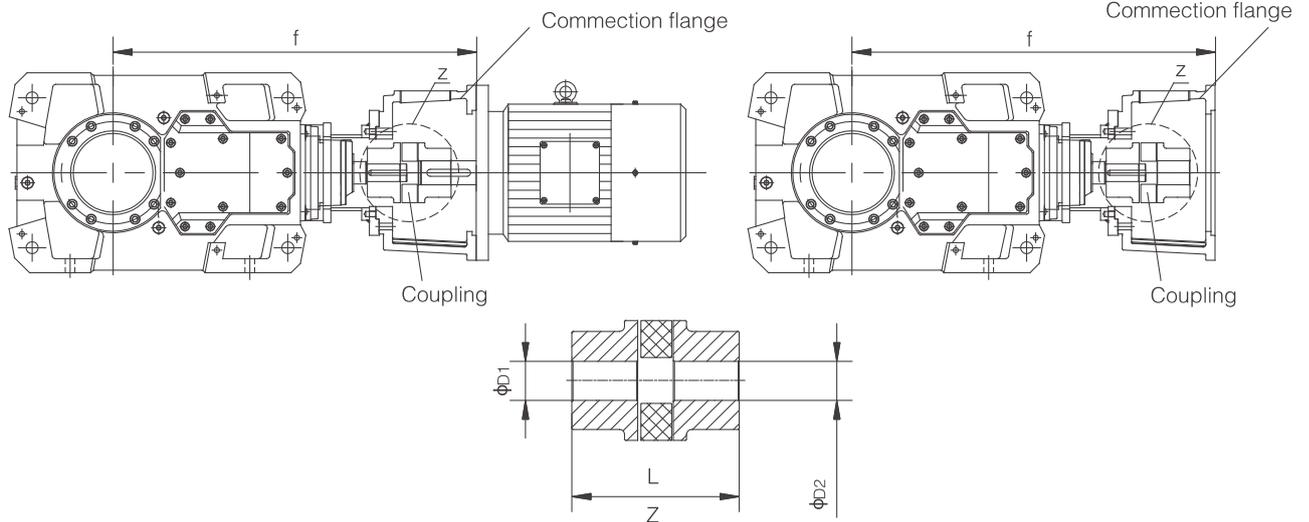
H3			iN ≤ 45 (Size: 5、6) iN ≤ 50 (Size: 7、8、9、10、11、12)					iN ≥ 50 (Size: 5、6) iN ≥ 56 (Size: 7、8、9、10、11、12)				
Size	Y Motor	F Flange	Coupling				f	Coupling				f
			Type	D1	D2	L		Type	D1	D2	L	
5/6	132							GA42	30	38	126	324.5
	160		GA55	40	42	160	378.5	GA55	30	42	160	378.5
	180		GA55	40	48	160	378.5	GA55	30	48	160	378.5
	200		GA65	40	55	185	384.5	GA65	30	55	185	384.5
	225		GA65	40	60	185	414.5	GA65	30	60	185	414.5
7/8	160							GA55	35	42	160	428
	180							GA55	35	48	160	428
	200		GA65	45	55	185	436	GA65	35	55	185	436
	225		GA65	45	60	185	466	GA65	35	60	185	466
	250		GA75	45	65	210	469	GA75	35	65	210	469
	280		GA75	45	75	210	469					
9/10	160							GA55	45	42	160	488
	180							GA55	45	48	160	488
	200		GA65	60	55	185	496	GA65	45	55	185	496
	225		GA65	60	60	185	526	GA65	45	60	185	526
	250		GA75	60	65	210	529	GA75	45	65	210	529
	280		GA75	60	75	210	529					
11/12	225							GA65	50	60	185	556
	250							GA75	50	65	210	559
	280		GA75	70	75	210	559	GA75	50	75	210	559

