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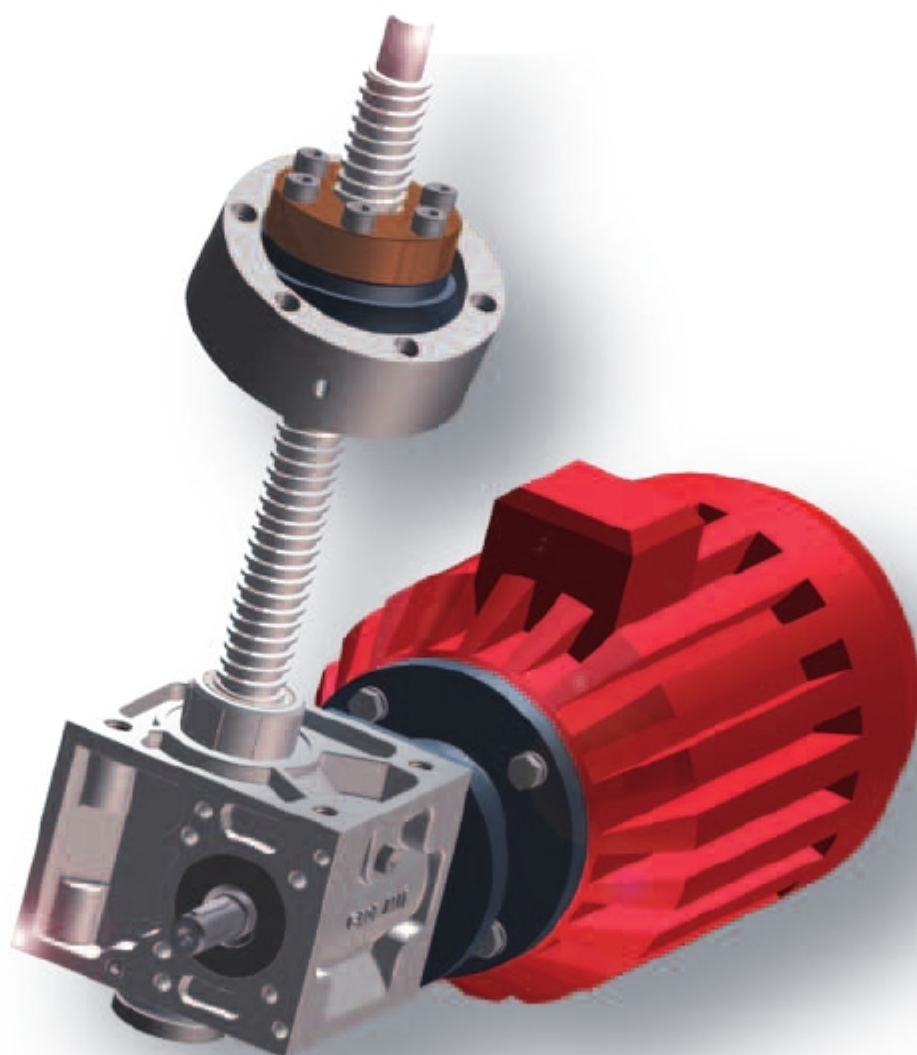
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Nr. 10.04 -3

GROB

ANTRIEBSTECHNIK

方形螺旋升降机 Cubic Screw Jacks



	Seite Page
介绍 <i>Introduction</i>	4-5
型号一览表 <i>Type overview</i>	6-7
订购编号 <i>Order code</i>	8
安装位置 <i>Installation positions</i>	9
传动图 <i>Drive diagrams</i>	10 - 11
基本型螺旋升降机 (G) <i>Screw jack basic version (G)</i>	12 - 13
螺母运动型螺旋升降机 (LM) <i>Screw jack travelling nut version (LM)</i>	14 - 15
基本型标准丝杆头 (G) <i>Standard spindle ends basic version (G)</i>	16 - 18
螺母运动型 标准丝杆头(LM) <i>Standard spindle ends travelling nut version (LM)</i>	19
安全螺母 (基本型) SFM <i>Safety nut (basic version) SFM</i>	20
安全螺母 (螺母运动型) SFM <i>Safety nut (travelling nut version) SFM</i>	21
限位开关 (基本型) ES <i>Limit switches (basic version) ES</i>	22
耳连接头 KP <i>Trunnion adaptor KP</i>	23
安装脚BL <i>Mounting feet BL</i>	24
螺母形连接头 KAD und KAN <i>Nut trunnion adaptor KAD and KAN</i>	25
螺母托架 MKD und MKN <i>Nut bracket MKD and MKN</i>	26
联轴器 RP <i>Coupling RP</i>	27
连接轴 VR <i>Connecting shaft VR</i>	28 - 29
柔性万向轴 GX / GXZ <i>Flexible cardan shafts GX / GXZ</i>	30

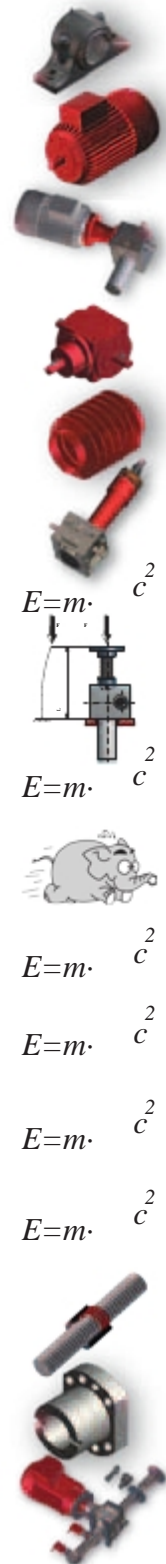
MJ5-GN-0500.....



产品目录

Product Overview

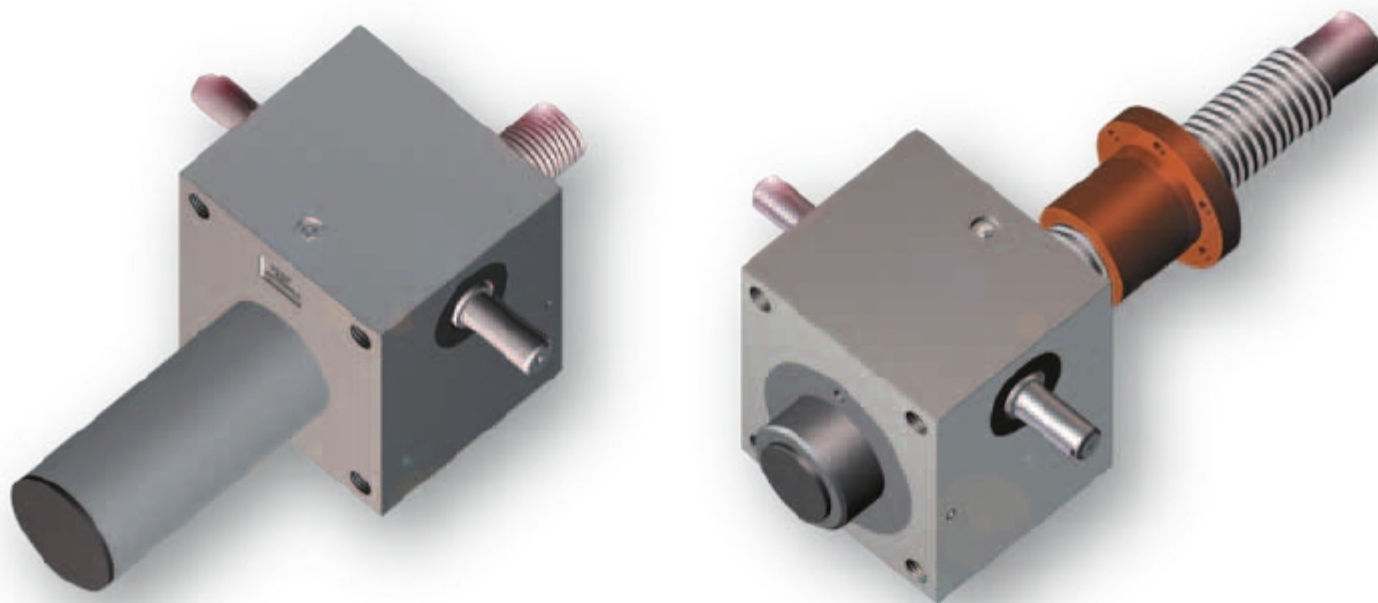
	Seite Page
支撑轴承 DIN 736 <i>Support bearings to DIN 736</i>	31
三相电机 <i>3-phase motor</i>	32 - 33
电机安装法兰 MG <i>Motor mounting flange MG</i>	34
齿轮箱 V <i>Distributor gear box V</i>	35 - 38
波纹管 FB <i>Folding bellows FB</i>	39 - 41
卷簧 SF <i>Coil Springs SF</i>	42 - 43
计算 <i>Calculation</i>	44 - 45
允许压曲力 <i>Permissible buckling force</i>	46 - 47
精度 <i>Accuracy</i>	48
精度 <i>Accuracy</i>	49
功率表 (梯形螺杆升降机) <i>Power tables (jack elements with TR spindles)</i>	50 - 52
传动允许径向力 <i>Permitted radial force on the drive</i>	53
丝杆允许侧向力 <i>Permitted lateral forces on the spindle</i>	54 - 55
关键主轴转速 <i>Critical spindle speed</i>	56
滚珠丝杆 (基本型) KGT <i>Ballscrew (basic version) KGT</i>	57
滚珠丝杆螺母 (螺母运动型) KGT <i>Ballscrew nut (travelling nut version) KGT</i>	58 - 59
部件清单 <i>Checklist</i>	60 - 61
设计数据表 <i>Design sheet</i>	62



MJ5-GN-0500.....

标准“MJ”和“BJ”系列螺旋升降机，是把旋转运动转化为线性运动理念的最佳体现。方形外壳给人以美的感受，模块式设计紧凑，结实。

Standard screw jacks, Type „MJ“ and „BJ“ optimise the concept of converting a rotary movement into a linear movement. As well as the cubic housing form being esthetically pleasing, the modular design of the screw jack is compact and robust.



方形螺旋升降机设计的优点在于尽量减少所用零部件数量，使效率最大化。在保持空间效率的前提下能吸收相对较大的提升力和位移力。方形外壳更容易与原有的设计部件相兼容，并与原有部件集成相适应。

The advantage of the cubic screw jack design is that by minimising the number of required components, their effectiveness is maximised. Relatively large lifting and moving forces can be absorbed whilst maintaining space-efficiency. The worm gear functions as the drive component. The robust trapezoidal spindle provides the output. The design really only has 3 major components and is rounded off by the solid housing which includes integrated thrust and radial bearings and a spindle guide bush. The cubic housing can easily be fitted to existing design components and offers the flexibility for integration with your own parts.

产品手册中的标准“MJ”和“BJ”系列螺旋升降机包括：

基本型和螺母运动型二种，以及传动布局示例。

我们的目标：
向客户提供的包括技术指导，价值提升以及产品质量保证等优质服务。

GROB方形螺旋升降机有11种规格，提升力从0.25T-50T不等(较大的升降机需来电来函咨询)。所有螺旋升降机(包括基本型和螺母运动型)的丝杆可以是垂直向上的也可是向下。

标准方形螺旋升降机所供梯形丝杆采用的C35或C45号钢。也可根据用户要求采用其它材料以及其它类型丝杆和螺距。

MJ0, MJ1和MJ2的壳体是铝合金材质，其它型号壳体材为铸铁（如有要求，其它材料和表面处理也可提供）。如客户有需求，我们可以为MJ5及以下型号的螺旋升降机提供V4A不锈钢外壳。壳体所有面都经过机加工可提供多种安装选择。标准出厂配置，螺旋升降机内有润滑油脂。

The Catalogue Standard Screw Jacks, Type „MJ“ and „BJ“ contains the following:

*Possible screw jack versions are **basic version** and **travelling nut version**, as well as drive arrangement examples.*

Our objective:

To offer a quality service including technical advice, value for money and a quality product.

GROB cubic screw jacks are available in 11 sizes, ranging from 0.25 t to 50 t (**for larger screw jacks, please ask**). All screw jacks are available in the **basic version** and the **travelling nut version** and can be supplied with either an **upright or inverted spindle**.

Standard cubic screw jacks are supplied with **trapezoidal spindles** in material **C35 or C45**. Upon request, we can supply other materials and other types of spindles and pitches such as **KGT ball screws; GRT rolled ball screws; WGT planetary roller screws; RPTS precision rolled trapezoidal spindles; WTS whirled trapezoidal spindles**.

Type MJ0, MJ1 and MJ2 have **Aluminium housings**, the other types are made of cast iron (other materials and surface treatments are available upon request). If required, we can supply the housings up to Type MJ5 in stainless steel V4A. Machining the housing on all faces allows various mounting options. Screw jacks are grease filled as standard.

规格		MJ0	MJ1*	MJ2	MJ3	MJ4	MJ5
最大提升力	kN	2,5	5	10	25	50	100
最大拉力	kN	2,5	5	10	25	50	100
丝杆TR ¹⁾		16x4	18x4	20x4	30x6	40x7	55x9
标准减速比 N		4:1	4:1	4:1	6:1	7:1	9:1
N速比下每转行程	mm/U	1	1	1	1	1	1
N速比下总效率	%	33,4	33,2	31,1	30,5	28,2	23,4
N速比下空转扭矩	Nm	0,03	0,05	0,12	0,17	0,34	0,82
大减速比 L		20:1	16:1	16:1	24:1	28:1	36:1
L速比下每转行程	mm/U	0,2	0,25	0,25	0,25	0,25	0,25
L速比下总效率	%	18,7	28,1	24,8	21,9	21,5	17,9
L速比下空转扭矩	Nm	0,02	0,04	0,09	0,13	0,26	0,50
丝杆效率	%	45,9	42,7	39,9	39,9	36,5	34,8
20° C每小时20%工作周期下扭矩, 功率和速度		详见功率表, 50 – 52页					
N速比下最大提升力时的传动扭矩	Nm	1,5	3,2	7,0	16	34	69
L速比下最大提升力时的传动扭矩	Nm	0,7	1,4	2,5	5,3	10,2	30
蜗轴最大允许扭矩	Nm	10,7	13,7	32,1	75,8	110,6	240
压缩负载允许最大丝杆长度	mm	详见屈曲图, 46/47页					
箱体材料		铝					
不含丝杆和保护套的升降机重量	kg	0,6	1,2	2,1	6,0	17	32
每100 mm 行程丝杆重量	kg	0,1	0,35	0,45	0,7	1,2	2,0
齿轮箱润滑油重量	kg	0,04	0,08	0,13	0,25	0,80	1,0

* 也可提供速比为40:1

1) 也可提供滚珠丝杆, 详见43页

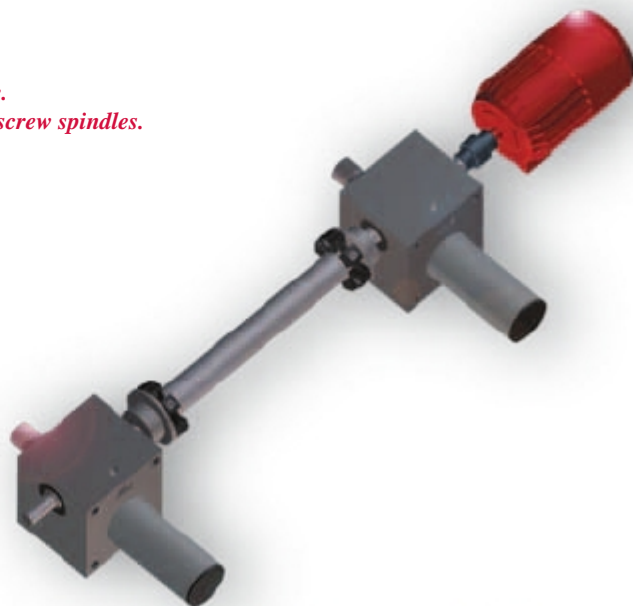
2) 使用梯形丝杆下基本型最大允许值, 如采用螺母运动型或滚珠丝杆最大允许值还要高。

* also with ratio 40:1

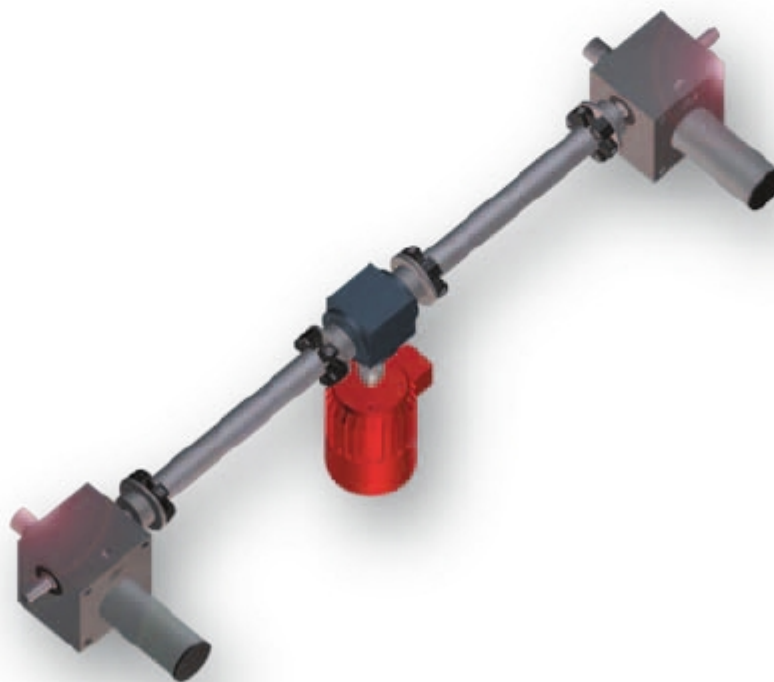
1) Also available with ball screw spindles, please see page 43

2) Max permissible values for basic version using trapezoidal spindle.

Higher values can be achieved with travelling nut version or ball screw spindles.



BJ1	BJ2	BJ3	BJ4	BJ5		Size
150	200	250	350	500	kN	Max lifting force
150	200	250	350	500	kN	Max tensile force
60x9	70x10	80x10	100x10	120x14		Spindle TR ¹⁾
9:1	10:1	10:1	10:1	14:1		Ratio N normal
1	1	1	1	1	mm/U	Stroke per revolution for ratio N
22	24	21,7	17,2	18,1	%	Total efficiency for ratio N
0,90	1,30	1,42	1,65	1,97	Nm	Idling torque N
36:1	40:1	40:1	40:1	56:1		Ratio L slow
0,25	0,25	0,25	0,25	0,25	mm/U	Stroke per revolution for ratio L
16,6	17,5	15,8	13,1	13,6	%	Total efficiency for ratio L
0,58	0,98	1,09	1,15	1,40	Nm	Idling torque L
32,8	31,6	28,6	24,1	27,2	%	Spindle efficiency
<i>See power table, page 50 - 52</i>						<i>Torque, power and speed at 20% duty cycle/hour & 20 ° C</i>
105	150	205	300	425	Nm	Drive torque at max lifting force
38	60	93	130	150	Nm	Drive torque at max lifting force
240	290	290	410	1580	Nm	Max permissible torque at worm shaft
<i>See buckling diagram, page 46/47</i>						mm
GGG 50						<i>Max permissible spindle length for compressive load</i>
41	57	57	85	100	kg	<i>Gear housing material</i>
2,4	3,3	4,2	6,6	10,3	kg	<i>Weight of screw jack exclusive spindle and protective tube</i>
1,5	1,9	1,9	2,7	3,1	kg	<i>Weight of spindle per 100 mm stroke</i>
					kg	<i>Lubrication within gearbox</i>



MJ1	GN	KGT1610	0100	FP	FB	V4A
1.	2.	3.	4.	5.	6.	7.

1. 规格

MJ0, MJ1, MJ2, MJ3, MJ4, MJ5, BJ1, BJ2, BJ3, BJ4, BJ5

2. 版本

基本型

GN = 标准减速比基本型

GL = 慢减速比基本型

螺母运动型

LMN = 标准减速比螺母运动型

LML = 慢减速比螺母运动型

3. 丝杆

KGT2005 = 滚珠丝杆

TR16x4 = 梯形丝杆, 如非标可注明

(例如: **TR18x8P4**)

VS = 带防转基本型

4. 行程

用mm表示

(注:采用波纹管 **FB** 和螺纹保护套 **SF** 导致尺寸延长 **T**)

5. 丝杆头

基本型

Z = 轴颈

FP = 安装法兰

GE = 螺纹

GK = 凸形连接叉

KGK = 杆端轴承

GS = 凹形连接叉

SE = 特制 (定制)

螺母运动型

Z = 轴承轴颈

FPL = 支承板

SE = 特制 (定制)

6. 附件

"A" / "B" = 法兰安装面

AS = 丝杆运动限制器

BL = 安装脚

EFM = 法兰杰克螺母

ES = 限位开关

FB = 波纹管

HR = 手轮

KP = 耳适配器

Mxxx = 三相电机 (例如: **M071**)

MGxxx = 电机适配器

RPxx = 柔性轴器型 (例如: **RP24**)

SF = 螺纹保护器

SFM = 安全螺母

VS = 基本型带防转和主形保护套

7. 特殊型号可定制

特殊材料

更小齿隙

润滑油

1. Size

MJ0, MJ1, MJ2, MJ3, MJ4, MJ5, BJ1, BJ2, BJ3, BJ4, BJ5

2. Travelling nut version

LMN = Travelling nut version with normal ratio

LML = Travelling nut version with slow ratio

3. Spindle

KGT2005 = Ball screw

TR16x4 = Trapezoidal, if different from standard, please state
(e.g: **TR18x8P4**)

VS = Basic version with rotation prevention

4. Stroke

Please state in mm

(Note: The use of bellows (**FB**) and spiral protective sleeve (**SF**) extends dimension **T**)

5. Spindle ends

Basic version

Z = Journal

FP = Mounting flange

GE = Threaded

GK = Male clevis

KGK = Rod end bearing

GS = Female clevis

SE = Special (customized)

Travelling nut version

Z = Bearing journal

FPL = Bearing plate

SE = Special (customized)

6. Accessories

"A" / "B" = Mounting side of motor

AS = Spindle travel limiter

BL = Mounting feet

EFM = Flanged jack nut

ES = Limit switch

FB = Bellows

HR = Handwheel

KP = Trunnion adaptor

Mxxx = 3-phase motor (e.g **M071**)

MGxxx = Motor adaptor

RPxx = Flexible coupling type (e.g **RP24**)

SF = Spiral protective sleeve

SFM = Safty nut

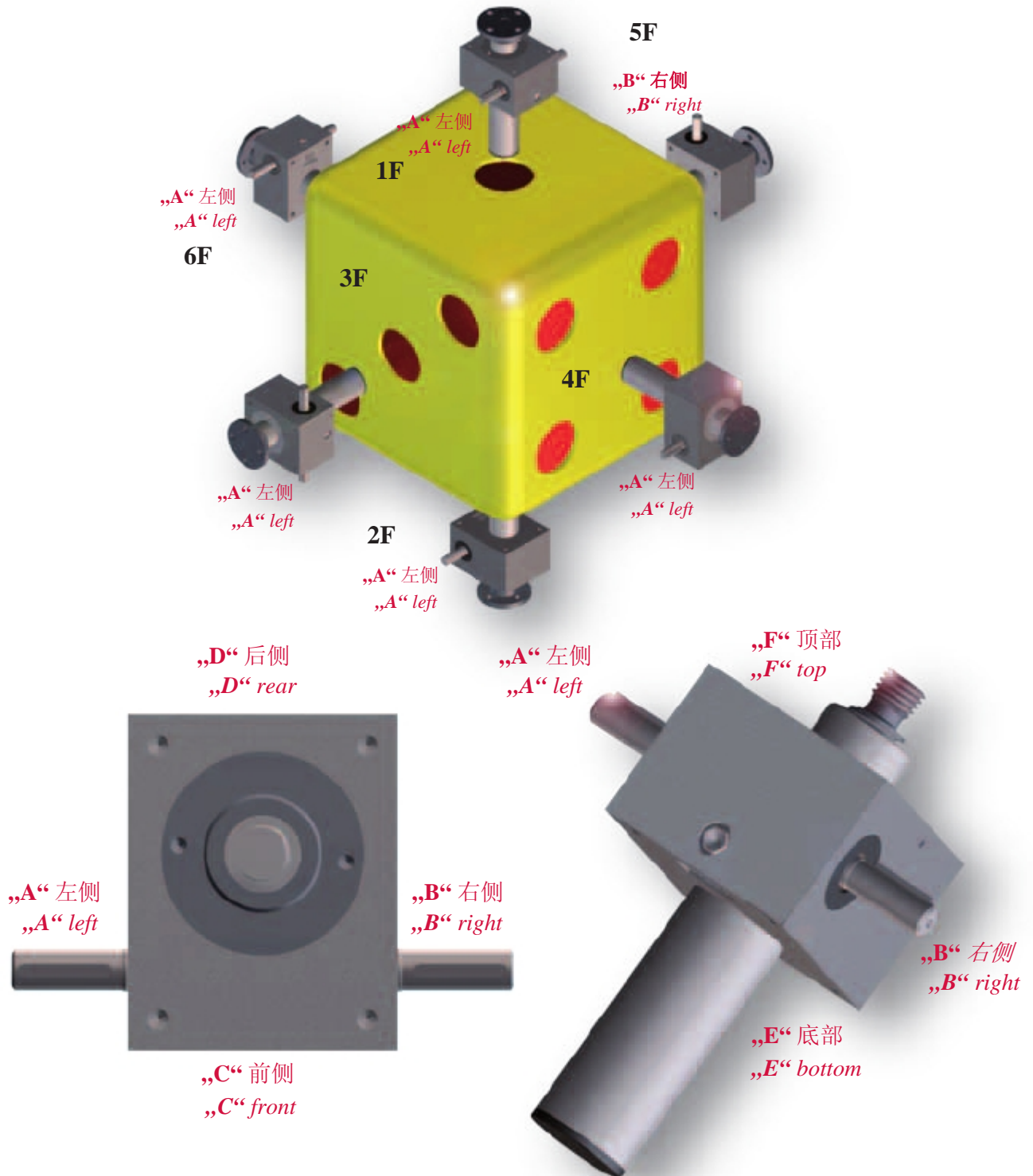
VS = Basic version with rotation prevention and square protection tube

