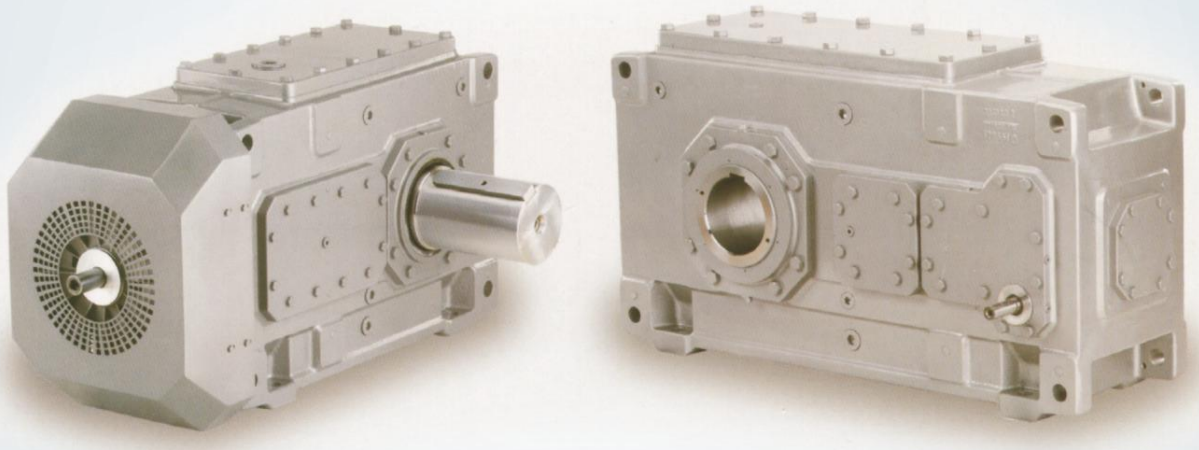


飞而速齿轮箱

齿轮箱 Gear Units 规格 / Sizes 1-22

FLYSOON

www.flysoon.net.cn

公司简介

飞而速传动，品牌技术源于德国FLYSOON，1985年在中国投资建厂，后经多元化股份改组，现已成为一家从事减、变速机研发、制造和经营于一体的高新科技企业。公司占地面积40000平方米，现有员工800多人，其中技术人员占20%。主要产品有：FSR系列斜齿轮减速机、FSS系列斜齿蜗轮蜗杆减速机、FSK系列锥齿轮减速机、FSF系列斜齿轮减速机、FSH、FSB系列大功率减速机、FSP系列行星齿轮减速机、X / B、8000系列摆线针轮减速机、FSXG系列悬挂减速机、FSSWL系列蜗轮螺杆升降机、FST/HD系列螺旋锥齿轮转向箱等十六大系列，共计10000多个传动比，规格之多居国内行业之首；公司创建以来一贯以先进的经营理念、差异化的产品、丰富的制造经验、高度的责任心使产品广泛服务于：港口码头、钢铁冶金、啤酒饮料、矿山机械、食品包装、纺织印染、橡胶塑料、石油化工、起重运输、制药制革、环保设备等轻、重工业的机械传动领域。

为提高企业的技术装备和工艺水平，公司引进了德国HOFLER成型磨齿机及目前国内最先进的精密数控车床、加工中心、精密蜗轮磨床、数控蜗杆砂轮磨齿机、滚齿机、三坐标测量仪、齿轮检测仪器等精密仪器设备300多台/套，使产品制造工艺及装备具有国内领先水平。同时公司在国内同行业率先通过了ISO9001国际质量体系认证。

公司在全国各地设立了30多家销售分公司和门市部（售后服务网点），及时地、全方位地为广大客户提供周全的服务。产品还远销三十多个国家，分别分布于美洲、欧洲、亚洲、非洲，在国内外享有很好的信誉。创名牌产品是“飞而速”的目标，让客户满意是“飞而速”的宗旨。公司快速、健康的发展得到政府及相关部门的肯定，近几年被政府及相关部门授予工商企业信用A级“重合同守信用”单位、农业银行AAA级资信企业、高新技术企业、重点龙头企业、纳税大户，并成为中国通用机械减速机行业协会理事单位等。

About us

FLYSOON TRANSMISSION EQUIPMENT, The Factory was established in 1985 with the aim of improving the manufacturing level of gearbox in China. It covers more than 40000 square meters, owning over 800 staffs, including 18 series products:

1. FSR/FSS/FSK/FSF four seres - hard tooth flank gearbox
2. FSH/FSB two series gearbox - especially for mining
3. FSP series - high power planetary gearbox
4. X/B\8000 series and PYZ series cycloid reducer
5. FSXG series & SMR series - shaft-mounted gearbox
6. SWL series - worm screw jack
7. FST/HD series - helical cone gearbox
8. NMRV series - worm reducer
9. ZDY/DBY two series - cone-column gearbox

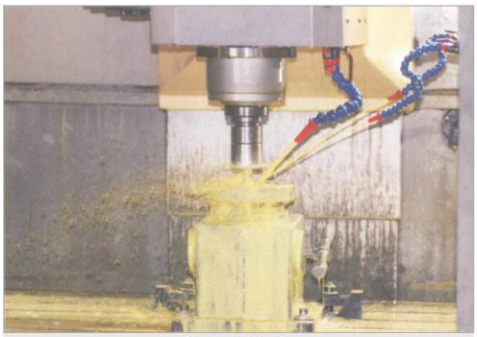
The products are widely used in transmission field of light & heavy industry

1. Beer & beverage
2. Mining machine
3. Food packing
4. Textile printing
5. Rubber & plastic material
6. Petrochemical industry
7. Transportation
8. Pharmacy & process hides
9. Environmental protection equipment

The factory was audited by SGS / BV / TUV and we were the first one to obtain the ISO9001 QA certification.

加工中心
Machining center

加工中心
Machining center



加工中心
Machining center

德玛吉加工中心
DMC 1035 V ECOLINE

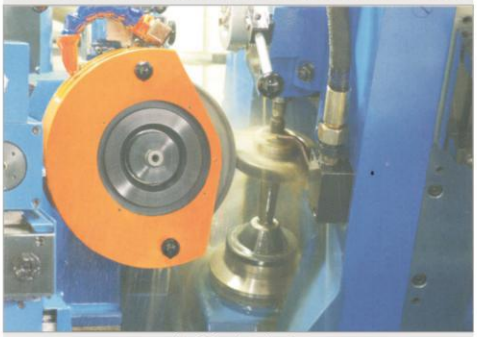
转矩转速功率测量仪
Measure instrument for torque, rotation rate and power

卧式加工中心
Machining center

三坐标测量仪
Three dimensional measure instrument

齿轮测量中心
Gear machining center

齿轮整体误差测量仪
Gear entirety error measure instrument



数控磨齿机
Numerical control gear grinding machine

数控磨齿机
Numerical control gear grinding machine

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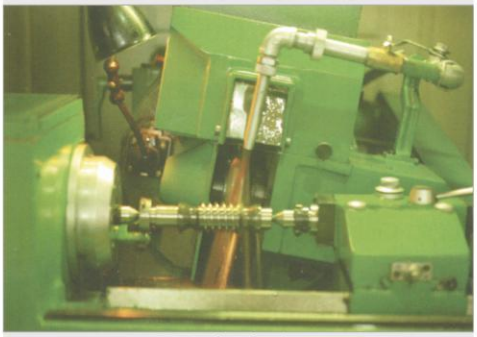
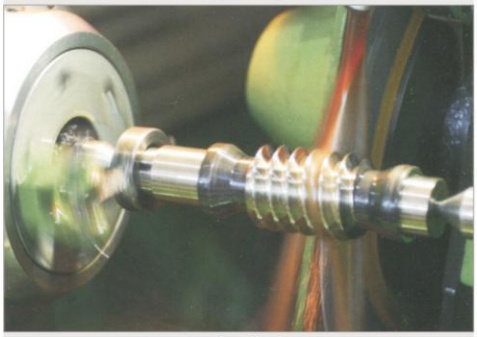
Numerical control gear grinding machine



蜗杆磨床
Worm grinding machine

蜗 杆
Worm



蜗杆磨床
Worm grinding machine

服务系数 Service Factors

表1
Table 1

工作机系数 Factor for driven machine — f1

工作机 Driven machines		日带载运行时间（小时）Effective daily operating period under load in hours 0.5	>0.5–10	>10
污水处理	**Waste water treatment**			
浓缩器（中心传动）	Thickeners(central drive)	–	–	1.2
压滤器	Filter presses	1.0	1.3	1.5
絮凝器	Flocculation apparata	0.8	1.0	1.3
曝气机	Aerators	–	1.8	2.0
搂集设备	Raking equipment	1.0	1.2	1.3
纵向、回转组合式接集装置	Combined longitudinal and rotaty rakes	1.0	1.3	1.5
浓缩器	Pre-thickeners	–	1.1	1.3
螺杆泵	Screw pumps	–	1.3	1.5
水轮机	Water turbines	–	–	2.0
泵	Pumps			
离心泵	Centrifugal pumps	1.0	1.2	1.3
容积式泵	Positive-displacement pumps			
1个活塞	1 piston	1.3	1.4	1.8
>1个活塞	> 1piston	1.2	1.4	1.5
挖泥机	**Dredgers**			
斗式运输机	Bucket conveyors	–	1.6	1.6
倾卸装置	Dumping devices	–	1.3	1.5
Carterpillar行走机构	Carterpillar travelling gears	1.2	1.6	1.8
斗式挖掘机	Bucket wheel excavators			
用于捡拾	as pick-up	–	1.7	1.7
用于粗料	for primitive material	–	2.2	2.2
切碎机	Cutter heads	–	2.2	2.2
行走机构	Traversing gears	–	1.4	1.8
弯板机	**Plate bending machines**	–	1.0	1.0
化学工业	**Chemical industry**			
挤压机	Extruders	–	–	1.6
调浆机	Dough mills	–	1.8	1.8
橡胶砑光机	Rubber calenders	–	1.5	1.5
冷却圆筒	Cooling drums	–	1.3	1.4
混料机，用于	Mixers for			
均匀介质	uniform media	1.0	1.3	1.4
非均匀介质	non-uniform media	1.4	1.6	1.7
搅拌机，用于	Agitators for media with			
密度均匀介质	uniform density	1.0	1.3	1.5
不均匀介质	non-uniform density	1.2	1.4	1.6
不均匀气体吸收	non-uniform gas absorption	1.4	1.6	1.8
烘炉	Toasters	1.0	1.3	1.5
离心机	Centrifuges	1.0	1.2	1.3
金属加工设备	**Metal working mills**			
翻板机	Plate tilters	1.0	1.0	1.2
推钢机	Ingot pushers	1.0	1.2	1.2
绕线机	Winding machines	–	1.6	1.6
冷床横移架	Cooling bed transfer frames	–	1.5	1.5
辊式矫直机	Roller straighteners	–	1.6	1.6
辊道	Roller tables			
连续式	continuous	–	1.5	1.5
间歇式	intermittent	–	2.0	2.0
可逆式轧管机	Reversing tube mills	–	1.8	1.8
剪切机	Shears			
连续式	continuous	–	1.5	1.5
曲柄式 *	crank type	1.0	1.0	1.0
连铸机驱动装置	Continuous casting drivers	–	1.4	1.4
轧机	Rolls			
可逆式开坯机	Reversing blooming mills	–	2.5	2.5
可逆式板坯轧机	Reversing slabbing mills	–	2.5	2.5
可逆式线材轧机	Reversing wire mills	–	1.8	1.8
可逆式薄板轧机	Reversing sheet mills	–	2.0	2.0
可逆式中厚板轧机	Reversing plate mills	–	1.8	1.8
辊缝调节驱动装置	Roll adjustmint drives	0.9	1.0	–

工作机 Driven machines		日带载运行时间（小时）Effective daily operating period under load in hours 0.5	>0.5–10	>10
输送机械	**C onveyors**			
斗式输送机	Bucket conveyors	–	1.4	1.5
绞车	Hauling winches	1.4	1.6	1.6
卷扬机	Hoists	–	1.5	1.8
皮带输送机≤150kw	Belt conveyors 150 kW	1.0	1.2	1.3
皮带输送机≥150kw	Belt conveyors 150 kW	1.1	1.3	1.4
货用电梯 *	Goods lifts	–	1.2	1.5
客用电梯 *	Passenger lifts	–	1.5	1.8
刮板式输送机	Apron conveyors	–	1.2	1.5
自动扶梯	Escalators	1.0	1.2	1.4
轨道行走机构	Rail travelling gears	–	1.5	–
变频装置	**Frequency converters**	–	1.8	2.0
往复式压缩机	**R eciprocating compressors**	–	1.8	1.9
起重机械 **	**Cranes**			
回转机构 *	Slewing gears	1.0	1.4	1.8
俯仰机构	Luffing gears	1.0	1.1	1.4
行走机构	Travelling gears	1.1	1.6	2.0
提升机构	Hoisting gears	1.0	1.1	1.4
转臂式起重机	Derricking jib cranes	1.0	1.2	1.6
冷却塔	**Cooling towers**			
冷却塔风扇	Cooling tower fans	–	–	2.0
风机（轴流和离心式）	Blowers (axial and radial)	–	1.4	1.5
食品工业	**Food industry**			
蔗糖生产	Cane sugar production	–	–	1.7
甘蔗切碎机 *	Cane knives	–	–	1.7
甘蔗碾磨机	Cane mills			
甜菜糖生产	Beet sugar production	–	–	1.2
甜菜绞碎机	Beet cossettes macerators,			
窄取机，机械致冷机，蒸煮机	Extraction plants,Mechanical reftigerators,Juice boilers,	–	–	1.4
甜菜清洗机	Sugar beet washing machines,			
甜菜切碎机	Sugar beet cutters	–	–	1.5
造纸机械	**P aper machines**			
各种类型 ***	of all-kind	–	1.8	2.0
碎浆机驱动装置	Pulper drives	根据客户要求供货 Onrequest		
离心式压缩机	**Centrifugal compressors**	–	1.4	1.5
索道缆车	**Cableways**			
运货索道	Material ropeways	–	1.3	1.4
往返系统空中索道	To- and fro system aerial rope ways	–	1.6	1.8
T型杆升降机	T-bar lifts	–	1.3	1.4
连续索道	Continuous ropeways	–	1.4	1.6
水泥工业	**Cement industry**			
混凝土搅拌器	Concrete mixers	–	1.5	1.5
破碎机	Breakers	–	1.2	1.4
回转窑	Rotary kilns	–	–	2.0
管式磨机	Tube mills	–	–	2.0
选粉机	Separators	–	1.6	1.6
辊压机	Roll crushers	–	–	2.0

1. 工作机额定功率P2的确定：
*）按最大的扭矩确定额定功率。
**）可将载荷准确地分类。
***）检验热容量是绝对必要的。
2. 所列各项系数均为经验值。使用这些系数的前提条件是，所述机械设备应符合通常的设计规范和载荷条件。如遇特殊情况，请及时与我们取得联系。
3. 对于那些未列入此表的工作机械，请与我们联系。

1.Design for power rating of driven machine P2
*) Designed power corresponding to max. torque
**) Load can be exactly classified, for Instance.
***) A check for thermal capacity is absolutely essential
2. The listed factors are empirical values. Prerequisite for their application is that the machinery and equipment mentioned correspond to generally accepted design and load specifications. In case of derations from standard conditions, please refer to us
3.For driven machines which are not listed in this table, please refer to us.

减 速 器 Gear Units
服 务 系 数 Service Factor

表2 Tabie2	原动机系数 Factor for Prime mover	f2
电机，液压马达，汽轮机 Electric motors,hydraulic motors,turbines		1.0
4-6缸活塞发动机 Piston engines4-6cylinders		1.25
1-3缸活塞发动机 Piston engines1-3cylinders		1.5

表3 Table3	起动系数 Start factor			f3
每小时起动次数 Starts perhour \ f1×f2×f4 f3	1	1.25 -1.75	2 -2.75	≥3
≤5	1	1	1	1
6-25	1.2	1.12	1.06	1
26-60	1.3	1.2	1.12	1.06
61-180	1.5	1.3	1.2	1.12
>180	1.7	1.5	1.3	1.2

表4 Table4	减速器安全系数 Safety factor		f4
重要性与安全要求 Importance and safety request.	一般设备，减速器失效仅引起单机停产且易更换备件 Ordinary equipment, malfuncition only cause accident of singlemachine and easily replaced.	重要设备，减速器失效引起机组、生产线或全厂停产。 Important equipment, malfunction cause the accident of assembling unit,production-line or whole factory.	高度安全要求，减速器失效引起设备、人身事故 Safety request highly. Malfunction cause the accident of equipment and personal injury,
f3	1.3-1.7	1.5-2.0	1.7-2.5

表5 Table5	峰值扭矩系数 Peak torque factor			f5
	每小时峰负荷次数 Load peak perhour			
	1-5	6-30	31-100	>100
单向载荷	0.5	0.65	0.7	0.85
交变载荷	0.7	0.95	1.10	1.25

表6 Table6	环境温度系数 Thermal factor				f6
不带辅助冷却装置或仅带冷却风扇 Without auxiliary cooling or with fan cooling					
环境温度 Ambient temperature	每小时工作周期（ED）百分比% Operating cycle perhour(ED)in%				
	100	80	60	40	20
10℃	1.14	1.20	1.32	1.54	2.04
20℃	1.00	1.06	1.16	1.35	1.79
30℃	0.87	0.93	1.00	1.18	1.56
40℃	0.71	0.75	0.82	0.96	1.27
50℃	0.55	0.58	0.64	0.74	0.98
带辅助冷却装置或仅带冷却风扇 For cooling with cooling coil,or with fan and cooling coil					
环境温度 Ambient temperature	每小时工作周期（ED）百分比% Operating cycle perhour(ED)in%				
	100	80	60	40	20
10℃	1.04	1.10	1.21	1.40	1.86
20℃	1.00	1.06	1.16	1.35	1.79
30℃	0.93	0.99	1.08	1.26	1.66
40℃	0.88	0.93	1.02	1.19	1.58
50℃	0.81	0.86	0.94	1.09	1.45

表7 Table7	海拔高度系数 Factor for altitude				f7
不带辅助冷却装置或仅带冷却风扇 Without auxiliary cooling or with fan cooling					
系数 Factor	海拔高度（m） Altitude(meters)				
	高达 Up to 1000	高达 Up to 2000	高达 Up to 3000	高达 Up to 4000	高达 Up to 5000
f7	1.0	0.95	0.90	0.85	0.80
带辅助冷却装置或仅带冷却风扇 For cooling with cooling coil,or with fan and cooling coil					
系数 Factor	海拔高度（m） Altitude(meters)				
	高达 Up to 1000	高达 Up to 2000	高达 Up to 3000	高达 Up to 4000	高达 Up to 5000
f7	1.0	0.98	0.96	0.94	0.92

表8 Table8	功率利用率系数 Utilization factor						f8
30%	40%	50%	60%	70%	80%	90%	100%
0.66	0.77	0.83	0.90	0.90	0.95	1.0	1.0

齿 轮 箱
平键和键槽
Parallelkeyandkeyway

	轴 Shaft d mm	轴公差 Shaft Tolerance	孔公差 Hole Tolerance
轴径公差标准(GB/T1095-1979) Toleyanceforshafcdiameter(GB/T1095-1979)	≤25	k6	H7
	>25 — 100	m6	
	>100	n6	

平 键

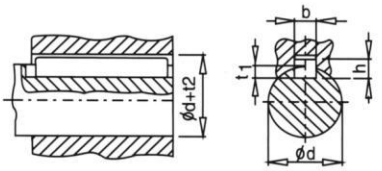
平键紧固方式，采用无锥度联接。

Drive type fastening without taper action

平键和键槽根据GB/T1095-19标准确定

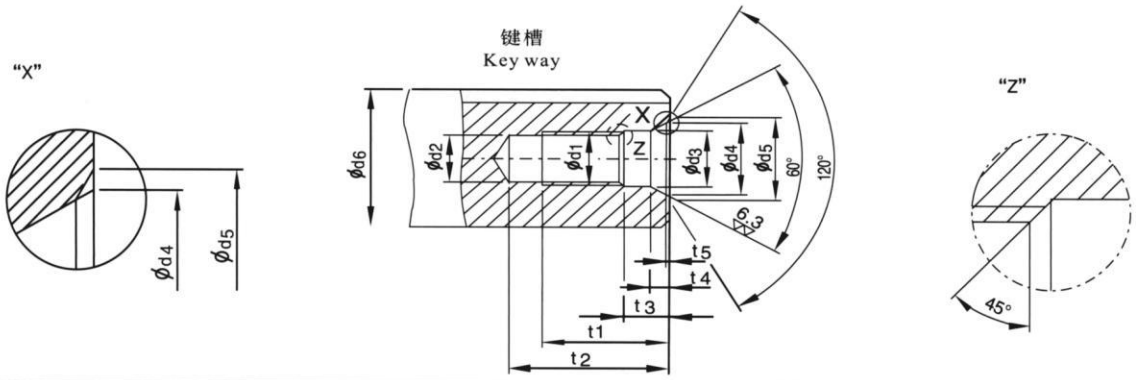
Parallel

Key and Keywayacc.to GB/T 1095-1979



直径 Diameter d mm	mm	宽度 Width b mm	高度 Height h mm	轴键槽深度 Depth of Key way in shaft t1 mm	轮毂键槽深度 Depth of Key way in hub d+t2 DIN 6885/1 mm
8	10	3	3	1.8	d+1.4
10	12	4	4	2.5	d+1.8
12	17	5	5	3	d+2.3
17	22	6	6	3.5	d+.28
22	30	8	7	4	d+3.3
30	38	10	8	5	d+3.3
38	44	12	8	5	d+3.3
44	50	14	9	5.5	d+3.8
50	58	16	10	6	d+4.3
58	65	18	11	7	d+4.4
65	75	20	12	7.5	d+4.9
75	85	22	14	9	d+5.4
85	95	25	14	9	d+5.4
95	110	28	16	10	d+6.4
110	130	32	18	11	d+7.4
130	150	36	20	12	d+8.4
150	170	40	22	13	d+9.4
170	200	45	25	15	d+10.4
200	230	50	28	17	d+11.4
230	260	56	32	20	d+12.4
260	290	63	32	20	d+12.4
290	330	70	36	22	d+14.4
330	380	80	40	25	d+15.4
380	440	90	45	28	d+17.4
440	500	100	50	31	d+19.4

C型带螺纹 C Screw Hole



d6 1) mm	C 中心孔 hole	d1	d2 2)	d3	d4	d5	t1 +2 mm	t2 min.	t2 max.	t3 +1	t4 ≈	t5 ≈
16<d6≤21	C 6	M 6	5	6.4	9.6	10.5	16	20	22	5	2.8	0.4
21<d6≤24	C 8	M 8	6.8	8.4	12.2	13.2	19	25	28	6	3.3	0.4
24<d6≤30	C 10	M 10	8.5	10.5	14.9	16.3	22	30	34	7.5	3.8	0.6
30<d6≤38	C 12	M 12	10.2	13	18.1	19.8	28	37	42	9.5	4.4	0.7
38<d6≤50	C 16	M 16	14	17	23	25.3	36	45	50	12	5.2	1.0
50<d6≤85	C 20	M 20	17.5	21	28.4	31.3	42	53	59	15	6.4	1.3
85 <d6≤130	C 24	M 24	21	25	34.2	38	50	63	68	18	8	1.6
130*<d6≤225*	C 30	M 30*	26.5	31	44	48	60	77	83	17	11	1.9
225*<d6≤320*	C 36	M 36*	32	37	55	60	74	93	99	22	15	2.3
320*<d6≤500*	C 42	M 42*	37.5	43	65	71	84	105	111	26	19	2.7

有关符号说明如下：


= 油 尺


= 加 油 孔


= 通 气 孔


= 放 油 孔

The signs specification is as following:


=Oil dipstick


=Oil filler


=Breather


=Oil –out drain

FSH、FSB系列大功率减速机产品特点

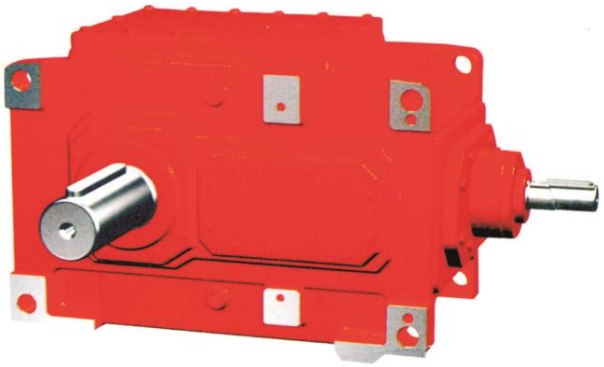
Characteristics of FSH、FSB series high power speed reducer

FSH、FSB斜齿一伞齿系列大功率减速机是全新型硬齿面减速机，具有大转矩范围，采用单元结构模块化设计，可卧式安装也可立式安装，有实心轴、空心轴和收缩盘空心轴输出，应用范围广，采用高强度优质合金钢渗碳淬火，具有效率高、寿命长、可承受较大轴向力和径向载荷、运行噪音低、可靠性高、结构紧凑等优点。

FSH、FSB系列大功率减速机

FSH、FSB series high power speed reducer

FSH型



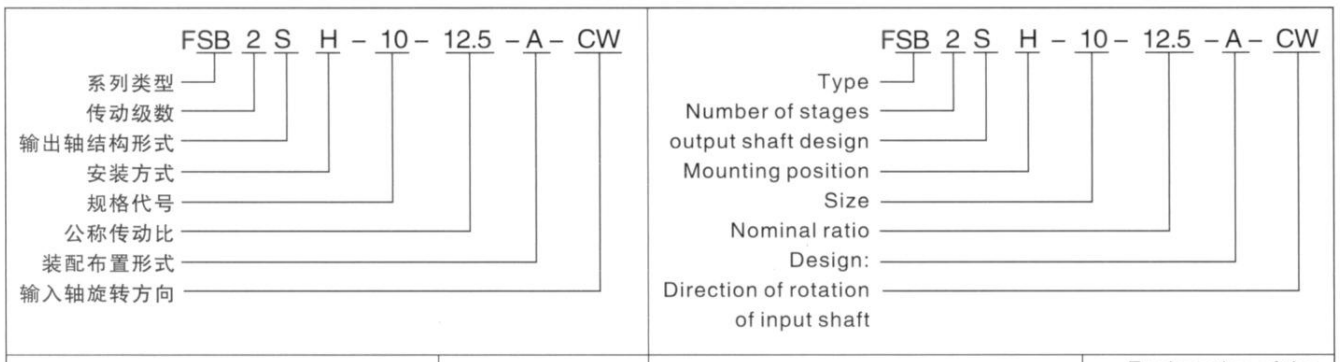
FSB型

FSH、SLB系列 / FSH、FSB SERIES

输出转速/OUTPUT SPEED	1.7-1200r/mkin
输出转矩/OUTPUT TORQUE	高至470000Nm Up to 470000Nm
电机功率/MOTOR POWER	2.52~5366kW
安装形式/MKOUNTED FORM	底脚安装、法兰安装、轴装安装、带锁紧盘安装 HORIZONTAL MOUNTING、VERTICAL MOUNTING、 AXIS MOUTING、SHRINK DISK MOUTING

FSH、FSB hellcal tooth/bevel tooth series high power speed reducer is brand-new rigid tooth flank gear units with wide application areas,which has the feature of large torque range, a design of unit structure modulization capable of horizontal mounting and vertical mounting.Which has solid shaft,hollow shaft and hollow shaft with shrink disk.With carbureted hihg-strength good-quality alloy the series has the feature of high-efficiency and long lite-span,permissibet and radial loads,low noise,high reliability and compact structure and so on.

型 号 表 示 方 法 / Type Designations



型号说明	上例说明	Explanation of types	Explanation of the adove example
系列类型： FSH 平行轴 FSB 直交轴	直交轴系列	Types: FSH Helical FSB Bevel-helical	Bevel-helical
传动级数： 1 一级 2 二级 3 三级 4 四级	二级传动	Number of stages: 1 1-stage 2 2-stage 3 3-stage 4 4-stage	2-stage
输出轴结构形式： S 实心轴 H 空心轴 D 带胀紧盘空心轴	实心轴输出	output shaft design: S Solid shaft H Hollow shaft D Hollow shaft for shrink disk	Solid shaft output
安装方式： H 卧式带底脚 M 卧式不带底脚 V 立式	卧式带底脚安装	Mounting positions: H Horizontal M Horizontal design without feet V vertical	Horizontal
规格代号： 1~22号机座	10号机座号	Size: sizes 1~22	Size10
公称传动比： 公称传动比 i_N （见选型参数表）	公称传动比 i_N=12.5	Nominal ratio: Nominal ratio in (see selection table)	Nominal ratio i_N=12.5
装配布置形式： A、B、C、D等 （见8页）	装配布置形式为A （见8页）	Design for assemble: A,B,C,D,etc (see page 8)	Design A (see page 8)
输入轴旋转方向： 面对输入轴方向看CW为顺时针方向，CCW为逆时针方向 FSH省略	输入轴为顺时针方向	Direction of rotation of input shaft: viewing on input shaft:CW-Clockwse, CCW-Counter clockwise FSH s omitted.	Direction of rotation of input shaft is clockwise

减 速 器 服 务 系 数

Gear Units Service Factor

表 9 Table 9

立式安装齿轮箱供油系数。对于卧式安装齿轮箱f9=1.0；当采用强制润滑时，f9=1.05

Oil supply factor for vertical gear units, For horizorntal gear units f9=1.0, and in case of forced lubrication f8=1.05

f9

齿轮箱类型 Gear unit type	供油方式 Oil supply	Sizes 4 ... 12				Sizes 13 ... 18			
		不带辅助冷却装置 Without auxiliary cooling	带冷却风扇 With fan	带冷却盘管 With cooling coil	带风扇和冷却盘管 With fan andcooling coil	不带辅助冷却装置 Without auxiliary cooling	带冷却风扇 With fan	带冷却盘管 With cooling coil	带风扇和冷却盘管 With fan andcooling coil
H2.V, H3.V	浸油润滑 Dip lubrication	0.95	*	0.95	*	*	*	*	*
H4.V	强制润滑 Forced lubrication	1.15	*	1.05	*	1.15	*	1.05	*
B2.V,B3.V	浸油润滑 Dip lubrication	0.95	0.95	0.95	0.95	*	*	*	*
B4.V	强制润滑 Forced lubrication	1.15	1.10	1.10	1.10	1.15	1.10	1.10	1.10

表10 Table10

不带辅助冷却装置减速器的热容量系数

Thermal capacity factors for gear units without auxiliary cooling

f10

类型 Type	n r/min	传动比i Ratio i	狭小空间安装* Small confined spaces*				室内大厅、大车间安装** Large halls,workshops**				室外安装*** In the open***			
			规格 Sizes				规格 Sizes				规格 Sizes			
			1-6	7-12	13-18	19-22	1-6	7-12	13-18	19-22	1-6	7-12	13-18	19-22
H1SH	750	1.25-2	0.60	0.57	–	–	0.77	0.73	–	–	1.00	1.00	1.00	–
		2.24-5.6	0.67	0.64	0.61	0.56	0.81	0.79	0.75	0.74	1.00	1.00	1.00	1.00
	1000	1.25-2	0.55	–	–	–	0.72	0.63	–	–	0.99	0.90	–	–
		2.24-5.6	0.69	0.59	0.53	–	0.85	0.76	0.66	0.50	1.07	0.99	0.92	0.78
	1500	1.25-2	0.43	–	–	–	0.63	–	–	–	0.92	–	–	–
		2.24-3.55	0.56	–	–	–	0.76	0.56	–	–	1.04	0.86	–	–
		4-5.6	0.74	0.52	–	–	0.93	0.69	–	–	1.19	0.96	0.76	–
H2... B2...	750	5-9	0.66	0.58	0.60	0.60	0.81	0.76	0.74	0.76	1.00	1.00	1.00	1.00
		10-28	0.71	0.68	0.67	0.68	0.83	0.82	0.81	0.81	1.00	1.00	1.00	1.00
	1000	5-9	0.66	0.54	0.51	–	0.83	0.69	0.65	–	1.06	0.95	0.90	0.97
		10-28	0.75	0.68	0.66	0.63	0.90	0.84	0.80	0.77	1.10	1.06	1.03	0.99
	1500	5-6.3	0.56	–	–	–	0.76	0.59	–	–	1.05	0.88	–	–
		7-9	0.64	0.47	–	–	0.82	0.62	–	–	1.10	0.87	0.81	–
		10-16	0.75	0.56	0.54	–	0.94	0.71	0.67	–	1.20	0.98	0.93	0.83
		18-28	0.81	0.69	0.63	–	0.99	0.88	0.78	0.68	1.24	1.14	1.05	0.93
H3... B3...	750	12.5-112	0.71	0.70	0.70	0.70	0.83	0.83	0.83	0.82	1.00	1.00	1.00	1.00
	1000	12.5-112	0.76	0.74	0.71	0.70	0.90	0.89	0.86	0.84	1.09	1.09	1.07	1.05
	1500	12.5-31.5	0.77	0.62	0.54	0.53	0.96	0.82	0.67	0.65	1.21	1.10	0.95	0.88
		35.5-56	0.83	0.78	0.69	0.64	1.00	0.96	0.87	0.81	1.23	1.20	1.12	1.07
		63-112	0.87	0.87	0.84	0.81	1.03	1.03	1.00	0.97	1.24	1.24	1.23	1.20
H4... B4...	750	80-450	0.71	0.72	0.73	0.73	0.84	0.85	0.85	0.85	1.00	1.00	1.00	1.00
	1000	80-450	0.76	0.77	0.78	0.78	0.90	0.91	0.91	0.91	1.09	1.09	1.09	1.09
	1500	80-112	0.79	0.82	0.80	0.72	0.98	0.99	0.98	0.94	1.21	1.21	1.20	1.18
		125-450	0.84	0.86	0.85	0.85	1.01	1.02	1.01	1.01	1.23	1.23	1.22	1.22

表11 Table11

带冷却风扇的减速器的热容量系数 Thermal capacity factors for gear units with fan cooling

f11

类型 Type	n r/min	传动比i Ratio i	狭小空间安装* Small confined spaces* 规格 Sizes				室内大厅、大车间安装** Large halls,workshops** 规格 Sizes				室外安装*** In the open*** 规格 Sizes			
			1-6	7-12	13-18	19-22	1-6	7-12	13-18	19-22	1-6	7-12	13-18	19-22
H1SH H2,H3.. B2.. B3..	750	1.25-112	0.89	0.93	0.98	0.98	0.93	0.95	0.99	0.99	1.00	1.00	1.00	1.00
	1000		1.07	1.13	1.16	1.18	1.11	1.15	1.17	1.17	1.18	1.19	1.19	1.19
	1500		1.41	1.46	1.45	1.44	1.43	1.47	1.45	1.44	1.49	1.51	1.46	1.46

带冷却盘管齿轮箱的热容量系数 Thermal capacity factors for gear units with cooling Coil

类型 Type	n r/min	传动比i Ratio i	狭小空间安装* Small confined spaces* 规格 Sizes					室内大厅、大车间安装** Large halls,workshops** 规格 Sizes					室外安装*** In the open*** 规格 Sizes				
			1...6	7...13	14...16	17...18	19...26	1...6	7...13	14...16	17...18	19...26	1...6	7...13	14...16	17...18	19...26
H1SH H2.. B2..	750	1.25...28	0.83	0.86	0.85	0.88	....	0.90	0.92	0.92	0.93	....	1.00	1.00	1.00	1.00	....
	1000		0.94	1.00	0.96	0.96		1.04	1.05	1.02	1.02		1.15	1.15	1.10	1.09	
	1500		1.13	1.15	1.01	0.95		1.24	1.23	1.07	1.02		1.38	1.34	1.17	1.11	
H3.. B3..	750	12.5...112	0.85				....	0.92				....	1.00				....
	1000		0.98					1.06					1.15				
	1500		1.19					1.29					1.40				

带冷却风扇和冷却盘管的齿轮箱的热容量系数 Thermal capacity factors for gear units with fan cooling Coil

类型 Type	n r/min	传动比i Ratio i	狭小空间安装* Small confined spaces* 规格 Sizes					室内大厅、大车间安装** Large halls,workshops** 规格 Sizes					室外安装*** In the open*** 规格 Sizes				
			1...6	7...12	13...18	19...22	23...26	1...6	7...12	13...18	19...22	23...26	1...6	7...12	13...18	19...22	23...26
H1SH H2,H3.. B2.. B3..	750	1.25...112	0.93	0.97	0.98	....		0.96	0.98	0.99	....		1.00	1.00	1.00	....	
	1000		1.14	1.19	1.19			1.16	1.20	1.20			1.20	1.22	1.21		
	1500		1.53	1.58	1.53			1.54	1.59	1.54			1.58	1.60	1.54		

-)需要辅助冷却装置 -)Auxiliary cooling required

*)风速≥1m/s *)Wind velocity≥1m/s

**)风速≥2m/s **)Wind velocity≥2m/s

***)风速≥4m/s ***)Wind velocity≥4m/s

****)根据用户要求供货 ****)On request

FSH、FSB系列减速器

选 型 指 南

减速器的承载能力受机械强度和热平衡许用功率两主面的限制，选用减速器时必须通过这两项功率核算。

1）计算传动比

$$i_s = \frac{n_1}{n_2}$$

式中：

i_s—要求的传动比

n_1—输入转速（r/min）

n_2—输出转速（r/min）

2）确定减速器的额定功率，应满足：

$$P_N \geqslant P_2 \times f_1 \times f_2 \times f_3 \times f_4$$

式中：

P_N—减速器额定功率（见额定功率表）

P_2—载荷功率（即工作机所需功率）

f_1—工作机系数（见表1）

f_2—原动机系数（见表2）

f_4—减速器安全系数（见表4）

f_3—启动系数（见表3）

3）校核最大扭矩，如峰值工作扭矩，起动扭矩或制动扭矩应满足要求：

$$P_N \geqslant \frac{T_A \times n_1}{9550} \times f_5$$

式中：

T_A –输入轴最大扭矩，如峰值工作扭矩、起动扭矩、制动扭矩（N.m）

f_5 – 峰值扭矩系数（见表5）

4）检查输出轴上是否允许有附加载荷，许用附加径向力见74 ~ 75页。

5）检查实际传动比i 是否满足要求，实际传动比i 见76 ~ 79页。

6）确定供油方式

减速器卧式安装时采用浸油飞溅润滑，也可按用户要求提供强制润滑方式。

立式安装时可选浸油润滑或强制润滑。

（有关合适的供油方式和选择请咨询）

FSH、FSB series Gear Units

Guidelines for the Selection

The loading capacity of gear unit is restricted by the permissible powers of mechanical tension and the thermal balance,it should meet the following powers in selecting:

1) Calculate the transmission ratio:

$$i_s = \frac{n_1}{n_2}$$

i_s –the required transmission ratio
n_1 –the input speed (r/min)
n_2 –the output speed (r/min)

2) Determine the nominal power ratings of gear units:

$$P_N \geqslant P_2 \times f_1 \times f_2 \times f_3 \times f_4$$

P_N– the nominal power ratings of gear units (see nominal power ratings table)
P_2– loading power (the required power of drieven machine)
f_1 – factor for driven machine (see table1)
f_2 – factor for prime mover (see table2)
f_4 – safety factor for gear units (see table4)
f_3 – starting factor (see table3)

3) Check the max. torque, the peak operating–, starting–or braking torque should meet the following requirement:

$$P_N \geqslant \frac{T_A \times n_1}{9550} \times f_5$$

T_A–the max.torque of input shaft,such as peak operating–,starting–or braking torque,
f_5 – peak torque factor(see table5)

4) Check whether it permits the additional force of output shaft,for the permissible additional radial force see pages 74 ~ 75.

5) Check whether the actual transmission ratio meets the requirement,the actual transmission ratio see pages 76 ~ 79.

6) Determine the lubrication mode
Dip lubrication should be provided in horizontal, also can provide forced lubrication on request.

Dip lubrication or forced lubrication can be provided in vertical.(please consult the suitable oil supplying and type selecting).

FSH.FSB系列减速器
选 型 指 南

7）校核热平衡功率

a.减速器不带辅助冷却装置，应满足：

$$P_2 \leqslant P_G = P_{G1} \times f_6 \times f_7 \times f_9 \times f_{10}$$

式中:

P_G – 减速器热功率

P_{G1} – 无辅助冷却装置时的热功率（见热功率表）

f_6 – 环境温度系数（见表6）

f_7 – 海拔高度系数（见表7）

f_9 – 立式安装供油系数（见表9）

f_{10} – 无辅助冷却装置时的热容量系数（见表10）

b.减速器带有冷却风扇装置时应满足：

$$P_2 \leqslant P_G = P_{G2} \times f_6 \times f_7 \times f_9 \times f_{11}$$

式中:

P_{G2} –带冷却风扇装置时的热功率（见热功率表）

f_{11} – 带冷却风扇装置时的热容量系数（见表11）

例：高炉输送碎料的胶带输送机减速器，电动机转速n_1=1350r/min，负载功率（减速器输出功率）P_2=380kW，尖峰载荷T_A=5370N·m，轴伸仅承受转矩，每日工作24h，每小时起动次数少于5次，每小时工作周期ED=40%，环境温度t=30℃，海拔高度≤300m，安装在露天高台上。要求直交轴型式，实心输出轴位于减速器右侧（面对输入轴看即布置形式C），输入轴转向为顺时针方向（面对输入轴看）。要求输出转速n_2=69.5r/min，卧式安装，油池润滑。

1）计算传动比

$$i_s = \frac{n_1}{n_2} = \frac{1350}{69.5} = 19.424$$

2）确定减速器的额定功率

$$P_N \geqslant P_2 \times f_1 \times f_2 \times f_3 \times f_4$$

查表 1 f_1=1.5

查表 2 f_2=1

FSH.FSB series Gear Units
Guidelines for the Selection

7)Check the power of thermal balance

a.the gear units without auxiliary cooling, should meet:

$$P_2 \leqslant P_G = P_{G1} \times f_6 \times f_7 \times f_9 \times f_{10}$$

P_G –the thermal capacities of gear units

P_{G1} –the thermal capacities without auxiliaty cooling(see thermal capacities table)

f_6 – factor for ambient temperature (see table6)

f_7 – factor for altitude (see table7)

f_9 – oil supply factor of vertical(see table 9)

f_{10} – thermal capacities factor without auxiliary cooling(see table10)

b. The gear units with fan cooling should meet:

$$P_2 \leqslant P_G = Pf_2 \times f_6 \times f_7 \times f_9 \times f_{11}$$

P_{G2}– thermal capacities with fan cooling (see thermal capacities table)

f_{11} – factor for thermal capacities with fan cooling(see table11)

Example:

The gear unit of glue feeding machine for conveying flour in blast furnace. The rotate speed of motor n_1=1350r/min,loading power (the output power of gear units)P_2=380kW,peak loading T_A=5370N.m, out put shaft only bears toyque,it works 24h per day,the starts perhour is less than 5 times,the operating cycle per hour ED=40%,the ambient temper aturet=30℃,the altitude≤300m,mounted on high platform in the open.It requires Bevel-helical type, the solid output shaft is located on the right of gear unit(design C viewing on the input shaft),and the direction of rotation of input shaft isclockwise(viewing on input shaft).The output speed n_2=69.5r/min, horizontal,dip lubrication.

1) Calculalte the transmission ratio

$$i_s = \frac{n_1}{n_2} = \frac{1350}{69.5} = 19.424$$

2) Determine the nominal power rating of the gear unit

$$P_N \geqslant P_2 \times f_1 \times f_2 \times f_3 \times f_4$$

Check table 1 f_1=1.5

Check table 2 f_2=1

FSH.FSB系列减速器
选 型 指 南

查表 3 $f_3=1$

查表 4 $f_4=1.75$(由用途可知系重要设备)

则 $P_N=P_2\times f_1\times f_2\times f_3\times f_4$

$=380\times1.5\times1\times1\times1.75=997.5$

查额定功率表，选FSB型，3级传动，规格15减速器，$i_N=20$,$n_1=1500r/min$对应的额定功率为1202kW,折算出1350r/min时的功率为：

$P_N=1202\times\frac{1350}{1500}\approx1082kW$，满足要求。

3）校核最大扭矩

$P_N\geqslant\frac{T_A\times n_1}{9550}\times f_5$

$=\frac{5370\times1350}{9550}\times0.5=380kW$

则 $P_N=1202kW>380kW$

满足要求

4）校核热功率

按环境温度t=30℃，海拔高度为300m，无辅助冷却装置，露天

安装条件查表6，表7，表24，表25

查热功率表得：

$P_{G1}=363kW$

$f_6=1.18$

$f_7=1$

$f_9=1.05$（要强制润滑）

$f_{10}=0.95$

$P_G=P_{G1}\times f_6\times f_7\times f_9\times f_{10}$

$=363\times1.18\times1\times1.05\times0.95=427kW$

$P_2=380kW<P_G=427kW$

满足要求

故选定FSB3SH-15-20-C-CW减速器。

该减速器轴伸仅承受转矩，不需校核输出轴上的附加载荷。

FSH.FSB series Gear Units
Guidelines for the Selection

Check table 3 $f_3=1$

Check table 4 $f_4=1.75$ (acc. to the purpose it an be found the significant equipment)

$P_N=P_2\times f_1\times f_2\times f_3\times f_4$

$=380\times1.5\times1\times1\times1.75=997.5$

Check the nominal power ratings table,selectFSB type,3-stage transmission,size 15,$i_N=20$,$n_1=1500r/min$ the correspond nominal power rating is 1202KW,the power is

$P_N=1202\times\frac{1350}{1500}\approx1082kW$ when converting into 1350r/min,it meets the requirement.

3)Check the max.torque:

$P_N\geqslant\frac{T_A\times n_1}{9550}\times f_5$

$=\frac{5370\times1350}{9550}\times0.5=380kW$

$P_N=1202kW>380kW$

It meets the requirement.

4) Check the thermal capacities:

The ambient temperaturet=30℃,the altitude is 300m,without auxiliary cooling,in the open

For the mounting condition check table 6 and table7, table24 and table25

Check the thermal capacities table is:

$P_{G1}=363kW$

$f_6=1.18$

$f_7=1$

$f_9=1.05$ (forced lubrication required)

$f_{10}=0.95$

$P_G=P_{G1}\times f_6\times f_7\times f_9\times f_{10}$

$=363\times1.18\times1\times1.05\times0.95=427kW$

$P_2=380kW<P_G=427kW$

It meets the requirement.

Select FSB3SH-15-20-C-C W gear unit.

The output shaft of gear unit only bears torque Don't need check the additional force on it.

安装类型
mounted Type

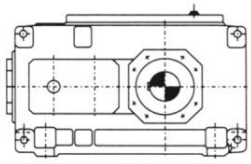
卧式类型 Foot-mounted

平行轴齿轮箱 Helical Gear Units

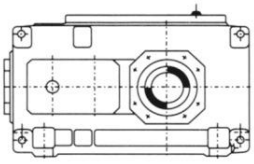
类型（Type）H1..,H2..,H3..,H4..

1-...4-级(stage),iN=1.25-450

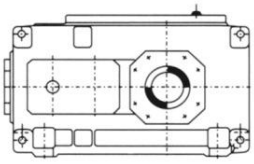
FSH.SH



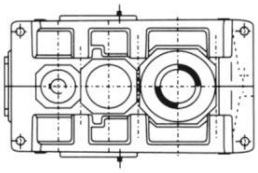
FSH.HH



FSH.DH



FSH.HM,FSH.DM

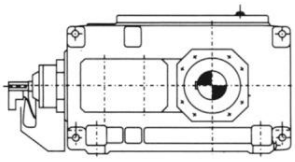


直交轴齿轮箱 Bevel-Helical Gear Units

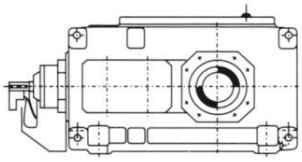
类型（Type）B2..,B3..,B4..

