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博能 JB Ball Screw Jack
JB 滚珠丝杆升降机

1/2019

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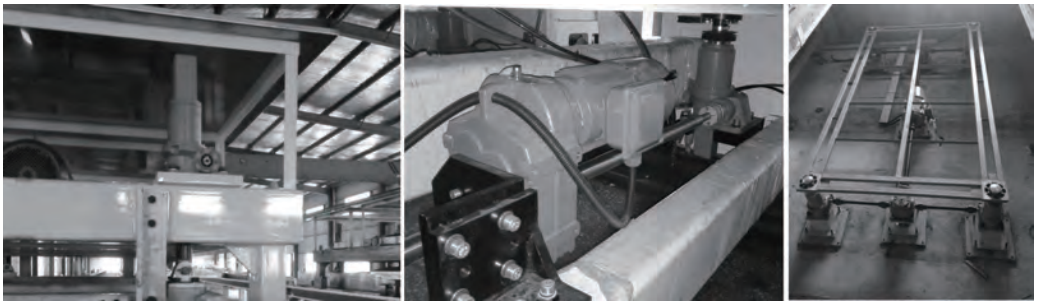
Ball Screw Jack / 滚珠丝杆升降机

On the basis of ball screw jack design and manufacturing experiences in the past twenty years,analyzing and absorbing advanced technology of international ball screw jack production, Boneng Transmission makes innovative development,pushing forward new type JB ball screw jack to better satisfy customer requirements.

Compared with internationally advanced ball screw jack and the original JWB ball screw jack of Boneng,the new type JB ball screw jack has the following characteristics:

博能公司在总结二十余年滚珠丝杆升降机设计制造经验，分析和吸收国际上滚珠丝杆升降机设计制造先进技术的基础上，创新发展，推出新型JB滚珠丝杆升降机，以更好满足客户要求。

同国际上先进的滚珠丝杆升降机和博能公司原有JWB滚珠丝杆升降机相比，博能公司新型JB滚珠丝杆升降机具有以下特点：



In the iron and steel, stage equipment, medical equipment, aerospace and other various fields, Boneng combines various kinds of applications, dedicates to manufacture satisfying products for you.

- Unique outline structure design, thus forming excellent design concept with world-level intellectual property rights for Boneng;
- Unique modular design,components are categorized to difterent types; standard components are stored in large amount, which are changeable, so delivery period of worm gear unit is short, and it's easy to get spare parts; (international production, fast delivery, more appropriate for storage, in-time production);
- It applies cabinet with nodular cast iron, good rigidity, easy to cut, inner structure design is reasonable, impact-proof performance is good;
- Germany imported worm wheel hob is used to process turbine, which optimizes contact area, ensures intensity; hand finishing transmission worm processed by fine grinding has high efficiency, targe output torque;
- Using high-precision ball screw,high efficiency,high speed,long service life;
- Output mode: motor direct-linking output, gear unit direct-liking input and manual input (equipped with hand wheel);
- Various kinds of output type screw rod top thread, top flange, type pin jonit, column jonit and flexible nut, etc, it can be equipped with frame and foundation to satisfy lifting requrements on different directions;
- Various kinds of products, each type has various kinds of strokes and various kinds of lifting load range.

在钢铁、舞台设备、医疗器械、航空航天等各种各样的领域，博能公司结合各应用情况，竭诚为您制造满意的产品。

- 独创拟生态的外观结构设计，赋予产品运动与力量的天性内涵，进而形成了令博能公司具有世界级知识产权的卓越设计理念；
- 采用独创的模块化设计，零部件种类规格集中；标准零部件均有库存、有互换性，从而使蜗轮箱的交货期短，且获得备件容易；（国际化生产，交货快，更适合库存，生产及时）；
- 采用球墨铸铁铸造的箱体，刚度好，可切削性好，箱体内部结构设计合理，抗冲击性能优越；
- 德国进口蜗轮滚刀加工蜗轮，优化接触区，保证了强度；精密磨削加工的硬齿面传动蜗杆，效率高，输出扭矩大；
- 采用高精度滚珠丝杆，效率高，升降速度快，使用寿命长。
- 输入方式可采用电机直联输入、减速机直联输入和人工手动操作输入（配备手轮）；
- 输出类型多样化：丝杆顶部螺纹、顶端法兰、型销接头、圆柱接头及活动螺母等，另外还可以配备安装支架和支座来满足不同方位升降需求；
- 产品类型多元化，每种型号中有各种行程，各种提升载荷范围的产品可供选择；

ISO9001

Note: You must conform to the following instructions
注意事项！必须严格遵守以下各项！

- The structure scheme,appearance diagram and other attached diagrams in sample are examples,there is no strict proportion requirement.(The unmarked dimension units are mm).
- We can only refer to the marked weight in the manual.
- To prevent accidents,all the rotation parts should be added with protective covers according to local safety regulations and laws.
- Before testing,users should read instruction manual carefully.
- Jack has been tested before delivered,users should add lubrication oil before running.
- We can only refer to the marked oil in the manual.Actual oil filling level should be the same with the mark on oil immersion lens.
- Lubrication oil viscosity should be selected according to working conditions and the temperature of local environment.
- Users can only use high guality lubrication oil.

- 样本中的结构示意图、外形图及其他附图只属范例。无严格比例要求。（未注尺寸单位均为mm）。
- 所注重量仅为平均值，并不具有约束力。
- 为防止意外事故发生，所有旋转部件均按照使用者所在国家和地区的安全规范由购置方加罩保护。
- 试车之前必须认真阅读使用说明书。
- 升降机在供货时已处于准运行状态，运行前需加注润滑油。
- 本样本中注油量只作为参考值，实际注油量应以油尺上的标记为准。
- 润滑油粘度应按升降机使用工况及使用环境温度选取。
- 只能采用国际知名品牌的润滑油。

Product Function Mark / 产品功能标识

Oil glass / 油　镜


Breather / 通气帽

Oil filler / 进油孔

Oil drain / 放油孔

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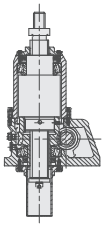
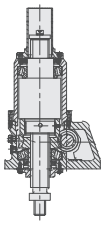
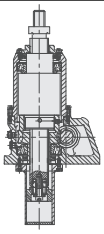
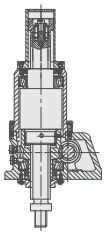
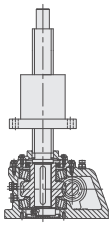
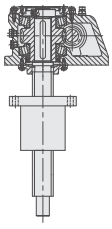
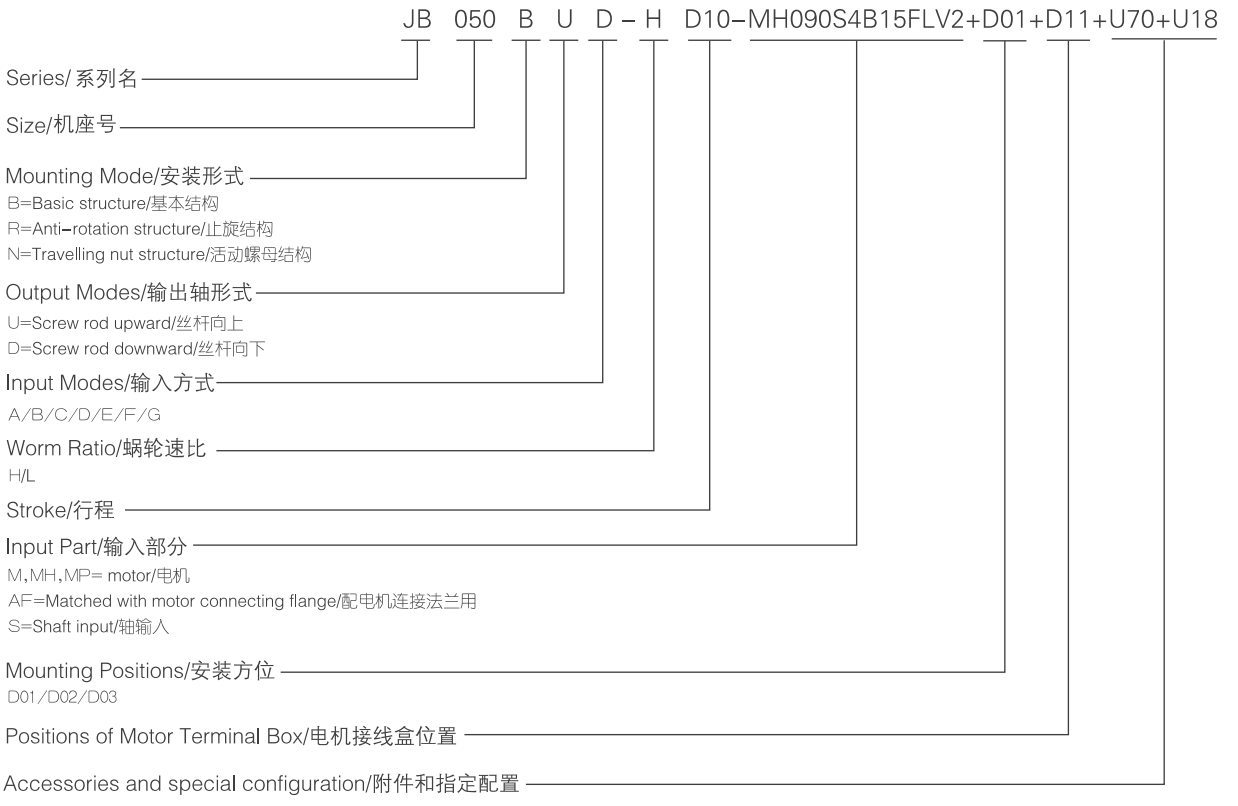
1 Structure Scheme:　　1 结构示意图：

Structure Mode 结构形式	Output Mode 输出形式	Structure Drawing / 结构图	Explanation / 说明
Plain mode 基本结构	JB ..BU		The screw may produce rotary force when lifting,so anti–rotation measures should be adopted. 丝杆在升降时，会产生旋转力，所以必须做好防止旋转措施。
	JB ..BD		
With Anti–rotation device 止旋结构	JB ..RU		With anti–rotation device,the screw travels up and down only and produces no rotary force. 止旋结构，丝杆只上下移动并不产生旋转力。
	JB ..RD		
Structure Traveling nut 活动螺母结构	JB ..NU		For travelling nut type,the screw rotates to drive the nut move.Due to its cylindric structure,supporting mode is often used at the screw end to ensure good transmission of long stroke. 活动螺母构造，丝杆轴旋转，活动螺母移动。丝杆轴顶端为圆柱形，所以在长行程时，在轴端采用支撑方式，可以得到很好的传动效果。 Note:Bellows are not supplied with the travelling nut type screw jack.Consult us if required. 注：活动螺母构造形式供货时不配防尘罩，如需请另咨询。
	JB ..ND		

2 Type Designation：

2 型号表示方法：



Combined–type Designation/组合形式举例:JB100BUE–HD20–CRL37–18.9–M090S4B15ALV2+U14–D01–ZR01

Combined–type Designation/组合形式举例:JB100BUE–HD20–R063FA–15–M090S4B15SLV2+U14–D01–ZR01

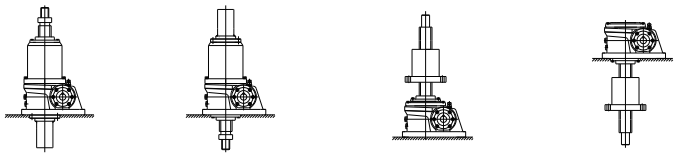
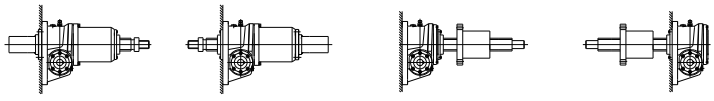
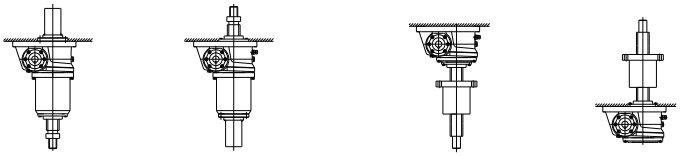
The code of screw stroke:

丝杆行程在型号中使用代号表示，代号如下表:

Code/代号	Stroke/行程	Code/代号	Stroke/行程	Code/代号	Stroke/行程
D10	100	D50	500	E12	1200
D20	200	D60	600	E15	1500
D30	300	D80	800	E20	2000
D40	400	E10	1000		

3 Mounting Positions：

3 安装方位：

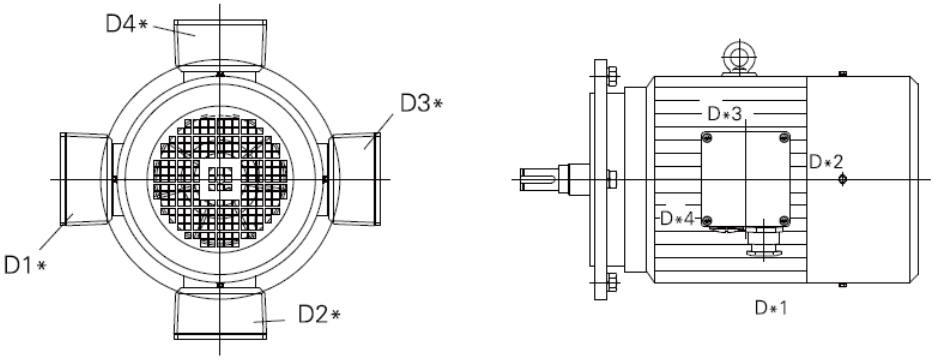
D01	
D02	
D03	

⚠ Note:When applying D03 mounting position, performance level of foot–mounting bolts should be above 10.9.

注：采用D03型安装方位时，底脚安装螺栓的性能等级须为10.9级以上。

Motor terminal box and cable entry position：

电机接线盒和进线孔位置：



View:Motor afterbody/视角： 电机尾部

Assembly colour of jack/整机标配颜色 JB010–JB500 (RAL5015)

4 Basic Parameters：

4 基本参数表：

Type/型 号		JB010	JB025	JB050	JB100	JB200	JB300	JB500
Maximum loading/最大载荷 (KN)		9.8	24.5	49	98	196	294	490
Screw road external diameter/丝杆外径 (mm)		20	25	40	50	63	80	100
Screw rod bottom diameter/丝杆底径 (mm)		16.2	19.3	32.4	41.4	54.4	68.6	88
Screw rod bolt distance L1/丝杆螺距(mm)		5	8	10	12	12	16	20
Ratioi/减速比	H Speed/速比	5	5.6	5.2	10.667	9.667	10.667	10.333
	L Speed/速比	20	26	26	24	29	32	31
Comprehenswe efficiency/综合效率 %η	H Speed/速比	61	62	64	63	62	56	60
	L Speed/速比	34	35	39	43	41	34	38
Allowable input maximum Power (KW) 最大容许输入功率 (KW)	H Speed/速比	0.54	1.3	2.21	2.97	4.87	8.49	12.78
	L Speed/速比	0.27	0.61	0.95	1.87	2.59	3.70	6.37
Empty–loading torque T0 /空载扭矩 (N · m)		0.29	0.62	1.37	1.96	3.92	9.81	19.6
Holding torque 保持扭矩 (N · m)	H Speed/速比	1.27	4.31	10.78	19.6	51.0	68.6	140.1
	LSpeed/速比	0.26	0.91	2.4	5.8	15.0	19.5	41.2
Allowable input shaft torque* 容许输入轴扭矩* (N · m)		20	49	126	247	247	620	973
Input shaft torque for** Maximum loading (N · m) 最大载荷时所需** 输入轴扭矩(N · m)	H Speed/速比	2.85	9.60	24.80	29.81	66.38	135.1	271.2
	L Speed/速比	1.44	4.05	9.06	20.1	35.4	78.6	152.0
Screw movement per revolution of input shaft (mm) 输入轴每回转一圈丝杆（活动螺母）轴向位移量(mm)	H Speed/速比	1.0	1.43	1.92	1.12	1.24	1.50	1.94
	L Speed/速比	0.25	0.31	0.38	0.50	0.41	0.50	0.65
Allowable input shaft rotation speed (rpm) for maximum loading 最大载荷时容许的输入轴转速(rpm)	H Speed/速比	1500	1300	850	950	700	600	450
	L Speed/速比	1500	1450	1000	890	700	450	400
Screw rod rotation torque during maximum loading 最大载荷时丝杆回转扭矩 (N · m)		8.7	34.3	87.9	211.9	438.5	867.2	1806.7
Pipe material/ 套管材质		Stainless steel (anti–rotation pipe: common steel pipe) 不锈钢材质（止旋套管为普通钢管材质）						
Lubrication mode/ 润滑方式		Screw:Grease Worm gesr:Worm gear oil 丝杆：涂抹润滑脂 蜗轮蜗杆：一般采用飞溅式润滑						
Cooling method/ 冷却方式		Natural cooling/自然冷却						
Common ambient condition/ 一般环境条件		Ambient temperature: －10℃～40℃, open site has good ventilation, altitude is under 1000 meters, common plant dust. 环境温度：－10℃～40℃，空旷场地通风良好，海拔高度1000米以下，一般工厂灰尘。						
Specied ambient condition/ 特殊环境条件		High temperature, low temperature, much dust, chemical effect (acid,alkali,etc), oper–air (direct sunshine,ice,water spray,etc), please consult. 高温、低温、灰尘多，化学作用（酸、碱等），露天（直接日照、冰、水淋等），请咨询。						

"*" Allowable torque of input shaft of the gear unit.
"**" Include non–loading torque value.

"*" 升降机输入轴的容许扭矩。
"**" 包括无负荷空载扭矩的数值。

5 Type Selection:

5.1 Determination of screw jack type

(1) Calculation of total equivalent load Ws (N)

Ws=Wmax · f1(N)

Driven Machine Factor :

Load Characteristic/载荷性质	Example/使用举例	Factor for driven machine 被驱动设备系数
Uniform load, small inertia 无冲击载荷，负荷惯性小	Shifting device for switches, valves and conveyors 开关、阀门传送带切换装置	1.0 < f1 ≤ 1.3
Moderate shock load, medium inertia 轻微冲击载荷，负荷惯性中等	Moving devices and elevators 各种移动装置,升降用各种升降机	1.3 < f1 ≤ 1.5
Heavy shock load, large inertia 大冲击振动载荷，负荷惯性大	Transport goods with trolley; keep the positions of calendering roller 用台车搬运东西；保持压延滚轮的位置	1.5 < f1 ≤ 3.0

(2) Calculation of equivalent load of single jac kW(N):

$$W=\frac{Ws}{\text{Arrangment factor} \cdot \text{Number of jacks in arrangement} \quad fd}$$

Arrangement factor(fd)

Number of jacks in arrangement 连动台数	1	2	3	4	5 ~ 8
Arrangement factor 连动系数	1	0.95	0.9	0.85	0.8

(3) Initial selection of jack type

Make an initial selection of jack type by fully considering load, speed, travel, efficiency and drive source.

(4) Make final determination of screw jack type in view of stroke, ambient environment and top end fittings.

5.2 Verification of input power:

If the input power required is greater than the permissible input power, increase the size of the screw jack or decrease the speed of the screw.

Calculation of input power required:

Input speed required / 所需输入轴转速	n(r / min)	$n=\frac{V}{L_1}\times i$
Input torque required / 所需输入轴扭矩	T(N · m)	$T=\frac{W\times L_1}{2\pi\times i\times \eta}+T_0$
Input power required / 所需输入功率	P(kW)	$P=\frac{T\times n}{9550}$

V : Elevator screw shaft (flexible nut) lifting speed (m/min)
L1: Screw rod pitch (m) i: Ratio
w: Equivalent load of single elevator (N) π: Circular constant
η: Comprehensive efficiency of elevator T_0: Empty loading torque (N · m)
(L1、i、η、T_0 Refer to basic foundation table)

5 选型方法:

5.1 升降机型号的确定:

(1) 计算总机的当量载荷Ws（N）

Ws=最大载荷Wmax × 使用系数f1(N)

被驱动设备系数表:

Load Characteristic/载荷性质	Example/使用举例	Factor for driven machine 被驱动设备系数
Uniform load, small inertia 无冲击载荷，负荷惯性小	Shifting device for switches, valves and conveyors 开关、阀门传送带切换装置	1.0 < f1 ≤ 1.3
Moderate shock load, medium inertia 轻微冲击载荷，负荷惯性中等	Moving devices and elevators 各种移动装置,升降用各种升降机	1.3 < f1 ≤ 1.5
Heavy shock load, large inertia 大冲击振动载荷，负荷惯性大	Transport goods with trolley; keep the positions of calendering roller 用台车搬运东西；保持压延滚轮的位置	1.5 < f1 ≤ 3.0

(2) 计算单台升降机的当量载荷W:

$$W=\frac{Ws}{\text{连动台数}\times\text{连动系数} \quad fd}$$

连动系数(fd):

Number of jacks in arrangement 连动台数	1	2	3	4	5 ~ 8
Arrangement factor 连动系数	1	0.95	0.9	0.85	0.8

(3) 确定升降机型号:

充分考虑载重，速度、行程、效率，驱动源后暂时选定型号。

(4) 根据使用行程、环境条件、输出顶端的联接方式，确定升降机的整体型号。

5.2 输入功率校核:

负载所需输入功率与许容最大输入功率相比较，如果超过请提高型号或降低丝杆轴转速再计算。

负载所需输入功率计算:

Input speed required / 所需输入轴转速	n(r / min)	$n=\frac{V}{L_1}\times i$
Input torque required / 所需输入轴扭矩	T(N · m)	$T=\frac{W\times L_1}{2\pi\times i\times \eta}+T_0$
Input power required / 所需输入功率	P(kW)	$P=\frac{T\times n}{9550}$

V : 升降机丝杆轴（活动螺母）升降速度（m/min)
L1: 丝杆螺距（m） i: 减速比
w: 单台升降机当量载荷（N） π: 圆周率
η: 升降机的综合效率 T_0: 空载扭矩(N · m)
(L1、i、η、T_0参照基本参数表）

5.3 Verification of the screw stability

Verify the screw stability when the axial compression load exists. If the load is greater than the critical load, increase the sizes before calculation.

