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杭州雷杜科技有限公司
HANGZHOU LEIDU TECHNOLOGY CO., LTD.

地址: 中国·浙江 杭州市余杭区未来科技城文一西路1378号
1378 West Wenyi Road, Future Technology City, Yuhang District,
Hangzhou City, Zhejiang Province, China
电话/TEL: 0086-0571-87386872 0086-0571-88613361
0-18806770015
传真/FAX: 0086-0571-87386872 0086-0571-88613661
网址/HTTP: //www.yndgearbox.com
邮箱/E-mail: WW2WL@163.com

北京办事处 Beijing Office

地址: 北京市海淀区新都公寓
Xindu Apartment, Haidian District, Beijing
电话/TEL: 0086-010-82955707
0-17794588868

郑州办事处 Zhengzhou Office

地址: 郑州市高新区玉兰街16号龙汇国际
Longhui International, No.16, Yulan Street,
High-tech Zone, Zhengzhou
电话/TEL: 0086-0371-63294858 55059702
0-17764584685

山东办事处 Shandong Office

地址: 山东省淄博市高新技术开发区裕民路268号
No.268, Yumin Road, High-Tech Zone, Zibo City,
Shandong
电话/TEL: 0086-0533-7747 888
0-17764550541
传真/FAX: 0086-0533-7868 118

湖南办事处 Hunan Office

地址: 湖南省长沙市芙蓉区张公岭龟山路410号
No.410, Guishan Road, Zhanggongling,
Furong District, Changsha, Hunan
电话/TEL: 0086-0731-83106109
0-17764558808

广东办事处 Guangdong Office

地址: 深圳市宝安区自由路愉盛综合大厦
Yusheng Comprehensive Building, Free Road,
Bao'an District, Shenzhen
电话/TEL: 0-18958075595



雷杜工业传动手册



雷杜蜗杆升降丝杆



雷杜蜗轮蜗杆减速机



雷杜行星减速机



雷杜工业行星减速机



雷杜行星减速机

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生产基地: 浙江杭州
Production base: Hangzhou, Zhejiang

雷杜传动



蜗轮减速机
无级变速器选型手册

WORM GEAR REDUCER
SCREW JACK
STEPLESS SPEED VARIATOR

蜗轮减速机
丝杆升降机
行星锥盘无级变速器



杭州雷杜科技有限公司
Hangzhou Leidu Technology Co., Ltd.



企业简介 Company

杭州雷杜科技有限公司是一家集产品研发、技术服务、生产经营为一体的专业传动科技型企业。致力于提供更有竞争力的传动解决方案和服务，为客户创造更大的价值！

公司主要产品有R、S、K、F四大系列硬齿面减速机，RV/WP系列蜗轮蜗杆减速机，UD/MB系列无级减速机，P系列精密行星减速机，H/B系列大功率减速机，C/G系列齿轮马达及SWL系列丝杆升降机等。产品广泛应用于环保设备、筑路机械、仓储物流，食品机械、印刷包装、汽车检测、立体车库、石油化工、冶金、陶瓷、玻璃、印染纺织、木工机械等传动设备的各个行业。

围绕“品质至上、服务为先”的战略方针，认真贯彻执行国际质量认证体系，核心产品自主研发并获得多项“国家知识产权局”授予的专利称号，部分产品已列入省技术创新计划项目之中。公司与多家科研机构建立战略合作，并列入“杭州师范大学”教学科研实习基地。年取得了企业自营进出口权，产品远销欧美、东南亚等国家和地区。

“雷杜”自创立至今始终遵循“诚信、专业、高效、共赢”的科学的理念和服务理念，真诚期待与您共同携手，开拓美好科技未来。

Hangzhou Leidu Technology Co., Ltd. is a professional transmission technology enterprise integrating product research and development, technical services, production and operation. Committed to providing more competitive transmission solutions and services, to create greater value for customers!

The company's main products are R, S, K, F series geared motor, RV/WP series worm reducer, UD/MB series stepless reducer, P series precision planetary reducer, H/B series high-power reducer, C/G series gear motor and SWL series screw elevator. Products are widely used in environmental protection equipment, road building machinery, storage and logistics, food machinery, printing and packaging, automotive testing, three-dimensional garage, petrochemical, metallurgy, ceramics, glass, printing and dyeing textile, woodworking machinery and other transmission equipment industries.

Around the strategic policy of "quality first, service first", we earnestly implement the international quality certification system. The core products are independently developed and awarded many patent titles by the State Intellectual Property Office. Some of the products have been listed in the provincial technical innovation program. The company has established strategic cooperation with several scientific research institutions and has been listed as the teaching and scientific research practice base of Hangzhou Normal University. In, the company gained the right of self import and export, and its products were exported to Europe and America, Southeast Asia and other countries and regions.

Since its inception, Leidu has always followed the scientific management and service concept of "integrity, professionalism, efficiency and win-win" and sincerely looks forward to working with you to open up a bright future of science and technology.

产品介绍
Product introduction

R、S、K、F系列斜齿轮减速电机 R,S,K,F series helical gear motors



R系列斜齿轮减速电机
R series helical geared motor



S系列斜齿轮-蜗轮蜗杆减速电机
S series helical-worm geared motor



K系列斜齿轮-伞齿轮减速电机
K series helical-bevel geared motor



F系列平行轴-斜齿轮减速电机
F series parallel shaft-helical geared motor

通用减速机系列 General reducer series	
安装方式: 底角, 法兰, 扭力臂。 Mounting arrangements: foot, flange, torque arm.	
功率 Power(KW)	0.12-200
速比 Ratio	1.3-33000
最大输出扭矩 Output torque(KN.M)	top to 50

诚: 推心置腹, 言而有信; 精诚所至, 始终如一;
志: 志不立, 天下无可成之事; 有志者, 事竟成;
恒: 锲而不舍, 金石可镂; 欲稍得成, 从恒下手;
专: 凡为一事, 事皆贵专; 以专而精, 以纷而散;
实: 实事求是, 精益求精, 差之毫厘, 失之千里;
勤: 刻苦求进, 勤学善思; 懒惰误己, 勤奋兴财;

Sincerity: Put your heart in your mouth, believe in your words, and be honest and consistent.

Ambition: Nothing can be done without ambition; if there is a will, there will be competition.

Eternal: Perseverance, stone can be carved; want to get a little bit, from constant hands.

Profession: Everything is for the sake of one thing; it is specialized and refined, and scattered in different ways.

Pragmatism: Seeking truth from facts, strives for perfection, and makes a difference.

Industrious: Diligently seeking progress, diligent learning and good thinking; laziness and wrong self, diligence and prosperity.

HB系列重载齿轮箱 HB series heavy duty gearboxes



H系列斜齿轮减速机
H series helical gearbox



B系列斜齿轮-伞齿轮减速机
B series bevel-helical gearbox

通用减速机系列 General reducer series.	
模块化设计, 安装方式多样。可配置逆止器单向传动, 以及串联辅助传动。 Highly standard modular designed. No strict limitation to the mounting arrangement. Can be configured to one-way transmission by backstop. Available to install with auxiliary drive.	
功率 Power(KW)	4-6000
速比 Ratio	1.25-450
最大输出扭矩 Output torque(KN.M)	top to 950

产品介绍
Product introduction

重载行星减速机 Heavy duty planetary reducers



N系列行星减速机
N series planetary reducer



P系列行星减速机
P series planetary reducer

通用减速机系列 General reducer series	
单位承载能力极高。 Very high unit capacity.	
功率 Power(KW)	0.37-12000
速比 Ratio	25-4000
最大输出扭矩 Output torque(KN.M)	top to 2600

橡塑行业专用减速机 Special reducers for rubber and plastic industry



单螺杆挤出机减速机
Special reducer for single screw extruder



压延机专用减速机
Special reducer for calendaring machine



双螺杆挤出机减速机
Special reducer for twin screws extruder



密炼机专用减速机
Special reducer for internal mixer

专用减速机系列 Special reducer series.	
常用于橡塑行业炼胶，挤出，压延设备。 Commonly used in rubber mixer, extruder, calendaring machine of rubber and plastic industry.	
功率 Power(KW)	55-2500
速比 Ratio	8-35
最大输出扭矩 Output torque(KN.M)	top to 300

蜗轮蜗杆减速机 Worm gear motors



RV系列蜗轮减速机
RV series worm gear motor



VF系列蜗轮减速机
VF series worm gear motor



WP系列蜗轮减速机
WP series worm gear motor



UD系列无极变速器
UD series variable speed machine



T系列螺旋伞齿轮转向箱
T series spiral bevel gear reducer



SWL系列蜗轮丝杆升降机
SWL series worm gear screw reducer

通用减速机系列 General reducer series	
铝合金壳体的蜗轮传动减速机。 结构紧凑，多方位安装，免维护。 Aluminum alloy shell, compact structure, multiple installation, maintenance free.	
功率 Power(KW)	0.06-15
速比 Ratio	7.5-100
最大输出扭矩 Output torque(N.M)	top to 1780

摆线针轮减速机 Cycloidal pinwheel reducers



BWD系列摆线减速机
BWD series cycloidal pinwheel reducer



BLD系列摆线减速机
BLD series cycloidal pinwheel reducer



卧式微型摆线减速机
Horizontal micro cycloidal pinwheel reducer



立式微型摆线减速机
Vertical micro cycloidal pinwheel reducer

通用减速机系列 General reducer series	
结构紧凑，通过摆线针轮传递动力。 Compact structure, Cycloidal pinwheel transmission.	
功率 Power(KW)	0.12-90
速比 Ratio	7-650000
最大输出扭矩 Output torque(KN.M)	top to 30

圆柱齿轮减速机 Cylindrical gear reducers



ZDY系列圆柱齿轮减速机
ZDY series cylindrical gear reducer



ZFY系列圆柱齿轮减速机
ZFY series cylindrical gear reducer



ZSY系列圆柱齿轮减速机
ZSY series cylindrical gear reducer



ZLY系列圆柱齿轮减速机
ZLY series cylindrical gear reducer

通用减速机系列 General reducer series	
按行业标准生产，并可配置逆止器单向传动以及串联辅助传动。 Can be configured to one-way transmission by backstop. Available to install with auxiliary drive.	
功率 Power(KW)	1.1-6000
速比 Ratio	1.25-500
最大输出扭矩 Output torque(KN.M)	top to 520

产品介绍
Product introduction

三项异步电机 Three-phase asynchronous motors



YE2系列高效电机
YE2 series high efficiency motor



YBX3系列防爆电机
YBX3 series premium efficiency flameproof motor



YEJ系列制动电机
YEJ series braking motor



YVF2系列变频电机
YVF2 series variable frequency motor

通用电动机系列 General motor series	
常规工业动力。 Conventional industrial power.	
功率 Power(KW)	0.12-315
机座号 Stand No.	63-355
电源频率(Hz) Power frequency	50/60

微型减速电机 Micro and small gear motors



CH系列减速电机
CH series gear motor



CV系列减速电机
CV series gear moto



直流减速电机
Direct current gear motor



精密行星减速机
High precision planetary reducer

通用减速机系列 General reducer series	
重量轻, 噪音低, 效率高, 寿命长等。 Light weight, low noise, high efficiency, long life etc.	
功率 Power(KW)	0.006-7.5
速比 Ratio	2-200
最大输出扭矩 Output torque(N.M)	top to 7400

双轴桨叶式混合机专用减速机 Special reducer for twin shafts paddle mixe



双轴桨叶式混合机专用减速机
Special reducer for twin shafts paddle mixer



双轴桨叶式混合机
Twin shafts paddle mixer

专用减速机系列 Special reducer series	
该款减速机专为双轴桨叶式混合机设计, 减速机与混合机直联, 最大限度的节省了安装空间和生产成本, 因而设备运行更加平稳, 高效。 The reducer is designed for twin shafts paddle mixer, connect with the mixer directly, saving the installation space and production cost at maximum degree, so the equipment runs more smoothly and efficiently.	
功率 Power(KW)	15-90
速比 Ratio	33-50
最大输出扭矩 Output torque(KN.M)	70

焊接滚轮架专用减速机 Special reducer for welding rotator



焊接滚轮架专用减速机
Special reducer for welding rotator



焊接滚轮架
Welding rotator

专用减速机系列 Special reducer series	
适用于自调式双驱动滚轮架, 移动式焊接滚轮架等各种自动焊接的滚轮架驱动。 The reducers apply to bolt adjustable rotator, self aligning rotator, lead screw adjustable rotator, and fit up rotator, etc.	
功率 Power(KW)	0.18-22
速比 Ratio	300-3400
最大输出扭矩 Output torque(KN.M)	180

NMRV系列蜗轮蜗杆减速机 NMRV series worm gear speed reducer

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UD(L) 系列行星锥盘无级变速器 UD(L) series planet cone-disk stepless speed variator

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**NMRV系列蜗轮蜗杆减速机
NMRV series worm gear speed reducer**

1. 产品图片
Products of pictures



2. 产品结构图 Products structure view



3. 产品概述 Product summary

单级蜗杆减速机

- 采用优质铝合金压铸箱体，外形轻巧美观，结构紧凑，体积小，重量轻，节省安装空间，不易锈蚀。
- 散热性能好，安全可靠，效率高。
- 承载能力高，传动平稳，振动小，噪音低。
- 具有动力输入及转矩输出的多种联接结构，满足多种联接需要；箱体外形设计及底脚孔设置布局适应多种安装方式，通用性强。
- 中小型箱体为全封闭结构，密封性强，箱体内润滑油不易损耗变质，不需更换，便于维护保养。

双级蜗杆减速机

- 由单级蜗杆减速机组合而成，具有单级蜗杆减速机的一切优点，和获得大的传动比。
- 常用双级组合机型为：25/30、25/40、30/40、30/50、30/63、40/75、40/90、50/110、63/130、63/150；用户若有特殊要求时，可根据实际需要选择25、30、40、50、63、75、90、110、130、150作为组合单元另行组合。

Single Step Worm Gear Reducer

- Made of Aluminum alloy die-casting box, good looking in appearance, compact in structure rust proofing on Surface and small volume to save mounting space.
- Good radiating characteristic leads safe and high efficiency for using.
- The strong capacity of loading and overload ensure stable transmission, make less vibration and noise.
- Varies of connecting structure for power input and torque output meet different requirements; the design of box outline and the set of foot hole is apt to with high many kinds of mounting.
- Besides big cases, no gap structure of box means a maintenance-free that is hermetically sealed. It prevents the lubricant from easily losing and going bad, and exchanging.

Double Step Worm Gear Reducer

- It is combined by two single step reducers and has all the virtues of them. And you can get bigger ratio with it.
- The models of 25/30, 25/40, 30/40, 30/50, 30/63, 40/75, 40/90, 50/110, 63/130, 63/150, are in common use. You can choose 25, 30, 40, 50, 63, 75, 90, 110, 130, 150 as combination units to combine according to the fact of your special needs.

4. 选型方法 Model selections

为正确选择NMRV蜗杆减速机，敬请用户首先了解以下几点：

- 负荷条件
- 使用转速范围或速比（与双级组合可获得超低输出转速）
- 工作运转情况及环境（温度、湿度、腐蚀性等）
- 安装空间

确定工作情况系数K1及工作情况修正系数K2

- 根据表1，决定机械负荷种类A、B、C。
- 根据运转时间（小时/天）和启动频率（次数/小时）从图1中求得工作情况系数K1。
- 根据表2，查取工作情况修正系数K2。

Please understand the following at first in order to select the model of NMRV worm-gear speed reducer properly:

- Load condition
- Speed scope or ratio in application.
- Working condition and environment.
- Installation space

Define working si condition coefficient K1 and revise coefficient K2.

- Ensure machinery load types A, B, C according to table 1
- Get the working condition coefficient K1 from diagram 1 according to turning time (hour/day) and startfrequency (times/hour)
- Inspect working condition and select coefficient K2 from table 2

机械负荷种类选定(表1)

Table 1 machinery load classification selection

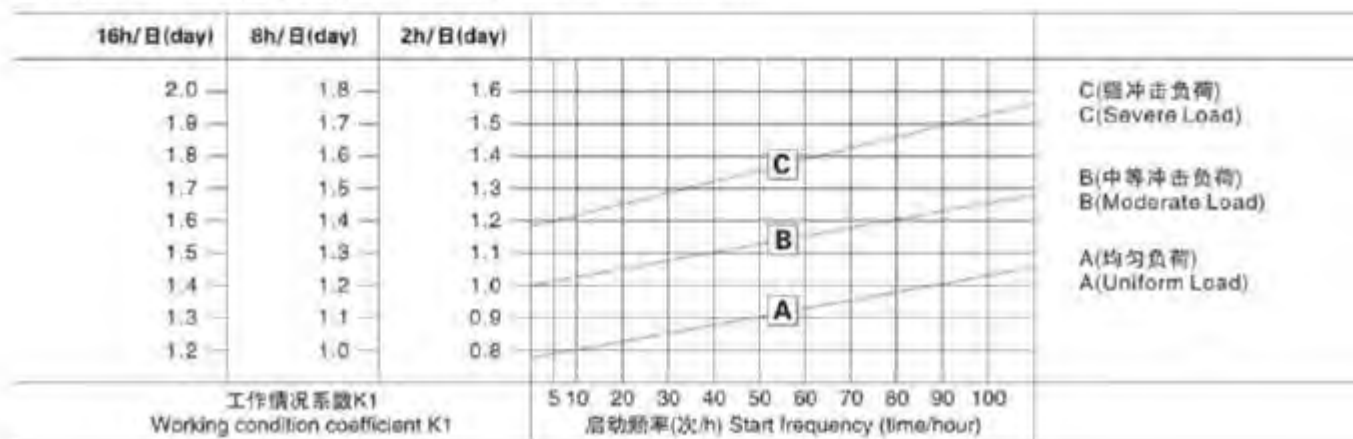
使用情况 Using Situation	示例 Example	负荷种类 Load Type
无冲击均匀负荷 Uniform Load	传送带(匀速输送) Convey Band(uniform Conveying)	A(均匀负荷) A(uniform Load)
中等冲击负荷 Moderak Load	传送带(变速输送) Speed Changed Conveying	B(中等冲击负荷) B(moderate Load)
强烈冲击负荷 Severe Load	压缩机、粉碎机等 Compressor, Pulverizer, etc.	C(强冲击负荷) C(severe Load)

工作情况修正系数k2选定(表2)

Table 2 working condition coefficient k2

环境温度 Ambient Temperature	工作情况修正系数k2 Working Condition Coefficient K2
-10℃-30℃	1
30℃-40℃	1.1-1.2

工作情况系数k1选定(图1) Diagram 1 working condition coefficient k1



选定减速机

- 用户必须先确定工作机输入机械负荷T(转矩), 以T乘以工作情况系数K1, 再乘以工作情况修正系数K2, 即获得减速机应有的输出转矩值, 以此为依据, 并结合速比值或输出转速值, 选定所需减速机规格。
- 用户也可以根据已知的输入功率, 结合速比值或输出转速值, 计算输出转矩, 选定减速机。

选型示例

例1. 通用传送带(均匀负荷)

转矩: 19N.m, 运转时间: 8小时/天,
转速: 约55r/min, 启动频率: 10次/小时,
减速机: 1/25, 环境温度: 室内25℃, 电机直联

- 1) 根据表1, 决定负荷种类
- 1) 负荷种类: 无冲击均匀负荷, 选A;
- 2) 根据图1, 在A线上取频率10次/小时的交点, 求出运转时间8小时/天的系数K1=1;
- 3) 根据表2, 查得系数K2=1;
- 4) 则转矩值为 $19 \times K1 \times K2 = 19 \times 1 \times 1 = 19 \text{ N.m}$, 可选择最接近19 N.m的减速机。
选定结果: NMRV30-1/25
输入功率0.18kW, 输出转速56转/分, 输出转矩21 N.m

例2. 输送带(中等冲击负荷)

转矩: 70N.m, 运转时间: 16小时/天,
转速: 约21r/min, 启动频率: 100次/小时,
减速机: 1/60, 环境温度: 室内35℃, 电机直联

- 1) 根据表1, 决定负荷种类
- 1) 负荷种类: 轻度冲击负荷, 选B;
- 2) 根据图1, 在B线上取频率100次/小时的交点, 求出运转时间16小时/天的系数K1=1.65;
- 3) 根据表2, 查得系数K2=1.15;
- 4) 则转矩值为 $70 \times K1 \times K2 = 70 \times 1.65 \times 1.15 = 133 \text{ N.m}$, 可选择最接近133 N.m的减速机。
选定结果: NMRV63-1/60
输入功率0.55kW, 输出转速23转/分, 输出转矩140N.m

Reducer Selected

- At first it is better to make sure the value input machinery load T(torque) and then you can get the output torque through M multiply with work situation coefficient K1 and work situation revise coefficient K2. The required model can be gained by the above and connecting ratio or output speed.
- You can also select the reducer as followings: calculate output torque according to known input power and then select the reducer in accordance with output torque rotate speed.

Examples for Model Chosen

Ex1. Common convey band (uniform load)

Torque: 19 N.m, Turning time: 8 hours/day
Speed: About 55r/min, Start frequency: 10 times/hours
Ratio: 1/25, Environment temperature: indoor 25℃, Connect with motor directly

- 1) As per table 1; Select load classification. Load classification: Uniform load, choose A.
- 2) As per the cross point of 10 times / hour frequency on line A in diagram 1, get coefficient K1 value is 1 that turning time is 8 hours/day.
- 3) Get the coefficient K2 according to table 2.
- 4) So the torque value is 19 N.m.
Choose model: NMRV30-1/25.
Input power is 0.18KW, output speed is 56r/min, output torque is 21N.m

Ex2. Covey band (moderate load)

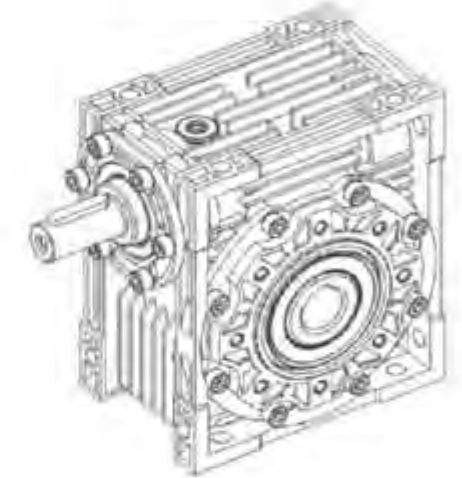
Torque: 70N.m, Turning time: 16 hours/day,
Speed: 21r/min, Start frequency: 100times/hours,
Ratio: 1/60, Environment temperature: indoor 35℃, Connect with motor directly

- 1) As per load classification 1, moderate load, choose B.
- 2) As per the cross point of 100 times / hour frequency on line B in diagram 1, get coefficient K1 value is 1.65 that turning time is 16 hours /day.
- 3) Get the coefficient K2 1.15 according to table 2.
- 4) So the torque value is 70N.m. You can select the model that torque value most close to 133N.m.
Choose Model: NMRV63-1/60
Input power is 0.55KW, output speed is 23r/min, output torque is 140N.m

5. NMRV单级蜗杆减速机
NMRV single step worm gear reducer



NMRV



NRV

型号说明 Model notes

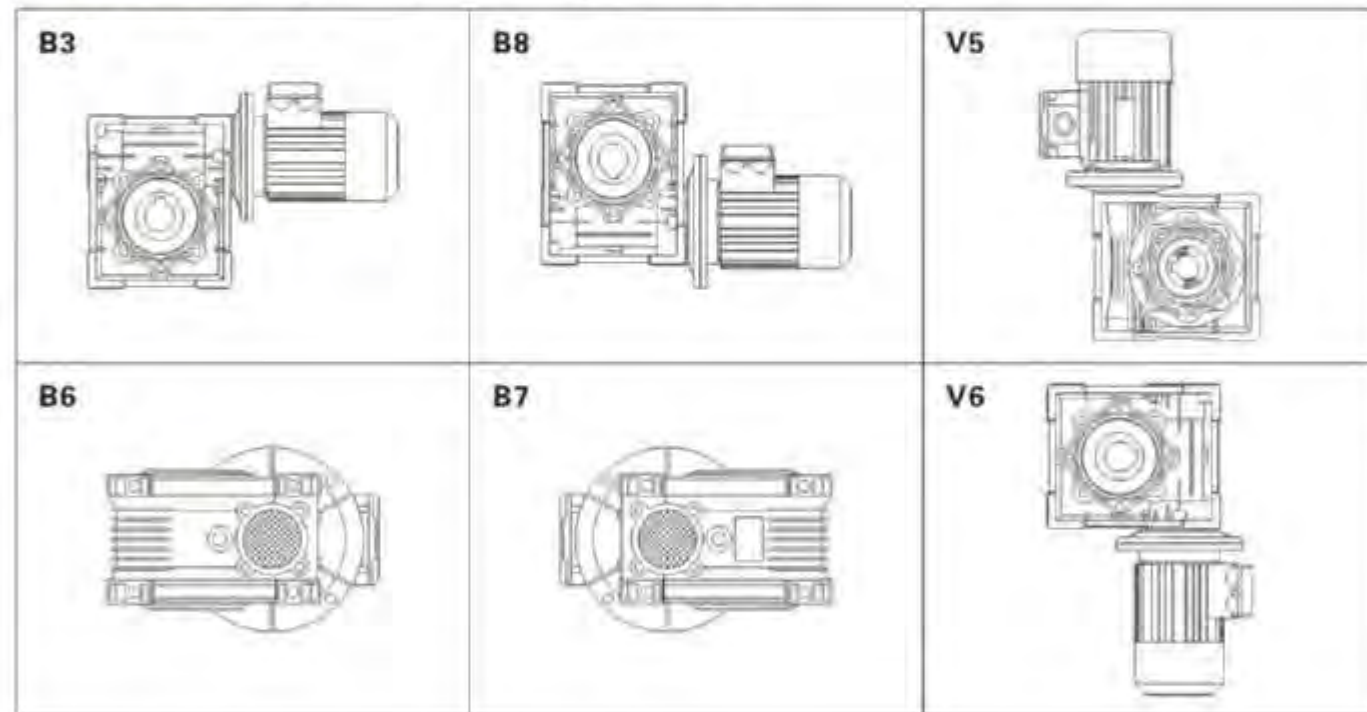
NMRV-075-60-VS-F1(FA)-AS-80B5-0.55kW-B3			
NMRV	蜗轮减速机 Worm gear speed reducer		
NRV	蜗轮减速机(配接输入轴) Worm gear speed reducer (Matching input shaft)		
075	蜗轮减速机中心距 Center distance		
60	减速比 Reduction ratio		
VS	双向输入轴 Double input shaft	F1(FA)	输出法兰位置及型号 Output flange
AS	单向输出轴 Single output shaft	AB	双向输出轴 Double output shaft
PAM	电机联接 Fitted for motor coupling	80B5	电机机座号和安装结构形式 Motor mounting facility
0.55kW	电机功率 Electric motor power	B3	安装方位 Mounting position

注: 1. 用户需要零件时, 请注明“带电机”字样, 并注明所需电机的基本参数。
2. 附件为帮助用户安装减速机所需之零件, 请与减速机在减速机上, 用户可根据实际情况自行装配。
Note: 1. If you need motor, please note "with motor" and the model, power & poles of the motor.
2. Accessories are unassembled. You may assemble them according to your need.

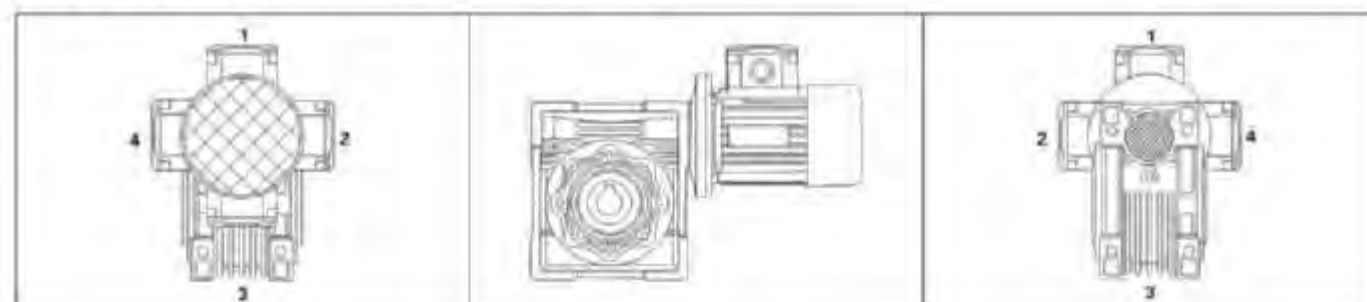
国内型号对照 Comparative table of model

本企业 Our enterprise	NMRV025	NMRV030	NMRV040	NMRV050	NMRV063	NMRV075	NMRV090	NMRV110	NMRV130	NMRV150
		NRV030	NRV040	NRV050	NRV063	NRV075	NRV090	NRV110	NRV130	NRV150
国内企业 Domestic	NMRV025	NMRV030	NMRV040	NMRV050	NMRV063	NMRV075	NMRV090	NMRV110	NMRV130	NMRV150
		NRV030	NRV040	NRV050	NRV063	NRV075	NRV090	NRV110	NRV130	NRV150
	WJ25	WJ30	WJ40	WJ50	WJ63	WJ75	WJ90	WJ110	WJ130	WJ150
	FCNDK25	FCNDK30	FCNDK40	FCNDK50	FCNDK63	FCNDK75	FCNDK90	FCNDK110	FCNDK130	FCNDK150
		FCNK30	FCNK40	FCNK50	FCNK63	FCNK75	FCNK90	FCNK110	FCNK130	FCNK150
	JRSTD025	JRSTD030	JRSTD040	JRSTD050	JRSTD063	JRSTD075	JRSTD090	JRSTD110	JRSTD130	JRSTD150
		JRST030	JRST040	JRST050	JRST063	JRST075	JRST090	JRST110	JRST130	JRST150

单级安装型式 Single step mounting positions



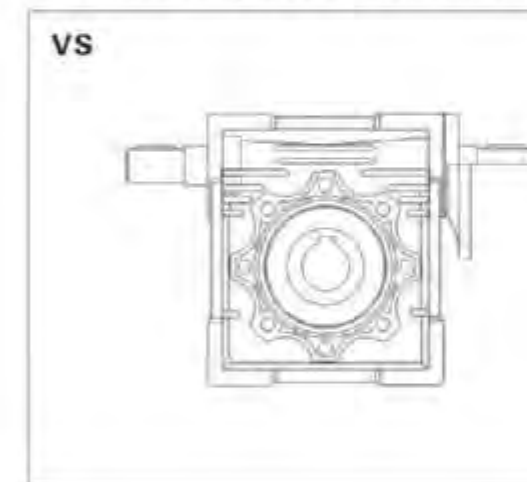
电机接线盒方位 Position of terminal box



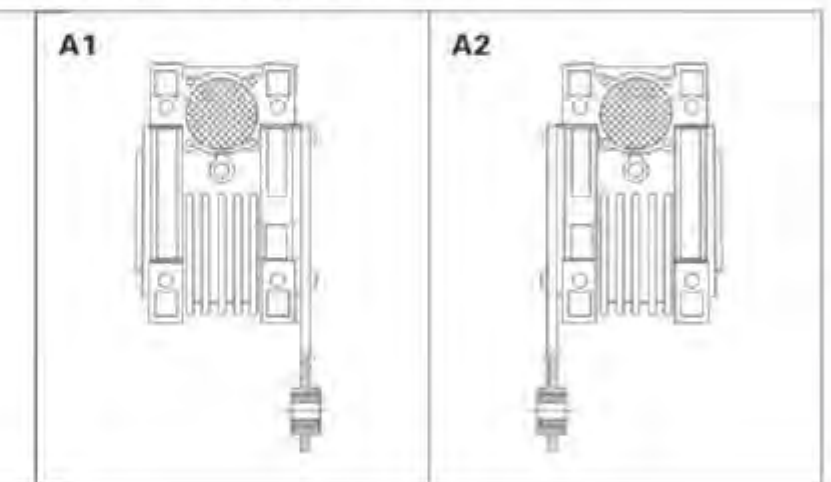
输出轴配置 Position of output shaft



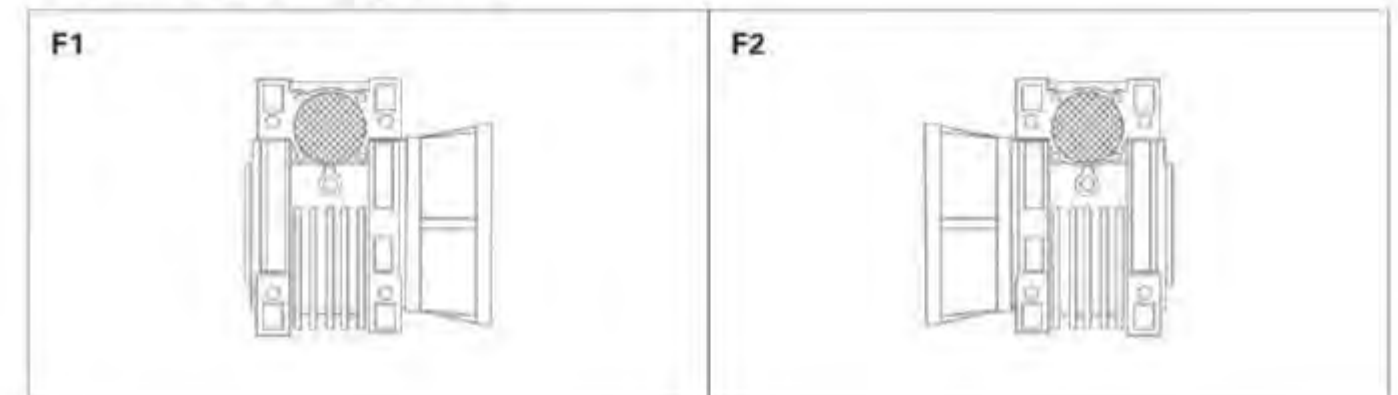
蜗杆双输入
Extension input of worm shaft



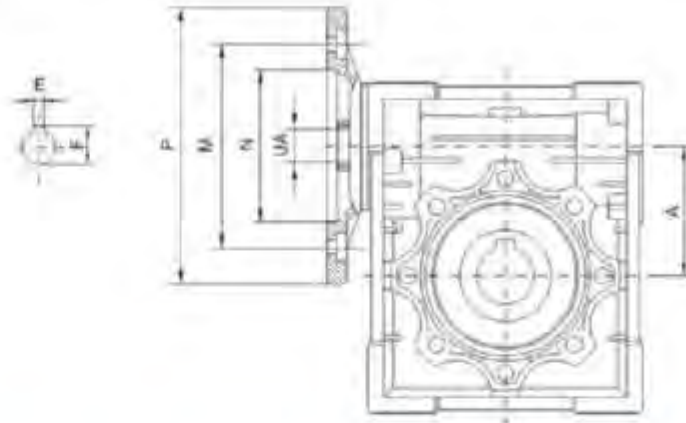
扭力轴配置
Position of torque arm



输出法兰 Output flange F-FL



电机输入法兰 Motor input flange



中心距 Center Distance A	电机法兰 Motor Flange						输入轴孔直径UA The Hole Diameter of Shaft											
	PAM IEC	N	M	P	E	F	传动比 i Transmission Ratio											
							5	7.5	10	15	20	25	30	40	50	60	80	100
NMRV025	56B14	50	65	80	3	10.4	9	9	9	9	9	-	9	9	9	-	-	
	63B5	95	115	140	-	-	-	-	-	-	-	-	-	-	-	-	-	
NMRV030	63B14	60	75	90	4	12.8	11	11	11	11	11	11	11	11	-	-	-	
	56B5	80	100	120	3	10.4	9	9	9	9	9	9	9	9	9	9	-	
NMRV040	71B5	110	130	160	5	16.3	14	14	14	14	14	14	14	-	-	-	-	
	71B14	70	85	105	-	-	-	-	-	-	-	-	-	-	-	-	-	
NMRV050	63B5	95	115	140	4	12.8	11	11	11	11	11	11	11	11	11	11	11	
	63B14	60	75	90	-	-	-	-	-	-	-	-	-	-	-	-	-	
NMRV063	56B5	80	100	120	3	10.4	-	-	-	-	-	-	-	9	9	9	9	
	80B5	130	165	200	6	21.8	19	19	19	19	19	19	-	-	-	-	-	
NMRV075	80B14	80	100	120	6	21.8	-	19	19	19	19	19	19	19	19	19	19	
	71B5	110	130	160	5	16.3	-	-	-	-	-	-	-	14	14	14	14	
NMRV090	100/112B5	180	215	250	8	31.3	-	28	28	28	-	-	-	-	-	-	-	
	100/112B14	110	130	160	5	16.3	-	-	-	-	-	-	-	-	-	-	-	
NMRV110	90B5	130	165	200	6	21.8	-	24	24	24	24	24	24	-	-	-	-	
	90B14	95	115	140	4	12.8	-	-	-	-	-	-	-	11	11	11	11	
NMRV130	80B5	130	165	200	6	21.8	-	-	-	-	19	19	19	19	19	19	19	
	80B14	80	100	120	6	21.8	-	-	-	-	-	-	-	19	19	19	19	
NMRV150	132B5	230	265	300	10	41.1	-	38*	38*	38*	38*	-	-	-	-	-	-	
	100/112B5	180	215	250	8	31.3	-	28	28	28	28	28	28	28	28	28	28	

选型参数 Parameter selections

单级减速机 (法兰输入, 输入转速1400r/min) / (配4极电机)
Single step reducer (flange input, input speed is 1400r/min)/(matched with 4 poles motor)

机型代号 Model	输出转速 N ₂ i/(r/min)	输出转矩 M ₂ (N.m)	传动比 i	输出轴 径向力 kN	使用系数 f _s	
0.06kw						
NMRV25	186.7	2.6	7.5	0.50	4.2	
	140	3.4	10	0.55	3.5	
	93.3	4.9	15	0.63	2.5	
	70	6.1	20	0.69	2.0	
	46.7	8.2	30	0.79	1.6	
	35	10	40	0.87	1.3	
	28	12	50	0.94	0.9	
NMRV30	23.3	14	60	1.00	0.7	
	186.7	2.6	7.5	0.68	6.9	
	140	3.4	10	0.75	5.4	
	93.3	4.7	15	0.86	3.8	
	70	6	20	0.94	3.0	
	56	7	25	1.02	3.0	
	46.7	8	30	1.08	2.5	
NMRV30	35	9.7	40	1.19	1.9	
	28	11	50	1.28	1.5	
	23.3	13	60	1.36	1.3	
	17.5	14	80	1.50	0.9	
	0.09kw					
	NMRV25	186.7	3.9	7.5	0.50	2.8
		140	5.1	10	0.55	2.4
93.3		7.3	15	0.63	1.6	
70		9.2	20	0.69	1.3	
46.7		12	30	0.79	1.1	
NMRV30	35	15	40	0.87	0.9	
	186.7	3.9	7.5	0.68	4.6	
	140	5	10	0.75	3.6	
	93.3	7.1	15	0.86	2.5	
	70	9	20	0.94	2.0	
NMRV40	56	10	25	1.02	2.0	
	46.7	12	30	1.08	1.7	
	35	14	40	1.19	1.2	
	28	17	50	1.28	1.0	
	23.3	19	60	1.36	0.9	
NMRV40	28	19	50	2.47	2.0	
	23.3	21	60	2.63	1.7	
	17.5	26	80	2.89	1.3	
	14	29	100	3.11	1.0	
	0.12kw					
NMRV30	186.7	5.2	7.5	0.68	3.4	
	140	6.7	10	0.75	2.7	
	93.3	9.5	15	0.86	1.9	
	70	12	20	0.94	1.5	
	56	14	25	1.02	1.5	
NMRV40	46.7	16	30	1.08	1.3	
	35	19	40	1.19	0.9	
	28	23	50	1.28	0.8	
	23.3	23	50	1.28	0.8	
	46.7	17.2	30	2.08	2.6	
35	21	40	2.29	1.9		

机型代号 Model	输出转速 N ₂ i/(r/min)	输出转矩 M ₂ (N.m)	传动比 i	输出轴 径向力 kN	使用系数 f _s	
0.12kw						
NMRV40	28	25	50	2.47	1.5	
	23.3	26	60	2.63	1.3	
	17.5	34	80	2.89	1.0	
	14	38	100	3.11	0.8	
NMRV50	23.3	29	60	3.61	2.3	
	17.5	35	80	3.97	1.9	
	14	40	100	4.28	1.4	
0.18kw						
NMRV30	186.7	7.8	7.5	0.68	2.3	
	140	10	10	0.75	1.8	
	93.3	14	15	0.86	1.3	
	70	16	20	0.94	1.0	
	56	21	25	1.02	1.0	
NMRV40	46.7	24	30	1.08	0.8	
	70	19	20	1.82	2.0	
	56	23	25	1.96	1.7	
	46.7	26	30	2.08	1.7	
	35	32	40	2.29	1.3	
NMRV50	28	38	50	2.47	1.0	
	23.3	43	60	2.63	0.8	
	35	32	40	3.15	2.3	
	28	39	50	3.39	1.9	
	23.3	43	60	3.61	1.6	
NMRV50	17.5	52	80	3.97	1.2	
	14	60	100	4.28	0.9	
	0.25kw					
	NMRV40	186.7	11	7.5	1.31	3.6
		140	14	10	1.44	2.8
93.3		21	15	1.65	1.9	
70		27	20	1.82	1.5	
56		32	25	1.96	1.2	
46.7		36	30	2.08	1.3	
35		44	40	2.29	0.9	
NMRV50	28	37	50	2.47	0.8	
	70	26	20	2.50	2.7	
	56	32	25	2.69	2.2	
	46.7	37	30	2.86	2.3	
	35	46	40	3.15	1.7	
	28	54	50	3.39	1.4	
	23.3	60	60	3.61	1.1	
NMRV63	17.5	72	80	3.97	0.9	
	28	56	50	4.44	2.4	
	23.3	63	60	4.71	2.0	
	17.5	78	80	5.19	1.6	
	14	87	100	5.59	1.4	
0.37kw						
NMRV40	186.7	16	7.5	1.31	2.4	
	140	21	10	1.44	1.9	
	93.3	31	15	1.65	1.3	

NRV单级 (轴伸输入, 输入转速1400r/min) / (配4极电机)
NRV Single step reducer (shaft extend input, input speed is 1400r/min)

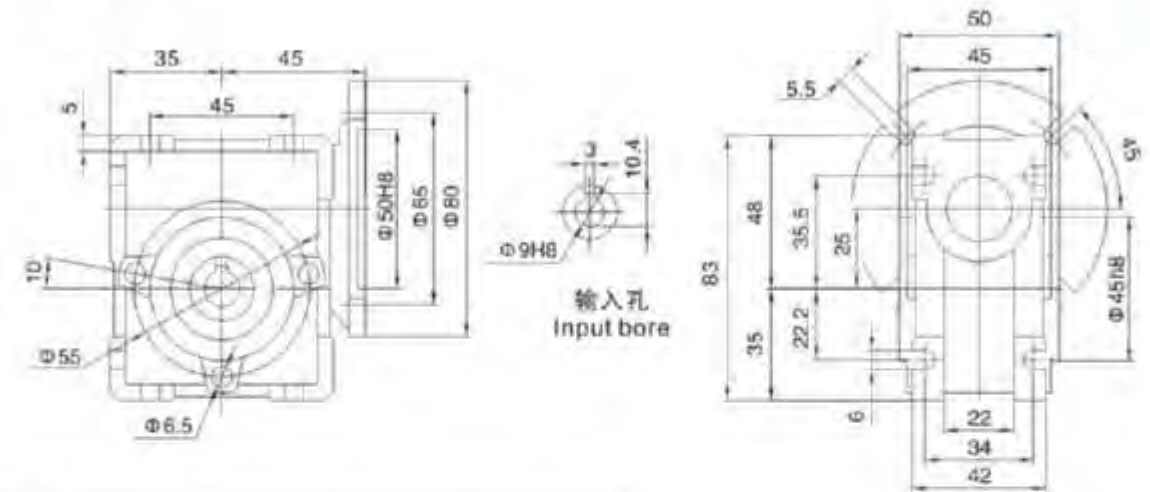
机型代号 Model	输入轴 功率 kW	输出转速 N ₂ (r/min)	输出转矩 M ₂ (N.m)	传动比 i	输出轴 径向力 kN	输入轴 径向力 kN
NRV30	0.4	186.7	18	7.5	0.68	0.15
	0.3	140	18	10	0.75	0.16
	0.2	93.3	18	15	0.86	0.16
	0.2	70	18	20	0.94	0.19
	0.2	56	21	25	1.02	0.21
	0.2	46.7	20	30	1.08	0.21
	0.1	35	18	40	1.19	0.21
	0.1	28	17	50	1.28	0.21
	0.1	23.3	16	60	1.36	0.21
	0.1	17.5	13	80	1.50	0.21
NRV40	0.9	186.7	40	7.5	1.31	0.29
	0.7	140	40	10	1.44	0.33
	0.5	93.3	40	15	1.65	0.33
	0.4	70	39	20	1.82	0.35
	0.3	56	38	25	1.96	0.35
	0.3	46.7	45	30	2.08	0.35
	0.2	35	41	40	2.29	0.35
	0.2	28	39	50	2.47	0.35
	0.2	23.3	36	60	2.63	0.35
	0.1	17.5	33	80	2.89	0.35
NRV50	1.6	186.7	71	7.5	1.80	0.4
	1.2	140	72	10	1.98	0.49
	0.9	93.3	74	15	2.27	0.49
	0.7	70	73	20	2.50	0.49
	0.5	56	70	25	2.69	0.49
	0.6	46.7	84	30	2.86	0.49
	0.4	35	76	40	3.15	0.49
	0.3	28	73	50	3.39	0.49
	0.3	23.3	68	60	3.61	0.49
	0.2	17.5	65	80	3.97	0.49
NRV63	2.8	186.7	128	7.5	2.35	0.5
	2.2	140	130	10	2.59	0.57
	1.6	93.3	140	15	2.97	0.61
	1.2	70	135	20	3.27	0.66
	1.0	56	130	25	3.52	0.70
	1.1	46.7	160	30	3.74	0.70
	0.8	35	145	40	4.12	0.70
	0.6	28	136	50	4.44	0.70
	0.5	23.3	130	60	4.71	0.70
	0.4	17.5	122	80	5.19	0.70
NRV75	4.1	186.7	185	7.5	2.78	0.70
	3.2	140	195	10	3.06	0.83
	2.3	93.3	200	15	3.50	0.85
	1.9	70	210	20	3.86	0.98
	1.5	56	200	25	4.18	0.98
	1.5	46.7	230	30	4.42	0.98

