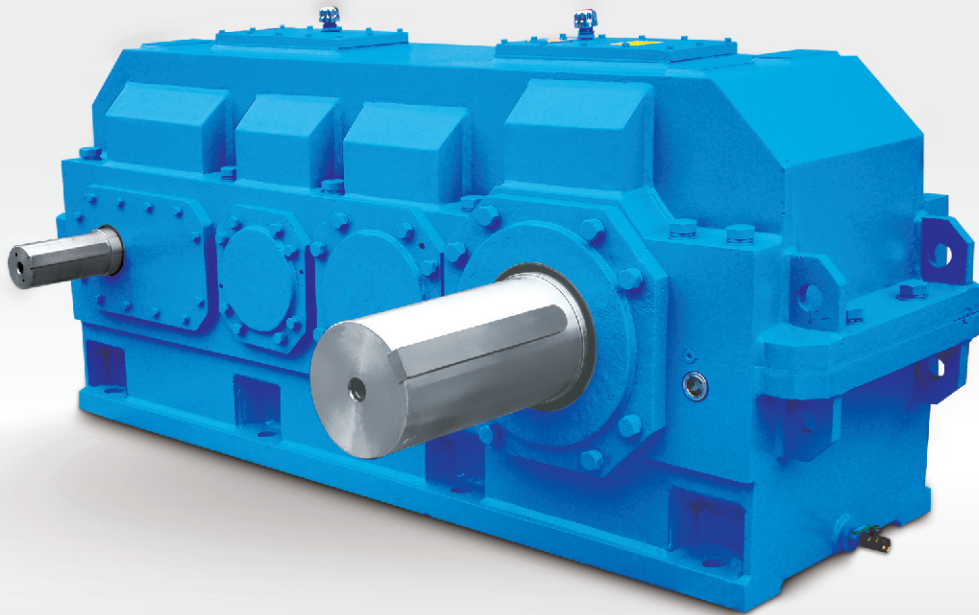


**BONENG**



**HK** 起重机用加长中心距齿轮箱  
Helical Gear Units with Extended Center Distance For Granes





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### 1概述:

博能齿轮箱以优质的服务和稳定的质量赢得了国内外用户的广泛赞誉, 我公司产品广泛应用于门式起重机、塔式起重机、汽车起重机、轮胎起重机、履带起重机、甲板起重机、浮式起重机、缆索起重机、装卸桥、桥式起重机等各种起重设备的主、副起升以及回转、行走、变幅机构中, 在港口、矿山、冶金、建筑、造船等行业都取得了显著的业绩。

HK系列是根据起重设备的结构和传动特点专门设计的一款齿轮箱, 具有以下特点:

- ◆在同样的传动能力下加大了输出、输入轴之间的中心距, 避免了为满足安装尺寸而不得不浪费功率的情况, 特别适用于门式起重机、桥式起重机、集装箱起重机的主、副起升机构中。
- ◆模块化设计, 国际化生产, 交货更加快捷。
- ◆HK系列中可以选择3级或者4级传动, 其速比范围14~250。
- ◆HK系列的齿轮箱(规格05~14)箱体是采用HT250铸造而成, 也可以采用钢板焊接而成; HK系列的齿轮箱(规格15~22)完全采用钢板焊接齿轮箱箱体。
- ◆氟橡胶密封, 具有优异的耐高温、防老化性能, 在复杂和恶劣的工作环境中具有更高的安全性和更长的使用寿命。

### 1 Overview:

Boneng gear units win wide reputation with good service and stable quality both at home and abroad. The products are widely applied in main and subsidiary lifting of portal crane, tower crane, vehicle crane, tyre crane, belt crane, deck crane, float crane, cable crane, loading and unloading bridge, bridge crane and various kinds of cranes, rotary, running and trolley traveling mechanisms. We obtain obvious achievements in port, mine, melt, construction, shipbuilding and other industries.

HK Series is a special kind of gear unit designed according to structure and transmission characteristics of lifting equipment. It has the following characteristics:





- ◆It expands the central distance between input and output shaft under the same transmission capacity, which avoids the situation of wasting power to satisfy mounting dimension, which is especially appropriate for main and subsidiary lifting mechanisms of portal crane, bridge crane and container crane.
- ◆Modular design, international production, delivery is more convenient.
- ◆In HK series, you can select level 3 or level 4 transmission, the ratio range is from 14 to 250.
- ◆Gear box of HK series (regulation 05~14) applies Ht250 casting materials, it can also apply steel plate welding; gear unit of HK series (regulation 15~22) apply steel plate welding gear box.
- ◆Fluororubber sealing, it has good high-temperature resistant and anti-aging performance, which is more safer and has longer lifespan in complicated and bad working environment.

**⚠ 注:** 1. 齿轮箱供货前已处于准运行状态, 运行前需加注润滑油。  
2. 样本中未注尺寸单位均为毫米 (mm)。

**Note:** 1. Gear unit is on running-permission status before delivery, lubrication oil should be filled before running.  
2. The dimension unit not marked in the sample is millimeter (mm).

### 2 产品功能标识

### 2 Product function mark

油镜 Oil	通气帽 Ventilation	进油孔 Oil filling hole	放油孔 Oil discharge hole
			







3 选型:

3 Type selection:

序号 Serial No.	说明 Description	代号 Codes	参数计算 Parameters Calculation	
1	被驱动设备系数 Driven machine factor	f1	根据工作级别见6页f1表 Check f1 table on page 6 according to working level	
2	原动机系数 Prime mover factor	f2	原动机系数 Prime Mover Factor	f2
			电机、液压马达、汽轮机 Electric motor, hydraulic motor, turbine	1.0
			4-6缸活塞发动机, 周期变化1: 100至1: 200 Piston engine with 4-6 cylinders, cycle variation 1:100 to 1:200	1.25
			1-3缸活塞发动机, 周期变化1: 100 Piston engine with 1-3 cylinders, cycle variation 1:100	1.5
3	齿轮箱可靠度系数 Factor for gear unit reliability	SF	见6页SF表 Check SF table on page 6	
4	齿轮箱传动效率 Transmission Efficiency	$\eta$	三级3-stage:94%, 四级4-stage:92%	
5	输入转速 Input Speed	n1	$\leq 1500r/min$ 更高转速请来电咨询 Consult us if higher speed required.	
6	确定减速比 Calculation of the ratio	i	$i = n1/n2$	
7	以被驱动设备所需的扭矩或功率, 确认齿轮箱输入功率 Calculate the input power of the gear unit on basis of the torque and power required by the driven machine.	P1	$P1 = T2 \cdot n1 / (9550 \cdot i \cdot \eta)$ 或 $P1 = P2 / \eta$	
8	根据计算, 查传动能力表, 确定齿轮箱机座号 Determination of gear unit type referring to the table of Transmission Capacity.	T2N、P1N	$T2N \geq T2 \cdot f1 \cdot f2 \cdot SF$ 或 $P1N \geq P1 \cdot f1 \cdot f2 \cdot SF$ 见6页SF表 Check SF table on page 6	
9	峰值扭矩校核* Check Peak Torque	TA	$P1N \geq TA \cdot n1 \cdot f3 / 9550$ 根据工作级别见6页f3表 Check f3 table on page 6 according to working level	
10	选定连接安装和附件后, 校核轴许用强度 Check permissible strength of the shaft after output mode and accessories are selected.	Fr1/Fr2 Fa1/Fa2	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。 It is crucial to check radial forces on the shafts when input and output shafts are for pulleys, sprockets or gears.	
11	确认润滑方式、选择润滑油 Determination of Lubrication Systems and Lubricants		可供选择的润滑方式 Optional Lubrications: 1) 飞溅润滑 Splash 2) 强制润滑 Forced 轴端泵润滑 Shaft-end pump 电机油泵润滑 Motor pump 用户自备稀油站润滑 User-supplied oil station	
12	按型号表示方法确定各项 Determination of every item included in the type designation		型号表示方法见第7页 For details about type designation, see Page 7	

\* 峰值扭矩: 最大负载扭矩, 是指启动、制动或最大脉动载荷所引起的 \* Peak torque: max. load torque, e.g. peak starting, braking and operating torque. (Generally, it refers to peak starting or braking torque.)



4 机构工作级别及服务系数:

4 Working Level and Service Factors:

起重机形式 Cranes type		工作级别 Working level	起重机形式 Cranes type		工作级别 Working level	
门式起重机 Portal Crane	安装用吊钩式 Fitting hook type	A3-A5	桥式起重机 Bridge Crane	吊钩式 Hook type	电厂安装及检修用 For power plant installment and inspection	A1-A3
	装卸用吊钩式 Loading and unloading hook type	A6-A7			车间及仓库用 For workshop and warehouse	A3-A5
	装卸用抓斗式 Loading and unloading grab type	A7-A8			繁重车间及仓库用 For arduous workshop and warehouse	A6-A7
塔式起重机 Tower crane	一般建筑安装用 For normal construction fitting	A2-A4		抓斗式 Grab type	间断装卸用 For intermittent loading and unloading	A6-A7
	用吊罐装卸混凝土 Loading and unloading concrete with bucket	A4-A6			连续装卸用 For continuous loading and unloading	A8
汽车、轮胎、履带起重机 Truck、tyre、crawler crane	安装及装卸用吊钩式 Fitting loading and unloading hook type	A1-A4		冶金专用 Metallurgy special type	吊料箱用 For lifting material box	A7-A8
	装卸用抓斗式 Loading and unloading grab type	A4-A6			加料用 For feeding material	A8
甲板起重机 Deck crane	吊钩式 Hook type	A4-A6			铸造用 For casting	A6-A8
	抓斗式 Grab type	A6-A7			锻造用 For forging	A7-A8
浮式起重机 Floating crane	装卸用吊钩式 Loading and unloading hook type	A5-A6			淬火用 For quenching	A8
	装卸用抓斗式 Loading and unloading grab type	A6-A7			夹钳、脱锭用 For clamping and ingot drawing	A8
	造船安装用 Shipbuilding mounting type	A4-A6			揭盖用 For uncovering	A7-A8
缆索起重机 Cable crane	安装用吊钩式 Fitting hook type	A3-A5	料耙式 Raking type		A8	
	装卸或施工用吊钩式 Loading,unloading or construction hook type	A6-A7	电磁铁式 Electric magnet type		A7-A8	
	装卸或施工用抓斗式 Loading,unloading or construction grab type	A7-A8	一般用途吊钩式 Normal using hook type		A5-A6	
装卸桥 Loading and unloading bridge	料场装卸用抓斗式 Loading and unloading grab for stockyard	A7-A8	门式起重机 Portal crane		装卸用抓斗式 Loading and unloading grab type	A7-A8
	港口装卸用抓斗式 Loading and unloading grab for harbor	A8			电厂用吊钩式 Hook for power plant	A2-A3
	港口装卸集装箱用 Loading and unloading container for harbor	A6-A8		造船安装用吊钩式 Ship-building mounting hook type	A4-A5	
-	-	-		装卸集装箱用 Loading and unloading container type	A6-A8	



齿轮箱可靠度系数 Realiability Factor		S F
一般设备, 齿轮箱失效后仅仅引起单机停产, 并且更换零部件比较容易, 损失较小 Ordinary: single machine halts when gear units fail, easy to replace spare parts and minor loss occurred.		$1.0 \leq S F \leq 1.3$
重要设备, 齿轮箱失效后使生产线或者全厂停工, 停机事故损失 Important: a product line or an entire plant halts when gear units fail, heavy loss.		$1.3 < S F \leq 1.5$
高可靠度要求, 齿轮箱失效后可能造成重大停产事故, 造成极大的经济损失, 以及人身生命事故 Highly reliable: severe production problem happens when gear units fail, enormous loss and life injuries.		$1.5 < S F$

载荷分级 Load level	说明 Specification	服务系数 Service factor	被驱动设备系数f1 峰值扭矩负荷系数f3 Factor for driven machine Peak torque factor									
			工作时间(小时) Working hours									
			U0		U1		U2		U3		U4	
$\leq 200$		$> 200 \sim 400$		$> 400 \sim 800$		$> 800 \sim 1600$		$> 1600 \sim 3200$				
Q1 轻 Light	很少起升额定载荷, 一般起升较轻载荷 Rarely hoisting nominal load, normally hoisting light load	1) f1	0.8	A1	0.8	A1	0.8	A1	0.8	A2	0.8	A3
		2) f3	0.8		0.8		0.8		0.8		0.8	
		3) f3	0.8		0.8		0.8		0.8		0.8	
Q2 中 Medium	有时起升额定载荷, 一般起升中等载荷 Sometimes hoisting nominal load, normally hoisting medium load	1) f1	0.8	A1	0.8	A1	0.8	A2	0.9	A3	0.9	A4
		2) f3	0.5		0.5		0.5		0.5		0.5	
		3) f3	0.8		0.8		0.8		0.8		0.8	
Q3 重 Heavy	经常起升额定载荷, 一般起升较重载荷 Often hoisting nominal load, normally hoisting heavy load	1) f1	0.8	A1	0.8	A2	0.9	A3	1	A4	1	A5
		2) f3	0.5		0.5		0.5		0.5		0.5	
		3) f3	0.8		0.8		0.8		0.8		0.8	
Q4 特重 Super heavy	频繁的起升额定载荷 Frequently hoisting nominal load	1) f1	0.9	A2	0.9	A3	1	A4	1.1	A5	1.2	A6
		2) f3	0.5		0.5		0.5		0.5		0.5	
		3) f3	0.8		0.8		0.8		0.8		0.8	

载荷分级 Load level	说明 Specification	服务系数 Service factor	被驱动设备系数f1 峰值扭矩负荷系数f3 Factor for driven machine Peak torque factor									
			工作时间(小时) Working hours									
			U5		U6		U7		U8		U9	
$> 3200 \sim 6300$		$> 6300 \sim 12500$		$> 12500 \sim 50000$		$> 25000 \sim 50000$		$> 50000$				
Q1 轻 Light	很少起升额定载荷, 一般起升较轻载荷 Rarely hoisting nominal load, normally hoisting light load	1) f1	0.9	A4	1	A5	1	A6	1.1	A7	1.2	A8
		2) f3	0.5		0.56		0.63		0.71		0.8	
		3) f3	0.8		0.8		1.9		1		1.12	
Q2 中 Medium	有时起升额定载荷, 一般起升中等载荷 Sometimes hoisting nominal load, normally hoisting medium load	1) f1	1	A5	1.1	A6	1.2	A7	1.3	A8	1.4	A8
		2) f3	0.5		0.56		0.63		0.71		0.8	
		3) f3	0.8		0.8		0.9		1		1.12	
Q3 重 Heavy	经常起升额定载荷, 一般起升较重载荷 Often hoisting nominal load, normally hoisting heavy load	1) f1	1.1	A6	1.2	A7	1.3	A8	1.4	A8	1.6	A8
		2) f3	0.56		0.63		0.71		0.8		0.9	
		3) f3	0.8		0.9		1		1.12		1.25	
Q4 特重 Super heavy	频繁的起升额定载荷 Frequently hoisting nominal load	1) f1	1.3	A7	1.4	A8	1.6	A8	1.8	A8	2	A8
		2) f3	0.56		0.63		0.71		0.8		0.9	
		3) f3	0.8		0.9		1		1.12		1.25	

注: 1) f1=被驱动设备系数 Factor for driven machine

2) f3=在负载方向保持不变时的峰值扭矩系数, 如起升, 变幅机构等. Peak torque factor when load direction is unchanging, such as hoisting mechanisms, lifting mechanisms, etc.

3) f3=在负载方向交替改变时的峰值扭矩系数, 如回转, 行走机构等. Peak torque factor when load direction is alternating, such as rotary, running mechanisms, etc.