5.3 丝杆稳定性校核

当丝杆承受轴向压缩载荷时，请对其进行稳定性校验，如超过其临界载荷值请提高型号后再计算。

The critical load is calculated with the following formula:

升降机丝杆临界稳定载荷通过以下公式计算：

$$P_{CR}=fm\times\left(\frac{d^2}{La}\right)^2$$

ensure 确保

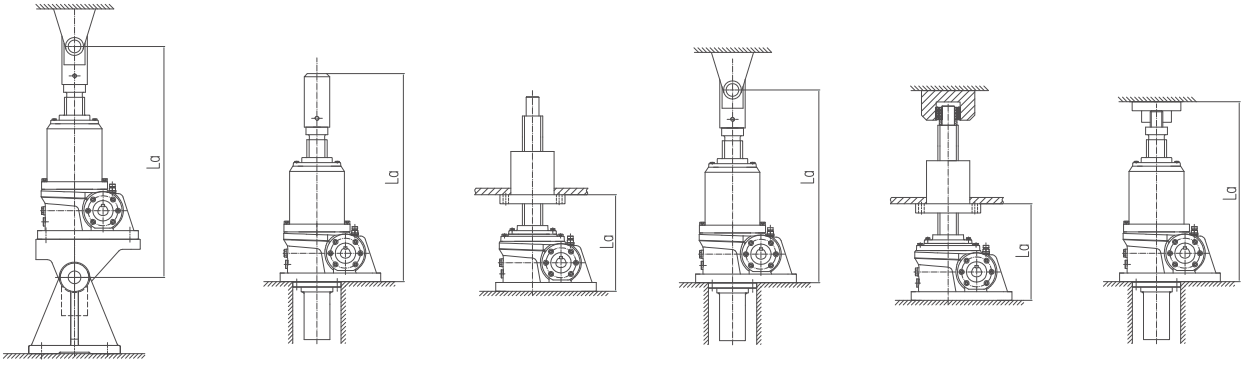
$$P_{CR}>W\times S_F(S_F=4)$$

P_{CR}: critical load
d: screw root diameter mm(see the table of technical data)
fm: support factor
La: distance between action points, mm
W: equivalent load of single jack(N)
S_F: safety factor(generally S_F=4)

P_{CR}：临界载荷（N）
d：丝杆底径mm(参照基本参数表)
fm：支撑系数
La：作用点间距离，mm
W：单台升降机当量载荷（N）
S_F：安全系数（一般S_F=4）

For verification of the screw stability, choose La(based on the sizes) and fm (support factor) as follows

丝杆轴稳定性校验时，La（La值计算根据各型号尺寸）与fm（支撑系数）选取如下：

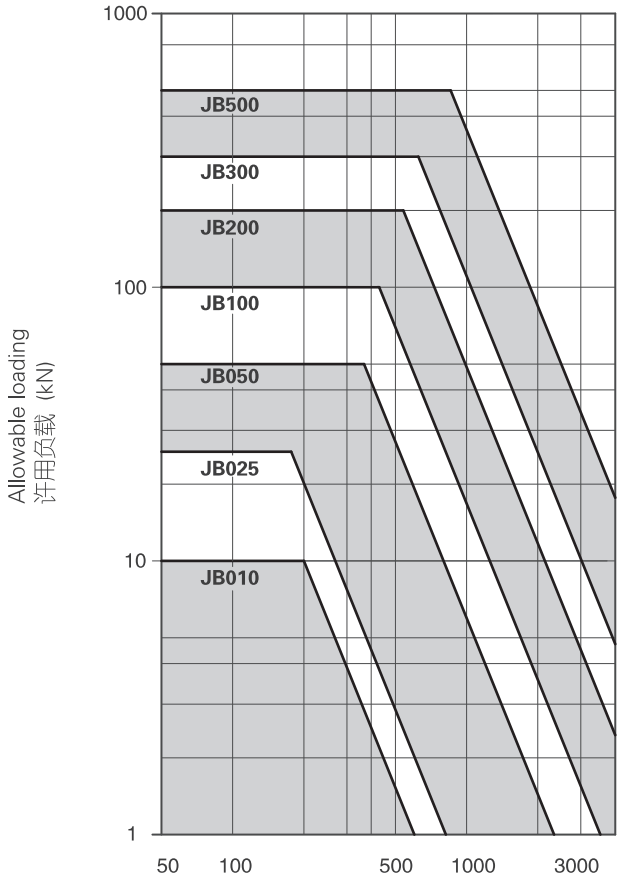


Two end supporting $fm=10\times10^4$
两端支撑$fm=10\times10^4$

Foundation solid shaft end freedom $fm=10\times10^4$
底座固定轴端自由 $fm=2.5\times10^4$

Foundation fixed shaft end support or fixing $fm=10\times10^4$
底座固定轴端支撑或固定 $fm=20\times10^4$

Associated diagram of allowed loading of point distance :

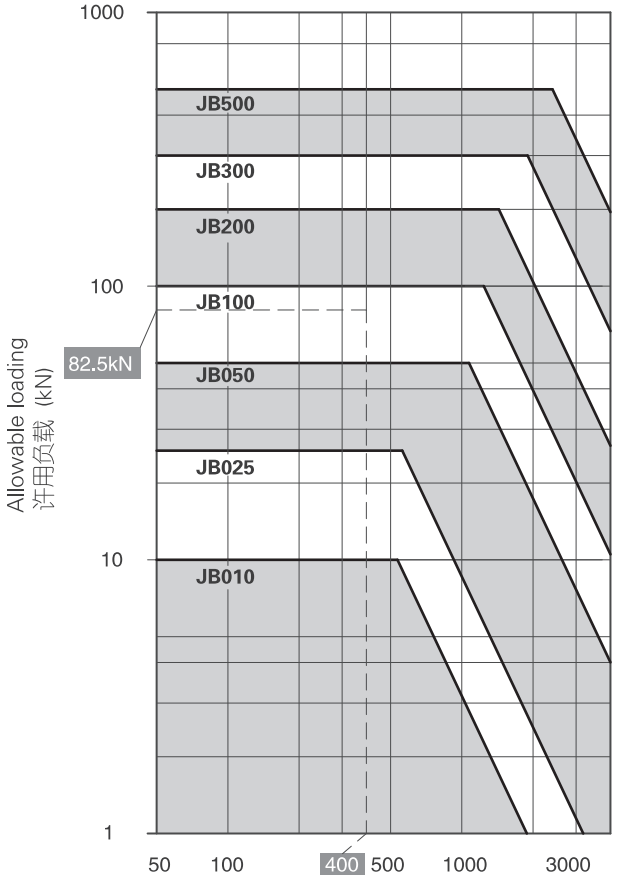


作用点间距离 La mm (fm=20×10⁴)

Distance between action points La mm (fm=20×10⁴)

"---" means loading W=82.5kN, (safety coefficient SF=4) point distance La=400mm (foundation fixed shaft end supporting fixing fm=20×10⁴) as an example; at this time, you can select ladder screw elevator JB100 witch can satisfy crossing point of vertical and horizontal axis.

作用点距离许用负载关联图表：



作用点间距离 La mm (fm=2.5×10⁴)

Distance between action points La mm (fm=2.5×10⁴)

"---"表示以负荷W=82.5kN，（安全系数SF=4）作用点距离La=400mm（底座固定轴端支撑式固定fm=20×10⁴）为例；此时可选定满足纵轴、横轴交点的梯形螺纹丝杆升降机JB100

5.4 Verification of critical speed:

If select travelling nut type, the rotary speed of the screw must be lower than the critical speed; if vice versa, increase the size before calculation.

5.4 临界转速校核

如为活动螺母选型时，请务必将丝杆轴转速控制在临界转速以下（$n_c > n_s$），若超出临界转速，请提高型号再计算。

$$n_c = \frac{96 \times fn \times d \times 10^6}{Lb^2} \qquad n_s = \frac{n_1}{i}$$

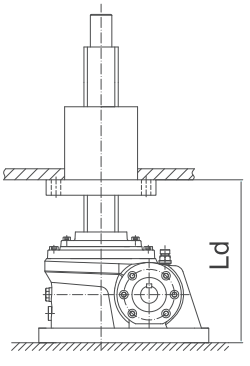
n_c: critical speed r/min
d: screw root diameter mm(see the table of basic parameters)
fn: length factor
L_b: distance between supports, mm
n_s: screw speed
n_1: input speed r/min
i: ratio(see the table of basic parameters)

n_c: 临界转速 r/min
d: 丝杆底径 mm(参照基本参数表)
fn: 长度系数
Lb: 支撑间距离 mm
ns: 丝杆转速 r/min
n_1: 输入速度 r/min
i: 减速比(参照基本参数表)

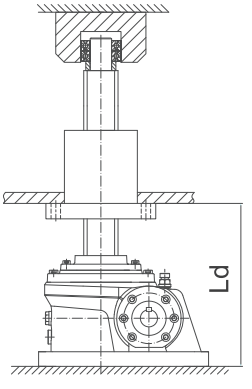
Lb (as per the sizes) and fn (length factor) are as follows in verifying the rotary speed of screw.

丝杆轴转速校验时，Lb（Lb值计算根据各型号尺寸）与 fn（长度系数）选取如下：

轴端支撑 fn=1.56
Supporting shaft end fn=1.56



轴端自由 fn=0.36
Movable shaft end fn=0.36



Calculation example: JB200NUA–HE12–D01 Input speed is 1200r/min，run under shaft end support, check according to outline dimension and transmisson capacity：
i=9.667 d=54.4 Lb=1419 E12:1200stroke

计算举例: JB200NUA–HE12–D01 在输入转速为1200r/min，轴端支撑下运转,根据外形尺寸与传动能力表查得：
i=9.667 d=54.4 Lb=1419 E12:1200行程

$$n_s = \frac{n_1}{i} = \frac{1200}{9.667} = 124 \text{ r/min}$$

$$n_c = \frac{96 \times fn \times d \times 10^6}{Lb^2} = \frac{96 \times 1.56 \times 54.4 \times 10^6}{(1419)^2} = 4046 \text{ r/min}$$

n_c=4046 r/min>124 r/min .....ok

Association diagram of screw rod lifting speed and allowable loading:

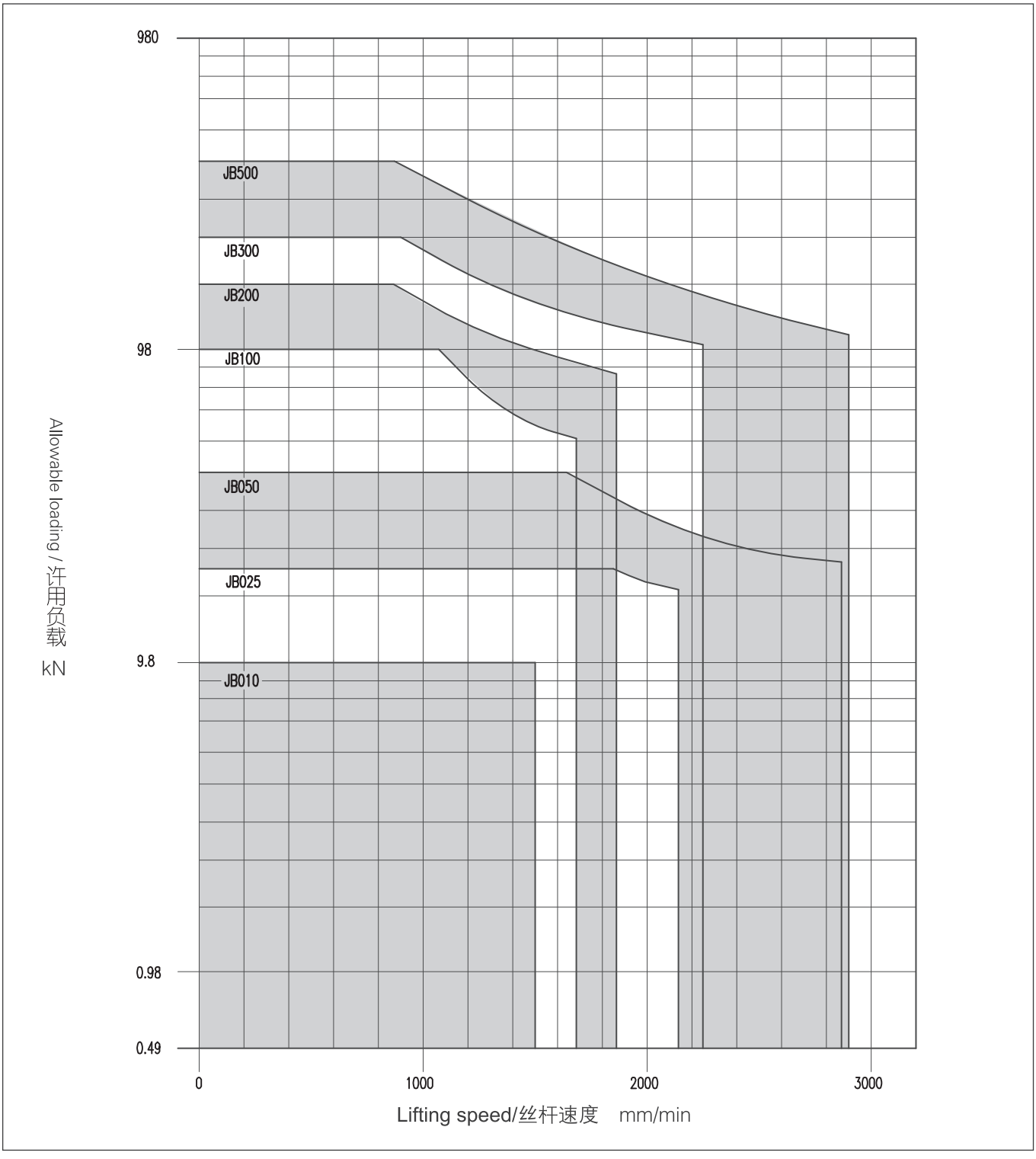
The picture is established according to maximum allowable input capacity of screw rod, please check allowable loading according to this picture, determine elevator type. When detailed type is needed, confirm by calculation.

丝杆升降速度与许用负载关联图表：

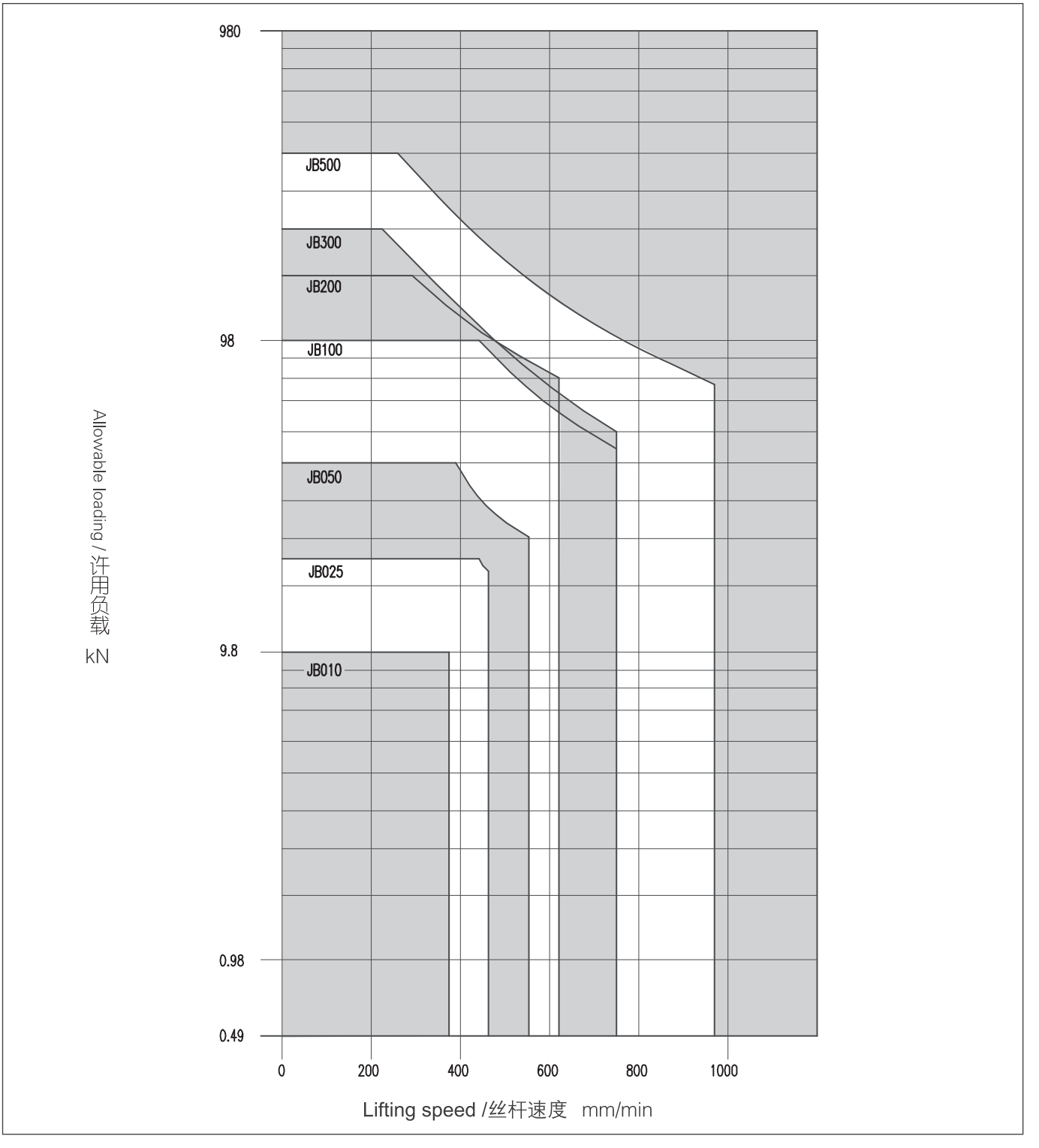
此图表是考虑丝杆的最大允许输入容量而创建的图表，请通过此图表检查允许负荷决定升降机型号。需要详细造型时，请通过计算确认。

H Speed

H速度



L Speed L速度


980
98
9.8
0.98
0.49
JB500
JB300
JB200
JB100
JB050
JB025
JB010
Allowable loading / 许用负载
kN
0
200
400
600
800
1000
Lifting speed /丝杆速度 mm/min

5.5 Drive source options

Determine the required drive unit capacity for synchronous drive Pt

1. Add the torque required for each jack $T_{1\sim4}$ on the drive unit side to determine the overall torque Tt

(1) Required torque per jack:

$$T_{1\sim4} = \frac{T}{\text{Gearbox efficiency}^{\text{No.of gearbox}}}$$

(2) Required torque for the drive unit:

$T_t=T_1+T_2+T_3+T_4$

$T_{1\sim4}$ ：Required torque for each jack on the drive unit side N.m

T ：Required input torque per jack N.m

T_t ：Required torque for the drive unit N.m

Gearbox efficiency：Assume 0.9

For a four unit system (fig.1), $T_{1\sim4} = \frac{T}{0.9^2}$

5.5 驱动源的选型

求出联动驱动源所需容量Pt ,选定驱动源

1.求出每台升降机驱动源侧所需扭矩$T_{1\sim4}$，合计求出驱动源所需总扭矩

（1）每台升降机驱动源侧所需扭矩：

$$T_{1\sim4} = \frac{T}{\text{转向箱效率}^{\text{转向箱台数}}}$$

（2）驱动源所需总扭矩：

$T_t=T_1+T_2+T_3+T_4$

$T_{1\sim4}$：各升降机驱动源侧所需扭矩 N.m

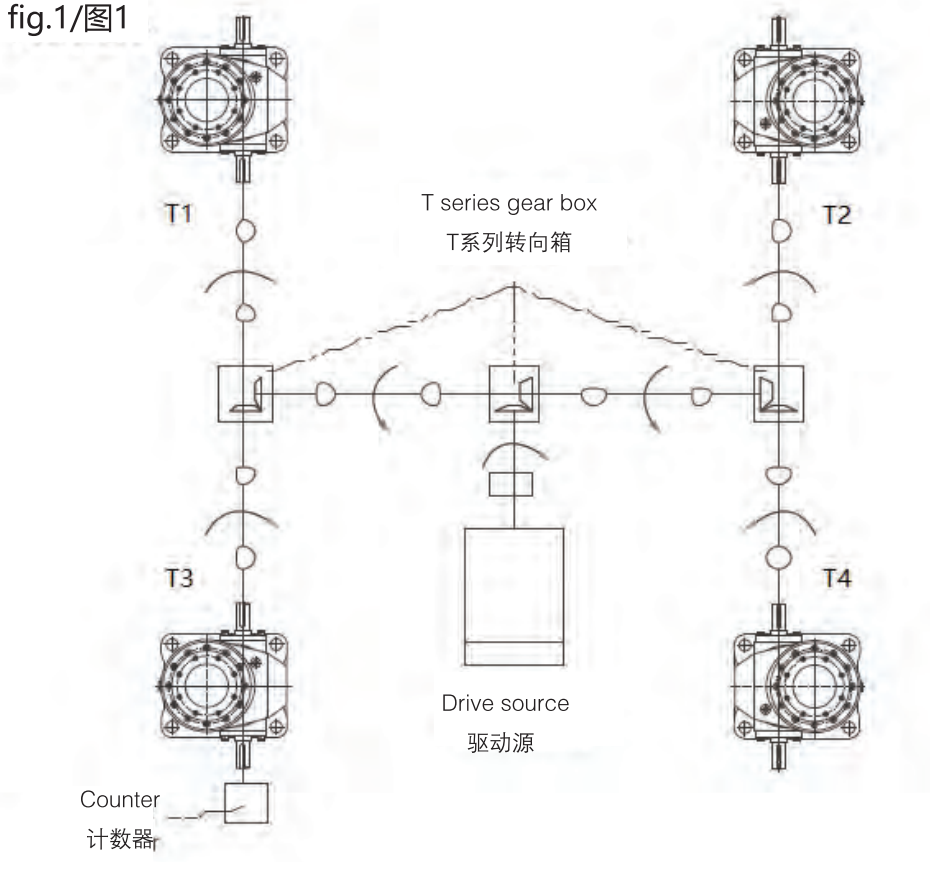
T ：升降机所需输入扭矩 N.m

T_t ：驱动源所需总扭矩

转向箱综合效率：一般为0.9

4台联动（图1）时 $T_{1\sim4} = \frac{T}{0.9^2}$

fig.1/图1



2.Determine the required drive unit capacity Pt with input n and overall Tt determined in 1. $Pt = \frac{Tt \times n}{9550}$

2.根据输入轴转速n和1.中求出的驱动源所需总扭矩，计算出驱动源所需功率Pt。 $Pt = \frac{Tt \times n}{9550}$

5.6 Allowable radial force of input shaft Fr1

When installing chain wheel, gear, belt on input shaft, please confirm radial force excerted on input shaft is under allow–able radial force.