2-4-级(stage),iN=5-400

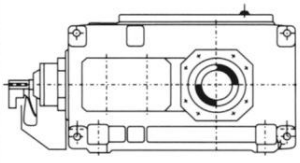
FSB.SH



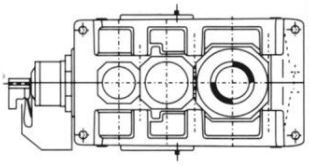
FSB.HH



FSB.DH



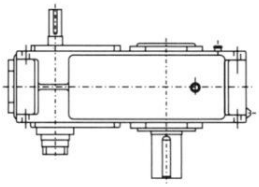
FSB.HM,FSB.DM



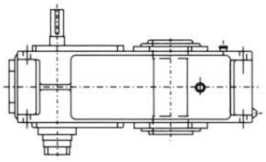
立式安装 Vertical

平行轴齿轮箱 Helical Gear Units
类型（Type）H2.V,H3.V,H4.V
2-4-级(stage),iN=6.3-450

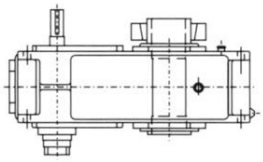
FSH.SV



FSH.HV

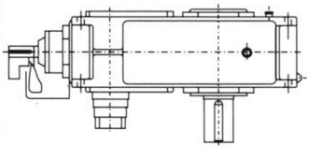


FSH.DV

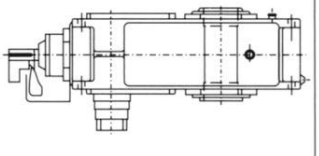


直交轴齿轮箱 Bevel-helical Gear Units
类型（Type）B2.V,B3.V,B4.V
2-4-级(stage),iN=5-400

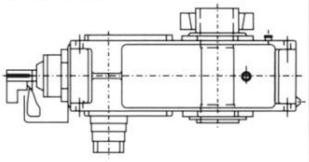
FSB.SV



FSB.HV



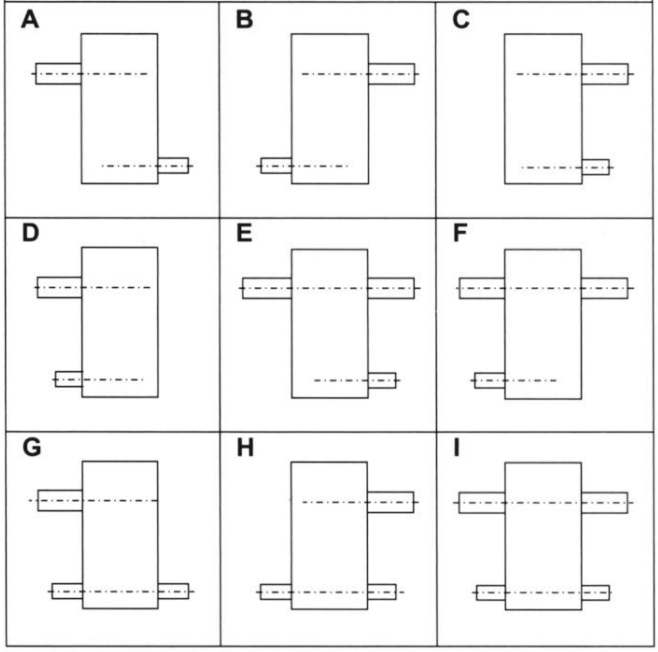
FSB.DV



齿轮箱 布置形式
Gearunits Design
类 型 FSH2...FSH4,FSB2...FSB4
Types
规 格 1...26
Sizes

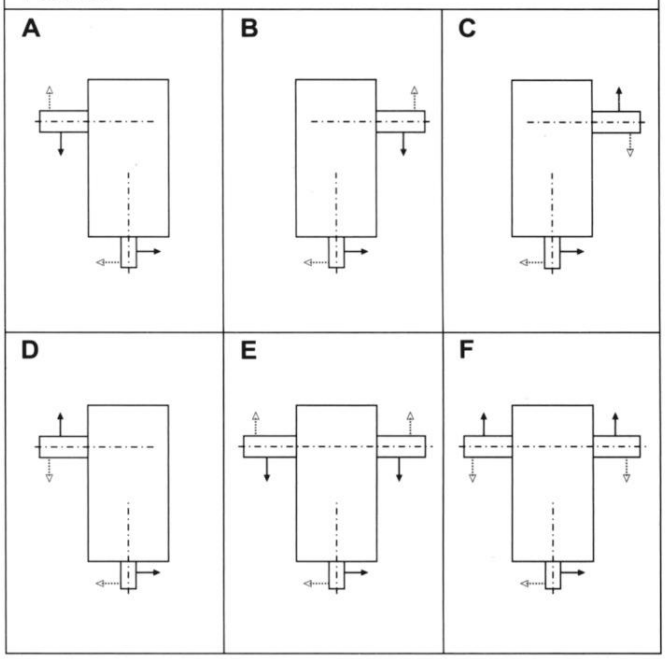
平行轴齿轮箱 Helical Gearunits

FSH.SH
FSH.SV
实心轴 Solid shaft

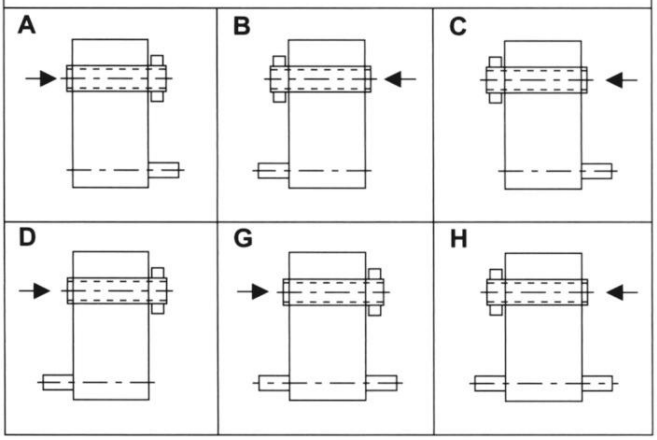


直交轴齿轮箱 Bevel-helical Gearunits

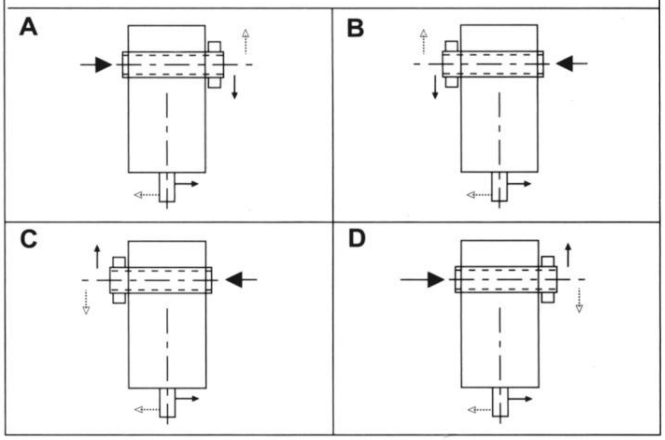
FSB.SH
FSB.SV
实心轴 Solid shaft



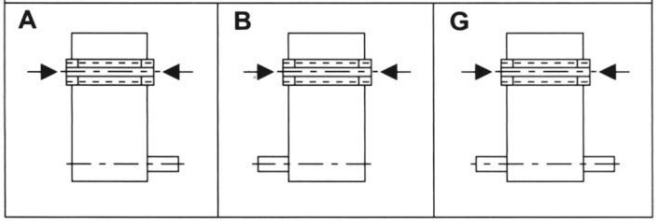
FSH.DH
FSH.DM
FSH.DV
带胀紧盘的空心轴
Hollow shaft forshrink disk



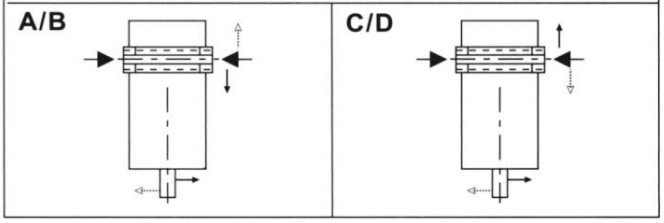
FSB.DH
FSB.DM
FSB.DV
带胀紧盘的空心轴
Hollow shaft forshrink disk



FSH.HH
FSH.HM
FSH.HV
空心轴
Hollow shaft



FSB.HH
FSB.HM
FSB.HV
空心轴
Hollow shaft



平行轴齿轮箱 Helical Gear Units
额定功率 Nom Power Ratings
类 型 Types **FSH1..**
规 格 Sizes **1...19**

			额定功率 Nom Power Ratings kW																									
			规 格 Sizes																									
i_N	n_1	n_2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
	r/min																											
1.25	1500	1200	99		327		880		1671		2702																	
	1000	800	66		218		586		1114		1801																	
	750	600	50		163		440		836		1351																	
1.4	1500	1071	93		303		807		1559		2501																	
	1000	714	62		202		538		1039		1667																	
	750	536	47		152		404		780		1252																	
1.6	1500	938	85		285		737		1395		2318		3929															
	1000	625	57		190		491		929		1545		2618		4123													
	750	469	43		142		368		697		1159		1964		3094													
1.8	1500	833	79		209		672		1326		2128		3611															
	1000	556	53		140		448		885		1421		2410		3860													
	750	417	40		105		336		664		1065		1808		2895													
2	1500	750	73		196		644		1217		1963		3353										按客户要求供货 on request					
	1000	500	49		131		429		812		1309		2236		3571													
	750	375	37		98		322		609		982		1677		2678		4751											
2.24	1500	670	67		175		589		1087		1754		3087															
	1000	446	45		117		392		724		1168		2055		3283													
	750	335	34		88		295		544		877		1543		2466		4280											
2.5	1500	600	63		163		528		974		1571		2764															
	1000	400	42		109		352		649		1047		1843		3016		4607											
	750	300	31		82		264		487		785		1382		2262		3455											
2.8	1500	536	56		152		471		836		1330		2470															
	1000	357	37		101		314		557		886		1645		2692		4224											
	750	268	28		76		236		418		665		1235		2021		3171		4799									
3.15	1500	476	50		135		419		758		1221		2088		3409													
	1000	317	33		90		279		505		813		1391		2270		3850											
	750	238	25		67		209		379		611		1044		1705		2891		4311									
3.55	1500	423	44		124		368		687		1103		1936		3083													
	1000	282	30		83		245		458		735		1290		2055		3484											
	750	211	22		62		183		342		550		966		1538		2607		3822									
4	1500	375	39		110		330		609		982		1728		2780													
	1000	250	26		73		220		406		654		1152		1853		3194		4529									
	750	188	20		55		165		305		492		866		1394		2402		3406		4823							
4.5	1500	333	29		77		234		481		746		1395		2008		3557											
	1000	222	19		51		156		321		497		930		1339		2371		3394									
	750	167	14		38		117		241		374		699		1007		1784		2553		3777							
5	1500	300	25		66		198		377		644		1059		1712		2790											
	1000	200	16		44		132		251		429		706		1141		1860		2597		3644							
	750	150	12		33		99		188		322		529		856		1395		1948		2733							
5.6	1500	268	17		56		168		320		491		892		1454		2371											
	1000	179	12		37		112		214		328		596		971		1584		2212		2812							
	750	134	9		28		84		160		246		446		727		1186		1656		2105							

□ 卧式安装齿轮箱要求采用强制润滑
Forced lubrication required on horizonal gearunits

平行轴齿轮箱 Helical Gear Units
热容量 Thermal capacities
类 型 Types **FSH1..**
规 格 Sizes **1...19**

热容量 P_G, kW Thermal Capacities PG kW

i_N		规格 Sizes 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
		热容量 P_G(单位为kW)取决于冷却方式: P_{G1}:无辅助冷却装置; P_{G2}:带冷却风扇; P_{G3}:带冷却盘管; P_{G4}:带风扇和冷却盘管 PG1:With out auxili; arycooling; PG2:With fan Thermal Ca Pacity de Pendent on kind of cooling; PG3:With cooling coil; PG4:With fan and cooling coil																									
1.25	P_{G1}	70.4		105		188		322		497																	
	P_{G2}			146		360		580		875																	
	P_{G3}	10 9		283		659		1097		1841																	
	P_{G4}			313		789		1333		2210																	
1.4	P_{G1}	68.0		105		192		319		504																	
	P_{G2}			144		358		579		870																	
	P_{G3}	105		272		645		1075		1791																	
	P_{G4}			303		767		1294		2136																	
1.6	P_{G1}	66.2		104		186		316		507		516		747													
	P_{G2}			140		347		555		853		1134		1394													
	P_{G3}	100		257		606		981		1694		2616		2900													
	P_{G4}			286		723		1194		2021		3283		3906													
1.8	P_{G1}	66.0		107		185		313		502		511		740													
	P_{G2}			151		335		561		834		1119		1441													
	P_{G3}	93.7		275		574		960		1585		2497		2850													
	P_{G4}			303		677		1178		1919		3135		3808													
2	P_{G1}	65.0		104		178		310		492		507		733		991						按客户要求供货 on request					
	P_{G2}			146		321		544		806		1204		1413		1766											
	P_{G3}	89.1		258		533		929		1501		2358		2986		2950											
	P_{G4}			287		638		1118		1800		2963		3747		4341											
2.24	P_{G1}	57.0		95.5		172		307		473		502		725		950											
	P_{G2}			139		304		506		767		1154		1385		1752											
	P_{G3}	83.9		243		498		829		1404		2224		2570		2800											
	P_{G4}			270		594		1009		1682		2771		3512		4245											
2.5	P_{G1}	54.1		88.8		164		303		449		498		719		923											
	P_{G2}			127		285		474		720		1088		1357		1788											
	P_{G3}	75.5		219		462		768		1281		2040		2500		3000											
	P_{G4}			243		548		931		1547		2562		3253		4196											
2.8	P_{G1}	52.3		86.7		155		295		473		493		713		925		955									
	P_{G2}			119		264		494		750		1015		1329		1699		1846									
	P_{G3}	69.8		202		421		792		1329		1876		2397		3090		3200									
	P_{G4}			223		500		961		1594		2335		2979		4151		4574									
3.15	P_{G1}	49.7		84.6		150		269		379		495		707		888		919									
	P_{G2}			111		253		432		606		1067		1301		1609		1718									
	P_{G3}	64.9		184		396		734		1117		1899		2354		2750		2900									
	P_{G4}			204		466		878		1329		2376		2932		3809		4288									
3.55	P_{G1}	45.0		78.4		145		248		351		479		699		849		902									
	P_{G2}			101		245		395		554		955		1273		1565		1649									
	P_{G3}	58.7		165		376		650		988		1663		2110		2622		2700									
	P_{G4}			183		443		787		1192		2077		2643		3431		4118									
4	P_{G1}	41.0		73.1		132		233		300		452		665		797		866		1051							
	P_{G2}			91.2		220		353		467		866		1227		1520		1639		1647							
	P_{G3}	52.2		146		334		573		818		1485		1903		2301		2700									
	P_{G4}			162		392		690		985		1855		2352		3043		3665									
4.5	P_{G1}	41.0		77.0		139		225		321		388		630		816		916		1020							
	P_{G2}			99.7		221		331		492		728		1115		1475		1675		1771							
	P_{G3}	53.0		155		328		529		843		1264		1713		2248		2841									
	P_{G4}			171		386		636		1011		1570		2134		2922		3586									
5	P_{G1}	37.0		69.0		134		218		290		377		604		812		980		1146							
	P_{G2}			89.7		209		314		439		697		1022		1431		1734		1894							
	P_{G3}	46.5		138		309		494		743		1212		1609		2140		2845									
	P_{G4}			152		361		595		892		1477		2005		2757		3645									
5.6	P_{G1}	36.5		66.4		122		212		274		364		571		736		899		1149							
	P_{G2}			79.5		184		280		411		656		929		1386		1541		1878							
	P_{G3}	46.8		120		267		438		682		1116		1419		1875		2509									
	P_{G4}			133		314		520		821		1377		1739		2397		3181									

平行轴齿轮箱 Helical Gear Units
额定功率 Nom Power Ratings
类 型 Types **FSH2..,FSH3..**
规 格 Sizes **3...26**

			额定功率 Nom Power Ratings kW																									
			齿轮箱规格 Sizes																									
i_N	n_1	n_2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
	r/min		P_N kW																									
6.3	1500	238			87	157	262		474		785		1383		2143		3564		4860									
	1000	159			58	105	175		316		524		924		1432		2381		3247		4862							
	750	119			44	79	131		237		393		692		1072		1782		2430		3639							
7.1	1500	211			77	139	232		420		696		1226		1900		3159	3535	4308	5082				根据用户要求供货 on request				
	1000	141			52	93	155		281		465		819		1270		2111	2362	2879	3396	4311	4946						
	750	106			39	70	117		211		350		616		955		1587	1776	2164	2553	3241	3718	4551					
8	1500	188			69	124	207	266	374	472	620	778	1093	1358	1693	2106	2815	3150	3839	4528								
	1000	125			46	82	137	177	249	314	412	517	726	903	1126	1401	1872	2094	2552	3010	3822	4385	5366					
	750	94			34	62	103	133	187	236	310	389	546	679	846	1053	1408	1575	1919	2264	2874	3297	4036	4508				
9	1500	167			61	110	184	236	332	420	551	691	971	1207	1504	1871	2501	2798	3410	4022								
	1000	111			41	73	122	157	221	279	366	459	645	802	1000	1244	1602	1860	2266	2673	3394	3894	4765	5323				
	750	83			30	55	91	117	165	209	274	343	482	600	747	930	1243	1391	1695	1999	2538	2912	3563	3981				
10	1500	150			55	99	165	212	298	377	495	620	872	1084	1351	1681	2246	2513	3063	3613								
	1000	100			37	66	110	141	199	251	330	414	581	723	901	1120	1497	1675	2042	2408	3058	3508	4293	4796				
	750	75			27	49	82	106	149	188	247	310	436	542	675	840	1123	1257	1531	1806	2293	2631	3220	3597				
11.2	1500	134			49	88	147	189	267	337	442	554	779	968	1207	1501	2006	2245	2736	3227								
	1000	89			33	59	98	126	177	224	294	368	517	643	801	997	1333	1491	1817	2143	2721	3122	3821	4268				
	750	67			25	44	74	95	133	168	221	277	389	484	603	751	1003	1123	1368	1614	2049	2350	2876	3213				
12.5	1500	120			44	79	132	170	239	302	396	496	697	867	1081	1345	1797	2010	2450	2890	3669							
	1000	80			29	53	88	113	159	201	264	331	465	578	720	896	1198	1340	1634	1927	2446	2806	3435	3837				
	750	60			22	40	66	85	119	151	198	248	349	434	540	672	898	1005	1225	1445	1835	2105	2576	2877				
14	1500	107			39	71	118	151	213	269	353	443	622	773	964	1199	1602	1793	2185	2577	3272	3753						
	1000	71			26	47	78	100	141	178	234	294	413	513	639	795	1063	1190	1450	1710	2171	2491	3048	3405				
	750	54			20	36	59	76	107	136	178	223	314	390	486	605	809	905	1103	1301	1651	1874	2318	2590				
16	1500	94			34	62	103	133	187	236	310	389	546	679	846	1053	1408	1575	1919	2264	2874	3297						
	1000	63			23	42	69	89	125	158	208	261	366	455	567	706	943	1055	1286	1517	1926	2210	2705	3021				
	750	47			17	31	52	66	94	118	155	194	273	340	423	527	704	787	960	1132	1437	1649	2018	2254				
18	1500	83			30	55	91	117	165	209	270	343	482	600	747	930	1243	1391	1695	1999	2538	2912						
	1000	56			21	37	62	79	111	141	185	232	325	405	504	627	839	938	1143	1349	1712	1964	2404	2686				
	750	42			15	28	46	59	84	106	139	174	244	303	378	471	629	704	858	1012	1284	1473	1803	2014				
20	1500	75			27	49	82	106	149	188	247	310	436	542	675	840	1123	1257	1531	1806	2293	2631						
	1000	50			18	33	55	71	99	126	165	207	291	361	450	560	749	838	1021	1204	1529	1754	2147	2398				
	750	38			14	25	42	54	76	95	125	157	221	275	342	426	569	637	776	915	1162	1333	1631	1822				
22.4	1500	67			25	43	72	95	130	168	217	277	382	484	617	751	1073	1123	1403	1614	2105	2350	2947					
	1000	45			16	29	48	64	88	113	146	186	257	325	415	504	721	754	942	1084	1414	1579	1979	2158				
	750	33			12	21	35	47	64	83	107	136	188	238	304	370	529	553	691	795	1037	1158	1451	1583				
25	1500	60					69	85	129	151	214	248	377	434	553	672	961	1087	1257	1508	1885	2168	2639	2953				
	1000	40					46	57	86	101	142	165	251	289	269	448	641	725	838	1005	1257	1445	1759	1969				
	750	30					35	42	64	75	107	124	188	217	276	336	481	543	628	754	942	1084	1319	1476				
28	1500	54					62	74	116	133	192	220	339	383	498	616	865	978	1131	1357	1696	1951	2375	2658				
	1000	36					41	49	77	89	128	147	226	256	332	411	577	652	754	905	1131	1301	1583	1772				
	750	27					31	37	58	66	96	110	170	192	249	308	433	489	565	679	848	975	1187	1329				
31.5	1500	48					55	73	103	128	171	216	302	377	442	548	769	870	1005	1206	1508	1734	2111	2362				
	1000	32					37	49	69	85	114	144	201	251	295	365	513	580	670	804	1005	1156	1407	1575				
	750	24					28	36	52	64	85	108	151	188	221	274	385	435	503	603	754	867	1055	1181				
35.5	1500	42					48	64	90	112	150	189	264	330	387	479	673	761	880	1055	1319	1517	1847	2067				
	1000	28					32	43	60	75	100	126	176	220	259	320	449	507	586	704	880	1012	1231	1378				
	750	21					24	32	45	56	75	95	132	165	194	240	336	380	440	528	660	759	924	1034				

□ 卧式安装齿轮箱要求采用强制润滑
Forced lubrication reqiured on horizonal gear nits

平行轴齿轮箱 Helical Gear Units
热容量 Thermal capacities
类 型 Types **FSH2..,FSH3..**
规 格 Sizes **3...26**

热容量 P_G kW Thermal Gapacities kW

齿轮箱规格 Sizes

热容量 P_G(单位为kW)取决于冷却方式: P_{G1}:无辅助冷却装置; P_{G2}:带冷却风扇; P_{G3}:带冷却盘管; P_{G4}:带风扇和冷却盘管

PG1:With out auxili; arycooling; PG2:With fan
Thermal Ca Pacity de Pendent o kind of cooling; PG3:With cooling coil; PG4:With fan and cooling coil

i_N		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
6.3	P_{G1}			53.2	75.0	88.1		143		182		244		406		532		572		650							
	P_{G2}				93.9	131		214		295		417		734		993		1031		1071							
	P_{G3}			84.9	119	193		312		476		647		1100		1703		1900									
	P_{G4}				134	218		373		559		797		1385		2088		2430									
7.1	P_{G1}			50.9	76.8	86.8		138		179		240		404		542	570	575	581	699	720	770					
	P_{G2}				95.7	132		204		285		416		717		980	1023	1179	1026	1071	1209	1143					
	P_{G3}			79.9	120	189		297		443		638		1044		1650	1722	2070	2200								
	P_{G4}				136	216		348		524		771		1323		2008	2121	2525	2604								
8	P_{G1}			49.2	73.4	85.1	93.0	135	155	174	180	235	281	398	437	548	579	575	639	738	745	844	862				
	P_{G2}				91.2	128	139	196	229	275	300	403	482	689	757	956	1007	1125	1127	1171	1233	1332	1310				
	P_{G3}			76.3	113	182	192	280	319	421	550	608	856	999	1110	1565	1664	1982	2000								
	P_{G4}				128	206	219	331	380	497	604	733	997	1257	1387	1922	2039	2491	2699								
9	P_{G1}			46.5	70.6	82.7	92.3	129	148	169	174	231	273	388	431	542	576	589	653	763	778	892	902				
	P_{G2}				87.6	121	137	188	220	263	290	382	471	658	733	923	978	1110	1175	1218	1328	1435	1474				
	P_{G3}			71.4	107	171	187	264	302	403	520	567	810	943	1059	1487	1590	1894	2021								
	P_{G4}				121	193	213	312	359	468	572	680	956	1181	1322	1823	1946	2373	2618								
10	P_{G1}			44.1	66.7	80.6	90.1	125	143	165	168	229	264	376	425	537	574	600	672	785	801	917	936				
	P_{G2}				82.3	114	134	179	210	251	277	361	459	627	708	891	949	1094	1223	1398	1424	1537	1638				
	P_{G3}			66.4	100	159	181	247	285	385	490	525	764	887	1008	1409	1518	1805	2042								
	P_{G4}				113	180	206	292	337	439	540	628	915	1105	1258	1724	1852	2255	2536								
11.2	P_{G1}			41.7	63.5	76.7	88.6	123	139	162	166	220	259	380	414	515	561	595	673	783	822	921	972				
	P_{G2}				78.4	109	130	179	200	236	266	360	431	615	678	849	912	1048	1179	1301	1408	1435	1611				
	P_{G3}			62.2	94.4	149	172	246	269	346	439	515	712	867	1079	1450	1649	1920	2150								
	P_{G4}				106	168	196	289	318	409	503	621	835	1087	1186	1613	1750	2118	2402								
12.5	P_{G1}			40.8	60.7	75.3	84.9	120	134	155	164	224	249	349	398	529	549	593	649	783	815	919	972				
	P_{G2}				74.1	106	121	170	190	222	253	346	409	563	644	842	867	1016	1128	1307	1355	1457	1578				
	P_{G3}			59.7	88.1	142	158	230	252	322	411	485	652	767	1000	1496	1563	1850	2050								
	P_{G4}				99.0	161	180	270	297	376	476	583	780	960	1109	1595	1638	2017	2256								
14	P_{G1}			38.2	57.3	70.6	80.8	110	131	149	162	222	248	330	400	501	556	589	633	765	814	898	966				
	P_{G2}				69.6	98.7	114	153	190	212	238	323	408	527	640	782	860	961	1093	1238	1312	1419	1524				
	P_{G3}			55.5	81.8	131	149	205	249	301	382	450	648	708	980	1382	1533	1720	1955								
	P_{G4}				92.0	148	169	240	294	354	442	537	770	887	1089	1453	1618	1880	2149								
16	P_{G1}			35.3	52.0	65.8	79.2	108	127	143	160	218	242	300	367	476	525	552	594	735	792	865	943				
	P_{G2}				63.0	91.5	111	142	180	196	224	299	390	471	576	733	798	900	1030	1161	1244	1327	1442				
	P_{G3}			51.3	73.3	120	142	187	233	277	354	408	616	630	895	1270	1398	1621	1850								
	P_{G4}				83.1	136	161	219	275	323	408	487	721	782	964	1341	1473	1734	2000								
18	P_{G1}			34.4	49.3	64.7	74.3	110	122	143	155	213	237	292	350	450	477	535	612	677	767	844	913				
	P_{G2}				58.3	87.0	101	138	158	188	207	288	348	451	515	650	710	838	918	1036	1108	1200	1286				
	P_{G3}			50.2	69.7	116	131	184	208	269	331	402	564	670	884	1233	1350	1550	1788								
	P_{G4}				77.7	130	147	212	241	308	378	469	653	811	920	1266	1386	1675	1842								
20	P_{G1}			32.1	47.9	60.2	69.1	95.7	109	134	144	206	228	283	317	436	469	545	617	686	732	815	883				
	P_{G2}				57.9	82.8	95.8	131	151	186	198	259	305	395	438	590	629	772	860	946	996	1088	1161				
	P_{G3}			45.9	67.7	107	120	168	189	256	302	343	463	520	663	1001	1085	1365	1473								
	P_{G4}				76.6	122	136	196	224	298	350	409	546	611	715	1054	1139	1459	1608								
22.4	P_{G1}			31.9	44.0	55.3	67.8	92.0	105	124	142	202	224	252	320	367	455	504	594	661	696	769	817				
	P_{G2}				53.5	75.9	93.6	125	150	171	195	238	305	376	440	540	602	712	827		947		1105				
	P_{G3}			45.3	61.7	97.8	116	159	186	231	294	311	457	496	657	828	1013	921	1455								
	P_{G4}				69.8	111	133	187	220	269	337	371	535	589	710	958	1070	1077	1540								
25	P_{G1}					61.4	63.1	94.3	102	127	138	185	219	262	298	361	397	440	491	581	610	644	679				
	P_{G2}					75.6	86.7	131	139	176	188	256	290	378	404	535	587	651	712								
	P_{G3}					100	107	154	170	221	281	379	424	475	599	780	830	864	969								
	P_{G4}					110	123	181	200	258	321	432	502	562	643	910	972	1022	1134								
28	P_{G1}					59.6	58.1	95.5	97.8	127	127	181	209	258	282	355	394	434	476	577	608	642	695				
	P_{G2}					73.8	79.6	134	132	173	172	247	267	269	414	523	582	636	694								
	P_{G3}					96.1	98.7	155	162	215	260	362	391	445	504	742	787	838	917								
	P_{G4}					107	113	184	192	249	290	412	455	528	603	868	928	989	1080								
31.5	P_{G1}					58.4	64.5	89.7	100	123	124	176	214	251	275	347	390	422	469	564	596	638	690				
	P_{G2}					71.8	80.5	126	139	166	175	237	288	354	403	498	575	603	683								
	P_{G3}					92.8	101	148	155	210	264	344	395	423	478	717	754	803	885								
	P_{G4}					103	112	175	184	242	302	389	450	500	574	830	892	938	1045								
35.5	P_{G1}					57.0	63.0	89.7	100	120	123	169	208	253	274	347	380	415	454	564	588	635	684				
	P_{G2}					69.7	79.0	122	139	162	170	228	280	347	394	479	543	573	643								
	P_{G3}					89.3	96.3	143	155	201	262	327	373	404	450	653	724	741	845								
	P_{G4}					98.8	108	167	184	232	297	371	427	475	540	752	846	859	986								

根据用户要求供货
on request

平行轴齿轮箱 Helical Gear Units
额定功率 Nom Power Ratings
类 型 Types **FSH3..,FSH4**
规 格 Sizes **5...26**

			额定功率PN Nom Power Ratings PN kW																									
			齿轮箱规格 Sizes																									
i_N	n_1	n_2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
	r/min		PN kW																									
40	1500	38					44	58	82	101	135	171	239	298	350	434	609	688	796	955	1194	1373	1671	1870				
	1000	25					29	38	54	67	89	113	157	196	230	285	401	453	524	628	785	903	1099	1230				
	750	18.8					22	29	40	50	67	85	118	148	173	215	301	341	394	472	591	679	827	925				
45	1500	33					38	50	71	88	117	149	207	259	304	377	529	598	691	829	1037	1192	1451	1624				
	1000	22					25	33	47	59	78	99	138	173	203	251	352	399	461	553	691	795	968	1083				
	750	16.7					19	25	36	45	59	75	105	131	154	191	268	303	350	420	525	603	734	822				
50	1500	30					35	46	64	80	107	135	188	236	276	342	481	543	628	754	942	1084	1319	1476				
	1000	20					23	30	43	53	71	90	126	157	184	228	320	362	419	503	628	723	880	984				
	750	15					17	23	32	40	53	68	94	118	138	171	240	272	314	377	471	542	660	738				
56	1500	27					31	41	58	72	96	122	170	212	249	308	433	489	565	679	848	975	1187	1329				
	1000	17.9					21	27	38	48	64	81	112	141	165	204	287	324	375	450	562	647	787	881				
	750	13.4					15	20	29	36	48	60	84	105	123	153	215	243	281	337	421	484	589	659				
63	1500	24					28	36	52	64	85	108	151	188	221	274	385	435	503	603	754	867	1055	1181				
	1000	15.9					18	24	34	42	57	72	100	125	147	181	255	288	333	400	499	574	699	783				
	750	11.9					14	18	26	32	42	54	75	93	110	136	191	216	249	299	374	430	523	586				
71	1500	21					24	32	45	56	75	95	132	165	194	240	336	380	440	528	660	759	924	1034				
	1000	14.1					16	21	30	38	50	63	89	111	130	161	226	255	295	354	443	509	620	694				
	750	10.6					12	16	23	28	38	48	67	83	98	121	170	192	222	266	333	383	466	522				
80	1500	18.8					22	29	40	50	67	85	118	148	173	215	301	341	394	472	591	679	827	925				
	1000	12.5					14	19	27	33	45	56	79	98	115	143	200	226	262	314	393	452	550	615				
	750	9.4					11	14	20	25	33	42	59	74	87	107	151	170	197	236	295	340	413	463				
90	1500	16.7					19	25	35	45	59	75	105	131	154	191	268	303	350	420	507	603	717	822				
	1000	11.1					13	17	23	30	39	50	70	87	102	127	178	201	232	279	337	401	477	546				
	750	8.3					10	13	17	22	29	37	52	65	76	95	133	150	174	209	252	300	356	408				
100	1500	15						23	32	40	53	68	94	118	138	171	240	272	314	355	471	526	660	730	根据用户要求供货 On requese			
	1000	10						15	21	27	36	45	63	79	92	114	160	181	209	237	314	351	440	487				
	750	7.5						11	16	20	27	34	47	59	69	86	120	136	157	177	236	263	330	365				
112	1500	13.4						20	29	35	48	59	84	105	123	153	215	243	281	337	421	484	589	659				
	1000	8.9						13	19	23	32	39	56	70	82	102	143	161	186	224	280	322	391	438				
	750	6.7						10	14	18	24	29	42	53	62	76	107	121	140	168	210	242	295	330				
125	1500	12							26	32	43	54	75	94	111	137	192	217	251	302	377	434	528	591				
	1000	8							17	21	28	36	50	63	74	91	128	145	168	201	251	289	352	394				
	750	6							13	16	21	27	38	47	55	68	96	109	126	151	188	217	264	295				
140	1500	10.7							23	29	38	48	67	84	99	122	171	194	224	269	336	387	471	527				
	1000	7.1							15	19	25	32	45	56	65	81	114	129	149	178	223	256	312	349				
	750	5.4							12	14	19	24	34	42	50	62	87	98	113	136	170	195	237	266				
160	1500	9.4							20	25	33	42	59	74	87	107	151	170	197	236	295	340	413	463				
	1000	6.3							14	17	22	28	40	49	58	72	101	114	132	158	198	228	277	310				
	750	4.7							10	13	17	21	30	37	43	54	75	85	98	118	148	170	207	231				
180	1500	8.3							18	22	30	37	52	65	76	95	133	150	174	209	261	300	365	408				
	1000	5.6							12	15	20	25	35	44	52	64	90	101	117	141	176	202	246	276				
	750	4.2							9.0	11	15	19	26	33	39	48	67	76	88	106	132	152	185	207				
200	1500	7.5							16	20	27	34	47	59	69	86	120	136	157	188	236	271	330	369				
	1000	5							11	13	18	28	31	39	46	57	80	91	105	126	157	181	220	246				
	750	3.8							8.2	10	14	17	24	30	35	43	61	69	80	95	119	137	167	187				
224	1500	6.7							14	18	24	30	42	53	62	76	107	121	140	168	210	242	295	330				
	1000	4.5							10	12	16	20	28	35	41	51	72	82	94	113	141	163	198	221				
	750	3.3							7.1	8.8	12	15	21	26	30	38	53	60	69	83	104	119	145	162				
250	1500	6							13	16	21	27	38	47	55	68	96	109	126	151	188	217	264	295				
	1000	4							8.6	11	14	18	25	31	37	46	64	72	84	101	126	145	176	197				
	750	3							6.4	8.0	11	14	19	24	28	34	48	54	63	75	94	108	132	148				
280	1500	5.4							12	14	19	24	34	42	50	62	87	98	113	136	170	195	237	266				
	1000	3.6							7.7	9.6	13	16	23	28	33	41	58	65	75	90	113	130	158	177				
	750	2.7							5.8	7.2	10	12	17	21	25	31	43	49	57	68	85	98	119	133				
315	1500	4.8							10.3	13	17	22	30	38	44	55	77	87	101	121	151	173	211	236				
	1000	3.2							7	8.5	11	14	20	25	29	37	51	58	67	80	101	116	141	157				
	750	2.4							5.2	6.4	8.5	11	15	19	22	27	38	43	50	60	75	87	106	118				
355	1500	4.2							8.6	11	15	19	26	33	39	48	62	76	84	106	128	152	180	207				
	1000	2.8							5.7	7.5	9.7	13	17	22	26	32	41	51	56	70	85	101	120	138				
	750	2.1							4.3	5.6	7.3	9.5	13	16	19	24	31	38	42	53	64	76	90	103				
400	1500	3.8								10.1		17		30		43		63		89		133		185				
	1000	2.5								6.7		11		20		29		41		58		88		122				
	750	1.9								5.1		8.6		15		22		31		44		67		93				
450	1500	3.3								8.6		14		26		38												
	1000	2.2								5.7		9.6		17		25												
	750	1.7								4.4		7.4		13		19												

平行轴齿轮箱 Helical Gear Units
热容量 Thermal capacities
类 型 Types **FSH3..,FSH4**
规 格 Sizes **5...26**

热容量 P_G, kW Thermal Capacities PG kW

i_N		齿轮箱规格 Sizes 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
		热容量 P_G(单位为kW)取决于冷却方式:P_{G1}:无辅助冷却装置;P_{G2}:带冷却风扇;P_{G3}:带冷却盘管;P_{G4}:带风扇和冷却盘管 PG1:With out auxili; arycooling; PG2:With fan Thermal Ca Pacity de Pendent on kind of cooling; PG3:With cooling coil; PG4:With fan and cooling coil																									
40	P_{G1}					54.3	61.8	86.3	96.6	111	121	162	204	228	258	330	360	382	430	527	562	631	673				
	P_{G2}					66.0	76.9	115	134	150	165	216	271	309	368	470	512	550	606								
	P_{G3}					83.6	93.3	135	149	190	253	315	356	383	429	617	666	697	774								
	P_{G4}					92.4	105	156	177	219	286	355	406	443	511	722	780	823	906								
45	P_{G1}					52.3	60.1	79.9	86.7	106	116	161	194	217	247	321	344	378	412	521	542	623	666				
	P_{G2}					63.5	74.5	107	122	142	157	215	255	291	345	443	496	542	585								
	P_{G3}					79.7	89.9	129	144	179	244	307	340	362	408	606	631	677	727								
	P_{G4}					88.1	101	149	170	206	275	347	386	417	481	697	745	800	856								
50	P_{G1}					50.8	57.4	73.9	84.8	102	110	156	189	212	238	312	340	369	407	493	536	611	657				
	P_{G2}					60.8	70.7	100	115	135	147	206	245	281	322	413	480	490	570								
	P_{G3}					78.6	84.4	122	136	180	228	304	322	359	387	607	615	666	716								
	P_{G4}					86.1	94.4	141	159	205	256	342	364	411	450	682	720	757	838								
56	P_{G1}					48.4	55.3	71.0	82.1	97.4	106	146	182	204	227	305	339	350	398	470	507	600	643				
	P_{G2}					57.6	67.9	94.9	110	127	143	189	240	262	297	386	454	460	520								
	P_{G3}					74.4	80.4	117	130	170	217	280	319	342	367	566	616	616	697								
	P_{G4}					81.3	89.8	135	151	192	245	313	362	386	420	627	702	699	789								
63	P_{G1}					45.8	53.6	66.4	78.4	92.8	105	139	177	194	221	290	321	327	375	454	500	588	622	根据用户要求 供货 on request			
	P_{G2}					54.0	65.0	88.2	105	120	139	173	230	249	278	365	394	417	460								
	P_{G3}					69.6	79.3	108	124	159	217	260	315	319	364	528	578	571	647								
	P_{G4}					75.8	87.9	124	144	179	242	286	355	360	407	584	633	638	710								
71	P_{G1}					46.1	51.1	64.9	75.0	91.1	101	138	168	190	212	282	301	321	352	436	469	566	598				
	P_{G2}					52.8	61.5	83.8	97.7	118	133	166	228	245	271	335	378	384	440								
	P_{G3}					70.8	74.9	106	118	157	204	258	288	309	346	513	537	562	601								
	P_{G4}					75.8	82.7	120	135	177	228	279	333	350	390	553	595	609	667								
80	P_{G1}					43.6	48.3	63.4	70.3	86.5	95.9	130	159	185	202	269	291	306	345	411	449	542	585				
	P_{G2}					51.1	57.6	82.6	93.0	112	121	165	201	237	260	325	358	365	423								
	P_{G3}					65.8	70.4	103	109	149	194	239	267	297	324	487	521	531	586								
	P_{G4}					71.4	77.4	117	126	168	213	265	299	336	368	529	571	575	645								
90	P_{G1}					43.2	48.8	60.1	66.7	81.4	94.2	127	154	175	199	255	279	286	329	389	422	524	560				
	P_{G2}					50.3	56.4	77	88.6	108	119	160	198	230	254	310	334	340	395								
	P_{G3}					64.6	71.4	95.7	107	138	192	230	262	275	313	450	492	495	556								
	P_{G4}					69.9	77.1	109	123	160	211	255	295	316	354	505	533	535	606								
100	P_{G1}						46.1	53.2	67.4	72.5	89.5	106	145	154	194	213	263	246	307	331	400	430	543				
	P_{G2}						54.6		87.5		112		182		243		315		369								
	P_{G3}						66.5		104		178		245		302		458		517								
	P_{G4}						72.8		119		195		273		339		498		563								
112	P_{G1}						45.9	52.6	63.7	71.3	84.4	106	140	152	183	206	220	239	263	321	335	421	445				
	P_{G2}						54.0		82.0		105		174		235												
	P_{G3}						65.5		96.8		168		236		279												
	P_{G4}						71.6		111		183		261		318												
125	P_{G1}							51.5	57.5	70.2	75.3	103	117	148	161	200	216	232	255	314	331	416	436				
140	P_{G1}							49.8	56.6	68.9	74.3	101	118	144	159	194	207	225	247	293	312	392	424				
160	P_{G1}							48.5	55.4	66.1	73.3	97.9	115	138	155	187	201	216	239	282	302	380	406				
180	P_{G1}							46.9	53.6	64.1	71.6	95.1	113	133	151	185	194	214	230	267	285	375	392				
200	P_{G1}							46.1	52.1	62.7	69.0	91.9	109	131	145	182	192	212	229	259	275	369	386				
224	P_{G1}							43.7	50.6	60.1	66.7	88.3	106	127	140	173	189	200	225	252	267	353	382				
250	P_{G1}							41.9	49.7	57.6	65.3	83.5	102	121	138	164	178	191	213	242	260	335	365				
280	P_{G1}							40.3	47.2	56.7	62.7	80.7	98.1	117	133	161	170	186	202	233	248	324	346				
315	P_{G1}							39.3	45.1	53.8	60.1	79.1	92.8	112	128	153	166	177	198	228	242	314	334				
355	P_{G1}							37.3	43.5	53.2	59.2	75.2	89.9	107	123	148	159	173	189	216	236	299	324				
400	P_{G1}								42.4		56.2		88.3		118		154		183		223		308				
450	P_{G1}								40.1		55.4		83.7		113												

直交轴齿轮箱 Bevel-helical Gear Units
额定功率 Nom Power Ratings
类 型 Types **FSB2..,FSB3..**
规 格 Sizes **1...26**

额定功率 PN Nom Power Ratings PN kW

i_N	n_1	n_2	齿轮箱规格 Sizes 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
	r/min		PN kW																									
5	1500	300	36	63	97	182	295		559		880		1351		2073													
	1000	200	24	42	65	121	197		373		586		901		1382		2555											
	750	150	18	31	49	91	148		280		440		675		1037		1916											
5.6	1500	268	32	56	87	163	264		500		786		1263		1880													
	1000	179	22	37	58	109	176		334		525		843		1256		2287											
	750	134	16	28	43	81	132		250		393		631		940		1712	1894	2736									
6.3	1500	238	29	50	77	145	234	299	444	556	698	887	1171	1371	1769	2044												
	1000	159	19	33	52	97	157	200	296	371	466	593	783	916	1182	1365	2164	2348										
	750	119	14	25	39	72	117	150	222	278	349	444	586	685	885	1022	1620	1757	2430									
7.1	1500	211	25	44	68	128	208	265	393	493	619	787	1083	1259	1613	1856												
	1000	141	17	30	46	86	139	177	263	329	413	526	723	842	1078	1240	1949	2141	2879					根据用户要求供货 on request				
	750	106	13	22	34	64	104	133	198	248	311	395	544	633	810	932	1465	1609	2164	2553								
8	1500	188	23	39	61	114	185	236	350	439	551	701	994	1161	1516	1732	2598											
	1000	125	15	26	41	76	123	157	233	292	366	466	661	772	1008	1152	1728	1937	2552									
	750	94	11	20	31	57	93	118	175	219	276	350	497	581	758	866	1299	1457	1919	2264								
9	1500	167	20	35	54	101	164	210	311	390	490	623	883	1067	1364	1591	2309	2588										
	1000	111	13	23	36	67	109	139	207	259	325	414	587	709	907	1058	1534	1720	2266	2673								
	750	83	10	17	27	50	82	104	155	194	243	309	439	530	678	791	1147	1286	1695	1999								
10	1500	150	18	31	49	91	148	188	280	350	440	559	793	974	1225	1492	2073	2325										
	1000	100	12	21	32	61	98	126	186	234	293	373	529	649	817	995	1382	1550	2042	2408								
	750	75	9	16	24	46	74	94	140	175	220	280	397	487	613	746	1037	1162	1531	1806								
11.2	1500	134	16	28	43	81	132	168	250	313	393	500	709	870	1094	1368	1852	2077										
	1000	89	11	19	29	54	88	112	166	208	261	332	471	578	727	909	1230	1379	1817	2143								
	750	67	8.1	14	22	41	66	84	125	156	196	250	354	435	547	684	926	1038	1368	1614								
12.5	1500	120	14	25	39	69	118	151	214	280	352	447	635	779	980	1225	1659	1860	2450									
	1000	80	10	17	26	46	79	101	142	187	235	298	423	519	653	817	1106	1240	1634	1927	2094		2848					
	750	60	7.2	13	19	35	59	75	107	140	176	224	317	390	490	613	829	930	1225	1445	1571		2136					
14	1500	107	13	22	35	67	110	134	204	250	331	399	594	695	896	1092	1535	1658	2185	2577								
	1000	71	8.5	15	23	45	73	89	135	166	219	265	394	461	595	725	1019	1100	1450	1710	1948	2193	2676					
	750	54	6.5	11	18	34	55	68	103	126	167	201	300	351	452	551	775	837	1103	1301	1481	1668	2036	2290				
16	1500	94	11	19	31	61	100	118	188	212	305	350	551	610	817	960	1398	1516	1969	2264								
	1000	63	7.3	13	20	41	67	79	126	142	205	235	369	409	548	643	937	1016	1319	1517	1814	2032	2507	2784				
	750	47	5.4	9.6	15	31	50	59	94	106	153	175	276	305	408	480	699	758	984	1132	1353	1516	1870	2077				
18	1500	83	9	16	26	56	92	110	172	201	282	326	504	565	739	869	1286	1391	1738	2086								
	1000	56	6	11	18	38	62	74	116	135	191	220	340	381	498	586	868	938	1173	1407	1689	1876	2346	2568				
	750	42	4.5	7.9	13	28	47	55	87	102	143	165	255	286	374	440	651	704	880	1055	1267	1407	1759	1926				
20	1500	75			28	52	86	104	161	188	267	309	471	534	691	809	1202	1312	1571	1885								
	1000	50			19	35	58	69	107	125	178	206	314	356	461	539	801	874	1047	1257	1571	1738	2199	2382				
	750	38			14	26	44	53	82	95	135	156	239	271	350	410	609	665	796	955	1194	1321	1671	1810				
22.4	1500	67			25	46	77	97	144	174	239	288	421	505	617	744	1073	1214	1403	1684	2105	2420						
	1000	45			17	31	52	65	97	117	160	193	283	339	415	499	721	815	942	1131	1414	1626	1979	2215				
	750	33			12	23	38	48	71	86	117	142	207	249	304	366	529	598	691	829	1037	1192	1451	1624				
25	1500	60			23	41	69	91	129	160	214	270	377	471	553	685	961	1087	1257	1508	1885	2168						
	1000	40			15	28	46	61	86	107	142	180	251	314	369	457	641	725	838	1005	1257	1445	1759	1969				
	750	30			11	21	35	46	64	80	107	135	188	236	276	342	481	543	628	754	942	1084	1319	1476				
28	1500	54			20	37	62	82	116	144	192	243	339	424	498	616	865	978	1131	1357	1696	1950	2375					
	1000	36			14	25	41	55	77	96	128	162	226	283	332	411	577	652	754	905	1131	1301	1583	1772				
	750	27			10.2	19	31	41	58	72	96	122	170	212	249	308	433	489	565	679	848	975	1187	1329				

直交轴齿轮箱 Bevel-helical Gear Units
热容量 Thermal capacities
类 型 Types FSB2..,FSB3..
规 格 Sizes 1...26

热容量 P_G kW Thermal Capacities PG kW

i_N		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
		齿轮箱规格 Sizes																									
		热容量 P_G(单位为kW)取决于冷却方式: P_{G1}:无辅助冷却装置; P_{G2}:带冷却风扇; P_{G3}:带冷却盘管; P_{G4}:带风扇和冷却盘管 PG1:With out auxili; arycooling; PG2:With fan Thermal Ca Pacity de Pendent o kind of cooling; PG3:With cooling coil; PG4:With fan and cooling coil																									
5	P_{G1}	34.9	45.6	59.7	83.4	106		152		186		280		360		517											
	P_{G2}	38.1	50.6	73.1	115	160		218		236		478		659		828											
	P_{G3}	41.1	59.2	109	190	285		419		495		805		1403		1540											
	P_{G4}	45.0	67.5	118	206	314		470		594		1032		1680		1845											
5.6	P_{G1}	33.4	44.0	57.6	77.1	107		145		180		276		376		531	558	570									
	P_{G2}	36.0	48.5	70.4	106	150		210		225		488		658		818	858	869									
	P_{G3}	41.6	58.4	101	171	261		384		479		826		1355		1650	1595	2187									
	P_{G4}	45.0	64.8	112	186	288		431		545		983		1617		1856	1870	2224									
6.3	P_{G1}	32.0	39.7	52.2	73.3	99.8	112	139	160	176	194	273	339	355	412	523	571	591									
	P_{G2}	34.7	43.7	63.5	100	140	173	197	210	233	252	446	540	597	673	820	848	871									
	P_{G3}	38.1	51.2	91.8	159	238	350	350	440	497	614	735	1025	1192	1414	1540	1540	2016									
	P_{G4}	41.0	57.3	99.0	173	264	384	390	497	557	689	868	1215	1412	1691	1877	1902	2273									
7.1	P_{G1}	30.7	39.4	51.5	68.8	91.2	106	132	155	168	188	284	350	381	429	534	586	603	627								
	P_{G2}	35.4	43.5	62.7	93.6	131	162	186	201	225	237	440	527	601	667	787	838	861	880								
	P_{G3}	37.0	50.4	90.9	147	218	323	318	380	421	561	711	1011	1164	1374	1528	1518	1889	2161								
	P_{G4}	39.0	57.0	97.8	160	240	352	360	460	498	633	837	1203	1377	1628	1789	1816	2183	2454								
8	P_{G1}	28.5	36.6	48.0	62.6	90.1	99.8	126	150	164	180	276	332	356	423	499	567	580	618			根据用户要求供货 on request					
	P_{G2}	31.2	40.2	58.2	86.9	121	150	176	198	219	246	402	515	564	636	746	828	840	862								
	P_{G3}	33.8	48.0	83.5	135	198	294	297	372	412	510	631	968	1026	1274	1360	1576	1675	1993								
	P_{G4}	35.8	52.5	89.9	146	219	322	333	441	480	577	744	1153	1221	1425	1606	1823	1934	2319								
9	P_{G1}	25.0	34.2	45.8	58.9	83.2	93.6	121	144	150	168	283	359	374	425	529	560	591	639								
	P_{G2}	26.6	37.6	55.2	82.7	117	140	167	195	211	222	387	506	520	626	678	735	773	819								
	P_{G3}	29.9	43.2	78.4	126	190	270	279	378	410	474	596	932	978	1261	1293	1417	1680	1880								
	P_{G4}	33.0	48.3	84.0	137	210	293	312	426	472	529	701	1085	1148	1384	1523	1633	1830	2059								
10	P_{G1}	22.2	28.6	38.4	52.0	84.8	86.4	113	133	140	159	258	327	366	422	500	559	593	620								
	P_{G2}	23.0	31.2	46.4	69.9	99.5	130	155	189	203	218	362	459	492	573	630	702	720	783								
	P_{G3}	25.0	36.0	64.3	104	173	245	252	356	380	440	550	884	904	1131	1206	1333	1650	1800								
	P_{G4}	26.2	39.8	69.1	113	160	267	284	396	430	488	646	1010	1059	1232	1401	1551	1728	1944								
11.2	P_{G1}	21.3	27.8	37.6	50.9	65.6	83.2	110	125	132	152	255	336	346	440	467	550	572	619								
	P_{G2}	22.1	30.4	44.8	67.2	95.5	125	138	180	195	215	308	401	420	525	536	625	655	708								
	P_{G3}	24.0	34.7	62.1	99.7	150	235	221	335	362	411	458	760	820	1048	1021	1193	1440	1680								
	P_{G4}	27.2	38.6	66.4	108	165	256	248	372	399	460	539	938	972	1112	1177	1369	1512	1779								
12.5	P_{G1}	20.5	29.4	37.3	57.6	81.0	80.6	104	126	157	150	218	321	335	423	413	521	458	580	552		623					
	P_{G2}	21.4	32.0	45.1	66.5	97.0	115	141	167	205	205	277	395	434	495	535	567	625	622	664		761					
	P_{G3}	25.9	38.1	52.2	102	173	213	256	303	405	380	524	750	754	876	1065	1070	1195	1310								
	P_{G4}	27.5	40.6	66.7	108	183	230	272	338	440	420	570	865	905	1027	1195	1233	1415	1586								
14	P_{G1}	19.4	25.6	33.3	55.7	78.0	76.5	109	117	152	138	211	302	322	378	401	429	445	460	556	605	635	654				
	P_{G2}	21.0	27.8	39.7	64.9	93.2	102	135	148	197	181	267	347	417	439	520	565	625	648	673	737	780	854				
	P_{G3}	22.6	32.8	54.4	97.4	166	186	245	267	386	323	500	660	721	768	1025	1065	1150	1305								
	P_{G4}	23.8	35.0	58.1	104	176	200	260	296	420	362	545	746	860	896	1150	1240	1365	1430								
16	P_{G1}	18.6	24.0	31.2	53.7	75.2	86.8	105	122	146	158	204	239	310	365	389	417	433	447	560	611	641	665				
	P_{G2}	19.8	25.9	37.1	62.2	89.7	102	130	149	189	212	256	313	400	468	502	543	600	630	687	745	793	862				
	P_{G3}	21.8	30.4	50.2	93.7	158	173	234	264	369	420	480	645	689	728	980	1025	1130	1250								
	P_{G4}	23.0	32.5	53.6	100	168	186	249	289	400	448	523	770	816	910	1100	1190	1310	1375								
18	P_{G1}	17.1	21.8	28.3	51.4	72.2	83.7	101	118	139	152	197	232	299	353	377	404	419	436	564	621	657	677				
	P_{G2}	18.2	23.7	33.6	59.8	86.0	98.2	125	143	181	204	246	301	383	449	482	523	581	605	701	754	802	870				
	P_{G3}	19.5	27.5	45.1	89.1	152	166	225	253	353	403	465	615	659	700	940	982	1085	1200								
	P_{G4}	20.8	29.3	48.0	95.3	160	178	242	276	382	429	510	730	775	870	1050	1135	1245	1320								
20	P_{G1}			33.0	49.6	69.6	80.7	98.9	113	133	146	194	225	289	340	363	392	400	423	570	629	669	691				
	P_{G2}			37.1	57.0	82.9	94.4	120	138	174	195	241	288	372	429	475	502	548	585	715	761	815	875				
	P_{G3}			58.4	85.4	144	159	221	245	342	384	459	590	641	668	921	940	1075	1155								
	P_{G4}			61.1	90.7	153	170	239	264	374	409	508	695	734	825	1044	1085	1242	1270								
22.4	P_{G1}			32.8	47.8	67.5	77.4	92.1	109	130	140	184	218	275	327	344	381	394	425	575	635	681	708				
	P_{G2}			37.1	54.7	79.5	90.8	112	132	165	187	227	276	353	409	460	490	537	585	730	781	837	888				
	P_{G3}			58.6	82.2	139	152	201	235	320	365	426	580	601	660	880	928	1041	1127								
	P_{G4}			61.1	87.2	147	163	216	252	345	392	471	655	679	780	984	1057	1191	1298								
25	P_{G1}			30.7	43.8	61.9	74.2	87.5	106	122	135	187	219	260	315	347	378	392	413	562	604	670	681				
	P_{G2}			34.7	49.9	72.6	87.4	106	129	155	178	213	269	328	389	430	474	520	571	715	763	822	861				
	P_{G3}			54.1	74.4	125	145	188	225	291	356	389	573	546	651	794	893	941	1084								
	P_{G4}			56.5	78.7	133	155	201	243	320	387	430	624	621	741	887	1002	1070	1249								
28	P_{G1}			29.9	43.5	61.0	71.4	82.7	99.0	115	129	179	221	249	301	330	363	380	388	540	569	638	663				
	P_{G2}			33.6	49.9	71.2	84.0	99.8	120	145	169	201	255	315	372	400	441	486	527	679	725	797	837				
	P_{G3}			51.8	73.9	123	140	176	206	272	330	361	526	506	603	779	801	913	979								
	P_{G4}			54.2	78.2	131	149	189	222	294	354	400	581	575	686	879	900	1037	1121								