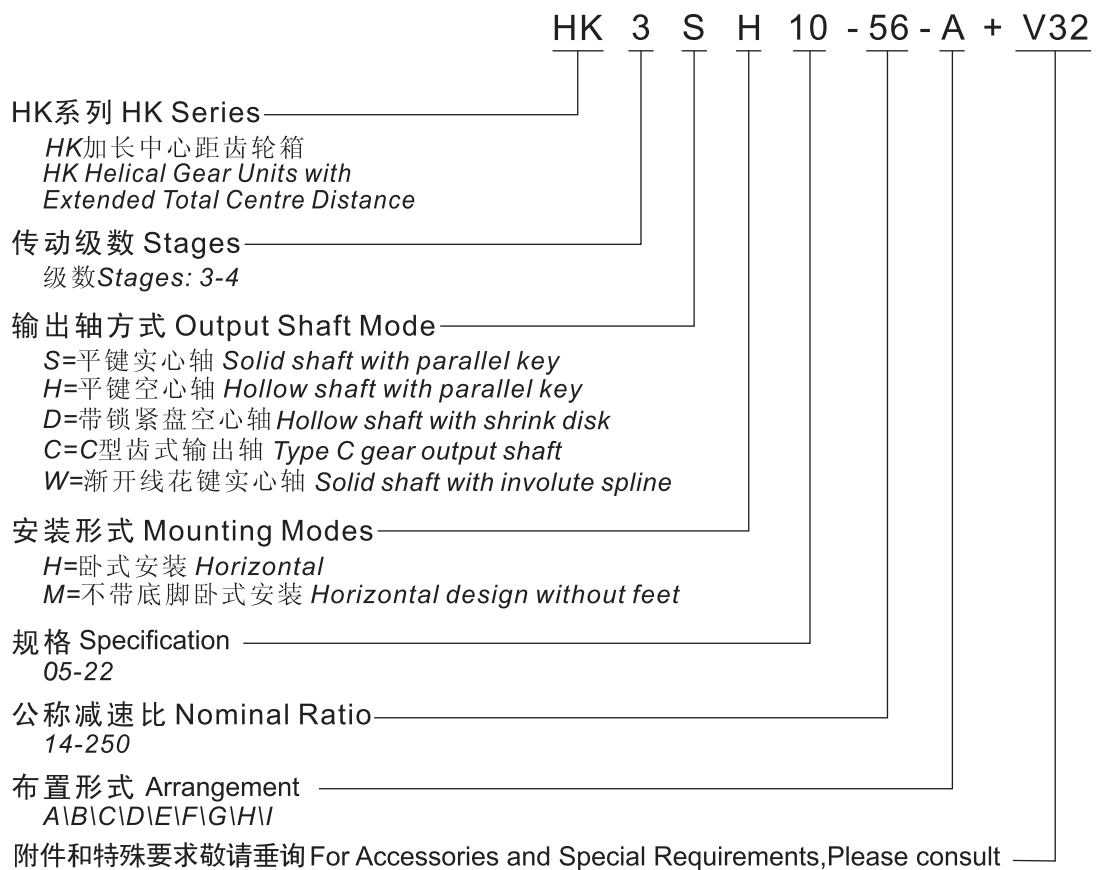
5 常用代号说明:

5 Symbol specification

代号 Code	说明	Specification	单位 Unit
i	实际减速比	actual ratio	/
i <sub>N</sub>	公称减速比	Nominal ratio	
i <sub>ex</sub>	精确减速比	Exact ratio	
T <sub>2N</sub>	额定输出扭矩	Rated output torque	N · m
T <sub>A</sub>	峰值扭矩	Peak torque	
P <sub>1N</sub>	齿轮箱额定输入功率	Rated input power of gear unit	kW
P <sub>1</sub>	输入功率	Input power	
P <sub>2</sub>	被驱动设备使用功率	power for driven equipment	
P <sub>m</sub>	电机功率	Motor Power	
f <sub>1</sub>	被驱动设备系数	Driven machine factor	/
f <sub>2</sub>	原动机系数	Prime mover factor	
f <sub>3</sub>	峰值负荷系数	Peak loading coefficient	
S <sub>F</sub>	齿轮箱可靠度系数	Factor for gear unit reliability	
n <sub>1</sub>	输入转速	Input speed	r/min
n <sub>2N</sub>	公称输出转速	Nominal output speed	
n <sub>2</sub>	输出转速	Output speed	

6 型号表示方法:

6 Type Designation:





## 选型举例 Examples

**选型示例****原动机:**电机功率:  $P_m=185\text{ kW}$ 电机转速:  $n_1=710\text{ rpm}$ 最大启动扭矩:  $T_A=3980\text{ N}\cdot\text{m}$ **被驱动设备(工作机):**

桥式起重机主起升

提升功率:  $P_2=175\text{ kW}$ 卷筒转速:  $n_2=10\text{ rpm}$ 

工作级别: Q3-U9-A8

工作时间:  $>50000\text{ 小时}$ 环境温度:  $30\text{ }^\circ\text{C}$ **齿轮箱:**

平行轴齿轮箱

轴布置形式: G

中心距:  $\geq 1500\text{ mm}$ **选型步骤:**1. 计算速比:  $i=n_1/n_2=710/10=71$ 取 $i_N=71$  传动级数: 4级

2. 确定齿轮箱的额定功率:

 $P_1=P_2/\eta=175/92\%=190.22\text{ kW}$  $P_{1N}\geq P_1 \cdot f_1 \cdot f_2 \cdot S_F$  $=190.22 \times 1.6 \times 1 \times 1.2=365.22\text{ kW}$ 

根据传动能力表查得: 齿轮箱规格18, 对应额定功率

 $P_{1N}=367\text{ kW}$ , 中心距 $E=1560\text{ mm}>1500\text{ mm}$  满足要求

3. 峰值扭矩校核:

 $P_{1N}\geq T_A \cdot n_1 \cdot f_3 / 9550$  $=3980 \times 710 \times 0.9 / 9550=266.3\text{ kW}$  $P_{1N}=367\text{ kW}>266.3\text{ kW}$  满足要求

4. 确定型号:

**HK4SH18-71-G****Selection example****Prime mover:**Motor power:  $P_m=185\text{ kW}$ Speed:  $n_1=710\text{ rpm}$ Max starting torque:  $T_A=3980\text{ N}\cdot\text{m}$ **Driven machine:**

Main hoisting gears of bridge crane

hoisting power:  $P_2=175\text{ kW}$ Drum speed:  $n_2=10\text{ rpm}$ 

Working level: Q3-U9-A8

Working hour:  $>50000\text{ hours}$ Ambient temperature:  $0\sim 30\text{ }^\circ\text{C}$ **Gear units:**

Parallel shaft gear units

Shaft arrangement: G

Center distance:  $\geq 1500\text{ mm}$ **Selection steps:**1. Calculation of ratio:  $i=n_1/n_2=710/10=71$ take  $i_N=71$ 

2. Determination of nominal power of gear unit

 $P_1=P_2/\eta=175/92\%=190.22\text{ kW}$  $P_{1N}\geq P_1 \cdot f_1 \cdot f_2 \cdot S_F$  $=190.22 \times 1.6 \times 1 \times 1.2=365.22\text{ kW}$ 

Referring to transmission capacity:

Gear unit size is 18, corresponding rated power

 $P_{1N}=367\text{ kW}$ , Center distance  $E=1560\text{ mm}>1500\text{ mm}$  requirement meet

3. Verify peak torque:

 $P_{1N}\geq T_A \cdot n_1 \cdot f_3 / 9550$  $=3980 \times 710 \times 0.9 / 9550=266.3\text{ kW}$  $P_{1N}=367\text{ kW}>266.3\text{ kW}$  meet requirement

Determination of type:

**HK4SH18-71-G**



8 传动能力表:

8 Transmission Capacity

n <sub>1</sub> (r/min)	n <sub>2N</sub> (r/min)	i <sub>N</sub>	HK3..05			HK3..06			HK3..07			HK3..08			HK3..09			HK3..10														
			T <sub>2N</sub> (kN·m)	i <sub>ex</sub>	P <sub>1N</sub> (kW)	T <sub>2N</sub> (kN·m)	i <sub>ex</sub>	P <sub>1N</sub> (kW)	T <sub>2N</sub> (kN·m)	i <sub>ex</sub>	P <sub>1N</sub> (kW)	T <sub>2N</sub> (kN·m)	i <sub>ex</sub>	P <sub>1N</sub> (kW)	T <sub>2N</sub> (kN·m)	i <sub>ex</sub>	P <sub>1N</sub> (kW)	T <sub>2N</sub> (kN·m)	i <sub>ex</sub>	P <sub>1N</sub> (kW)												
1450	103.6	14	11.6	14.51	121				21.7	14.34	227				35.7	14.69	369															
960	68.6				80						150						244															
710	50.7				59						111						181															
1450	90.6	16	11.6	16.65	106				21.7	16.60	196				35.7	17.00	319															
960	60.0				70						130						211															
710	44.4				52						96						156															
1450	80.6	18	11.6	18.21	97	15.5	17.98	131	21.7	18.37	177	27.2	18.08	225	35.7	18.81	288	43.8	18.41	361												
960	53.3				64						87			117			149			191	239											
710	39.4				47						64			87			110			1411	177											
1450	72.5	20	11.6	19.97	88	15.5	20.63	114	21.7	20.39	159	27.2	20.93	195	35.7	20.89	260	43.8	21.32	312												
960	48.0				58			76			106			129			172			207												
710	35.5				43			56			78			95			127			153												
1450	64.7	22.4	11.6	23.08	76	15.5	22.56	104	21.7	22.75	143	27.2	23.16	176	35.7	23.30	233	43.8	23.59	282												
960	42.9				51			69			95			117			154			187												
710	31.7				37			51			70			86			114			138												
1450	58.0	25	11.6	25.56	69	15.5	24.75	95	21.7	25.08	130	27.2	25.71	158	35.7	26.13	207	43.8	26.19	254												
960	38.4				46			63			86			105			137			168												
710	28.4				34			47			64			78			102			124												
1450	51.8	28	11.6	28.45	62	15.5	28.61	82	21.7	29.34	111	27.2	28.68	142	35.7	29.50	184	43.8	29.21	228												
960	34.3				41			55			73			94			122			151												
710	25.4				30			40			54			70			90			112												
1450	46.0	31.5	11.6	31.86	55	15.5	31.68	74	21.7	32.83	99	27.2	31.62	129	35.7	33.20	163	43.8	32.76	203												
960	30.5				37			49			66			85			108			134												
710	22.5				27			36			49			63			80			99												
1450	40.8	35.5	11.6	35.96	49	15.5	35.26	67	21.7	37.01	88	27.2	36.99	110	35.7	37.45	145	43.8	36.99	180												
960	27.0				32			44			58			73			96			119												
710	20.0				24			33			43			54			71			88												
1450	36.3	40	11.6	40.37	44	15.5	39.49	60	21.7	41.44	78	27.2	41.39	98	35.7	42.71	127	43.8	41.63	160												
960	24.0				29			40			52			65			84			106												
710	17.8				21			29			38			48			62			78												
1450	32.2	45	11.6	45.08	39	15.5	44.56	53	21.7	46.49	70	27.2	46.67	87	35.7	45.31	120	43.8	46.95	142												
960	21.3				26			35			46			58			79			94												
710	15.8				19			26			34			43			59			69												
1450	29.0	50	11.6	50.78	35	15.5	50.03	47	21.7	49.41	66	27.2	52.25	78	35.7	51.37	106	43.8	53.55	124												
960	19.2				23			31			44			52			70			82												
710	14.2				17			23			32			38			52			61												
1450	25.9	56				15.5	55.87	42				27.2	58.62	70				43.8	56.81	117												
960	17.1																28					46									78	
710	12.7																21					34										57
1450	23.0	63				15.5	62.94	37				27.2	62.30	65				43.8	64.40	103												
960	15.2																25					43										68
710	11.3																18					32										51



n <sub>1</sub> (r/min)	n <sub>2N</sub> (r/min)	i <sub>N</sub>	HK3..11			HK3..12			HK3..13			HK3..14			HK3..15			HK3..16											
			T <sub>2N</sub> (kN·m)	i <sub>ex</sub>	P <sub>1N</sub> (kW)	T <sub>2N</sub> (kN·m)	i <sub>ex</sub>	P <sub>1N</sub> (kW)	T <sub>2N</sub> (kN·m)	i <sub>ex</sub>	P <sub>1N</sub> (kW)	T <sub>2N</sub> (kN·m)	i <sub>ex</sub>	P <sub>1N</sub> (kW)	T <sub>2N</sub> (kN·m)	i <sub>ex</sub>	P <sub>1N</sub> (kW)	T <sub>2N</sub> (kN·m)	i <sub>ex</sub>	P <sub>1N</sub> (kW)									
1450	103.6	14	63.5	14.51	665				88	14.96	893																		
960	68.6				440						592																		
710	50.7				325						437																		
1450	90.6	16	63.5	16.03	602				88	16.57	807																		
960	60.0				398						535																		
710	44.4				295						395																		
1450	80.6	18	63.5	17.75	543	77.2	18.44	421	88	18.41	726	109	18.537	892.8	153	18.15	1295												
960	53.3				360						481			591.1			858												
710	39.4				266						355			437.2			634												
1450	72.5	20	63.5	20.84	463	77.2	20.38	575	88	20.53	651	109	20.533	806.0	153	20.10	1170	173	20.58	1276									
960	48.0				306			431			533.6			774			845												
710	35.5				227			319			394.7			573			625												
1450	64.7	22.4	63.5	23.33	413	77.2	22.57	519	88	23.01	581	109	22.815	725.4	153	22.33	1053	173	22.80	1152									
960	42.9				274			344			480.3			697			763												
710	31.7				202			254			355.2			515			564												
1450	58.0	25	63.5	25.29	381	77.2	26.50	442	88	25.23	530	109	25.447	650.4	153	24.91	944	173	25.33	1037									
960	38.4				252			293			430.6			625			687												
710	28.4				187			217			318.4			462			508												
1450	51.8	28	63.5	28.28	341	77.2	29.67	395	88	29.53	453	109	28.519	580.3	153	27.92	842	173	28.26	930									
960	34.3				226			262			384.2			558			616												
710	25.4				167			194			284.2			412			455												
1450	46.0	31.5	63.5	31.83	303	77.2	32.16	365	88	33.05	404	109	31.265	529.3	153	30.61	768	173	31.67	830									
960	30.5				201			241			350.5			509			549												
710	22.5				148			179			259.2			376			406												
1450	40.8	35.5	63.5	36.13	267	77.2	35.95	326	88	37.28	359	109	36.599	452.2	153	35.83	656	173	34.72	757									
960	27.0				177			216			299.4			434			501												
710	20.0				131			160			221.4			321			371												
1450	36.3	40	63.5	39.74	243	77.2	40.47	290	88	40.32	331	109	40.963	404.0	153	40.10	586	173	40.64	646									
960	24.0				161			192			267.5			388			428												
710	17.8				119			142			197.8			287			317												
1450	32.2	45	63.5	44.30	218	77.2	45.94	255	88	45.53	293	109	46.200	358.2	153	45.23	520	173	45.49	577									
960	21.3				144			169			237.2			344			382												
710	15.8				107			125			175.4			255			283												
1450	29.0	50	63.5	49.92	193	77.2	50.53	232	88	52.32	255	109	49.975	331.2	153	48.92	481	173	51.30	512									
960	19.2				128			154			219.2			318			339												
710	14.2				95			114			162.2			235			251												
1450	25.9	56				77.2	56.33	208				109	56.437	293.2	153	55.25	426	173	55.49	473									
960	17.1													138							194.1		282						313
710	12.7													102							143.6		208						232
1450	23.0	63				77.2	63.46	185				109	64.842	255.2				174	62.67	421									
960	15.2													122							169.0								279
710	11.3													90							125.0								205