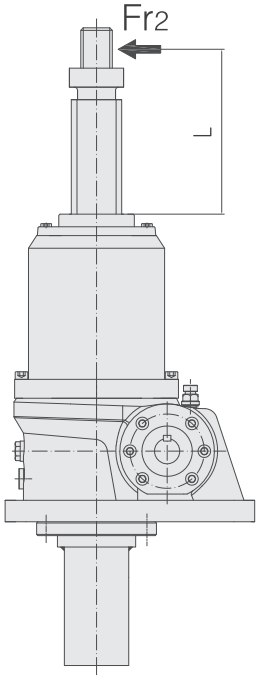
5.6 输入轴允许径向力Fr1

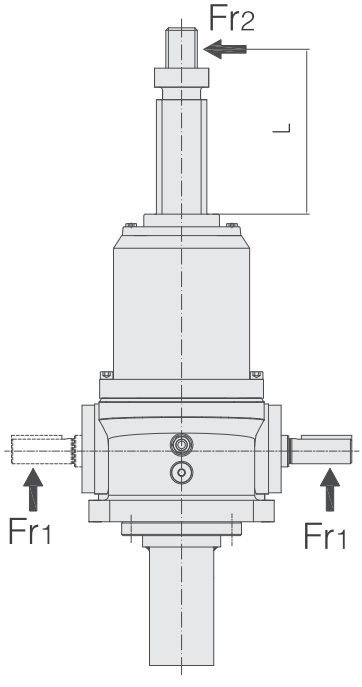
在输入轴安装链轮、齿轮、皮带时，请确认作用在输入轴上的径向力在允许径向力以下。

Ratio 速比类 型	Allowable radial force Fr1/允许径向力 Unit/单位（N）						
	JB010	JB025	JB050	JB100	JB200	JB300	JB500
H Speed H速度	380	710	1500	2270	4320	6110	10100
L Speed L速度	220	420	820	1430	2800	4400	6650

5.7 Allowable radial force of screw rod output end Fr2

5.7 丝杆输出端允许径向力Fr2





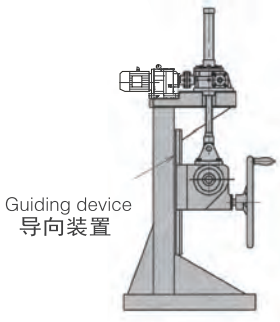
When exerting force on screw rod output end, please confirm radial force exerted on screw rod output end, under allowable radial force

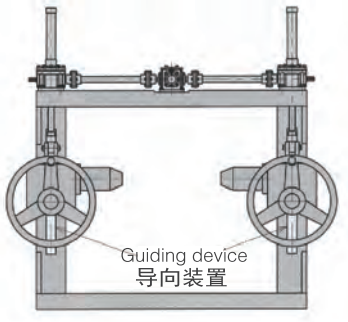
在丝杆输出端施加外力时，请确认作用在丝杆输出端的径向力，在允许径向力以下

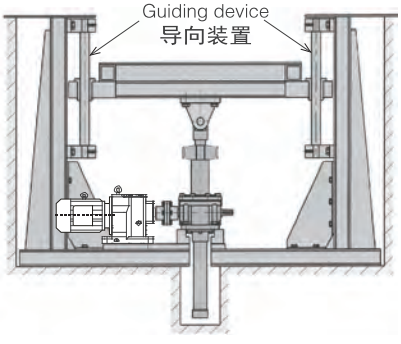
Type/型 号 / Highlighted quantity of screw rod 丝杆突出量L(mm)	Allowable radial force Fr2 /允许径向力 Unit/单位（N）						
	JB010	JB025	JB050	JB100	JB200	JB300	JB500
100	318	570	2500	4010	8210	38200	85300
200	159	290	1250	2010	4110	23000	50400
300	106	190	830	1340	2740	15300	33600
400	79	140	620	1000	2050	11400	25200
500	64	110	500	800	1640	9100	20200
600	53	100	420	670	1370	7600	16800
700	51	90	360	570	1170	6500	14400
800	48	90	310	500	1030	5700	12600
900	45	90	280	450	910	5000	11200
1000	42	90	250	400	820	4500	10100

If external diameter force exceeds allowable radial force of screw rod, please add guide device, For example:

若外径向力超过丝杆允许径向力时，请外加导向装置，举例如下：





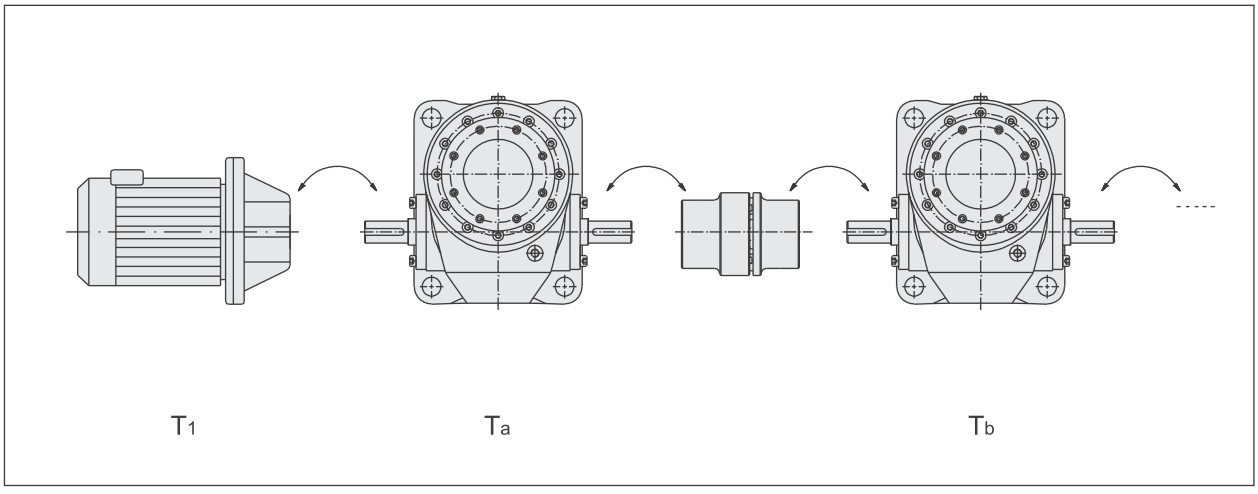


5.8 When elevator transmission is in series (that means the same axial line is equipped with two or more elevators)

5.8 当升降机传动配置为串联时(即同一轴线配置了两个或以上数量的升降机)

Make strenght examination to input shaft end of each elevator:

如图须对各升降机输入轴端进行强度校核;



T_a: Input torque needed by elevator a

T_b: Input torque needed by elevator b

Torque needed by motor $T_1=T_a+T_b <$ Allowable input shaft torque of elevator a

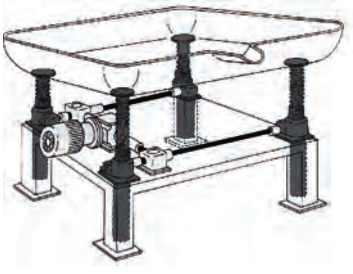
T_a:为升降机 a 的所需输入扭矩

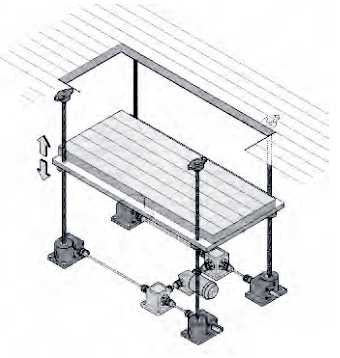
T_b:为升降机 b 的所需输入扭矩

电机必需的扭矩 $T_1=T_a+T_b <$ 升降机 a 的容许输入轴扭矩

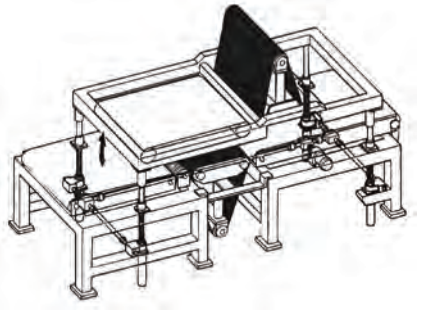
6 Examples:

6 应用举例：

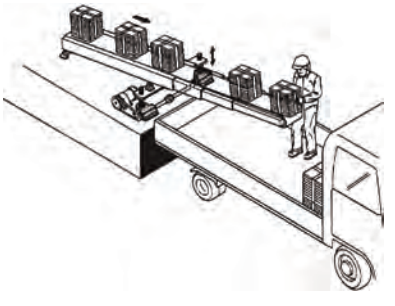




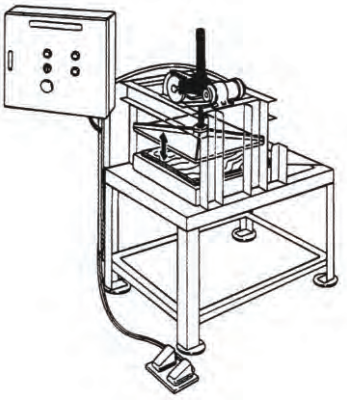
Lifting platform/平台升降



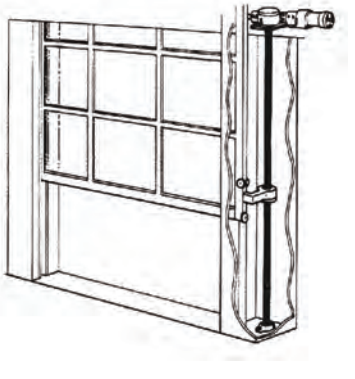
Height adjustment of surface machining tool
调整表面加工机的工作高度



Inclination adjustment of the sliding belt
调整滑动传送带的倾斜程度



Height adjustment of straightening machine
更改校正器的作业高

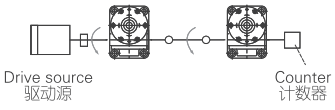


Auto opening of large windows or doors
大型窗户（门）自动开关

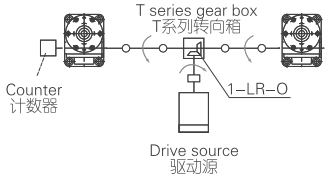
7 Arrangement Type Examples: 7 布置型式举例：

7.1 Two sets interlock 7.1 两台连动

Linear/直线型

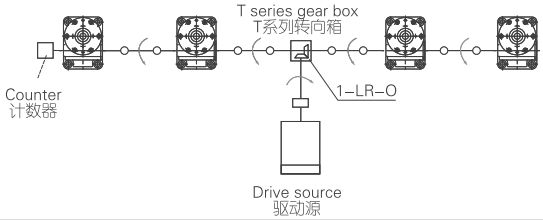


Layout T/T型

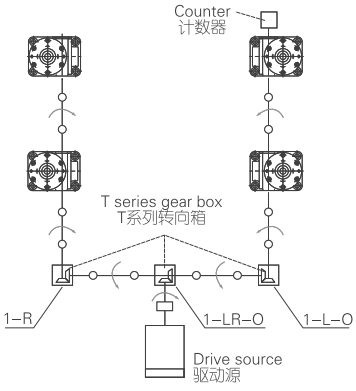


7.2 Four sets interlock 7.2 四台连动

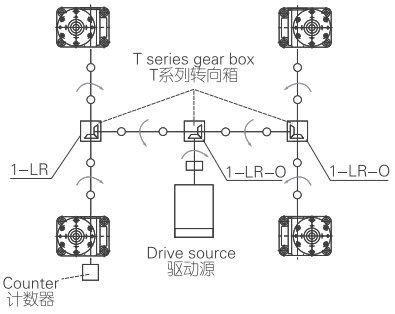
Layout T/T型



Layout U/U型

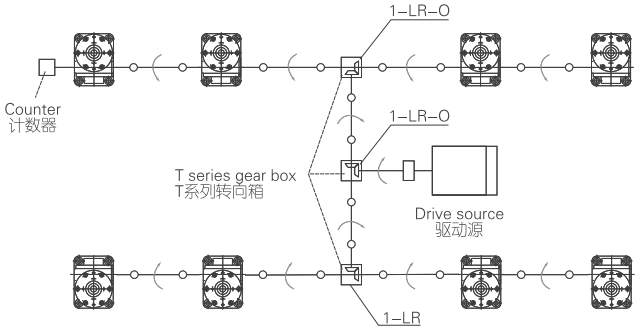


Layout H/H型

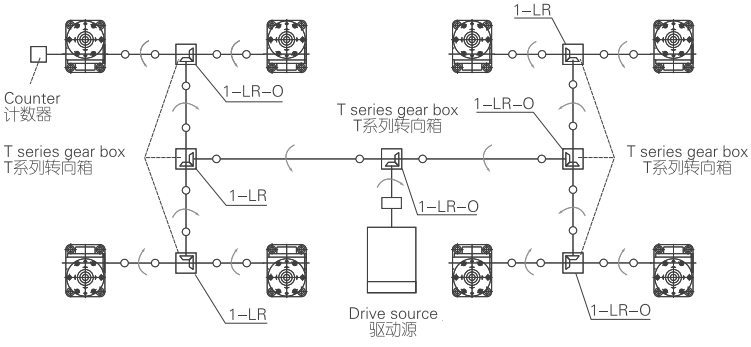


7.3 Eight sets interlock 7.3 八台连动

Layout H/H发展型



Layout 2H/2H型



8 Examples Of Type Selection:

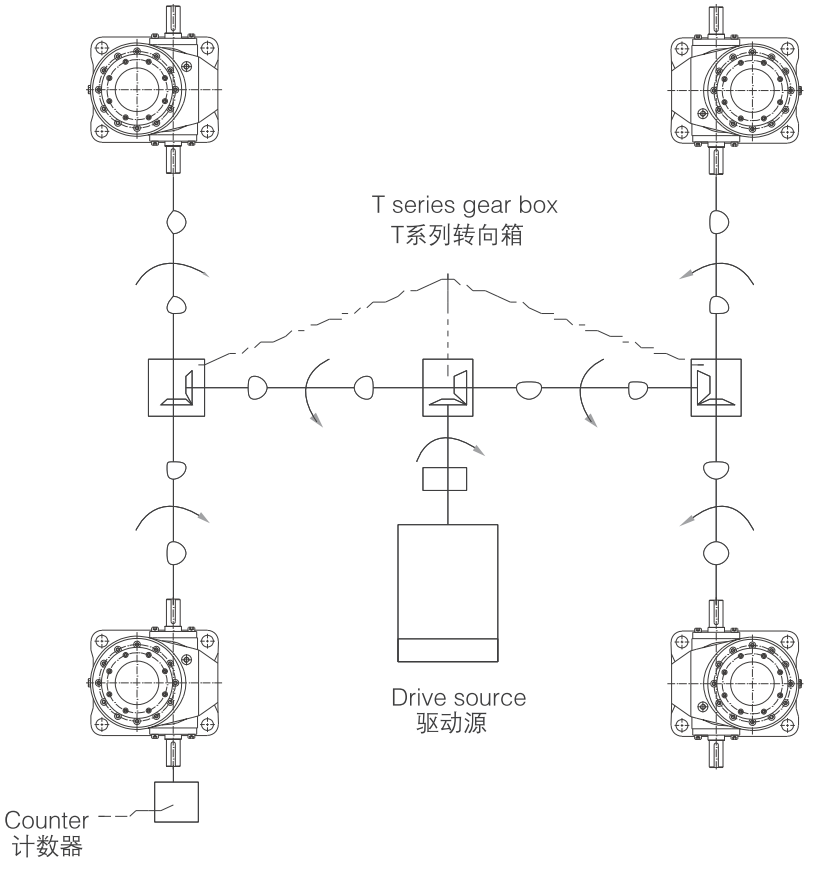
8 选型举例：

Known Criteria:

已知条件：

1. The axial load of the lifting platform: 88KN, lifting speed: 1200mm/min, stroke: 260mm
2. Normal motor: 4 pole, speed n1=1450r/min
3. Load characteristic: moderate, operating 16h/d, starts per hour:10
4. Mounting mode: 4 jacks, Layout H(See 14), foot-mounted with fixed shaft end, accessories U70 and U18.
5. Lateral load, guiding device on one side of the jack.

1、升降平台轴向载荷：88KN，平台升降速度：1200 mm/min，升降行程：260mm;
2、普通电机：4极，转速n1=1450r/min;
3、负荷性质：一般冲击，工作16小时/天，启动频率10次/小时；
4、安装输出形式：4台连动押上，H型布置（见14页），采用底座固定轴端支撑，带U70、U18附件；
5、有横向负载，在升降机侧面设置了导向器。



Selection steps:

1.Calculation of total equivalent load Ws (driven machine factor f1=1.3)

$Ws=Wmax \cdot f1=88000\times1.3=114400N$

2.Calculation of equivalent load of single jack W(arrangement factor fd=0.85)

$W=114400/(4X0.85)=33647N$

3. Initial selection of jack type:

JB050BUA–HD30+U70+U18–D01selected after considering speed, efficiency, drive source, load and stroke allowance (In reference to the table of technical data, permissible load and distance between action points. If H/L ratio is difficult to determine, use H ratio temporarily)

4. Verification of input power of single jack:

(1) Input power required by single jack:

① $n=\frac{v1}{L1}\times i=\frac{1.2}{0.01}\times5.2=624$ r/min

② $T=\frac{W\times L1}{2\pi\times i\times\eta}+T0=\frac{33647\times0.01}{2\times3.14\times5.2\times0.64}+1.37=17.46N\cdot m$

③ $P=\frac{T\times n}{9550}=\frac{17.46\times624}{9550}=1.14kW$

(2) According to the table of technical data,

Pmax=2.05kW>P is OK.

5. Verification of screw stability:

According to the table of technical data (page 03) , associated diagram of allowed loading of point distance (page 05~06) and dimension diagram (page 23~24).

d=32.4，La=（604+33）=637，$fm=20\times10^4$，SF=4

$PCR=fm\times(\frac{d^2}{La})^2=20\times10^4\times(\frac{32.4^2}{637})=473073N$

$PCR=473073N>W\times SF=33647\times4=134456N$,……OK.

6. Verification of critical speed:

Because of none travelling nut type and low rotary speed, the verification of critical speed can be ignored.

7. Drive source options

（1）Required torque per jack：

$T_{1\sim4}=\frac{T}{\text{Gearbox efficiency}^{\text{No.of gearbox}}}=\frac{17.46}{0.9^2}=21.56N.m$

（2）Required torque for the drive unit：

$T_t=T_1+T_2+T_3+T_4=86.24N.m$

（3）required drive unit capacity：

$Pt=\frac{T_t\times n}{9550}=\frac{86.64\times624}{9550}=5.63Kw$

（4）Drive source = required drive unit capacity ×drive unit factor

=5.63×1.3=7.32KW

Based on above data,we select 7.5KW motor.

⚠ Note: If the above verifications fail, select the larger size jack.

For selection of T series gear units, refer to T series brochures.

选型步骤：

1. 计算总机当量载荷Ws（取被驱动设备系数f1=1.3）

$Ws=Wmax\cdot f1=88000\times1.3=114400N$

2. 计算单台当量载荷W(取连动系数fd=0.85)

$W=\frac{114400}{4\times0.85}=33647N$

3. 暂定型号:

考虑速度、效率、驱动源、载重以及行程的余量后暂定选择JB050BUA–HD30+U70+U18–D01【见基本数表(03页)及丝杆升降速度与许用负载关联表(09页)确定可暂选H速比】

4. 单台输入功率校核:

（1）单台所需输入功率计算：

① $n=\frac{v1}{L1}\times i=\frac{1.2}{0.01}\times5.2=624$ r/min

② $T=\frac{W\times L1}{2\pi\times i\times\eta}+T0=\frac{33647\times0.01}{2\times3.14\times5.2\times0.64}+1.37=17.46N\cdot m$

③ $P=\frac{T\times n}{9550}=\frac{17.46\times624}{9550}=1.14kW$

（2）参照基本参数表，Pmax=2.21kW>P,……OK.

5. 丝杆稳定性校核:

根据基本参数表(03页)，作用点距离许用负载关联表 (05~06页)及尺寸图表(23~24页)而得：

d=32.4，La=（604+33）=637，$fm=20\times10^4$，SF=4

$PCR=fm\times(\frac{d^2}{La})^2=20\times10^4\times(\frac{32.4^2}{637})=473073N$

$PCR=473073N>W\times SF=33647\times4=134456N$,……OK.

6. 临界转速校核:

此型号为非活动螺母式，且转速较低，可不必校核临界转速。

7. 驱动源的选型:

（1）单台升降机驱动源侧所需扭矩计算：

$T_{1\sim4}=\frac{T}{\text{转向箱效率}^{\text{转向箱台数}}}=\frac{17.46}{0.9^2}=21.56N.m$

（2）驱动源所需总扭矩：$T_t=T_1+T_2+T_3+T_4=86.24N.m$

（3）驱动源所需功率：

$Pt=\frac{T_t\times n}{9550}=\frac{86.64\times624}{9550}=5.63Kw$

（4）驱动源功率=驱动源所需功率×驱动源系数=5.63×1.3=7.32KW

由上可得：应选7.5KW电机

注：若以上校核未通过，需向上选稍大机座号的升降机；

T系列转向箱选型请参考T系列样本。

9 Notes:

◆None of static, dynamic or shock loads should exceed the max permissible load. Selection of a jack with sufficient capacity must be based on safety factor, stroke and screw stability.

