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产品设计

- ◆ 采用二维、三维和有限元分析软件设计：减速机的型号按扭矩和传动比采用递减形式划分，更符合客户的要求避免了功率的浪费。
- ◆ 齿轮精度按照ISO1328-1997圆柱齿轮精度设计。
- ◆ 齿轮强度按ISO6336-1996直齿和斜齿轮承载能力计算方法设计。
- ◆ 材料和热处理的质量控制按ISO6336-5：1996直齿和斜齿轮，承载能力计算方法，第5部分材料的强度和重量。
- ◆ 设计采用了大风扇和新型导流风扇罩。
- ◆ 通过圆锥齿轮磨削工艺和采用计算机程序设计使噪音大大的降低。
- ◆ 强大的设计能力和经验能为客户提供非标设计。

Design

- ◆ Adopt 2D,3D optimal design and finite element analysis software. Type of gear units are classified via degression by torque and ratio to avoid power loss.
- ◆ Gear precision comply with spur gear precision stated in ISO1328-1997.
- ◆ Gear intensity comply with spur gear and helical gear loading capacity calculating method stated in ISO6336-1996.
- ◆ Quality of material and heat treatment comply with spur gear and helical gear loading capacity calculating method stated in the fifth part of ISO6336-5: 1996----Quality and Intensity of Material.
- ◆ Newly designed big fan and blower casing.
- ◆ Reduce noise greatly by adopting bevel gear grinding technology and computer programming software.
- ◆ Our powerful design capability and abundant experience in this field make us offer custom design.

产品特点

- ◆ 从箱体到内部齿轮，采用完全的模块化设计，零部件的种类减少而规格数量增多，适合大规模生产及灵活多变的选型。
- ◆ 铸造箱体采用高强度HT250材质，结构刚性好、减震性能优越，易于提高轴的强度和轴承寿命。
- ◆ 齿轮采用优质高纯度合金钢18CrNiMo7-6，可控渗碳淬火，齿面硬度高达HRC60±2，齿面磨削精度5级，特殊要求可达3级，磨削齿轮直径 ϕ 2500mm。
- ◆ 齿形、齿向进行修形，大大降低了噪声，提高了承载能力。
- ◆ 所有齿轮均经过喷丸处理，有效降低了热处理后的残余应力，同时提高了齿轮的抗疲劳强度。

Characteristics

- ◆ Modular optimal design is widely used in the designing of any gear units parts(from casing to inner gear) which makes it possible for us to reduce the variety of parts of gears units and increase the variety of models, so, it is helpful for mass production and flexible model selection.
- ◆ The use of high intensity cast iron---HT250 and the structure is high rigidity and better cushioning,which improves the life of bears and intensity of shafts.
- ◆ High quality and high purity alloy steel---18CrNiMo7-6 is used in making gears, and after controllable carburizing and quenching ,the surface hardness of the gear teeth can reach to HRC60±2, ginding precision of the gear teeth surface can reach to the fifth class, and even can reach to the third class in terms of special requirment,Diameter of grinding gears Φ 2500mm.
- ◆ The correction of tooth shape and alignment reduces noise greatly and improves its loading capability.
- ◆ That the shot blasting for the gears effectively reduce residual stress due to heat treatment, and at the same time improves the gear's fatigue resistance.

注意事项

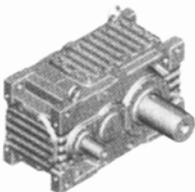
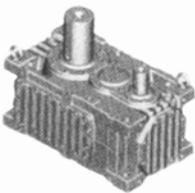
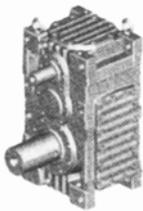
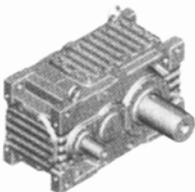
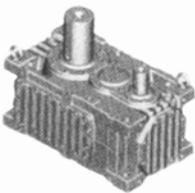
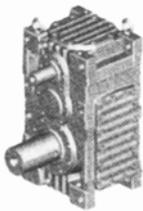
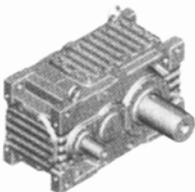
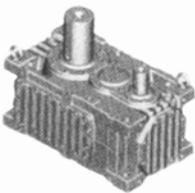
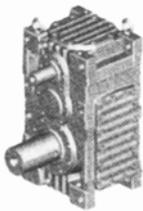
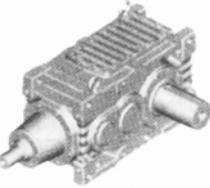
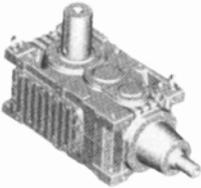
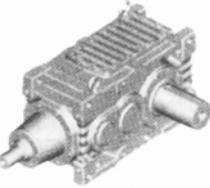
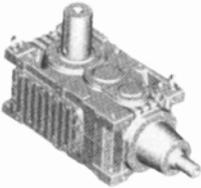
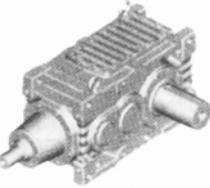
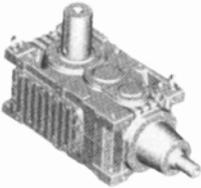
必须严格遵守以下各项!

- 样本中的附图只属范例，并不具有约束力。公司保留变更尺寸的权利。
- 所注重量仅为平均值，并不具有约束力。
- 为防止意外事故发生，所有旋转部件均应按照使用者所在国家和地区的安全规范由购置方加罩保护。
- 试车之前必须认真阅读操作说明。齿轮箱在供货时已处于准运行状态，运行前需加注润滑油。
- 本样本中所示注油量只作为参考值，实际注油量应以油尺上的标记为准。
- 润滑油粘度应符合齿轮箱铭牌上的数据。
- 只能采用允许品牌的润滑油。
- 齿轮箱在供货时已配置了径向油封。如果需要其他类型的油封敬请垂询。
- 转动方向是指面向输出轴时输出轴 d_2 的转动方向。
- 当安装在室外时应避免阳光照射。应由购置方配备适当的防护设备。

Attention!

The following items are absolutely to be observed!

- Illustrations are examples only and are not strictly binding. Dimensions are subject to change.
- The weights are mean values and not strictly binding.
- To prevent accidents, all rotating parts should be guarded according to local and national safety regulations.
- Prior to commissioning, the operating instructions must be observed. The gear units are delivered ready for operation but without oil filling.
- Oil quantities given are guide values only. The exact quantity of oil depends on the marks on the oil dipstick.
The oil viscosity has to correspond to the data given on the name plate.
- Permitted lubricants may be used only.
- The gear units are supplied with radial shaft seals. Other sealing variants on request.
- Directions of rotation referring to output shaft d_2 .
- In case of outdoor installation, insulation is to be avoided. The customer has to provide adequate protection.

系列 Series	级数 Number of stages	减速器结构 Gear Unit design	LSS 型式 LSS type	附件 Attachment	规格 Size						
MC	2	斜齿轮减速器(平行轴) Helical Gear Unit (Parallel Shafts)	S 实心轴 Solid Shaft	F 底脚 Foot	02						
		<table border="0"> <tr> <td>PL 水平安装 Horizontal mounting</td> <td>PV 垂直安装 Vertical mounting</td> <td>PE 竖立安装 Upright mounting</td> </tr> <tr> <td></td> <td></td> <td></td> </tr> </table>			PL 水平安装 Horizontal mounting	PV 垂直安装 Vertical mounting	PE 竖立安装 Upright mounting				03
		PL 水平安装 Horizontal mounting			PV 垂直安装 Vertical mounting	PE 竖立安装 Upright mounting					
											
		04									
		05									
	06										
	07										
	3	锥齿轮 - 斜齿轮减速器(直角轴) Bevel Helical Gear Unit (Right - Angle Shafts)	H 空心轴 Hollow Shaft	T 力矩支臂 Torque Arm	08						
		<table border="0"> <tr> <td>RL 水平安装 Horizontal mounting</td> <td>RV 垂直安装 Vertical mounting</td> <td>RE 竖立安装 Upright mounting</td> </tr> <tr> <td></td> <td></td> <td></td> </tr> </table>			RL 水平安装 Horizontal mounting	RV 垂直安装 Vertical mounting	RE 竖立安装 Upright mounting				09
RL 水平安装 Horizontal mounting		RV 垂直安装 Vertical mounting			RE 竖立安装 Upright mounting						
											

尺寸图中所用标准
Standards used in dimensional drawings

键和键槽: GB1095
Keys and keyways: GB1095
地脚安装面螺钉强度等级: 6.8
Screw strength grade of Foot Mounting Face fixing: 6.8

所用缩写
Abbreviation used

高速轴: HSS
High Speed Shaft : HSS
低速轴: LSS
Low Speed Shaft:LSS

尺寸图中所用插图说明

Definition of icons used in dimensional drawings



目视观察孔
Visual inspection opening



加油口
Oil filler



油尺
Oil dipstick



通气帽
Breather



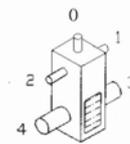
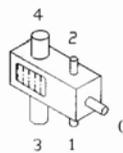
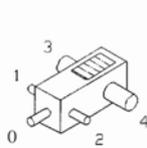
放油装置
Oil drainage



油观察窗
Oil glass

轴的位置

Shaft positions



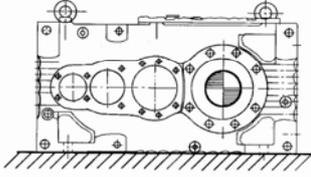
输出轴的旋转方向
用逆止器时单向转动方向

Direction of rotation for output shaft
Freewheeling direction when backstop is applied

<p>顺时针/ Clockwise</p>	
<p>逆时针/ Counter-Clockwise</p>	

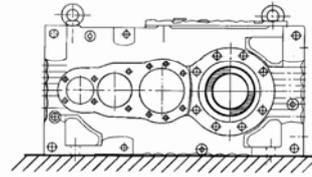
水平LSS

Horizontal LSS



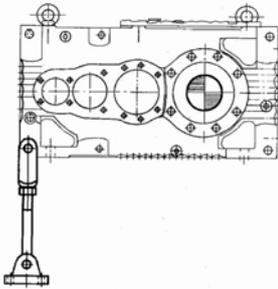
MC..LSF

实心LSS / Solid LSS (S)
底脚安装 / Foot Mounting (F)



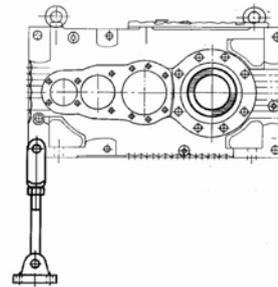
MC..LHF

空心LSS / Hollow LSS (H)
底脚安装 / Foot Mounting (F)



MC..LST

实心LSS / Solid LSS (S)
力矩支臂 / Torque Arm (T)

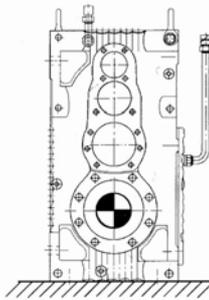


MC..LHF

空心LSS / Hollow LSS (H)
力矩支臂 / Torque Arm (T)

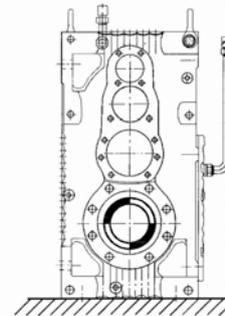
竖立安装

Upright mounting



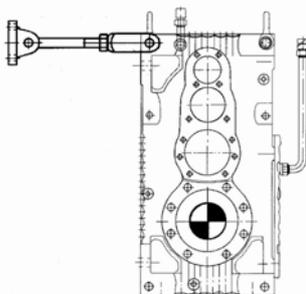
MC..ESF

实心LSS / Solid LSS (S)
Foot Mounting / 底脚安装 (F)



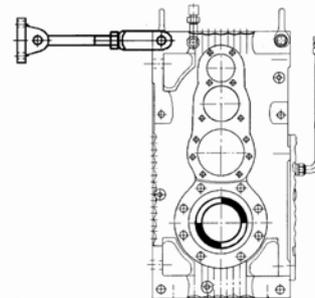
MC..EHF

空心LSS / Hollow LSS (H)
Foot Mounting / 底脚安装 (F)



MC..EST

实心LSS / Solid LSS (S)
力矩支臂 / Torque Arm (T)



MC..EHF

空心LSS / Hollow LSS (H)
力矩支臂 / Torque Arm (T)

齿轮箱选型指南

Gear Units for the Selection Constant output

<p>1. 确定齿轮箱的类型和规格 Determination of gear unit type and size</p>	<p>1.1 确定传动比/Find the trasmission ratio</p> $i = \frac{n_1}{n_2}$ <p>根据i选择功率表中相近的公称传动比i_N/ Choose the nearest nominal ratio i_N shown in rating tables depending on i.</p> <p>1.2 确定齿轮箱额定功率/Determine nominal power rating of the gear unit</p> $P_{k1} = \frac{P_{k2}}{\eta} \quad P_{k1} = \frac{M_{k2} \times n_2}{9550 \times \eta} \quad P_{N1} \geq P_{k1} \times F_s$ <p>1.3 校核最大功率P_{k1max}和最大M_{k2max}/Check for Maximun Power P_{k1max} and maximum Torgue M_{k2max}</p> $P_{k1max} \leq \frac{2 \times P_{N1}}{F_F} \quad M_{k2max} \leq \frac{2 \times M_{N2}}{F_F}$ <p>根据i_N和P_{N1}在额定功率表中确定齿轮箱的规格和传动级数, F_s列于表2中 Gear Unit sizes and number of reduction stages are gwer in rating tables depending on i_N and P_{N1}, F_s is given in table 2</p> <p>1.4 轴端外载荷 校核输入 (HSS) 和输出 (LSS) 轴的连接及在轴端的可能的径向和轴向载荷 Check the connections of input (HSS) and output (LSS) shafts and the possible radial and axial loads on shaft ends</p>				
<p>2. 确定所需要的热功率 Determination of required thermal capacity</p>	<p>在实际环境温度下确定减速器的热功率P_T Determine the thermal rating P_T of the gear unit in thd actual ambient temperature</p> $P_T = P_{TH} \times f_1 \times f_2 \times f_3 \times f_4$ <p>如果$P_{k1} > P_T$, 检查是否用外部压力润滑和冷却装置 If $P_{k1} > P_T$, check if external pressure lubriation and cooling unit can be used</p> <p>$P_{k1} \leq P_T$ 满足要求 It is not necessary to consuot us</p>				
<p>3. 确定润滑方式 Determination of oil lubrication</p>	<p style="text-align: center;">安装方式/Mounting Position</p> <table border="0" style="width: 100%;"> <tr> <td style="width: 50%; text-align: center;">卧式安装/Horizontal</td> <td style="width: 50%; text-align: center;">立式安装/Vertical</td> </tr> <tr> <td style="vertical-align: top;"> <p>1.采用飞溅润滑方式 Splash lubricated</p> <p>2.按用户要求提供强制润滑方式 Forced lubrication on request</p> </td> <td style="vertical-align: top;"> <p>1.膨胀箱润滑 Expansion Tank lubricated</p> <p>2.通过可逆泵或电机泵强制润滑 Forced lubrication by pump or motor pump</p> <p>3.按用户要求提供强制润滑方式。 Forced lubrication on request</p> </td> </tr> </table>	卧式安装/Horizontal	立式安装/Vertical	<p>1.采用飞溅润滑方式 Splash lubricated</p> <p>2.按用户要求提供强制润滑方式 Forced lubrication on request</p>	<p>1.膨胀箱润滑 Expansion Tank lubricated</p> <p>2.通过可逆泵或电机泵强制润滑 Forced lubrication by pump or motor pump</p> <p>3.按用户要求提供强制润滑方式。 Forced lubrication on request</p>
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齿轮箱符号说明

Gear Units key to symbols

<p>i - 要求传动比/Required ratio</p> <p>i_{ex} - 精确传动比/Exact ratio</p> <p>P_{k1} - 运行功率 (KW) /Running Power(KW)</p> <p>P_{k2} - 工作机功率 (KW) /Working Power(KW)</p> <p>n_1 - 输入转速 (r/min) /Input speed(r/min)</p> <p>n_2 - 输出转速 (r/min) /Output speed(r/min)</p> <p>M_{k2} - 运行转矩 (Nm) /Running Torque(Nm)</p> <p>F_s - 使用系数 / Service factor</p> <p>P_{N1} - 额定功率 (KW) / Nominal Power rating(KW)</p> <p>M_{N2} - 额定转矩 (Nm) /Nominal torque rating(Nm)</p> <p>P_T - 计算热功率 (KW) /Calculative thermal Capacity(KW)</p> <p>P_{TH} - 额定热功率 (KW) /Nominal thermal rating(KW)</p> <p>F_F - 最大载荷出现系数/maximun load occurrancy</p>	<p>η - 效率/Efficiency</p> <p style="padding-left: 20px;">二级/Double stage $\eta=0.97$</p> <p style="padding-left: 20px;">三级/Rriple stage $\eta=0.955$</p> <p>f_1 - 海拔系数/Factor for alitiade</p> <p>$f_2=1.07$ - 对安装力矩支臂的减速器 For torque arm mounted gear onits</p> <p>$f_2=1.0$ - 其它减速器 For other</p> <p>f_3=安装位置系数/Fartor for mounting position</p> <p>$f_4=1.1$ - 压力润滑/With pressure lubrication and</p> <p>$f_4=1.0$ - 飞溅和浸油润滑/With bath and splash lubrations</p>
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选型资料

Selection Information

表/Table 1

从动机载荷分类 /load Classification of the Driven Machine

U 类:均匀载荷 /Group U: uniform load

C 类:相当大的冲击载荷 /Group C: considerable shocks

M 类:中等冲击载荷 /Group M: moderate shocks

H 类:强冲击载荷 /Group H: heavy shocks

应用 Application	载荷类别 Group	应用 Application	载荷类别 Group	应用 Application	载荷类别 Group
搅拌机和混料机 Agitators and Mixers		木材工业 Lumber industry	*	低速磨浆机 Jordans	C
混凝土 Concrete	M	机床 Machine tools	*	划线轴 Line Shafts	M
液体(等浓度)和固体 Liquids (constant density) and Solids	U	金属加工 Metal mills		压榨机(树皮,油毡,胶料,真空抽吸) Presses(Bark, Felt, Size, Suction)	C
液体(变浓度) Liquids (variable density)	M	拉拔机 Draw Bench Carriage and main drive	M	碎浆机 Pulpers	C
鼓风机和风扇 Blowers and Fans	M	平整机 Flattening Machines	*	卷纸机 Reels	C
压缩机 Compressors		剪切机 Slitters	H	辊(吸移,送丝传动,丝网真空抽吸) Rolls(pick up, wire Drive, wire suction)	C
离心式 Centrifugal	U	辊道 单向 Table Conveyors, non-reversing		洗浆机 Washers	M
罗茨式 Lobe	M	集中驱动 -group drives	C	杨克式园网(缸) Yankee Cylinders (Dryers)	*
往复式,多汽缸 Reciprocating, multi - cylinder	M	单独驱动 -individual drives	H	塑料和橡胶工业 Plastics and Rubber Industry	
往复式,单汽缸,螺杆式 Reciprocating, single - cylinder, screw	C	辊道 双向 Table Conveyors, . reversing	*	压延和破碎机 Calenders and Grinders	H
输送机,均匀负载或进料 Conveyors (uniformly loaded or fed)		拉拔机 Wire Drawing Machines	C	挤出机(塑料) Extruders (Plastics)	M
平板式,链板式,螺旋式 Apron, Flight, Screw	U	绕线机 Winders	C	挤出机(橡胶) Extruders (Rubber)	C
皮带式,料斗式,链条式 Belt, Bucket, Chain	U	碾磨机和滚筒(旋转式) Mills and Drums (rotary type)		混炼机 Mixing Mills	*
输送机重负载、进料不均匀 Conveyors (heavy duty not uniformly fed)		球磨机(碾磨机) Ball (mills)	C	精炼机 Refiners	H
平板式 链板式,螺旋式 Apron, Flight, Screw	M	球磨机(重型)和棒磨机(碾磨机) Ball (heavy)and Rod(mills)	H	橡胶磨 2 联 Rubber Mills, 2 on line	H
皮带式,料斗式,链条式 Belt, Bucket, Chain	M	水泥窑 Cement Kilns	C	橡胶磨 3 联 Rubber Mills, 3 on line	C
传动辊式 Live Roll	*	煤碾机 Coal Mills	H	压片机 Sheeters	H
摆动式往复 Shaker, reciprocating	H	干燥机和冷却机 Dryers and Coolers	M	制管机 Tubers	*
起重机和升降機 Cranes and Hoists	*	旋转窑 Rotary Kilns	C	热炼机 Warming Mills	C
起升机 Elevators		采矿工业 Mining Industry		泵(轻型) Pumps (light)	
斗式重负载 Bucket, heavy load	M	铣头驱动 Cutter head drives	C	离心泵 Centrifugal	M
斗式均匀负载 Bucket, uniform load	U	破碎机 Crushers	H	往复泵(多缸) Reciprocating(multi - cylinder)	M
升降机 Lift		筛和振动筛 Screens and Shakers	H	往复泵(单缸) Reciprocating (single - cylinder)	C
自动扶梯 Escalators	M	石油工业 Oil Industry	*	旋转泵(凸轮,齿轮叶片) Rotary (gear type, lobe, vane)	U
货梯 Freight	M	造纸和纸浆工业 Paper and Pulp Industry	*	螺旋泵 Screw Pumps	M
客梯 Man Lifts	*	搅拌机(贮浆池和两轴) Agitators (Chest and Two Shaft)	M	污水处理设备 Sewage Disposal Equipment	
食品工业 Food Industry		剥皮鼓和剥皮机 Debarking Drums and Barkers	H	通风机 Aerators	C
甜菜切片機 Beet Slicer	M	打浆机和削片机 Beaters and Chippers	H	除尘器 Collectors	M
轧碎机和碾磨機 Crushers and mills	C	压光机(滚动轴承) Calenders (antifriction bearings)	C	混合器 Mixers	M
烘干滚筒 Drying Drums	M	切纸机 Cutter	H	沉降器 Thickeners	M
甘蔗粉碎機 Sugar cane Crushers	M	烘缸(滚动轴承) Dryer Cylinders (antifriction bearings)	C	真空吸泵过滤器 Vacuum filters	M
发电机 Generators	U	过滤器(压力和真空) Filters (pressure and vacuum)	M	风力发电机 Windmills	*

表/ Table 2 使用系数 F_s / Service factor F_s

驱动机(原动机) / Driving Machine (Prime Mover)	从动机负载等级 / Load classification of driven machine	每天使用小时 / Servicehours per day		
		< 3	3 - 10	> 10
电动机, 蒸汽机或汽油机, 水轮机, 液压马达 / Electric Motor, Steam or Gas Turbine Water Turbine, Hydraulic Motor	类别 U / Group U	1.00	1.10	1.25
	类别 M / Group M	1.15	1.25	1.50
	类别 C / Group C	1.35	1.50	1.75
	类别 H / Group H	1.55	1.75	2.00
多汽缸内燃机 / Multicylinder Combustion Engine	类别 U / Group U	1.15	1.25	1.50
	类别 M / Group M	1.35	1.50	1.75
	类别 C / Group C	1.55	1.75	2.00
	类别 H / Group H	1.80	2.00	2.25

表/ table 3 最大载荷出现系数 F_F / Maximum load occurrancy factor F_F

最大载荷出现次数/h maximum load occurrancy /hour	1 - 5	6 - 20	21 - 40	41 - 80	81 - 160	> 160
F_F	1.00	1.20	1.30	1.50	1.75	2.00

表/ table 4 海拔系数 f_1 / Factor for altitude f_1

海拔(高于海平面, 米) / Altitude(meters above sea)	0	1000	2000	3000	4000
f_1	1.0	0.95	0.91	0.87	0.83

f_1 中间值内插。

f_1 Intermediate values have to be interpolated.

表/ Table 5 安装系数 f_3 / Factor for mounting f_3

		安装位置 / Mounting position		
		L	V	E
f_3	无风扇 / without fan	1.0	0.9	0.9
	带风扇 / with fan	1.0	0.95	0.95

计算示例

Calculation Example

选择实例 / Examples of selection

从动机 / Driven Machine

载荷等级(表1) / Load Class
 转速 n_2 / Rotation Speed n_2
 P_{k2} 或 / or M_{k2}
 载荷峰值(P_{k2max} 或 M_{k2max}) / Load Peaks
 使用持续时间 / Duration of Service
 启动频率 / Starting Frequency

原动机 / Driven Machine

额定功率 / 转速
 Nominal Power Rating / rot. speed

减速器型式 / Gear unit type

安装位置 /
 Mounting Position

环境条件 / Ambient conditions

温度 / Temperature
 其它条件 / Other conditions

减速器选择 / Selection of gear unit

$n_1 / n_2 = i$
 最近公称传动比 i_N /
 Nearest nominal ratio i_N
 减速器型号(效率) /
 Gear Unit type(efficiency)
 要求的Fs(表2) / Required Fs(table 2)

$$P_{k1} = \frac{P_{k2}}{\eta} = \frac{M_{k2} \times n_2}{9550 \times \eta}$$

$$P_{k1} \times Fs < P_{k1}$$

所选的减速器 / Selected gear unit

选择检查和应用要求 / Selection Check and Application Requirements

减速器精确传动比 i_{ex} /

Gear Unit exact ratio

P_{k2max} 和 M_{k2max} 检查

Checking of P_{k2max} and M_{k2max}

热功率 P_T / Thermal rating P_T

冷却装置 / Cooling devices

最大允许转速和润滑方法

Max allowed mtat. speed and Lubrication method /

多灰尘或潮湿条件的要求和安装位置要求
 Requirements of very dusty or moist conditions
 and requirements of mounting position /

冷环境温度的要求(冷启动等) /
 Requirements of cold ambient temperature
 (cold start etc.)