n <sub>1</sub> (r/min)	n <sub>2N</sub> (r/min)	i <sub>N</sub>	HK3..17			HK3..18			HK3..19			HK3..20			HK3..21			HK3..22					
			T <sub>2N</sub> (kN·m)	i <sub>ex</sub>	P <sub>1N</sub> (kW)	T <sub>2N</sub> (kN·m)	i <sub>ex</sub>	P <sub>1N</sub> (kW)	T <sub>2N</sub> (kN·m)	i <sub>ex</sub>	P <sub>1N</sub> (kW)	T <sub>2N</sub> (kN·m)	i <sub>ex</sub>	P <sub>1N</sub> (kW)	T <sub>2N</sub> (kN·m)	i <sub>ex</sub>	P <sub>1N</sub> (kW)	T <sub>2N</sub> (kN·m)	i <sub>ex</sub>	P <sub>1N</sub> (kW)			
1450	103.6	14																					
960	68.6																						
710	50.7																						
1450	90.6	16																					
960	60.0																						
710	44.4																						
1450	80.6	18	200	17.27	1758	240	20.06	1817	300	17.07	2669	345	19.47	2691	420	18.50	3447	470	20.68	3451			
960	53.3				1164						1203						1526				1781	2060	2282
710	39.4				861						890						1129				1317	1524	1688
1450	72.5	20	200	19.07	1593	240	20.06	1817	300	19.76	2306	345	19.47	2691	420	20.49	3112	470	20.68	3451			
960	48.0				1054						1203						1526				1781	2060	2282
710	35.5				780						890						1129				1317	1524	1690
1450	64.7	22.4	200	21.11	1438	240	22.15	1646	300	21.86	2084	345	22.54	2324	420	22.77	2801	470	22.90	3116			
960	42.9				952						1090						1380				1539	1854	2063
710	31.7				704						806						1020				1138	1371	1526
1450	58.0	25	200	23.46	1295	240	24.52	1486	300	24.28	1876	345	24.94	2100	420	25.40	2511	470	25.45	2804			
960	38.4				857						984						1242				1391	1662	1857
710	28.4				634						728						919				1028	1230	1373
1450	51.8	28	200	26.18	1160	240	27.24	1338	300	27.08	1682	345	27.70	1891	420	28.25	2257	470	28.38	2514			
960	34.3				768						886						1114				1252	1495	1665
710	25.4				568						655						824				926	1105	1231
1450	46.0	31.5	200	29.37	1034	240	30.40	1199	300	30.37	1500	345	30.89	1696	420	31.42	2030	470	31.57	2260			
960	30.5				685						794						993				1123	1344	1496
710	22.5				506						587						735				830	994	1107
1450	40.8	35.5	200	32.51	934	240	34.11	1068	300	34.47	1321	345	34.64	1512	420	35.14	1815	470	35.12	2032			
960	27.0				618						707						875				1001	1201	1345
710	20.0				457						523						647				740	889	995
1450	36.3	40	200	36.72	827	240	37.76	965	300	38.59	1181	345	39.33	1332	420	39.58	1611	470	39.28	1817			
960	24.0				548						639						782				882	1067	1203
710	17.8				405						473						578				652	789	890
1450	32.2	45	200	41.22	737	240	42.64	855	300	43.52	1047	345	44.02	1190	420	44.94	1419	470	44.23	1613			
960	21.3				488						566						693				788	940	1068
710	15.8				361						419						513				583	695	790
1450	29.0	50	200	46.67	651	240	47.87	761	300	49.63	918	345	49.65	1055	420	52.13	1223	470	50.23	1421			
960	19.2				431						504						608				699	810	941
710	14.2				319						373						449				517	599	696
1450	25.9	56	200	54.36	559	240	54.20	672	300	52.65	865	345	56.62	925	420	58.06	1098	470	58.26	1225			
960	17.1				370						445						573				613	727	811
710	12.7				274						329						424				453	538	600
1450	23.0	63				240	63.13	580				346	60.07	875				471	64.89	1102			
960	15.2							382						579							730		
710	11.3							283						427									





n <sub>1</sub> (r/min)	n <sub>2N</sub> (r/min)	i <sub>n</sub>	HK4..05			HK4..06			HK4..07			HK4..08			HK4..09			HK4..10														
			T <sub>2N</sub> (kN·m)	i <sub>ex</sub>	P <sub>1N</sub> (kW)	T <sub>2N</sub> (kN·m)	i <sub>ex</sub>	P <sub>1N</sub> (kW)	T <sub>2N</sub> (kN·m)	i <sub>ex</sub>	P <sub>1N</sub> (kW)	T <sub>2N</sub> (kN·m)	i <sub>ex</sub>	P <sub>1N</sub> (kW)	T <sub>2N</sub> (kN·m)	i <sub>ex</sub>	P <sub>1N</sub> (kW)	T <sub>2N</sub> (kN·m)	i <sub>ex</sub>	P <sub>1N</sub> (kW)												
1450	64.7	22.4	11.6	23.29	76			21.7	23.30	140			35.7	23.41	232																	
960	42.9				50					92					153																	
710	31.7				37					68					113																	
1450	58.0	25	11.6	26.53	66			21.7	25.28	129			35.7	26.85	202																	
960	38.4				44					85					134																	
710	28.4				33					63					99																	
1450	51.8	28	11.6	29.01	61	15.5	28.86	21.7	28.67	113	27.2	29.38	139	35.7	29.37	185	43.8	29.34	227													
960	34.3				40											54				75		122	150									
710	25.4				30											40				56		90	111									
1450	46.0	31.5	11.6	33.29	53	15.5	32.88	21.7	33.20	98	27.2	31.87	128	35.7	31.09	174	43.8	33.67	198													
960	30.5				35											47				65		85	115	131								
710	22.5				26											35				48		63	85	97								
1450	40.8	35.5	11.6	36.51	48	15.5	35.96	21.7	36.21	90	27.2	36.15	113	35.7	34.00	159	43.8	36.82	181													
960	27.0				32											43				59		75	106	120								
710	20.0				24											32				44		55	78	88								
1450	36.3	40	11.6	42.21	42	15.5	41.26	21.7	41.50	78	27.2	41.86	97	35.7	37.29	145	43.8	38.98	171													
960	24.0				28											38				52		64	96	113								
710	17.8				20											28				38		48	71	84								
1450	32.2	45	11.6	46.73	38	15.5	45.25	21.7	45.64	71	27.2	45.66	89	35.7	43.11	126	43.8	42.63	156													
960	21.3				25											34				47		59	83	103								
710	15.8				19											26				35		44	62	76								
1450	29.0	50	11.6	51.14	34	15.5	52.31	21.7	53.34	61	27.2	52.32	78	35.7	52.92	102	43.8	46.76	142													
960	19.2				23											30				40		52	68	94								
710	14.2				17											22				30		38	50	70								
1450	25.9	56	11.6	58.26	30	15.5	57.92	21.7	57.87	56	27.2	57.55	71	35.7	60.72	89	43.8	54.05	123													
960	17.1				20											27				37		47	59	82								
710	12.7				15											20				28		35	44	60								
1450	23.0	63	11.6	63.72	28	15.5	63.39	21.7	65.65	50	27.2	67.26	61	35.7	66.41	82	43.8	66.35	100													
960	15.2				18											25				33		40	54	66								
710	11.3				14											18				24		30	40	49								
1450	20.4	71	11.6	69.88	25	15.5	72.21	21.7	71.62	45	27.2	72.97	56	35.7	72.83	74	43.8	76.12	87													
960	13.5				17											22				30		37	49	58								
710	10.0				12											16				22		27	36	43								
1450	18.1	80	11.6	78.87	22	15.5	78.97	21.7	80.75	40	27.2	82.78	49	35.7	82.15	66	43.8	83.26	80													
960	12.0				15											20				27		33	44	53								
710	8.9				11											15				20		24	32	39								
1450	16.1	90	11.6	91.17	19	15.5	86.62	21.7	92.53	35	27.2	90.30	45	35.7	94.96	57	43.8	91.31	73													
960	10.7				13											18				23		30	38	48								
710	7.9				10											13				17		22	28	36								
1450	14.5	100	11.6	100.95	17	15.5	97.75	21.7	101.78	24	27.2	101.82	40	35.7	105.15	52	43.8	102.99	65													
960	9.6				12											16				21		27	34	43								
710	7.1				9											12				16		20	25	32								
1450	12.9	112	11.6	112.36	16	15.5	113.00	21.7	118.43	27	27.2	116.66	35	35.7	117.03	46	43.8	119.05	56													
960	8.6				10											14				18		23	31	37								
710	6.3				8											10				13		17	23	27								
1450	11.6	125	11.6	125.84	14	15.5	125.12	21.7	131.95	25	27.2	128.33	32	35.7	131.07	41	43.8	131.82	50													
960	7.7				9											13				16		21	27	33								
710	5.7				7											9				12		16	20	25								
1450	10.4	140	11.6	142.02	12	15.5	139.26	21.7	148.04	22	27.2	149.33	35	35.7	147.92	37	43.8	146.72	45													
960	6.9				8											11				15		18	24	30								
710	5.1				6											8				11		13	18	22								
1450	9.1	160	11.6	160.94	11	15.5	155.97	21.7	167.52	19	27.2	166.37	25	35.7	166.08	33	43.8	164.33	41													
960	6.0				7											10				13		16	22	27								
710	4.4				5											7				10		12	16	20								
1450	8.1	180	11.6	181.67	10	15.5	176.03	21.7	185.05	18	27.2	186.66	22	35.7	185.46	29	43.8	185.46	36													
960	5.3				6											9				12		15	19	24								
710	3.9				5											7				9		11	14	18								
1450	7.3	200	11.6	200.32	9	15.5	199.48	21.7	209.73	16	27.2	211.22	19	35.7	208.93	26	43.8	208.22	32													
960	4.8				6											8				10		13	17	21								
710	3.6				4											6				8		9	13	16								
1450	6.5	220	11.6	220.32		15.5	225.17	21.7	233.33		27.2	233.33	18	35.7	233.33		43.8	232.5	29													
960	4.3																			7						12						14
710	3.2																			5						9						14
1450	5.8	240	11.6	240.32		15.5	248.29	21.7	264.44		27.2	264.44	15	35.7	264.44		43.8	261.94	25													
960	3.8																			6						10						17
710	2.8																			5						8						12



n <sub>1</sub> (r/min)	n <sub>2N</sub> (r/min)	i <sub>n</sub>	HK4..11			HK4..12			HK4..13			HK4..14			HK4..15			HK4..16												
			T <sub>2N</sub> (kN·m)	i <sub>ex</sub>	P <sub>1N</sub> (kW)	T <sub>2N</sub> (kN·m)	i <sub>ex</sub>	P <sub>1N</sub> (kW)	T <sub>2N</sub> (kN·m)	i <sub>ex</sub>	P <sub>1N</sub> (kW)	T <sub>2N</sub> (kN·m)	i <sub>ex</sub>	P <sub>1N</sub> (kW)	T <sub>2N</sub> (kN·m)	i <sub>ex</sub>	P <sub>1N</sub> (kW)	T <sub>2N</sub> (kN·m)	i <sub>ex</sub>	P <sub>1N</sub> (kW)										
1450	64.7	22.4	63.5	23.04	419			88	23.75	563			153	25.38				173	28.79											
960	42.9				277					372																				
710	31.7				205					275																				
1450	58.0	25	63.5	26.67	362			88	27.50	486			153	25.38			915	173	28.79											
960	38.4				239					322					606															
710	28.4				177					238					448															
1450	51.8	28	63.5	29.51	327	77.2	29.29	88	30.43	439	109	29.44	153	29.35	562	173	28.79	912												
960	34.3				216													265			291			372			524		604	
710	25.4				160													196			215			275			388		447	
1450	46.0	31.5	63.5	32.60	296	77.2	33.91	88	33.71	396	109	34.08	153	32.42	486	173	33.29	717	522											
960	30.5				196													229				263			322			474		386
710	22.5				145													169				194			238			351		471
1450	40.8	35.5	63.5	36.21	266	77.2	37.52	88	37.43	357	109	37.71	153	35.92	439	173	36.77	647	714											
960	27.0				176													207				236			291			428		473
710	20.0				130													153				175			215			317		350
1450	36.3	40	63.5	40.38	239	77.2	41.45	88	41.75	320	109	41.78	153	42.17	396	173	40.74	551	427											
960	24.0				158													187				212			262			365		427
710	17.8				117													139				157			194			270		316
1450	32.2	45	63.5	44.51	217	77.2	46.03	88	46.82	285	109	46.39	153	47.21	357	173	47.83	492	549											
960	21.3				143													169				189			236			326		364
710	15.8				106													125				140			175			241		269
1450	29.0	50	63.5	50.55	191	77.2	51.34	88	52.49	255	109	51.74	153	49.90	320	173	53.55	466	491											
960	19.2				126													151				169			212			308		325
710	14.2				93													112				125			157			228		240
1450	25.9	56	63.5	58.52	165	77.2	56.60	88	60.77	220	109	58.03	153	55.13	285	173	56.61	421	464											
960	17.1				109													137				146			189			279		307
710	12.7				81													101				108			140			206		227
1450	23.0	63	63.5	64.75	149	77.2	64.27	88	67.24	199	109	65.06	153	61.07	254	173	62.53	380	420											
960	15.2				99													121				132			168			252		278
710	11.3				73													89				97			125			186		206
1450	20.4	71	63.5	71.91	134	77.2	74.41	88	74.67	179	109	75.32	153	71.71	220	173	69.28	324	379											
960	13.5				89													104				119			146			215		251
710	10.0				66													77				88			108			159		186
1450	18.1	80	63.5	81.63	118	77.2	82.33	88	84.21	159	109	83.34	153	79.37	199	173	81.34	293	323											
960	12.0				78													94				105			132			194		214
710	8.9				58													70				78			97			143		158
1450	16.1	90	63.5	91.05	106	77.2	91.43	88	93.93	142	109	92.55	153	88.85	179	173	90.03	262	292											
960	10.7				70													85				94			118			173		193
710	7.9				52													63				70			88			128		143
1450	14.5	100	63.5	100.36	96	77.2	103.78	88	105.34	127	109	104.38	153	96.30	159	173	100.78	241	261											
960	9.6				64													75				84			105			160		173
710	7.1				47													55				62			78			118		128
1450	12.9	112	63.5	111.28	87	77.2	115.76	88	118.93	112	109	116.42	153	107.67	142	173	109.24	216	241											
960	8.6				57													67				74			94			143		159
710	6.3				42													50				55			70			106		118
1450	11.6	125	63.5	131.38	73	77.2	127.60	88	133.85	100	109	130.57	153	121.20	127	173	122.13	192	215											
960	7.7				49													61				66			84			127		142
710	5.7				36													45				49			62			94		105
1450	10.4	140	63.5	148.13	65	77.2	141.48	88	150.96	83	109	147.40	153	137.57	112	173	137.48	169	191											
960	6.9				43													55				59			74			112		127
710	5.1				32													41				43			55			83		94
1450	9.1	160	63.5	165.87	58	77.2	167.04	88	172.18	78	109	165.90	153	156.05	100	173	156.05		168											
960	6.0				39													47				51			66					111
710	4.4				29													34				38			49					82
1450	8.1	180	63.5	186.07	52	77.2	188.34	88	182.65	73	109	187.11	153	187.11	88	173	187.11		186											
960	5.3				34													41				48			59					111
710	3.9				25													31				36			43					82
1450	7.3	200	63.5	197.76	49	77.2	210.89	88	207.08	65	109	213.40	153	213.40	78	173	213.40		186											
960	4.8				32													37				43			51					111
710	3.6				24													27				32			38					82
1450	6.5	224	63.5	224.00		77.2	236.57	88	236.57		109	226.38	153	226.38	73	173	226.38		186											
960	4.3																	33							48					111
710	3.2																	24							36					82
1450	5.8	250	63.5	250.00		77.2	251.44	88	251.44		109	256.67	153	256.67	65	173	256.67		186											
960	3.8																	31							43					111
710	2.8																	23							32					82