直交轴齿轮箱 Bevel-helical Gear Units
额定功率 Nom Power Ratings
类 型 Types **FSB3..,FSB4..**
规 格 Sizes **3...26**

额定功率PN Nom Power RatingsPN kW

i_N	n_1	n_2	齿轮箱规格 Sizes 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
	r/min		PN kW																									
31.5	1500	48			18	33	55	73	103	128	171	216	302	377	442	548	769	870	1005	1206	1508	1734	2111					
	1000	32			12.1	22	37	49	69	85	114	144	201	251	295	365	513	580	670	804	1005	1156	1407	1575				
	750	24			9.0	17	28	36	52	64	85	108	151	188	221	274	385	435	503	603	754	867	1055	1181				
35.5	1500	42			15.8	29	48	64	90	112	150	189	264	330	387	479	673	761	880	1055	1319	1517	1847	2067				
	1000	28			11	19	32	43	60	75	100	126	176	220	258	320	449	507	586	704	880	1012	1231	1378				
	750	21			7.9	15	24	32	45	56	75	95	132	165	194	240	336	380	440	528	660	759	924	1034				
40	1500	38			14	26	44	58	82	101	135	171	239	298	350	434	609	688	796	955	1194	1373	1671	1870				
	1000	25			9	17	29	38	54	67	89	113	157	196	230	285	401	453	524	628	785	903	1099	1230				
	750	18.8			7.1	13	22	29	40	50	67	85	118	148	173	215	301	341	394	472	591	679	827	925				
45	1500	33			12	23	38	50	71	88	117	149	207	259	304	377	529	598	691	829	1037	1192	1451	1624				
	1000	22			8.3	15	25	33	47	59	78	99	138	173	203	251	352	399	461	553	691	795	968	1083				
	750	16.7			6.3	12	19	25	36	45	59	75	105	131	154	191	268	303	350	420	525	603	734	822				
50	1500	30			11	21	35	46	64	80	107	135	188	236	276	342	481	543	628	754	942	1083	1319	1476				
	1000	20			8	14	23	30	43	53	71	90	126	157	184	228	320	362	419	503	628	723	880	984				
	750	15			6	10.4	17	23	32	40	53	68	94	118	138	171	240	272	314	377	471	542	660	738				
56	1500	27			10.2	19	31	41	58	72	96	122	170	212	249	308	433	489	565	679	848	975	1187	1329				
	1000	17.9			6.7	12	21	27	38	48	64	81	112	141	165	204	287	324	375	450	562	647	787	881				
	750	13.4			5.1	9.3	15	20	29	36	48	60	84	105	123	153	215	243	281	337	421	484	589	659				
63	1500	24			9	17	28	36	50	64	85	108	151	188	221	274	385	435	503	603	754	867	1055	1181				
	1000	15.9			6	11	18	24	33	42	57	72	100	125	147	181	255	288	333	400	499	574	699	783				
	750	11.9			4.5	8.2	14	18	25	32	42	54	75	93	110	136	191	216	249	299	374	430	523	586				
71	1500	21			7.9	14.5	24	32	44	56	75	95	132	165	194	240	336	380	440	528	660	759	924	1034				
	1000	14.1			5.3	9.7	16	21	30	38	50	63	89	111	130	161	226	255	295	354	443	509	620	694				
	750	10.6			4	7.3	12	16	22	28	38	48	67	83	98	121	170	192	222	266	333	383	466	522				
80	1500	18.8					22	28	40	50	67	85	118	148	173	215	301	341	394	472	591	679	827	925				
	1000	12.5					14	18	27	33	45	56	79	98	115	143	200	226	262	314	393	452	550	615				
	750	9.4					11	14	20	25	33	42	59	74	87	107	151	170	197	236	295	340	413	463				
90	1500	16.7					19	24	36	44	59	75	105	131	154	191	268	303	350	420	525	603	734	822	根据用户要求供货 on request			
	1000	11.1					13	16	24	29	40	50	70	87	102	127	178	201	232	279	349	401	488	546				
	750	8.3					9.6	12	18	22	30	37	52	65	76	95	133	150	174	209	261	300	365	408				
100	1500	15					17.3	23	32	40	53	68	94	118	138	171	240	272	314	377	471	542	660	738				
	1000	10					12	15	21	27	36	45	63	79	92	114	160	181	209	251	314	361	440	492				
	750	7.5					8.6	11.4	16	20	27	34	47	59	69	86	120	136	157	188	236	271	330	369				
112	1500	13.4					15	20	29	36	48	60	84	105	123	153	215	243	281	337	421	484	589	659				
	1000	8.9					10.3	13.5	19	24	32	40	56	70	82	102	143	161	186	224	280	322	391	438				
	750	6.7					7.7	10	14	18	24	30	42	53	62	76	107	121	140	168	210	242	295	330				
125	1500	12					14	18	26	32	43	54	75	94	111	137	192	217	251	302	377	434	528	591				
	1000	8					9.2	12	17	21	28	36	50	63	74	91	128	145	168	201	251	289	352	394				
	750	6					6.9	9.1	13	16	21	27	38	47	55	68	96	109	126	151	188	217	264	295				
140	1500	10.7					12	16.2	23	29	38	48	67	84	99	122	171	194	224	269	336	387	471	527				
	1000	7.1					8.2	11	15	19	25	32	45	56	65	81	114	129	149	178	223	256	312	349				
	750	5.4					6.2	8.2	12	14.4	19	24	34	42	50	62	87	98	113	136	170	195	237	266				
160	1500	9.4					11	14.3	20	25	33	42	59	74	87	107	151	170	197	236	295	340	413	463				
	1000	6.3					7.3	9.6	14	17	22	28	40	49	58	72	101	114	132	158	198	228	277	310				
	750	4.7					5.4	7.1	10	13	17	21	30	37	43	54	75	85	98	118	148	170	207	231				
180	1500	8.3					9.6	13	18	22	30	37	52	65	76	95	133	150	174	209	261	300	365	408				
	1000	5.6					6.5	8.5	12	15	20	25	35	44	52	64	90	101	117	141	176	202	246	276				
	750	4.2					4.8	6.4	9.0	11.2	15	19	26	33	39	48	67	76	88	106	132	152	185	207				
200	1500	7.5					8.6	11.4	16	20	27	34	47	59	69	86	120	136	157	188	236	271	330	369				
	1000	5					5.8	7.6	11	13.4	18	23	31	39	46	57	80	91	105	126	157	181	220	246				
	750	3.8					4.4	5.8	8.2	10	14	17	24	30	35	43	61	69	80	95	119	137	167	187				
224	1500	6.7					7.7	10	14.4	18	24	30	42	53	62	76	107	121	140	168	210	242	295	330				
	1000	4.5					5.2	6.8	9.7	12	16	20	28	35	41	51	72	82	94	113	141	163	198	221				
	750	3.3					3.8	5.0	7.1	9	12	15	21	26	30	38	53	60	69	83	104	119	145	162				
250	1500	6					6.9	9.1	13	16	21	27	38	47	55	68	96	109	126	151	188	217	264	295				
	1000	4					4.6	6.1	8.6	11	14	18	25	31	37	46	64	72	84	101	126	145	176	197				
	750	3					3.5	4.6	6.4	8.0	11	14	19	24	28	34	48	54	63	75	94	108	132	148				
280	1500	5.4					6.2	8.2	12	14.4	19	24	34	42	50	62	87	98	113	136	170	195	237	266				
	1000	3.6					4.1	5.5	7.7	9.6	13	16	23	28	33	41	58	65	75	90	113	130	158	177				
	750	2.7					3.1	4.1	5.8	7.2	10	12	17	21	25	31	43	49	57	68	85	98	119	133				
315	1500	4.8					5.5	7.3	10.3	13	17	22	30	38	44	55	77	87	101	121	151	173	211	236				
	1000	3.2					3.7	4.9	6.9	8.5	11	14	20	25	29	37	51	58	67	80	101	116	141	157				
	750	2.4					2.8	3.6	5.2	6.4	8.5	11	15.1	19	22	27	38	43	50	60	75	87	106	118				
355	1500	4.2						6.4		11.2		19		33		48		76		106		152		207				
	1000	2.8						4.3		7.5		13		22		32		51		70		101		138				
	750	2.1						3.2		5.6		9.5		16		24		38		53		76		103				
400	1500	3.8						5.8		10		17		30		43												
	1000	2.5						3.8		6.7		11.3		20		29												
	750	1.5						2.9		5.1		8.6		15		22												

直交轴齿轮箱 Bevel-helical Gear Units
热容量 Thermal capacities
类型 Types **FSB3..,FSB4**
规格 Sizes **3...26**

热容量 P_G, kW　　Thermal Capacities PG　　kW

i_N		齿轮箱规格 Sizes 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
		热容量P_G(单位为KW)取决于冷却方式: P_{G1}无辅助冷却装置 P_{G2}带冷却风扇 P_{G3}带冷却盘管 P_{G4}带风扇和冷却盘管。 PG1:With out auxili; arycooling; PG2:With fan Thermal Ca Pacity de Pendent o kind of cooling; PG3:With cooling coil; PG4:With fan and cooling coil																									
31.5	P_{G1}			28.2	41.0	57.6	65.8	79.5	94.7	109	121	170	208	236	286	319	340	353	373	509	548	601	645				
	P_{G2}			31.7	46.9	67.2	76.6	93.6	113	136	159	189	238	296	346	384	428	449	515	621	679	729	805				
	P_{G3}			48.0	68.8	115	126	164	192	249	303	337	460	481	551	683	770	819	957								
	P_{G4}			50.2	72.8	112	135	176	207	273	329	371	527	533	628	767	864	941	1085								
35.5	P_{G1}			26.7	39.0	55.5	65.1	75.2	89.6	106	114	149	189	226	255	293	311	315	325	475	500	588	631				
	P_{G2}			29.8	44.3	64.3	75.5	89.0	107	131	148	180	224	282	325	369	395	430	477	596	628	700	744				
	P_{G3}			44.8	64.0	109	125	155	180	242	281	316	445	462	514	648	689	781	873								
	P_{G4}			47.0	67.7	116	133	167	195	263	303	351	485	505	582	728	778	891	982								
40	P_{G1}			23.5	33.9	48.6	61.6	65.6	84.3	98.9	108	150	184	211	258	296	315	321	336	464	504	558	611				
	P_{G2}			26.2	38.2	56.0	71.5	77.6	100	121	139	168	211	263	307	347	379	406	457	558	603	655	713				
	P_{G3}			38.9	54.4	92.5	116	132	168	222	258	290	419	426	477	603	658	735	822								
	P_{G4}			40.8	57.3	97.9	124	142	182	242	284	322	456	464	540	673	737	829	932								
45	P_{G1}			23.2	33.4	47.4	59.2	63.3	80.3	90.0	103	144	177	192	249	271	307	311	325	445	478	513	578	根据用户要求 供货 on request			
	P_{G2}			25.6	37.4	54.6	68.5	75.0	95.1	110	134	153	201	235	294	314	355	370	430	528	563	595	667				
	P_{G3}			38.4	52.8	89.3	110	127	159	198	251	262	395	410	449	537	612	658	760								
	P_{G4}			40.0	56.0	94.7	117	137	173	216	272	289	430	461	511	598	681	746	865								
50	P_{G1}			22.7	34.1	47.2	52.0	62.9	70.5	88.1	98.3	143	168	198	234	274	282	300	306	433	439	520	531				
	P_{G2}			25.3	38.2	54.1	59.5	74.4	83.7	107	124	150	186	242	273	316	322	375	392	507	515	594	606				
	P_{G3}			37.0	53.3	86.9	93.8	124	137	192	233	255	351	371	412	540	575	663	692								
	P_{G4}			38.7	56.6	92.2	99.7	133	147	209	251	280	395	421	471	601	640	756	777								
56	P_{G1}			20.3	30.4	42.7	50.4	57.5	68.3	79.4	89.9	132	164	180	211	249	275	288	311	395	424	471	521				
	P_{G2}			22.4	34.1	48.8	57.9	67.5	81.0	96.8	113	135	170	217	246	285	320	360	397	458	512	534	593				
	P_{G3}			32.3	47.2	77.4	90.6	111	131	170	206	225	325	330	367	480	550	596	792								
	P_{G4}			33.9	49.8	82.2	96.3	119	141	183	224	249	354	375	416	537	610	676	786								
63	P_{G1}			20.0	29.0	40.8	49.6	55.2	67.1	75.9	86.3	124	160	171	203	239	261	272	295	386	410	463	493				
	P_{G2}			21.8	32.0	46.1	57.4	63.9	80.0	91.2	111	127	167	204	250	270	292	322	359	439	461	513	541				
	P_{G3}			31.5	44.3	72.3	88.2	104	128	158	200	210	314	308	377	450	485	568	616								
	P_{G4}			32.8	46.6	77.0	93.9	112	138	171	217	232	343	349	428	505	545	640	704								
71	P_{G1}			18.6	25.8	37.6	45.8	51.0	65.3	69.3	79.4	112	148	154	200	226	249	261	288	365	396	436	476				
	P_{G2}			20.0	28.3	42.1	52.0	58.8	72.8	82.8	99.6	129	164	185	225	249	276	300	341	411	443	480	521				
	P_{G3}			28.6	38.7	65.9	78.7	94.4	115	140	176	186	279	276	335	415	457	516	587								
125	P_{G4}			29.8	40.8	69.9	83.7	102	123	152	191	205	303	311	382	465	513	591	665								
80	P_{G1}					35.9	43.4	53.5	59.4	76.4	75.3	114	139	164	189	216	234	266	279	333	375	464	450				
	P_{G2}						49.0		68.9		94.3		168		212		255		316		414		487				
	P_{G3}						73.8		108		165		258		312		426		547								
	P_{G4}						78.4		116		178		281		357		470		615								
90	P_{G1}					35.8	40.0	52.1	55.1	74.0	68.7	108	125	158	171	215	234	254	284	318	343	453	490				
	P_{G2}						45.0		63.5		85.5		154		193												
	P_{G3}						67.0		97.8		146		227		281												
	P_{G4}						71.5		105		158		248		317												
100	P_{G1}					33.9	38.1	48.5	57.5	68.9	79.5	103	134	149	173	204	223	238	270	299	326	439	486				
112	P_{G1}					33.0	38.1	48.4	56.0	68.1	77.0	98.5	126	143	165	195	211	228	254	283	306	414	440				
125	P_{G1}					31.3	36.1	46.0	52.3	65.3	71.5	93.6	120	135	156	186	203	218	241	270	291	400	440				
140	P_{G1}					29.5	35.0	43.9	52.1	62.9	71.1	90.0	115	131	149	180	194	209	230	261	278	388	413				
160	P_{G1}					26.6	33.1	38.8	49.6	56.3	68.1	81.0	109	123	141	170	186	198	223	248	269	370	401				
180	P_{G1}					26.3	31.5	38.1	47.3	54.9	65.5	78.9	105	114	138	158	176	183	209	228	255	344	383				
200	P_{G1}					26.1	28.4	38.8	41.8	54.6	58.6	78.3	94.6	113	130	156	164	181	194	231	245	345	355				
224	P_{G1}					23.5	28.0	35.3	41.0	50.1	57.3	72.3	91.9	103	120	144	163	166	193	214	239	318	354				
250	P_{G1}					23.1	27.8	33.8	41.9	47.8	56.9	69.1	91.3	98.5	119	138	149	159	176	204	220	305	328				
280	P_{G1}					21.4	25.0	30.4	38.1	44.4	52.4	64.5	84.0	90.5	109	126	143	146	168	189	210	288	313				
315	P_{G1}					19.5	24.5	28.5	36.3	41.3	49.8	59.1	80.3	85.9	104	118	130	136	154	178	195	264	295				
355	P_{G1}						22.8		32.9		46.5		74.8		95.5		122		144		184		270				
400	P_{G1}						21.0		31.1		43.1		68.8		90.5												

直交轴齿轮箱 Bevel-helical Gear Units
额定输出扭矩 Nom output Torques
类 型 FSB2..,FSB3..,FSB4..
Types
规 格 1...26
Sizes

额定输出扭矩 T_{2N} Nom output Torques kN.m

i_N	规格 Sizes 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
5	1.15	2	3.1	5.8	9.4		17.8		28		43		66		122											
5.6	1.15	2	3.1	5.8	9.4		17.8		28		45		67		122	135	195									
6.3	1.15	2	3.1	5.8	9.4	12	17.8	22.3	28	35.6	47	55	71	82	130	141	195									
7.1	1.15	2	3.1	5.8	9.4	12	17.8	22.3	28	35.6	49	57	73	84	132	145	195	230								
8	1.15	2	3.1	5.8	9.4	12	17.8	22.3	28	35.6	50.5	59	77	88	132	148	195	230			按客户要求供货 on request					
9	1.15	2	3.1	5.8	9.4	12	17.8	22.3	28	35.6	50.5	61	78	91	132	148	195	230								
10	1.15	2	3.1	5.8	9.4	12	17.8	22.3	28	35.6	50.5	62	78	95	132	148	195	230								
11.2	1.15	2	3.1	5.8	9.4	12	17.8	22.3	28	35.6	50.5	62	78	97.5	132	148	195	230								
12.5	1.15	2	3.1	5.5	9.4	12	17.0	22.3	28	35.6	50.5	62	78	97.5	132	148	195	230	250		340					
14	1.15	2	3.1	6	9.8	12	18.2	22.3	29.5	35.6	53	62	80	97.5	137	148	195	230	262	295	360	405				
16	1.1	1.95	3.1	6.2	10.2	12	19.1	21.5	31	35.6	56	62	83	97.5	142	154	200	230	275	308	380	422				
18	1.03	1.8	3	6.4	10.6	12.6	19.8	23.1	32.5	37.5	58	65	85	100	148	160	200	240	288	320	400	438				
20			3.6	6.6	11	13.2	20.5	23.9	34	39.3	60	68	88	103	153	167	200	240	300	332	420	455				
22.4			3.6	6.6	11	13.8	20.5	24.8	34	41	60	72	88	106	153	173	200	240	300	345	420	470				
25			3.6	6.6	11	14.5	20.5	25.5	34	43	60	75	88	109	153	173	200	240	300	345	420	470				
28			3.6	6.6	11	14.5	20.5	25.5	34	43	60	75	88	109	153	173	200	240	300	345	420	470				
31.5			3.6	6.6	11	14.5	20.5	25.5	34	43	60	75	88	109	153	173	200	240	300	345	420	470				
35.5			3.6	6.6	11	14.5	20.5	25.5	34	43	60	75	88	109	153	173	200	240	300	345	420	470				
40			3.6	6.6	11	14.5	20.5	25.5	34	43	60	75	88	109	153	173	200	240	300	345	420	470				
45			3.6	6.6	11	14.5	20.5	25.5	34	43	60	75	88	109	153	173	200	240	300	345	420	470				
50			3.6	6.6	11	14.5	20.5	25.5	34	43	60	75	88	109	153	173	200	240	300	345	420	470				
56			3.6	6.6	11	14.5	20.5	25.5	34	43	60	75	88	109	153	173	200	240	300	345	420	470				
63			3.6	6.6	11	14.5	20	25.5	34	43	60	75	88	109	153	173	200	240	300	345	420	470				
71			3.6	6.6	11	14.5	20	25.5	34	43	60	75	88	109	153	173	200	240	300	345	420	470				
80					11	14	20.5	25.2	34	43	60	75	88	109	153	173	200	240	300	345	420	470				
90					11	14	20.5	25.2	34	43	60	75	88	109	153	173	200	240	300	345	420	470				
100					11	14.5	20.5	25.5	34	43	60	75	88	109	153	173	200	240	300	345	420	470				
112					11	14.5	20.5	25.5	34	43	60	75	88	109	153	173	200	240	300	345	420	470				
125					11	14.5	20.5	25.5	34	43	60	75	88	109	153	173	200	240	300	345	420	470				
140					11	14.5	20.5	25.5	34	43	60	75	88	109	153	173	200	240	300	345	420	470				
160					11	14.5	20.5	25.5	34	43	60	75	88	109	153	173	200	240	300	345	420	470				
180					11	14.5	20.5	25.5	34	43	60	75	88	109	153	173	200	240	300	345	420	470				
200					11	14.5	20.5	25.5	34	43	60	75	88	109	153	173	200	240	300	345	420	470				
224					11	14.5	20.5	25.5	34	43	60	75	88	109	153	173	200	240	300	345	420	470				
250					11	14.5	20.5	25.5	34	43	60	75	88	109	153	173	200	240	300	345	420	470				
280					11	14.5	20.5	25.5	34	43	60	75	88	109	153	173	200	240	300	345	420	470				
315					11	14.5	20.5	25.5	34	43	60	75	88	109	153	173	200	240	300	345	420	470				
355						14.5		25.5		43		75		109		173		240		345		470				
400						14.5		25.5		43		75		109												

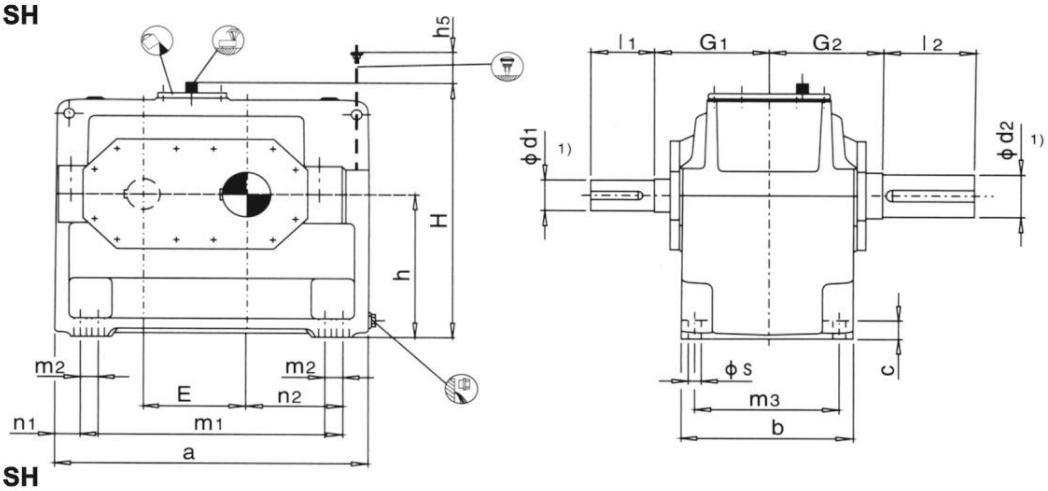
平行轴齿轮箱 Helical Gear Units
额定输出扭矩 Nom output Torques
类 型 Types **FSH1..,FSH2..,FSH3..,FSH4..**
规 格 Sizes **1...26**

额定输出扭矩 T_{2N} Nom output Torques kN.m

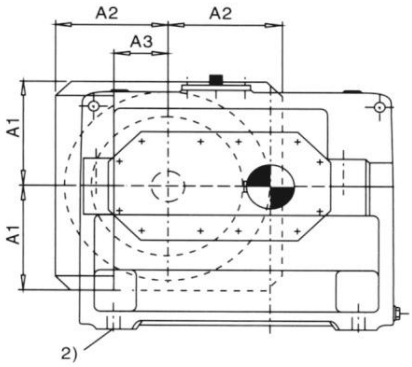
i_N	规格 Sizes 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
1.25	0.79		2.6		7		13.3		21.5																	
1.4	0.83		2.7		7.2		13.9		22.3																	
1.6	0.87		2.9		7.5		14.2		23.6		40		63													
1.8	0.91		2.4		7.7		15.2		24.4		41.4		66.3													
2	0.93		2.5		8.2		15.5		25		42.7		68.2		121											
2.24	0.96		2.5		8.4		15.5		25		44		70.3		122											
2.5	1		2.6		8.4		15.5		25		44		72		110						按客户要求供货 on request					
2.8	1		2.7		8.4		14.9		23.7		44		72		113		171									
3.15	1		2.7		8.4		15.2		24.5		41.9		68.4		116		173									
3.55	1		2.8		8.3		15.5		24.9		43.7		69.6		118		173									
4	1		2.8		8.4		15.5		25		44		70.8		122		173		245							
4.5	0.82		2.2		6.7		13.8		21.4		40		57.6		102		146		216							
5	0.78		2.1		6.3		12		20.5		33.7		54.5		88.8		124		174							
5.6	0.62		2		6		11.4		17.5		31.8		51.8		84.5		118		150							
6.3			3.5	6.3	10.5		19		31.5		55.5		86		143		195		292							
7.1			3.5	6.3	10.5		19		31.5		55.5		86		143	160	195	230	292	335	410					
8			3.5	6.3	10.5	13.5	19	24	31.5	39.5	55.5	69	86	107	143	160	195	230	292	335	410	458				
9			3.5	6.3	10.5	13.5	19	24	31.5	39.5	55.5	69	86	107	143	160	195	230	292	335	410	458				
10			3.5	6.3	10.5	13.5	19	24	31.5	39.5	55.5	69	86	107	143	160	195	230	292	335	410	458				
11.2			3.5	6.3	10.5	13.5	19	24	31.5	39.5	55.5	69	86	107	143	160	195	230	292	335	410	458				
12.5			3.5	6.3	10.5	13.5	19	24	31.5	39.5	55.5	69	86	107	143	160	195	230	292	335	410	458				
14			3.5	6.3	10.5	13.5	19	24	31.5	39.5	55.5	69	86	107	143	160	195	230	292	335	410	458				
16			3.5	6.3	10.5	13.5	19	24	31.5	39.5	55.5	69	86	107	143	160	195	230	292	335	410	458				
18			3.5	6.3	10.5	13.5	19	24	31.5	39.5	55.5	69	86	107	143	160	195	230	292	335	410	458				
20			3.5	6.3	10.5	13.5	19	24	31.5	39.5	55.5	69	86	107	143	160	195	230	292	335	410	458				
22.4			3.5	6.2	10.2	13.5	18.6	24	31	39.5	54.5	69	88	107	153	160	200	230	300	335	420	458				
25					11	13.5	20.5	24	34	39.5	60	69	88	107	153	173	200	240	300	345	420	470				
28					11	13	20.5	23.5	34	38.9	60	67.8	88	109	153	173	200	240	300	345	420	470				
31.5					11	14.5	20.5	25.5	34	43	60	75	88	109	153	173	200	240	300	345	420	470				
35.5					11	14.5	20.5	25.5	34	43	60	75	88	109	153	173	200	240	300	345	420	470				
40					11	14.5	20.5	25.5	34	43	60	75	88	109	153	173	200	240	300	345	420	470				
45					11	14.5	20.5	25.5	34	43	60	75	88	109	153	173	200	240	300	345	420	470				
50					11	14.5	20.5	25.5	34	43	60	75	88	109	153	173	200	240	300	345	420	470				
56					11	14.5	20.5	25.5	34	43	60	75	88	109	153	173	200	240	300	345	420	470				
63					11	14.5	20.5	25.5	34	43	60	75	88	109	153	173	200	240	300	345	420	470				
71					11	14.5	20.5	25.5	34	43	60	75	88	109	153	173	200	240	300	345	420	470				
80					11	14.5	20.5	25.5	34	43	60	75	88	109	153	173	200	240	300	345	420	470				
90					11	14.5	20	25.5	33.5	43	60	75	88	109	153	173	200	240	290	345	410	470				
100						14.5	20.5	25.5	34	43	60	75	88	109	153	173	200	226	300	335	420	465				
112						14.1	20.5	25.2	34	42	60	75	88	109	153	173	200	240	300	345	420	470				
125							20.5	25.5	34	43	60	75	88	109	153	173	200	240	300	345	420	470				
140							20.5	25.5	34	43	60	75	88	109	153	173	200	240	300	345	420	470				
160							20.5	25.5	34	43	60	75	88	109	153	173	200	240	300	345	420	470				
180							20.5	25.5	34	43	60	75	88	109	153	173	200	240	300	345	420	470				
200							20.5	25.5	34	43	60	75	88	109	153	173	200	240	300	345	420	470				
224							20.5	25.5	34	43	60	75	88	109	153	173	200	240	300	345	420	470				
250							20.5	25.5	34	43	60	75	88	109	153	173	200	240	300	345	420	470				
280							20.5	25.5	34	43	60	75	88	109	153	173	200	240	300	345	420	470				
315							20.5	25.5	34	43	60	75	88	109	153	173	200	240	300	345	420	470				
355							19.6	25.5	33	43	59	75	88	109	140	173	192	240	290	345	410	470				
400								25.5		43		75		109		158		223		335		465				
450								24.8		41.6		74		109												

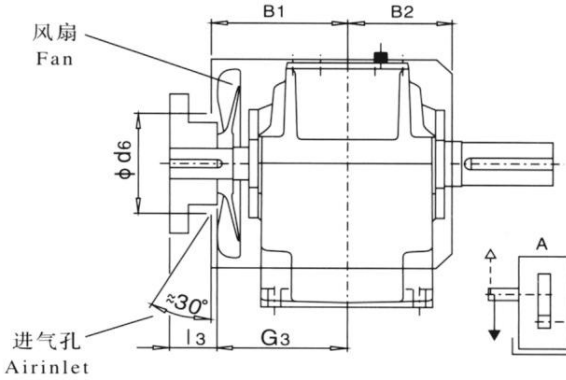
平行轴齿轮箱 Helical Gear Units
单级传动 Single stages
卧式安装 Horizontal
类 型 **FSH1SH type FSH1SH**
规 格 **1...19 sizes 1...19**

FSH1SH

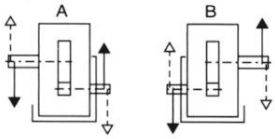


FSH1SH
规格 3...11带冷却风扇
Sizes 3...11with fan



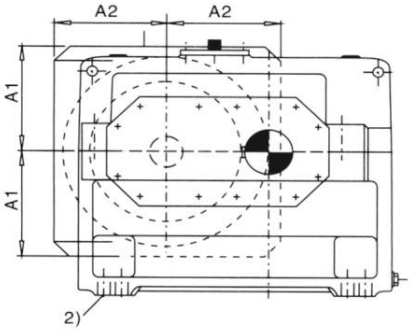


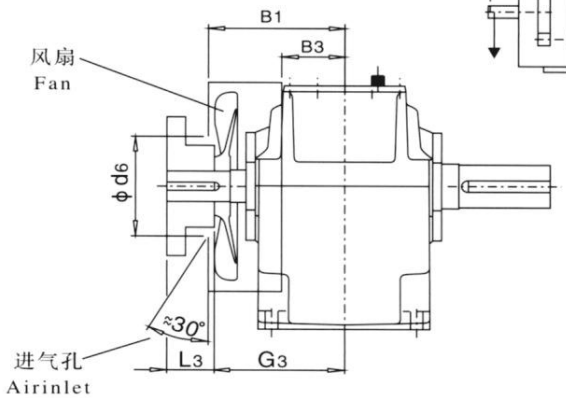
布置形式
Design

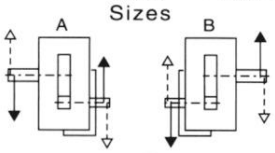


规格 Sizes 1...11 3)

FSH1SH
规格 13...19带冷却风扇
Sizes 13...19with fan







规格 Sizes 13...19

1) k6≤ϕ24 ϕ28≥m6≤ϕ100 n6 > ϕ100
有关平键和中心孔，参见第Ⅲ页
2) 有安装基础螺栓前，应先拆下风扇罩
3) 规格1号不带风扇

1) k6≤ϕ24 ϕ28≥m6≤ϕ100 n6 > ϕ100
For Parallel key and for centre hole,see page Ⅲ
2) Remove airguide cover before fitting the foundation bolts
3) Size 1 withot fon

平行轴齿轮箱 Helical Gear Units
单级传动 Single stages
卧式安装 Horizontal
类 型 **FSH1SH type FSH1SH**
规 格 **1...19 sizes 1...19**

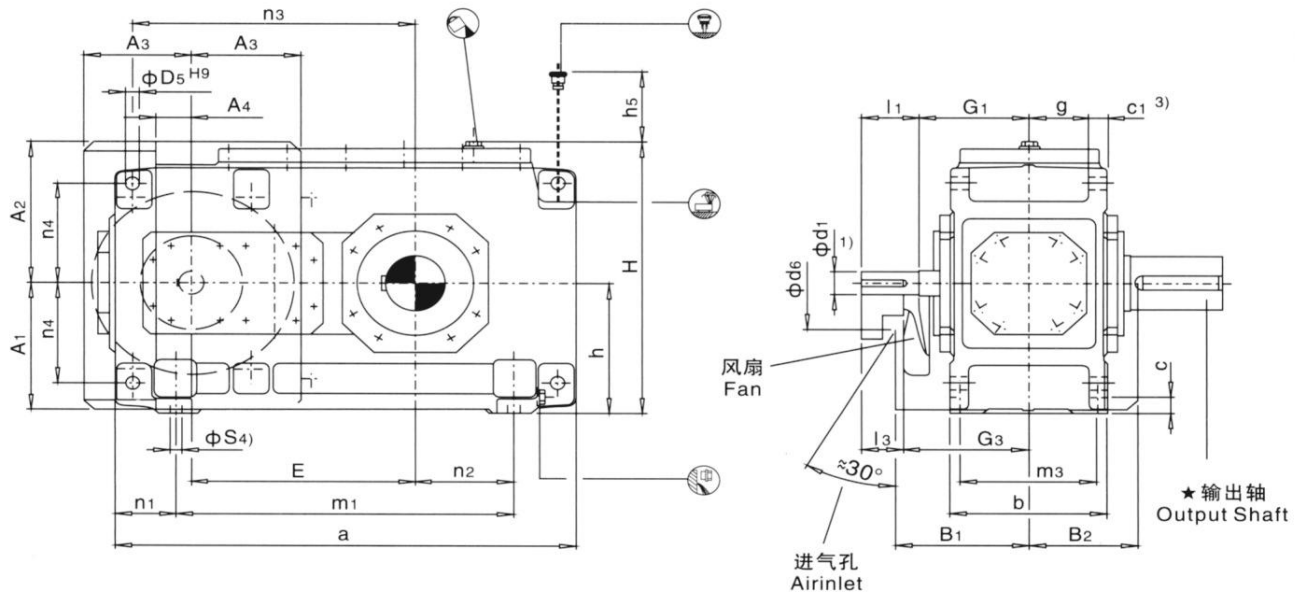
规格 Size	尺寸 mm Dimension sin mm																
	输 入 轴 Input shaft																
	i_N = 1.25–2.8			i_N = 1.6–2.8			i_N = 2–2.8			i_N = 3.15–4			i_N = 4.5–5.6			G_1	G_3
	d_1 1)	l_1	l_3	d_1 1)	l_1	l_3	d_1 1)	l_1	l_3	d_1 1)	l_1	l_3	d_1 1)	l_1	l_3		
1	40	70								30	50	–	24	40	–	110	–
3	60	125	105							45	100	80	32	80	60	170	190
5	85	160	130							60	135	105	50	110	80	210	240
7	100	200	165							75	140	105	60	140	105	250	285
9	110	200	165							90	165	130	75	140	105	280	315
11				130	240	205				110	205	170	90	170	135	325	360
13				150	245	200				130	245	200	100	210	165	365	410
15							180	290	240	150	250	200	125	250	200	360	410
17							200	330	280	170	290	240	140	250	200	400	450
19							220	340	290	190	340	290	160	300	250	440	490

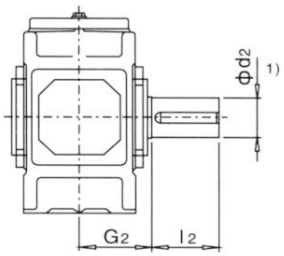
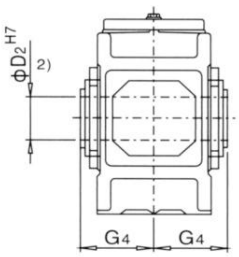
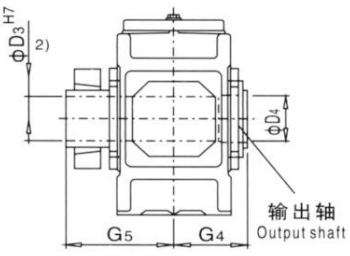
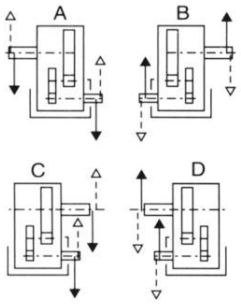
规格 Size	尺寸 mm Dimension sin mm																			
	齿 轮 箱 Gear housing																			
	a	A_1	A_2	A_3	b	B_1	B_2	B_3	c	d_6	E	h	h_5	H	m_1	m_2	m_3	n_1	n_2	s
1	295	–	–	–	150	–	–	–	18	–	90	140	55	275	220	–	120	37.5	80	12
3	420	150	145	80	200	205	130	–	28	130	130	200	85	375	310	–	160	55	110	19
5	580	225	215	115	285	255	185	–	35	190	185	290	100	525	440	–	240	70	160	24
7	690	255	250	120	375	300	230	–	45	245	225	350	75	625	540	–	315	75	195	28
9	805	300	265	140	425	330	265	–	50	280	265	420	50	735	625	–	350	90	225	35
11	960	360	330	190	515	375	320	–	60	350	320	500	40	875	770	–	440	95	280	35
13	1100	415	350	–	580	430	–	150	70	350	370	580	40	1020	870	–	490	115	315	42
15	1295	500	430	–	545	430	–	120	80	450	442	600	10	1115	1025	–	450	135	370	48
17	1410	550	430	–	615	470	–	150	80	445	490	670	–	1235	1170	130	530	120	425	42
19	1590	630	475	–	690	510	–	190	90	445	555	760	–	1395	1290	150	590	150	465	48

规格 Size	尺寸 mm Dimension sin mm			润 滑 油 Lubrication		重量 Weighy (kg)
	输 出 轴 Output shaft			轴 封 Shaft seal (l)	迷宫式密封 Labyrinth seal (l)	
	d_2 1)	G_2	l_2			
1	45	110	80	2.5	2.3	55
3	60	170	125	7	5.5	128
5	85	210	160	22	19	302
7	105	250	200	42	36	547
9	125	270	210	68	60	862
11	150	320	240	120	106	1515
13	180	360	310	175	155	2395
15	220	360	350	190	156	3200
17	240	400	400	270	225	4250
19	270	440	450	390	330	5800

平行轴齿轮箱 Helical Gear Units
两级传动 Two stage
卧式安装 Horizontal
类 型 **FSH2.H Type FSH2.H**
规 格 **3...12 sizes 3...12**

FSH2SH FSH2HH FSH2DH



★输出轴 Output Shaft			布置形式 Design
FSH2SH 实心轴 Solid shaft	**FSH2HH** 空心轴 Hollow shaft	**FSH2DH** 带胀紧盘的空心轴 Hollow shaft for shrink disk	
			

1) Φ28≥m6≤Φ100 n6 > Φ100
有关平键和中心孔，参见第Ⅲ页
2) 键槽GB/T1095-1979
3) 扭力支撑位于工作机侧
4) 在安装基础螺栓前，应先拆下风扇罩

1) Φ28≥m6≤Φ100 n6 > Φ100
For Parallel key and for centre hole,see page Ⅲ
2) Keyway GB/T1095-1979
3) Torque support on driven machine side

平行轴齿轮箱 Helical Gear Units
两级传动 Two stage
卧式安装 Horizontal
类 型 FSH2S.H Type FSH2S.H
规 格 3...12 sizes 3...12

规格 Size	尺寸 mm Dimension sin mm													
	输 入 轴 Input shaft													
	i_N = 6.3–11.2			i_N = 8–14			i_N = 12.5–22.4			i_N = 16–28			G_1	G_3
	d_1 1)	l_1	l_3	d_1 1)	l_1	l_3	d_1 1)	l_1	l_3	d_1 1)	l_1	l_3		
3	35	60	–				28	50					135	–
4	45	100	80				32	80	60				170	190
5	50	100	80				38	80	60				195	215
6				50	100	80				38	80	60	195	215
7	60	135	105				50	110	80				210	240
8				60	135	105				50	110	80	210	240
9	75	140	110				60	140	110				240	270
10				75	140	110				60	140	110	240	270
11	90	165	130				70	140	105				275	310
12				90	165	130				70	140	105	275	310

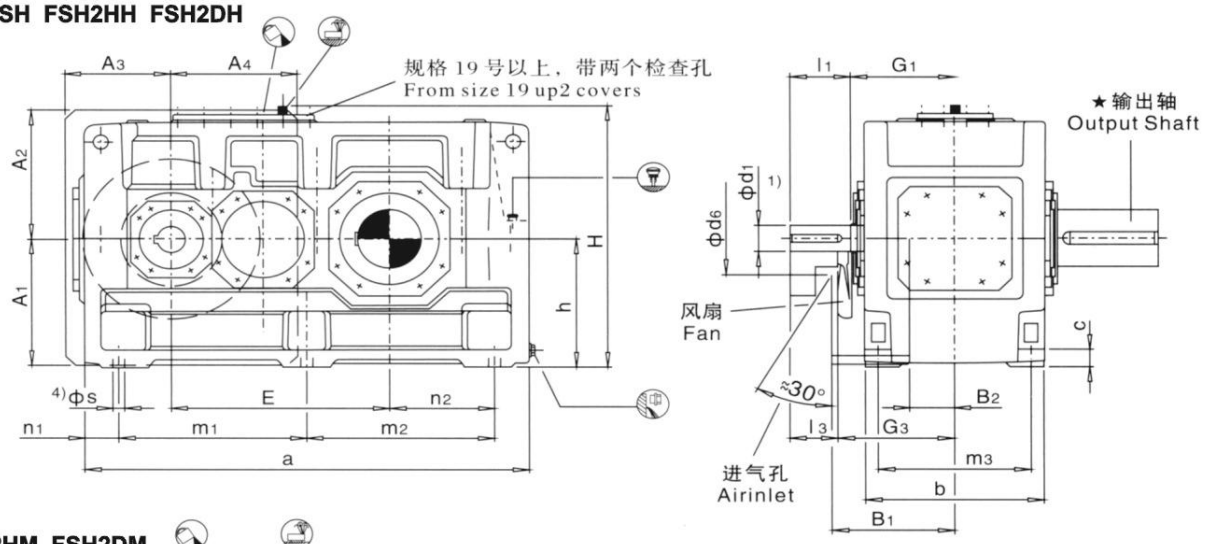
规格 Size	尺寸 mm Dimension sin mm											
	齿 轮 箱 Gear housing											
	a	A_1	A_2	A_3	A_4	b	B_1	B_2	c	c_1	D_5	d_6
3	450	–	–	–	–	190	–	–	22	24 ± 1	18	–
4	565	195	225	150	30	215	205	158	28	30 ± 1	24	136
5	640	225	260	175	55	255	230	177.5	28	30 ± 1	24	150
6	720	225	260	175	55	255	230	177.5	28	30 ± 1	24	150
7	785	272	305	210	70	300	255	210	35	36 ± 1	28	200
8	890	272	305	210	70	300	255	210	35	36 ± 1	28	200
9	925	312	355	240	100	370	285	245	40	45 ± 1.5	36	200
10	1025	312	355	240	100	370	285	245	40	45 ± 1.5	36	200
11	1105	372	420	285	135	430	325	285	50	54 ± 1.5	40	210
12	1260	372	420	285	135	430	325	285	50	54 ± 1.5	40	210

规格 Size	尺寸 mm Dimension sin mm											
	齿 轮 箱 Gear housing											
	E	g	h	h_5	H	m_1	m_3	n_1	n_2	n_3	n_4	s
3	220	71	175	110	360	290	160	80	65	285	132.5	15
4	270	77.5	200	110	415	355	180	105	85	345	150	19
5	315	97.5	230	150	482	430	220	105	100	405	180	19
6	350	97.5	230	150	482	510	220	105	145	440	180	19
7	385	114	280	190	572	545	260	120	130	500	215	24
8	430	114	280	190	582	650	260	120	190	545	215	24
9	450	140	320	205	662	635	320	145	155	585	245	28
10	500	140	320	215	662	735	320	145	205	635	245	28
11	545	161	380	250	782	775	370	165	180	710	300	35
12	615	161	380	250	790	930	370	165	265	780	300	35

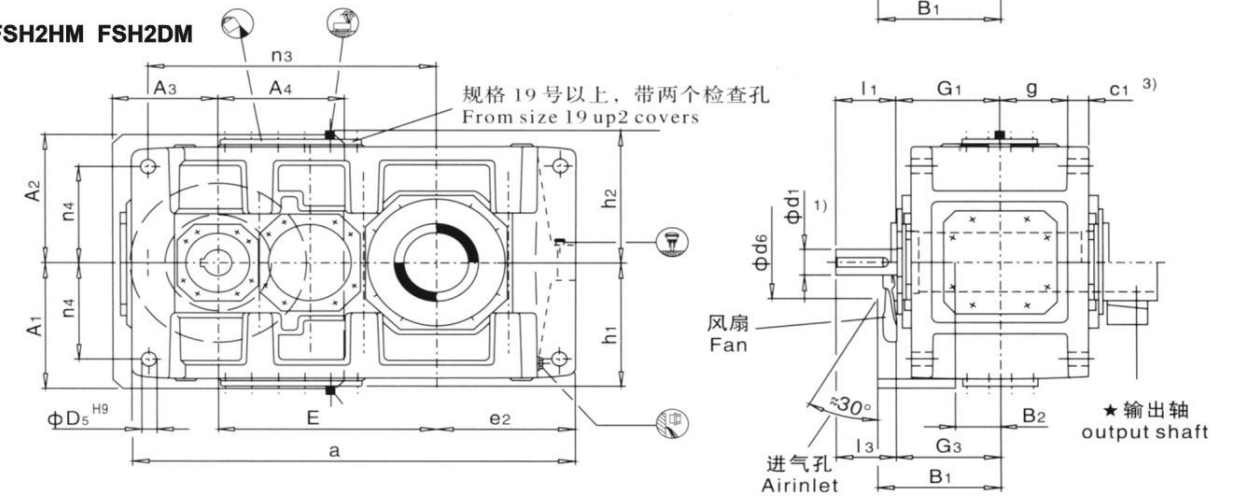
规格 Size	尺寸 mm Dimension sin mm									润 滑 油 Lubrication		重 量 Weighy (kg)
	输 出 轴 Output shaft									轴 封 Shaft seal (l)	迷宫式密封 Labyrinth seal (l)	
	FSH2SH			FSH2HH		FSH2DH						
	d_2 1)	G_2	l_2	D_2 2)	G_4	D_3	D_4	G_4	G_5			
3	65	125	140	65	125	70	70	125	180	6	4.5	115
4	80	140	170	80	140	85	85	140	205	10	7	190
5	100	165	210	95	165	100	100	165	240	15	11	300
6	110	165	210	105	165	110	110	165	240	16	12	355
7	120	195	210	115	195	120	120	195	280	27	21	505
8	130	195	250	125	195	130	130	195	285	30	23	590
9	140	235	250	135	235	140	145	235	330	42	33	830
10	160	235	300	150	235	150	155	235	350	45	34	960
11	170	270	300	165	270	165	170	270	400	71	58	1335
12	180	270	300	180	270	180	185	270	405	76	60	1615

平行轴齿轮箱 Helical Gear Units
两级传动 Two stage
卧式安装 Horizontal
类 型 FSH2.H,FSH2.M Type FSH2.H,FSH2.M
规 格 13...22 sizes 13...22

FSH2SH FSH2HH FSH2DH

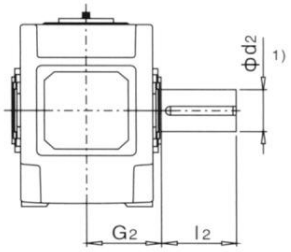


FSH2HM FSH2DM

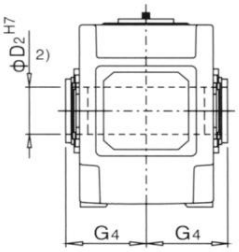


★输出轴 Output Shaft

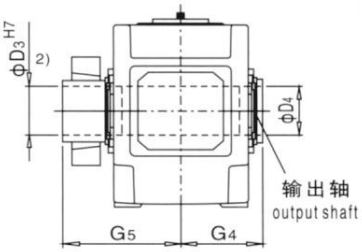
FSH2SH
实心轴 Solid shaft



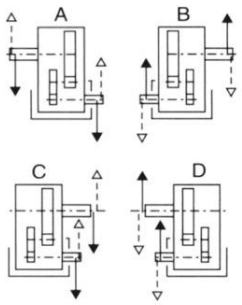
FSH2HH
空心轴 Hollow shaft



FSH2DH
带胀紧盘的空心轴
Hollow shaft for shrink disk



布置形式 Design



1) m6≤ϕ100 n6 > ϕ100
有关平键和中心孔，参见第Ⅲ页
2) 键槽 GB/ 1095-1979
3) 扭力支撑位于工作机侧
4) 在安装基础螺栓前，应先拆下风扇罩
5) 规格13和15号：速比只有iN=6.3-18；规格17和19号；速比只有iN=6.3-16

1) m6≤ϕ100 n6 > ϕ100
For Parallel key and for centre hole,see page Ⅲ
2) Keyway GB/T1095-1979
3) Torque support on driven machine side
4) Remove airguide cover before fitting the foundation bolts
5) Sizes13and15;only in=6.3-18:sizes17and17;only in=6.3-16

平行轴齿轮箱 Helical Gear Units
两级传动 Two stage
卧式安装 Horizontal
类 型 FSH2.H,FSH2.M Type FSH2.H,FSH2.M
规 格 13...22 sizes 13...22

规格 Size	尺寸 mm Dimension sin mm																			
	输 入 轴 Input shaft																			
	i_N = 6.3–11.2			i_N = 7.1–12.5			i_N = 8–14			i_N = 12.5–20			i_N = 14–22.4			i_N = 16–25			G_1	G_3
	d_1 1)	l_1	l_3	d_1 1)	l_1	l_3	d_1 1)	l_1	l_3	d_1 1)	l_1	l_3	d_1 1)	l_1	l_3	d_1 1)	l_1	l_3		
13	100	205	170							85	170	135							330	365
14							100	205	170							85	170	135	330	365
15	120	210	165							100	210	165							365	410
16				120	210	165							100	210	165				365	410
17	125	245	200							110	210	165							420	465
18				125	245	200							110	210	165				420	465
19	150	245	200							120	210	165							475	520
20				150	245	200							120	210	165				475	520
21	170	290	240							140	250	200							495	545
22				170	290	240							140	250	200				495	545