可能的附件 /

Possible accessones

例1 / EXAMPLE

带式输送机(均匀载荷)
 Belt Conveyor / (Uniformly loaded)

类别U / Group U
 38 min^{-1}
 32 kW
 50 kW
 $16 \text{ h / d, } 5700 \text{ h / a}$
 每小时启动一次 / 1 start per hour
 交流电动机 / AC Motor
 $37 \text{ kW / } 1500 \text{ min}^{-1}$

空心轴 / Hollow shaft

直角, 水平 /
 Right angle, horizontal

$0 \text{--} +30^\circ \text{C}$

多灰尘 / Very dusty

$1500 / 38 = 39.5; 1$

40:1

MC3RLHT($\eta=0.955$)

1.25

$32 \text{ kW} / 0.955 = 33.5 \text{ kW}$

$33.5 \text{ kW} \times 1.25 = 41.9 \text{ kW} < 47.3 \text{ kW}$

MC3RLHT03

39.66

$50 \text{ kW} \leq (2 \times 47.3) / 1.00 = 94.6 \text{ kW}$

$P_T = 33 \times 1.0 \times 1.07 \times 1.0 \times 1.0 = 35.3 \text{ kW}$

(用环境温度+30°C /
 by ambient temperature+30°C)

不需要风扇 /
 Fan is not needed

$n_{1max} = 3000 \text{ rpm.}$

飞溅润滑足够 /
 enough for splash lubrication

在LSS和HSS上带注油脂咀的双唇密封
 Double lip seal with grease nipple
 on LSS and HSS

用合成油PAO /
 Use of synthetic PAO oil

HSS上电动机法兰(带冷却风扇), 联轴器,
 LSS上力矩支臂、收缩盘、键。
 Motor flange(with cooling fan), coupling
 on HSS, torque arm, shrink disk, key on LSS

例2 / EXAMPLE

搅拌机(可变浓度)
 Mixer(Variable density)

类别M / Group M
 65 min^{-1}
 $10\,000 \text{ Nin}$
 $14\,000 \text{ Nm}$
 $24 \text{ h / d, } 8600 \text{ h / a}$
 很少 / seldom
 交流电动机 / AC motor
 $75 \text{ kW / } 1500 \text{ min}^{-1}$

实心轴 / Solid Shaft

平行, 垂直 /
 parallel, vertical

$+35^\circ \text{C}$

潮湿 / Moist

$1500 / 65 = 23.1; 1$

22.5:1

MC3PVSF($\eta=0.955$)

1.5

$(10000 \times 65) / (9550 \times 0.955) = 71.3 \text{ kW}$

$71.3 \text{ kW} \times 1.5 = 107 \text{ kW} < 113 \text{ kW}$

MC3PVSF05

22.575

$14 \text{ kNm} \leq (2 \times 15.5) / 1.00 = 31 \text{ kNm}$

$P_T = 60.5 \times 1.0 \times 1.0 \times 0.9 \times 1.0 = 54.4 \text{ kW}$

(用环境温度+35°C /
 by ambient temperature+35°C)

要求风扇 /
 Fan is needed

$n_{1max} = 2256 \text{ rpm.}$

浸油润滑足够
 enough for bath lubrication /

HSS上单唇密封和V型圈
 LSS上带注油脂咀的双唇密封
 One lip seal and V-ring on HSS
 Double lip seal with grease nipple on LSS



2.3 级斜齿轮减速器
2.3 -stage Helical Gear Units

额定功率
Nominal Power Ratings
热功率
Thermal Ratings

MC.P.02-09
实心 and 空心 LSS
Solid & Hollow LSS

规格 Size	n ₁ min ⁻¹	额定机械功率 P _{N1} (kW) / Nominal Mechanical Power Ratings P _{N1} in kW																									
		公称传动比 i _N / Nominal Ratio i _N																									
		7.1	8	9	10	11.2	12.5	14	16	18	20	22.5	25	28	31.5	35.5	40	45	50	56	63	71	80	90	100	112	
02	1800	190	171	157	149	137	125	110	91.9	82.4	67.3																
	1500	167	151	132	131	115	110	91.7	77.1	69.1	56.4																
	1200	143	127	106	111	91.8	89.1	73.5	62.1	55.7	45.4																
	1000	126	106	88.8	93.3	76.6	74.4	61.3	52	46.7	38																
03	1800	236	220	199	192	176	155	149	130	118	95.2																
	1500	208	193	176	169	155	130	131	109	98.7	79.9																
	1200	178	165	150	144	133	105	106	87.8	79.5	64.4																
	1000	157	146	125	127	112	87.6	88.4	73.5	66.6	54																
04	1800	307	284	264	245	227	207	192	175	167	143																
	1500	270	250	232	216	200	182	169	151	141	120																
	1200	231	214	198	185	171	155	144	121	113	96.2																
	1000	203	188	175	162	150	129	122	101	94.5	80.6																
05	1800	428	396	368	345	319	289	270	248	226	187																
	1500	377	349	324	304	281	243	237	207	189	157																
	1200	322	298	277	260	240	196	195	167	152	126																
	1000	284	262	242	229	207	164	163	140	127	106																
06	1800	514	507	469	395	395	338	338	315	291	237																
	1500	452	446	413	348	348	298	298	273	243	198																
	1200	387	382	353	298	298	255	254	219	196	160																
	1000	341	336	311	262	259	224	212	184	164	134																
07	1800	657	629	580	512	500	427	427	389	354	320																
	1500	578	554	510	451	441	376	376	343	312	270																
	1200	495	474	436	386	377	321	321	293	267	217																
	1000	436	417	384	339	332	283	281	256	225	182																
08	1800	828	828	765	650	650	541	541	509	473	426																
	1500	729	729	673	572	572	476	476	448	417	357																
	1200	623	623	576	489	489	407	407	383	346	288																
	1000	549	549	507	431	431	358	358	321	289	242																
09	1800	1066	1066	1042	846	846	719	719	659	601																	
	1500	938	938	917	745	745	633	633	633	580	504																
	1200	802	802	784	637	637	541	541	541	489	405																
	1000	706	706	690	561	561	477	477	455	410	339																

功率: 功率为额定值, 使用系数Fs=1.0。

润滑: 水平安装用飞溅润滑。垂直安装和竖立安装用浸油润滑。

冷却: 如果实际传递的机械功率P_{K1}大于热功率需要人工冷却。

Power ratings: The ratings are nominal, service factor Fs=1.0
Selection of gear unit

Lubrication: Splash lubrication is used in horizontal solutions.
Bath lubrication is used in vertical and upright solutions.

Cooling: Additional cooling is required, when the mechanical power rating P_{K1} is higher than the thermal rating P_T

2.3 级斜齿轮减速器
2.3 -stage Helical Gear Units

额定功率
Nominal Power Ratings
热功率
Thermal Ratings

MC.P.02-09
实心 and 空心 LSS
Solid & Hollow LSS

规格 Size	风扇数 Fan pcs	热功率 P_{TH} (kW) / Thermal Ratings P_{TH} in kW															
		$n_1 = 1500$ l/min 的计算值 / Calculated with $n_1 = 1500$ l/min															
		公称传动比 i_N / 环境温度								Nominal Ratio i_N / Ambient Air Temperature							
		$i_N = 7.1-14$				$i_N = 16-20$				$i_N = 22.5-63$				$i_N = 71-112$			
		20°C	30°C	40°C	50°C	20°C	30°C	40°C	50°C	20°C	30°C	40°C	50°C	20°C	30°C	40°C	50°C
02	-	49	37	25	12	43	31	19	7	48	39	30	20	44	34	25	16
	1	104	84	65	45	91	71	52	32	90	75	61	46	80	65	50	35
	2	131	108	85	62	115	92	68	45	-	-	-	-	-	-	-	-
03	-	61	46	31	15	54	39	24	8	60	48	37	25	54	43	31	19
	1	129	105	81	56	113	89	64	40	112	93	75	56	99	81	62	44
	2	163	134	106	77	142	114	85	56	-	-	-	-	-	-	-	-
04	-	77	58	39	19	68	49	30	11	74	60	45	31	67	53	38	24
	1	163	132	102	71	143	112	81	51	139	116	93	70	123	100	77	54
	2	206	170	133	97	180	144	107	71	-	-	-	-	-	-	-	-
05	-	88	66	44	22	77	56	34	12	86	69	52	36	78	61	44	28
	1	186	151	116	81	162	128	93	58	160	134	107	81	142	116	89	63
	2	235	193	152	110	205	163	122	81	-	-	-	-	-	-	-	-
06	-	106	80	53	27	94	68	41	15	102	82	63	43	93	73	53	33
	1	226	183	141	99	198	155	113	70	191	159	128	96	170	138	106	75
	2	285	235	185	134	249	199	149	98	-	-	-	-	-	-	-	-
07	-	131	98	66	33	116	83	50	18	125	101	77	53	114	89	65	41
	1	277	225	173	121	243	191	138	86	234	196	157	118	208	169	131	92
	2	351	289	227	165	306	244	182	120	-	-	-	-	-	-	-	-
08	-	162	122	82	41	144	103	63	22	155	125	95	65	141	111	81	51
	1	345	280	215	150	302	237	172	107	290	242	194	146	258	210	162	114
	2	436	359	282	205	380	304	227	150	-	-	-	-	-	-	-	-
09	-	188	142	95	48	167	120	73	26	184	148	113	77	167	131	95	60
	1	400	325	249	174	350	275	200	124	344	287	230	173	305	248	191	135
	2	505	416	327	238	441	352	263	174	-	-	-	-	-	-	-	-

2.3 级锥齿轮-斜齿轮减速器
2.3-stage Bevel Helical Gear Units

额定功率
Nominal Power Ratings
热功率
Thermal Ratings

MC.R..02-09
实心空心 LSS
Solid & Hollow LSS

规格 Size	n ₁ min ⁻¹	额定机械功率 P _{N1} (kW) / Nominal Mechanical Power Ratings P _{N1} in kW												
		公称传动比 i _n / Nominal Ratio i _n												
		7.1	8	9	10	11.2	12.5	14	16	18	20	22.5	25	28
02	1800	144	133	124	107	99.2	93	77.4	77.4	76.3	68.2	66.8	55.7	53.8
	1500	127	117	109	94.1	87.3	81.9	68.1	68.1	64	60	56	46.7	45.1
	1200	108	100	93.6	78.2	74.7	70.1	56.7	56.7	51.5	51.4	45.1	37.6	36.3
	1000	95.5	88.1	82.4	65.5	65.2	61.7	47.4	47.4	43.2	45.2	37.8	31.5	30.3
03	1800	177	166	155	128	123	115	102	102	102	96.7	96.7	80.2	76.4
	1500	156	146	136	107	108	101	85.5	85.5	85.5	85.1	81.2	67.2	63.7
	1200	134	125	117	86	87	86.6	68.7	68.7	68.7	68.7	65.4	54.1	51
	1000	118	110	103	71.9	72.8	73.8	57.4	57.4	57.4	57.4	54.8	45.4	42.6
04	1800	227	212	199	168	158	149	117	117	117	117	117	114	106
	1500	199	187	175	148	139	131	103	103	103	103	103	94.9	88.6
	1200	171	160	150	125	119	112	88.2	88.2	88.2	83.7	83.7	76	71.4
	1000	150	141	132	107	103	98.3	75.5	75.5	75.5	69.7	69.7	63.4	59.9
05	1800	321	301	283	237	223	211	162	162	162	150	150	150	136
	1500	282	265	249	209	197	186	136	136	136	125	125	125	116
	1200	241	226	213	169	168	159	109	109	109	99.8	99.8	99.8	92.6
	1000	212	199	188	142	143	140	90.8	90.8	90.8	83.2	83.2	83.2	77.2
06	1800	425	393	367	306	284	267	202	202	202	184	184	184	173
	1500	374	346	323	269	250	235	168	168	168	153	153	153	144
	1200	320	296	276	229	214	201	135	135	135	123	123	123	115
	1000	282	260	243	198	187	177	112	112	112	102	102	102	95.9
07	1800	515	483	451	375	353	331	269	269	269	232	232	232	202
	1500	454	425	397	331	311	292	224	224	224	204	204	204	178
	1200	388	364	340	280	266	249	179	179	179	165	165	165	152
	1000	342	320	299	242	231	220	149	149	149	137	137	137	128
08	1800	684	640	595	506	476	444	340	340	340	294	294	294	255
	1500	602	564	523	446	419	391	300	300	300	259	259	259	225
	1200	515	482	448	381	359	334	256	256	256	221	221	221	192
	1000	453	424	394	330	314	294	223	223	223	195	195	195	169
09	1800	953	879	822	706	654	613	412	412	412	379	379	379	336
	1500	839	774	723	621	576	540	363	363	363	334	334	334	296
	1200	718	662	619	531	492	462	310	310	310	286	286	286	253
	1000	632	583	544	463	433	407	273	273	273	251	251	251	223

		31.5	35.5	40	45	50	56	63	71	80	90	100	112
02	1800	44.8	36.4	32.8	33	31.7	26.6	21.6	22.6	19.2	15.6	12.3	12.3
	1500	37.6	30.5	27.5	27.7	26.5	22.3	18.1	18.9	16.1	13.1	10.3	10.3
	1200	30.3	24.6	22.1	22.3	21.2	18	14.6	15.1	13	10.5	8.38	8.37
	1000	25.4	20.6	18.5	18.7	17.7	15.1	12.2	12.6	10.9	8.82	7.07	7.05
03	1800	63.5	60.4	56.7	47.8	38.6	37.7	30.4	30.2	27.7	22.4	18.2	18.2
	1500	53.2	50.6	47.3	40.1	32.4	31.6	25.5	25.2	23.3	18.8	15.3	15.3
	1200	42.9	40.8	37.9	32.3	26.1	25.5	20.6	20.2	18.8	15.1	12.3	12.3
	1000	36	34.2	31.6	27.1	21.9	21.4	17.2	16.9	15.7	12.7	10.3	10.4
04	1800	89.2	75.2	76.4	66.8	55.8	49.6	44.5	38.3	36.9	32.7	18.5	18.7
	1500	74.4	62.9	64	55.8	46.8	41.5	37.3	31.9	30.8	27.4	15.5	15.7
	1200	59.6	50.6	51.5	44.7	37.7	33.4	30.1	25.6	24.7	22.1	12.6	12.7
	1000	49.7	42.4	43.1	37.3	31.6	28	25.2	21.3	20.5	18.6	10.6	10.7
05	1800	121	107	98.7	91.2	75.3	70.3	59.3	44.4	44.4	42.9	27.9	28.3
	1500	101	88.9	82.3	76.4	63.1	58.8	49.7	37	37	36	23.5	23.8
	1200	81.8	71.1	65.8	61.6	50.9	47.3	40.1	29.6	29.6	29	19	19.3
	1000	68.5	59.3	54.8	51.7	42.6	39.6	33.6	24.6	24.6	24.3	16	16.2
06	1800	159	132	123	119	97	86.2	77.2	62.9	62.9	56	46.4	45.7
	1500	133	110	103	99.7	81.5	72.1	64.9	52.4	52.4	47.1	39	38.4
	1200	107	87.8	82.1	80.4	65.9	58	52.5	41.9	41.9	38	31.5	30.9
	1000	89.9	73.2	68.5	67.4	55.4	48.6	44	35	35	31.9	26.4	26
07	1800	202	172	157	157	135	114	108	71.2	71.2	71.2	60.2	60.2
	1500	178	143	133	133	113	95.1	90.3	59.4	59.4	59.4	50.2	50.2
	1200	150	115	107	107	91.3	76.4	72.8	47.5	47.5	47.5	40.2	40.2
	1000	126	95.5	88.8	88.8	76.5	63.9	61	39.6	39.6	39.6	33.5	33.5
08	1800	255	223	195	195	173	160	137	104	104	98.6	67.7	68.6
	1500	225	196	172	172	145	138	115	86.7	86.7	82.8	56.9	57.6
	1200	187	159	147	140	117	111	93	69.3	69.3	66.7	46	46.5
	1000	157	133	129	118	98.4	93.2	77.9	57.8	57.8	55.9	38.6	39.1
09	1800	336	288	256	256	243	207	190	149	149	137	73.1	74.1
	1500	296	253	226	226	203	177	159	124	124	115	61.4	62.2
	1200	253	212	193	193	164	142	128	99.3	99.3	91.9	49.6	50.3
	1000	223	177	170	167	137	119	107	82.8	82.8	76.6	41.7	42.2

功率：功率为额定值，使用系数Fs=1.0。

润滑：水平安装用飞溅润滑。垂直安装和竖立安装用浸油润滑。

冷却：如果实际传递的机械功率P_{K1}大于热功率需要人工冷却。

Power ratings: The ratings are nominal, service factor Fs=1.0
Selection of gear unit

Lubrication: Splash lubrication is used in horizontal solutions.
Bath lubrication is used in vertical and upright solutions.

Cooling: Additional cooling is required, when the mechanical power rating P_{K1} is higher than the thermal rating P_T

2.3 级锥齿轮-斜齿轮减速器
2.3-stage Bevel Helical Gear Units

额定功率
Nominal Power Ratings
热功率
Thermal Ratings

MC.R..02-09
实心 and 空心 LSS
Solid & Hollow LSS

规格 Size	风扇数 Fan pcs	热功率 P_{TH} (kW) / Thermal Ratings P_{TH} in kW $n_1 = 1500$ l/min的计算值/Calculated with $n_1 = 1500$ l/min											
		公称传动比 i_N /环境温度 Nominal Ratio i_N / Ambient Air Temperature											
		$i_N = 7.1-12.5$				$i_N = 14-63$				$i_N = 71-112$			
		20°C	30°C	40°C	50°C	20°C	30°C	40°C	50°C	20°C	30°C	40°C	50°C
02	-	34	23	14	*)	37	27	18	9	36	26	17	8
	1	76	55	33	11	75	61	46	32	69	55	40	26
03	-	42	29	18	7	44	33	22	10	43	32	21	9
	1	92	66	40	14	91	73	56	38	84	66	48	31
04	-	52	35	22	9	55	41	27	13	53	39	25	11
	1	114	82	49	17	112	91	69	47	103	82	60	38
05	-	57	40	27	11	62	46	30	14	60	44	29	13
	1	129	92	56	19	127	102	78	53	116	92	67	43
06	-	66	48	32	14	74	55	36	17	72	53	34	15
	1	154	111	67	23	152	123	93	64	139	110	81	52
07	-	80	57	38	17	90	67	44	21	87	64	42	19
	1	187	134	81	28	184	149	113	78	169	134	98	63
08	-	95	67	42	21	110	82	54	26	107	79	51	23
	1	231	165	100	34	227	183	139	96	208	165	121	77
09	-	109	76	49	23	127	95	62	30	124	91	59	26
	1	266	190	115	39	261	211	161	110	240	190	139	89

*) 需要冷却 / Cooling needed

2.3 级紧凑型齿轮减速器
2.3-stage Compact Gear Units

许用的连续外载荷 F_R
Continuous allowed External Loads F_R

许用的连续外载荷 F_R

Continuous allowed External Loads F_R

实心轴 (LSS)

· 许用径向力 F_R 的确定

SOLID SHAFT(LSS)

1. Determining the allowed radial force F_R

$$F_R = \frac{F_{RN}}{F_S} K_Y$$

F_R = 实际许用径向力
 F_{RN} = 轴端中点许用额定径向力, 使用系数 $F_S=1.0$ 计算值
 F_S = 使用系数
 K_Y = 径向力位置的影响系数

F_R = the allowed actual radial force,
 F_{RN} = the allowed nominal radial force in the middle of the shaft end.
 F_S = service factor
 K_Y = the effect of the radial force location.

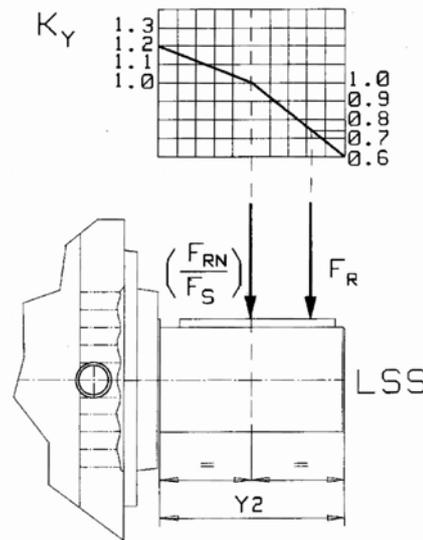
2.实心轴(LSS)的径向外力

2. Radial external forces for Solid(LSS)

径向外力可以为任意方向。表中所示的 F_{RN} 是低速轴最不利方向的许用径向力。

External radial forces can be to any direction. F_{RN} in the table shows the allowed radial force to the most unfavorable direction on the LSS End.

表1: 轴向力 $F_A=0$ kN时, 许用额定径向力 F_{RN}
 Table 1: Allowed nominal radial forces F_{RN} when axial force $F_A=0$ kN



减速器规格 Gear unit size	低速轴端中点的 F_{RN} [kN] F_{RN} in the middle of the LSS end [kN]			
	低速轴速度 / LSS speed n_2 [1/min]			
	≤ 17	≤ 30	≤ 60	≤ 90
02	34	29	27	24
03	46	39	33	32
04	53	45	39	38
05	62	54	47	45
06	68	59	51	43
07	79	68	60	56
08	100	85	75	72
09	120	115	91	86

图 1: 径向力位置的影响

picture 1: The effect of the radial force location.

高速轴(HSS)端

High speed-shaft(HSS)end

假定径向力作用在高速轴的中点, 无轴向力 F_A 来确定减速器尺寸。
 V型带轮节圆直径必须大于轴端直径的6倍。

Gear units are dimensioned to take radial forces in the middle of the HSS end. No axial forces F_A are permitted.
 V-belt pulley pitch diameter must be greater than 6 times the shaft end diameter.



2.3级斜齿轮减速器
2.3-stage Helical Gear Units

精确传动比/Exact Ratios
额定转矩/Nominal Torque
许用转速/Allowed Rotational Speed

MC.P.02-09
实心 and 空心 LSS
Solid & Hollow LSS

规格 Size	精确传动比 i_{ex} / Exact Ratios i_{ex}									
	公称传动比 i_N / Nominal Ratio i_N									
	7.1	8	9	10	11.2	12.5	14	16	18	20
02	7.070	8.176	9.175	9.829	11.366	12.314	14.240	15.981	17.880	20.238
03	7.291	8.226	9.280	9.952	11.227	12.697	14.324	16.160	17.913	20.401
04	7.124	8.014	8.958	9.945	11.186	12.723	14.312	15.998	17.115	19.250
05	7.104	7.996	8.871	9.783	11.012	12.522	14.095	15.636	17.236	19.400
06	6.817	7.889	8.853	9.822	11.366	12.036	13.927	15.630	17.588	19.908
07	6.860	7.725	8.677	9.647	10.863	12.194	13.731	15.424	17.664	20.249
08	7.005	7.888	8.958	9.798	11.033	12.488	14.063	15.969	17.763	19.895
09	6.911	7.992	8.969	9.534	11.025	11.767	13.607	15.271	17.012	19.256

	22.5	25	28	31.5	35.5	40	45	50	56	63	71	80	90	100	112
02	22.303	25.791	28.945	32.314	36.265	38.887	44.968	50.467	56.341	63.231	71.200	79.907	90.446	95.359	107.937
03	22.650	25.552	28.828	32.599	36.778	39.810	44.909	50.667	57.295	64.640	71.618	80.800	92.022	101.822	115.963
04	23.204	26.101	29.176	33.394	37.329	40.276	45.304	50.642	57.962	64.792	72.860	81.444	91.602	97.558	109.725
05	22.575	25.412	28.191	32.528	36.084	40.615	43.547	48.308	55.740	61.835	71.064	78.833	88.733	96.362	108.464
06	22.801	26.385	29.611	32.330	36.284	41.069	45.957	51.576	56.313	63.199	71.100	79.795	90.319	96.735	109.493
07	22.380	25.202	28.310	31.856	35.783	41.020	43.887	49.298	56.473	62.312	68.655	77.119	88.405	99.479	114.036
08	21.695	24.431	27.742	31.139	35.360	39.603	43.631	49.545	55.612	63.150	69.091	78.456	89.891	97.274	108.947
09	21.634	25.017	28.076	30.877	34.652	39.223	44.098	49.491	54.427	61.082	68.034	76.353	86.423	93.938	106.328

规格 Size	额定输出转矩 M_{N2} (kNm) / Nominal Output Torque M_{N2} in kNm									
	$n_1=1000$ 1/min的计算值 / Calculated with $n_1=1000$ 1/min									
	公称传动比 i_N / Nominal Ratio i_N									
	7.1	8	9	10	11.2	12.5	14	16	18	20
02	8.23	8.02	7.55	8.49	8.07	8.49	8.09	7.71	7.74	7.13
03	10.6	11.1	10.8	11.7	11.6	10.3	11.7	11	11	10.2
04	13.4	14	14.5	15	15.6	15.2	16.2	15	15	14.4
05	18.7	19.4	19.9	20.7	21.1	19	21.3	20.3	20.3	19
06	21.5	24.5	25.5	23.8	27.3	25	27.3	26.6	26.7	24.8
07	27.7	29.8	30.9	30.3	33.4	31.9	35.7	36.6	36.8	34.2
08	35.6	40.1	42	39.1	44	41.5	46.7	47.4	47.6	44.5
09	45.2	52.3	57.4	49.5	57.3	51.9	60.1	64.3	64.6	60.5

	22.5	25	28	31.5	35.5	40	45	50	56	63	71	80	90	100	112
02	8.54	8.1	7.61	8.13	7.68	8.7	8.13	7.76	8.15	7.84	8.16	7.91	7.25	7.97	7.31
03	11.4	11.6	10.9	11.6	11	11.8	11.9	11.1	11.8	11.2	11.8	11.3	10.4	11.5	10.6
04	13.8	15.6	15	16.3	15	14.4	16.1	15	16.6	15.1	16.7	15.1	14.7	14.9	14.8
05	15.5	17.4	19.3	19.9	20.3	18.8	18.1	20.1	20.6	20.7	20.8	20.8	19.7	19	19.6
06	18.6	21.5	24.1	24	26.6	24.7	22.4	25.1	24.9	27.1	25.1	27.3	25.4	26.1	25.7
07	24.9	28	31.5	31.8	35.8	34	29.1	32.7	32.9	37	33.2	37.3	34.9	32	35.3
08	37.4	42.1	46.9	47.2	47.4	44.4	44	47.8	48.3	48.3	48.7	48.7	45.6	45.8	46.1
09	51.1	59.1	63.7	64.4	64.3	59.9	61.6	64.9	64.4	65.5	64.7	66	60.3	64.1	60.5

最大转矩 M_{K2max} 为 $2 \times M_{N2}$ / Maximum torque M_{K2max} is $2 \times M_{N2}$

规格 Size	许用转速 n_{1max} (r/min) / Allowed Rotational Speed n_{1max} in r/min									
	用飞溅润滑 / With splash lubrication									
	公称传动比 i_N / Nominal Ratio i_N									
	7.1	8	9	10	11.2	12.5	14	16	18	20
02	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000
03	2778	2778	2778	2778	2778	2778	2778	2778	2778	2778
04	2546	2546	2546	2546	2546	2546	2546	2546	2546	2546
05	2350	2350	2350	2350	2350	2350	2350	2350	2350	2350
06	2037	2037	2037	2037	2037	2037	2037	2037	2037	2037
07	1910	1910	1910	1910	1910	1910	1910	1910	1910	1910
08	1797	1797	1797	1797	1797	1797	1797	1797	1797	1797
09	1697	1697	1697	1697	1697	1697	1697	1697	1697	1697

	22.5	25	28	31.5	35.5	40	45	50	56	63	71	80	90	100	112
02	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000
03	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000
04	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000
05	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000
06	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000
07	2778	2778	2778	2778	2778	2778	2961	2961	2961	2961	3000	3000	3000	3000	3000
08	2546	2546	2546	2546	2546	2546	2703	2703	2703	2703	3000	3000	3000	3000	3000
09	2350	2350	2350	2350	2350	2350	2480	2480	2480	2480	2976	2976	2976	3000	3000

2.3级斜齿轮减速器
2.3-stage Helical Gear Units

精确传动比/Exact Ratios
额定转矩/Nominal Torque
许用转速/Allowed Rotational Speed

MC.P.02-09
实心和空心 LSS
Solid & Hollow LSS

规格 Size	许用转速 n_{1max} (r/min) / Allowed Rotational Speed n_{1max} in r/min									
	用浸油润滑 / With splash lubrication									
	公称传动比 i_N / Nominal Ratio i_N									
	7.1	8	9	10	11.2	12.5	14	16	18	20
02	1585	1585	1585	2018	2018	2408	2408	2408	2637	2637
03	1463	1463	1463	1836	1836	2221	2221	2221	2414	2414
04	1315	1315	1315	1674	1674	2027	2027	2027	2140	2140
05	1216	1216	1216	1534	1534	1860	1860	1860	2012	2012
06	1098	1098	1098	1433	1433	1679	1679	1679	1847	1847
07	1025	1025	1025	1313	1313	1575	1575	1575	1758	1758
08	936	936	936	1195	1195	1445	1445	1445	1575	1575
09	851	851	851	1075	1075	1266	1266	1266	1381	1381

	22.5	25	28	31.5	35.5	40	45	50	56	63	71	80	90	100	112
02	2838	2838	2838	2838	2838	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000
03	2553	2553	2553	2553	2553	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000
04	2448	2448	2448	2448	2448	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000
05	2256	2256	2256	2256	2256	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000
06	2114	2114	2114	2114	2114	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000
07	1950	1950	1950	1950	1950	2961	2961	2961	2961	3000	3000	3000	3000	3000	3000
08	1753	1753	1753	1753	1753	1753	2703	2703	2703	2703	3000	3000	3000	3000	3000
09	1621	1621	1621	1621	1621	1621	2480	2480	2480	2480	2976	2976	2976	3000	3000