7. Special types upon request

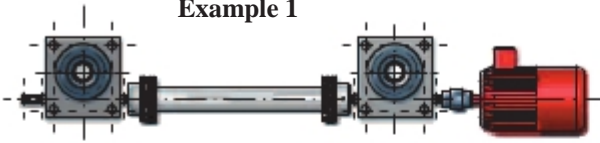
Special materials

Reduced back lash

Oil lubrication



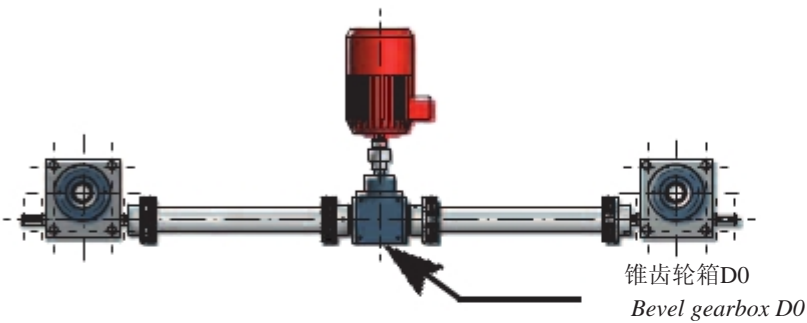
例 1
Example 1



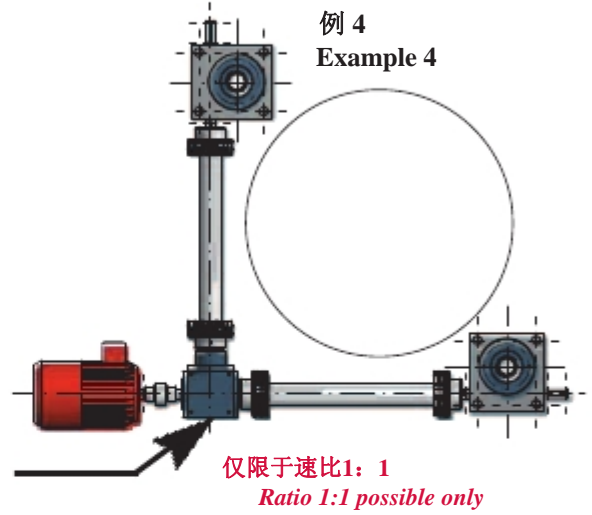
例 2
Example 2



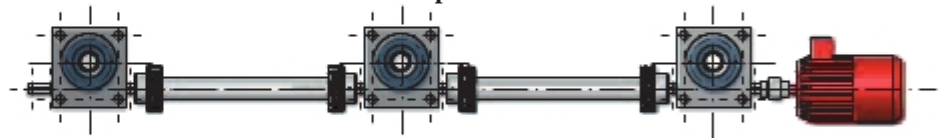
例 3
Example 3



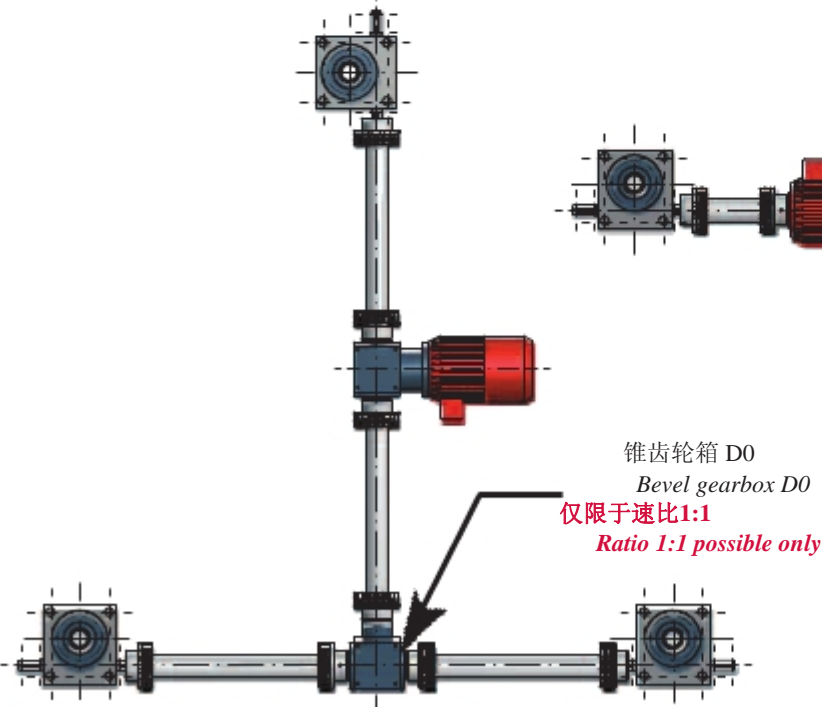
例 4
Example 4



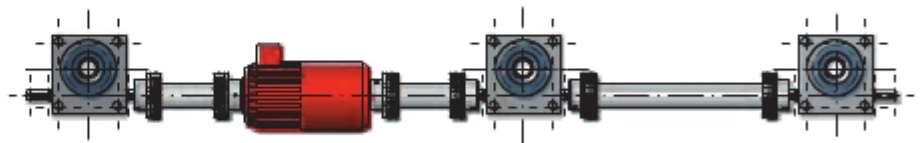
例 6
Example 6

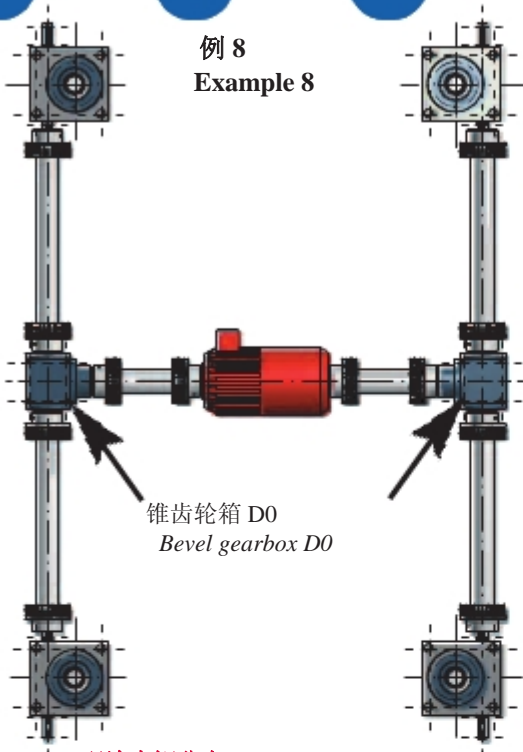


例 5
Example 5



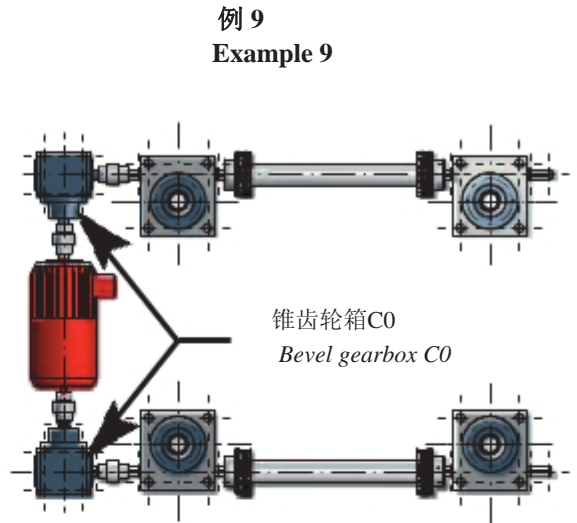
例 7
Example 7



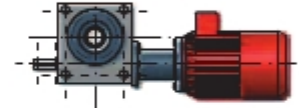


理论力矩分布
Ideal torque distribution

任意速比
Any ratio

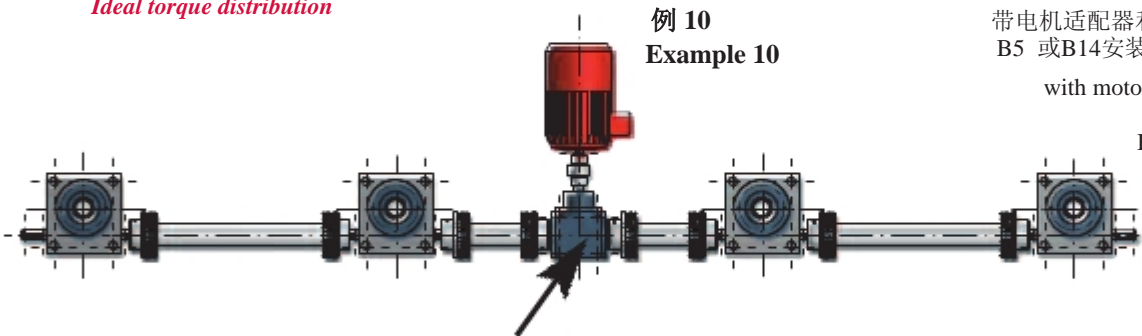


例 12
Example 12



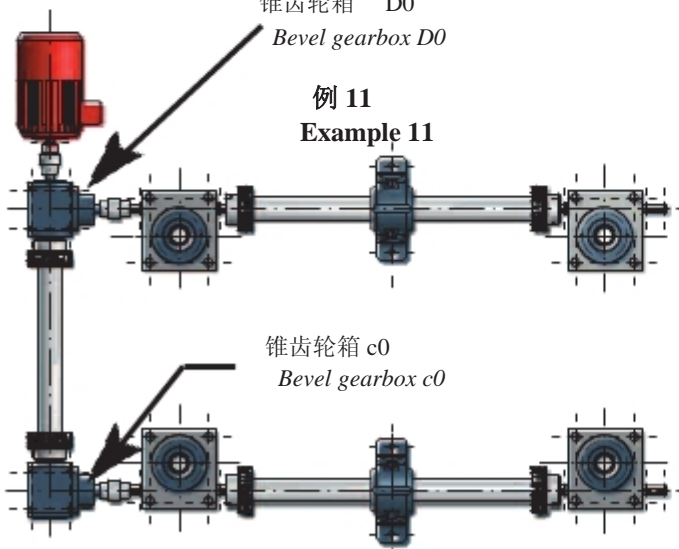
带电机适配器和联轴器，以及电机法兰 B5 或 B14 安装面

with motor adaptor and coupling as well as motor B5 or B14 face mounted



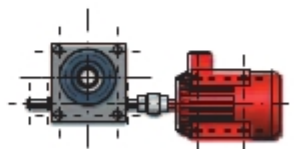
锥齿轮箱 D0
Bevel gearbox D0

例 11
Example 11



仅当超过临界速度时需增加支承轴承
Support bearings required only if critical speeds are exceeded

例子 13
Example 13



带联轴器和电机安装脚 B3 with coupling and motor B3 foot mounted

索引	MJ0	MJ1	MJ2	MJ3	MJ4	MJ5	BJ1	BJ2	BJ3	BJ4	BJ5
Tr丝杆 Tr Spindle	16x4	18x4	20x4	30x6	40x7	55x9	60x9	70x10	80x10	100x10	120x14
A	94	120	140	195	240	300	325	355	355	380	500
A1	56	75	89	109	150	170	200	225	225	254	305
B	64	80	100	130	180	200	210	240	240	290	360
C	54	72	85	105	145	165	195	220	220	250	300
D	38	52	63	81	115	131	155	170	170	190	230
E	48	60	78	106	150	166	170	190	190	230	290
F	20	24	27,5	45	47,5	67,5	65	67,5	67,5	65	100
G	22, 62	25	32	45	63	71	71	80	80	100	135
H	16	18	20	36	36	56	56	56	56	56	90
I	8	10	11	12	15	17	20	25	25	30	35
J	9	10	14	16	20	25	25	30	30	35	48
K	M6	M8	M8	M10	M12	M20	M24	M30	M30	M36	M42
L	20	20	30	30	50	55	55	60	60	65	85
M	26	32	35	40	52	62	72	80	80	85	90
N1	25	32	37,5	41	59	79	87	82	82	106	133
N2	25	30	37,5	41	58	81	88	83	83	114	133
O	17,38	24	28	31	39	46	49	60	60	65	75
P	15	19	19	22	29	49	49	59	59	78	118
Q	33,5	33,5	42	50	65	90	95	110	125	150	180
R	M10	M12	M14	M20	M30	M36	M48x2	M56x2	M64x3	M72x3	M100x3
S	50	62	75	82	117	160	175	165	165	220	266
T	30	35	45	50	65	95	95	110	110	140	200
U	12	12	18	23	32	40	40	40	40	50	60
V	30	30	39	46	60	85	90	105	120	145	170
Y	3	3	5	5	6	8	8	8	8	10	14
Z	11	13	15	15	16	30	40	45	45	54	80

丝杆末端安全特性

Spindle end safety feature

L3	43	46	56	64	88	106	106	113	113	124	152
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带方管防转

Rotation prevention with square tube

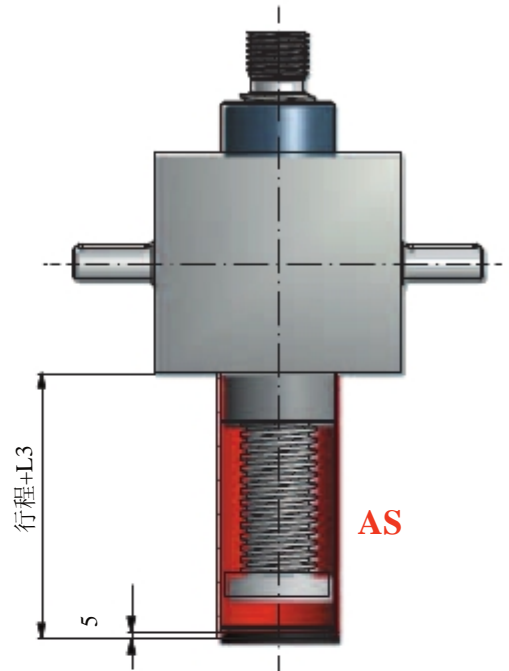
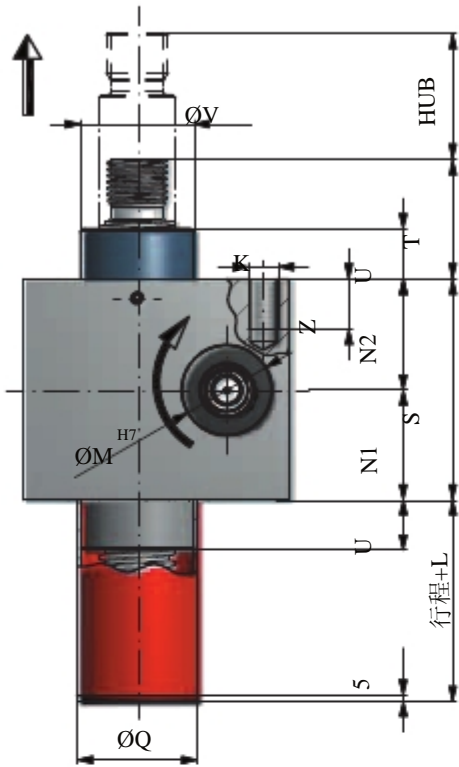
L2	52	53	64	73	92	102	108	118	118	132	160
□Q1	35	35	45	50,5	65	90	100	120	120	150	180
Q2	50	50	64	71	92	128	142	170	170	213	255
Q3	6	6	6	8	10	10	10	10	10	10	10

电机安装法兰布孔模式

Hole pattern for motor mounting flang

6xK1	M5	M5	M6	-	-	-	-	-	-	-	-
ØTK	35	44	50	-	-	-	-	-	-	-	-

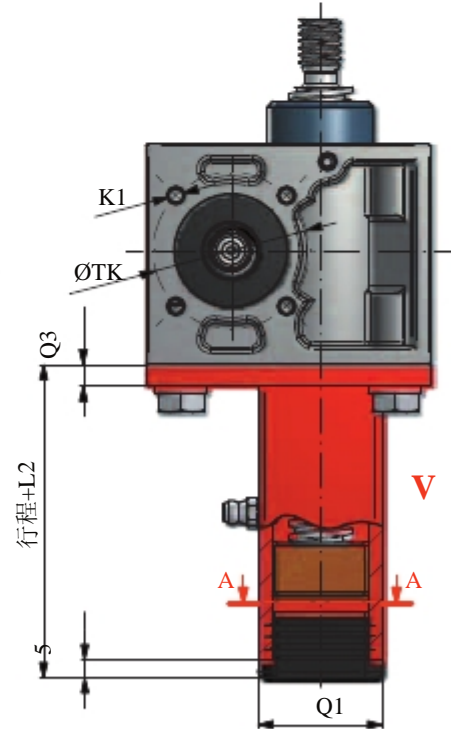
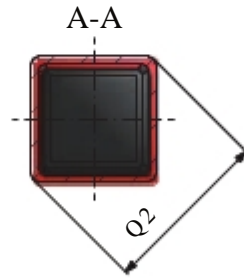
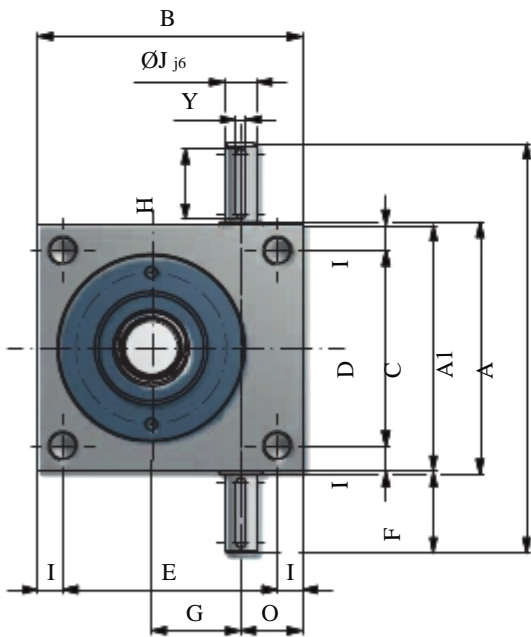
砂型铸造 / Sand-cast



铝合金压铸 Die-cast aluminium

型号为MJ0, MJ1 和 MJ2 为铝合金压铸

MJ0, MJ1 und MJ2 are available in die-cast aluminium



AS = 丝杆末端安全特性

V = 带方管防转

AS = Spindle end safty feature

V = Rotation prevention with square tube

索引	MJ0	MJ1	MJ2	MJ3	MJ4	MJ5	BJ1	BJ2	BJ3	BJ4	BJ5
Tr 丝杆 Tr Spindle	16x4	18x4	20x4	30x6	40x7	55x9	60x9	70x10	80x10	100x10	120x14
A	94	120	140	195	240	300	325	355	355	380	500
A1	56	75	89	109	150	170	200	225	225	254	305
B	64	80	100	130	180	200	210	240	240	290	360
C	54	72	85	105	145	165	195	220	220	250	300
D	38	52	63	81	115	131	155	170	170	190	230
E	48	60	78	106	150	166	170	190	190	230	290
F	20	24	27,5	45	47,5	67,5	65	67,5	67,5	65	100
G	22,62	25	32	45	63	71	71	80	80	100	135
H	16	18	20	36	36	56	56	56	56	56	90
I	8	10	11	12	15	17	20	25	25	30	35
ØJ_{j6}	9	10	14	16	20	25	25	30	30	35	48
K	M6	M8	M8	M10	M12	M20	M24	M30	M30	M36	M42
ØM_{H7}	26	32	35	40	52	62	72	80	80	85	90
N1	25	32	37,5	41	59	79	87	82	82	106	133
N2	25	30	37,5	41	58	81	88	83	83	114	133
O	17,38	24	28	31	39	46	49	60	60	65	75
S	50	62	75	82	117	160	175	165	165	220	266
U	12	12	18	23	32	40	40	40	40	50	60
ØV	30	30	39	46	60	85	90	105	120	145	170
Y	3	3	5	5	6	8	8	8	8	10	14
Z	11	13	15	15	16	30	40	45	45	54	80
I	10	10	15	20	25	25	25	25	25	25	30
法兰螺母 EFM	<i>Flange nut EFM</i>										
ØQ1	45	48	55	62	95	110	125	180	190	240	300
ØQ2	25	28	32	38	63	72	85	95	105	130	160
ØQ3	35	38	45	50	78	90	105	140	150	185	230
Q4	10	12	12	14	16	18	20	30	30	35	40
Q5	25	44	44	46	73	97	99	100	110	130	160
ØQ6	6	6	7	7	9	11	11	17	17	25	28
电机安装法兰穿孔模式	<i>Hole pattern for motor mounting flang</i>										
6xK1	M5	M5	M6	-	-	-	-	-	-	-	-
ØTK	35	44	50	-	-	-	-	-	-	-	-

电机安装法兰穿孔模式见图纸13页！

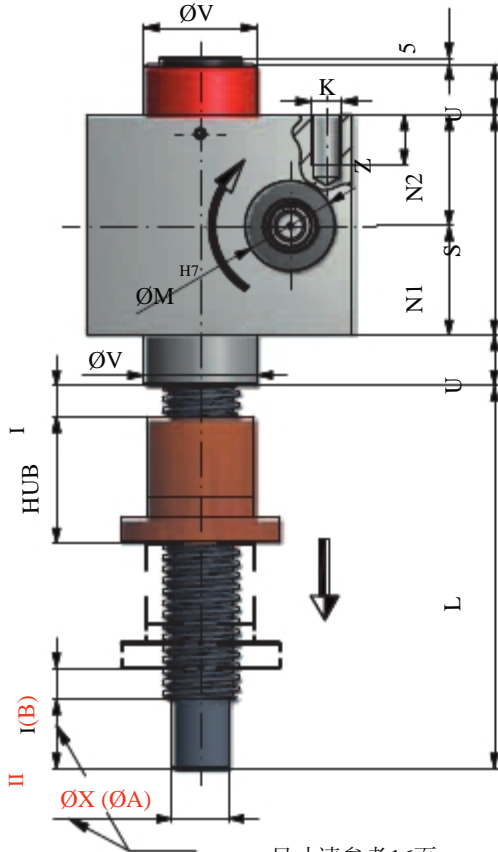
Hole pattern for motor mounting flang see drawing page 13!

L = 长度可按要求定制
(行程备选说明)
请考虑使用波纹管 (FB) 或螺纹保护套(SF) !

*L = Length according to requirements
(alternative statement to stroke). Please
make allowance for the use of bellows (FB)
or spiral protective tube (SF)!*

标准带壳体栓塞

With housing spigot as standard



尺寸请参考16页

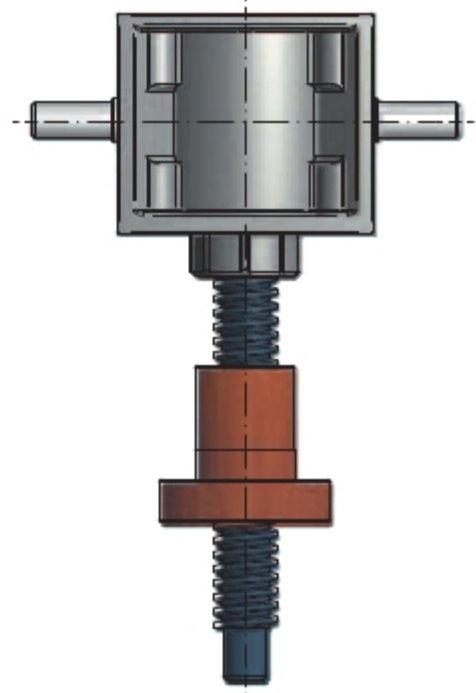
Dimensions please see page 16

O平安装不带壳体栓塞

Without housing spigot for flat installations

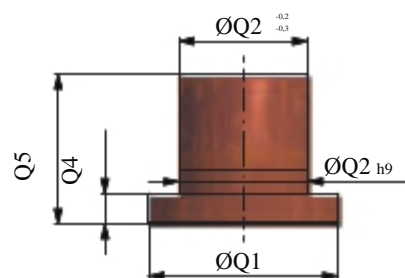
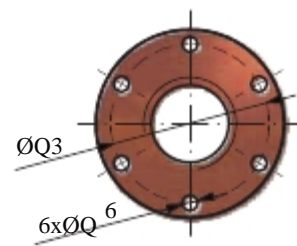
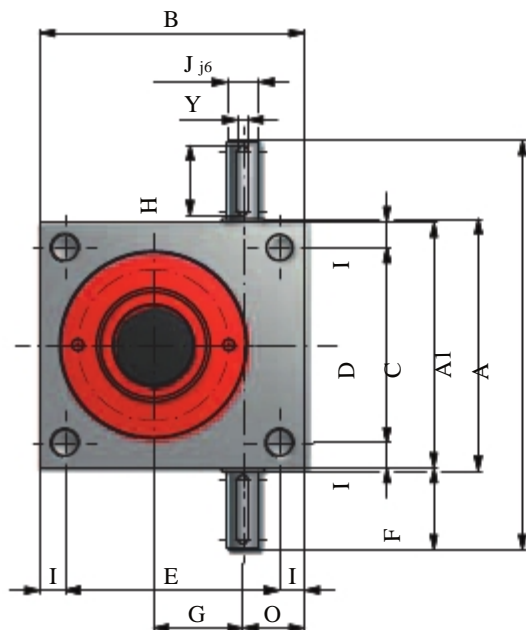
注意: MJ0型号的LD可能不密封!!!

Attention: MJ0 is not a closed LD possible!!!



MJ0, MJ1 和 MJ2 可提供铝合金压铸壳体。

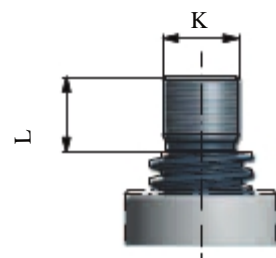
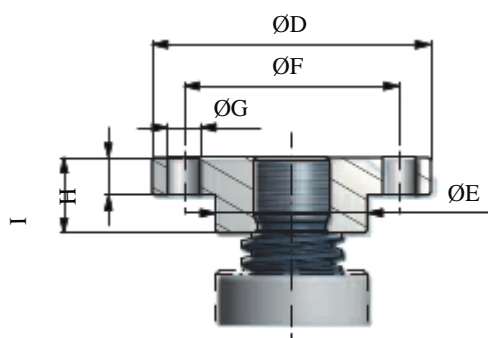
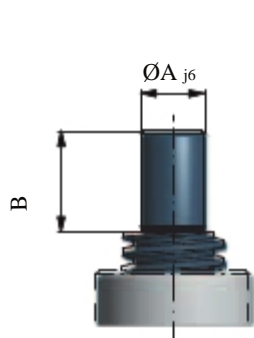
MJ0, MJ1 und MJ2 are available in die-cast aluminium



头部 Z
End Z

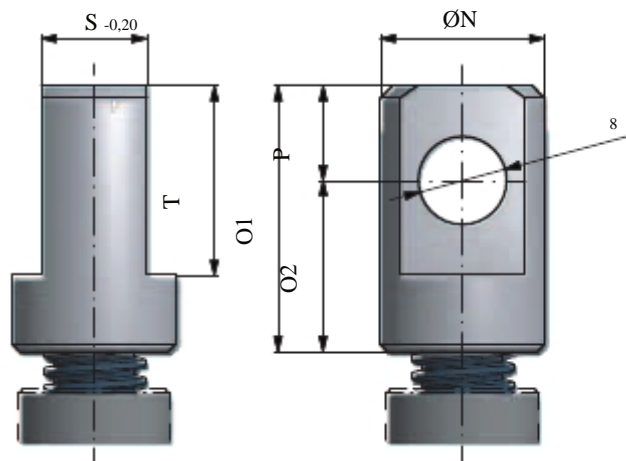
头部 FP
End FP

头部 GE
End GE

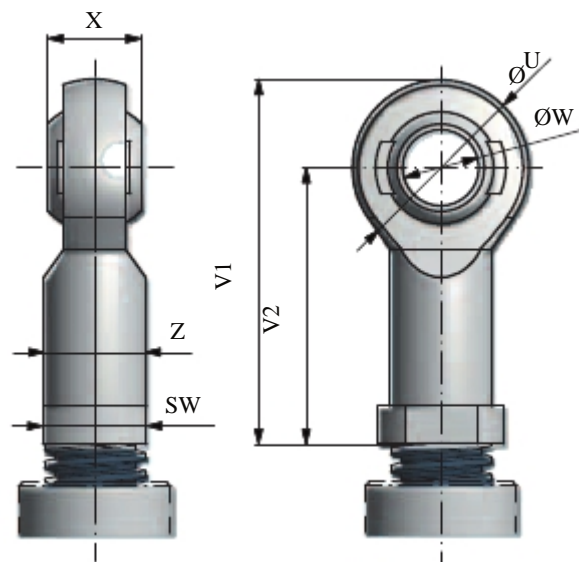


索引	MJ0	MJ1	MJ2	MJ3	MJ4	MJ5	BJ1	BJ2	BJ3	BJ4	BJ5
头部 Z						End Z					
ØA j6	10	12	15	20	25	40	45	55	60	80	95
B	12	15	20	25	30	45	55	70	75	100	120
头部 FP						End FP					
ØD	50	65	80	90	110	150	170	200	220	260	310
ØE	26	29	39	46	60	85	90	105	120	145	170
ØF	40	48	60	67	85	117	130	155	170	205	240
4xØG	7	9	11	11	13	17	21	25	25	32	38
H	7	7	8	10	15	20	25	30	30	40	40
I	16	20	20	23	30	50	50	60	60	80	120
螺纹 thread	M10	M12	M14	M20	M30	M36	M48x2	M56x2	M64x3	M72x3	M100x3
固定螺丝 setscrew	M4	M5	M6	M8	M8	M10	M10	M12	M12	M12	M12
Kopf GE						End GE					
K	M10	M12	M14	M20	M30	M36	M48x2	M56x2	M64x3	M72x3	M100x3
L	15	19	19	22	29	49	49	59	59	78	118

头部 GK
End GK

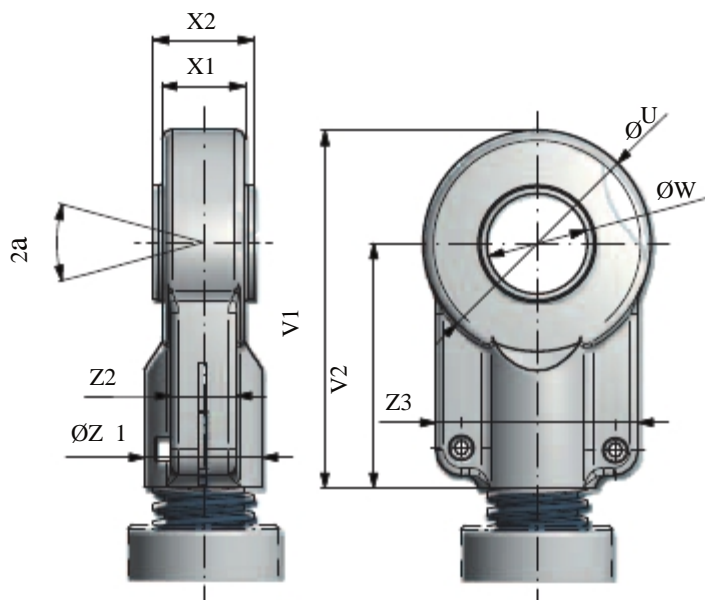


头部 KGK MJ0 – BJ1
End KGK MJ0 up to BJ1

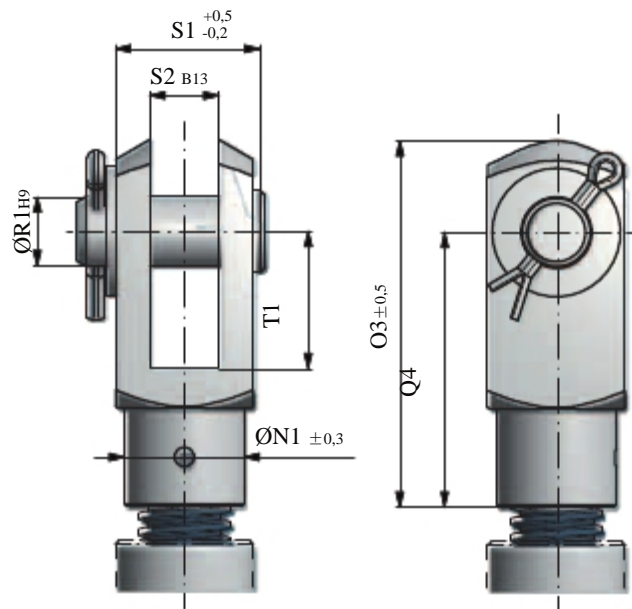


索引	MJ0	MJ1	MJ2	MJ3	MJ4	MJ5	BJ1	BJ2	BJ3	BJ4	BJ5
头部 GK						End GK					
ØN	30	30	40	45	65	75	80	100	120	160	170
O1	51	55	63	78	105	110	120	130	155	220	300
O2	36	40	45	53	70	75	75	90	105	135	200
P	15	15	18	25	35	35	45	40	50	85	100
ØR H8	14	14	16	24	32	35	40	50	60	80	90
S -0,2	15	15	20	30	35	45	60	70	80	110	120
T	30	30	36	45	65	75	90	90	110	170	200
螺纹 thread	M10	M12	M14	M20	M30	M36	M48x2	M56x2	M64x3	M72x3	M100x3
端部 KGK						End KGK					
ØU	29	33	37	51	71	81	117	-	-	-	-
V1	57,5	66,5	75,5	102,5	145,5	165,5	218,5	-	-	-	-
V2	43	50	57	77	110	125	160	-	-	-	-
ØW	10	12	14	20	30	35	50	-	-	-	-
X	14	16	19	25	37	43	60	-	-	-	-
Z	15	17,5	20	27,5	40	46	65	-	-	-	-
螺纹 thread	M10	M12	M14	M20x1,5	M30x2	M36x2	M48x2	-	-	-	-
螺纹深度 thread depth	15	18	21	30	45	56	65	-	-	-	-