n <sub>1</sub> (r/min)	n <sub>2N</sub> (r/min)	i <sub>N</sub>	HK4..17			HK4..18			HK4..19			HK4..20			HK4..21			HK4..22			
			T <sub>2N</sub> (kN·m)	i <sub>ex</sub>	P <sub>1N</sub> (kW)	T <sub>2N</sub> (kN·m)	i <sub>ex</sub>	P <sub>1N</sub> (kW)	T <sub>2N</sub> (kN·m)	i <sub>ex</sub>	P <sub>1N</sub> (kW)	T <sub>2N</sub> (kN·m)	i <sub>ex</sub>	P <sub>1N</sub> (kW)	T <sub>2N</sub> (kN·m)	i <sub>ex</sub>	P <sub>1N</sub> (kW)	T <sub>2N</sub> (kN·m)	i <sub>ex</sub>	P <sub>1N</sub> (kW)	
1450	64.7	22.4																			
960	42.9																				
710	31.7																				
1450	58.0	25			1294												2433				
960	38.4		200	25.33	857				300	23.89	1262				420	26.21	1611				
710	28.4				634						934						1191				
1450	51.8	28			1115											1922			2436		
960	34.3		200	29.41	738	240	29.42	885	300	27.73	1087	345	27.26	1272	420	30.27	1395	470	29.29	1613	
710	25.4				546			655			804			941			1032			1193	
1450	46.0	31.5			1006											1656			2109		
960	30.5		200	32.57	666	240	34.15	763	300	30.72	982	345	31.64	1096	420	33.42	1263	470	33.83	1396	
710	22.5				493			564			726			811			934			1033	
1450	40.8	35.5			906											1495			1911		
960	27.0		200	36.19	600	240	37.87	688	300	34.13	884	345	35.05	990	420	37.00	1141	470	37.35	1265	
710	20.0				443			509			654			732			844			936	
1450	36.3	40			812											1345			1726		
960	24.0		200	40.37	538	240	42.03	620	300	38.07	792	345	38.94	891	420	41.11	1027	470	41.35	1143	
710	17.8				398			458			586			659			760			845	
1450	32.2	45			725											1206			1553		
960	21.3		200	45.24	480	240	46.88	556	300	42.67	707	345	43.43	799	420	45.88	920	470	45.95	1028	
710	15.8				355			411			523			591			681			761	
1450	29.0	50			661											1076			1392		
960	19.2		200	49.60	438	240	52.54	496	300	46.77	645	345	48.67	713	420	51.48	820	470	51.28	921	
710	14.2				324			367			477			527			607			681	
1450	25.9	56			571											982			1240		
960	17.1		200	53.17	378	240	57.60	452	300	54.16	557	345	53.36	650	420	56.50	747	470	57.54	821	
710	12.7				280			334			412			481			553			607	
1450	23.0	63			512											848			1130		
960	15.2		200	59.31	339	240	61.75	391	300	60.41	499	345	61.78	561	420	62.78	673	470	63.15	748	
710	11.3				251			289			369			415			497			553	
1450	20.4	71			457											760			1017		
960	13.5		200	66.46	302	240	68.87	350	300	67.70	446	345	68.91	503	420	71.49	591	470	70.17	673	
710	10.0				224			259			330			372			437			498	
1450	18.1	80			402											678			893		
960	12.0		200	74.74	266	240	77.18	312	300	76.90	392	345	77.23	449	420	79.15	533	470	79.90	591	
710	8.9				197			231			290			332			395			437	
1450	16.1	90			359											597			807		
960	10.7		200	83.76	238	240	86.79	275	300	86.19	350	345	87.74	395	420	87.95	480	470	88.46	534	
710	7.9				176			203			259			292			355			395	
1450	14.5	100			327											533			726		
960	9.6		200	91.83	217	240	97.27	245	300	94.49	319	345	98.32	353	420	98.15	430	470	98.29	481	
710	7.1				160			182			236			261			318			356	
1450	12.9	112			280											486			651		
960	8.6		200	107.49	185	240	106.64	224	300	110.61	273	345	107.79	322	420	110.12	383	470	109.69	431	
710	6.3				137			166			202			238			284			319	
1450	11.6	125			250											415			580		
960	7.7		200	120.31	165	240	124.83	191	300	123.79	244	345	126.18	275	420	121.89	346	470	123.08	384	
710	5.7				122			141			180			203			256			284	
1450	10.4	140			221											371			524		
960	6.9		200	135.69	147	240	139.71	171	300	139.62	216	345	141.23	246	420	137.65	307	470	136.23	347	
710	5.1				108			126			160			182			227			257	
1450	9.1	160														329			464		
960	6.0					240	157.58	152				345	159.29	218	421	154.53	274	470	153.85	307	
710	4.4							112						161			203			227	
1450	8.1	180																	414		
960	5.3																	470	172.71	274	
710	3.9																			203	
1450	7.3	200																			
960	4.8																				
710	3.6																				
1450	6.5	224																			
960	4.3																				
710	3.2																				
1450	5.8	250																			
960	3.8																				
710	2.8																				

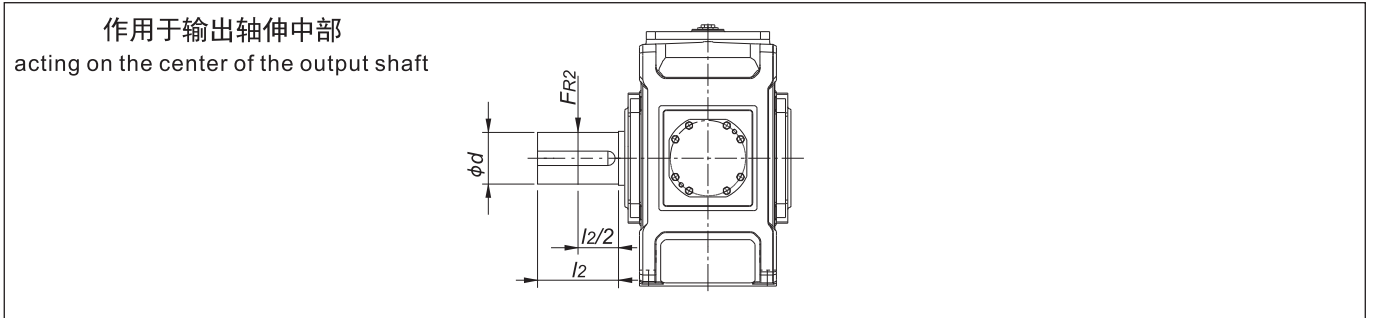


9 输出轴允许的附加径向力

9 Permissible Additional Radial Forces on Output Shaft:

9.1 输出轴d上允许的附加径向力:

9.1 Permissible Additional Radial Forces on Output Shaft d:



允许的附加径向力FR2 (kN)  
Permissible Additional Radial Forces FR2 (kN)

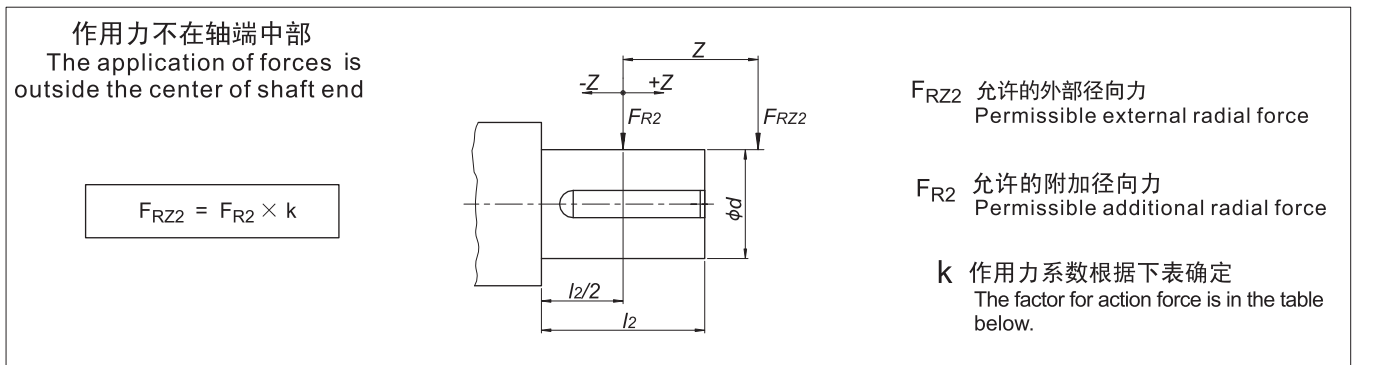
型号 Type	布置形式 Arrangement	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22
HK3SH	A+B+G+H	18	18	26	26	18	40	50	50	150	150	120	185	185	190	284	305	308	330
	C+D	29	29	40	40	40	60	85	85	190	190	185	265	265	265	365	372	395	400
HK4SH	A+B+G+H	18	18	26	26	18	40	50	50	150	150	120	185	185	190	284	305	308	330
	C+D			40	40	40	60	85	85	190	190	185	265	265	265	365	372	395	400

注: 1) 如果给定了力的作用角和回转方向, 通常情况下, 可允许承受较大的附加力。请与我司联系。  
2) \*当作用力不在轴伸中部时, 请参见9.2。  
3) 基础螺栓的最低性能等级为8.8级。基础必须干燥, 不得有油脂。如用户要求, 允许输入轴d1上附加径向力, 具体请与我司联系。

Note: 1) If angle of action and turning direction of the force are known, in most cases, higher radial force can be allowed. Please consult us.  
2) \* For application of force outside the center of the shaft end, see 9.2.  
3) The min. requirement of the foundation bolt is class 8.8. The foundation must be dry and grease-free. Permissible additional radial force on input shaft d1 is upon request.

9.2 输出轴d上允许的附加径向力:

9.2 Permissible Additional Radial Forces on Output Shaft d:



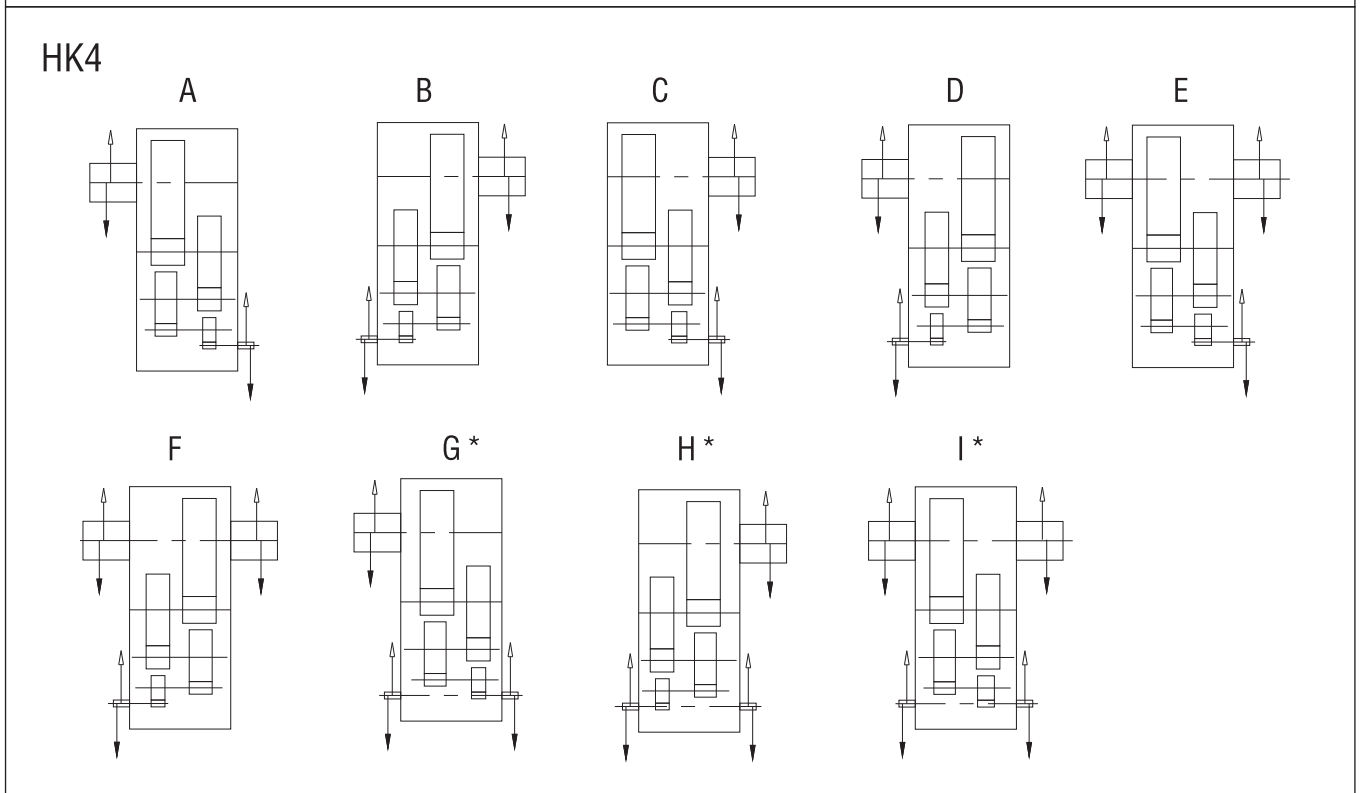
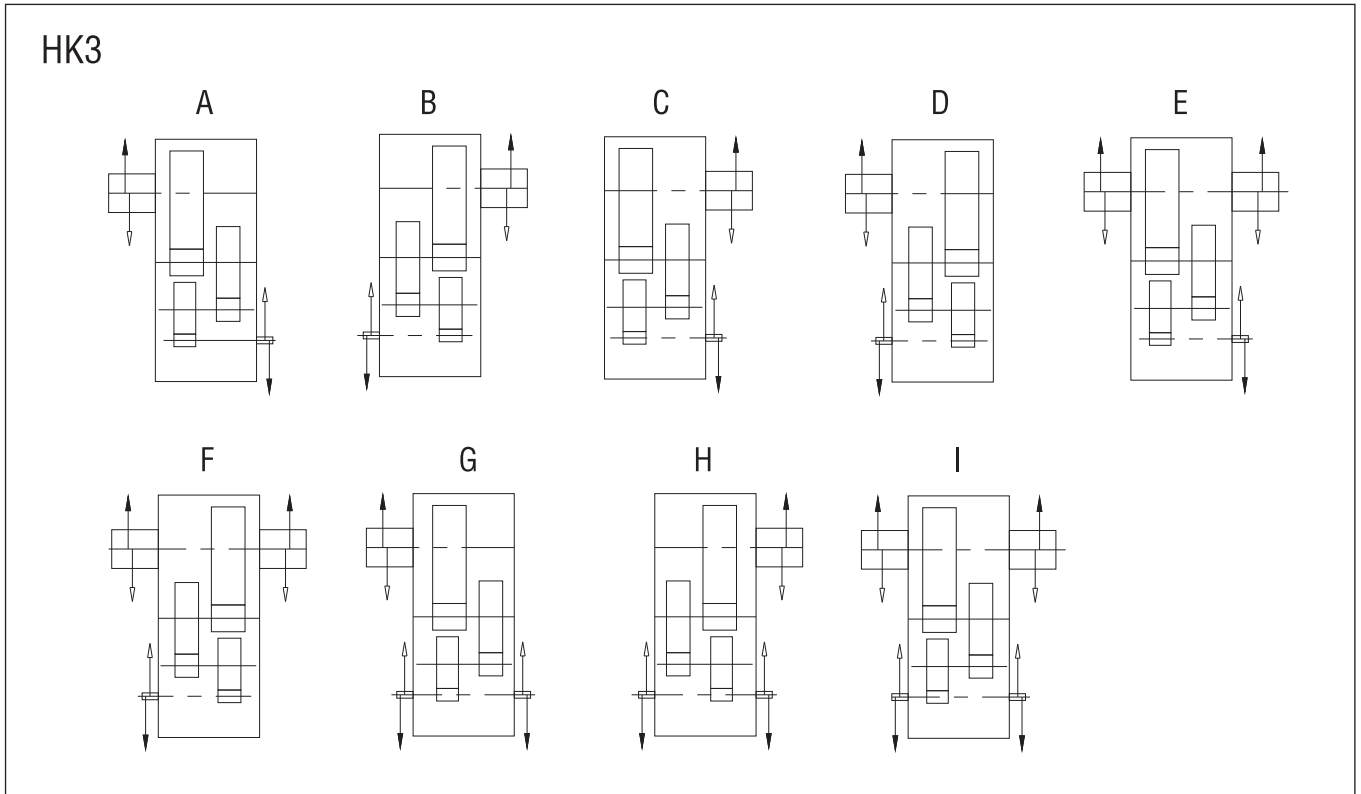
作用力系数k Factor for action force (k)