H4



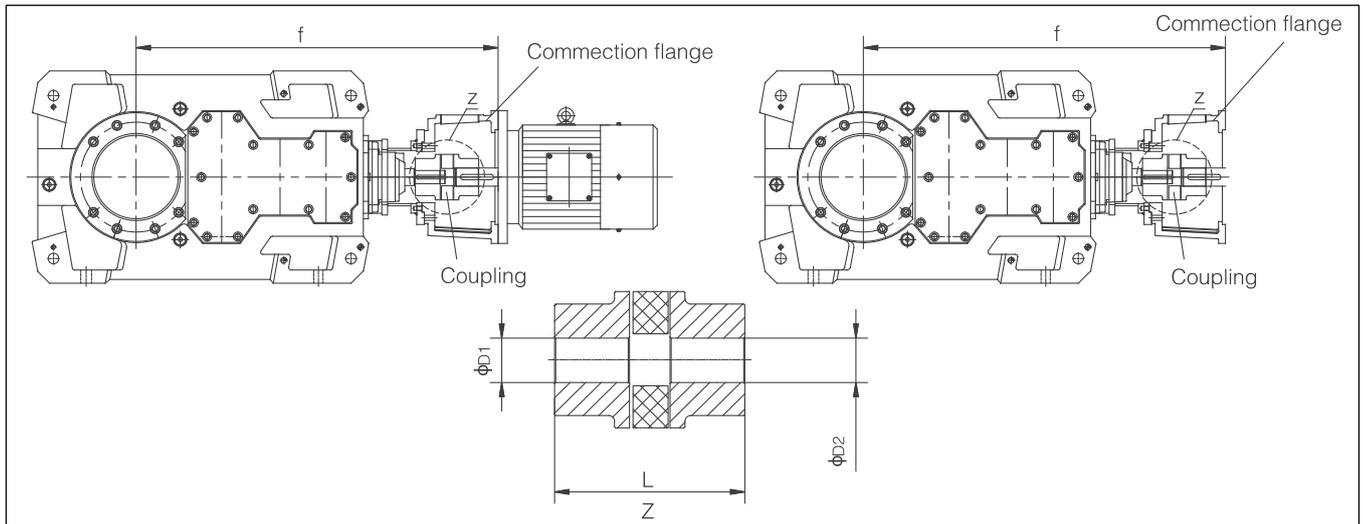
H4			iN ≤ 200 (Size: 7、8、9、10) iN ≤ 224 (Size: 11、12)					iN ≥ 224 (Size: 7、8、9、10) iN ≥ 250 (Size: 11、12)				
Size	Y Motor	F Flange	Coupling				f	Coupling				f
			Type	D1	D2	L		Type	D1	D2	L	
7/8	132		GA42	30	38	126	334	GA42	24	38	126	334
	160		GA55	30	42	160	387	GA55	24	42	160	387
	180		GA55	30	48	160	387	GA55	24	48	160	387
9/10	132							GA42	28	38	126	386
	160		GA55	35	42	160	440	GA55	28	42	160	440
	180		GA55	35	48	160	440	GA55	28	48	160	440
	200		GA65	35	55	185	446	GA65	28	55	185	446
	225		GA65	35	60	185	476	GA65	28	60	185	476
11/12	160							GA55	32	42	160	491
	180		GA55	45	48	160	491	GA55	32	48	160	491
	200		GA65	45	55	185	499	GA65	32	55	185	499
	225		GA65	45	60	185	529	GA65	32	60	185	529
	250		GA75	45	65	210	532					