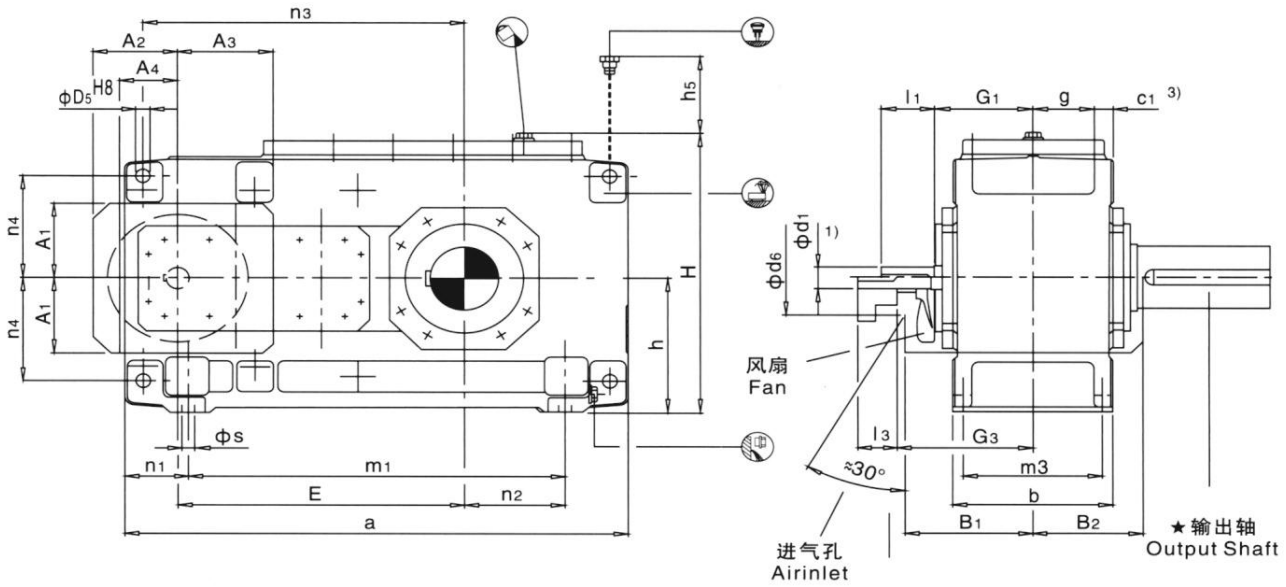
规格 Size	尺寸 mm Dimension sin mm													
	齿 轮 箱 Gear housing													
	a	A_1	A_2	A_3	A_4	b	B_1	B_2	c	c_1	d_6	D_5	e_2	E
13	1290	430	460	330	365	550	385	135	60	61 ± 2	250	48	405	635
14	1430	430	460	330	365	550	385	135	60	61 ± 2	250	48	475	705
15	1550	490	500	370	440	625	430	155	70	72 ± 2	280	55	485	762
16	1640	490	500	370	440	625	430	155	70	72 ± 2	280	55	530	808
17	1740	540	565	435	505	690	485	140	80	81 ± 2	280	55	525	860
18	1860	540	565	435	505	690	485	140	80	81 ± 2	280	55	585	920
19	2010	600	600	500	450	790	540	190	90	91 ± 2	310	65	590	997
20	2130	600	600	500	450	790	540	190	90	91 ± 2	310	65	650	1057
21	2140	680	680	500	610	830	565	200	100	100 ± 2	450	75	655	1067
22	2250	680	680	500	610	830	565	200	100	100 ± 2	450	75	710	1122

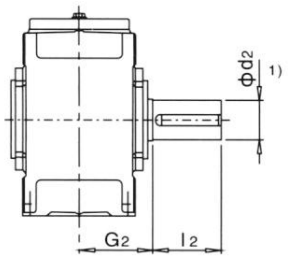
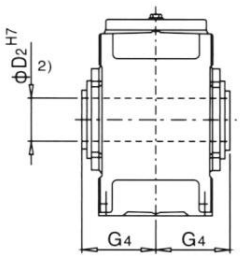
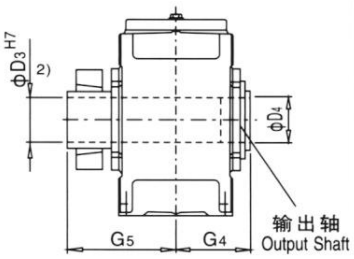
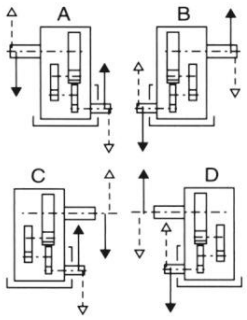
规格 Size	尺寸 mm Dimension sin mm												
	齿 轮 箱 Gear housing												
	g	h	h_1	h_2	H	m_1	m_2	m_3	n_1	n_2	n_3	n_4	s
13	211.5	440	450	460	900	545	545	475	100	305	835	340	35
14	211.5	440	450	460	900	545	685	475	100	375	905	340	35
15	238	500	490	500	1000	655	655	535	120	365	1005	375	42
16	238	500	490	500	1000	655	745	535	120	410	1050	375	42
17	259	550	555	560	1110	735	735	600	135	390	1145	425	42
18	259	550	555	560	1110	735	855	600	135	450	1205	425	42
19	299	620	615	620	1240	850	850	690	155	435	1345	475	48
20	299	620	615	620	1240	850	970	690	155	495	1405	475	48
21	310	700	685	690	1390	900	900	720	170	485	1400	520	56
22	310	700	685	690	1390	900	1010	720	170	540	1455	520	56

规格 Size	尺寸 mm Dimension sin mm									润 滑 油 Lubrication			重量 Weighy (kg)	
	输 出 轴 Output shaft									FSH2.H		FSH2.M		
	FSH2SH			FSH2HH 5)	FSH2HM 5)	FSH2DH 5)		FSH2DM 5)		轴 封 Shaft seal (l)	迷宫式密封 Labyrinth seal (l)	(l)	FSH2.H (kg)	FSH2.M (kg)
	d_2 1)	G_2	l_2	D_2 2)	G_4	D_3	D_4	G_4	G_5					
13	200	335	350	190	335	190	195	335	480	135	120	110	2000	1880
14	210	335	350	210	335	210	215	335	480	140	130	115	2570	2430
15	230	380	410	230	380	230	235	380	550	210	190	160	3430	3240
16	240	380	410	240	380	240	245	380	550	215	200	165	3655	3465
17	250	415	410	250	415	250	260	415	600	290	260	230	4650	4420
18	270	415	470	275	415	280	285	415	600	300	270	240	5125	4870
19	290	465	470	–	–	285	295	465	670	320	–	300	5250	5000
20	300	465	500	–	–	310	315	465	670	340	–	320	6550	6150
21	320	490	500	–	–	330	335	490	715	320	–	350	7200	6950
22	340	490	550	–	–	340	345	490	725	340	–	370	7800	7550

平行轴齿轮箱 Helical Gear Units
三级传动 Three stage
卧式安装 Horizontal
类 型 **FSH3.H Type FSH3.H**
规 格 **5...12 sizes 5...12**

FSH3SH FSH3HH FSH3DH



★输出轴 Output Shaft			布置形式 Design
FSH3SH 实心轴 Solid shaft	**FSH3HH** 空心轴 Hollow shaft	**FSH3DH** 带胀紧盘的空心轴 Hollow shaft for shrink disk	
			

1) k6≤Φ24 Φ28≥m6≤Φ100 n6 > Φ100
有关平键和中心孔，参见第Ⅲ页
2) 键槽GB/T 1095-1979
3) 扭力支撑位于工作机侧

1) k6≤Φ24 Φ28≥m6≤Φ100 n6 > Φ100
For Parallel key and for centre hole,see page Ⅲ
2) KeywayGB/T 1095-1979
3) Torque support on driven machine side

平行轴齿轮箱 Helical Gear Units
三级传动 Three stage
卧式安装 Horizontal
类 型 FSH3.H Type FSH3.H
规 格 5...12 sizes 5...12

规格 Size	尺寸 mm Dimension sin mm																			
	输 入 轴 Input shaft																			
	i_N = 25-45			i_N = 31.5-56			i_N = 50-63			i_N = 63-80			i_N = 71-90			i_N = 90-112			G_1	G_3
	d_1 1)	l_1	l_3	d_1 1)	l_1	l_3	d_1 1)	l_1	l_3	d_1 1)	l_1	l_3	d_1 1)	l_1	l_3	d_1 1)	l_1	l_3		
5	40	70	70				30	50	50				24	40	40				160	220
6				40	70	70				30	50	50				24	40	40	160	220
7	45	80	80				35	60	60				28	50	50				185	250
8				45	80	80				35	60	60				28	50	50	185	250
9	60	125	105				45	100	80				32	80	60				230	300
10				60	125	105				45	100	80				32	80	60	230	300
11	70	120	120				50	80	80				42	70	70				255	330
12				70	120	120				50	80	80				42	70	70	255	330

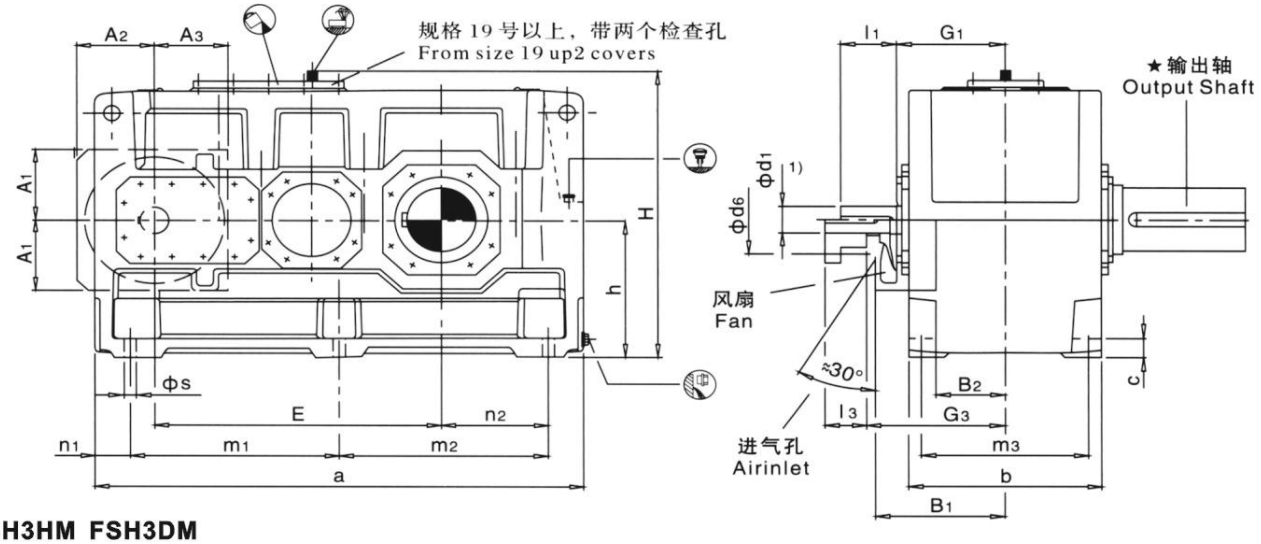
规格 Size	尺寸 mm Dimension sin mm											
	齿 轮 箱 Gear housing											
	a	A_1	A_2	A_3	A_4	b	B_1	B_2	c	c_1	d_6	D_5
5	690	137	135	140	80	255	215	175	28	30 ± 1	60	24
6	770	137	135	140	80	255	215	175	28	30 ± 1	60	24
7	845	157	160	180	100	300	245	205	35	36 ± 1	75	28
8	950	157	160	180	100	300	245	205	35	36 ± 1	75	28
9	1000	182	190	205	120	370	295	240	40	45 ± 1.5	90	36
10	1100	182	190	205	120	370	295	240	40	45 ± 1.5	90	36
11	1200	218	220	255	150	430	325	280	50	54 ± 1.5	100	40
12	1355	218	220	255	150	430	325	280	50	54 ± 1.5	100	40

规格 Size	尺寸 mm Dimension sin mm											
	齿 轮 箱 Gear housing											
	E	g	h	h_5	H	m_1	m_3	n_1	n_2	n_3	n_4	s
5	405	97.5	230	130	482	480	220	105	100	455	180	19
6	440	97.5	230	130	482	560	220	105	145	490	180	19
7	495	114	280	170	572	605	260	120	130	560	215	24
8	540	114	280	160	582	710	260	120	190	605	215	24
9	580	140	320	185	662	710	320	145	155	660	245	28
10	630	140	320	185	662	810	320	145	205	710	245	28
11	705	161	380	180	782	870	370	165	180	805	300	35
12	775	161	380	170	790	1025	370	165	265	875	300	35

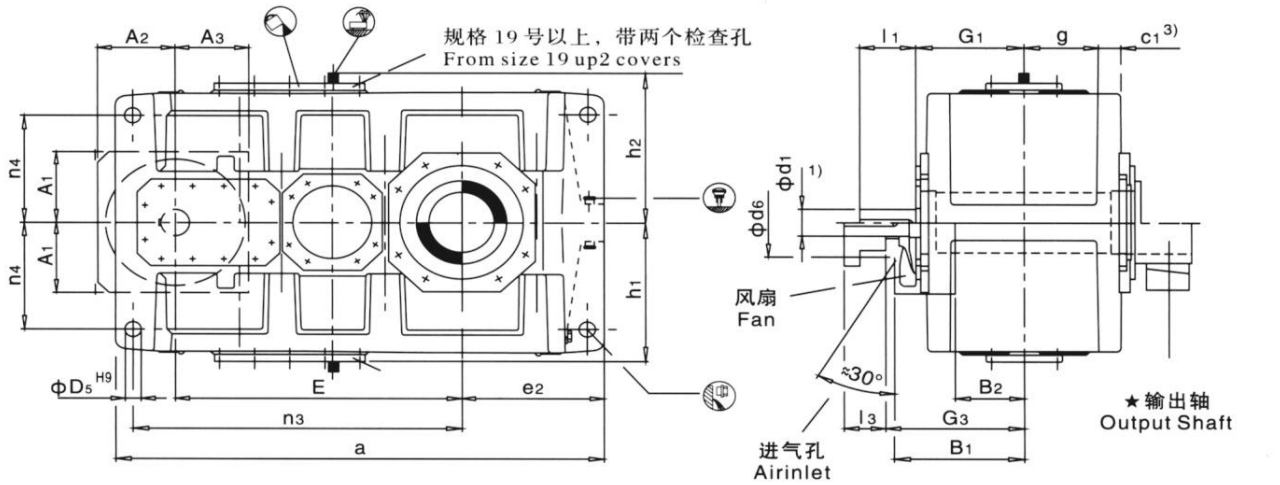
规格 Size	尺寸 mm Dimension sin mm									润滑油 Lubrication (l)	重 量 Weighy (kg)
	输 出 轴 Output shaft										
	FSH3SH			FSH3HH		FSH3DH					
	d_2 1)	G_2	l_2	D_2 2)	G_4	D_3	D_4	G_4	G_5		
5	100	165	210	95	165	100	100	165	240	15	320
6	110	165	210	105	165	110	110	165	240	17	365
7	120	195	210	115	195	120	120	195	280	28	540
8	130	195	250	125	195	130	130	195	285	30	625
9	140	235	250	135	235	140	145	235	330	45	875
10	160	235	300	150	235	150	155	235	350	46	1020
11	170	270	300	165	270	165	170	270	400	85	1400
12	180	270	300	180	270	180	185	270	405	90	1675

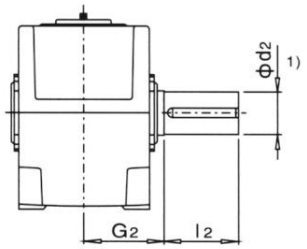
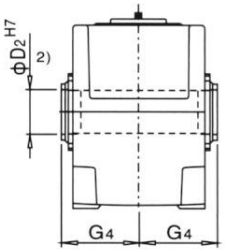
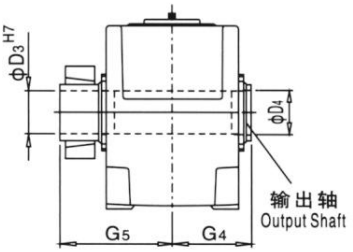
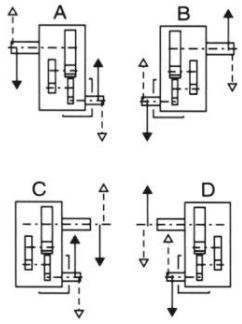
平行轴齿轮箱 Helical Gear Units
三级传动 Three stage
卧式安装 Horizontal
类 型 FSH3.H,H3.M Type FSH3.H,H3.M
规 格 13...22 sizes 13...22

FSH3SH FSH3HH FSH3DH



FSH3HM FSH3DM



★输出轴 Output Shaft			布置形式 Design
FSH3SH 实心轴 Solid shaft	**FSH3HH** 空心轴 Hollow shaft	**FSH3DH** 带胀紧盘的空心轴 Hollow shaft for shrink disk	
			

1) m6≤Φ100 n6>Φ100
有关平键和中心孔，参见第Ⅲ页
2) 键槽 GB/T1095-1979
3) 扭力支撑位于工作机侧

1) m6≤Φ100 n6>Φ100
For Parallel key and for centre hole,see page Ⅲ
2) KeywayGB/T1095-1979
3) Torque support on driven machine side

平行轴齿轮箱 Helical Gear Units
三级传动 Three stage
卧式安装 Horizontal
类 型 FSH3.H,H3.M Type FSH3.H,H3.M
规 格 13...22 sizes 13...22

规格 Size	尺寸 mm Dimension sin mm																			
	输 入 轴 Input shaft																			
	i_N = 22.4-45			i_N = 25-50 i_N = 28-56 *)			i_N = 50-63			i_N = 56-71 i_N = 63-80 *)			i_N = 71-90			i_N = 80-100 i_N = 90-112 *)			G_1	G_3
	d_1 1)	l_1	l_3	d_1 1)	l_1	l_3	d_1 1)	l_1	l_3	d_1 1)	l_1	l_3	d_1 1)	l_1	l_3	d_1 1)	l_1	l_3		
13	85	160	130				60	135	105				50	110	80				310	385
14				85	160	130				60	135	105				50	110	80	310	385
15	100	200	165				75	140	105				60	140	105				350	420
16				100	200	165				75	140	105				60	140	105	350	420
17	100	200	165				75	140	105				60	140	105				380	450
18				100	200	165				75	140	105				60	140	105	380	450
19	110	200	4)				90	165	4)				75	140	4)				430	4)
20				110	200	4)				90	165	4)				75	140	4)	430	4)
21	130	240	4)				110	205	4)				90	170	4)				470	4)
22				130	240	4)				110	205	4)				90	170	4)	470	4)

* 仅指规格 14 号齿轮箱 Size14*Gear units

规格 Size	尺寸 mm Dimension sin mm												
	齿 轮 箱 Gear housing												
	a	A_1	A_2	A_3	b	B_1	B_2	c	c_1	d_6	D_5	e_2	E
13	1395	225	225	212	550	380	195	60	61 ± 2	120	48	405	820
14	1535	225	225	212	550	380	195	60	61 ± 2	120	48	475	890
15	1680	270	265	252	625	415	205	70	72 ± 2	150	55	485	987
16	1770	270	265	252	625	415	205	70	72 ± 2	150	55	530	1033
17	1770	270	265	252	690	445	235	80	81 ± 2	150	55	525	1035
18	1890	270	265	252	690	445	235	80	81 ± 2	150	55	585	1095
19	2030	4)	4)	4)	790	4)	4)	90	91 ± 2	4)	65	590	1190
20	2150				790			90	91 ± 2		65	650	1250
21	2340				830			100	100 ± 2		75	655	1387
22	2450				830			100	100 ± 2		75	710	1442

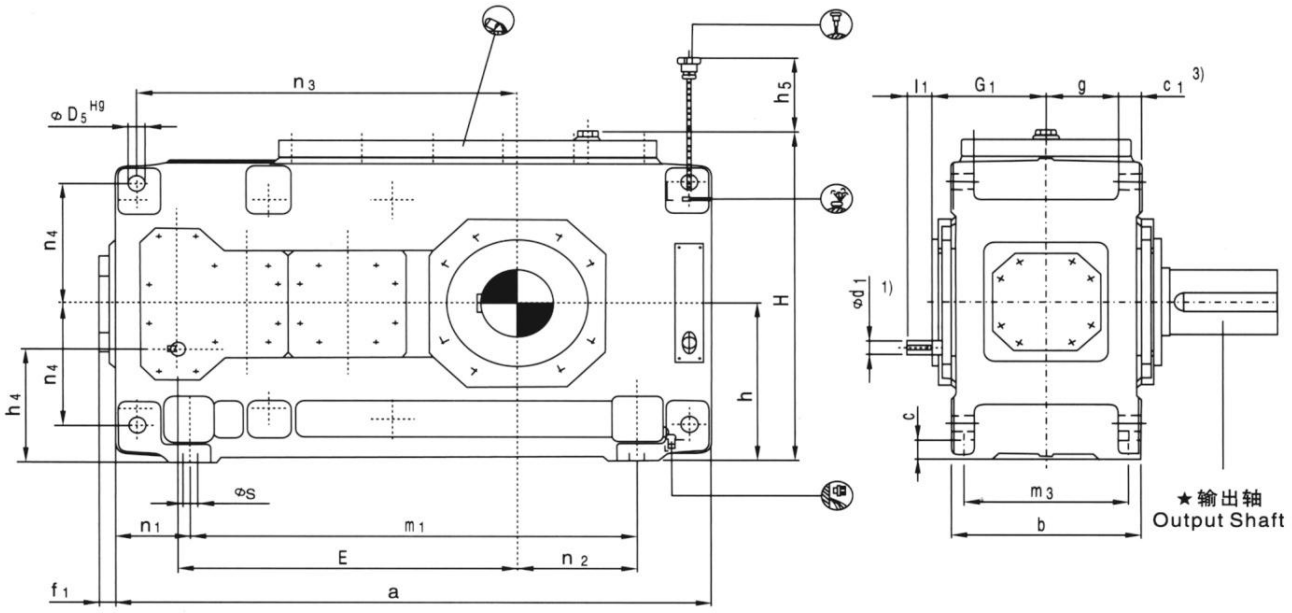
规格 Size	尺寸 mm Dimension sin mm												
	齿 轮 箱 Gear housing												
	g	h	h_1	h_2	H	m_1	m_2	m_3	n_1	n_2	n_3	n_4	s
13	211.5	440	450	460	900	597.5	597.5	475	100	305	940	340	35
14	211.5	440	450	460	900	597.5	737.5	475	100	375	1010	340	35
15	238	500	490	500	1000	720	720	535	120	365	1135	375	42
16	238	500	490	500	1000	720	810	535	120	410	1180	375	42
17	259	550	555	560	1110	750	750	600	135	390	1175	425	42
18	259	550	555	560	1110	750	870	600	135	450	1235	425	42
19	299	620	615	620	1240	860	860	690	155	435	1365	475	48
20	299	620	615	620	1240	860	980	690	155	495	1425	475	48
21	310	700	685	690	1390	1000	1000	720	170	485	1615	520	56
22	310	700	685	690	1390	1000	1110	720	170	540	1670	520	56

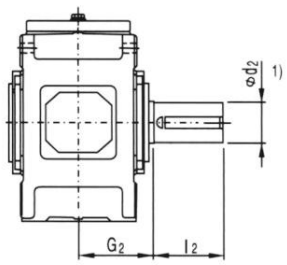
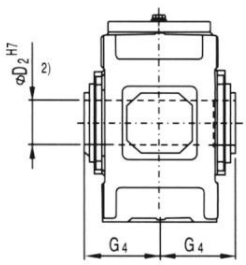
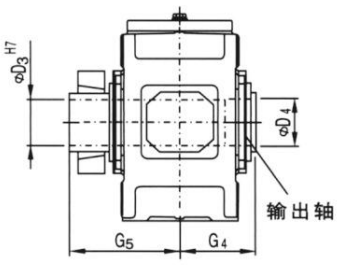
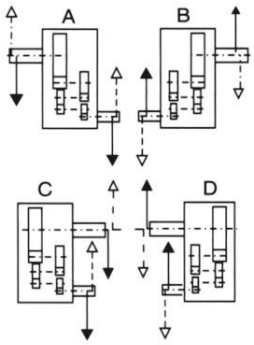
规格 Size	尺寸 mm Dimension sin mm									润 滑 油 Lubrication		重量 Weighy	
	输 出 轴 Output shaft												
	FSH3SH			FSH3HH FSH3HM		FSH3DH FSH3DM				FSH3.H	FSH3.M	FSH3.H	FSH3.M
	d_2 1)	G_2	l_2	D_2 2)	G_4	D_3	D_4	G_4	G_5	(l)	(l)	(kg)	(kg)
13	200	335	350	190	335	190	195	335	480	160	125	2295	2155
14	210	335	350	210	335	210	215	335	480	165	130	2625	2490
15	230	380	410	230	380	230	235	380	550	235	190	3475	3260
16	240	380	410	240	380	240	245	380	550	245	195	3875	3625
17	250	415	410	250	415	250	260	415	600	305	240	4560	4250
18	270	415	470	275	415	280	285	415	600	315	250	5030	4740
19	290	465	470	–	–	285	295	465	670	420	390	5050	4750
20	300	465	500	–	–	310	315	465	670	450	415	6650	6250
21	320	490	500	–	–	330	335	490	715	470	515	6950	6550
22	340	490	500	–	–	340	345	490	725	490	540	7550	7050

4)根据用户要求供货 4) on request

平行轴齿轮箱 Helical Gear Units
四级传动 Four stage
卧式安装 Horizontal
类 型 **FSH4.H Type FSH4.H**
规 格 **7...12 sizes 7...12**

FSH4SH FSH4HH FSH4DH



★输出轴 Output Shaft			布置形式 Design
FSH4SH 实心轴 Solid shaft	**FSH4HH** 空心轴 Hollow shaft	**FSH4DH** 带胀紧盘的空心轴 Hollow shaft for shrink disk	
			

1) $k_6 \leqslant \varnothing 24$ $\varnothing 28 \geqslant m_6 \leqslant \varnothing 100$ $n_6 > \varnothing 100$
有关平键 DIN 6885/1B 型和中心孔，参见第Ⅲ页
2) 键槽 GB/T1095-1979
3) 扭力支撑位于工作机侧

1) $k6 \leqslant \Phi 24$ $\Phi 28 \geqslant m6 \leqslant \Phi 100$ $n6 > \Phi 100$
For Parallel key and for centre hole,see page Ⅲ
2) Keyway GB/T1095-1979
3) Torque support on driven machine side

平行轴齿轮箱 Helical Gear Units
四级传动 Four stage
卧式安装 Horizontal
类 型 **FSH4.H Type FSH4.H**
规 格 **7...12 sizes 7...12**

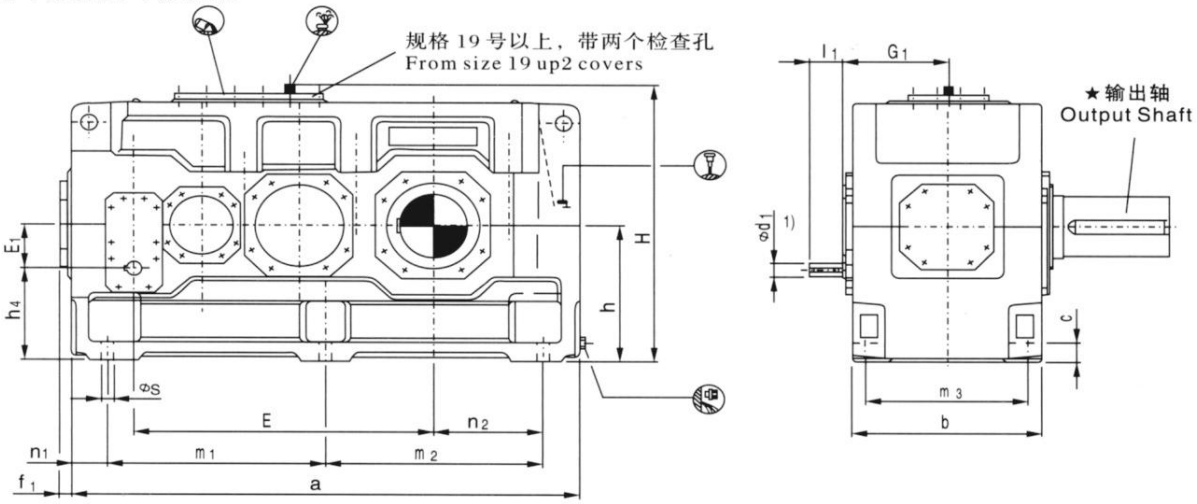
规格 Size	尺寸 mm Dimension sin mm								
	输 入 轴 Input shaft								
	i_N = 100-180		i_N = 125-224		i_N = 200-355		i_N = 250-450		G_1
	d_1 1)	l_1	d_1 1)	l_1	d_1 1)	l_1	d_1 1)	l_1	
7	30	50			24	40			180
8			30	50			24	40	180
9	35	60			28	50			215
10			35	60			28	50	215
11	45	100			32	80			250
12			45	100			32	80	250

规格 Size	尺寸 mm Dimension sin mm																		
	齿 轮 箱 Gear housing																		
	a	b	c	c_1	D_5	E	f_1	g	h	h_4	h_5	H	m_1	m_3	n_1	n_2	n_3	n_4	s
7	845	300	35	36 ± 1	28	495	37	114	280	200	140	572	605	260	120	130	560	215	24
8	950	300	35	36 ± 1	28	540	37	114	280	200	140	582	710	260	120	190	605	215	24
9	1000	370	40	45 ± 1.5	36	580	43	140	320	230	150	662	710	320	145	155	660	245	28
10	1100	370	40	45 ± 1.5	36	630	43	140	320	230	150	662	810	320	145	205	710	245	28
11	1200	430	50	54 ± 1.5	40	705	47	161	380	270	165	782	870	370	165	180	805	300	35
12	1355	430	50	54 ± 1.5	40	775	47	161	380	270	165	790	1025	370	165	265	875	300	35

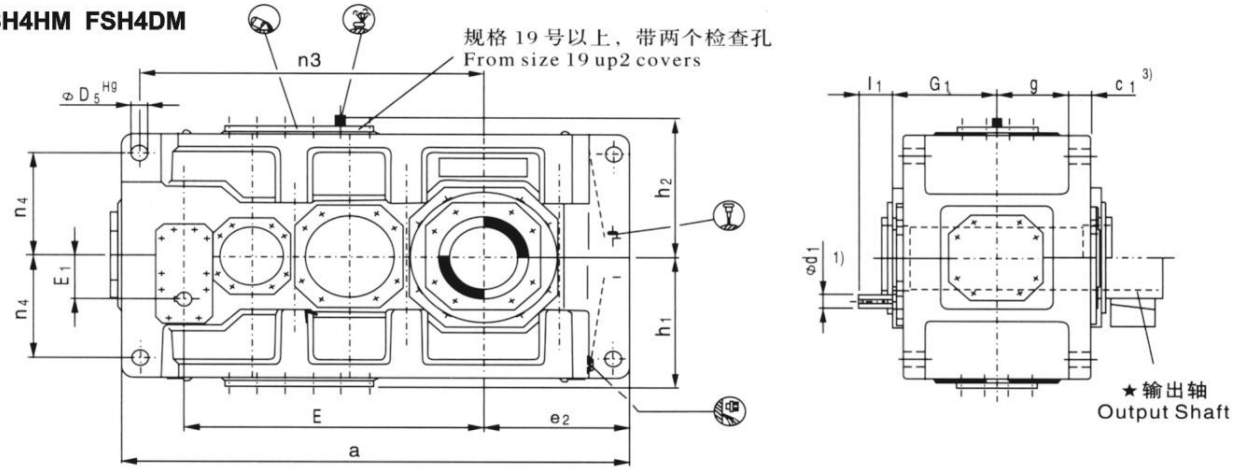
规格 Size	尺寸 mm Dimension sin mm									润滑油 Lubrication (l)	重 量 Weighy (kg)
	输 出 轴 Output shaft										
	FSH4SH			**FSH4HH**		**FSH4DH**					
	d_2 1)	G_2	l_2	D_2 2)	G_4	D_3	D_4	G_4	G_5		
7	120	195	210	115	195	120	120	195	280	25	550
8	130	195	250	125	195	130	130	195	285	27	645
9	140	235	250	135	235	140	145	235	330	48	875
10	160	235	300	150	235	150	155	235	350	50	1010
11	170	270	300	165	270	165	170	270	400	80	1460
12	180	270	300	180	270	180	185	270	405	87	1725

平行轴齿轮箱 Helical Gear Units
四级传动 Four stage
卧式安装 Horizontal
类 型 FSH4.H,FSH4.M Type FSH4.H,FSH4.M
规 格 13...22 sizes 13...22

FSH4SH FSH4HH FSH4DH

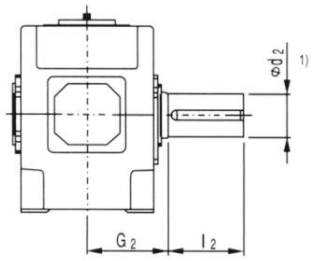


FSH4HM FSH4DM

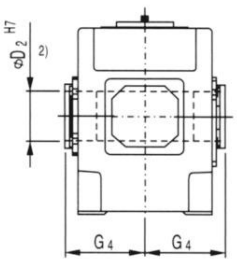


★输出轴 Output Shaft

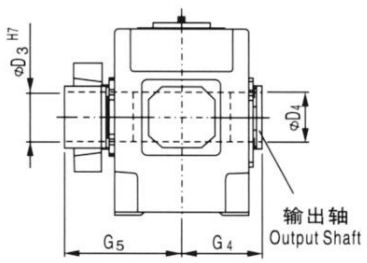
FSH4SH
实心轴 Solid shaft



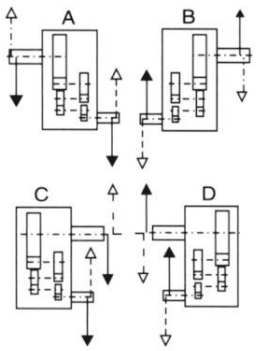
FSH4HH,FSH4HM
空心轴 Hollow shaft



FSH4DH,FSH4DM
带胀紧盘的空心轴
Hollow shaft for shrink disk



布置形式 Design



1) $m_6 \leq \varnothing 100$ $n_6 > \varnothing 100$
有关平键 DIN 6885/1B 型和中心孔，参见第 Ⅲ 页
2) 键槽 GB/T 1095-1979
3) 扭力支撑位于工作机侧

1) m6≤ Φ100 n6 > Φ100
For Parallel key and for centre hole,see page Ⅲ
2) Keyway GB/T1095-1979
3) Torque support on driven machine side

平行轴齿轮箱 Helical Gear Units
四级传动 Four stage
卧式安装 Horizontal
类 型 FSH4.H,FSH4.M Type FSH4.H,FSH4.M
规 格 13...22 sizes 13...22

规格 Size	尺寸 mm Dimension sin mm												
	输 入 轴 Input shaft												
	i_N = 100–180		i_N = 112–200		i_N = 125–224		i_N = 200–355		i_N = 224–400		i_N = 250–450		G_1
	d_1 1)	l_1	d_1 1)	l_1	d_1 1)	l_1	d_1 1)	l_1	d_1 1)	l_1	d_1 1)	l_1	
13	50	100					38	80					305
14					50	100					38	80	305
15	60	135					50	110					345
16			60	135					50	110			345
17	60	105					50	80					380
18			60	105					50	80			380
19	75	105					60	105					440
20			75	105					60	105			440
21	90	165					70	140					460
22			90	165					70	140			460

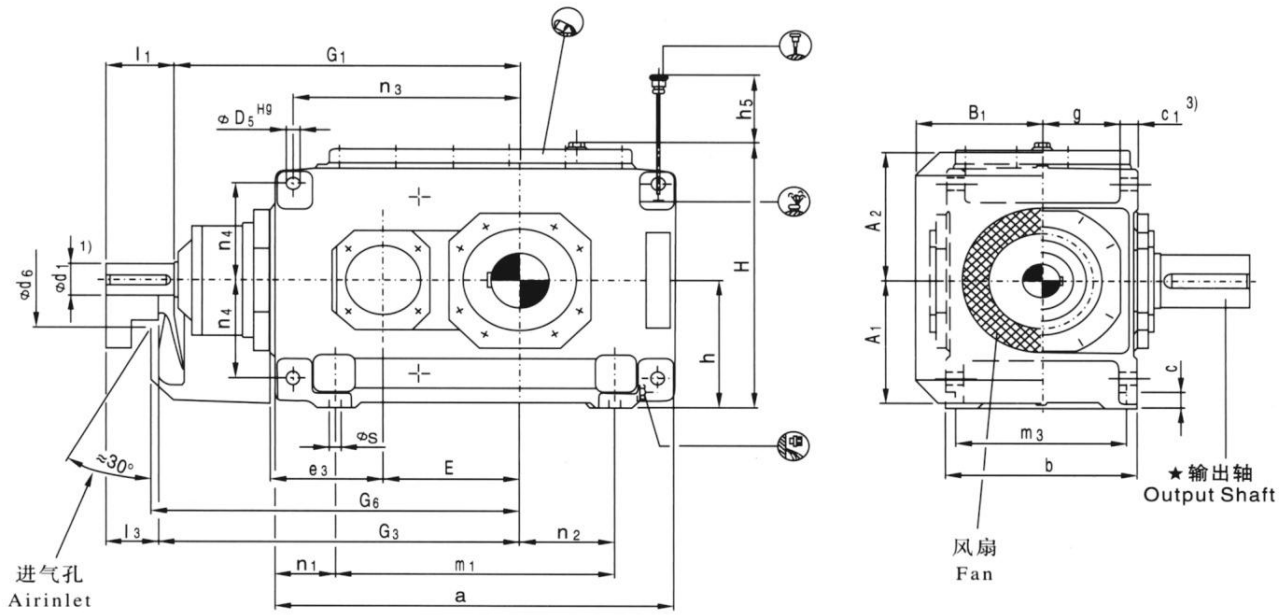
规格 Size	尺寸 mm Dimension sin mm										
	齿 轮 箱 Gear housing										
	a	b	c	c_1	D_5	e_2	E	E_1	f_1	g	h
13	1395	550	60	61 ± 2	48	405	820	130	47	211.5	440
14	1535	550	60	61 ± 2	48	475	890	130	47	211.5	440
15	1680	625	70	72 ± 2	55	485	987	160	56	238	500
16	1770	625	70	72 ± 2	55	530	1033	160	56	238	500
17	1770	690	80	81 ± 2	55	525	1035	160	53	259	550
18	1890	690	80	81 ± 2	55	585	1095	160	53	259	550
19	2030	790	90	91 ± 2	65	590	1190	185	53	299	620
20	2150	790	90	91 ± 2	65	650	1250	185	53	299	620
21	2340	830	100	100 ± 2	75	655	1387	225	62	310	700
22	2450	830	100	100 ± 2	75	710	1442	225	62	310	700

规格 Size	尺寸 mm Dimension sin mm											
	齿 轮 箱 Gear housing											
	h_1	h_2	h_4	H	m_1	m_2	m_3	n_1	n_2	n_3	n_4	s
13	450	460	310	900	597.5	597.5	475	100	305	940	340	35
14	450	460	310	900	597.5	737.5	475	100	375	1010	340	35
15	490	500	340	1000	720	720	535	120	365	1135	375	42
16	490	500	340	1000	720	810	535	120	410	1180	375	42
17	555	560	390	1110	750	750	600	135	390	1175	425	42
18	555	560	390	1110	750	870	600	135	450	1235	425	42
19	615	620	435	1240	860	860	690	155	435	1365	475	48
20	615	620	435	1240	860	980	690	155	495	1425	475	48
21	685	690	475	1390	1000	1000	720	170	485	1615	520	56
22	685	690	475	1390	1000	1110	720	170	540	1670	520	56

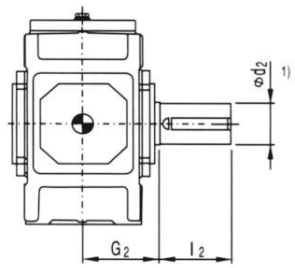
规格 Size	尺寸 mm Dimension sin mm									润 滑 油 Lubrication		重 量 Weighy	
	输 出 轴 Output shaft												
	FSH4SH			FSH4HH FSH4HM		FSH4DH FSH4DM				FSH4.H	FSH4.M	FSH4.H	FSH4.M
	d_2 1)	G_2	l_2	D_2 2)	G_4	D_3	D_4	G_4	G_5	(l)	(l)	(kg)	(kg)
13	200	335	350	190	335	190	195	335	480	130	120	2390	2270
14	210	335	350	210	335	210	215	335	480	140	125	2730	2600
15	230	380	410	230	380	230	235	380	550	230	170	3635	3440
16	240	380	410	240	380	240	245	380	550	235	175	3965	3740
17	250	415	410	250	415	250	260	415	600	290	225	4680	4445
18	270	415	470	275	415	280	285	415	600	305	230	5185	4915
19	290	465	470	–	–	285	295	465	670	360	310	5700	5300
20	300	465	500	–	–	310	315	465	670	380	330	6400	5950
21	320	490	500	–	–	330	335	490	715	395	430	7750	7250
22	340	490	550	–	–	340	345	490	725	420	450	8350	7750

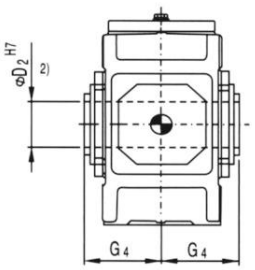
直交轴齿轮箱 Bevel-helical Gear Units
二级传动 Two stage
卧式安装 Horizontal
类 型 **FSB2.H Type FSB2.H**
规 格 **1...12 sizes 1...12**

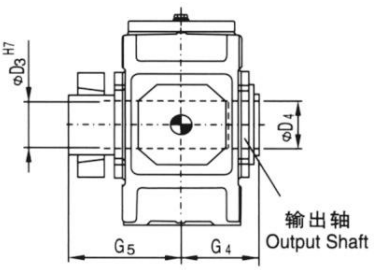
FSB2SH FSB2HH FSB2DH

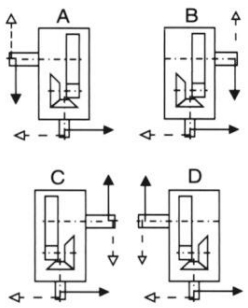


★输出轴 Output Shaft			布置形式 Design
FSB2SH 实心轴 Solid shaft	**FSB2HH** 空心轴 Hollow shaft	**FSB2DH** 带胀紧盘的空心轴 Hollow shaft for shrink disk	









1) $k_6 \leq \varnothing 25$ $\varnothing 28 \geq m_6 \leq \varnothing 100$ $n_6 > \varnothing 100$
有关平键中心孔，参见第Ⅲ页
2) 键槽 GB/T1095-1979
3) 扭力支撑位于工作机侧

1) $k6 \leq \Phi 25$ $\Phi 28 \geq m6 \leq \Phi 100$ $n6 > \Phi 100$
For Parallel key and for centre hole,see page Ⅲ
2) Keyway GB/T1095-1979
3) Torque support on driven machine side

直交轴齿轮箱 Bevel-helical Gear Units
二级传动 Two stage
卧式安装 Horizontal
类 型 FSB2.H Type FSB2.H
规 格 1...12 sizes 1...12

规格 Size	尺寸 mm Dimension sin mm										
	输 入 轴 Input shaft										
	i_N = 5-11.2			i_N = 6.3-14			i_N = 12.5-18			G_1	G_3
	d_1 1)	l_1	l_3	d_1 1)	l_1	l_3	d_1 1)	l_1	l_3		
1	28	55	40				20	50	35	300	315
2	30	70	50				25	60	40	340	360
3	35	80	60				28	60	40	390	410
4	45	100	80							465	485
5	55	110	80							535	565
6				55	110	80				570	600
7	70	135	105							640	670
8				70	135	105				685	715
9	80	165	130							755	790
10				80	165	130				805	840
11	90	165	130							925	960
12				90	165	130				995	1030

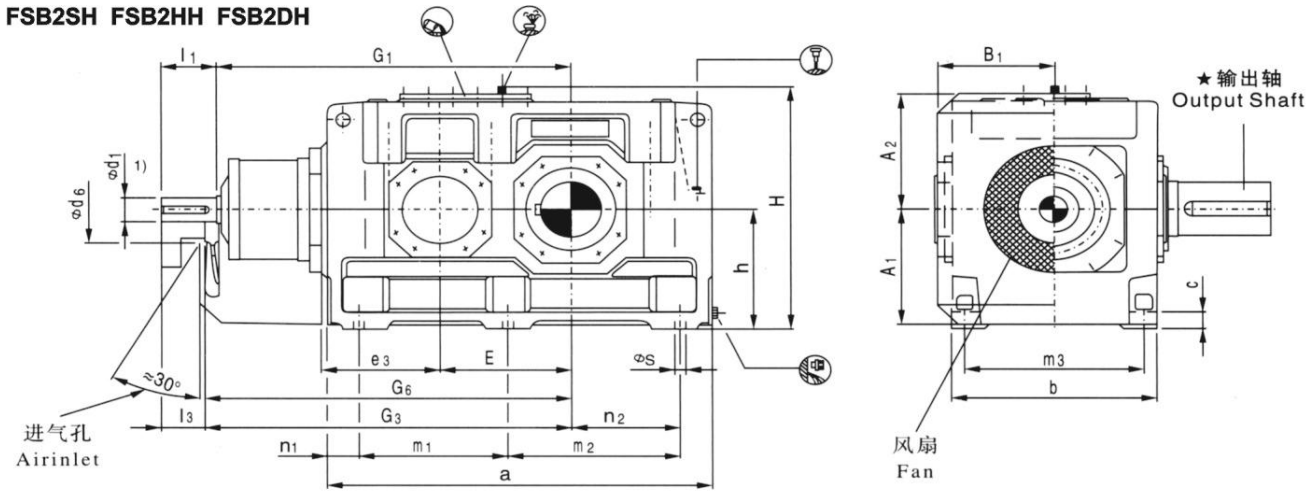
规格 Size	尺寸 mm Dimension sin mm											
	齿 轮 箱 Gear housing											
	a	A_1	A_2	b	B_1	c	c_1	D_5	d_6	e_3	E	g
1	305	125	130	180	128	18	16 ± 1	12	110	90	90	74
2	355	140	145	205	143	18	20 ± 1	14	110	110	110	82.5
3	405	170	170	225	163	22	24 ± 1	18	120	130	130	88.5
4	505	195	200	270	188	28	30 ± 1	24	150	160	160	105
5	565	220	235	320	215	28	30 ± 1	24	160	185	185	130
6	645	220	235	320	215	28	30 ± 1	24	160	185	220	130
7	690	270	285	380	250	35	36 ± 1	28	210	225	225	154
8	795	270	285	380	250	35	36 ± 1	28	210	225	270	154
9	820	310	325	440	270	40	48 ± 1.5	36	195	265	265	172
10	920	310	325	440	270	40	48 ± 1.5	36	195	265	315	172
11	975	370	385	530	328	50	54 ± 1.5	40	210	320	320	211
12	1130	370	385	530	328	50	54 ± 1.5	40	210	320	390	211

规格 Size	尺寸 mm Dimension sin mm										
	齿 轮 箱 Gear housing										
	G_6	h	h_5	H	m_1	m_3	n_1	n_2	n_3	n_4	s
1	325	130	80	275	185	155	60	70	160	105	12
2	370	145	80	305	225	180	65	75	195	115	12
3	420	175	90	360	245	195	80	70	235	132.5	15
4	495	200	80	415	295	235	105	85	285	150	19
5	575	230	150	482	355	285	105	100	330	180	19
6	610	230	150	482	435	285	105	145	365	180	19
7	685	280	180	582	450	340	120	130	405	215	24
8	730	280	190	582	555	340	120	190	450	215	24
9	805	320	205	662	530	390	145	155	480	245	28
10	855	320	215	662	630	390	145	205	530	245	28
11	980	380	240	790	645	470	165	180	580	300	35
12	1050	380	250	790	800	470	165	265	650	300	35

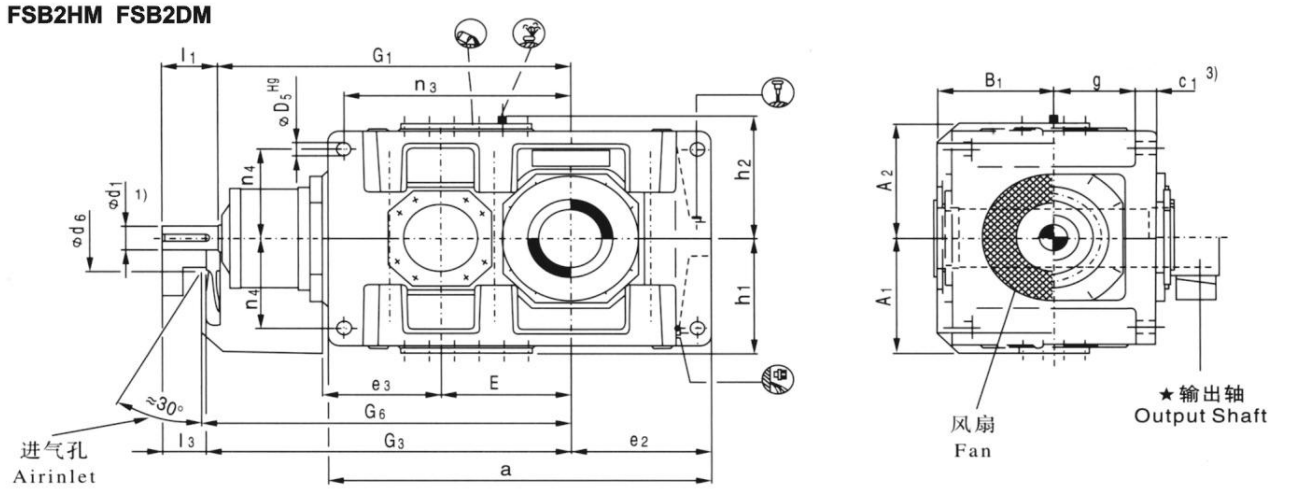
规格 Size	尺寸 mm Dimension sin mm									润 滑 油		重量 Weighy (kg)
	输 出 轴 Output shaft									轴 封 Shaft seal (l)	迷宫式密封 Labyrinth seal (l)	
	FSB2SH			FSB2HH		FSB2DH						
	d_2 1)	G_2	l_2	D_2 2)	G_4	D_3	D_4	G_4	G_5			
1	45	120	80		–	–	–	–		2	–	65
2	55	135	110	55	135	60	60	135	180	4	–	90
3	65	145	140	65	145	70	70	145	200	6	–	140
4	80	170	170	80	170	85	85	170	235	10	–	235
5	100	200	210	95	200	100	100	200	275	16	14	360
6	110	200	210	105	200	110	110	200	275	19	15	410
7	120	235	210	115	235	120	120	235	320	31	28	615
8	130	235	250	125	235	130	130	235	325	34	29	700
9	140	270	250	135	270	140	145	270	365	48	38	1000
10	160	270	300	150	270	150	155	270	385	50	40	1155
11	170	320	300	165	320	165	170	320	450	80	65	1640
12	180	320	300	180	320	180	185	320	455	95	71	1910

直交轴齿轮箱 Bevel-helical Gear Units
二级传动 Two stage
卧式安装 Horizontal
类 型 FSB2.H,FSB2.M Type FSB2.H,FSB2.M
规 格 13...18 sizes 13...18