机型代号 Model	输入轴 功率 kW	输出转速 N ₂ (r/min)	输出转矩 M ₂ (N.m)	传动比 i	输出轴 径向力 kN	输入轴 径向力 kN
NRV75	1.1	35	220	40	4.86	0.98
	0.9	28	210	50	5.24	0.98
	0.8	23.3	200	60	5.56	0.98
	0.6	17.5	190	80	6.13	0.98
	0.5	14	180	100	6.60	0.98
	NRV90	6.3	186.7	290	7.5	3.08
5.1		140	310	10	3.39	1.08
4.1		93.3	360	15	3.88	1.25
2.4		56	340	25	4.60	1.27
2.6		46.7	410	30	4.89	1.27
1.8		35	360	40	5.38	1.27
1.4		28	340	50	5.79	1.27
1.1		23.3	320	60	6.16	1.27
0.8		17.5	285	80	6.78	1.27
0.7		14	270	100	7.30	1.27
NRV110	12	186.7	652	7.5	3.89	1.20
	9.8	140	598	10	4.28	1.46
	7.5	93.3	656	15	4.90	1.60
	5.6	70	644	20	5.39	1.70
	4.7	56	679	25	5.81	1.70
	4.5	46.7	725	30	6.18	1.70
	3.3	35	702	40	6.80	1.70
	2.6	28	660	50	7.32	1.70
	2.1	23.3	616	60	7.78	1.70
	1.4	17.5	515	80	8.57	1.70
NRV130	16.1	186.7	750	7.5	5.09	1.50
	13.5	140	820	10	5.60	1.84
	10.3	93.3	920	15	6.41	2.07
	7.8	70	910	20	7.06	2.10
	6.5	56	930	25	7.60	2.10
	6.4	46.7	1040	30	8.08	2.10
	4.9	35	1050	40	8.89	2.10
	3.8	28	980	50	9.58	2.10
	3.1	23.3	900	60	10.16	2.10
	2.3	17.5	840	80	11.21	2.10
NRV150	25.8	186.7	1200	7.5	5.96	1.95
	20.2	140	1240	10	6.66	2.28
	13.9	93.3	1250	15	8.77	2.28
	11.1	70	1300	20	9.65	2.67
	8.4	56	1200	25	10.40	2.80
	7.1	46.7	1200	30	11.05	2.80
	7.3	35	1550	40	12.16	2.80
	5.4	28	1400	50	13.10	2.80
	4.2	23.3	1260	60	13.92	2.80
	3.1	17.5	1150	80	15.32	2.80

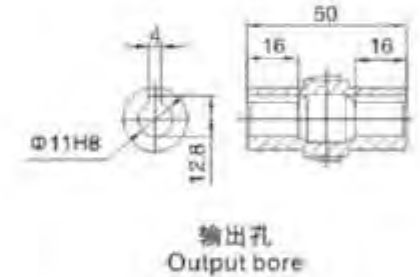
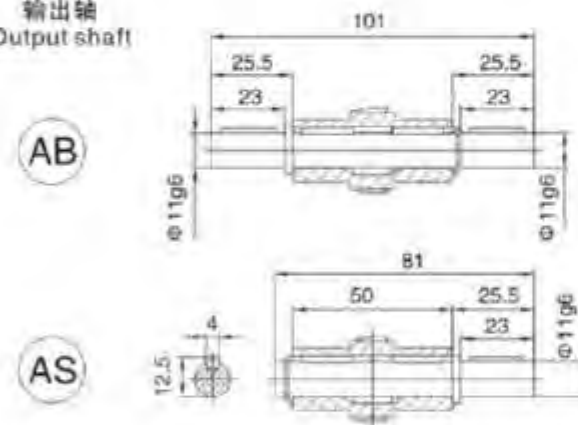
减速机外型尺寸 Dimension

NMRV

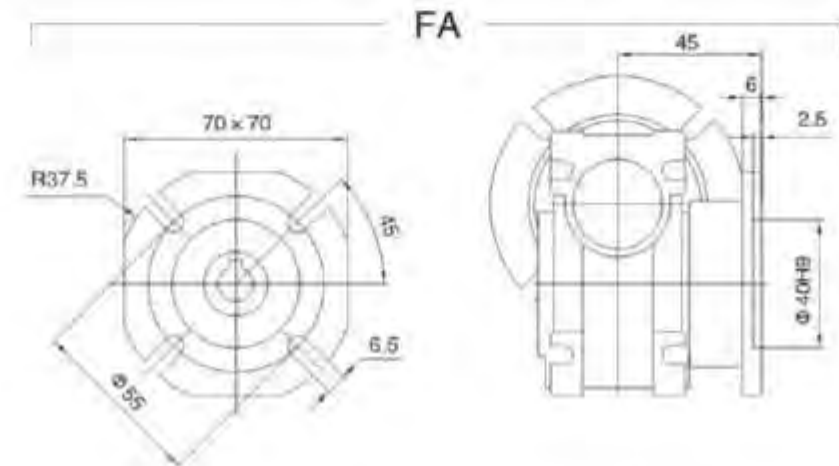
025



输出轴
Output shaft



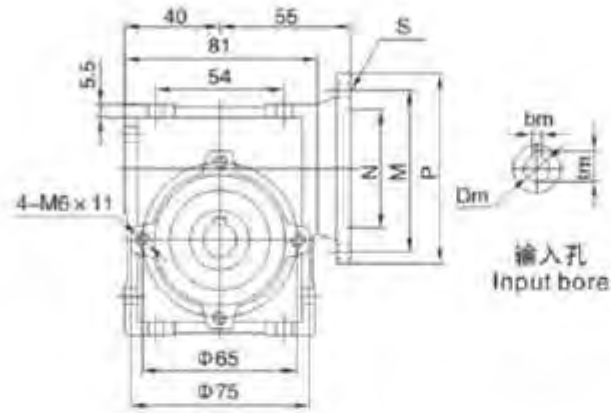
输出法兰 Output flange



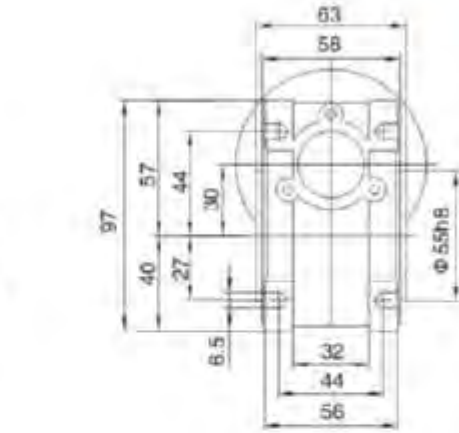
重量: 0.7kg
Weight: 0.7kg

NMRV

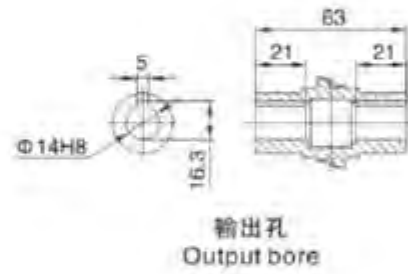
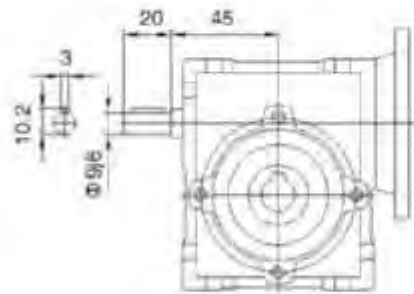
030



输入孔
Input bore



NMRV.VS



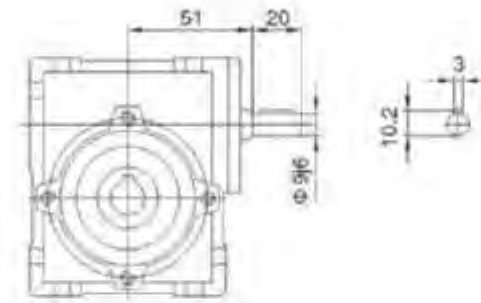
输出孔
Output bore

适用电机 PAM-IEC	N (H8)	M	P	bm	lm	S	Dm(H7)											Depth 深						
							5	7.5	10	15	20	25	30	40	50	60	80		100					
63B5	Φ95	Φ115	Φ140	4	12.8	Φ9																		
63B14	Φ60	Φ75	Φ90	4	12.8	Φ6	11	11	11	11	11	11	11	11	11	11	-	-	-	-	-	-	23	
56B5	Φ80	Φ100	Φ120	3	10.4	Φ7																		
56B14	Φ50	Φ65	Φ80	3	10.4	Φ6	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	20

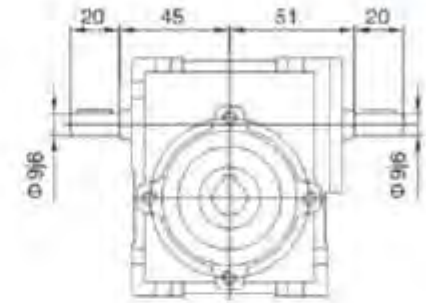
重量: 1.3kg
Weight: 1.3kg

NRV

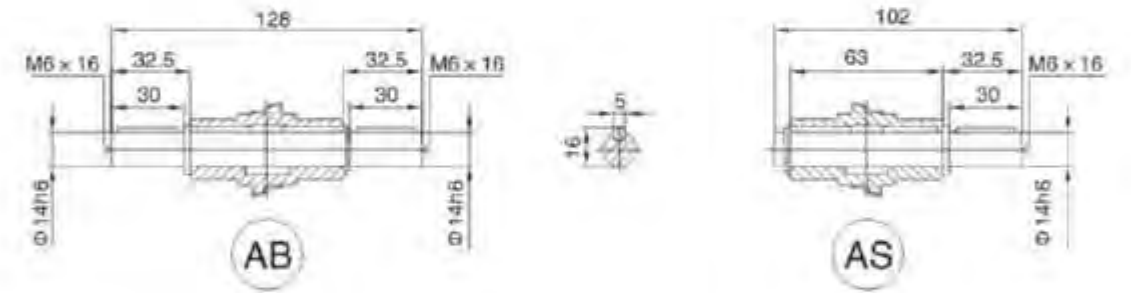
030



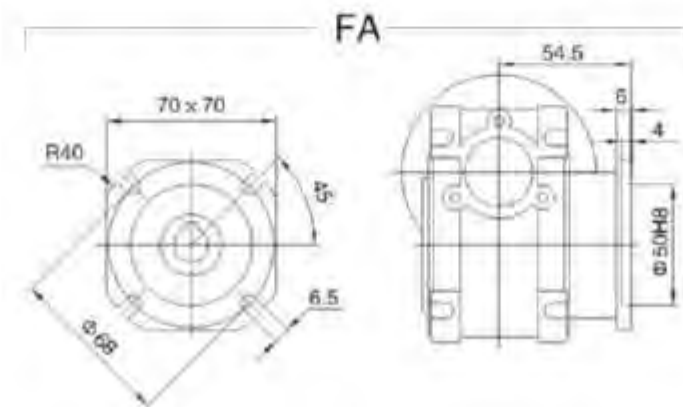
NRV.VS

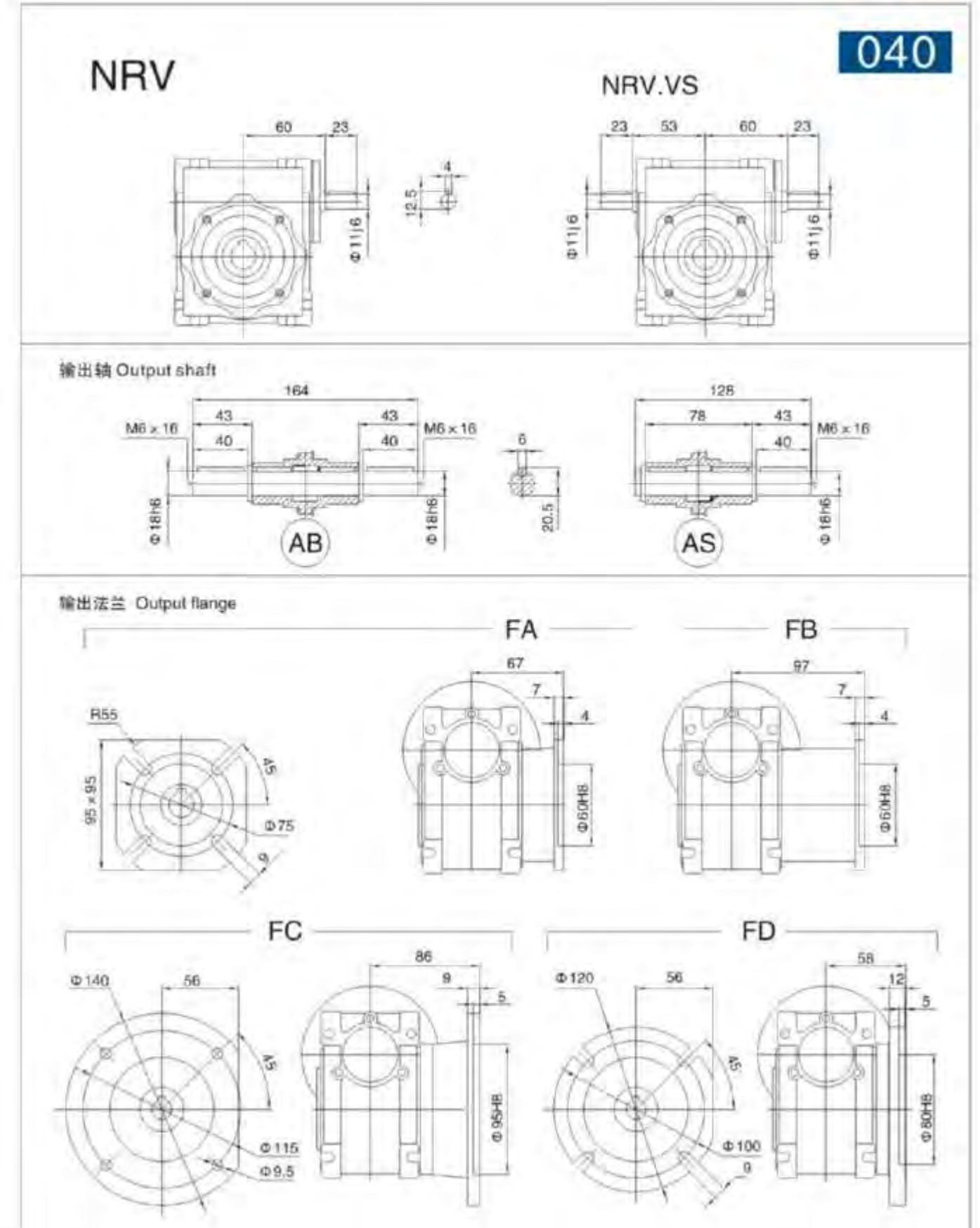
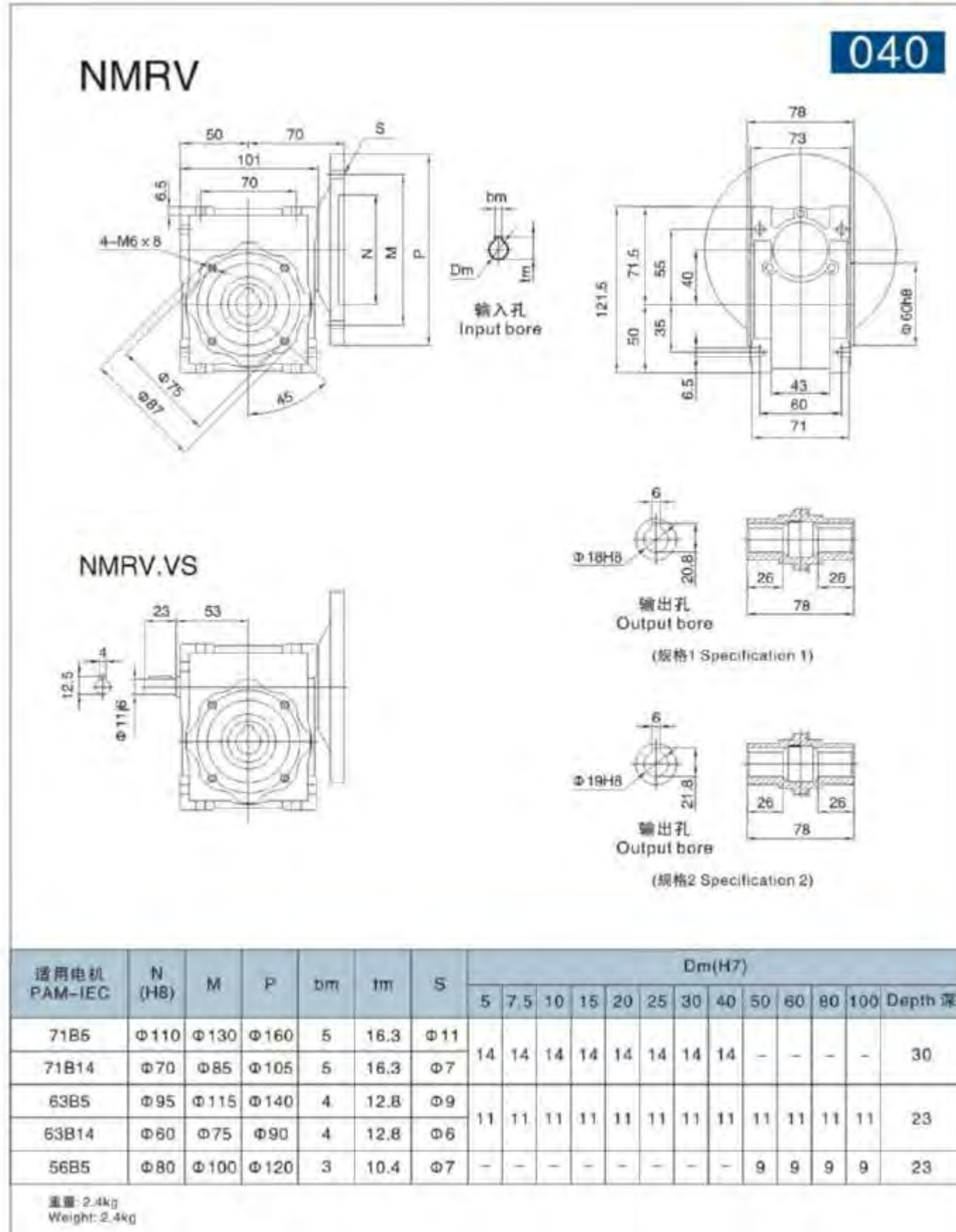


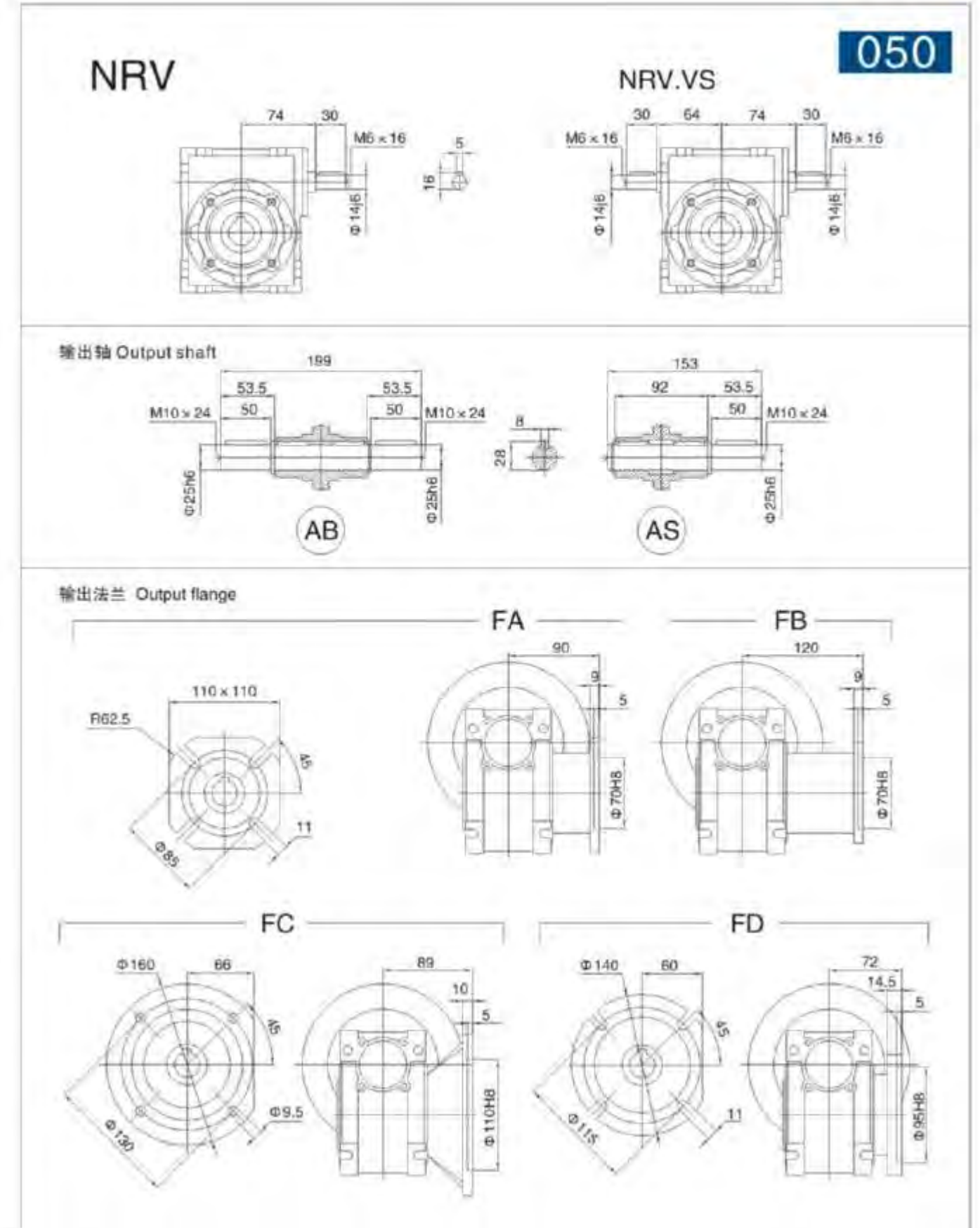
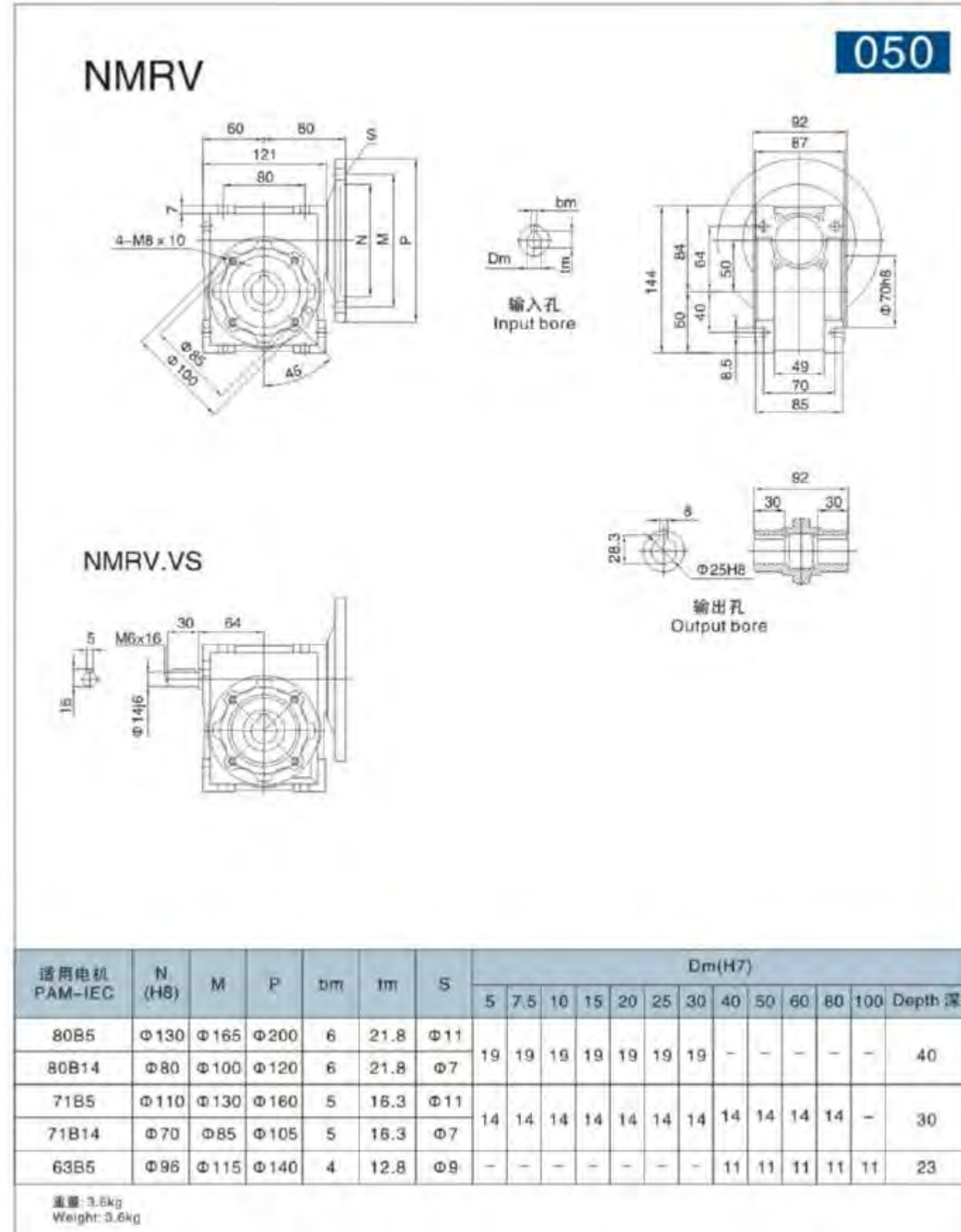
输出轴 Output shaft

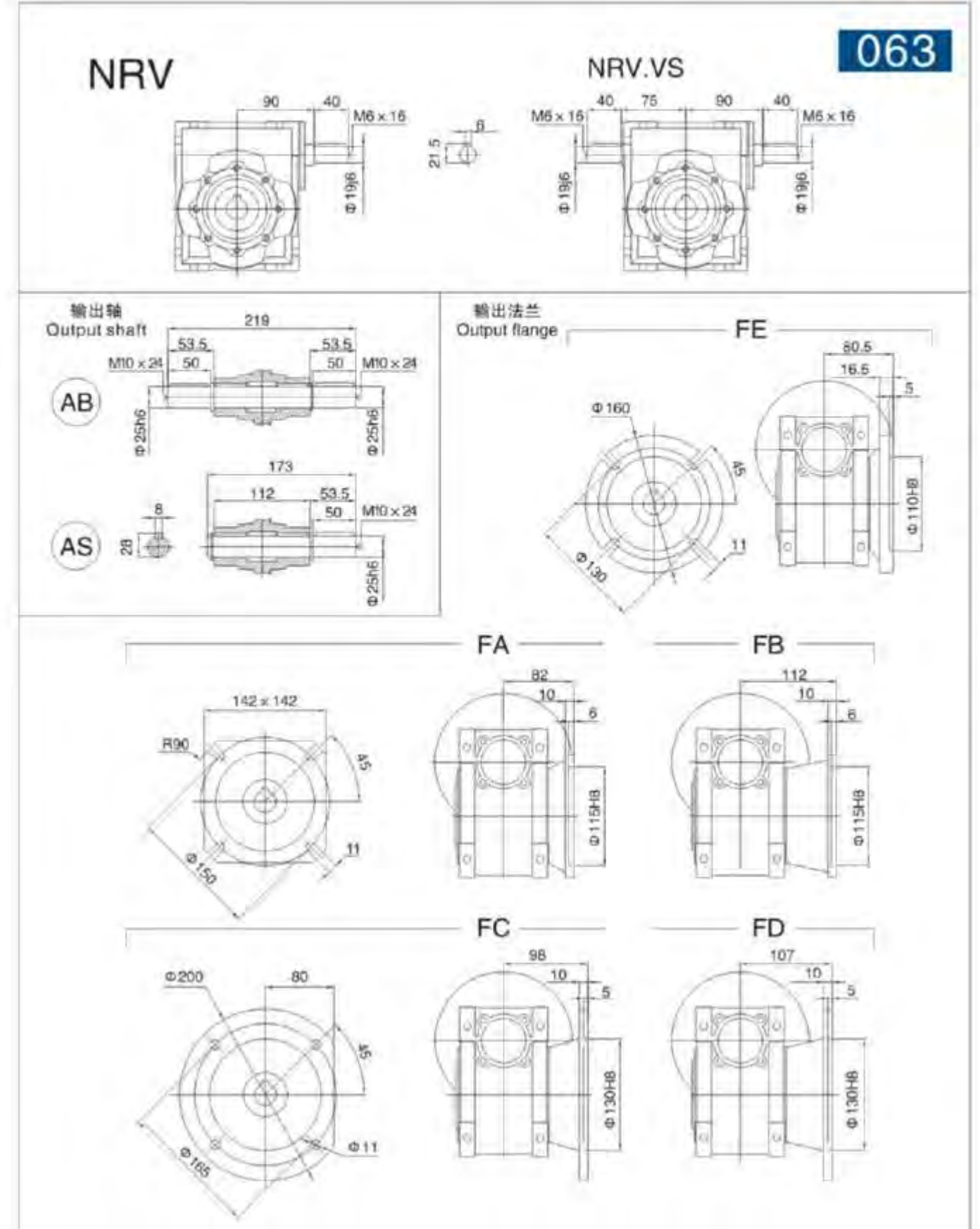
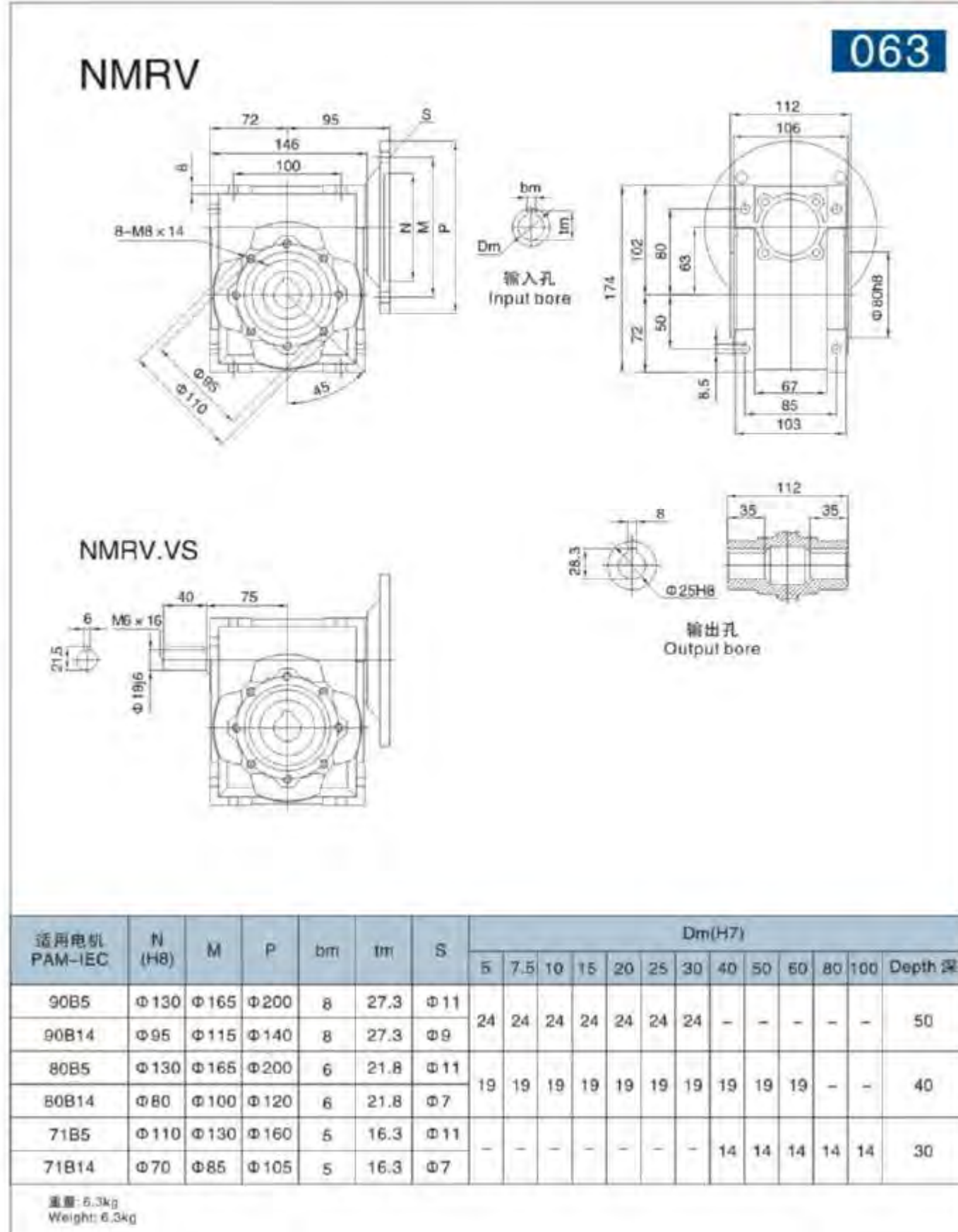


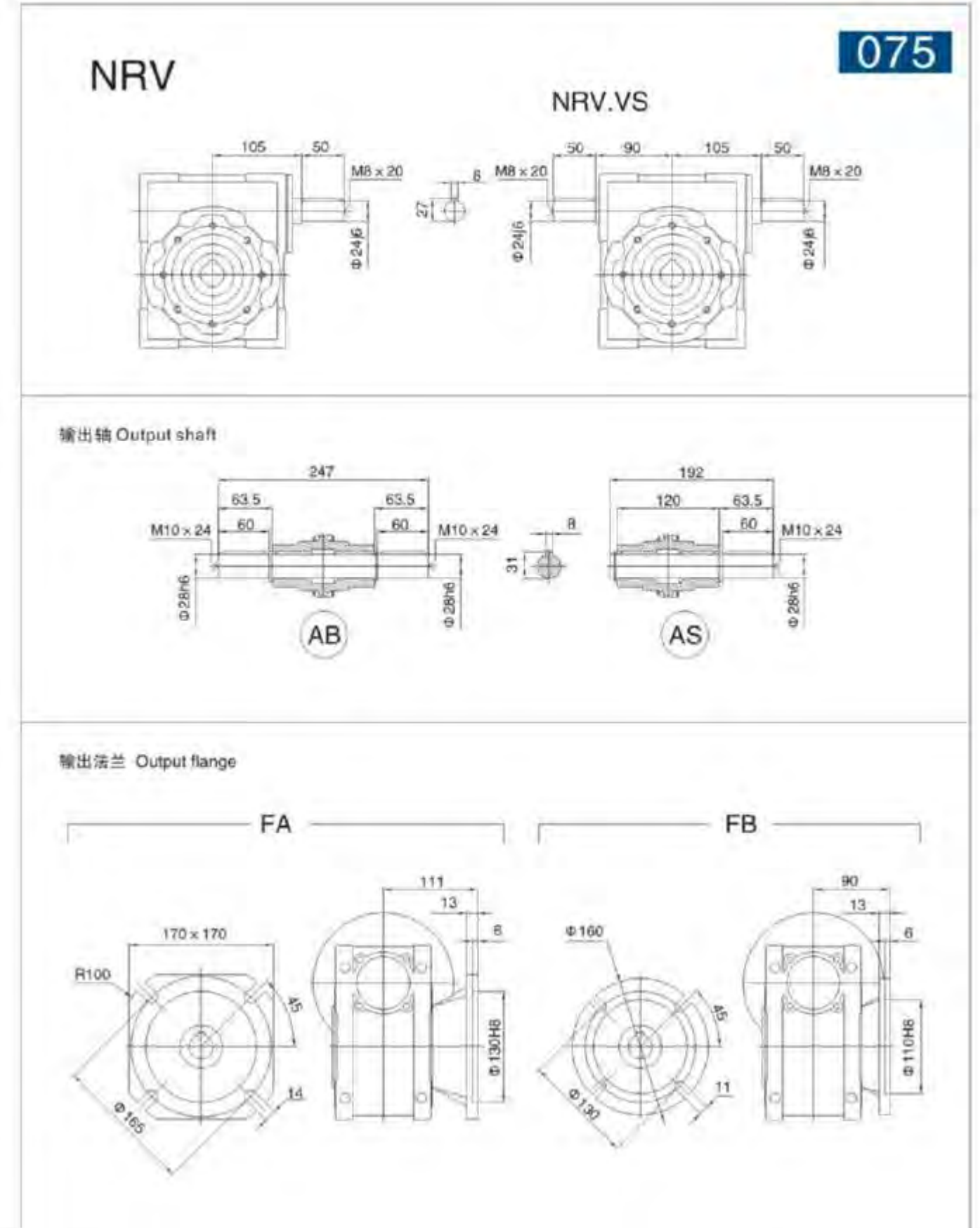
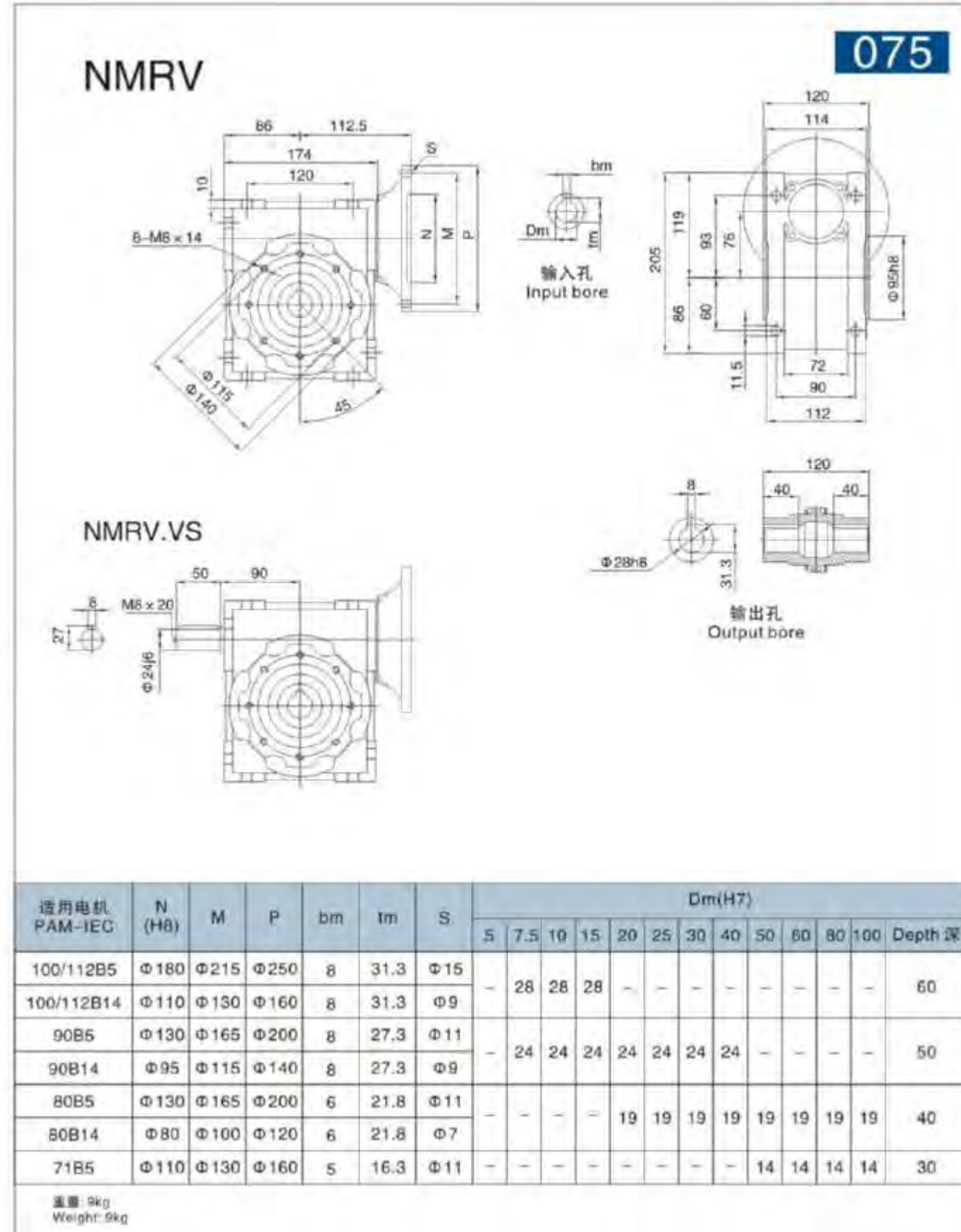
输出法兰 Output flange