B3

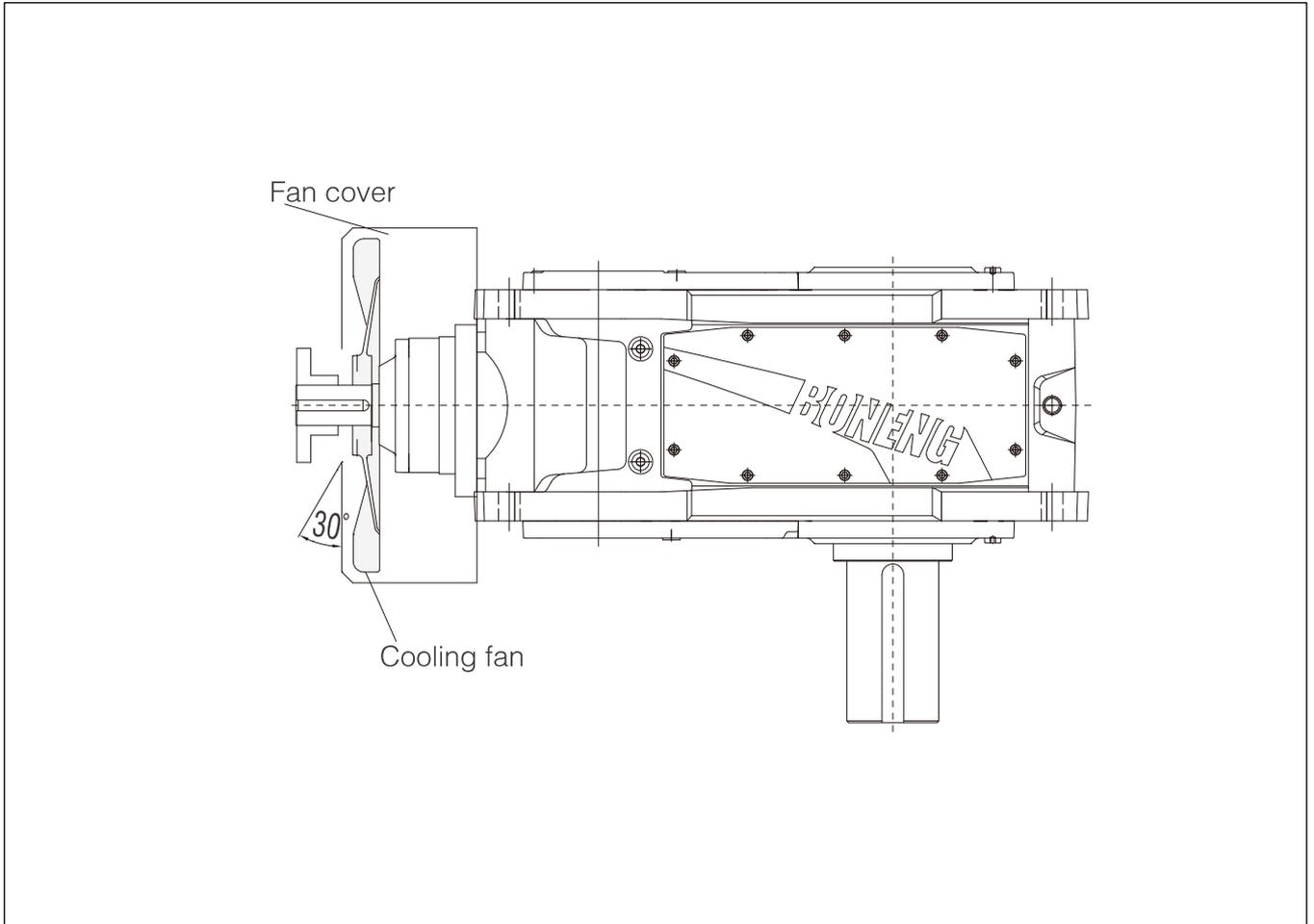


B3			iN ≤ 63					iN ≥ 71				
Size	Y Motor	F Flange	Coupling			f	Coupling				f	
			Type	D1	D2		L	Type	D1	D2		L
4	132						GA42	30	38	126	664	
	160		GA55	35	42	160	718	GA55	30	42	160	718
	180		GA55	35	48	160	718	GA55	30	48	160	718
	200		GA65	35	55	185	724					
5	160		GA55	45	42	160	812	GA55	35	42	160	812
	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	GA65	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	GA65	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					
	280		GA75	50	75	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 附件:****16.1 冷却风扇(附件代号:UF21)**

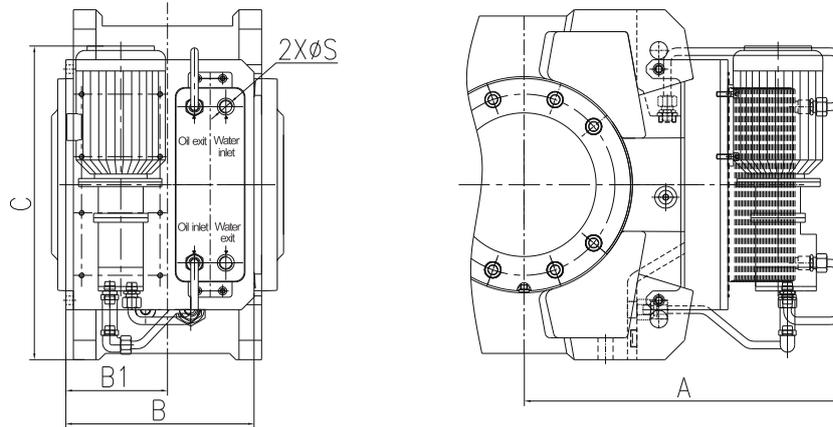
16.2 Water oil cooler (Accessory code:UC22)