规格 Size	距离 Distance z ( mm )															
	-250	-200	-150	-100	-75	-50	-25	0	25	50	75	100	150	200	250	300
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
13\14			1.24	1.15	1.11	1.07	1.03	1	0.92	0.86	0.8	0.75	0.67	0.6	0.55	0.5
15\16			1.2	1.12	1.09	1.06	1.03	1	0.93	0.87	0.82	0.77	0.69	0.63	0.58	0.53
17\18		1.25	1.17	1.11	1.08	1.05	1.03	1	0.94	0.88	0.84	0.79	0.72	0.66	0.6	0.56
19\20		1.22	1.13	1.1	1.06	1.04	1.02	1	0.95	0.9	0.85	0.81	0.74	0.69	0.62	0.58
21\22	1.27	1.21	1.12	1.09	1.05	1.04	1.02	1	0.96	0.92	0.86	0.83	0.75	0.71	0.64	0.6



10 轴布置形式

10 Shaft arrangement



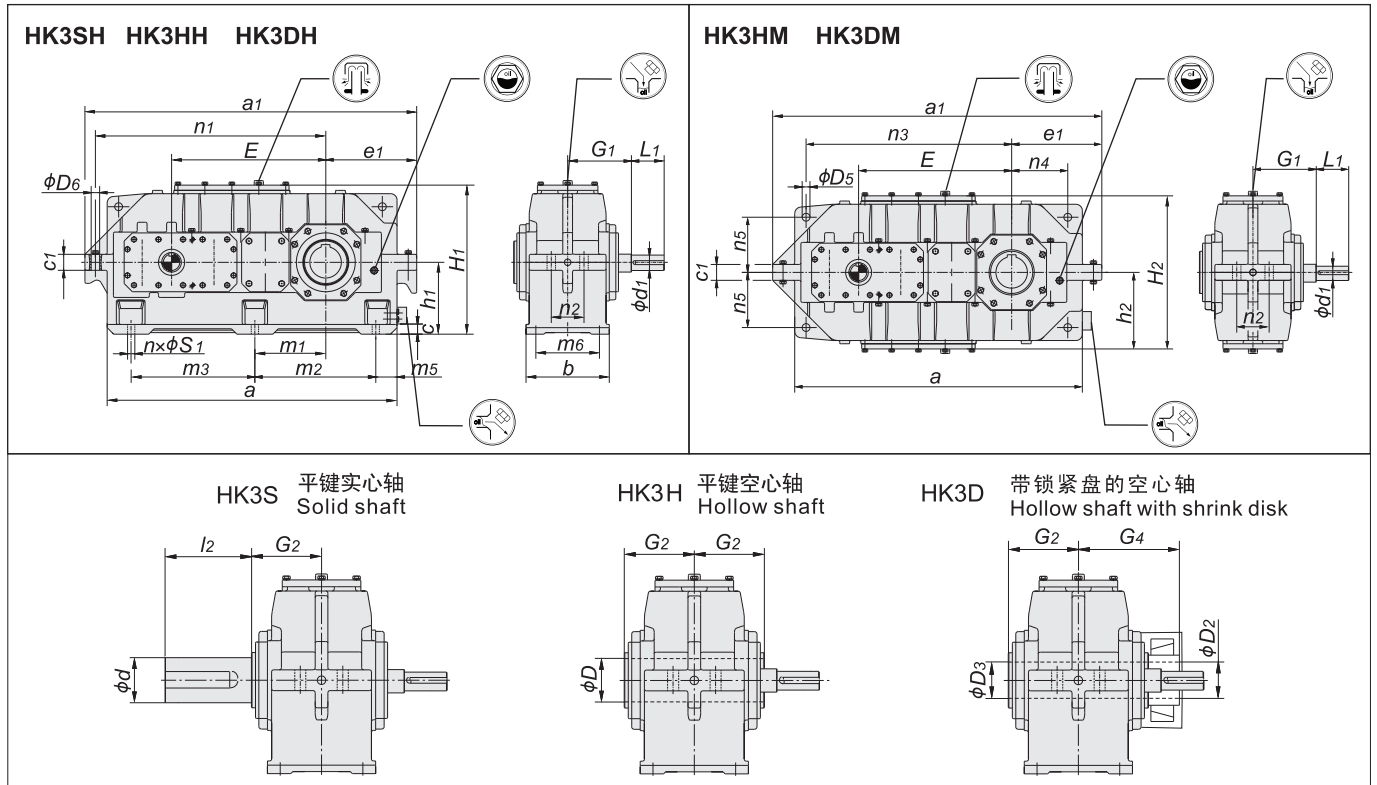
*) 布置形式 G\H\I 为右表中iN时 不可供货  *) Supply won't be satisfied when arrangement G/H/I are iN in right table	Size																		
	Type iN	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22
HK3	45 50	56 63	40 45 50	50 56 63	40 45 50	50 56 63	45 50	56 63	40 45 50	50 56 63	50 56 63	50 56	56 63	50 56	56 63	50 56	56 63	50 56	56 63
HK4	180 200	224 250	180 200	224 250	200	250	180 200	224 250	180 200	224 250	/	/	/	/	/	/	/	/	/



11 外形尺寸图

11 Outline dimensions:

HK3..05~HK3..14



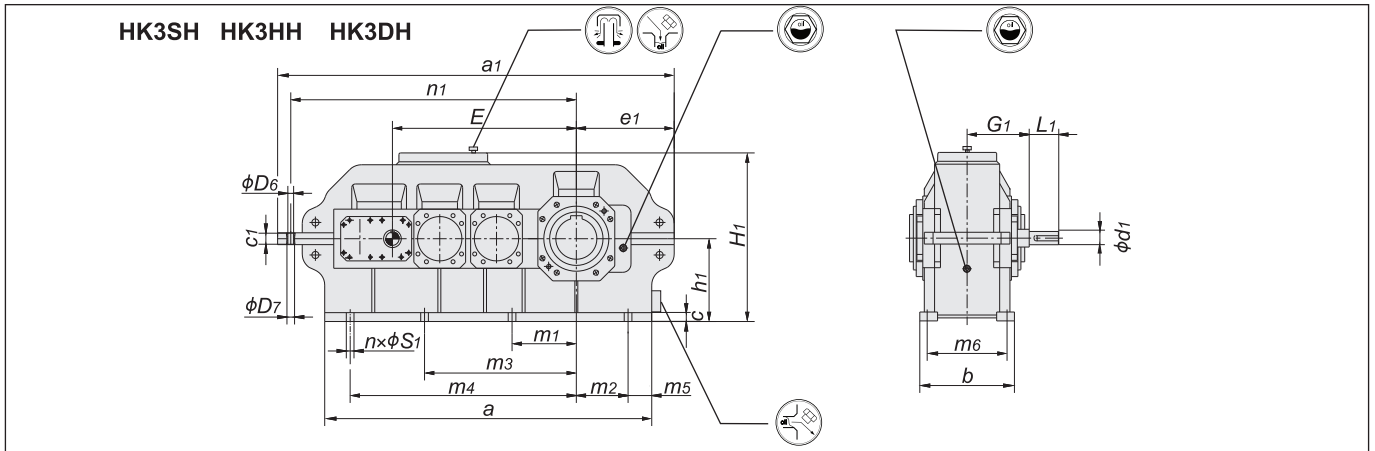
规格 Size	iN=14-25		iN=18-31.5		iN=28-50		iN=35.5-63		a	a1	b	c	c1	D5	D6
	d1	L1	d1	L1	d1	L1	d1	L1							
05	50k6	100			38k6	80			887	1015	255	30	49	24	26
06			50k6	100			38k6	80	972	1100	255	30	49	24	26
07	60m6	135			50k6	110			1025	1155	320	30	59	24	33
08			60m6	135			50k6	110	1106	1235	320	30	59	24	33
09	75m6	140			60m6	140			1190	1335	390	35	69	36	33
10			75m6	125			60m6	140	1290	1435	390	35	69	36	33
11	90m6	165			70m6	140			1418	1570	470	45	79	40	39
12			90m6	165			70m6	140	1556	1710	470	45	79	40	39
13	100m6	205			85m6	170			1647	1830	545	55	89	48	39
14			100m6	205			85m6	170	1783	1970	545	55	89	48	39

规格 Size	e1	E	G1	h1	h2	H1	H2	m1	m2	m3	m5	m6	n1	n2	n3
05	278	472	195	220	245	465	490	217	375	375	60	215	705	100	635
06	328	507	195	230	255	485	510	207	420	420	55	215	740	100	670
07	272	577	210	240	265	505	530	290	430	430	80	270	845	110	765
08	308	622	210	280	305	585	610	295	470	470	80	270	890	110	810
09	320	675	240	280	325	605	650	340	500	500	95	330	980	130	890
10	370	725	240	320	365	685	730	340	550	550	95	330	1030	130	940
11	370	815	275	320	365	685	730	405	605	605	104	400	1160	150	1070
12	440	885	275	380	425	805	850	405	675	675	104	400	1230	150	1130
13	430	950	330	380	435	815	870	472.5	712.5	712.5	110	465	1355	170	1240
14	500	1020	330	440	495	935	990	472.5	782.5	782.5	110	465	1425	170	1305

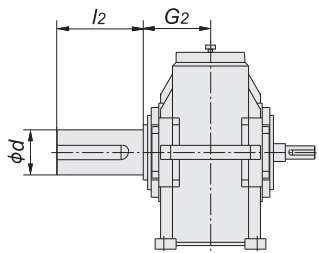
规格 Size	n4	n5	n	s1	d	D	D2	D3	G2	G4	l2	润滑油 Lubrication Oil (L)	重量 Weight (kg)
05	180	170	6	22	100m6	95H7	100H7	100H7	165	240	210	20	437
06	225	170	6	22	110m6	105H7	110H7	110H7	165	240	210	24	506
07	180	190	6	26	120m6	115H7	120H7	120H7	195	280	210	32	700
08	215	225	6	26	130m6	125H7	130H7	130H7	195	285	250	40	800
09	210	215	6	33	140m6	135H7	140H7	140H7	235	330	250	50	1100
10	260	255	6	33	160m6	150H7	150H7	150H7	235	350	300	60	1270
11	260	260	6	39	170m6	165H7	165H7	165H7	270	400	300	85	1770
12	310	310	6	39	180m6	180H7	180H7	180H7	270	405	300	115	2100
13	300	300	6	45	200m6	190H7	190H7	190H7	335	480	350	135	2760
14	350	360	6	45	210m6	210H7	210H7	210H7	335	480	350	170	3300



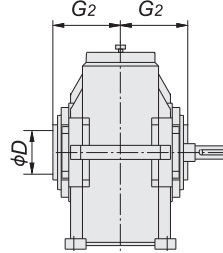
**HK3..15~HK3..22**



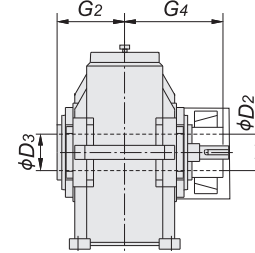
**HK3SH** 平键实心轴  
Parallel key solid shaft



**HK3HH** 平键空心轴  
Parallel key hollow shaft



**HK3DH** 带锁紧盘的空心轴  
Hollow shaft with shrink disk



规格 Size	iN=18-31.5		iN=20-35.5		iN=35.5-63		iN=40-63		a	a1	G1	b	c
	d1	L1	d1	L1	d1	L1	d1	L1					
15	100m6	205			85m6	170			1660	2050	330	595	40
16			100m6	205			85m6	170	1750	2145	330	595	40
17	120m6	210			100m6	210			1870	2270	365	655	45
18			120m6	210			100m6	210	2000	2400	365	655	45
19	125m6	245			110m6	210			2120	2565	420	730	50
20			125m6	245			110m6	210	2250	2695	420	730	50
21	170m6	290			140m6	250			2450	2887	495	790	55
22			170m6	290			140m6	250	2565	3002	495	790	55

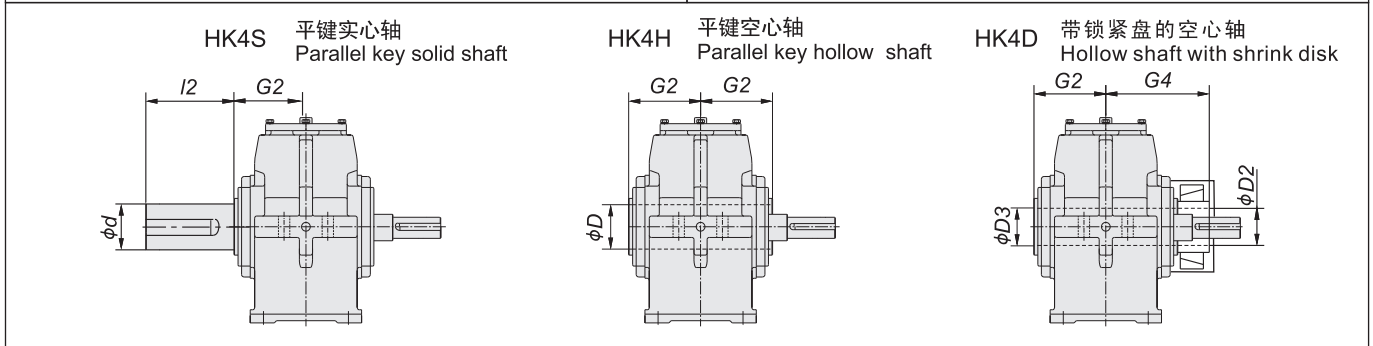
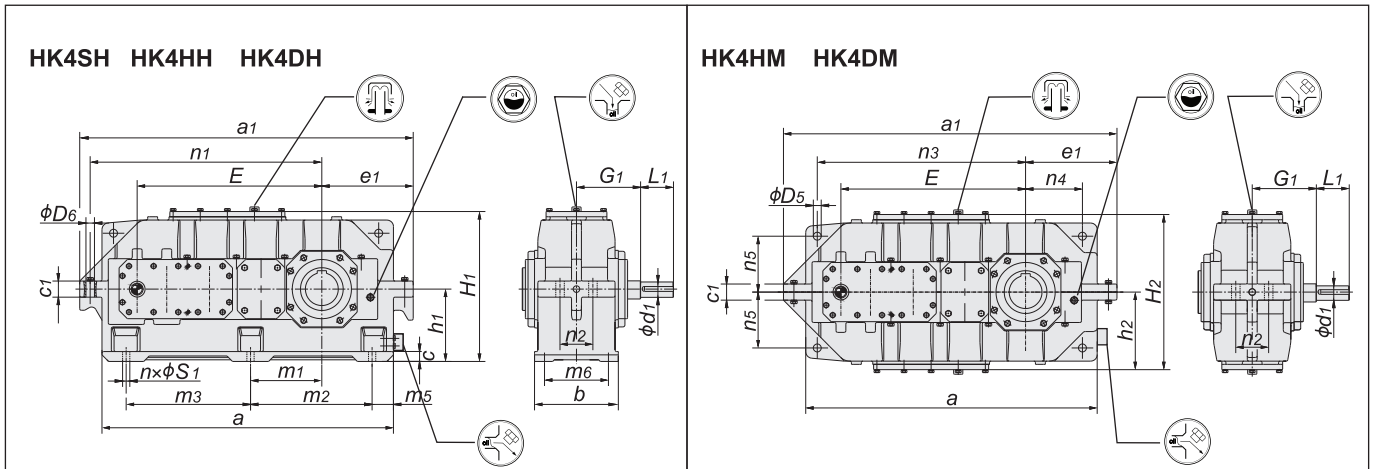
规格 Size	c1	D6	D7	e1	E	h1	H1	m1	m2	m3	m4	m5	m6
15	74	39	71	525	1067	440	945	235	315	705	1175	85	520
16	74	39	71	575	1113	500	1060	280	360	750	1220	85	520
17	74	39	71	565	1205	500	1070	270	350	810	1350	85	580
18	74	39	71	635	1265	550	1160	330	420	870	1410	85	580
19	84	45	82	635	1380	550	1175	300	400	910	1520	100	645
20	84	45	82	705	1440	620	1315	360	470	970	1580	100	645
21	84	45	82	705	1592	620	1330	360	450	1060	1760	120	700
22	84	45	82	765	1647	700	1485	415	510	1115	1815	120	700