◆Make sure that the speed matches the load. Verify the max permissible load, external permissible load and permitted rotary speed of the screw. In case these figures exceed those of the product, severe damage may occur in the machine.

◆The surface temperature of the reduction part and the travelling nut should be within –15～80℃.

◆Permissible speed of the input shaft is 1500r/min. Higher speed are not allowed.

◆JB screw jacks are not designed for continuous duty circle.
The unit of %ED for single screw jack is 30min JB (Ball screw screw) duty circle must be less than 30%ED

$$ED=\frac{\text{work time in one load circle}}{\text{work time in one load circle+rest time in one load circle}}\times 100\%$$

◆ If several screw jacks are arranged in an axial line, verify the strength of the input shaft and make sure the torque of each jack stay within the permissible input torque.

◆ Make sure the starting torque of the drive source is greater than 200% of the service torque.

◆ When working under below 0℃, the screw jack must be guaranteed by sufficient drive source, for its efficiency decreases as a result of the viscosity change in the grease.

◆ JB Ball screw Jack does not have a self–locking device, therefore, a brake mechanism is required.

◆ The normal ambient environment: ambient temperature –10 to 40℃, ample space, good ventilation, altitude not exceeding 1000m and normal plant dust.

◆ When working in places with volume of dust, bellows should be supplied to guard the screw. In the open air, use the covers to protect the machine against rains and sunlight.

◆ Do not halt the screw jack intentionally during its operation, for it may cause severe damage to the product.
Since JB Ball screw Jack is highly efficient, sufficient brake that over powers th “holding torque” is required to sustam its shaft.

9 注意事项：

◆选择升降机时不论静载、动载、冲击载荷均不得超过其允许承受的最大载荷，根据安全系数、使用行程、校对丝杆的稳定性选择具有充分容量的升降机。

◆一定要注意丝杆轴转速与承受的载荷进行搭配，对于升降机的容许最大载荷、容许外加负载、容许丝杆轴的旋转速等项目进行校验，如果超过产品的数据将会造成升降机设备整体的重大损伤。

◆升降机在工作时其减速部表面温度应控制在－15℃～80℃的范围以内,确保活动螺母的表面温度也在上述范围以内。

◆输入轴容许转速为1500r/min，输入轴不得超过此转速。

◆JB系列升降机不可连续运转:
单台升降机的负荷时间率（%ED）以30分为单位计算，JB列升降机（滚珠丝杆类型）的负荷时间内不得超过30%ED。

负荷时间率%ED=

$$\frac{\text{1动作周期的工作时间}}{\text{1动作周期的工作时间+1动作周期的停歇时间}}\times 100\%$$

◆对于在同一轴线上连接数台升降机时，请务必对输入轴强度进行校核，使每台升降机所承担的扭矩都应在其容许输入轴扭矩以内。

◆驱动源的起动扭矩应确保在使用扭矩的200%以上。

◆在零摄氏度以下工作时因受润滑油粘性变化的影响使得整机效率下降，所以必须选有充足的驱动源。

◆JB型升降机本身不具有自锁功能，为了防止由于轴向载荷和丝杆自重而产生的逆转，必须外加制动装置或选择带有制动的驱动源。

◆升降机使用的一般环境条件,环境温度：–10~40℃，空旷场地通风良好，海拔高度1000米以下，一般工厂灰尘。

◆当升降机工作在多灰尘的场所中时请务必选择防尘罩伸缩套附件来保护丝杆，在室外使用时请务必考虑使用罩壳等装置，使机器不直接受到风吹雨打。

◆在升降机工作时，不得进行人为的强行停机，否则将使升降机受到严重破损。
JB 系列升降机效率较高，保持时需要有高于保持扭矩的制动装置。

10 Outline Dimension:

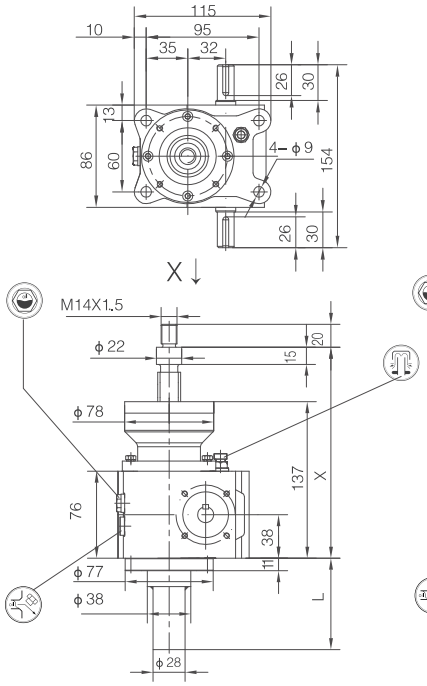
10 外形尺寸：

JB010

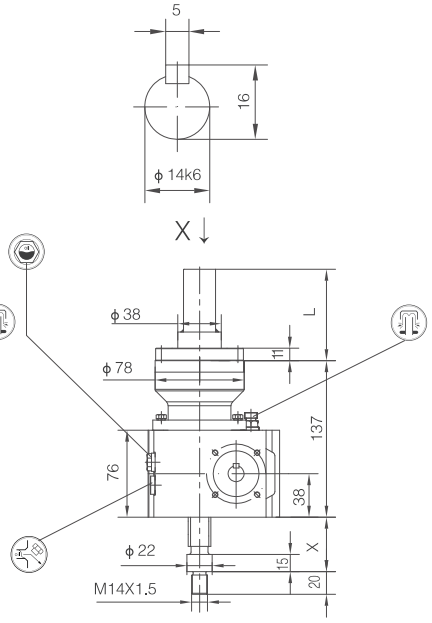
Stroke 行程(mm)	BU					
	X		X(1)		L	m(kg)
	MIN	MAX	MIN	MAX		
100	162	262	212	312	194	6.7
200	162	362	212	412	294	7
300	162	462	252	552	434	7.4
400	162	562	252	652	534	7.6
500	162	662	287	787	669	8
600	162	762	287	887	769	8.2
800	162	962	322	1122	1004	8.7
1000	162	1162	352	1352	1234	9.2

Stroke 行程(mm)	BD					
	X		X(1)		L	m(kg)
	MIN	MAX	MIN	MAX		
100	25	125	75	175	194	6.7
200	25	225	75	275	294	7
300	25	325	115	415	434	7.4
400	25	425	115	515	534	7.6
500	25	525	150	650	669	8
600	25	625	150	750	769	8.2
800	25	825	185	985	1004	8.7
1000	25	1025	215	1215	1234	9.2

X Direction/X向



JB010 BU

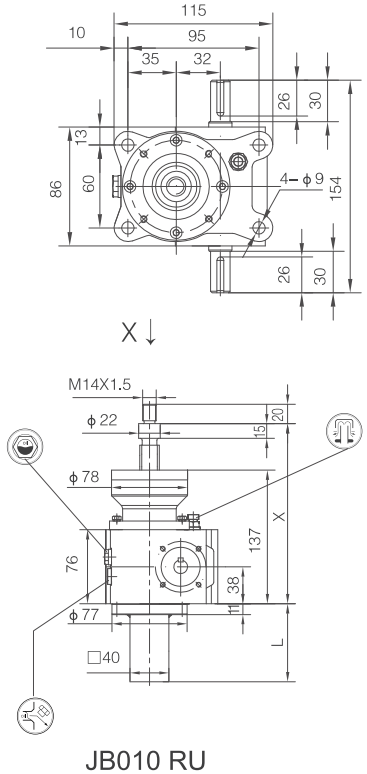


JB010 BD

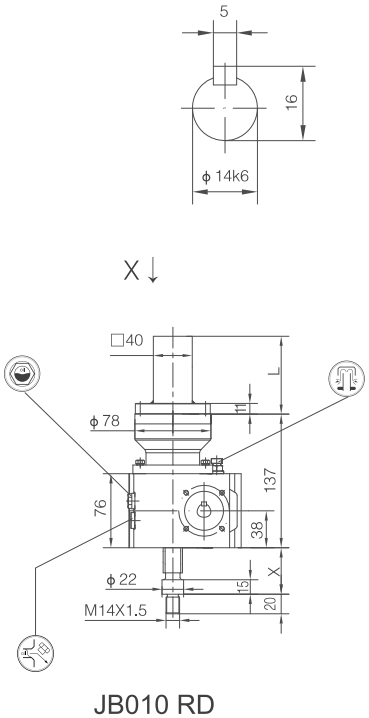
Stroke 行程(mm)	RU					
	X		X(1)		L	m(kg)
	MIN	MAX	MIN	MAX		
100	162	262	212	312	194	7.5
200	162	362	212	412	294	8.2
300	162	462	252	552	434	9.1
400	162	562	252	652	534	9.8
500	162	662	287	787	669	11
600	162	762	287	887	769	12
800	162	962	322	1122	1004	13.5
1000	162	1162	352	1352	1234	15

Stroke 行程(mm)	RD					
	X		X(1)		L	m(kg)
	MIN	MAX	MIN	MAX		
100	25	125	75	175	194	7.5
200	25	225	75	275	294	8.2
300	25	325	115	415	434	9.1
400	25	425	115	515	534	9.8
500	25	525	150	650	669	11
600	25	625	150	750	769	12
800	25	825	185	985	1004	13.5
1000	25	1025	215	1215	1234	15

X Direction/X向



JB010 RU

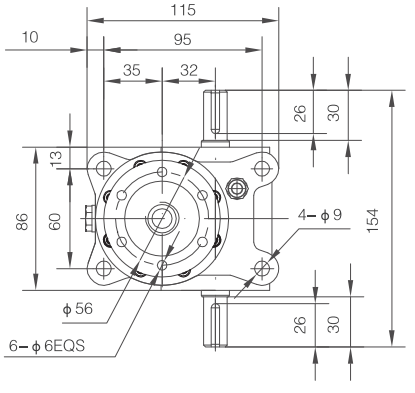


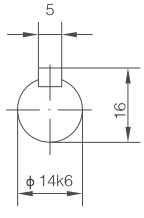
JB010 RD

⚠ Note: X(1) dimension with dust-proof cover.

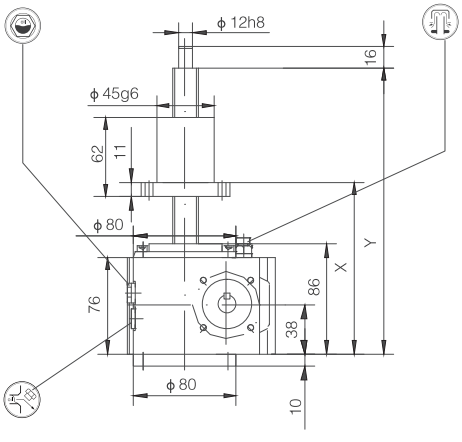
注：X(1) 加防尘罩尺寸。

X Direction/X向



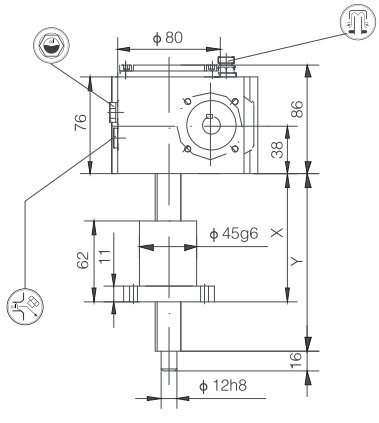


X↓



JB010 NU

X↓

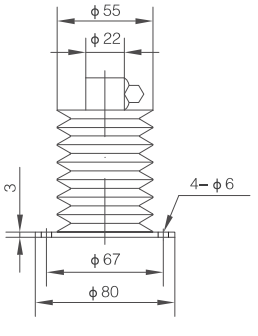


JB010 ND

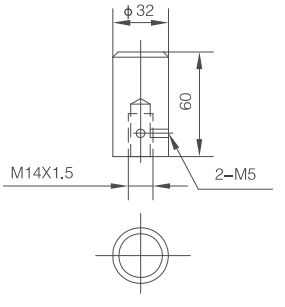
Stroke 行程(mm)	NU			
	X		Y	m(kg)
	MIN	MAX		
100	107	207	268	5.9
200	107	307	368	6.1
300	107	407	468	6.4
400	107	507	568	6.6
500	107	607	668	6.8
600	107	707	768	7
800	107	907	968	7.4
1000	107	1107	1168	7.8

Stroke 行程(mm)	ND			
	X		Y	m(kg)
	MIN	MAX		
100	82	182	192	5.9
200	82	282	292	6.1
300	82	382	392	6.4
400	82	482	492	6.6
500	82	582	592	6.8
600	82	682	692	7
800	82	882	892	7.4
1000	82	1082	1092	7.8

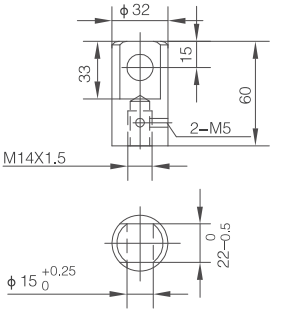
Accessories/附件



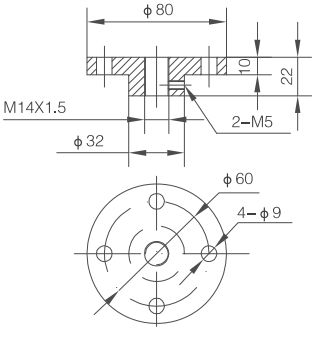
U70



U15



U14



U18

10 Outline Dimension:

10 外形尺寸：

JB025

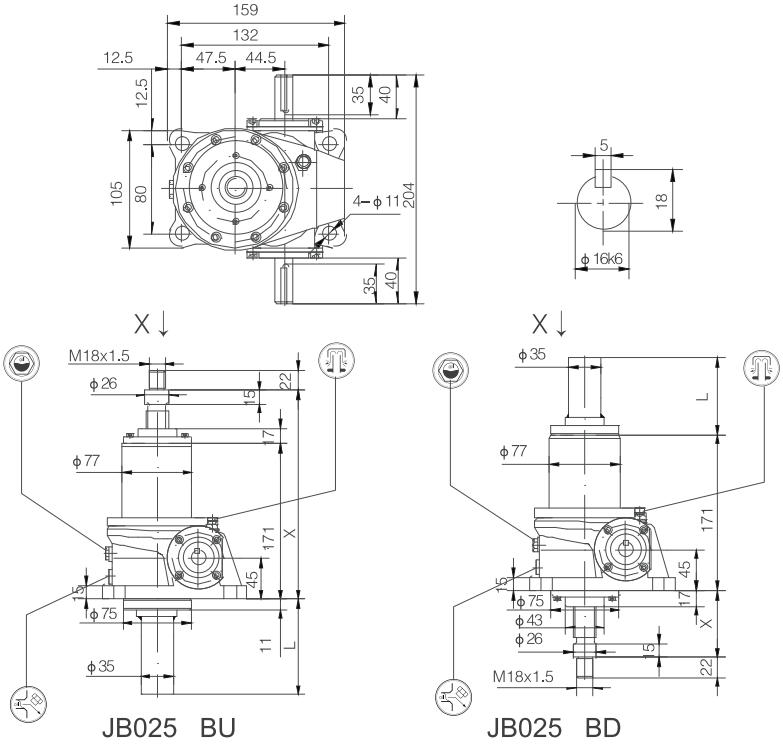
Stroke 行程(mm)	BU					
	X		X(1)		L	m(kg)
	MIN	MAX	MIN	MAX		
100	213	313	228	328	149	11
200	213	413	228	428	249	11.3
300	213	513	248	548	369	11.6
400	213	613	248	648	469	12
500	213	713	268	768	589	12.5
600	213	813	268	868	689	13
800	213	1013	288	1088	909	14
1000	213	1213	308	1308	1129	15
1200	213	1413	323	1523	1344	16

Stroke 行程(mm)	BD					
	X		X(1)		L	m(kg)
	MIN	MAX	MIN	MAX		
100	42	142	57	157	149	11
200	42	242	57	257	249	11.3
300	42	342	77	377	369	11.6
400	42	442	77	477	469	12
500	42	542	97	597	589	12.5
600	42	642	97	697	689	13
800	42	842	117	917	909	14
1000	42	1042	137	1137	1129	15
1200	42	1242	152	1352	1344	16

Stroke 行程(mm)	RU					
	X		X(1)		L	m(kg)
	MIN	MAX	MIN	MAX		
100	213	313	228	328	175	12
200	213	413	228	428	275	13
300	213	513	248	548	395	15
400	213	613	248	648	495	16
500	213	713	268	768	615	17
600	213	813	268	868	715	18
800	213	1013	288	1088	935	21
1000	213	1213	308	1308	1155	24
1200	213	1413	323	1523	1370	27

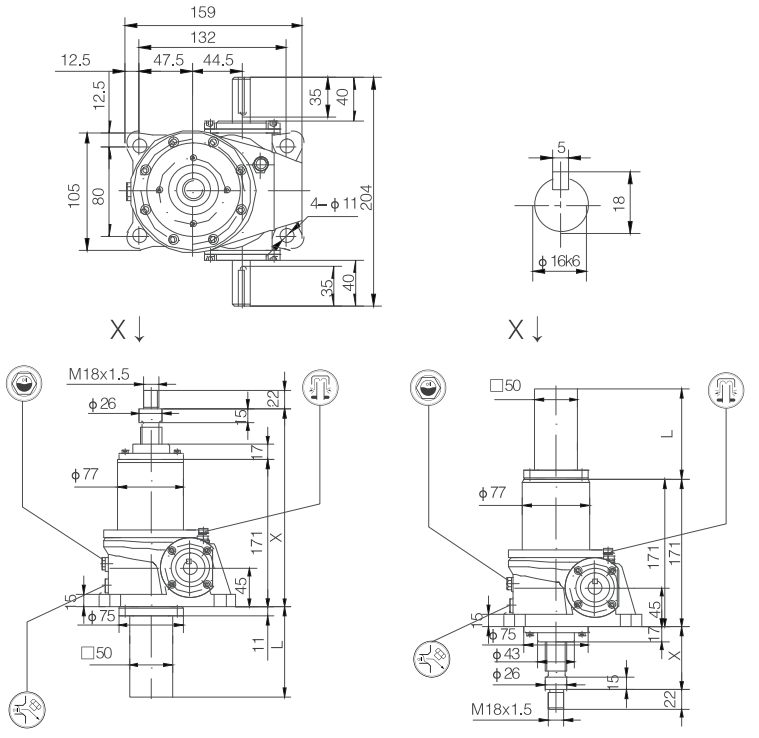
Stroke 行程(mm)	RD					
	X		X(1)		L	m(kg)
	MIN	MAX	MIN	MAX		
100	42	142	57	157	175	12
200	42	242	57	257	275	13
300	42	342	77	377	395	15
400	42	442	77	477	495	16
500	42	542	97	597	615	17
600	42	642	97	697	715	18
800	42	842	117	917	935	21
1000	42	1042	137	1137	1155	24
1200	42	1242	152	1352	1370	27

X Direction/X向



JB025 BU　　JB025 BD

X Direction/X向

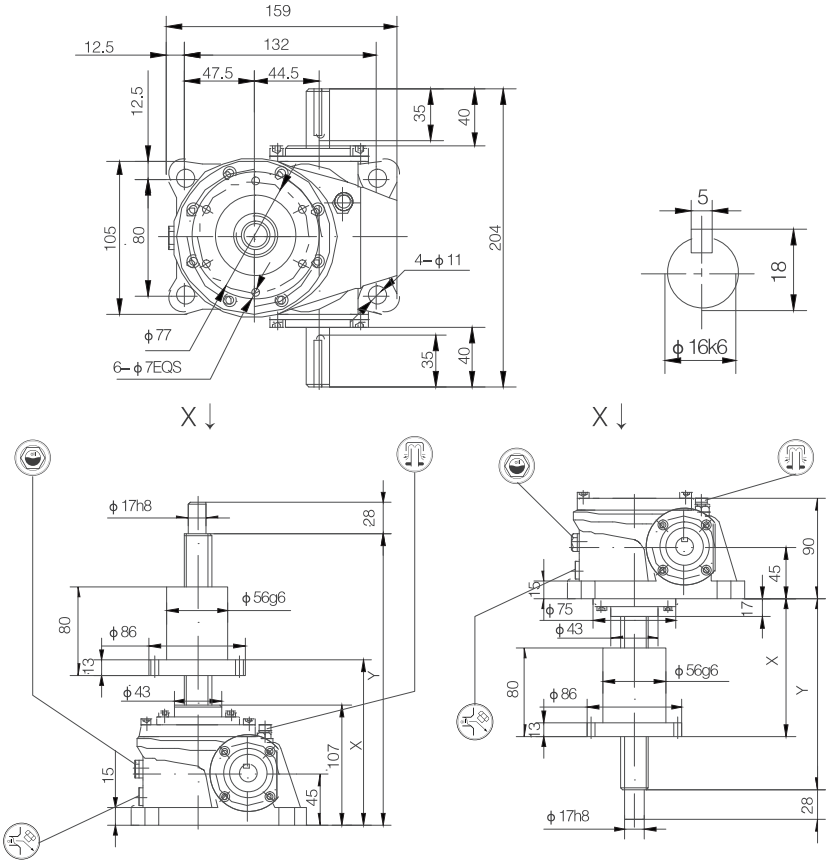


JB025 RU　　JB025 RD

⚠ Note: X(1) dimension with dust-proof cover.