16.2 水油冷却器(附件代号:UC22)

1) Horizontal mounting:

1) 卧式安装:

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

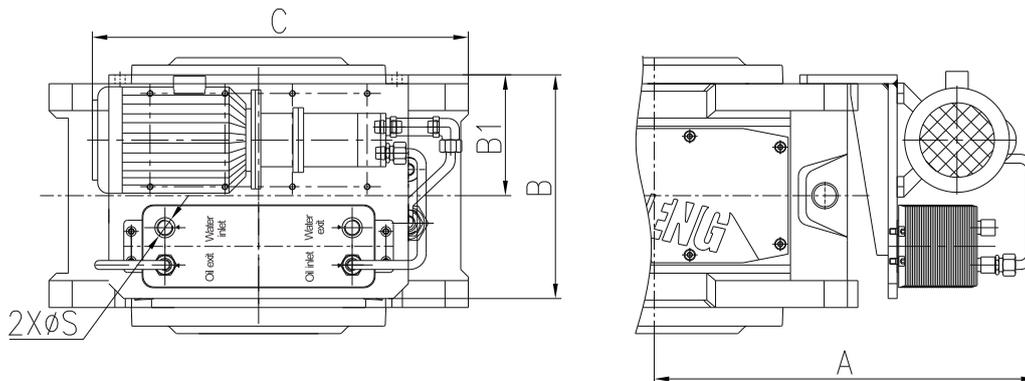


Size	A	B	B1	C	S	Water quantity(L/min)
04	435	225	117.5	429	G1/2	4
05	480	265	139.5	452	G1/2	4
06	525	265	139.5	452	G1/2	4
07	510	306	162	502	G1/2	4
08	580	306	162	502	G1/2	4
09	545	360	201	602	G1/2	4
10	595	360	201	602	G1/2	4
11	585	360	231	670	G1/2	4
12	670	360	231	670	G1/2	4

2) Vertical mounting:

2) 立式安装:

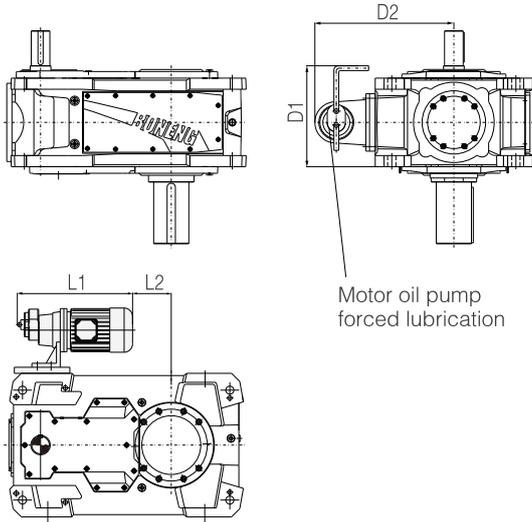
H2..V,H3..V,B2..V,B3..V



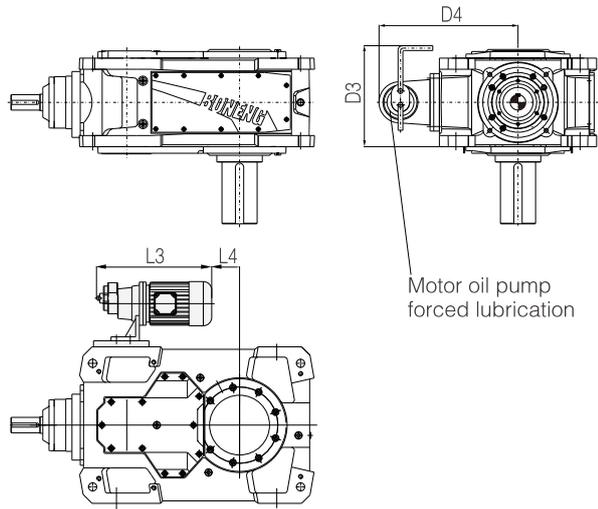
Size	A	B	B1	C	S	Water quantity(L/min)
04	435	225	117.5	429	G1/2	4
05	480	265	139.5	452	G1/2	4
06	525	265	139.5	452	G1/2	4
07	510	306	162	502	G1/2	4
08	580	306	162	502	G1/2	4
09	545	360	201	602	G1/2	4
10	595	360	201	602	G1/2	4
11	585	360	231	670	G1/2	4
12	670	360	231	670	G1/2	4