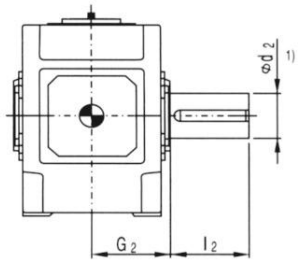
FSB2SH FSB2HH FSB2DH

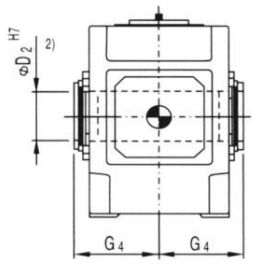


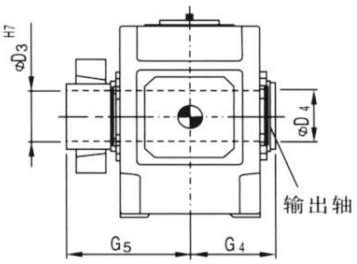
FSB2HM FSB2DM

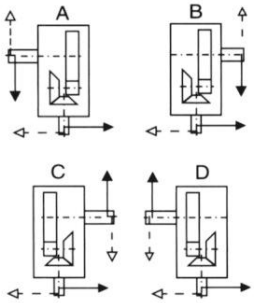


★输出轴 Output Shaft			布置形式 Design
FSB2SH 实心轴 Solid shaft	**FSB2HH,FSB2HM** 空心轴 Hollow shaft	**FSB2DH,FSB2DM** 带胀紧盘的空心轴 Hollow shaft for shrink disk	









1) $m_6 \leqslant \varnothing 100$ $n_6 > \varnothing 100$
有关平键中心孔，参见第 Ⅲ 页
2) 键槽GB/T1095-1979
3) 扭力支撑位于工作机侧

1) m6≤ φ100 n6 > φ100
For Parallel key and for centre hole,see page Ⅲ
2) Keyway GB/T1095-1979
3) Torque support on driven machine side

直交轴齿轮箱 Bevel-helical Gear Units
二级传动 Two stage
卧式安装 Horizontal
类 型 FSB2.H,FSB2.M Type FSB2.H,FSB2.M
规 格 13...18 sizes 13...18

规格 Size	尺寸 mm Dimension sin mm																
	输 入 轴 Input shaft																
	i_N = 5-11.2			i_N = 5.6-11.2			i_N = 5.6-12.5			i_N = 6.3-14			i_N = 7.1-12.5			G_1	G_3
	d_1 1)	l_1	l_3	d_1 1)	l_1	l_3	d_1 1)	l_1	l_3	d_1 1)	l_1	l_3	d_1 1)	l_1	l_3		
13	110	205	165													1070	1110
14										110	205	165				1140	1180
15	130	245	200													1277	1322
16							130	245	200							1323	1368
17				150	245	200										1435	1480
18													150	245	200	1495	1540

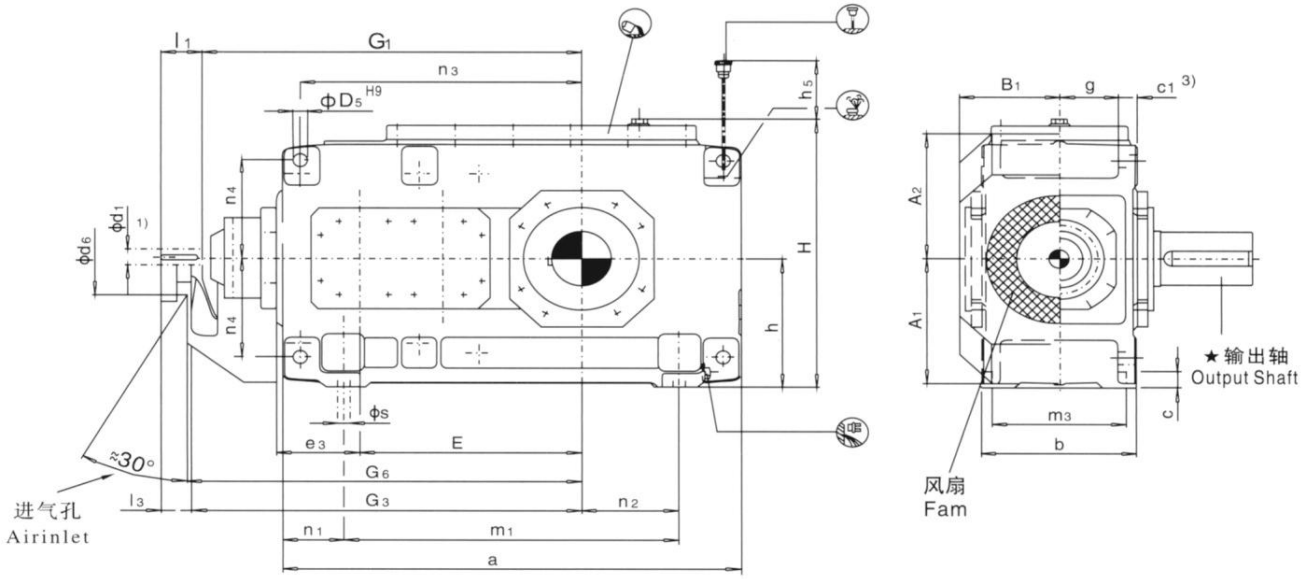
规格 Size	尺寸 mm Dimension sin mm												
	齿 轮 箱 Gear housing												
	a	A_1	A_2	b	B_1	c	c_1	d_6	D_5	e_2	e_3	E	g
13	1130	430	450	655	375	60	61 ± 2	245	48	405	380	370	264
14	1270	430	450	655	375	60	61 ± 2	245	48	475	380	440	264
15	1350	490	495	765	435	70	72 ± 2	280	55	485	450	442	308
16	1440	490	495	765	435	70	72 ± 2	280	55	530	450	488	308
17	1490	540	555	885	505	80	81 ± 2	380	65	525	510	490	356
18	1610	540	555	885	505	80	81 ± 2	380	65	585	510	550	356

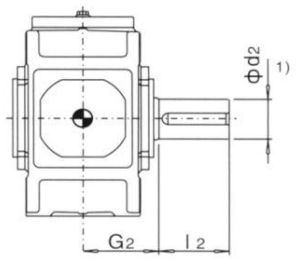
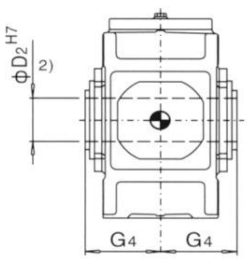
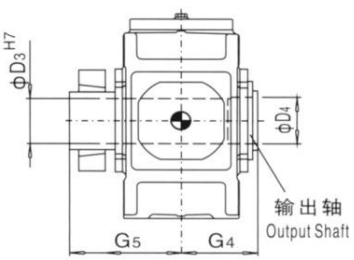
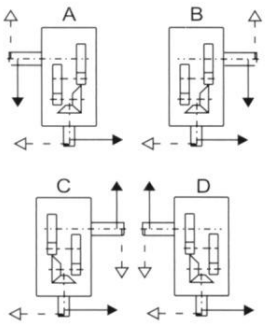
规格 Size	尺寸 mm Dimension sin mm												
	齿 轮 箱 Gear housing												
	G_6	h	h_1	h_2	H	m_1	m_2	m_3	n_1	n_2	n_3	n_4	s
13	1130	440	450	460	900	465	465	580	100	305	675	340	35
14	1200	440	450	460	900	465	605	580	100	375	745	340	35
15	1340	500	490	500	1000	555	555	670	120	365	805	375	42
16	1385	500	490	500	1000	555	645	670	120	410	850	375	42
17	1500	550	555	560	1110	610	610	780	135	390	895	420	48
18	1560	550	555	560	1110	610	730	780	135	450	955	420	48

规格 Size	尺寸 mm Dimension sin mm									润 滑 油 Lubrication			重量 Weighy	
	输 出 轴 Output shaft									FSB2.H		FSB2.M		
	FSB2SH			FSB2HH FSB2HM		FSB2DH FSB2DM				轴 封 Shaft seal (l)	迷宫式密封 Labyrinth seal (l)	(l)	FSB2.H (kg)	FSB2.M (kg)
	d_2 1)	G_2	l_2	D_2 2)	G_4	D_3	D_4	G_4	G_5					
13	200	390	350	–	–	–	–	–	–	140	125	120	2450	2350
14	210	390	350	210	390	210	215	390	535	155	140	130	2825	2725
15	230	460	410	–	–	–	–	–	–	220	195	180	3990	3795
16	240	460	410	240	450	240	245	450	620	230	205	190	4345	4160
17	250	540	410	–	–	–	–	–	–	320	280	260	5620	5320
18	270	540	470	275	510	280	285	510	700	335	300	275	6150	5860

直交轴齿轮箱 Bevel-helical Gear Units
三级传动 Three stage
卧式安装 Horizontal
类 型 **FSB3.H Type FSB3.H**
规 格 **3...12 sizes 3...12**

FSB3SH FSB3HH FSB3DH



★输出轴 Output Shaft			布置形式 Design
FSB3SH 实心轴 Solid shaft	**FSB3HH** 空心轴 Hollow shaft	**FSB3DH** 带胀紧盘的空心轴 Hollow shaft for shrink disk	
			

1) k6≤Φ25 Φ28≥m6≤Φ100 n6 > Φ100
有关平键中心孔，参见第Ⅲ页
2) 键槽 GB/T1095-1979
3) 扭力支撑位于工作机侧

1) k6≤Φ25 Φ28≥m6≤Φ100 n6 > Φ100
For Parallel key and for centre hole,see page Ⅲ
2) Keyway GB/T1095-1979
3) Torque support on driven machine side

直交轴齿轮箱 Bevel-helical Gear Units
三级传动 Three stage
卧式安装 Horizontal
类 型 FSB3.H Type FSB3.H
规 格 3...12 sizes 3...12

规格 Size	尺寸 mm Dimension sin mm																
	输 入 轴 Input shaft																
	i_N = 12.5-45			i_N = 16-56			i_N = 20-45			i_N = 50-71			i_N = 63-90			G_1	G_3
	d_1 1)	l_1	l_3	d_1 1)	l_1	l_3	d_1 1)	l_1	l_3	d_1 1)	l_1	l_3	d_1 1)	l_1	l_3		
3							28	55	40	20	50	35				430	445
4	30	70	50							25	60	40				500	520
5	35	80	60							28	60	40				575	595
6				35	80	60							28	60	40	610	630
7	45	100	80							35	80	60				690	710
8				45	100	80							35	80	60	735	755
9	55	110	80							40	100	70				800	830
10				55	110	80							40	100	70	850	880
11	70	135	105							50	110	80				960	990
12				70	135	105							50	110	80	1030	1060

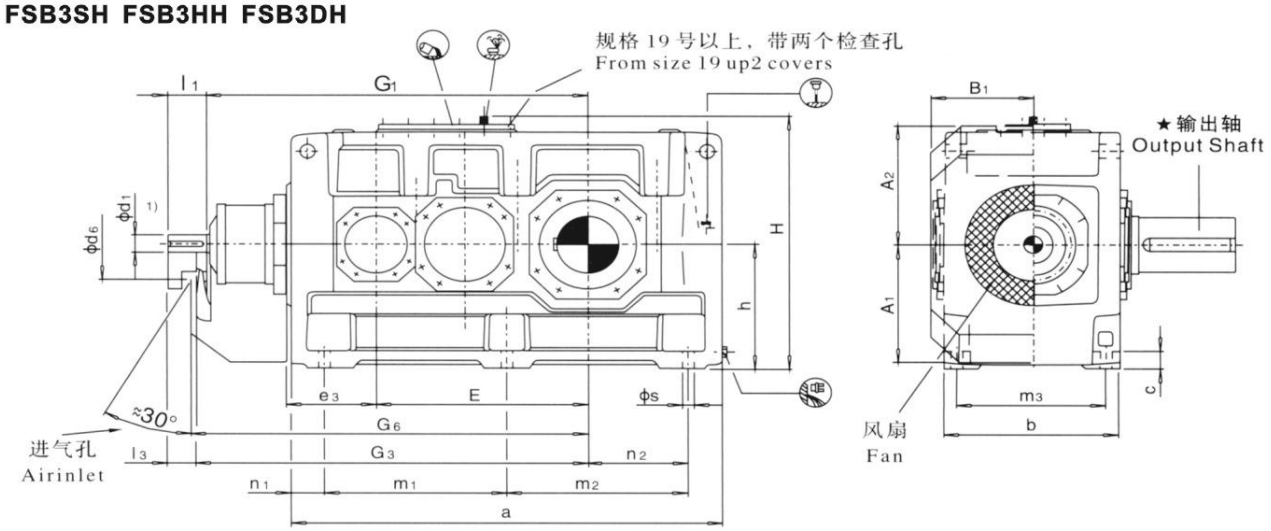
规格 Size	尺寸 mm Dimension sin mm											
	齿 轮 箱 Gear housing											
	a	A_1	A_2	b	B_1	c	c_1	d_6	D_5	e_3	E	g
3	450	170	170	190	128	22	24 ± 1	90	18	90	220	71
4	565	195	200	215	143	28	30 ± 1	110	24	110	270	77.5
5	640	220	235	255	168	28	30 ± 1	130	24	130	315	97.5
6	720	220	235	255	168	28	30 ± 1	130	24	130	350	97.5
7	785	275	275	300	193	35	36 ± 1	165	28	160	385	114
8	890	275	275	300	193	35	36 ± 1	165	28	160	430	114
9	925	315	325	370	231	40	45 ± 1.5	175	36	185	450	140
10	1025	315	325	370	231	40	45 ± 1.5	175	36	185	500	140
11	1105	370	385	430	263	50	54 ± 1.5	190	40	225	545	161
12	1260	370	385	430	263	50	54 ± 1.5	190	40	225	615	161

规格 Size	尺寸 mm Dimension sin mm										
	齿 轮 箱 Gear housing										
	G_6	h	h_5	H	m_1	m_3	n_1	n_2	n_3	n_4	s
3	455	175	100	360	290	160	80	65	285	132.5	15
4	530	200	100	415	355	180	105	85	345	150	19
5	605	230	130	482	430	220	105	100	405	180	19
6	640	230	130	482	510	220	105	145	440	180	19
7	720	280	170	572	545	260	120	130	500	215	24
8	765	280	160	582	650	260	120	190	545	215	24
9	845	320	175	662	635	320	145	155	585	245	28
10	895	320	175	662	735	320	145	205	635	245	28
11	1010	380	220	782	775	370	165	180	710	300	35
12	1080	380	210	790	930	370	165	265	780	300	35

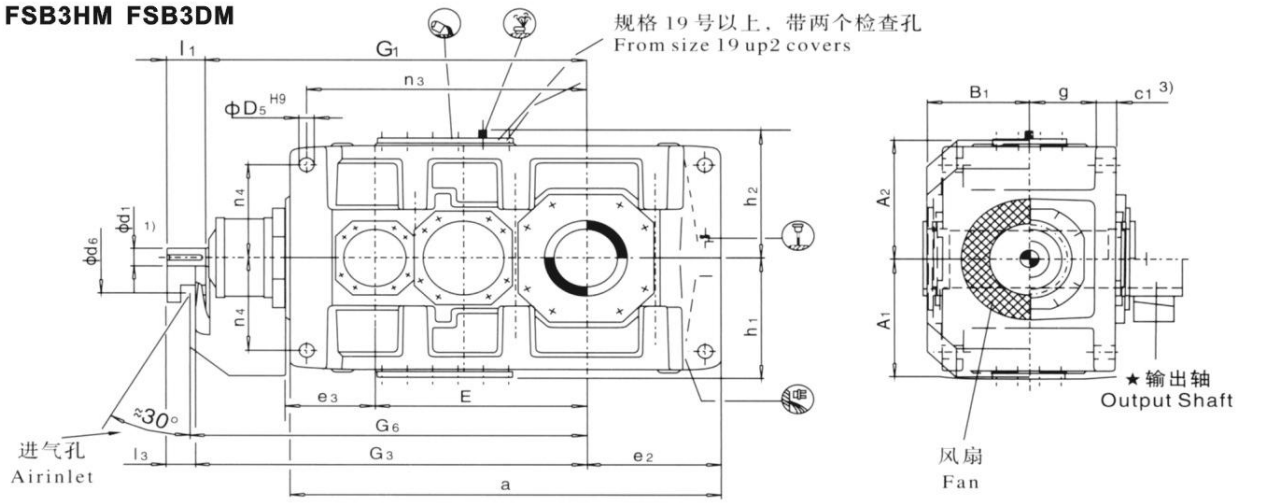
规格 Size	尺寸 mm Dimension sin mm									润滑油 Lubrication (l)	重量 Weighy (kg)
	输 出 轴 Output shaft										
	FSB3SH			FSB3HH		FSB3DH					
	d_2 1)	G_2	l_2	D_2 2)	G_4	D_3	D_4	G_4	G_5		
3	65	125	140	65	125	70	70	125	180	6	130
4	80	140	170	80	140	85	85	140	205	9	210
5	100	165	210	95	165	100	100	165	240	14	325
6	110	165	210	105	165	110	110	165	240	15	380
7	120	195	210	115	195	120	120	195	280	25	550
8	130	195	250	125	195	130	130	195	285	28	635
9	140	235	250	135	235	140	145	235	330	40	890
10	160	235	300	150	235	150	155	235	350	42	1020
11	170	270	300	165	270	165	170	270	400	66	1455
12	180	270	300	180	270	180	185	270	405	72	1730

直交轴齿轮箱 Bevel-helical Gear Units
三级传动 Three stage
卧式安装 Horizontal
类 型 FSB3.H Type FSB3.H
规 格 13...22 sizes 13...22

FSB3SH FSB3HH FSB3DH

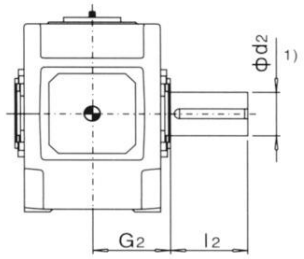


FSB3HM FSB3DM

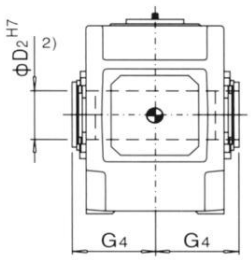


★输出轴 Output Shaft

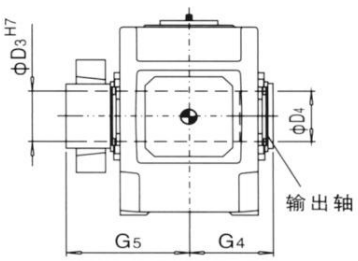
FSB3SH
实心轴 Solid shaft



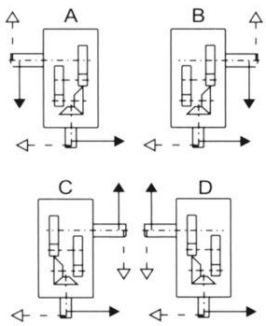
FSB3HH FSB3HM
空心轴 Hollow shaft



FSB2DH FSB3DM
带胀紧盘的空心轴
Hollow shaft for shrink disk



布置形式 Design



1) k6≤ϕ25 ϕ28≥m6≤ϕ100 n6 > ϕ100
有关平键型和中心孔，参见第Ⅲ页
2) 键槽 GB/T1095-1979
3) 扭力支撑位于工作机侧

1) k6≤Φ25 ϕ28≥m6≤ϕ100 n6 > ϕ100
For Parallel key and for centre hole,see page Ⅲ
2) Keyway GB/T1095-1979
3) Torque support on driven machine side

直交轴齿轮箱 Bevel-helical Gear Units
三级传动 Three stage
卧式安装 Horizontal
类 型 FSB3.H Type FSB3.H
规 格 13...22 sizes 13...22

规格 Size	尺寸 mm Dimension sin mm																			
	输入轴 Input shaft																			
	i_N =12.5-45			i_N =14-50			i_N =16-56			i_N =50-71			i_N = 56-80			i_N = 63-90			G_1	G_3
	d_1 1)	l_1	l_3	d_1 1)	l_1	l_3	d_1 1)	l_1	l_3	d_1 1)	l_1	l_3	d_1 1)	l_1	l_3	d_1 1)	l_1	l_3		
13	80	165	130							60	140	105							1125	1160
14							80	165	130							60	140	105	1195	1230
15	90	165	130							70	140	105							1367	1402
16				90	165	130							70	140	105				1413	1448
17	110	205	165							80	170	130							1560	1600
18				110	205	165							80	170	130				1620	1660
19	130	245	200							100	210	165							1832	1877
20				130	245	200							100	210	165				1892	1937
21	130	245	200							100	210	165							1902	1947
22				130	245	200							100	210	165				1957	2002

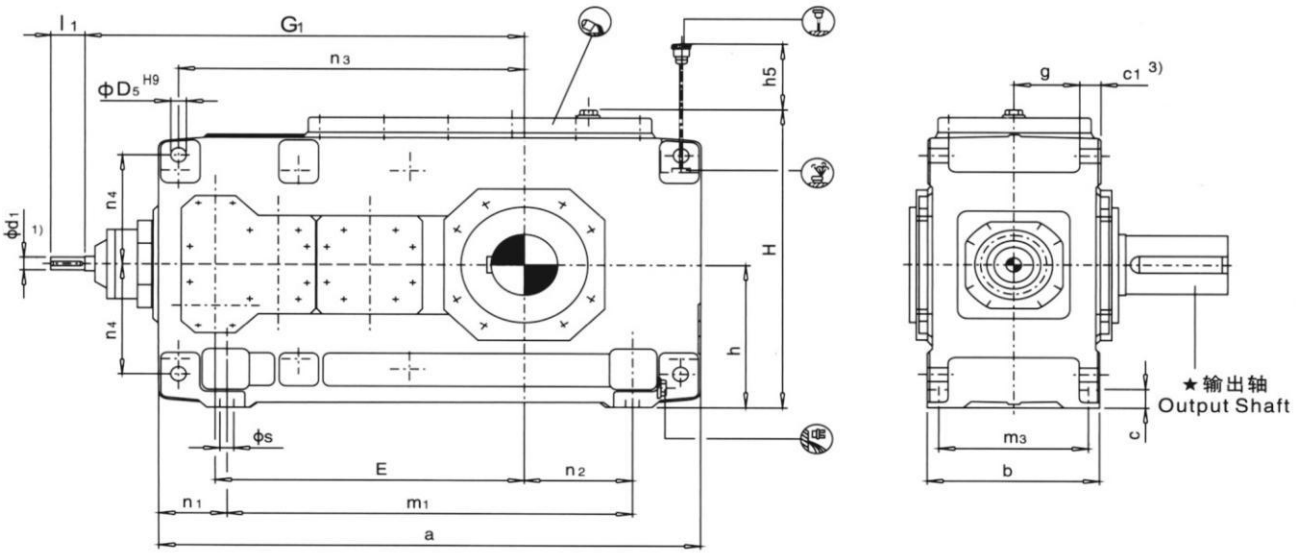
规格 Size	尺寸 mm Dimension sin mm												
	齿轮箱 Gear housing												
	a	A_1	A_2	b	B_1	c	c_1	d_6	D_5	e_2	e_3	E	g
13	1290	425	475	550	325	60	61 ± 2	210	48	405	265	635	211.5
14	1430	425	475	550	325	60	61 ± 2	210	48	475	265	705	211.5
15	1550	485	520	625	365	70	72 ± 2	210	55	485	320	762	238
16	1640	485	520	625	365	70	72 ± 2	210	55	530	320	808	238
17	1740	535	570	690	395	80	81 ± 2	230	55	525	370	860	259
18	1860	535	570	690	395	80	81 ± 2	230	55	585	370	920	259
19	2010	610	630	790	448	90	91 ± 2	245	65	590	420	997	299
20	2130	610	630	790	448	90	91 ± 2	245	65	650	420	1057	299
21	2140	690	690	830	473	100	100 ± 2	280	75	655	450	1067	310
22	2250	690	690	830	473	100	100 ± 2	280	75	710	450	1122	310

规格 Size	尺寸 mm Dimension sin mm												
	齿轮箱 Gear housing												
	G_6	h	h_1	h_2	H	m_1	m_2	m_3	n_1	n_2	n_3	n_4	s
13	1180	440	450	460	900	545	545	475	100	305	835	340	35
14	1250	440	450	460	900	545	685	475	100	375	905	340	35
15	1420	500	490	500	1000	655	655	535	120	365	1005	375	42
16	1470	500	490	500	1000	655	745	535	120	410	1050	375	42
17	1620	550	555	560	1110	735	735	600	135	390	1145	425	42
18	1680	550	555	560	1110	735	855	600	135	450	1205	425	42
19	1900	620	615	620	1240	850	850	690	155	435	1345	475	48
20	1960	620	615	620	1240	850	970	690	155	495	1405	475	48
21	1970	700	685	690	1390	900	900	720	170	485	1400	520	56
22	2025	700	685	690	1390	900	1010	720	170	540	1455	520	56

规格 Size	尺寸 mm Dimension sin mm									润滑油 Lubrication		重量 Weighy	
	输出轴 Output shaft												
	FSB3SH			FSB3HH	FSB3HM	FSB3DH		FSB3DM		FSB3.H	FSB3.M	FSB3.H	FSB3.M
	d_2 1)	G_2	l_2	D_2 2)	G_4	D_3	D_4	G_4	G_5	(l)	(l)	(kg)	(kg)
13	200	335	350	190	335	190	195	335	480	130	110	2380	2260
14	210	335	350	210	335	210	215	335	480	140	115	2750	2615
15	230	380	410	230	380	230	235	380	550	210	160	3730	3540
16	240	380	410	240	380	240	245	380	550	220	165	3955	3765
17	250	415	410	250	415	250	260	415	600	290	230	4990	4760
18	270	415	470	275	415	280	285	415	600	300	235	5495	5240
19	290	465	470	–	–	285	295	465	670	380	360	6240	6050
20	300	465	500	–	–	310	315	465	670	440	420	6950	6710
21	320	490	500	–	–	330	335	490	715	370	420	8480	8190
22	340	490	550	–	–	340	345	490	725	430	490	9240	8950

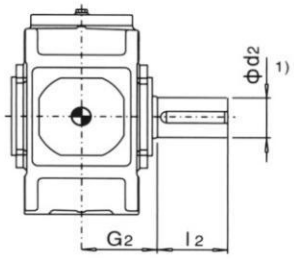
直交轴齿轮箱 Bevel-helical Gear Units
四级传动 Four stage
卧式安装 Horizontal
类 型 **FSB4.H Type FSB4.H**
规 格 **5...12 sizes 5...12**

FSB4SH FSB4HH FSB4DH

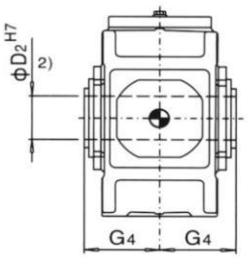


★输出轴 Output Shaft

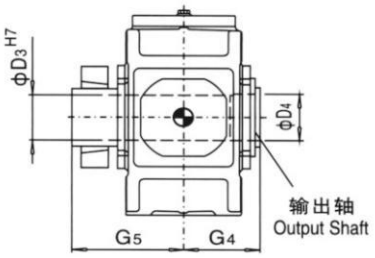
FSB4SH
实心轴 Solid shaft



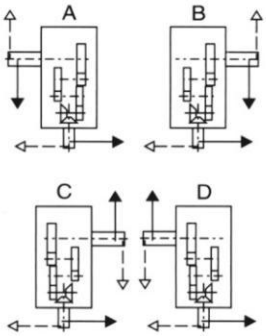
FSB4HH
空心轴 Hollow shaft



FSB4DH
带胀紧盘的空心轴
Hollow shaft for shrink disk



布置形式 Design



1) k6≤Φ25 Φ28≥m6≤Φ100 n6 > Φ100
有关平键 型和中心孔，参见第Ⅲ页
2) 键槽 GB/T1095-1979
3) 扭力支撑位于工作机侧

1) k6≤Φ25 Φ28≥m6≤Φ100 n6 > Φ100
For Parallel key and for centre hole,see page Ⅲ
2) Keyway GB/T1095-1979
3) Torque support on driven machine side

直交轴齿轮箱 Bevel-helical Gear Units
四级传动 Four stage
卧式安装 Horizontal
类 型 FSB4.H Type FSB4.H
规 格 5...12 sizes 5...12

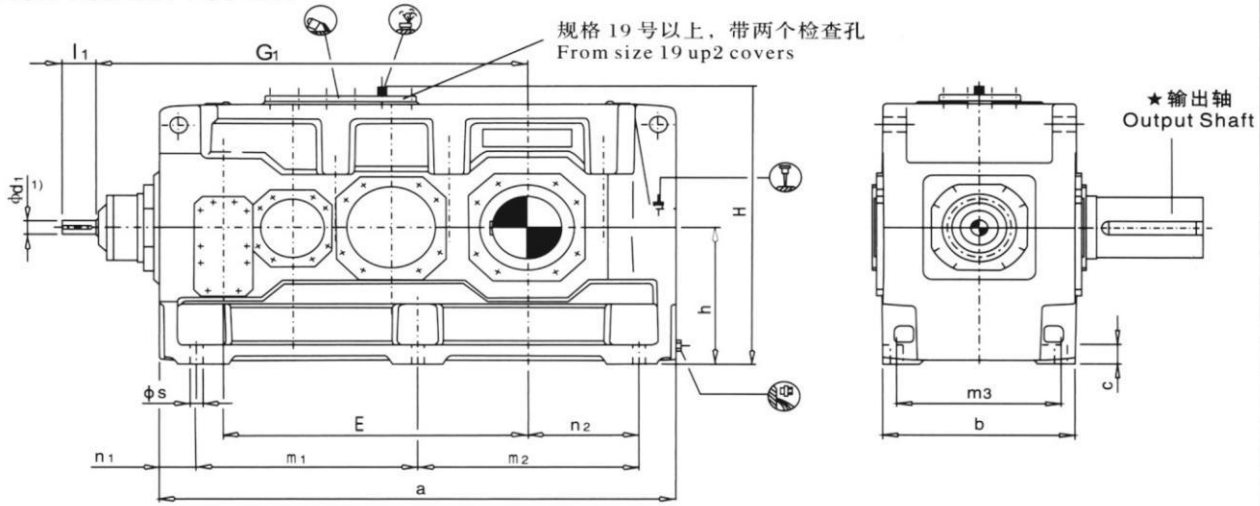
规格 Size	尺寸 mm Dimension sin mm								
	输入轴 Input shaft								
	i_N = 80-180		i_N = 100-224		i_N = 200-315		i_N = 250-400		G_1
	d_1 1)	l_1	d_1 1)	l_1	d_1 1)	l_1	d_1 1)	l_1	
5	28	55			20	50			615
6			28	55			20	50	650
7	30	70			25	60			725
8			30	70			25	60	770
9	35	80			28	60			840
10			35	80			28	60	890
11	45	100			35	80			1010
12			45	100			35	80	1080

规格 Size	尺寸 mm Dimension sin mm																
	齿轮箱 Gear housing																
	a	b	c	c_1	D_5	E	g	h	h_5	H	m_1	m_3	n_1	n_2	n_3	n_4	s
5	690	255	28	30 ± 1	24	405	97.5	230	100	482	480	220	105	100	455	180	19
6	770	255	28	30 ± 1	24	440	97.5	230	100	482	560	220	105	145	490	180	19
7	845	300	35	36 ± 1	28	495	114	280	140	572	605	260	120	130	560	215	24
8	950	300	35	36 ± 1	28	540	114	280	130	582	710	260	120	190	605	215	24
9	1000	370	40	45 ± 1.5	36	580	140	320	135	662	710	320	145	155	660	245	28
10	1100	370	40	45 ± 1.5	36	630	140	320	135	662	810	320	145	205	710	245	28
11	1200	430	50	54 ± 1.5	40	705	161	380	170	782	870	370	165	180	805	300	35
12	1355	430	50	54 ± 1.5	40	775	161	380	160	790	1025	370	165	265	875	300	35

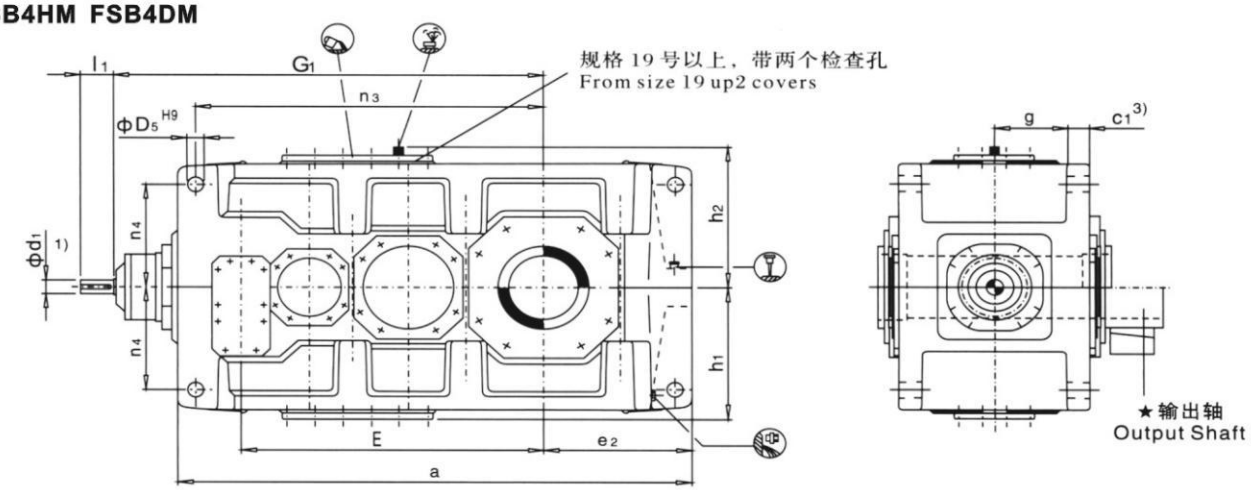
规格 Size	尺寸 mm Dimension sin mm									润滑油 Lubrication (l)	重量 Weighy (kg)
	输出轴 Output shaft										
	FSB4SH			FSB4HH		FSB4DH					
	d_2 1)	G_2	l_2	D_2 2)	G_4	D_3	D_4	G_4	G_5		
5	100	165	210	95	165	100	100	165	240	16	335
6	110	165	210	105	165	110	110	165	240	18	385
7	120	195	210	115	195	120	120	195	280	30	555
8	130	195	250	125	195	130	130	195	285	33	655
9	140	235	250	135	235	140	145	235	330	48	890
10	160	235	300	150	235	150	155	235	350	50	1025
11	170	270	300	165	270	165	170	270	400	80	1485
12	180	270	300	180	270	180	185	270	405	90	1750

直交轴齿轮箱 Bevel-helical Gear Units
四级传动 Four stage
卧式安装 Horizontal
类 型 FSB4.H, FSB4.M Type FSB4.H, FSB4.M
规 格 13...22 sizes 13...22

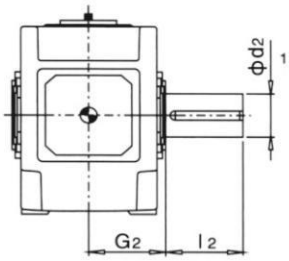
FSB4SH FSB4HH FSB4DH

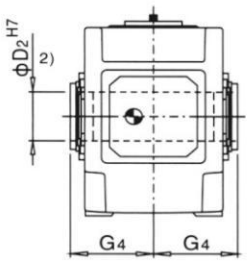


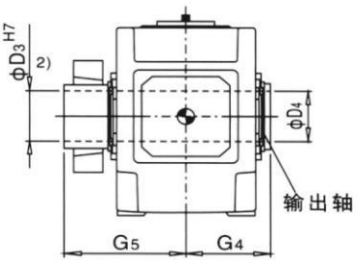
FSB4HM FSB4DM

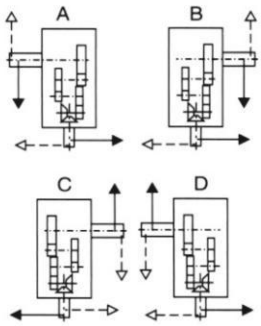


★输出轴 Output Shaft			布置形式 Design
FSB4SH 实心轴 Solid shaft	**FSB4HH** 空心轴 Hollow shaft	**FSB4DH FSB4DM** 带胀紧盘的空心轴 Hollow shaft for shrink disk	









1) m6≤ϕ100 n6>ϕ100
有关平键和中心孔，参见第Ⅲ页
2) 键槽GB/T1095-1979
3) 扭力支撑位于工作机侧

1) m6≤ϕ100 n6>ϕ100
For Parallel key and for centre hole,see pageⅢ
2) Keyway GB/T1095-1979
3) Torque support on driven machine side

直交轴齿轮箱 Bevel-helical Gear Units
四级传动 Four stage
卧式安装 Horizontal
类 型 FSB4.H, FSB4.M Type FSB4.H, FSB4.M
规 格 13...22 sizes 13...22

规格 Size	尺寸 mm Dimension sin mm												
	输入轴 Input shaft												
	i_N = 80-180		i_N = 90-200		i_N = 100-224		i_N = 200-315		i_N = 224-355		i_N = 250-400		G_1
	d_1 1)	l_1	d_1 1)	l_1	d_1 1)	l_1	d_1 1)	l_1	d_1 1)	l_1	d_1 1)	l_1	
13	55	110					40	100					1170
14					55	110					40	100	1240
15	70	135					50	110					1402
16			70	135					50	110			1448
17	70	135					50	110					1450
18			70	135					50	110			1510
19	80	165					60	140					1680
20			80	165					60	140			1740
21	90	165					70	140					1992
22			90	165					70	140			2047

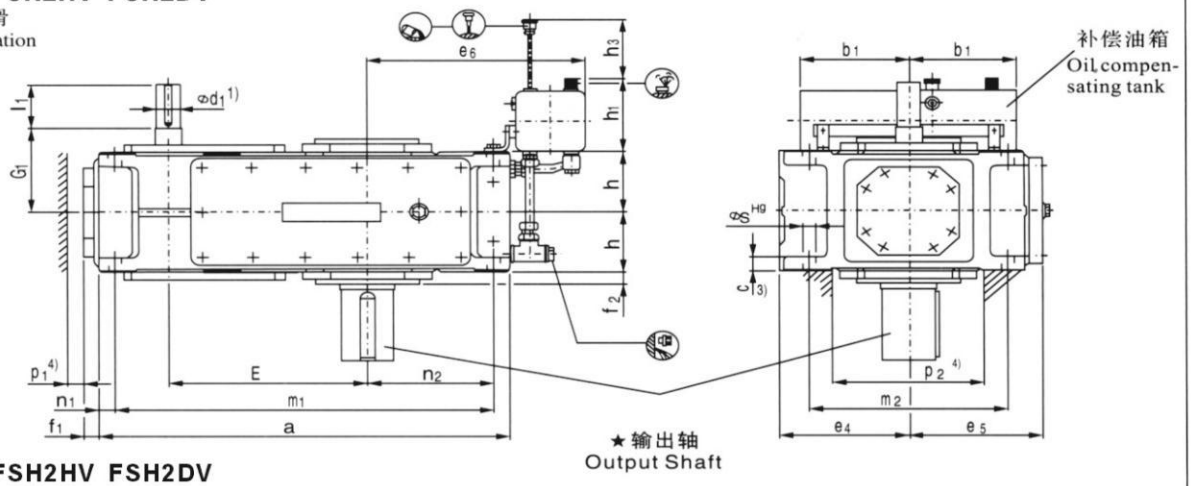
规格 Size	尺寸 mm Dimension sin mm									
	齿轮箱 Gear housing									
	a	b	c	c_1	D_5	e_2	E	g	h	h_1
13	1395	550	60	61 ± 2	48	405	820	211.5	440	450
14	1535	550	60	61 ± 2	48	475	890	211.5	440	450
15	1680	625	70	72 ± 2	55	485	987	238	500	490
16	1770	625	70	72 ± 2	55	530	1033	238	500	490
17	1770	690	80	81 ± 2	55	525	1035	259	550	555
18	1890	690	80	81 ± 2	55	585	1095	259	550	555
19	2030	790	90	91 ± 2	65	590	1190	299	620	615
20	2150	790	90	91 ± 2	65	650	1250	299	620	615
21	2340	830	100	100 ± 2	75	655	1387	310	700	685
22	2450	830	100	100 ± 2	75	710	1442	310	700	685

规格 Size	尺寸 mm Dimension sin mm									
	齿轮箱 Gear housing									
	h_2	H	m_1	m_2	m_3	n_1	n_2	n_3	n_4	s
13	460	900	597.5	597.5	475	100	305	940	340	35
14	460	900	737.5	737.5	475	100	375	1010	340	35
15	500	1000	720	720	535	120	365	1135	375	42
16	500	1000	720	810	535	120	410	1180	375	42
17	560	1110	750	750	600	135	390	1175	425	42
18	560	1110	750	870	600	135	450	1235	425	42
19	620	1240	860	860	690	155	435	1365	475	48
20	620	1240	860	980	690	155	495	1425	475	48
21	690	1390	1000	1000	720	170	485	1615	520	56
22	690	1390	1000	1110	720	170	540	1670	520	56

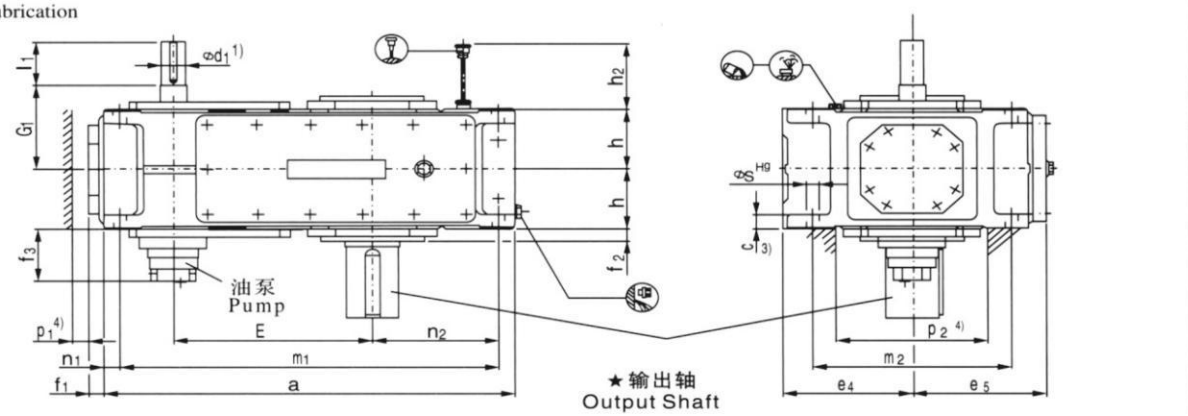
规格 Size	尺寸 mm Dimension sin mm									润滑油 Lubrication (l)		重量 Weighy (kg)	
	输出轴 Output shaft												
	FSB4SH			**FSB4HH**	**FSB4HM**	**FSB4DH**	**FSB4DM**			**FSB4.H**	**FSB4.M**	**FSB4.H**	**FSB4.M**
	d_2 1)	G_2	l_2	D_2 2)	G_4	D_3	D_4	G_4	G_5	(l)	(l)	(kg)	(kg)
13	200	335	350	190	335	190	195	335	480	145	120	2395	2280
14	210	335	350	210	335	210	215	335	480	150	125	2735	2605
15	230	380	410	230	380	230	235	380	550	230	170	3630	3435
16	240	380	410	240	380	240	245	380	550	235	175	3985	3765
17	250	415	410	250	415	250	260	415	600	295	230	4695	4460
18	270	415	470	275	415	280	285	415	600	305	235	5200	4930
19	290	465	470	–	–	285	295	465	670	480	440	5750	5400
20	300	465	500	–	–	310	315	465	670	550	510	6450	6000
21	320	490	500	–	–	330	335	490	715	540	590	7850	7350
22	340	490	550	–	–	340	345	490	725	620	680	8400	7850

平行轴齿轮箱 Helical Gear Units
两级传动 Two stage
立式安装 Vertical
类 型 FSH2.V Type FSH2.V
规 格 3...12 sizes 3...12

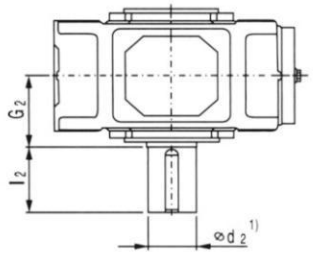
FSH2SV FSH2HV FSH2DV
采用浸油润滑
With dip lubrication

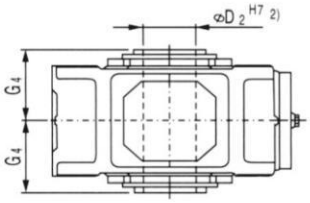


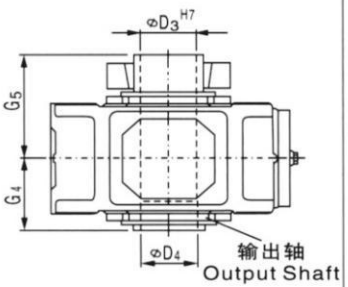
FSH2SV FSH2HV FSH2DV
采用强制润滑
With forced lubrication



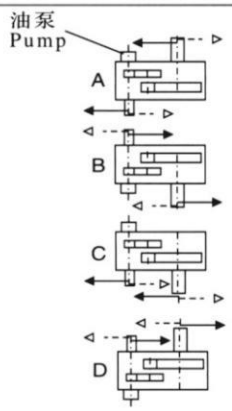
★输出轴 Output Shaft			布置形式 Design
FSH2SV 实心轴 Solid shaft	**FSH2HV** 空心轴 Hollow shaft	**FSH2DV** 带胀紧盘的空心轴 Hollow shaft for shrink disk	







布置形式 A +D 根据用户要求供货
Design A&D on request



1) $m_6 \leq \varnothing 100$ $n_6 > \varnothing 100$
有关平键中心孔，参见第Ⅲ页
2) 键槽 GB/T1095-1979
3) 扭力支撑位于工作机侧
4) 有关油泵、油管和护盖的安装空间及确切尺寸，请与我们联系

1) $m_6 \leq \varnothing 100$ $n_6 > \varnothing 100$
For Parallel key DIN 6885/1B and for centre hole,see page Ⅲ
2) Keyway GB/T1095-1979
3) Torque support on driven machine side
4) Space for pump,pipes and cover;
For exact dimensions,please to us.