2.3级锥齿轮-斜齿轮减速器
2.3-stage Bevel Helical Gear Units

精确传动比/Exact Ratios
额定转矩/Nominal Torque
许用转速/Allowed Rotational Speed

MC.R..02-09
实心 and 空心 LSS
Solid & Hollow LSS

规格 Size	精确传动比 i_{ex} / Exact Ratios i_{ex}												
	公称传动比 i_N / Nominal Ratio i_N												
	7.1	8	9	10	11.2	12.5	14	16	18	20	22.5	25	28
02	6.961	8.050	9.034	9.605	11.107	12.465	14.611	16.896	18.962	20.312	23.489	26.361	29.430
03	7.124	8.036	9.067	10.000	11.281	12.727	15.069	16.999	19.179	20.568	23.203	26.178	29.602
04	7.293	8.203	9.170	10.147	11.414	12.759	14.757	16.600	18.555	20.600	23.171	25.901	29.646
05	7.096	7.987	8.861	9.873	11.114	12.329	14.681	16.526	18.333	20.217	22.758	25.246	29.130
06	6.739	7.798	8.752	9.638	11.152	12.516	14.089	16.303	18.297	20.299	23.489	26.361	28.782
07	6.835	7.697	8.646	9.736	10.963	12.315	14.177	15.965	17.933	19.937	22.450	25.218	28.377
08	6.946	7.821	8.882	9.736	10.963	12.449	14.477	16.302	18.512	20.249	22.802	25.892	29.063
09	6.852	7.924	8.893	9.605	11.107	12.465	14.282	16.516	18.536	19.703	22.784	25.570	28.121

规格 Size	公称传动比 i_N / Nominal Ratio i_N											
	31.5	35.5	40	45	50	56	63	71	80	90	100	112
02	33.028	37.384	40.296	45.224	50.488	56.661	64.135	70.968	79.647	90.152	97.346	110.185
03	33.397	35.077	39.666	44.751	50.966	57.295	65.252	69.861	78.817	89.764	97.527	111.072
04	33.139	34.627	39.632	44.302	49.827	55.993	62.976	68.901	77.019	86.625	93.184	104.806
05	32.315	33.829	39.033	43.301	48.739	55.438	62.400	69.916	77.560	87.300	93.838	105.622
06	32.302	35.533	38.796	43.540	49.283	55.306	62.600	68.956	77.388	87.595	95.757	108.387
07	31.876	33.791	38.024	42.712	48.963	53.983	61.883	70.765	79.490	91.123	96.173	110.247
08	33.002	34.901	39.175	44.485	49.823	56.617	63.411	70.393	79.934	89.526	96.711	108.316
09	31.559	34.467	37.904	42.539	48.150	54.720	61.937	68.215	76.556	86.653	94.514	106.979

规格 Size	额定输出转矩 M_{N2} (kNm) / Nominal Output Torque M_{N2} in kNm												
	$n_1=1000$ 1/min 的计算值 / Calculated with $n_1=1000$ 1/min												
	公称传动比 i_N / Nominal Ratio i_N												
	7.1	8	9	10	11.2	12.5	14	16	18	20	22.5	25	28
02	6.16	6.57	6.89	5.82	6.71	7.12	6.32	7.3	7.47	8.37	8.1	7.58	8.12
03	7.76	8.2	8.63	6.66	7.61	8.7	7.9	8.91	10	10.8	11.6	10.8	11.5
04	10.1	10.7	11.2	10.1	10.9	11.6	10.2	11.4	12.8	13.1	14.7	15	16.2
05	14	14.7	15.4	13	14.8	16	12.2	13.7	15.2	15.3	17.3	19.2	20.5
06	17.6	18.8	19.7	17.7	19.3	20.5	14.4	16.7	18.7	18.9	21.9	24.5	25.2
07	21.6	22.8	23.9	21.9	23.5	25	19.3	21.8	24.4	25	28.1	31.6	33.1
08	29.2	30.7	32.4	29.7	31.9	33.9	29.5	33.2	37.7	36	40.5	46	44.8
09	40.1	42.8	44.9	41.2	44.6	46.9	35.6	41.2	46.2	45.2	52.2	58.6	57.1

规格 Size	公称传动比 i_N / Nominal Ratio i_N											
	31.5	35.5	40	45	50	56	63	71	80	90	100	112
02	7.66	7.03	6.8	7.7	8.14	7.81	7.16	8.16	7.91	7.26	6.27	7.09
03	11	10.9	11.4	11.1	10.2	11.2	10.3	10.7	11.3	10.4	9.19	10.5
04	15	13.4	15.6	15.1	14.4	14.3	14.5	13.4	14.4	14.7	8.97	10.2
05	20.2	18.3	19.5	20.4	19	20	19.1	15.7	17.4	19.4	13.7	15.6
06	26.5	23.7	24.2	26.8	24.9	24.5	25.1	22	24.7	25.4	23.1	25.7
07	36.6	29.4	30.8	34.6	34.2	31.5	34.4	25.5	28.7	32.9	29.4	33.6
08	47.3	42.2	46.2	47.7	44.7	48.1	45.1	37.1	42.1	45.7	34.1	38.6
09	64	55.8	58.7	64.7	60.2	59.4	60.3	51.5	57.8	60.5	35.9	41.2

最大转矩 M_{K2max} 为 $2 \times M_{N2}$ / Maximum torque M_{K2max} is $2 \times M_{N2}$

规格 Size	许用转速 n_{1max} (r/min) / Allowed Rotational Speed n_{1max} in r/min												
	用飞溅润滑 / With splash lubrication												
	公称传动比 i_N / Nominal Ratio i_N												
	7.1	8	9	10	11.2	12.5	14	16	18	20	22.5	25	28
02	2680	2680	2680	2680	2680	2680	3000	3000	3000	3000	3000	3000	3000
03	2474	2474	2474	2474	2474	2474	3000	3000	3000	3000	3000	3000	3000
04	2297	2297	2297	2297	2297	2297	3000	3000	3000	3000	3000	3000	3000
05	2144	2144	2144	2144	2144	2144	2924	2924	2924	2924	2924	2924	2924
06	2010	2010	2010	2010	2010	2010	2680	2680	2680	2680	2680	2680	2680
07	1859	1859	1859	1892	1892	1892	2474	2474	2474	2474	2474	2474	2474
08	1693	1693	1693	1693	1693	1693	2297	2297	2297	2297	2297	2297	2297
09	1547	1547	1547	1584	1584	1584	2144	2144	2144	2144	2144	2144	2144

规格 Size	公称传动比 i_N / Nominal Ratio i_N											
	31.5	35.5	40	45	50	56	63	71	80	90	100	112
02	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000
03	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000
04	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000
05	2924	2924	2924	2924	2924	3000	3000	3000	3000	3000	3000	3000
06	2680	2680	2680	2680	2680	3000	3000	3000	3000	3000	3000	3000
07	2474	2474	2474	2474	2474	2967	2967	3000	3000	3000	3000	3000
08	2297	2297	2297	2297	2297	2715	2715	3000	3000	3000	3000	3000
09	2144	2144	2144	2144	2144	2467	2467	2907	2907	2907	3000	3000

2.3级锥齿轮-斜齿轮减速器
2.3-stage Bevel Helical Gear Units

精确传动比/Exact Ratios
额定转矩/Nominal Torque
许用转速/Allowed Rotational Speed

MC.R..02-09
实心和空心 LSS
Solid & Hollow LSS

规格 Size	许用转速 n_{1max} (r / min) / Allowed Rotational Speed n_{1max} in r/min												
	用浸油润滑 / With splash lubrication												
	公称传动比 i_N / Nominal Ratio i_N												
	7.1	8	9	10	11.2	12.5	14	16	18	20	22.5	25	28
02	1568	1568	1568	2131	2131	2131	2652	2652	2652	2652	2652	2652	2652
03	1451	1451	1451	2033	2033	2033	2463	2463	2463	2463	2463	2463	2463
04	1319	1319	1319	1814	1814	1814	2366	2366	2366	2366	2366	2366	2366
05	1189	1189	1189	1631	1631	1631	2100	2100	2100	2100	2100	2100	2100
06	1047	1047	1047	1480	1480	1480	1873	1873	1873	1873	1873	1873	1873
07	929	929	929	1298	1298	1298	1785	1785	1785	1785	1785	1785	1785
08	872	872	872	1221	1221	1221	1599	1599	1599	1599	1599	1599	1599
09	773	773	773	1084	1084	1084	1447	1447	1447	1447	1447	1447	1447
	31.5	35.5	40	45	50	56	63	71	80	90	100	112	
02	2652	2652	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000
03	2463	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000
04	2366	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000
05	2100	2799	2799	2799	2799	3000	3000	3000	3000	3000	3000	3000	3000
06	1873	2491	2491	2491	2491	3000	3000	3000	3000	3000	3000	3000	3000
07	1785	2395	2395	2395	2395	2967	3000	3000	3000	3000	3000	3000	3000
08	1599	2141	2141	2141	2141	2715	2715	3000	3000	3000	3000	3000	3000
09	1447	1924	1924	1924	1924	2467	2467	2907	2907	2907	3000	3000	3000

2 级斜齿轮减速器水平安装
2-stage Helical Gear Units
Horizontal mounting

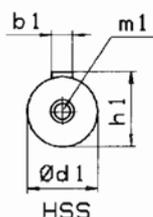
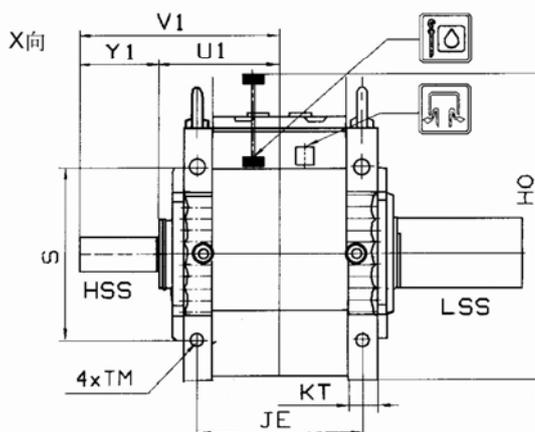
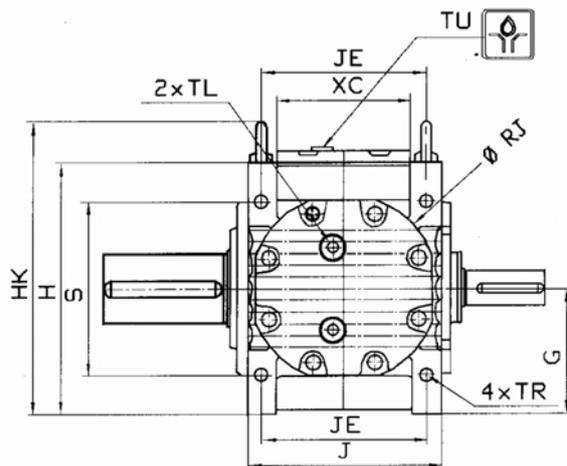
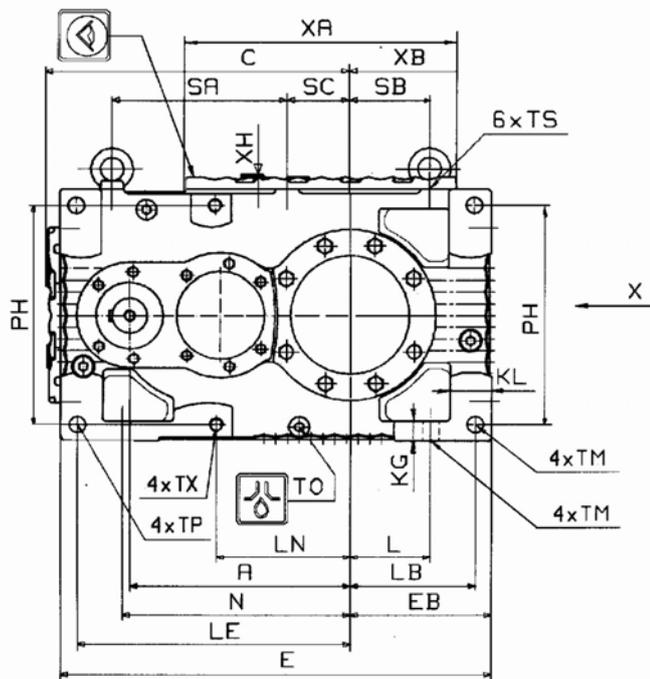
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实心 and 空心 LSS
Solid & Hollow LSS

减速器尺寸

Gear Unit Dimensions

2级斜齿轮减速器
水平安装

2-stage Helical Gear Units
Horizontal mounting



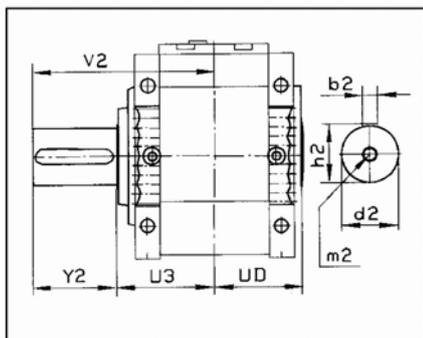
LSS尺寸见下页
See LSS dimensions, next Page

插图仅作为例子，不是严格的装配关系。
重量和油量仅是指导值。

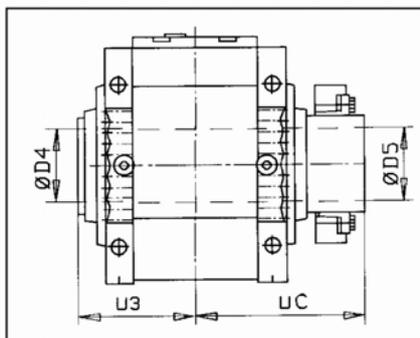
Illustrations show examples only and are not strictly binding.
The weights and oil quantities are guide values only.

LSS型号

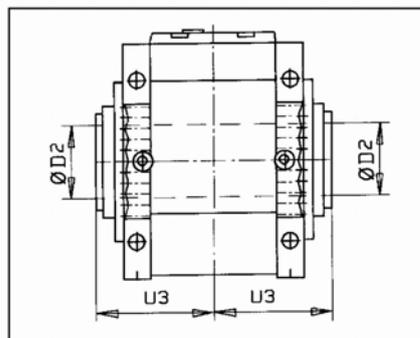
LSS type



实心轴
Solid Shaft



空心轴、收缩盘
Hollow Shaft, Shrink Disk



空心轴、键连接
Hollow Shaft, Key Connection

2 级斜齿轮减速器水平安装

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2-stage Helical Gear Units

实心空心 LSS

	A	C	E	EB III	G III	H	HK	HO	J III	JE	KG	KL	KI	L	LB	LE	LN	N	PH	PKJ	S	SA	SB	SC
02	280	400	574	195	160	320	382	380	260	212	28	68	45	98	170	354	175	282	270	240	206	206	114	96
03	310	432	618	207	180	360	422	445	274	228	28	68	45	110	182	389	207	314	310	239	246	246	122	84
04	340	471	677	229	200	400	462	510	314	260	30	71	50	122	201	420	233	341	344	276	260	256	147	114
05	374	514	731	240	215	430	500	565	329	279	34	71	50	136	212	463	228	387	374	320	296	296	136	106
06	409	565	812	270	235	470	540	605	356	292	40	88	64	141	235	507	256	413	400	322	308	308	141	132
07	445	616	885	295	265	530	620	695	380	316	40	91	64	150	260	555	285	445	454	346	350	350	150	112
08	490	685	981	322	300	600	690	760	431	353	52	103	78	174	280	617	318.5	511	516	366	406	406	174	115
09	540	742	1049	335	335	670	779	870	451	373	52	103	78	187	293	672	373.5	566	586	392	476	476	187	100

规格 size	箱体尺寸 (mm) Housing Dimensions in mm										HSS尺寸 (mm) HSS Dimensions in mm						重量 Weight	油量 Oil Capacity	
	TU	TM	TO	TPH9	TR=TX	TS	XA	XB	XC	XH	U1	Y1	V1	Φd1	b1	h1	m1	kg	l
02	R1	24	R3/4	24	M20x35	M16x32	355	135	182	18	170	120	290	48k6	14h9	51.5	M16	201	9
03	R1	24	R3/4	24	M20x35	M16x32	384	147	196	18	177	120	297	50k6	14h9	53.5	M16	256	12
04	R1	28	R3/4	28	M24x42	M16x32	430	168	211	22	197	130	327	55m6	16h9	59	M20	353	16
05	R1	28	R3/4	28	M24x42	M20x35	460	182	226	22	205	135	340	60m6	18h9	64	M20	455	28
06	R1	33	R1	33	M30x53	M20x35	525	195	248	22	218	140	358	70m6	20h9	74.5	M20	560	36
07	R1	33	R1	33	M30x53	M24x42	561	219	262	22	230	140	370	75m6	20h9	79.5	M20	726	46
08	R1	39	R1	39	M30x53	M24x42	597	234	289	22	256	160	416	80m6	22h9	85	M20	969	58
09	R1	39	R1	39	M30x53	M30x53	652	247	309	22	266	160	426	85m6	22h9	90	M20	1208	75

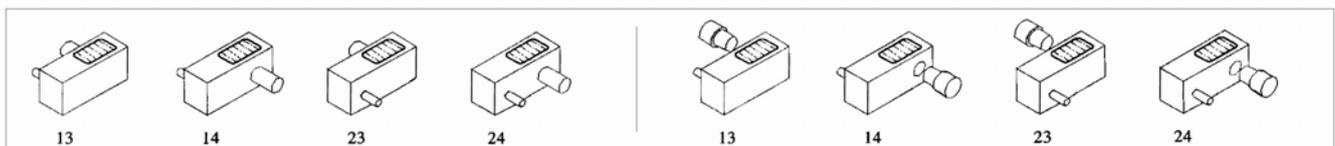
LSS尺寸

LSS dimensions

规格 size	LSS尺寸 (mm)							LSS Dimensions in mm				
	d2	b2	h2	m2	Y2	V2	U3	UC	UD	ΦD2	ΦD4	ΦD5
02	80m6	22h9	85	M20	140	304	164	257	156	80js7/H8	86js6/H7	85h6/H7
03	100m6	28h9	106	M24	170	341	171	274	163	95js7/H8	101js6/H7	100h6/H7
04	105m6	28h9	111	M24	210	403	193	302	187	105js7/H8	111js6/H7	110h6/H7
05	120m6	32h9	127	M24	210	411	201	311	193	115js7/H8	121js6/H7	120h6/H7
06	130m6	32h9	137	M24	220	434	214	331	210	125js7/H8	131js6/H7	130h6/H7
07	140m6	36h9	148	M24	250	478	228	354	224	135js7/H8	141js6/H7	140h6/H7
08	160m6	40h9	169	M24	250	504	254	397	246	150js7/H8	151js6/H7	150h6/H7
09	170m6	40h9	179	M24	310	574	264	407	262	165js7/H8	166js6/H7	165h6/H7

轴的位置

Shaft Positions



3 级斜齿轮减速器水平安装
3-stage Helical Gear Units
Horizontal mounting

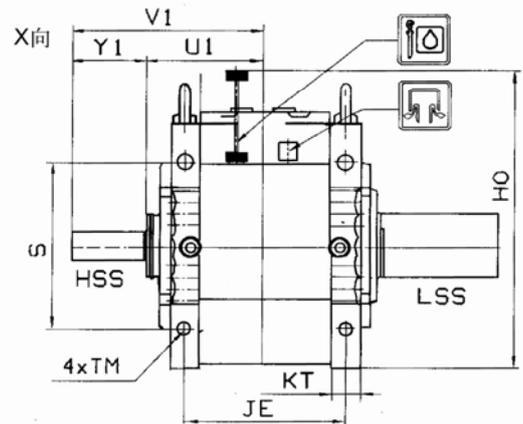
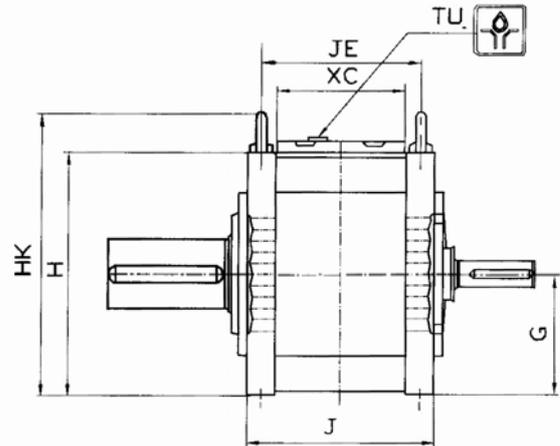
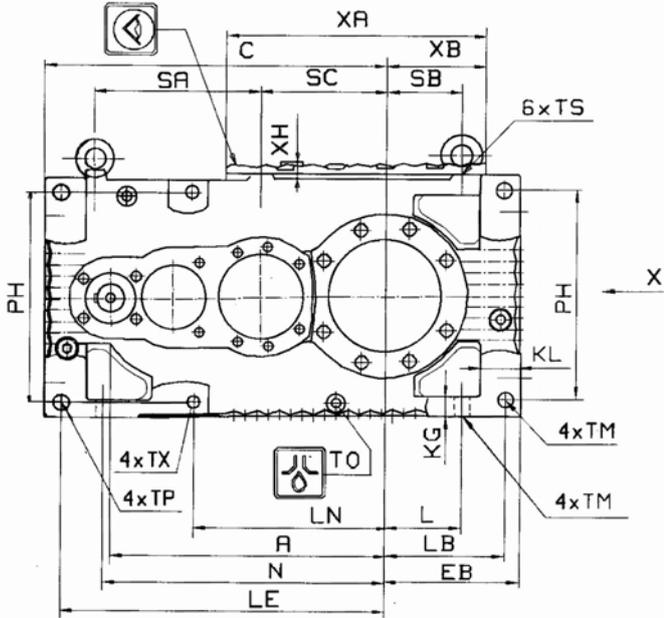
MC3PL..02-09
实心 and 空心 LSS
Solid & Hollow LSS

减速器尺寸

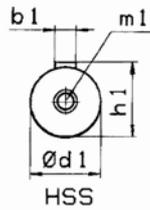
Gear Unit Dimensions

3级斜齿轮减速器
水平安装

3-stage Helical Gear Units
Horizontal mounting



LSS尺寸见下页
See LSS dimensions, next Page

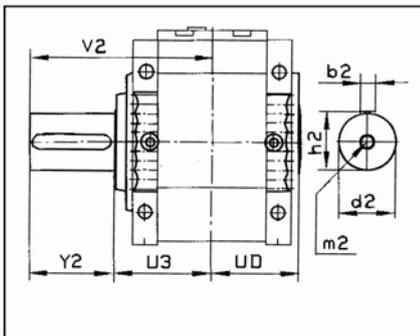


插图仅作为例子，不是严格的装配关系。
重量和油量仅是指导值。

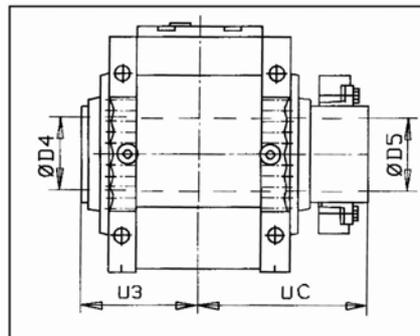
Illustrations show examples only and are not strictly binding.
The weights and oil quantities are guide values only.

LSS型号

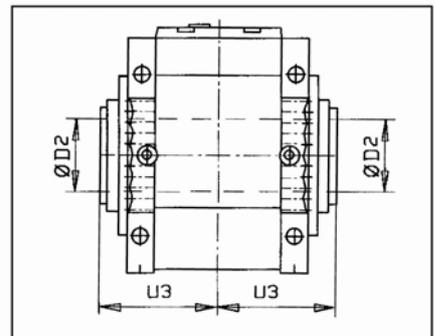
LSS type



实心轴
Solid Shaft



空心轴、收缩盘
Hollow Shaft, Shrink Disk



空心轴、键连接
Hollow Shaft, Key Connection

3 级斜齿轮减速器水平安装
3-stage Helical Gear Units
Horizontal mounting

MC3PL..02-09
实心 and 空心 LSS
Solid & Hollow LSS

减速器尺寸

Gear Unit Dimensions

规格 size	箱体尺寸 (mm)												Housing Dimensions in mm											
	A	C	EB hll	G hll	H	HK	HO	J hll	JE	KG	KL	KT	L	LB	LE	LN	N	PH	S	SA	SB	SC		
02	368	467	195	160	320	382	380	260	212	28	68	45	98	170	442	263	369	270	206	206	114	175		
03	408	513	207	180	360	422	445	274	228	28	68	45	110	182	488	306	416	310	246	246	122	181		
04	444	556	229	200	400	462	510	314	260	30	71	50	122	201	524	337	449	344	260	256	147	218		
05	486	605	240	215	430	500	565	329	279	34	71	50	136	212	575	340	499	374	296	296	136	218		
06	529	665	270	235	470	540	605	356	292	40	88	64	141	235	627	376	533	400	308	308	141	252		
07	575	720	295	265	530	620	695	380	316	40	91	64	150	260	685	415	575	454	350	350	150	242		
08	630	803	322	300	600	690	760	431	353	52	103	78	174	280	757	458.5	651	516	406	406	174	255		
09	694	872	335	335	670	779	870	451	373	52	103	78	187	293	826	527.5	720	586	476	476	187	254		

规格 size	箱体尺寸 (mm)										HSS尺寸 (mm)							重量 Weight	油量 Oil Capacity
	Housing Dimensions in mm										HSS Dimensions in mm								
	TU	TM	TO	TP H9	TX	TS	XA	XB	XC	XH	U1	Y1	V1	Φd1	b1	h1	m1	kg	l
02	R1	24	R3/4	24	M20×35	M16×32	355	135	182	18	170	120	290	32k6	10h9	35	M12	222	13
03	R1	24	R3/4	24	M20×35	M16×32	384	147	196	18	177	120	297	38k6	10h9	41	M12	292	17
04	R1	28	R3/4	28	M24×42	M16×32	430	168	211	22	197	130	327	38k6	10h9	41	M12	396	24
05	R1	28	R3/4	28	M24×42	M20×35	460	182	226	22	205	135	340	48k6	14h9	51.5	M16	517	34
06	R1	33	R1	33	M30×53	M20×35	525	195	248	22	218	140	358	48k6	14h9	51.5	M16	614	45
07	R1	33	R1	33	M30×53	M24×42	561	219	262	22	230	140	370	50m6	14h9	53.5	M16	797	53
08	R1	39	R1	39	M30×53	M24×42	597	234	289	22	256	160	416	55m6	16h9	59	M20	1085	68
09	R1	39	R1	39	M30×53	M30×53	652	247	309	22	266	160	426	60m6	18h9	64	M20	1297	85

LSS尺寸

LSS dimensions

规格 size	LSS尺寸 (mm)							LSS Dimensions in mm					
	d2	b2	h2	m2	Y2	V2	U3	UC	UD	ΦD2	ΦD4	ΦD5	
02	80m6	22h9	85	M20	140	304	164	257	156	80js7/H8	86js6/H7	85h6/H7	
03	100m6	28h9	106	M24	170	341	171	274	163	95js7/H8	101js6/H7	100h6/H7	
04	105m6	28h9	111	M24	210	403	193	302	187	105js7/H8	111js6/H7	110h6/H7	
05	120m6	32h9	127	M24	210	411	201	311	193	115js7/H8	121js6/H7	120h6/H7	
06	130m6	32h9	137	M24	220	434	214	331	210	125js7/H8	131js6/H7	130h6/H7	
07	140m6	36h9	148	M24	250	478	228	354	224	135js7/H8	141js6/H7	140h6/H7	
08	160m6	40h9	169	M24	250	504	254	397	246	150js7/H8	151js6/H7	150h6/H7	
09	170m6	40h9	179	M24	310	574	264	407	262	165js7/H8	166js6/H7	165h6/H7	