16.3 Motor oil pump forced lubrication(Accessory code:US32) 16.3 电机油泵强制润滑(附件代号:US32)

H3..V,H4..V



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

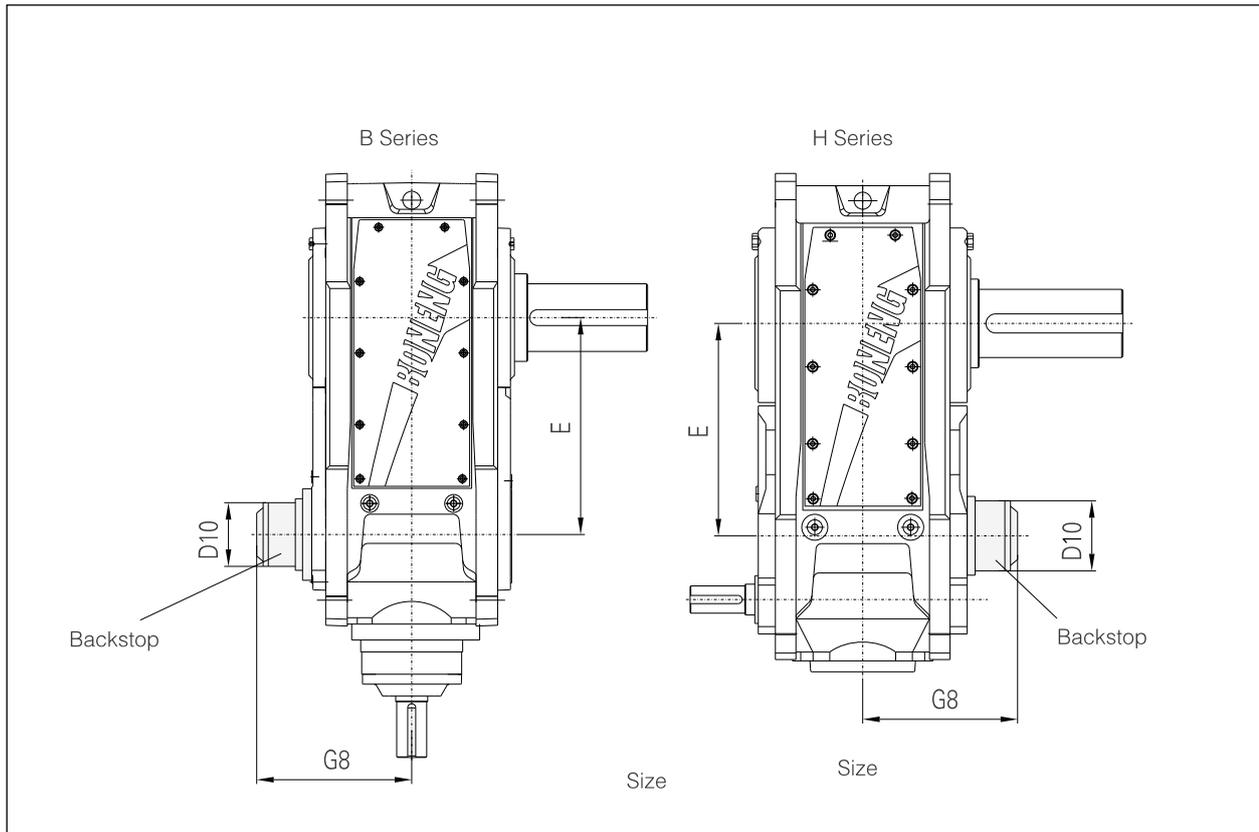


Mounting dimension						
Type	Size	Shaft assemblies	L2	L1	D2	D1
H3..V	05 / 06	A + B + C + D	-30 / 5	560	480	385
	07 / 08	A + B + C + D	55 / 100	585	550	430
	09 / 10	A + B + C + D	140 / 190	610	565	500
	11 / 12	A + B + C + D	375 / 445	530	625	560
H4..V	07 / 08	A + C	55 / 100	600	550	430
		B + D	0 / 45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

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

16.4 Backstop (Accessory code Ub11)

16.4 逆止器(附件代号: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.

⚠ 注: 旋转方向是指面向输出轴时输出轴d的旋转方向。

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

16.5补偿油箱 (附件代号:US33)
与轴端油泵 (附件代号: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

16.6 Lubrication oil

16.6 润滑油

16.6.1 Oil quantity

16.6.1 油量表

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.

注: 1.①油池飞溅润滑; ②浸油润滑; ③强制润滑。
2.以上数据为平均值。

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

16.6.2 润滑油(重负荷工业齿轮油)粘度牌号选用
【 VG320(附件代号:UV32);VG460(附件代号:UV46) 】

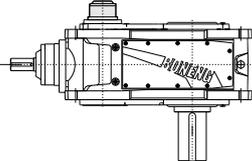
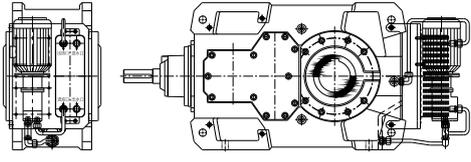
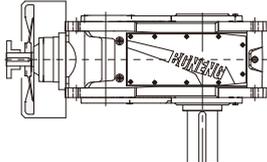
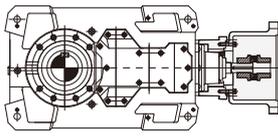
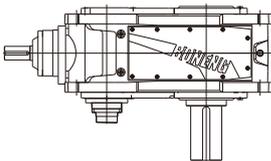
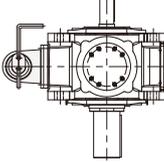
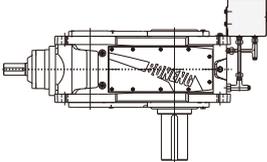
Ambient temperature°C	-20°C~+40°C	+30°C~+50°C
Viscosity number	VG320	VG460

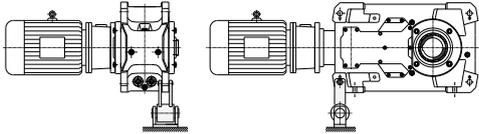
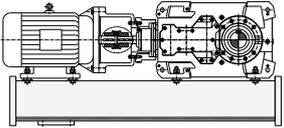
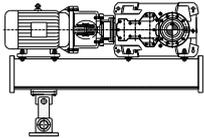
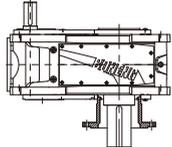
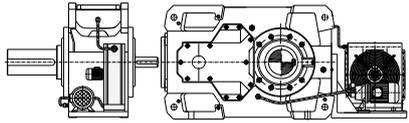
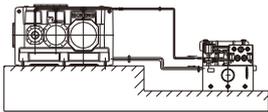
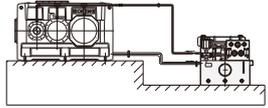
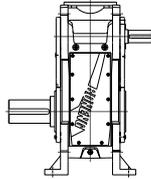
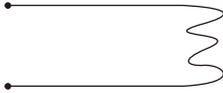
Note: 1.Viscosity in the above table is ISO-VG Viscosity under 40 °C
2.When ambient temperature is lower than-10°C,synthetic oil must be used.
3.To ensure product lifespan, we suggest synthetic oil.
4.IF ambient temperature exceeds the above range, please consult.