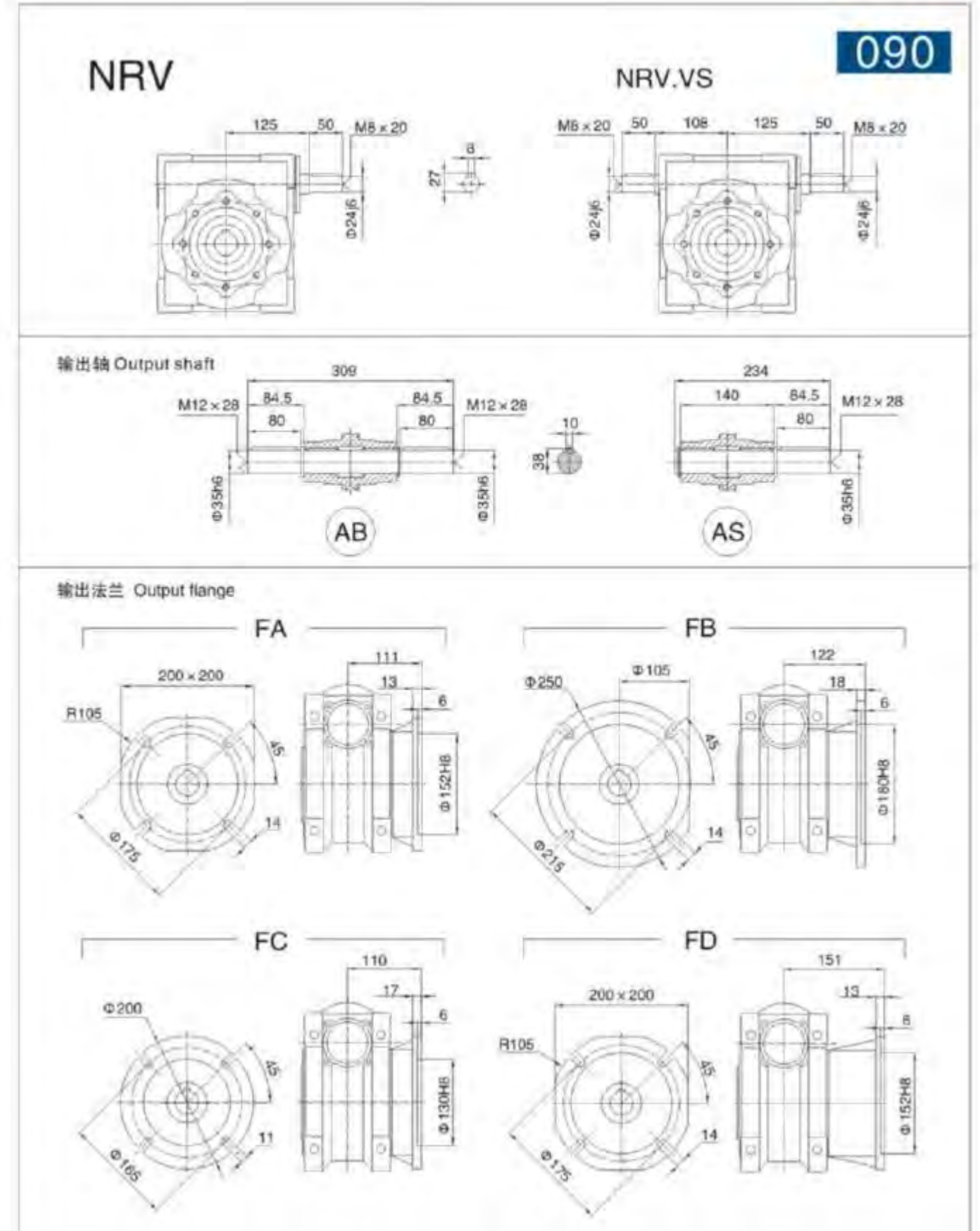
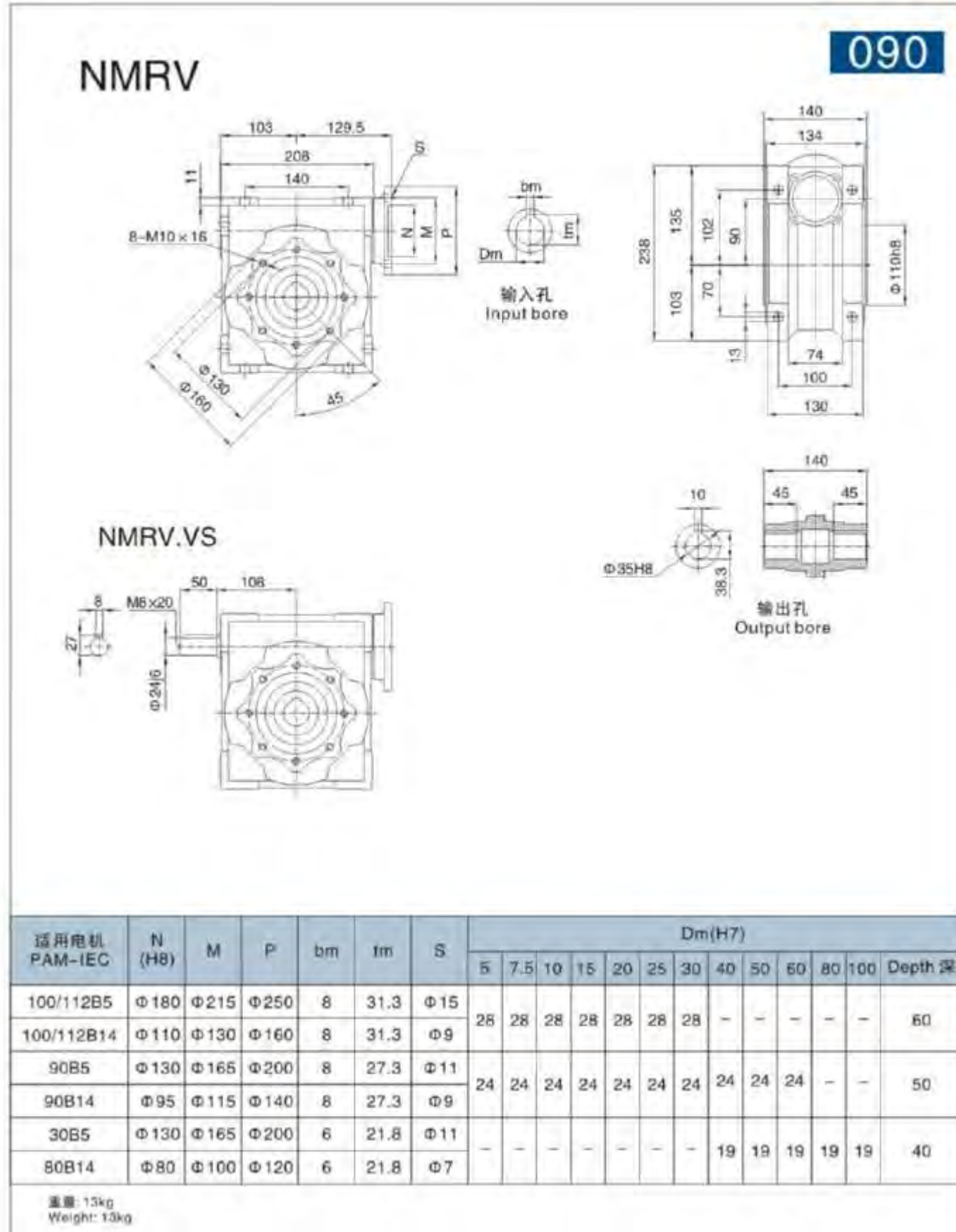


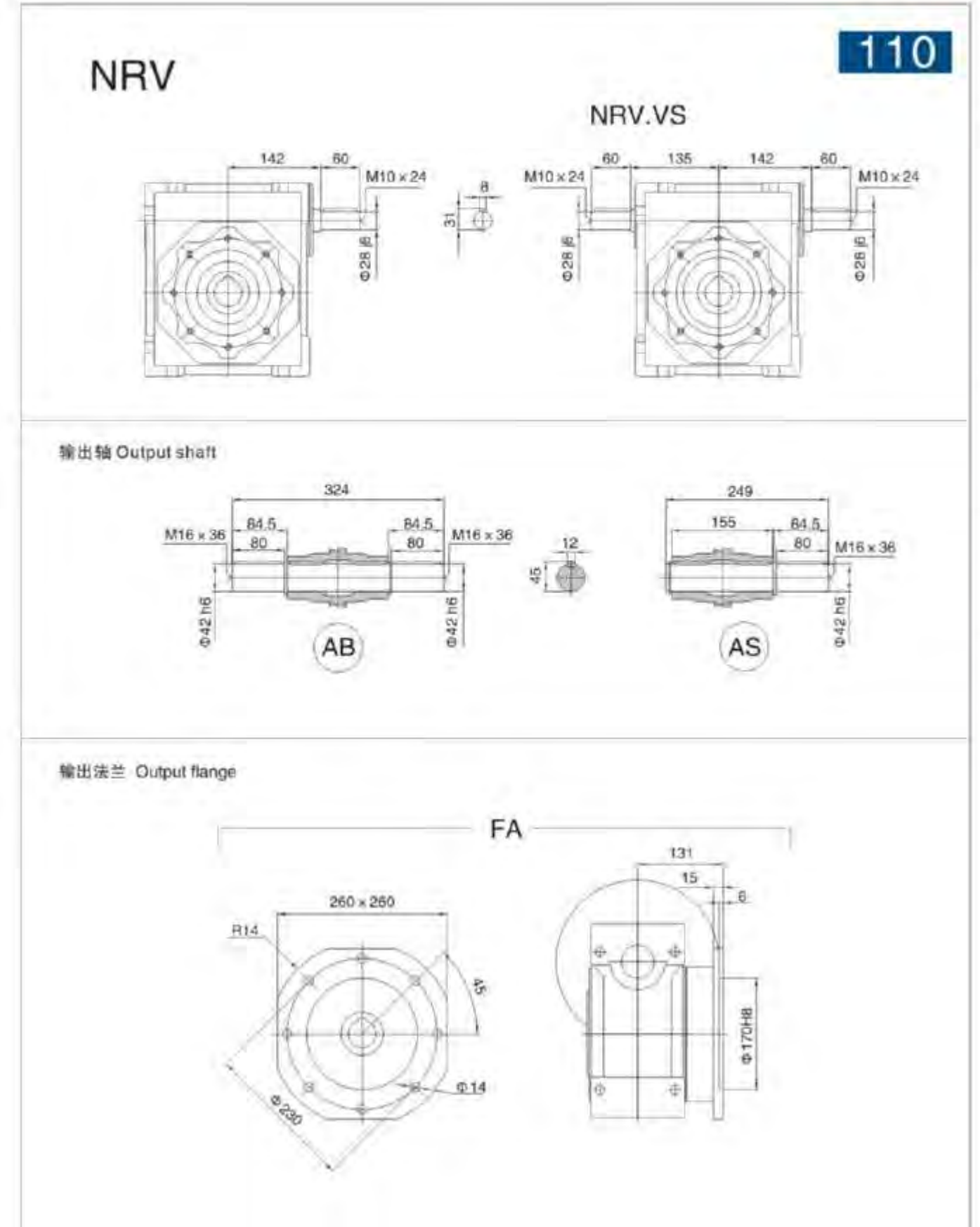
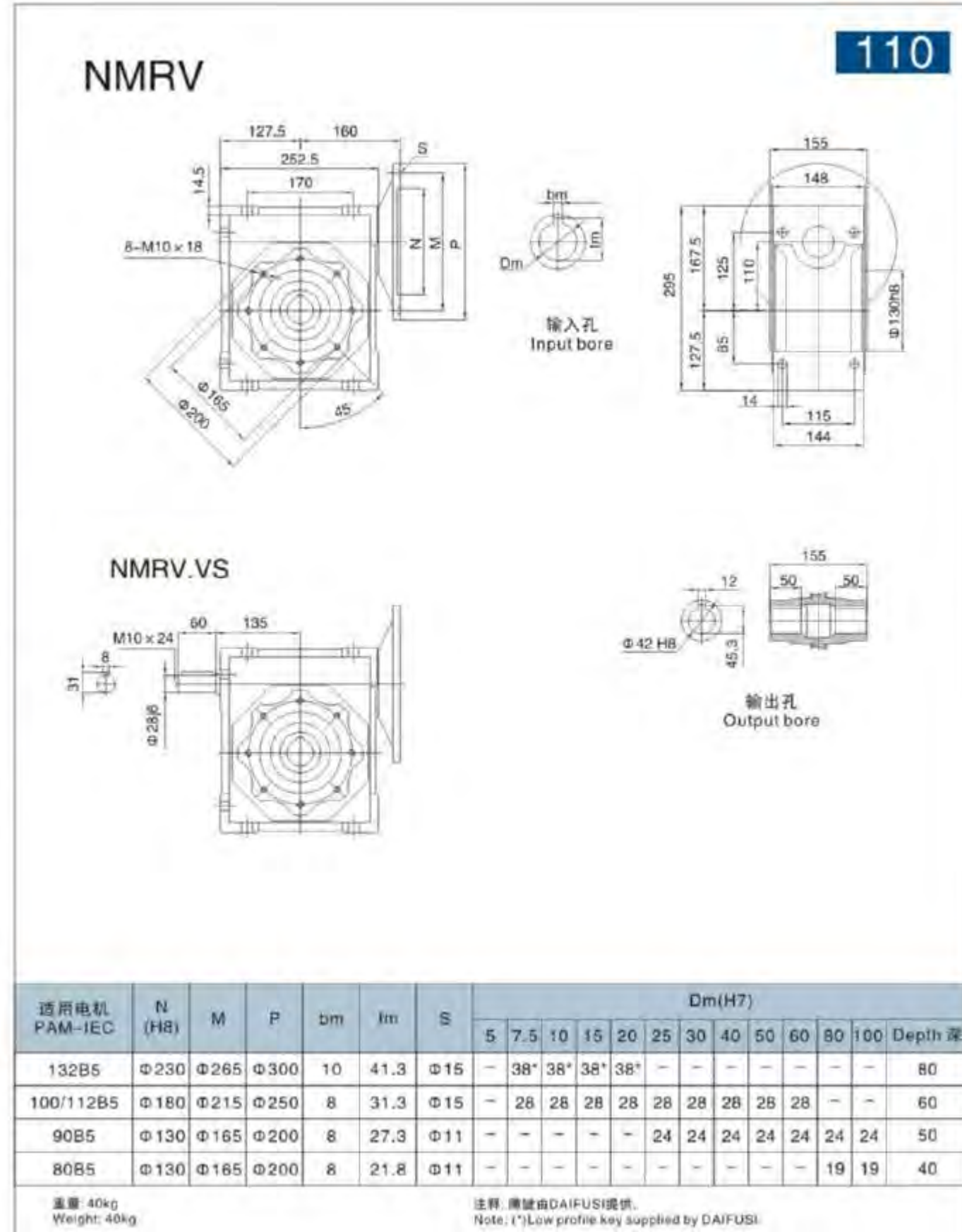


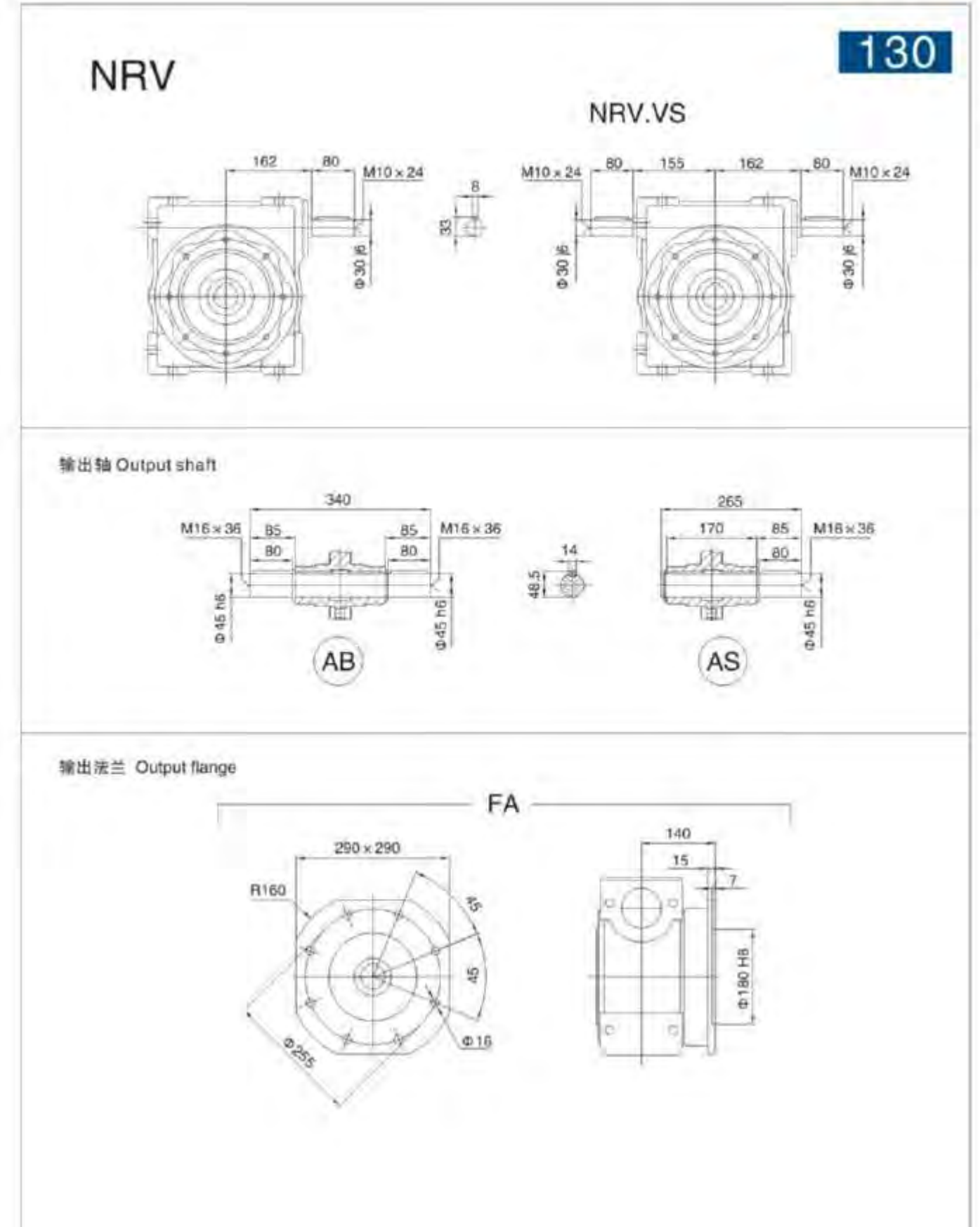
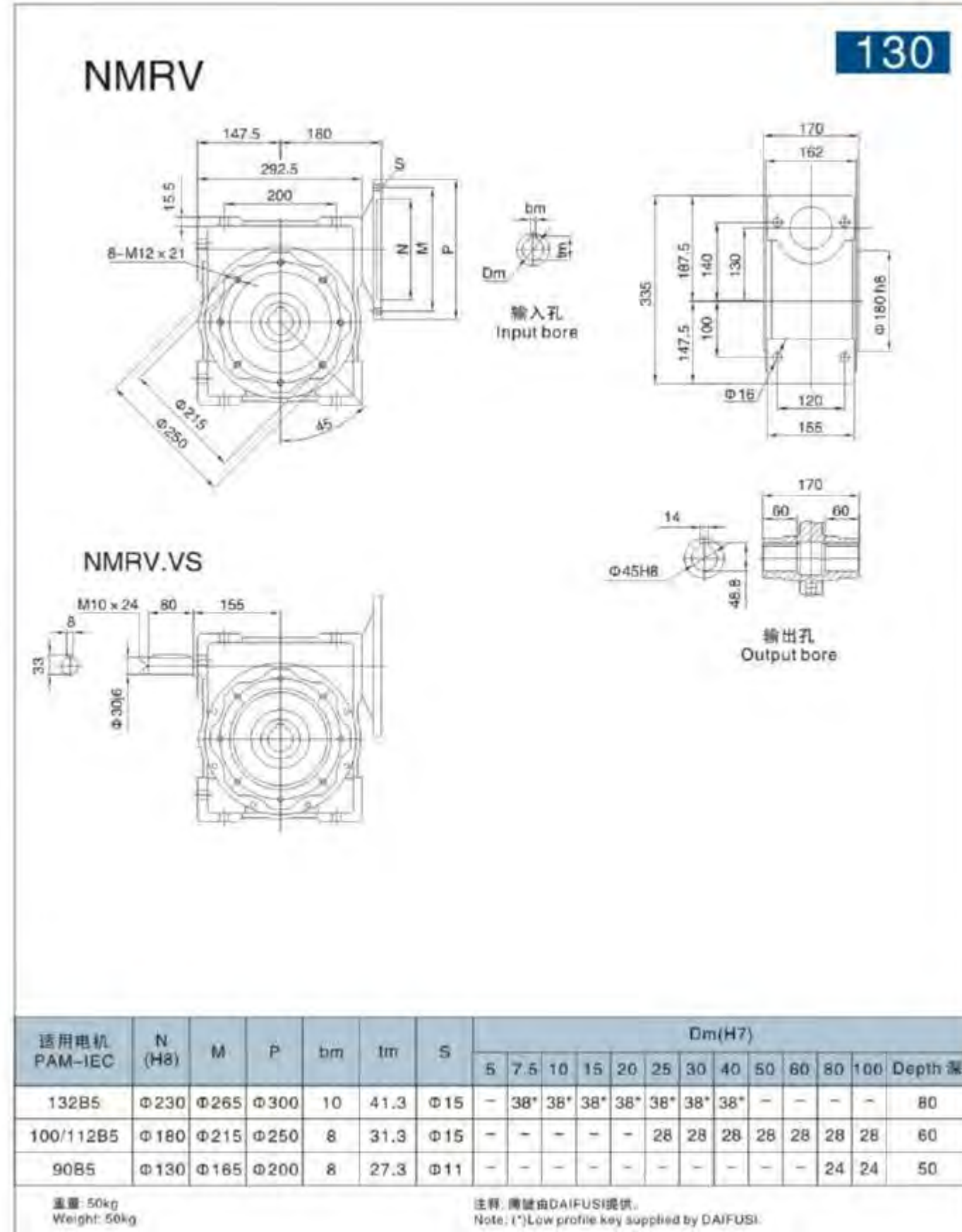












150

NMRV

输入孔
Input bore

NMRV.VS

输出孔
Output bore

适用电机 PAM-IEC	N (H8)	M	P	bm	tm	S	Dm(H7)												
							5	7.5	10	15	20	25	30	40	50	60	80	100	Depth 深
160B5	Φ250	Φ300	Φ350	12	45.3	Φ15	-	42*	42*	42*	42*	42*	42*	42*	-	-	-	-	110
132B5	Φ230	Φ265	Φ300	10	41.3	Φ15	-	-	-	-	-	38	38	38	38	-	-	80	
100/112B5	Φ180	Φ215	Φ250	8	31.3	Φ15	-	-	-	-	-	-	-	28	28	28	28	60	

重量: 84kg
Weight: 84kg

注释: 扁键由DAIFUSI提供。
Note: (*)Low profile key supplied by DAIFUSI.

150

NRV

NRV.VS

输出轴 Output shaft

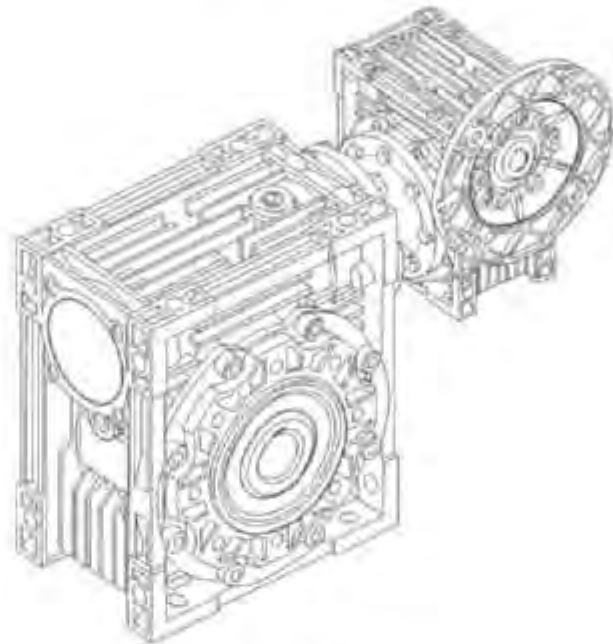
AB

AS

输出法兰 Output flange

FA

6. NMRV双级蜗杆减速机
NMRV double step worm gear reducer



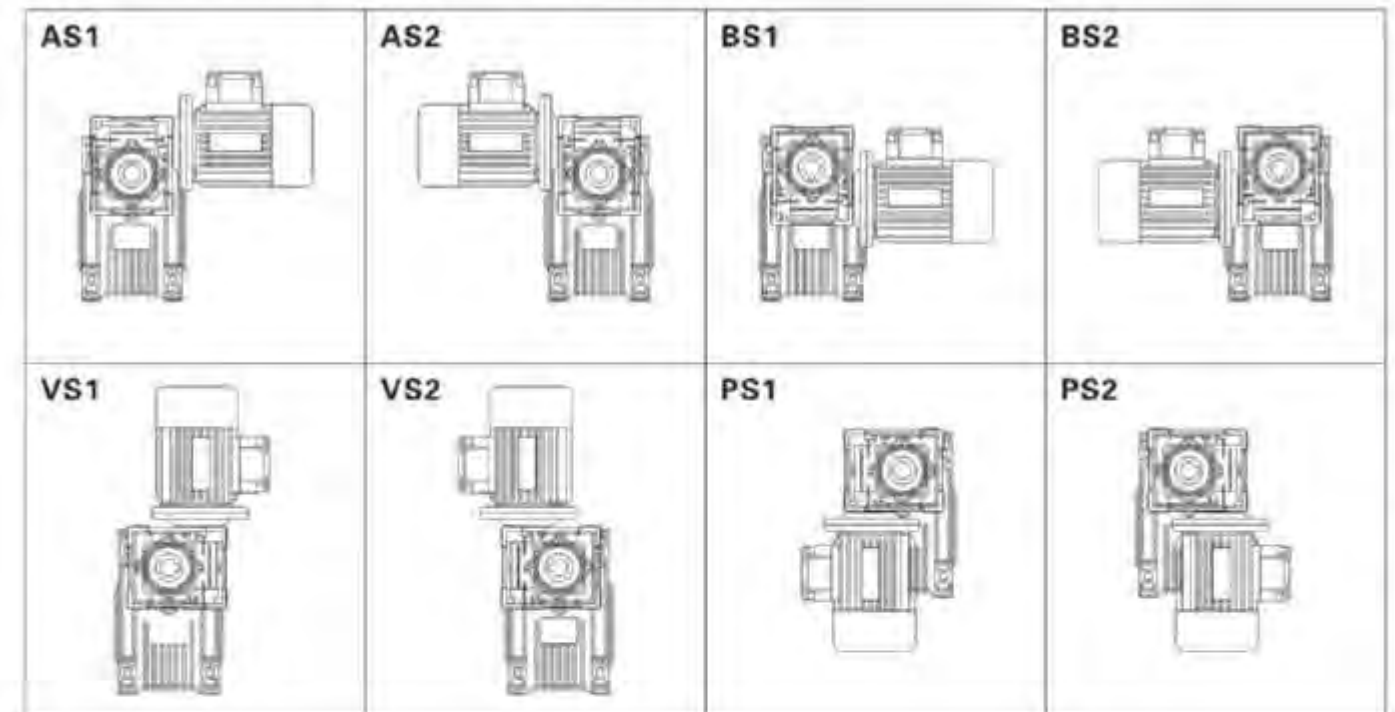
NMRV-NMRV

型号说明 Model notes

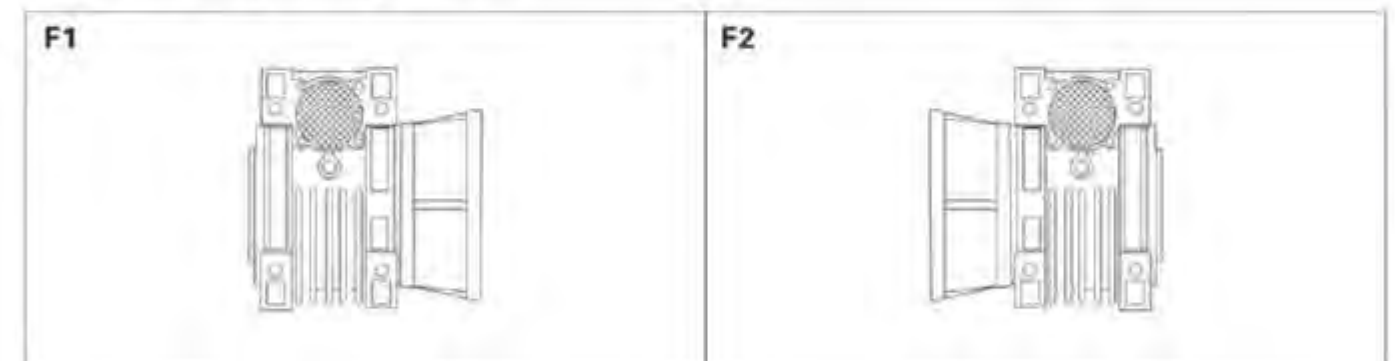
NMRV-063/130-600-VS-F1(FA)-AS-80B5-0.75kW-AS1			
NMRV-NMRV	蜗轮减速机 Worm gear speed reducer		
NRV-NMRV	蜗轮减速机 (配接输入轴) Worm gear speed reducer (Matching input shaft)		
063/130	蜗轮减速机中心距 Center distance		
600	减速比 Reduction ratio		
VS	双向输入轴 Double input shaft	F1(FA)	输出法兰位置及型号 Output flange
AS	单向输出轴 Single output shaft	AB	双向输出轴 Double output shaft
PAM	电机联接 Fitted for motor coupling	80B5	电机机座号和安装结构形式 Motor mounting facility
0.75kW	电机功率 Electric motor power	AS1	安装方位 Mounting position

注 1. 用户需要带电机时, 请注明“带电机”字样, 并注明所需电机的基本参数。
2. 附件为按用户需求特殊定制之零件, 非直接装配在减速机上, 用户可根据实际情况自行装配。
Note: 1. If you need motor, please note "with motor" and the model, power & poles of the motor.
2. Accessories are unassembled. You may assemble them according to your need.

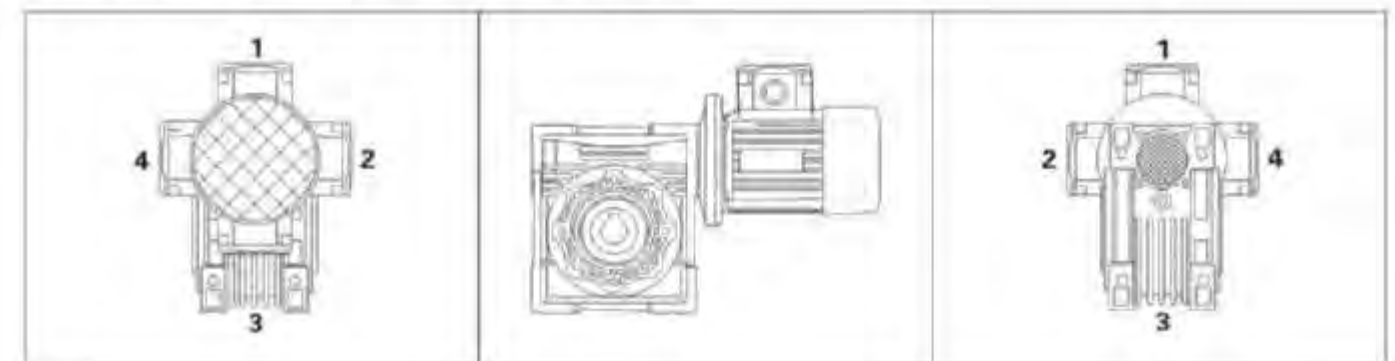
NMRV-NMRV安装方式 Mounting positions



输出法兰 Output flange F-FL



电机接线盒方位 Position of terminal box



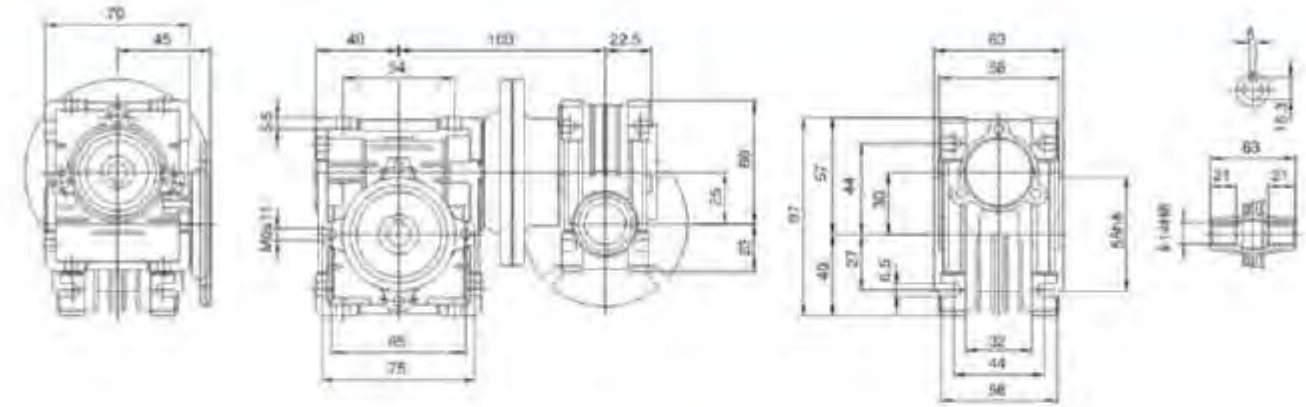
双级减速机 (轴伸输入, 输入转速1400r/min) / (配4极电机)
Double step reducer (shaft extend input, input speed is 1400r/min)

机型代号 Model	输入轴 功率 kW	输出转速 N ₂ (r/min)	输出转矩 M ₂ (N.m)	传动比 i	输出轴 径向力 kN	输入轴 径向力 kN
30/40	0.1	4.7	73	300	3.49	0.21
	0.1	3.5	65	400	3.49	0.21
	0.08	2.8	61	500	3.49	0.21
	0.06	2.3	73	600	3.49	0.21
	0.04	1.9	73	750	3.49	0.21
	0.03	0.9	73	900	3.49	0.21
	0.02	1.2	65	1200	3.49	0.21
	0.02	0.9	73	1500	3.49	0.21
	0.02	0.8	73	1800	3.49	0.21
	0.01	0.58	65	2400	3.49	0.21
	0.01	0.4	65	3200	3.49	0.21
	0.01	0.35	33	4000	3.49	0.21
0.01	0.28	29	5000	3.49	0.21	
30/50	0.15	4.7	145	300	4.84	0.21
	0.1	3.5	124	400	4.84	0.21
	0.1	2.8	120	500	4.84	0.21
	0.1	2.3	145	600	4.84	0.21
	0.1	1.9	145	750	4.84	0.21
	0.1	1.6	145	900	4.84	0.21
	0.08	1.2	124	1200	4.84	0.21
	0.06	0.93	145	1500	4.84	0.21
	0.04	0.78	145	1800	4.84	0.21
	0.03	0.5	124	2400	4.84	0.21
	0.02	0.5	120	3000	4.84	0.21
	0.02	0.35	82	4000	4.84	0.21
0.02	0.29	82	4800	4.84	0.21	
30/63	0.24	4.7	230	300	6.27	0.21
	0.2	3.5	230	400	6.27	0.21
	0.2	2.8	216	500	6.27	0.21
	0.13	2.3	230	600	6.27	0.21
	0.11	1.9	216	750	6.27	0.21
	0.1	1.6	198	900	6.27	0.21
	0.1	1.2	230	1200	6.27	0.21
	0.1	0.93	216	1500	6.27	0.21
	0.1	0.78	198	1800	6.27	0.21
	0.1	0.58	230	2400	6.27	0.21
	0.08	0.47	216	3000	6.27	0.21
	0.06	0.35	172	4000	6.27	0.21
0.04	0.28	150	5000	6.27	0.21	
40/75	0.4	4.7	390	300	7.38	0.35
	0.3	3.5	360	400	7.38	0.35
	0.21	2.8	320	500	7.38	0.35
	0.2	2.3	390	600	7.38	0.35
	0.2	1.9	390	750	7.38	0.35
	0.14	1.6	390	900	7.38	0.35
	0.11	1.2	360	1200	7.38	0.35
	0.1	0.93	390	1500	7.38	0.35
	0.1	0.78	390	1800	7.38	0.35
	0.1	0.58	360	2400	7.38	0.35
	0.1	0.47	320	3000	7.38	0.35
	0.08	0.35	250	4000	7.38	0.35
0.06	0.28	230	5000	7.38	0.35	

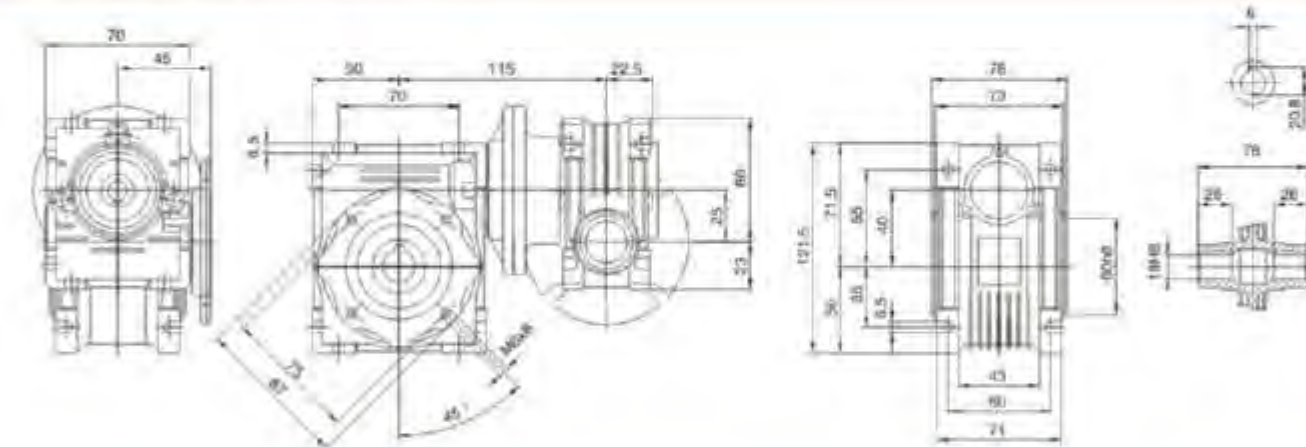
机型代号 Model	输入轴 功率 kW	输出转速 N ₂ (r/min)	输出转矩 M ₂ (N.m)	传动比 i	输出轴 径向力 kN	输入轴 径向力 kN
40/90	0.6	4.7	610	300	8.18	0.35
	0.43	3.5	610	400	8.18	0.35
	0.34	2.8	560	500	8.18	0.35
	0.3	2.3	610	600	8.18	0.35
	0.23	1.9	560	750	8.18	0.35
	0.2	1.6	505	900	8.18	0.35
	0.2	1.2	610	1200	8.18	0.35
	0.14	0.93	560	1500	8.18	0.35
	0.11	0.78	505	1800	8.18	0.35
	0.11	0.58	610	2400	8.18	0.35
	0.1	0.47	560	3000	8.18	0.35
	0.1	0.35	460	4000	8.18	0.35
0.1	0.28	410	5000	8.18	0.35	
50/110	1.1	4.7	1265	300	10.32	0.49
	0.8	3.5	1185	400	10.32	0.49
	0.61	2.8	1100	500	10.32	0.49
	0.6	2.3	1185	600	10.32	0.49
	0.5	1.9	1265	750	10.32	0.49
	0.43	1.6	1265	900	10.32	0.49
	0.31	1.2	1186	1200	10.32	0.49
	0.3	0.93	1265	1500	10.32	0.49
	0.3	0.78	1265	1800	10.32	0.49
	0.2	0.58	1185	2400	10.32	0.49
	0.15	0.47	1100	3000	10.32	0.49
	0.13	0.35	818	4000	10.32	0.49
0.1	0.28	746	5000	10.32	0.49	
63/130	0.8	2.3	1650	600	13.5	0.7
	0.7	1.9	1760	750	13.5	0.7
	0.6	1.6	1760	900	13.5	0.7
	0.4	1.2	1650	1200	13.5	0.7
	0.4	0.93	1760	1500	13.5	0.7
	0.4	0.93	1760	1500	13.5	0.7
	0.3	0.78	1760	1800	13.5	0.7
	0.3	0.58	1650	2400	13.5	0.7
	0.2	0.47	1550	3000	13.5	0.7
	0.1	0.35	1220	4000	13.5	0.7
	0.1	0.28	1100	5000	13.5	0.7
	63/150	3.4	9.3	2340	150	18
2.7		7.0	2340	200	18	0.7
1.9		5.6	2050	250	18	0.7
1.9		4.7	2340	300	18	0.7
1.8		3.5	2670	400	18	0.7
1.4		2.8	2330	500	18	0.7
1.3		2.3	2670	600	18	0.7
1.0		1.9	2330	750	18	0.7
0.7		1.6	2100	900	18	0.7
0.7		1.2	2670	1200	18	0.7
0.4		0.8	2100	1800	18	0.7
0.5		0.6	2670	2400	18	0.7
0.3	0.5	2330	3000	18	0.7	
0.2	0.4	1880	4000	18	0.7	
0.2	0.3	1650	5000	18	0.7	