轴的位置

Shaft Positions



2 级锥齿轮-斜齿轮减速器水平安装
 2-stage Bevel Helical Gear Units
 Horizontal mounting

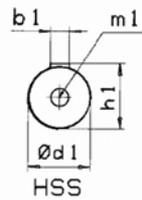
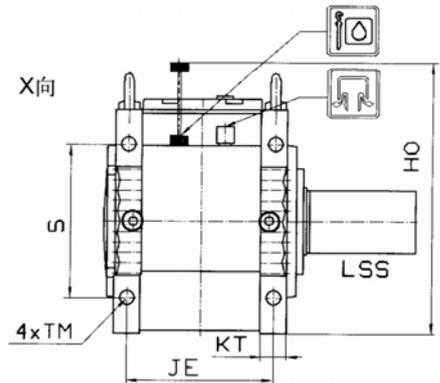
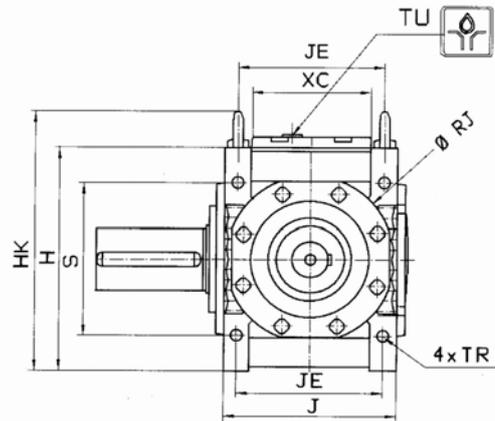
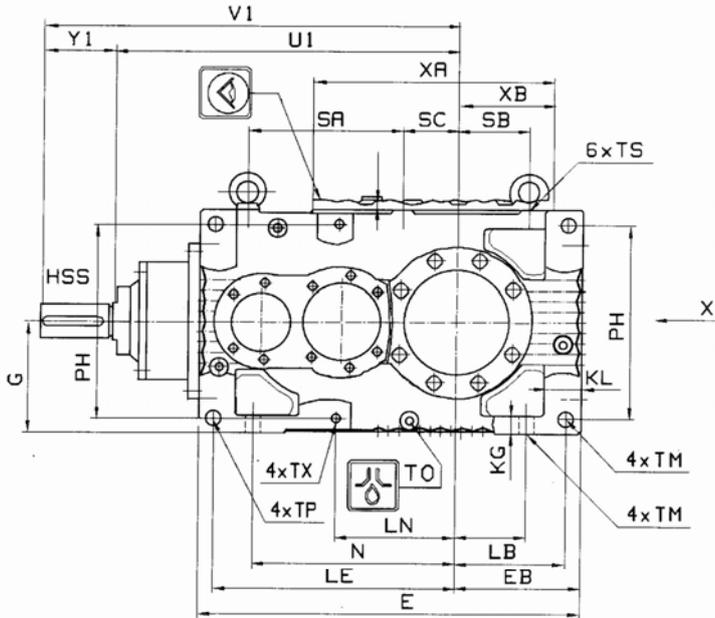
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 实心 and 空心 LSS
 Solid & Hollow LSS

减速器尺寸

Gear Unit Dimensions

2级锥齿轮-斜齿轮减速器
 水平安装

2-stage Bevel Helical Gear Units
 Horizontal mounting



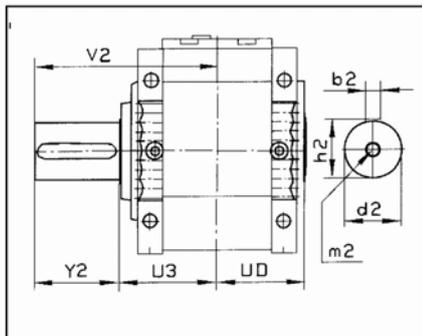
LSS尺寸见下页
 See LSS dimensions, next Page

插图仅作为例子，不是严格的装配关系。
 重量和油量仅是指导值。

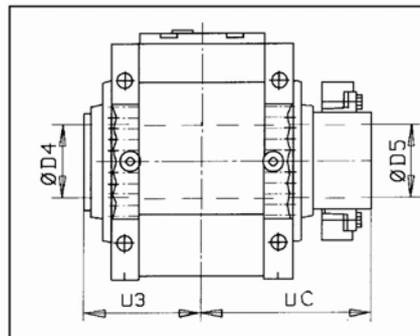
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LSS型号

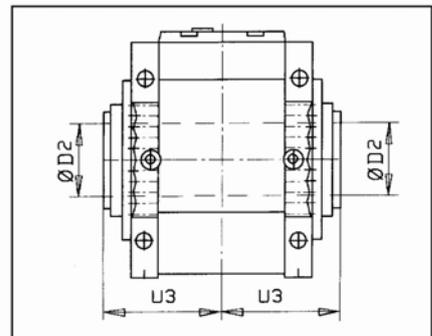
LSS type



实心轴
 Solid Shaft



空心轴、收缩盘
 Hollow Shaft, Shrink Disk



空心轴、键连接
 Hollow Shaft, Key Connection

2 级锥齿轮-斜齿轮减速器水平安装
2-stage Bevel Helical Gear Units
Horizontal mounting

MC2RL..02-09
实心 and 空心 LSS
Solid & Hollow LSS

减速器尺寸

Gear Unit Dimensions

规格 size	箱体尺寸 (mm)										Housing Dimensions in mm											
	E	EB hll	G hll	H	HK	HO	J hll	JE	KG	KL	KT	L	LB	LE	LN	N	PH	ΦRJ	S	SA	SB	SC
02	574	195	160	320	382	395	260	212	28	68	45	98	170	354	175	282	270	240	206	206	114	96
03	618	207	180	360	422	460	274	228	28	68	45	110	182	389	207	314	310	240	246	246	122	84
04	677	229	200	400	462	520	314	260	30	71	50	122	201	420	233	341	344	276	260	253	147	114
05	731	240	215	430	500	575	329	279	34	71	50	136	212	463	228	387	374	320	296	296	136	106
06	812	270	235	470	540	615	356	292	40	88	64	141	235	507	256	413	400	322	308	308	141	132
07	885	295	265	530	620	705	380	316	40	91	64	150	260	555	285	445	454	346	350	350	150	112
08	981	322	300	600	690	775	431	353	52	103	78	174	280	617	318.5	511	516	385	406	406	174	115
09	1049	335	335	670	779	885	451	373	52	103	78	187	293	672	373.5	566	586	392	476	476	187	100

规格 size	箱体尺寸 (mm)										HSS尺寸 (mm)							重量 Weight	油量 Oil Capacity
	Housing Dimensions in mm										HSS Dimensions in mm								
	TU	TM	TO	TP H9	TR=TX	TS	XA	XB	XC	XH	U1	Y1	V1	Φd1	b1	h1	m1	kg	l
02	R1	24	R3/4	24	M20x35	M16x32	355	135	182	18	509	130	639	50k6	14h9	53.5	M16	221	10
03	R1	24	R3/4	24	M20x35	M16x32	384	147	196	18	549	135	684	55m6	16h9	59	M20	280	14
04	R1	28	R3/4	28	M24x42	M16x32	430	168	211	22	600	135	735	60m6	18h9	64	M20	381	19
05	R1	28	R3/4	28	M24x42	M20x35	460	182	226	22	655	138	793	65m6	18h9	69	M20	505	22
06	R1	33	R1	33	M30x53	M20x35	525	195	248	22	698	140	838	70m6	20h9	74.5	M20	615	26
07	R1	33	R1	33	M30x53	M24x42	561	219	262	22	752	160	912	75m6	20h9	79.5	M20	793	32
08	R1	39	R1	39	M30x53	M24x42	597	234	289	22	822	160	982	85m6	22h9	90	M20	1055	58
09	R1	39	R1	39	M30x53	M30x53	652	247	309	22	921	195	1116	90m6	22h9	95	M24	1330	84

LSS尺寸

LSS dimensions

规格 size	LSS尺寸 (mm)							LSS Dimensions in mm					
	d2	b2	h2	m2	Y2	V2	U3	UC	UD	ΦD2	ΦD4	ΦD5	
02	80m6	22h9	85	M20	140	304	164	257	156	80js7/H8	86js6/H7	85h6/H7	
03	100m6	28h9	106	M24	170	341	171	274	163	95js7/H8	101js6/H7	100h6/H7	
04	105m6	28h9	111	M24	210	403	193	302	187	105js7/H8	111js6/H7	110h6/H7	
05	120m6	32h9	127	M24	210	411	201	311	193	115js7/H8	121js6/H7	120h6/H7	
06	130m6	32h9	137	M24	220	434	214	331	210	125js7/H8	131js6/H7	130h6/H7	
07	140m6	36h9	148	M24	250	478	228	354	224	135js7/H8	141js6/H7	140h6/H7	
08	160m6	40h9	169	M24	250	504	254	397	246	150js7/H8	151js6/H7	150h6/H7	
09	170m6	40h9	179	M24	310	574	264	407	262	165js7/H8	166js6/H7	165h6/H7	

轴的位置

Shaft Positions



3 级锥齿轮-斜齿轮减速器水平安装
 3-stage Bevel Helical Gear Units
 Horizontal mounting

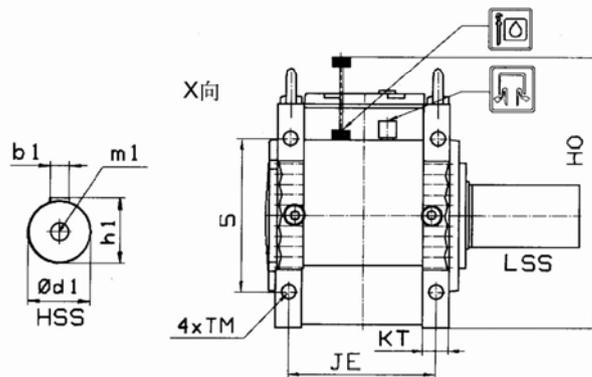
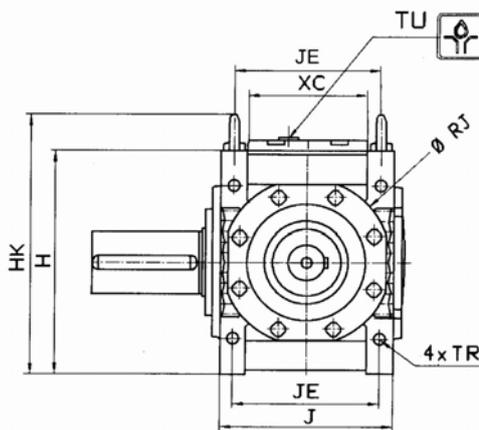
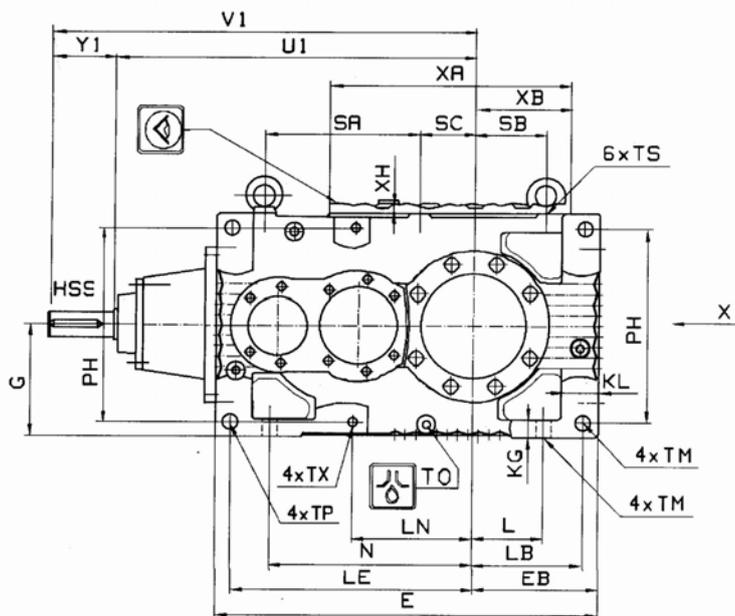
MC3RL..02-09
 实心 and 空心 LSS
 Solid & Hollow LSS

减速器尺寸

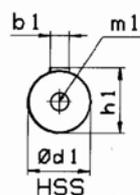
Gear Unit Dimensions

3级锥齿轮-斜齿轮减速器
 水平安装

3-stage Bevel Helical Gear Units
 Horizontal mounting



LSS尺寸见下页
 See LSS dimensions, next Page

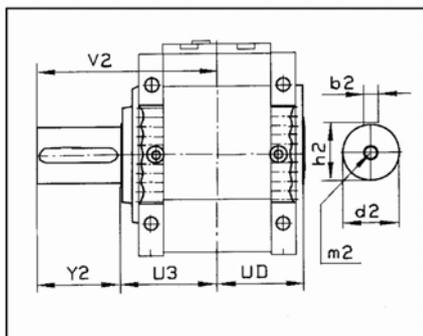


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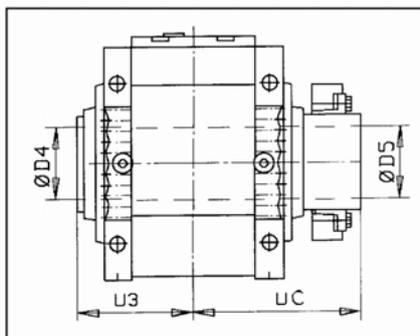
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LSS型号

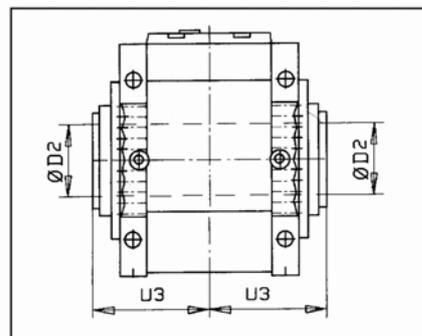
LSS type



实心轴
 Solid Shaft



空心轴、收缩盘
 Hollow Shaft, Shrink Disk



空心轴、键连接
 Hollow Shaft, Key Connection

3 级锥齿轮-斜齿轮减速度器水平安装
3-stage Bevel Helical Gear Units
Horizontal mounting

MC3RL..02-09
实心 and 空心 LSS
Solid & Hollow LSS

减速度器尺寸

Gear Unit Dimensions

规格 size	箱体尺寸 (mm)										Housing Dimensions in mm														
	E	EB hll	G hll	H	HK	HO	J hll	JE	KG	KL	KT	L	LB	LE	LN	N	PH	ΦRJ	S	SA	SB	SC	TL=TM	TM	TO
02	574	195	160	320	382	380	260	212	28	68	45	98	170	354	175	282	270	240	206	206	114	96	R1	24	R3/4
03	618	207	180	360	422	445	274	228	28	68	45	110	182	389	207	314	310	240	246	246	122	84	R1	24	R3/4
04	677	229	200	400	462	510	314	260	30	71	50	122	201	420	233	341	344	276	260	256	147	117	R1	28	R3/4
05	731	240	215	430	500	565	329	279	34	71	50	136	212	463	228	387	374	320	296	296	136	106	R1	28	R3/4
06	812	270	235	470	540	605	356	292	40	88	64	141	235	507	256	413	400	322	308	308	141	132	R1	33	R1
07	885	295	265	530	620	695	380	316	40	91	64	150	260	555	285	445	454	346	350	350	150	112	R1	33	R1
08	981	322	300	600	690	760	431	353	52	103	78	174	280	617	318	511	516	385	406	406	174	115	R1	39	R1
09	1049	335	335	670	779	870	451	373	52	103	78	187	293	672	373	566	586	392	476	476	187	100	R1	39	R1

规格 size	箱体尺寸 (mm)								HSS尺寸 (mm)												重量 Weight	油量 Oil Capacity		
	Housing Dimensions in mm								HSS Dimensions in mm															
	TP	H9	TR=TX	TS	XA	XB	XC	XH	i=14-63				i=71-90				i=100-112						kg	l
U1	Y1	V1	Φd1	b1	h1	m1	Φd1	b1	h1	m1	Φd1	b1	h1	m1	kg	l								
02	24	M20×35	M16×32	355	135	182	18	533	100	633	35k6	10h9	38	M12	30k6	8h9	33	M10	25k6	8h9	28	M10	219	11
03	24	M20×35	M16×32	384	147	196	18	584	112	696	40k6	12h9	43	M16	30k6	8h9	33	M10	25k6	8h9	28	M10	279	14
04	28	M24×42	M16×32	430	168	211	22	642	120	762	42k6	12h9	45	M16	35k6	10h9	38	M12	25k6	8h9	28	M10	382	20
05	28	M24×42	M20×35	460	182	226	22	693	125	818	50k6	14h9	53.5	M16	40k6	12h9	43	M16	30k6	8h9	33	M10	493	30
06	33	M30×53	M20×35	525	195	248	22	758	130	888	50k6	14h9	53.5	M16	45k6	14h9	48.5	M16	35k6	10h9	38	M12	601	40
07	33	M30×53	M24×42	561	219	262	22	814	135	949	60m6	18h9	64	M20	45k6	14h9	48.5	M16	40k6	12h9	43	M16	779	50
08	39	M30×53	M24×42	597	234	289	22	890	135	1025	60m6	18h9	64	M20	55m6	16h9	59	M20	40k6	12h9	43	M16	1037	65
09	39	M30×53	M30×53	652	247	309	22	969	140	1109	70m6	20h9	74.5	M20	60m6	18h9	64	M20	45k6	14h9	48.5	M16	1299	80

LSS尺寸

LSS dimensions

规格 size	LSS尺寸 (mm)						LSS Dimensions in mm						
	d2	b2	h2	m2	Y2	V2	U3	UC	UD	ΦD2	ΦD4	ΦD5	
02	80m6	22h9	85	M20	140	304	164	257	156	80js7/H8	86js6/H7	85h6/H7	
03	100m6	28h9	106	M24	170	341	171	274	163	95js7/H8	101js6/H7	100h6/H7	
04	105m6	28h9	111	M24	210	403	193	302	187	105js7/H8	111js6/H7	110h6/H7	
05	120m6	32h9	127	M24	210	411	201	311	193	115js7/H8	121js6/H7	120h6/H7	
06	130m6	32h9	137	M24	220	434	214	331	210	125js7/H8	131js6/H7	130h6/H7	
07	140m6	36h9	148	M24	250	478	228	354	224	135js7/H8	141js6/H7	140h6/H7	
08	160m6	40h9	169	M24	250	504	254	397	246	150js7/H8	151js6/H7	150h6/H7	
09	170m6	40h9	179	M24	310	574	264	407	262	165js7/H8	166js6/H7	165h6/H7	

轴的位置

Shaft Positions



2 级斜齿轮减速器垂直安装
2-stage Helical Gear Units
Vertical mounting

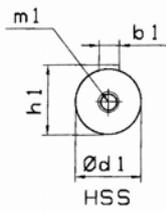
MC2PV..02-09
实心 and 空心 LSS
Solid & Hollow LSS

减速器尺寸

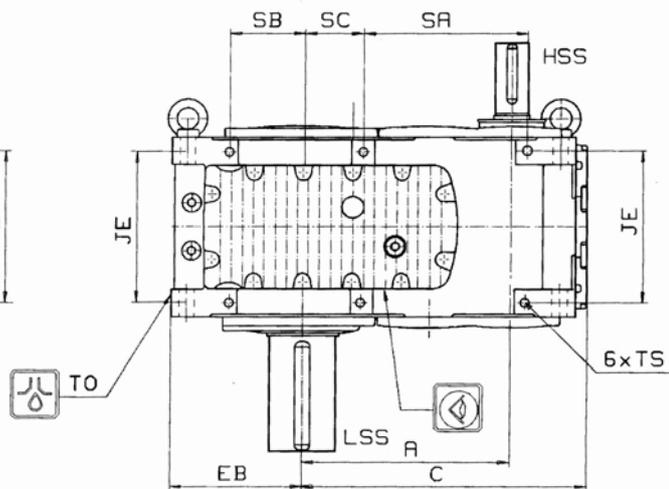
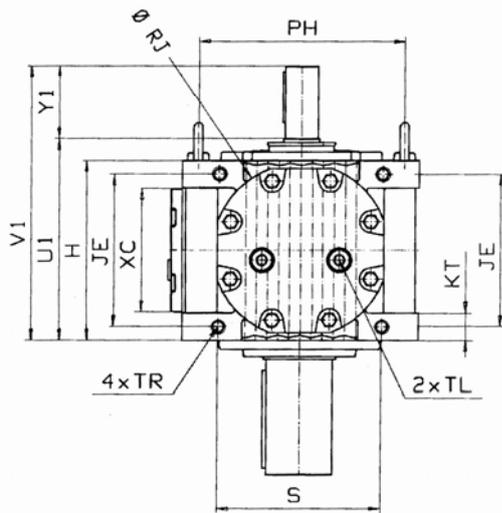
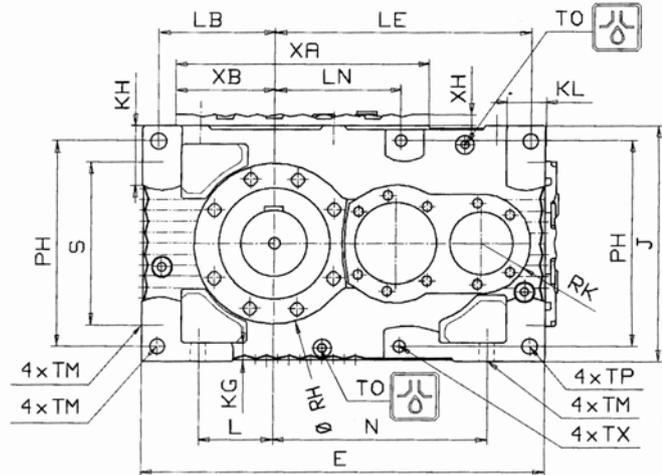
Gear Unit Dimensions

2级斜齿轮减速器
垂直安装

2-stage Bevel Helical Gear Units
Vertical mounting



LSS尺寸见下页
See LSS dimensions, next Page

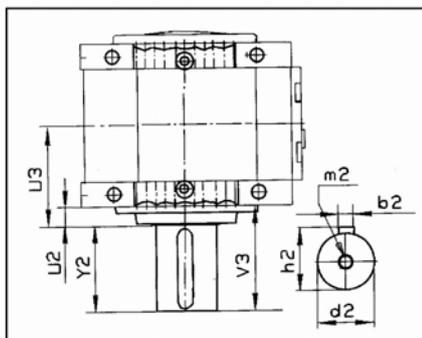


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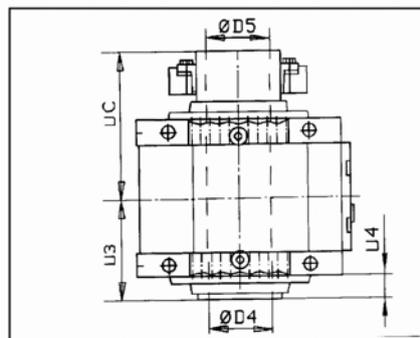
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LSS型号

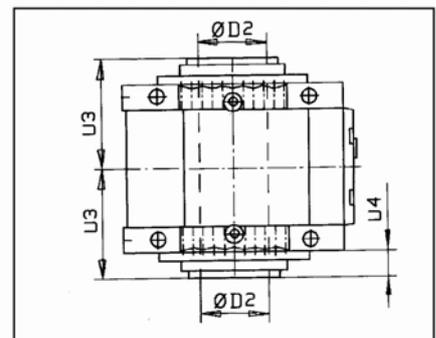
LSS type



实心轴
Solid Shaft



空心轴、收缩盘
Hollow Shaft, Shrink Disk



空心轴、键连接
Hollow Shaft, Key Connection

2 级斜齿轮减速器垂直安装
2-stage Helical Gear Units
Vertical mounting

MC2PV..02-09
实心 and 空心 LSS
Solid & Hollow LSS

减速器尺寸

Gear Unit Dimensions

规格 size	箱体尺寸 (mm)										Housing Dimensions in mm													
	A	EB hll	C	E	J hll	J	JE	KG	KH	KL	KT	L	LB	LE	LN	N	PH	RH	ΦRJ	RK	S	SA	SB	SC
02	280	195	340	574	260	320	212	28	90	68	45	98	170	354	175	282	270	107	240	73	206	206	114	96
03	310	207	432	618	274	360	228	28	100	68	45	110	182	389	207	314	310	127	239	78	246	246	122	84
04	340	229	471	677	314	400	260	30	118	71	50	122	201	420	233	341	344	136	276	83	260	256	147	114
05	374	240	514	731	329	430	279	34	118	71	50	136	212	463	228	387	374	146	320	90	296	296	136	106
06	409	270	565	812	356	470	292	40	131	88	64	141	235	507	256	413	400	156	322	97	308	308	141	132
07	445	295	616	885	380	530	316	40	152	91	64	150	260	555	285	445	454	173	346	102	350	350	150	112
08	490	322	685	981	431	600	353	52	153	103	78	174	280	617	318.5	511	516	178	366	107	406	406	174	115
09	540	335	742	1049	451	670	373	52	153	103	78	187	293	672	373.5	566	586	196	392	112	476	476	187	100

规格 size	箱体尺寸 (mm)										HSS 尺寸 (mm)						重量 Weight	油量 Oil Capacity	
	Housing Dimensions in mm										HSS Dimensions in mm								
	TL	TM	TO	TPH9	TR=TX	TS	XA	XB	XC	XH	U1	Y1	V1	Φd1	b1	h1	m1	kg	l
02	R1	24	R3 / 4	24	M20×35	M16×32	355	135	182	18	300	120	420	48k6	14h9	51.5	M16	201	25
03	R1	24	R3 / 4	24	M20×35	M16×32	384	147	196	18	314	120	434	50k6	14h9	53.5	M16	256	30
04	R1	28	R3 / 4	28	M24×42	M16×32	430	168	211	22	354	130	484	55m6	16h9	59	M20	353	40
05	R1	28	R3 / 4	28	M24×42	M20×35	460	182	226	22	370	135	505	60m6	18h9	64	M20	455	58
06	R1	33	R1	33	M30×53	M20×35	525	195	248	22	396	140	436	70m6	20h9	74.5	M20	560	70
07	R1	33	R1	33	M30×53	M24×42	561	219	262	22	420	140	560	75m6	20h9	79.5	M20	726	95
08	R1	39	R1	39	M30×53	M24×42	597	234	289	22	472	160	632	80m6	22h9	85	M20	969	110
09	R1	39	R1	39	M30×53	M30×53	652	247	309	22	492	160	652	85m6	22h9	90	M20	1208	130

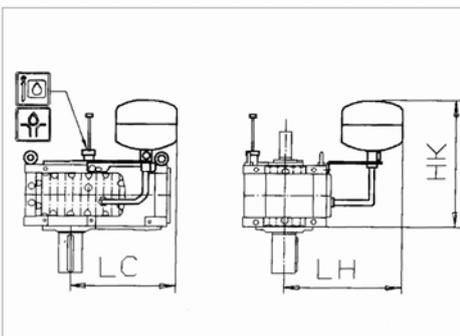
LSS 尺寸

LSS dimensions

规格 size	LSS 尺寸 (mm)										LSS Dimensions in mm					
	d2	b2	h2	m2	Y2	V3	U2	U3	U4	UC	UD	ΦD2	ΦD4	ΦD5		
02	80m6	22h9	85	M20	140	174	34	164	34	257	156	80js7/H8	86js6/H7	85h6/H7		
03	100m6	28h9	106	M24	170	204	34	171	34	274	163	95js7/H8	101js6/H7	100h6/H7		
04	105m6	28h9	111	M24	210	246	36	193	36	302	187	105js7/H8	111js6/H7	110h6/H7		
05	120m6	32h9	127	M24	210	246	36	201	36	311	193	115js7/H8	121js6/H7	120h6/H7		
06	130m6	32h9	137	M24	220	256	36	214	36	331	210	125js7/H8	131js6/H7	130h6/H7		
07	140m6	36h9	148	M24	250	288	38	228	38	354	224	135js7/H8	141js6/H7	140h6/H7		
08	160m6	40h9	169	M24	250	288	38	254	38	397	246	150js7/H8	151js6/H7	150h6/H7		
09	170m6	40h9	179	M24	310	348	38	264	38	407	262	165js7/H8	166js6/H7	165h6/H7		