注: 1.上表中粘度牌号为40°C温度下的ISO-VG粘度。
2.环境温度低于-10°C必须使用合成油。
3.为保证产品寿命,实际使用中建议使用合成油。
4.若环境温度超出上述范围,敬请垂询。

16.7 Accessories code table:

16.7 附件代号一览表:

Code	Accessories		Example
UB11	Backstop	逆止器	
UC22	Water-Oil cooler	水油冷却器	
UF21	Cooling fan	冷却风扇	
UF31	Input connection flange	输入连接法兰	
US31	Shaft end oil pump forced lubrication	轴端油泵强制润滑	
US32	Motor oil pump forced lubrication	电机油泵强制润滑	
US33	Oil compensation tank dip-in oil lubrication	补偿油箱浸油润滑	
UV32	Lubrication oil VG320	润滑油VG320	
UV46	Lubrication oil VG460	润滑油VG460	

Code	Accessories		Example
Please consult 敬请垂询	Torque arm	扭力臂	
	Gear box swing base	齿轮箱浮动底座	
	Swing base with torque arm	浮动底座扭力臂	
	Mounting flange	安装法兰	
	External wind air -oil cooler	外置风冷式油冷却器	
	Pipeline(Customer build oil station)	配管路(客户带稀油站)	
	Oil station	配稀油站	
	Upright mounting	竖直安装	
	Electric heater	电加热器	
	Shaft sealing of other categories	其他类型的轴封	

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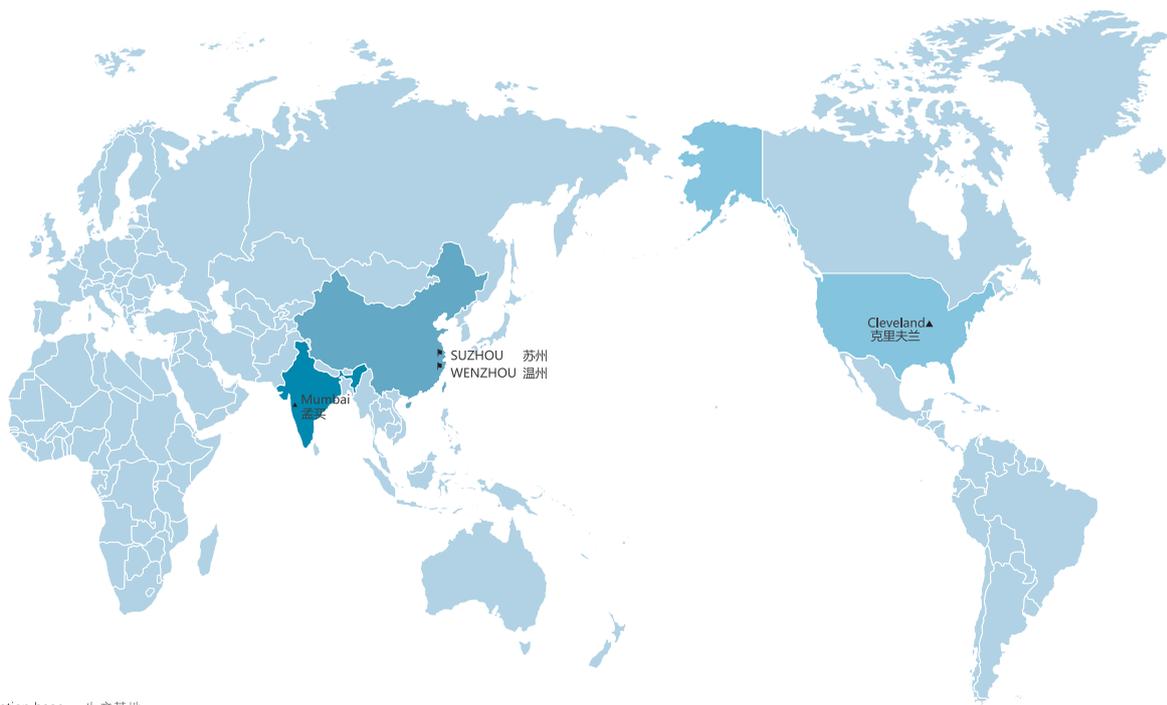
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