NMRV-NMRV外形尺寸 Dimension

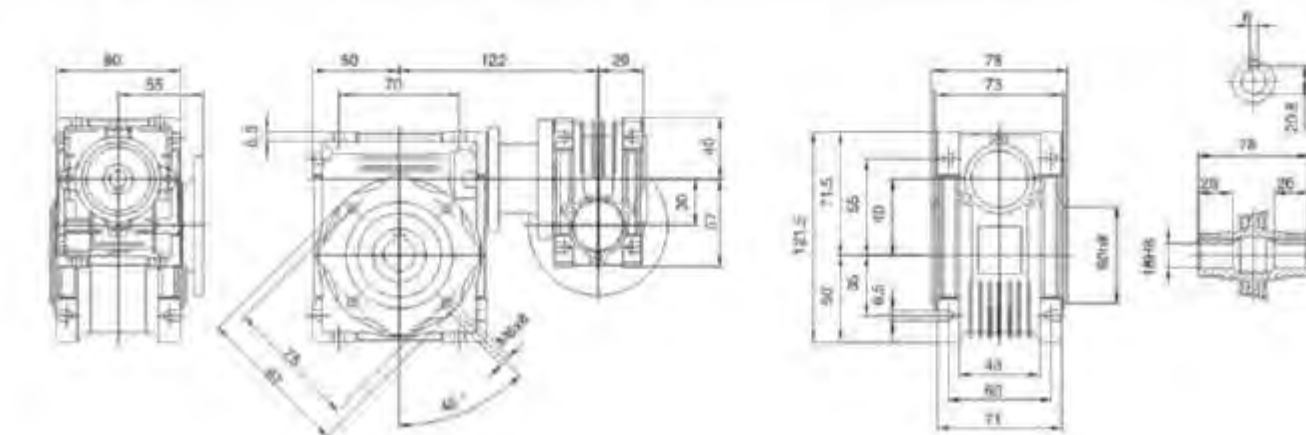
NMRV025-NMRV030



NMRV025-NMRV040

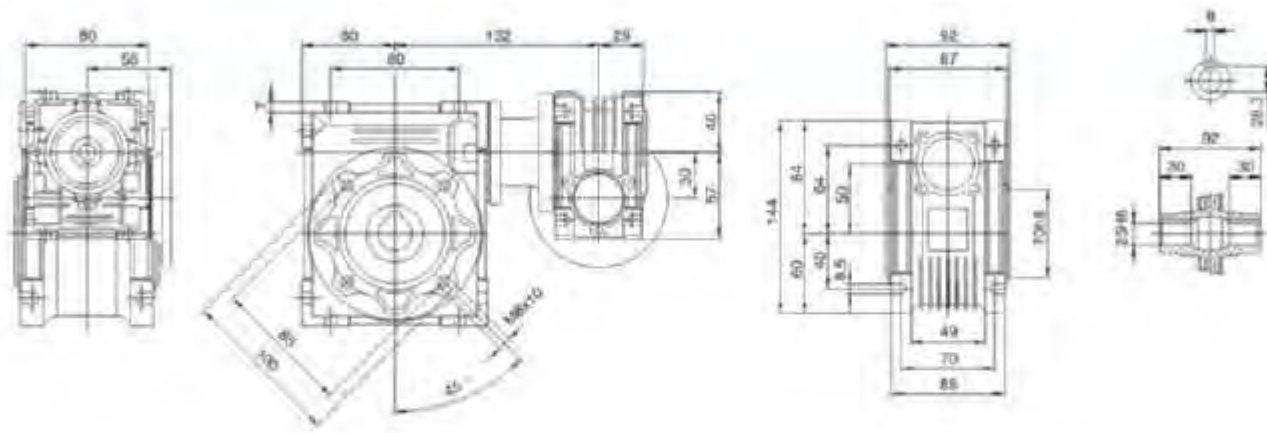


NMRV030-NMRV040

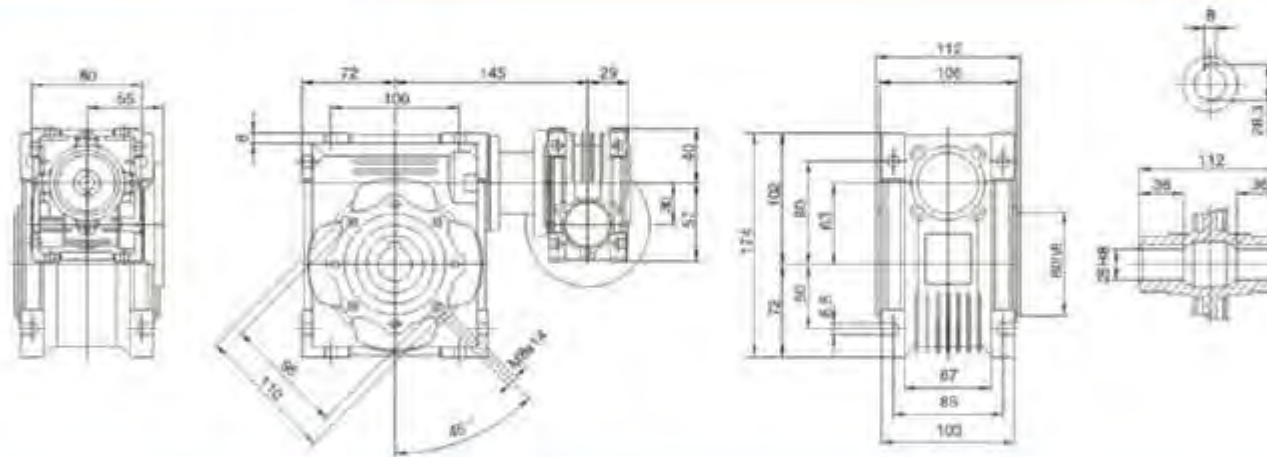


NMRV-NMRV外形尺寸 Dimension

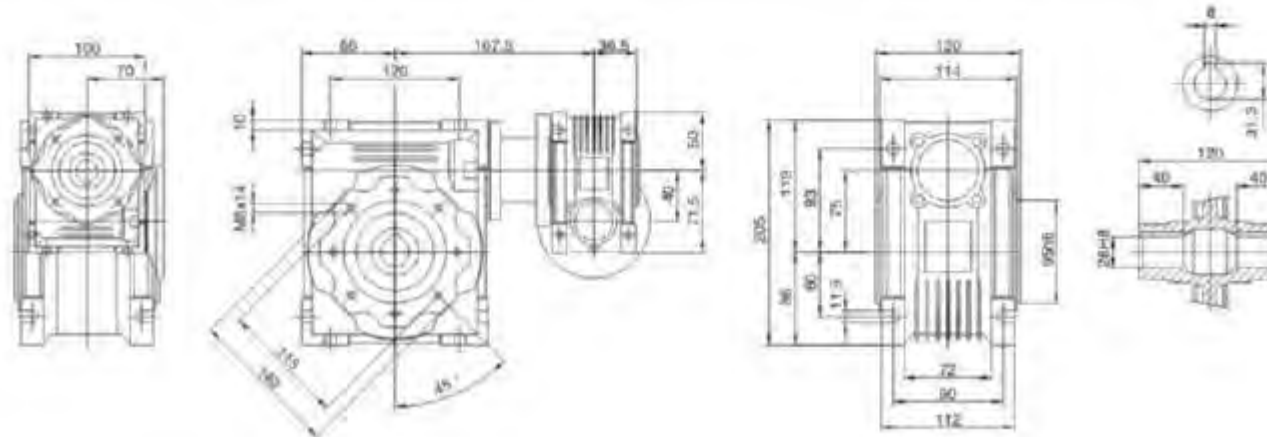
NMRV030-NMRV050



NMRV030-NMRV063

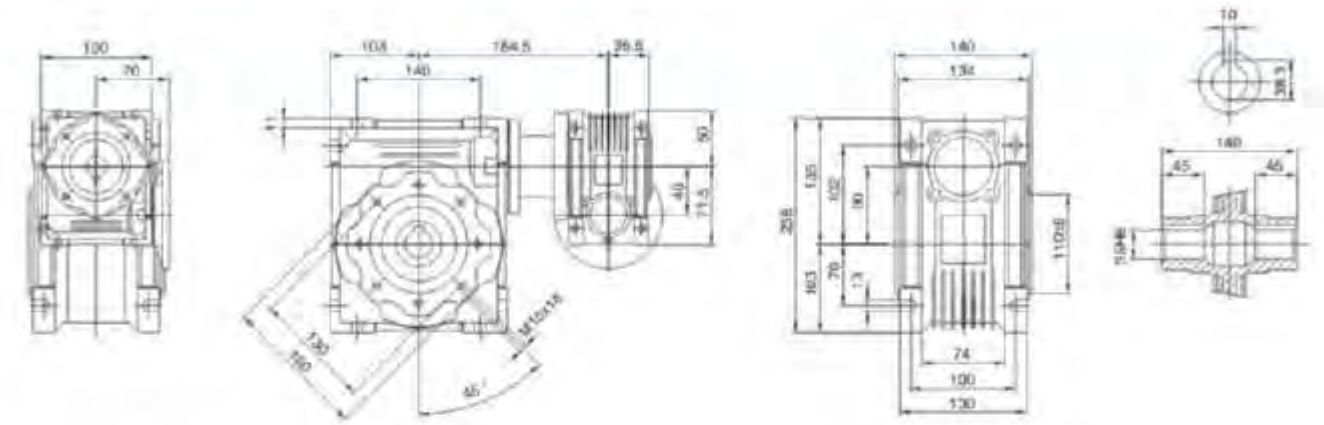


NMRV040-NMRV075

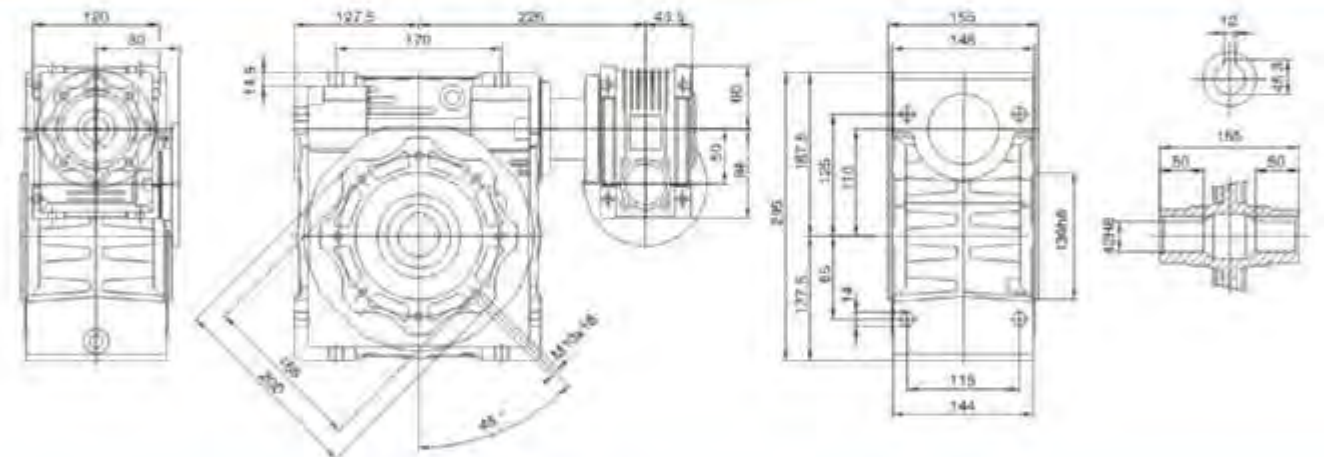


NMRV-NMRV外形尺寸 Dimension

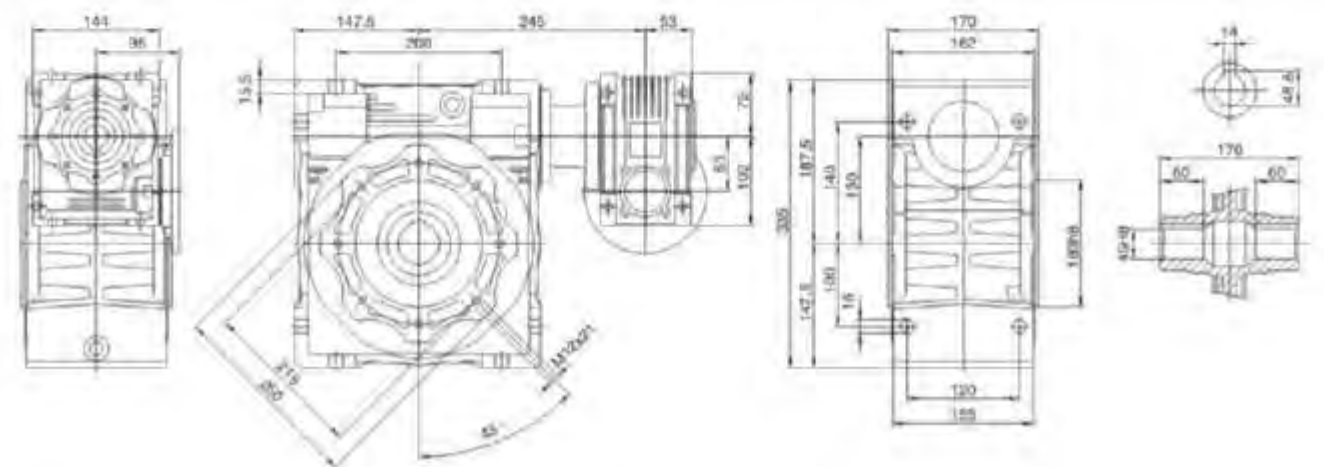
NMRV040-NMRV090



NMRV050-NMRV110

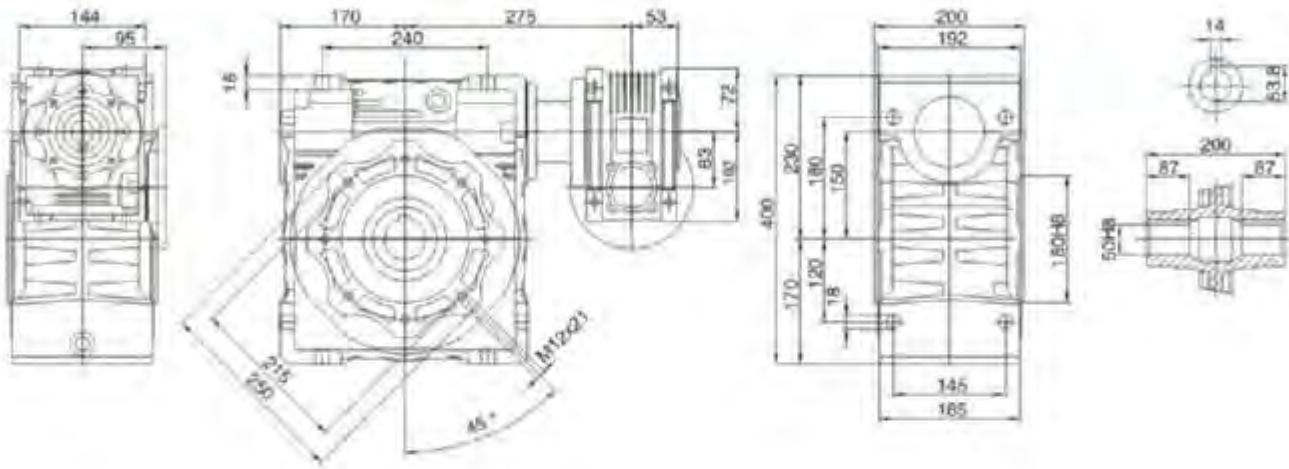


NMRV063-NMRV130

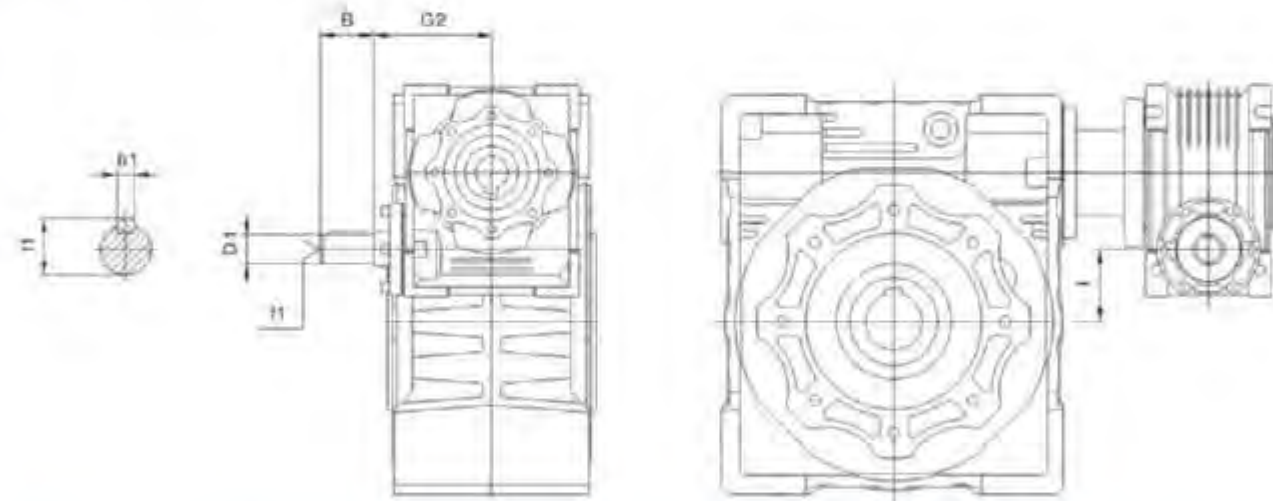


NMRV-NMRV外形尺寸 Dimension

NMRV063-NMRV150



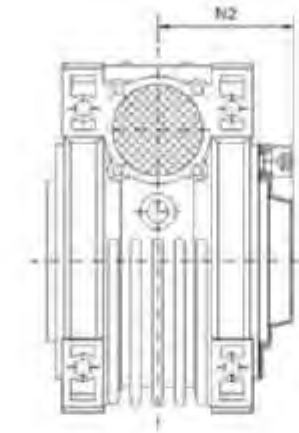
NRV-NMRV外形尺寸 Dimensions



NRV-NMRV	025-030	025-040	030-040	030-050	030-063	040-075	040-090	050-110	063-130	063-150
B	20	20	20	20	20	23	23	30	40	40
D1	9j6	9j6	9j6	9j6	9j6	11j6	11j6	14j6	19j6	19j6
G2	42	42	51	51	51	60	60	74	90	90
l	5	15	10	20	33	35	50	60	67	87
b1	3	3	3	3	3	4	4	5	6	6
h1	-	-	-	-	-	-	-	M6	M6	M6
l1	10.2	10.2	10.2	10.2	10.2	12.5	12.5	16	21.5	21.5

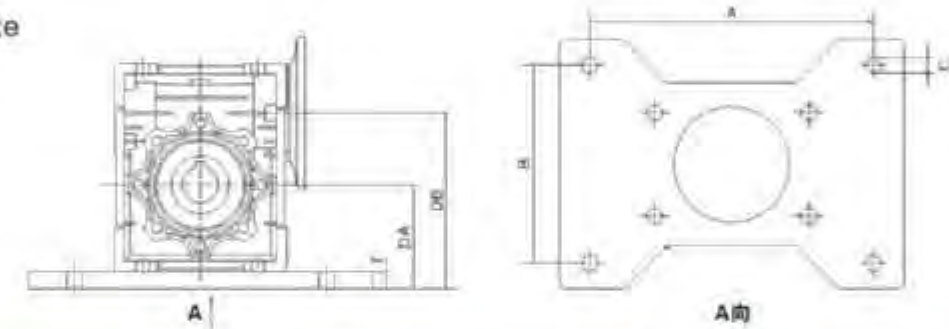
7. 附件
Accessories

防护罩 Protective cover



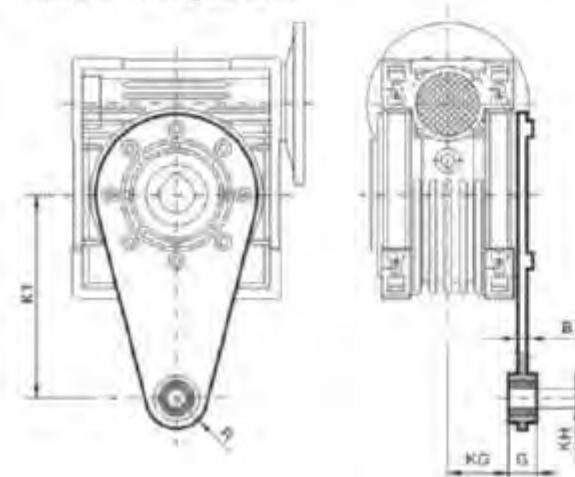
Model	Dimension
030	42
040	50
050	58
063	69
075	74
090	86
110	94
130	102
150	N2

底座 Base plate



	030	040-A	040-B	050	063-A	063-B	075	090
A	111	111	146	162	179	203	214	241
B	84	84	114	119	124	133	149	156
C	6.5	6.5	10.5	12.5	12.5	12.5	12.5	12.5
DA	57	67	70	76	89	93	101.5	117.5
DB	87	107	110	126	152	156	176.5	207.5
T	17	17	20	16	17	21	15.5	14.5

扭力臂 Torque arm



	K1	R	KG	G	KH	B
025	70	15	17.5	14	8	4
030	85	15	24	14	8	4
040	100	18	31.5	14	10	4
050	100	18	38.5	14	10	4
063	150	18	49	14	10	6
075	200	30	47.5	25	20	6
090	200	30	57.5	25	20	6
105	250	35	62	30	25	6
110	250	35	62	30	25	6
130	250	35	69	30	25	6
150	250	35	84	30	25	6

8. 使用说明 Operating instructions

1. 单级蜗杆减速机

- 1.1 减速机型号25-90采用优质铝合金压铸箱体,外形轻巧美观,结构紧凑,体积小,重量轻,节省安装空间,不易锈蚀。
- 1.2 减速机型号110-150采用灰铸铁铝模铸造,外型美观坚固,可多方位安装使用。
- 1.3 散热性能好,安全可靠,效率高。
- 1.4 承载能力高,传动平稳,振动小,噪音低。
- 1.5 具有动力输入及转矩输出的多种联接结构,满足多种联接需要;箱体外形设计及底脚孔设置布局适应多种安装方式,通用性强。

2. 双级蜗杆减速机

- 2.1 由单级蜗杆减速机组合而成,具有单级蜗杆减速机的一切优点,并获得大的传动比。
- 2.2 常用双级组合机型为:25/30、25/40、30/40、30/50、30/63、40/75、40/90、50/110、63/130、63/150;用户若有特殊要求时,可根据实际需要选择25、30、40、50、63、75、90、110、130、150作为组合单元另行组合。

3. 安装注意事项

- 3.1 减速机须安装在平整坚固的底座上,底脚螺栓必须紧固、防震。
- 3.2 原动机—减速机—工作机的各联接轴伸,安装后必须互相准确对准轴线。
- 3.3 减速机输入端及输出端轴伸外径尺寸公差按h6制作,与之相匹配的联轴器、皮带轮、链轮等传动件内孔需按合适公差尺寸配置,避免装配过紧损坏轴承,装配过松影响正常的动力传递。
- 3.4 链轮、齿轮等传动件装上轴伸时,应尽量靠近轴承,以减少轴伸弯曲应力。
- 3.5 减速机装配电机时,应在蜗杆头部内孔孔壁及键槽处涂抹黄油,避免装配过紧,防止轴孔日久生锈。
- 3.6 使用各类电机直联型减速机时,若电机重量偏大,应设支撑装置。

4. 使用注意事项

- 4.1 使用前应注意检查减速机型式结构、中心距规格、传动比、输入轴连接方式、输出轴结构、输入轴输出轴指向和回转方向等是否符合使用要求,蜗杆输入转速不宜超过1500r/min。
- 4.2 开机时应逐步施加载荷,不能满载启动。
- 4.3 规格25-90减速机仅设加油孔,出厂时减速机内已加好ISO Vg320合成润滑油,用户无需再加油,机器连续运转约500小时后,应该更换润滑油,以后换油周期为6000小时。
- 4.4 型号110-150减速机设有加油孔、放油孔和油标,减速机内已加ISO VG460矿物润滑油,用户在使用前须拉掉通气器上橡胶环,首次运行400小时后换注新油,以后每隔约4000小时换油一次。
- 4.5 减速机允许最高油温为95℃,超过时应停机检查。
- 4.6 若减速机在使用前已放置时间超过4-6个月,而油封又未浸入润滑油中,推荐更换油封。
- 4.7 若减速机使用环境温度超出或低于表中规定使用环境温度5℃以上,请与我公司人员联系。

1. Single step worm gear reducer

- 1.1 The reducer which is 25-90 made of Aluminum alloy die-casting box, good looking in appearance, compact in structure rust proofing on Surface and small volume to save mounting space.
- 1.2 The reducer model 110-150 is made of cast iron which casted with Aluminum mould. It's good looking and solid, and can be used through the setting of multi-azimuth.
- 1.3 Good radiating characteristic leads safe and high efficiency for using.
- 1.4 The strong capacity of loading and overload ensure stable transmission, make less vibration and noise.
- 1.5 Varies of connecting structure for power input and torque output meet different requirements; the design of box outline and the set of foot hole is apt to with high many kinds of mounting.

2. Double step worm gear reducer

- 2.1 It is combined by two single step reducers and has all the virtues of them. And you can get bigger ratio with it.
- 2.2 The models of 25/30、25/40、30/40、30/50、30/63、40/75、40/90、50/110、63/130、63/150, are in common use. You can choose 25、30、40、50、63、75、90、110、130、150 as combination units to combine according to the fact of your special needs.

3. Notes of installation

- 3.1 The base-plate must be plane and stoutness, and the base-bolts must be screwed down and shockproof.
- 3.2 The connecting shafts of prime mover, reducer and operation device must be coaxial after installation.
- 3.3 The diameter tolerance zone of input and output shaft is h6, the holes of fittings(such as couplings, belt-pulley, sprocket wheel and so on) must properly mate the shaft, which prevents bearing from breakage because of over-tight mate or avoid effecting normal power transmission because of over-loose mate.
- 3.4 Drivers such as sprocket wheel and gear must be fitted close to bearing in order to reduce bending stress of hanging shaft.
- 3.5 While assembling motor to the reducer, it is necessary to add butters to the worm shaft input hole and keyway, so as to avoid tightly assembling and rusting when it is used for a long time.
- 3.6 Supporting unit is required when reducers directly match with motors whose weight is bigger than normal types motor is a little bigger than normal.

4. Operating notes

- 4.1 Before using, please check carefully whether the reducer mode, distance size, ratio, input connecting method, output shaft structure, input and output shaft direction and revolving direction are right according to requirement. It is better for the input speed of worm shaft not more than 1500r/min.
- 4.2 The load should be added step by step when using the machine. Never running it with full load.
- 4.3 The reducer which model is among 25-90 has the oil add hole only. It has been full of synthetic lubrication oil ISO VG 320. User doesn't need to think about oil adding, after about 500 hours continual running, please change lubrication oil. Then change the oil once per 6000 hours.
- 4.4 The reducer model of 110-150 has oil add hole, oil out hole and oil gauge. Mineral lubrication oil ISO VG 460 has been filled in enough, before using, user must ull out the rubber ring of vent plug. After the first 400 hours running, clean the inter box and change new oil in it. Then change the oil once per 4000 hours.
- 4.5 The permitted temperature of the oil in reducer is 95℃, if up to this value, it must be stopped and checked.
- 4.6 We propose to change oil seal when the reducer has been stored over four to six months and the oil seal has n't been immersed in lubrication oil before using.
- 4.7 When the ambient temperature is 5℃ upper or lower than the normal level stated in the table, please contact with us.

9. 油品润滑
Lubricant

润滑油选用表 Lubrication oil chosen table

减速机规格 Reducer size	25-90	110-150	
润滑油类型 Type of lubrication oil	合成润滑油 Complex lubrication oil	矿物润滑油 Mineral lubrication oil	
环境温度℃ Ambient temperature	-25 - +50	-5 - +40	-15 - +25
ISO VG	ISO VG 320	ISO VG 460	ISO VG 220
AGIP	TELIUM VSF320	BLASIA 460	BLASIA 220
SHELL	TIVELA OIL Sc320	OMALA OIL 460	OMALA OIL220
ESSO	S220	SPARTAN EP460	SPARTAN EP220
MOBIL	GLYGOYLE 30	MOBIL GEAR 634	MOBIL GEAR 630
CASTROL	ALPHASYN PG320	ALPHA MAX 460	ALPHA MAX 220
BP	ENERGOL SG-XP320	ENERGOL GR-XP460	ENERGOL GR-XP220

润滑油注油量 (L) Adding capacity of lubrication oil

规格 Type 安装型式 Installation	规格 Type										
	025	030	040	050	063	075	090	110	130	150	
B3	0.02	0.04	0.08	0.15	0.3	0.55	1	3	4.5	7	
B6 B7								2.2	3.3	5.1	
B8								2.5	3.5	5.4	
V5								3	4.5	7	
V6								2.2	3.3	5.1	

10. 故障分析
Malfunctions analysis

故障情况 Fault Description	故障原因 Reasons	解决办法 Solutions
过热 Overheating	原动力、减速机、工作机连接不当 Improper connection among prime mover, reducer and the operation device	调整至适当位置, 使三者相联轴线同轴 Adjust to proper position
	超负荷运转 Overloading	适当调整负荷 Adjust to proper load
	油封过度摩擦 Over friction of oil seals	在油封唇口处滴润滑油 Drop lubricant at oil seal
	润滑油过少或过多 Lubricant oil overmuch or shortage	按注油方式或调整油量 Adjust to proper oil quantity as lubricant capa city tale
振动 Vibration	润滑油杂质多或润滑性差 Much impurity is oil or inferior oil	按润滑油选用表更换合适新油 Refill proper oil
	原动力、减速机、工作机固定不良 Prime mover, reducer and the operation device mount badly	查出不良固定部件, 正确固定 Find out the bad place, tighten it
	蜗轮副齿面磨损或损伤 Tooth surface of worm gear sets worn-out or damaged	更换蜗轮副 (需要时本公司配合) Replace worm gear sets (we will cooperate with you when necessary)
	轴承磨损 Bearing worn-out	更换轴承 Replace Bearing
噪音 Noise	螺栓松动 Bolt loose	紧固螺栓 Tighten Screw
	原动机与减速机连接不当 Improper connection among prime mover, reducer and the operation device	原动机重新调整连接 Adjust to proper position
	轴承损伤或间隙过大 Bearing damaged or too large clearance	更换轴承 Replace Bearing
	蜗轮副啮合不良 Worm gear sets mesh badly	修整齿面或更换蜗轮副 (请与本公司联系) Mend tooth surface or replace worm gear sets (please contact to us)
漏油 Oil leakage	润滑油不足 Lubricant oil shortage	按注油方式或补加润滑油 Fill in adequate oil as lubricant capacity table
	油封唇口摩擦 Oil seal lip worn-out	更换油封 Replace oil seal
	油封档轴颈磨损 Shaft of oil seal area worn-out	更换输入轴或带轮轴蜗轮 Replace input or output shaft with worm gear
	放油堵塞未拧紧 Oil screw plug loose	螺栓处加密封胶, 拧紧堵塞 Tighten oil screw plug
蜗轮副齿面磨损过快 Tooth surface of worm gear sets abrade extra-quickly	油标破损 Oil gaugs damaged	更换油标 Replace oil gauge
	超负荷运转 Overload	调整至适当负荷 Adjust to proper loading
	润滑油不符合要求 Lubricant oil not according with requirement	更换合适的润滑油 Replace proper lubricant oil
	润滑油不足 Lubricant oil shortage	按油标指示点加足润滑油 Fill adequate oil as indication
	未按规定及时换油, 润滑油劣化 Not replacing lubricant oil in time according to requirement, oil deteriorates	按规定要求及时更换润滑油 Replacing oil in time according to requirement
运转温度过高 Overheating while running	1. 按“过热”故障处理 2. 采取合适措施, 降低周围环境温度 1. Deal with it as "Overheating" 2. Adopting proper measures to make environment temperatur fall	

注: 1. 为排除出现的故障原因。
2. 如果发生其他故障无法解决时, 请及时与我们联系, 以便提供专业服务。
Annotation: 1. Accored after the lubricant changed.
2. If other faults not listed above occur, Please contact with us at any moment. Our company will supply thorough consultation and service.

UD(L) 系列行星锥盘无级变速器
UD(L) series planet cone-disk stepless speed variator

1. 产品图片
Products pictures



2. 产品概述
Product summary

UD(L) 系列行星锥盘无级变速器简介
Brief introduction of UD(L) series planet cone-disk stepless speed variator

UD(L)系列行星锥盘无级变速器融合了国内外先进的技术和工艺,用材高级、加工精良、壳体采用优质铝合金压铸成形。本机具有造型美观、重量轻、体积小、传动效率高、散热快、噪音低、安装灵活、使用方便、寿命长等优点。

UD(L)系列行星锥盘无级变速器可与各种减速机组合,实现无级变速。变速范围大,调速精度高,可在运动中进行。本机可广泛应用于食品、陶瓷、包装、化工、制药以及各种需要调速的自动线、输送线、装配流水线上实现大减速动力传动及控制。

UD(L) series planet cone-disk stepless speed variator merges domestic and overseas advanced technique and craftsmanship. It chooses high-grade material and of superior processing. It's made of high-quality aluminium alloy diecast into forming. It has merits such as beautiful appearance, small volume, light weight, high transmission efficiency, quick heat dissipation, low noise, flexible installation, convenient use, long life etc.

UD(L) series planet cone-disk stepless speed variator may be combined with various speed reducers to fulfill stepless speed variation, large speed-change scope, high speed regulative precision, it may be carried out during operation.

It is widely applicable in foodstuffs, ceramics, packing, chemicals, pharmacy and various automatic production lines, conveyor lines, assembly lines which need speed-regulation to full power drive & control.

型号及标记 Mood & mark



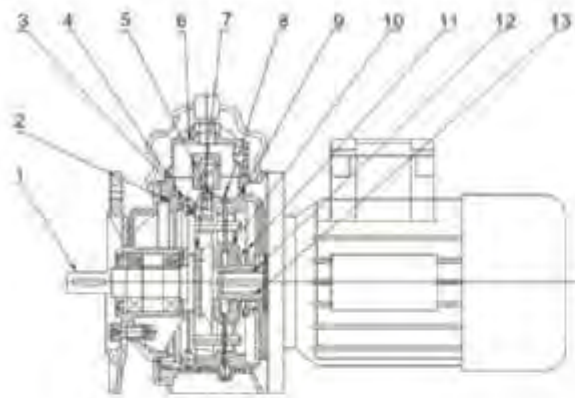
结构与原理 Structure & Principle

行星锥盘无级变速器,其主要传动元件有内行星轮10、13、行星轮8,外行星轮5、9和加压装置、调整轴2等组成,如下图所示。电机轴即为输入轴,带动内行星轮旋转时,内行星轮在碟形弹簧11作用下两面夹紧行星轮以摩擦力驱动行星轮,行星轮在作自转的同时又绕内行星轮公转,其公转运动由行星轮轴通过行星架传递给输出轴。

调速时,转动操作手轮会使活动外行星轮5产生摆动,通过加压装置使行星轮向内(变快)或向外(变慢)移动,以改变行星轮与内行星轮的接触半径,即改变行星轮的自转与公转速度,这样改变的公转运动传递给输出轴就为无级变速输出。

The main drive components of planet cone-disk stepless speed variator consist of inner planetary orbit 10,13, planetary wheel 8, outer planetary orbit 5,9 and compression device regulating orbit 2. As table 1. Electric motor shaft is input shaft. While driving inner planetary orbit to rotate, the inner planetary orbit tightly clamps planet wheel on both sides under actions of butterfly spring 11 to actuate planet wheel by frictional force. In the meantime of planet wheel's rotation, it makes revolution round inner planetary orbit. Its revolution motion is transmitted by planet wheel shaft to output shaft through planet support.

While adjusting its speed, rotate operating handwheel to make movable outer planetary orbit 5 swing, make planet wheel inward (quicker) or outward (slower) moving through compression device in order to change the contact radius between planet wheel and inner planetary orbit. That is change planet wheel's rotation & revolution speed. The revolution speed. The revolution motion changed in this way transmitting to output shaft becomes stepless speed variation output.

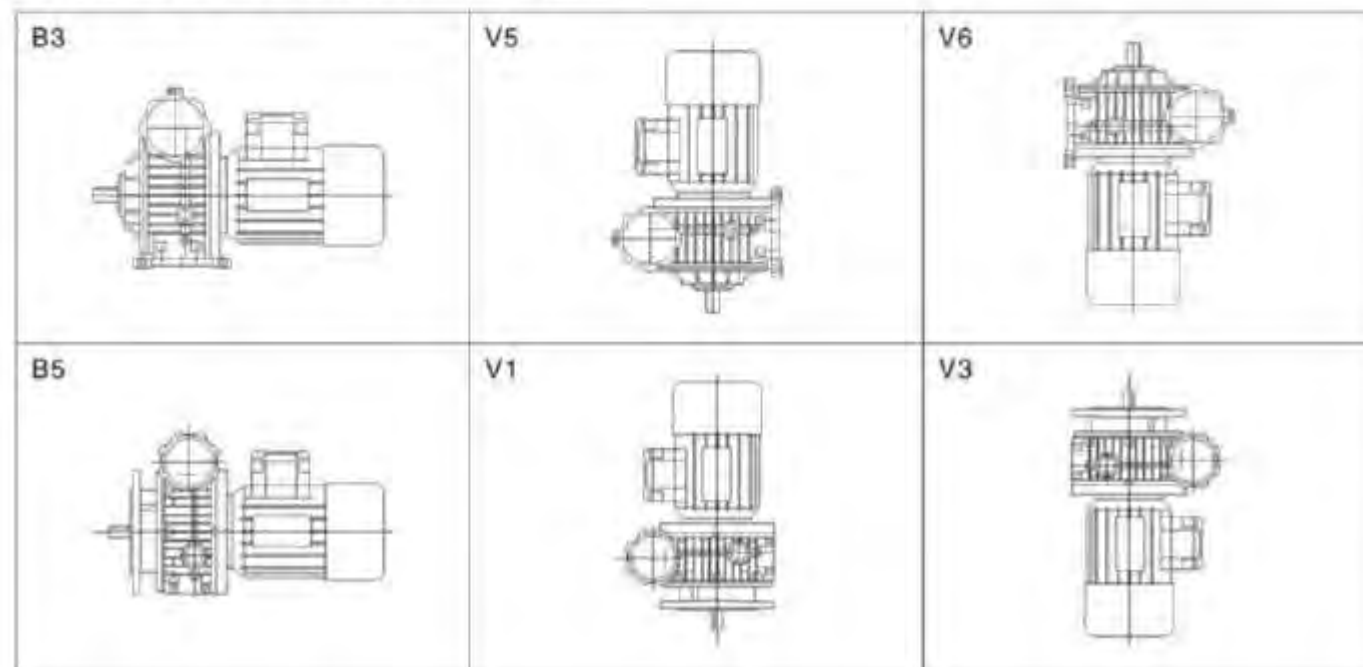


1. 输出轴 Output shaft
2. 调整轴 Regulating orbit
3. 钢球环 Ball ring
4. 滑块 Slide block
5. 活动外行星轮 Moving outer planetary orbit
6. 操作盒 Operating box
7. 行星架 Planet support
8. 行星轮 Planet wheel
9. 固定外行星轮 Fixed outer planetary orbit
10. 活动内行星轮 Moving inner planetary orbit
11. 碟形弹簧 Butterfly spring
12. 电机轴 Electric motor shaft
13. 固定内行星轮 Fixed inner planetary orbit

UD性能参数 Performance parameter

功率 Power	型号 Mode	i	n2 /r/min	M2 N.M
0.12 kw	UDL0.12	1.6-8.2	850-170	1-2
0.18 kw	UDL0.18	1.6-8.2	850-170	1.5-3
0.25 kw	UDL0.25	1.4-7	1000-200	2-4
0.37 kw	UDL0.37	1.4-7	1000-200	3-6
0.55 kw	UDL0.55	1.4-7	1000-200	4-8
0.75 kw	UDL0.75	1.4-7	1000-200	6-12
1.0 kw	UD1.1	1.4-7	1000-200	9-18
1.5 kw	UD1.5	1.4-7	1000-200	12-24
2.2 kw	UD2.2	1.4-7	1000-200	18-36
3.0 kw	UD3.0	1.4-7	1000-200	24-48
4.0 kw	UD4.0	1.4-7	1000-200	32-64
5.5 kw	UD5.5	1.4-7	1000-200	44-88
7.5 kw	UD7.5	1.4-7	1000-200	60-120
11 kw	UD11	1.4-7	1000-200	88-176

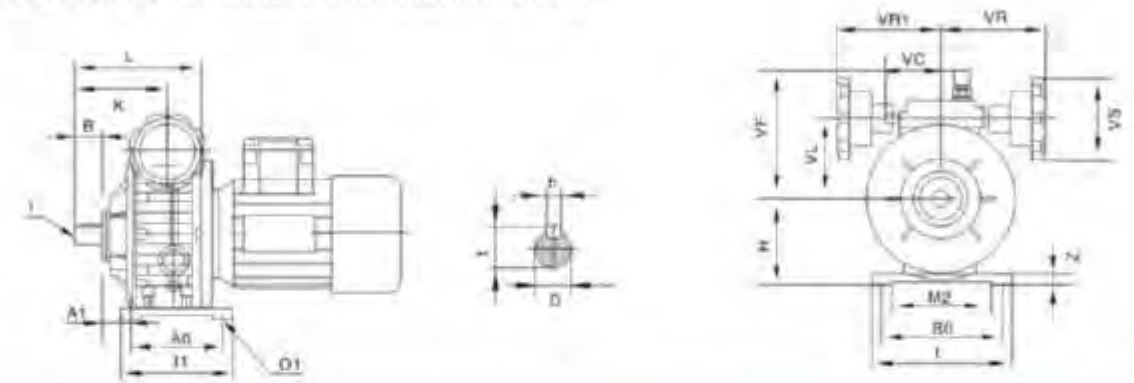
安装方位图 Installation position diagram



3. 安装尺寸
Installation size

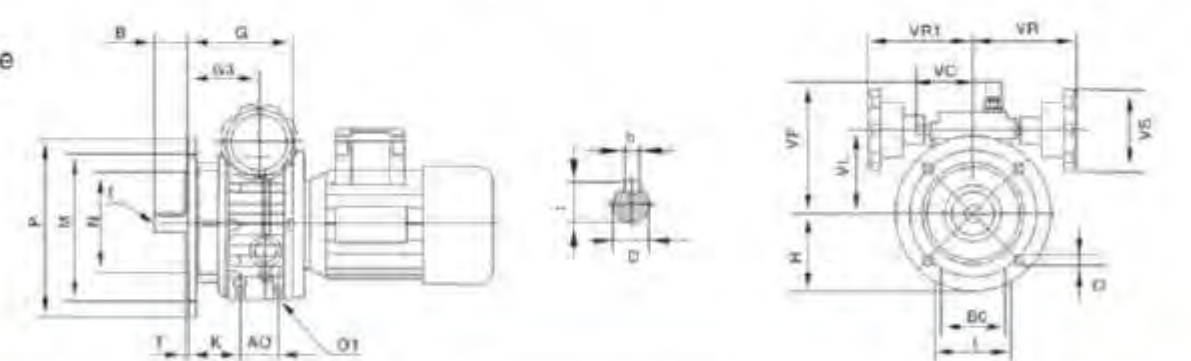
UD(L)外型及安装尺寸 Outline & installation sizes

B3 型
B3 Type



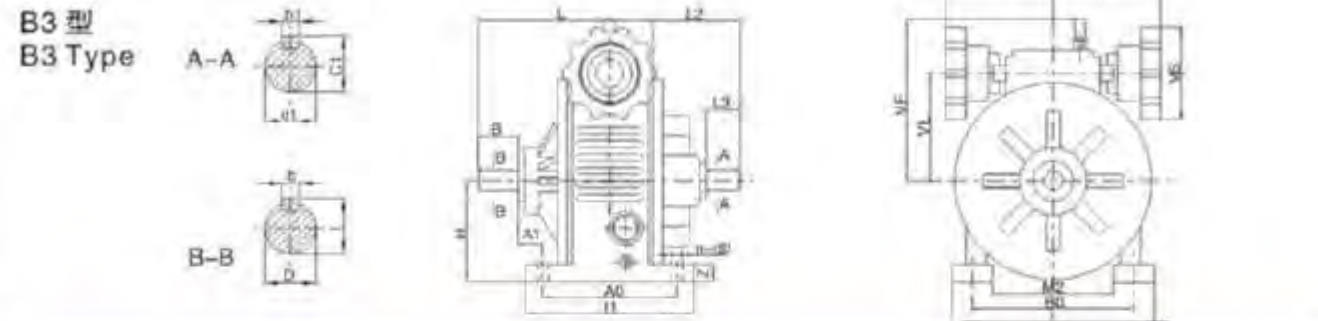
	A0	A1	D1(B)	B0	B	H	I	I1	R	L	M2	O1	VF	VL	VR	VR1	VS	Z	h	f	l	
UDL0.12	105	17.5	11	110	23	80	145	120	87.5	135.5	71	9	111	78	110	110	75	10	4	-	12.5	
UDL0.18																						
UDL0.25	164	20	14	120	30	93	149	125	104	104	96	9	123	90	110	110	75	10	5	M6	16	
UDL0.37																						
UDL0.55	125	26	18	160	40	113	190	150	125.5	179	135	11	140	107	120	120	90	15	6	M6	21.5	
UDL0.75																						
UD1.1	140	95	24	180	50	125	236	170	154	219	130	13	144	127	135	135	90	16	8	M8	27	
UD1.5																						
UD2.2																						
UD3.0	230	25	28	245	60	150	300	270	191	298	190	14	188	151	166	166	110	25	8	M8	33	
UD4.0																						
UD5.5	250	33	38	315	70	200	365	290	210	385	245	18	239	192	194	186	110	30	10	M10	38	
UD7.5																						
UD11	350	50	50	350	110	224	455	420	308	455	285	20	301	254	266	-	250	45	14	M12	53.5	

B5 型
B5 Type



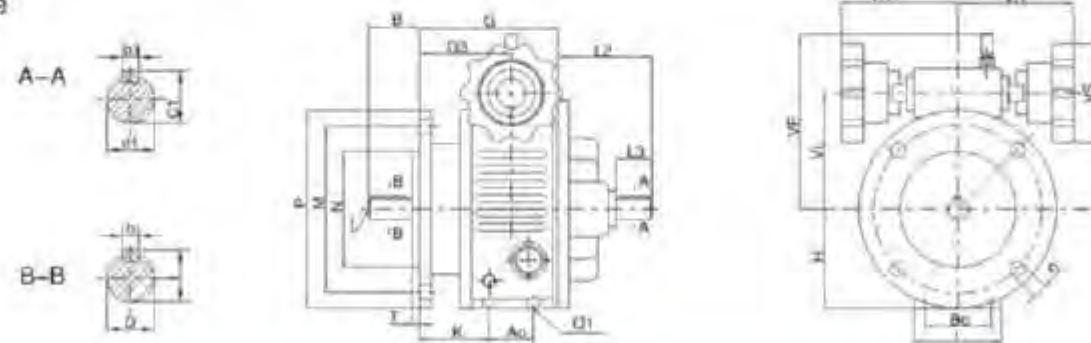
	A0	D1(B)	B0	B	G	G1	H	I	M	N	O	O1	P	T	K	VF	VL	VR	VR1	VS	h	f	l	
UDL0.12	50	11	60	23	112.5	84.5	70	72	115	95	9	47	140	3.5	46	111	78	110	110	75	4	-	12.5	
UDL0.18																								
UDL0.25	40	14	77	30	110	93	80	90	130	110	9	49	160	3.5	53	123	90	110	110	75	5	M6	16	
UDL0.37																								
UDL0.55	58	19	84	40	139	113	100	96	165	130	11	49	200	3.5	60	140	107	120	120	90	6	M6	21.5	
UDL0.75																								
UD1.1	-	24	-	50	167	125	116	230	165	130	13	-	200	3.5	-	144	127	135	135	90	8	M8	27	
UD1.5																								
UD2.2																								
UD3.0	-	28	-	60	207	150	135	270	215	180	15	-	250	4	-	188	151	166	166	110	8	M8	33	
UD4.0																								
UD5.5	-	38	-	70	244	131	200	-	265	230	15	-	300	5	-	239	192	194	-	110	10	M10	38	
UD7.5																								
UD11	-	50	-	110	368	258	244	-	350	300	19	-	400	5	-	301	254	266	-	250	14	M12	53.5	

UD(L) 外型及安装尺寸
UD(L) outline & installation sizes



机座号 Frame size	型号 Model	中心高 The center is high	安装尺寸 Installation size			联接轴尺寸 Connecting size for shaft extension										外形尺寸 Appearance size									
			A0	A1	Z	输出轴 Output shaft					输入轴 Input shaft					L2	I	II	L	VF	VL	VR1	VR	VS	
UDL02	UDL0.12 UDL0.18	80	105	12.0	10	110	21	4-9	11	12.5	4	23	11	12.5	4	23	74	145	120	135.0	111	78	110	110	75
UDL04	UDL0.25 UDL0.37	83	104	20	10	120	06	4-9	14	18	5	30	14	18	5	30	79	140	125	140	123	90	110	110	75
UDL07	UDL0.55 UDL0.75	113	125	26	15	160	135	4-11	18	21.5	6	40	19	21.5	6	40	110	190	150	179	140	107	120	120	90
UD15	UD1.1 UD1.5	125	140	45	18	180	130	4-13	24	27	8	50	24	27	8	40	91	230	170	219	144	127	135	135	90
UD40	UD2.2 UD3.0 UD4.0	150	230	25	25	245	190	4-14	28	31	8	60	24	27	8	50	113	300	270	298	188	151	166	166	110
UD75	UD5.5 UD7.5	200	250	32	30	215	245	4-18	38	41	10	70	32	35	10	60	108	365	290	365	239	192	194	194	110
UD150	UD11 UD15	224	350	50	45	350	285	4-20	42	45	12	10	42	45	12	62	202	455	420	455	301	254	226	226	250