主要附件
可供垂直安装选用

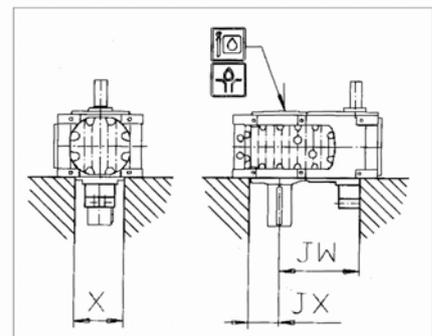
ESSENTIAL ACCESSORY
Alternatives for vertical mounting



膨胀箱

Expansion tank

规格 size	附件尺寸 (mm)					
	HK	LC	LH	X	JX	JW
02	620	460	600	-	-	-
03	640	490	620	-	-	-
04	680	530	620	250	162	380
05	690	560	630	250	169	420
06	710	600	650	250	182	454
07	740	620	680	250	204	499
08	790	690	640	316	219	556
09	810	740	670	386	232	611



轴端泵

Shaft End Pump

轴的位置

Shaft Positions



3 级斜齿轮减速器垂直安装
3-stage Helical Gear Units
Vertical mounting

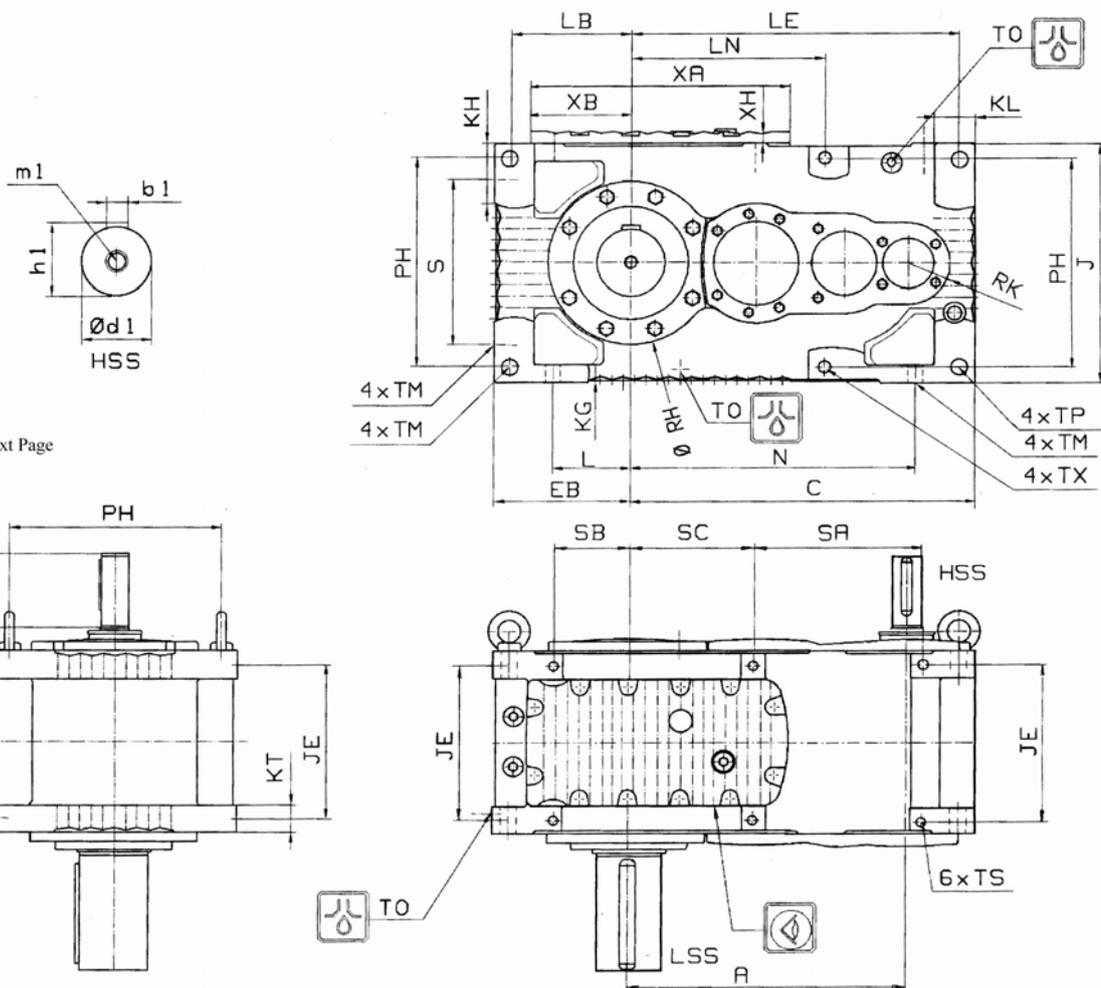
MC3PV..02-09
实心 and 空心 LSS
Solid & Hollow LSS

减速器尺寸

Gear Unit Dimensions

3级斜齿轮减速器
垂直安装

3-stage Bevel Helical Gear Units
Vertical mounting



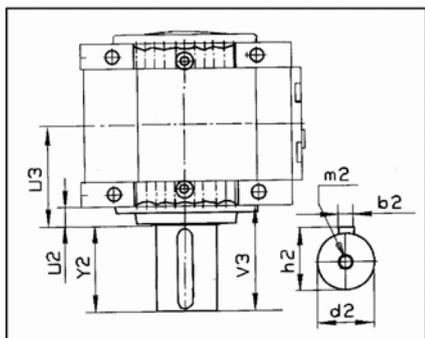
LSS尺寸见下页
See LSS dimensions, next Page

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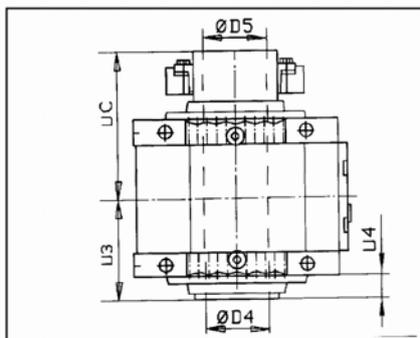
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The weights and oil quantities are guide values only.

LSS型号

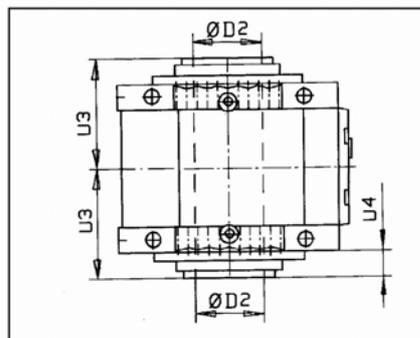
LSS type



实心轴
Solid Shaft



空心轴、收缩盘
Hollow Shaft, Shrink Disk



空心轴、键连接
Hollow Shaft, Key Connection

3 级斜齿轮减速器垂直安装
3-stage Helical Gear Units
Vertical mounting

MC3PV..02-09
实心 and 空心 LSS
Solid & Hollow LSS

减速器尺寸

Gear Unit Dimensions

规格 size	箱体尺寸 (mm)										Housing Dimensions in mm											
	A	EB hll	C	H hll	J	JE	KG	KH	KL	KT	L	LB	LE	LN	N	PH	RH	RK	S	SA	SB	SC
02	368	195	467	260	320	212	28	90	68	45	98	170	442	263	369	270	107	73	206	206	114	175
03	408	207	513	274	360	228	28	100	68	45	110	182	488	306	416	310	127	78	246	246	122	181
04	444	229	556	314	400	260	30	118	71	50	122	201	524	337	449	344	136	83	260	256	147	218
05	486	240	603	329	430	279	34	118	71	50	136	212	575	340	499	374	146	90	296	296	136	218
06	529	270	665	356	470	292	40	131	88	64	141	235	627	376	533	400	156	97	308	308	141	252
07	575	295	720	380	530	316	40	152	91	64	150	260	685	415	575	454	173	102	350	350	150	242
08	630	322	803	431	600	353	52	153	103	78	174	280	757	458.5	651	516	178	107	406	406	174	255
09	694	335	872	451	670	373	52	153	103	78	187	293	826	527.5	720	586	196	112	476	476	187	254

规格 size	箱体尺寸 (mm)										HSS尺寸 (mm)						重量 Weight	油量 Oil Capacity
	Housing Dimensions in mm										HSS Dimensions in mm							
	TM	TO	TPH9	TX	TS	XA	XB	XC	XH	U1	Y1	V1	Φd1	b1	h1	m1	kg	l
02	24	R3 / 4	24	M20×35	M16×32	355	135	182	18	300	120	420	32k6	10h9	35	M12	222	36
03	24	R3 / 4	24	M20×35	M16×32	384	147	196	18	314	120	434	38k6	10h9	41	M12	292	42
04	28	R3 / 4	28	M24×42	M16×32	430	168	211	22	354	130	484	38k6	10h9	41	M12	396	55
05	28	R3 / 4	28	M24×42	M20×35	460	182	226	22	370	135	505	48k6	14h9	51.5	M16	517	70
06	33	R1	33	M30×53	M20×35	525	195	248	22	396	140	536	48k6	14h9	51.5	M16	614	90
07	33	R1	33	M30×53	M24×42	561	219	262	22	420	140	560	50k6	14h9	53.5	M16	797	130
08	39	R1	39	M30×53	M24×42	597	234	289	22	472	160	632	55m6	16h9	59	M20	1085	135
09	39	R1	39	M30×53	M30×53	652	247	309	22	492	160	652	60m6	18h9	64	M20	1297	160

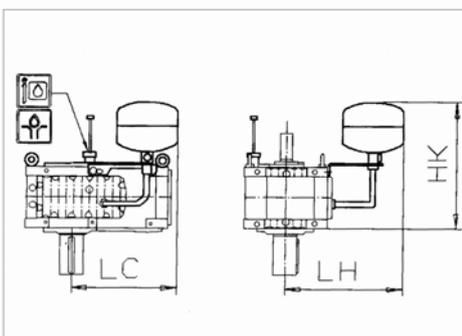
LSS尺寸

LSS dimensions

规格 size	LSS尺寸 (mm)										LSS Dimensions in mm				
	d2	b2	h2	m2	Y2	V3	U2	U3	U4	UC	UD	ΦD2	ΦD4	ΦD5	
02	80m6	22h9	85	M20	140	174	34	164	34	257	156	80js7/H8	86js6/H7	85h6/H7	
03	100m6	28h9	106	M24	170	204	34	171	34	274	163	95js7/H8	101js6/H7	100h6/H7	
04	105m6	28h9	111	M24	210	246	36	193	36	302	187	105js7/H8	111js6/H7	110h6/H7	
05	120m6	32h9	127	M24	210	246	36	201	36	311	193	115js7/H8	121js6/H7	120h6/H7	
06	130m6	32h9	137	M24	220	256	36	214	36	331	210	125js7/H8	131js6/H7	130h6/H7	
07	140m6	36h9	148	M24	250	288	38	228	38	354	224	135js7/H8	141js6/H7	140h6/H7	
08	160m6	40h9	169	M24	250	288	38	254	38	397	246	150js7/H8	151js6/H7	150h6/H7	
09	170m6	40h9	179	M24	310	348	38	264	38	407	262	165js7/H8	166js6/H7	165h6/H7	

主要附件
可供垂直安装选用

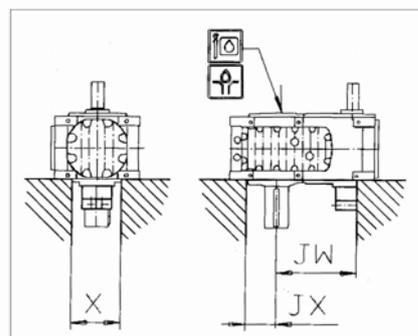
ESSENTIAL ACCESSORY
Alternatives for vertical mounting



膨胀箱

Expansion tank

规格 size	附件尺寸 (mm)					
	HK	LC	LH	X	JX	JW
02	620	540	600	-	-	-
03	640	580	620	-	-	-
04	680	640	620	250	162	488
05	690	680	630	250	169	532
06	710	720	650	250	182	574
07	740	750	680	250	204	629
08	790	830	640	316	219	696
09	810	900	670	386	232	765



轴端泵

Shaft End Pump

轴的位置

Shaft Positions

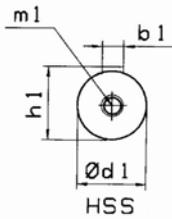


减速器尺寸

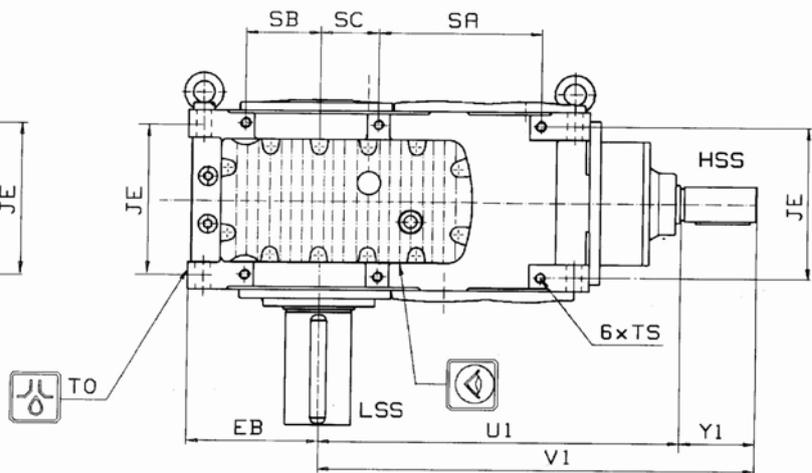
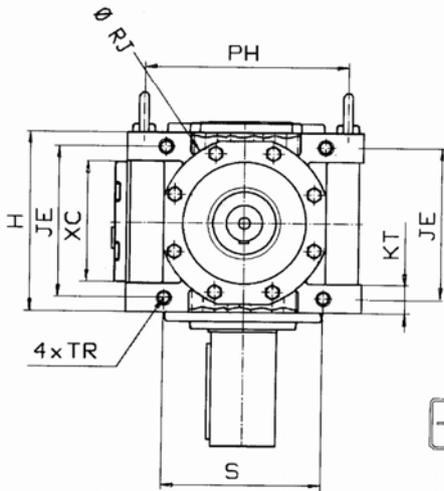
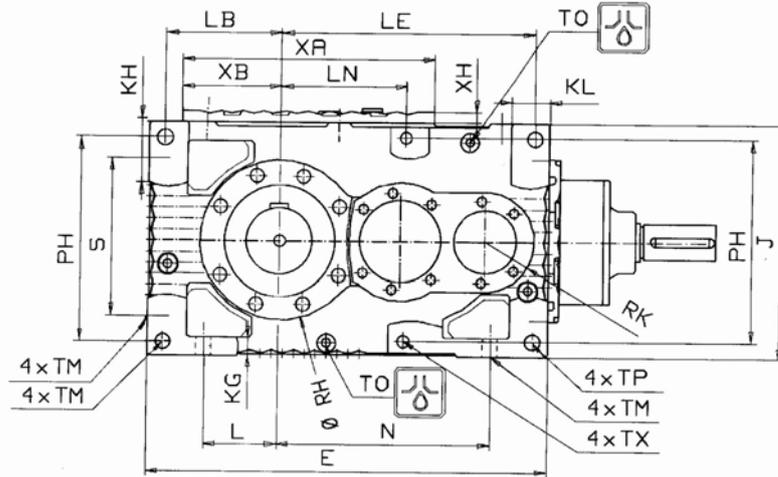
Gear Unit Dimensions

2级锥齿轮-斜齿轮减速器
 垂直安装

2-stage Bevel Helical Gear Units
 Vertical mounting



LSS尺寸见下页
 See LSS dimensions, next Page

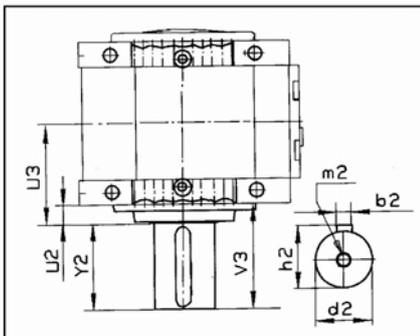


插图仅作为例子，不是严格的装配关系。
 重量和油量仅是指导值。

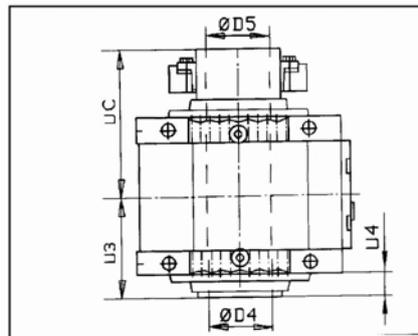
Illustrations show examples only and are not strictly binding.
 The weights and oil quantities are guide values only.

LSS型号

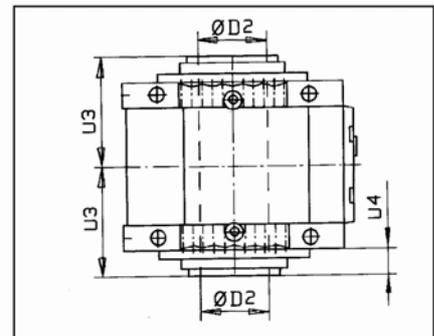
LSS type



实心轴
 Solid Shaft



空心轴、收缩盘
 Hollow Shaft, Shrink Disk



空心轴、键连接
 Hollow Shaft, Key Connection

2 级锥齿轮-斜齿轮减速器垂直安装
2-stage Bevel Helical Gear Units
Vertical mounting

MC2RV..02-09
实心 and 空心 LSS
Solid & Hollow LSS

减速器尺寸

Gear Unit Dimensions

规格 size	箱体尺寸 (mm)										Housing Dimensions in mm												
	EB	hll	E	H	hll	J	JE	KG	KH	KL	KT	L	LB	LE	LN	N	PH	RH	ΦRJ	RK	S	SA	SB
02	195	574	260	320	212	28	90	68	45	98	170	354	175	282	270	107	240	73	206	206	114	96	
03	207	618	274	360	228	28	100	68	45	110	182	389	207	314	310	127	240	78	246	246	122	84	
04	229	677	314	400	260	30	118	71	50	122	201	420	233	341	344	136	276	83	260	256	147	114	
05	240	731	329	430	279	34	118	71	50	136	212	463	228	387	374	146	320	90	296	296	136	106	
06	270	812	356	470	292	40	131	88	64	141	235	507	256	413	400	156	322	97	308	308	141	132	
07	295	885	380	530	316	40	152	91	64	150	260	555	285	445	454	173	346	102	350	350	150	112	
08	322	981	431	600	353	52	153	103	78	174	280	617	318.5	511	516	178	385	107	406	406	174	115	
09	335	1049	451	670	373	52	153	103	78	187	293	672	373.5	566	586	196	392	112	476	476	187	100	

规格 size	箱体尺寸 (mm)										HSS尺寸 (mm)					重量 Weight	油量 Oil Capacity	
	Housing Dimensions in mm										HSS Dimensions in mm							
	TM	TO	TPH9	TR=TX	TS	XA	XB	XC	XH	U1	Y1	V1	Φd1	b1	h1	m1	kg	l
02	24	R3 / 4	24	M20×35	M16×32	355	135	182	18	509	130	639	50k6	14h9	53,5	M16	221	21
03	24	R3 / 4	24	M20×35	M16×32	384	147	196	18	549	135	684	55m6	16h9	59	M20	280	38
04	28	R3 / 4	28	M24×42	M16×32	430	168	211	22	600	135	735	60m6	18h9	64	M20	381	50
05	28	R3 / 4	28	M24×42	M20×35	460	182	226	22	655	138	793	65m6	18h9	69	M20	505	65
06	33	R1	33	M30×53	M20×35	525	195	248	22	698	140	838	70m6	20h9	74,5	M20	615	84
07	33	R1	33	M30×53	M24×42	561	219	262	22	752	160	912	75m6	20h9	79,5	M20	793	120
08	39	R1	39	M30×53	M24×42	597	234	289	22	822	160	982	85m6	22h9	90	M20	1055	120
09	39	R1	39	M30×53	M30×53	652	247	309	22	921	195	1116	90m6	25h9	95	M24	1330	145

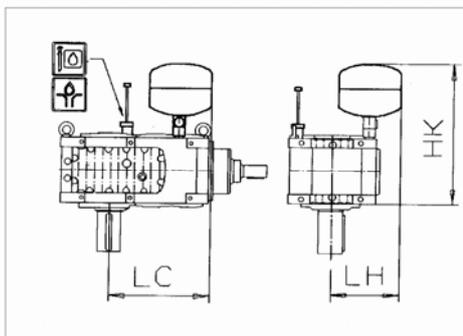
LSS尺寸

LSS dimensions

规格 size	LSS尺寸 (mm)										LSS Dimensions in mm				
	d2	b2	h2	m2	Y2	V3	U2	U3	U4	UC	UD	ΦD2	ΦD4	ΦD5	
02	80m6	22h9	85	M20	140	174	34	164	34	257	156	80js7/H8	86js6/H7	85h6/H7	
03	100m6	28h9	106	M24	170	204	34	171	34	274	163	95js7/H8	101js6/H7	100h6/H7	
04	105m6	28h9	111	M24	210	246	36	193	36	302	187	105js7/H8	111js6/H7	110h6/H7	
05	120m6	32h9	127	M24	210	246	36	201	36	311	193	115js7/H8	121js6/H7	120h6/H7	
06	130m6	32h9	137	M24	220	256	36	214	36	331	210	125js7/H8	131js6/H7	130h6/H7	
07	140m6	36h9	148	M24	250	288	38	228	38	354	224	135js7/H8	141js6/H7	140h6/H7	
08	160m6	40h9	169	M24	250	288	38	254	38	397	246	150js7/H8	151js6/H7	150h6/H7	
09	170m6	40h9	179	M24	310	348	38	264	38	407	262	165js7/H8	166js6/H7	165h6/H7	

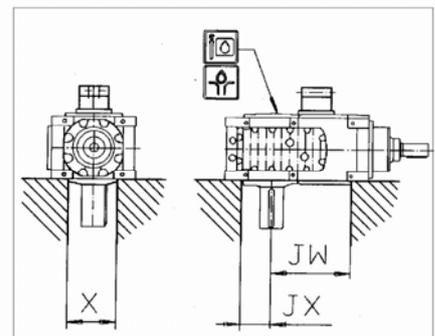
主要附件
可供垂直安装选用

ESSENTIAL ACCESSORY
Alternatives for vertical mounting



膨胀箱 Expansion tank

规格 size	附件尺寸 (mm)					
	HK	LC	LH	X	JX	JW
02	710	430	310	-	-	-
03	730	440	330	-	-	-
04	770	480	350	250	162	380
05	780	510	370	250	169	420
06	810	540	380	250	182	454
07	830	580	410	250	204	499
08	880	620	450	316	219	556
09	900	670	480	386	232	611



轴端泵 Shaft End Pump

轴的位置

Shaft Positions



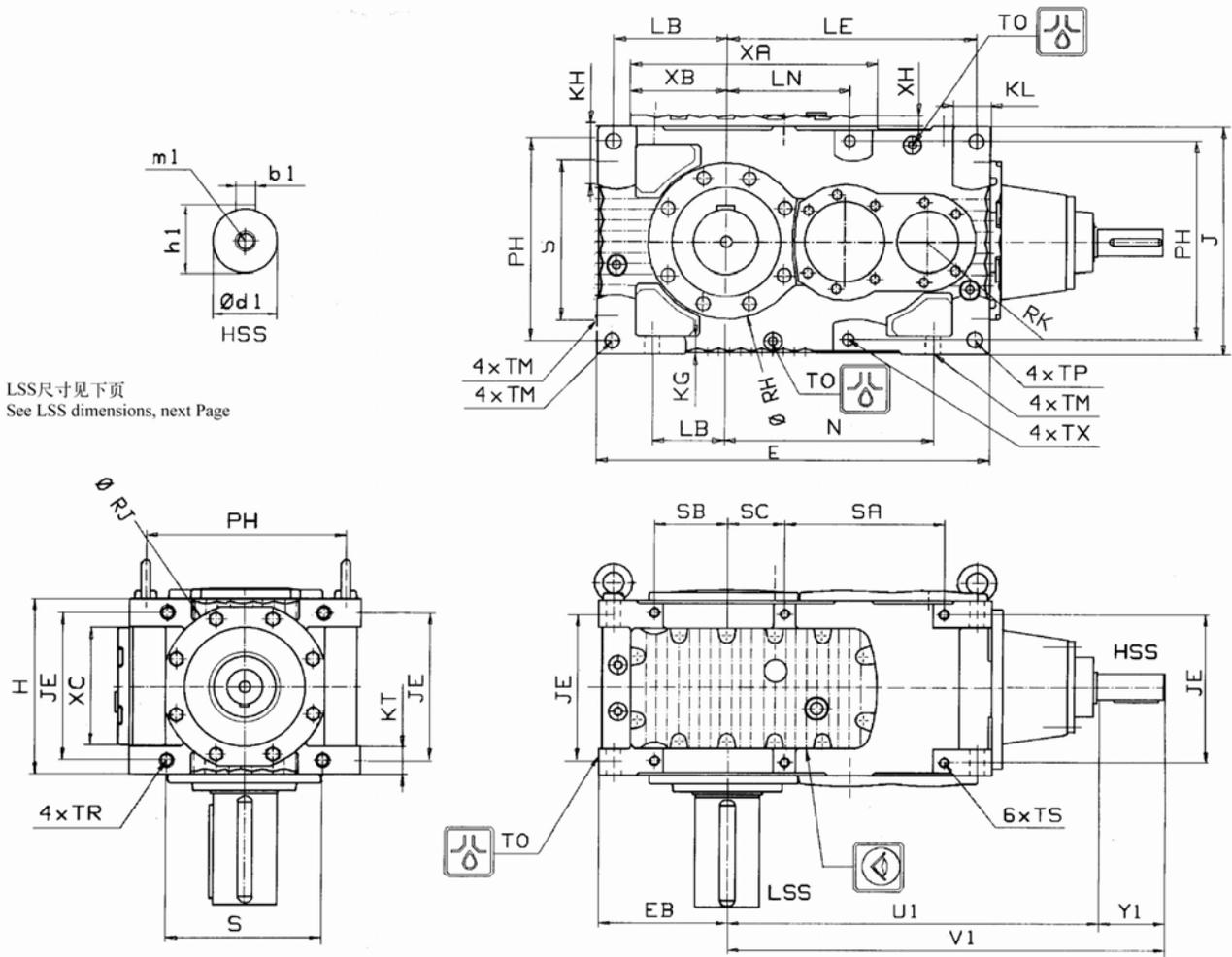
减速器尺寸

Gear Unit Dimensions

3级锥齿轮-斜齿轮减速器
 垂直安装

3-stage Bevel Helical Gear Units
 Vertical mounting

LSS尺寸见下页
 See LSS dimensions, next Page

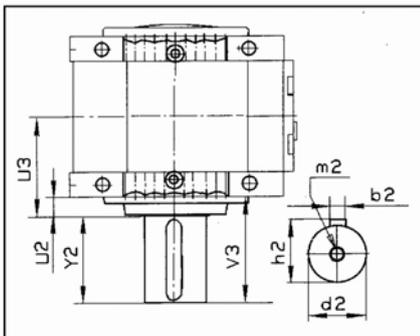


插图仅作为例子，不是严格的装配关系。
 重量和油量仅是指导值。

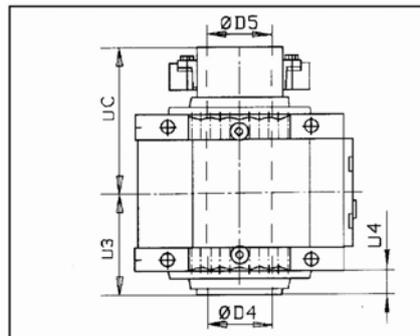
Illustrations show examples only and are not strictly binding.
 The weights and oil quantities are guide values only.