平行轴齿轮箱 Helical Gear Units
二级传动 Two stage
立式安装 Vertical
类 型 FSH2.V Type FSH2.V
规 格 3...12 sizes 3...12

规格 Size	尺寸 mm Dimension sin mm								
	输入轴 Input shaft								
	i_N = 6.3–11.2		i_N = 8–14		i_N = 12.5–22.4		i_N = 16–28		G_1
	d_1 1)	l_1	d_1 1)	l_1	d_1 1)	l_1	d_1 1)	l_1	
3	35	60			28	50			135
4	45	100			32	80			170
5	50	100			38	80			195
6			50	100			38	80	195
7	60	135			50	110			210
8			60	135			50	110	210
9	75	140			60	140			240
10			75	140			60	140	240
11	90	165			70	140			275
12			90	165			70	140	275

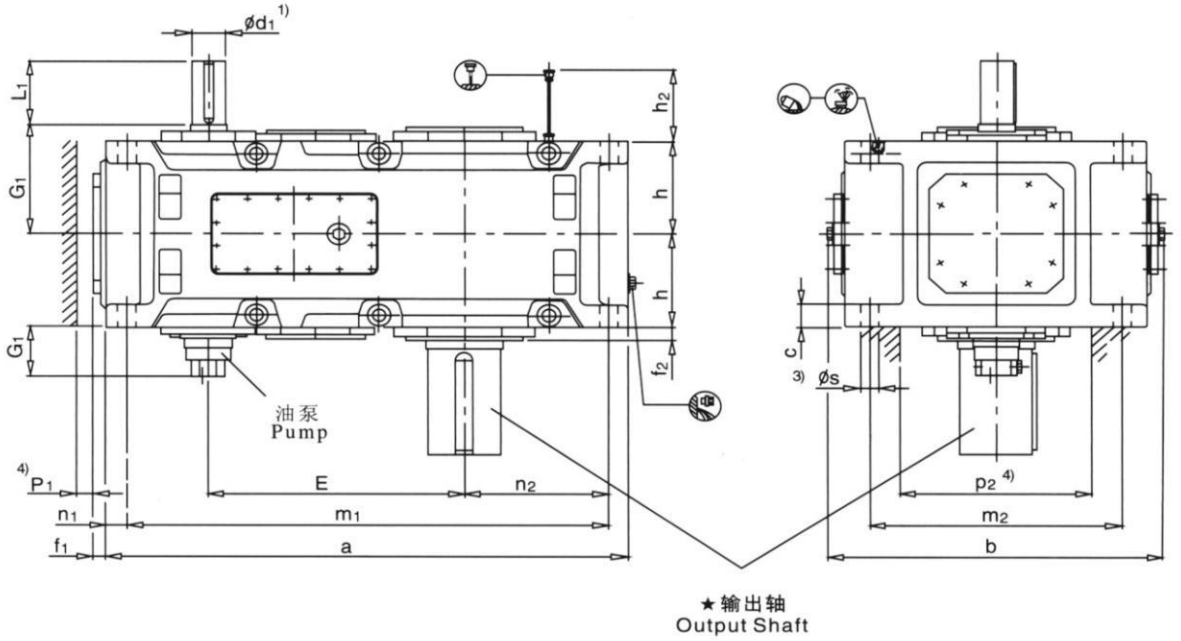
规格 Size	尺寸 mm Dimension sin mm									
	齿轮箱 Gear housing									
	a	b_1	c	e_4	e_5	e_6	E	f_1	f_2	f_3
3	450	150	24 ± 1	175	185	290	220	28	20	–
4	565	150	30 ± 1	200	215	320	270	28	22	–
5	640	240	30 ± 1	230	252	385	315	38	28	150
6	720	240	30 ± 1	230	252	425	350	38	28	150
7	785	240	36 ± 1	280	292	425	385	42	30	145
8	890	240	36 ± 1	280	302	485	430	42	32	145
9	925	330	45 ± 1.5	320	342	560	450	42	32	135
10	1025	330	45 ± 1.5	320	342	610	500	42	32	135
11	1105	330	54 ± 1.5	380	402	595	545	48	35	145
12	1260	330	54 ± 1.5	380	410	680	615	48	35	145

规格 Size	尺寸 mm Dimension sin mm										
	齿轮箱 Gear housing										
	h	h_1	h_2	h_3	m_1	m_2	n_1	n_2	p_1 4)	p_2 4)	s
3	95	165	–	180	410	265	20	125	35	210	18
4	107.5	165	–	180	505	300	30	160	35	220	24
5	127.5	205	190	240	580	360	30	175	35	270	24
6	127.5	205	190	240	660	360	30	220	35	270	24
7	150	205	165	250	715	430	35	215	35	330	28
8	150	205	165	250	820	430	35	275	35	330	28
9	185	275	205	330	845	490	40	260	40	370	36
10	185	275	205	330	945	490	40	310	40	370	36
11	215	275	240	340	1005	600	50	295	50	440	40
12	215	275	240	340	1160	600	50	380	50	440	40

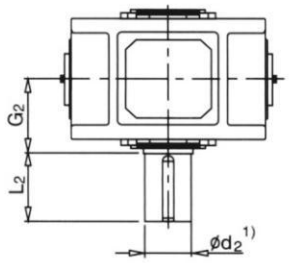
规格 Size	尺寸 mm Dimension sin mm									润滑油 Lubrication		重量 Weighy (kg)
	输出轴 Output shaft									浸油润滑 Dip labrication (l)	强制润滑 Forced labrication (l)	
	FSH2SV			FSH2HV		FSH2DV						
	d_2 1)	G_2	l_2	D_2 2)	G_4	D_3	D_4	G_4	G_5			
3	65	125	140	65	125	70	70	125	180	14	–	115
4	80	140	170	80	140	85	85	140	205	25	–	190
5	100	165	210	95	165	100	100	165	240	23	10	300
6	100	165	210	105	165	110	110	165	240	27	11	355
7	120	195	210	115	195	120	120	195	280	58	22	505
8	130	195	250	125	195	130	130	195	285	62	25	590
9	140	235	250	135	235	140	145	235	330	100	42	830
10	160	235	300	150	235	150	155	235	350	110	46	960
11	170	270	300	165	270	165	170	270	400	160	60	1335
12	180	270	300	180	270	180	185	270	405	180	70	1615

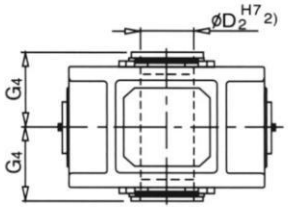
平行轴齿轮箱 Helical Gear Units
二级传动 Two stage
立式安装 Vertical
类 型 **FSH2.V Type FSH2.V**
规 格 **13...18 sizes 13...18**

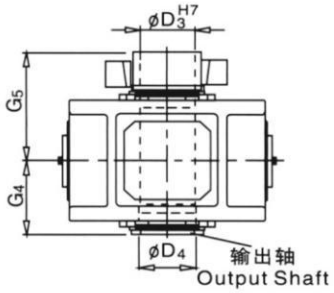
FSH2SV FSH2HV FSH2DV
采用强制润滑
With forced librication



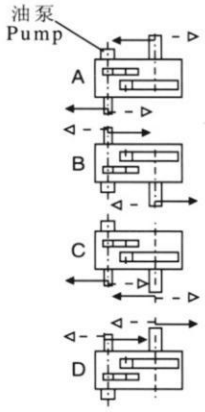
★输出轴			布置形式 Design
FSH2SV 实心轴 Solid shaft	**FSH2HV** 5) 空心轴 Hollow shaft	**FSH2DV** 5) 带胀紧盘的空心轴 Hollow shaft for shrink disk	







布置形式 A + D 根据用户要求供货
Design A&D on request



1）$m_6 \leq \varnothing 100$ $n_6 > \varnothing 100$
有关平键中心孔，参见第Ⅲ页
2）键槽 GB/T1095-1979
3）扭力支撑位于工作机侧
4）有关油泵、油管的护盖的安装空间及确切尺寸，请与我们联系
5）规格13和15号减速比只有in=6.3-18；规格17号；
减速比只有in=6.3-16

1) $m_6 \leq \varnothing 100$ $n_6 > \varnothing 100$
For Parallel key DIN 6885/1B and for centre hole,see page Ⅲ
2) Keyway GB/T1095-1979
3) Torque support on driven machine side
4) Space for pump,pipes and cover;
For exact dimensions,please to us.
5) Sizes13and15;only in=6.3-18:sizes17and17;
only in=6.3-16

平行轴齿轮箱 Helical Gear Units
二级传动 Two stage
立式安装 Vertical
类 型 FSH2.V Type FSH2.V
规 格 3...18 sizes 3...18

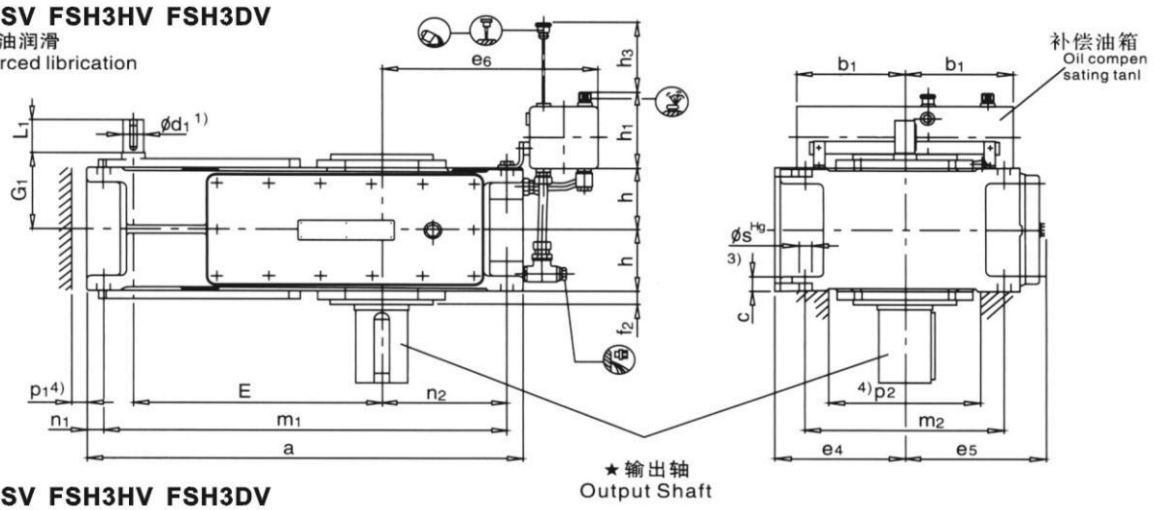
规格 Size	尺寸 mm Dimension sin mm												
	输入轴 Input shaft												
	i_N=6.3-11.2		i_N=7.1-12.5		i_N=8-14		i_N=12.5-20		i_N=14-22.4		i_N=16-25		G_1
	d_1 1)	l_1	d_1 1)	l_1	d_1 1)	l_1	d_1 1)	l_1	d_1 1)	l_1	d_1 1)	l_1	
13	100	205					85	170					330
14					100	205					85	170	330
15	120	210					100	210					365
16			120	210					100	210			365
17	125	245					110	210					420
18			125	245					110	210			420
19						根据用户要求 供货 on request							
20													
21													
22													

规格 Size	尺寸 mm Dimension sin mm															
	齿轮箱 Gear housing															
	a	b	c	E	f_1	f_2	f_3	h	h_2	m_1	m_2	n_1	n_2	p_1 4)	p_2 4)	s
13	1290	900	61 ± 2	635	53	35	130	272.5	300	1195	680	50	360	50	500	48
14	1430	900	61 ± 2	705	53	35	130	272.5	300	1335	680	50	430	50	500	48
15	1550	980	72 ± 2	762	63	42	130	310	340	1435	750	60	430	50	570	55
16	1640	980	72 ± 2	808	63	42	130	310	340	1525	750	60	475	50	570	55
17	1740	1110	81 ± 2	860	60	42	170	340	374	1610	850	70	465	70	630	55
18	1860	1110	81 ± 2	920	60	42	170	340	374	1730	850	70	525	70	630	55
19							根据用户要求 供货 on request									
20																
21																
22																

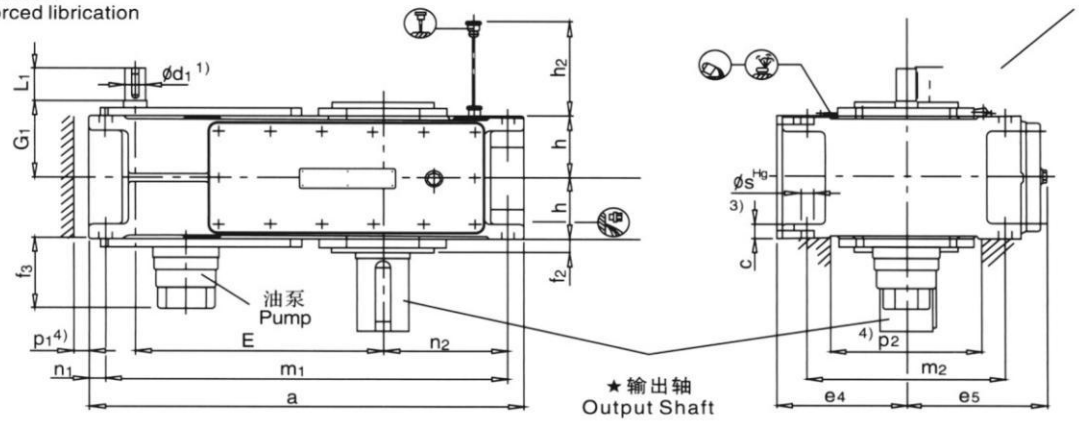
规格 Size	尺寸 mm Dimension sin mm									润滑油 Lubrication (l)	重量 Weighy (kg)
	输出轴 Output shaft										
	FSH2SV			FSH2HV 5)		FSH2DV 5)					
	d_2 1)	G_2	l_2	D_2 2)	G_4	D_3	D_4	G_4	G_5		
13	200	335	350	190	335	190	195	335	480	80	1880
14	210	335	350	210	335	210	215	335	480	90	2430
15	230	380	410	230	380	230	235	380	550	140	3240
16	240	380	410	240	380	240	245	380	550	150	3465
17	250	415	410	250	415	250	260	415	600	175	4420
18	270	415	470	275	415	280	285	415	600	185	4870
19					根据用户要求 供货 on request						
20											
21											
22											

平行轴齿轮箱 Helical Gear Units
三级传动 Three stage
立式安装 Vertical
类 型 FSH3.V Type FSH3.V
规 格 5...12 sizes 5...12

FSH3SV FSH3HV FSH3DV
采用浸油润滑
With forced librication

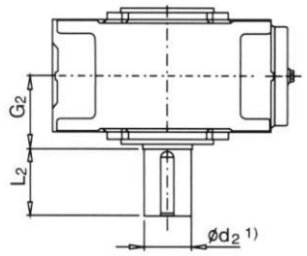


FSH3SV FSH3HV FSH3DV
采用强制润滑
With forced librication

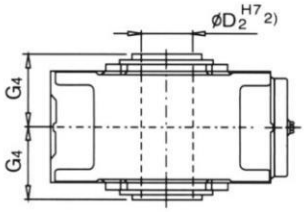


★输出轴
Output Shaft

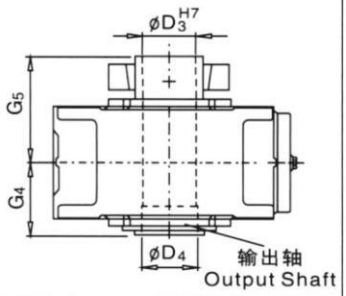
FSH3SV
实心轴 Solid shaft



FSH3HV
空心轴 Hollow shaft

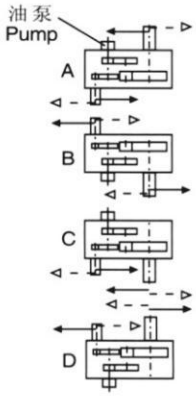


FSH3DV
带胀紧盘的空心轴
Hollow shaft for shrink disk



布置形式 A + D 根据用户要求供货
Design A&D on request

布置形式 Design



1) k6≤Ø24 Ø26≥m6≤Ø 100 n6> Ø 100
有关平键和中心孔，参见第Ⅲ页
2) 键槽 GB/T1095-1979
3) 扭力支撑位于工作机侧
4) 有关油泵、油管的护盖的安装空间及确切尺寸，请与我们联系

1) k6≤Ø24 26≥Ø m6≤Ø100 n6> Ø 100
For Parallel key and for centre hole,see page Ⅲ
2) Keyway GB/T1095-1979
3) Torque support on driven machine side
4) Space for pump,pipes and cover;
For exact dimensions,please to us.

平行轴齿轮箱 Helical Gear Units
三级传动 Three stage
立式安装 Vertical
类 型 FSH3.V Type FSH3.V
规 格 5...12 sizes 5...12

规格 Size	尺寸 mm Dimension sin mm												
	输入轴 Input shaft												
	i_N=25-45		i_N=31.5-56		i_N=50-63		i_N=63-80		i_N=71-90		i_N=90-112		G_1
	d_1 1)	l_1	d_1 1)	l_1	d_1 1)	l_1	d_1 1)	l_1	d_1 1)	l_1	d_1 1)	l_1	
5	40	70			30	50			24	40			160
6			40	70			30	50			24	40	160
7	45	80			35	60			28	50			185
8			45	80			35	60			28	50	185
9	60	125			45	100			32	80			230
10			60	125			45	100			32	80	230
11	70	120			50	80			42	70			255
12			70	120			50	80			42	70	255

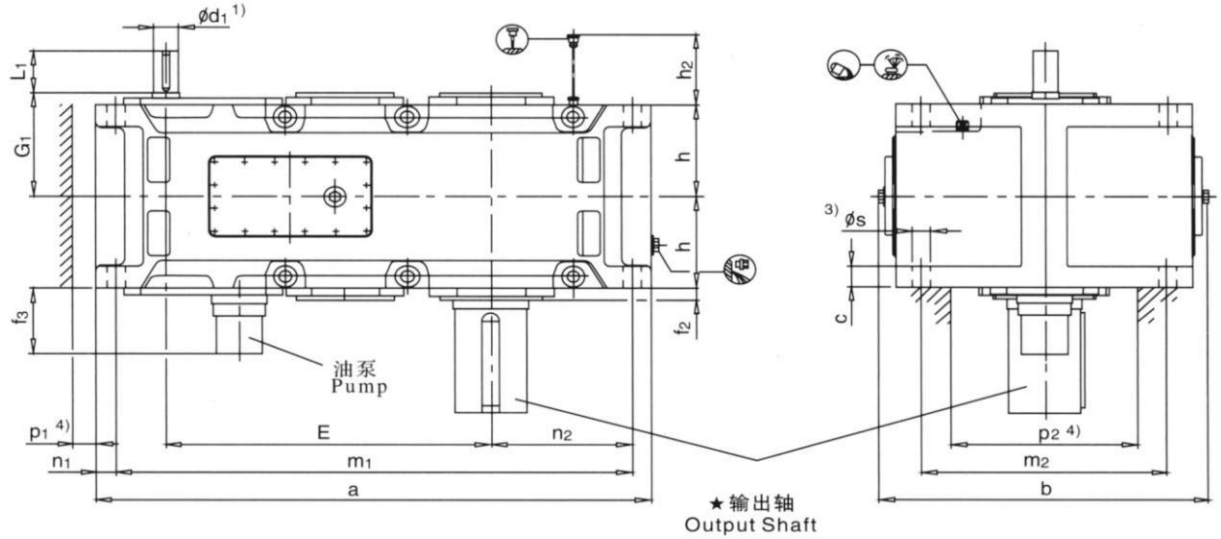
规格 Size	尺寸 mm Dimension sin mm									
	齿轮箱 Gear housing									
	a	b_1	c	e_4	e_5	e_6	E	f_2	f_3	h
5	690	240	30 ± 1	230	252	385	405	28	190	127.5
6	770	240	30 ± 1	230	252	425	440	28	190	127.5
7	845	240	36 ± 1	280	292	425	495	30	185	150
8	950	240	36 ± 1	280	312	485	540	32	185	150
9	1000	330	45 ± 1.5	320	342	560	580	32	170	185
10	1100	330	45 ± 1.5	320	342	610	630	32	170	185
11	1200	330	54 ± 1.5	380	402	595	705	35	170	215
12	1355	330	54 ± 1.5	380	410	680	775	35	170	215

规格 Size	尺寸 mm Dimension sin mm									
	齿轮箱 Gear housing									
	h_1	h_2	h_3	m_1	m_2	n_1	n_2	p_1 4)	p_2 4)	s
5	205	190	240	630	360	30	175	35	270	24
6	205	190	240	710	360	30	220	35	270	24
7	205	165	250	775	430	35	215	35	330	28
8	205	165	250	880	430	35	275	35	330	28
9	275	205	330	920	490	40	260	40	370	36
10	275	205	330	1020	490	40	310	40	370	36
11	275	240	340	1100	600	50	295	50	440	40
12	275	240	340	1255	600	50	380	50	440	40

规格 Size	尺寸 mm Dimension sin mm									润滑油 Lubrication		重量 Weighy (kg)
	输出轴 Output shaft									浸油润滑 Dip labrication (l)	强制润滑 Forced labrication (l)	
	FSH3SV			FSH3HV		FSH3DV						
	d_2 1)	G_2	l_2	D_2 2)	G_4	D_3	D_4	G_4	G_5			
5	100	165	210	95	165	100	100	165	240	35	13	320
6	110	165	210	105	165	110	110	165	240	37	15	365
7	120	195	210	115	195	120	120	195	280	60	25	540
8	130	195	250	125	195	130	130	195	285	72	30	625
9	140	235	250	135	235	140	145	235	330	100	40	875
10	160	235	300	150	235	150	155	235	350	110	45	1020
11	170	270	300	165	270	165	170	270	400	170	66	1400
12	180	270	300	180	270	180	185	270	405	190	75	1675

平行轴齿轮箱 Helical Gear Units
三级传动 Three stage
立式安装 Vertical
类 型 **FSH3.V Type FSH3.V**
规 格 **13...18 sizes 13...18**

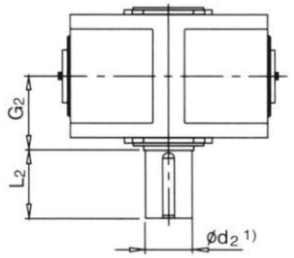
FSH3SV FSH3HV FSH3DV
采用强制润滑
With forced lubrication



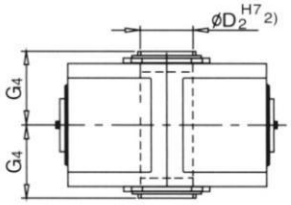
★输出轴
Output Shaft

布置形式 Design

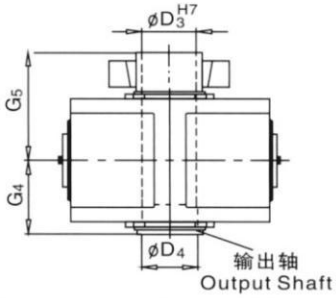
FSH3SV
实心轴 Solid shaft



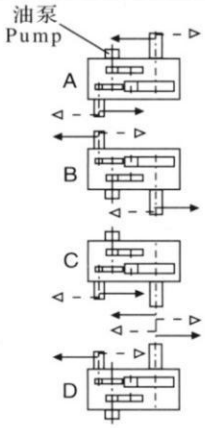
FSH3HV
空心轴 Hollow shaft



FSH3DV
带胀紧盘的空心轴
Hollow shaft for shrink disk



布置形式 **A + D** 根据用户要求供货
Design A&D on request



1）m6≤Ø100 n6> Ø 100
有关平键和中心孔，参见第Ⅲ页
2）键槽 GB/T1095-1979
3）扭力支撑位于工作机侧
4）有关油泵、油管的护盖的安装空间及确切尺寸，请与我们联系

1) $m_6 \leq Ø\,100$ $n_6 > Ø\,100$
For Parallel key and for centre hole,see page Ⅲ
2) Keyway GB/T1095-1979
3) Torque support on driven machine side
4) Space for pump,pipes and cover;
For exact dimensions,please to us.

平行轴齿轮箱 Helical Gear Units
三级传动 Three stage
立式安装 Vertical
类 型 FSH3.V Type FSH3.V
规 格 13...18 sizes 13...18

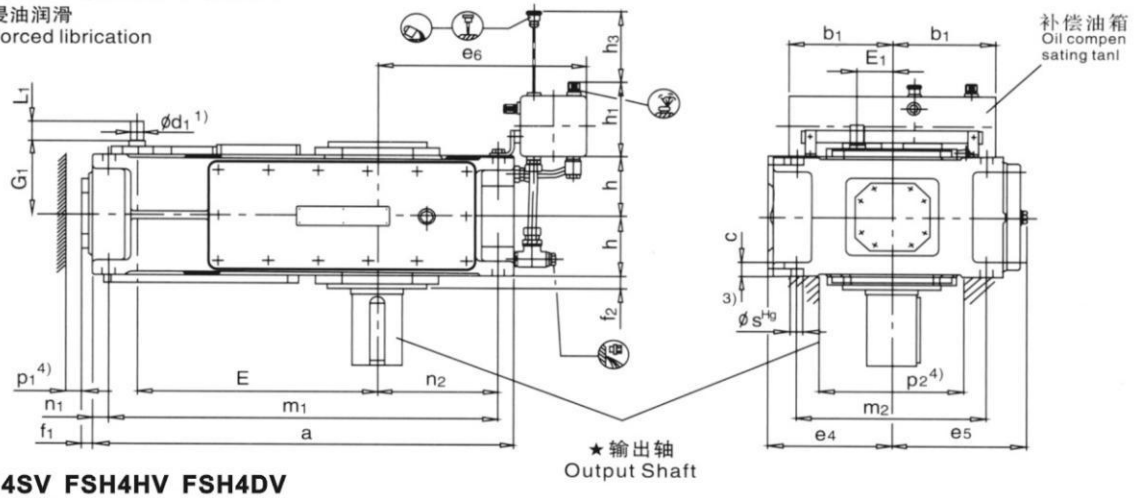
规格 Size	尺寸 mm Dimension sin mm																		
	输入轴 Input shaft																		
	i_N=22.4-45		i_N=25-50		i_N=28-56		i_N=50-63		i_N=56-71		i_N=63-80		i_N=71-90		i_N=80-100		i_N=90-112		G_1
	d_1 1)	l_1	d_1 1)	l_1	d_1 1)	l_1	d_1 1)	l_1	d_1 1)	l_1	d_1 1)	l_1	d_1 1)	l_1	d_1 1)	l_1	d_1 1)	l_1	
13	85	160					60	135					50	110					310
14					85	160					60	135					50	110	310
15	100	200					75	140					60	140					350
16			100	200					75	140					60	140			350
17	100	200					75	140					60	140					380
18			100	200					75	140					60	140			380
19								根据用户要求 供货 on request											
20																			
21																			
22																			

规格 Size	尺寸 mm Dimension sin mm														
	齿轮箱 Gear housing														
	a	b	c	E	f_2	f_3	h	h_2	m_1	m_2	n_1	n_2	p_1 4)	p_2 4)	s
13	1395	900	61±2	820	35	170	272.5	300	1300	680	50	360	50	500	48
14	1535	900	61±2	890	35	170	272.5	300	1440	680	50	430	50	500	48
15	1680	980	72±2	987	42	170	310	340	1565	750	60	430	50	570	55
16	1770	980	72±2	1033	42	170	310	340	1655	750	60	475	50	570	55
17	1770	1110	81±2	1035	42	210	340	374	1640	850	70	465	70	630	55
18	1890	1110	81±2	1095	42	210	340	374	1760	850	70	525	70	630	55
19						根据用户要求 供货 on request									
20															
21															
22															

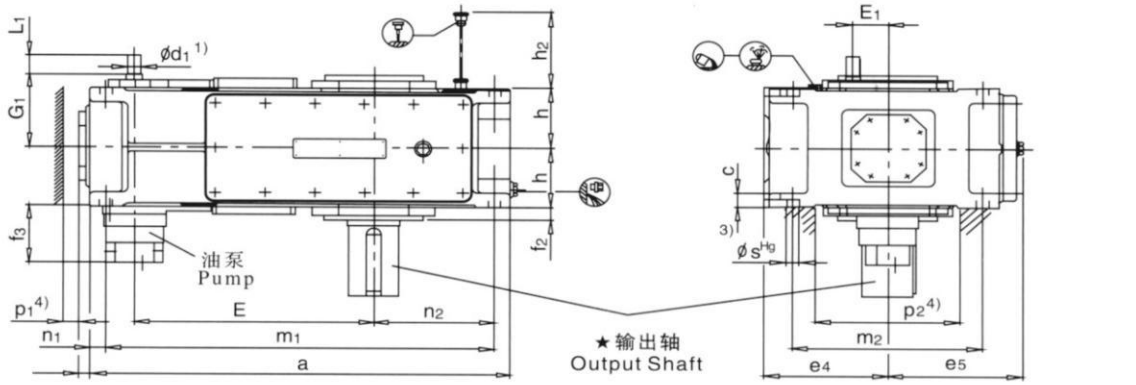
规格 Size	尺寸 mm Dimension sin mm									润滑油 Lubrication (l)	重量 Weighy (kg)
	输出轴 Output shaft										
	FSH3SV			FSH3HV		FSH3DV					
	d_2 1)	G_2	l_2	D_2 2)	G_4	D_3	D_4	G_4	G_5		
13	200	335	350	190	335	190	195	335	480	115	2155
14	210	335	350	210	335	210	215	335	480	126	2490
15	230	380	410	230	380	230	235	380	550	180	3260
16	240	380	410	240	380	240	245	380	550	190	3625
17	250	415	410	250	415	250	260	415	600	190	4250
18	270	415	470	275	415	280	285	415	600	200	4740
19					根据用户要求 供货 on request						
20											
21											
22											

平行轴齿轮箱 Helical Gear Units
四级传动 Four stage
立式安装 Vertical
类 型 **FSH4.V Type FSH4.V**
规 格 **7...12 sizes 7...12**

FSH4SV FSH4HV FSH4DV
采用浸油润滑
With forced librication



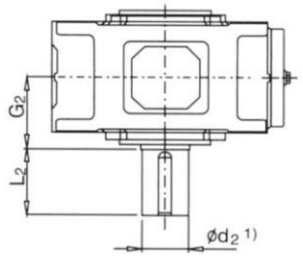
FSH4SV FSH4HV FSH4DV
采用强制润滑
With forced librication



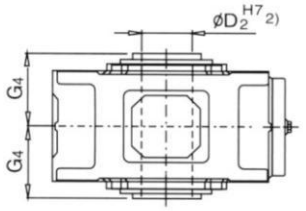
★输出轴
Output Shaft

布置形式 Design

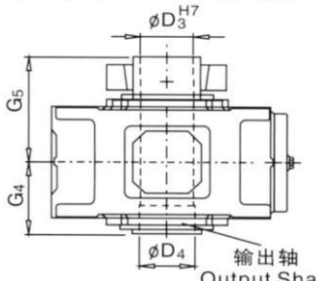
FSH4SV
实心轴 Solid shaft



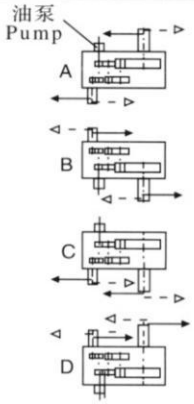
FSH4HV
空心轴 Hollow shaft



FSH4DV
带胀紧盘的空心轴
Hollow shaft for shrink disk



布置形式 **A + D** 根据用户要求供货
Design A&D on request



1）k6≤Ø24 Ø26≥m6≤Ø 100 n6> Ø 100
有关平键和中心孔，参见第Ⅲ页
2）键槽 GB/T1095-1979
3）扭力支撑位于工作机侧
4）有关油泵、油管的护盖的安装空间及确切尺寸，请与我们联系

1) k6≤Ø24 Ø26≥m6≤Ø100 n6> Ø 100
For Parallel key and for centre hole,see page Ⅲ
2) Keyway GB/T1095-1979
3) Torque support on driven machine side
4) Space for pump,pipes and cover;
For exact dimensions,please to us.

平行轴齿轮箱 Helical Gear Units
四级传动 Four stage
立式安装 Vertical
类 型 FSH4.V Type FSH4.V
规 格 7...12 sizes 7...12

规格 Size	尺寸 mm Dimension sin mm								
	输入轴 Input shaft								
	i_N=100-180		i_N=125-224		i_N=200-355		i_N=250-450		G_1
	d_1 1)	l_1	d_1 1)	l_1	d_1 1)	l_1	d_1 1)	l_1	
7	30	50			24	40			180
8			30	50			24	40	180
9	35	60			28	50			215
10			35	60			28	50	215
11	45	100			32	80			250
12			45	100			32	80	250

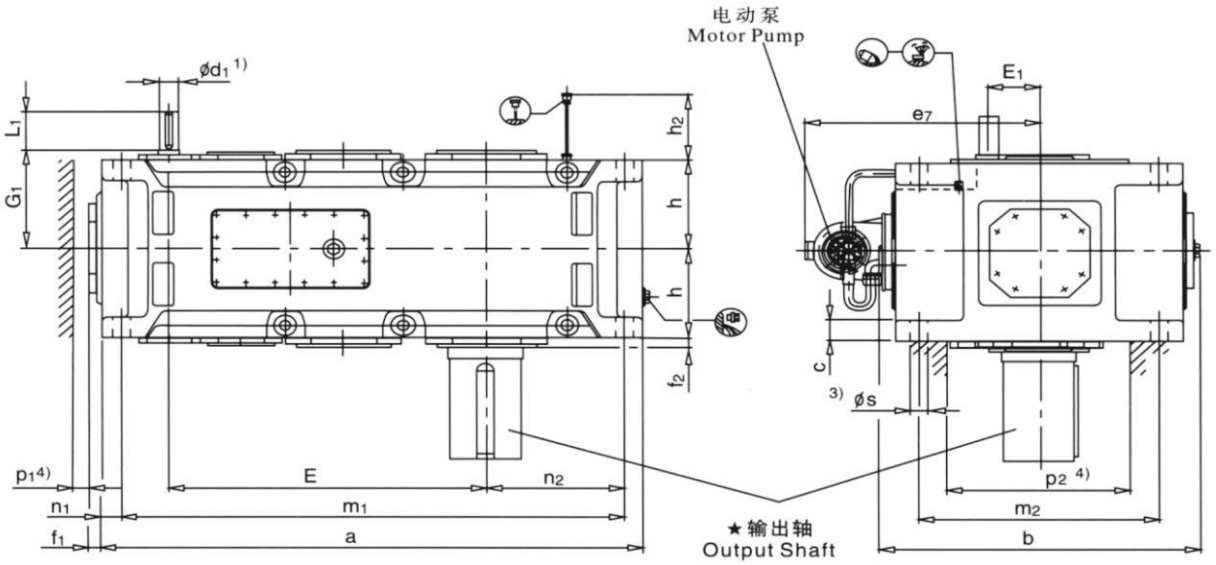
规格 Size	尺寸 mm Dimension sin mm										
	齿轮箱 Gear housing										
	a	b_1	c	e_4	e_5	e_6	E	E_1	f_1	f_2	f_3
7	845	240	36±1	280	292	425	495	80	37	30	160
8	950	240	36±1	280	302	485	540	80	37	32	160
9	1000	330	45±1.5	320	342	560	580	90	43	32	170
10	1100	330	45±1.5	320	342	610	630	90	43	32	170
11	1200	330	54±1.5	380	402	595	705	110	47	35	170
12	1355	330	54±1.5	380	410	680	775	110	47	35	170

规格 Size	尺寸 mm Dimension sin mm										
	齿轮箱 Gear housing										
	h	h_1	h_2	h_3	m_1	m_2	n_1	n_2	p_1 4)	p_2 4)	s
7	150	205	165	250	775	430	35	215	35	330	28
8	150	205	165	250	880	430	35	275	35	330	28
9	185	275	205	330	920	490	40	260	40	370	36
10	185	275	205	330	1020	490	40	310	40	370	36
11	215	275	240	340	1100	600	50	295	50	440	40
12	215	275	240	340	1255	600	50	380	50	440	40

规格 Size	尺寸 mm Dimension sin mm									润滑油 Lubrication		重量 Weighy (kg)
	输出轴 Output shaft									浸油润滑 Dip labrication (l)	强制润滑 Forced labrication (l)	
	FSH4SV			FSH4HV		FSH4DV						
	d_2 1)	G_2	l_2	D_2 2)	G_4	D_3	D_4	G_4	G_5			
7	120	195	210	115	195	120	120	195	280	50	20	550
8	130	195	250	125	195	130	130	195	285	60	25	645
9	140	235	250	135	235	140	145	235	330	95	38	875
10	160	235	300	150	235	150	155	235	350	110	45	1010
11	170	270	300	165	270	165	170	270	400	165	65	1460
12	180	270	300	180	270	180	185	270	405	180	75	1725

平行轴齿轮箱 Helical Gear Units
四级传动 Four stage
立式安装 Vertical
类 型 **FSH4.V Type FSH4.V**
规 格 **13...18 sizes 13...18**

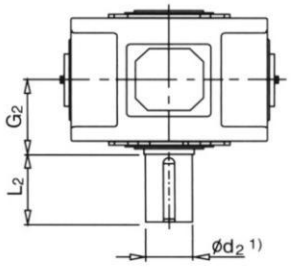
FSH4SV FSH4HV FSH4DV
采用强制润滑
With forced librication



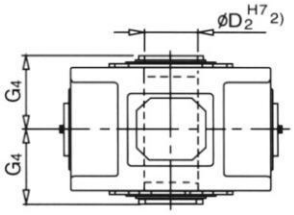
★输出轴
Output Shaft

布置形式 Design

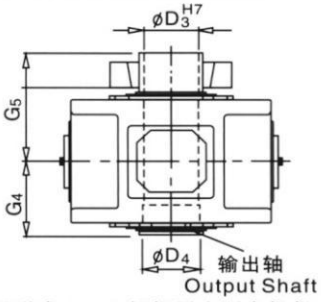
FSH4SV
实心轴 Solid shaft



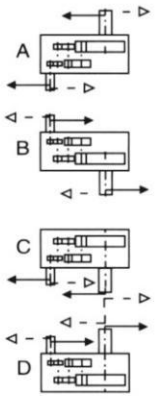
FSH4HV
空心轴 Hollow shaft



FSH4DV
带胀紧盘的空心轴
Hollow shaft for shrink disk



布置形式 **A + D** 根据用户要求供货
Design A&D on request



1）m6≤Ø100 n6>Ø100
有关平键和中心孔，参见第Ⅲ页
2）键槽 GB/T1095-1979
3）扭力支撑位于工作机侧
4）有关油泵、油管的护盖的安装空间及确切尺寸，请与我们联系

1) $m_6 \leq Ø 100$ $n_6 > Ø 100$
For Parallel key and for centre hole,see page Ⅲ
2) Keyway GB/T1095-1979
3) Torque support on driven machine side
4) Space for pump,pipes and cover;
For exact dimensions,please to us.

平行轴齿轮箱 Helical Gear Units
四级传动 Four stage
立式安装 Vertical
类 型 FSH4.V Type FSH4.V
规 格 13...18 sizes 13...18

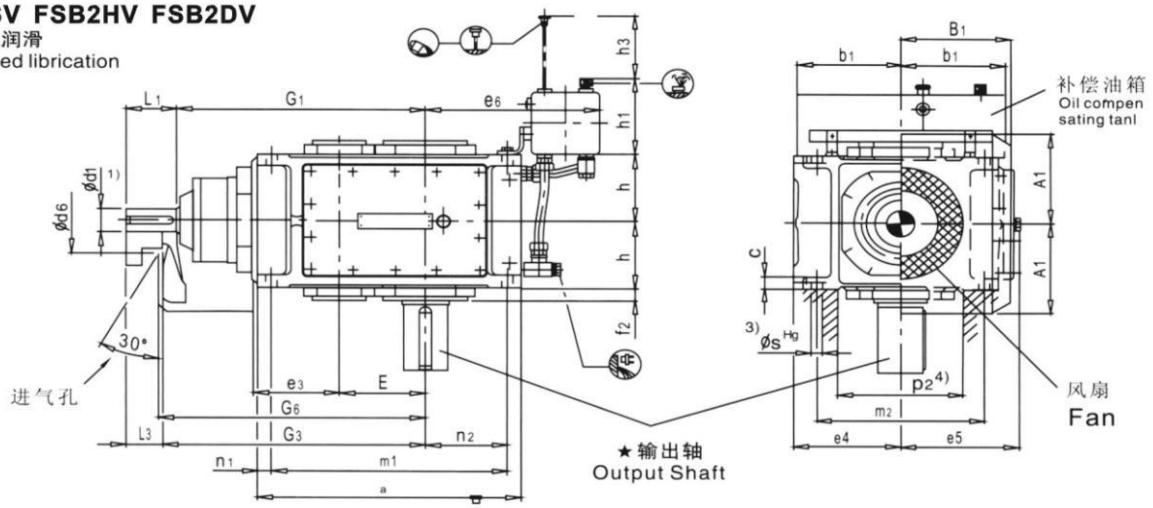
规格 Size	尺寸 mm Dimension sin mm												
	输入轴 Input shaft												
	i_N=100-180		i_N=112-200		i_N=125-224		i_N=200-355		i_N=224-400		i_N=250-450		G_1
	d_1 1)	l_1	d_1 1)	l_1	d_1 1)	l_1	d_1 1)	l_1	d_1 1)	l_1	d_1 1)	l_1	
13	50	100					38	80					305
14					50	100					38	80	305
15	60	135					50	110					345
16			60	135					50	110			345
17	60	105					50	80					380
18			60	105					50	80			380
19						根据用户要求 供货 on request							
20													
21													
22													

规格 Size	尺寸 mm Dimension sin mm																
	齿轮箱 Gear housing																
	a	b	c	e_7	E	E_1	f_1	f_2	h	h_2	m_1	m_2	n_1	n_2	p_1 4)	p_2 4)	s
13	1395	900	61±2	695	820	130	47	35	272.5	300	1300	680	50	360	50	500	48
14	1535	900	61±2	695	890	130	47	35	272.5	300	1440	680	50	430	50	500	48
15	1680	980	72±2	735	987	160	56	42	310	340	1565	750	60	430	50	570	55
16	1770	980	72±2	735	1033	160	56	42	310	340	1655	750	60	475	50	570	55
17	1770	1110	81±2	795	1035	160	53	42	340	374	1640	850	70	465	70	630	55
18	1890	1110	81±2	795	1095	160	53	42	340	374	1760	850	70	525	70	630	55
19								根据用户要求 供货 on request									
20																	
21																	
22																	

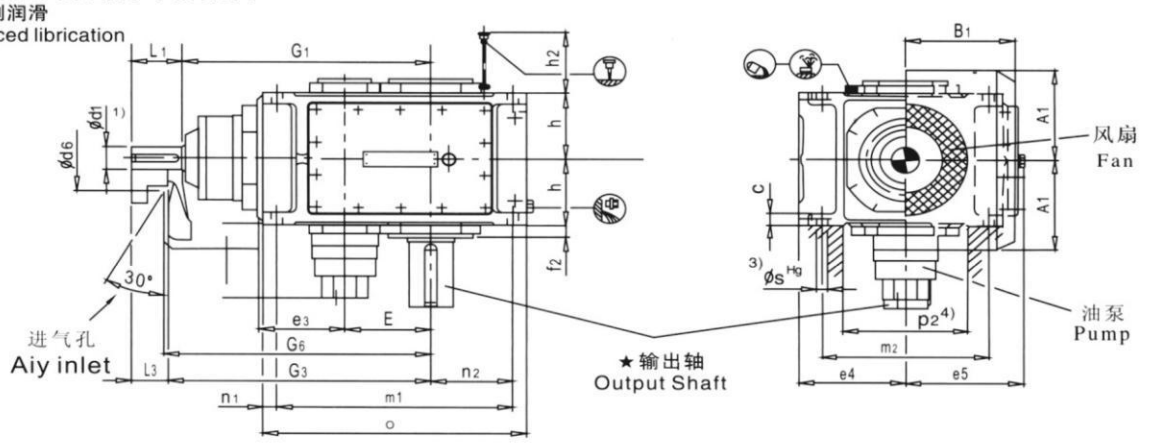
规格 Size	尺寸 mm Dimension sin mm									润滑油 Lubrication (l)	重量 Weighy (kg)
	输出轴 Output shaft										
	FSH4SV			FSH4HV		FSH4DV					
	d_2 1)	G_2	l_2	D_2 2)	G_4	D_3	D_4	G_4	G_5		
13	200	335	350	190	335	190	195	335	480	95	2270
14	210	335	350	210	335	210	215	335	480	105	2600
15	230	380	410	230	380	230	235	380	550	150	3440
16	240	380	410	240	380	240	245	380	550	160	3740
17	250	415	410	250	415	250	260	415	600	190	4445
18	270	415	470	275	415	280	285	415	600	200	4915
19					根据用户要求 供货 on request						
20											
21											
22											

直交轴齿轮箱 Bevel-helical Gear Units
二级传动 Two stage
立式安装 Vertical
类 型 FSB2.V Type FSB2.V
规 格 1...12 sizes 1...12

FSB2SV FSB2HV FSB2DV
采用浸油润滑
With forced lubrication



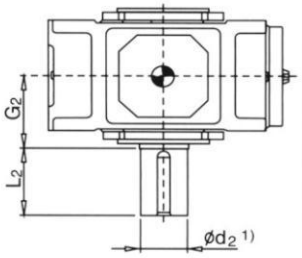
FSB2SV FSB2HV FSB2DV
采用强制润滑
With forced lubrication



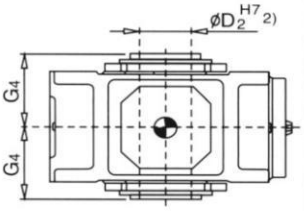
★输出轴
Output Shaft

布置形式 Design

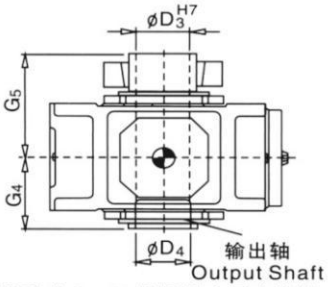
FSB2SV
实心轴 Solid shaft



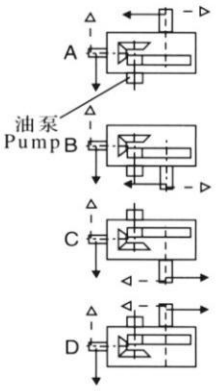
FSB2HV
空心轴 Hollow shaft



FSB2DV
带胀紧盘的空心轴
Hollow shaft for shrink disk



布置形式 **A + D** 根据用户要求供货
Design A&D on request



1）k6≤Ø25　　Ø26≥m6≤Ø100　　n6>Ø100
有关平键和中心孔，参见第Ⅲ页
2）键槽 GB/T1095-1979
3）扭力支撑位于工作机侧
4）有关油泵、油管的护盖的安装空间及确切尺寸，请与我们联系

1) k6≤Ø24　　Ø26≥m6≤Ø100　　n6> Ø100
For Parallel key and for centre hole,see page Ⅲ
2) Keyway GB/T1095-1979
3) Torque support on driven machine side
4) Space for pump,pipes and cover;
For exact dimensions,please to us.

直交轴齿轮箱 Bevel-helical Gear Units
二级传动 Two stage
立式安装 Vertical
类 型 FSB2.V Type FSB2.V
规 格 1...12 sizes 1...12

规格 Size	尺寸 mm Dimension sin mm										
	输入轴 Input shaft										
	iN=5-11.2			iN=6.3-14			iN=12.5-18			G1	G3
	d1 1)	l1	l3	d1 1)	l1	l3	d1 1)	l1	l3		
1	28	55	40				20	50	35	300	315
2	30	70	50				25	60	40	340	360
3	35	80	60				28	60	40	390	410
4	45	100	80							465	485
5	55	110	80							535	565
6				55	110	80				570	600
7	70	135	105							640	670
8				70	135	105				685	715
9	80	165	130							755	790
10				80	165	130				805	840
11	90	165	130							925	960
12				90	165	130				995	1030

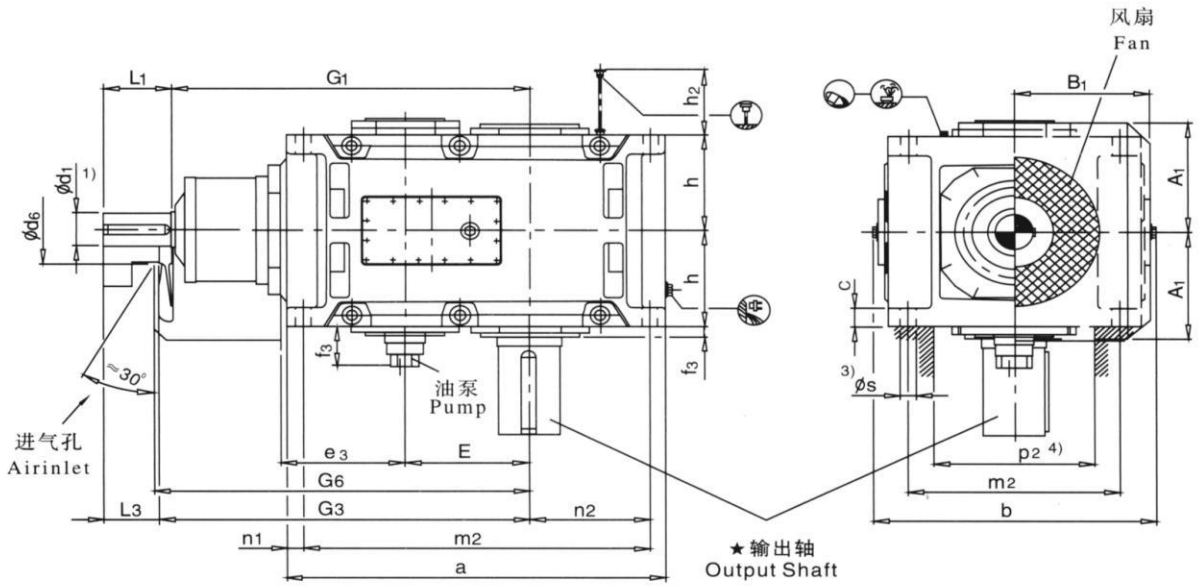
规格 Size	尺寸 mm Dimension sin mm											
	齿轮箱 Gear housing											
	a	A1	b1	B1	c	d6	e3	e4	e5	e6	E	f2
1	305	128	150	130	16±1	100	90	130	145	280	90	22
2	355	143	150	145	20±1	110	110	145	160	285	110	22
3	405	163	150	170	24±1	120	130	175	185	290	130	24
4	505	188	150	200	30±1	150	160	200	215	320	160	26
5	565	215	240	235	30±1	160	185	230	252	385	185	30
6	645	215	240	235	30±1	160	185	230	252	425	220	30
7	690	250	240	285	36±1	210	225	280	302	425	225	32
8	795	250	240	285	36±1	210	225	280	302	485	270	32
9	820	270	330	325	48±1.5	195	265	320	342	560	265	45
10	920	270	330	325	48±1.5	195	265	320	342	610	315	45
11	975	328	330	385	54±1.5	210	320	380	410	595	320	47
12	1130	328	330	385	54±1.5	210	320	380	410	680	390	47

规格 Size	尺寸 mm Dimension sin mm											
	齿轮箱 Gear housing											
	f3	G6	h	h1	h2	h3	m1	m2	n1	n2	p2 4)	s
1	–	325	90	165	–	170	275	210	15	115	150	12
2	–	370	102.5	165	–	170	315	230	20	120	170	14
3	–	420	112.5	165	–	180	365	265	20	130	200	18
4	–	495	135	165	–	180	445	300	30	160	220	24
5	190	575	160	205	245	240	505	360	30	175	270	24
6	190	610	160	205	245	240	585	360	30	220	270	24
7	200	685	190	205	220	250	620	430	35	215	330	28
8	200	730	190	205	220	250	725	430	35	275	330	28
9	200	805	220	275	250	330	740	490	40	260	370	36
10	200	855	220	275	250	330	840	490	40	310	370	36
11	200	980	265	275	300	340	875	600	50	295	440	40
12	200	1050	265	275	300	340	1030	600	50	380	440	40

规格 Size	尺寸 mm Dimension sin mm									润滑油 Lubrication		重量 Weighy (kg)
	输出轴 Output shaft									浸油润滑 Dip labrication (l)	强制润滑 Forced labrication (l)	
	FSB2SV			FSB2HV		FSB2DV						
	d2 1)	G2	l2	D2 2)	G4	D3	D4	G4	G5			
1	45	120	80	–	–	–	–	–	–	7	–	65
2	55	135	110	55	135	60	60	135	180	11	–	90
3	65	145	140	65	145	70	70	145	200	16	–	140
4	80	170	170	80	170	85	85	170	235	28	–	235
5	100	200	210	95	200	100	100	200	275	41	20	360
6	110	200	210	105	200	110	110	200	275	50	23	410
7	120	235	210	115	235	120	120	235	320	75	35	615
8	130	235	250	125	235	130	130	235	325	90	38	700
9	140	270	250	135	270	140	145	270	365	115	53	1000
10	160	270	300	150	270	150	155	270	385	135	60	1155
11	170	320	300	165	320	165	170	320	450	190	86	1640
12	180	320	300	180	320	180	185	320	455	215	95	1910

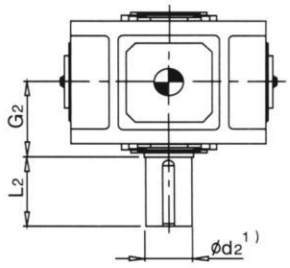
直交轴齿轮箱 Bevel-helical Gear Units
二级传动 Two stage
立式安装 Vertical
类 型 **FSB2.V Type FSB2.V**
规 格 **13...18 sizes 13...18**

FSB2SV FSB2HV FSB2DV
采用强制润滑
With forced librication

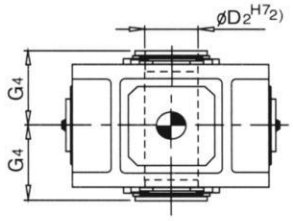


★输出轴
Output Shaft

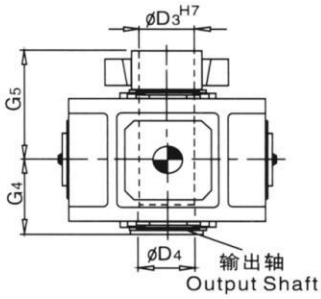
FSB2SV
实心轴 Solid shaft



FSB2HV
空心轴 Hollow shaft

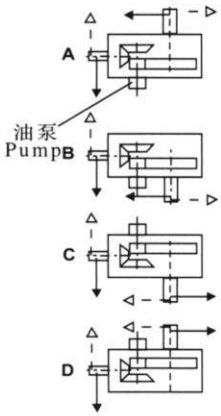


FSB2DV
带胀紧盘的空心轴
Hollow shaft for shrink disk



布置形式 **A+D** 根据用户要求供货
Design A&D on request

布置形式 Design



1）m6≤Ø100 n6>Ø100
有关平键和中心孔，参见第Ⅲ页
2）键槽GB/T1095-1979
3）扭力支撑位于工作机侧
4）有关油泵、油管的护盖的安装空间及确切尺寸，请与我们联系

1) $m_6 \leq Ø100$ $n_6 > Ø100$
For Parallel key and for centre hole,see page Ⅲ
2) Keyway GB/T1095-1979
3) Torque support on driven machine side
4) Space for pump,pipes and cover;
For exact dimensions,please to us.