B5 型
B5 Type

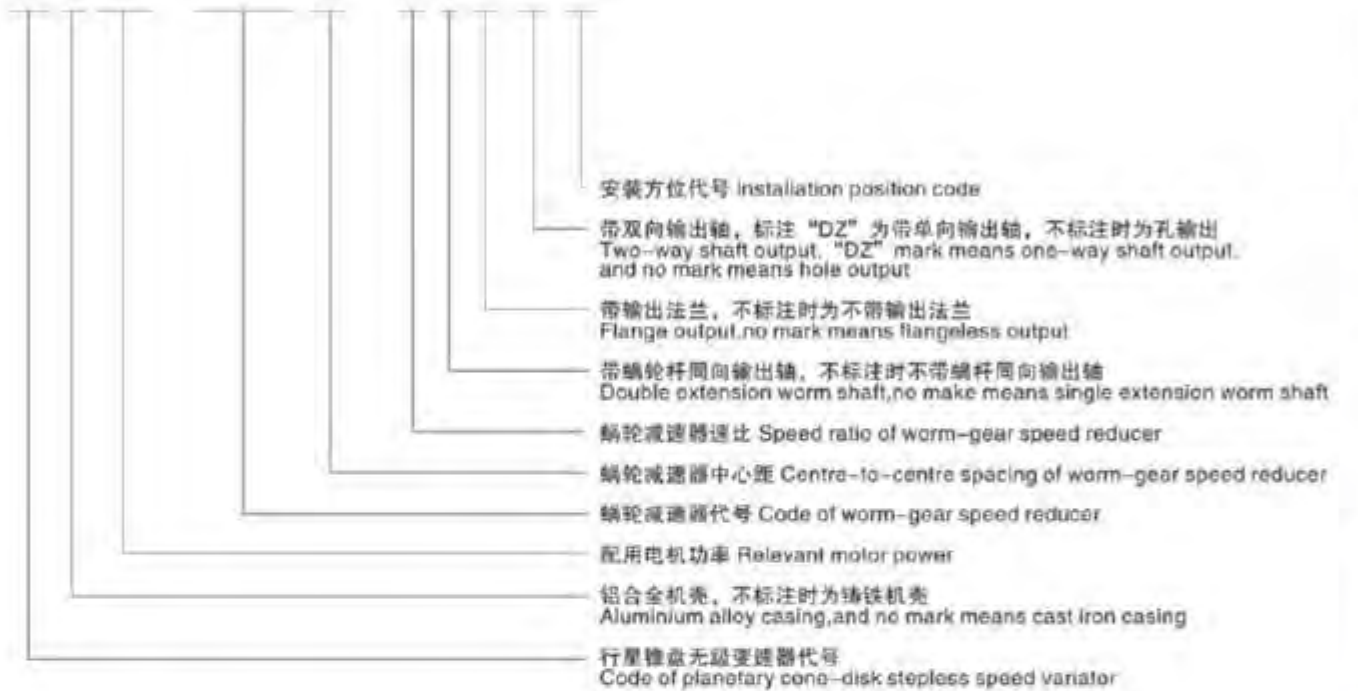


机座号 Frame size	型号 Model	H	Y1 (h)	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10	Y11	Y12	Y13	Y14	Y15	Y16	Y17	Y18	Y19	Y20	Y21	Y22	Y23	Y24	Y25	Y26	Y27	Y28	Y29	Y30			
UDL02	UDL0.12 UDL0.18	70	11	4	12.5	11	4	12.5	64.5	50	46	115	95	140	3.5	4.7	23	115	74	23	-	111	110	110	75	60	72	8								
UDL04	UDL0.25 UDL0.37	80	14	5	16	14	5	16	93	40	53	130	110	160	2.5	3.9	30	110	79	30	M6	123	110	110	75	77	90	9								
UDL07	UDL0.55 UDL0.75	100	19	8	21.5	19	8	21.5	113	58	80	165	130	200	3.5	4.9	40	139	110	40	M8	140	120	120	90	84	98	11								
UD15	UD1.1 UD1.5	115	24	8	27	24	8	27	125	-	-	165	130	200	3.5	-	40	167	91	40	M8	144	135	135	90	-	230	13								
UD40	UD2.2 UD3.0 UD4.0	135	24	8	27	28	8	33	150	-	-	215	180	250	4	-	50	207	110	50	M8	188	168	168	110	-	270	15								
UD75	UD5.5 UD7.5	200	32	10	35	38	10	38	121	-	-	265	230	300	5	-	60	244	108	60	M10	239	194	194	110	-	-	15								
UD150	UD11 UD15	224	42	12	45	42	12	45	258	-	-	300	250	350	5	-	82	368	202	82	M12	301	226	226	250	-	-	19								

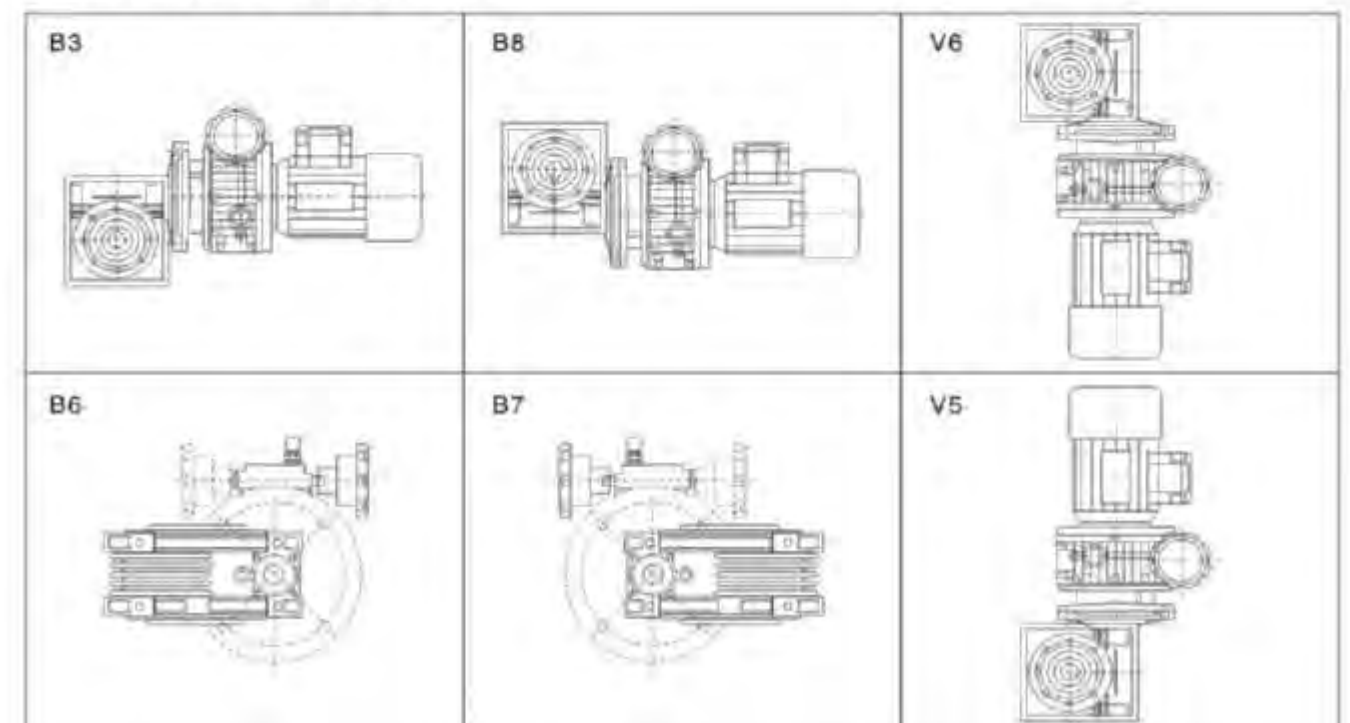
4. 行星锥盘无级变速器与NMRV蜗轮减速器组合
Combination of planet cone-disk stepless speed variator and NMRV worm-gear speed reducer

型号及标记 Mood & mark

UD L 0.75 - NMRV 063 - 40 E F1 SZ B3



安装方位图 Installation position

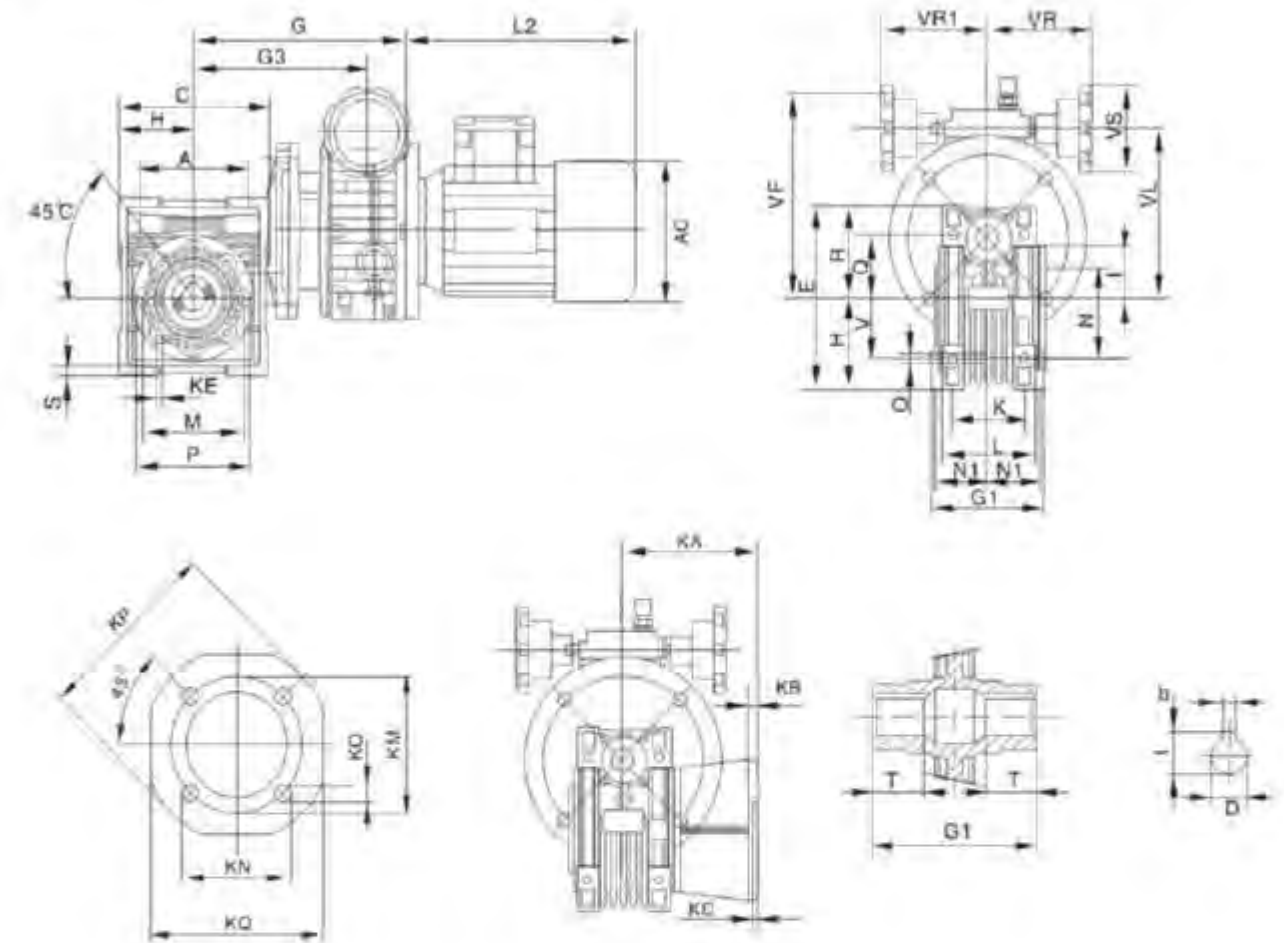


性能参数
performance parameter

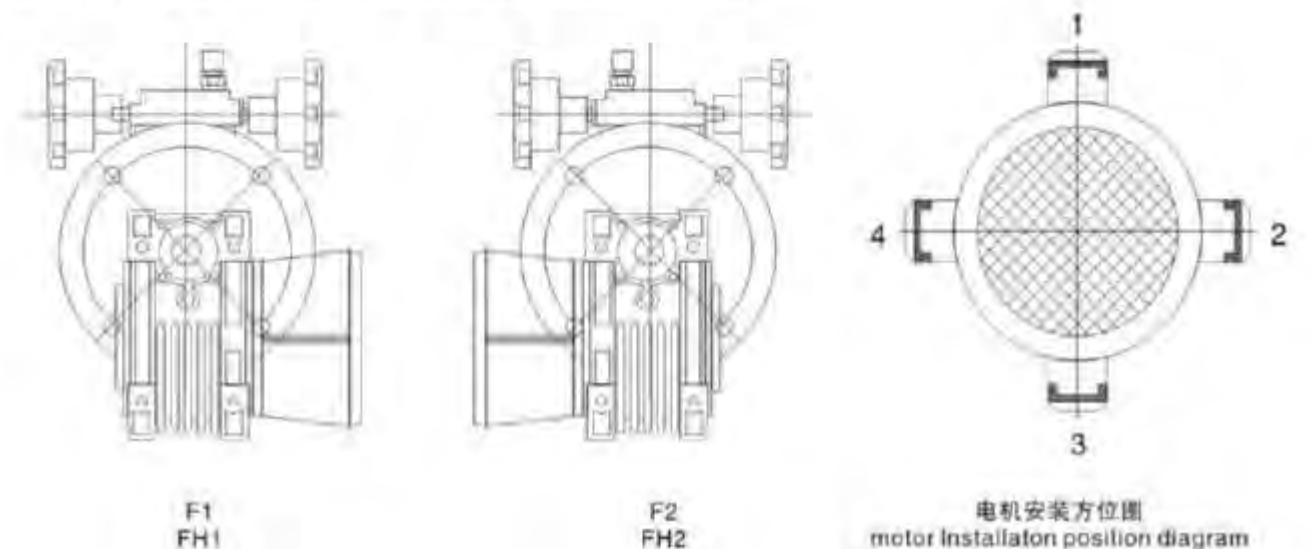
型号 Model	i	n2 rpm	M2
0.12K 4P n1=1400r/min	UDL0.12 -NMRV040	7.5	6-12
		10	8-17
		15	12-24
		20	15-31
		25	18-36
		30	20-41
		40	25-51
UDL0.12 -NMRV050	50	30-81	
	60	35-71	
	80	39-78	
0.18K 4P n1=1400r/min	UDL0.18 -NMRV040	7.5	9-18
		10	12-23
		15	17-32
		20	22-40
		25	27-47
		30	30-51
		40	37-82
UDL0.18 -NMRV050	50	43-80	
	60	50-80	
	80	59-82	
0.25K 4P n1=1400r/min	UDL0.25 -NMRV050	7.5	12-21
		10	17-34
		15	24-49
		20	31-63
		25	36-73
		30	41-82
		40	51-102
UDL0.25 -NMRV063	50	61-122	
	60	70-143	
	80	84-169	
0.37K 4P n1=1400r/min	UDL0.37 -NMRV050	7.5	19-36
		10	25-47
		15	36-85
		20	46-82
		25	55-97
		30	61-107
		40	76-124
UDL0.37 -NMRV063	50	89-120	
	60	104-173	
	80	125-172	
UDL0.37 -NMRV090	100	139-150	

型号 Model	i	n2 rpm	M2 N.M
0.55K 4P n1=1400r/min	UDL0.55 -NMRV063	7.5	26-49
		10	34-63
		15	48-88
		20	62-112
		25	75-133
		30	81-146
		40	105-179
UDL0.55-NMRV090	50	123-207	
	60	146-242	
	80	175-250	
0.75K 4P n1=1400r/min	UDL0.75 -NMRV063	7.5	39-73
		10	51-94
		15	72-132
		20	92-168
		25	112-199
		30	126-219
		40	156-232
UDL0.75-NMRV075	50	185-310	
	60	219-300	
	80	265-428	
1.1KW 4P n1=1400r/min	UD1.1 -NMRV05	7.5	59-111
		10	77-144
		15	110-203
		20	142-258
		25	172-308
		30	195-340
		40	245-360
UD1.1-NMRV090	50	304-517	
	60	368-625	
	80	455-751	
1.5KW 4P n1=1400r/min	UD1.5 -NMRV075	7.5	78-146
		10	102-192
		15	147-279
		20	190-344
		25	229-330
		30	260-390
		40	341-589
UD1.5-NMRV110	50	406-560	
	60	490-833	
	80	614-989	
2.2KW 4P n1=1400r/min	UD2.2 -NMRV110	7.5	120-226
		10	157-294
		15	228-418
		20	298-849
		25	364-664
		30	413-717
		40	533-931
UD2.2-NMRV130	50	648-1097	
	60	746-1240	
	7.5	160-302	
3.0KW 4P n1=1400r/min	UD3.0 -NMRV110	10	210-392
		15	304-558
		20	398-732
		25	485-885
		30	547-956
		40	711-1030
		50	884-1463
4.0KW 4P n1=1400r/min	UD4.0 -NMRV110	7.5	213-402
		10	279-523
		15	405-744
		20	530-975
		25	653-1180
		30	749-1298
		40	960-1650

外型及安装尺寸 Outline & installation sizes



输出法兰位置图 Position diagram for output flange



外型及安装尺寸 Outline & installation sizes

型号 Model	安装尺寸 Installation Size															输出尺寸 Output Size			
	A	K	KC	KE	KM	KN(n8)	KO	M	N(n6)	NI	O	Q	S	V	n	Q(H7)	F	T	
UDL0.12-NMRV040	70	60	4	M6X8 (N4)	87	80	9(n4)	75	60	36.5	6.5	55	6.5	35	6	19	21.8	26	
UDL0.18-NMRV040																			
UDL0.12-NMRV050																			
UDL0.18-NMRV050																			
UDL0.25-NMRV050	80	70	5	M8X10 (N8)	90	70	11(n4)	85	70	43.5	8.5	64	7	40	8	25	28.3	30	
UDL0.37-NMRV050																			
UDL0.25-NMRV063																			
UDL0.37-NMRV063																			
UDL0.55-NMRV063	100	85	6	M8X14 (N8)	150	115	11(n4)	95	80	53	8.5	60	8	50	8	25	28.3	36	
UDL0.75-NMRV063																			
UDL0.55-NMRV075																			
UDL0.75-NMRV075																			
UD1.1-NMRV075	120	90	6	M8X14 (N8)	165	130	14(n4)	115	95	57	11	93	10	60	8	28	31.3	40	
UD1.5-NMRV075																			
UDL0.55-NMRV090																			
UDL0.75-NMRV090																			
UD1.1-NMRV090	140	100	6	M10X18 (N8)	175	152	14(n4)	130	110	67	13	102	115	70	10	35	38.3	45	
UD1.5-NMRV090																			
UD1.1-NMRV110																			
UD1.5-NMRV110																			
UD2.2-NMRV110	170	115	6	M10X18 (N8)	230	170	14(n6)	165	130	74	14	125	14	85	12	42	45.3	50	
UD3.0-NMRV110																			
UD4.0-NMRV110																			
UD1.5-NMRV130																			
UD2.2-NMRV130	200	120	6	M12X21 (N8)	255	180	16(n8)	215	180	81	16	140	15	100	14	45	48.8	60	
UD3.0-NMRV130																			
UD4.0-NMRV130																			

型号 Model	外型尺寸 Outline Size																		
	C	E	G	G1	G3	H	I	KA	KB	KF1	KQ	L	P	R1	VL	VS	VR	VR1	
UDL0.12-NMRV040	100	122	183	78	135	50	40	67	97	7	110	95	71	87	71.5	118	75	110	110
UDL0.18-NMRV040																			
UDL0.12-NMRV050																			
UDL0.18-NMRV050																			
UDL0.25-NMRV050	120	144	193	92	145	60	50	90	120	9	125	110	5	100	84	128	75	110	110
UDL0.37-NMRV050																			
UDL0.25-NMRV063																			
UDL0.37-NMRV063																			
UDL0.55-NMRV063	144	174	205	112	169	72	63	82	112	10	180	142	103	110	102	153	75	120	120
UDL0.75-NMRV063																			
UDL0.55-NMRV075																			
UDL0.75-NMRV075																			
UD1.1-NMRV075	172	205	252	120	198	86	75	111	-	13	200	170	112	140	119	182	90	120	120
UD1.5-NMRV075																			
UDL0.55-NMRV090																			
UDL0.75-NMRV090																			
UD1.1-NMRV090	206	238	269	140	215	103	90	111	-	13	210	200	130	160	135	197	90	120	120
UD1.5-NMRV090																			
UD1.1-NMRV110																			
UD1.5-NMRV110																			
UD2.2-NMRV110	253	295	319	155	263	128	110	131	-	15	280	260	144	200	168	218	90	145	145
UD3.0-NMRV110																			
UD4.0-NMRV110																			
UD1.5-NMRV130																			
UD2.2-NMRV130	293	335	388	170	312	148	130	140	-	15	320	290	155	250	188	281	110	180	180
UD3.0-NMRV130																			
UD4.0-NMRV130																			

5. 行星锥盘无级变速器与WJ蜗轮减速机组合
Combination of planet cone-disk stepless speed variator and WJ worm-gear speed reducer

型号及标记 Mood & mark

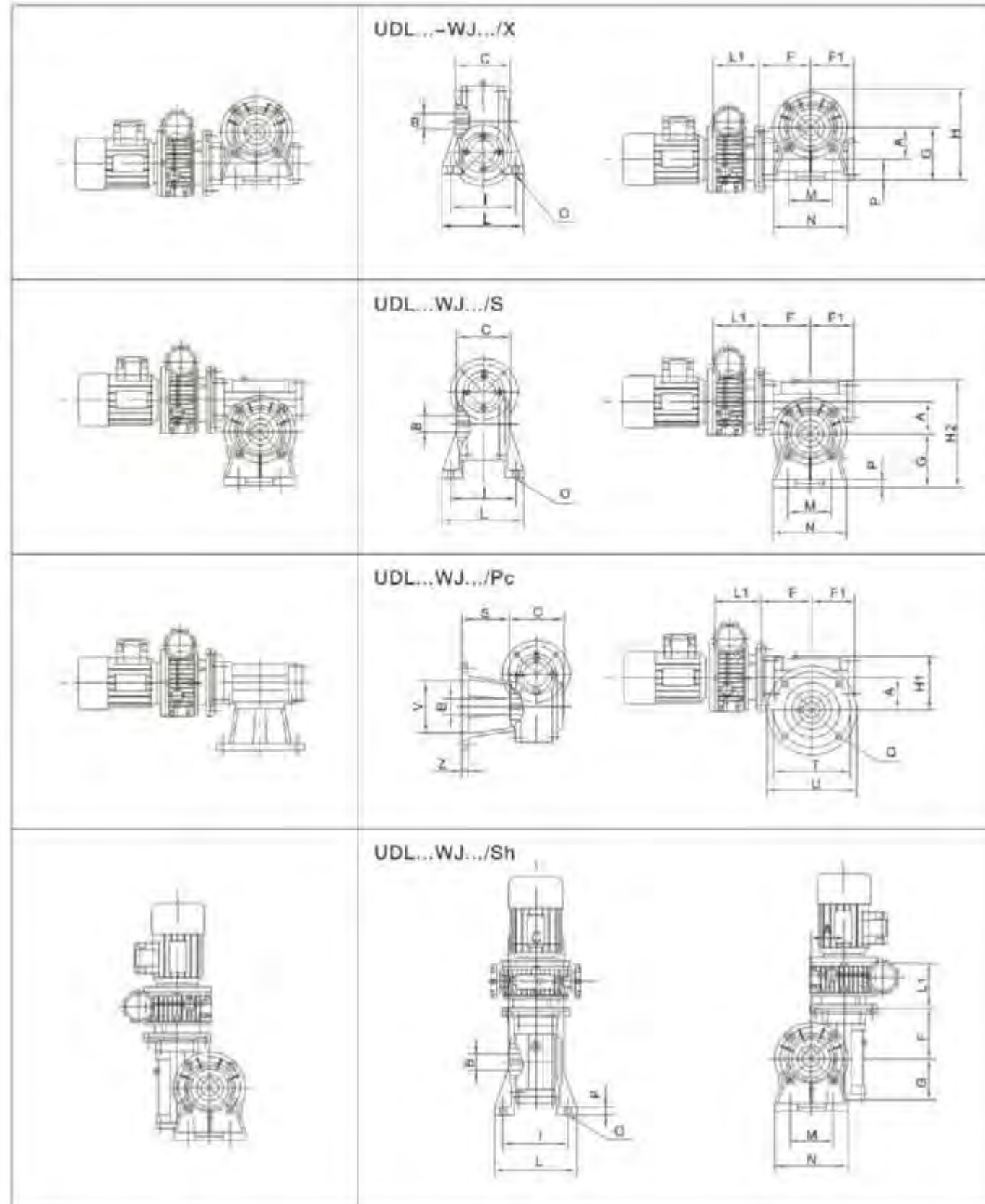
UD 0.37 WJ50 / PC - 40 - 20#



无级变速器代号	A	B(H7)	G	F	F1	G	H	H1	H2	H3	I	L	L1	M	N	D	D1
UD0.25-WJ50/**	50	25	82	68	64	82	138	80	162	56	98	124	110	64	110	4-Φ9	4-6M6
UD0.37-WJ50/**																	
UD0.37-WJ63/**	63	25	120	90	86	100	176	98	199	76	115	140	110	95	140	4-Φ10.5	4-6M8
UD0.55-WJ63/**																	
UD0.75-WJ63/**	63	25	120	90	86	100	176	98	199	76	115	140	139	95	140	4-Φ10.5	4-6M8
UD1.1-WJ90/**																	
UD1.5-WJ90/**	90	35	140	121	116	142	248	138	280	106	146	182	167	140	200	4-Φ12.5	4-6M10

无级变速器代号	P	F1	S	T	U	V(H8)	W	Z
UD0.25-WJ50/**	12	-	42	105	125	70	-	10
UD0.37-WJ50/**								
UD0.37-WJ63/**	12	3.5	57	150	180	115	-	11
UD0.55-WJ63/**								
UD0.75-WJ63/**	12	3.5	57	150	180	115	80	11
UD1.1-WJ90/**								
UD1.5-WJ90/**	14	4	80	180	210	152	110	15

外型及安装尺寸 Outline & installation sizes



性能参数 Performance parameter

型号 Model	配用电机 Equipped motor		蜗轮减速机 Worm gear reducer	输出转速 Output speed r/min	输出扭矩 Output torque N.m
	型号 Model	功率 Power(kw)			
UD0.25-WJ50/...7.5	Y2-7114/B5	0.25	0.75	133-27	10-29
UD0.37-WJ50/...7.5	Y2-7124/B5	0.37			15-34
UD0.25-WJ50/...15	Y2-7114/B5	0.25	15	67-13	18-31
UD0.37-WJ50/...15	Y2-7124/B5	0.37			27-47
UD0.25-WJ50/...20	Y2-7114/B5	0.25	20	50-10	24-41
UD0.37-WJ50/...20	Y2-7124/B5	0.37			36-61
UD0.25-WJ50/...30	Y2-7114/B5	0.25	30	33-7	32-53
UD0.37-WJ50/...30	Y2-7124/B5	0.37			48-68
UD0.25-WJ50/...40	Y2-7114/B5	0.25	40	25-5	38-57
UD0.37-WJ50/...40	Y2-7124/B5	0.37			55-82
UD0.55-WJ63/...7.5	Y2-8014/B5	0.55	7.5	133-27	25-66
UD0.75-WJ63/...7.5	Y2-8024/B5	0.75			34-90
UD0.55-WJ63/...15	Y2-8014/B5	0.55	15	67-13	44-76
UD0.75-WJ63/...15	Y2-8024/B5	0.75			60-104
UD0.55-WJ63/...20	Y2-8014/B5	0.55	20	50-10	57-99
UD0.75-WJ63/...20	Y2-8024/B5	0.75			78-135
UD0.55-WJ63/...30	Y2-8014/B5	0.55	30	33-7	87-151
UD0.75-WJ63/...30	Y2-8024/B5	0.75			119-206
UD0.55-WJ63/...40	Y2-8014/B5	0.55	40	25-5	86-99
UD0.75-WJ63/...40	Y2-8024/B5	0.75			117-135
UD0.37-WJ63/...50	Y2-7124/B5	0.37	50	20-4	80-123
UD0.55-WJ63/...50	Y2-8014/B5	0.55			107-124
UD1.1-WJ90/...7.5	Y2-7114/B5	1.1	7.5	133-27	58-106
UD1.5-WJ90/...7.5	Y2-7114/B5	1.5			78-141
UD1.1-WJ90/...15	Y2-90S-4/B5	1.1	15	67-13	176-295
UD1.5-WJ90/...15	Y2-90L-4/B5	1.5			235-394
UD1.1-WJ90/...20	Y2-90S-4/B5	1.1	20	50-10	124-207
UD1.5-WJ90/...20	Y2-90L-4/B5	1.5			165-277
UD1.1-WJ90/...25	Y2-90S-4/B5	1.1	25	40-8	146-248
UD1.5-WJ90/...25	Y2-90L-4/B5	1.5			195-330
UD1.1-WJ90/...40	Y2-90S-4/B5	1.1	40	25-5	216-330
UD1.5-WJ90/...40	Y2-90L-4/B5	1.5			288-440
UD1.1-WJ90/...50	Y2-90S-4/B5	1.1	50	20-4	270-412
UD1.5-WJ90/...50	Y2-90L-4/B5	1.5			360-550

安装方位图 Installation position diagram



6. 行星锥盘无级变速器与齿轮减速器组合

Combination of planet cone-disk stepless speed variation and gear speed reducer

型号及标记 Mood & mark

UD(L) 0.75 - 2 C 5 B3

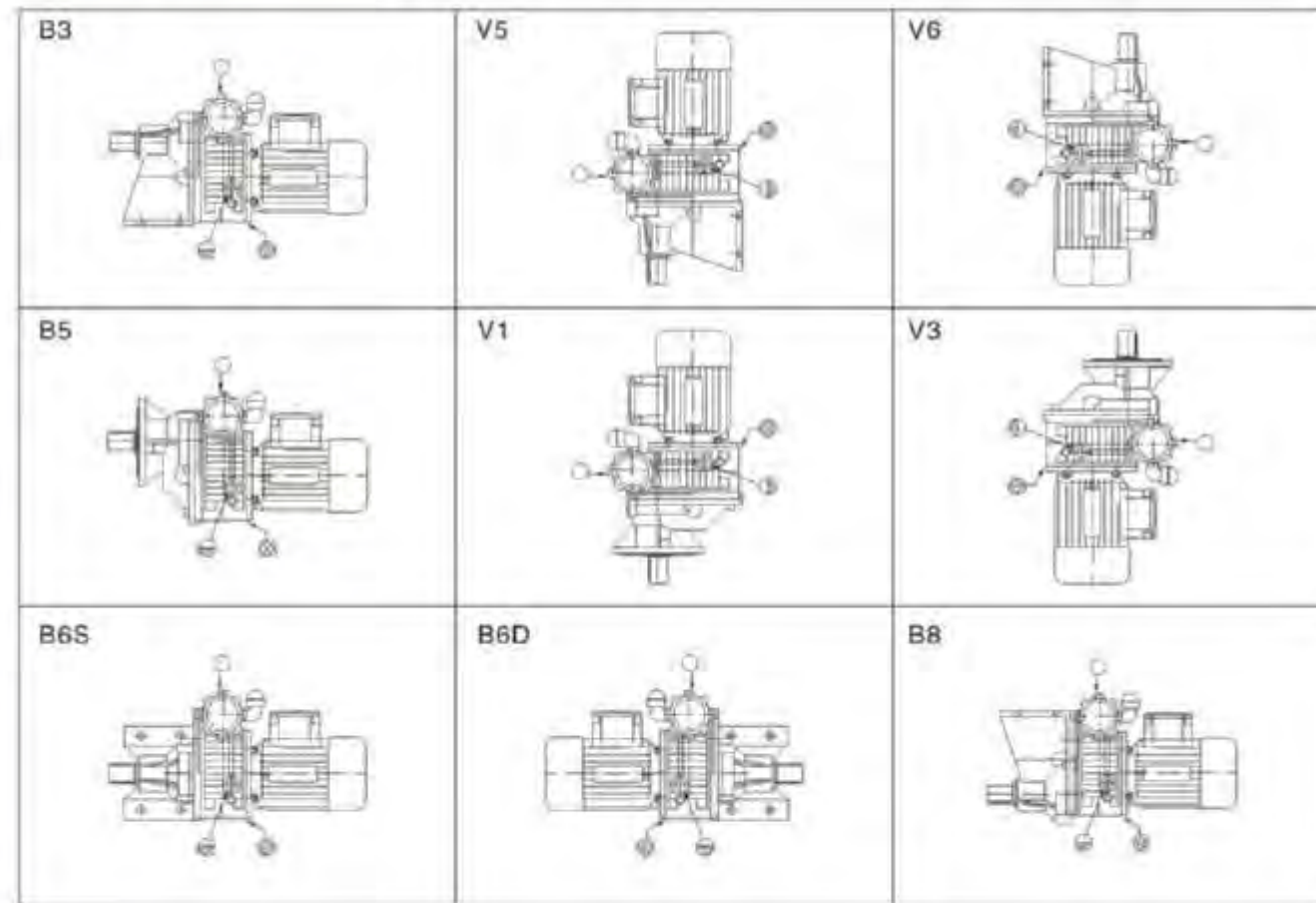
- 地脚式安装 (法兰安装用B5表示)
Installation with foot screws (flange installation is indicated by B5)
- 齿轮减速器速比
Speed ratio of gear speed reducer
- 齿轮减速器代号
Code of gear speed reducer
- 二级齿轮减速, 不标注时为一级齿轮减速
Second gear speed reducer, no mark means first gear speed reducer
- 配用电机功率
Relevant motor power
- 行星锥盘无级变速器代号
Code of planetary cone-disk stepless variator

性能参数 Performance parameter

型号Model		i	n2 rpm	M2 N.M
0.25KW 4P n1=1400r/min	UDL0.25-C	1.5	665-134	2.8-5.6
		2.5	400-80	4.75-9.5
		3.3	300-60	6.2-12.4
		5	200-40	9.5-19
		8	125-25	14.5-29
	UDL0.25-2C	12	80-17	21.5-43
		16	60-13	28.8-57.6
		25	40-8	45-90
		40	25-5	72-144
		1.5	655-134	4.2-8.4
0.37KW 4P n1=1400r/min	UDL0.37-C	2.5	400-80	7.1-14.2
		3.3	300-60	9.5-18
		5	200-40	14.2-28.4
		8	125-25	21.5-43
		12	80-17	32.4-64.8
	UDL0.37-2C	16	60-13	43-86
		25	40-8	67.5-135
		40	25-5	108-216
		1.5	655-134	7-14
		2.5	400-80	11.8-23.6
0.55KW 4P n1=1400r/min	UDL0.55-C	3.3	300-60	15.5-31
		5	200-40	23.5-47
		8	125-25	36-72
		12	80-17	54-108
		16	60-13	72-144
	UDL0.55-2C	25	40-8	112-224
		1.5	655-134	8.5-17
		2.5	400-80	14.4-28.8
		3.3	300-60	19-38
		5	200-40	28.5-57
0.75KW 4P n1=1400r/min	UDL0.75-C	8	125-25	43-86
		12	80-17	64.5-129
		16	60-13	86.5-173
		25	40-8	135-270
		1.5	655-134	12.5-35
	UDL0.75-2C	2.5	400-80	21.3-42.6
		3.3	300-60	28-56
		5	200-40	42.5-85
		8	125-25	64.5-129
		12	80-17	97-194
1.1KW 4P n1=1400r/min	UD1.1-C	16	60-13	130-260
		25	40-8	202-404
		1.5	655-134	17-34
		2.5	400-80	28.5-57
		3.3	300-60	37.5-75
	UD1.1-2C	5	200-40	57-114
		1.5	655-134	17-34
		2.5	400-80	28.5-57
		3.3	300-60	37.5-75
		5	200-40	57-114

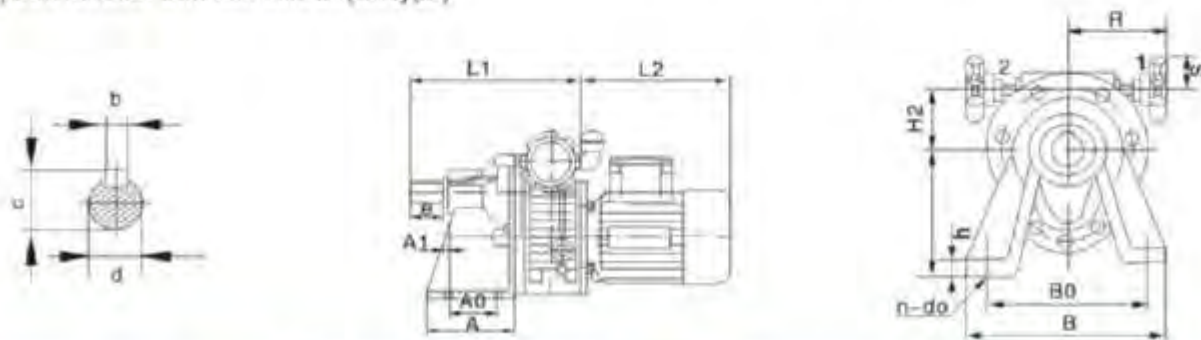
型号Model		i	n2 rpm	M2 N.M
0.15KW 4P n1=1400r/min	UD1.5-2C	8	125-25	86.5-173
		12	80-17	130-260
		16	60-13	192-384
		25	40-8	270-540
		1.5	655-134	25.5-51
2.2KW 4P n1=1400r/min	UD2.2-C	2.5	400-80	42.5-85
		3.3	300-60	55.5-111
		5	200-40	85.5-171
		8	125-25	130-260
		12	80-17	195-389
UD2.2-2C	16	60-13	260-520	
	25	40-8	405-810	
	1.5	655-134	34-68	
	2.5	400-80	57-114	
	3.3	300-60	75-150	
3.0KW 4P n1=1400r/min	UD3.0-C	5	200-40	114-228
		8	125-25	172-244
		12	80-17	260-520
		16	60-13	245-490
		25	40-8	540-1080
UD3.0-2C	1.5	655-134	45.5-91	
	2.5	400-80	76-152	
	3.3	300-60	99.5-199	
	5	200-40	152-304	
	8	125-25	236-472	
4.0KW 4P n1=1400r/min	UD4.0-C	12	80-17	345-690
		16	60-13	460-920
		25	40-8	720-1440
		1.5	655-134	62.5-125
		2.5	400-80	104.5-209
UD4.0-2C	3.3	300-60	138.5-273	
	5	200-40	209-418	
	8	125-25	325-649	
	12	80-17	474-948	
	16	60-13	632-1265	
5.5KW 4P n1=1400r/min	UD5.5-C	25	40-8	990-1980
		1.5	655-134	85-170
		2.5	400-80	124-248
		3.3	300-60	186-373
		5	200-40	285-570
UD5.5-2C	8	125-25	442-885	
	12	80-17	648-1293	
	16	60-13	862-1725	
	25	40-8	1350-2700	
	7.5KW 4P n1=1400r/min	UD7.5-C	1.5	655-134
2.5			400-80	124-248
3.3			300-60	186-373
5			200-40	285-570
8			125-25	442-885
UD7.5-2C	12	80-17	648-1293	
	16	60-13	862-1725	
	25	40-8	1350-2700	

安装方位图 Installation position diagram



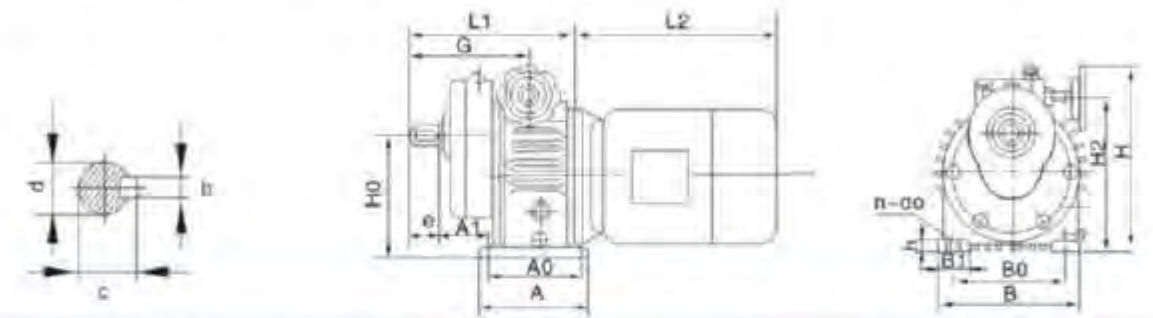
外型及安装尺寸 Outline & installation sizes

行星锥盘无级变速器与一级齿轮减速组合地脚式 (B3型) 外型及安装尺寸
Outline & installation size for combination of planet cone-disk stepless speed variator and first gear speed reducer with foot screws (B3 type)



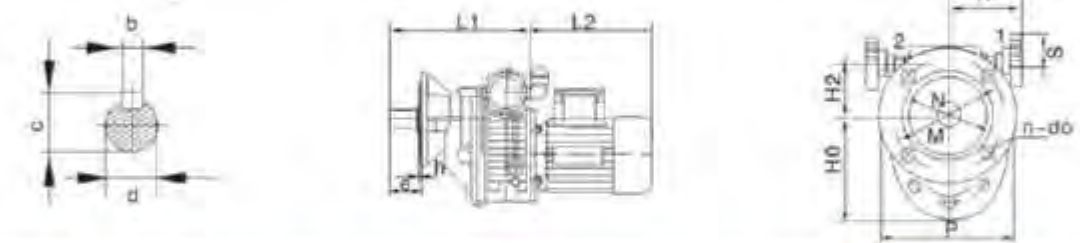
型号 Model	安装尺寸 Installation size				轴伸联接尺寸 Shaft connect size				外形尺寸 Outline size									
	H0	A0	A1	B0	h	n	d0	d	b	c	e	A	B	L1	H2	R	L2	S
UDL0.25-CB3	130	70	3	150	12	4	12	24js6	8	27	50	112	190	241	40	110	227	75
UDL0.37-CB3	130	70	3	150	12	4	12	24js6	8	27	50	112	190	241	40	110	227	75
UDL0.55-CB3	162	70	7	165	14	4	13	26js6	8	31.3	60	133	2129	291	46.5	143	268	90
UDL0.75-CB3	162	70	7	165	14	4	13	26js6	8	31.3	60	133	2129	291	46.5	143	268	90

外型及安装尺寸 Outline & installation sizes

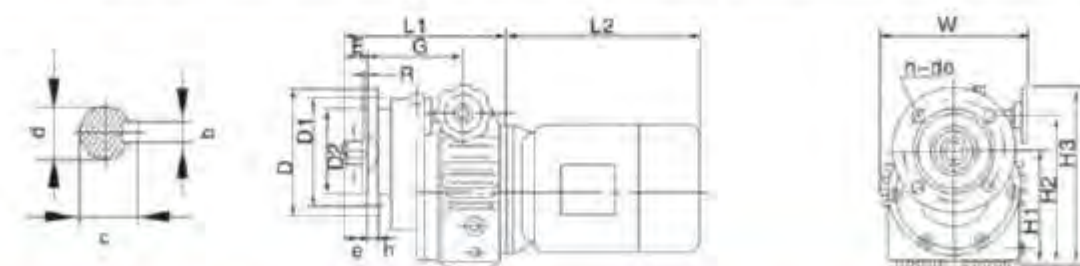


型号 Model	安装尺寸 Installation size				轴伸联接尺寸 Shaft connect size				外形尺寸 Outline size										
	H0	A0	A1	B0	h	n	d0	d	b	c	e	H	H2	R	A	G	L1	L2	
UD1.1-CB3	190	140	78	180	50	18	4	12	30	8	33	45	313	246	230	165	178	245	270
UD1.5-CB3	190	140	78	180	50	18	4	12	30	8	33	45	313	246	230	165	178	245	270
UD2.2-CB3	230	230	93	245	55	20	4	14	40	12	43	60	355	300	300	270	234	306	325
UD3.0-CB3	230	230	93	245	55	20	4	14	40	12	43	60	355	300	300	270	234	306	325
UD4.0-CB3	320	250	157	315	70	30	4	18	50	14	53.5	82	475	369	365	290	347	455	340
UD5.5-CB3	320	250	157	315	70	30	4	18	50	14	53.5	82	475	369	365	290	347	455	390
UD7.5-CB3	320	250	157	315	70	30	4	18	50	14	53.5	82	475	369	365	290	347	455	430

行星锥盘无级变速器与一级齿轮减速组全法兰式 (B5型) 外型及安装尺寸
Outline & installation size for combination of planet cone-disk stepless speed variator and first gear speed reducer with flanges (B5 type)



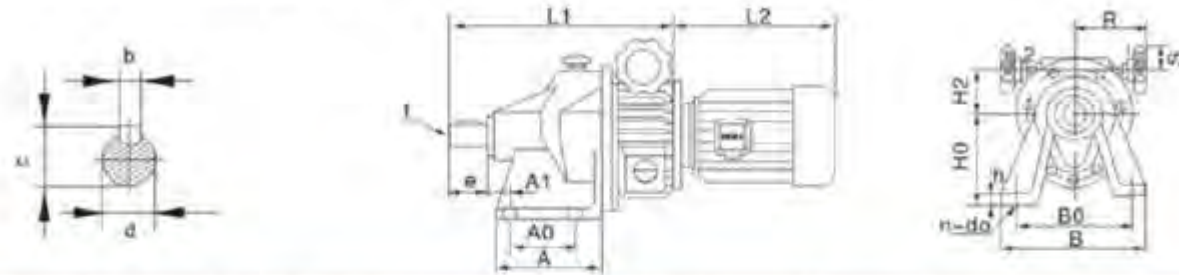
型号 Model	安装尺寸 Installation size				轴伸联接尺寸 Shaft connect size				外形尺寸 Outline size							
	N	M	b	n	d0	d	b	c	e	H0	H2	P	R	L1	L2	S
UDL0.25-CB5	110	130	9	4	10.5	24js6	8	27	50	131.5	40	160	110	241	227	75
UDL0.37-CB5	110	130	9	4	10.5	24js6	8	27	50	131.5	40	160	110	241	227	75
UDL0.55-CB5	130	165	9	4	10.5	26js6	8	31.3	60	164	50	200	143	272	268	90
UDL0.75-CB5	130	165	9	4	10.5	26js6	8	31.3	60	164	50	200	143	272	268	90