LSS型号

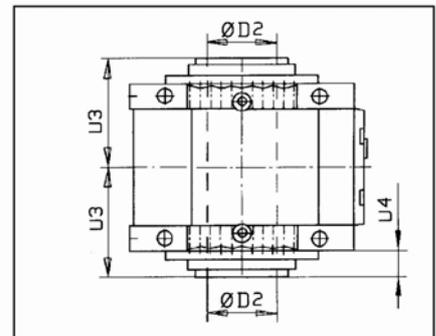
LSS type



实心轴
 Solid Shaft



空心轴、收缩盘
 Hollow Shaft, Shrink Disk



空心轴、键连接
 Hollow Shaft, Key Connection

3 级锥齿轮-斜齿轮减速器垂直安装
3-stage Bevel Helical Gear Units
Vertical mounting

MC3RV..02-09
实心 and 空心 LSS
Solid & Hollow LSS

减速器尺寸

Gear Unit Dimensions

规格 size	箱体尺寸 (mm)										Housing Dimensions in mm														
	EB	h1l	E	H	h1l	J	JE	KG	KH	KL	KT	L	LB	LE	LN	N	PH	RH	ΦRJ	RK	S	SA	SB	SC	TM
02	195	574	260	320	212	28	90	68	45	98	170	354	175	282	270	107	240	73	206	206	114	96	24	R3 / 4	
03	207	618	274	360	228	28	100	68	45	110	182	389	207	314	310	127	240	78	246	246	122	84	24	R3 / 4	
04	229	677	314	400	260	30	118	71	50	122	201	420	233	341	344	136	276	83	260	256	147	114	28	R3 / 4	
05	240	731	329	430	279	34	118	71	50	136	212	463	228	387	374	146	320	90	296	296	136	106	28	R3 / 4	
06	270	812	356	470	292	40	131	88	64	141	235	507	256	413	400	156	322	97	308	308	141	132	33	R1	
07	295	885	380	530	316	40	152	91	64	150	260	555	285	445	454	173	346	102	350	350	150	112	33	R1	
08	322	981	431	600	353	52	153	103	78	174	280	617	318.5	511	516	178	385	107	406	406	174	115	39	R1	
09	335	1049	451	670	373	52	153	103	78	187	293	672	373.5	566	586	196	392	112	476	476	187	100	39	R1	

规格 size	箱体尺寸 (mm)								HSS尺寸 (mm)												重量 Weight	油量 Oil Capacity		
	Housing Dimensions in mm								HSS Dimensions in mm															
	TP	H9	TR=TX	TS	XA	XB	XC	XH	i=14-63				i=71-90				i=100-112							
U1	Y1	V1	Φd1	b1	h1	m1	Φd1	b1	h1	m1	Φd1	b1	h1	m1	kg	l								
02	24	M20×35	M16×32	355	135	182	18	533	100	633	35k6	10h9	38	M12	30k6	8h9	33	M10	25k6	8h9	28	M10	219	30
03	24	M20×35	M16×32	384	147	196	18	584	112	696	40k6	12h9	43	M16	30k6	8h9	33	M10	25k6	8h9	28	M10	279	38
04	28	M24×42	M16×32	430	168	211	22	642	120	762	42k6	12h9	45	M16	35k6	10h9	38	M12	25k6	8h9	28	M10	382	50
05	28	M24×42	M20×35	460	182	226	22	693	125	818	50k6	14h9	53.5	M16	40k6	12h9	43	M16	30k6	8h9	33	M10	493	65
06	33	M30×53	M20×35	525	195	248	22	758	130	888	50k6	14h9	53.5	M16	45k6	14h9	48.5	M16	35k6	10h9	38	M12	601	84
07	33	M30×53	M24×42	561	219	262	22	814	135	949	60m6	18h9	64	M20	45k6	14h9	48.5	M16	40k6	12h9	43	M16	779	120
08	39	M30×53	M24×42	597	234	289	22	890	135	1025	60m6	18h9	64	M20	55m6	16h9	59	M20	40k6	12h9	43	M16	1037	120
09	39	M30×53	M30×53	652	247	309	22	969	140	1109	70m6	20h9	74.5	M20	60m6	18h9	64	M20	45k6	14h9	48.5	M16	1299	145

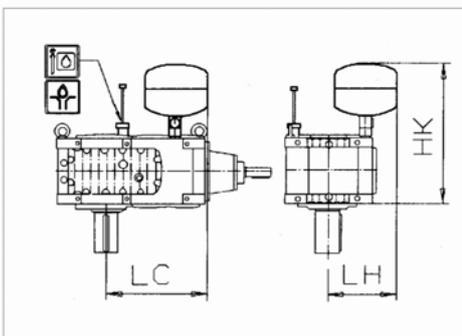
LSS尺寸

LSS dimensions

规格 size	LSS尺寸 (mm)							LSS Dimensions in mm								
	d2	b2	h2	m2	Y2	V3	U2	U3	U4	UC	UD	ΦD2	ΦD4	ΦD5		
02	80m6	22h9	85	M20	140	174	34	164	34	257	156	80js7/H8	86js6/H7	85h6/H7		
03	100m6	28h9	106	M24	170	204	34	171	34	274	163	95js7/H8	101js6/H7	100h6/H7		
04	105m6	28h9	111	M24	210	246	36	193	36	302	187	105js7/H8	111js6/H7	110h6/H7		
05	120m6	32h9	127	M24	210	246	36	201	36	311	193	115js7/H8	121js6/H7	120h6/H7		
06	130m6	32h9	137	M24	220	256	36	214	36	331	210	125js7/H8	131js6/H7	130h6/H7		
07	140m6	36h9	148	M24	250	288	38	228	38	354	224	135js7/H8	141js6/H7	140h6/H7		
08	160m6	40h9	169	M24	250	288	38	254	38	397	246	150js7/H8	151js6/H7	150h6/H7		
09	170m6	40h9	179	M24	310	348	38	264	38	407	262	165js7/H8	166js6/H7	165h6/H7		

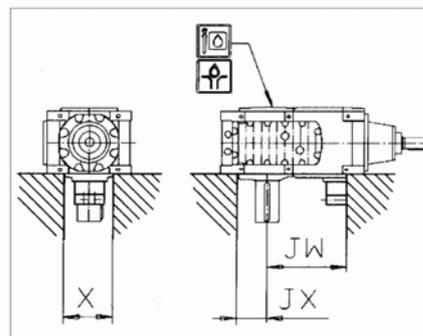
主要附件
可供垂直安装选用

ESSENTIAL ACCESSORY
Alternatives for vertical mounting



膨胀箱 Expansion tank

规格 size	附件尺寸 (mm)					
	HK	LC	LH	X	JX	JW
02	710	430	310	-	-	-
03	730	440	330	-	-	-
04	770	480	350	250	162	380
05	780	510	370	250	169	420
06	810	540	380	250	182	454
07	830	580	410	250	204	499
08	880	620	450	316	219	556
09	900	670	480	386	232	611



轴端泵 Shaft End Pump

轴的位置

Shaft Positions



2 级斜齿轮减速器竖立安装
2-stage Helical Gear Units
Upright mounting

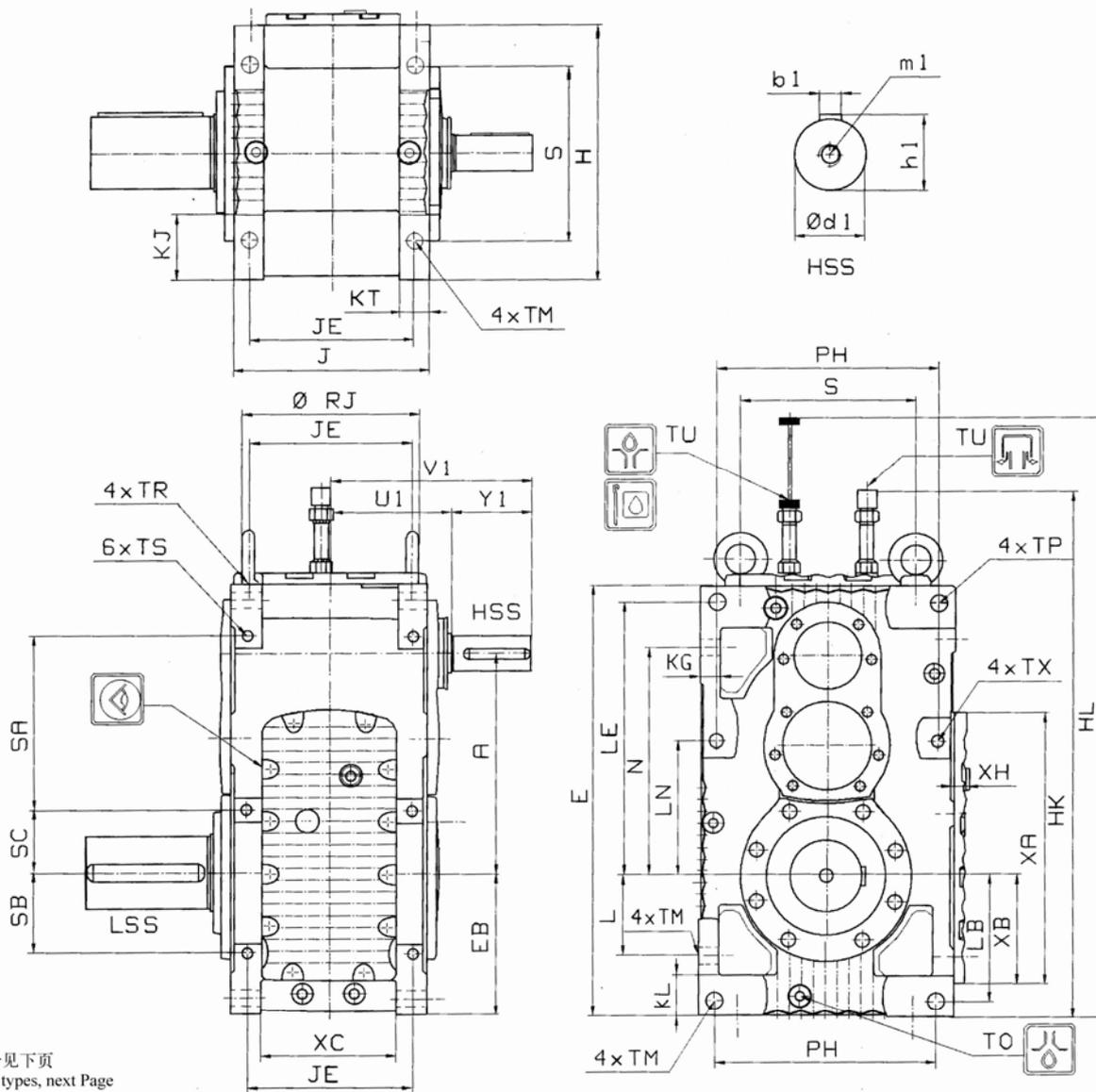
MC2PE..02-09
实心 and 空心 LSS
Solid & Hollow LSS

减速器尺寸

Gear Unit Dimensions

2级斜齿轮减速器
竖立安装

2-stage Helical Gear Units
Upright mounting



LSS型号见下页
See LSS types, next Page

插图仅作为例子，不是严格的装配关系。
重量和油量仅是指导值。

Illustrations show examples only and are not strictly binding.
The weights and oil quantities are guide values only.

2 级斜齿轮减速器竖立安装
2-stage Helical Gear Units
Upright mounting

MC2PE..02-09
实心 and 空心 LSS
Solid & Hollow LSS

减速器尺寸

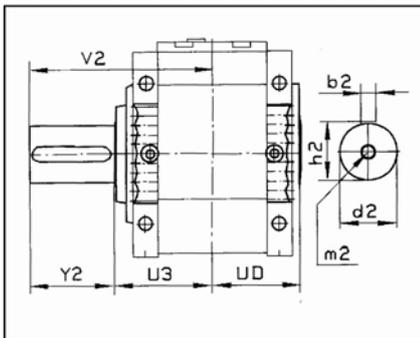
Gear Unit Dimensions

规格 size	箱体尺寸 (mm) Housing Dimensions in mm																						
	A	EB	h1	E	H	HK	HL	J	h1	JE	KG	KJ	KL	KT	L	LB	LE	LN	N	PH	S	SA	SB
02	280	195	574	320	740	880	260	212	28	90	68	45	98	170	354	175	282	270	206	206	114	96	
03	310	207	618	360	790	960	274	228	28	100	68	45	110	182	389	207	314	310	246	246	122	84	
04	340	229	677	400	850	1035	314	260	30	118	71	50	122	201	420	233	341	344	260	256	147	117	
05	374	240	731	430	900	1100	329	279	34	118	71	50	136	212	463	228	387	374	296	296	136	106	
06	409	270	812	470	980	1220	356	292	40	131	88	64	141	235	507	256	413	400	308	308	141	132	
07	445	295	885	530	1055	1335	380	316	40	152	91	64	150	260	555	285	445	454	350	350	150	112	
08	490	322	981	600	1150	1460	431	353	52	153	103	78	174	280	617	318.5	511	516	406	406	174	115	
09	540	335	1049	670	1220	1540	451	373	52	153	103	78	187	293	672	373.5	566	586	476	476	187	100	

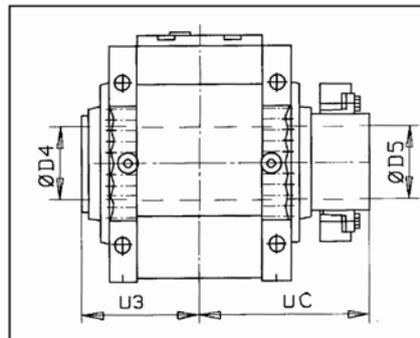
规格 size	箱体尺寸 (mm) Housing Dimensions in mm										HSS尺寸 (mm) HSS Dimensions in mm							重量 Weight	油量 Oil Capacity
	TU	TM	TO	TP	H9	TR=TX	TS	XA	XB	XC	XH	U1	Y1	V1	Φd1	b1	h1	m1	kg
02	R3/4	24	R3/4	24	M20×35	M16×32	355	135	182	18	170	120	290	48k6	14h9	51.5	M16	201	20
03	R3/4	24	R3/4	24	M20×35	M16×32	384	147	196	18	177	120	297	50k6	14h9	53.5	M16	256	25
04	R3/4	28	R3/4	28	M24×42	M16×32	430	168	211	22	197	130	327	55m6	16h9	59	M20	353	35
05	R3/4	28	R3/4	28	M24×42	M20×35	460	182	226	22	205	135	340	60m6	18h9	64	M20	455	50
06	R3/4	33	R1	33	M30×53	M20×35	525	195	248	22	218	140	358	70m6	20h9	74.5	M20	560	65
07	R3/4	33	R1	33	M30×53	M24×42	561	219	262	22	230	140	370	75m6	20h9	79.5	M20	726	85
08	R3/4	39	R1	39	M30×53	M24×42	597	234	289	22	256	160	416	80m6	22h9	85	M20	969	100
09	R3/4	39	R1	39	M30×53	M30×53	652	247	309	22	266	160	426	85m6	22h9	90	M20	1208	130

LSS型号

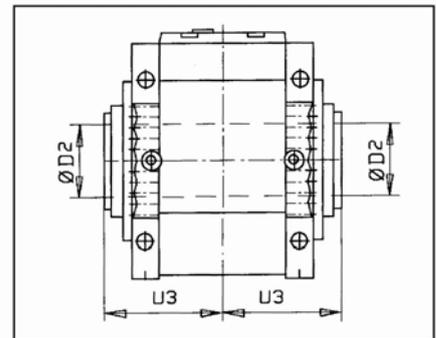
LSS type



实心轴
Solid Shaft



空心轴、收缩盘
Hollow Shaft, Shrink Disk



空心轴、键连接
Hollow Shaft, Key Connection

规格 size	LSS尺寸 (mm)							LSS Dimensions in mm					
	d2	b2	h2	m2	Y2	V2	U3	UC	UD	ΦD2	ΦD4	ΦD5	
02	80m6	22h9	85	M20	140	304	164	257	156	80js7/H8	86js6/H7	85h6/H7	
03	100m6	28h9	106	M24	170	341	171	274	163	95js7/H8	101js6/H7	100h6/H7	
04	105m6	28h9	111	M24	210	403	193	302	187	105js7/H8	111js6/H7	110h6/H7	
05	120m6	32h9	127	M24	210	411	201	311	193	115js7/H8	121js6/H7	120h6/H7	
06	130m6	32h9	137	M24	220	434	214	331	210	125js7/H8	131js6/H7	130h6/H7	
07	140m6	36h9	148	M24	250	478	228	354	224	135js7/H8	141js6/H7	140h6/H7	
08	160m6	40h9	169	M24	250	504	254	397	246	150js7/H8	151js6/H7	150h6/H7	
09	170m6	40h9	179	M24	310	574	264	407	262	165js7/H8	166js6/H7	165h6/H7	

轴的位置

Shaft Positions



3 级斜齿轮减速器竖立安装
3-stage Helical Gear Units
Upright mounting

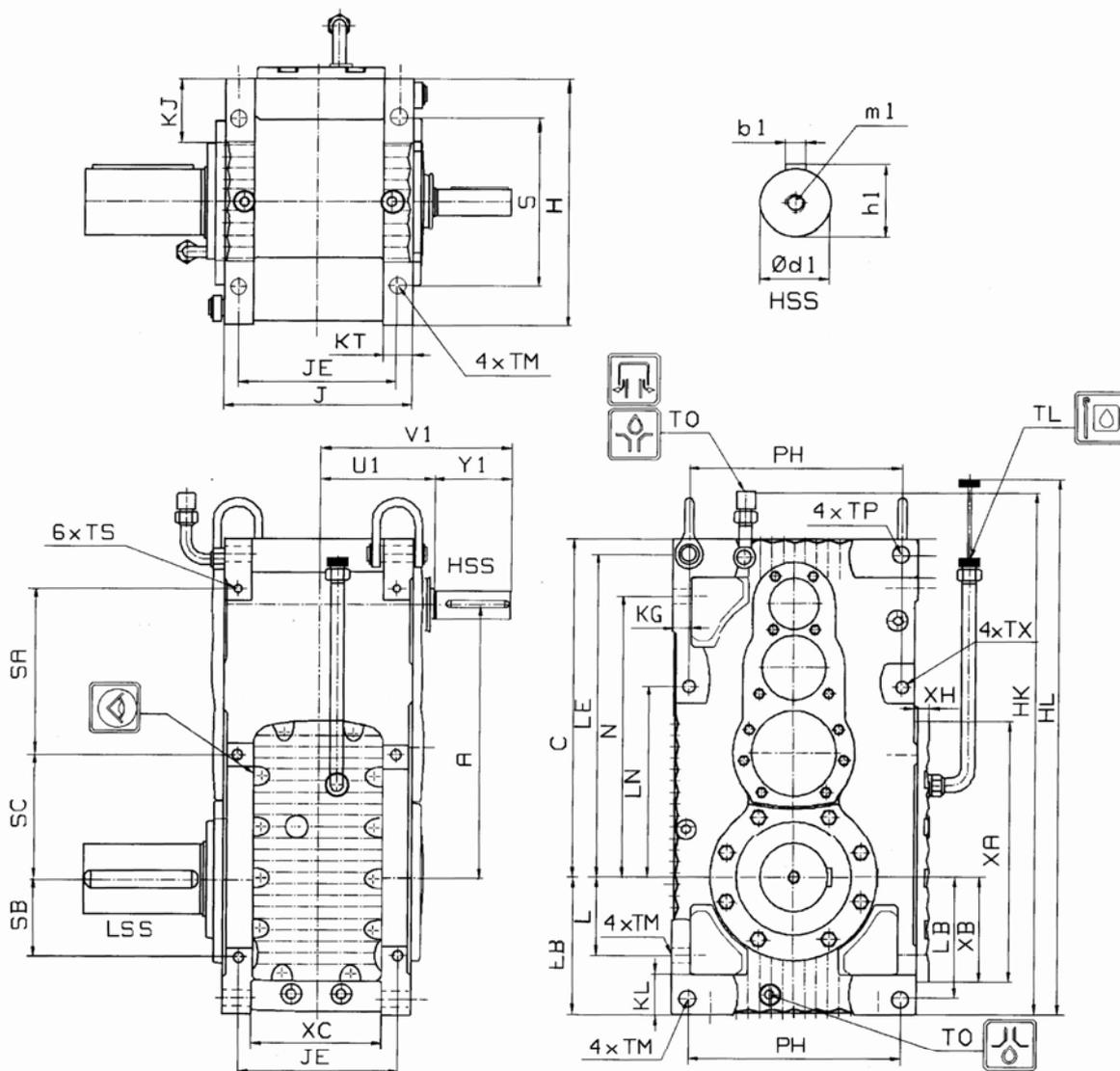
MC3PE..02-09
实心 and 空心 LSS
Solid & Hollow LSS

减速器尺寸

Gear Unit Dimensions

3级斜齿轮减速器
竖立安装

3-stage Helical Gear Units
Upright mounting



LSS型号见下页
See LSS types, next Page

插图仅作为例子，不是严格的装配关系。
重量和油量仅是指导值。

Illustrations show examples only and are not strictly binding.
The weights and oil quantities are guide values only.

3 级斜齿轮减速器竖立安装
3-stage Helical Gear Units
Upright mounting

MC3PE..02-09
实心 and 空心 LSS
Solid & Hollow LSS

减速器尺寸

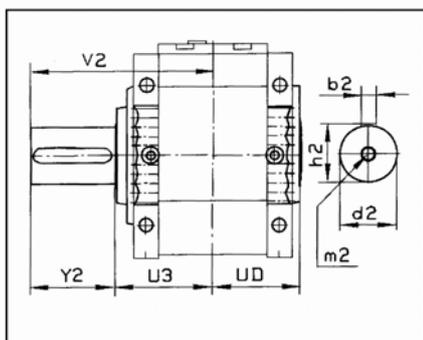
Gear Unit Dimensions

规格 size	箱体尺寸 (mm) Housing Dimensions in mm																						
	A	EB	h1	C	H	HK	HL	J	h11	JE	KG	KJ	KL	KT	L	LB	LE	LN	N	PH	S	SA	SB
02	368	195	467	320	674	715	260	212	28	90	68	45	98	170	442	263	369	270	206	206	114	175	
03	408	207	513	360	718	765	274	228	28	100	68	45	110	182	488	306	416	310	246	246	122	181	
04	444	229	556	400	777	810	314	260	30	118	71	50	122	201	524	337	449	344	260	256	147	218	
05	486	240	605	430	831	890	329	279	34	118	71	50	136	212	575	340	699	374	296	296	136	218	
06	529	270	665	470	912	945	356	292	40	131	88	64	141	235	627	376	533	400	308	308	141	252	
07	575	295	720	530	985	1015	380	316	40	152	91	64	150	260	685	415	575	454	350	350	150	242	
08	630	322	803	600	1081	1090	431	353	52	153	103	78	174	280	757	458.5	651	516	406	406	174	255	
09	694	335	872	670	1149	1165	451	373	52	153	103	78	187	293	826	527.5	720	586	476	476	187	254	

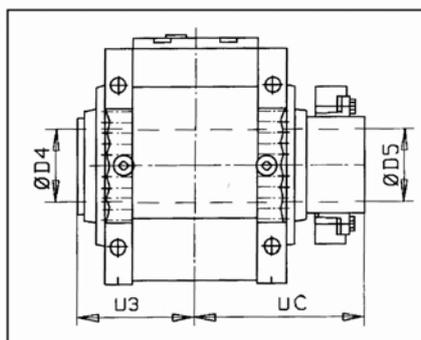
规格 size	箱体尺寸 (mm) Housing Dimensions in mm										HSS尺寸 (mm) HSS Dimensions in mm							重量 Weight	油量 Oil Capacity
	TL	TM	TO	TPH9	TX	TS	XA	XB	XC	XH	U1	Y1	V1	Φd1	b1	h1	m1		
02	R3/4	24	R3/4	24	M20×35	M16×32	355	135	182	18	170	120	290	32k6	10h9	35	M12	222	27
03	R3/4	24	R3/4	24	M20×35	M16×32	384	147	196	18	177	120	297	38k6	10h9	41	M12	292	32
04	R3/4	28	R3/4	28	M24×42	M16×32	430	168	211	22	197	130	327	38k6	10h9	41	M12	396	43
05	R3/4	28	R3/4	28	M24×42	M20×35	460	182	226	22	205	135	340	48k6	14h9	51.5	M16	517	60
06	R3/4	33	R1	33	M30×53	M20×35	525	195	248	22	218	140	358	48k6	14h9	51.5	M16	614	76
07	R3/4	33	R1	33	M30×53	M24×42	561	219	262	22	230	140	370	50k6	14h9	53.5	M16	797	105
08	R3/4	39	R1	39	M30×53	M24×42	597	234	289	22	256	160	416	55m6	16h9	59	M20	1085	125
09	R3/4	39	R1	39	M30×53	M30×53	652	247	309	22	266	160	426	60m6	18h9	64	M20	1297	150

LSS型号

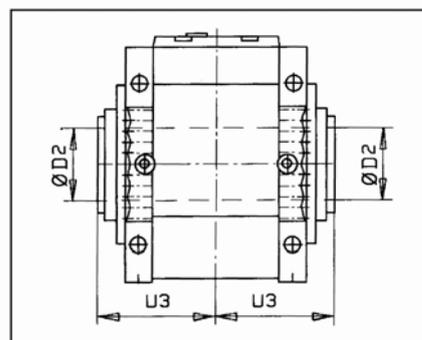
LSS type



实心轴
Solid Shaft



空心轴、收缩盘
Hollow Shaft, Shrink Disk



空心轴、键连接
Hollow Shaft, Key Connection

规格 size	LSS尺寸 (mm)							LSS Dimensions in mm					
	d2	b2	h2	m2	Y2	V2	U3	UC	UD	ΦD2	ΦD4	ΦD5	
02	80m6	22h9	85	M20	140	304	164	257	156	80js7/H8	86js6/H7	85h6/H7	
03	100m6	28h9	106	M24	170	341	171	274	163	95js7/H8	101js6/H7	100h6/H7	
04	105m6	28h9	111	M24	210	403	193	302	187	105js7/H8	111js6/H7	110h6/H7	
05	120m6	32h9	127	M24	210	411	201	311	193	115js7/H8	121js6/H7	120h6/H7	
06	130m6	32h9	137	M24	220	434	214	331	210	125js7/H8	131js6/H7	130h6/H7	
07	140m6	36h9	148	M24	250	478	228	354	224	135js7/H8	141js6/H7	140h6/H7	
08	160m6	40h9	169	M24	250	504	254	397	246	150js7/H8	151js6/H7	150h6/H7	
09	170m6	40h9	179	M24	310	574	264	407	262	165js7/H8	166js6/H7	165h6/H7	

轴的位置

Shaft Positions

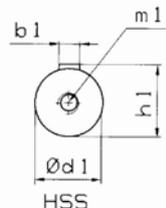
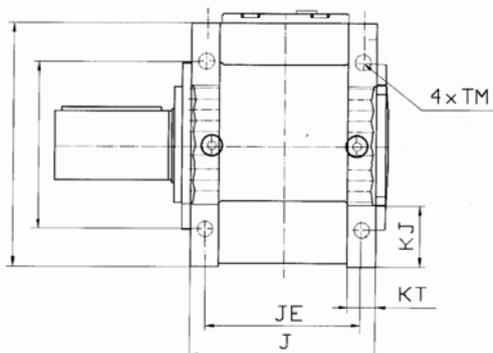