头部 KGK BJ2 – BJ5 End KGK BJ2 up to BJ5

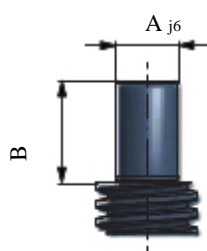


头部 GS End GS

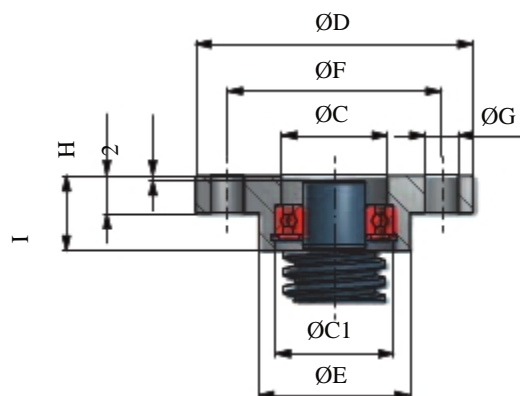


索引	MJ0	MJ1	MJ2	MJ3	MJ4	MJ5	BJ1	BJ2	BJ3	BJ4	BJ5
头部 KGK BJ2 – BJ5						End KGK BJ2 up to BJ5					
ØU	-	-	-	-	-	-	-	132	132	169,3	211,4
V1	-	-	-	-	-	-	-	211,6	211,6	270,6	322,7
V2	-	-	-	-	-	-	-	140	140	180	210
ØW	-	-	-	-	-	-	-	63	63	80	100
X1	-	-	-	-	-	-	-	63	63	80	100
X2	-	-	-	-	-	-	-	38	38	67	85
ØZ1	-	-	-	-	-	-	-	70	70	90	110
Z2	-	-	-	-	-	-	-	38	38	48	62
Z3	-	-	-	-	-	-	-	114	114	148	178
2 a	-	-	-	-	-	-	-	4	4	4	4
螺纹 thread	-	-	-	-	-	-	-	M48x2	M48x2	M64x3	M80x3
头部 GS						End GS					
ØN1 ±0,3	18	20	24,5	34	52	60	60	70	70	82	82
N2 h11	20	24	27	40	60	70	70	85	85	96	96
O3 ±0,5	52	62	72	105	160	187	187	232	232	265	265
O4	40	48	56	80	120	144	144	168	168	192	192
ØR1 H9	10	12	14	20	30	35	35	42	42	50	50
S1 ^{+0,5} / _{-0,2}	20	24	27	40	60	70	70	85	85	96	96
S2 B13	10	12	14	20	30	36	36	42	42	50	50
T1	20	24	28	40	60	72	72	48	48	96	96

头部 Z End Z



头部 FPL 带径向轴承 End FPL with radial bearing



索引	MJ0	MJ1	MJ2	MJ3	MJ4	MJ5	BJ1	BJ2	BJ3	BJ4	BJ5
头部 Z						End Z					
ØA j6	10	12	15	20	25	40	45	55	60	80	95
B	12	15	20	25	30	45	55	70	75	100	120
头部 FPL (带径向轴承)						End FPL (with radial bearing)					
ØC	17	19	28	30	42	62	70	84	88	118	136
ØC1	19	21	32	32	47	68	75	90	95	125	145
ØD	50	65	80	90	110	150	170	200	220	260	310
ØE	26	29	39	46	60	85	90	105	120	145	170
ØF	40	48	60	67	85	117	130	155	170	205	240
4xØG	7	9	11	11	13	17	21	25	25	32	38
H	7	7	8	10	15	20	25	30	30	40	40
I	16	20	20	23	30	50	50	60	60	80	120
轴承类型 Bearing type	61800	61801	6002.RSR	61904	6005.2RSR	6008.2RSR	6009.2RSR	6011.2RSR	6012.2RSR	6016.2ZR	6019.2ZR
弹形挡圈 Circlip	J19	J21	J32	J32	J47	J68	J75	J90	J95	J125	J145

A

A

可视磨损监视器

因安全螺母不承受任何轴向负载，可以看到随着运动螺母运动没有磨损。运动螺母的磨损会导致尺寸S变小。

尺寸S变小可在不拆开升降机的情况使磨损程度可以得到监测。当该尺寸只有原始值的50%，运动螺母应更换了。如运动螺母的螺纹失效了（磨损非常厉害，润滑不充分过热，等等）该安全螺母将承受整个负荷。由内置的传感器发出过度磨损的警告信号。

Visual wear monitor

As the safety nut cannot absorb any axial load, it virtually runs wear-free alongside the travelling nut. Wear and tear in the travelling nut results in a reduction of dimension S.

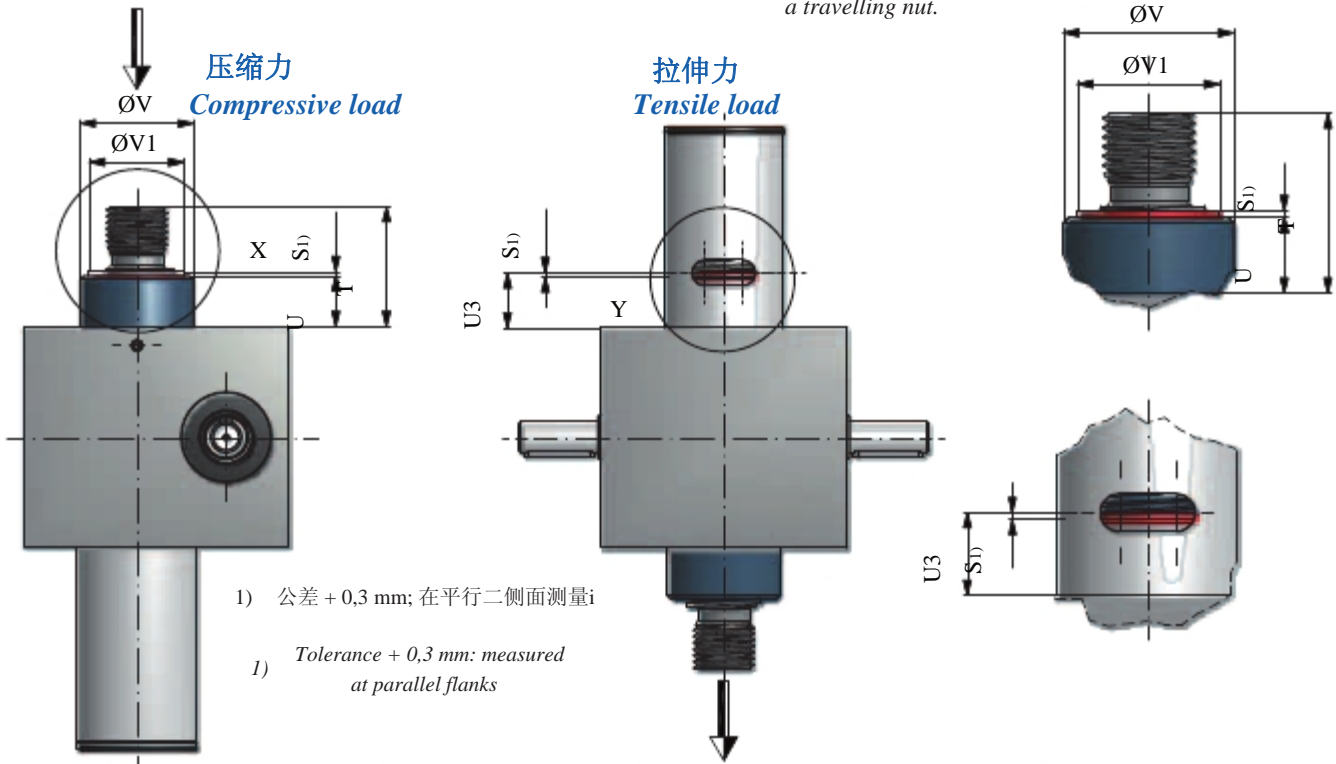
The reduction of dimension S allows the rate of wear to be measured and monitored without the need to disassemble. When 50% of the original value is reached, the travelling nut should be replaced. Should thread failure occur in the travelling nut (**extreme wear and tear, lubrication deficiency, overheating, etc ...**), the safety nut will absorb the whole load. A warning signal for excessive wear and tear can be triggered by incorporating a sensor.

注意:

- 下单时请说明负荷方向。
- 安全螺母是与运动螺母组合在一起的

Attention:

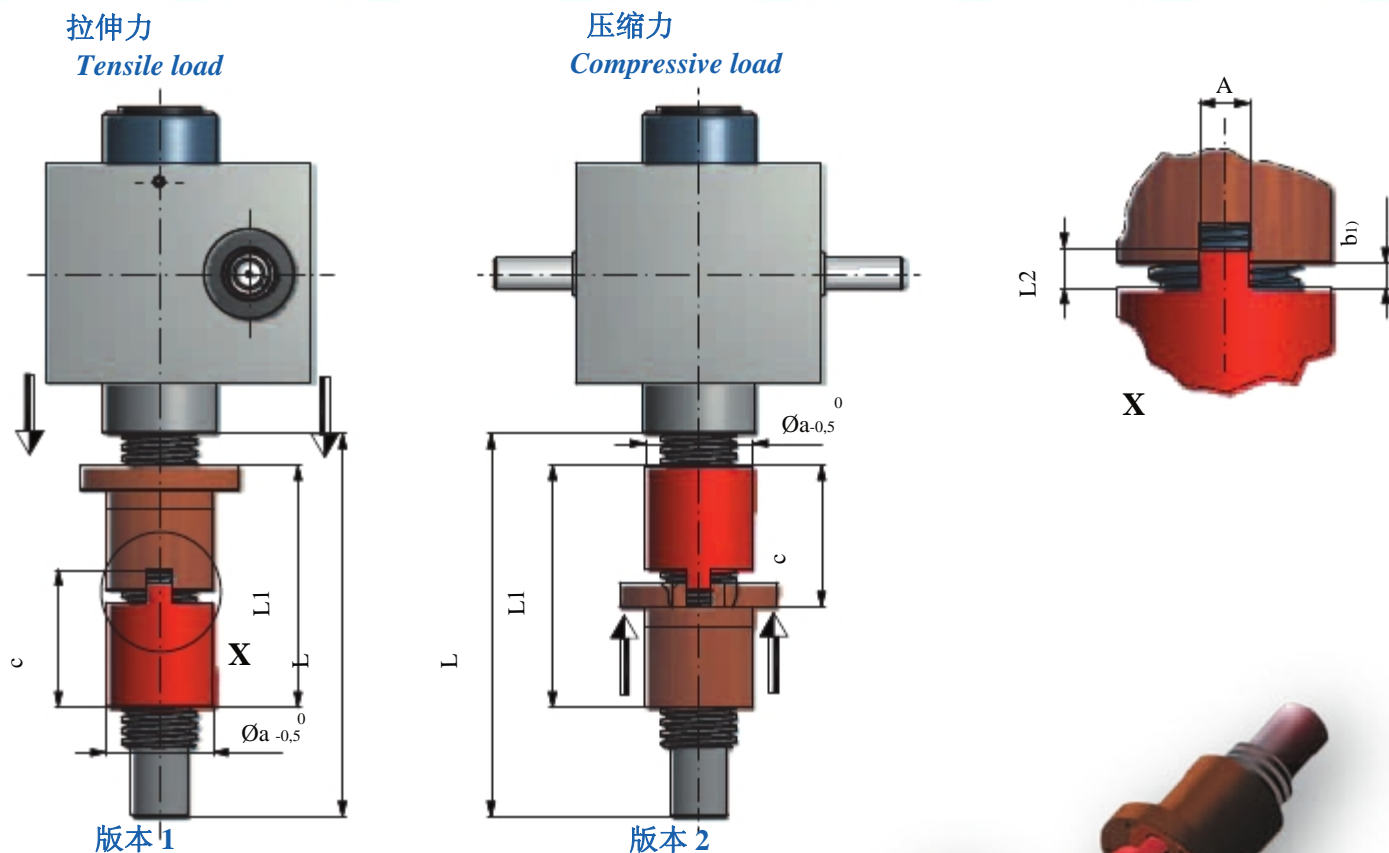
- Please state direction of load when ordering.
- The safety nut is only available in combination with a travelling nut.



索引	MJ0	MJ1	MJ2	MJ3	MJ4	MJ5	BJ1	BJ2	BJ3	BJ4	BJ5
S ₁	1	1	1	1,5	1,75	2,25	2,25	2,5	2,5	2,5	3,5
T	30	35	45	50	65	95	95	110	110	140	200
U	12	12	18	23	32	40	40	40	40	50	60
U ₃	13	13	19	24,5	33,75	42,25	42,25	42,5	42,5	52,5	63,5
ØV	30	30	39	46	60	85	90	105	120	145	170
ØV ₁	17	25	30	35	50	65	75	90	90	110	140
重量 / Weight [kg]	0,2	0,45	0,55	0,7	3,1	4,3	5,7	11,3	13,7	23,3	45,7

安全螺母 (螺母运动型) SFM Safety nut (travelling nut version) SFM

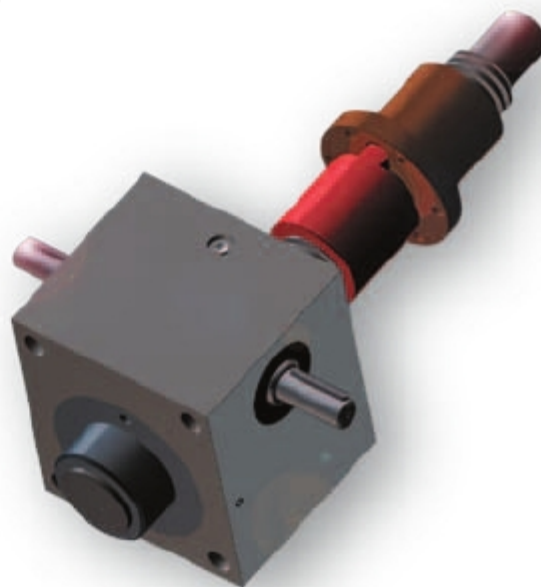
GROB



尺寸L可按要求定制

Dimension L according to requirements

- 1) 公差 +0,3 mm; 在平行二侧面测量
- 1) *Tolerance + 0.3 mm: measured at parallel flanks*



索引	MJ0	MJ1	MJ2	MJ3	MJ4	MJ5	BJ1	BJ2	BJ3	BJ4	BJ5
A	8	10	10	12	16	20	20	25	25	30	40
Øa-0,5	25	28	32	38	63	72	85	95	105	130	160
b1)	1	1	1	1,5	1,75	2,25	2,25	2,5	2,5	2,5	3,5
c	26	45	45	47,5	74,75	99,25	101,25	102,5	112,5	132,5	163,5
L1	43	79	79	83,5	132,75	180,25	184,25	182,5	202,5	237,5	298,5
L2	8	10	10	10	15	16	16	20	20	25	25
重量/ Weight [kg]	0,2	0,45	0,55	0,7	3,1	4,3	5,7	11,3	13,7	23,3	45,7

限位开关用于行程的自动控制

- 带凸轮机械限位开关或感应限位开关。
- 固定设计或可变设计。

Limit switches are used for the automatic control of the stroke action.

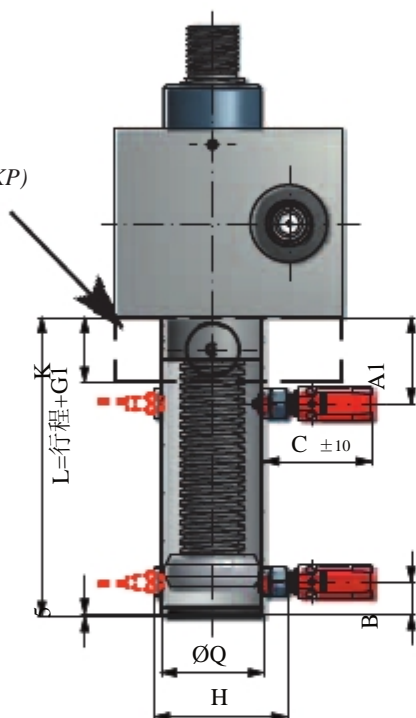
- Mechanical limit switch with cam or inductive limit switch
- Fixed or variable designs

固定限位开关组件 Limit switch assembly fixed

可调限位开关组件 Limit switch assembly adjustable

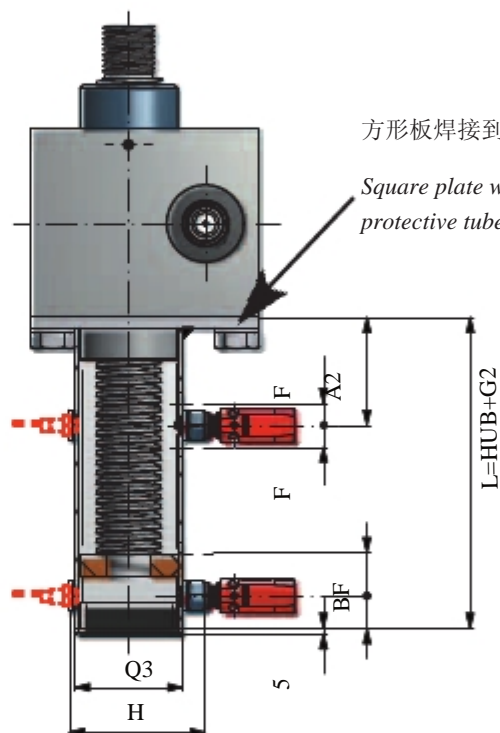
耳适配器 (KP)
可选

Trunnion plate (KP)
optional



方形板焊接到保护管上

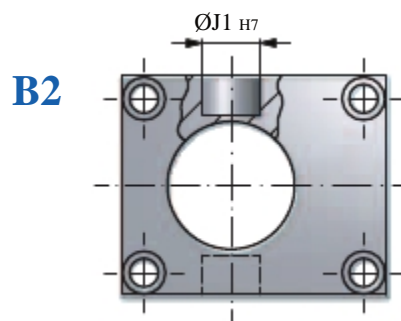
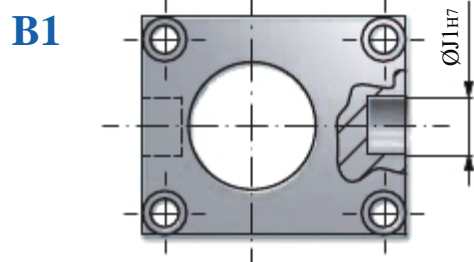
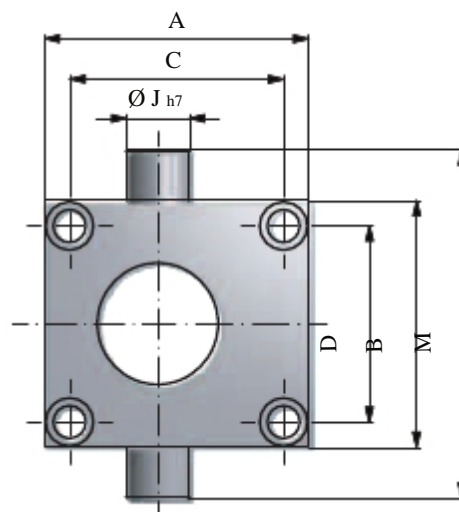
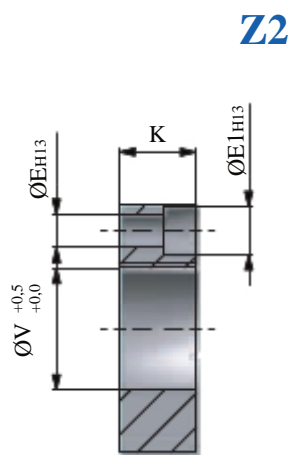
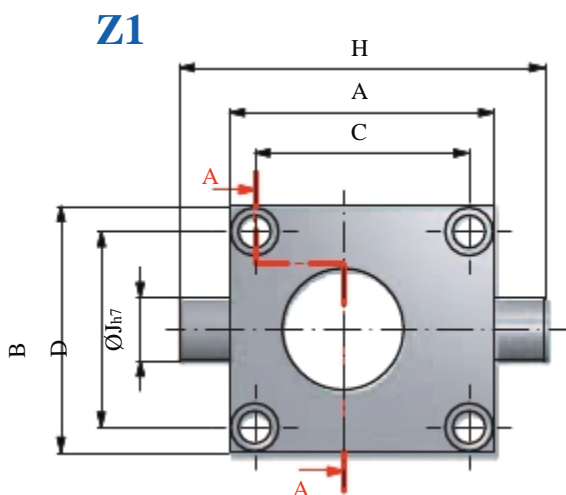
Square plate welded to protective tube



索引	MJ0	MJ1	MJ2	MJ3	MJ4	MJ5	BJ1	BJ2	BJ3	BJ4	BJ5
A1	46	46	50	53	90	93	88	102	102	114	124
A2	65	59	65	74	110	110	100	120	120	130	140
B	35	35	35	43	51	40	44	48	50	53	72
C ±10	102	102	102	102	102	102	101	101	100	100	100
F	20	20	20	20	20	20	20	20	20	20	20
G1	92	92	97	108	156	150	152	180	180	204	233
G2	100	100	105	110	155	170	145	170	170	180	190
H	63	63	73	78	93	118	123	138	153	178	208
K	15	20	25	30	40	50	60	80	80	90	100
ØQ	33,5	33,5	42	50	65	90	95	110	125	150	180
□Q2	35	35	45	50,5	65	90	100	120	120	150	180

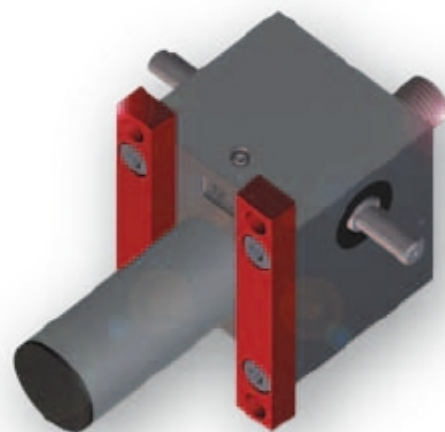
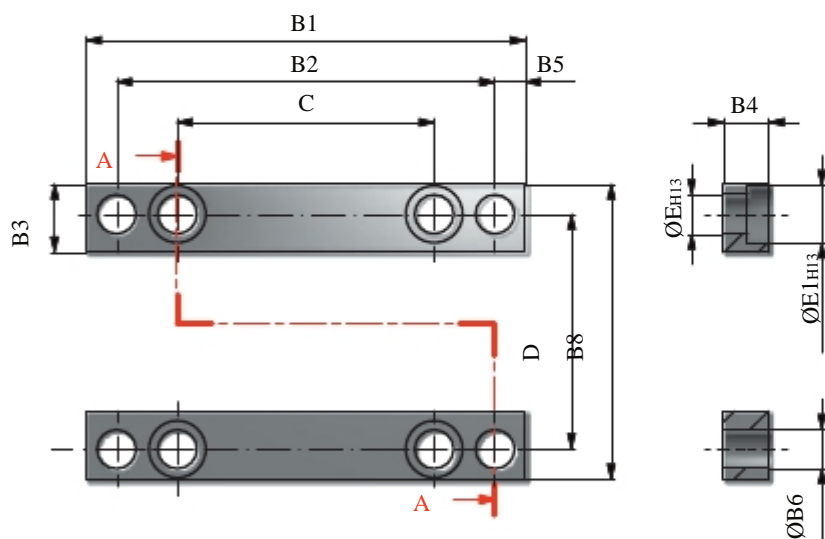
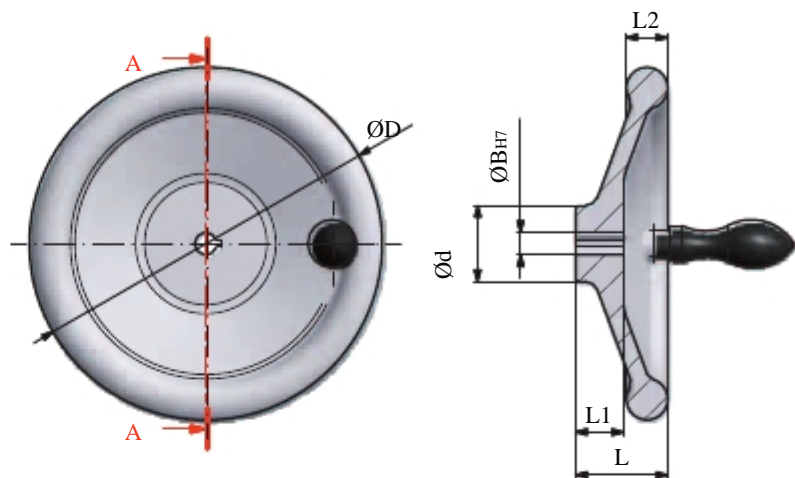
耳适配器与端部GS/GK/KGK的结合可使螺旋升降机完成旋转和摆动运动。

Combining trunnion adaptors and heads GS/GK/KGK allows the screw jacks to perform swivelling and tipping movements.