直交轴齿轮箱 Bevel-helical Gear Units
二级传动 Two stage
立式安装 Vertical
类 型 **FSB2.V Type FSB2.V**
规 格 **13...18 sizes 13...18**

规格 Size	尺寸 mm Dimension sin mm																
	输入轴 Input shaft																
	iN=5-11.2			iN=5.6-11.2			iN=5.6-12.5			iN=6.3-14			iN=7.1-12.5			G1	G3
	d1 1)	l1	l3	d1 1)	l1	l3	d1 1)	l1	l3	d1 1)	l1	l3	d1 1)	l1	l3		
13	110	205	165													1070	1110
14										110	205	165				1140	1180
15	130	245	200													1277	1322
16							130	245	200							1323	1368
17				150	245	200										1435	1480
18													150	245	200	1495	1540

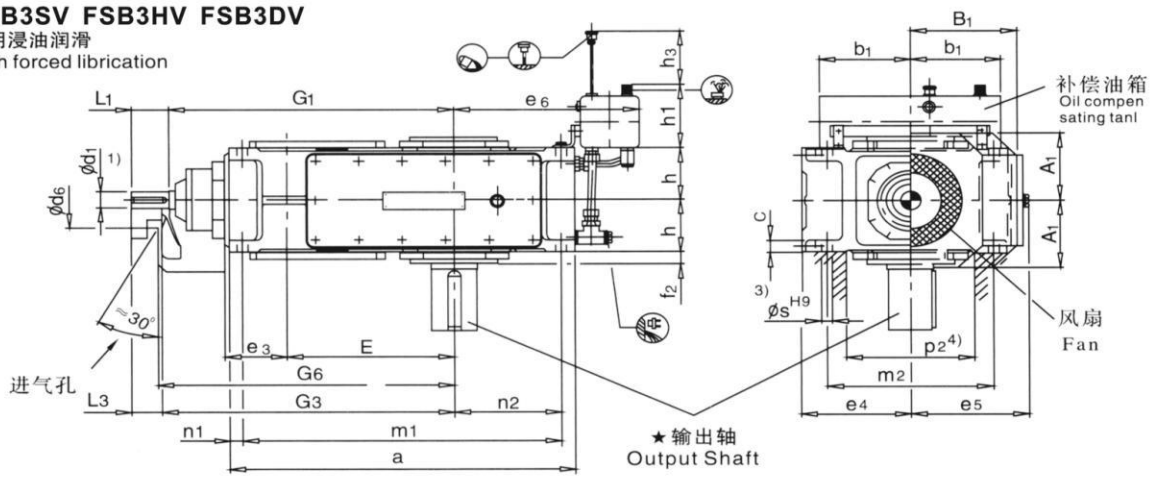
规格 Size	尺寸 mm Dimension sin mm									
	齿轮箱 Gear housing									
	a	A1	b	B1	c	d6	e3	E	f2	f3
13	1130	375	900	450	61±2	245	380	370	38	200
14	1270	375	900	450	61±2	245	380	440	45	200
15	1350	435	980	495	72±2	280	450	442	75	200
16	1440	435	980	495	72±2	280	450	488	75	200
17	1490	505	1110	555	81±2	380	510	490	98	200
18	1610	505	1110	555	81±2	380	510	550	98	200

规格 Size	尺寸 mm Dimension sin mm								
	齿轮箱 Gear housing								
	G6	h	h2	m1	m2	n1	n2	p2 4)	s
13	1130	325	350	1035	680	50	360	500	48
14	1200	325	350	1175	680	50	430	500	48
15	1340	380	430	1235	750	60	430	570	55
16	1385	380	430	1325	750	60	475	570	55
17	1500	437.5	480	1360	840	70	465	630	65
18	1560	437.5	480	1480	840	70	525	630	65

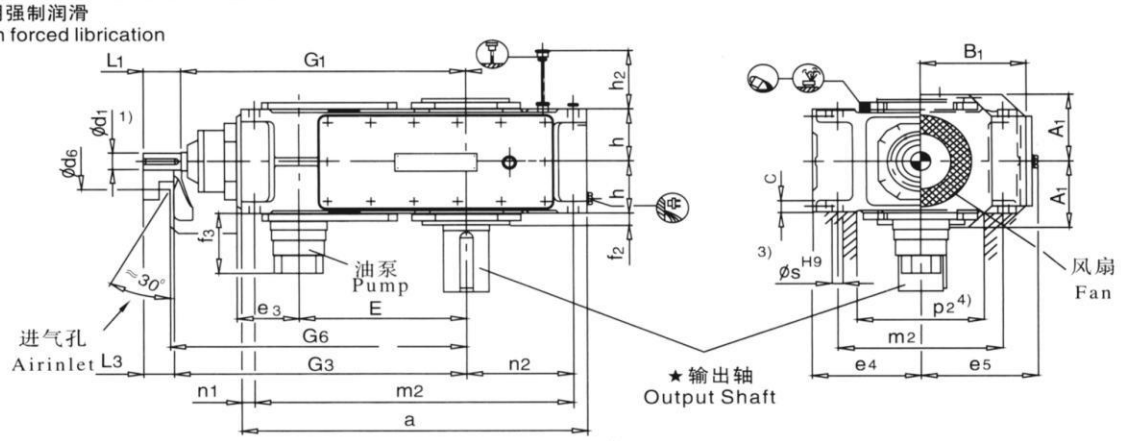
规格 Size	尺寸 mm Dimension sin mm									润滑油 Lubrication (l)	重量 Weighy (kg)
	输出轴 Output shaft										
	FSB2SV			**FSB2HV**		**FSB2DV**					
	d2 1)	G2	l2	D2 2)	G4	D3	D4	G4	G5		
13	200	390	350	–	–	–	–	–	–	100	2350
14	210	390	350	210	390	210	215	390	535	110	2725
15	230	460	410	–	–	–	–	–	–	145	3795
16	240	460	410	240	450	240	245	450	620	160	4160
17	250	540	410	–	–	–	–	–	–	210	5320
18	270	540	470	275	510	280	285	510	700	220	5860

直交轴齿轮箱 Bevel-helical Gear Units
三级传动 Three stage
立式安装 Vertical
类 型 **FSB3.V Type FSB3.V**
规 格 **3...12 sizes 3...12**

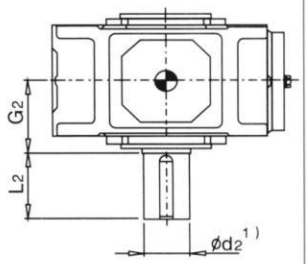
FSB3SV FSB3HV FSB3DV
采用浸油润滑
With forced libication

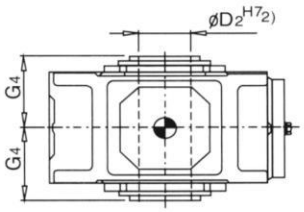


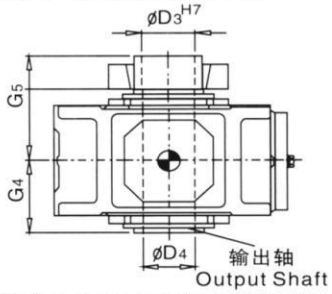
FSB3SV FSB3HV FSB3DV
采用强制润滑
With forced libication



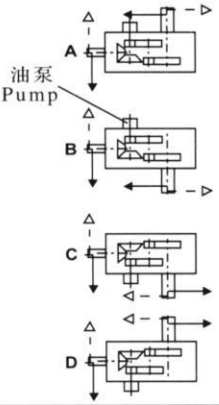
★输出轴 Output Shaft			布置形式 Design
FSB3SV 实心轴 Solid shaft	**FSB3HV** 空心轴 Hollow shaft	**FSB3DV** 带胀紧盘的空心轴 Hollow shaft for shrink disk	







布置形式 **A+D** 根据用户要求供货
Design A&D on request



1）m6≤Ø25　　Ø28≥n6≤Ø100　　n6>Ø100
有关平键和中心孔，参见第Ⅲ页
2）键槽 GB/T1095-1979
3）扭力支撑位于工作机侧
4）有关油泵、油管的护盖的安装空间及确切尺寸，请与我们联系

1) $m_6 \leq Ø100$　　$n_6 > Ø100$
For Parallel key and for centre hole,see page Ⅲ
2) Keyway GB/T1095-1979
3) Torque support on driven machine side
4) Space for pump,pipes and cover;
For exact dimensions,please to us.

直交轴齿轮箱 Bevel-helical Gear Units
三级传动 Three stage
立式安装 Vertical
类 型 **FSB3.V Type FSB3.V**
规 格 **3...12 sizes 3...12**

规格 Size	尺寸 mm Dimension sin mm																
	输入轴 Input shaft																
	iN=12.5-45			iN=16-56			iN=20-45			iN=50-71			iN=63-90			G1	G3
	d1 1)	l1	l3	d1 1)	l1	l3	d1 1)	l1	l3	d1 1)	l1	l3	d1 1)	l1	l3		
3							28	55	40	20	50	35				430	445
4	30	70	50							25	60	40				500	520
5	35	80	60							28	60	40				575	595
6				35	80	60							28	60	40	610	630
7	45	100	80							35	80	60				690	710
8				45	100	80							35	80	60	735	755
9	55	110	80							40	100	70				800	830
10				55	110	80							40	100	70	850	880
11	70	135	105							50	110	80				960	990
12				70	135	105							50	110	80	1030	1060

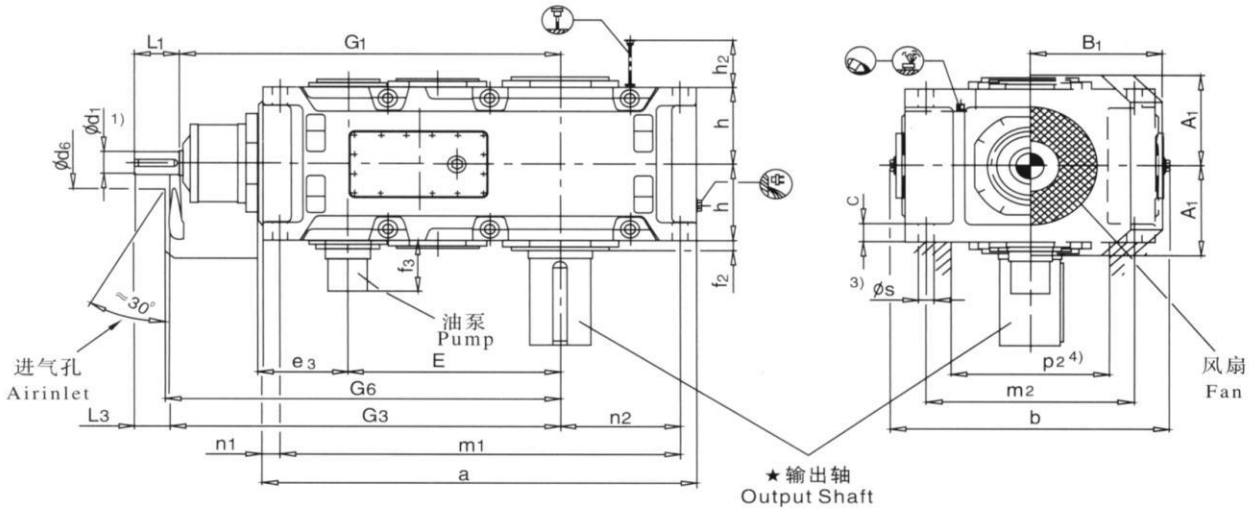
规格 Size	尺寸 mm Dimension sin mm											
	齿轮箱 Gear housing											
	a	A1	b1	B1	c	d6	e3	e4	e5	e6	E	f2
3	450	128	150	170	24±1	90	90	175	185	290	220	20
4	565	143	150	200	30±1	110	110	200	215	320	270	22
5	640	168	240	235	30±1	130	130	230	252	385	315	28
6	720	168	240	235	30±1	130	130	230	252	425	350	28
7	785	193	240	275	36±1	160	160	280	292	425	385	30
8	890	193	240	275	36±1	165	160	280	302	485	430	32
9	925	231	330	325	45±1.5	175	185	320	342	560	450	32
10	1025	231	330	325	45±1.5	175	185	320	342	610	500	32
11	1105	263	330	385	54±1.5	190	225	380	402	595	545	35
12	1260	263	330	385	54±1.5	190	225	380	410	680	615	35

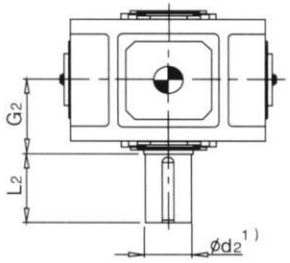
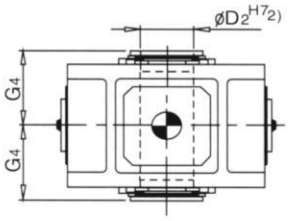
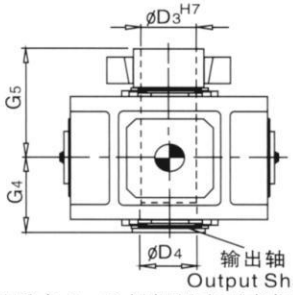
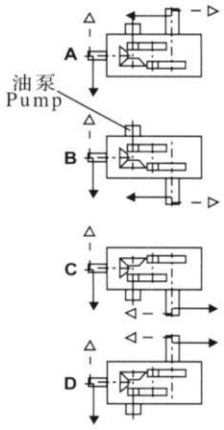
规格 Size	尺寸 mm Dimension sin mm											
	齿轮箱 Gear housing											
	f3	G6	h	h1	h2	h3	m1	m2	n1	n2	p2 4)	s
3	–	455	95	165	–	180	410	265	20	125	210	18
4	–	530	107.5	165	–	180	505	300	30	160	220	24
5	190	605	127.5	205	180	240	580	360	30	175	270	24
6	190	640	127.5	205	180	240	660	360	30	220	270	24
7	190	720	150	205	165	250	715	430	35	215	330	28
8	190	765	150	205	165	250	820	430	35	275	330	28
9	180	845	185	275	205	330	845	490	40	260	370	36
10	180	895	185	275	205	330	945	490	40	310	370	36
11	180	1010	215	275	240	340	1005	600	50	295	440	40
12	180	1080	215	275	240	340	1160	600	50	380	440	40

规格 Size	尺寸 mm Dimension sin mm									润滑油 Lubrication		重量 Weighy (kg)
	输出轴 Output shaft									浸油润滑 Dip labrication (l)	强制润滑 Forced labrication (l)	
	FSB3SV			FSB3HV		FSB3DV						
	d2 1)	G2	l2	D2 2)	G4	D3	D4	G4	G5			
3	65	125	140	65	125	70	70	125	180	15	–	130
4	80	140	170	80	140	85	85	140	205	28	–	210
5	100	165	210	95	165	100	100	165	240	32	12	325
6	110	165	210	105	165	110	110	165	240	35	13	380
7	120	195	210	115	195	120	120	195	280	52	22	550
8	130	195	250	125	195	130	130	195	285	67	28	635
9	140	235	250	135	235	140	145	235	330	115	48	890
10	160	235	300	150	235	150	155	235	350	125	53	1020
11	170	270	300	165	270	165	170	270	400	180	75	1455
12	180	270	300	180	270	180	185	270	405	200	85	1730

直交轴齿轮箱 Bevel-helical Gear Units
三级传动 Three stage
立式安装 Vertical
类 型 **FSB3.V Type FSB3.V**
规 格 **13...18 sizes 13...18**

FSB3SV FSB3HV FSB3DV
采用强制润滑
With forced lubrication



★输出轴 Output Shaft			布置形式 Design
FSB3SV 实心轴 Solid shaft	**FSB3HV** 空心轴 Hollow shaft	**FSB3DV** 带胀紧盘的空心轴 Hollow shaft for shrink disk	
		 布置形式 A +D 根据用户要求供货 Design A&D on request	

1）m6≤Ø100 n6>Ø100
有关平键和中心孔，参见第Ⅲ页
2）键槽 GB/T1095-1979
3）扭力支撑位于工作机侧
4）有关油泵、油管的护盖的安装空间及确切尺寸，请与我们联系

1) $m_6 \leq Ø100$ $n_6 > Ø100$
For Parallel key and for centre hole,see page Ⅲ
2) Keyway GB/T1095-1979
3) Torque support on driven machine side
4) Space for pump,pipes and cover;
For exact dimensions,please to us.

直交轴齿轮箱 Bevel-helical Gear Units
三级传动 Three stage
立式安装 Vertical
类 型 FSB3.V Type FSB3.V
规 格 13...18 sizes 13...18

规格 Size	尺寸 mm Dimension sin mm																			
	输入轴 Input shaft																			
	iN=12.5-45			iN=14-50			iN=16-56			iN=50-71			iN=56-80			iN=63-90			G1	G3
	d1 1)	l1	l3	d1 1)	l1	l3	d1 1)	l1	l3	d1 1)	l1	l3	d1 1)	l1	l3	d1 1)	l1	l3		
13	80	165	130							60	140	105							1125	1160
14							80	165	130							60	140	105	1195	1230
15	90	165	130							70	140	105							1367	1402
16				90	165	130							70	140	105				1413	1448
17	110	205	165							80	170	130							1560	1600
18				110	205	165							80	170	130				1620	1660
19									根据用户要求 供货 on request											
20																				
21																				
22																				

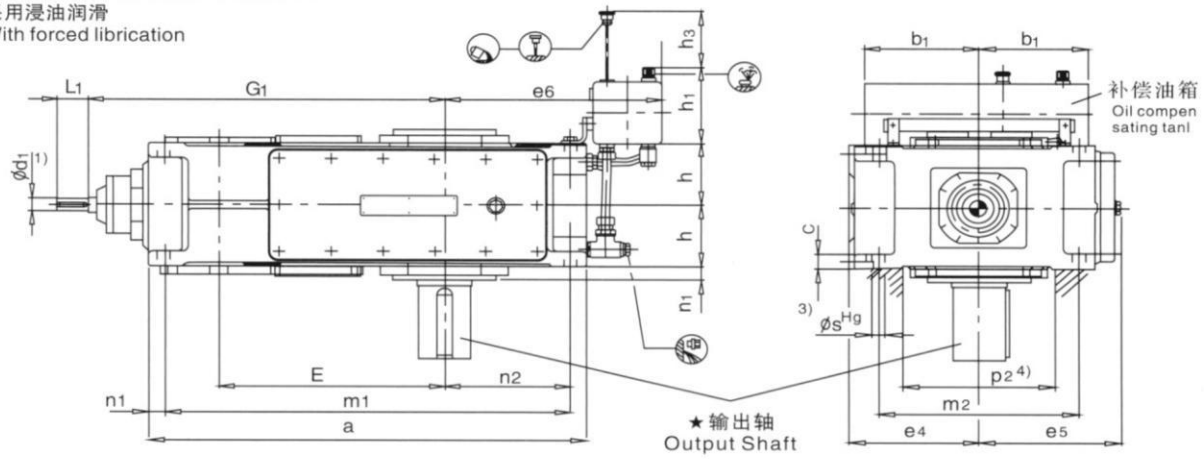
规格 Size	尺寸 mm Dimension sin mm									
	齿轮箱 Gear housing									
	a	A1	b	B1	c	d6	e3	E	f2	f3
13	1290	325	900	475	61±2	210	265	635	35	170
14	1430	325	900	475	61±2	210	265	705	35	170
15	1550	365	980	520	72±2	210	320	762	42	170
16	1640	365	980	520	72±2	210	320	808	42	170
17	1740	395	1110	570	81±2	230	370	860	42	170
18	1860	395	1110	570	81±2	230	370	920	42	170
19					根据用户要求 供货 on request					
20										
21										
22										

规格 Size	尺寸 mm Dimension sin mm								
	齿轮箱 Gear housing								
	G6	h	h2	m1	m2	n1	n2	p2 4)	s
13	1180	272.5	300	1195	680	50	360	500	48
14	1250	272.5	300	1335	680	50	430	500	48
15	1420	310	340	1435	750	60	430	570	55
16	1470	310	340	1525	750	60	475	570	55
17	1620	340	380	1610	850	70	465	630	55
18	1680	340	380	1730	850	70	525	630	55
19				根据用户要求 供货 on request					
20									
21									
22									

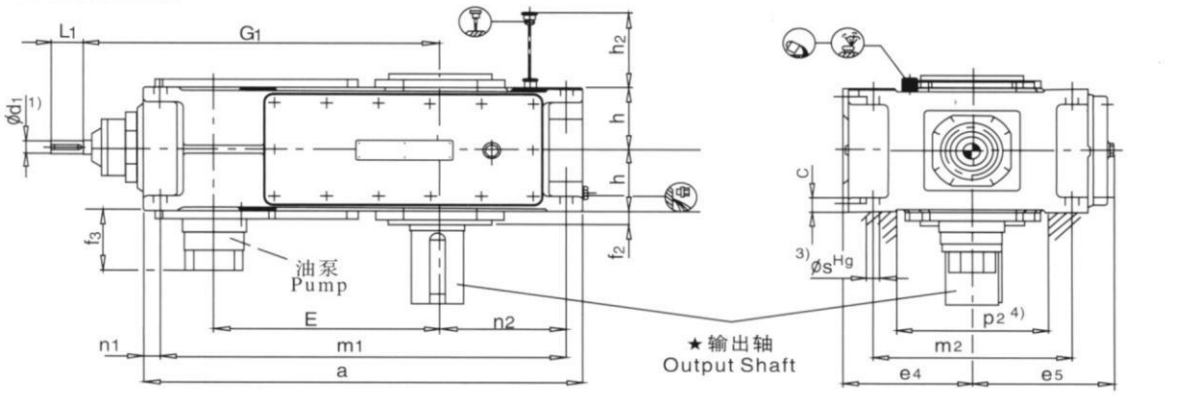
规格 Size	尺寸 mm Dimension sin mm									润滑油 Lubrication (l)	重量 Weighy (kg)
	输出轴 Output shaft										
	FSB3SV			FSB3HV		FSB3DV					
	d2 1)	G2	l2	D2 2)	G4	D3	D4	G4	G5		
13	200	335	350	190	335	190	195	335	480	95	2260
14	210	335	350	210	335	210	215	335	480	110	2615
15	230	380	410	230	380	230	235	380	550	165	3540
16	240	380	410	240	380	240	245	380	550	190	3765
17	250	415	410	250	415	250	260	415	600	210	4760
18	270	415	470	275	415	280	285	415	600	240	5240
19					根据用户要求 供货 on request						
20											
21											
22											

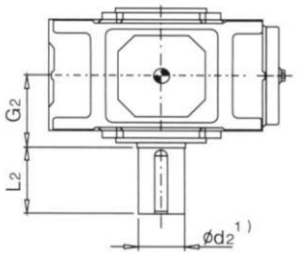
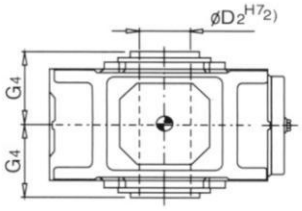
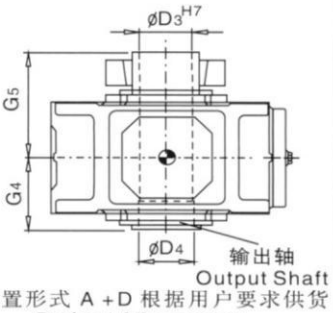
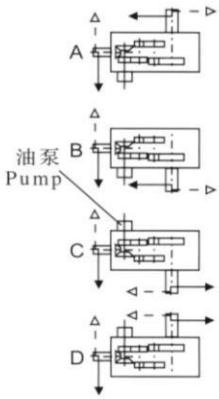
直交轴齿轮箱 Bevel-helical Gear Units
四级传动 Four stage
立式安装 Vertical
类 型 FSB4.V Type FSB4.V
规 格 5...12 sizes 5...12

FSB4SV FSB4HV FSB4DV
采用浸油润滑
With forced lubrication



FSB4SV FSB4HV FSB4DV
采用强制润滑
With forced lubrication



★输出轴 Output Shaft			布置形式 Design
FSB4SV 实心轴 Solid shaft	**FSB4HV** 空心轴 Hollow shaft	**FSB4DV** 带胀紧盘的空心轴 Hollow shaft for shrink disk	
			

布置形式 A+D 根据用户要求供货
Design A&D on request

1）k6≤Ø25　Ø26≥m6≤Ø100　n6>Ø100
有关平键和中心孔，参见第Ⅲ页
2）键槽 GB/T1095-1979
3）扭力支撑位于工作机侧
4）有关油泵、油管的护盖的安装空间及确切尺寸，请与我们联系

1) k6≤Ø24　Ø26≥m6≤Ø100　n6>Ø100
For Parallel key and for centre hole,see page Ⅲ
2) Keyway GB/1095-1979
3) Torque support on driven machine side
4) Space for pump,pipes and cover;
For exact dimensions,please to us.

直交轴齿轮箱 Bevel-helical Gear Units
四级传动 Four stage
立式安装 Vertical
类 型 FSB4.V Type FSB4.V
规 格 5...12 sizes 5...12

规格 Size	尺寸 mm Dimension sin mm								
	输入轴 Input shaft								
	iN=80-180		iN=100-224		iN=200-315		iN=250-400		G1
	d1 1)	l1	d1 1)	l1	d1 1)	l1	d1 1)	l1	
5	28	55			20	50			615
6			28	55			20	50	650
7	30	70			25	60			725
8			30	70			25	60	770
9	35	80			28	60			840
10			35	80			28	60	890
11	45	100			35	80			1010
12			45	100			35	80	1080

规格 Size	尺寸 mm Dimension sin mm								
	齿轮箱 Gear housing								
	a	b1	c	e4	e5	e6	E	f2	f3
5	690	240	30±1	230	252	385	405	28	200
6	770	240	30±1	230	252	425	440	28	200
7	845	240	36±1	280	292	425	495	30	120
8	950	240	36±1	280	302	485	540	32	120
9	1000	330	45±1.5	320	342	560	580	32	120
10	1100	330	45±1.5	320	342	610	630	32	120
11	1200	330	54±1.5	380	402	595	705	35	130
12	1355	330	54±1.5	380	410	680	775	35	130

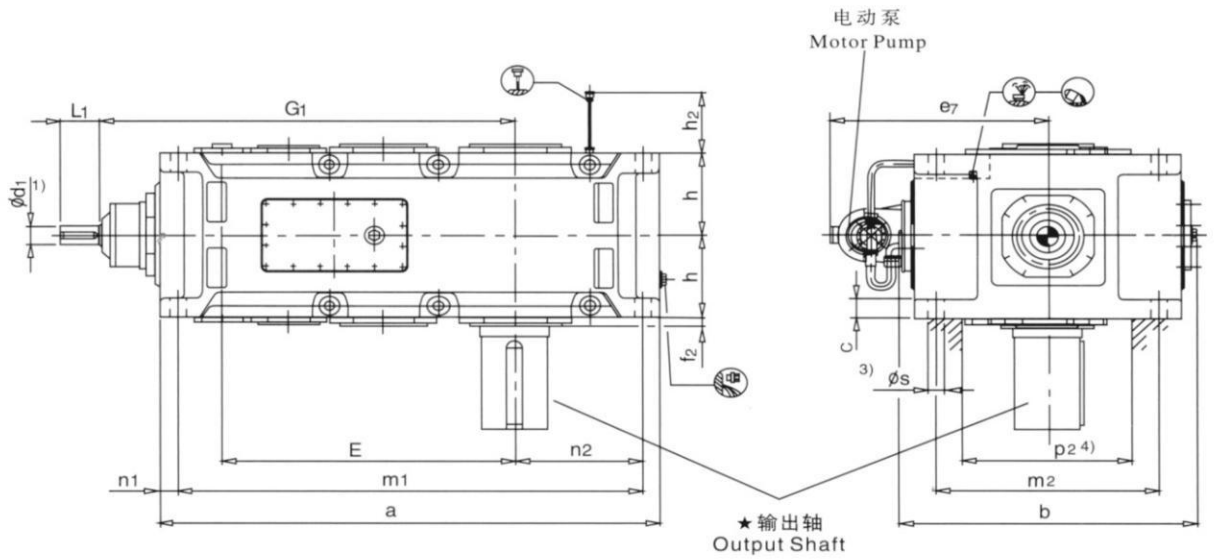
规格 Size	尺寸 mm Dimension sin mm									
	齿轮箱 Gear housing									
	h	h1	h2	h3	m1	m2	n1	n2	p2	s
5	127.5	205	190	240	630	360	30	175	270	24
6	127.5	205	190	240	710	360	30	220	270	24
7	150	205	165	250	775	430	35	215	330	28
8	150	205	165	250	880	430	35	275	330	28
9	185	275	205	330	920	490	40	260	370	36
10	182	275	205	330	1020	490	40	310	370	36
11	215	275	240	340	1100	600	50	295	440	40
12	215	275	240	340	1255	600	50	380	440	40

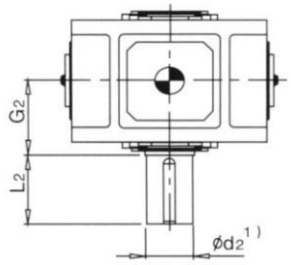
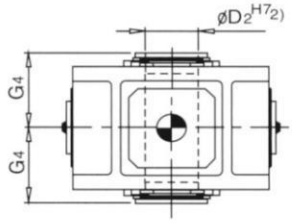
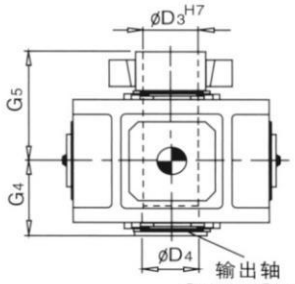
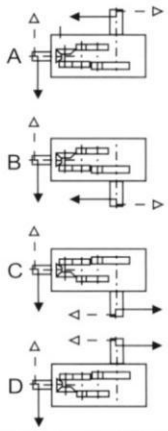
规格 Size	尺寸 mm Dimension sin mm									润滑油 Lubrication		重量 Weighy (kg)
	输出轴 Output shaft									浸油润浸 Dip labrication (l)	强制润滑 Forced labrication (l)	
	FSB4SV			FSB4HV		FSB4DV						
	d2 1)	G2	l2	D2 2)	G4	D3	D4	G4	G5			
5	100	165	210	95	165	100	100	165	240	36	15	335
6	110	165	210	105	165	110	110	165	240	40	16	385
7	120	195	210	115	195	120	120	195	280	60	30	555
8	130	195	250	125	195	130	130	195	285	70	35	655
9	140	235	250	135	235	140	145	235	330	110	60	890
10	160	235	300	150	235	150	155	235	350	130	67	1025
11	170	270	300	165	270	165	170	270	400	180	75	1485
12	180	270	300	180	270	180	185	270	405	195	85	1750

直交轴齿轮箱 Bevel-helical Gear Units
四级传动 Four stage
立式安装 Vertical
类 型 FSB4.V Type FSB4.V
规 格 13...18 sizes 13...18

FSB4SV FSB4HV FSB4DV

采用强制润滑
With forced lubrication



★输出轴 Output Shaft			布置形式 Design
FSB4SV 实心轴 Solid shaft	**FSB4HV** 空心轴 Hollow shaft	**FSB4DV** 带胀紧盘的空心轴 Hollow shaft for shrink disk	
		 布置形式 A +D 根据用户要求供货 Design A&D on request	

1） k6≤Ø100 n6>Ø100
有关平键和中心孔，参见第Ⅲ页
2） 键槽 GB/T1095-1979
3） 扭力支撑位于工作机侧
4） 有关油泵、油管的护盖的安装空间及确切尺寸，请与我们联系

1) k6≤Ø24 Ø26≥m6≤Ø100 n6> Ø100
For Parallel key and for centre hole,see page Ⅲ
2) Keyway GB/T1095-1979
3) Torque support on driven machine side
4) Space for pump,pipes and cover;
For exact dimensions,please to us.

直交轴齿轮箱 Bevel-helical Gear Units
四级传动 Four stage
立式安装 Vertical
类 型 FSB4.V Type FSB4.V
规 格 13...18 sizes 13...18

规格 Size	尺寸 mm Dimension sin mm												
	输入轴 Input shaft												
	i_N =80-180		i_N =90-200		i_N =100-224		i_N =200-315		i_N =224-355		i_N =250-400		
	d_1 1)	l_1	d_1 1)	l_1	d_1 1)	l_1	d_1 1)	l_1	d_1 1)	l_1	d_1 1)	l_1	G_1
13	55	110					40	100					1170
14					55	110					40	100	1240
15	70	135					50	110					1402
16			70	135					50	110			1448
17	70	135					50	110					1450
18			70	135					50	110			1510
19						根据用户要求 供货 on request							
20													
21													
22													

规格 Size	尺寸 mm Dimension sin mm													
	齿轮箱 Gear housing													
	a	b	c	e_7	E	f_2	h	h_2	m_1	m_2	n_1	n_2	p_2	s
13	1395	900	61±2	695	820	35	272.5	300	1300	680	50	360	500	48
14	1535	900	61±2	695	890	35	272.5	300	1440	680	50	430	500	48
15	1680	980	72±2	735	987	42	310	340	1565	750	60	430	570	55
16	1770	980	72±2	735	1033	42	310	340	1655	750	60	475	570	55
17	1770	1110	81±2	795	1035	42	340	374	1640	850	70	465	630	55
18	1890	1110	81±2	795	1095	42	340	374	1760	850	70	525	630	55
19							根据用户要求 供货 on request							
20														
21														
22														

规格 Size	尺寸 mm Dimension sin mm									润滑油 Lubrication (l)	重量 Weighy (kg)
	输出轴 Output shaft										
	FSB4SV			FSB4HV		FSB4DV					
	d_2 1)	G_2	l_2	D_2 2)	G_4	D_3	D_4	G_4	G_5		
13	200	335	350	190	335	190	195	335	480	130	2280
14	210	335	350	210	335	210	215	335	480	150	2605
15	230	380	410	230	380	230	235	380	550	200	3435
16	240	380	410	240	380	240	245	380	550	235	3765
17	250	415	410	250	415	250	260	415	600	215	4460
18	270	415	470	275	415	280	285	415	600	250	4930
19					根据用户要求 供货 on request						
20											
21											
22											

带胀紧盘联接的空心轴

类型 FSH2, FSH3, FSH4, FSB3, FSB4

规格 2 ...26

Hollow shaft for shrink Disks

Types FSH2, FSH3, FSH4, FSB3, FSB4

Sizes 2 ...26

X= 要求预留的力矩扳手空间

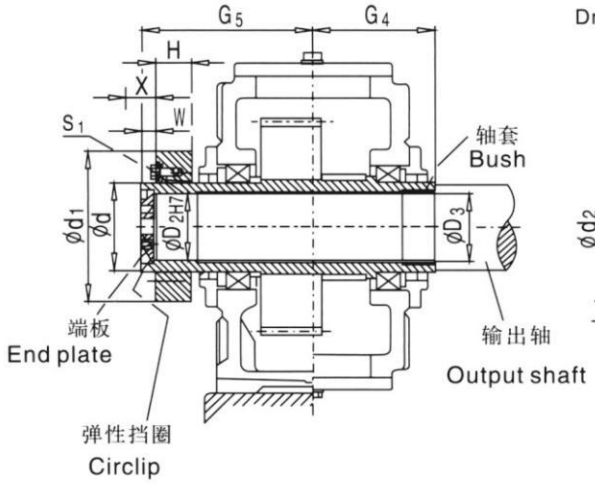
X= Space required for torque wrench

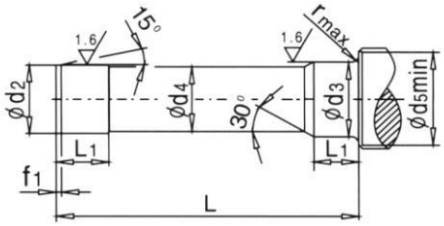
用于胀紧盘联接的工作机驱动轴。

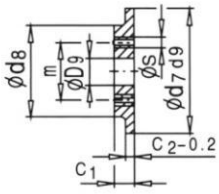
工作机驱动轴表面不得沾有机油或润滑脂。

Driven machine shaft for shrink connection

Driven machine shaft must be free of oil or grease







端板
End pate

类型FSH2D、FSH3D、FSH4D、FSB3D、FSB4D Types FSH2D、FSH3D、FSH4D、FSB3D、FSB4D																											
齿轮箱规格 Gear unit size	工作机驱动轴 2) Driven machine shaft								端板 End plate								弹性挡圈 Circlip	空心轴 Hollow shaft				胀紧盘 Shrink disk					螺钉 Screw
	d_2	d_3	d_4	d_5	f_1	l	l_1	r	c_1	c_2	d_7	d_8	D_9	m	s	数量 Qty	GB 893-86	D_2	D_3	G_4	G_5	类型	d	d_1	H	W	s_1
							mm															mm					
3	70 g6	70 g6	69.5	80	4	286	38	2	17	7	75	55	22	40	M 8	2	75x2.5	70	70	125	180	90-32	90	155	38	20	M 10
4	85 g6	85 h6	84.5	95	4	326	48	2	17	7	90	70	22	50	M 8	2	90 x 3	85	85	140	205	110-32	110	185	49	20	M 12
5	100 g6	100 h6	99.5	114	5	383	53	2	20	8	105	80	26	55	M10	2	105 x 4	100	100	165	240	125-32	125	215	53	20	M 12
6	110 g6	110 h6	109.5	124	5	383	58	3	20	8	115	85	26	60	M10	2	115 x 4	110	110	165	240	140-32	140	230	58	20	M 14
7	120 g6	120 h6	119.5	134	5	453	68	3	20	8	125	90	26	65	M12	2	125 x 4	120	120	195	280	155-32	155	263	62	23	M 14
8	130 g6	130 h6	129.5	145	6	458	73	3	20	8	135	100	26	70	M12	2	135 x 4	130	130	195	285	165-32	165	290	68	23	M 16
9	140 g6	145 m6	139.5	160	6	539	82	4	23	10	150	110	33	80	M12	2	150 x 4	140	145	235	330	175-32	175	300	68	28	M 16
10	150 g6	155 m6	149.5	170	6	559	92	4	23	10	160	120	33	90	M12	2	160 x 4	150	155	235	350	200-32	200	340	85	28	M 16
11	165 f6	170 m6	164.5	185	7	644	112	4	23	10	175	130	33	90	M12	2	175 x 4	165	170	270	400	220-32	220	370	103	30	M 20
12	180 f6	185 m6	179.5	200	7	649	122	4	23	10	190	140	33	100	M16	2	190 x 4	180	185	270	405	240-32	240	405	107	30	M 20
13	190 f6	195 m6	189.5	213	7	789	137	5	23	10	200	150	33	110	M16	2	200 x 4	190	195	335	480	260-32	260	430	119	30	M 20
14	210 f6	215 m6	209.5	233	8	784	147	5	28	14	220	170	33	130	M16	2	220 x 5	210	215	335	480	280-32	280	460	132	30	M 20
15	230 f6	235 m6	229.5	253	8	899	157	5	28	14	240	180	39	140	M16	2	240 x 5	230	235	380	550	300-32	300	485	140	35	M 24
16	240 f6	245 m6	239.5	263	8	899	157	5	28	14	250	190	39	150	M20	2	250 x 5	240	245	380	550	320-32	320	520	140	35	M 24
17	250 f6	260 m6	249.5	278	8	982	177	5	30	14	265	200	39	150	M20	2	265 x 5	250	260	415	600	340-32	340	570	155	35	M 24
18	280 f6	285 m6	279.5	306	9	982	177	5	30	14	290	210	39	160	M20	2	290 x 5	280	285	415	600	360-32	360	590	162	35	M 24
19	285 f6	295 m6	284.5	316	9	1100	187	5	32	15	300	220	39	170	M24	2	300 x 5	285	295	465	670	380-32	380	640	166	40	M 27
20	310 f6	315 m6	309.5	336	9	1100	187	5	32	15	320	230	39	180	M24	2	320 x 6	310	315	465	670	390-32	390	650	166	40	M 27
21	330 f6	335 m6	329	358	9	1160	205	5	40	20	340	250	45	190	M24	2	340 x 6	330	335	490	715	420-32	420	670	186	45	M 27
22	340 f6	345 m6	339	368	9	1170	215	5	40	20	350	260	45	200	M24	2	350 x 6	340	345	490	725	440-32	440	720	194	45	M 27
23 24 25 26	根据用户要求供货 On request																										

1) 胀紧盘不在我们的供货范围之内。如果需要的话，请另行订货。

2) 工作机驱动轴材质：40cr或强度更高的钢。工作机驱动轴不在供货范围之内，但尺寸函索即复。

1) Shrink disk does not belong to our scope of supply,please order separately if required.

2) Material of driven machine shaft 40cr or higher strength driven machine shaft does not belong to our scope of suppyshrink disk is supplied asl-oose item dimensions of machine shaft on request.

带胀紧盘联接的空心轴

类型 FSB2

规格 2 ...26

Hollow shaft for shrink Disks

Types FSB2

Sizes 2 ...26

X= 要求预留的力矩扳手空间

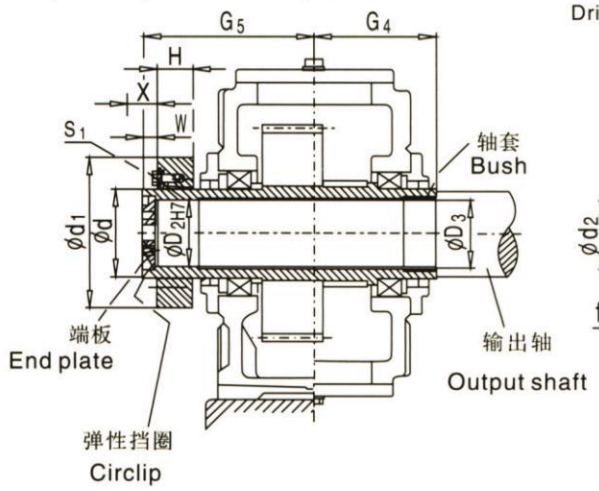
X= Space required for torque wrench

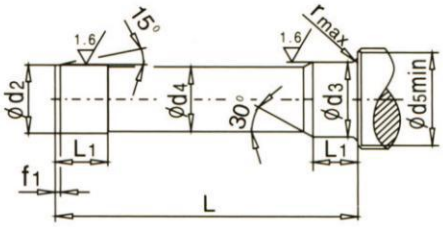
用于胀紧盘联接的工作机驱动轴。

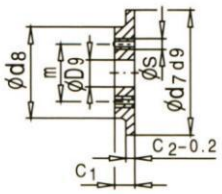
工作机驱动轴表面不得沾有机油或润滑脂。

Driven machine shaft for shrink connection

Driven machine shaft must be free of oil or grease







端板
End pate

类型B2D Types B2D																											
齿轮箱规格 Gear unit size	工作机驱动轴 Driven machine shaft 2)								端板 End plate								弹性挡圈 Circlip	空心轴 Hollow shaft				胀紧盘 Shrink disk 1)					螺钉 Screw
	d_2	d_3	d_4	d_5	f_1	l	l_1	r	c_1	c_2	d_7	d_8	D_9	m	s	数量 Qty	GB 893-86	D_2	D_3	G_4	G_5	类型	d	d_1	H	W	s_1
							mm															mm					
2	60 g6	60 g6	59.5	70	3	300	36	2	13	6	65	47	22	35	M 6	2	65 x 2.5	60	60	135	180	80-32	80	141	31	16	M10
3	70 g6	70 h6	69.5	80	4	326	38	2	17	7	75	55	22	40	M 8	2	75 x 2.5	70	70	145	200	90-32	90	155	38	20	M10
4	85 g6	85 h6	84.5	95	4	386	48	2	17	7	90	70	22	50	M 8	2	90 x 3	85	85	170	235	110-32	110	185	49	20	M12
5	100 g6	100 h6	99.5	114	5	453	53	2	20	8	105	80	26	55	M10	2	105 x 4	100	100	200	275	125-32	125	215	53	20	M12
6	110 g6	110 h6	109.5	124	5	453	58	3	20	8	115	85	26	60	M10	2	115 x 4	110	110	200	275	140-32	140	230	58	20	M14
7	120 g6	120 h6	119.5	134	5	533	68	3	20	8	125	90	26	65	M12	2	125 x 4	120	120	235	320	155-32	155	263	62	23	M14
8	130 g6	130 h6	129.5	145	6	538	73	3	20	8	135	100	26	70	M12	2	135 x 4	130	130	235	325	165-32	165	290	68	23	M16
9	140 g6	145m6	139.5	160	6	609	82	4	23	10	150	110	33	80	M12	2	150 x 4	140	145	270	365	175-32	175	300	68	28	M16
10	15 0 g6	155m6	149.5	170	6	629	92	4	23	10	160	120	33	90	M12	2	160 x 4	150	155	270	385	200-32	200	340	85	28	M16
11	165 f6	170 m6	164.5	185	7	744	112	4	23	10	175	130	33	90	M12	2	175 x 4	165	170	320	450	220-32	220	370	103	30	M20
12	180 f6	185 m6	179.5	200	7	749	122	4	23	10	190	140	33	100	M16	2	190 x 4	180	185	320	455	240-32	240	405	107	30	M20
14	210 f6	215 m6	209.5	233	8	894	147	5	28	14	220	170	33	130	M16	2	220 x 5	210	215	390	535	280-32	280	460	132	30	M20
16	240 f6	245 m6	239.5	263	8	1039	157	5	28	14	250	190	39	150	M20	2	250 x 5	240	245	450	620	320-32	320	520	140	35	M24
18	280 f6	285 m6	279.5	306	9	1177	177	5	30	14	290	210	39	160	M20	2	290 x 5	280	285	510	700	360-32	360	590	162	35	M24

带胀紧盘联接的空心轴

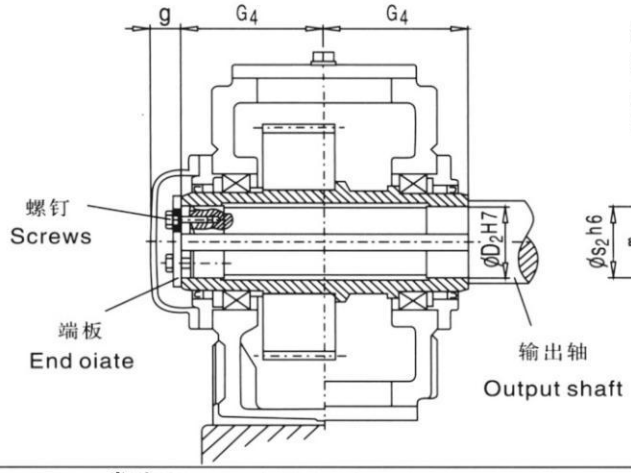
类型 FSH2, FSH3, FSH4, FSB2, FSB3, FSB4

规格 2 ...18

Hollow shaft for shrink Disks

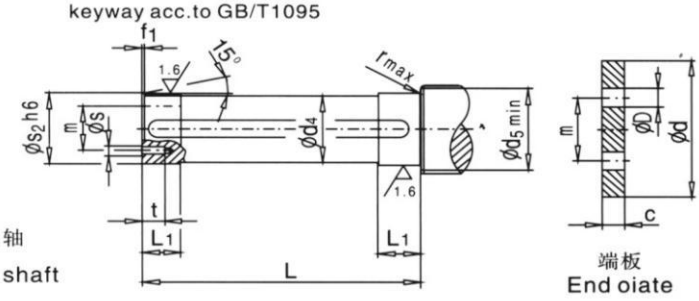
Types FSH2, FSH3, FSH4, FSB2, FSB3, FSB4

Sizes 2 ...18



带平键联接的工作机驱动轴。键槽尺寸根据GB/T 1095/1确定。

Driven machine shaft for parallel key connection, keyway acc.to GB/T1095



类型FSH2H、FSH3H、FSH4H、FSB3H、FSB4H Types FSH2H、FSH3H、FSH4H、FSB3H、FSB4H																		
齿轮箱规格 Gear unit size	工作机驱动轴 Driven machine shaft 1)									端板 End plate				螺钉 Screw		空心轴 Hollow shaft		
	d_2	d_4	d_5	f_1	l	l_1	r	s mm	t	c	D	d	m	规格 size	数量 Qty	D_2	G_4 mm	g
3	65	64.5	73	4	248	30	1.2	M10	18	8	11	78	45	M10 x 25	2	65	125	35
4	80	79.5	88	4	278	35	1.2	M10	18	10	11	100	60	M10 x 25	2	80	140	35
5	95	94.5	105	5	328	40	1.6	M10	18	10	11	120	70	M10 x 25	2	95	165	40
6	105	104.5	116	5	328	45	1.6	M10	18	10	11	120	70	M10 x 25	2	105	165	40
7	115	114.5	126	5	388	50	1.6	M12	20	12	13.5	140	80	M12 x 30	2	115	195	40
8	125	124.5	136	6	388	55	2.5	M12	20	12	13.5	150	85	M12 x 30	2	125	195	40
9	135	134.5	147	6	467	60	2.5	M12	20	12	13.5	150	90	M12 x 30	2	135	235	45
10	150	149.5	162	6	467	65	2.5	M12	20	12	13.5	185	110	M12 x 30	2	150	235	45
11	165	164.5	177	7	537	70	2.5	M16	28	15	17.5	195	120	M16 x 40	2	165	270	45
12	180	179.5	192	7	537	75	2.5	M16	28	15	17.5	220	130	M16 x 40	2	180	270	45
13	190	189.5	206	7	667	80	3	M16	28	18	17.5	230	140	M16 x 40	2	190	335	45
14	210	209.5	226	8	667	85	3	M16	28	18	17.5	250	160	M16 x 40	2	210	335	45
15	230	229.5	248	8	756	100	3	M20	38	25	22	270	180	M20 x 55	4	230	380	60
16	240	239.5	258	8	756	100	3	M20	38	25	22	280	180	M20 x 55	4	240	380	60
17	250	249.5	270	8	826	110	4	M20	38	25	22	300	190	M20 x 55	4	250	415	60
18	275	274.5	295	9	826	120	4	M20	38	25	22	330	210	M20 x 55	4	275	415	60

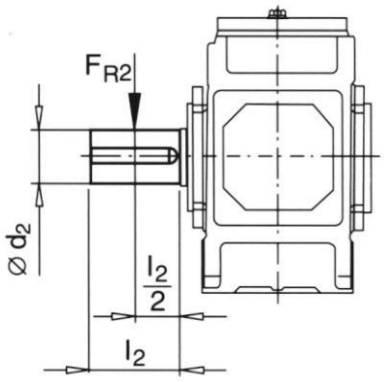
类型B2H Types B2H																		
齿轮箱规格 Gear unit size	工作机驱动轴 Driven machine shaft 1)									端板 End plate				螺钉 Screw		空心轴 Hollow shaft		
	d_2	d_3	d_5	f_1	l	l_1	r	s mm	t	c	D	d	m	规格 Size	数量 Qty	D_2	G_4 mm	g
2	55	54.5	63	3	268	30	1.2	M 8	15	8	9	70	40	M 8 x 20	2	55	135	35
3	65	64.5	73	4	288	30	1.2	M10	18	8	11	78	45	M10 x 25	2	65	145	35
4	80	79.5	88	4	338	35	1.2	M10	18	10	11	100	60	M10 x 25	2	80	170	35
5	95	94.5	105	5	398	40	1.6	M10	18	10	11	120	70	M10 x 25	2	95	200	40
6	105	104.5	116	5	398	45	1.6	M10	18	10	11	120	70	M10 x 25	2	105	200	40
7	115	114.5	126	5	468	50	1.6	M12	20	12	13.5	140	80	M12 x 30	2	115	235	40
8	125	124.5	136	6	468	55	2.5	M12	20	12	13.5	150	85	M12 x 30	2	125	235	40
9	135	134.5	147	6	537	60	2.5	M12	20	12	13.5	150	90	M12 x 30	2	135	270	45
10	150	149.5	162	6	537	65	2.5	M12	20	12	13.5	185	110	M12 x 30	2	150	270	45
11	165	164.5	177	7	637	70	2.5	M16	28	15	17.5	195	120	M16 x 40	2	165	320	45
12	180	179.5	192	7	637	75	2.5	M16	28	15	17.5	220	130	M16 x 40	2	180	320	45
14	210	209.5	226	8	777	85	3	M16	28	18	17.5	250	160	M16 x 40	2	210	390	45
16	240	239.5	258	8	896	100	3	M20	38	25	22	280	180	M20 x 55	4	240	450	60
18	275	274.5	295	9	1016	120	4	M20	38	25	22	330	210	M20 x 55	4	275	510	60

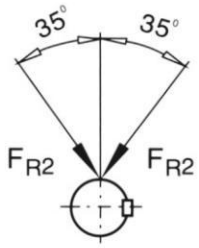
1) 工作机驱动轴材质：40cr或强度更高的钢。
平键不在我们的供货范围之内。如果需要的话，请另行订货。

D Material of driven machine shaft:40cr or higher sfrength.
Parallel key does not belong to our scope of suppy. Please order separately,if reqaired.