减速器尺寸

Gear Unit Dimensions

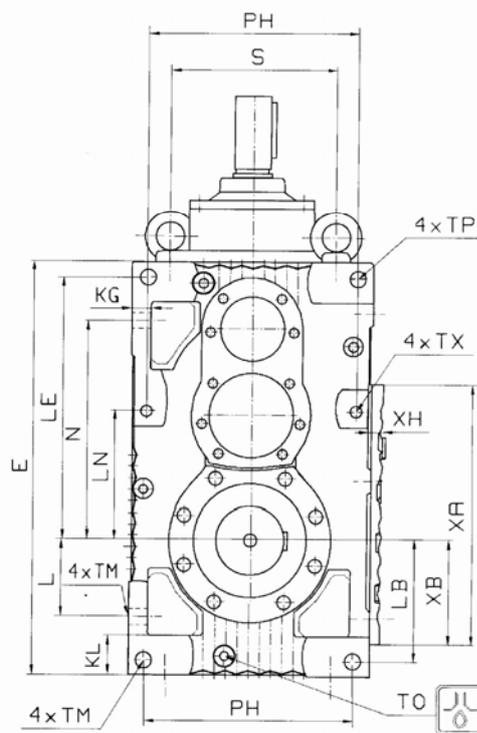
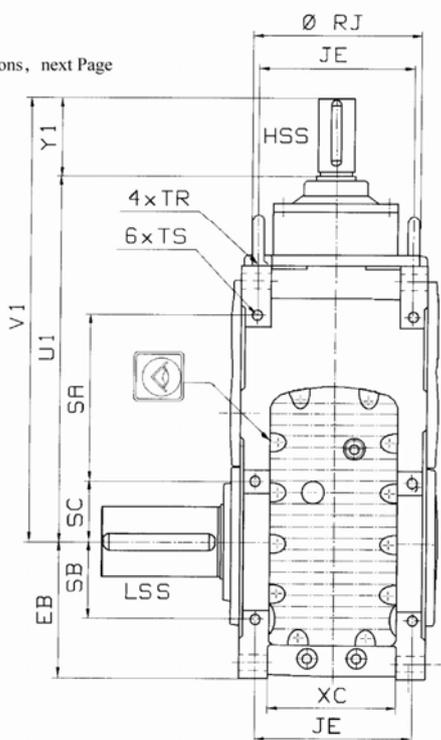
2级锥齿轮斜齿轮减速器
 竖立安装

2-stage Bevel Helical Gear Units
 Upright mounting



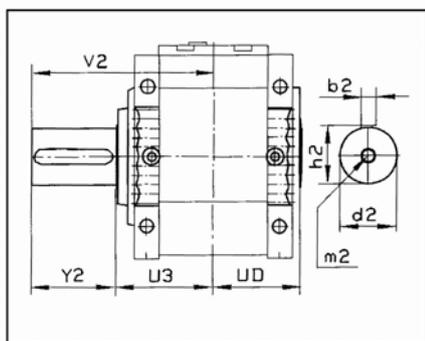
插图仅作为例子，不是严格的装配关系。
 重量和油量仅是指导值。
 Illustrations show examples only and are not strictly binding.
 The weights and oil quantities are guide Values only

LSS尺寸见下页
 See LSS dimensions, next Page

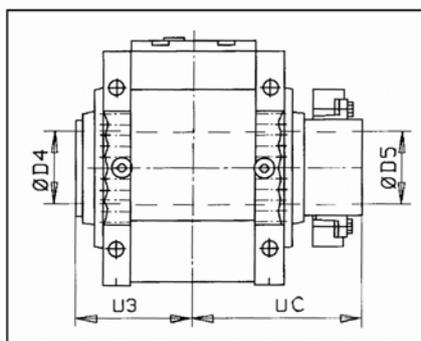


LSS型号

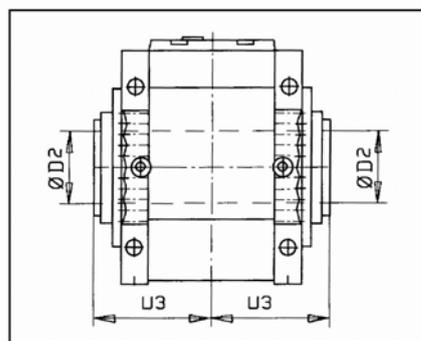
LSS type



实心轴
 Solid Shaft



空心轴、收缩盘
 Hollow Shaft, Shrink Disk



空心轴、键连接
 Hollow Shaft, Key Connection

2 级锥齿轮-斜齿轮减速器竖立安装
2-stage Bevel Helical Gear Units
Upright mounting

MC2RE..02-09
实心 and 空心 LSS
Solid & Hollow LSS

减速器尺寸

Gear Unit Dimensions

规格 size	箱体尺寸 (mm)									Housing Dimensions in mm									
	EB hll	E	H	J hll	JE	KG	KJ	KL	KT	L	LB	LE	LN	N	PH	S	SA	SB	SC
02	195	574	320	260	212	28	90	68	45	98	170	354	175	282	270	206	206	114	96
03	207	618	360	274	228	28	100	68	45	110	182	389	207	314	310	246	246	122	84
04	229	677	400	314	260	30	118	71	50	122	201	420	233	341	344	260	256	147	114
05	240	731	430	329	279	34	118	71	50	136	212	463	228	387	374	296	296	136	106
06	270	812	470	356	292	40	131	88	64	141	235	507	256	413	400	308	308	141	132
07	295	885	530	380	316	40	152	91	64	150	260	555	285	445	454	350	350	150	112
08	322	981	600	431	353	52	153	103	78	174	280	617	318.5	511	516	406	406	174	115
09	335	1049	670	451	373	52	153	103	78	187	293	672	373.5	566	586	476	476	187	100

规格 size	箱体尺寸 (mm)									HSS尺寸 (mm)							重量 Weight	油量 Oil Capacity
	Housing Dimensions in mm									HSS Dimensions in mm								
	TM	TO	TPH9	TR=TX	TS	XA	XB	XC	XH	U1	Y1	V1	Φd1	b1	h1	m1	kg	l
02	24	R3 / 4	24	M20×35	M16×32	355	135	182	18	509	130	639	50k6	14h9	53.5	M16	221	30
03	24	R3 / 4	24	M20×35	M16×32	384	147	196	18	549	135	684	55m6	16h9	59	M20	280	36
04	28	R3 / 4	28	M24×42	M16×32	430	168	211	22	600	135	735	60m6	18h9	64	M20	381	46
05	28	R3 / 4	28	M24×42	M20×35	460	182	226	22	655	138	793	65m6	18h9	69	M20	505	65
06	33	R1	33	M30×53	M20×35	525	195	248	22	698	140	838	70m6	20h9	74.5	M20	615	80
07	33	R1	33	M30×53	M24×42	561	219	262	22	752	160	912	75m6	20h9	79.5	M20	793	115
08	39	R1	39	M30×53	M24×42	597	234	289	22	822	160	982	85m6	22h9	90	M20	1055	110
09	39	R1	39	M30×53	M30×53	652	247	309	22	921	195	1116	90m6	25h9	95	M24	1330	135

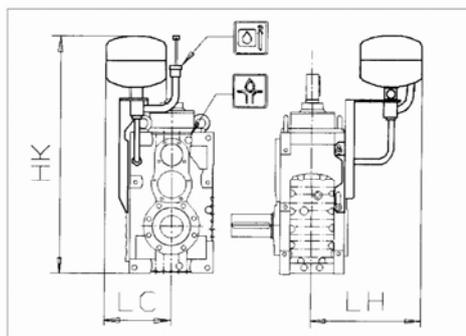
LSS尺寸

LSS dimensions

规格 size	LSS尺寸 (mm)							LSS Dimensions in mm					
	d2	b2	h2	m2	Y2	V2	U3	UC	UD	ΦD2	ΦD4	ΦD5	
02	80m6	22h9	85	M20	140	304	164	257	156	80js7/H8	86js6/H7	85h6/H7	
03	100m6	28h9	106	M24	170	341	171	274	163	95js7/H8	101js6/H7	100h6/H7	
04	105m6	28h9	111	M24	210	403	193	302	187	105js7/H8	111js6/H7	110h6/H7	
05	120m6	32h9	127	M24	210	411	201	311	193	115js7/H8	121js6/H7	120h6/H7	
06	130m6	32h9	137	M24	220	434	214	331	210	125js7/H8	131js6/H7	130h6/H7	
07	140m6	36h9	148	M24	250	478	228	354	224	135js7/H8	141js6/H7	140h6/H7	
08	160m6	40h9	169	M24	250	504	254	397	246	150js7/H8	151js6/H7	150h6/H7	
09	170m6	40h9	179	M24	310	574	264	407	262	165js7/H8	166js6/H7	165h6/H7	

主要附件
可供垂直安装选用

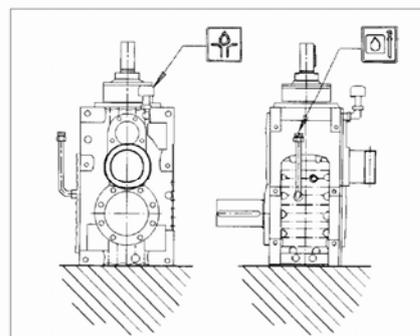
ESSENTIAL ACCESSORY
Alternatives for vertical mounting



膨胀箱

Expansion tank

规格 size	附件尺寸 (mm)		
	HK	LC	LH
02	1050	310	540
03	1120	330	550
04	1190	350	580
05	1250	360	590
06	1350	380	580
07	1450	410	590
08	1550	450	590
09	1620	480	600



轴端泵

Shaft End Pump

轴的位置

Shaft Positions



3 级锥齿轮-斜齿轮减速器竖立安装
3-stage Bevel Helical Gear Units
Upright mounting

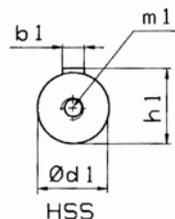
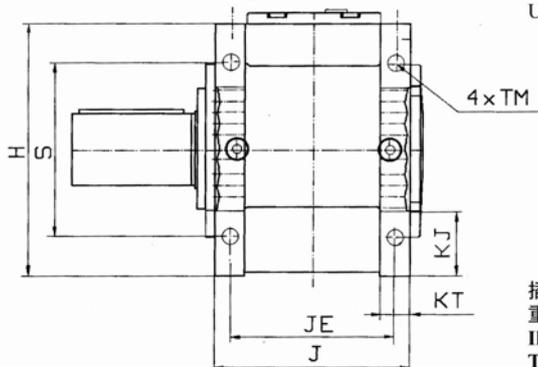
MC3RE..02-09
实心 and 空心 LSS
Solid & Hollow LSS

减速器尺寸

Gear Unit Dimensions

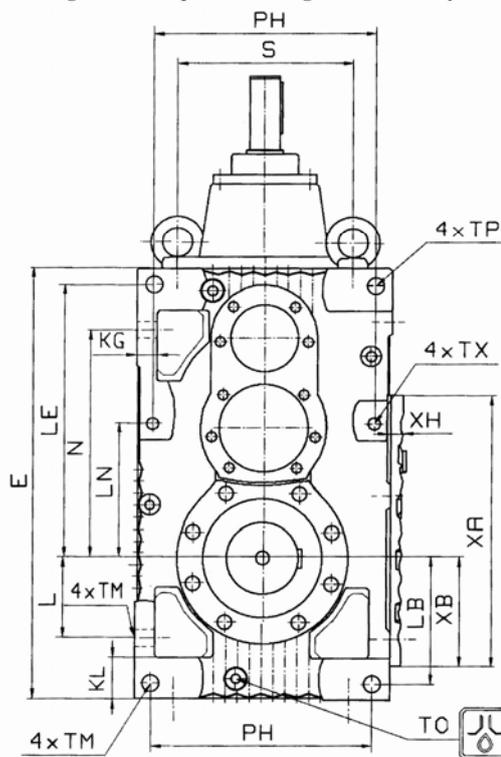
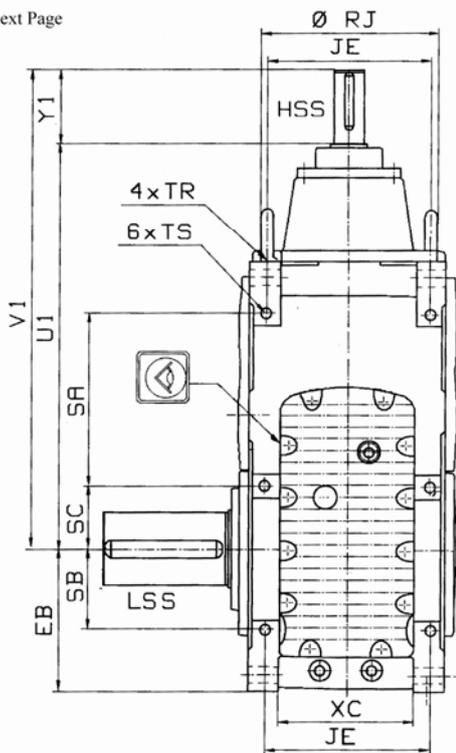
3级锥齿轮斜齿轮减速器
竖立安装

3-stage Bevel Helical Gear Units
Upright mounting



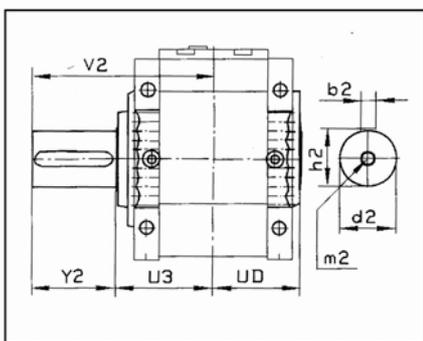
插图仅作为例子，不是严格的装配关系。
重量和油量仅是指导值。
Illustrations show examples only and are not strictly binding.
The weights and oil quantities are guide values only

LSS尺寸见下页
See LSS dimensions, next Page

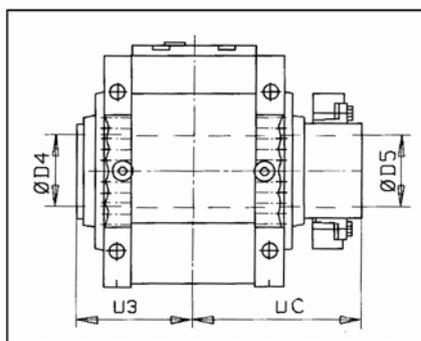


LSS型号

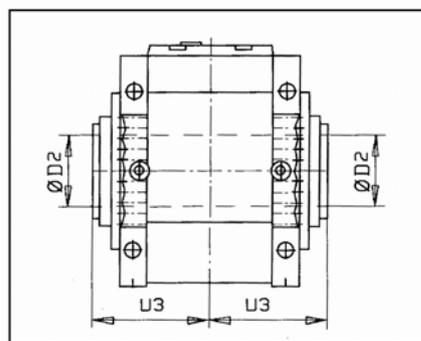
LSS type



实心轴
Solid Shaft



空心轴、收缩盘
Hollow Shaft, Shrink Disk



空心轴、键连接
Hollow Shaft, Key Connection

3 级锥齿轮-斜齿轮减速器竖立安装
3-stage Bevel Helical Gear Units
Upright mounting

MC3RE..02-09
实心 and 空心 LSS
Solid & Hollow LSS

减速器尺寸

Gear Unit Dimensions

规格 size	箱体尺寸 (mm)										Housing Dimensions in mm											
	EB	h11	E	H	J	h11	JE	KG	KJ	KL	KT	L	LB	LE	LN	N	PH	S	SA	SB	SC	TM
02	195	574	320	260	212	28	90	68	45	98	170	354	175	282	270	206	206	114	96	24	R3 / 4	
03	207	618	360	274	228	28	100	68	45	110	182	389	207	314	310	246	246	122	84	24	R3 / 4	
04	229	677	400	314	260	30	118	71	50	122	201	420	233	341	344	260	256	147	114	28	R3 / 4	
05	240	731	430	329	279	34	118	71	50	136	212	463	228	387	374	296	296	136	106	28	R3 / 4	
06	270	812	470	356	292	40	131	88	64	141	235	507	256	413	400	308	308	141	132	33	R1	
07	295	885	530	380	316	40	152	91	64	150	260	555	285	445	454	350	350	150	112	33	R1	
08	322	981	600	431	353	52	153	103	78	174	280	617	318	511	516	406	406	174	115	39	R1	
09	335	1049	670	451	373	52	153	103	78	187	293	672	373	566	586	476	476	187	100	39	R1	

规格 size	箱体尺寸 (mm)								HSS尺寸 (mm)												重量 Weight	油量 Oil Capacity		
	Housing Dimensions in mm								HSS Dimensions in mm															
	TPH9	TR=TX	TS	XA	XB	XC	XH	UI	Y1	V1	i=14-63				i=71-90				i=100-112					
										Φd1	b1	h1	m1	Φd1	b1	h1	m1	Φd1	b1	h1	m1	kg	l	
02	24	M20×35	M16×32	355	135	182	18	533	100	633	35k6	10h9	38	M12	30k6	8h9	33	M10	25k6	8h9	28	M10	219	30
03	24	M20×35	M16×32	384	147	196	18	584	112	696	40k6	12h9	43	M16	30k6	8h9	33	M10	25k6	8h9	28	M10	279	36
04	28	M24×42	M16×32	430	168	211	22	642	120	762	42k6	12h9	45	M16	35k6	10h9	38	M12	25k6	8h9	28	M10	382	46
05	28	M24×42	M20×35	460	182	226	22	693	125	818	50k6	14h9	53.5	M16	40k6	12h9	43	M16	30k6	8h9	33	M10	493	65
06	33	M30×53	M20×35	525	195	248	22	758	130	888	50k6	14h9	53.5	M16	45k6	14h9	48.5	M16	35k6	10h9	38	M12	601	80
07	33	M30×53	M24×42	561	219	262	22	814	135	949	60m6	18h9	64	M20	45k6	14h9	48.5	M16	40k6	12h9	43	M16	779	115
08	39	M30×53	M24×42	597	234	289	22	890	135	1025	60m6	18h9	64	M20	55m6	16h9	59	M20	40k6	12h9	43	M16	1037	110
09	39	M30×53	M30×53	652	247	309	22	969	140	1109	70m6	20h9	74.5	M20	60m6	18h9	64	M20	45k6	14h9	48.5	M16	1299	135

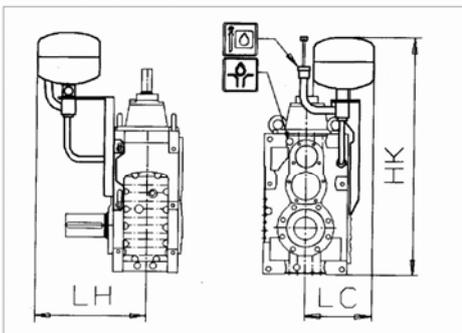
LSS尺寸

LSS dimensions

规格 size	LSS尺寸 (mm)										LSS Dimensions in mm		
	d2	b2	h2	m2	Y2	V2	U3	UC	UD	ΦD2	ΦD4	ΦD5	
02	80m6	22h9	85	M20	140	304	164	257	156	80js7/H8	86js6/H7	85h6/H7	
03	100m6	28h9	106	M24	170	341	171	274	163	95js7/H8	101js6/H7	100h6/H7	
04	105m6	28h9	111	M24	210	403	193	302	187	105js7/H8	111js6/H7	110h6/H7	
05	120m6	32h9	127	M24	210	411	201	311	193	115js7/H8	121js6/H7	120h6/H7	
06	130m6	32h9	137	M24	220	434	214	331	210	125js7/H8	131js6/H7	130h6/H7	
07	140m6	36h9	148	M24	250	478	228	354	224	135js7/H8	141js6/H7	140h6/H7	
08	160m6	40h9	169	M24	250	504	254	397	246	150js7/H8	151js6/H7	150h6/H7	
09	170m6	40h9	179	M24	310	574	264	407	262	165js7/H8	166js6/H7	165h6/H7	

主要附件
可供垂直安装选用

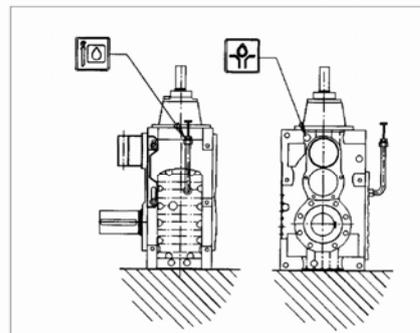
ESSENTIAL ACCESSORY
Alternatives for vertical mounting



膨胀箱

Expansion tank

规格 size	附件尺寸 (mm)		
	HK	LC	LH
02	1050	310	540
03	1120	330	550
04	1190	350	580
05	1250	360	590
06	1350	380	580
07	1450	410	590
08	1550	450	590
09	1620	480	600



轴端泵

Shaft End Pump

轴的位置

Shaft Positions



收缩盘

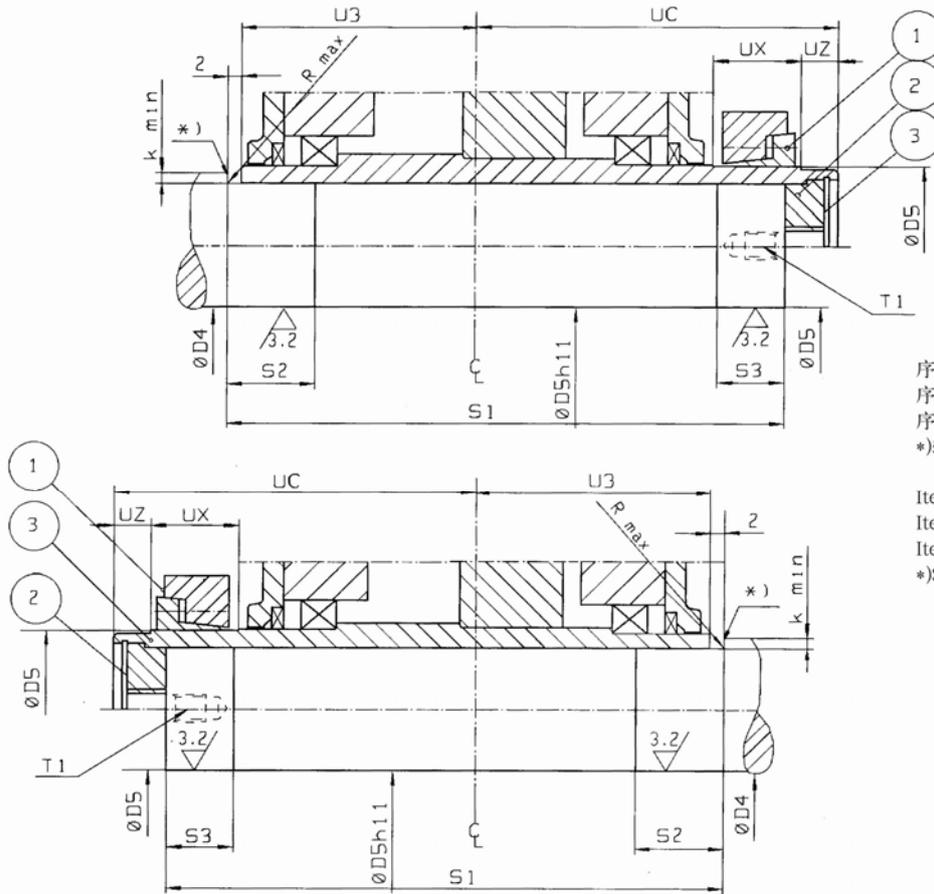
Shrink Disk

空心轴减速器的空心轴孔和从动轴端

Hollow Shaft Bore and Driven Shaft End for Hollow Shaft Gear Units

对所有安装位置，空心轴孔相对中心线是对称的。

For all mounting positions, Hollow shaft bore is symmetrical regarding to center line.



- 序号1: 收缩盘
 - 序号2: 端板
 - 序号3: 挡圈
 - *)轴肩(不需要)
- Item 1: Shrink Disk
 - Item 2: End Plate
 - Item 3: Circlip
 - *)Shaft shoulder(not necessary)

仅对较小的轴向和 / 或径向外力。
如果有非常明显的外部轴向力和 / 或径向外力存在，请与我们联系

For minor external axial and / or radial forces only.
If noticeable external axial and / or radial forces exist, please contact with us.

对所有型号的减速器

FOR ALL GEAR UNIT TYPES

减速器规格 Gear Unit size	尺寸 [mm] / Dimensions in [mm]												
	ØDS	ØD4	ØD4	S1	S2	S3	k min	r max	U3	UC	UZ	UX	T1
02	110	86js6/H7	85h6/H7	386	45	53	6	3	164	257	40	54	M24×45
03	125	101js6/H7	100h6/H7	407	52	58	6	3	171	274	47	55	M24×45
04	140	111js6/H7	110h6/H7	457	57	64	6	3	193	302	47	63	M24×45
05	150	121js6/H7	120h6/H7	473	62	68	6	3	201	311	44	67	M24×45
06	165	131js6/H7	130h6/H7	507	67	72	6	4	214	331	44	72	M24×45
07	175	141js6/H7	140h6/H7	534	72	72	7	4	228	354	53	72	M30×60
08	185	151js6/H7	150h6/H7	602	77	88	7	5	254	397	54	88	M30×60
09	200	166js6/H7	165h6/H7	622	85	87	7	5	264	407	54	90	M30×60

键连接

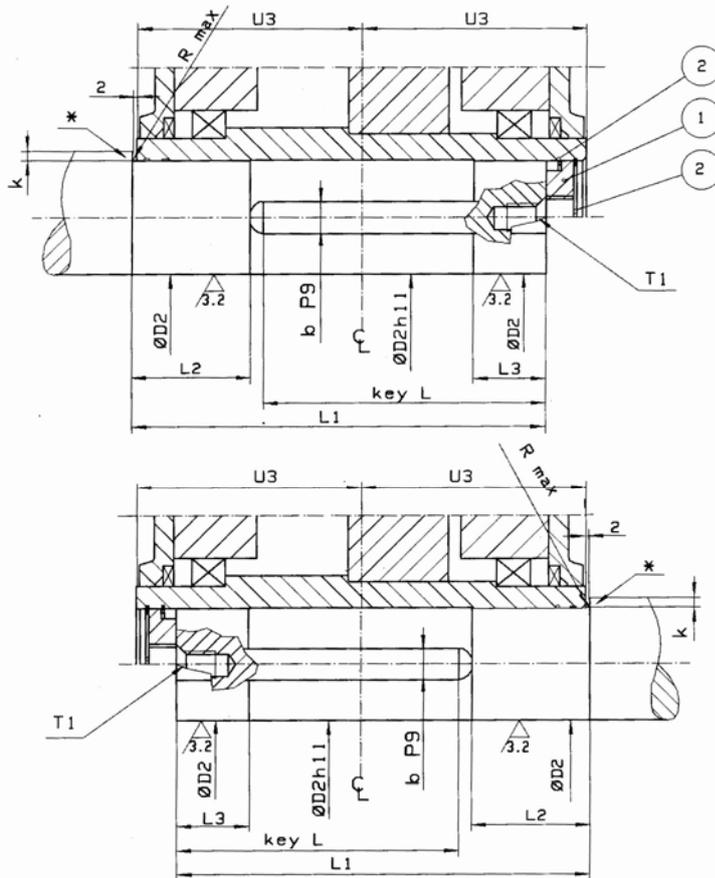
Key Connection

空心轴减速器的空心轴孔和从动轴端

对所有安装位置，空心轴孔相对中心线是对称的。

Hollow Shaft Bore and Driven Shaft End for Hollow Shaft Gear Units

For all mounting positions. Hollow shaft bore is symmetrical regarding to center line.



序号1: 端板
序号2: 挡圈
*) 仅贯通轴和有显著轴向外力要求轴肩。

Item 1: Een Plate
Item 2: Circlip
*) Shaft shoulder required for through going shaft and with noticeable external axial forces only.

仅对较小的轴向和 / 或径向外力。
如果有非常明显的外部轴向力和 / 或径向外力存在，请与我们联系。

For minor external axial and / or radial forces only.
If noticeable external axial and / or radial forces exist, please contact with us.