索引	MJ0	MJ1	MJ2	MJ3	MJ4	MJ5	BJ1	BJ2	BJ3	BJ4	BJ5
A	64	80	100	130	180	200	210	240	240	290	360
B	54	72	85	105	145	165	195	220	220	250	300
C	48	60	78	106	150	166	170	190	190	230	290
D	38	52	63	81	115	131	155	170	170	190	230
ØE H13	6,6	9	9	11	13,5	22	26	33	33	39	45
ØE1 H13	11	15	15	18	20	32	38	48	48	58	66
H	84	110	140	170	240	270	290	330	330	410	520
ØJ h7	10	15	20	25	35	45	50	70	70	80	90
ØJ1 H7	8	15	20	22	30	40	-	-	-	-	-
K	15	20	25	30	40	50	60	80	80	90	100
M	74	102	125	145	205	235	275	310	310	370	460
ØV +0,5	35	35	44	54	66	96	96	126	126	152	182
重量 weight [kg]	0,4	0,8	1,5	3,0	7,0	11,0	12,0	26,0	26,0	40,0	68,0

索引	ØB H7	ØD	Ød	L	L1	L2
HR08009	9	80	24	25,5	16	13
HR08010	10	80	24	25,5	16	13
HR08012	12	80	24	25,5	16	13
HR10009	9	100	29	29,5	17	14
HR10010	10	100	29	29,5	17	14
HR10012	12	100	29	29,5	17	14
HR12509	09	125	28	33,5	17	15
HR12512	12	125	28	33,5	18	15
HR12514	14	125	28	33,5	18	15
HR14009	9	140	30	36,5	18	16,5
HR14014	14	140	30	36,5	19	16,5
HR14016	16	140	30	36,5	19	16,5
HR16014	14	160	32	39	20	18
HR16016	16	160	32	39	20	18
HR20018	18	200	38	45	24	20,5
HR20020	20	200	38	45	24	20,5
HR25022	22	250	45	51	28	23
HR25025	25	250	45	51	28	23

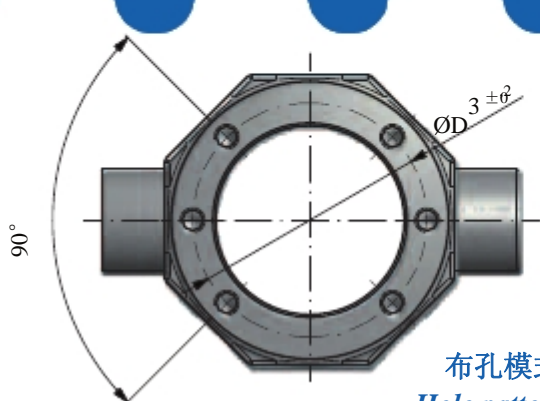


索引	MJ0	MJ1	MJ2	MJ3	MJ4	MJ5	BJ1	BJ2	BJ3	BJ4	BJ5
B1	90	120	140	170	230	270	290	340	340	410	500
B2	75	100	120	150	204	236	250	290	290	350	430
B3	15	20	20	25	30	37	45	60	60	70	85
B4	10	10	10	12	16	25	30	40	40	50	60
B5	7,5	10	10	10	13	17	20	25	25	30	35
B6	6,5	8,5	8,5	11	13,5	22	26	32	32	39	45
B8	54	72	85	105	145	165	195	220	220	250	300
C	48	60	78	106	150	166	170	190	190	230	290
D	38	52	63	81	115	131	155	170	170	190	230
ØE H13	6,6	9	9	11	13,5	22	26	33	33	39	45
ØE1 H13	11	15	15	18	20	32	38	48	48	58	66
重量 Weight [kg]	0,1	0,3	0,5	1,0	1,8	4,0	6,0	10,0	10,0	21,0	35,0

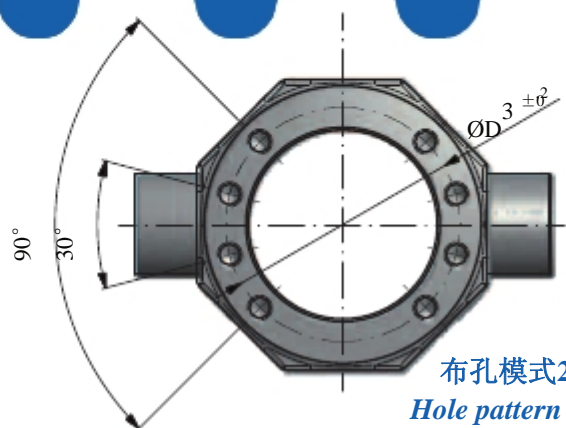
螺母型耳连接头KAD und KAN

Nut trunnion adaptor KAD and KAN

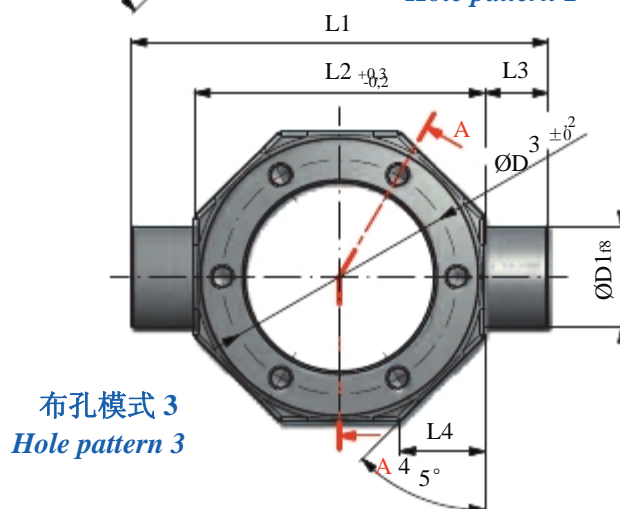
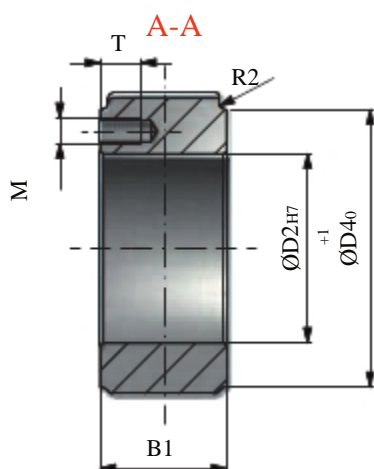
GROB



布孔模式 1
Hole pattern 1



布孔模式 2
Hole pattern 2



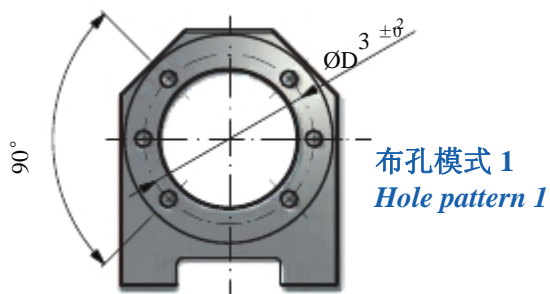
布孔模式 3
Hole pattern 3

索引	1605	2005	2020	2505	3205 3220	3210	4005 4010 4020 4040	5010	6310	
KAD-KGT										
L1	70	85	95	95	125	125	140	165	180	
L2 +0.2	50	58	65	65	85	85	100	115	130	
L3	10	13,5	15	15	20	20	20	25	25	
L4	15	17	19	19	25	25	29	34	39	
B1	20	25	25	25	30	30	40	50	50	
D1 f8	12	16	18	18	25	25	30	40	40	
D2 H7	28	36	35	40	50	53	63	75	90	
D3 ± 0.2	38	47	50	51	65	65	78	93	108	
D4 +1	48	55	62	62	80	80	95	110	125	
MxT	M5x10	M6x12	M6x12	M6x12	M8x12	M8x12	M8x14	M10x16	M10x16	
布孔模式 Hole pattern	1	1	3	1	1	1	2	2	2	

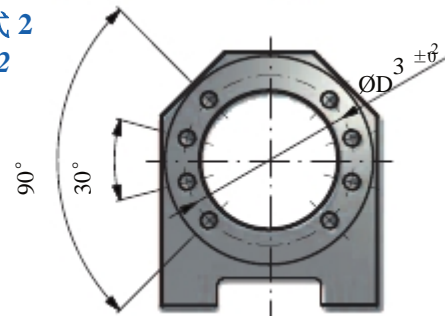
布孔模式 DIN 69 051

Hole pattern to DIN 69 051

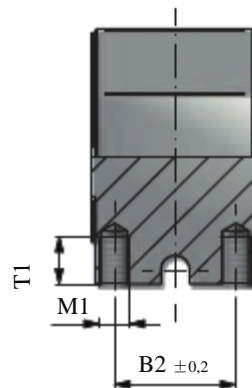
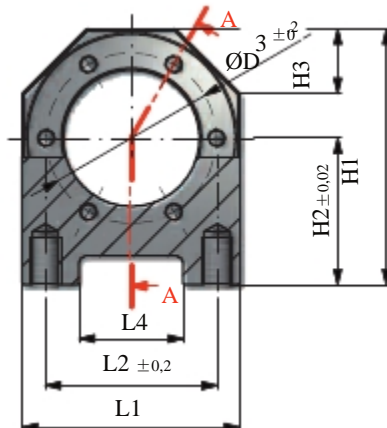
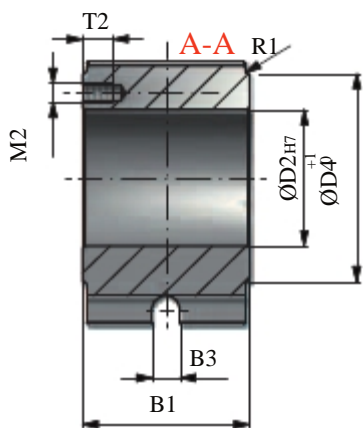
索引	1604	1804	2004 2405	3006	3206 3606	4007	5008 5509	6009	7010	8010
KAN-TR										
L1	70	70	85	95	110	140	165	180	200	200
L2 +0.3 -0.2	50	50	58	65	75	100	115	130	135	150
L3	10	10	13,5	15	17,5	20	25	25	30	25
L4	15	15	17	19	23	29	34	39	35	44
B1	20	20	25	25	30	40	50	50	50	60
D1 f8	12	12	16	18	20	30	40	40	35	50
D2 H7	25	28	32	38	45	63	72	85	95	105
D3 ± 0.2	35	38	45	50	58	78	90	105	110	125
D4 +1	48	48	55	62	72	95	110	125	-	-
MxT	M5x10	M5x10	M6x12	M6x12	M6x12	M8x14	M10x16	M10x16	M12x16	M12x16
布孔模式 Hole pattern	3	3	3	3	3	3	3	3	3	3



布孔模式 2
Hole pattern 2



布孔模式 3
Hole pattern 3



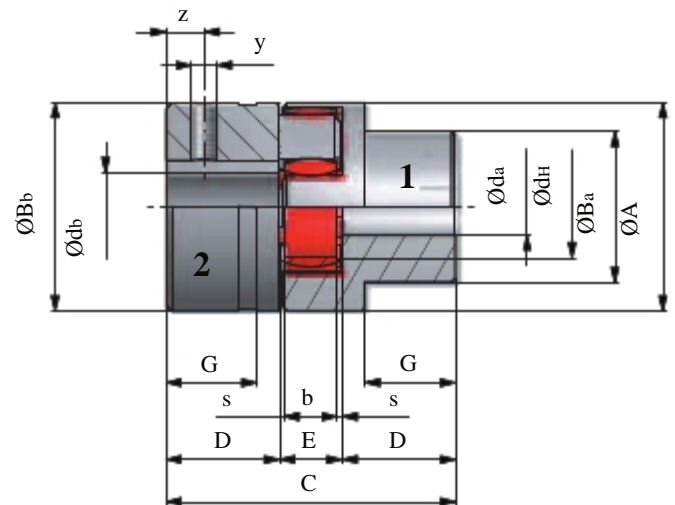
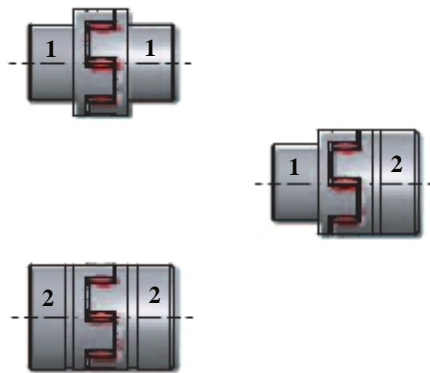
索引	1605	2005	2020	2505	3205	3210	4005 / 4010 4020 / 4040	5010	6310
MKD-KGT						3220			
B1	40	40	40	40	50	50	65	88	88
B2 ± 0.2	24	24	24	24	30	30	41	64	64
B3	-	-	-	-	-	-	-	-	-
D2 H7	28	36	35	40	50	53	63	75	90
D3 ± 0.2	38	47	50	51	65	65	78	93	108
D4 +1	48	55	62	62	80	80	95	110	125
H1	60	68	75	75	92	92	120	135	152
H2 ± 0.02	35	37.5	42.5	42.5	50	50	70	77.5	87.5
H3	15	17	19	19	25	25	29	34	39
L1	50	58	65	65	85	85	100	115	130
L2 ± 0.2	34	39	49	49	60	60	76	91	101
L4	18	23	33	33	40	40	48	55	65
M1 x T1	M8x15	M8x15	M10x15	M10x15	M12x15	M12x15	M14x25	M16x25	M16x30
M2 x T2	M5x10	M6x12	M6x12	M6x12	M8x12	M8x12	M8x14	M10x16	M10x16
Bohrbild	1	1	3	1	1	1	2	2	2
Hole pattern	1	1	3	1	1	1	2	2	2

布孔模式 DIN 69 051

Hole pattern to DIN 69 051

索引	1804	2004	3006	3206	3210	4007	5008	6009	8010
MKN-TR									
B1	40	40	40	50	50	65	88	88	88
B2 ± 0.2	24	24	24	29	30	41	64	64	62
B3	-	-	-	-	-	-	-	-	29
D2 H7	28	32	38	45	53	63	72	85	105
D3 ± 0.2	38	50	50	57	65	78	90	105	123
D4 +1	48	62	62	70	80	95	110	125	146
H1	60	75	75	82	92	120	135	152	175
H2 ± 0.02	35	42.5	2.5	45	50	70	77.5	87.5	97
H3	15	19	19	24	25	29	34	39	42
L1	50	65	65	75	85	100	115	130	151
L2 ± 0.2	34	49	49	53	60	76	91	101	119
L4	18	33	33	34	40	48	55	65	86
M1 x T1	M8x15	M10x15	M10x15	M10x15	M12x25	M14x25	M16x25	M16x30	M16x35
M2 x T2	M5x10	M6x12	M6x12	M6x12	M8x12	M8x14	M10x16	M10x16	M12x20
Bohrbild	3	3	3	3	3	3	3	3	3
Hole pattern	3	3	3	3	3	3	3	3	3

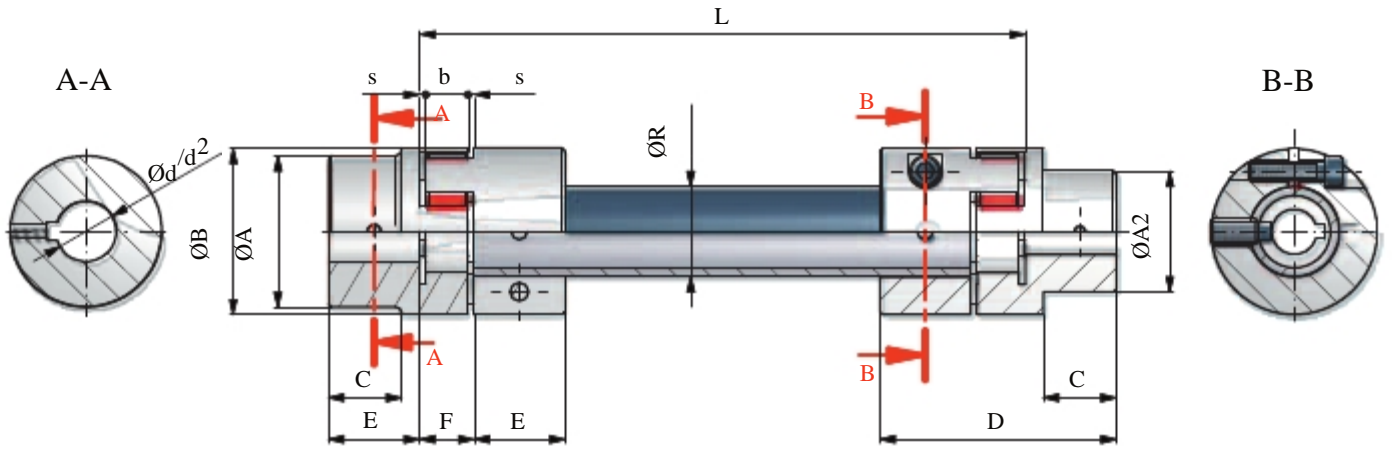
设计 Designs



型号 Type	Mt max. in Nm Mt max Nm	Gewicht Ausfg. 1 in kg Weight Design 1 in kg	Gewicht Ausfg. 2 in kg Weight Design 2 in kg	钻孔						尺寸用 mm表示												max. Axialverschiebung Max axial displacement	max. Radialverlagerung Max radial offset
				Nabe 1 fertig da			Nabe 2 fertig db			A	Ba	B b	C	D	E	s	b	G	d H	y	z		
				vor	min	max	vor	min	max														
				Bore						Dimensions in mm													
Coupling Half 1 Finished bore da			Coupling Half 2 Finished bore db			Pilot		Min		Max		Pilot		Min		Max							
RP14	15	0,05	0,05	-	-	-	0	6	16	30	-	30	35	11	13	1,5	10	-	10	M4	4	-	-
RP19	20	0,14	0,14	0	6	19	0	20	24	40	32	40	66	25	16	2	12	20	18	M8	10	1,2	0,4
RP24	70	0,32	0,32	7	8	24	7	25	28	55	40	55	78	30	18	2	14	24	27	M8	10	1,4	0,8
RP28	190	0,53	0,53	9	11	28	9	30	38	67	48	67	90	35	20	2,5	15	28	30	M8	15	1,5	-
RP38	380	2,08	2,66	7	12	38	36	40	45	80	66	77	114	45	24	3	18	37	38	M8	15	1,8	1
RP42	530	3,21	4,01	10	14	42	40	45	55	95	75	94	126	50	26	3	20	40	46	M8	20	2	-
RP48	620	4,41	5,53	10	15	48	46	50	60	105	85	104	140	56	28	3,5	21	45	51	M8	20	2,1	-
RP55	820	6,64	8,10	10	20	55	53	60	70	120	98	118	160	65	30	4	22	52	60	M10	20	2,2	1,4
RP65	1250	10,13	11,65	10	22	80	-	-	-	135	115	134	185	75	35	4,5	26	61	68	M10	20	2,6	-
RP75	1950	16,03	19,43	20	30	90	-	-	-	160	135	158	210	85	40	5	30	69	80	M10	25	3	-
RP90	4800	27,50	31,70	25	40	100	-	-	-	200	160	180	245	100	45	5,5	34	81	100	M10	25	3,4	-

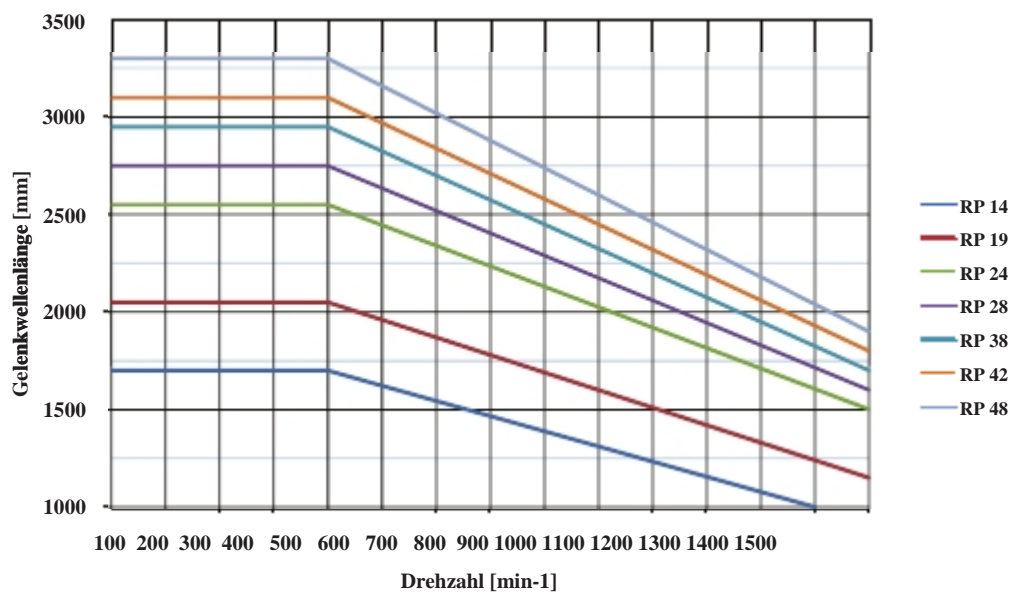
为防止由于轴向位移导致半联轴器承受过度的表面压力，尺寸“C”和“E”必须作为最小尺寸考虑。轴向位移设定值应加到尺寸“C”上。最大角位移为 $1^{\circ} 30'$ ，最大扭转角 $M = \max 5^{\circ}$ 。

To prevent excessive surface pressure on the coupling halves due to axial displacement, dimensions „C“ and „E“ must be considered as the minimum dimensions. The stated values for the axial displacement should be added to dimension „C“. The maximum angular misalignment is $1^{\circ} 30'$ and the torsional angle $M = \max 5^{\circ}$.



		Index	RP14	RP19	RP24	RP28	RP38	RP42	RP48
口径 Bore	联轴器 1/ Coupling 1 min / max	Ød	0-16	0-24	0-32	11-38	12-45	27-55	42-60
	联轴器 2/ Coupling 2 min / max	Ød2	-	0-19	0-24	0-28	0-38	0-42	0-48
		b	10	12	14	15	18	20	21
		s	1,5	2	2	2,5	3	3	3,5
		ØA	-	-	-	-	-	-	-
		ØA2	-	32	40	48	66	75	-
		ØB	30	40	56	65	80	95	105
		C	-	20	24	28	37	40	45
		D	35	66	78	90	114	126	140
		E	11	25	30	35	45	50	56
		F	13	16	18	20	24	26	28
		L	由用户指定 <i>Customer-specific</i>						
		ØR	14x2	20x3	30x4	35x5	40x4	45x4	50x4
旋转速度范围 / Rotary speed range		1 ... 1500 min ⁻¹							
运行温度 / Operating temperature		-40 bis / to 90° C (短期可达 120° C) <i>(short-term up to 120°)</i>							

索引		RP 14	RP 19	RP 24	RP 28	RP 38	RP 42	RP 48
额定转矩 <i>Nominal torque</i> T_N [Nm]	Betrieb mit leichten Stößen	6	24	30	70	130	150	245
	Betrieb mit schweren Stößen	4,2	17	21	50	90	105	175
紧固螺栓 <i>Clamping bolt</i>	紧因转矩 <i>Tightening torque</i> T [Nm]	1,3	10	10	25	49	49	86
	M1	M3	M6	M6	M8	M10	M10	M12
轴向位移 <i>Axial shift</i> [mm]		1,0	1,2	1,4	1,5	1,8	2,0	2,1
最大伸角 <i>Max. angle extension</i>		0,9°	0,9°	0,9°	0,9°	1,0°	1,0°	1,0°
质量惯性力矩 [kgm ²] <i>Mass moment of inertia</i> [kgm ²]	für 2 Naben for 2 hubs	0,1317x10 ⁻⁴	0,8278x10 ⁻⁴	8,830x10 ⁻⁴	20,05x10 ⁻⁴	20,15x10 ⁻⁴	47,86x10 ⁻⁴	74,68x10 ⁻⁴
	1m管长 For 1 m tube length	0,218x10 ⁻⁴	0,932x10 ⁻⁴	4,414x10 ⁻⁴	7,431x10 ⁻⁴	11,59x10 ⁻⁴	17,07x10 ⁻⁴	24,06x10 ⁻⁴
重量[kg] <i>Weight</i> [kg]	für 2 Naben for 2 hubs	0,1	0,3	1,5	2,7	3,0	5,0	6,5
	1m管长 For 1 m tube length	0,6	1,3	2,0	3,1	3,6	4,1	4,6
适用竖向轴承 <i>Suitable vertical bearing</i>		-	SN 505	SN 507	SN 508	SN 509	SN 510	SN 511



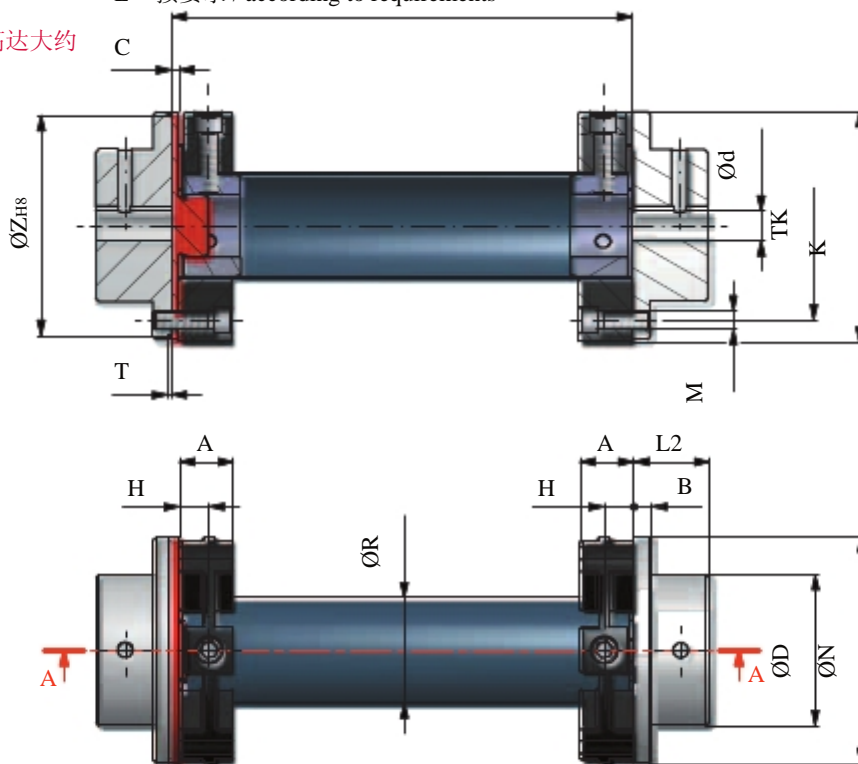
GXZ

用于长轴距和/或转速高达大约

3000r/min.

For long shaft lengths and/or high speeds up to approx 3000 r/min

L = 按要求 / according to requirements



GX

用于中短轴距，较高转速则

取决于长度。

For small and middle shaft lengths. Higher speeds are dependent on length.

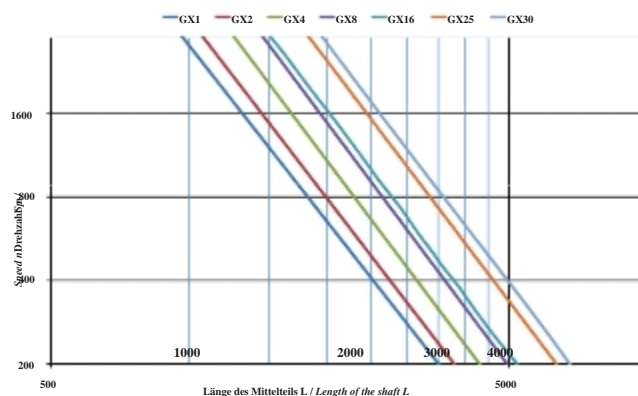
索引	T _{KN}	A	B	C	ØD	K	Ød		H	L2	ØN	ØR	T	ØTK	M	ØZ _{HS}
	Nm						Vorb. Pilot	max.								
GX01	10	18	7	5	36	57	8	25	12	24	57	30	1,5	44	2xM6	52
GX02	30	24	8	5	55	88	12	38	14	28	85	40	1,5	68	2xM8	80
GX04	60	25	8	5	65	100	15	45	14,5	30	100	45	1,5	80	3xM8	95
GX08	120	30	10	5	80	125	18	55	17	42	120	60	1,5	100	3xM10	115
GX16	240	35	12	5	100	155	20	70	21	50	150	70	1,5	125	3xM12	145
GX25	370	40	14	5	115	175	20	85	23	55	170	85	1,5	140	3xM14	165

询价和下单时请注明尺寸“L”。

Please state „L“ when enquiring and placing an order.

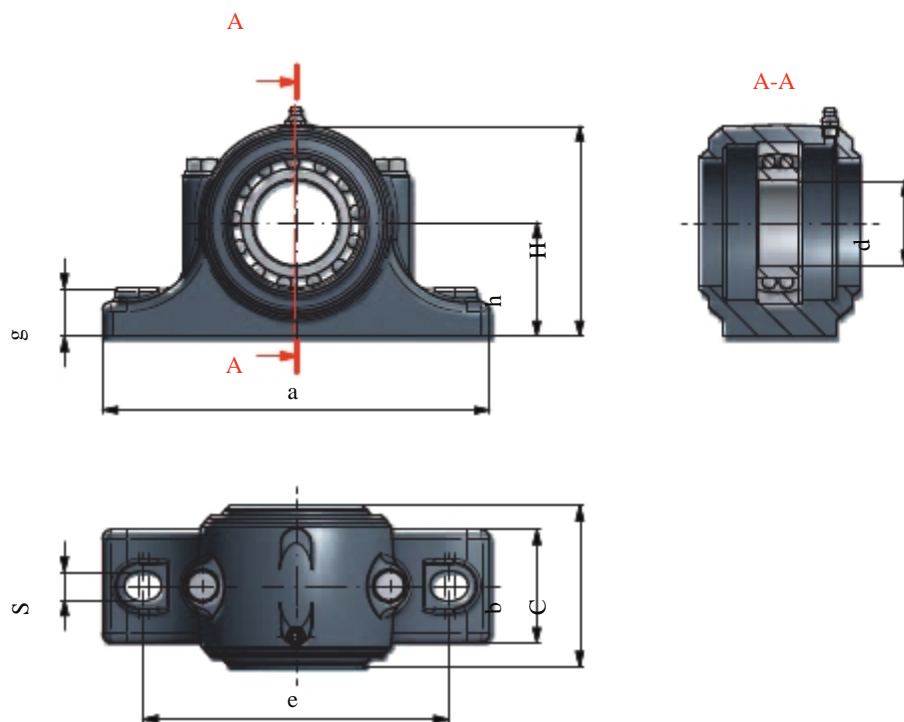
万向轴尺寸可通过表格估算出。如你需要我们帮助选择合适的万向轴请与我们联系。

The cardan shaft size can be estimated by using the table. Do not hesitate to contact us if you need any in selecting a suitable shaft.

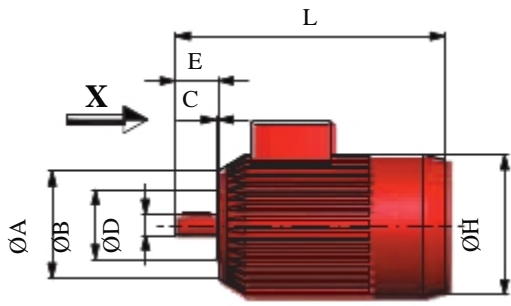


支撑轴承符合DIN736标准，包括带锥形内孔的自调整滚珠轴承和符合DIN5415标准的定心套。按安装要求采用固定轴承位置 或浮动轴承位置。

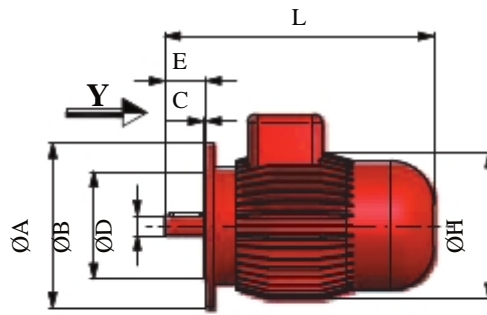
Support bearings to DIN 736, complete with self-aligning seal ball bearings with tapered bore and adaptor sleeves to DIN 5415. Dependent on the installation use fixed or floating bearing locations.