规格 Size	n1	n	s1	d	D	D2	D3	G2	G4	l2	润滑油 Lubrication Oil (L)	重量 Weight (kg)
15	1475	8	42	230m6	230H7	230H7	230H7	380	550	410	180	3900
16	1520	8	42	240m6	240H7	240H7	240H7	380	550	410	195	4450
17	1655	8	42	250m6	250H7	250H7	250H7	415	600	410	210	5250
18	1715	8	42	270n6	275H7	280H7	280H7	415	600	470	240	6100
19	1870	8	48	290n6	-	285H7	285H7	465	670	470	285	7800
20	1930	8	48	300n6	-	310H7	310H7	465	670	500	360	8800
21	2120	8	56	320n6	-	330H7	330H7	490	715	500	410	10800
22	2175	8	56	340n6	-	340H7	340H7	490	725	550	520	12000





**HK4..05~HK4..14**



规格 Size	iN=22.4-100		iN=28-125		iN=112-140		iN=140-180		iN=160-200		iN=200-250		a	a1	b	c
	d1	L1	d1	L1	d1	L1	d1	L1	d1	L1	d1	L1				
05	40k6	90			30k6	70			24k6	60			887	1015	255	30
06			40k6	90			30k6	70			24k6	60	972	1100	255	30
07	45k6	100			35k6	80			28k6	70			1025	1155	320	30
08			45k6	100			35k6	80			28k6	70	1106	1235	320	30
09	60m6	125			45k6	100			32k6	80			1190	1335	390	35
10			60m6	125			45k6	100			32k6	80	1290	1435	390	35
11	70m6	140			50k6	110			42k6	100			1418	1570	470	45
12			70m6	140			50k6	110			42k6	100	1556	1710	470	45
13	85m6	160			60m6	135			50k6	110			1647	1830	545	55
14			85m6	160			60m6	135			50k6	110	1783	1970	545	55

规格 Size	c1	D5	D6	e1	E	G1	h1	h2	H1	H2	m1	m2	m3	m5	m6
05	49	24	26	278	562	170	220	245	465	490	217	375	375	60	215
06	49	24	26	328	597	170	230	255	485	510	207	420	420	55	215
07	59	24	33	272	687	210	240	265	505	530	290	430	430	80	270
08	59	24	33	308	732	210	280	305	585	610	295	470	470	80	270
09	69	36	33	320	805	250	280	325	605	650	340	500	500	95	330
10	69	36	33	370	855	250	320	365	685	730	340	550	550	95	330
11	79	40	39	370	975	285	320	365	685	730	405	605	605	104	400
12	79	40	39	440	1045	285	380	425	805	850	405	675	675	104	400
13	89	48	39	430	1135	325	380	435	815	870	472.5	712.5	712.5	110	465
14	89	48	39	500	1205	325	440	495	935	990	472.5	782.5	782.5	110	465

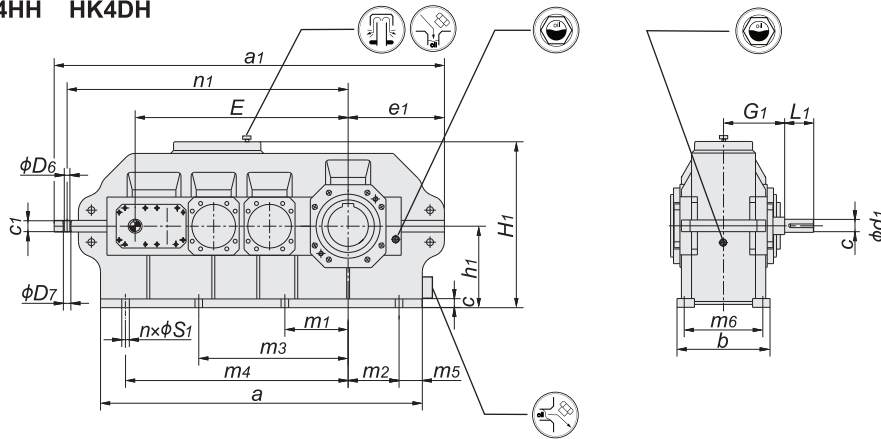
规格 Size	n1	n2	n3	n4	n5	n	s1	d	D	D2	D3	G2	G4	l2	润滑油 Lubrication Oil (L)	重量 (kg) Weight
05	705	100	635	180	170	6	22	100m6	95H7	100H7	100H7	165	240	210	20	440
06	740	100	670	225	170	6	22	110m6	105H7	110H7	110H7	165	240	210	24	515
07	845	110	765	180	190	6	26	120m6	115H7	120H7	120H7	195	280	210	32	710
08	890	110	810	215	225	6	26	130m6	125H7	130H7	130H7	195	285	250	40	800
09	980	130	890	210	215	6	33	140m6	135H7	140H7	140H7	235	330	250	50	1120
10	1030	130	940	260	255	6	33	160m6	150H7	150H7	150H7	235	350	300	60	1300
11	1160	150	1070	260	260	6	39	170m6	165H7	165H7	165H7	270	400	300	85	1800
12	1230	150	1130	310	310	6	39	180m6	180H7	180H7	180H7	270	405	300	115	2150
13	1355	170	1240	300	300	6	45	200m6	190H7	190H7	190H7	335	480	350	135	2810
14	1425	170	1305	350	360	6	45	210m6	210H7	210H7	210H7	335	480	350	170	3350



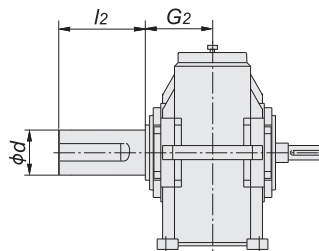


HK4.H15 ~ HK4.H22

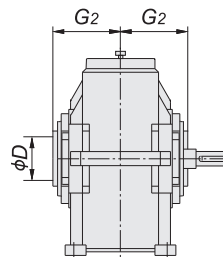
HK4SH HK4HH HK4DH



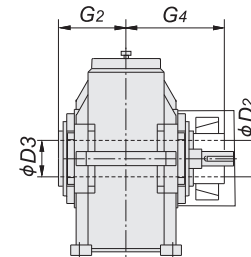
HK4SH 平键实心轴  
Parallel key solid shaft



HK4HH 平键空心轴  
Parallel key hollow shaft



HK4DH 带锁紧盘的空心轴  
Hollow shaft with shrink disk



规格 Size	iN=22.4-100		iN=28-125		iN=112-180		iN=125-200		a	a1	b	c
	d1	L1	d1	L1	d1	L1	d1	L1				
15	100m6	200			75m6	140			1940	2330	595	40
16			100m6	200			75m6	140	2030	2426	595	40
17	110m6	200			90m6	165			2165	2565	655	45
18			110m6	200			90m6	165	2295	2695	655	45
19	110m6	200			90m6	165			2420	2860	730	50
20			110m6	200			90m6	165	2550	2990	730	50
21	130m6	240			110m6	205			2790	3230	790	55
22			130m6	240			110m6	205	2905	3345	790	55

规格 Size	c1	D6	D7	e1	E	G1	h1	H1	m1	m2	m3	m4	m5
15	74	39	71	525	1347	365	440	945	285	315	885	1455	85
16	74	39	71	575	1393	365	500	1060	330	360	930	1500	85
17	74	39	71	565	1500	430	500	1070	310	350	970	1645	85
18	74	39	71	635	1560	430	550	1160	370	420	1030	1705	85
19	84	45	82	635	1645	430	550	1175	360	400	1120	1820	100
20	84	45	82	705	1705	430	620	1315	420	470	1180	1880	100
21	84	45	82	705	1912	470	620	1330	420	450	1290	2100	120
22	84	45	82	765	1967	470	700	1485	475	510	1345	2155	120

规格 Size	m6	n1	n	s1	d	D	D2	D3	G2	G4	l2	润滑油 Lubrication Oil (L)	重量 Weight (kg)
15	520	1755	8	42	230m6	230H7	230H7	230H7	380	550	410	185	4500
16	520	1800	8	42	240m6	240H7	240H7	240H7	380	550	410	200	5000
17	580	1950	8	42	250m6	250H7	250H7	250H7	415	600	410	245	6000
18	580	2010	8	42	270n6	275H7	280H7	280H7	415	600	470	285	7000
19	645	2165	8	48	290n6	-	285H7	285H7	465	670	470	320	8700
20	645	2225	8	48	300n6	-	310H7	310H7	465	670	500	420	9700
21	700	2465	8	56	320n6	-	330H7	330H7	490	715	500	465	12000
22	700	2520	8	56	340n6	-	340H7	340H7	490	725	550	590	13250

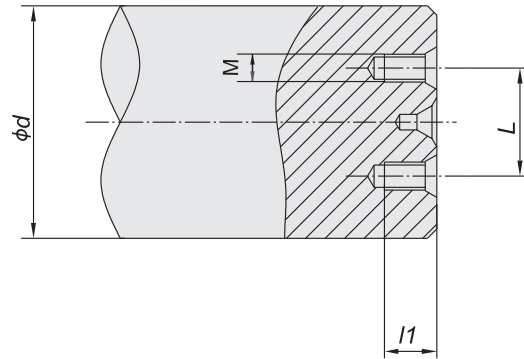
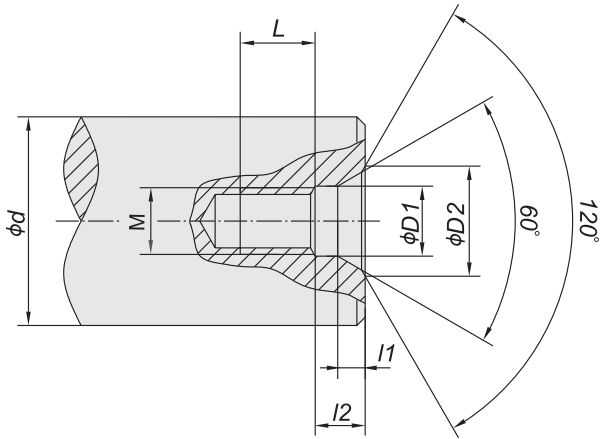


12 轴端螺纹孔:

12 Screw hole in shaft end:

轴端C型螺纹中心孔  
Type C screw central hole in shaft end

轴端双螺孔  
Double screw holes in shaft end



轴端C型螺纹中心孔尺寸  
Type C screw central hole in shaft end  
 $7 < d \leq 225$

轴端双螺孔尺寸  
Double screw holes in shaft end  
 $225 < d$

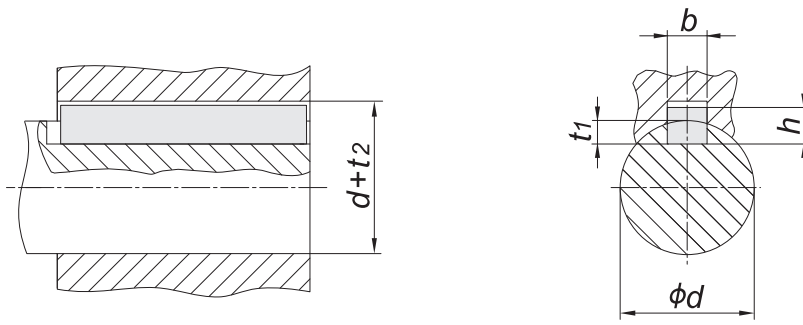
d	M	L	l2	l1	D1	D2
$7 < d \leq 10$	M3	10	2.6	1.8	3.2	5.8
$10 < d \leq 13$	M4	10	3.2	2.1	4.3	7.4
$13 < d \leq 16$	M5	10	4	2.4	5.3	8.8
$16 < d \leq 21$	M6	12	5	2.8	6.4	10.5
$21 < d \leq 24$	M8	12	6	3.3	8.4	13.2
$24 < d \leq 30$	M10	15	7.5	3.8	10.5	16.3
$30 < d \leq 38$	M12	20	9.5	4.4	13	19.8
$38 < d \leq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

d	M	l1	L
$225 < d \leq 230$	M16	28	160
$230 < d \leq 280$	M20	38	180
$280 < d \leq 290$			190
$290 < d \leq 310$	M24	45	220
$310 < d \leq 330$			230
$330 < d \leq 340$			240
$340 < d \leq 360$			250
$360 < d \leq 390$			270
$390 < d \leq 420$	M30	55	300
$420 < d \leq 460$			320
$460 < d \leq 500$			350



13 平键与键槽尺寸

13 Parallel keys and keyway:



d	b	h	t <sub>1</sub>	d + t <sub>2</sub>
8 < d ≤ 10	3	3	1.8	d + 1.4
10 < d ≤ 12	4	4	2.5	d + 1.8
12 < d ≤ 17	5	5	3	d + 2.3
17 < d ≤ 22	6	6	3.5	d + 2.8
22 < d ≤ 30	8	7	4	d + 3.3
30 < d ≤ 38	10	8	5	d + 3.3
38 < d ≤ 44	12	8	5	d + 3.3
44 < d ≤ 50	14	9	5.5	d + 3.8
50 < d ≤ 58	16	10	6	d + 4.3
58 < d ≤ 65	18	11	7	d + 4.4
65 < d ≤ 75	20	12	7.5	d + 4.9
75 < d ≤ 85	22	14	9	d + 5.4
85 < d ≤ 95	25	14	9	d + 5.4
95 < d ≤ 110	28	16	10	d + 6.4
110 < d ≤ 130	32	18	11	d + 7.4
130 < d ≤ 150	36	20	12	d + 8.4
150 < d ≤ 170	40	22	13	d + 9.4
170 < d ≤ 200	45	25	15	d + 10.4
200 < d ≤ 230	50	28	17	d + 11.4
230 < d ≤ 260	56	32	20	d + 12.4
260 < d ≤ 290	63	32	20	d + 12.4
290 < d ≤ 330	70	36	22	d + 14.4
330 < d ≤ 380	80	40	25	d + 15.4
380 < d ≤ 440	90	45	28	d + 17.4
440 < d ≤ 500	100	50	31	d + 19.5
500 < d ≤ 560	110	56	34.3	d + 22.2
560 < d ≤ 640	120	63	39	d + 24.5