型号 Model	安装尺寸 Installation size				轴伸联接尺寸 Shaft connect size				外形尺寸 Outline size										
	D1	D2/H9	E	h	R	n	d0	d	b	c	e	D	G	H1	H2	H	W	L1	L2
UD1.1-CB5	165	130	45	14	4	4	12	30	8	33	45	200	155	190	246	313	252	266	270
UD1.5-CB5	165	130	45	14	4	4	12	30	8	33	45	200	155	190	246	313	252	266	270
UD2.2-CB5	215	180	60	16	4	4	15	40	12	43	60	250	205	230	300	355	286	377	325
UD3.0-CB5	215	180	60	16	4	4	15	40	12	43	60	250	205	230	300	355	286	377	325
UD4.0-CB5	265	230	82	20	5	4	15	50	14	53.5	82	300	263	320	389	475	400	453	340
UD5.5-CB5	265	230	82	20	5	4	15	50	14	53.5	82	300	263	320	389	475	400	453	390
UD7.5-CB5	265	230	82	20	5	4	15	50	14	53.5	82	300	263	320	389	475	400	453	430

外型及安装尺寸 Outline & installation sizes

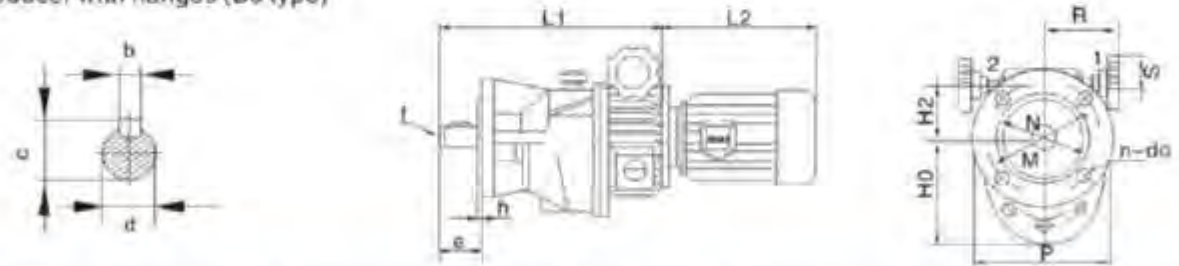
行星锥盘无级变速器与二级齿轮减速组合地脚式 (B3型) 外型及安装尺寸
Outline & installation size for combination of planet cone-disk stepless speed variator and second gear speed reducer with foot screws(B3 type)



型号 Model	安装尺寸 Installation size								轴伸连接尺寸 Shaft connect size				外形尺寸 Outline size							
	H0	A0	A1	B0	h	n	d0	d	b	c	e	f	A	B	L1	H2	R	L2	S	
UDL0.25-2CB3	110	65	25	150	12	4	10	28js6	8	31	55	M8	148	190	275	40	110	227	75	
UDL0.37-2CB3																				
UDL0.55-2CB3																				
UDL0.75-2CB3	152	106	25	174	14	4	13	28js6	8	31	60	M8	163	212	322	46.5	118	268	90	
UD1.1-2CB3																				
UD1.5-2CB3	170	130	15	200	16	4	13	38k6	10	41.3	70	M10	200	250	460	121	135	265	90	
UD2.2-2CB3																		290		
UD3.0-2CB3																		320		
UD4.0-2CB3	235	180	43	250	20	4	18	55M6	16	59.3	110	M12	265	320	540	151	145	320	110	
UD5.5-2CB3																		340		
UD7.5-2CB3	280	250	48	300	25	4	21	70M6	20	74.5	140	M16	344	380	592	192	194	396	110	
UD7.5-2CB3																		435		

外型及安装尺寸 Outline & installation sizes

行星锥盘无级变速器与二级齿轮减速组合地脚式 (B5型) 外型及安装尺寸
Outline & installation size for combination of planet cone-disk stepless speed variator and second gear speed reducer with flanges (B5 type)



型号 Model	安装尺寸 Installation size								轴伸连接尺寸 Shaft connect size				外形尺寸 Outline size							
	N0	M	h	n	d0	d	b	c	e	f	H0	H2	P	R	L1	L2	S			
UDL0.25-2CB3	110	130	10	4	10.5	28js6	8	31	55	M6	105	40	160	110	275	227	75			
UDL0.37-2CB3																				
UDL0.55-2CB3																				
UDL0.75-2CB3	130	165	12	4	11	28k6	8	31	60	M6	123	50	160	118	316	268	90			
UD1.1-2CB3																				
UD1.5-2CB3	180	215	5	4	13	38k6	10	41.3	70	M10	70	121	250	135	460	265	90			
UD2.2-2CB3																290				
UD3.0-2CB3																320				
UD4.0-2CB3	230	265	5	4	16	55M6	16	59.3	110	M12	110	151	300	145	540	340	110			
UD5.5-2CB3																396				
UD7.5-2CB3	250	300	5	4	18	70M6	20	74.5	140	M16	140	192	350	194	592	435	110			
UD7.5-2CB3																435				

7. 行星锥盘无级变速器与摆线针轮减速器组合

Combination of planet cone-disk stepless speed variator and cycloid pin wheel speed reducer

型号及标记 Mood & mark

UD L 0.75 - X3 B3 17



性能参数

Performance parameter

功率 Power	型号 Model	i	n2 /rpm	M2 N.m
0.12kw 4P n1=1400 r/min	UDL0.12-X2	9	110-22	8-16
		11	90-18	10-20
		17	60-12	15-30
		23	43-9	21-41
		29	35-7	26-52
		35	30-6	32-63
0.16kw 4P n1=1400 r/min	UDL0.16-X2	9	110-22	12-24
		11	90-18	15-30
		17	60-12	23-46
		23	43-9	31-82
		29	35-7	39-78
		35	30-6	47-94
0.25kw 4P N1=1400 r/min	UDL0.25-X2	9	110-22	16-32
		11	90-18	20-40
		17	60-12	31-61
		23	43-9	41-82
		29	35-7	52-104
		35	30-6	63-126

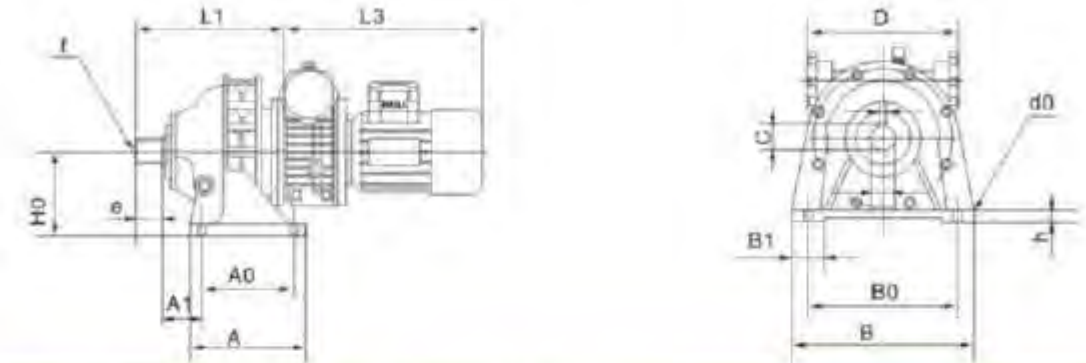
功率 Power	型号 Model	i	n2 /rpm	M2 N.m
0.25kw 4P n1=1400 r/min	UDL0.25-X3	43	25-5	77-154
		59	18-4	106-212
		71	14-3	127-254
0.37kw 4P n1=1400 r/min	UDL0.37-X2	87	12-3	156-312
		9	110-22	24-48
		11	90-18	30-60
		17	60-12	48-92
		23	43-9	62-124
		29	35-7	78-156
0.55kw 4P n1=1400 r/min	UDL0.37-X3	35	30-6	95-189
		43	25-5	116-232
		59	18-4	159-318
0.55kw 4P n1=1400 r/min	UDL0.37-X4	71	14-3	192-384
		87	12-2.5	234-468
		9	110-22	41-81
		11	90-18	50-99
		17	60-12	77-153
		23	43-9	103-206
0.55kw 4P n1=1400 r/min	UDL0.55-X3	29	35-7	130-260
		35	30-6	157-314
		43	25-5	193-386
		59	18-4	265-530
		71	14-3	320-640
		87	12-3	364-728

性能参数 Performance parameter

功率 Power	型号 Model	i	n2 rpm	M2 N.m	
0.75kw 4P N1=1400 r/min	UDL0.75-X3	9	110-22	49-97	
		11	90-18	60-120	
		17	60-12	92-184	
		23	43-9	124-248	
	UDL0.75-X4	29	35-7	156-312	
		35	30-6	198-378	
		43	25-5	232-464	
		59	18-4	318-636	
	UDL0.75-X5	71	14-3	383-766	
		87	12-3	437-874	
	1.1kw 4P N1=1400 r/min	UDL1.1-X3	9	110-22	73-146
			11	90-18	89-178
17			60-12	137-274	
UDL1.1-X4		23	43-9	186-372	
		29	35-7	234-468	
UDL1.1-X5		35	30-6	283-566	
		43	25-5	348-696	
UDL1.1-X6		59	18-4	478-956	
		71	14-3	575-115	
UDL1.1-X7		87	12-3	704-140	
1.5kw 4P N1=1400 r/min		UDL1.5-X3	9	110-22	73-146
			11	90-18	118-236
	UDL1.5-X4	17	60-12	183-366	
		23	43-9	248-498	
	UDL1.5-X5	29	35-7	313-626	
		35	30-6	378-756	
		43	25-5	464-928	
	UDL1.5-X6	59	18-4	637-1274	
		71	14-3	787-1534	
	UDL1.5-X7	87	12-3	939-1878	
	2.2kw 4P N1=1400 r/min	UDL2.2-X5	9	110-22	146-292
			11	90-18	178-356
17			60-12	275-550	
23			43-9	372-744	
29			35-7	470-940	
UDL2.2-X6		35	30-6	567-1134	
		43	25-5	696-1392	
UDL2.2-X7		59	18-4	955-1910	
UDL2.2-X8		71	14-3	1150-2300	
		87	12-3	1410-2820	
3.0kw 4P N1=1400 r/min		UDL3.0-X5	9	110-22	194-388
			11	90-18	237-474
	17		60-12	367-734	
	UDL3.0-X6	23	43-9	496-992	
		29	35-7	626-1252	
	UDL3.0-X7	35	30-6	756-1512	
		43	25-5	929-1858	
	UDL3.0-X8	59	18-4	1274-2548	
		71	14-3	1533-3066	
	UDL3.0-X9	87	12-3	1880-3760	
	4.0kw 4P N1=1400 r/min	UDL4.0-X5	9	110-22	259-518
			11	90-18	316-632
UDL4.0-X6		17	60-12	490-980	
		23	43-9	662-1324	
UDL4.0-X7		29	35-7	835-1670	
		35	30-6	1008-2016	
UDL4.0-X8		43	25-5	1238-2476	
		59	18-4	1700-3400	
UDL4.0-X9		71	14-3	2044-4088	
		87	11.5-2.3	2505-5010	

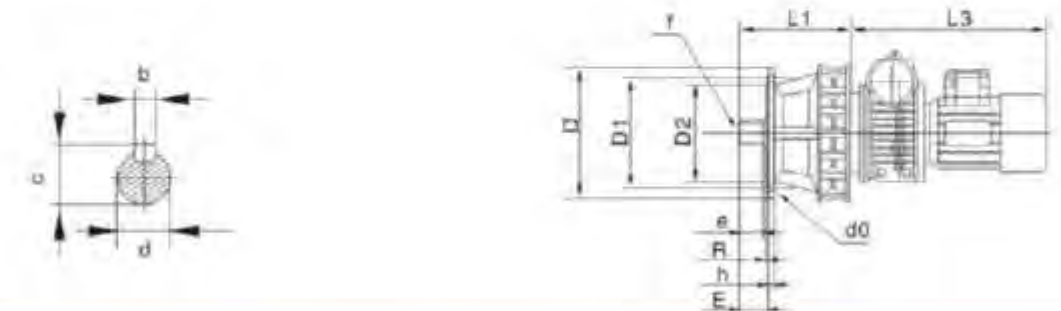
外型及安装尺寸 Outline & installation sizes

B3 型
B3 type



型号(可组合型号) Model(Allow combination)	安装尺寸 Installation size						轴伸规格尺寸 Shaft connect size						外形尺寸 Overall size					
	H0	A0	A1	B0	B1	h	d0	d(js8)	b	c	e	f	A	B	D	H	L1	L3
UDL0.18-X2	100	90	82	90	90	15	4-φ11	25	8	28	34	M6	120	210	168	184	214	313
UDL0.37-X3(X2,X3,X4)	140	100	121	100	100	20	4-φ15	35	10	38.5	55	M10	150	290	200	270	286	335
UDL0.75-X4(X3,X4,X5,X6)	150	145	120	145	145	22	4-φ15	45	14	48.5	74	M10	195	330	240	316	320	405
UDL1.1-X5(X3,X4,X5,X6,X7)	160	150	170	150	150	25	4-φ15	55	16	59	91	M10	280	420	300	356	416	424
UDL1.5-X6(X4,X5,X6,X7)	200	275	66	275	275	30	4-φ21	65	18	70	89	M12	335	430	340	425	476	462
UDL2.2-X7(X5,X6,X7,X8)	220	320	66	320	320	30	4-φ21	80	22	85	109	M12	380	470	340	435	529	528
UDL3.0-X8(X5,X6,X7,X8,X9)	250	380	65	380	380	35	4-φ22	90	25	95	120	M12	440	530	400	505	600	528
UDL4.0-X9(X5,X6,X7,X8,X9)	290	480	65	480	480	40	4-φ26	100	28	106	141	M20	560	620	500	605	723	548

B5 型
B5 type



型号(可组合型号) Model(Allow combination)	安装尺寸 Installation size						轴伸规格尺寸 Shaft connect size						外形尺寸 Overall size					
	D1	D2	E	h	R	f	d0	d(js8)	b	c	e	D	L1	L3				
UDL0.18-X2	160	130	42	12	3	M6	6-φ12	25	8	28	34	180	214	313				
UDL0.37-X3(X2,X3,X4)	200	170	50	15	4	M10	6-φ12	35	10	38.5	45	230	266	335				
UDL0.75-X4(X3,X4,X5,X6)	230	200	79	15	4	M10	6-φ12	45	14	48.5	63	260	320	405				
UDL1.1-X5(X3,X4,X5,X6,X7)	310	170	93	20	4	M10	6-φ12	55	16	59	79	340	416	424				
UDL1.5-X6(X4,X5,X6,X7)	360	316	92	22	5	M12	8-φ16	85	18	70	80	400	476	462				
UDL2.2-X7(X5,X6,X7,X8)	390	345	114	22	5	M12	8-φ18	80	22	85	98	430	529	528				
UDL3.0-X8(X5,X6,X7,X8,X9)	450	400	112	30	6	M20	12-φ18	90	25	95	110	490	600	528				
UDL4.0-X9(X5,X6,X7,X8,X9)	520	455	170	35	8	M20	12-φ22	100	28	106	129	580	723	548				

8. 使用与保养
Operation & maintenance

UD系列行星锥盘无级变速器使用与保养
Operation & maintenance of UD series planet cone-disk stepless variator

- 1、机械无级变速器不宜用于可能超负荷或堵转场合使用。
- 2、调速应在运转中进行，严禁停车时转动调速手轮。
- 3、输出轴装联轴器或带轮时：用轴端螺孔压入，或加热装配，严禁锤击。
- 4、变速器采用润滑油浴润滑。润滑油牌号为Ub-3无级变速器专用油。出厂前润滑油已加入，首次使用1000小时后应更换润滑油。（免维护产品除外）
- 5、操作盒上透气螺母出厂时为防止搬运中漏油已旋紧，运转时须松开，严禁未松开使用。（免维护产品无须松开）
- 6、操作盒下的两端调速限位螺钉已调整流好，请勿再动。
- 7、变速器内润滑油应保持在油标三分之二处高度，用户应经常检查油位高度。严禁在润滑不良的情况下使用。
- 8、本机不宜在高于40℃环境中工作，温升不得高于45℃。（变速器采用四极电机工作，部件在跑合过程中温升约高于正常工作的环境温度的40-50℃，跑合60-80小时后，温升逐渐下降，并保持稳定，跑合时高的温升对部件的使用寿命并无有害影响。）

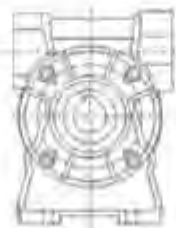
1. The mechanical stepless speed variator is not used in such an occasion where overload or running-blockage happen to occur.
2. Speed-regulation should be effected in running. No turning the hand wheel of speed-regulation when the machine stops.
3. When the output shaft is installed with the coupling or belt wheel, they should be pressed into the screw hole on shaft end, or assembled by heating. No hammering on it.
4. The liquid lubricating oil is used for the speed variator. Its trade mark is Ub-3 stepless speed variator special-purpose oil. The lubricating oil has been added before the speed variator be dispatched from the factory. It should be changed after it has been used a thousand hours of the first use (exclusion the exempt maintain production).
5. The air screw nut on the operating box is screwed up for preventing from oil leakage in moving when leaving the factory. It should be loosed when it starts to run. It is strictly forbidden to use it before loosing. (exclusion the exempt maintain production).
6. The banking screws of spee-regulation on two ends under the operating box are well adjusted. Please don't touch them.
7. The lubricating oil level inside the speed variator should be kept at the height of two-third in the oil scale. Users should usually check up the height of oil level. It is strictly prohibited to operate it short of lubricating oil.
8. This set is not suited to work in the environment of above40℃ ,especially no more than 45℃ when the temperature goes up.(when the speed variator adopts a 4-pole motor, the temperature under running-in is 40-50℃ higher than that of normal working environment. After running-in up to 60-80 hours, the temperature rise will go down gradually and keeps its stability.The high t emperature rise in running will give no harm to the parts in service life.)

VF系列蜗轮减速机
VF series worm gear speed reducer

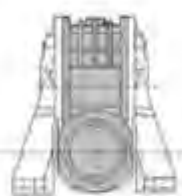
1. 产品图片
Picture of products



2. 设计方案 Design proposal



VF..A..
Foot mounted,overdriven



VF..N..
Foot mounted,underdriven



VF..V..
Foot mounted,wormshaft vertical



VF..F..
Standard output flange

VF..FA..
Extended output flange



VF..P..
Side cover for shaft mounting

3. 型号说明 Model illuminate

3.1 VF蜗杆减速机型号说明 Worm gear units model illuminate

VF 30 F - 15 - E SS1 P71B5 B3
① ② ③ ④ ⑤ ⑥ ⑦ ⑧

NO	说明	Comments
1	蜗轮减速机代号	Code of worm gear units
2	蜗轮减速机中心距(规格)	Central distance of worm gear units(spec)
3	结构型式 1). A: 底脚安装, 输入轴置上 2). N: 底脚安装, 输入轴置下 3). V: 底脚安装, 蜗杆竖直 4). F(1/2): 标准输出法兰 5). FA(1/2): 加长输出法兰 6). P: 端盖用于轴装式	Central distance of worm gear units(spec) 1). A: Foot mounted over driven 2). N: Foot mounted under driven 3). V: Foot mounted worm shaft vertical 4). F(1/2): Standard output flange 5). FA(1/2): Extended output flange 6). P: Side cover for shaft mounting
4	减速器速比..... (i=7;10;14;.....80;100)	Speed ratio of reducer (i=7;10;14;.....80;100)
5	1). 无代号表示不带蜗杆同向输出轴 2). E: 带蜗杆同向输出轴	1). No mark means single extension worm shaft 2). E: Double extension worm shaft
6	1). 无代号表示孔输出 2). SS(1/2): 单向输出轴和位置 3). DS: 双向输出轴	1). No mark means hole output 2). SS(1/2): Single output shaft and position 3). DS: Double output shaft
7	1). IEC 输入法兰 2). HS: 轴输入	1). IEC Output flange 2). HS: Shaft input
8	安装方位代号	Installation position code

3.2 VF/VF双级蜗杆减速机型号说明 Combination worm gear units model illuminate

VF 30/40 F - 15 - E SS1 P71B5 CW1
① ② ③ ④ ⑤ ⑥ ⑦ ⑧

NO	说明	Comments
1	蜗轮减速机代号	Code of worm gear units
2	蜗轮减速机中心距(规格)	Central distance of worm gear units(spec)
3	结构型式 1). A: 底脚安装, 输入轴置上 2). F(1/2): 标准输出法兰 3). FA(1/2): 加长输出法兰 4). P: 端盖用于轴装式	Central distance of worm gear units(spec) 1). A: Foot mounted overdriven 2). F(1/2): Standard output flange 3). FA(1/2): Extended output flange 4). P: Side cover for shaft mounting
4	减速器速比..... (i=240;245;315;.....)	Speed ratio of reducer (i=240;245;315;.....)
5	1). 无代号表示不带蜗杆同向输出轴 2). E: 带蜗杆同向输出轴	1). No mark means single extension worm shaft 2). E: Double extension worm shaft
6	1). 无代号表示孔输出 2). SS(1/2): 单向输出轴和位置 3). DS: 双向输出轴	1). No mark means hole output 2). SS(1/2): Single output shaft and position 3). DS: Double output shaft
7	1). IEC 输入法兰 2). HS: 轴输入	1). IEC Output flange 2). HS: Shaft input
8	安装方位代号	Installation position code

4. 减速机选型表
Gear unit selection tables

4.1 VF..P(IEC)性能参数 Performance parameter

VF..P(IEC)

P _{in} [kW]	n ₁ [r/min]	M ₂ [Nm]	i	F ₂ [N]	i _a				Page				
0.06	19.3	14	70	1600	1.1	VF30	56B5/B14	5614	87				
	22.5	13	80	1600	1.5								
	34	10	40	1650	1.9								
	45	8	30	1340	2.5								
	68	6	20	1180	2.9								
	90	5	15	1080	3.7								
	135	3	10	950	4.7								
	193	2	7	840	6.4								
	2.4	74	560	2500	0.8					VF30/44	56B5/B14	5614	93
	3.2	62	420	2500	1.0								
	3.9	53	350	2500	1.1								
	5.5	42	245	2500	1.4								
	2	116	720	3450	0.8					VF30/49	56B5/B14	5614	94
2.5	85	540	3450	1.1									
3.2	73	420	3450	1.3									
4.3	53	315	3450	1.8									
5.6	45	240	3450	2.1									
22.5	19	60	1600	1.0	VF30	56B5/B14	5624	87					
34	15	40	1410	1.3									
45	12	30	1290	1.6									
68	9	20	1140	2.0									
90	7	15	1050	2.5									
135	5	10	920	3.1									
193	4	7	820	4.3									
22	22	40	1560	0.9					VF30	63B5/B14	6316	87	
29.3	18	30	1440	1.2									
44	14	20	1230	1.5									
59	11	15	1170	1.9									
88	8	10	1050	2.3									
126	6	7	920	3.2									
3.9	80	350	2500	0.7	VF30/44	56B5/B14	5624	93					
5.5	62	245	2500	1.0									
12.6	38	70	2300	0.8	VF44	63B5/B14	6316	89					
14.7	33	60	2300	1.2									
19.1	28	46	2300	1.4									
25.1	23	35	2300	1.7									
31	19	28	2300	2.0									
44	15	20	2300	2.6									
3.2	110	420	3450	0.9	VF30/49	56B5/B14	5624	94					
4.3	80	315	3450	1.2									
5.6	69	240	3450	1.4									
8.8	41	100	3300	1.3					VF49	63B5/B14	6316	91	
11.0	37	80	3300	1.6									
12.6	34	70	3300	1.8									
14.7	31	60	3300	2.1									
19.6	26	45	3300	2.7									
24.4	22	36	3300	3.4									
138	7	20	840	2.1	VF30	56B5/B14	5622	87					
275	4	10	740	3.4									
393	3	7	660	4.7									
33	21	40	1360	0.9	VF30	63B5/B14	6314	87					
44	17	30	1250	1.2									
66	13	20	1110	1.4									
88	10	15	1000	1.8									


P _{in} [kW]	n ₁ [r/min]	M ₂ [Nm]	i	F ₂ [N]	i _a				Page				
0.12	87	10	15	1020	1.6	VF30	63B5/B14	6314	87				
	131	7	10	900	2.3								
	187	5	7	810	3.1								
	29	24	30	1360	0.9					VF30	63B5/B14	6326	87
	44	18	20	1250	1.1								
	58	15	15	1130	1.4								
	87	10	10	1020	1.7								
	124	8	7	900	2.4								
	18.7	34	70	3300	0.9								
	21.8	30	60	2300	1.3								
	28.5	25	46	2300	1.6								
	37	21	35	2300	1.9								
	47	17	28	2300	2.2								
66	13	20	2100	2.9									
94	10	14	1870	2.9									
14.5	42	60	2300	1.1	VF44	63B5/B14	6326	89					
19	36	46	2300	1.4									
25	30	35	2300	1.7									
31	25	28	2300	2.0									
44	19	20	2300	2.8									
62	14	14	2150	2.7									
4.2	110	315	3450	0.9	VF30/49	63B5/B14	6314	94					
5.5	94	240	3450	1.0									
13.1	42	100	3150	1.2	VF49	63B5/B14	6314	91					
16.4	36	80	3150	1.5									
18.7	34	70	3150	1.6									
21.8	30	60	3150	1.9									
29.1	25	45	3040	2.6									
36	21	36	2830	3.3									
6.7	55	100	3300	0.9					VF49	63B5/B14	6326	91	
10.9	50	80	3300	1.2									
90	13	30	1020	1.1	VF30	63B5/B14	6312	87					
135	10	20	900	1.4									
180	8	15	800	1.8									
270	5	10	710	2.2									
386	4	7	640	3.1									
66	19	20	1040	1.0					VF30	63B5/B14	6324	87	
88	15	15	960	1.2									
132	11	10	860	1.5									
189	8	7	770	2.1									
45	24	60	2300	1.2	VF44	63B5/B14	6312	89					
59	20	46	2190	1.4									
77	16	35	1970	1.8									
96	14	28	1770	2.1									
135	10	20	1590	2.8									
193	7	14	1470	2.9									
22	45	60	2300	0.9	VF44	63B5/B14	6324	89					
29	37	46	2500	1.1									
38	31	35	2430	1.3									
47	26	28	2270	1.5									
66	20	20	2040	1.9									
94	15	14	1830	2.0									
132	11	10	1640	2.7									
26	43	35	2340	1.1					VF44	71B5/B14	7116	89	
32	36	28	2290	1.4									
45	28	20	2050	1.6									
64	21	14	1830	1.9									
90	16	10	1650	2.5									
132	11	10	1640	2.7									


P _{in} [kW]	n ₁ [r/min]	M ₂ [Nm]	i	F ₂ [N]	ts				Page				
0.18	16.5	54	80	3150	1.0	VF49	63B5/B14	6324	91				
	18.9	50	70	3150	1.1								
	22	45	60	3150	1.3								
	29.3	37	45	2300	1.8								
	37	31	36	2760	2.2								
	47	26	28	2560	2.9								
	55	23	24	2430	2.7								
	73	19	18	2230	3.2								
	15	61	60	3000	1.1					VF49	71B5/B14	7116	91
	20	52	45	2790	1.4								
25	43	36	2650	1.7									
32	36	28	2450	2.3									
0.25	135	14	20	840		VF30	63B5/B14	6322	87				
	180	11	15	780									
	270	7	10	690									
	77	23	35	1930	1.3					VF44	63B5/B14	6322	89
	96	19	28	1730	1.5								
	135	14	20	1550	2.0								
	193	10	14	1400	2.1								
	270	8	10	1300	2.9								
	38	43	35	2300	0.9	VF44	71B5/B14	7126	89				
	47	36	28	2190	1.1								
	66	28	20	1970	1.4								
	94	21	14	1770	1.4								
	132	15	10	1590	1.9								
	189	11	7	1420	2.7								
	32	50	28	2300	1.0					VF44	71B5/B14	7126	89
	45	39	20	2190	1.1								
	64	29	14	1980	1.3								
	90	22	10	1780	1.8								
	129	16	7	1590	2.5								
	39	38	70	2650	1.1	VF49	63B5/B14	6322	91				
	45	34	60	2500	1.3								
	60	28	45	2350	1.8								
	75	23	36	2230	2.2								
	96	19	28	2070	2.9								
	113	17	24	1930	2.8								
	22	63	60	3100	0.9					VF49	71B5/B14	7114	91
29	51	45	2810	1.3									
37	44	36	2670	1.6									
47	36	28	2480	2.1									
55	33	24	2360	1.9									
73	26	18	2170	2.3									
94	21	14	2010	3.2									
20	72	45	3150	1.0	VF49	71B5/B14	7126	91					
25	60	36	3150	1.2									
32	51	26	3150	1.6									
38	46	24	2600	1.5									
50	36	18	2460	1.9									
64	29	14	2260	2.4									
90	22	10	2040	2.9									
0.37	79	33	35	2880					0.9	VF44	63B5/B14	7112	89
	96	27	28	2720	1.1								
	138	21	20	1570	1.4								
	196	15	14	1400	1.5								
	275	11	10	1260	2.0								
	393	8	7	1120	2.7								

P _{in} [kW]	n ₁ [r/min]	M ₂ [Nm]	i	F ₂ [N]	ts				Page			
0.37	69	40	20	1870	1.0	VF44	63B5/B14	7124	89			
	98	29	14	1690	1.0							
	137	22	10	1500	1.3							
	196	16	7	1360	1.8							
	61	40	45	2270	1.2	VF49	63B5/B14	7112	91			
	76	34	36	2160	1.5							
	98	28	28	2020	2.0							
	115	25	24	1880	1.9							
	153	19	18	1720	2.3							
	30	73	45	2680	0.9	VF49	63B5/B14	7124	91			
	38	62	36	2530	1.1							
	49	51	28	2360	1.4							
	57	46	24	2250	1.4							
	76	37	18	2080	1.6							
98	29	14	1940	2.2								
137	22	10	1750	2.7								
196	16	7	1570	3.4								
38	67	24	2350	1.0	VF49	63B5/B14	8016	91				
51	53	18	2240	1.3								
65	43	14	2070	1.7								
91	32	10	1930	2.0								
130	23	7	1740	2.6								
0.55	141	30	20	1490	1.0	VF44	71B5/B14	7122	89			
	201	22	14	1350	1.0							
	281	16	10	1210	1.4							
	401	12	7	1080	1.9	VF49	71B5/B14	7122	91			
	78	49	36	2090	1.1							
	100	40	28	1960	1.4							
	117	36	24	1800	1.3							
	156	28	18	1650	1.6							
	201	22	14	1420	2.2							
	281	16	10	1390	2.7							
	401	12	7	1250	3.5							
	49	76	28	2170	1.0	VF49	80B5/B14	8014	91			
	58	69	24	2080	0.9							
	77	54	18	1930	1.1							
99	43	14	1810	1.5								
138	32	10	1650	1.8								
197	23	7	1480	2.3								
66	63	14	1960	1.1	VF49	80B5/B14	8026	91				
92	47	10	1800	1.4								
131	34	7	1660	1.8								
117	49	24	1710	1.0					VF49	80B5/B14	8012	91
156	38	18	1580	1.2								
200	30	14	1480	1.6								
280	22	10	1340	2.0								
400	16	7	1200	2.6								
0.75	100	58	14	1690	1.1	VF49	80B5/B14	8024	91			
	140	43	10	1540	1.4							
	200	31	7	1400	1.7							
	200	45	14	1370	1.1					VF49	80B5/B14	8022
280	33	10	1250	1.3								
400	23	7	1130	1.8								

4.2 VF..HS.. 性能参数 Performance parameter

VF..HS..

M _e [Nm]	n [r/min]	i	P _e [kW]	n ₂ [r/min]	F _e [N]	F ₂ [N]		Page
12	2800	7	0.58	400	510	120	VF30	87
12	2800	10	0.41	280	620	70		
14	2800	15	0.34	187	720	-		
14	2800	20	0.26	140	820	-		
15	2800	30	0.21	93	960	-		
14	2800	40	0.16	70	1090	-		
14	2800	60	0.12	47	1270	-		
11	2800	70	0.08	40	1380	-		
16	1400	7	0.41	200	630	140	VF30	87
16	1400	10	0.30	140	770	80		
18	1400	15	0.24	93	910	-		
18	1400	20	0.19	70	1030	-		
20	1400	30	0.15	47	1200	-		
19	1400	40	0.12	35	1360	-		
19	1400	60	0.09	23.3	1590	-		
15	1400	70	0.07	20	1600	-		
18	900	7	0.30	129	730	150	VF30	87
18	900	10	0.22	90	900	150		
20	900	15	0.17	60	1060	-		
20	900	20	0.14	45	1200	-		
22	900	30	0.12	30	1400	-		
20	900	40	0.09	23	1590	-		
20	900	60	0.07	15	1850	-		
17	900	70	0.05	13	1700	-		
20	500	7	0.19	71	920	150	VF30	87
20	500	10	0.14	50	1120	150		
22	500	15	0.11	33	1320	150		
22	500	20	0.09	25	1490	150		
24	500	30	0.07	16.7	1700	-		
22	500	40	0.06	12.5	1700	-		
22	500	60	0.05	8.3	1700	-		
19	500	70	0.04	7	1700	-		
22	2800	7	1.1	400	950	220	VF44	89
22	2800	10	0.74	280	1150	220		
22	2800	14	0.55	200	1340	220		
29	2800	20	0.52	140	1490	220		
29	2800	28	0.40	100	1710	220		
29	2800	35	0.33	80	1870	220		
29	2800	46	0.27	61	2060	220		
29	2800	60	0.22	47	2290	220		
22	2800	70	0.15	40	2300	220		
21	2800	100	0.11	28	2300	220		
29	1400	7	0.71	200	1160	220		
29	1400	10	0.51	140	1430	220		
29	1400	14	0.37	100	1680	220		
39	1400	20	0.37	70	1860	220		
39	1400	28	0.29	50	2140	220		
39	1400	35	0.25	40	2300	220		
39	1400	46	0.19	30	2300	220		
39	1400	60	0.16	23.3	2300	220		
29	1400	70	0.11	20	2300	220		
28	1400	100	0.09	14	2300	220		
39	900	7	0.63	129	1300	220	VF44	89
39	900	10	0.45	90	1610	220		
39	900	14	0.34	84	1890	220		
45	900	20	0.29	45	2160	220		
49	900	28	0.24	32	2300	220		
49	900	35	0.20	25.7	2300	220		
49	900	46	0.17	19.6	2300	220		
45	900	60	0.13	15	2300	220		
39	900	70	0.10	12.9	2300	220		
30	900	100	0.08	9	2300	220		

M _e [Nm]	n [r/min]	i	P _e [kW]	n ₂ [r/min]	F _e [N]	F ₂ [N]		Page		
41	2800	7	2	400	950	400	VF49	91		
44	2800	10	1.5	280	1140	400				
49	2800	14	1.2	200	1310	400				
44	2800	18	0.87	156	1520	400				
47	2800	24	0.73	117	1670	400				
56	2800	28	0.78	100	1740	400				
52	2800	36	0.59	78	1970	400				
49	2800	45	0.46	62	2180	400				
44	2800	60	0.34	47	2480	400				
41	2800	70	0.28	40	2650	400				
41	2800	80	0.25	35	2780	400				
37	2800	100	0.20	28	3050	400				
54	1400	7	1.3	200	1170	400	VF49	91		
59	1400	10	1.0	140	1410	400				
65	1400	14	0.90	100	1630	400				
59	1400	18	0.60	78	1890	400				
63	1400	24	0.50	58	2110	400				
74	1400	28	0.55	50	2170	400				
69	1400	36	0.42	39	2460	400	VF49	91		
65	1400	45	0.33	31	2725	400				
59	1400	60	0.25	23.3	3100	400				
55	1400	70	0.21	20	3150	400				
54	1400	80	0.19	17.5	3150	400				
49	1400	100	0.13	14	3150	400				
61	900	7	0.97	129	1370	400			VF49	91
64	900	10	0.75	90	1670	400				
71	900	14	0.61	64	1920	400				
68	900	18	0.47	50	2190	400				
68	900	24	0.36	38	2480	400				
82	900	28	0.41	32	2540	400				
75	900	36	0.31	25	2880	400				
71	900	45	0.25	20	3190	400				
64	900	60	0.19	15	3300	400				
60	900	70	0.16	12.9	3300	400				
58	900	80	0.14	11.3	3300	400				
52	900	100	0.11	9	3300	400				
74	500	7	0.67	71	1670	400	VF49	91		
74	500	10	0.49	50	2060	400				
78	500	14	0.39	36	2400	400				
74	500	18	0.30	27.8	2730	400				
74	500	24	0.24	20.8	3090	400				
88	500	28	0.26	17.9	3180	400				
80	500	36	0.20	13.9	3450	400				
78	500	45	0.17	11.1	3450	400				
69	500	60	0.12	8.3	3450	400				
69	500	70	0.11	7.1	3450	400				
59	500	80	0.09	6.3	3450	400				
59	500	100	0.08	5	3450	400				
45	500	7	0.41	71	1610	220	VF44	89		
45	500	10	0.29	50	1980	220				
50	500	14	0.25	36	2280	220				
50	500	20	0.18	25	2500	220				
55	500	28	0.16	17.9	2500	220				
55	500	35	0.14	14.3	2500	220				
50	500	46	0.10	10.9	2500	220				
50	500	60	0.09	8.3	2500	220				
45	500	70	0.07	7.1	2500	220				
32	500	100	0.04	5	2500	220				

4.3 VF/VF..HS..性能参数 Performance parameter

VF/VF..HS..

M ₂ [Nm]	n ₂ [r/min]	l	P ₂ [kW]	n ₁ [r/min]	F ₂ [N]	F ₁ [N]	Page
60	1400	245	0.09	5.7	2500	140	VF30/44 93
60	1400	350	0.07	4.0	2500	80	
60	1400	420	0.06	3.3	2500	-	
60	1400	560	0.05	2.5	2500	-	
60	1400	700	0.04	2.0	2500	-	
60	1400	840	0.04	1.7	2500	-	
60	1400	1120	0.03	1.3	2500	-	
60	1400	1680	0.02	0.83	2500	-	
60	1400	2100	0.02	0.67	2500	-	
70	900	245	0.07	3.7	2500	150	VF30/44 93
70	900	350	0.05	2.6	2500	150	
70	900	420	0.04	2.1	2500	-	
70	900	560	0.04	1.6	2500	-	
70	900	700	0.03	1.3	2500	-	
70	900	840	0.03	1.1	2500	-	
70	900	1120	0.02	0.8	2500	-	
70	900	1680	0.02	0.54	2500	-	
70	900	2100	0.02	0.43	2500	-	
95	1400	240	0.13	5.8	3450	80	VF30/49 94
95	1400	315	0.11	4.4	3450	140	
95	1400	420	0.08	3.3	3450	-	
95	1400	540	0.07	2.6	3450	-	
95	1400	720	0.05	1.9	3450	-	
95	1400	900	0.05	1.6	3450	-	
95	1400	1120	0.04	1.3	3450	-	
95	1400	1440	0.04	0.97	3450	-	
95	1400	2160	0.03	0.65	3450	-	
95	1400	2700	0.03	0.52	3450	-	
100	900	240	0.09	3.8	3450	150	VF30/49 94
100	900	315	0.07	2.9	3450	150	
100	900	420	0.06	2.1	3450	-	
100	900	540	0.05	1.7	3450	-	
100	900	720	0.04	1.3	3450	-	
100	900	900	0.04	1.0	3450	-	
100	900	1120	0.03	0.80	3450	-	
100	900	1440	0.03	0.63	3450	-	
100	900	2160	0.02	0.42	3450	-	
100	900	2700	0.02	0.33	3450	-	

5. 外形尺寸图
Outline dimension sheet

5.1 VF..外形尺寸 Outline dimension

VF30A..P(IEC)

输入接口 Input adapters

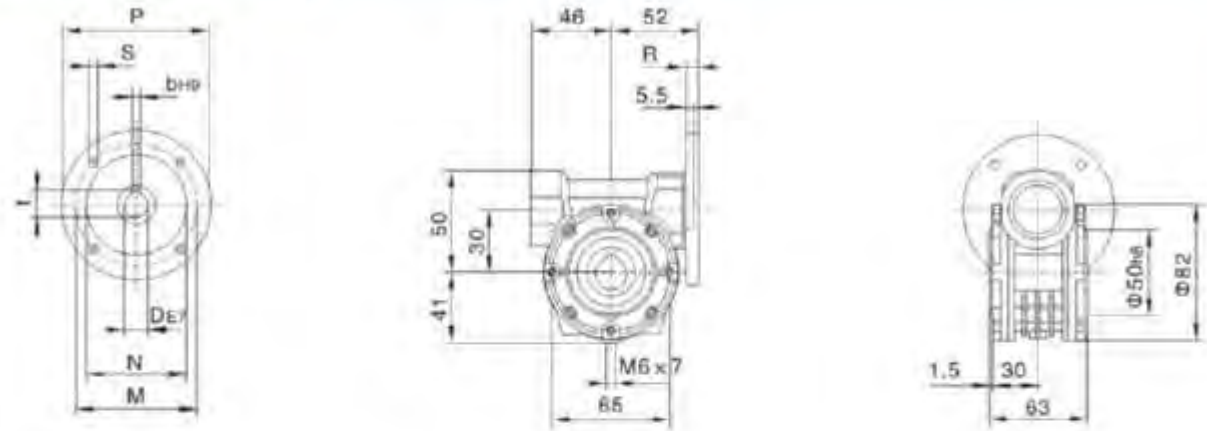
蜗杆输出轴 Worm output shaft

VF30N.. **VF30V..**

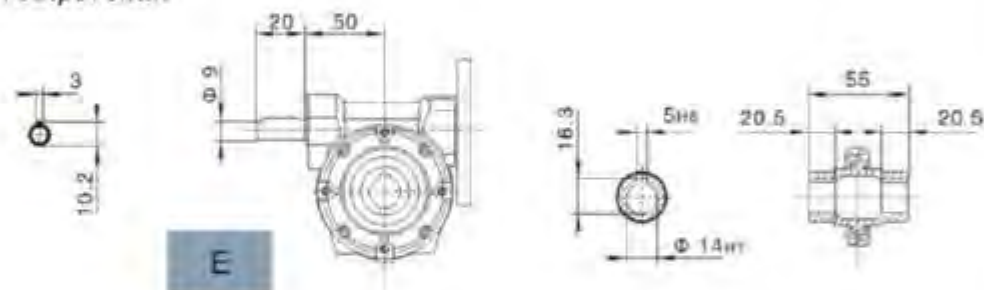
IEC	D ₂	b	l	P	M	N	R	S
56B5	9	3	10.4	120	100	80	7	7
56B14	9	3	10.4	80	65	50	7	5.5
63B5	11	4	12.8	140	115	95	8	9.5
63B14	11	4	12.8	80	75	60	7	5.5

VF30P..P(IEC)

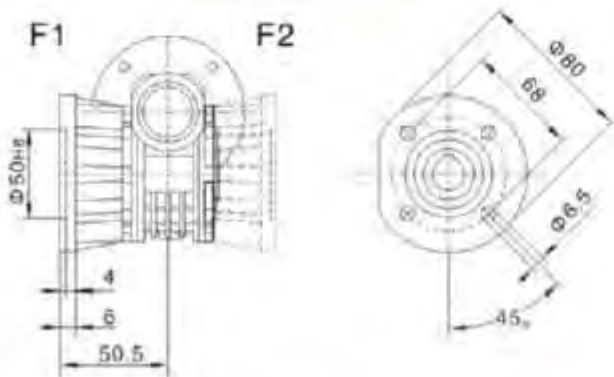
输入接口 Input adapters



蜗杆输出轴 Worm output shaft



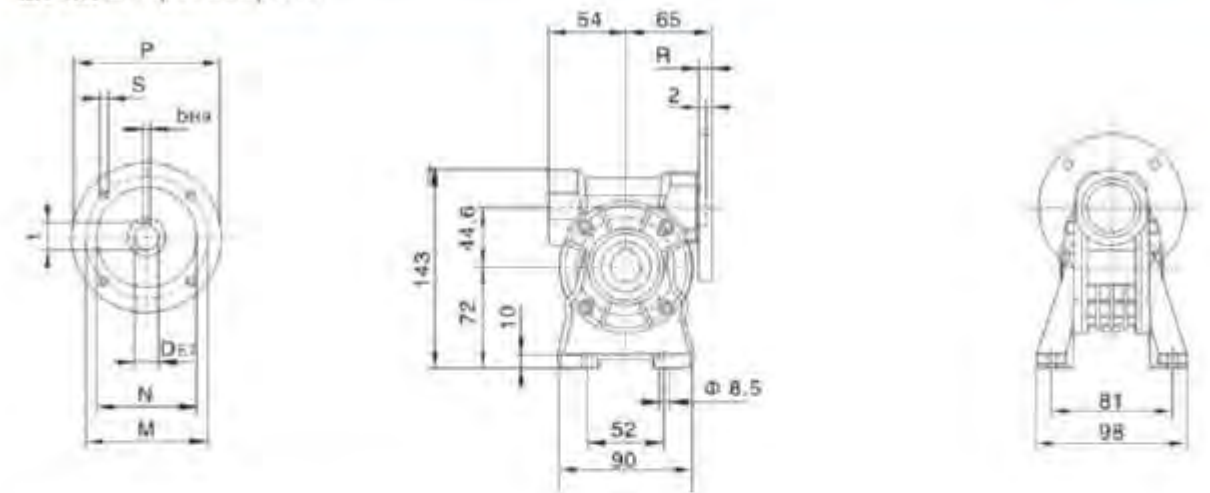
VF30F..