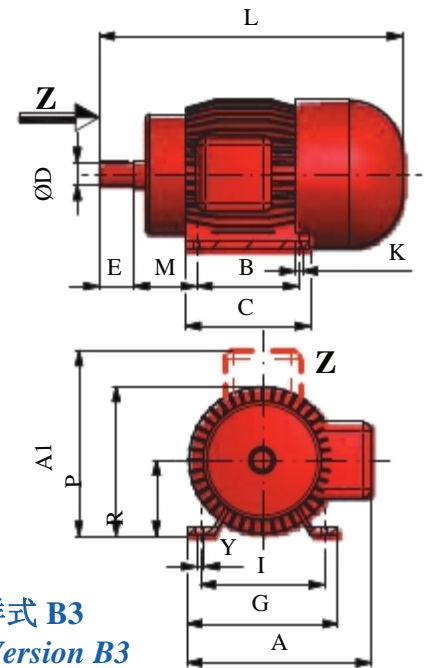
Index/索引	Ød	H	h	e	S	C	a	b	g	重量 [kg] Weight [kg]
SN 505	20	75	40	130	15	67	165	46	19	1,4
SN 506	25	90	50	150	15	77	185	52	22	1,9
SN 507	30	95	50	150	15	82	185	52	22	2,1
SN 508	35	110	60	170	15	85	205	60	25	3,1
SN 509	40	110	60	170	15	85	205	60	25	2,9
SN 510	45	115	60	170	15	90	205	60	25	3,3
SN 511	50	130	70	210	18	95	255	70	28	4,6
SN 512	55	135	70	210	18	105	255	70	30	5,4
SN 513	60	150	80	230	18	110	275	80	30	6,7
SN 515	65	155	80	230	18	115	280	80	30	7,3
SN 516	70	175	95	260	22	120	315	90	32	9,3
SN 517	75	185	95	260	22	125	320	90	32	9,8
SN 518	80	195	100	290	22	145	345	100	35	12,5
SN 520	90	215	112	320	26	160	380	110	40	15,5
SN 522	100	240	125	350	26	175	410	120	45	19,8
SN 524	110	270	140	350	26	185	410	120	45	22,4
SN 528	125	305	150	420	35	205	500	150	50	36,0



样式 B14
Version B14



样式 B5
Version B5



样式 B3
Version B3

样式 B14 (小法兰) / Version B14 (small flange)

Index	L	D	E	Z	A	B	R	F	C	H	G
56	185	9	20	3x3x15	80	50	65	M5	2,5	110	144
63	212	11	23	4x4x15	90	60	75	M5	2,5	120	160
71	245	14	30	5x5x20	105	70	85	M6	3	145	180
80	280	19	40	6x6x28	120	80	100	M6	3	160	205
90S	300	24	50	8x7x40	140	95	115	M8	3	175	217
90L	325	24	50	8x7x40	140	95	115	M8	3	175	217
100	370	28	60	8x7x50	160	110	130	M8	3,5	195	235
112	390	28	60	8x7x50	160	110	130	M8	3,5	220	260
132S	460	38	80	10x8x70	200	130	165	M10	4	260	325
132M	500	38	80	10x8x70	200	130	165	M10	4	260	325

样式 B5 (大法兰) / Version B5 (large flange)

Index	L	D	E	Z	A	B	R	F	C	H	G
56	185	9	20	3x3x15	120	80	100	7	3	110	150
63	212	11	23	4x4x15	140	95	115	9,5	3	120	170
71	245	14	30	5x5x20	160	110	130	9,5	3	145	190
80	280	19	40	6x6x30	200	130	165	11,5	3,5	160	228
90S	300	24	50	8x7x40	200	130	165	11,5	3,5	175	232
90L	325	24	50	8x7x40	200	130	165	11,5	3,5	175	232
100	370	28	60	8x7x50	250	180	215	14	4	195	262
112	390	28	60	8x7x50	250	180	215	14	4	220	275

样式 B3 (安装脚) / Version B3 (Foot mounted)

Index	R	L	D	E	Z	I	B	KxY	C	G	A	A1	M	P
56	56	189	9	20	3x3x15	90	71	6x11	90	112	144	149	36	115
63	63	217	11	23	4x4x15	100	80	7x13	105	125	160	162	40	127
71	71	244	14	30	5x5x20	112	90	8x13	108	140	180	183	45	145
80	80	280	19	40	6x6x30	125	100	9,5x17	125	160	205	208	50	160
90S	90	302	24	50	8x7x40	140	100	9,5x17	130	182	217	220	56	180
90L	90	327	24	50	8x7x40	140	125	9,5x17	155	182	217	220	56	180
100	100	368	28	60	8x7x50	160	140	11x21	175	200	235	240	63	197
112	112	392	28	60	8x7x50	190	140	12x22	175	235	260	265	70	220
132S	132	460	38	80	10x8x70	216	140	11x21	180	260	325	330	89	260
132M	132	498	38	80	10x8x70	216	178	11x21	218	260	325	330	89	260
160M	160	600	42	110	12x8x90	254	210	13x23	260	318	390	395	108	310
160L	160	644	42	110	12x8x90	254	254	13x23	304	318	390	395	108	310
180M	180	667	48	110	14x10x90	279	241	13x23	335	340	422	425	121	360
180L	180	705	48	110	14x10x90	279	279	13x23	335	340	422	425	121	660
200L	200	790	55	110	16x10x90	318	305	13x23	380	395	573	573	133	398

1500 Upm – 4-polig – 50 Hz / 1500 r/min - 4-pole - 50 Hz

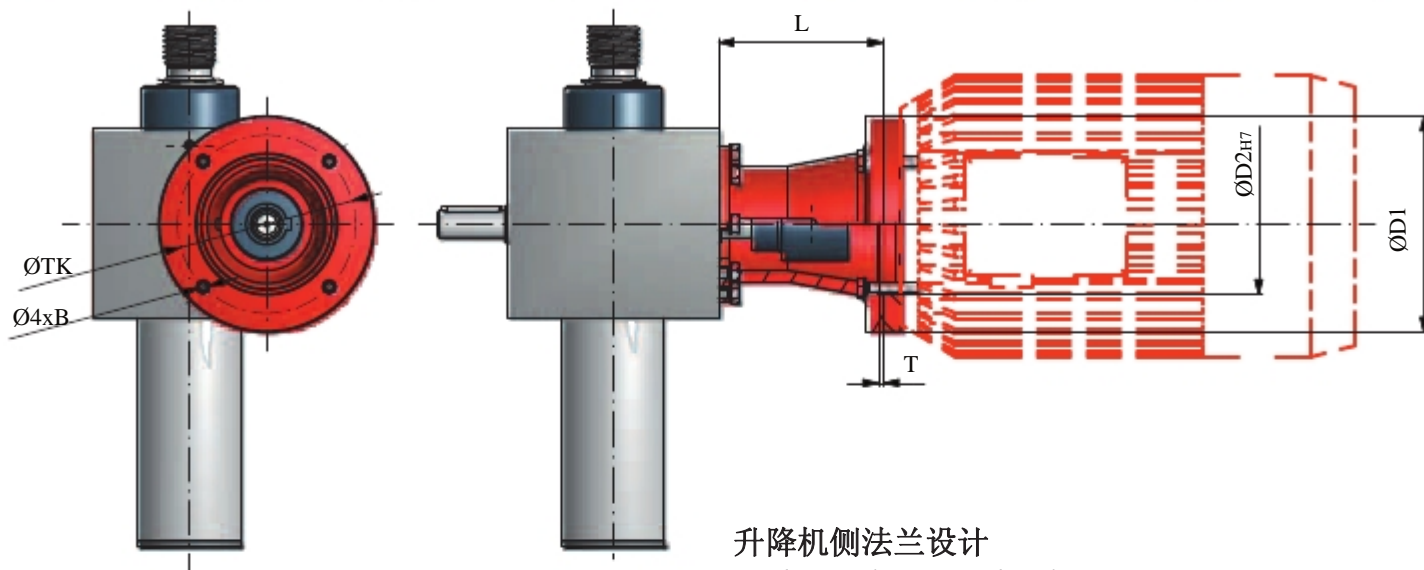
Index	KW	PS	Upm	400 V ⁱⁿ	cos.	%	MN [Nm]	MA / MN	MK / MN	重量 [kg] Weight [kg]
M56	0,09	0,12	1340	0,40	0,65	55	0,63	2,0	2	2,8
M63	0,185	0,25	1360	0,65	0,73	60	1,27	2	1,7	4,5
M71	0,25	0,33	1380	0,86	0,73	64	1,6	1,9	3,0	5,5
M71	0,37	0,50	1340	1,05	0,84	63	3,67	1,9	3,0	7,2
M80	0,55	0,75	1360	1,5	0,83	68	3,85	2	2,5	9
M80	0,75	1	1380	2,00	0,83	70	5,19	2	2,5	9,4
M90S	1,1	1,5	1400	2,65	0,79	73	7,54	2,2	2,5	13
M90L	1,5	2	1400	3,8	0,84	73	10,5	2,6	2,6	15
M100	2,2	3	1410	5,5	0,80	78	15	2,1	2,3	18
M100	3	4	1400	7,3	0,82	76	20,39	2,3	3,0	22
M112	4	5,5	1440	9	0,80	81	26,5	2,1	2,6	37
M132S	5,5	7,5	1425	12	0,82	84	37,25	2	2,6	43
M132M	7,5	10	1420	15,5	0,90	79	50,98	2,1	2,7	53
M160M	11	15	1460	15,5	0,84	83	12,54	2,4	2,8	90
M160L	15	20	1460	30	0,87	86	98	2	2,6	104
M180M	18,5	25	1460	38	0,82	90	120,5	2,6	3,0	120
M180L	22	30	1460	44	0,85	90	144,1	2,5	3,0	125
M200L	30	40	1450	58,5	0,85	90	197,5	2,5	3,0	290

1000 Upm – 6-polig – 50 Hz / 1000 r/min - 6-pole - 50 Hz

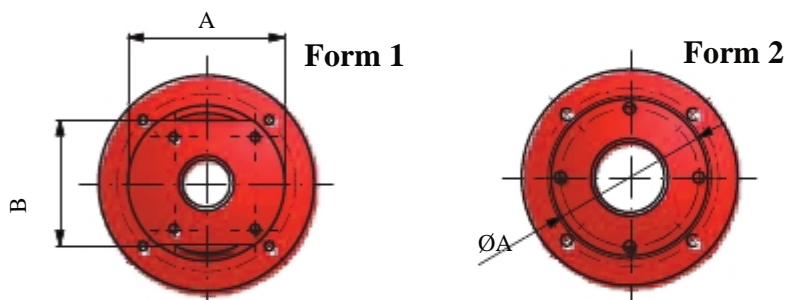
M63	0,06	0,083	820	0,31	0,52	30	6,99	1,7	1,7	5,1
M63	0,09	0,125	810	0,45	0,5	34	1,06	1,7	1,9	5,7
M71	0,18	0,25	850	0,6	0,78	55	2,02	1,8	1,7	6,90
M71	0,25	0,33	850	0,75	0,80	60	2,81	1,8	1,7	7,75
M80	0,37	0,5	940	1,2	0,67	66	3,76	2,1	1,7	8,2
M80	0,55	0,75	940	1,68	0,68	69	5,59	2,1	1,8	9,8
M90S	0,75	1	940	2,2	0,70	70	7,62	2	1,8	13
M90L	1,1	1,5	940	3,06	0,71	73	11,17	2,2	2	16
M100L	1,5	2	940	4,11	0,70	75	15,24	2,3	2	21
M112M	2,2	3	940	5,5	0,74	77	22,35	2,3	2,1	30
M132S	3	4	950	8,15	0,67	79	30,16	3,8	2	40,5
M132M	4	5,5	955	9,76	0,76	81	40	2,1	1,8	47
M132M	5,5	7,5	955	13,1	0,77	83	55	2,1	1,9	53

750 Upm – 8-polig – 50 Hz / 700 r/min - 8-pole - 50 Hz

M80	0,18	0,25	670	0,9	0,85	50	2,56	2,5	1,8	10
M80	0,25	0,33	670	1,04	0,62	58	3,56	2,4	2	10,7
M90S	0,37	0,5	690	1,34	0,60	58	5,12	2	1,8	13,5
M90L	0,55	0,75	690	2,21	0,61	59	7,61	2,1	1,9	16
M100	0,75	1	700	2,75	0,58	68	10,23	2,5	2	21,5
M100	1,1	1,5	700	3,72	0,68	63	15	2,2	2	21,5
M112M	1,5	2	705	4,46	0,67	72	20,32	2	1,7	30,5
M132S	2,2	3	710	6,05	0,70	75	29,59	2,5	1,9	37



升降机侧法兰设计
Flange design jack side



1) 带定位环
1) with spacer ring

Index 索引	电机型号 Motor type	联轴器 Coupling	电机法兰 Motor flange							升降机侧法兰设计 Flange design jack side			
			Form Design	ØD1	ØD2	H7	T	L	ØTK	4xØB	A	B	C
MJ0	MG080	56	RP 14	2	80	50	3	54	65	6	Ø50	-	-
MJ0	MG090	63	RP 14	2	90	60	3	54	75	6	Ø50	-	-
MJ1	MG080	56	RP 14	1	80	50	3	45	65	6	Ø73	60	-
MJ1	MG090	63	RP 14	1	90	60	3	54	75	6	Ø73	60	-
MJ1	MG105	71	RP 14	1	105	70	4	76	85	7	Ø68	60	-
MJ2	MG090	63	RP 14	1	90	60	3	54	75	6	Ø73	60	-
MJ2	MG105	71	RP 19	2	105	70	12	76	85	7	Ø68	-	-
MJ2	MG120	80	RP 19	2	120	80	4	78	100	7	Ø72	-	-
MJ2	MG140	90	RP 19/24	2	140	95	4	103	115	9	Ø72	-	-
MJ2	MG160	100	RP 19/24	1	160	110	4	103	130	9	Ø82	74	-
MJ3	MG105	71	RP 19	2	105	70	4	84 ¹⁾	85	7	84	80	34
MJ3	MG120	80	RP 19	2	120	80	4	91 ¹⁾	100	7	Ø72	-	-
MJ3	MG140	90	RP 19/24	2	140	95	4	103	115	9	Ø90	-	-
MJ3	MG160	100	RP 19/24	2	160	110	4	113 ¹⁾	130	9	Ø82	-	-
MJ4	MG120	80	RP 19/24	2	120	80	4	95	100	7	120	90	45
MJ4	MG140	90	RP 19/24	2	140	95	4	113	115	9	Ø90	-	-
MJ4	MG160	90, 100, 112	RP 19/24	2	160	110	4	113	130	9	Ø116	-	-
MJ4	MG200	132	RP 24/28	1	200	130	5	152	165	11	Ø145	116	-
MJ5	MG160	90,100,112	RP 24/28	2	160	110	4	133 ¹⁾	130	9	120	90	45
MJ5	MG200	132	RP 28/38	2	200	130	5	152	165	11	Ø145	-	-
MJ5	MG250	100,112	RP 28/38	2	250	180	5	148	215	13	Ø165	-	-
BJ1	MG200	132	RP 28/38	2	200	130	5	152	165	11	Ø145	-	-
BJ1	MG250	100,112	RP 28/38/42	2	250	180	5	148	215	13	Ø165	-	-
BJ2	MG200	132	RP 28/38	2	200	130	5	152	165	11	Ø145	-	-
BJ2	MG250	100,112	RP 28/38/42	2	250	180	5	148	215	13	Ø165	-	-
BJ3	MG200	132	RP 28/38	2	200	130	5	152	165	11	Ø145	-	-
BJ3	MG250	100,112	RP 28/38/42	2	250	180	5	148	215	13	Ø165	-	-

选择标准

- 材料, 配置, 规格, 速比
- 效率、低游隙型号, 安装面
- 首选的旋转方向, 润滑
- 润滑表,
- **功率和扭矩表**

Typ V

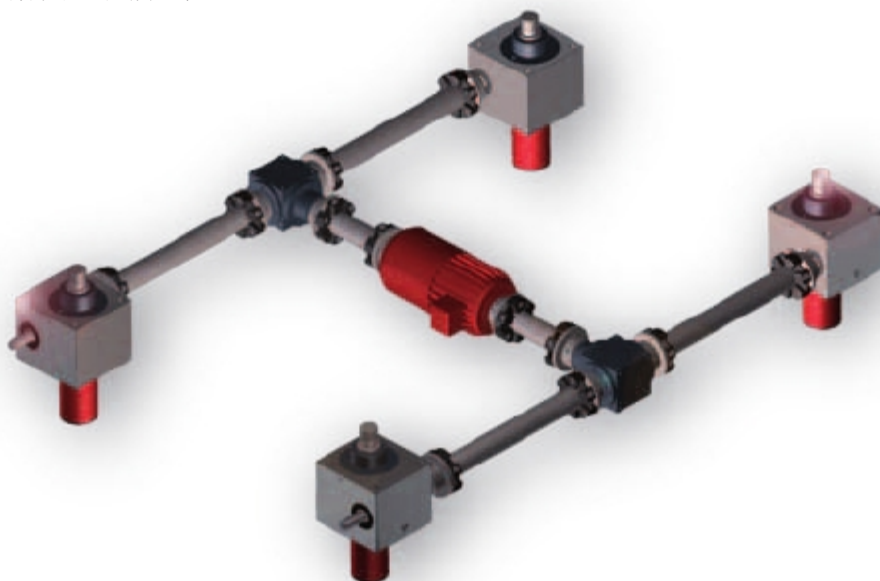
- 输出轴, 低速运行
- 速比: $i = 1:1$ 至 $6:1$
- 最大输出扭矩 $T_{2max} = 2.300 \text{ Nm}$
- 从 065 到 260 mm 7种方形齿轮箱尺寸

Selection criteria

- Material, configuration, size, ratio
- Efficiency, low-backlash version, mounting side
- Preferred direction of rotation, lubrication, lubrication table
- **Power and torque tables**

Type V

- *Output shaft, slow running*
- *Ratios: $i = 1:1$ to $6:1$*
- *Max. output torque up to $T_{2max} = 2.300 \text{ Nm}$*
- *7 gearbox sizes from 065 to 260 mm square*

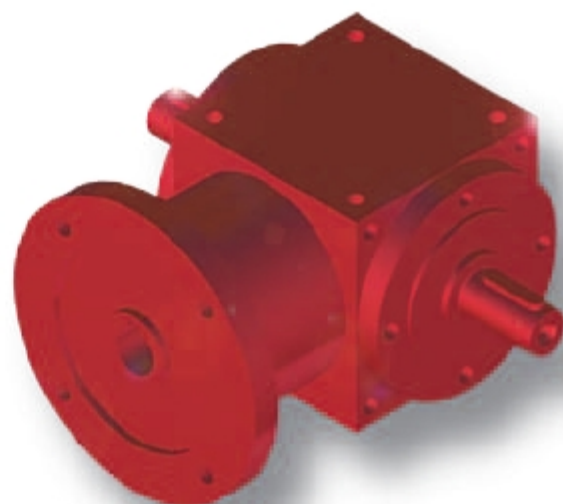


Typ VL (询价时可提供尺寸)

- 输入侧电机法兰和空心轴
- 适合IEC标准电机安装
- 输出轴, 低速运行
- 速比, 扭矩和规格与型号V相同

Type VL (dimensions available up on enquiry)

- *Input side with motor flange and hollow shaft*
- *Suitable for mounting to IEC standard motors*
- *Output shaft, slow running*
- *Ratios, torques and sizes same as Type V*



轴公差:

轴公差= J6;轴中心螺纹孔符合DIN 332第2页标准; 键槽符合 DIN 6885 第1页标准。在A, B和C侧的安装孔是标准的。D, E和F侧如需要可以增加螺纹孔。请咨询我们。
安装孔深度=2X螺旋直径或法兰厚度

V065, V090, V160, V200, V260

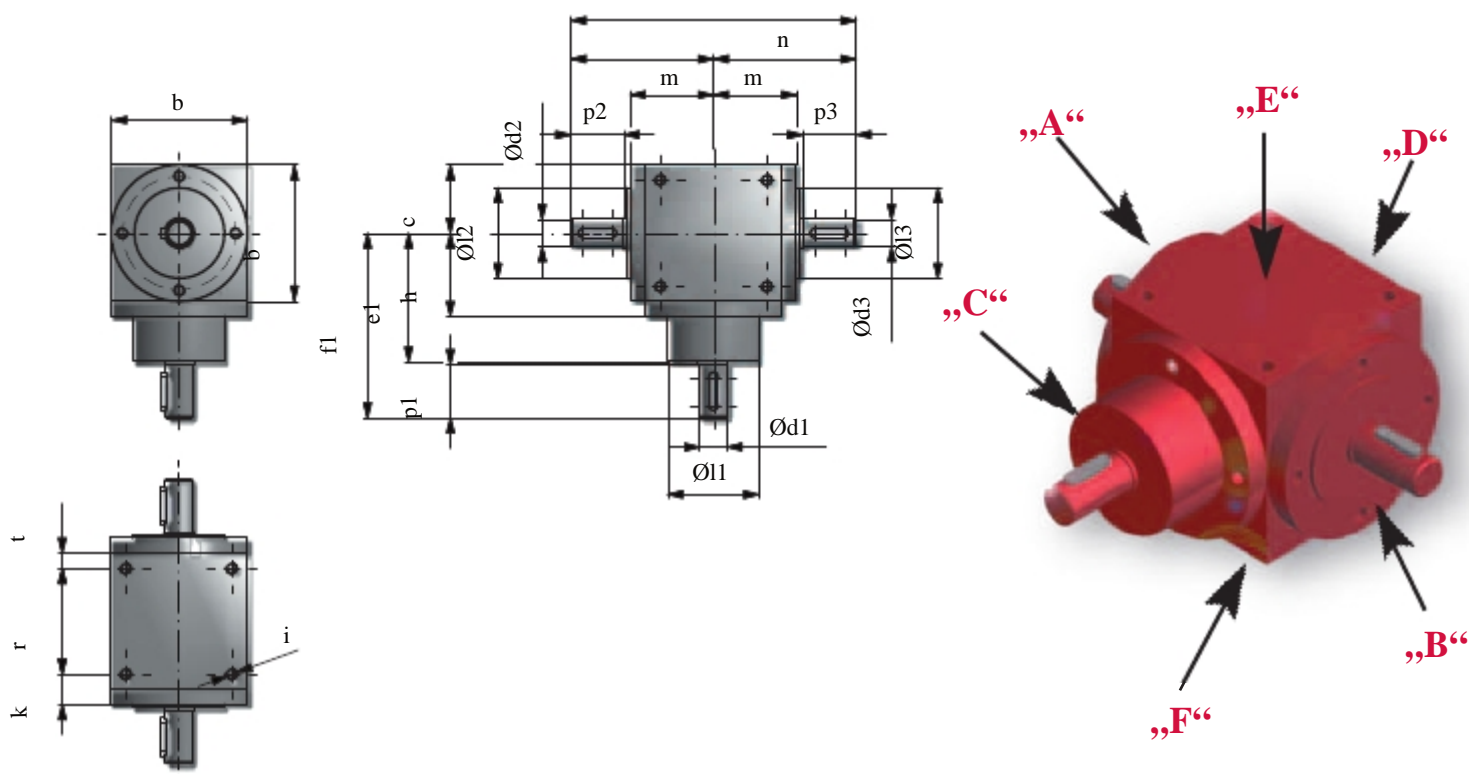
锥齿轮箱一般位于低速转轴的输出轴。

Shaft tolerances:

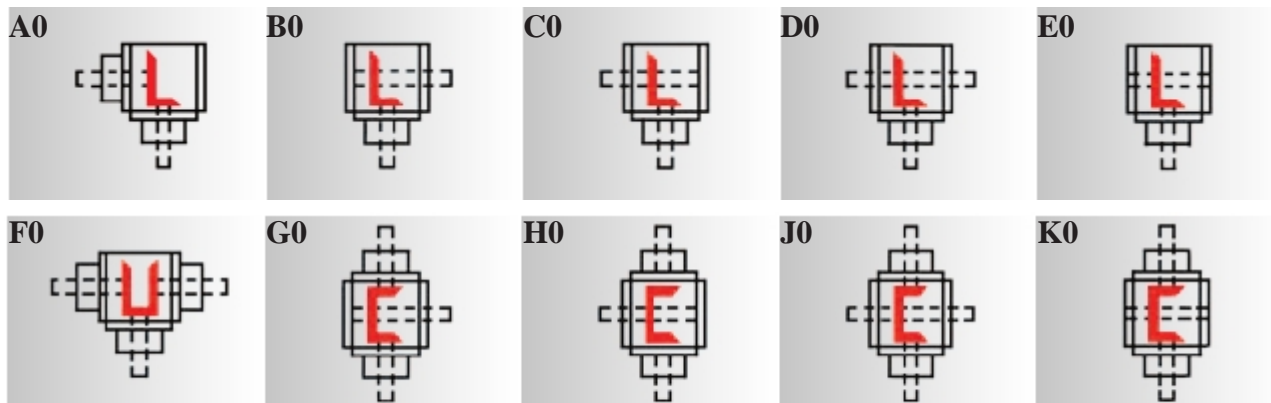
All shafts are toleranced to J6. Shaft centre tapped hole to DIN 332 Page 2. Keyways to DIN 6885 Page 1. Mounting holes on side A, B and C are standard. Additional tapped holes can be provided on side D, E and F or as required, please enquire. Depth of mounting holes = 2 x thread diameter or flange thickness.

V065, V090, V160, V200, V260

The bevel gear is normally located on the output shaft which is the slow running shaft.



配置 Type V/K / Configurations V/K



Index	a		b	c	d1 j6			d2 j6			d3 j6	e1			
	1:1	bis/ up to			1:1	3:1	4:1	5:1	1:1	bis/ up to		bis/ up to	bis/ up to	3:1	4:1
	5:1				5:1				5:1						
V065	144	65	32,5	12	–	–	–	12	12	72	–	–			
V090	190	90	45	18	12	12	12	18	18	85	85	95			
V120	244	120	60	25	20	20	15	25	25	115	115	125			
V160	320	160	80	35	28	24	24	35	35	150	150	170			
V200	406	200	100	42	35	35	28	42	42	190	190	190			
V260	530	260	130	60	45	45	45	60	60	265	265	265			

Index	f1		h	i	k	l1 r7			l2 r7		l3 r7	m	n		
	1:1	3:1				4:1	5:1	1:1	3:1	5:1				1:1	1:1
	1,5:1							1,5:1							
V065	100	–	–	–	42	M6	19,5	44	–	–	44	44	–	–	
V090	122	122	132	132	55	M8	20	60	60	60	60	60	55	95	
V120	162	162	172	162	75	M10	22	80	80	70	80	80	72	122	
V160	212	212	232	232	95	M12	35	110	100	100	110	110	95	160	
V200	273	261	261	261	120	M12	37	120	120	110	120	120	117	203	
V260	380	380	380	380	150	M16	40	160	160	160	160	180	150	285	

Index	p1		p2	p3	r	s	t		
	1:1	3:1						1:1	1:1
	1,5:1							4:1	5:1
V065	26	–	–	26	26	45	54	10	
V090	35	35	35	35	35	70	75	10	
V120	45	45	35	45	45	100	100	10	
V160	60	60	60	60	60	120	135	20	
V200	80	68	68	80	80	160	175	20	
V260	110	110	110	110	110	210	230	20	

Index	Paßfedergröße bei d1			Paßfedergröße bei d2 und d3					
	Size of key d1			Size of key d2 and d3					
	1:1	1,5:1	2:1	3:1	4:1	5:1	1:1	bis / up to	5:1
V065	4 x 20	–	–	–	–	–	4 x 20	–	–
V090	6 x 25	–	–	4 x 25	–	4 x 25	6 x 25	–	–
V120	8 x 36	–	–	6 x 36	–	5 x 25	8 x 36	–	–
V160	10 x 45	–	–	8 x 45	–	8 x 45	10 x 45	–	–
V200	12 x 60	–	–	10 x 45	–	8 x 45	12 x 60	–	–
V260	18 x 90	–	–	14 x 70	–	14 x 70	18 x 90	–	–

锥齿轮箱的选型与最大输入功率有关系

最大输入功率P1适用于减速传动比

Selection of bevel gearbox inline with maximum input power

Max input power P1 for reducing ratios

Index	Übersetzungsverhältnis Ratio	Drehzahl Speed							
		max. P1 in kW bei n ₁ in U/min				/ max. P1 in kW by n ₁ in rpm			
		50	250	500	750	1000	1500	2400	3000
V 065	1:1	0,10	0,47	0,83	1,07	1,32	1,82	2,65	3,31
	1,5:1	0,07	0,31	0,55	0,72	0,88	1,21	1,76	2,20
	2:1	0,05	0,23	0,41	0,54	0,66	0,91	1,32	1,65
	3:1	–	–	–	–	–	–	–	–
	4:1	–	–	–	–	–	–	–	–
	5:1	–	–	–	–	–	–	–	–
V 090	1:1	0,28	1,21	2,20	3,06	3,75	5,29	7,41	8,93
	1,5:1	0,16	0,74	1,36	1,93	2,35	3,20	4,59	5,51
	2:1	0,10	0,50	0,94	1,32	1,71	2,23	3,17	3,80
	3:1	0,07	0,33	0,63	0,88	1,14	1,49	2,12	2,54
	4:1	0,05	0,25	0,47	0,66	0,85	1,12	1,65	1,90
	5:1	0,04	0,20	0,37	0,53	0,68	0,89	1,32	1,52
V 120	1:1	0,72	3,39	6,34	8,51	10,14	13,56	18,52	21,82
	1,5:1	0,41	1,99	3,85	5,18	6,32	8,60	11,46	13,45
	2:1	0,29	1,35	2,54	3,55	4,46	6,03	8,07	9,26
	3:1	0,21	0,87	1,66	2,40	3,01	4,08	5,56	6,39
	4:1	0,12	0,60	1,16	1,69	2,18	3,06	4,43	4,96
	5:1	0,10	0,51	0,98	1,42	1,76	2,38	3,44	3,97
V 160	1:1	2,09	9,64	18,19	25,63	31,96	42,99	57,67	–
	1,5:1	1,29	6,07	11,56	16,26	20,59	27,78	36,15	40,78
	2:1	0,98	4,41	8,27	11,57	14,88	20,25	25,53	28,11
	3:1	0,57	2,56	4,79	6,89	8,99	12,68	17,81	20,94
	4:1	0,39	1,86	3,58	5,17	6,61	9,09	13,23	14,88
	5:1	0,32	1,49	2,76	3,97	4,96	7,11	10,48	11,90
V 200	1:1	4,13	19,56	34,17	45,88	56,21	74,40	–	–
	1,5:1	2,73	12,70	22,57	30,31	37,13	48,17	63,49	72,75
	2:1	2,07	9,37	16,81	22,32	27,56	35,13	45,24	51,25
	3:1	1,29	5,76	11,04	15,98	20,37	28,38	39,24	46,29
	4:1	0,80	3,79	7,23	10,54	13,36	18,81	26,45	28,93
	5:1	0,58	2,78	5,18	7,27	9,26	12,57	17,99	19,84
V 260	1:1	9,64	42,44	72,75	96,72	115,73	157,07	–	–
	1,5:1	6,18	27,43	47,72	64,48	77,19	104,71	158,72	189,58
	2:1	4,55	20,12	35,27	48,36	57,87	78,53	112,43	133,92
	3:1	2,55	11,16	20,43	28,93	36,34	49,60	72,39	85,97
	4:1	1,82	8,61	16,26	22,73	28,93	37,20	51,58	57,87
	5:1	1,47	7,11	13,23	18,19	21,82	29,10	40,21	46,29