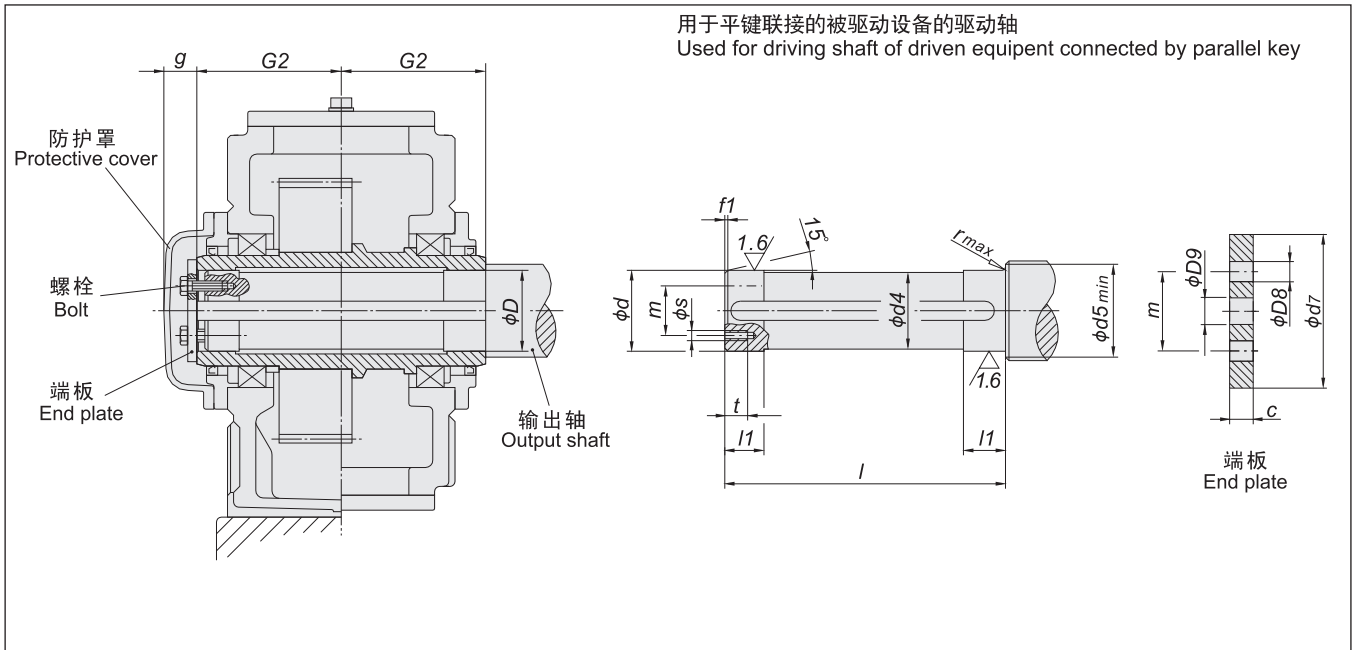


## 14 建议输出联接尺寸图表

## 14 Dimensions for recommended output connections:

### 14.1带平键联接的空心轴尺寸图表:

### 14.1 Hollow shaft with parallel keys:



类型 Type HK3H HK4H

规格 Size	被驱动设备的驱动轴 Driven machine shaft									端板 End plate				螺栓 Bolt		空心轴 Hollow shaft			
	d	d <sub>4</sub>	d <sub>5</sub>	f <sub>1</sub>	l	l <sub>1</sub>	r	s	t	c	D <sub>8</sub>	D <sub>9</sub>	d <sub>7</sub>	m	规格 Size	数量 Qty.	D	G <sub>2</sub>	g
05	95h6	94.5	105	5	328	40	1.6	M 10	18	10	11	26	120	70	M 10 x 25	2	95H7	165	40
06	105h6	104.5	116	5	328	45	1.6	M 10	18	10	11	26	120	70	M 10 x 25	2	105H7	165	40
07	115h6	114.5	126	5	388	50	1.6	M 12	20	12	13.5	26	140	80	M 12 x 30	2	115H7	195	40
08	125h6	124.5	136	6	388	55	2.5	M 12	20	12	13.5	26	150	85	M 12 x 30	2	125H7	195	40
09	135h6	134.5	147	6	467	60	2.5	M 12	20	12	13.5	33	160	90	M 12 x 30	2	135H7	235	45
10	150h6	149.5	162	6	467	65	2.5	M 12	20	12	13.5	33	185	110	M 12 x 30	2	150H7	235	45
11	165h6	164.5	177	7	537	70	2.5	M 16	28	15	17.5	33	195	120	M 16 x 40	2	165H7	270	45
12	180h6	179.5	192	7	537	75	2.5	M 16	28	15	17.5	33	220	130	M 16 x 40	2	180H7	270	45
13	190h6	189.5	206	7	667	80	3	M 16	28	18	17.5	33	230	140	M 16 x 40	2	190H7	335	45
14	210h6	209.5	226	8	667	85	3	M 16	28	18	17.5	33	250	160	M 16 x 40	2	210H7	335	45
15	230h6	229.5	248	8	756	100	3	M 20	38	25	22	39	270	180	M 20 x 55	4	230H7	380	60
16	240h6	239.5	258	8	756	100	3	M 20	38	25	22	39	280	180	M 20 x 55	4	240H7	380	60
17	250h6	249.5	270	8	826	110	4	M 20	38	25	22	39	300	190	M 20 x 55	4	250H7	415	60
18	275h6	274.5	295	9	826	120	4	M 20	38	25	22	39	330	210	M 20 x 55	4	275H7	415	60

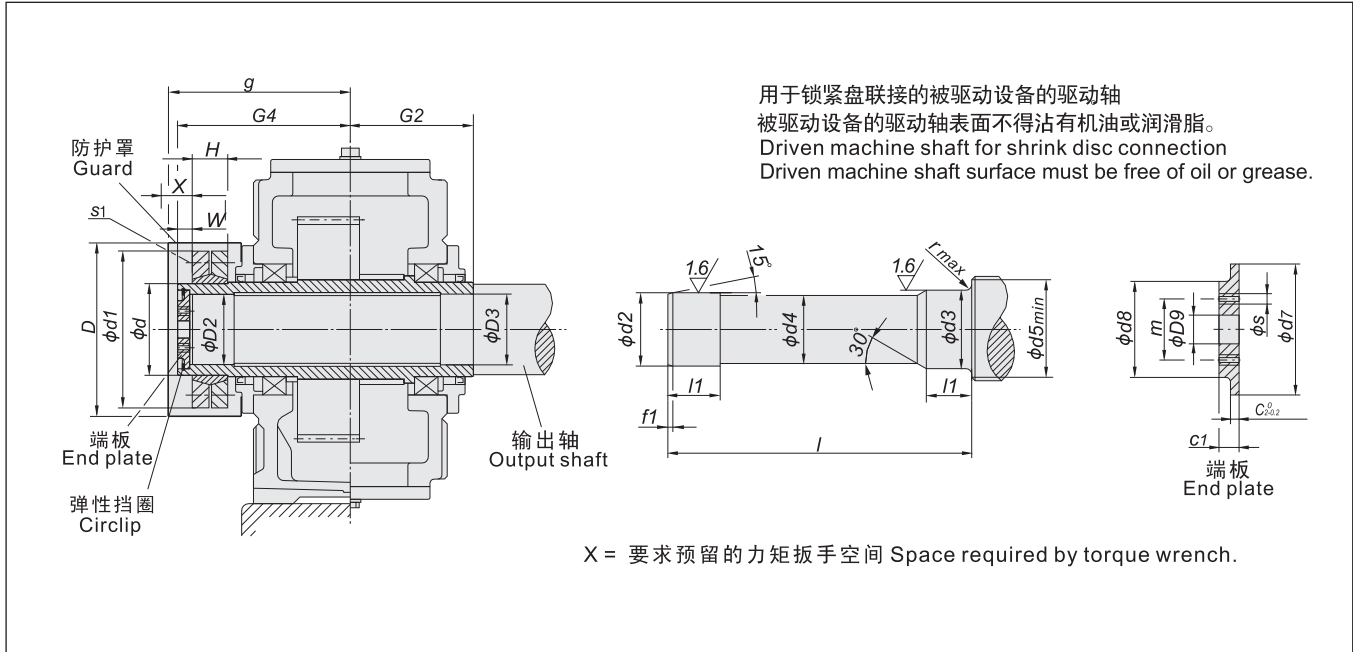
注: 1.被驱动设备的驱动轴材质: 40Cr或强度更高的钢。  
2.被驱动设备的驱动轴及平键不在我们的供货范围之内。如果需要的话, 请另订货。  
3.防护罩、端板及螺栓均为带平键联接空心轴的标准配置。

Note: 1. Material of driven machine shaft: 40Cr or higher strength steel.  
2. Driven machine shaft and parallel keys don't belong to the scope of our supply. Please order separately, if required.  
3. Protection cover, end board and bolts are standard allocation of hollow shaft with parallel key connections.



14.2带锁紧盘联接的空心轴尺寸图表:

14.2Hollow shaft with shrink disk:



类型Type HK3D HK4D																													
规格 Size	被驱动设备的驱动轴 Driven machine shaft 2)																弹性挡圈 Circlip	空心轴 Hollow shaft				锁紧盘 Shrink disk 1)				螺栓 Bolt	防护罩 Guard		
	d <sub>2</sub>	d <sub>3</sub>	d <sub>4</sub>	d <sub>5</sub>	f <sub>1</sub>	l	l <sub>1</sub>	r	c <sub>1</sub>	c <sub>2</sub>	d <sub>7</sub>	d <sub>8</sub>	D <sub>9</sub>	m	s	数量 Qty.		D <sub>2</sub>	D <sub>3</sub>	G <sub>2</sub>	G <sub>4</sub>	Type	d	d <sub>1</sub>	H			W	s <sub>1</sub>
05	100 g6	100 h6	99.5	114	5	383	53	2	20	8	105	80	26	55	M 10	2	105	100H7	100	165	240	SP2-125	125	215	53	20	M 12	275	255
06	110 g6	110 h6	109.5	124	5	383	58	3	20	8	115	85	26	60	M 10	2	115	110H7	110	165	240	SP2-140	140	230	58	20	M 12	285	255
07	120 g6	120 h6	119.5	134	5	453	68	3	20	8	125	90	26	65	M 12	2	125	120H7	120	195	280	SP2-155	155	263	62	23	M 12	330	295
08	130 g6	130 h6	129.5	145	6	458	73	3	20	8	135	100	26	70	M 12	2	135	130H7	130	195	285	SP2-165	165	290	68	23	M 16	340	300
09	140 g6	140 h6	139.5	160	6	539	82	4	23	10	150	110	33	80	M 12	2	150	140H7	140	235	330	SP2-175	175	300	68	28	M 16	360	345
10	150 g6	150 h6	149.5	170	6	559	92	4	23	10	160	120	33	90	M 12	2	160	150H7	150	235	350	SP2-200	200	340	85	28	M 16	395	365
11	165 f6	165 g6	164.5	185	7	644	112	4	23	10	175	130	33	90	M 12	2	175	165H7	165	270	400	SP2-220	220	370	103	30	M 16	435	420
12	180 f6	180 g6	179.5	200	7	649	122	4	23	10	190	140	33	100	M 16	2	190	180H7	180	270	405	SP2-240	240	405	107	30	M 20	450	420
13	190 f6	190 g6	189.5	213	7	789	137	5	23	10	200	150	33	110	M 16	2	200	190H7	190	335	480	SP2-260	260	430	119	30	M 20	500	505
14	210 f6	210 g6	209.5	233	8	784	147	5	28	14	220	170	33	130	M 16	2	220	210H7	210	335	480	SP2-280	280	460	132	30	M 20	525	505
15	230 f6	230 g6	229.5	253	8	899	157	5	28	14	240	180	39	140	M 16	2	240	230H7	230	380	550	SP2-300	300	485	140	35	M 20	575	575
16	240 f6	240 g6	239.5	263	8	899	157	5	28	14	250	190	39	150	M 20	2	250	240H7	240	380	550	SP2-320	320	520	140	35	M 20	595	575
17	250 f6	250 g6	249.5	278	8	982	177	5	30	14	265	200	39	150	M 20	2	265	250H7	250	415	600	SP2-340	340	570	155	35	M 20	615	630
18	280 f6	280 g6	279.5	306	9	982	177	5	30	14	290	210	39	160	M 20	2	290	280H7	280	415	600	SP2-360	360	590	162	35	M 24	635	625
19-22	敬请垂询 On request																												

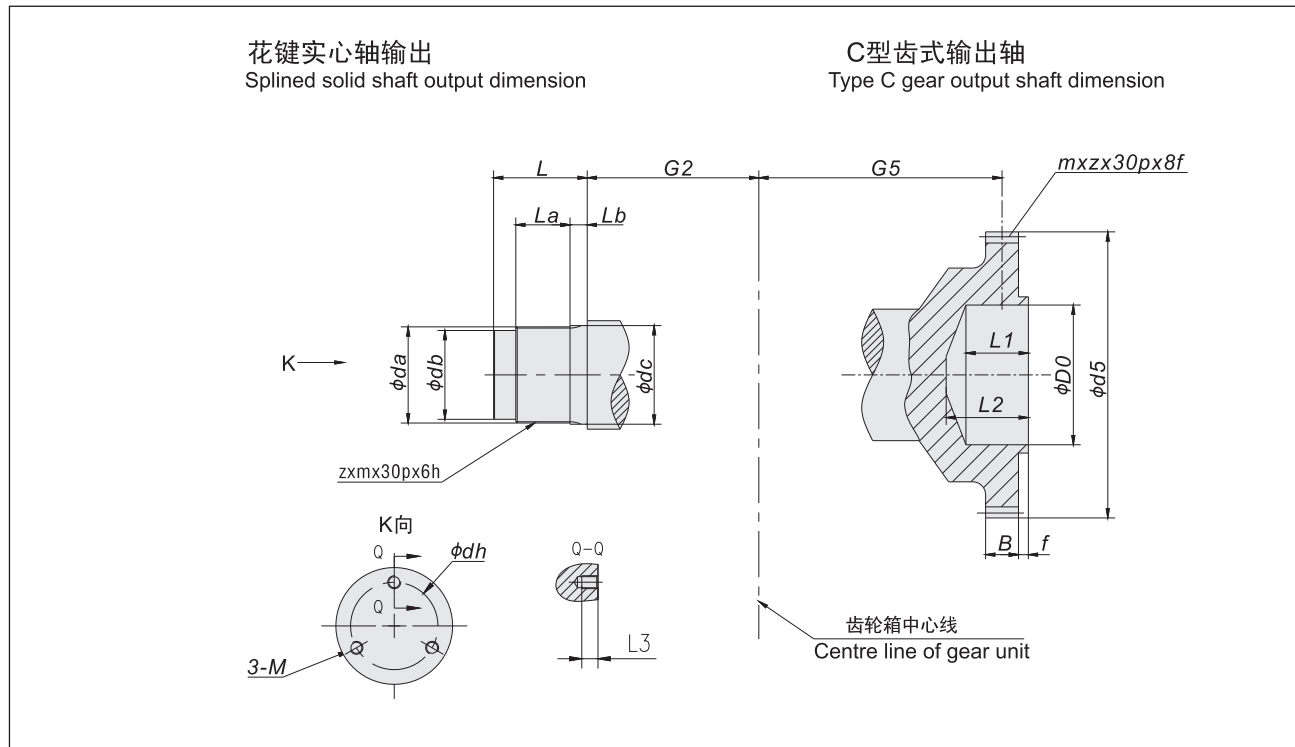
注: 1.被驱动设备的驱动轴材质: 40Cr或强度更高的钢。  
 2.被驱动设备的驱动轴不在供货范围之内。但尺寸函索即复。  
 3.锁紧盘、防护罩、端板及弹性挡圈均为带锁紧盘联接空心轴的标准配置。

1) Material of driven machine shaft:40Cr or higher strength steel.  
 2) Driven machine shaft doesn't belong to the scope of our supply. But you can get the dimensions with e-mail.  
 3) Shrink disk,protective cover,end plate and circlip are standard allocation of hollow shaft with shrink disc.