齿轮箱
输出轴d2上允许的附加径向力1）
类型 **FSH1SH FSH2S., FSH3S FSH4S.,FSB2S.,FSB3S.,FSB4S**

Gear Units
Permissible Additional Radial Forces on Output Type FSH1SH、FSH2S、FSH3S、FSH4S、FSB2S、FSB3S、FSB4S shaft d_2





允许的作用力方向
Termissible direction of force

允许的附加径向力 F_{R2}（KN）,作用于输出轴轴端中部3）
Permissble additional vadial forces F_{R2} inKN with application of force on centre of shaft end

类型 Type	布置形式 Arrange ment of output shaft	齿轮箱规格 Gear vnits sizes																	
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
FSH1SH	A / B	2)	–	2)	–	2)	–	2)	–	2)	–	2)	–	2)	–	2)	–	2)	–
FSH2S.	A / B / G / H	–	–	8	10	22	22	30	30	30	45	64	64	150	150	140	205	205	205
	C / D	–	–	8	10	13	13	18	18	10	28	35	35	112	112	85	135	135	135
FSH3S.	A / B / G / H	–	–	–	–	29	29	40	40	40	60	85	85	190	190	185	265	265	265
	C / D	–	–	–	–	18	18	26	26	18	40	50	50	150	150	120	185	185	190
FSH4S.	A / B	–	–	–	–	–	–	26	26	18	40	50	50	150	150	120	185	185	190
	C / D	–	–	–	–	–	–	40	40	40	60	85	85	190	190	185	265	265	265
FSB2S.	A / C	7	10	10	13	27	27	37	37	38	55	78	78	160	160	150	210	210	210
	B / D	4	7	9	12	15	15	17	17	10	30	35	38	110	110	75	145	100	100
FSB3S.	A / C	–	–	9	14	29	29	40	40	40	60	85	85	190	190	185	265	265	265
	B / D	–	–	7	9	18	18	26	26	18	40	50	50	150	150	120	185	185	190
FSB4S.	A / C	–	–	–	–	29	29	40	40	40	60	85	85	190	190	185	265	265	265
	B / D	–	–	–	–	18	18	26	26	18	40	50	50	150	150	120	185	185	190

1)表中数据为最小值。如果给定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。请与我们取号联系。
2)根据用户要求供货。
3)当作用力不在轴端中部时，请参见第75页。
4)基础螺栓的最低性能等级为8.8级。
基础必须干燥，不行有油脂。
如用户要求，允许输入轴d_1上附加径向力。

1)Values in tables are minimum values.Is the angle of application of forceandthe direction of rotation are given,significantly higher additional forces can mostly be allowed please consult us.
2)On request.
3)For application of force outside the cent of the shaft end,see 75.
4)Vise foundation bolts of min property class8.8 Foundation must be dryand greasefree.Permissible additional rakil forces on input shaft dlon request

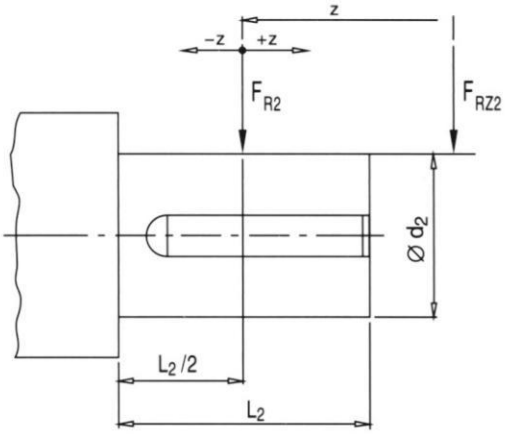
齿轮箱
输出轴d2上允许的附加径向力1）
类型 **FSH1SH FSH2S., FSH3S FSH4S.,FSB2S.,FSB3S.,FSB4S**

Gear Units
Permissible Additional Radial Forces on Output Type FSH1SH、FSH2S、FSH3S、FSH4S、FSB2S、FSB3S、FSB4S shaft d_2

作用力不在轴端中部

Applioation of force outsdie the centre of the shaft end

$F_{RZ2} = F_{R2} x K$



F_{RZ2} 允许的轴端外部径向力
Permissible external radial force

F_{R2} 允许的附加径向力
根据 页上的表确定。
Permissible additional radial force acc to table page

K 作用力系数根据下表确定
Factor of application of force to table

作用力系数 k Factor of application of force k															
规格 Size	距离 z,mm Distance z(mm)														
	-200	-150	-100	-75	-50	-25	0	25	50	75	100	150	200	250	300
1						1.11	1.00	0.81	0.68	0.58	0.51				
2						1.11	1.00	0.83	0.71	0.63	0.56				
3					1.21	1.09	1.00	0.85	0.74	0.65	0.58	0.48			
4					1.17	1.08	1.00	0.86	0.76	0.68	0.62	0.52	0.44		
5+ 6				1.22	1.14	1.06	1.00	0.88	0.79	0.72	0.66	0.56	0.49	0.43	
7+ 8				1.19	1.12	1.06	1.00	0.89	0.81	0.74	0.68	0.58	0.51	0.46	0.41
9+10			1.22	1.15	1.10	1.05	1.00	0.90	0.82	0.76	0.70	0.61	0.54	0.48	0.44
11+12			1.18	1.13	1.08	1.04	1.00	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	1.00	0.92	0.86	0.80	0.75	0.67	0.60	0.55	0.50
15+16		1.20	1.12	1.09	1.06	1.03	1.00	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	1.00	0.94	0.88	0.84	0.79	0.72	0.66	0.60	0.56

平行轴齿轮箱 Helical Gear Units
实际速比 Actual Ratios
类型 FSH1.., FSH2.., FSH3.., FSH4.. Type FSH1.., FSH2.., FSH3..,FSH4..
规格 1...13 Size 1...13

实际速比 i Actual Ratios													
i_N	齿轮箱规格 Gear units sizes												
	1	2	3	4	5	6	7	8	9	10	11	12	13
1.25	1.250	–	1.243	–	1.256	–	1.263	–	1.270	–	–	–	–
1.4	1.415	–	1.371	–	1.378	–	1.389	–	1.400	–	–	–	–
1.6	1.605	–	1.594	–	1.588	–	1.606	–	1.625	–	1.636	–	1.588
1.8	1.829	–	1.829	–	1.839	–	1.774	–	1.800	–	1.806	–	1.839
2.0	2.000	–	2.000	–	2.034	–	1.966	–	2.000	–	2.000	–	2.034
2.24	2.194	–	2.194	–	2.259	–	2.308	–	2.231	–	2.222	–	2.259
2.5	2.536	–	2.536	–	2.520	–	2.583	–	2.500	–	2.480	–	2.520
2.8	2.808	–	2.808	–	2.826	–	2.800	–	2.741	–	2.783	–	2.826
3.15	3.125	–	3.125	–	3.190	–	3.130	–	3.208	–	3.080	–	3.208
3.55	3.500	–	3.500	–	3.591	–	3.524	–	3.591	–	3.478	–	3.591
4.0	3.950	–	3.950	–	4.050	–	4.000	–	4.050	–	3.905	–	4.050
4.5	4.476	–	4.435	–	4.619	–	4.400	–	4.381	–	4.421	–	4.619
5.0	5.053	–	4.952	–	4.900	–	4.905	–	4.947	–	5.150	–	4.900
5.6	5.571	–	5.579	–	5.556	–	5.526	–	5.684	–	5.474	–	5.556
6.3	–	–	6.232	6.319	6.286	–	6.088	–	6.260	–	6.246	–	6.410
7.1	–	–	7.099	6.857	7.213	–	7.048	–	7.247	–	6.900	–	7.100
8.0	–	–	7.765	7.778	7.889	7.792	7.799	7.676	8.018	7.848	7.644	7.941	7.889
9.0	–	–	8.516	8.485	8.652	8.940	8.660	8.887	8.904	9.085	8.974	8.772	8.799
10	–	–	9.845	9.722	10.002	9.778	9.660	9.833	9.932	10.053	10.046	9.718	9.861
11.2	–	–	10.900	10.694	11.075	10.724	10.648	10.920	11.138	11.163	10.889	11.410	10.811
12.5	–	–	12.132	12.444	12.326	12.397	11.807	12.180	12.574	12.452	12.174	12.773	12.655
14	–	–	13.588	13.865	13.806	13.726	13.939	13.426	14.152	13.964	13.704	13.844	14.164
16	–	–	15.335	15.556	15.581	15.278	15.717	14.887	15.962	15.765	15.556	15.478	15.975
18	–	–	17.378	17.602	17.493	17.111	17.598	17.576	18.204	17.743	17.111	17.423	17.280
20	–	–	19.616	19.444	19.534	17.311	19.742	19.817	19.312	20.012	19.074	19.778	19.515
22.4	–	–	21.630	22.037	22.006	21.681	20.982	22.189	21.895	22.824	21.491	21.756	22.020
25	–	–	–	–	25.011	24.212	25.540	24.892	25.439	24.212	24.706	24.251	25.372
28	–	–	–	–	28.490	27.275	27.711	26.456	29.187	27.451	28.602	27.325	29.373
31.5	–	–	–	–	31.161	30.999	31.433	32.202	31.924	31.894	31.648	31.412	32.501
35.5	–	–	–	–	34.177	35.312	34.291	34.940	35.013	36.593	35.144	36.366	36.092
40	–	–	–	–	39.508	38.622	39.292	39.633	40.474	40.024	39.200	40.238	40.257
45	–	–	–	–	43.745	42.360	43.221	43.236	44.816	43.897	43.210	44.683	45.147
50	–	–	–	–	48.689	48.967	50.293	49.542	49.881	50.744	47.911	49.840	50.968
56	–	–	–	–	54.532	54.220	56.033	54.496	55.866	56.187	56.566	54.938	57.365
63	–	–	–	–	61.543	60.347	62.867	63.413	63.049	62.537	63.778	60.916	64.699
71	–	–	–	–	69.742	67.589	71.139	70.651	70.787	70.041	71.414	71.919	73.789
80	–	–	–	–	78.723	76.279	78.583	79.267	79.049	79.046	80.111	81.089	78.278
90	–	–	–	–	86.806	86.440	89.061	89.696	89.050	88.748	85.146	90.798	88.750
100	–	–	–	–	–	97.572	101.554	99.083	101.210	99.106	103.639	101.856	103.114
112	–	–	–	–	–	107.590	115.256	112.294	115.290	111.645	112.450	108.257	118.306
125	–	–	–	–	–	–	125.733	128.046	126.098	126.890	127.556	131.769	129.398
140	–	–	–	–	–	–	143.985	145.322	138.301	144.542	139.152	142.973	141.920
160	–	–	–	–	–	–	158.251	158.533	159.874	158.093	159.444	162.178	164.058
180	–	–	–	–	–	–	174.630	181.546	177.022	173.392	175.389	176.921	181.654
200	–	–	–	–	–	–	193.629	199.533	197.028	200.439	204.089	202.722	202.184
224	–	–	–	–	–	–	228.606	220.185	220.671	221.938	227.382	222.994	226.446
250	–	–	–	–	–	–	257.753	244.141	249.043	247.020	255.111	259.484	255.560
280	–	–	–	–	–	–	288.615	288.242	282.219	276.663	288.678	289.100	286.925
315	–	–	–	–	–	–	305.352	324.993	318.563	312.234	318.889	324.356	320.413
355	–	–	–	–	–	–	344.112	363.906	351.273	353.827	361.407	367.034	360.951
400	–	–	–	–	–	–	–	385.010	–	399.393	–	405.444	–
450	–	–	–	–	–	–	–	433.881	–	440.402	–	459.504	–

平行轴齿轮箱 Helical Gear Units
实际速比 Actual Ratios
类型 **FSH1.., FSH2.., FSH3.., FSH4..** **Type FSH1.., FSH2.., FSH3..,FSH4..**
规格 **14...22 size 14...22**

实际速比 i Actual Ratios													
齿轮箱规格 Gear units sizes													i_N
14	15	16	17	18	19	20	21	22	23	24	25	26	
–	–	–	–	–	–	–	–	–					1.25
–	–	–	–	–	–	–	–	–					1.4
–	–	–	–	–	–	–	–	–					1.6
–	–	–	–	–	–	–	–	–					1.8
–	2.000	–	2.000	–	1.967	–	–	–					2.0
–	2.231	–	2.250	–	2.296	–	–	–					2.24
–	2.481	–	2.481	–	2.560	–	–	–					2.5
–	2.760	–	2.760	–	2.870	–	–	–					2.8
–	3.087	–	3.087	–	3.238	–	–	–					3.15
–	3.476	–	3.476	–	3.450	–	–	–					3.55
–	3.947	–	3.947	–	3.944	–	–	–					4.0
–	4.579	–	4.526	–	4.400	–	–	–					4.5
–	5.100	–	4.900	–	4.950	–	–	–					5.0
–	5.778	–	5.556	–	5.700	–	–	–					5.6
–	6.449	–	6.154	–	6.410	–	6.500	–					6.3
–	7.120	7.316	7.125	7.147	7.100	7.312	7.200	7.265					7.1
7.944	7.882	8.076	7.884	8.274	7.889	8.100	8.000	8.047					8.0
8.800	8.758	8.941	8.755	9.155	8.799	9.000	8.923	8.941					9.0
9.778	9.774	9.935	9.765	10.167	9.788	10.038	9.926	9.973					10
10.906	10.967	11.087	10.951	11.340	10.887	11.167	11.040	11.094					11.2
12.222	12.139	12.440	12.432	12.717	12.176	12.420	12.348	12.339					12.5
13.399	13.708	13.769	13.915	14.438	13.712	13.891	13.905	13.801					14
15.685	15.389	15.550	15.694	16.159	15.570	15.643	15.789	15.541					16
17.556	17.424	17.457	17.899	18.225	18.061	17.763	18.316	17.647					18
19.800	20.297	19.765	18.988	20.786	20.117	20.605	20.400	20.471					20
21.418	21.374	23.024	20.930	22.050	21.782	22.950	22.368	22.800					22.4
24.187	24.716	24.245	24.202	24.306	25.283	24.850	25.837	25.000					25
27.292	27.304	28.036	26.736	28.106	28.006	28.844	28.523	28.877		根据用户要求供货 on request			28
31.447	30.248	30.971	29.619	31.048	31.117	31.950	31.579	31.879					31.5
36.406	35.514	34.311	34.776	34.397	34.708	35.500	35.088	35.294					35.5
40.283	39.756	40.284	38.929	40.385	38.897	39.596	39.158	39.216					40
44.733	43.090	45.096	42.194	45.208	42.642	44.375	43.936	43.765					45
49.896	48.175	48.878	47.174	49.000	49.917	48.648	48.632	49.105					50
55.957	54.229	54.647	53.102	54.783	55.870	56.948	54.920	54.353					56
63.171	61.557	61.514	60.278	61.667	63.013	63.739	61.654	61.381					63
71.100	67.713	69.826	66.306	70.000	68.162	71.888	69.806	68.908					71
80.190	75.481	76.809	73.912	77.000	76.974	77.762	81.316	78.019					80
91.457	85.046	85.620	83.279	85.833	88.439	87.816	86.427	90.882					90
97.020	97.768	96.471	95.735	96.711	100.079	100.895	99.020	96.594					100
110.000	113.186	110.901	110.833	111.176	115.862	114.174	109.386	110.670					112
127.803	125.238	128.390	122.634	128.710	128.198	132.180	121.182	122.255					125
146.633	139.074	142.060	136.183	142.414	142.362	146.254	142.279	135.439					140
160.380	155.125	157.756	151.900	158.148	158.792	162.413	159.273	139.017					160
175.901	170.993	175.962	167.438	176.400	178.079	181.156	172.632	178.011					180
203.339	189.597	193.962	185.656	194.444	201.040	203.160	193.004	192.941					200
225.149	223.845	215.065	219.192	215.600	226.272	229.355	217.257	215.711					224
250.594	252.385	253.914	247.139	254.545	255.201	258.141	246.617	242.817					250
280.665	282.605	286.288	276.730	287.000	291.058	291.144	271.278	275.630					280
316.751	317.021	320.566	310.431	321.364	308.76	332.052	302.399	303.193					315
355.625	336.946	359.606	329.942	360.500	350.069	352.249	340.720	337.975					355
397.131	–	382.207	–	383.158	–	399.375	–	380.805					400
447.376	–	–	–	–	–	–	–	–					450

直交轴齿轮箱 Bevel-helical Gear Units
实际速比 Actual Ratios
类型 FSB2.., FSB3.., FSB4.. Type FSB2.., FSB3.., FSB4..
规格 1...13 Size 1...13

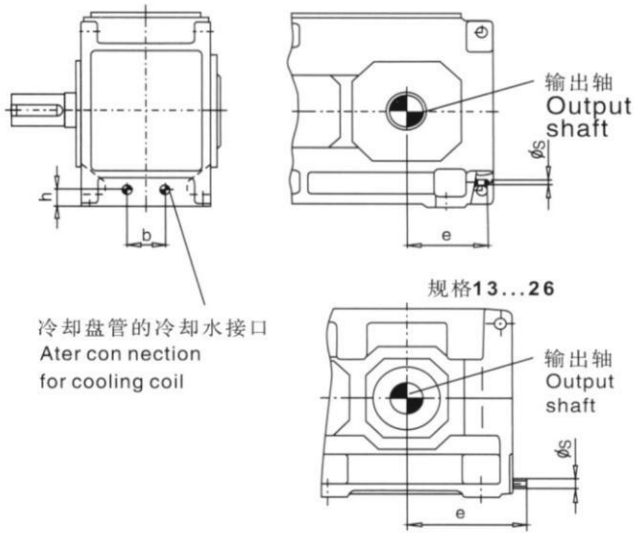
实际速比 i Actual Ratios													
i_N	齿轮箱规格 Gear units sizes												
	1	2	3	4	5	6	7	8	9	10	11	12	13
5.0	4.980	5.043	4.895	4.936	5.006	–	4.865	–	5.002	–	4.897	–	4.967
5.6	5.566	5.636	5.471	5.480	5.488	–	5.333	–	5.483	–	5.534	–	5.613
6.3	6.445	6.526	6.334	6.296	6.386	6.205	6.206	6.135	6.381	6.271	6.296	6.226	6.386
7.1	7.068	7.158	6.947	6.959	7.058	6.802	6.860	6.725	7.053	6.875	7.037	7.036	7.138
8.0	7.668	7.765	7.536	7.549	7.657	7.915	7.880	7.825	8.101	8.000	7.994	8.005	8.108
9.0	8.829	8.941	8.678	8.693	8.817	8.749	8.569	8.649	8.810	8.842	8.693	8.947	8.817
10	10.027	10.154	9.855	9.872	10.108	9.490	9.823	9.935	10.099	10.157	9.965	10.164	10.108
11.2	10.938	11.077	10.751	10.769	10.923	10.928	10.615	10.804	10.914	11.045	10.769	11.052	10.923
12.5	12.458	12.615	12.244	12.034	12.703	12.528	12.433	12.385	12.554	12.662	12.334	12.670	12.482
14	14.005	14.182	13.765	13.484	13.964	13.538	13.515	13.385	14.137	13.683	13.821	13.692	13.721
16	15.441	15.636	14.176	15.601	15.835	15.826	16.275	15.773	15.952	15.693	15.522	15.888	16.354
18	17.595	17.818	17.294	17.482	17.407	17.307	17.692	17.041	17.963	17.724	17.393	17.572	17.978
20	–	–	19.336	19.614	19.645	19.729	19.948	20.648	20.259	19.940	19.744	19.995	20.276
22.4	–	–	21.609	21.919	21.954	21.575	22.146	22.308	22.208	22.520	21.643	22.114	22.226
25	–	–	25.021	25.380	25.421	24.349	25.446	25.152	25.843	25.400	25.185	25.103	25.864
28	–	–	27.442	27.836	27.881	27.211	28.125	27.923	28.563	27.842	27.836	27.517	28.587
31.5	–	–	29.769	30.196	30.245	31.508	30.509	32.084	30.985	32.400	31.975	32.021	32.838
35.5	–	–	34.279	34.771	34.827	34.557	35.131	35.461	35.679	35.811	34.771	35.392	35.709
40	–	–	38.928	37.487	39.551	37.486	39.896	38.468	40.902	38.846	39.861	40.654	40.936
45	–	–	42.467	43.077	43.146	43.166	43.523	44.296	44.202	44.732	43.077	44.209	44.238
50	–	–	48.365	49.060	49.139	49.021	49.568	50.304	50.341	51.280	49.060	50.681	50.383
56	–	–	54.371	55.152	55.240	53.477	55.723	54.877	56.592	55.417	55.152	54.769	56.639
63	–	–	59.947	60.808	60.906	60.904	61.438	62.499	62.396	63.114	60.808	62.376	62.448
71	–	–	68.312	69.293	69.404	68.467	70.011	70.259	71.102	70.951	69.293	70.121	71.161
80	–	–	–	–	77.598	75.489	79.267	77.465	79.497	78.228	80.949	77.313	82.118
90	–	–	–	–	86.720	86.022	88.585	88.274	88.842	89.143	89.869	88.101	90.016
100	–	–	–	–	100.413	96.178	102.572	99.945	102.869	99.667	103.259	102.921	104.750
112	–	–	–	–	110.130	107.484	112.498	111.694	112.824	111.384	114.129	114.262	115.777
125	–	–	–	–	119.466	124.455	122.035	129.330	122.389	128.971	123.804	131.287	125.592
140	–	–	–	–	137.567	136.499	140.525	141.846	140.933	141.452	142.562	145.106	144.621
160	–	–	–	–	156.225	148.071	159.585	153.871	160.047	153.443	161.897	157.408	165.791
180	–	–	–	–	170.427	170.506	174.092	177.184	174.597	176.692	176.615	181.258	179.166
200	–	–	–	–	194.098	193.631	198.272	201.215	198.847	200.656	201.145	205.841	204.050
224	–	–	–	–	218.199	211.234	222.891	219.508	223.537	218.898	226.121	224.554	229.386
250	–	–	–	–	240.578	240.572	245.752	249.995	246.464	249.300	249.313	255.742	252.913
280	–	–	–	–	274.147	270.443	280.042	281.036	280.855	280.256	284.101	287.497	288.204
315	–	–	–	–	302.121	298.181	308.618	309.861	309.513	309.000	313.091	316.984	317.612
355	–	–	–	–	–	339.788	–	353.097	–	352.116	–	361.214	–
400	–	–	–	–	–	374.460	–	389.127	–	388.046	–	398.073	–
450	–	–	–	–	–	–	–	–	–	–	–	–	–

直交轴齿轮箱 Bevel-helical Gear Units
实际速比 Actual Ratios
类型 FSB2.., FSB3.., FSB4.. Type FSB2.., FSB3.., FSB4..
规格 14...22 Size 14...22

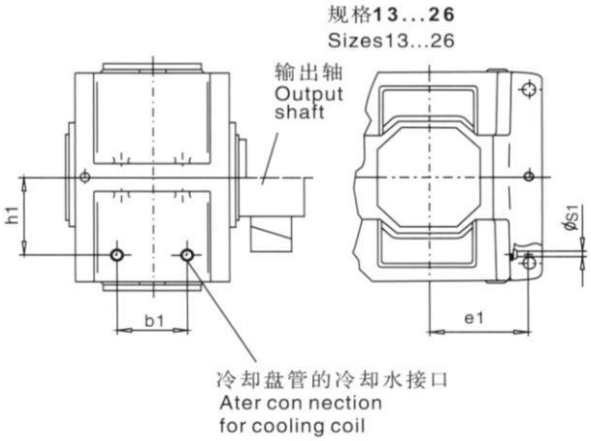
实际速比 i Actual Ratios													
齿轮箱规格 Gear units sizes													i_N
14	15	16	17	18	19	20	21	22	23	24	25	26	
–	4.963	–	4.880	–	–	–	–	–					5.0
–	5.609	5.630	5.514	–	–	–	–	–					5.6
6.156	6.340	6.362	6.234	–	–	–	–	–					6.3
6.957	7.132	7.192	7.012	7.239	–	–	–	–					7.1
7.915	8.101	8.090	7.965	8.143	–	–	–	–					8.0
8.847	8.810	9.190	8.662	9.250	–	–	–	–					9.0
10.049	10.099	9.993	9.930	10.059	–	–	–	–					10
10.928	10.914	11.456	10.731	11.531	–	–	–	–					11.2
12.528	12.172	12.380	12.770	11.531	12.062	–	12.256	–					12.5
13.538	13.810	13.832	13.790	12.462	13.709	13.698	13.902	13.719					14
15.552	15.215	15.665	16.226	14.654	15.192	15.640	15.436	15.538					16
17.007	17.262	17.290	17.522	16.014	17.267	17.252	17.510	17.279					18
20.376	19.379	19.581	19.762	18.620	19.607	19.698	19.883	19.570					20
22.282	21.900	21.982	22.333	20.348	22.158	22.368	22.470	22.222					22.4
25.131	24.916	24.842	25.409	22.950	25.048	25.278	25.400	25.113					25
27.548	27.847	28.263	28.398	25.507	28.175	28.576	28.571	28.389					28
32.057	31.634	31.588	32.259	32.979	32.005	32.143	32.456	31.933		根据用户要求供货 on request			31.5
35.432	34.400	35.883	35.080	37.463	34.804	36.513	35.294	36.275					35.5
40.700	39.435	39.021	40.215	40.738	39.899	39.706	40.461	39.446					40
44.259	42.617	44.732	43.460	46.702	43.117	45.518	43.725	45.221					45
50.737	48.536	48.341	49.496	50.469	49.106	49.190	49.798	48.869					50
54.831	54.562	55.055	55.641	57.479	55.203	56.022	55.981	55.656					56
62.446	60.158	61.892	61.348	64.616	60.865	62.978	61.722	62.567					63
70.200	68.553	68.239	69.909	71.243	69.358	69.438	70.335	68.984					71
77.400	78.131	77.761	76.506	81.184	79.977	79.127	77.639	78.610					80
88.200	85.645	88.626	83.865	88.846	87.670	91.242	87.739	86.772					90
101.780	99.664	97.150	97.593	97.391	102.020	100.017	99.821	98.061					100
111.569	110.155	113.052	107.865	113.333	112.759	116.389	111.565	111.565					112
129.831	126.535	124.952	123.904	125.263	129.526	128.641	126.733	124.690					125
143.498	137.599	143.532	134.739	143.889	140.851	147.769	137.815	141.643					140
155.663	157.741	156.082	154.462	156.471	161.470	160.690	157.989	154.029					160
179.248	170.467	178.930	166.923	179.375	174.496	184.212	170.735	176.576					180
205.487	194.143	193.365	190.107	193.846	198.732	199.073	194.448	190.821					200
222.065	218.249	220.222	213.712	220.769	223.408	226.722	218.592	217.324					224
252.907	240.634	247.566	235.631	248.182	246.322	254.874	241.012	244.309					250
284.310	274.210	272.957	268.510	273.636	280.692	281.015	274.641	269.366					280
313.470	302.191	311.045	295.909	311.818	309.334	320.226	302.666	306.952					315
357.210	–	342.784	–	343.636	–	352.902	–	338.273					355
393.660	–	–	–	–	–	–	–	–					400
–	–	–	–	–	–	–	–	–					450

齿轮箱 Gear Units
冷却盘管 cooling coils
卧式安装 horzontal
类型 FSH..FSH,FSH..M,FSB..H,FSB..M Type FSH..FSH, FSH..M,FSB..H,FSB..M
规格 1...26 Sizes1...26
规格 1...12 Sizes1...12

FSH1SH,FSH2.H,FSH3.H,FSB2.H,FSB3.H



FSH2.M,FSH3.M,FSB2.M,FSB3.M



规格 Size	Type 类型 FSH1SH					Type 类型 FSH2.H / FSB3.H					Type 类型 FSH3.H					Type 类型 FSB2.H				
	b mm	e mm	h mm	s	水量 water	b mm	e mm	h mm	s	水量 water	b mm	e mm	h mm	s	水量 water	b mm	e mm	h mm	s	水量 water
1	30	150	45	G1/4	4	-	-	-	-	-	-	-	-	-	-	64	125	40	G1/4	4
2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	78	130	40	G1/4	4
3	48	205	74	G1/2	4	34	130	55	G1/2	4	-	-	-	-	-	58	140	52	G1/2	4
4	-	-	-	-	-	34	155	60	G1/2	4	-	-	-	-	-	74	160	54	G1/2	4
5	88	270	90	G1/2	4	68	170	64	G1/2	4	70	175	60	G1/2	4	130	175	62	G1/2	8
6	-	-	-	-	-	70	215	68	G1/2	4	70	220	69	G1/2	4	120	220	68	G1/2	4
7	124	310	135	G1/2	4	100	210	83	G1/2	4	80	210	83	G1/2	4	140	210	80	G1/2	8
8	-	-	-	-	-	100	270	83	G1/2	4	80	270	83	G1/2	4	140	270	80	G1/2	4
9	116	365	110	G1/2	8	140	245	110	G1/2	8	150	245	107	G1/2	4	232	245	110	G1/2	8
10	-	-	-	-	-	100	295	95	G1/2	8	90	295	95	G1/2	4	150	295	90	G1/2	8
11	146	425	130	G1/2	8	110	275	95	G1/2	8	200	275	115	G1/2	8	312	275	115	G1/2	8
12	-	-	-	-	-	200	360	109	G1/2	8	200	360	115	G1/2	8	300	360	115	G1/2	8
13	152	480	150	G1/2	8	252	455	116	G1/2	8	252	460	116	G1/2	8	324	460	116	G1/2	8
14	-	-	-	-	-	252	525	116	G1/2	8	252	530	116	G1/2	8	324	530	116	G1/2	8
15	172	560	130	G1/2	8	290	535	119	G1/2	8	290	540	119	G1/2	8	396	540	119	G1/2	8
16	-	-	-	-	-	290	580	119	G1/2	8	290	585	119	G1/2	8	396	585	119	G1/2	8
17	202	600	145	G1/2	8	340	575	134	G1/2	8	300	580	134	G1/2	8	468	580	134	G1/2	8
18	-	-	-	-	-	340	635	134	G1/2	8	300	640	134	G1/2	8	468	640	134	G1/2	8
19	根据用户要求供货 on request					根据用户要求供货 on request					根据用户要求供货 on request									
20-26																				

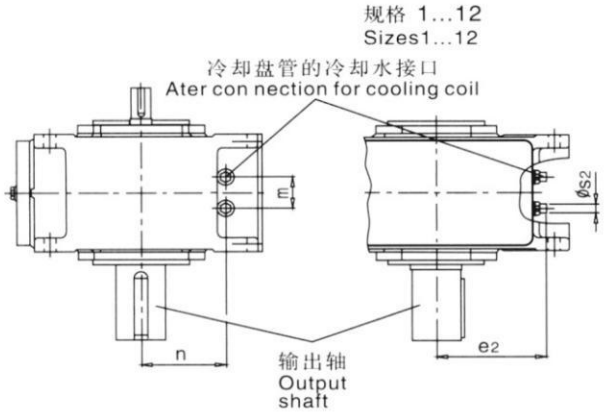
规格 Size	Type 类型 FSH2.M / FSB3.M					Type 类型 FSH3.M					Type 类型 FSB2.M				
	b_1 mm	e_1 mm	h_1 mm	s_1	水量 water	b_1 mm	e_1 mm	h_1 mm	s_1	水量 water	b_1 mm	e_1 mm	h_1 mm	s_1	水量 water
13	252	335	300	G1/2	8	252	335	300	G1/2	8	324	335	300	G1/2	8
14	252	405	300	G1/2	8	252	405	300	G1/2	8	324	405	300	G1/2	8
15	290	395	335	G1/2	8	290	395	340	G1/2	8	396	390	345	G1/2	8
16	290	440	335	G1/2	8	290	440	340	G1/2	8	396	435	345	G1/2	8
17	340	425	380	G1/2	8	300	425	380	G1/2	8	324	425	395	G1/2	8
18	340	485	380	G1/2	8	300	485	380	G1/2	8	324	485	395	G1/2	8
19-26	根据用户要求供货 on request					根据用户要求供货 on request									

1) 冷却水需要量（l / min）
冷却盘管适用于淡水、海水和半咸水。

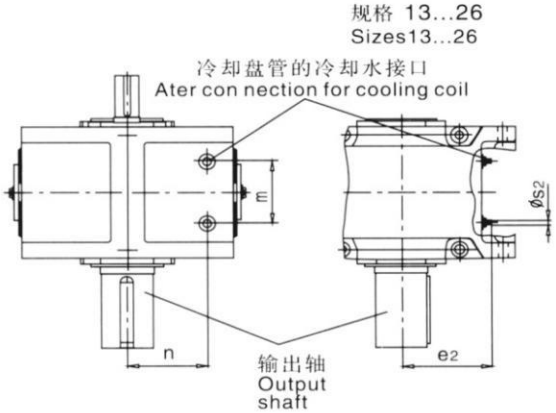
1) Water quntity (l / min)
cooling coil suitable for fresh,seaand Brackish water。

齿轮箱 Gear Units
冷却盘管 cooling coils
立式安装 Vertical
类型 FSH...V,FSB...V Type FSH...V,FSB...V
规格 1...26 size 1..26

FSH2.V,FSH3.V,FSB2.V,FSB3.V



FSH2.V,FSH3.V,FSB2.V,FSB3.V



规格 Size	Type 类型 FSH2.V / FSB3.V					Type 类型 FSH3.V					Type 类型 FSB2.V				
	m mm	n mm	e_2 mm	s_2	水量 water	m mm	n mm	e_2 mm	s_2	水量 water	m mm	n mm	e_2 mm	s_2	水量 water
1	–	–	–	–	–	–	–	–	–	–	64	90	125	G1/4	4
2	–	–	–	–	–	–	–	–	–	–	78	105	130	G1/4	4
3	34	120	130	G1/2	4	–	–	–	–	–	58	123	140	G1/2	4
4	34	140	155	G1/2	4	–	–	–	–	–	74	146	160	G1/2	4
5	68	166	170	G1/2	4	70	170	175	G1/2	4	130	168	175	G1/2	8
6	70	162	215	G1/2	4	70	161	220	G1/2	4	120	162	220	G1/2	4
7	100	197	210	G1/2	4	80	197	210	G1/2	4	140	200	210	G1/2	8
8	100	197	270	G1/2	4	80	197	270	G1/2	4	140	200	270	G1/2	4
9	140	210	245	G1/2	8	150	213	245	G1/2	4	232	210	245	G1/2	8
10	100	225	295	G1/2	8	90	225	295	G1/2	4	150	230	295	G1/2	8
11	110	285	275	G1/2	8	200	265	275	G1/2	8	312	265	275	G1/2	8
12	200	271	360	G1/2	8	200	265	360	G1/2	8	300	265	360	G1/2	8
13	252	300	335	G1/2	8	252	300	335	G1/2	8	324	300	335	G1/2	8
14	252	300	405	G1/2	8	252	300	405	G1/2	8	324	300	405	G1/2	8
15	290	335	395	G1/2	8	290	340	395	G1/2	8	396	345	390	G1/2	8
16	290	335	440	G1/2	8	290	340	440	G1/2	8	396	345	435	G1/2	8
17	340	380	425	G1/2	8	300	380	425	G1/2	8	324	395	425	G1/2	8
18	340	380	485	G1/2	8	300	380	485	G1/2	8	324	395	485	G1/2	8
19-26	根据用户要求供货 on request					根据用户要求供货 on request									

冷却盘管适用于 Cooling coil for													
规格 Size	规格 Size	浸油润滑 Diplubrication				法兰泵强制润滑 Forced lubrication with flanged-on pump				电动泵强制润滑 Forced lubrication with motor pump			
		适用布置形式 For design				适用布置形式 For design				适用布置形式 For design			
		A	B	C	D	A	B	C	D	A	B	C	D
H2.V	3– 4	x	x	x	x	–	–	–	–				
	5 – 12	x	x	x	x	–	x	–	x				
	13 – 18	–	–	–	–	–	x	–	x				
H3.V	5 - 12	x	x	x	x	–	x	-	x		按客户要求供货 On request		
	13 - 18	–	–	–	–	–	x	-	x				
B2.V	1– 4	x	x	x	x	–	–	–	–				
	5 – 12	x	x	x	x	x	x	–	–				
	13 – 18	–	–	–	–	x	x	–	–				
B3.V	3– 4	x	x	x	x	–	–	–	–				
	5 – 12	x	x	x	x	–	–	x	x				
	13 – 18	–	–	–	–	–	–	x	x				

x =可供贷

1) 冷却水需要量 (l / min)
冷却盘管适用于淡水、海水和半咸水。

1) Water quntity (l / min)
cooling coil suitable for fresh,seaand Brackish water。

齿轮箱 Gear Units
润滑油供给方式可选方案 Gtear Units Suppy for vertical
类型 FSH2...H4,FSB2...B4 Type FSH2...H4,FSB2...B4
规格 1...18 size 1..18 立式安装 Vertical

立式安装齿轮箱所用的各种润滑油供给方式列于表 12。
Oil supply variants for vertical gear units can be derived from fable12

表 12 Table 12

类型 1) Type	规格 Sice	浸油润滑 Diplubrication	法兰泵强制润滑 Forced lubrication with flanged-on pump	电动泵强制润滑 Forced lubrication with motor pump
FSH2.V	3 ... 4 5 ... 12 13 ...18	x x –	– x x	– – –
FSH3.V	5 ... 12 13 ...18	x –	x x	x x
FSH4.V	7 ... 12 13 ...18	x –	x –	x x
FSB2.V	1 ... 4 5 ... 12 13 ...18	x x –	– x x	– x x
FSB3.V	3 ... 4 5 ... 12 13 ...18	x x –	– x x	– x x
FSB4.V	5 ... 12 13 ...18	x –	x –	x x

推荐供油方式：
规格 6 号(含)以下各型:浸油润滑，
规格 7 号以上各型:强制润滑

Preferred order:
up to size 6:Diplubrication
From size 7 up:Forced lubrication

对各种润滑油供给方式的说明
浸油润滑：
当采用浸油润滑时，所有需要润滑的零部件均需浸在润滑油液中。
附带的补偿油箱用于存储涨溢的油液。

强制润滑：
当采用强制润滑时，所有未浸在润滑油液中的零部件均通过一个法兰联接油泵或单独的电动油泵进行飞溅润滑。

Notes on the individualoil supply variants
Diplubrication:
Incase of dip lubrication,all parts to belubricated are lying in the oil.An oil compensating tank has been fitted for oil expansion Criteria for selection.

Forced lubrication:
In case of forced lubrication all parts which arenot lying in oil aresplash lubricated by means of a flanged-on pump or by a separate moton pump.

齿轮箱 Gear Units
浸油润滑方式 Dip lubrication
类型 FSH2...H4,FSB2...B4 Type FSH2...H4,FSB2...B4
规格 1...12 Size 1..12 立式安装 Vertical

当选用浸油滑方式时，必须满足下列要求：
a)最大输入转速n_1,参见表13；
b)允许油温，参见表14。

For the design with diplubrication the following criteria have be observed：
a)Maximum input speed n1,see table13
b) Permissible oil temperatures,see table14

表13 Table 13

规格 Size	类型 Type											
	FSH2.V		FSH3.V		FSH4.V		FSB2.V		FSB3.V		FSB4.V	
	i_N	n_{1max}	i_N	n_{1max}	i_N	n_{1max}	i_N	n_{1max}	i_N	n_{1max}	i_N	n_{1max}
1	–	–	–		–		5 – 6.3 7.1 – 8 9 – 18	1200 1500 1800	–	–	–	
2	–	–	–		–		5 – 5.6 6.3 – 8 9 – 10 11.2 – 18	1000 1200 1500 1800	–	–	–	
3	6.3 – 7.1 8 – 10 11.2 – 22.4	1200 1500 1800	–		–		5 – 7.1 8 – 9 10 – 12.5 14 – 18	1000 1200 1500 1800	20 – 71	1800	–	
4	6.3 – 10 11.2 – 12.5 14 – 22.4	1200 1500 1800	–		–		5 – 5.6 6.3 – 7.1 8 – 9 10 – 11.2	750 900 1000 1200	12.5 – 71	1800	–	
5	6.3 – 9 10 – 12.5 14 – 16 18 – 22.4	1000 1200 1500 1800	25 – 90	1800	–		6.3 – 7.1 8 – 9 10 – 11.2	750 900 1000	12.5 – 71	1800	80 – 315	1800
6	8 – 11.2 12.5 – 16 18 – 20 22.4 – 28	1000 1200 1500 1800	31.5 – 112	1800	–		9 10 – 11.2 12.5 – 14	750 900 1000	16 – 90	1800	100 – 400	1800
7	6.3 – 7.1 8 – 9 10 – 11.2 12.5 – 16 18 – 22.4	750 900 1000 1200 1500	25 – 90	1800	100 – 355	1800	9 – 10 11.2	750 900	12.5 – 25 28 – 71	1500 1800	80 – 315	1800
8	8 – 9 10 – 11.2 12.5 – 14 16 – 20 22.4 – 28	750 900 1000 1200 1500	31.5 – 112	1800	125 – 450	1800	11.2 – 12.5 14	750 900	16 – 31.5 35.5 – 90	1500 1800	100 – 400	1800
9	6.3 – 7.1 8 – 10 11.2 – 22.4	1200 1500 1800	25 – 90	1800	100 – 355	1800	5 – 5.6 6.3 – 7.1 8 – 10 11.2	900 1000 1200 1500	12.5 – 71	1800	80 – 315	1800
10	8 – 9 10 – 12.5 14 – 28	1200 1500 1800	31.5 – 112	1800	125 – 450	1800	6.3 – 7.1 8 – 9 10 – 12.5 14	900 1000 1200 1500	16 – 90	1800	100 – 400	1800
11	6.3 – 7.1 8 – 10 11.2 – 12.5 14 – 22.4	1000 1200 1500 1800	25 – 90	1800	100 – 355	1800	5.6 – 6.3 7.1 – 8 9 – 10 11.2	750 900 1000 1200	12.5 – 22.4 25 – 71	1500 1800	80 – 315	1800
12	8 – 9 10 – 12.5 14 – 16 18 – 28	1000 1200 1500 1800	31.5 – 112	1800	125 – 450	1800	7.1 – 8 9 – 10 11.2 – 12.5 14	750 900 1000 1200	16 – 28 31.5 – 90	1500 1800	100 – 400	1800

n_1和i_N值不在表13所列范围内的齿轮箱必须采用强制润滑方式。

Gear units with n1 and iN which are not listed in table13 must be designed for forced lubrication

表14 Table 14

40℃温度下的ISO-VG粘度，mm^2/s(cSt) Viscosity ISO-VG at40℃mm^2/s(cSt)	浸油润滑允许极限温度,℃ Permissible temperature limitin ℃ diplubrication	
	矿物油 Mineral oil	合成油 Synthetic oil
VG 220 VG 320 VG 460	-15 -12 -9	-25 -25 -25

若油温低于表中所列数值，则必须对润滑油进行加热。当采用浸油润滑时，油温不行低于所用润滑油的倾点。

If the temperates are below the values as listed in the table,the oil must be heated. In case of dip lubrication,the oil temperature must not be below the pour point of the selected oil.

齿轮箱 Gear Units
强制润滑方式 Forced lubrication
类型 FSH2...H4,FSB2...B4 Type FSH2...H4,FSB2...B4
规格 5...18 Size 5..18 立式安装 Vertical

表15 Table15

40℃温度下的ISO-VG粘度，mm^2/s(cSt) Viscosity ISO-VG at40℃mm^2/s(cSt)	强制润滑允许极限温度,℃ Permissible temperature limitin ℃ forced lubrication			
	矿物油 Mineral oil		合成油 Synthetic oil	
	最低 min	最高 max	最低 min	最高 max
VG 220	10	80	0	90
VG 320	15	90	5	100
VG 460	20	95	10	105

强制润滑：

当采用强制润滑时，启动时的工作粘度不得超过1800cSt。

最低工作粘度不得小于25cSt。

当油温低于表 15 所列的数值时，必须提供浸油润滑方式，或者对润滑油进行加热。

Forced lubrication:

In case of forced rubrication,the viscosity 1800cSt must not be exceeded during stating. A minimum operating viscosity of 25 cSt must be ensured. If the temperatures are below the values as listed in table15,dip lubrication has to be provided or the oil must be heated.

表16 Table16

立式安装平行轴齿轮箱采用法兰泵
Vertical case of flanged-on pump

类型 Type	n_1 r/min	齿轮箱规格 Gearvnits sizes 5,7,9,11 速比 Ratio i_N	齿轮箱规格 Gearvnits sizes 6,8,10,12 速比 Ratio i_N	法兰泵规格 Flanged-on pump sizes	齿轮箱规格 Gearvnits sizes 13,15,17 速比 Ratio i_N	齿轮箱规格 Gearvnits sizes 14 速比 Ratio i_N	齿轮箱规格 Gearvnits sizes 16,18 速比 Ratio i_N	法兰泵规格 Flanged-on pump sizes
FSH2.V 1)	750-1800	6.3 - 22.4	8 - 28	KSW 1	6.3 - 22.4	8 - 28	7.1 - 25	KSW 2
FSH3.V 1)	1201-1800	25 - 35.5	31.5 - 45	KSW 2	22.4 - 35.5	28 - 45	25 - 40	KSW 3
		40 - 71	50 - 90	KSW 3	40 - 71	50 - 90	45 - 80	KSW 4
		80 - 90	100 - 112	*	80 - 90	100 - 112	90 - 100	*
	901-1200	25 - 50	31.5 - 63	KSW 3	22.4 - 25	28 - 31.5	25 - 28	KSW 3
		56 - 90	71 - 112	*	28 - 45	35.5 - 56	31.5 - 50	KSW 4
					50 - 90	63 - 112	56 - 100	*
	750 - 900	25 - 35.5	31.5 - 45	KSW 3	22.4 - 35.5	28 - 45	25 - 40	KSW 4
		40 - 90	50 - 112	*	40 - 90	50 - 112	45 - 100	*
FSH4.V 1)	1201-1800	100 - 180	125 - 224	KSW 3	100 - 355	125 - 450	112 - 400	
		200 - 355	250 - 450	*				
	901-1200	100 - 125	125 - 160	KSW 3				
		140 - 355	180 - 450	*				
	750 - 900	100 - 355	125 - 450	*				

★=电动泵参见表17
★=motor pump see Table17

1)布置形式 B、D 1) Design B、D

表 17 Table 17

立式安装采用电动泵
Helcal Gesr Units Vertical motor pump

类 型 Type	规 格 Size	油 泵 Pump
FSH2.V FSB2V	5 ... 18	FSH2V (KSW、KSW2) FSB2V (SF2/5)
FSH3.V FSB3V		SF 2/8
FSH4.V FSB4V	7 ... 12	
	13... 18	SF 2/13

表 18 Table 18

立式安装直交轴齿轮箱采用法兰泵
Bevel-helical Gear Units Vertical case of flanged-on punp

类型 Type	n_1 r/min	齿轮箱规格 Gearvnits sizes 5,7,9,11 速比 Ratio i_N	齿轮箱规格 Gearvnits sizes 6,8,10,12 速比 Ratio i_N	法兰泵规格 Flanged-on pump sizes	齿轮箱规格 Gearvnits sizes 13,15,17 速比 Ratio i_N	齿轮箱规格 Gearvnits sizes 14 速比 Ratio i_N	齿轮箱规格 Gearvnits sizes 16,18 速比 Ratio i_N	法兰泵规格 Flanged-on pump sizes
FSB2.V 1)	1201 - 1800	5 - 6.3	6.3 - 8	KSW 1	5 - 8	6.3 - 10	5.6 - 9	KSW 2
		7.1 - 11.2	9 - 14	KSW 2	9 - 11.2	11.2 - 14	10 - 12.5	KSW 3
	901 - 1200	5 - 8	6.3 - 10	KSW 2	5	6.3	5.6	KSW 2
		9 - 11.2	11.2 - 14	KSW 3	5.6 - 11.2	7.1 - 14	6.3 - 12.5	KSW 3
	750 - 900	5 - 6.3	6.3 - 8	KSW 2	5 - 10	6.3 - 12.5	5.6 - 11.2	KSW 3
		7.1 - 10	9 - 12.5	KSW 3	11.2	14	12.5	*
		11.2	14	*				
FSB3.V 2)	1201 - 1800	12.5 - 35.5	16 - 45	KSW 2	12.5 - 35.5	16 - 45	14 - 40	KSW 3
		40 - 71	50 - 90	KSW 3	40 - 71	50 - 90	45 - 80	KSW 4
	901 - 1200	12.5 - 25	16 - 31.5	KSW 2	12.5 - 25	16 - 31.5	14 - 28	KSW 3
		28 - 50	35.5 - 63	KSW 3	28 - 50	35.5 - 63	31.5 - 56	KSW 4
		56 - 71	71 - 90	*	56 - 71	71 - 90	63 - 80	*
	750 - 900	12.5 - 35.5	16 - 45	KSW 3	12.5 - 35.5	16 - 45	14 - 40	KSW 4
		40 - 71	50 - 90	*	40 - 71	50 - 90	45 - 80	*
FSB4.V 1)	1201 - 1800	80 - 125	100 - 160	KSW 2	80 - 315	100 - 400	90 - 355	
		140 - 250	180 - 315	KSW 3				
		280 - 315	355 - 400	*				
	901 - 1200	80 - 180	100 - 224	KSW 3				
		200 - 315	250 - 400	*				
	750 - 900	80 - 125	100 - 160	KSW 3				
		140 - 315	180 - 400	*				

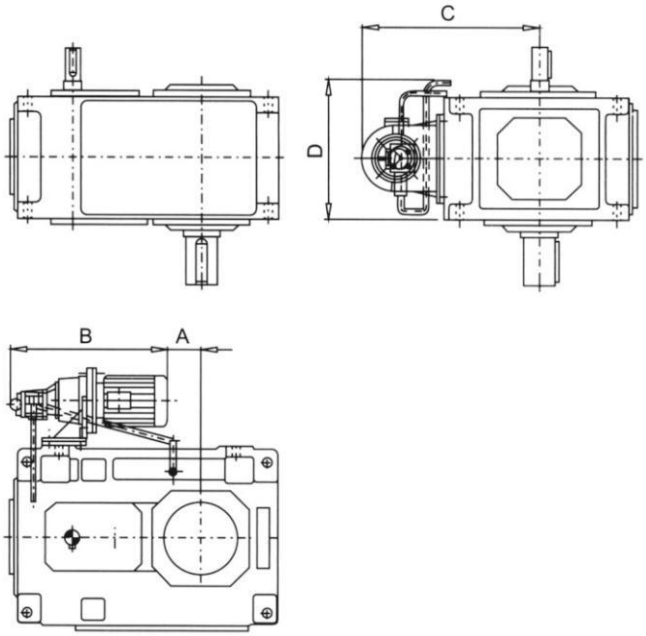
★ = 所需电动泵,参见表19-20
Motor pump see 19-20

1) 布置形式 A、B 1) Design A、B
2) 布置形式 C、D 2) Design C、D

齿轮箱
电动泵强制润滑方式
类型 FSH3、FSH4、FSB2、FSB3、FSB4
规格 5…18　立式安装

Gear Units
Forced lubrication motor pump
type FSH3、FSH4、FSB2、FSB3、FSB4
Size 5...18　Vertical

FSH3.V,FSH4.V



FSB2.V,FSB3.V,FSB4.V

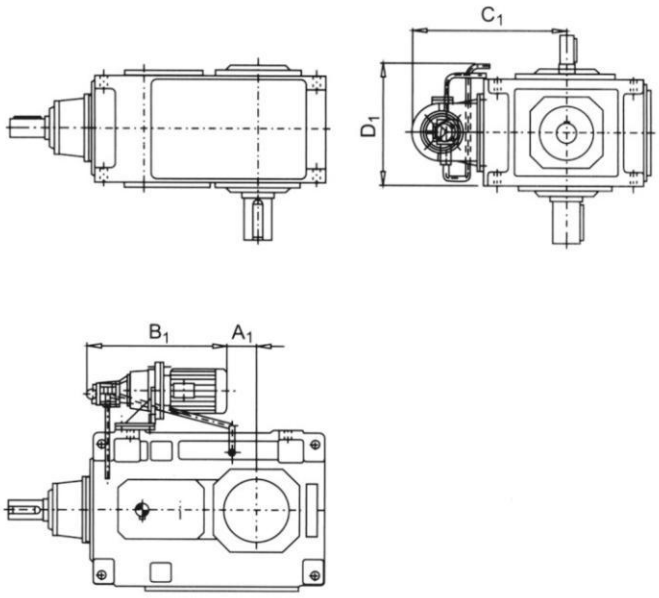


表 19　Table 19

安装尺寸 mm　Dimension sin mm

类型 Type	规格 Size	A	B	C	D
FSH3.V	5/ 6	-25 / 10	560	495	350
	7/ 8	55 / 100	595	545	425
	9/10	140 / 190	615	585	495
	11/12	375 / 445	535	645	560
	13/14	155 / 225	875	695	680
	15/16	275 / 320	960	735	745
	17/18	250 / 310	1035	795	810
FSH4.V	5/ 6	-	-	-	
	7/ 8	55 / 100	590	545	425
	9/10	140 / 190	630	585	495
	11/12	375 / 445	560	645	560
	13/14	135 / 205	910	695	665
	15/16	255 / 300	995	735	745
	17/18	230 / 280	1070	795	810

表 20　Table 20

安装尺寸 mm　Dimension sin mm

类型 Type	规格 Size	A_1	B_1	C_1	D_1
FSB2.V	5/ 6	-160 / -120	475	495	450
	7/ 8	5 / 50	475	545	540
	9/10	60 / 110	475	585	560
	11/12	150 / 220	475	645	645
	13/14	-70 / 0	530	690	810
	15/16	15 / 60	530	730	920
	17/18	-5 / 55	530	790	1025
FSB3.V	5/ 6	-85 / -50	475	495	375
	7/ 8	-5 / 40	475	545	435
	9/10	65 / 115	475	585	505
	11/12	280 / 350	475	645	565
	13/14	90 / 160	530	690	680
	15/16	175 / 220	530	730	755
	17/18	220 / 280	530	790	815
FSB4.V	5/ 6	-35 / 0	475	495	360
	7/ 8	55 / 100	475	545	425
	9/10	140 / 190	475	585	495
	11/12	375 / 445	475	645	560
	13/14	135 / 205	530	695	665
	15/16	255 / 300	530	735	745
	17/18	230 / 290	530	795	810

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