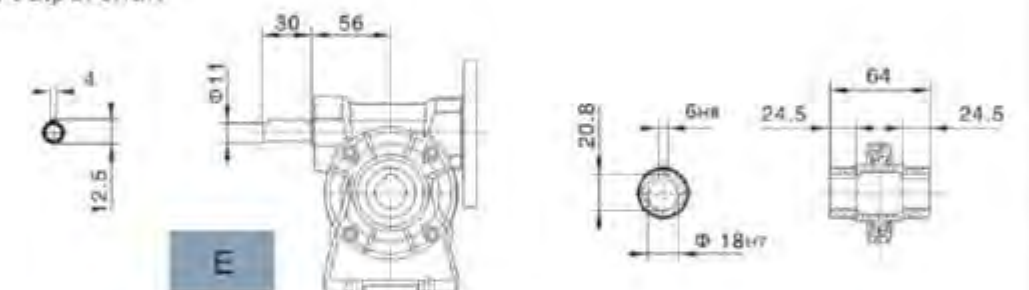
IEC	D ₁	b	l	P	M	N	R	S
56B5	9	3	10.4	120	100	80	7	7
56B14	9	3	10.4	80	65	50	7	5.5
63B5	11	4	12.8	140	115	95	8	9.5
63B14	11	4	12.8	90	75	60	7	5.5

VF44A..P(IEC)

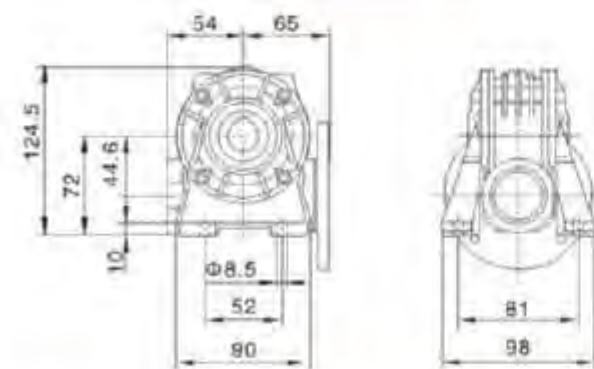
输入接口 Input adapters



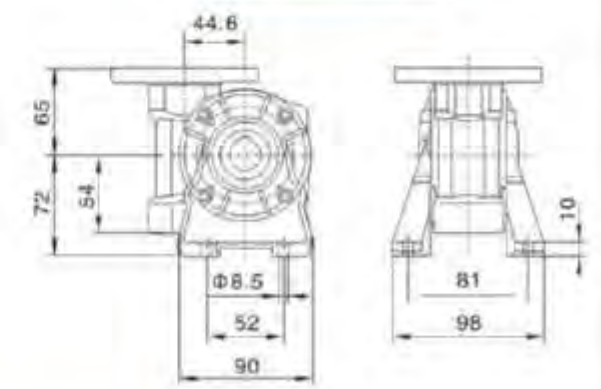
蜗杆输出轴 Worm output shaft



VF44N..



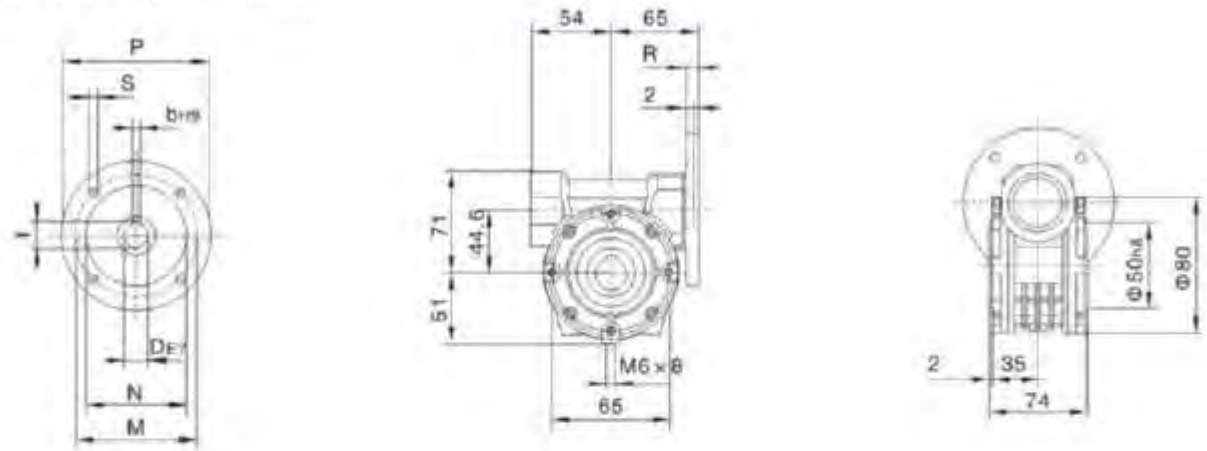
VF44V



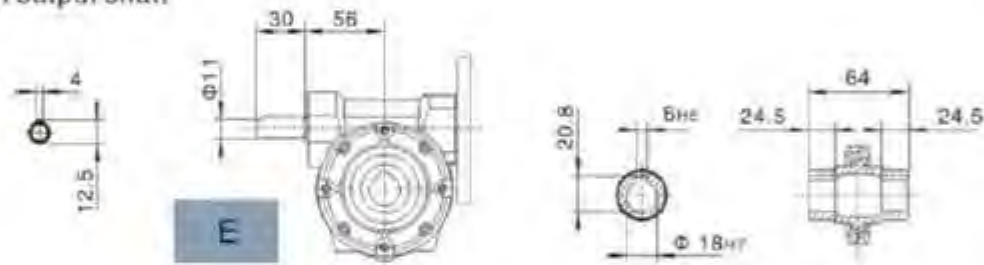
IEC	D ₁	b	l	P	M	N	R	S
63B5	11	4	12.8	140	115	95	10	9.5
63B14	11	4	12.8	90	75	60	8	5.5
71B5	14	5	16.3	160	130	110	10	9.5
71B14	14	5	16.3	105	85	70	10	7

VF44P..P(IEC)

输入接口 Input adapters

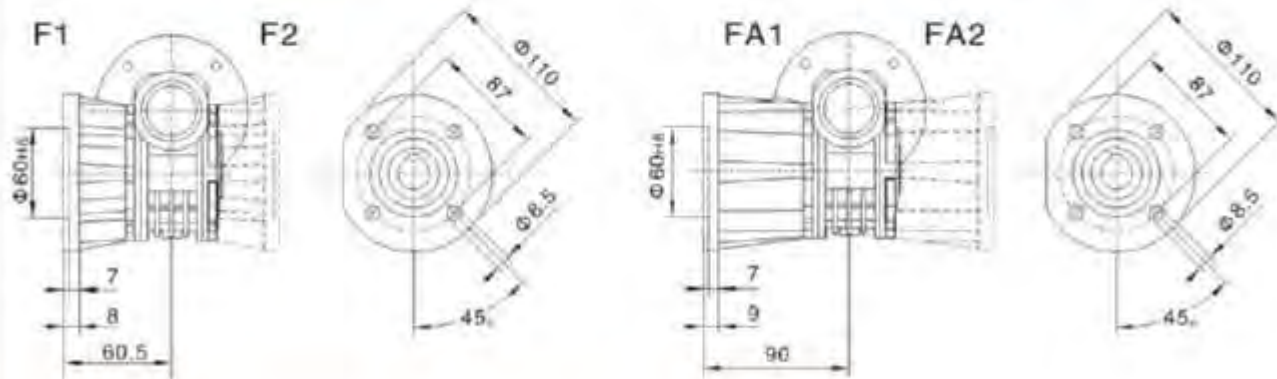


蜗杆输出轴 Worm output shaft



VF44F..

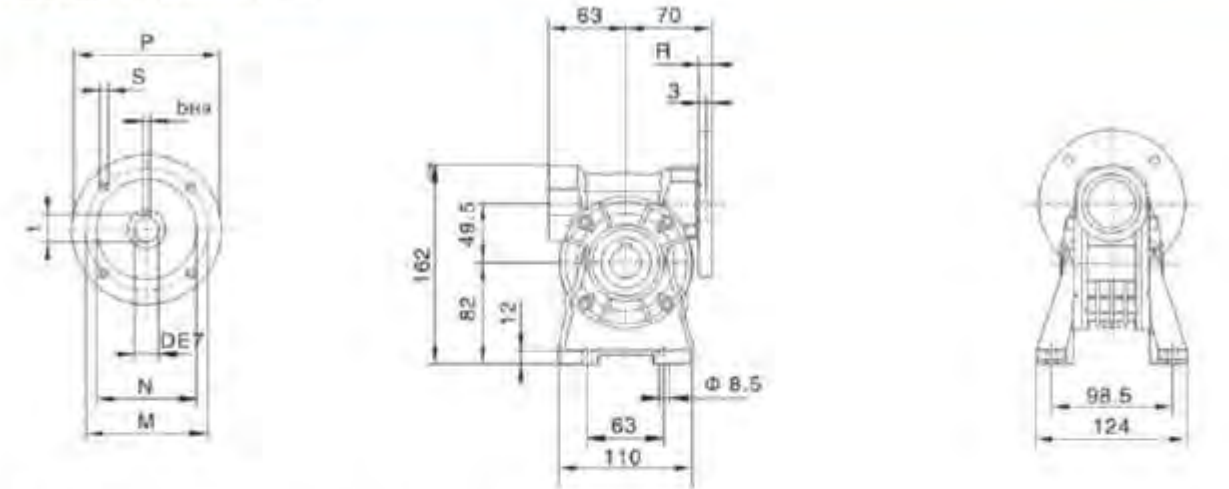
VF44FA..



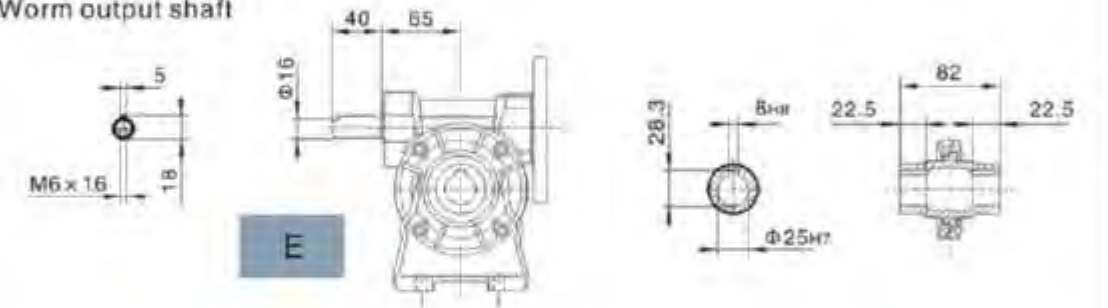
IEC	D _{in}	b	t	P	M	N	R	S
63B5	11	4	12.8	140	115	95	10	9.5
63B14	11	4	12.8	90	75	60	8	5.5
71B5	14	5	16.3	160	130	110	10	9.5
71B14	14	5	16.3	105	85	70	10.5	6.5
80B5	19	6	21.8	200	165	130	10	11.5
80B14	19	6	21.8	120	100	80	10	7

VF49A..P(IEC)

输入接口 Input adapters

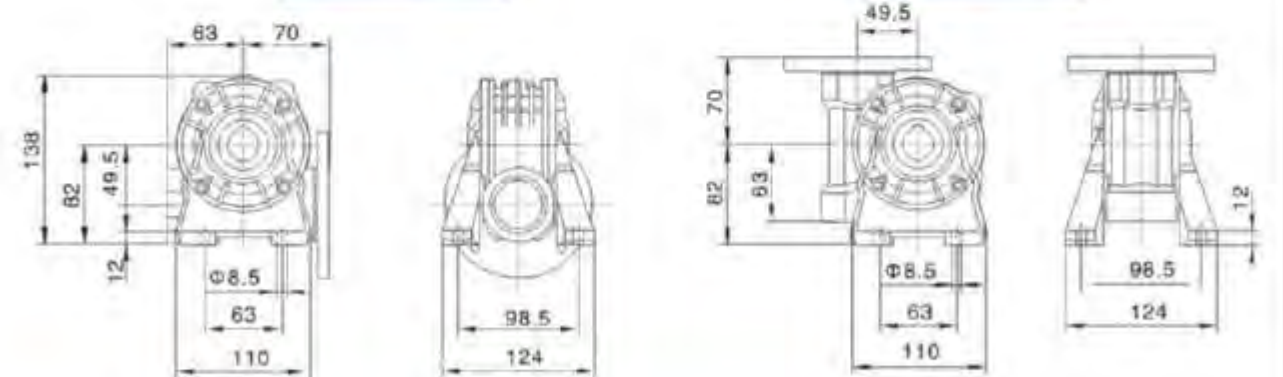


蜗杆输出轴 Worm output shaft



VF49N..

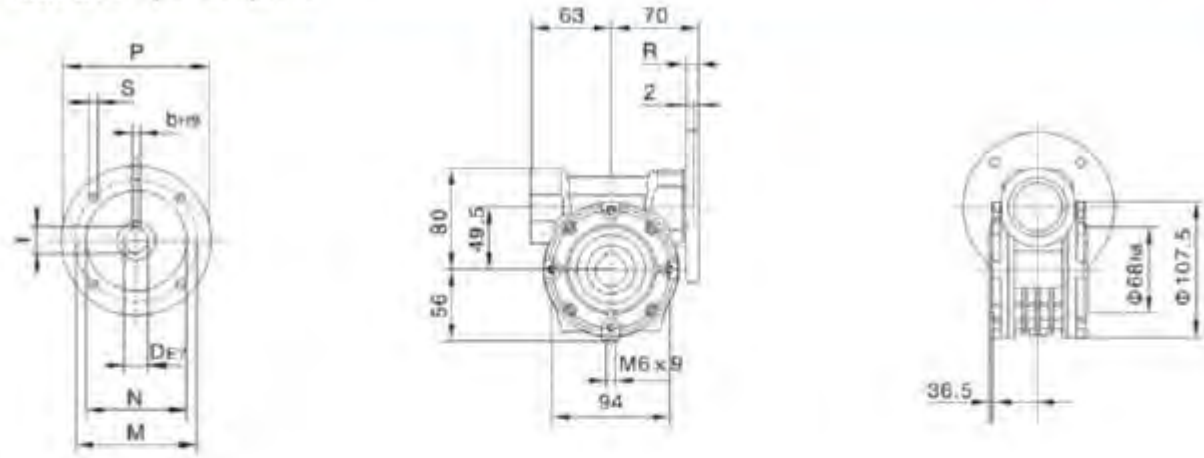
VF49V..



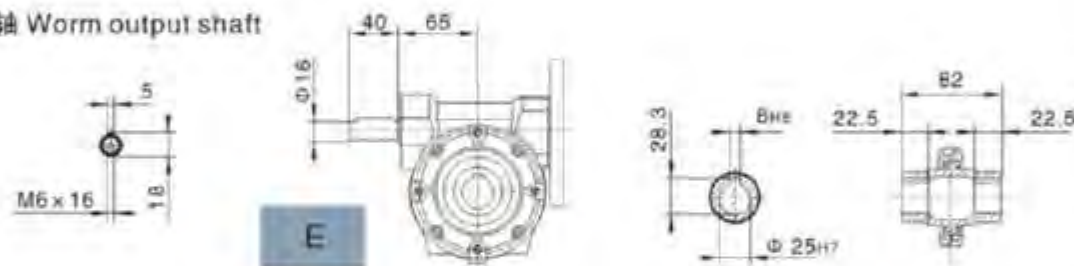
IEC	D _{in}	b	t	P	M	N	R	S
63B5	11	4	12.8	140	115	95	10.5	9.5
63B14	11	4	12.8	90	75	60	7	6
71B5	14	5	16.3	160	130	110	10.5	9.5
71B14	14	5	16.3	105	85	70	10.5	6.5
80B5	19	6	21.8	200	165	130	10	11.5
80B14	19	6	21.8	120	100	80	10	7

VF49P..P(IEC)

输入接口 Input adapters

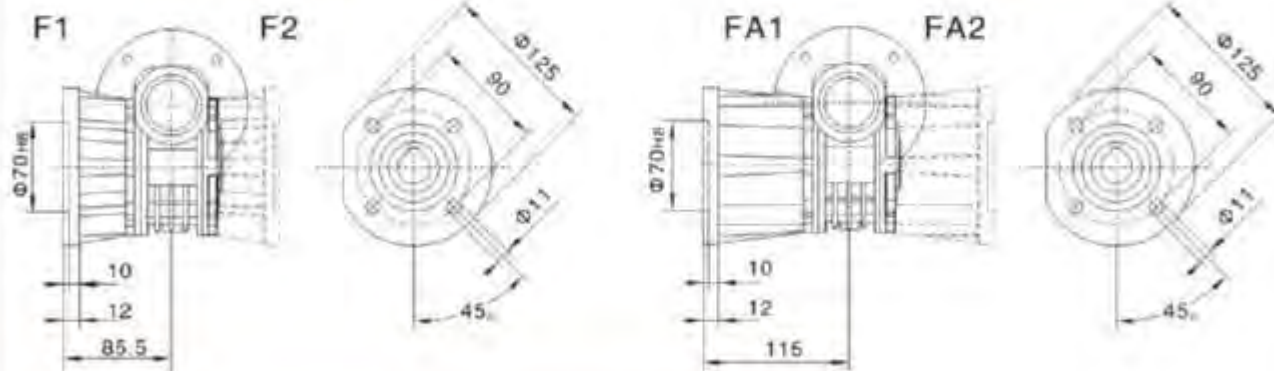


蜗杆输出轴 Worm output shaft



VF49F..

VF49FA..



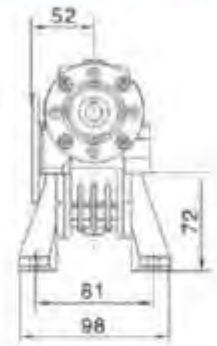
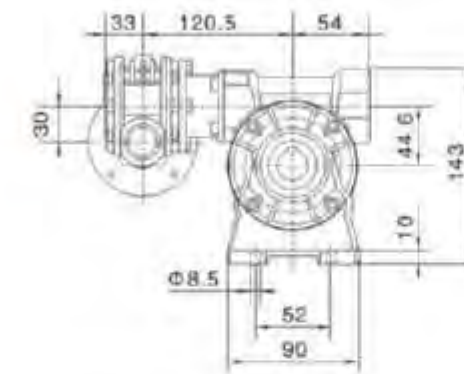
IEC	D _e	b	l	P	M	N	R	S
63B5	11	4	12.8	140	115	95	10.5	9.5
63B14	11	4	12.8	90	75	60	7	8
71B5	14	5	16.3	160	130	110	10.5	9.5
71B14	14	5	16.3	105	85	70	10.5	6.5
80B5	19	6	21.8	200	165	130	10	11.5
80B14	19	6	21.8	120	100	80	10	7

5.2 VF/FV..组合外形尺寸 Outline dimension

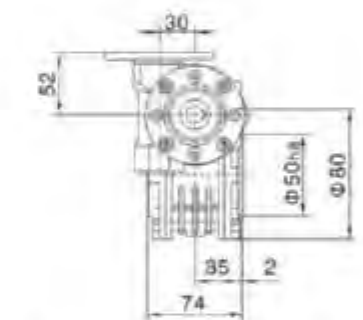
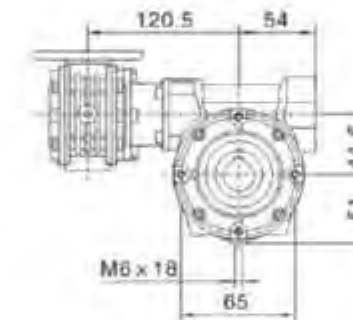
- 有关输入法兰尺寸请查阅49-54页 For the dimensions of the input flanges, please refer to pages 49-54.
- 有关输出空心轴尺寸请查阅49-54页 For the dimensions of the hollow shafts, please refer to pages 49-54.
- 有关单、双输出轴尺寸请查阅59页 For the dimensions of the double extension worm shafts, please refer to page 59.

VF30/44..

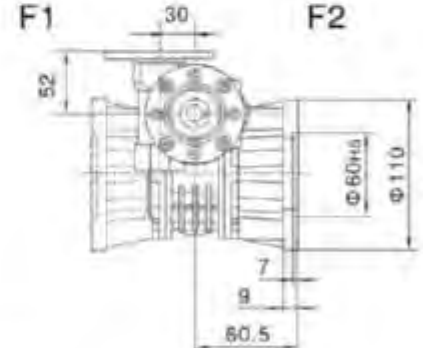
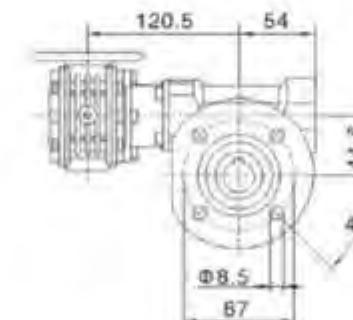
A



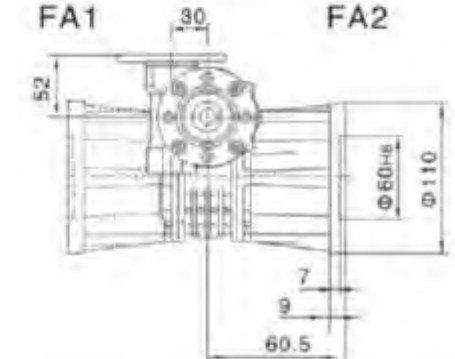
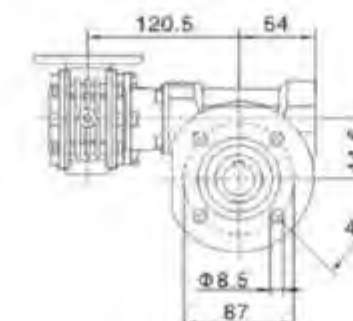
P



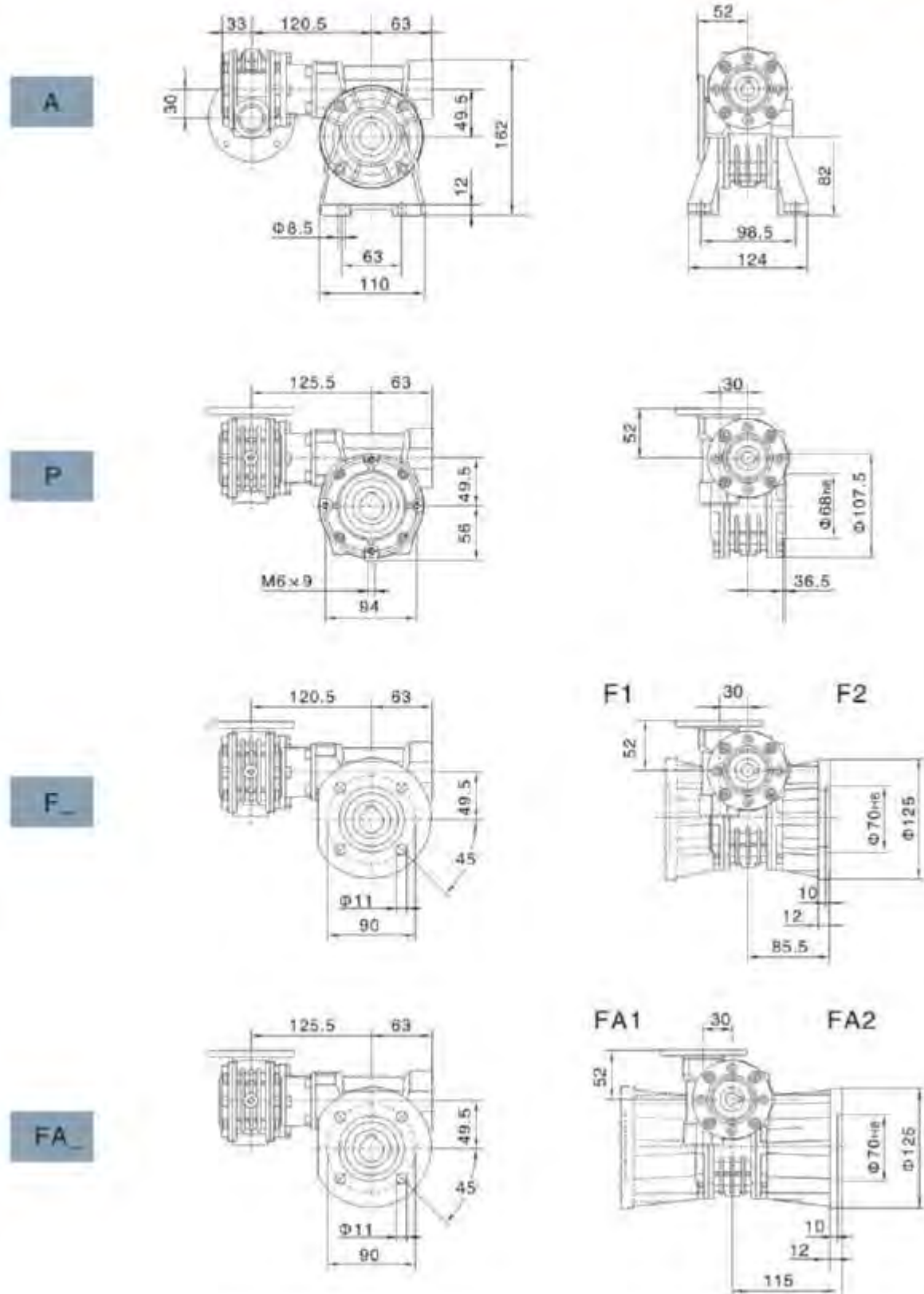
F



FA

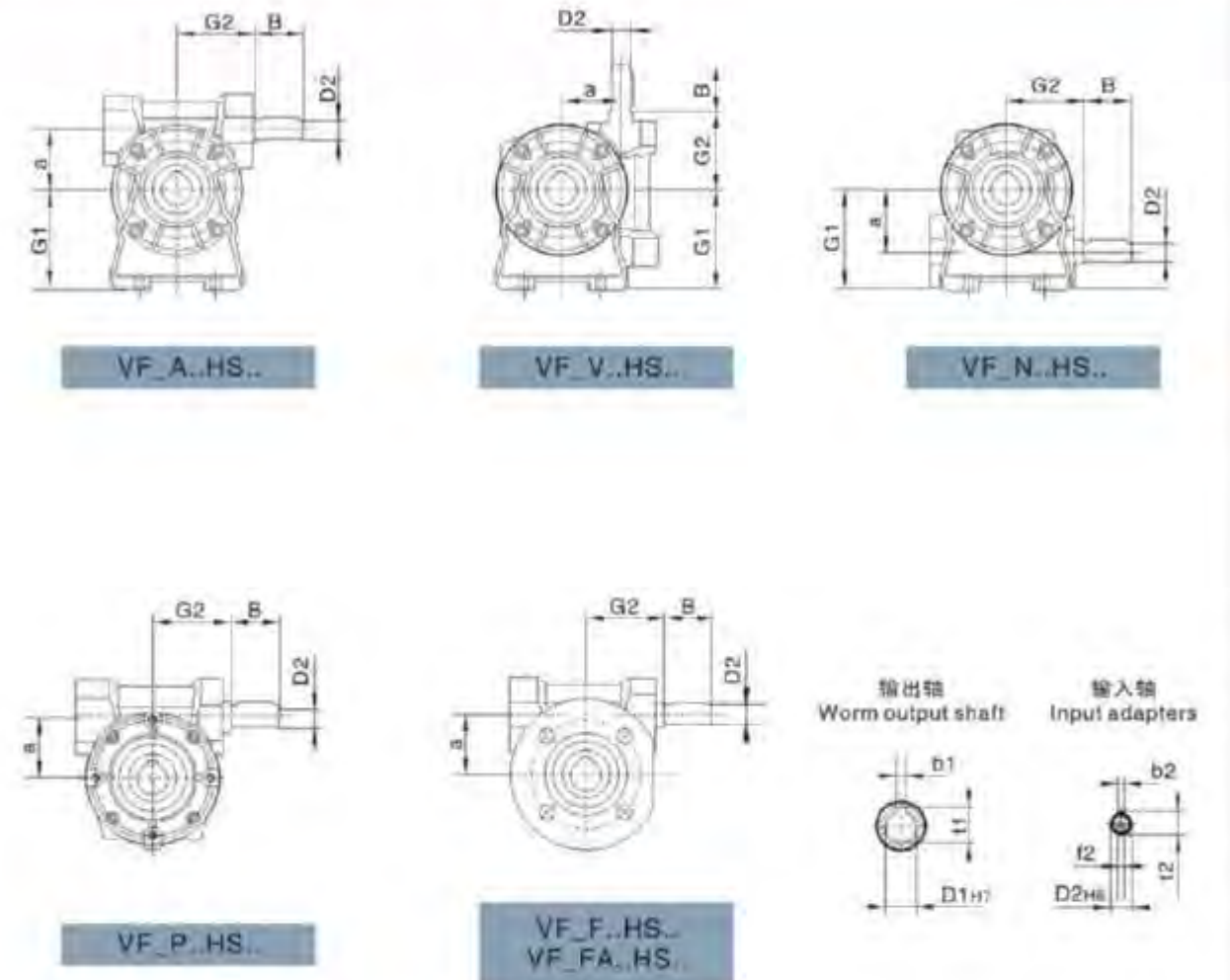


VF30/49..



5.3 VF..HS..外形尺寸 Outline dimension

VF..HS..



	a	D1H7	l1	b1	D2H8	l2	b2	B	G2	G1	l2
VF30_HS	30	14	16.3	5	9	10.2	3	20	50	47	—
VF44_HS	44.5	18	20.8	6	11	12.5	4	30	54	55	—
VF49_HS	49.5	25	28.3	8	16	18	5	40	65	64.5	M6x16

5.4 VF/VF..HS..外形尺寸 Outline dimension

VF/VF..HS..

	a	a1	D1H7	t1	b1	D2h6
VF/VF30/44_HS	44.6	30	18	20.8	6	9
VF/VF30/49_HS	49.5	30	25	26.3	8	9
	t2	n2	B	G2	G2	t2
VF/VF30/44_HS	10.2	3	20	50	72	-
VF/VF30/49_HS	10.2	3	20	50	82	-

输出轴
Worm output shaft

输入轴
Input adapters

5.5 VF/VF..E(EO)..外形尺寸 Outline dimension

在订货时，蜗轮减速机可以自由选择E或EO(双机组合)型蜗轮轴。Worm gears can be optionally requested with extended worm shaft at NDE by specifying the option E or EO(for double worm combined units)at the time of order.

VF/VF..E(EO)..

	D2h6	t2	b2	B	G2	t2
VF 30	9	10.2	3	20	50	-
VF 40	11	12.5	4	30	56	-
VF 49	16	18	5	40	65	M6

输入轴
Input adapters

6. 附件尺寸表
Accessories outline dimension sheet

6.1 输出轴 Output Shafts

SS

	d _{int}	B	B1	t1	L	f	G	d1
VF 30	14	30	32.5	16	120	M5×13	55	5
VF 44	18	40	42.7	20.5	149.4	M6×16	64	6
VF 49	25	60	63.2	28	208.4	M8×19	82	8

DS

	d _{int}	B	B1	t1	L	f	G	d1
VF 30	14	30	32.5	16	120	M5×13	55	5
VF 44	18	40	42.7	20.5	149.4	M6×16	64	6
VF 49	25	60	63.2	28	208.4	M8×19	82	8

*非标准产品，订单时请说明。Only on request

6.2 扭力臂 Torque arm

	K1	K2	K3	KD	KE	D	G	KH	i
VF30	100	40	157.5	50	65	7	14	8	4
VF44	100	40	157.5	50	65	7	14	8	4
VF49	100	55	172.5	68	94	7	14	8	4

无振动—无阻尼
Without vibration-dampening bushing

7. 安装方位
Arrangements

7.1 VF..安装方位图 Installation Positions Diagram

	VF..A	VF..N	VF..V	VF..P	VF..F
B3					
B6					
B7					
B8					
V5					
V6					

7.2 VF/VF..安装方式 Arrangements

蜗轮减速机组合时，除非在订货时另有说明，下面图表中灰显德安装方式将在工厂里配置完成。
For combined worm gear units, unless otherwise specified at the time of ordering, the arrangements highlighted in grey in the diagrams below will be configured at the factory.

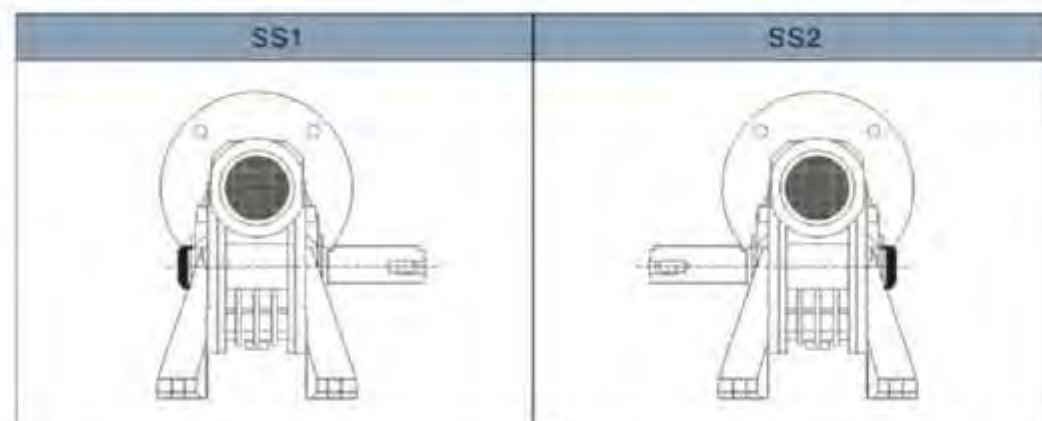
	CW1	CCW1	CW2	CCW2	CW3	CWW3	CW4	CCW4
A								
N								
V								
F1 FA1								
F2 FA2								
P								

图例中所有安装方式都适用于HS输入方式(任意轴)。对于P型输入方式,部分安装方式需要通过使用与表中规定相同尺寸或更小的IEC法兰(B5或B14)才能实现。For units with the HS input (free shaft), all the mounting options shown are available. For units with the P(IEC), certain mounting options can be obtained only by using IEC flanges (B5 or B14) of the same size or smaller than those shown in tables.

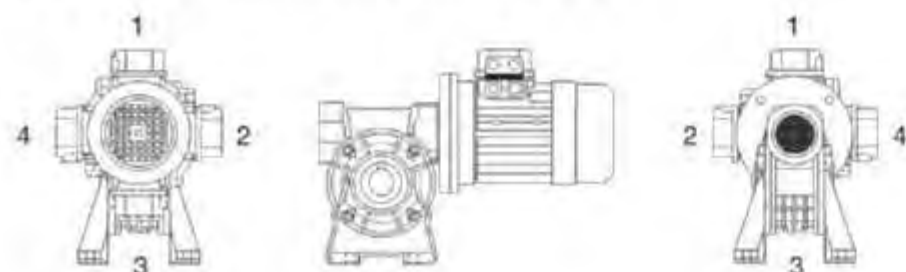
		CW1	CCW1	CW2	CCW2	CW3	CCW3	CW4	CCW4
VF/VF 30/44	N								
	A	56B14	56B14	56B14	56B14	56B14	56B14	56B14	56B14
	V	63B14	63B14	63B14	63B14	63B14	63B14	63B14	63B14
	P								
VF/VF 30/49	N								
	A	56B14	56B14	56B14	56B14	56B14	56B14	56B14	56B14
	V	63B14	63B14	63B14	63B14	63B14	63B14	63B14	63B14
	P								

		CW1(1) CCW1(2)	CCW1(1) CW1(2)	CW2(1) CCW2(2)	CCW2(1) CW2(2)	CW3(1) CCW3(2)	CCW3(1) CW3(2)	CW4(1) CCW4(2)	CCW4(1) CW4(2)
VF/VF 30/44	N	56B14-63B14	56B14-63B14	56B14-63B14	56B14-63B14	56B14-63B14	56B14-63B14	56B14-63B14	56B14-63B14
VF/VF 30/49	A	56B14-63B14	56B14-63B14	56B14-63B14	56B14-63B14	56B14-63B14	56B14-63B14	56B14-63B14	56B14-63B14

7.3 单向输出轴位置 Position diagram for single output shaft



7.4 接线盒位置 Position of terminal box



如对接线盒位置有特殊要求,请在下单时如图所示来指定接线盒安装方位。In the case of specific requirements, when ordering, specify the position of the terminal box as shown in the diagram.

WP系列蜗轮蜗杆减速机 WP series worm gear speed reducer

1. 产品图片 Products of pictures





2. 产品结构图
Product structural view

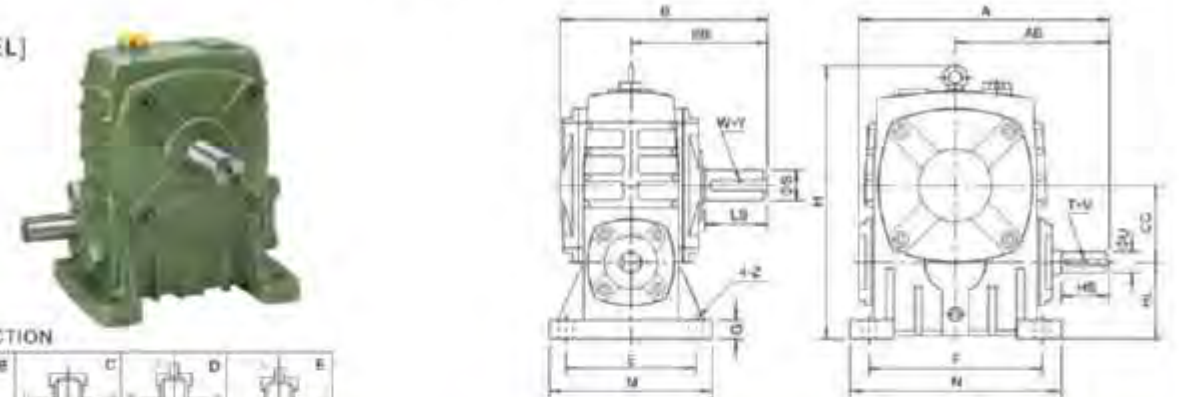


3. 型号说明
Model notes

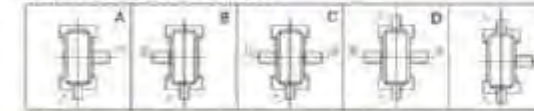
W P W E D K A 50-80 - 600 - B	
W	产品名称: W-蜗杆减速机。 Product name: W-worm speed reducer.
P	箱体结构: P-整体, D-分体。 Box structure: P-whole, D-separate
W	箱体型式: W-万便型, 无代码-基本型。 Box model: W-universal, Non-code-basic
E	整机结构: E-双级, EE-多级, 无代码-基本型。 Unit structure: E-double, EE-multistage, Non-code-basic
D	输入轴联接方式: D-带电机法兰, 无代码-基本型。 Connector of input shaft: D-with motor flange, Non-code-basic
K	输出轴结构: K-中空输出轴, 无代码-基本型。 Structure of output shaft: K-hollow, Non-code-basic
A	输出、输入轴置式: A-入轴在下 S-入轴在上, O-出轴向上 X-出轴向下, Z-入轴向上 V-入轴向下, 无代码-万便型。 Arrangement of input or output shaft: A-input shaft is below, S-input shaft is above, O-output shaft is upward, X-output shaft is downward, Z-input shaft is upward, V-input shaft is downward, Non-code-universal
50-80	规格: 以中心距表示 50-80。 Size: Signed by centre distance 50-80
600	传动比: 600。 Ratio: 600
B	轴指向: B。 Shaft direction: B

4. 安装尺寸
Dimensions of outline installation

WPA型[MODEL]

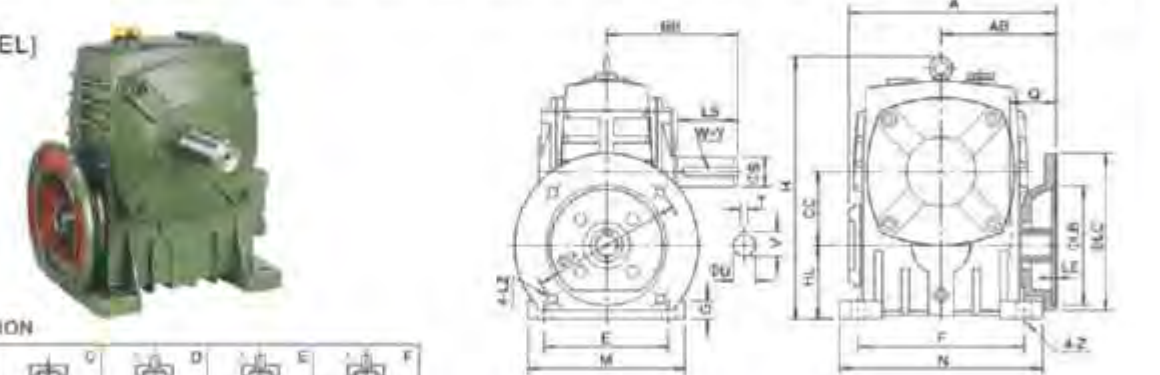


轴指向 SHAFT DIRECTION

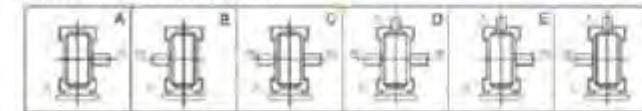


型号 Size	传动比 Ratio	A	AB	B	BB	CC	H	HL	M	N	E	F	G	Z	输入轴 Input shaft			输出轴 Output shaft			重量 Weight(kg)
															HS	U	T×V	LS	S	W×Y	
40		143	87	114	74	40	138	40	90	100	70	80	13	10	28	12	4x2.5	28	14	5x3	4
50		175	107	150	97	50	173	50	120	140	95	110	15	12	30	12	4x2.5	40	17	5x3	7
60		198	122	168	112	60	204	60	150	150	105	120	20	12	40	15	5x3	50	22	6x3.5	10
70	1/10	231	140	194	131	70	238	70	150	190	118	150	20	15	40	18	6x3.5	60	28	8x4	15
80	1/15	261	150	214	142	80	268	80	170	220	135	180	20	15	50	22	6x3.5	65	32	10x5	20
100	1/25	322	190	254	180	100	320	100	190	270	155	220	25	15	60	25	8x4	75	38	10x5	38
120		391	229	282	198	120	430	120	230	320	180	260	30	18	65	30	8x4	85	45	14x5.5	60
135	1/30	433	250	317	210	135	480	135	250	350	200	290	30	18	78	35	10x5	95	55	16x6	80
147		439	264	324	212	147	501	123	250	350	200	280	32	18	80	35	10x5	95	55	16x6	90
155	1/50	504	302	382	252	155	531	135	275	390	220	320	35	21	88	40	12x5	110	60	18x7	110
175	1/60	545	325	402	262	175	600	150	310	430	250	350	40	21	85	45	14x5.5	110	65	18x7	130
200		587	350	467	305	200	667	175	360	480	290	390	40	24	65	50	14x5.5	125	70	20x7.5	215
250		705	420	552	360	250	800	200	460	560	380	480	45	28	110	60	15x7	155	90	25x9	390

WPDA型[MODEL]



轴指向 SHAFT DIRECTION

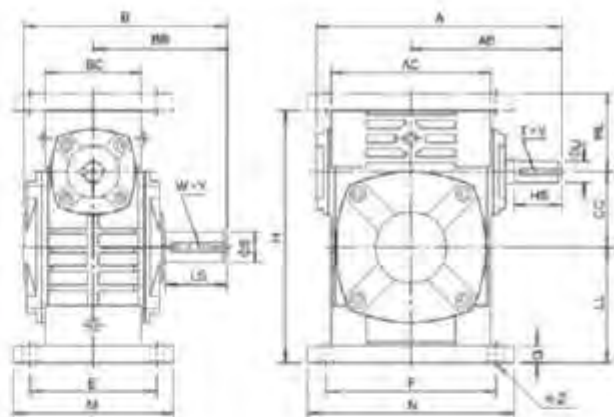


型号 Size	输入功率 Input power	传动比 Ratio	A	AB	BB	CC	H	HL	M	N	E	F	G	Z	电机法兰 Flange						输入孔 Input hole			输出轴 Output shaft			重量 Weight(kg)
															LA	LB	LC	LE	LZ	Q	U	T×V	LS	S	W×Y		
40	0.18		151	83	97	50	178	50	120	140	95	110	15	12	115	55	140	4	M8	31	11	4x12.8	40	17	5x3	8	
50	0.37		187	91	112	60	204	60	130	150	105	120	20	12	130	110	160	4	M8	35	14	5x15.3	50	22	6x3.5	11	
60	0.57		200	109	122	70	230	70	150	190	115	150	20	15	130	110	160	4	M8	40	14	5x15.3	60	28	8x4	17	
70	0.75		202	111	131	70	236	70	150	190	115	150	20	15	165	130	200	4	M10	42	19	6x17.8	60	28	8x4	17	
80	0.75	1/10	225	125	142	80	268	80	170	230	135	180	20	15	165	130	200	4.5	M10	45	19	6x17.8	65	32	10x5	22	
100	1.5	1/15	280	148	160	100	330	100	190	270	155	220	25	15	165	130	200	4.5	M10	52	24	8x22.5	75	38	10x5	38	
120	2.2	1/20	333	181	190	120	430	120	230	320	180	260	30	18	215	180	250	5	M12	63	28	8x31.3	85	45	14x5.5	64	
135	3.0	1/25	375	202	210	135	480	135	250	350	200	290	30	18	215	180	250	5	M12	65	28	8x31.3	95	55	16x6	85	
147	4.0	1/30	380	204	212	147	501	123	250	350	200	280	32	18	215	180	250	5	M12	63	28	8x31.3	95	55	16x6	90	
155	4.0	1/40	428	224	252	155	531	135	275	390	220	320	35	21	215	180	250	5	M12	63	28	8x31.3	110	60	16x7	118	
175	5.5	1/50	448	247	262	175	600	150	310	430	250	350	40	21	255	230	300	5	M12	63	28	10x41.3	110	65	18x7	130	
200	7.5		481	262	262	175	600	160	310	430	250	350	40	21	265	250	300	5	M12	63	28	10x41.3	125	70	20x7.5	238	
250	11.0		518	288	305	200	666	175	360	480	290	390	40	24	300	250	350	6	M16	114	42	12x45.3	155	90	25x9	398	
250	15.0		616	330	360	250	800	200	460	560	380	480	45	28	300	250	350	6	M16	114	42	12x45.3	155	90	25x9	398	

WPWA型[MODEL]



WPWS型[MODEL]



轴指向 SHAFT DIRECTION

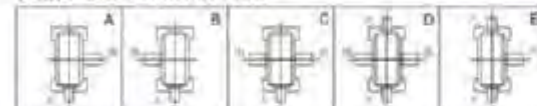
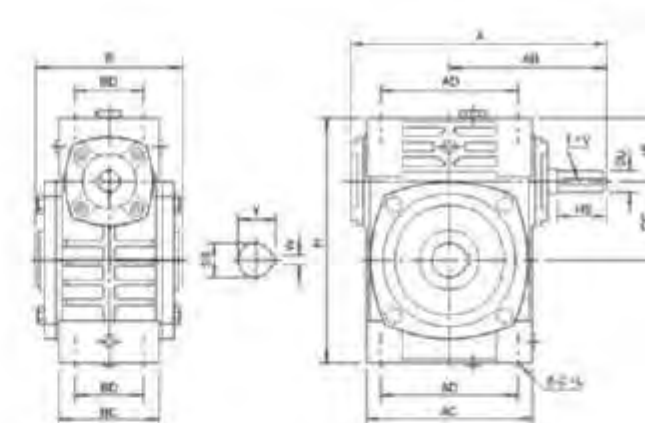


Table with 25 columns: Size, Ratio, A, AB, B, BB, AC, BC, CC, HL, LL, H, M, N, E, F, G, Z, Input shaft (HS, U, T x V), Output shaft (S, W x Y), Weight. Rows include sizes 40, 50, 60, 70, 80, 100, 120, 135, 155, 175, 200, 250.