对所有型号的减速器

FOR ALL GEAR UNIT TYPES

减速器规格 Gear Unit size	尺寸 [mm] / Dimensions in [mm]											
	ØD2	L1	L2	L3	键 L Key L	U3	T1	b	h1	h2	k min	r max
02	80js7/H8	290	82	40	196	164	M24×45	22	14	85	5	3
03	95js7/H8	303	91	48	199	171	M24×45	25	14	100	5	3
04	105js7/H8	346	96	52	236	193	M24×45	28	16	111	5	3
05	115js7/H8	361	101	57	244	201	M24×45	32	18	122	5	3
06	125js7/H8	388	107	63	265	214	M24×45	32	18	132	6	4
07	135js7/H8	409	118	67	273	228	M30×60	36	20	143	6	4
08	150js7/H8	460	126	75	316	254	M30×60	66	20	158	7	5
09	165js7/H8	480	133	82	327	264	M30×60	40	22	174	7	5

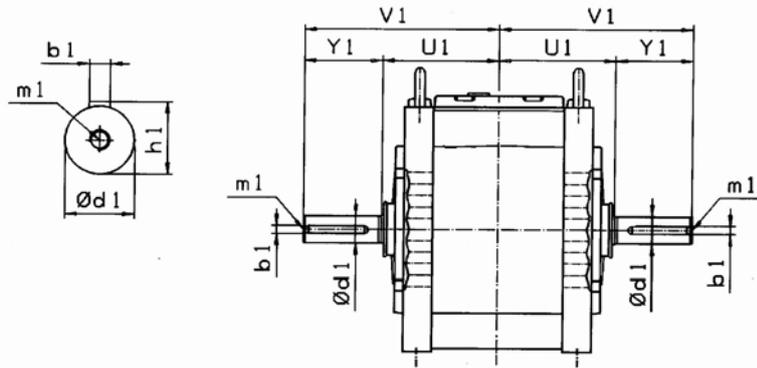
贯通轴 Through going shaft

贯通轴

Through going Shaft

贯通输入轴

INPUTSHAFTS



两级平行轴/Two stage helical gear units

规格 Size	速比范围 Ratio area	Φd_1	h_1	b_1	m_1	V_1	Y_1	U_1
02	7.1-11.2	48k6	51.5	14h9	M16	290	120	170
	12.5-20	40k6	43	12h9	M16	290	120	170
03	7.1-11.2	50k6	53.5	14h9	M16	297	120	177
	12.5-20	42k6	45	12h9	M16	297	120	177
04	7.1-11.2	55m6	59	16h9	M20	327	130	197
	12.5-20	50k6	53.5	14h9	M16	327	130	197
05	7.1-11.2	60m6	64	18h9	M20	340	135	205
	12.5-20	50k6	53.5	14h9	M16	340	135	205
06	7.1-11.2	70m6	74.5	20h9	M20	358	140	218
	12.5-20	55m6	59	16h9	M20	358	140	218
07	7.1-11.2	75m6	79.5	20h9	M20	370	140	230
	12.5-20	60m6	64	18h9	M20	370	140	230
08	7.1-11.2	80m6	85	22h9	M20	416	160	256
	12.5-20	65m6	69	18h9	M20	416	160	256
09	7.1-11.2	85m6	90	22h9	M20	426	160	266
	12.5-20	75m6	79.5	20h9	M20	416	160	256

三级平行轴/Three stage helical gear units

规格 Size	速比范围 Ratio area	Φd_1	h_1	b_1	m_1	V_1	Y_1	U_1
02	22.5-35.5	32k6	35	10h9	M12	290	120	170
	40-63	30k6	33	8h9	M10	290	120	170
	71-112	25k6	28	8h9	M10	290	120	170
03	22.5-35.5	38k6	41	10h9	M12	297	120	177
	40-63	35k6	38	10h9	M12	297	120	177
	71-112	28k6	31	8h9	M10	297	120	177
04	22.5-35.5	38k6	41	10h9	M12	327	130	197
	40-63	35k6	38	10h9	M12	327	130	197
	71-112	30k6	33	8h9	M10	327	130	197
05	22.5-40	48k6	51.5	14h9	M16	340	135	205
	40-63	40k6	43	12h9	M16	340	135	205
	71-112	32k6	38	10h9	M12	340	135	205
06	22.5-40	48k6	51.5	14h9	M16	358	140	218
	40-63	40k6	43	12h9	M16	358	140	218
	71-112	35k6	38	10h9	M12	358	140	218
07	22.5-40	50k6	53.5	14h9	M16	370	140	230
	40-63	45k6	48.5	14h9	M16	370	140	230
	71-112	38k6	41	10h9	M12	370	140	230
08	22.5-40	55m6	59	16h9	M20	416	160	256
	40-63	50k6	53.5	14h9	M16	416	160	256
	71-112	42k6	45	12h9	M16	416	160	256
09	22.5-40	60m6	64	18h9	M20	426	160	266
	40-63	55m6	59	16h9	M20	426	160	266
	71-112	45k6	48.5	14h9	M16	416	160	256

当高速轴有外载径向力时，请向我们咨询。

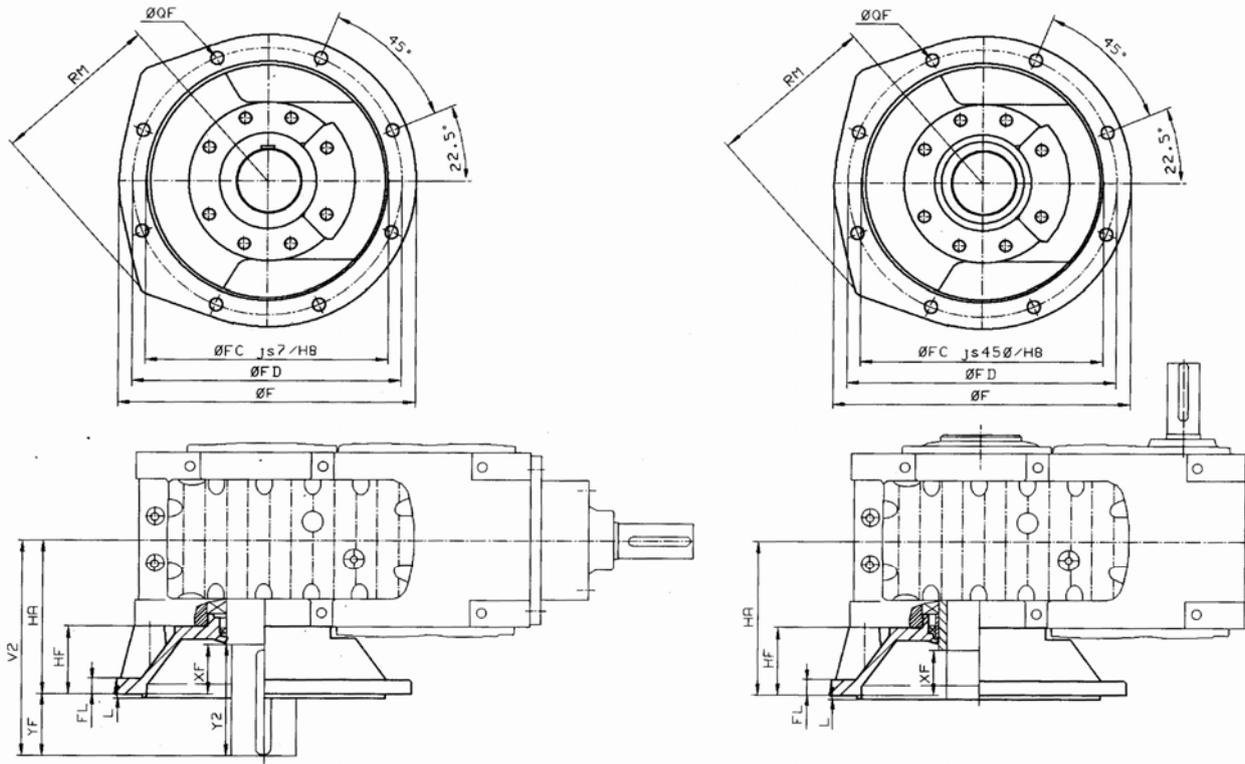
In case of external radial forces on input shaft,
please contact with us.

实心输出轴

尺寸同标准的实心轴尺寸。

Solid output shaft

Dimensions str the same as for standard solid shafts.



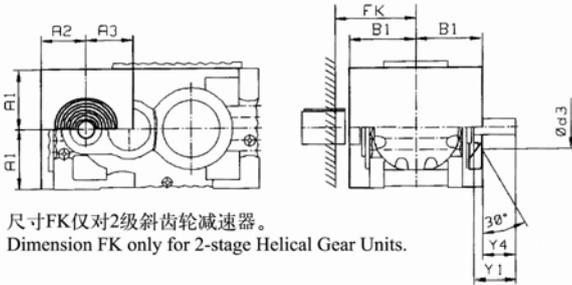
带键或收缩盘的空心轴：
轴的尺寸见收缩盘和键连接一节。
实心轴：轴的尺寸见减速器尺寸图页。

Hollow shaft with key or with shrink disk ;
Shaft dimensions see Sections Shrink Disk and Key Connection .
Solid shaft ; Shaft dimensions see Gear Unit Dimension Drawing pages .

垂直 LSS / Vertical LSS

减速器规格 Gear unit size	ΦF	ΦFD	ΦC js/H8	ΦQF	L	FL	YF	Y2	XF	HF	V2	HA	RM
02	440	400	350	18	5	22	74	140	66	100	304	230	237
03	500	450	400	18	5	25	88	170	81	115	340	252	260
04	500	450	400	18	6	25	126	210	84	120	403	277	293
05	550	500	450	22	6	30	112	210	99	135	412	300	311
06	600	550	500	22	7	30	113	220	107	143	434	321	337
07	660	600	550	22	7	30	148	250	102	140	478	330	378
08	730	680	620	27	7	35	139	250	112	150	505	366	421
09	750	680	620	27	7	35	184	310	127	165	575	391	452

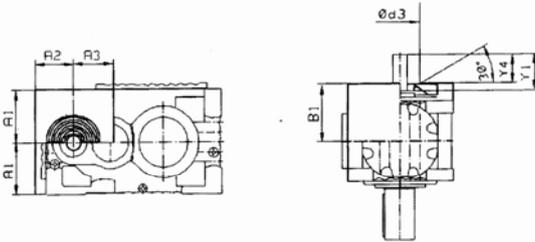
减速器型号/Gear unit type MC..PL, MC..PE



MC2PL/MC2PE,
MC3PL/MC3PE

规格 Size	A1	A2	A3	B1	FK	Y4	Y1	空气入口/ Ai Inlet	
								Φd3	角度/ Angle
02	158	160	140	210	233	90	120	131	30°
03	178	180	140	215	255	90	120	131	30°
04	198	195	165	235	275	100	130	156	30°
05	213	205	170	245	295	105	135	156	30°
06	232	225	205	260	308	110	140	198	30°
07	263	250	230	270	330	110	140	226	30°
08	298	275	230	295	355	130	160	226	30°
09	335	280	230	305	365	130	160	226	30°

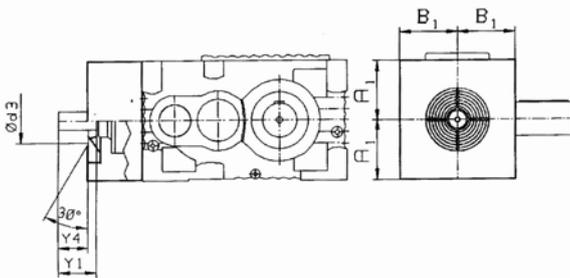
减速器型号/Gear unit type MC..PV



MC2PV/MC3PV

规格 Size	A1	A2	A3	B1	Y4	Y1	空气入口/ Ai Inlet	
							Φd3	角度/ Angle
02	158	160	140	210	90	120	131	30°
03	178	180	140	215	90	120	131	30°
04	198	195	165	235	100	130	156	30°
05	213	205	170	245	105	135	156	30°
06	232	225	205	260	110	140	198	30°
07	263	250	230	270	110	140	226	30°
08	298	275	230	295	130	160	226	30°
09	335	280	230	305	130	160	226	30°

减速器型号/Gear unit type MC..RL, MC..RE

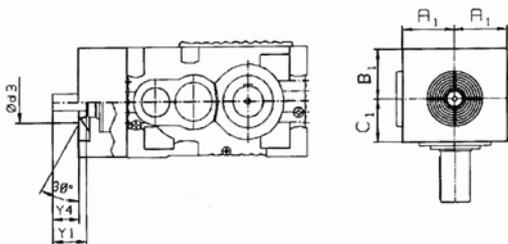


MC2RL/MC2RE

MC3RL/MC3RE

规格 Size	A1	B1	Y4	Y1	空气入口/ Ai Inlet		A1	B1	Y4	Y1	空气入口/ Ai Inlet	
					Φd3	角度/ Angle					Φd3	角度/ Angle
02	158	160	100	130	109	30°	158	160	70	100	109	30°
03	178	165	105	135	131	30°	178	165	82	112	131	30°
04	197	185	105	135	131	30°	198	185	90	120	131	30°
05	213	195	108	138	156	30°	213	195	95	125	156	30°
06	232	220	110	140	156	30°	232	220	100	130	156	30°
07	262	230	130	160	156	30°	262	230	105	135	156	30°
08	297	255	130	160	198	30°	297	255	105	135	198	30°
09	332	265	165	195	226	30°	332	265	110	140	226	30°

减速器型号/Gear unit type MC..RV



MC2RV

MC3RV

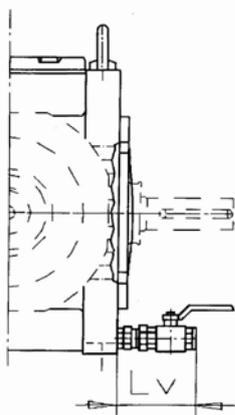
规格 Size	A1	B1	C1	Y4	Y1	空气入口/ Ai Inlet		A1	B1	C1	Y4	Y1	空气入口/ Ai Inlet	
						Φd3	角度/ Angle						Φd3	角度/ Angle
02	180	160	125	100	130	109	30°	180	160	125	70	100	109	30°
03	200	165	133	105	135	131	30°	200	165	133	82	112	131	30°
04	220	185	152	105	135	131	30°	220	185	152	90	120	131	30°
05	235	195	159	108	138	156	30°	235	195	159	95	125	156	30°
06	260	220	172	110	140	156	30°	260	220	172	100	130	156	30°
07	290	230	184	130	160	156	30°	290	230	184	105	135	156	30°
08	325	255	210	130	160	198	30°	325	255	210	105	135	198	30°
09	360	265	219	165	195	226	30°	360	265	219	110	140	226	30°

泄油阀

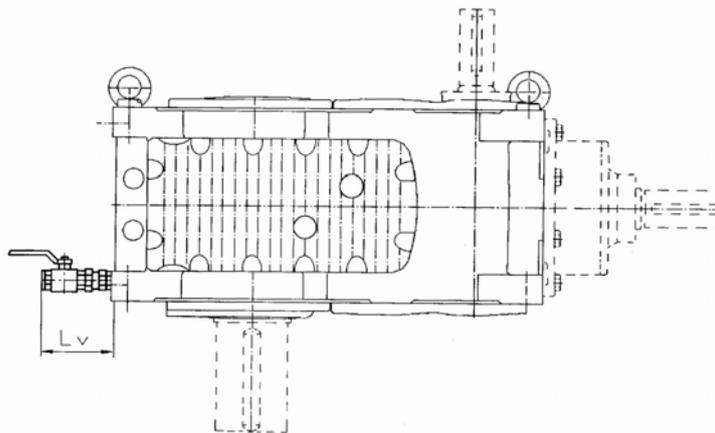
Oil Drain Valves

泄油阀的尺寸取决于减速器的规格。泄油阀可以备伸长管，标准长度(Lp)列于表中，也可以用其它长度。

Size of the oil drain valve depends on the size of gear unit. Oil drain valve can be furnished with an extension tube. Standard lengths(Lp)are in table. Other lengths are also possible.



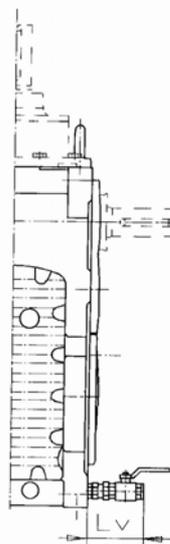
水平安装
HORIZONTAL MOUNTING



垂直安装
VERTICAL MOUNTING

泄油阀长度 / Oil drain valve lengths

减速器规格 Gear Unit Size	尺寸 Size	长度 Lv Length Lv
02	R ³ / ₄ "	115
03	R ³ / ₄ "	115
04	R ³ / ₄ "	115
05	R ³ / ₄ "	115
06	R1 "	140
07	R1 "	140
08	R1 "	140
09	R1 "	140



竖立安装
UPRIGHT MOUNTING

电动机摆动底座 Swing Base for motor

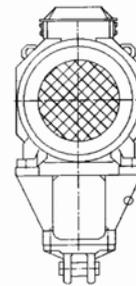
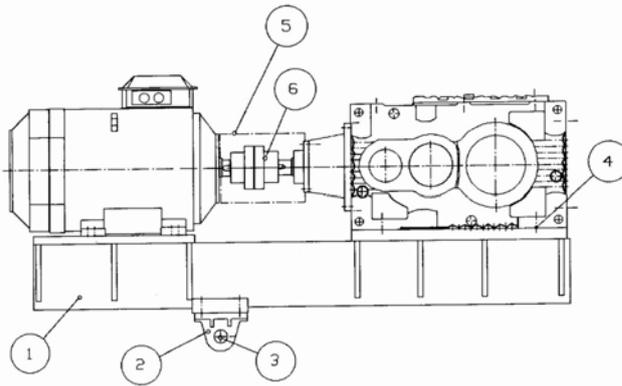
可选择的密封装置 Optional Seal Arrangements

电动机摆动底座

Swing Base for motor

根据订单设计和制造输送机传动的摆动底座。

Swing Base for conveyor drives will be manufactured according to order.



1. 摆动底座
2. 力矩支臂安装座
3. 力矩支臂销钉
4. 紧固螺钉
5. 联轴器保护装置
6. 联轴器

1. Swing Base beam
2. Torque Arm mounting bracket
3. Torque Arm pin
4. Fastening screws
5. Coupling Guard
6. Coupling

可选择的密封装置

Optional Seal Arrangements

密封装置的选择不影响外部的轴端尺寸。

Seal arrangement selection does not effect on outer shaft end dimensions.

水平轴，高速轴(HSS)和低速轴(LSS)

Horizontal shaft, both high speed shaft(HSS)and low speed shaft (LSS)

各轴上可供选择的密封装置：

Seal arrangement alternatives on each shaft:

* 单唇密封(斜齿减速器的基本方案)

* Single lip seal with dust protection cover(basic solution for helical and bevel helical gear unit)

带防尘盖的单唇密封(斜齿轮和锥齿轮—斜齿轮减速器的基本方案)

-clean environment

—清洁环境

* 带防尘盖的双唇密封

* Double lip seal with regreaseable dust protection cover

—带磨蚀粒子的灰尘环境

-dusty environment with abrasive particles

* 带径向油脂迷宫的单唇密封

* Single lip seal with radial grease labyrinth

—带磨蚀粒子的灰尘环境

-dusty environment with abrasive partictes

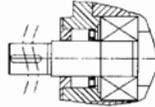
可选的密封装置

Optional Seal Arrangements

高速轴
水平轴端

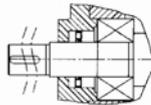
HIGH SPEED SHAFT
Horizontal shaft end

基本方案
单唇密封(仅对斜齿轮减速器)



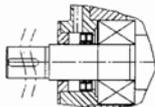
Basic solution:
Single lip seal(for helical gear units only)

基本方案
带防尘盖的单唇密封
(仅对锥齿轮-斜齿轮减速器)



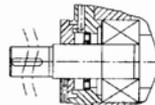
Basic solution:
Single lip seal with dust protection cover
(for bevel helical gear units only)

带油脂防尘盖的双唇密封



Double lip seal with regreaseable
dust protectioncover

带径向油脂迷宫的单唇密封

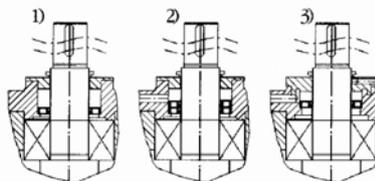


Single lip seal with radial grease
labyrinth

垂直轴向上

Vertical shaft end, upwards

- 1)带防尘盖的单唇密封
- 2)带油脂防尘盖的双唇密封
- 3)带径向油脂迷宫的单唇密封

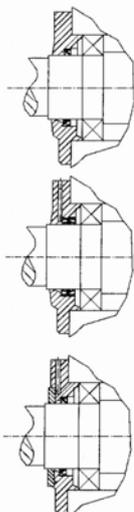


- 1)Single lip seal with dust protection cover
- 2)ouble lip seal with regreaseable dust protection cover
- 3)Single lip seal with radial grease labyrinth

低速轴 / LOW SPEED SHAFT

实心轴 / Solid shaft

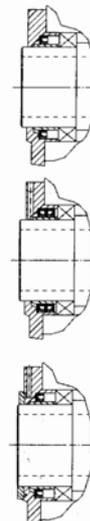
空心轴 / Hollow shaft



水平LSS的基本方案:
带防尘盖的单唇密封。
(LSS垂直向上的基本方案: 带防尘盖的双唇密封)
Basic solution for horizontal LSS:
Single lip seal with dust protection cover.
(Basic solution for vertical LSS downwards:
Double lip seal with dust protection cover.)

带油脂防尘盖的双唇密封。
Double lip seal with
regreaseable dust protection cover.

带径向油脂迷宫的单唇密封
Single lip seal radial with grease labyrinth



包括耐磨套管
Wear sleeve included

包括耐磨套管
Wear sleeve included

包括耐磨套管
Wear sleeve included

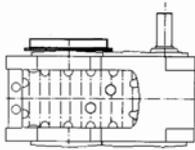
联轴器保护装置

Coupling Guard

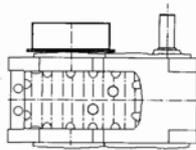
有或无冷却风扇均能用输入轴联轴器保护装置。

Coupling guards for input shaft couplings can be used with or without cooling fans.

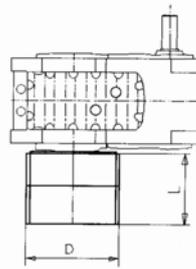
空心轴端盖
Hollow shaft end covers



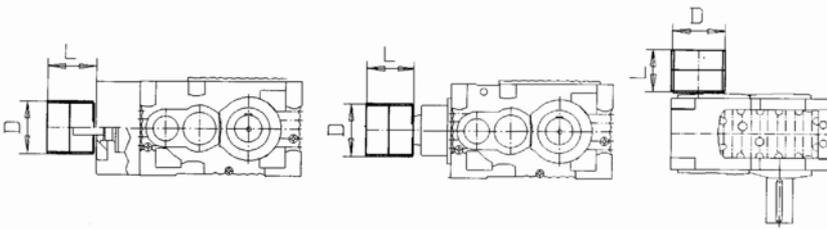
收缩盘盖
Shrink disk covers



输出轴联轴器的保护装置
Coupling guards for output shaft couplings



规格 Size	联轴器的最大直径 Max Coupling diameter	长度 [L] Length [L]	直径 [D] Diameter [D]
1	150	138-190	216
2	150	190-294	216
3	240	190-294	306
4	240	297-483	306
5	370	297-483	436
6	480	483-830	546
7	580	483-830	646



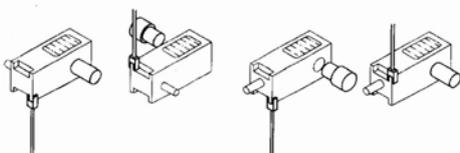
力矩支臂

Torque arm

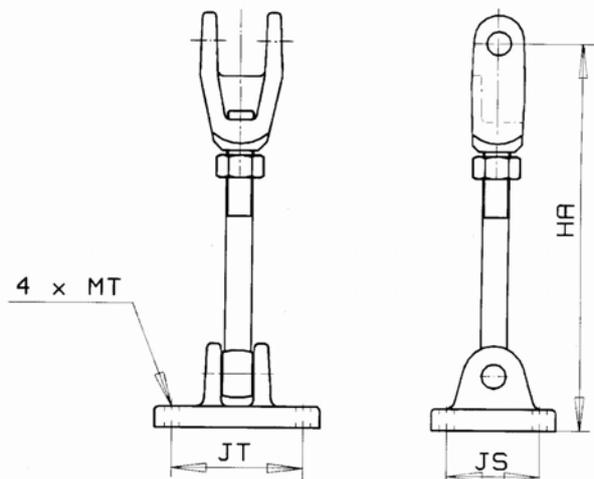
订购力矩支臂时必须告知HA尺寸。可以在 HA_{min} - HA_{max} 之间任意选择。如果HA比 HA_{max} 长，力矩反作用支臂要专门设计。

When ordering the torque arm, dimension HA must be advised. It can be freely chosen between HA_{min} - HA_{max} . If HA is to be longer than HA_{max} the torque reaction arm will be of special.

减速器规格 Gear unit size	HA	JT	JS	MT
02-03	360-410	148	100	Φ18
04-05	405-455	148	100	Φ18
06-07	417-467	148	100	Φ18
08-09	432-482	188	130	Φ22

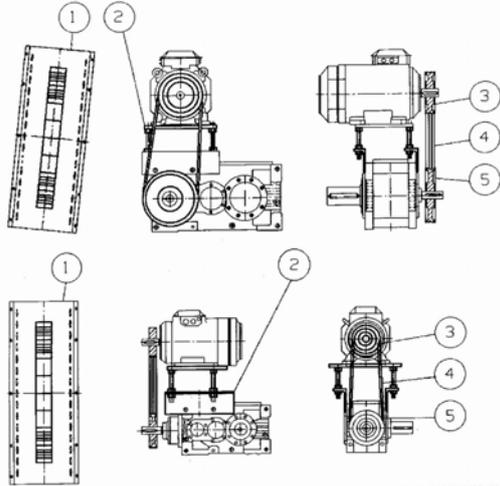


力矩支臂必须在从动机边。
Torque arm must be on driven machine side.



带传动

Beit Drive



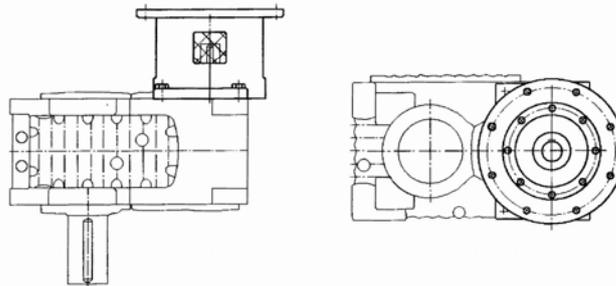
组件 / Component

1. 胶带保护装置 / Belt guard
2. 电动机支架 / Motor bracket
3. 带轮 / Pulley(dp)
4. V型带 / V-belts
5. 带轮 / Pulley(Dp)

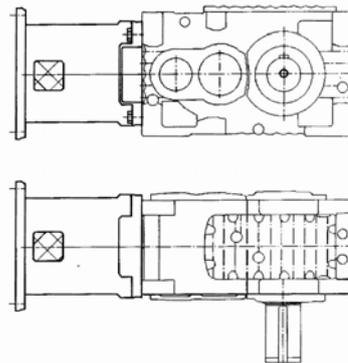
电动机法兰

Motor Flange

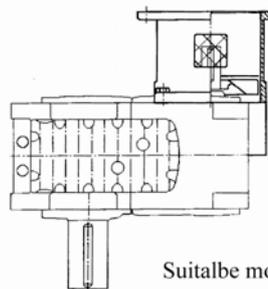
斜齿轮减速器
HELICAL GEAR UNITS



锥齿轮—斜齿轮减速器
BEVEL HELICAL GEAR UNITS



电动机法兰也可以和冷却风扇一起配置。
Motor flange can also be equipped together with cooling fan.



要求合适的电动机法兰请与我们联系。

Suitable motor flange on request. Please contact with us.

逆止器 Back Stop

逆止器

Back Stop

轴的位置 SHAFT POSITIONS	13	14	23	24
MC2P 实心轴 / Solid shaft 带键槽的空心轴 / Hollow shaft with keyway 带收缩盘的空心轴 / Hollow shaft with shrink disk				
MC3P 实心轴 / Solid shaft 带键槽的空心轴 / Hollow shaft with keyway 带收缩盘的空心轴 / Hollow shaft with shrink disk				
轴的位置 SHAFT POSITIONS	03	04	03	04
MC2R 实心轴 / Solid shaft				
MC2R 带键槽的空心轴 / Hollow shaft with keyway				
MC2R 带收缩盘的空心轴 / Hollow shaft with shrink disk				
MC3R 实心轴 / Solid shaft 带键槽的空心轴 / Hollow shaft with keyway 带收缩盘的空心轴 / Hollow shaft with shrink disk				