注：X(1) 加防尘罩尺寸。

X Direction/X向

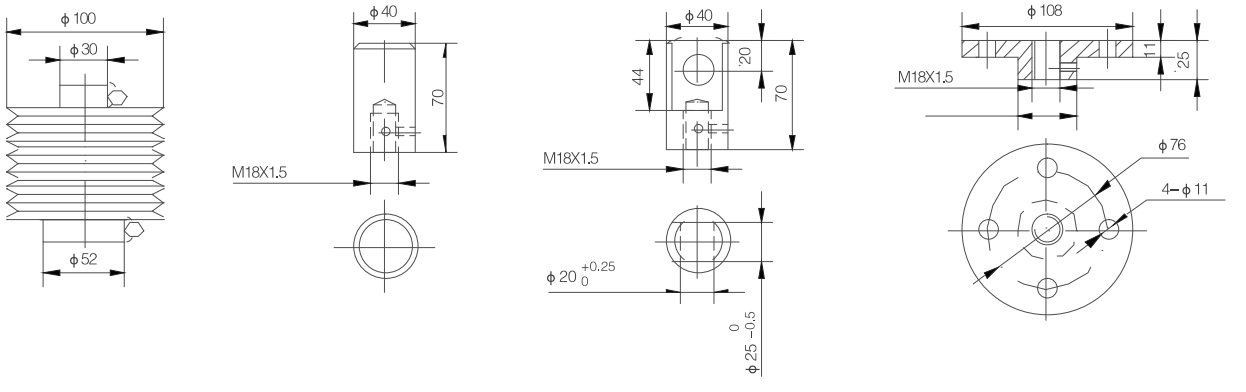


JB025 NU　　JB025 ND

Stroke 行程(mm)	NU			
	X		Y	m(kg)
	MIN	MAX		
100	130	230	307	9.2
200	130	330	407	9.5
300	130	430	507	9.9
400	130	530	607	11
500	130	630	707	11.3
600	130	730	807	11.6
800	130	930	1007	12
1000	130	1130	1207	13
1200	130	1330	1407	14

Stroke 行程(mm)	ND			
	X		Y	m(kg)
	MIN	MAX		
100	107	207	217	9.2
200	107	307	317	9.5
300	107	407	417	9.9
400	107	507	517	11
500	107	607	617	11.3
600	107	707	717	11.6
800	107	907	917	12
1000	107	1107	1117	13
1200	107	1307	1317	14

Accessories/附件



U70　　U15　　U14　　U18

10 Outline Dimension:

10 外形尺寸：

JB050

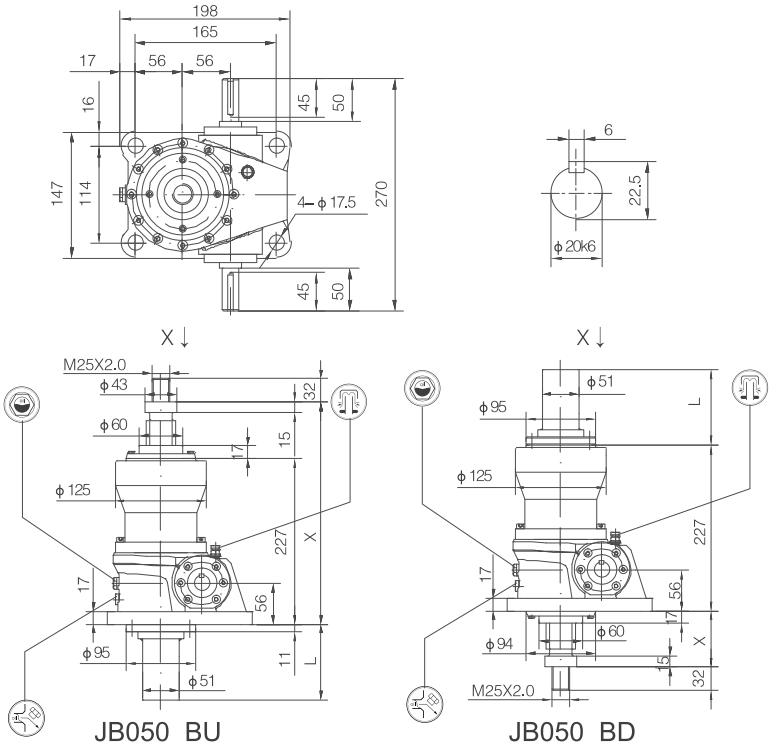
Stroke 行程(mm)	BU					
	X		X(1)		L	m(kg)
	MIN	MAX	MIN	MAX		
100	269	369	284	384	155	23
200	269	469	284	484	255	23.5
300	269	569	304	604	375	24
400	269	669	304	704	475	25
500	269	769	324	824	595	26
600	269	869	324	924	695	27
800	269	1069	344	1144	915	29
1000	269	1269	364	1364	1135	30
1200	269	1469	379	1579	1350	32
1500	269	1769	404	1904	1675	34

Stroke 行程(mm)	BD					
	X		X(1)		L	m(kg)
	MIN	MAX	MIN	MAX		
100	42	142	57	157	155	23
200	42	242	57	257	255	23.5
300	42	342	77	377	375	24
400	42	442	77	477	475	25
500	42	542	97	597	595	26
600	42	642	97	697	695	27
800	42	842	117	917	915	29
1000	42	1042	137	1137	1135	30
1200	42	1242	152	1352	1350	32
1500	42	1542	177	1677	1675	34

Stroke 行程(mm)	RU					
	X		X(1)		L	m(kg)
	MIN	MAX	MIN	MAX		
100	269	369	284	384	183	25
200	269	469	284	484	283	27
300	269	569	304	604	403	29
400	269	669	304	704	503	31
500	269	769	324	824	623	33
600	269	869	324	924	723	35
800	269	1069	344	1144	943	39
1000	269	1269	364	1364	1163	43
1200	269	1469	379	1579	1399	47
1500	269	1769	404	1904	1724	51

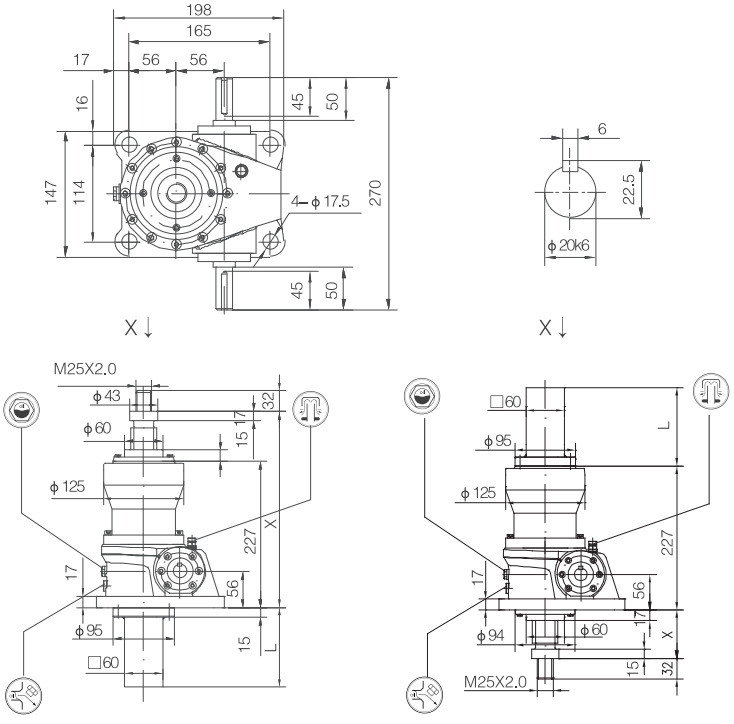
Stroke 行程(mm)	RD					
	X		X(1)		L	m(kg)
	MIN	MAX	MIN	MAX		
100	42	142	57	157	183	25
200	42	242	57	257	283	27
300	42	342	77	377	403	29
400	42	442	77	477	503	31
500	42	542	97	597	623	33
600	42	642	97	697	723	35
800	42	842	117	917	943	39
1000	42	1042	137	1137	1163	43
1200	42	1242	152	1352	1399	47
1500	42	1542	177	1677	1724	51

X Direction/X向



JB050 BU　　JB050 BD

X Direction/X向

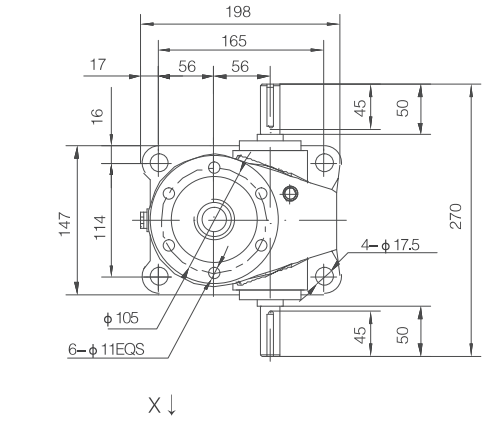


JB050 RU　　JB050 RD

⚠ Note: X(1) dimension with dust-proof cover.

注：X(1)加防尘罩尺寸。

X Direction/向



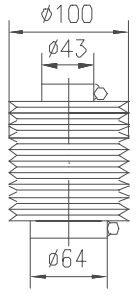
JB050 NU

JB050 ND

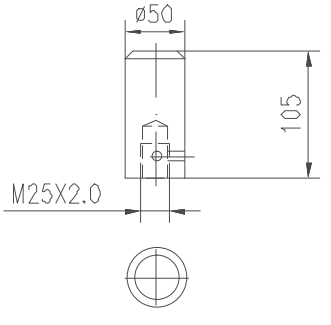
Stroke 行程(mm)	NU			
	X		Y	m(kg)
	MIN	MAX		
100	157	257	352	31
200	157	357	452	32
300	157	457	552	33
400	157	557	652	34
500	157	657	752	35
600	157	757	852	36
800	157	957	1052	39
1000	157	1157	1252	41
1200	157	1357	1452	43
1500	157	1657	1752	46

Stroke 行程(mm)	ND			
	X		Y	m(kg)
	MIN	MAX		
100	130	230	240	31
200	130	330	340	32
300	130	430	440	33
400	130	530	540	34
500	130	630	640	35
600	130	730	740	36
800	130	930	940	39
1000	130	1130	1140	41
1200	130	1330	1340	43
1500	130	1630	1640	46

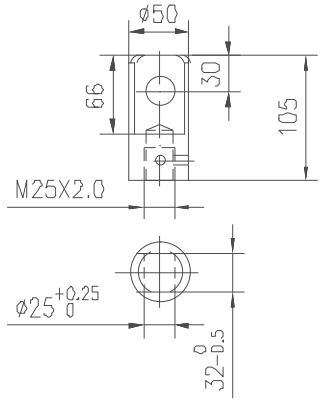
Accessories/附件



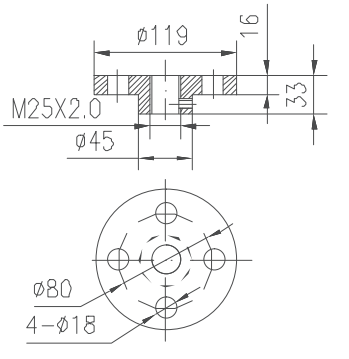
U70



U15



U14



U18

10 Outline Dimension:

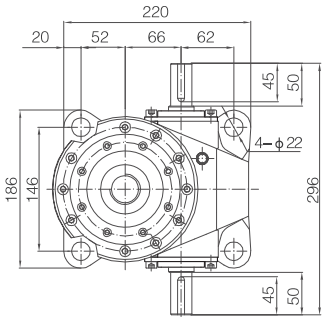
10 外形尺寸：

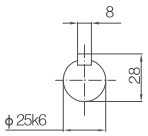
JB100

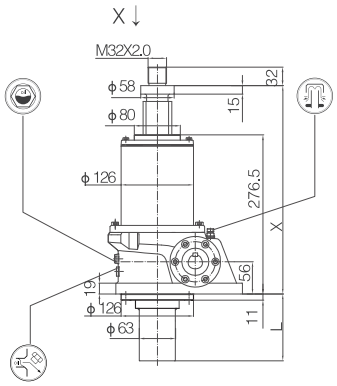
Stroke 行程(mm)	BU					
	X		X(1)		L	m(kg)
	MIN	MAX	MIN	MAX		
100	302	402	312	412	151	36
200	302	502	312	512	252	38
300	302	602	327	627	366	41
400	302	702	327	727	466	43
500	302	802	352	852	591	46
600	302	902	352	952	691	48
800	302	1102	367	1167	906	53
1000	302	1302	377	1377	1116	58
1200	302	1502	402	1602	1341	63
1500	302	1802	427	1927	1666	71

Stroke 行程(mm)	BD					
	X		X(1)		L	m(kg)
	MIN	MAX	MIN	MAX		
100	42	142	52	152	151	36
200	42	242	52	252	252	38
300	42	342	67	367	366	41
400	42	442	67	467	466	43
500	42	542	92	592	591	46
600	42	642	92	692	691	48
800	42	842	107	907	906	53
1000	42	1042	117	1117	1116	58
1200	42	1242	142	1342	1341	63
1500	42	1542	167	1667	1666	71

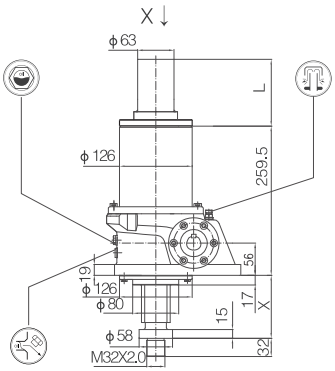
X Direction/X向







JB100 BU

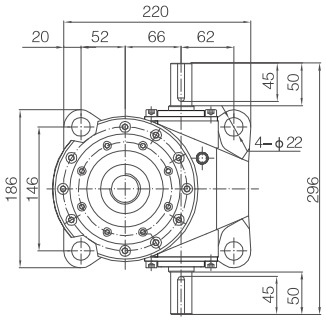


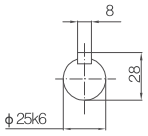
JB100 BD

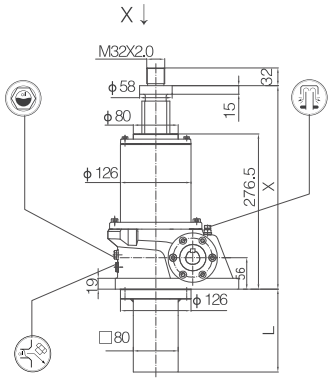
Stroke 行程(mm)	RU					
	X		X(1)		L	m(kg)
	MIN	MAX	MIN	MAX		
100	302	402	312	412	180	39
200	302	502	312	512	282	42
300	302	602	327	627	396	45
400	302	702	327	727	496	48
500	302	802	352	852	621	52
600	302	902	352	952	721	55
800	302	1102	367	1167	936	61
1000	302	1302	377	1377	1146	67
1200	302	1502	402	1602	1371	74
1500	302	1802	427	1927	1707	84

Stroke 行程(mm)	RD					
	X		X(1)		L	m(kg)
	MIN	MAX	MIN	MAX		
100	42	142	52	152	180	39
200	42	242	52	252	282	42
300	42	342	67	367	396	45
400	42	442	67	467	496	48
500	42	542	92	592	621	52
600	42	642	92	692	721	55
800	42	842	107	907	936	61
1000	42	1042	117	1117	1146	67
1200	42	1242	142	1342	1371	74
1500	42	1542	167	1667	1707	84

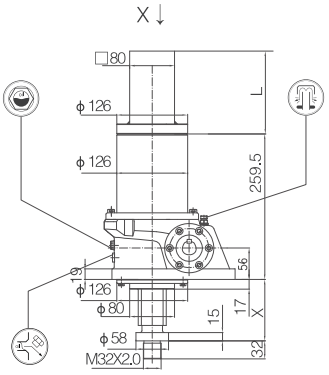
X Direction/X向







JB100 RU

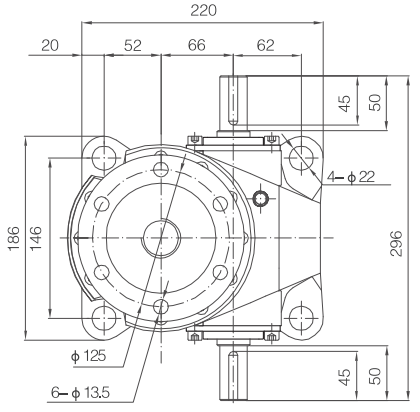


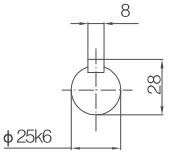
JB100 RD

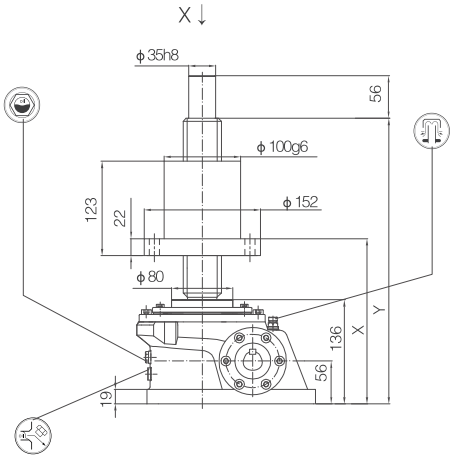
⚠ Note: X(1) dimension with dust-proof cover.

注：X(1) 加防尘罩尺寸。

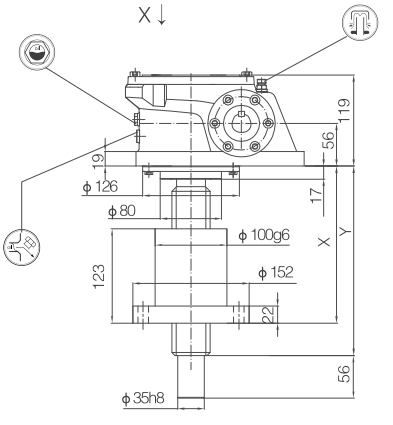
X Direction/X向







JB100 NU

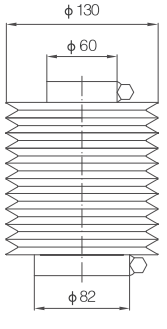


JB100 ND

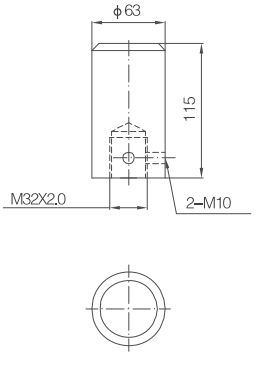
Stroke 行程(mm)	NU			
	X		Y	m(kg)
	MIN	MAX		
100	169	269	380	31
200	169	369	480	32
300	169	469	580	33
400	169	569	680	34
500	169	669	780	35
600	169	769	880	36
800	169	969	1080	39
1000	169	1169	1280	41
1200	169	1369	1480	43
1500	169	1669	1780	45

Stroke 行程(mm)	ND			
	X		Y	m(kg)
	MIN	MAX		
100	158	258	268	31
200	158	358	368	32
300	158	458	468	33
400	158	558	568	34
500	158	658	668	35
600	158	758	768	36
800	158	958	968	39
1000	158	1158	1168	41
1200	158	1358	1368	43
1500	158	1658	1668	45

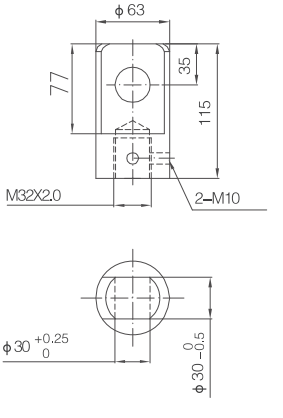
Accessories/附件



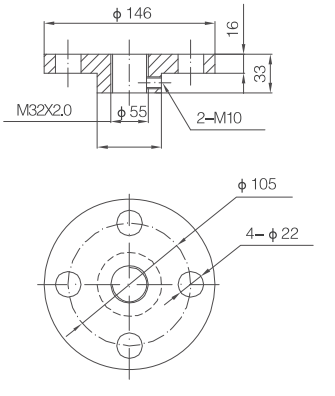
U70



U15



U14



U18

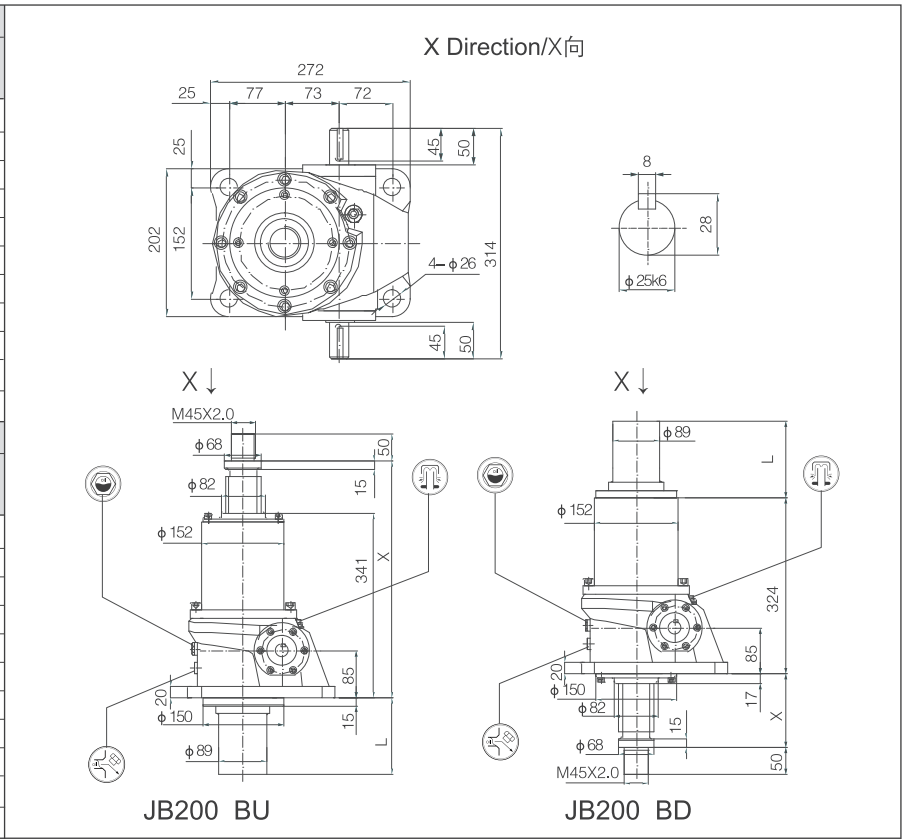
10 Outline Dimension:

10 外形尺寸：

JB200

Stroke 行程(mm)	BU					
	X		X(1)		L	m(kg)
	MIN	MAX	MIN	MAX		
100	366	466	376	476	151	65
200	366	566	376	576	252	68
300	366	666	391	691	366	72
400	366	766	391	791	466	76
500	366	866	416	916	591	80
600	366	966	416	1016	691	83
800	366	1166	431	1231	906	90
1000	366	1366	441	1441	1116	97
1200	366	1566	466	1666	1341	105
1500	366	1866	491	1991	1666	118
2000	366	2366	536	2536	2211	141

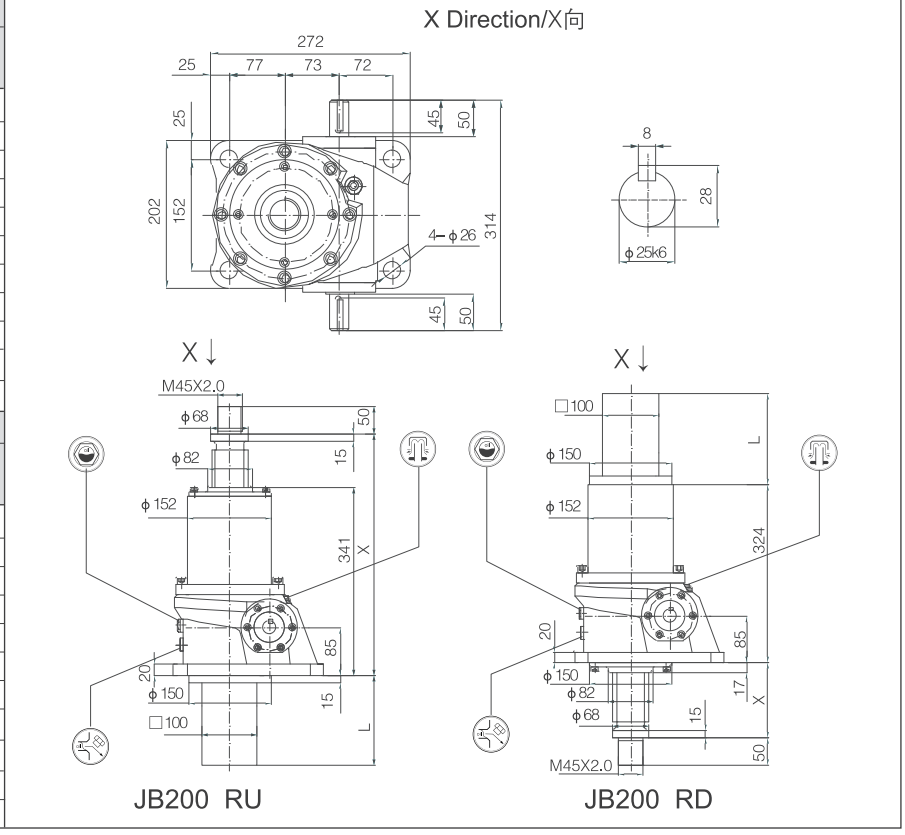
Stroke 行程(mm)	BD					
	X		X(1)		L	m(kg)
	MIN	MAX	MIN	MAX		
100	42	142	52	152	151	65
200	42	242	52	252	252	68
300	42	342	67	367	366	72
400	42	442	67	467	466	76
500	42	542	92	592	591	80
600	42	642	92	692	691	83
800	42	842	107	907	906	90
1000	42	1042	117	1117	1116	97
1200	42	1242	142	1342	1341	105
1500	42	1542	167	1667	1666	118
2000	42	2042	212	2212	2211	141



JB200 BU　　JB200 BD

Stroke 行程(mm)	RU					
	X		X(1)		L	m(kg)
	MIN	MAX	MIN	MAX		
100	366	466	376	476	170	72
200	366	566	376	576	270	76
300	366	666	391	691	385	80
400	366	766	391	791	486	84
500	366	866	416	916	610	89
600	366	966	416	1016	710	93
800	366	1166	431	1231	925	102
1000	366	1366	441	1441	1135	110
1200	366	1566	466	1666	1360	119
1500	366	1866	491	1991	1686	133
2000	366	2366	536	2536	2231	158

Stroke 行程(mm)	RD					
	X		X(1)		L	m(kg)
	MIN	MAX	MIN	MAX		
100	42	142	52	152	170	72
200	42	242	52	252	270	76
300	42	342	67	367	385	80
400	42	442	67	467	486	84
500	42	542	92	592	610	89
600	42	642	92	692	710	93
800	42	842	107	907	925	102
1000	42	1042	117	1117	1135	110
1200	42	1242	142	1342	1360	119
1500	42	1542	167	1667	1686	133
2000	42	2042	212	2212	2231	158

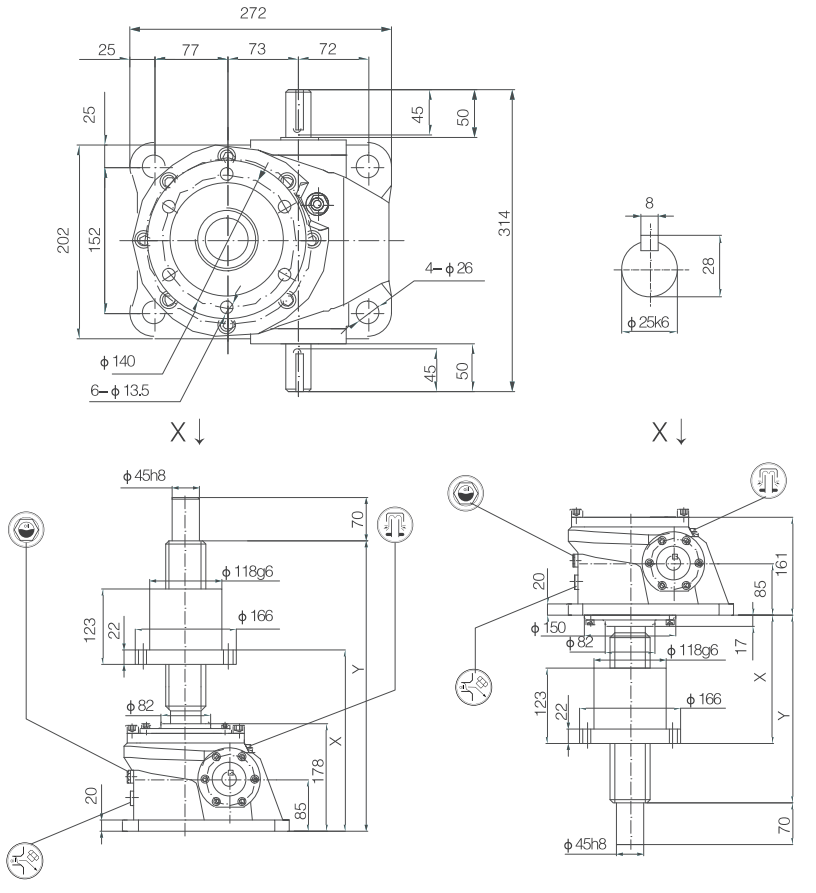


JB200 RU　　JB200 RD

⚠ Note: X(1) dimension with dust-proof cover.

注：X(1) 加防尘罩尺寸。

X Direction/X向

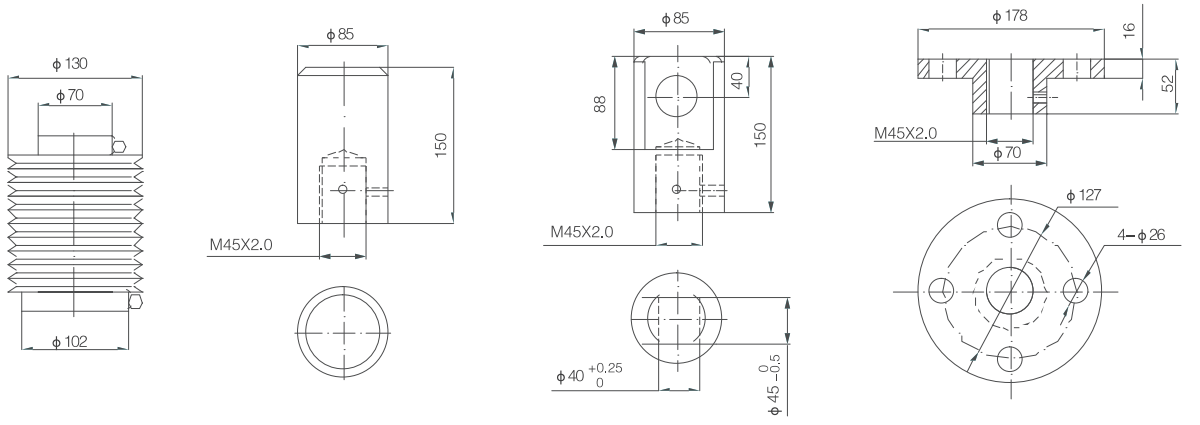


JB200 NU　　JB200 ND

Stroke 行程(mm)	NU			
	X		Y	m(kg)
	MIN	MAX		
100	219	319	430	56
200	219	419	530	58
300	219	519	630	60
400	219	619	730	62
500	219	719	830	65
600	219	819	930	67
800	219	1019	1130	71
1000	219	1219	1330	76
1200	219	1419	1530	80
1500	219	1719	1830	88
2000	219	2219	2330	101

Stroke 行程(mm)	ND			
	X		Y	m(kg)
	MIN	MAX		
100	150	250	260	56
200	150	350	360	58
300	150	450	460	60
400	150	550	560	62
500	150	650	660	65
600	150	750	760	67
800	150	950	960	71
1000	150	1150	1160	76
1200	150	1350	1360	80
1500	150	1650	1660	88
2000	150	2150	2160	101

Accessories/附件



U70　　U15　　U14　　U18

10 Outline Dimension:

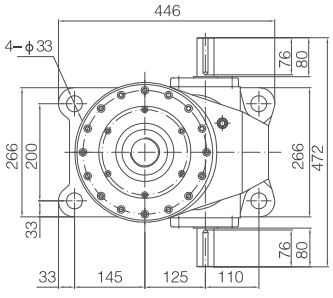
10 外形尺寸：

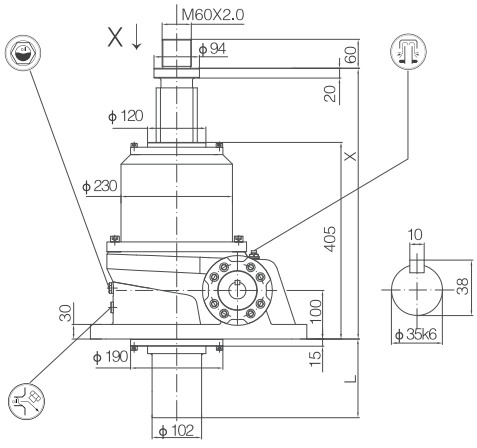
JB300

Stroke 行程(mm)	BU					
	X		X(1)		L	m(kg)
	MIN	MAX	MIN	MAX		
100	435	535	445	545	160	153
200	435	635	445	645	260	159
300	435	735	460	760	375	166
400	435	835	460	860	475	172
500	435	935	475	975	590	178
600	435	1035	475	1075	690	184
800	435	1235	490	1290	905	197
1000	435	1435	510	1510	1125	210
1200	435	1635	520	1720	1335	223
1500	435	1935	545	2045	1660	242
2000	435	2435	580	2580	2195	276

JB300 BU

X Direction/X向

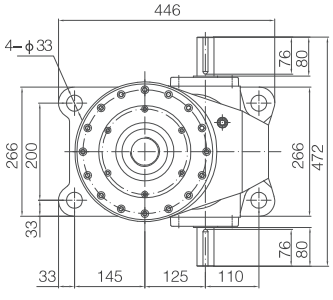


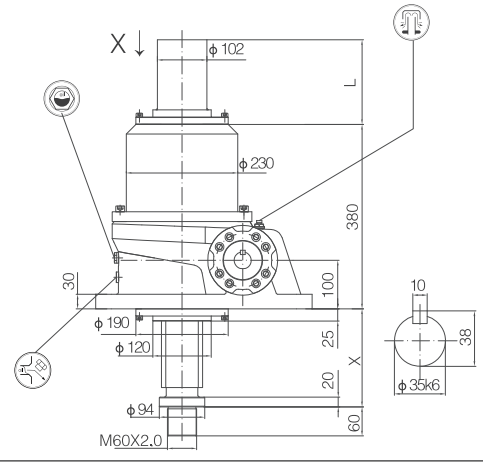


Stroke 行程(mm)	BD					
	X		X(1)		L	m(kg)
	MIN	MAX	MIN	MAX		
100	55	155	65	165	160	153
200	55	255	65	265	260	159
300	55	355	80	380	375	166
400	55	455	80	480	475	172
500	55	555	95	595	590	178
600	55	655	95	695	690	184
800	55	855	110	910	905	197
1000	55	1055	130	1130	1125	210
1200	55	1255	140	1340	1335	223
1500	55	1555	165	1665	1660	242
2000	55	2055	200	2200	2195	276

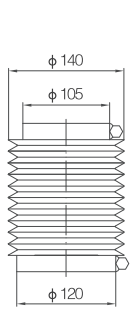
JB300 BD

X向

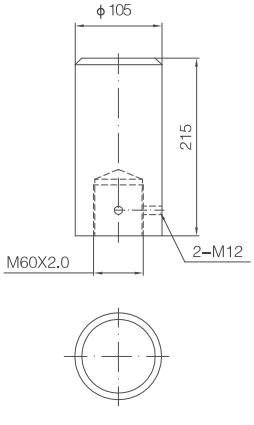




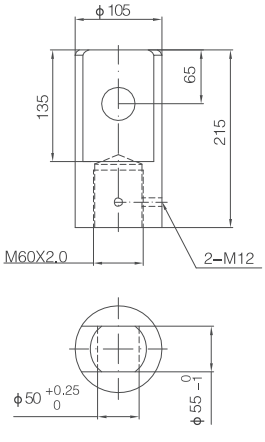
Accessories/附件



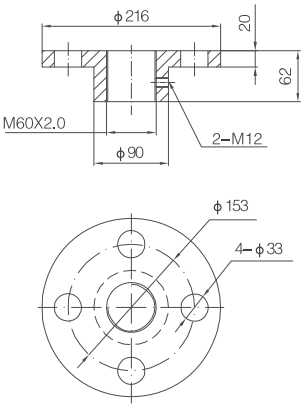
U70



U15



U14



U18

⚠ Note: X(1) dimension with dust-proof cover.

注：X(1) 加防尘罩尺寸。

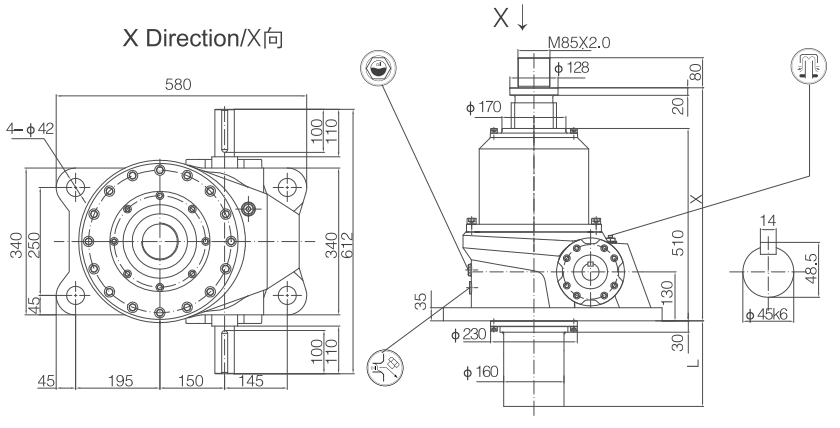
10 Outline Dimension:

10 外形尺寸：

JB500

JB500 BU

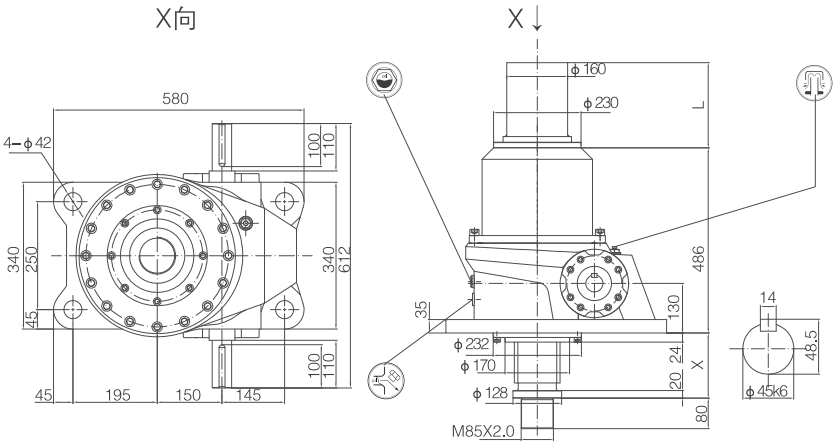
X Direction/X向



Stroke 行程(mm)	BU					
	X		$X^{(1)}$		L	m(kg)
	MIN	MAX	MIN	MAX		
100	540	640	545	645	165	310
200	540	740	545	745	265	320
300	540	840	565	865	385	330
400	540	940	565	965	485	340
500	540	1040	575	1075	595	350
600	540	1140	575	1175	695	359
800	540	1340	590	1390	910	378
1000	540	1540	605	1605	1125	398
1200	540	1740	615	1815	1335	417
1500	540	2040	635	2135	1665	446
2000	540	2540	670	2670	2190	497

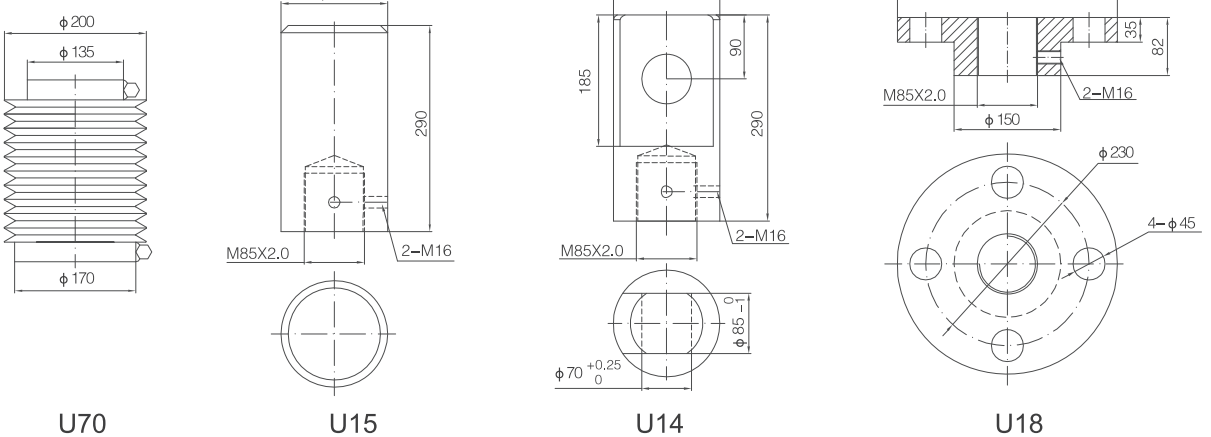
JB500 BD

X向



Stroke 行程(mm)	BD					
	X		$X^{(1)}$		L	m(kg)
	MIN	MAX	MIN	MAX		
100	54	154	59	159	165	310
200	54	254	59	259	265	320
300	54	354	79	379	385	330
400	54	454	79	479	485	340
500	54	554	89	589	595	350
600	54	654	89	689	695	359
800	54	854	104	904	910	378
1000	54	1054	119	1119	1125	398
1200	54	1254	129	1329	1335	419
1500	54	1554	149	1649	1665	446
2000	54	2054	184	2184	2190	497

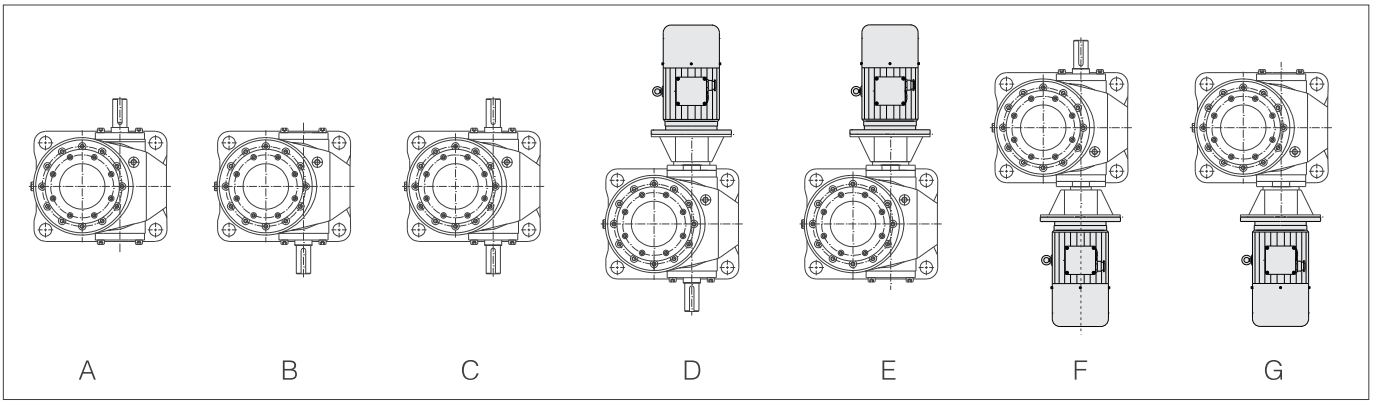
Accessories/附件



U70 U15 U14 U18

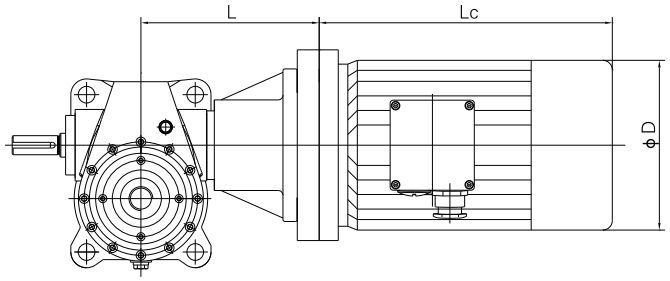
11 Input Modes:

11 输入方式：



12 Direct-linking Input:

12 直联输入：



Type/型号	Motor Size/电机型号	Power/功率(kW)	Lc(mm)			D (mm)	L (mm)	Weight/重量(kg)		
			M	MH	MP			M	MH	MP
JB010	063M4A12FLV2	0.12	211	211	211	124	118	9	9	9
	063M4A18FLV2	0.18	211	211	211	124	118	10	10	11
	071M4A25FLV2	0.25	245	245	245	137	120	12	12	13
	071M4A37FLV2	0.37	245	245	245	137	120	13	13	14
JB025	063M4A12FLV2	0.12	211	211	211	124	145	9	9	9
	063M4A18FLV2	0.18	211	211	211	124	145	10	10	11
	071M4A25FLV2	0.25	245	245	245	137	145	12	12	13
	071M4A37FLV2	0.37	245	245	245	137	145	13	13	14
	080M4A55FLV2	0.55	302	302	302	159	145	13	14	15
	080M4A75FLV2	0.75	302	302	302	159	145	14	15	16
JB050	071M4A25FLV2	0.25	245	245	245	137	187	12	12	13
	071M4A37FLV2	0.37	245	245	245	137	187	13	13	14
	080M4A55FLV2	0.55	302	302	302	159	187	13	14	15
	080M4A75FLV2	0.75	302	302	302	159	187	14	15	16
	090S4B11FLV2	1.1	335	335	335	176	187	16	18	20
	090S4B15FLV2	1.5	335	335	335	176	187	17	19	22
JB100	071M4A37FLV2	0.37	245	245	245	137	223	13	13	14
	080M4A55FLV2	0.55	302	302	302	159	223	13	14	15
	080M4A75FLV2	0.75	302	302	302	159	223	14	15	16
	090S4B11FLV2	1.1	335	335	335	176	223	16	18	20
	090S4B15FLV2	1.5	335	335	335	176	223	17	19	22
	100M4B22FLV2	2.2	404	404	404	199	223	27	30	32
JB200	080M4A75FLV2	0.75	302	302	302	159	241	14	15	16
	090S4B11FLV2	1.1	335	335	335	176	241	16	18	20
	090S4B15FLV2	1.5	335	335	335	176	241	17	19	22
	100M4B22FLV2	2.2	404	404	404	199	241	27	30	32
	100M4B30FLV2	3	404	404	404	199	241	30	33	36
	112M4B40FCV2	4	400	467	467	220	241	45	52	56

Note:1:Power of motor should be conformed with the transmission capacity.
2:The power is for 4–pole motor

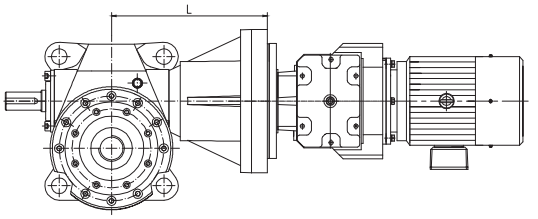
注：1：电机功率的选用应符合传动能力表
2：表中所列功率为4级电机功率

13 Combined-type

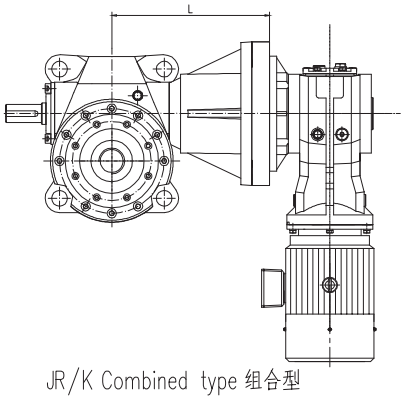
13.1 Dimensions of combined–type

13 组合型

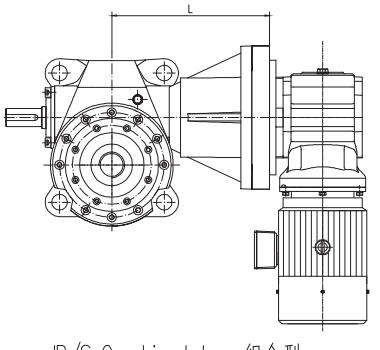
13.1 组合型尺寸



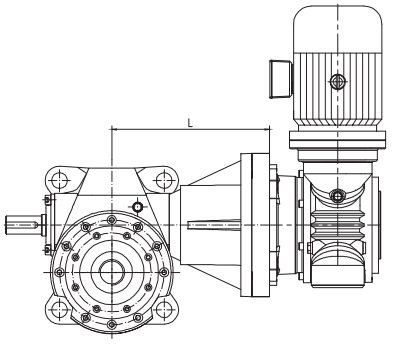
JR/CR Combined type 组合型



JR/K Combined type 组合型



JR/S Combined type 组合型

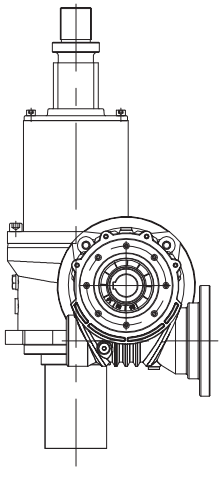


JR/R Combined type 组合型

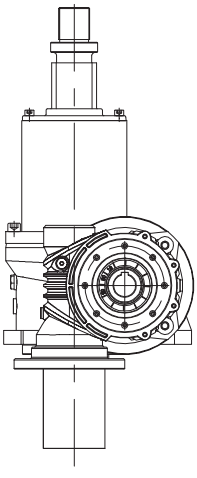
型号 Type	L
JB025../C.01..	145
JB025../R050..	145
JB050../CRL37..	187
JB050../KF37..	187
JB050../S203..	187
JB050../R063..	187
JB100../CRL37..	223
JB100../KF37..	223
JB100../S203..	223
JB100../CR47..	223
JB100../KF47..	223
JB100../S204..	223
JB100../R063..	223
JB100../R080..	223
JB150../CRL37..	225
JB150../KF37..	225
JB150../S203..	225
JB150../CRL47	225
JB150../KF47..	225
JB150../S204..	225
JB150../R063..	225
JB150../R080..	225
JB200../CRL37..	241
JB200../KF37..	241
JB200../S203..	241
JB200../CRL47..	244
JB200../KF47..	241
JB200../S204..	241
JB200../CRL67..	248
JB200../KF67..	248
JB200../S206..	248
JB200../R080..	241
JB200../R100..	248

13.2 Arrangement of combined type

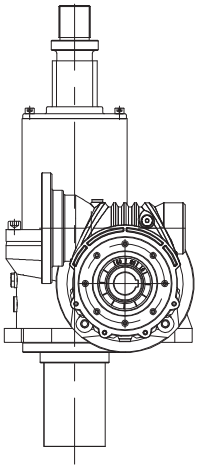
13.2 组合布置形式



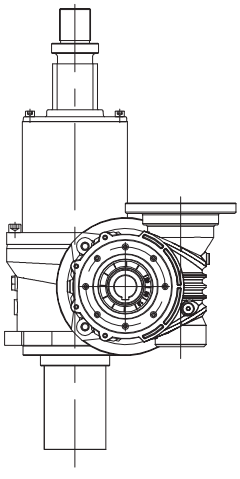
ZR01



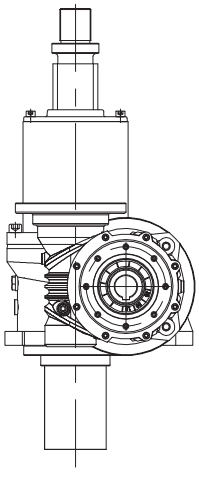
ZR02



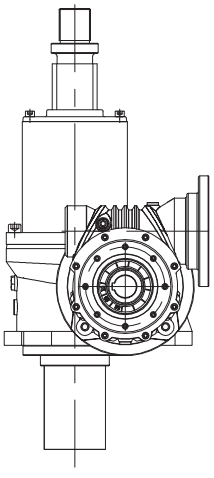
ZR03



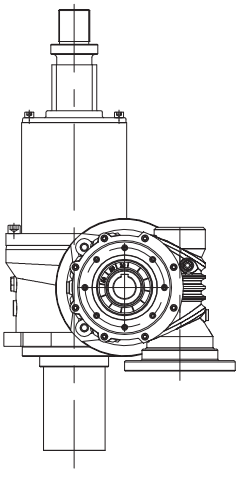
ZR04



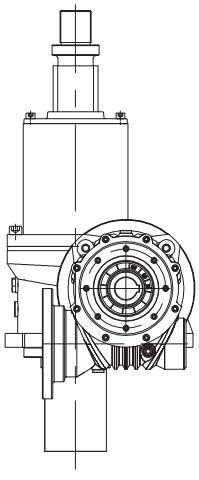
ZR05



ZR06



ZR07



ZR08

14 Attachment:

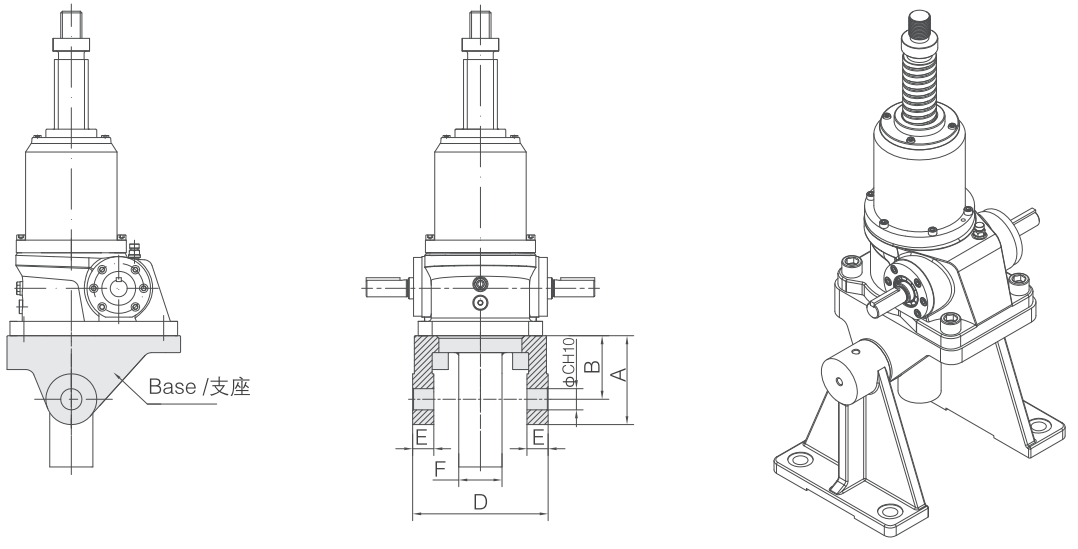
14.1 Base(code U16)

Bases are widely used in switching and inclining devices.

14 附件：

14.1 支座（附件代号 U16）

支座安装广泛应用于开关装置、倾斜装置。如图：



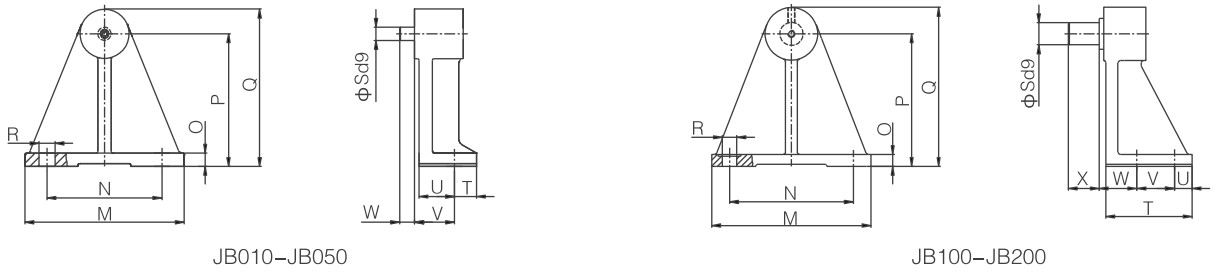
Type /型号	A	B	C	D	E	F
JB010	75	60	15	86	15	40
JB025	100	75	20	115	20	50
JB050	105	75	25	158	25	60
JB100	145	100	40	201	30	80
JB200	173	110	63	244	50	100

14.2 Support legs(code U17)

Bases and support legs are often used together to make lifting function in multiple directions.

14.2 支架（附件代号 U17）

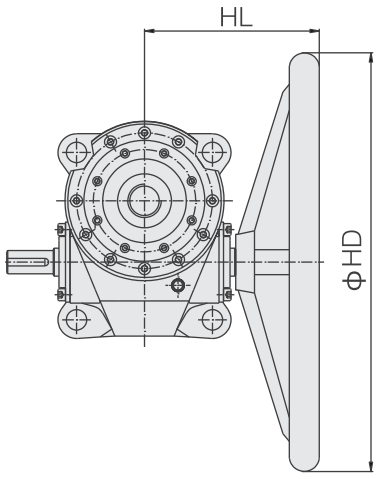
支座与支架配合，实现多方位升降。



Type /型号	M	N	O	P	Q	R	S	T	U	V	W	X
JB010	180	130	15	150	178	2–Φ17.5	15	25	40	45	17	–
JB025	180	130	15	150	178	2–Φ17.5	20	25	40	45	30	–
JB050	200	150	15	170	200	2–Φ17.5	25	25	40	45	35	–
JB100	280	220	22	240	290	4–Φ22	40	159	30	70	70	55
JB200	400	320	30	380	450	4–Φ33	63	210	40	90	90	65

14.3 Handwheel(code U71～U75)

(1) The manual torque=Required input torque(T)/Radius of handwheel (ΦHD/2)

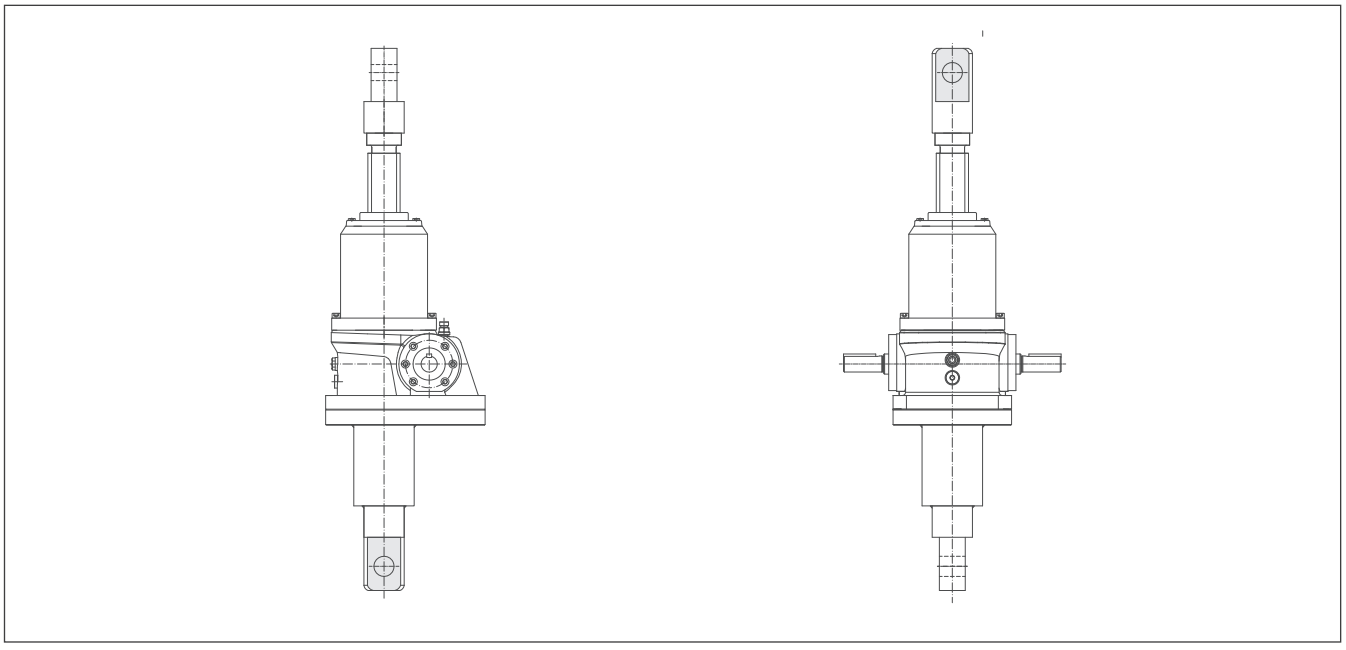


(2) Dimensions: (mm)

Code/附件代号 / Type /型号	U71		U72		U73		U74		U75	
	HD	HL	HD	HL	HD	HL	HD	HL	HD	HL
JB010	80	72	100	85	–	–	–	–	–	–
JB025	–	–	100	90	200	100	280	114	–	–
JB050	–	–	–	–	200	111	280	129	–	–
JB100	–	–	–	–	–	–	280	129	450	145
JB200	–	–	–	–	–	–	–	–	450	162

14.4 Torque–arm mounted(Please consult)

Applicable to opening and reversing devices.



14.3 手轮盘（附件代号 U71～U75）

（1）手动操作扭矩=所需输入扭矩(T）/手轮操作盘半径（ΦHD/2）

(2) 尺寸表： (mm)

14.4 扭力臂安装（敬请垂询）

适用于开闭装置、反转装置。

14.5 Oil

Oil amount reference table:

BU/BD/RU/RD	Oil Amount Reference Table/油量参照表						Unit/单位:(L)
Assembly Position 安装方位 / Type/型号	000#Extreme Pressure Grease/000#极压润滑脂				VG220（Worm Gear Oil/蜗轮蜗杆油）		
	JB010	JB025	JB050	JB100	JB200	JB300	JB500
D01、D03	0.13	0.16	0.2	0.27	0.75	3.1	7.3
D02	0.12	0.13	0.18	0.23	0.65	2.6	5.3

NU/ND	Oil Amount Reference Table/油量参照表					Unit/单位:(L)
Assembly Position 安装方位 / Type/型号	000#Extreme Pressure Grease/000#极压润滑脂				VG220（Worm Gear Oil/蜗轮蜗杆油）	
	JB010	JB025	JB050	JB100	JB200	
D01、D03	0.1	0.12	0.15	0.22	0.6	
D02	0.1	0.12	0.15	0.22	0.5	

⚠Note: When ambient temperature is −20℃ ~ +40℃,
1.JB010–JB100 000# Extreme lubricant has been added when delivery,accessory code is U87;
2.JB200–JB500 lubricant brand is VG220(ISO viscosity class),accessory code is U80;
3.Elevator operation process screw (nut) need to grease;
(1) When ambient temperature is lower than −10℃, synthetic oil should be used;
(2) To ensure lifespan of the product,we recommend synthetic oil ;
(3) When ambient temperature exceeds the above range,please consult **BONENG**.