折叠波纹管 FB

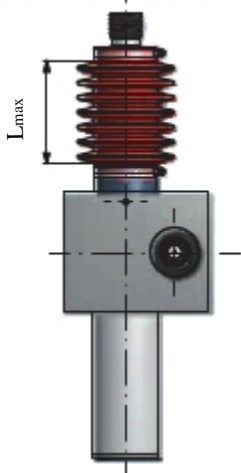
Folding bellows FB

GROB

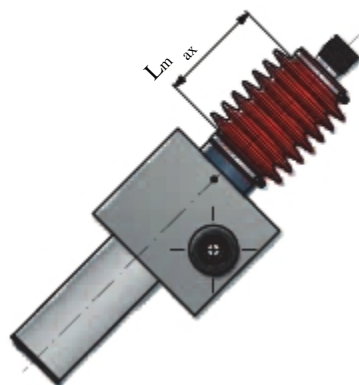
材料 Material	FBE-70 Polyester	FBE-100 Polyester	FBE-80 Polyamid	FBE-CSM Gummifolie Rubber sheeting	FBE-CR Gummigewebe Rubber fabric	FBE-ALU ALU-Glasfaser ALU-Glass fiber	FBE-PVC Weich-PVC Soft-PVC
设计 Design	Vieleckfaltung Polygonal folding	Vieleckfaltung Polygonal folding	Rund genäht Sewn round	Rund Round	Rund Round	Rund genäht Sewn round	Rund getaucht Round formed
温度范围 Temperature range	-15° bis/to 70°	-15° bis/to 100°	-40° bis/to 80°	-28° bis/to 110°	-38° bis/to 100°	-20° bis/to 200°	-15° bis/to 70°
防尘的 dustproof	++	++	++	++	++	++	
防水的 Waterproof	++	++	+	++	-	++	
耐油的 oil-resistant	++2	++	+	++	-	++	
耐化学腐蚀的 chemical-resistant	-	+	-	-	++1	-	+
抗火花的 spark-resistant	-	-	-	-	-	++	-
heiße Späne	-	-	-	-	-	++	-

+ 有条件的
 ++ 有抵抗力的
 ++ 1 仅在涂特氟龙时
 ++ 2 仅在带合成机油和内侧涂层时

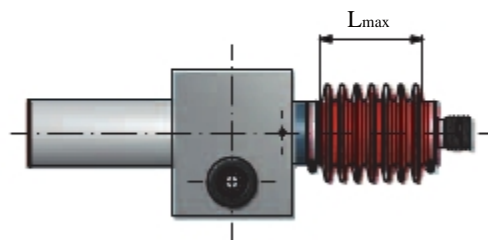
+ conditional only
 ++ resistant
 ++ 1 only if Teflon-coated
 ++ 2 with synthetic oil, with innerl coating only



垂直 / Vertical



斜的/Diagonal



水平/Horizontal

$L_{max} > 1000 \text{ mm}$



伸长锁定 / EXTENSION LOCK

$L_{max} > 1000 \text{ mm}$

⇒ 支承环

$L_{max} > 1000 \text{ mm}$

⇒ SUPPORTING RINGS

$L_{max} > 400 \text{ mm}$

⇒ 支承环

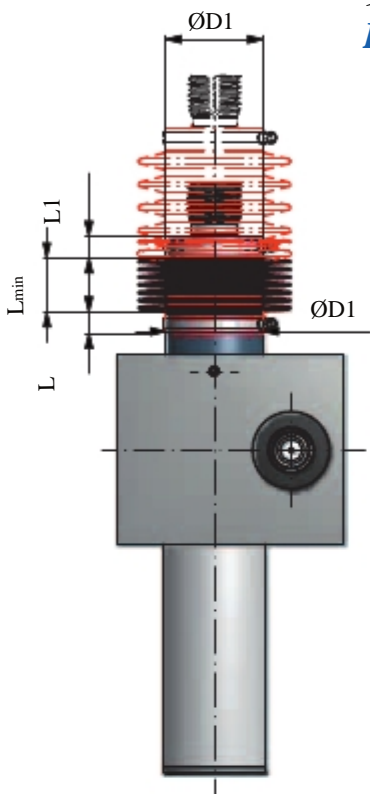
$L_{max} > 400 \text{ mm}$

⇒ SUPPORTING RINGS

安装 = 两端用镀锌联接螺旋夹固定，也可选用不锈钢材质 (V2A)

Mounting = Both sides are secured with galvanzied jubilee clips, optionally stainless steel (V2A).

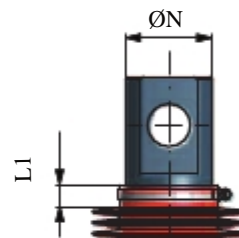
头部 GE
End GE



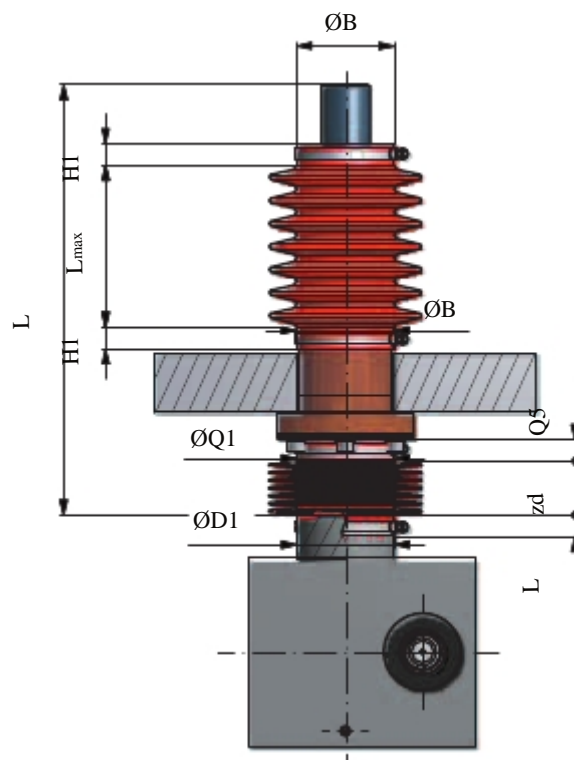
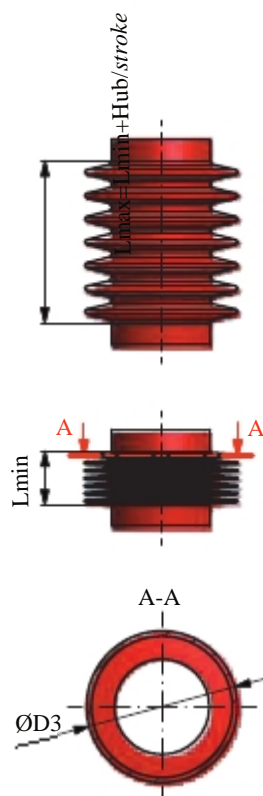
头部 FP
End FP



头部 GS
End GS



Index	MJ0 / MJ1					MJ2			MJ3			MJ4			MJ5	BJ1	BJ2	BJ3	BJ4	BJ5		
行程 ¹⁾	80	200	140	175	215	230	340	150	250	350	235	400	630	285	350	510	390	-	-	-	-	-
壳体连接 / Housing connection																						
ØD1	30					39			46			60			85	90	105	120	-	-		
L	10	20	15	15	10	8	10	8	11	10	12	14	20	20	20	40	20	-	-	-	-	-
丝杆头 / Spindle end																						
端部 FP (安装法兰) / End FP (Mounting flange)																						
ØD	30					39			46			60			85	90	105	120	-	-		
H	10	20	15	15	10	8	10	8	11	10	12	14	20	20	20	40	20	-	-	-	-	-
头部 Z / GE (螺纹) / End Z / GE (Threaded)																						
ØD1	30					39			46			60			85	90	105	120	-	-		
头部GS (Gelenkstück) / End GS (Male clevis)																						
ØN	30					39			46			60			75	80	105	120	-	-		
L1	10	20	15	15	10	8	10	8	11	10	12	14	20	20	20	40	20	-	-	-	-	-
最小-L _{min2} / Minimum-L _{min2}																						
	30	100	40	40	95	50	80	20	35	70	45	100	120	75	50	90	90	-	-	-	-	-
最大-L _{max} ²⁾ / Maximum-L _{max}																						
	110	300	180	215	310	280	420	170	285	420	280	500	750	360	400	600	480	-	-	-	-	-
折叠波纹管尺寸 / Folding bellows dimensions																						
ØD3	52	52	61	61	56	60	80	90	94	90			94	96	116	119	141	181	166	-	-	



¹⁾ 其它行程可按要求提供。
²⁾ 其它行程尺寸会有变化。
 丝杆伸出部分，尺寸“T”（14/15页）需要考虑在内。

¹⁾ Other strokes upon request.
²⁾ Dimensions vary for other strokes!
 Spindle extension, dimension „T“
 (Page 14/15) will need to be considered.

Index	MJ0 / MJ1					MJ2		MJ3			MJ4			MJ5	BJ1	BJ2	BJ3	BJ4	BJ5
HUB ¹⁾	80	200	140	175	215	230	340	150	250	350	235	400	630	285	350	510	390	-	-
壳体连接 / Housing connection																			
ØD1	30					39		46			60			85	90	105	120	-	-
L	10	20	15	15	10	8	10	8	11	10	12	14	20	20	20	40	20	-	-
运动螺母连接 / Travelling nut connection																			
ØQ1	30					30		40			60			70	85	95	105	-	-
Q5	10	20	15	15	10	8	10	8		11	10	12	14	20	20	40	20	-	-
用户连接 / Customer connection																			
ØB	30					30		40			60			70	85	95	105	-	-
H1	10	20	15	15	10	8	10	8	11	10	12	14	20	20	20	40	20	-	-
最小-L _{min} / Minimum-L _{min} ²⁾																			
	80	200	140	175	215	230	340	150	250	350	235	400	630	285	350	510	390	-	-
最大-L _{max} ²⁾ / Maximum-L _{max2)}																			
	110	300	180	215	310	280	420	170	285	420	280	500	750	360	400	600	480	-	-
折叠波纹管 (热塑性塑料) / Folding bellows dimensions (thermoplastic)																			
ØD3	52	52	61	61	56	60	80	90	94	90	94	96	116	119	141	181	166	-	-

螺纹保护套保护梯形和滚珠丝杆，以免灰尘进入，降低丝杆遭受意外的风险。保护套由硬化高等级弹簧钢制成。也可提供不锈钢保护套。可向我们咨询。

如果垂直安装，推荐较大直径装在上部。如水平安装，保护套应装在有污染物的方向。

保护套免维护。不过应取决于污染物的量。推荐保护套定期清理，并稍微上点油。

订购时，请说明保护套是垂直安装还是水平安装的。

安装保护套时需用到一个导向罩。这不在我们标准发货清单中，但有备选提供。请向我们咨询。

说明:

Di = SF-最小直径
Da = SF-外径
Df1 = 柱塞外径
Df2 = 柱塞内径
Lmin = 最短长度
Lmax = 最长长度
Hub = 最长可能行程

Spiral protective sleeves protect trapezoidal and ballscrew spindles from dirt and reduce the risk of accidents. They are made from hardened, high grade spring steel. Stainless steel is available as an option. Please enquire.

For vertical installations, it is recommended that the larger diameter is at the top. For horizontal applications, the protective sleeve should be in the direction of the contamination.

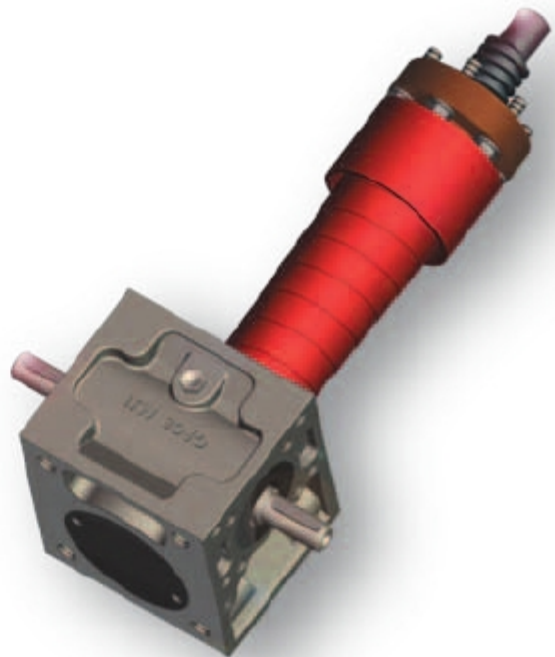
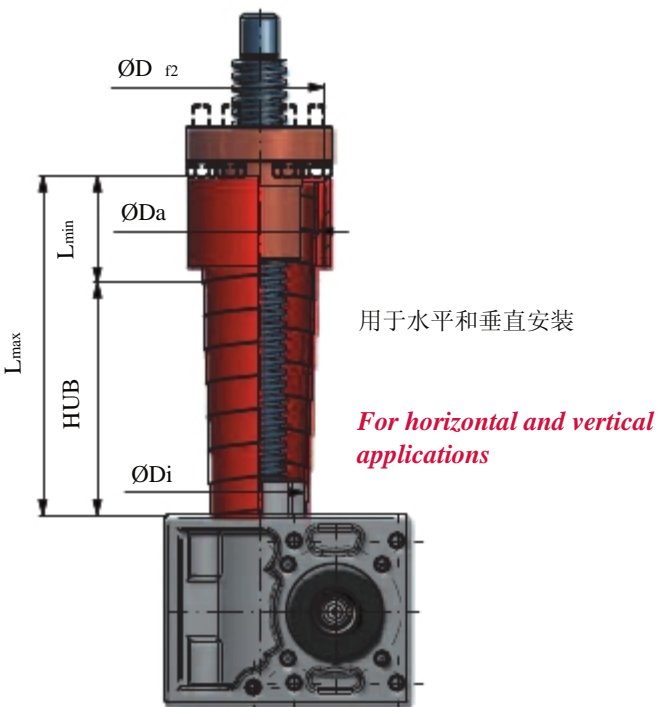
The protective sleeves are maintenance-free. Nonetheless, depending on the amount of contamination, it is recommended that the protective sleeves are cleaned regularly and then lightly coated with oil.

When ordering, please state whether the protective sleeves will be mounted horizontally or vertically.

A guide cover should be used to install the sleeve. This is not part of our standard delivery program but is available as an option. Please enquire.

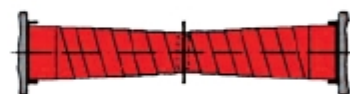
Legend:

Di = SF-smallest diameter
Da = SF-outside diameter
Df1 = Outside diameter of spigot
Df2 = Inside diameter of guide cover
Lmin = Shortest length
Lmax = Maximum length
Stroke = Longest possible stroke



Index	Da +/- 2 mm	D r2	Lmax horizontal
螺旋升降机MJ1			
<i>Screw jack MJ1</i>			
(D _{ri} = 29 mm)			
SF 30/150/30	39	43	90
250	44	48	190
350	49	53	290
SF 30/450/40	53	57	370
550	58	62	470
SF 30/650/50	55	59	550
750	59	63	650
螺旋升降机MJ2			
<i>Screw jack MJ2</i>			
(D _{ri} = 38 mm)			
SF 40/150/30	51	55	90
250	56	60	190
350	60	64	290
SF 40/350/50	55	59	250
450	58	62	350
550	61	65	450
650	65	69	550
750	69	73	650
SF 40/450/60	55	59	330
550	58	62	430
650	62	66	530
750	66	70	630
900	70	74	780
SF 40/650/75	62	66	500
750	66	70	600
900	72	76	750
1100	78	82	950
1300	84	88	1150
1500	90	94	-
SF 40/1000/100	66	70	800
1200	70	74	1000
1500	78	82	1300
1800	82	86	-
SF 40/1800/120	82	86	1560
2000	86	90	1760
2200	91	95	-
螺旋升降机MJ3			
<i>Screw jack MJ3</i>			
(D _{ri} = 46 mm)			
SF 50/150/30	63	67	90
250	68	72	190
SF 50/250/50	62	66	150
350	66	70	250
450	70	74	350
550	73	77	450
SF 50/550/60	68	72	430
650	72	76	530
750	76	80	630
SF 50/750/75	78	82	600
900	84	88	750
1100	90	94	950
SF 50/1100/100	75	79	900
1300	79	83	1100
1500	86	90	1300
1800	94	98	-
螺旋升降机MJ3			
<i>Screw jack MJ3</i>			
(D _{ri} = 46 mm)			
SF 50/1700/120	91	95	1460
1900	95	99	1660
2100	100	104	1860
2300	105	109	-
2500	111	115	-
2800	118	122	-
SF 50/2800/150	118	122	2500
3000	123	127	-
SF 50/3000/180	123	127	2640
3250	128	132	-
SF 50/3250/200	128	132	2850
3500	134	138	-

Index	Da +/- 2 mm	D r2	Lmax horizontal
螺旋升降机MJ4			
<i>Screw jack MJ4</i>			
(D _{ri} = 60mm)			
SF 65/150/30	78	82	90
250	85	89	190
SF 65/250/50	76	80	150
350	83	87	250
450	88	92	350
SF 65/550/60	88	92	430
650	92	96	530
750	95	99	630
SF 65/750/75	93	97	600
900	99	103	750
1100	107	111	950
SF 65/1100/100	95	99	900
1300	99	103	1100
1500	108	112	1300
1800	117	121	-
SF 65/1700/120	106	110	1460
1900	109	113	1660
2100	113	117	1860
2300	118	122	2060
2500	123	127	-
2800	128	132	-
SF 65/2800/150	132	136	2500
3000	142	146	-
SF 65/3000/180	136	140	2640
3250	145	149	-
SF 65/3250/200	138	142	2850
3500	148	152	-



水平安装。二个螺纹保护套位于相反方向，仅在客户有要求时提供。

Horizontal installation. Two spiral protective sleeves in opposite directions. Only available upon request.

螺纹保护套订购编号:

Ordering code for spiral sleeves:

SF Di/Lmax/Lmin

螺纹保护套订购编号:

除表中列出的型号外，我们还可以提供尺寸最大为Di=120mm的大型螺纹保护套。按用户要求定制以及不锈钢都可提供。请向我方咨询。

重要提示：水平安装和垂直安装的螺纹保护套是不一样的，请在下单同时说明安装位置。

Ordering code for spiral protective sleeves:

Additionally to the types listed, we can also supply protective sleeves up to Di = 120mm. Larger and customized types and stainless steel options are available. Please enquire.

Important note: Horizontal and vertical assemblies differ from each other, please state installation position at time of ordering.

S 丝杆螺距	Ph	[mm]	<i>Spindle pitch</i>
名义直径	d	[mm]	<i>Nominal diameter</i>
螺纹中径	d₂		<i>Pitch diameter</i>
			$d_2 = d - 0,5 \cdot P_h$
提升速度	v	[m/min]	<i>Lifting speed</i>
			$v = n_1 \cdot \frac{P_h}{i}$
时间	t	[s]	<i>Time</i>
加速度	a	[m/s ²]	<i>Acceleration</i>
			$a = \frac{v}{(60 \cdot t)}$
负载周期编号	As		<i>Number of load cycles</i>
工作周期	ED	[%/h]	<i>Duty cycle</i>
			$ED = \left[\frac{Weg \cdot As}{(60 \cdot v)} \right] \cdot 100\%$
静载荷能力	CO	[kN]	<i>Static load capacity</i>
			<i>siehe Seite 57 - 59</i>
动载荷能力	C	[kN]	<i>Dynamic load capacity</i>
			<i>siehe Seite 57 - 59</i>
静轴向力 (= 保持力)	F_{stat}	[kN]	<i>Static axial force (= retention force)</i>
动轴向力 (= 提升力)	F_{dyn}	[kN]	<i>Dynamic axial force (= lifting force)</i>
行程/ 回转	HU	[mm]	<i>Stroke/ revolution</i>
			$HU = \frac{P_h}{i}$
使用寿命	L_h	[h]	<i>Service life</i>
			$L_h = \left(\frac{C}{F_{dyn}} \right)^3 \cdot \frac{10^6}{(n_2 \cdot 60)}$
输入速度	n₁	[]	<i>Input speed</i>
输出速度	n₂		<i>Output speed</i>
			$n_2 = \frac{n_1}{i}$
速比	i		<i>Ratio</i>
空转扭矩	M_L	[Nm]	<i>Idling torque</i>
升降机扭矩	M₁	[Nm]	<i>Torque per screw jack</i>
			$M_1 = \frac{F_d}{2 \cdot \pi \cdot \eta_H} \cdot \left(\frac{P_h}{i} \right) + M_L$
输入扭矩	T₁		<i>Input torque</i>
			$T_1 = P \cdot \frac{9550}{n_1}$
输出扭矩 (= 丝杆扭矩)	T₂	[Nm]	<i>Output torque (= spindle torque)</i>
			$T_2 = F_{dyn} \cdot 1000 \cdot \frac{d_2}{2} \cdot \tan(\varphi \pm \rho)$
启动扭矩	T_A	[Nm]	<i>Starting torque</i>
功率	P	[kW]	<i>Power</i>
			$P = F_{dyn} \cdot \frac{v}{(60 \cdot \eta_{HE})}$
Z 许用表面压力	p_{zul}	[N/mm ²]	<i>Permitted surface compression</i>
表面压力 X 运转速度	p_v-wert	N / mm ² * m/min	<i>Surface compression x running speed</i>
升降机系统总效率	η_{al}		<i>Overall jack system efficiency</i>
升降机效率	η_{HE}		<i>Screw jack efficiency</i>

siehe Seite 6/7

螺纹升角

停运自锁*: $2,4^\circ < \phi < 4,5^\circ$

运转自锁: $\phi < 2,4^\circ$

无锁: $\phi > 4,5^\circ$

ϕ (1) [°]

Lead angle

Self-locking at standstill*: $2,4^\circ < \phi < 4,5^\circ$

(Self-locking during operation: $\phi < 2,4^\circ$)

No self-locking: $\phi > 4,5^\circ$

$$f = \tan^{-1} \left[\frac{Ph}{(d_2 \cdot \pi)} \right]$$

螺纹角, 动摩擦角

ρ [Nm]

thread angle, dynamic friction angle

~ 6°

Motorbremse

螺纹升角 f 1) Lead angle	符合以下标准 Conforming to Standards	制动 2) Brake
$f < 2,5^\circ$	DIN EN 1570:1998 DIN EN 1495:1997 DIN EN 280:2001	不带制动/ no brake
$2,4^\circ < f < 4,5^\circ$		单刹车 / single brake
$f > 4,5^\circ$		2 个独立制动系统 2 independent braking systems

1) 振动和优化滑动属性可影响自锁性能, 所以上述值不能保证。我们建议采用带制动的电机。

1) Vibration and optimized sliding properties can affect self-locking and therefore the values cannot be guaranteed. We recommend that a brake motor is used.

2) 假如传动系统的所有元件都按额定转矩的二倍计算, 则符合DIN EN 56950标准 (Veranstaltungstechnik)不是绝对必要的。

2) Conforming to DIN EN 56950 (Entertainment Technology) is not absolutely essential, provided that all elements of the drive system are calculated for double the nominal torque.

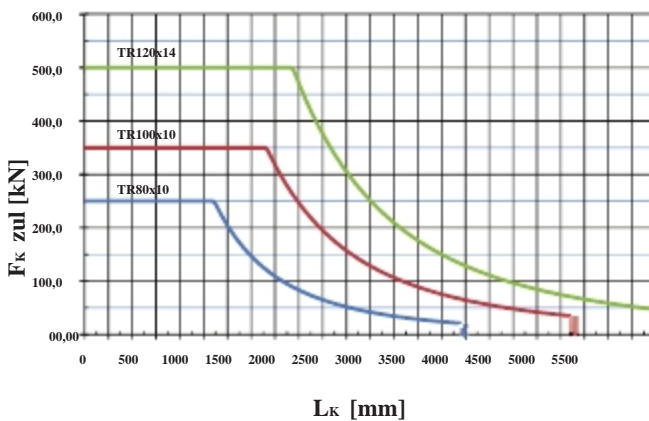
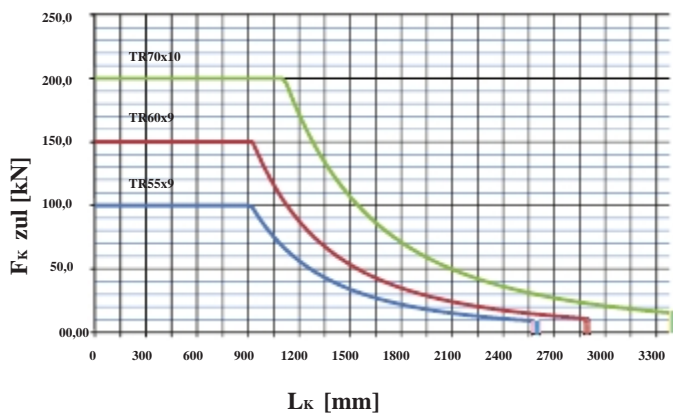
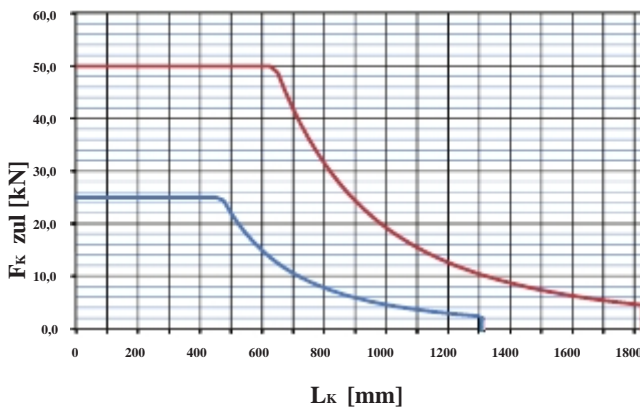
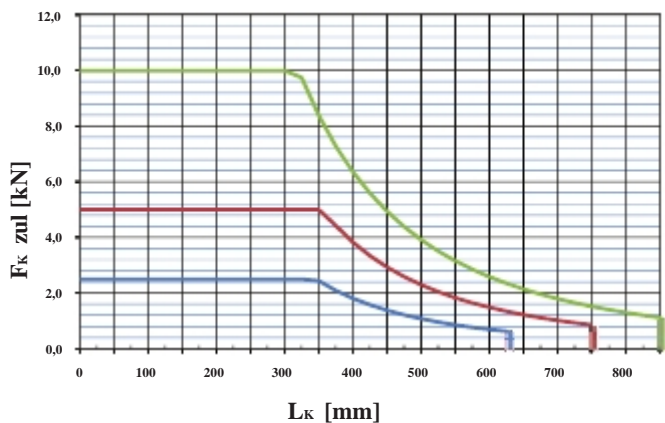
环境温度

如环境温度高于+20° C, 工作周期应按下表相应减少。

Ambient temperature

For ambient temperatures higher than 20 ° C, the duty cycle must be reduced inline with the table below.

环境温度 ° C	50	60	70	80	Ambient temperature ° C
最大可能 ED in %小时.	18	15	10	5	Max possible ED in %hour
最在可能 ED in %10 分钟.	27	22	15	8	Max possible ED in %10min



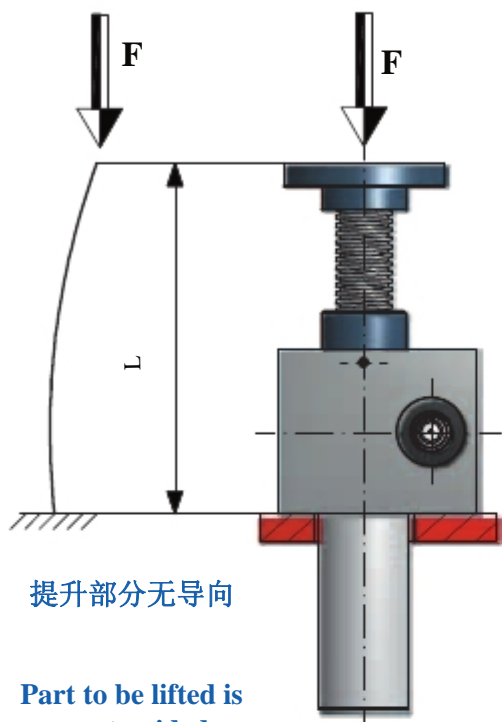
丝杆预选对应Roloff/Matek屈曲图。

临界情况选择请咨询我们。

Buckling diagrams for the preselection of spindles to Roloff/Matek.