14.3花键实心轴和C型齿式输出轴尺寸图表:

14.3Dimensions of splined solid shaft and type C output shaft:



花键实心轴输出尺寸 Splined solid shaft output dimension												C型齿式输出轴尺寸 Type C gear output shaft dimension								
规格 Size	G <sub>2</sub>	zxm	da	db	dc	dh	L	La	Lb	M	L <sub>3</sub>	mxz	d <sub>5</sub>	D <sub>0</sub>	L <sub>1</sub>	L <sub>2</sub>	B	f	G <sub>5</sub>	
05	165	18x5	95h6	80h6	100	50	125	55	35	M10	17	4X56	232h11	120H7	50	75	35	14	271	
06	165	22x5	115h6	100h6	120	70	135	60	40	M12	20	4X56	232h11	120H7	50	75	35	14	271	
07	195	26x5	135h6	120h6	140	90	155	75	45	M12	20	4X56	232h11	120H7	76	100	35	14	346	
08	195	26x5	135h6	120h6	140	90	155	75	45	M12	20	4X56	232h11	120H7	76	100	35	14	346	
09	235	30x5	155h6	140h6	160	100	165	80	50	M12	20	8X54	448h11	200H7	78	100	50	15	370	
10	235	34x5	175h6	160h6	180	110	180	80	55	M16	24	8X54	448h11	200H7	78	100	50	15	385	
11	270	38x5	195h6	180h6	200	130	190	100	55	M16	24	8X54	448h11	200H7	78	100	50	15	420	
12	270	38x5	195h6	180h6	200	130	190	100	55	M16	24	8X54	448h11	200H7	78	100	50	15	430	
13	335	26x8	216h6	190h6	222	140	205	110	60	M16	24	10X48	500h11	200H7	78	100	60	35	513	
14	335	26x8	216h6	190h6	222	140	205	110	60	M16	24	10X48	500h11	200H7	78	100	60	35	513	
15	400	30x8	248h6	220h6	254	160	220	125	60	M16	24	10X48	500h11	200H7	78	100	60	35	550	
16	400	30x8	248h6	220h6	254	160	220	125	60	M16	24	10X48	500h11	200H7	78	100	60	35	575	
17	450	30x8	248h6	220h6	254	160	220	125	60	M16	24	12X54	672h11	290H7	78	100	75	45	600	
18	450	34x8	280h6	250h6	286	180	235	140	60	M20	30	12X54	672h11	290H7	78	100	75	45	625	
19	500	38x8	312h6	280h6	318	200	260	155	70	M24	40	12X54	672h11	290H7	78	100	75	45	655	
20	500	38x8	312h6	280h6	318	200	260	155	70	M24	40	12X54	672h11	290H7	78	100	75	45	675	
21	550	44x8	360h6	320h6	366	230	285	175	75	M24	40	/	/	/	/	/	/	/	/	
22	550	44x8	360h6	320h6	366	230	315	205	75	M24	40	/	/	/	/	/	/	/	/	

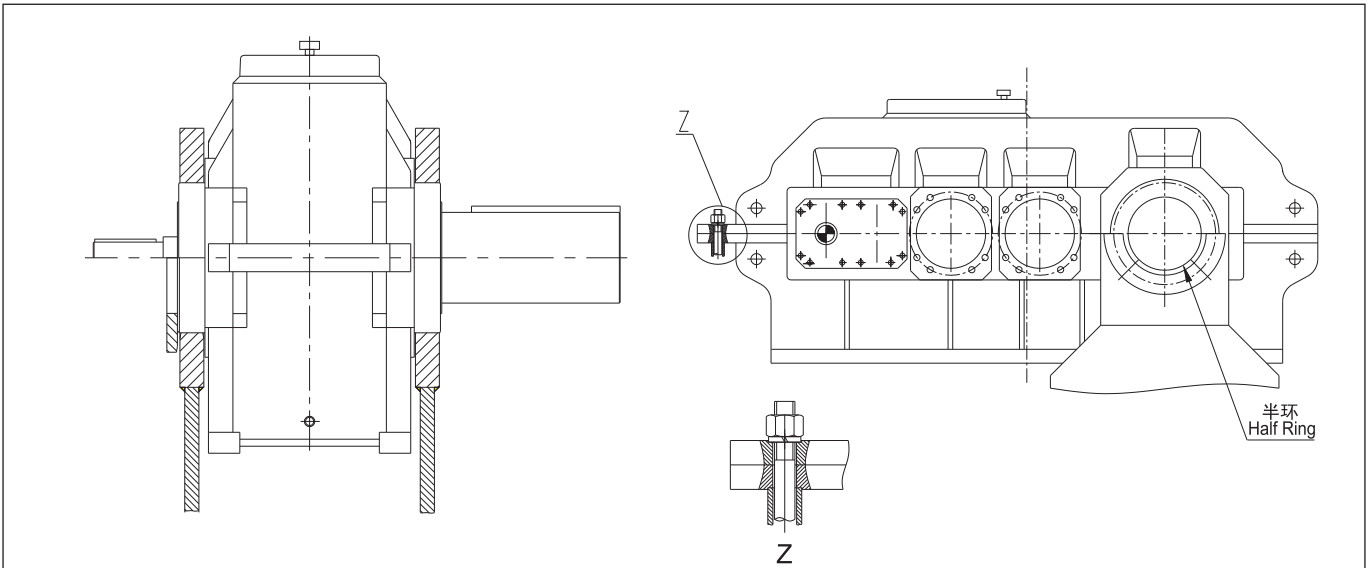


15 应用示意图:

15 Sectional drawing:

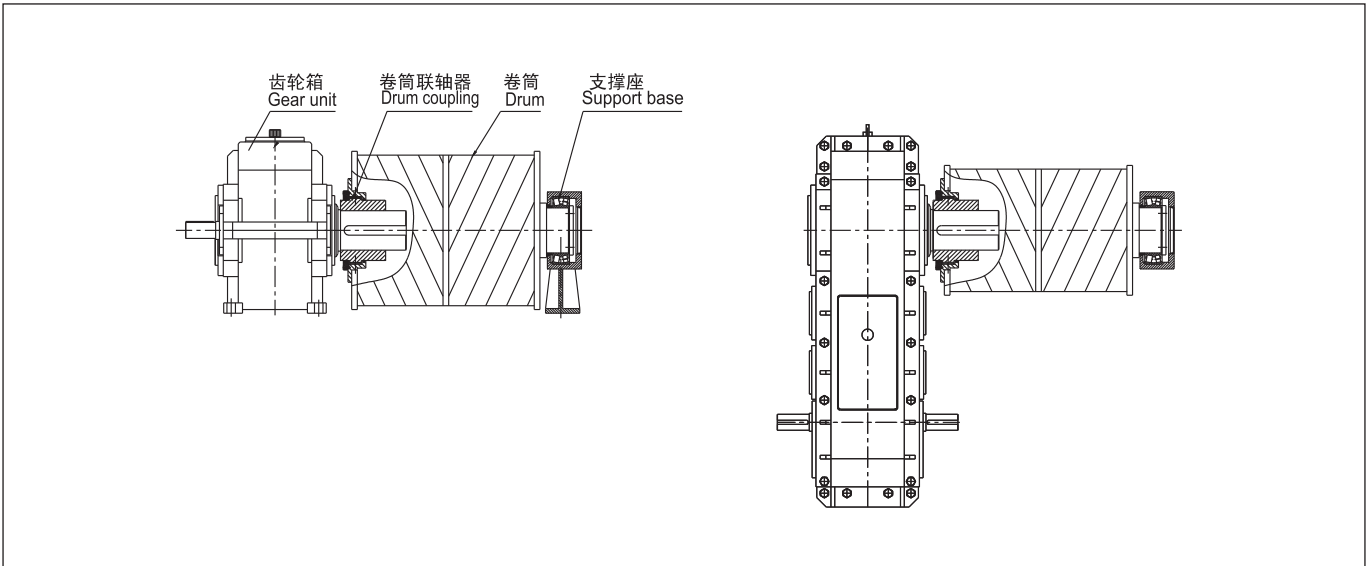
15.1 三点支撑安装示意图:

15.1 Mounted with three support points:



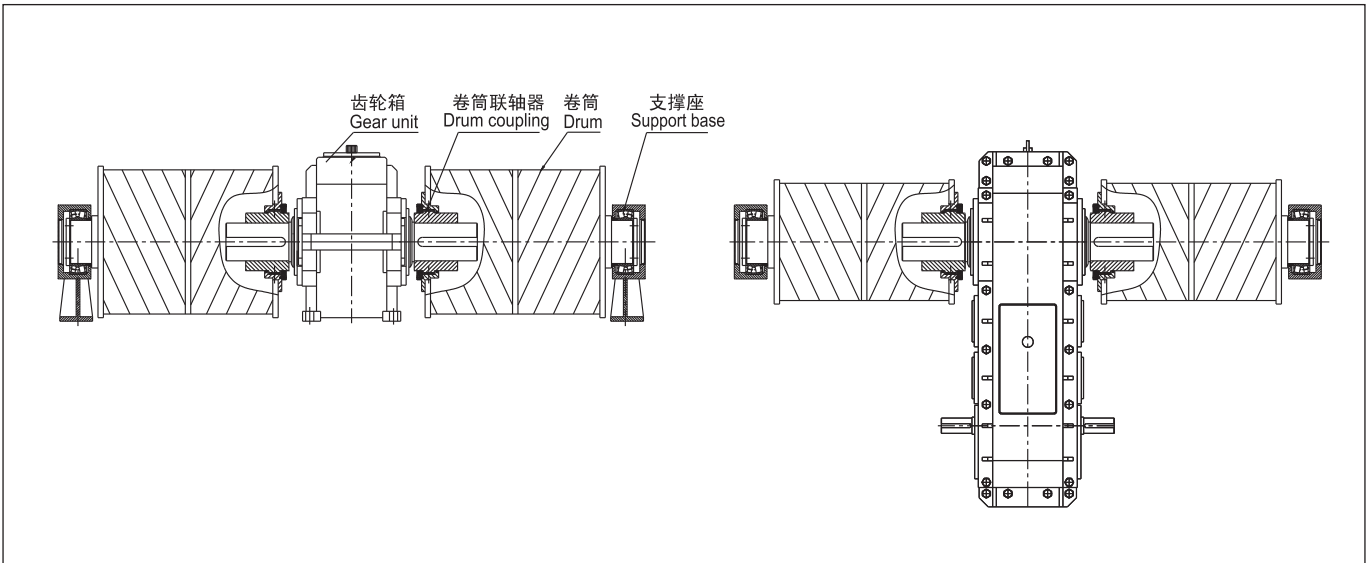
15.2 单卷筒传动示意图:

15.2 Single drum transmission:



15.3 双卷筒传动示意图:

15.3 Double drums transmission:





16 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)】**

16 Lubrication oil (heavy-loading industrial gear wheel  
oil) viscosity brand selection.  
**【VG320(Accessory code:UV32);**  
**Vg460(Accessory code:UV46)】**

环境温度℃ Ambient temperature	-20℃~+40℃	+30℃~+50℃
粘度牌号 Viscosity brand number	VG320	VG460

- ⚠ 注:** 1.上表中粘度牌号为40℃温度下的ISO-VG粘度。 Note: 1.Viscosity brand number in the above table is ISO-VG viscosity under 40℃.
- 2.环境温度低于-10℃必须使用合成油。 2.Synthetic oil must be used when ambient temperature is lower than-10℃.
- 3.为保证产品寿命, 实际使用中建议使用合成油。 3.To ensure product lifespan,we suggest synthetic oil in application.
- 4.若环境温度超出上述范围, 敬请垂询。 4.If ambient temperature exceeds the above range,please consult us.





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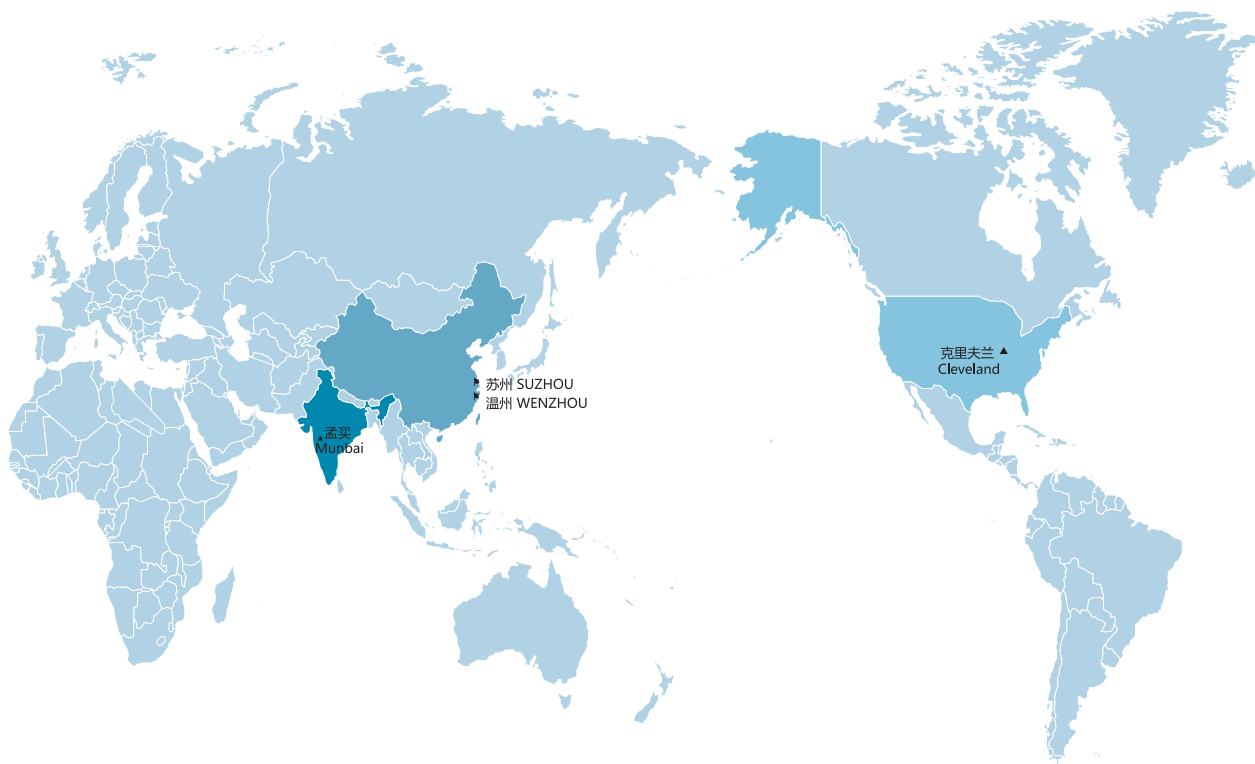
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