14.5 润滑油

油量参照表：

注：在环境温度−20℃ ~ +40℃时，
1.JB010–JB100出厂已添加000#极压润滑脂；附件代号U87；
2.JB200–JB500 润滑油牌号为VG220（ISO粘度等级），附件代号为U80；
3.升降机运行过程中丝杆（螺母）处需涂抹润滑脂；
(1)当使用环境温度低于−10℃时必须使用合成油；
(2)为确保产品的使用寿命，推荐使用合成油；
(3)使用环境温度超出上述范围时，请向 **BONENG** 咨询。

14.6 Motor

14.6.1 Type designation

MH 090 S 4 B15 F L V2 + D11 +E08+E1A+E2A+E25

- Motor Size/电机类型
- Size/机座号
- Frame length/机座长度
  S=Short frame/短机座；M=Moderate frame/中机座；L=Long frame/长机座
- Number Of Motor Pole/电机极数
  4=4pole/极；6=6pole/极
- Power/功率
- Mounting Mode/安装形式
  F=B5flange mounted/法兰安装
- Frame Material/机座材质
  L=Aluminium(For frame size≤112)/铝机座(机座号112及以下规格标配)；
  C=Cast iron (For frame size≥132)/铸铁机座(机座号132及以上规格标配)
- Frequency/Voltage/频率/电压
- Motor Terminal Box And Cable Entry Position/电机接线盒和进线孔位置
- Accessories And Specific Configuration/附件和指定配置

14.6 电机

14.6.1 型号表示方法

14.6.2 Code specification and standard allocation　　14.6.2 代号说明及标准配置

Series 系列	Motor type 电机种类	Standard configuration parameters 标准配置参数	Power 功率范围
M	Three–phase asynchronous motor (M) 三相异步电动机(M)	1. Continuous Duty（S1） 2. Insulation Class：F 3. Ingress Protection：IP55 4. Rated Voltage：400V(380V)/ 460V(440V) 5. Rated Frequency：50Hz/60 Hz 6. Wiring:H112 below Y;H112 and above △ 7. Cooling method：IC411 Note: Data H71/H160–280 are same as MH 1.连续工作制（S1） 2.绝缘等级：F 3.防护等级：IP55 4.额定电压：400V(380V)/ 460V(440V) 5.额定频率：50Hz/60 Hz 6.接法:H112以下Y;H112及以上△ 7.冷却方式：IC411 注:H71/H160–280数据同MH	H63–280 （0.12–90kW）
	Electromagnetic brake three–phase asynchronous motor (M + Brake code) 电磁制动三相异电动机 (M+制动器代号)	1. Continuous Duty（S1） 2. Insulation Class：F 3. Ingress Protection：IP55 4. Rated Voltage：400V(380V)/ 460V(440V) 5. Rated Frequency：50Hz/60Hz 6. Wiring:H112 below Y;H112 and above △ 7. Brake Voltage：103VDC/220–230VAC (H112 below) 180VDC/380–400VAC (H112及以上) 8. Cooling method：IC411 Note: Data H71/H160–280 are same as MH 1.连续工作制（S1） 2.绝缘等级：F 3.防护等级：IP55 4.额定电压：400V(380V)/ 460V(440V) 5.额定频率：50Hz/60 Hz 6.接法:H112以下Y;H112及以上△ 7.制动电压：103VDC/220–230VAC (H112以下) 180VDC/380–400VAC (H112 and above) 8.冷却方式：IC411 注:H71/H160–280数据同MH	H63–280 （0.12–90kW）
	Frequency control three–phase asynchronous motor (M + Fan code) 变频调速三相异步电动机 (M+风机代号)	1. Continuous Duty（S1） 2. Insulation Class：F 3. Ingress Protection：IP55 4. Rated Voltage：400V(380V)/ 460V(440V) 5. Reference frequency：50Hz/60 Hz 6. Wiring:H112 below Y;H112 and above △ 7. Frequency range：5–50(60)Hz Constant torque; 50(60)–100(120)Hz Constant power 8. Cooling method：IC416 （Axial Fan：3~380–400V/50HZ or 3~440–460V/60HZ） Note: Data H71/H160–280 are same as MH 1.连续工作制（S1） 2.绝缘等级：F 3.防护等级：IP55 4.额定电压：400V(380V)/ 460V(440V) 5.基准频率：50Hz/60 Hz 6.接法:H112以下Y;H112及以上△ 7.变频范围：5–50(60)Hz恒转矩; 50(60)–100(120)Hz恒功率 8.冷却方式：IC416 （轴流风机：3~380–400V/50HZ或3~440–460V/60HZ） 注:H71/H160–280数据同MH	H63–280 （0.12–90kW）
	Frequency conversion brake three–phase asynchronous motor (M + Fan code + Brake code) 变频制动三相异步电动机 (M+风机代号+制动器代号)	1. Continuous Duty（S1） 2. Insulation Class：F 3. Ingress Protection：IP55 4. Rated Voltage：400V(380V)/ 460V(440V) 5. Reference frequency：50Hz/60 Hz 6. Wiring:H112 below Y;H112 and above △ 7. Frequency range：5–50(60)Hz Constant torque; 50(60)–100(120)Hz Constant power 8. Brake Voltage：103VDC/220–230VAC (H112 below) 180VDC/380–400VAC (H112 and above) 9. Cooling method：IC416 （Axial Fan：3~380–400V/50HZ or 3~440–460V/60HZ） Note: Data H71/H160–280 are same as MH 1.连续工作制（S1） 2.绝缘等级：F 3.防护等级：IP55 4.额定电压：400V(380V)/ 460V(440V) 5.基准频率：50Hz/60 Hz 6.接法:H112以下Y;H112及以上△ 7.变频范围：5–50(60)Hz恒转矩; 50(60)–100(120)Hz恒功率 8.制动电压：103VDC/220–230VAC (H112以下) 180VDC/380–400VAC (H112及以上) 9.冷却方式：IC416 （轴流风机：3~380–400V/50HZ或3~440–460V/60HZ） 注:H71/H160–280数据同MH	H63–280 （0.12–90kW）

Series 系列	Motor type 电机种类	Standard configuration parameters 标准配置参数		Power 功率范围
MH	High efficiency three–phase asynchronous motor（MH） 高效率三相异步电动机(MH)	1. Continuous Duty（S1） 2. Insulation Class：F 3. Ingress Protection：IP55 4. Rated Voltage：380V(400V)/ 440V(460V) 5. Rated Frequency：50Hz/60Hz 6. Wiring:H112 below Y;H112 and above △ 7. Cooling method：IC411	1.连续工作制（S1） 2.绝缘等级：F 3.防护等级：IP55 4.额定电压：380V(400V)/ 440V(460V) 5.额定频率：50Hz/60 Hz 6.接法:H112以下Y;H112及以上△ 7.冷却方式：IC411	H63–280 （0.12–90kW）
	High efficiency electromagnetic brake three–phase asynchronous motor (MH + Brake code) 高效率电磁制动三相异电动机 (MH+制动器代号)	1. Continuous Duty（S1） 2. Insulation Class：F 3. Ingress Protection：IP55 4. Rated Voltage：400V(380V)/ 460V(440V) 5. Rated Frequency：50Hz/60Hz 6. Wiring:H112 below Y;H112 and above △ 7. Brake Voltage：103VDC/220–230VAC (H112 below) 180VDC/380–400VAC (H112 and above) 8. Cooling method：IC411	1.连续工作制（S1） 2.绝缘等级：F 3.防护等级：IP55 4.额定电压：400V(380V)/ 460V(440V) 5.额定频率：50Hz/60 Hz 6.接法:H112以下Y;H112及以上△ 7.制动电压：103VDC/220–230VAC (H112以下) 180VDC/380–400VAC (H112及以上) 8.冷却方式：IC411	H63–280 （0.12–90kW）
	High efficiency frequency control three–phase asynchronous motor (MH + Fan code) 高效率变频调速三相异步电动机 (MH+风机代号)	1. Continuous Duty（S1） 2. Insulation Class：F 3. Ingress Protection：IP55 4. Rated Voltage：400V(380V)/ 460V(440V) 5. Reference frequency：50Hz/60 Hz 6. Wiring:H112 below Y;H112 and above △ 7. Frequency range：5–50(60)Hz Constant torque; 50(60)–100(120)Hz Constant power 8. Cooling method：IC416 （Axial Fan：3~380–400V/50HZ or 3~440–460V/60HZ）	1.连续工作制（S1） 2.绝缘等级：F 3.防护等级：IP55 4.额定电压：400V(380V)/ 460V(440V) 5.基准频率：50Hz/60 Hz 6.接法:H112以下Y;H112及以上△ 7.变频范围：5–50(60)Hz恒转矩; 50(60)–100(120)Hz恒功率 8.冷却方式：IC416 （轴流风机：3~380–400V/50HZ或3~440–460V/60HZ）	H63–280 （0.12–90kW）
	High efficiency frequency conversion brake three–phase asynchronous motor (MH + Fan code + Brake code) 高效率变频制动三相异步电动机 (MH+风机代号+制动器代号)	1. Continuous Duty（S1） 2. Insulation Class：F 3. Ingress Protection：IP55 4. Rated Voltage：400V(380V)/460V(440V) 5. Reference frequency：50Hz/60Hz 6. Wiring:H112 below Y;H112 and above △ 7. Frequency range：5–50(60)Hz Constant torque; 50(60)–100(120)Hz Constant power 8. Brake Voltage：103VDC/220–230VAC (H112 below) 180VDC/380–400VAC (H112 and above) 9. Cooling method：IC416 （Axial Fan：3~380–400V/50HZ or 3~440–460V/60HZ）	1.连续工作制（S1） 2.绝缘等级：F 3.防护等级：IP55 4.额定电压：400V(380V)/ 460V(440V) 5.基准频率：50Hz/60 Hz 6.接法:H112以下Y;H112及以上△ 7.变频范围：5–50(60)Hz恒转矩; 50(60)–100(120)Hz恒功率 8.制动电压：103VDC/220–230VAC (H112以下) 180VDC/380–400VAC (H112及以上) 9.冷却方式：IC416 （轴流风机：3~380–400V/50HZ或3~440–460V/60HZ）	H63–280 （0.25–90kW）
MP	Premium Efficiency three–phase asynchronous motor (MP) 超高效率三相异步电动机(MP)	1. Continuous Duty（S1） 2. Insulation Class：F 3. Ingress Protection：IP55 4. Rated Voltage：380V(400V)/440V(460V) 5. Rated Frequency：50Hz/60Hz 6. Wiring:H112 below Y;H112 and above △ 7. Cooling method：IC411	1.连续工作制（S1） 2.绝缘等级：F 3.防护等级：IP55 4.额定电压：380V(400V)/ 440V(460V) 5.额定频率：50Hz/60 Hz 6.接法:H112以下Y;H112及以上△ 7.冷却方式：IC411	H63–280 （0.12–90kW）
	Premium efficiency electromagnetic brake three–phase asynchronous motor (MP + Brake code) 超高效率电磁制动三相异电动机 (MP+制动器代号)	1. Continuous Duty（S1） 2. Insulation Class：F 3. Ingress Protection：IP55 4. Rated Voltage：400V(380V)/ 460V(440V) 5. Rated Frequency：50Hz/60 Hz 6. Wiring:H112 below Y;H112 and above △ 7. Brake Voltage：103VDC/220–230VAC (H112 below) 180VDC/380–400VAC (H112 and above) 8. Cooling method：IC411	1.连续工作制（S1） 2.绝缘等级：F 3.防护等级：IP55 4.额定电压：400V(380V)/ 460V(440V) 5.额定频率：50Hz/60 Hz 6.接法:H112以下Y;H112及以上△ 7.制动电压：103VDC/220–230VAC (H112以下) 180VDC/380–400VAC (H112及以上) 8.冷却方式：IC411	H63–280 （0.12–90kW）
	Premium efficiency frequency control three–phase asynchronous motor (MP + Fan code) 超高效率变频调速三相异步电动机 (MP+风机代号)	1. Continuous Duty（S1） 2. Insulation Class：F 3. Ingress Protection：IP55 4. Rated Voltage：400V(380V)/460V(440V) 5. Reference frequency：50Hz/60 Hz 6. Wiring:H112 below Y;H112 and above △ 7. Frequency range：5–50(60)Hz Constant torque; 50(60)–100(120)Hz Constant power 8. Cooling method：IC416 （Axial Fan：3~380–400V/50HZ or 3~440–460V/60HZ）	1.连续工作制（S1） 2.绝缘等级：F 3.防护等级：IP55 4.额定电压：400V(380V)/ 460V(440V) 5.基准频率：50Hz/60 Hz 6.接法:H112以下Y;H112及以上△ 7.变频范围：5–50(60)Hz恒转矩; 50(60)–100(120)Hz恒功率 8.冷却方式：IC416 （轴流风机：3~380–400V/50HZ或3~440–460V/60HZ）	H63–280 （0.12–90kW）
	Premium efficiency frequency conversion brake three–phase asynchronous motor (MP + Fan code + Brake code) 超高效率变频制动三相异步电动机 (MP+风机代号+制动器代号)	1. Continuous Duty（S1） 2. Insulation Class：F 3. Ingress Protection：IP55 4. Rated Voltage：400V(380V)/460V(440V) 5. Reference frequency：50Hz/60Hz 6. Wiring:H112 below Y;H112 and above △ 7. Frequency range：5–50(60)Hz Constant torque; 50(60)–100(120)Hz Constant power 8. Brake Voltage：103VDC/220–230VAC (H112 below) 180VDC/380–400VAC (H112 and above) 9. Cooling method：IC416 （Axial Fan：3~380–400V/50HZ or 3~440–460V/60HZ）	1.连续工作制（S1） 2.绝缘等级：F 3.防护等级：IP55 4.额定电压：400V(380V)/ 460V(440V) 5.基准频率：50Hz/60 Hz 6.接法:H112以下Y;H112及以上△ 7.变频范围：5–50(60)Hz恒转矩; 50(60)–100(120)Hz恒功率 8.制动电压：103VDC/220–230VAC (H112以下) 180VDC/380–400VAC (H112及以上) 9.冷却方式：IC416 （轴流风机：3~380–400V/50HZ或3~440–460V/60HZ）	H63–280 （0.12–90kW）

14.6.3 Attachment and special requirements code table　　14.6.3 附件及特殊要求代号表

Code/代号	Instruction/说　明	Scope of application 具体应用场合
E08	Matching brake / 配制动器	H63–280(0.12–90kW)
E09	Matching double–brakes / 配双制动器	H80–200(0.55–30kW)
E10	Matching brake with release handle / 配制动器，带手柄	H63–280(0.12–90kW)
E11	Matching brake with self–lock device / 配制动器，带自锁	H63–280(0.12–90kW)
E12	Matching double–brakes with release handle / 配双制动器, 带手柄	H80–200(0.55–30kW)
E13	Matching brake with micro switch / 配制动器，带微动开关	H100–280(2.2–90kW)
E14	Matching brake with release handle and micro switch / 配制动器,带手柄和微动开关	H100–280(2.2–90kW)
E25	Incremental encoder power source voltage DC5–30V / 增量型编码器电源电压 Protection level IP54,Pulsh 1024,Push–Pull output /防护等级IP54，脉冲1024，推挽输出	H71–280(0.25–90kW)
E30	Thermistor / 热敏电阻	H63–280(0.12–90kW)
E32	Temperature sensor / 温度传感器 PT100	H63–280(0.12–90kW)
E33	Heating belt / 加热带	H63–280(0.12–90kW)
E34	Thermal switch / 热敏开关	H63–280(0.12–90kW)
E37	Anticorrosion motor,TH three–proofing motor(including rain cap and heating belt) 防腐电机、TH三防电机(已含防雨罩和加热带）	H63–280(0.12–90kW)
E38	Ingress protection / 防护等级IP56	H63–280(0.12–90kW)
E80	Matching rain cover / 配防雨罩	H63–280(0.12–90kW)

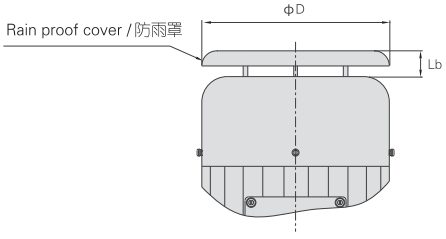
(Frequency/Voltage code and allocation)/频率/电压配置代号:

Motor/电机		Brake/制动器		Fan/风机	
Code/代号	Allocation/配置	Code/代号	Allocation/配置	Code/代号	Allocation/配置
V1	50Hz 220V△/380VY	E1A	50Hz/60Hz 220–240VAC	E2A	50Hz 380V
V2	50Hz 230V△/400VY	E1B	50Hz/60Hz 380–415VAC	E2B	50Hz 400V
V3	50Hz 380V△/660VY	E1C	50Hz/60Hz 440–480VAC	E2C	60Hz 440V
V4	50Hz 400V△/690VY			E2D	60Hz 460V
V5	60Hz 440V△			E2E	50Hz 220V
V6	60Hz 460V△			E2F	50Hz 415V
V7	60Hz 440VY			E2G	60Hz 380V
V8	60Hz 460VY			E2H	60Hz 480V
VA	50Hz 240V△/415VY			E2J	50Hz 220V(单相)
VB	50Hz 415V△				
VC	60Hz 480VY				
VD	60Hz 480V△				
VE	60Hz 220V△/380VY				
VF	60Hz 380V△				

Additional length △L and weight △M for standard motor with brake/fan/coder/标准电机配风机、制动器及编码器增加的长度及重量:

Size 机座号	Additional length/标准电机尺寸增加长度 △L(mm)						Additional weight/标准电机尺寸增加重量 △M(kg)					
	+Fan/风机	+Brake/制动器	+Double–brake/双制动器	+Fan/风机 +Brake/制动器	+Fan/风机 +Coder/编码器	+Fan/风机 +Brake/制动器 +Coder/编码器	+Fan/风机	+Brake/制动器	+Double–brake/双制动器	+Fan/风机 +Brake/制动器	+Fan/风机 +Coder/编码器	+Fan/风机 +Brake/制动器 +Coder/编码器
	△L1	△L2	△L3	△L4	△L5	△L6	△M1	△M2	△M3	△M4	△M5	△M6
63	55	35	/	90	/	/	0.5	1.5	3	2	/	/
71	45	40	/	90	90	130	0.7	1.7	3.4	2.5	1.5	3.5
80	45	55	120	105	105	155	0.7	4	8	5	1.5	6
90	45	55	115	100	100	155	0.7	4.1	8.2	5	1.5	6
100	45	75	140	120	120	175	0.7	7.7	15.4	8.5	1.7	9.5
112	55	75	140	130	130	185	0.9	7.8	15.6	8.5	2	10
132	55	85	150	130	130	185	1.8	11	22	12.5	3	14
160	40	95	150	135	135	180	1.5	20.5	41	21.5	2.6	22.5
180	30	110	165	135	135	180	1.5	32	64	33	3.2	34.5
200	5	115	140	120	120	165	0.2	50	100	48	0.5	49.5
225	30	115	/	145	145	190	2.2	50	100	51	3.5	52.5
250	20	140	/	140	140	190	0.5	105	210	100	0	102
280	40	145	/	185	185	230	2	105	210	103	2.5	105

防雨罩（附件代号E80）



Rain proof cover(accessory code E01)

机座号	H63	H71	H80	H90	H100	H112	H132	H160	H180	H200	H225	H250	H280
Lb	20	25	25	30	35	35	40	55	60	65	70	75	80
D	124	139	159	176	199	220	259	314	356	398	446	485	547

*Please consult if you have other special requirements

*如有其它特殊要求请另咨询

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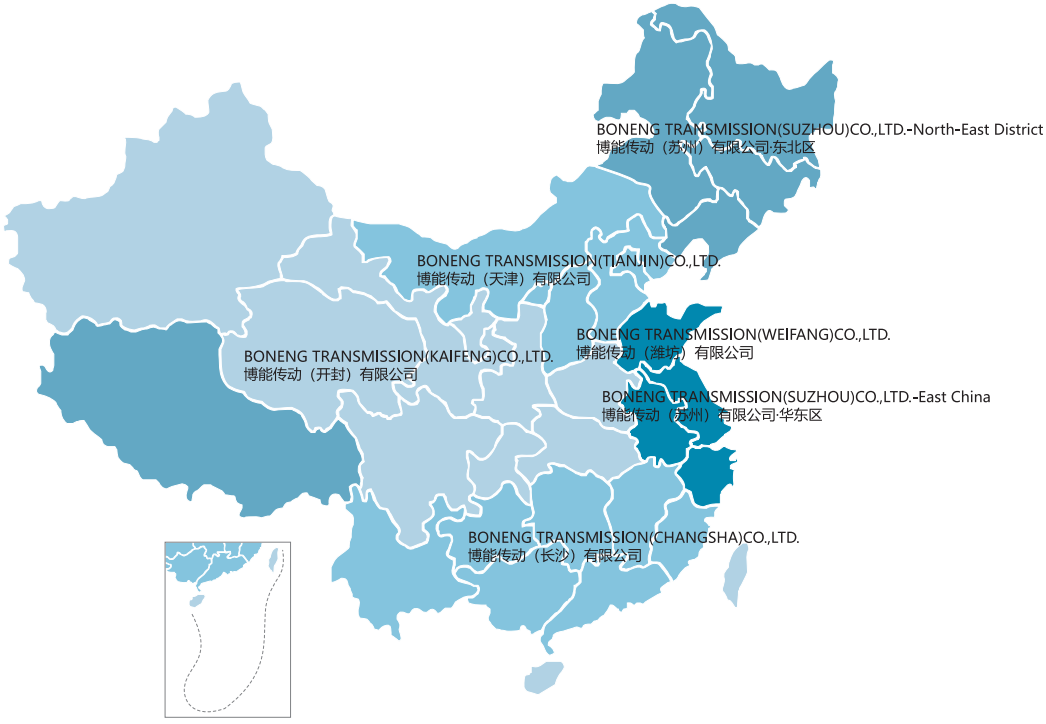

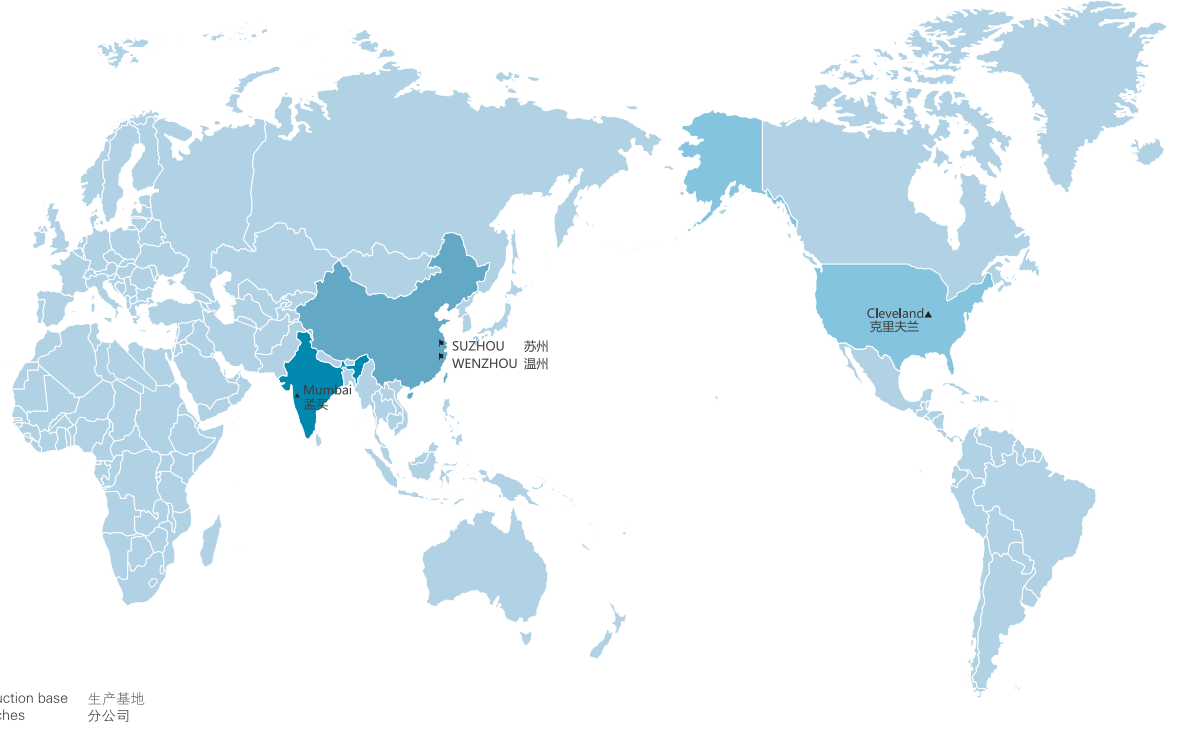

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有关本公司产品目录的内容，随着技术进步等，将会有变更，望谅解!

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