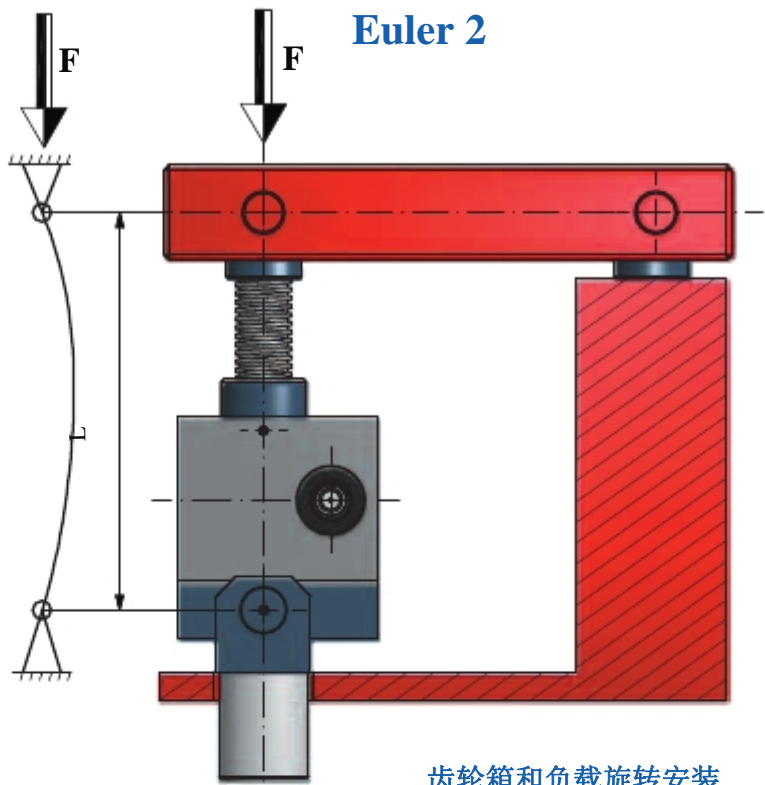
Please refer borderline cases to us for selection.

Euler 1



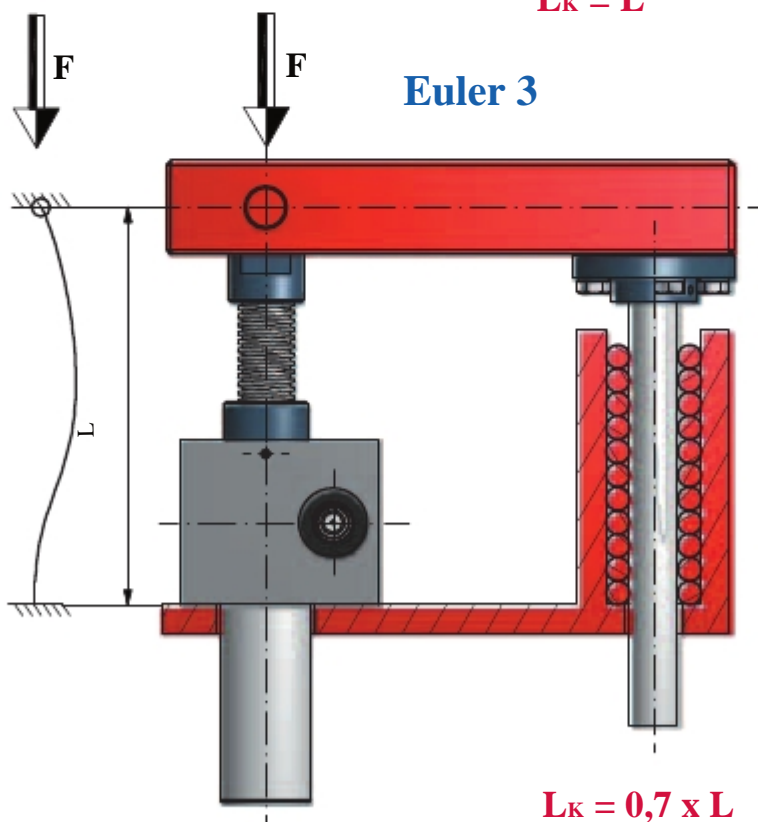
$L_K = 2 \times L$

Euler 2



$L_K = L$

Euler 3



$L_K = 0,7 \times L$

轴向间隙 „x“

轴向间隙在负载类型变化（拉伸/压缩）时产生。
轴向间隙影响定位精度

梯形/锯齿形螺纹丝杆

按升降机规格不同，轴向间隙一般在

0,1 mm < x < 0,3 mm 之间。

如有需求，可通过重新设计减轴向间隙，但最小不超过0.05mm。

如有要求，也可提供可调轴向间隙。

滚珠丝杆

按升降机规格不同，轴向间隙一般在

0,03 mm < x < 0,05 mm。

通过滚珠分类预加张力轴向间隙可控制在

0,01 mm < x < 0,03 mm。

通过预加张斩双螺母可使轴向间隙 x < 0,01 mm。

Axial play „x“

Axial play occurs when the type of load is alternated (tensile / compressive). The axial play influences the positioning accuracy.

Trapezoidal / Buttress-thread spindle

The axial play lies between 0,1 mm < x < 0,3 mm depending on the screw jack size.

Designs with reduced axial play (min 0.05mm) are available upon request.

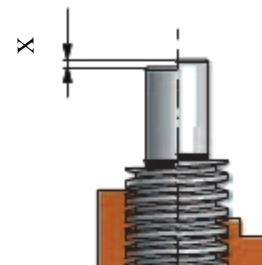
Special designs with adjustable axial play are also available upon request.

Ballscrew spindle

The axial play lies between 0,03 mm < x < 0,05 mm depending on the screw jack size.

Pre-tensioning via ball assortment 0,01 mm < x < 0,03 mm.

Pre-tensioned double nut x < 0,01 mm.



横向游隙 „y“

横向游隙只有在基本型升降机(G)才会发生，存在于丝杆和导向环之间。

游隙值 „y“ 随着行程长度的变化而变化。

游隙值 „y“ 可通过再增加一只导向环的方式来减少。

Lateral play „y“

Lateral play occurs only in the basic design (G) as a result of play between the spindle and the guide ring.

The amount of play „y“ varies according to the stroke length.

The amount of play „y“ can be reduced by means of a second guide ring.



齿形间隙

新升降机齿形间隙为0.1 - 0.3 mm。这个值会在使用寿命内随着磨损程度而变化。

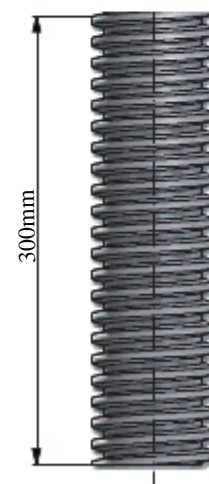
Tooth profile play

The tooth profile play when new is 0.1 - 0.3mm. This changes during service life dependent on wear.

螺纹精度

	滚制 rolled	车制 whirled	磨制 ground
T梯形螺纹丝杆符合 DIN 103 T1标准 Trapezoidal spindle to DIN 103 T1 锯齿形螺纹丝杆符合DIN 513标准 Buttress threaded spindle to DIN 513	± 0,1mm	± 0,05mm	-
滚珠丝杆符合 DIN 68051 T3标准 Ballscrew spindle to DIN 68051 T3	T10 ± 0,21mm T9 ± 0,1mm	T7 ± 0,052mm	T7 ± 0,052mm T6 ± 0,023mm T3 ± 0,012mm

Thread accuracy





我们的吉祥物 Our mascot

本公司保留部分产能用于急单制作。

Our company reserves production capacity for urgent requirements.

我们有能力在短时间内交付很多产品。

We are able to deliver many products at short notice.

这项服务不是免费的。

This service however is not free of charge.

当采用我方快速服务时，建议自己安排运输。也可采用我方正常运输方式，我方再向贵司收费。费用如下：

We recommend that you arrange your own transport when using our express service. Alternatively we can use our normal shipping methods and recharge the costs. The following surcharges apply: -

高级快速服务

Premium Express Service

增加50%的附加费可在2个工作日内发货

Despatch availability within 2 working days at a 50% surcharge

快速服务

Express Service

增加25%的附加费可在5个工作日内发货

Despatch availability within 5 working days at a 25% surcharge

高级快速服务 50% 附加费

这项费用计算如下：—

下单日期最多加上二个工作日*。

我方不能在规定时间内交付，

则只收25%的附加费。

Premium Express 50% Surcharge

This is calculated as follows: -

Day of order plus max 2 working days.*

Should we fail to meet our target set out below, we will only apply a 25% surcharge.

25%快速服务附加费

这项费用计算如下：—

下单日期最多加上五个工作日*。

订单必须在10:00前下达，超过这个时间则被视为下一个

工作日下单。

Express 25% Surcharge

This is calculated as follows: -

Day of order plus max 5 working days.*

The order must be received by 10:00 hours. Orders placed after this time will be classed as received on the following working day.

举例:高级快速服务

周五11:00收到订单等同于下周一10:00前收到订单。通知周三下午16:00前取货/发货就达到了承诺的目标，收取50%的附加费。通知周四发货就意味着附加费下降到25%。如果我们不能在下周一通知发货不收取任何附加费。

上述目标只适用于正常生产流程，不适用于假期和/或圣诞/新年期间。上述情况下，目标交货期相应顺延。请咨询我们。

交货期应从技术问题澄清和/或收到无问题的材料开始计算。

同样也适用于订单修改。目标交货期将会重新设定在规定时间内通知交货被认为是符合交货期的。

Example: Premium Express Service

Receipt of order Friday 11:00 hours equates to receipt of order Monday before 10:00 hours Notification that order is available for collection/despatch Wednesday 16:00 hours The target has been met, therefore the 50% surcharge will be applied. Notification of despatch availability on Thursday means the surcharge is downgraded to 25%. No surcharge will be applied should we fail to meet the subsequent target of notification by Monday of the following week.

The stated targets are subject to normal production flows and do not apply during holiday and/or Christmas/ New Year periods. The targets are extended accordingly without invalidating the surcharge. Please ask.

The lead time starts upon any clarification of technical details and/or receipt of any free-issue material.

The same applies in cases of order amendments. The target will be reset and deemed as met upon notification of despatch availability within the specified time.

*订单指定在某个工作日结束时取货/发货也是可行的。

* The order is available for collection/despatch at the end of the particular working day

这里的数据适用于基本型单启动丝杆以及10%/小时工作制下的升降机。螺母运动型的数值可以高些。我们很高兴可以给你们提供建议。

The stated data applies for screw jacks in basic design with single start spindles and a 10%/hour duty cycle. The values can be higher for the travelling nut version. We will be pleased to advise you.

条件: 20% 运转时间/60 分钟; 20° C 环境温度

Conditions: 20% running time/60 minutes; 20° C ambient temperature

MJ0 丝杆 TR16x4

n [1/min]	Hubgeschw. (m/min)		F = 2,5 [kN]		F=2 [kN]		F = 1,5 [kN]		F=1 [kN]		F = 0,5 [kN]	
			N	L	N	L	N	L	N	L	N	L
			1,15Nm	0,37Nm	0,94Nm	0,31Nm	0,73Nm	0,26Nm	0,52Nm	0,21Nm	0,31Nm	0,15Nm
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	
1500	1,500	0,300	-	-	-	0,05	0,11	0,04	0,08	0,03	0,05	0,02
1000	1,000	0,200	-	0,04	0,10	0,03	0,08	0,03	0,05	0,02	0,03	0,02
750	0,750	0,150	0,09	0,03	0,07	0,02	0,06	0,02	0,04	0,02	0,02	0,01
500	0,500	0,100	0,06	0,02	0,05	0,02	0,04	0,01	0,03	0,01	0,02	0,01
100	0,100	0,020	0,01	0,01	0,01	0,01	0,01	0,01	0,01	0,01	0,00	0,01

MJ1 丝杆 TR18x4

n [1/min]	Hubgeschw. (m/min)		F=5 [kN]		F=4 [kN]		F=3 [kN]		F=2 [kN]		F=1 [kN]	
			N	L	N	L	N	L	N	L	N	L
			3,10Nm	1,20Nm	2,30Nm	0,80Nm	1,80Nm	0,70Nm	1,20Nm	0,50Nm	0,60Nm	0,20Nm
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	
1500	1,500	0,375	-	-	-	-	0,28	0,11	0,19	0,08	0,09	0,03
1000	1,000	0,250	-	-	0,24	0,08	0,19	0,07	0,13	0,05	0,06	0,02
750	0,750	0,187	0,24	0,09	0,18	0,07	0,14	0,05	0,09	0,04	0,05	0,02
500	0,500	0,125	0,16	0,06	0,12	0,05	0,10	0,04	0,07	0,03	0,03	0,01
100	0,100	0,025	0,03	0,01	0,03	0,01	0,02	0,01	0,01	0,01	0,01	0,01

MJ2 丝杆 TR20x4

n [1/min]	Hubgeschw. (m/min)		F = 10 [kN]		F=8 [kN]		F=5 [kN]		F=3 [kN]		F=2 [kN]	
			N	L	N	L	N	L	N	L	N	L
			6,30Nm	2,40Nm	5,20Nm	1,80Nm	3,20Nm	1,20Nm	1,80Nm	0,70Nm	1,50Nm	0,50Nm
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	
1500	1,500	0,375	-	-	-	-	-	-	0,28	0,11	0,24	0,08
1000	1,000	0,250	-	-	-	-	-	-	0,19	0,07	0,16	0,05
750	0,750	0,187	-	-	-	-	0,25	0,09	0,15	0,05	0,12	0,04
500	0,500	0,125	0,33	0,13	0,27	0,09	0,17	0,07	0,10	0,04	0,08	0,03
100	0,100	0,025	0,07	0,03	0,06	0,02	0,03	0,01	0,02	0,01	0,02	0,01

MJ3 丝杆 TR30x6

n [1/min]	Hubgeschw. (m/min)		F = 25 [kN]		F = 20 [kN]		F = 15 [kN]		F = 10 [kN]		F = 5 [kN]	
			N	L	N	L	N	L	N	L	N	L
			15,30Nm	5,30Nm	12,20Nm	4,30Nm	9,30Nm	3,40Nm	6,20Nm	2,20Nm	3,30Nm	1,40Nm
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	
1500	1,500	0,375	-	-	-	-	-	-	0,94	0,31	0,47	0,17
1000	1,000	0,250	-	-	-	-	0,94	0,34	0,63	0,21	0,31	0,12
750	0,750	0,187	-	-	0,95	0,33	0,71	0,26	0,47	0,16	0,24	0,09
500	0,500	0,125	-	-	0,64	0,23	0,48	0,17	0,32	0,11	0,17	0,07
100	0,100	0,025	0,16	0,06	0,13	0,05	0,10	0,04	0,06	0,02	0,03	0,01

MJ4 丝杆 TR40x7

n [1/min]	Hubgeschw. (m/min)		F = 50 [kN]		F = 40 [kN]		F = 30 [kN]		F = 20 [kN]		F = 10 [kN]	
			N	L	N	L	N	L	N	L	N	L
			31,20Nm	10,20Nm	29,20Nm	10,20Nm	19,70Nm	7,30Nm	13,20Nm	4,70Nm	9,30Nm	3,00Nm
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	
1500	1,500	0,375	-	-	-	-	-	-	-	-	1,41	0,44
1000	1,000	0,250	-	-	-	-	-	-	1,36	0,47	0,95	0,29
750	0,750	0,187	-	-	-	-	1,54	0,56	1,03	0,36	0,71	0,23
500	0,500	0,125	-	-	1,52	0,53	1,03	0,38	0,69	0,24	0,48	0,15
100	0,100	0,025	0,36	0,14	0,31	0,11	0,21	0,08	0,14	0,05	0,10	0,03

MJ5 丝杆 TR55x9

n [1/min]	Hubgeschw. (m/min)		F = 100 [kN]		F = 90 [kN]		F = 80 [kN]		F = 70 [kN]		F = 50 [kN]	
			N	L	N	L	N	L	N	L	N	L
			84,70Nm	30,00Nm	73,70Nm	25,80Nm	65,50Nm	22,60Nm	55,40Nm	20,40Nm	39,30Nm	13,30Nm
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	
1500	1,500	0,375	-	-	-	-	-	-	8,64	3,14	6,13	2,04
1000	1,000	0,250	-	-	-	-	-	-	5,76	2,09	4,08	1,36
750	0,750	0,187	-	-	-	-	5,10	-	4,34	1,59	3,07	1,03
500	0,500	0,125	-	-	3,84	-	3,42	1,18	2,89	1,06	2,05	0,69
100	0,100	0,025	0,89	0,31	0,77	0,27	0,69	0,24	0,58	0,21	0,41	0,14

BJ1 丝杆 TR60x9

n [1/min]	Hubgeschw. (m/min)		F = 150 [kN]		F = 120 [kN]		F = 100 [kN]		F = 70 [kN]		F = 50 [kN]	
			N	L	N	L	N	L	N	L	N	L
			120,50Nm		93,50Nm	30,90Nm	82,10Nm	27,70Nm	59,80Nm	20,20Nm	43,80Nm	13,80Nm
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	
1500	1,500	0,375	-	-	-	-	-	-	9,27	3,06	6,75	2,04
1000	1,000	0,250	-	-	-	-	-	-	6,20	2,06	4,52	1,38
750	0,750	0,187	-	-	-	-	6,42	-	4,66	1,56	3,41	1,05
500	0,500	0,125	-	-	4,88	-	4,29	1,44	3,12	1,05	2,28	0,71
100	0,100	0,025	1,26	-	0,98	0,32	0,86	0,29	0,63	0,21	0,46	0,14

BJ2 丝杆 TR70x10

n [1/min]	Hubgeschw. (m/min)		F = 200 [kN]		F = 150 [kN]		F = 100 [kN]		F = 75 [kN]		F = 50 [kN]	
			N	L	N	L	N	L	N	L	N	L
	N	L	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
1500	1,500	0,375	-	-	-	-	-	-	10,21	3,46	6,60	2,12
1000	1,000	0,250	-	-	-	-	9,18	-	6,83	2,32	4,42	1,43
750	0,750	0,187	-	-	-	-	6,90	2,30	5,14	1,76	3,34	1,09
500	0,500	0,125	-	-	7,35	2,46	4,61	1,54	3,43	1,18	2,24	0,73
100	0,100	0,025	-	-	1,47	0,49	0,92	0,31	0,69	0,24	0,45	0,15

BJ3 丝杆 TR80x10

n [1/min]	Hubgeschw. (m/min)		F = 250 [kN]		F = 200 [kN]		F = 150 [kN]		F = 100 [kN]		F = 50 [kN]	
			N	L	N	L	N	L	N	L	N	L
	N	L	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
1500	1,500	0,375	-	-	-	-	-	-	-	-	6,91	2,36
1000	1,000	0,250	-	-	-	-	13,63	-	9,45	-	4,63	1,59
750	0,750	0,187	-	-	-	-	10,24	-	7,10	2,40	3,49	1,21
500	0,500	0,125	-	-	-	-	6,84	2,39	4,74	1,61	2,34	0,82
100	0,100	0,025	2,93	-	1,89	0,64	1,37	0,48	0,95	0,32	0,47	0,17

BJ4 丝杆 TR100x10

n [1/min]	Hubgeschw. (m/min)		F = 350 [kN]		F = 300 [kN]		F = 150 [kN]		F = 100 [kN]		F = 50 [kN]	
			N	L	N	L	N	L	N	L	N	L
	N	L	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
1500	1,500	0,375	-	-	-	-	-	-	-	-	9,50	19,50
1000	1,000	0,250	-	-	-	-	-	-	12,59	4,42	6,30	2,05
750	0,750	0,187	-	-	-	-	14,09	-	9,46	3,33	4,73	1,55
500	0,500	0,125	-	-	-	-	9,40	3,17	6,31	2,23	3,16	1,04
100	0,100	0,025	-	-	3,77	-	1,88	0,64	1,26	0,45	0,63	0,21

BJ5 丝杆 TR120x14

n [1/min]	Hubgeschw. (m/min)		F = 500 [kN]		F = 400 [kN]		F = 300 [kN]		F = 200 [kN]		F = 100 [kN]	
			N	L	N	L	N	L	N	L	N	L
	N	L	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
1500	1,500	0,375	-	-	-	-	-	-	-	-	17,28	6,28
1000	1,000	0,250	-	-	-	-	-	-	-	-	11,54	4,21
750	0,750	0,187	-	-	-	-	-	-	17,47	5,92	8,67	3,17
500	0,500	0,125	-	-	-	-	-	-	11,65	3,96	5,79	2,14
100	0,100	0,025	-	-	-	-	3,36	1,15	2,33	0,79	1,16	0,43

传动允许径向力

Permitted radial force on the drive

传输到传动轴上的传动转矩产生径向力。最大允许值取决于提升力和升降机的安装尺寸。

The drive torque transmitted to the drive shaft creates a radial force. The maximum permissible value depends on the lifting force and installation size of the screw jack.

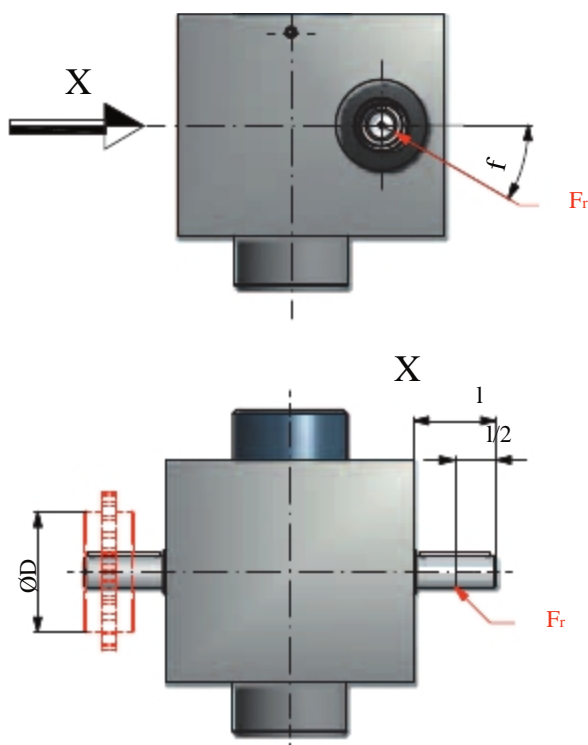
表中显示“最差情况下”的角度和旋转方向 (f=30° 或 330°)

The table shows the „Worst Case“ scenario in view of the angle and direction of rotation (f=30° or 330°).

P (kW) = 传动功率
 F_{r max} (N) = 最大径向力 (根据表格)
 n (min⁻¹) = 传动轴速度
 T_A (Nm) = 传动转矩

P (kW) = drive power
 F_{r max} (N) = max. radial force (according to table)
 n (min⁻¹) = speed of the drive shaft
 T_A (Nm) = drive torque

$$D_{\min} = 19100 \frac{P}{F_{r \max} \cdot n} = \frac{2T_A}{F_{r \max}} \text{ (m)}$$



Index	F _{r max} [N]	bei M _{r max} [Nm]
MJ0	-	-
MJ1	100	3,4
MJ2	200	7,1
MJ3	300	18
MJ4	500	38
MJ5	800	93
BJ1	800	148
BJ2	130	178
BJ3	130	240
BJ4	210	340
BJ5	310	570

侧向力 F_s

在拉伸载荷条件下，适用下列数值：

Lateral forces F_s

For tensile load applications, the following values apply:

	MJ1	MJ2	MJ3	MJ4	MJ5 / BJ1	BJ2 / BJ3	BJ4	BJ5
Zul. Belastung max. [kN] Max permitted load in [kN]	5	10	25	50	100 / 150	200 / 250	350	500
$F's L$ [Nm]	40	50	250	500	2000	3000	10000	16000

表格中的值可按下列公式转换：

表格中的值

$$F_s = \frac{F'_s \cdot L}{L_{tats.} [mm]}$$

The values in the table can be converted with the following formula.

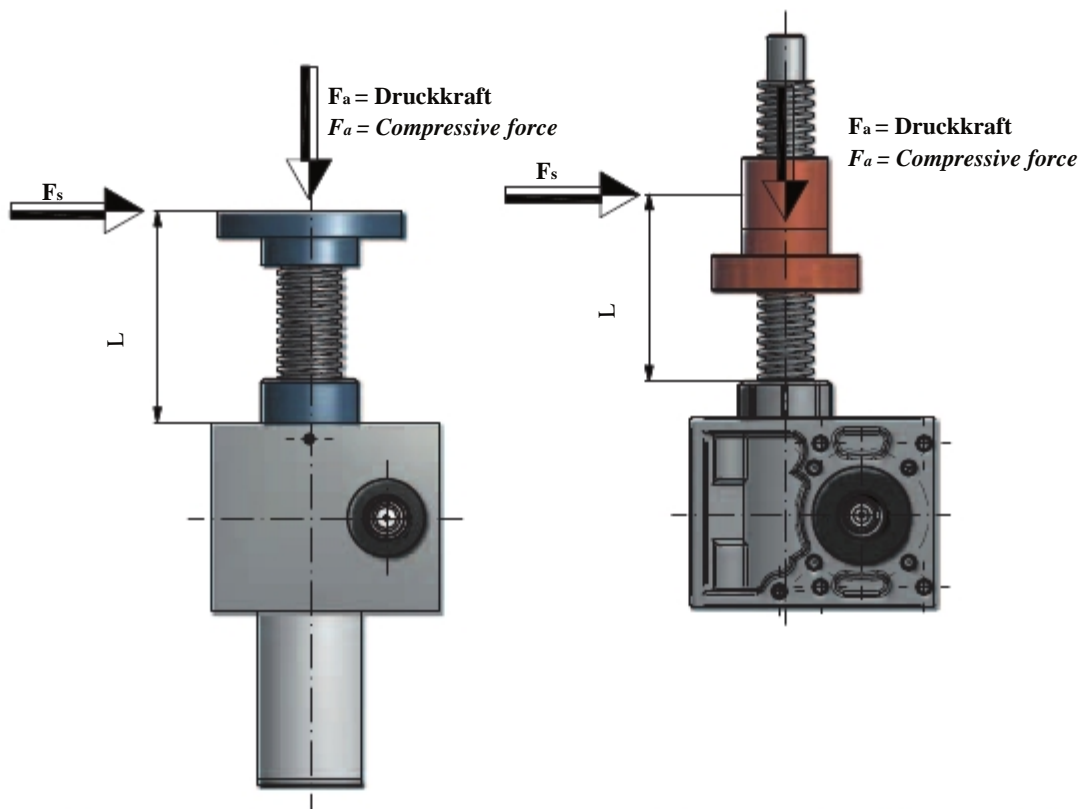
Value of table $F_s = \frac{F'_s \cdot L}{L_{tats.} [mm]}$

如承受压缩负载，请采用下列图表确定最大允许侧向力 F_s 。

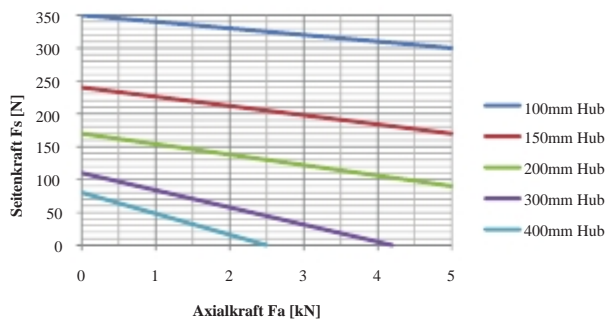
For compressive load applications, please use the following diagrams to determine the maximum permitted lateral force F_s .

如有丝杆导向，整个行程中不要超过允许侧向力50%。

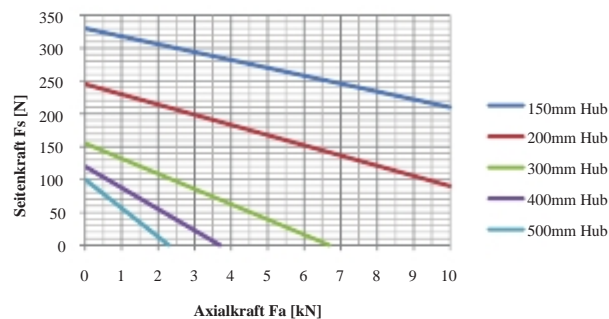
Having accounted for spindle guidance, do not exceed approx 50% of the permitted lateral force during the stroke action.



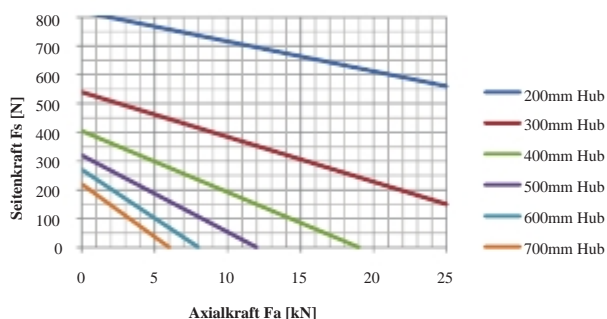
TR16 / TR18



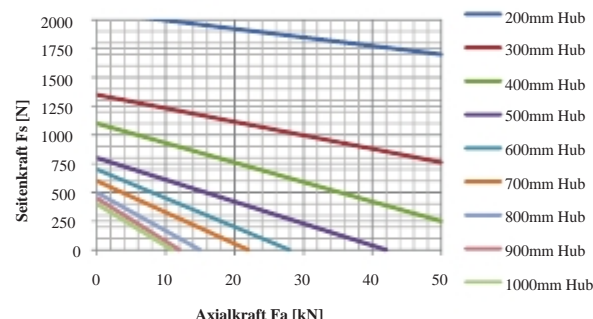
TR20



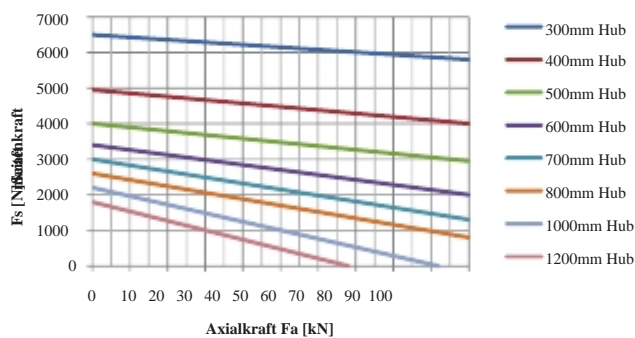
TR30



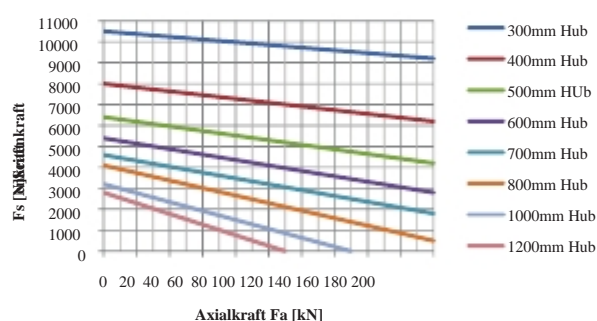
TR40



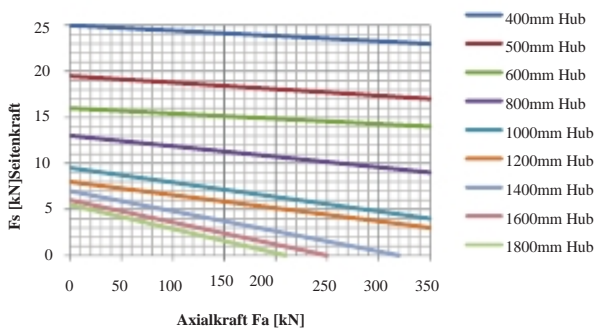
TR55 / TR60



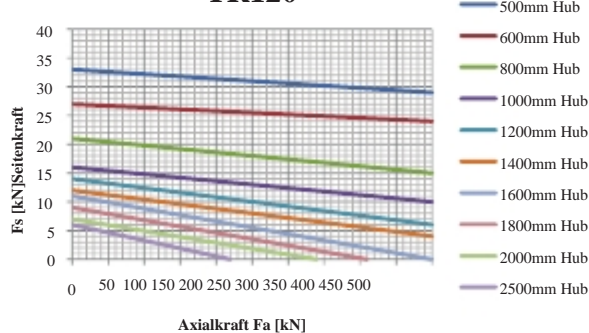
TR70 / TR80



TR100



TR120

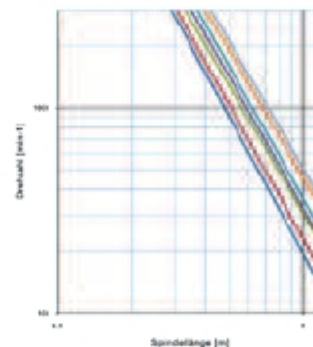
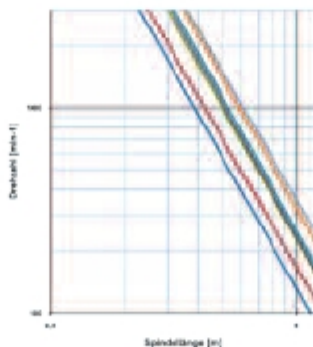
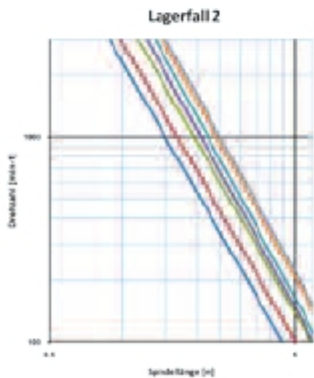
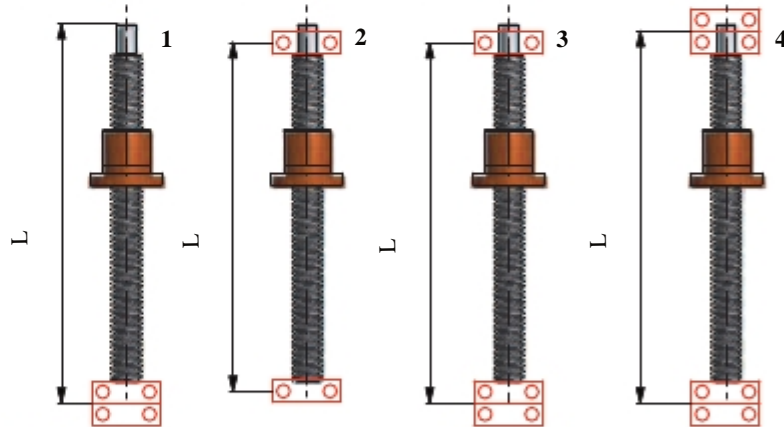
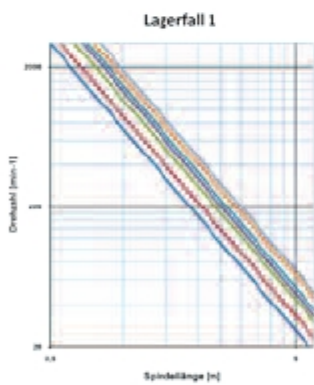
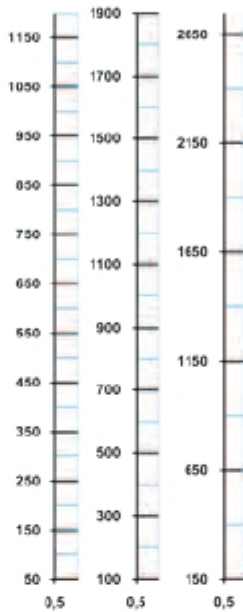
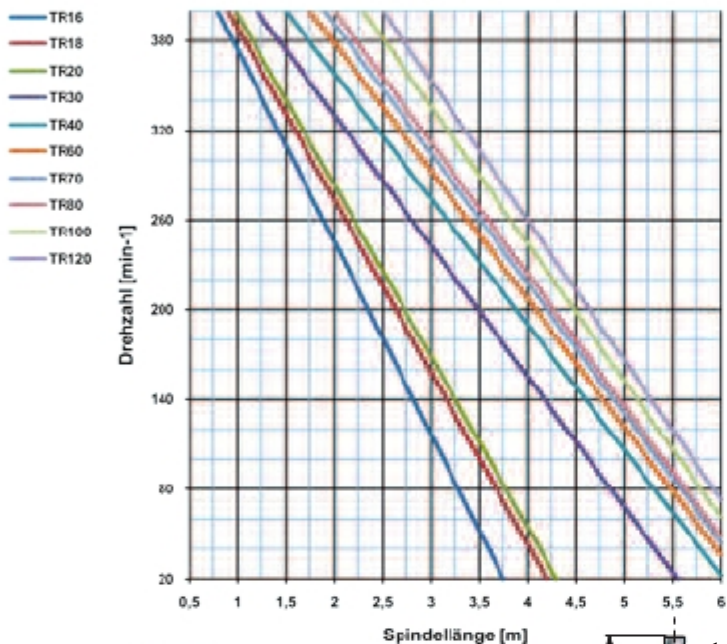


临界转速适用于螺母运动型升降机（该型丝杆旋转）。丝杆的直径和长度以及轴承的布置必须考虑（见轴承布置示例）。

The critical speed applies only to the travelling nut version (in this version the spindle rotates). The diameter and length of the spindle as well as the bearing arrangement needs to be considered (see bearing) arrangement examples.

Lagerfall 1

2 3 4



滚珠丝杆 (基本型) KGT

Ballscrew spindles (basic version) KGT

带KGT滚珠丝杆基本型螺旋升降机标准配置带行程限位器。
螺旋升降机尺寸情况详见第12, 13 页。

如有要求, 我们也可为型号BJ1到 BJ5提供带KGT滚珠丝杆的升降机!

Basic version screw jacks with KGT ballscrew spindles are fitted with a travel limiter as standard!

For dimensional information of the screw jacks, please see pages 12 and 13 !

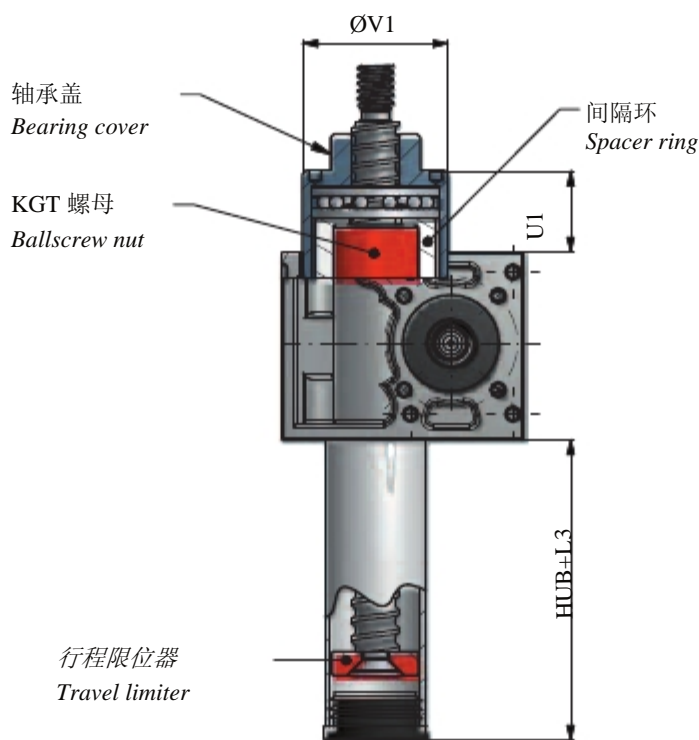
Types BJ1 up to BJ5 with ballscrew spindles are available upon request!

L_H (使用寿命 / *Service life*)
 C_{dyn} (kN)
 n_2 (输出速度 / *Output speed*)
 $h_{Sp} \approx 0,9$

=h
 = kN
 = min⁻¹

公式:
 Formula:
$$L_H = \frac{\left(\frac{C_{dyn}}{F}\right)^3 \cdot 10^6}{n_2 \cdot 60}$$

Index	MJ1		MJ2		MJ3						MJ4			MJ5	
KGT 丝杆 <i>KGT Spindle</i>	16x5	16x10	20x5	20x20	25x5	25x10	25x25	32x5	32x10	32x20	32x40	40x5	40x10	40x20	50x10
KGM-D	C_{dyn} [kN]		C_{stat} [kN]		C_{dyn} [kN]		C_{stat} [kN]		C_{dyn} [kN]		C_{stat} [kN]		C_{dyn} [kN]		C_{stat} [kN]
	9,3	15,4	10,5	-	12,3	13,2	16,7	21,5	-	-	-	23,8	38,0	33,3	-
	13,1	26,5	16,6	-	22,5	25,3	32,2	49,3	-	-	-	63,1	69,1	76,1	-
KGM-N	C_{dyn} [kN]		C_{stat} [kN]		C_{dyn} [kN]		C_{stat} [kN]		C_{dyn} [kN]		C_{stat} [kN]		C_{dyn} [kN]		C_{stat} [kN]
	-	-	10,5	11,6	12,3	-	-	21,5	33,4	29,7	14,9	23,8	-	-	68,7
	-	-	16,6	18,4	22,5	-	-	49,3	54,5	59,8	32,4	63,1	-	-	155,8
L3	46		56		64						88			106	
U1	11	27	4		24		15	31	41	15	26			36	
ØV1	48		57		-		76	78		76	-			-	



法兰设计包括安装孔和一个润滑油嘴用螺纹孔。单滚珠螺母有一个单滚珠回路。
多滚珠螺母有二个滚珠回路盖。Vulkolan条可防止润滑油的流失。

The flange design includes mounting holes and a tapped hole for a grease nipple. Single thread nuts have a single ball return circuit.

R减少齿侧间隙: 齿侧间隙可由滚珠选配方法来降低。

Multiple thread nuts have 2 caps for the ball return. Vulkolan strips prevent loss of lubrication.

二个滚珠丝杆螺母预压:

仅适用于 KGS, 螺距为0,025 mm/300 mm.

Reduced backlash: Backlash can be minimized by selective ball assembly.

材料: 螺母材料为 16MnCr5或 100Cr6.

Pre-loading with 2 ballscrew nuts:

For KGS only, 0.025mm/300mm pitches.

轴向间隙: 5个螺距 = 0,05 mm,

10个螺距 = 0,10 mm,

多头螺纹螺母 (大螺距) = 0,20 mm.

Material: The nuts are manufactured from 16MnCr5 or 100Cr6.

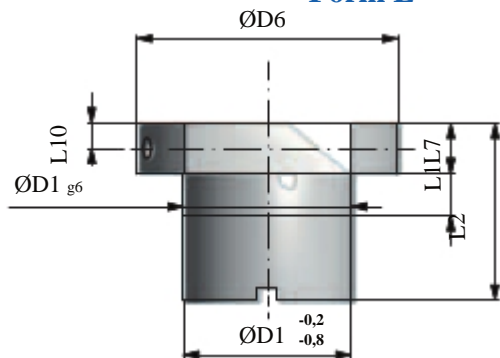
Axial play: Pitch 5 = 0.05 mm,

Pitch 10 = 0.10 mm,

Multi-thread nuts (high pitch) = 0.20 mm.

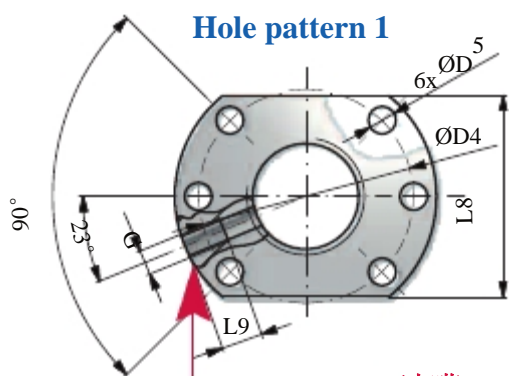
索引	转数/回路 Turns per circuit	额定载荷 (用kN表示) Load rating in kN		轴向间隙 Axial play max in mm	重量/套. weight/unit
		C _{dyn} [kN]	C _{stat} [kN]		
滚珠丝杆螺母 KGF-D					
<i>Ballscrew nut KGF-D</i>					
KGF-D-16x5-RH	3,00	9,30	13,10	0,08	0,20
KGF-D-16x10-RH	6,00	15,40	26,50	0,08	
KGF-D-20x5-RH	3,00	10,50	16,60	0,08	0,25
KGF-D-25x5-RH	3,00	12,30	22,50	0,08	0,35
KGF-D-25x10-RH	3,00	13,20	25,30	0,08	0,40
KGF-D-25x20-RH	4,00	13,00	23,30	0,15	0,40
KGF-D-25x25-RH	5,00	16,70	32,20	0,08	0,40
KGF-D-25x50-RH	5,00	15,40	31,70	0,15	0,40
KGF-D-32x5-RH	5,00	21,50	49,30	0,08	0,55
KGF-D-32x10-RH	3,00	33,40	54,50	0,08	0,90
KGF-D-40x5-RH	5,00	23,80	63,10	0,08	0,80
KGF-D-40x10-RH	3,00	38,00	69,10	0,08	1,20
KGF-D-40x20-RH	4,00	33,30	76,10	0,08	1,35
KGF-D-40x40-RH	8,00	35,00	101,90	0,08	
KGF-D-50x10-RH	5,00	68,70	155,80	0,08	2,00
KGF-D-50x20-RH	4,00	60,00	136,30	0,08	2,00
滚珠丝杆螺母 KGF-N					
<i>Ballscrew nut KGF-N</i>					
KGF-N-16x5-RH	3,00	9,30	13,10	0,08	0,20
KGF-N-20x5-RH	3,00	10,50	16,60	0,08	0,25
KGF-N-20x20-RH	4,00	11,60	18,40	0,08	0,25
KGF-N-20x50-RH	5,00	13,00	24,60	0,15	0,40
KGF-N-25x5-RH	3,00	12,30	22,50	0,08	0,35
KGF-N-32x5-RH	5,00	21,50	49,30	0,08	0,55
KGF-N-32x10-RH	3,00	33,40	54,50	0,08	0,90
KGF-N-32x40-RH	4,00	14,90	32,40	0,08	0,50
KGF-N-40x5-RH	5,00	23,80	63,10	0,08	0,80
KGF-N-40x10-RH	3,00	38,00	69,10	0,08	1,20
KGF-N-50x10-RH	5,00	68,70	155,80	0,08	2,00
KGF-N-63x10-RH	5,00	76,00	197,00	0,08	2,60

Form E

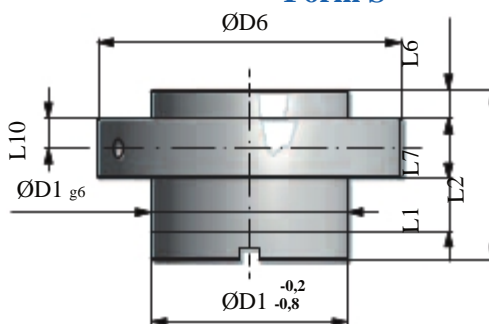


布孔模式 1

Hole pattern 1

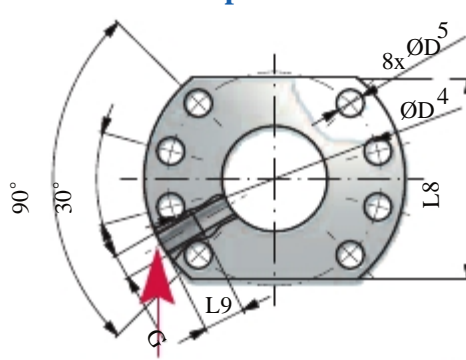


Form S



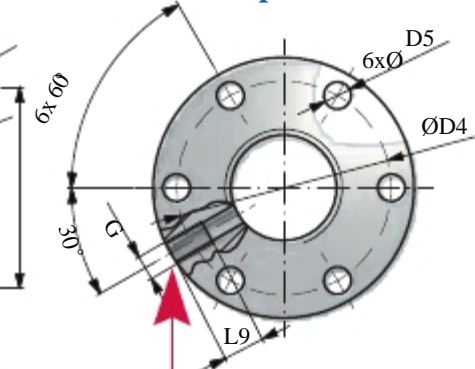
布孔模式 2

Hole pattern 2



布孔模式 3

Hole pattern 3



油嘴 / Grease nipple

索引	型式 Form	布孔模式 Hole pattern	尺寸用 mm表示								Dimensions in mm			
			D1	D4	D5	D6	L1	L2	L6	L7	L8	L9	L10	G
滚珠丝杆螺母 KGF-D			Ballscrew nut KGF-D											
KGF-D-16x5-RH	E	1	28	38	5,5	48	10	42	-	10	40	10	5	M6
KGF-D-16x10-RH	E	1	28	38	5,5	48	10	55	-	10	40	10	5	M6
KGF-D-20x5-RH	E	1	36	47	6,6	58	10	42	-	10	44	10	5	M6
KGF-D-25x5-RH	E	1	40	51	6,6	62	10	42	-	10	48	10	5	M6
KGF-D-25x10-RH	E	1	40	51	6,6	62	16	55	-	10	48	10	5	M6
KGF-D-25x25-RH	S	1	40	51	6,6	62	9	35	8	10	-	8	5	M6
KGF-D-32x5-RH	E	1	50	65	9	80	10	55	-	12	62	10	6	M6
KGF-D-32x10-RH	E	1	53	65	9	80	16	69	-	12	62	10	6	M8x1
KGF-D-40x5-RH	E	2	63	78	9	93	10	57	-	14	70	10	7	M6
KGF-D-40x10-RH	E	2	63	78	9	93	16	71	-	14	70	10	7	M8x1
KGF-D-40x20-RH	E	2	63	78	9	93	16	80	-	14	70	10	7	M8x1
KGF-D-40x40-RH	S	2	63	78	9	93	16	85	7,5	14	-	10	7	M8x1
KGF-D-50x10-RH	E	2	75	93	11	110	16	95	-	16	85	10	8	M8x1
KGF-D-50x20-RH	E	2	85	103	11	125	22	95	-	18	95	10	9	M8x1
滚珠丝杆螺母 KGF-N			Ballscrew nut KGF-N											
KGF-N-16x5-RH	E	3	28	38	5,5	48	8	44	-	12	-	8	6	M6
KGF-N-20x5-RH	E	3	32	45	7	55	8	44	-	12	-	8	6	M6
KGF-N-20x20-RH	S	3	35	50	7	62	4	30	8	10	-	8	5	M6
KGF-N-20x50-RH	S	3	35	50	7	62	10	56	9	10	-	8	5	M6
KGF-N-25x5-RH	E	3	38	50	7	62	8	46	-	14	-	8	7	M6
KGF-N-32x5-RH	E	3	45	58	7	70	10	59	-	16	-	8	8	M6
KGF-N-32x10-RH	E	3	53	68	7	80	10	73	-	16	-	8	8	M8x1
KGF-N-32x40-RH	S	3	53	68	7	80	14	45	7,5	16	-	10	8	M6
KGF-N-40x5-RH	E	3	53	68	7	80	10	59	-	16	-	8	8	M6
KGF-N-40x10-RH	E	3	63	78	9	95	10	73	-	16	-	8	8	M8x1
KGF-N-50x10-RH	E	3	72	90	11	110	10	97	-	18	-	8	9	M8x1
KGF-N-63x10-RH	E	3	85	105	11	125	10	99	-	20	-	8	10	M8x1

载荷: / Load: _____ kN

工作制 (ED): / Duty cycle: _____ %

载荷类型: / Type of load:

拉伸: / Tensile: 动态 / dynamic

静态 / static

压缩: / Compressive: 动态 / dynamic

静态 / static

侧向力: / Lateral forces: 无 / no

是 / yes

行程长度: / Stroke length: _____ mm

提升速度: / Lifting speed: _____ m/min

其它 / 特殊: / Other / special: _____

头部 Z

End Z

头部 FP

End FP

头部 GE

End GE

头部 GK

End GK

头部 KGK

End KGK

头部 GS

End GS

波纹管 FB
Bellows FB

梯形螺纹丝杆 TR

Trapezoidal spindle TR

滚珠丝杆 KGT

尺寸:

Ballscrew spindle KGT

尺寸:

Motor

电机:

尺寸:

联轴器 RP

尺寸:

Coupling RP

尺寸:

电机适配器 MG

Motor adaptor MG

限位开关 ES

带凸轮从动件

Limit switch ES with

cam follower

行程限制器 AS

Travel limiter AS

限位开关凸轮

Limit switch cam

方形防转装置 VS

Rotation prevention, square VS

螺纹保护套 SF

Spiral protective sleeve SF

防转动

开槽

Rotation prevention

grooved

旋转板 KP

Swivel plate KP

螺旋升降机 SHG

尺寸:

Screw Jack SHG

尺寸:

保护管

Protective tube

限位开关支架

尺寸:

Limit switch holder

尺寸:

公司: / Company: _____

地址: / Address: _____

电话 / Telephone: _____

Fax: _____

E-Mail: _____

螺母运动型部件清单

Checklist travelling nut version

载荷: / Load: _____ kN

工作制 (ED): / Duty cycle: _____ %

载荷类型: / Type of load:

拉伸: / Tensile: 动态 / dynamic
 压缩: / Compressive: 动态 / dynamic
 侧向力: / Lateral forces: 否 / no

静态 / static
 静态 / static
 是 / yes

行程长度: / Stroke length: _____ mm

提升速度: / Lifting speed: _____ m/min

其它 / 特殊: / Other / special: _____

头部 Z

End Z

头部 FPL

End FPL

青铜长螺母 LRM

Long nut, bronze LRM

钢制短螺母 KSM

Short nut, steel KSM

安全螺母 V1 SFM

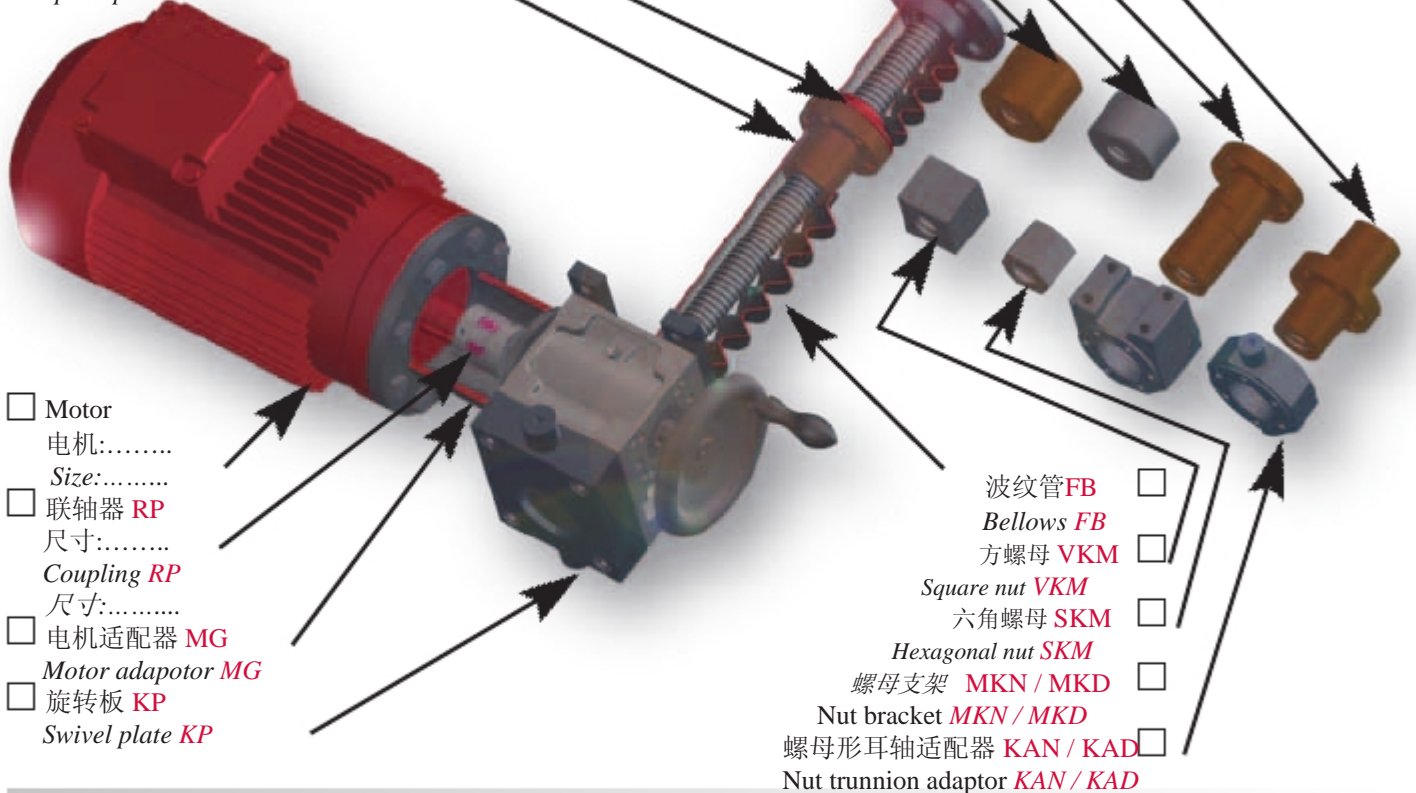
Safety nut V1 SFM

安全螺母 V2 SFM

Safety nut V2 SFM

- 梯形螺纹丝杆 TR
Trapezoidal spindle TR
- 滚珠丝杆 KGT 尺寸:.....
Ballscrew spindle KGT Size:
- 波纹管适配器
Bellows adaptor
- 运动螺母 EFM
Travelling nut EFM
- 螺纹保护套 SF
Spiral protective sleeve SF

- Motor
电机:.....
Size:.....
- 联轴器 RP
尺寸:.....
Coupling RP
尺寸:.....
- 电机适配器 MG
Motor adaptor MG
- 旋转板 KP
Swivel plate KP



波纹管 FB

Bellows FB

方螺母 VKM

Square nut VKM

六角螺母 SKM

Hexagonal nut SKM

螺母支架 MKN / MKD

Nut bracket MKN / MKD

螺母形耳轴适配器 KAN / KAD

Nut trunnion adaptor KAN / KAD

公司: / Company: _____

地址: / Address: _____

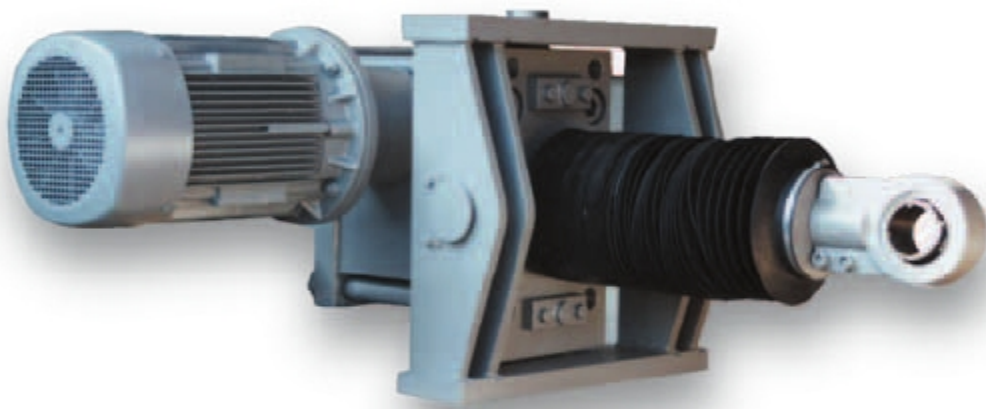
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