WPWK型[MODEL]



轴指向 SHAFT DIRECTION

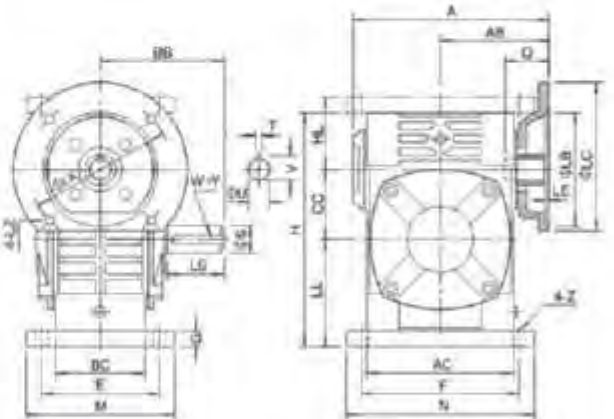


Table with 25 columns: Size, Ratio, A, AB, B, AC, BC, AD, BD, CC, HL, H, Z x L, Input shaft (HS, U, T x V), Output shaft (S, W x Y), Weight. Rows include sizes 40, 50, 60, 70, 80, 100, 120, 135, 155, 175, 200, 250.

WPWDA型[MODEL]



WPWDS型[MODEL]



轴指向 SHAFT DIRECTION

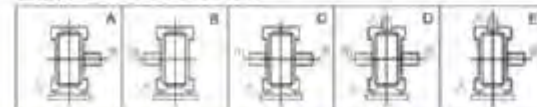
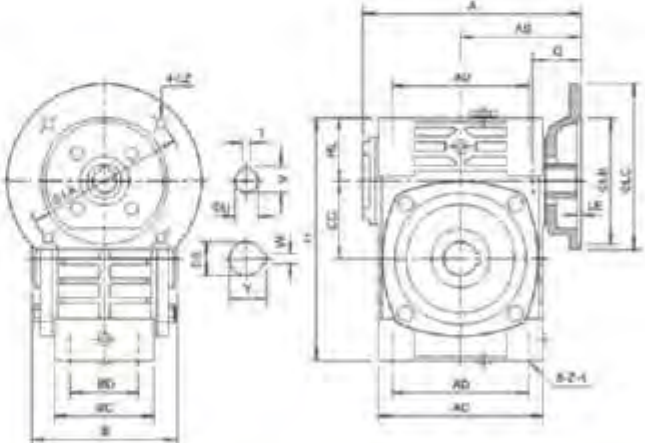


Table with 25 columns: Size, Ratio, A, AB, B, BB, AC, BC, CC, HL, LL, H, M, N, E, F, G, Z, Flange (LA, LB, LC, LE, LF, LG), Input hole (LU, LV, TV), Output shaft (S, W x Y), Weight. Rows include sizes 40, 50, 60, 70, 80, 100, 120, 135, 155, 175, 200, 250.

WPWDK型[MODEL]



轴指向 SHAFT DIRECTION

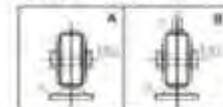
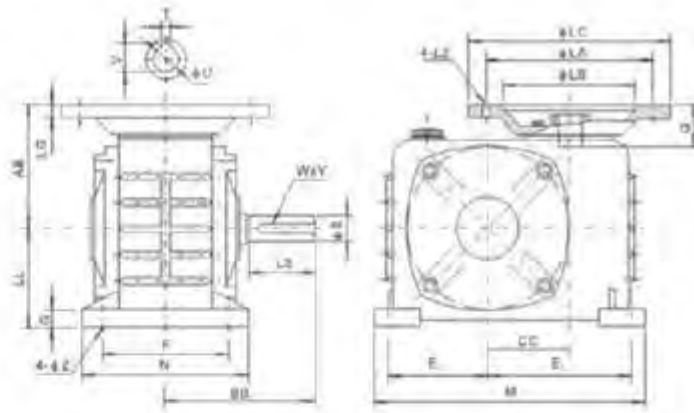


Table with 25 columns: Size, Ratio, A, AB, B, AC, BC, AD, BD, CC, HL, H, Z x L, Flange (LA, LB, LC, LE, LF, LG, LH, LI, LK, LL, LM, LN, LO, LP), Input hole (LU, LV, TV), Output shaft (S, W x Y), Weight. Rows include sizes 40, 50, 60, 70, 80, 100, 120, 135, 155, 175, 200, 250.

WPDZ型[MODEL]

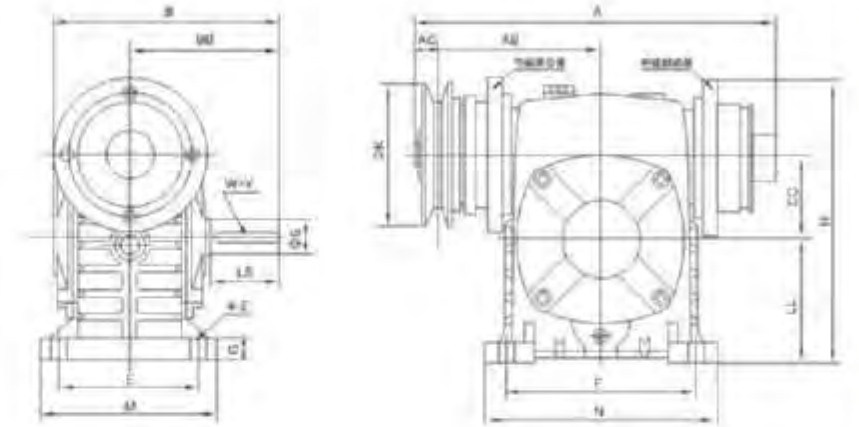


轴指向 SHAFT DIRECTION



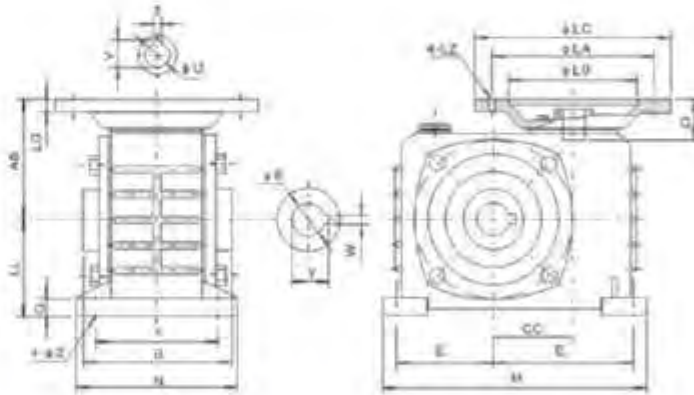
型号 Size	输入功率 Input(kW)	传动比 Ratio	AB	LL	BB	GD	E ₁	E ₂	F	G	M	N	Z	电机法兰 Flange					输入孔 Input hole			输出轴 Output shaft			重量 Weight (kg)
														LA	LB	LC	LG	LZ	Q	U	TxV	LS	S	WxY	
30	0.18	1/5	67	76	95	59	53	77	160	15	180	125	11	115	95	140	10	M8	25	11	4x12.8	40	17	5x3	7.5
50	0.18 0.37		78	82	110	60	58	92	190	15	190	130	11	115	95	140	10	M8	25	11	4x12.8	50	22	7x4	12
70	0.37 0.75	1/10 1/15	101	95	130	70	75	120	120	20	230	155	15	130	110	160	10	M8	33	14	5x16.3	60	28	7x4	15
80	0.75 1.5	1/20 1/25	118	100	140	80	95	130	125	20	265	160	15	165	130	200	12	M10	43	19	6x21.8	65	32	10x4.5	22
100	1.5 2.2	1/30 1/40	145	135	155	100	105	155	155	22	310	195	15	165	130	200	15	M10	55	24	8x27.3	75	38	10x4.5	38
120	2.2 3.0	1/50 1/60	160	160	165	120	120	180	180	28	360	230	18	215	180	250	18	M12	65	28	8x31.3	85	45	12x4.5	60
135	3.0 4.0		183	170	210	135	130	200	200	30	390	250	18	215	180	250	20	M12	65	28	8x31.3	95	55	15x5	80

TWPS型[MODEL]



型号 Size	功率 Input(kW)	重量 Input(kg)	传动比 Ratio	A	AB	AC	B	BB	CC	H	K	LL	M	N	E	F	G	Z	输出轴 Output shaft			重量 Weight (kg)
																			LS	S	WxY	
50	0.18	0.6	1/10	226	108	20	150	97	50	180	76	80	120	140	95	110	15	12	40	17	5x3	8
60	0.18 0.37	0.6 1.1		250	116	20	188	112	60	190	78	90	130	150	105	120	20	12	50	22	6x3.5	12
70	0.37 0.75	1.1 2.2	1/15 1/20	254	119	20	194	131	70	205	102	105	150	100	115	150	20	15	60	28	8x4	18
80	0.75 1.5	2.2 2.2	1/25 1/30	287	132	20	194	131	70	230	102	120	170	220	135	180	20	15	65	32	10x5	25
100	1.5 2.2	4.4 4.4	1/40 1/50	322	145	23	214	142	60	270	127	150	190	270	155	220	25	15	75	38	10x5	44
120	2.2 3	8 8	1/60	419	214	23	254	169	100	332	127	180	230	320	180	260	30	18	85	45	14x5.5	75

WPDKZ型[MODEL]



型号 Size	输入功率 Input(kW)	传动比 Ratio	AB	B	CC	E ₁	E ₂	F	G	LL	M	N	Z	电机法兰 Flange					输入孔 Input hole			输出孔 Output hole	
														LA	LB	LC	LG	LZ	D	U	TxV	S	WxY
50	0.18	1/5	87	107	90	53	77	100	15	78	180	125	11	115	95	140	10	M8	25	11	4x12.8	20	8x22.8
60	0.18 0.37		78	117	60	58	90	100	16	82	190	130	11	115	95	140	10	M8	25	11	4x12.8	25	8x28.3
70	0.37 0.75	1/10 1/15	101	131	70	75	120	120	20	95	230	155	15	130	110	160	10	M8	33	14	5x16.3	30	8x33.5
80	0.75 1.5	1/20 1/25	118	144	80	95	130	125	20	100	265	160	15	165	130	200	12	M10	43	19	6x21.8	35	10x38.3
100	1.5 2.2	1/30 1/40	145	175	100	105	155	155	22	135	310	195	15	165	130	200	15	M10	55	24	8x27.3	40	12x43.3
120	2.2 3.0	1/50 1/60	160	200	120	120	180	180	28	160	360	230	18	215	180	250	18	M12	65	28	8x31.3	45	14x46.8
135	3.0 4.0		183	212	135	130	200	200	30	170	390	250	18	215	180	250	20	M12	65	28	8x31.3	60	18x64.4



5. 选型方法 Methods for model chosen

5.1. 选型要素

5.1.1 输入功率、输出转矩

输入功率和输出转矩的转换公式如下:

$$\text{输入功率 } P(\text{kW}) = \text{输出转矩 } T(\text{N}\cdot\text{m}) \times \text{输出轴转速 } N_2(\text{r}/\text{min}) / (9549 \times \text{效率 } \eta)$$

减速机输入功率为减速机的输入动力容量, 输出转矩为减速机许用承载能力, 均在产品的各“功率、转矩”表中列出, 可供选型时参照选用。

5.1. Selection points

5.1.1 Input power & output torque

The formula of transforming input power to output torque listed as follows:

$$\text{Input power } P(\text{kW}) = \text{output torque } T(\text{N}\cdot\text{m}) \times \text{output revolving speed } N_2(\text{r}/\text{min}) / (9549 \times \text{efficiency } \eta)$$

Input power denotes the dynamical capacity of a reducer, and output torque denotes the maximum load a reducer allows, which are both listed in power and torque tables in order to serving selection.

5.1.2 输入轴转速、输出轴转速

输入轴和输出轴转速的转换公式如下:

$$\text{输出轴转速 } N_2(\text{r}/\text{min}) = \text{输入轴转速 } N_1(\text{r}/\text{min}) / \text{传动比 } i$$

当减速机以皮带轮、链轮及联轴器传动时, 输入轴转速不宜超过2000(r/min), 一般转速范围600-1800(r/min), 转速过高易使轴承加重磨损而缩短寿命。

5.1.2 Revolving speed of input shaft and output shaft

The formula of transforming input revolving speed to output listed as follows:

$$\text{Output revolving speed } N_2(\text{r}/\text{min}) = \text{input revolving speed } N_1(\text{r}/\text{min}) / \text{ratio } i$$

With belt-pulley, couplings or sprocket wheel shaft transmission, the input speed should not exceed 2000(r/min); the general range is 600-1800RPM. If the revolving speed is too high, the bearing will have less life due to over-friction.

5.1.3 效率

效率计算公式如下:

$$\text{效率 } \eta = (\text{输出功率} / \text{输入功率}) \times 100\%$$

由于减速机运转时内部存在摩擦及振动, 部分输入能量将转化为热能等非工作消耗, 效率就是减速机输入能量的利用率, 效率的高低取决于蜗杆头数、蜗杆转速、润滑油粘度、轴承摩擦阻力及蜗轮副材质的摩擦系数等。每种规格、传动比的减速机, 其效率数值各不相同, 下表列出效率的一般范围数值, 可供选型时参考:

5.1.3 Efficiencies

The efficiency calculation formula listed as follows:

$$\text{Efficiency } \eta = \text{output power} \times 100\% / \text{input power}$$

Due to the internal vibration and wear, partial input energy will be transformed to be heat energy and fade away, Efficiency is the utilization ratios of input energy. The efficiency depends on worm's tooth number, revolving speed, lubricant oil viscosity, bearing friction and worm gear's material friction factor. Reducers with vary model or ratio have vary efficiency. The following table lists the range of the efficiency value.

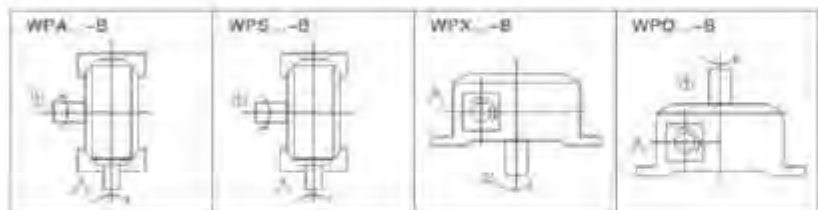
速比 Ratio	1/10	1/15	1/20	1/25	1/30	1/40	1/50	1/60
效率 Efficiency	77-90%	76-88%	75-84%	72-82%	68-82%	64-75%	62-72%	60-71%

5.1.4 输入轴、输出轴回转方向

蜗杆减速机输出轴回转方向取决于蜗杆螺牙方向, 基本型蜗杆减速机均为右旋螺牙。以本公司产品样本上WPA照片为依据, 面对输入轴、输出轴观看, 当输入轴顺时针方向旋转时, 输出轴旋转方向为逆时针; 以WPS照片为依据, 面对输入轴、输出轴观看, 当输入轴顺时针方向旋转时, 输出轴旋转方向为顺时针; 或参照下图。其余各种输出轴装配结构可按以上方法判定转向。当按特殊需要蜗杆螺牙方向制成左旋时, 情况正好相反。

5.1.4 Revolving direction of input and output shaft

The revolving direction of output shaft relies on worm thread's direction; right-directed thread is for basic use. According to the photograph of WPA in our product manual, facing input shaft and output shaft, when input shaft is in clockwise, output shaft is in counterclockwise; and according to the photograph of WPS, facing input shaft and output shaft, when input shaft is in clockwise, output shaft is in clockwise too; for other output shaft assembly structure, the method of ensuring revolving direction is as above or the outline. It will be adverse when the worm shaft is left-directed.



5.1.5 工况系数

减速机在设计时, 其输入动力容量及许用承载能力的强度计算按照每天连续运转八小时, 载荷稳定不变的理想工况设定, 在实际使用时, 现场工况(如: 是否有反复启动停止或频繁正反转, 使用时间是否少于或多于八小时, 冲击载荷大小及特性)可能与理想工况相差甚远, 在选型时应予充分考虑, 在选用减速机输入功率或输出转矩时, 可按下列公式加以修正:

$$\text{修正输出转矩 } T_2(\text{N}\cdot\text{m}) = \text{理论输出转矩 } T_1(\text{N}\cdot\text{m}) \times \text{工况系数 } K$$

5.1.5 Service Factor

When reducer is designed, the input load capacity and allowed intensity are calculated per a continual operation of 8 hours a day and per the ideal conditions of a uniform load design. However, the on-site use (e.g. repetitive start-up, stop or obverse and reverse rotation, use time more or less than 8 hours a day, different value and characteristics of impact load from standard conditions and so on) may be different from ideal use which should be taken into account. While selecting reducer input power or output torque, revise then according to the following formula.

$$\text{Revised output torque } T_2(\text{N}\cdot\text{m}) = \text{theoretic output torque } T_1(\text{N}\cdot\text{m}) \times \text{running condition factor } k$$

工况系数K表 Table of Service factor k

原动机 Prime mover	载荷状况 Load	每日运转时间(小时) Operation time per day(hour)			
		0.5-2	2-6	6-10	10-24
电动机 Electromotor	平稳载荷 Uniform	0.80	0.90	1.00	1.25
	中等冲击 Medium shock	0.90	1.00	1.25	1.50
	较大冲击 Heavy shock	1.00	1.25	1.50	1.75

注: 当正反转或停开次数1小时内达10次以上时, 上表K值还应乘以1.2
Annotate: when the times of start-up, stop or obverse per hour is more than 10, the value K must multiply 1.2.

5.1.6 产品标准色 Standard Color of Products



注意: 1. 常规减速机颜色为G。
2. 由于印刷原因, 颜色与实物有差异。
1. Color of normal reducer is G.
2. Due to printing limitation the color do not match the actual products exactly.

5.2 选型实例 Selection example

5.2.1 基本情况 The basic condition

传动结构 Transmission struture	相关数据 Relative data
	<ul style="list-style-type: none"> 起吊物体重量 $W=600\text{Kg}$ Weight of suspended object $W=600\text{Kg}$
	<ul style="list-style-type: none"> 起吊物体速度 $V=12\text{m/min}$ Speed of suspended object $V=12\text{m/min}$
	<ul style="list-style-type: none"> 滚轮直径 $D=0.4\text{m}$ Roll-pulley diameter $D=0.4\text{m}$
	<ul style="list-style-type: none"> 皮带轮传动效率 $\eta_1=0.92$ Efficiency of belt-pulley $\eta_1=0.92$
	<ul style="list-style-type: none"> 减速机传动效率 $\eta_2=0.71$ Efficiency of reducer $\eta_2=0.71$
	<ul style="list-style-type: none"> 运转时间 8小时/日 Running time 8 hours per day
	<ul style="list-style-type: none"> 启动次数 2次/小时, 较大冲击 2 Times per hour heavy shock
	<ul style="list-style-type: none"> 使用电源 三相380V, 50Hz Electrical source three-phase 380V, 50Hz

5.2.2 选型步骤 Selection steps

序号 Number	内容 Contents	计算公式 Formula	计算示例 Example
1	定传动比 Calculate ratio	根据输入轴及输出轴的转速确定传动比 1. 计算皮带轮转速N3 $N3 = \text{起吊速度} V / (\text{滚轮直径} D \times \pi)$ 2. 计算总传动比i $i = \text{输入轴转速} N1 / \text{皮带轮转速} N3$ 3. 计算减速机传动比i1 $i1 = \text{总传动比} i / \text{皮带轮传动比} i2$ Calculate the ratio according to input and output shaft revolving speed 1. get belt-pulley revolving speed N3 $N3 = \text{speed of suspended object } V / (\text{roll-pulley diameter } D \times \pi)$ 2. Calculate general ratio i $i = \text{Input revolving speed } N1 / \text{belt-pulley revolving speed } N3$ 3. Calculate reducer ratio i1 $i1 = \text{general ratio } i2$	1. $N3 = 12 / (0.4 \times 3.142) = 9.6\text{r/min}$ 2. $i = 1440 / 9.6 = 150$ 3. 设定 $i2 = 5$, 则 $i1 = 150 / 5 = 30$
2	计算输出转矩 Calculate output torque	计算减速机输出转矩T $T = \text{物体重量} W \times 10 \times \text{滚轮半径} (D/2) / (\text{皮带轮传动比} i2 \times \text{皮带轮传动效率} \eta_1)$ Calculate reducer output torque T $T = \text{weight of suspended object } W \times 10 \times \text{roll-pulley radius } (D/2) / (\text{belt-pulley ratio } i2 \times \text{belt-pulley transmission efficiency } \eta_1)$	$T = 600 \times 10 \times (0.4/2) / (5 \times 0.92) = 260.9\text{N.m}$
3	修正输出转矩 Revise output torque	根据使用条件, 8小时运转, 较大冲击, 工况系数 $K=1.5$ 计算修正输出转矩T1 $T1 = \text{输出转矩} T \times K$ according to using condition: operation 8 hours a day, heavy shock, running condition factor $K=1.5$ calculate revised torque T1 $T1 = \text{output torque } T \times k$	$T1 = 260.9 \times 1.5 = 391\text{N.m}$
4	计算输入功率 Calculate input power	换算功率P $P = \text{修正输出转矩} T1 \times \text{输出轴转速} N2 / (9549 \times \text{减速机传动效率} \eta_2)$ Calculate input shaft power P $P = \text{revised output torque } T1 \times \text{output revolving speed } N2 / (9549 \times \text{reducer transmission efficiency } \eta_2)$	$P = 391 \times (1440/30) / (9549 \times 0.71) = 2.77\text{kW}$
5	选型号规格 Select model	根据产品样本, 选定型号120.传动比1/30.输入轴功率3KW.输出轴转矩413N.m According to product manual, the selection is, Model 120, ratio 1/30, rating input power 3KW, output torque 413N.m	

6. 选型参数 Parameter for model chose

WP.WPK.WPW.WPWK(A.S.X.O.T.V)型输入功率及输出轴转矩表Input and output
输入轴转速Speed of input shaft:1500r/min

型号 Size	输入轴功率 Input(kw)								输出轴转矩 Output(N.m)							
	10	15	20	25	30	40	50	60	10	15	20	25	30	40	50	60
40	0.40	0.33	0.26	0.24	0.22	0.16	0.14	0.12	19	23	20	25	25	20	22	20
50	0.65	0.52	0.40	0.37	0.34	0.27	0.24	0.20	31	36	32	38	39	36	37	35
60	1.00	0.82	0.65	0.59	0.54	0.45	0.40	0.32	50	58	56	68	62	71	75	59
70	1.60	1.35	1.10	0.96	0.82	0.67	0.61	0.52	83	98	101	112	99	104	113	97
80	2.20	1.78	1.36	1.28	1.20	0.90	0.80	0.75	113	133	120	149	151	140	145	146
100	3.60	3.10	2.60	2.35	2.10	1.68	1.30	1.00	193	237	258	284	277	291	257	229
120	5.20	4.35	3.50	3.25	3.00	2.20	1.90	1.50	262	336	361	404	413	392	399	355
135	9.75	7.85	6.00	5.50	5.00	3.69	2.89	2.30	540	622	619	696	707	667	626	562
147	10.71	8.43	6.18	5.71	5.23	3.84	3.09	2.52	586	676	637	727	739	694	669	616
155	12.80	9.90	7.00	6.53	6.00	4.40	3.60	3.00	709	785	722	842	848	784	770	791
175	17.30	13.60	10.00	9.13	8.30	6.18	4.85	4.07	958	1091	1044	1221	1189	1133	1127	1078
200	22.60	18.20	13.86	12.75	11.67	8.78	6.71	5.58	1280	1477	1482	1643	1782	1654	1516	1449
250	33.20	27.40	21.60	20.00	18.43	14.00	10.43	8.62	1881	2310	2310	2579	2745	2674	2357	2371

注：型号147型无WPW(A.S.X.O.T.V)及WPWK(A.S.O.T.V)

WPD.WPKD.WPWD.WPWDK(A.S.X.O.T.V)型输入功率及输出轴转矩表Input and output
输入轴转速Speed of input shaft:1500r/min(配用A02或Y系列电机 Matching electric motor series A02 or Y)

型号 Size	输入轴功率 Input(kw)								输出轴转矩 Output(N.m)							
	10	15	20	25	30	40	50	60	10	15	20	25	30	40	50	60
40					0.12				6	8	9	13	14	15	19	20
50					0.18				9	12	14	19	20	24	28	34
60					0.37				19	26	34	42	42	58	67	73
70			0.75				0.37		39	54	70	87	95	58	68	70
80			1.5				0.75		77	112	142	174	189	117	136	146
100			1.5						80	115	149	181	198	260	307	344
120			3				2.2		151	232	310	372	413	392	480	521
135			4				3		219	321	413	509	565	542	649	690
147			4				3		219	321	413	509	565	542	649	690
155			5.5				4		305	411	525	709	760	713	853	1039
175			7.5				5.5		415	602	783	1002	1074	1008	1278	1450
200			11				7.5		623	892	1176	1417	1680	1413	1695	1948
250			15				11		850	1246	1604	1933	2234	2101	2486	3025

注：型号147型无WPW(A.S.X.O.T.V)及WPKD(A.S.O.T.V)

WPE.WPEK.WPWE.WPWEK.WPED.WPEDK.WPWED.WPWEDK(A.S.X.O)型
输入轴功率及输出轴转矩表 Input and output
输入轴转速 Speed of Input shaft:1500r/min

型号 Size	功率及转矩 Power and torque	WPE, WPEK, WPWE, WPWEK							WPED, WPEDK, WPWED, WPWEDK						
		传动比 Ratio							传动比 Ratio						
		200	300	400	500	600	800	900	200	300	400	500	600	800	900
40-70	输入轴功率(kW)	0.48	0.34	0.28	0.25	0.23	0.20	0.17	0.12	0.12	0.12	0.12	0.12	0.12	0.12
	输出轴转矩(N.m)	250	250	250	250	250	250	250	63	88	107	120	130	150	177
50-80	输入轴功率(kW)	0.65	0.51	0.42	0.38	0.31	0.29	0.25	0.18	0.18	0.18	0.18	0.18	0.18	0.18
	输出轴转矩(N.m)	350	350	350	350	350	350	350	97	124	150	166	203	217	252
60-100	输入轴功率(kW)	0.95	0.67	0.52	0.44	0.40	0.35	0.33	0.37	0.37	0.37	0.37	0.37	0.37	0.37
	输出轴转矩(N.m)	500	500	500	500	500	500	500	195	278	356	420	463	529	561
70-120	输入轴功率(kW)	1.64	1.18	0.91	0.84	0.71	0.58	0.54	0.75	0.75	0.75	0.75	0.37	0.37	0.75
	输出轴转矩(N.m)	840	840	840	840	840	840	840	384	534	692	750	486	536	687
80-135	输入轴功率(kW)	2.50	1.75	1.39	1.19	1.08	0.98	0.85	1.5	1.5	1.5	1.5	0.75	0.75	1.5
	输出轴转矩(N.m)	1400	1400	1400	1400	1400	1400	1400	616	880	1108	1294	1010	1071	1426
80-147	输入轴功率(kW)	2.79	2.1	1.71	1.47	1.34	1.20	1.06	1.5	1.5	1.5	1.5	0.75	0.75	1.5
	输出轴转矩(N.m)	1575	1575	1575	1575	1575	1575	1575	682	902	1208	1316	1300	1321	1575
100-155	输入轴功率(kW)	3.69	2.92	2.41	2.07	1.89	1.69	1.50	1.5	1.5	1.5	1.5	1.5	1.5	1.5
	输出轴转矩(N.m)	2100	2100	2100	2100	2100	2100	2100	854	1079	1307	1522	1667	1864	2100
120-175	输入轴功率(kW)	5.09	3.91	3.27	2.72	2.53	2.50	2.05	3	3	3	3	2.2	2.2	3
	输出轴转矩(N.m)	3050	3050	3050	3050	3050	3050	3050	1798	2340	2798	3050	2500	2685	3050
135-200	输入轴功率(kW)	7.22	5.41	4.46	3.83	3.46	2.91	2.71	4	4	4	4	3	3	4
	输出轴转矩(N.m)	3950	3950	3950	3950	3950	3950	3950	2188	2920	3543	3950	3950	3950	3950
155-250	输入轴功率(kW)	11.71	8.14	6.00	5.14	4.67	4.07	3.67	5.5	5.5	5.5	5.5	4	4	5.5
	输出轴转矩(N.m)	6050	6050	6050	6050	6050	6050	6050	2841	4087	5546	6050	6050	6050	6050

注：型号80-147型无WPWE(A.S.X.O.)及WPWEK(A.S.O.)

润滑油注油量(L)
Adding capacity of lubrication oil

机壳 Type	WPA WPDA WPKA	WPS WPDS WPKS	WPX(O) WPD(O) WPEX(O)	WPW WPWD
40	0.1	0.2	0.2	0.2
50	0.2	0.4	0.5	0.4
60	0.3	0.5	0.6	0.5
70	0.6	0.9	1.2	0.8
80	1	1.3	1.5	1.5
100	1.7	2.7	3.9	2.6
120	2.8	4.5	5.8	4.5
135	4.5	7.2	8.6	5.6
147	4.2	7	11.1	-
155	5.9	10.3	14.2	11.7
175	7.5	12.1	16.7	13.9
200	12.2	18.9	27.2	16.7
250	22	33.9	48.9	30

实际速比
Actual Ratio

型号 Size	名义速比 Ratio	实际速比 Actual Ratio							
		10	15	20	25	30	40	50	60
40		10	15	20	25	30	40	50	60
50		10	15	20	25	30	40	50	60
60		10	15	20	25	30	39	50	60
70		10	15	20	25	30	40	50	60
80		10	15	20	25	30	40	50	60
100		10	15	20	25	30	40	50	60
120		10	15	19.5	25	30	39	50	60
135		10	15	20	25	30	40	50	60
147		9.667	14.5	20	25	29	40	50	61
155		10	15	20	25	30	40	50	59
175		10	15	20	25	30	40	50	60
200		10	15	20.5	25	30	41	50	60
250		10.25	15.25	20.5	25	30.5	41	50	61

7. 使用说明 Operating installation

7.1. 安装注意事项

- 7.1.1 减速机须安装在平整坚固的底座上，底脚螺栓必须紧固、防震。
- 7.1.2 原动机—减速机—工作机的各联接轴伸，安装后必须互相准确对准轴线。
- 7.1.3 减速机输入端及输出端轴伸外径公差尺寸均按h6制作，与之相配的联轴器、皮带轮、链轮等传动件内孔须按合适的公差尺寸配制，避免装配过紧损坏轴承，装配过松影响正常动力传递。
- 7.1.4 链轮、齿轮等传动件装上轴伸时，应尽量靠近轴承，以减少轴伸弯曲应力。
- 7.1.5 WPD型减速机装配电机时，应在蜗杆头部内孔孔壁及键槽处涂抹黄油，避免装配过紧，防止轴孔日久生锈。
- 7.1.6 订购使用各类WPD减速机时，若电机重量偏大，应设支撑装置。

7.2. 使用注意事项

- 7.2.1 使用前应注意检查减速机型式结构、中心距规格、传动比、输入轴连接方式、输出轴结构、输入轴输出轴轴伸向和回转方向等是否符合使用要求。
- 7.2.2 按照样本上“润滑油的选择使用”中所规定的要求，注入合适的品种牌号润滑油。加油后，旋紧顶部的通气器，拔掉通气器上之小锥塞，减速机方可开始运转。必须选用合适牌号的润滑油，必须控制适宜的加油量，必须按规定要求及时换油，尤其要重视首次使用100小时后的更换新油。
- 7.2.3 使用过程中发生不正常情况时，应及时停机检查，可参照“故障原因及解决办法”表处理。（减速机的油温最高允许达到95℃，在此温度界限下，只要油温不再上升，可以放心使用）。

7.1. Notices of installation

- 7.1.1 The base-plate must be plane and stoutness, and the base-bolts must be screwed down and shockproof.
- 7.1.2 The connecting shafts of prime mover, reducer and operation device must be coaxial after installation.
- 7.1.3 The diameter tolerance zone of input and output shaft is h6, the holes of fittings (such as couplings, belt-pulley, sprocket wheel and so on) must properly mate the shaft, which prevents bearing from breakage because of over-tight mate or avoid effecting normal power transmission because of over-loose mate.
- 7.1.4 Drivers such as sprocket wheel and gear must be fitted close to bearings in order to reduce bending stress of hanging shaft.
- 7.1.5 While assembling motor of WPD reducer, it is necessary that proper amount of butter applies to the worm shaft input hole and keyway, avoiding assembling too tightly and rusting after using for a long time.
- 7.1.6 When Ordering or using all kinds of WPD type, if the motor weight is bigger than the common, Supporting Set is required.

7.2. Notices of usage

- 7.2.1 Before using, please check carefully whether the reducer model, distance, ratio, input connecting method, output shaft structure, input and output shaft direction and revolving direction accord with requirement.
- 7.2.2 According to the requirement of “selecting lubricant oil” in the product manual, please fill proper category and brand lubricant. And then screw on the vent-plug, uncork the small cone-plug of vent-plug. Only After doing these, reducer is ready for starting up running. The proper brand and adequate lubricant oil is required; replacing oil in time conforming to the request of product manual is also necessary, especially after using first 100 hours, it is required refilling new oil.
- 7.2.3 When abnormal circumstances occur, please stop and check reducer per “solutions and reasons for faults of reducer” (allowable highest oil temperature is 95℃, under this temperature limit, if oil temperature no more goes up, please let reducer continue running).

8. 油品润滑 Lubricant

蜗轮减速机使用前应用注入N220-N320（环境温度-30℃-40℃）或N320-N460（环境温度25℃-85℃）润滑油至油标中心点之上，并取掉通气器上之小锥塞。首次使用100小时后，洗净内部换上新油，以后每2500小时换油一次。
Before operation, input N220-N320(Ambient temperature-30℃-40℃), N320-460 (Ambient temperature 25℃-85℃)lubrication oil up to the center line of the oil gauge. In the meanwhile, remove the small screw of the air-vent. After having worked for 100 hours for the first time, must clear the inside and change the lubrication oil in it, here after once every 2500 hours.

减速机在使用时，可按下表选用润滑油。
Lubricants for a reducer used in foreign countries can be chosen from the table below.

Worm Shaft Speed(r/min)		Lubricant	Operating position Worm shaft, upper Worm shaft vertical	Operating position Worm shaft, lower Output Shaft Vertical
Over	up to			
1000	3000	Synthetic oils	PG460	PG220
	1000			PG460
2000	3000	Mineral oils	ISO VG460	ISO VG200
750	2000			ISO VG320
250	750			ISO VG460
	250			ISO VG680

周围温度 Ambient Temp	负荷 Load	ISO VG	GB3141-82		Mobil		HOIYKER
-30℃ - -15℃	普通 Commonly	VG-100	N100	Shell Tivela S100	SHC 627	CARTER SY 100	HOIYKER SHC 100
	重 Heavy	VG-150	N150	Shell Tivela S150	SHC 629	CARTER SY 150	HOIYKER SHC 150
-15℃ - 5℃	普通 Commonly	VG-150	N150	Shell Tivela S150	SHC 629	CARTER SY 150	HOIYKER SHC 150
	重 Heavy	VG-220	N220	Shell Tivela S220	SHC 630	CARTER SY 220	HOIYKER SHC 220
5℃ - 25℃	普通 Commonly	VG-220	N220	Shell Tivela S220	SHC 630	CARTER SY 220	HOIYKER SHC 220
	重 Heavy	VG-320	N320	Shell Tivela S320	SHC 632	CARTER SY 320	HOIYKER SHC 320
25℃ - 40℃	普通 Commonly	VG-320	N320	Shell Tivela S320	SHC 632	CARTER SY 320	HOIYKER SHC 320
	重 Heavy	VG-460	N460	Shell Tivela S460	SHC 634	CARTER SY 460	HOIYKER SHC 460
40℃ - 85℃	普通 Commonly	VG-460	N460	Shell Tivela S460	SHC 634	CARTER SY 460	HOIYKER SHC 460
	重 Heavy	VG-680	N680	Shell Tivela S680	SHC 636	CARTER SY 680	HOIYKER SHC 680

*For the first 100 hours of operation, Drain unit and flush with high oil. Refill
Every 2500 hours of operation; Drain, flush and refill.

9. 故障分析
Malfunctions analysis

故障情况 Fault Situation	故障原因 Reasons	解决办法 Solutions
过热 Overheating	原动力、减速机、工作机连接不当 Improper connection among prime mover, reducer and the operation device	调整至适当位置，使三者相联轴线同轴 Adjust to proper position
	超负荷运转 Overloading	适当调整负荷 Adjust to proper load
	油封过度摩擦 Over friction of oil seals	在油封唇口处滴润滑油 Drop lubricant at oil seal
	润滑油过少或过多 Lubricant oil overmuch or shortage	按油标指示点调整油量 Adjust to proper oil quantity as indication
振动 Vibration	润滑油杂质多或润滑性差 Much impurity in oil or inferior oil	更换合适新油 Refill proper oil
	原动力、减速机、工作机固定不良 Prime mover, reducer and the operation device mount badly	查出不良固定部件，正确加固 Find out the bad place, tighten it
	蜗轮副齿面磨损或损伤 Tooth surface of worm gear sets worn-out or damaged	更换蜗轮副（需要时本公司配合） Replace worm gear sets (we will cooperate with you when necessary)
	轴承磨损 Bearing worn-out	更换轴承 Replace Bearing
杂音 Noise	螺栓松动 Bolt loose	螺栓加固 Tighten Screw
	轴承损坏或间隙过大 Bearing damaged or too large clearance	更换轴承 Replace Bearing
	蜗轮副啮合不良 Worm gear sets mesh badly	修整齿面或更换蜗轮副（请与本公司联系） Mend tooth surface or replace worm gear sets (please contact to us)
	润滑油不足 Lubricant oil shortage	按油标指示点补加润滑油 Fill in adequate oil as indication
漏油 Oil leakage	机体内有异物 Foreign object in box	倒净润滑油取出异物，重加清洁润滑油 Discharge all the oil in order to put out foreign object, and refill clean oil
	油封唇口磨损 Oil seal lip worn-out	更换油封 Replace oil seal
	油封档轴颈磨损 Shaft of oil seal area worn-out	更换输出轴或输入轴 Replace input or output shaft
	油量过多 Too much oil	按油标指示点调整油量 Discharge adequate oil as indication
	放油螺塞未拧紧 Oil screw plug loose	螺纹处加密封胶，拧紧螺塞 Tighten oil screw plug
蜗轮副齿面 磨损过快 Tooth surface of worm gear sets abrade extra-quickly	油标破损 Oil gauge damaged	更换油标 Replace oil gauge
	超负荷运转 Overload	调整适当负荷 Adjust to proper loading
	润滑油不符合要求 Lubricant oil not according with requirement	更换合适的润滑油 Replace proper lubricant oil
	润滑油不足 Lubricant oil shortage	按油标指示点加足润滑油 Fill adequate oil as indication
	未按规定及时换油，润滑油劣化 Not replacing lubricant oil in time according to requirement, oil deteriorates	按规定要求及时更换润滑油 Replacing oil in time according to requirement
运转温度过高 Overheating while running	1. 按“过热”故障处理 2. 采取合适措施，降低周围环境温度 1. Deal with it as "Overheating" 2. Adopting proper measures to make environment temperature fall	

注：如遇故障无法解决，请随时与本公司联系，以便提供咨询服务。
Remark: If other faults not listed above occur, please contact with us at any moment. Our company will supply the right consultation service.

SWL系列蜗轮丝杆升降机
SWL series worm gear screw jack

1. 产品图片
Picture of products

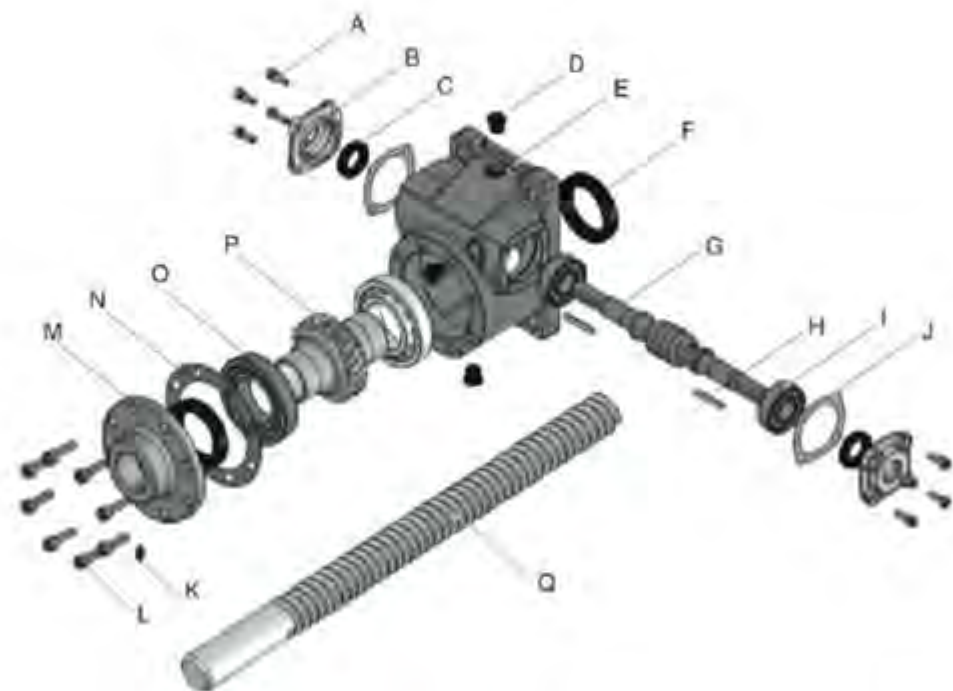


2. 产品概述 Product overview

蜗轮丝杆升降机是通过蜗轮传动螺杆完成提升、下降、推进等功能，广泛应用于机械、冶金、建筑、水利、化工等各项行业，具有结构紧凑、体积小、安装方便、可靠性好、稳定性高、使用寿命长等优点。本系列升降机可自锁，承载能力在2.5t-150t之间，最高输入转速1500r/min，工作环境温度在-20℃-100℃之间。

Worm gear screw jack is through the worm gear screw performs moving up, down and forward by worm driving. It is widely used in fields of machinery, architecture, chemistry etc. The lifter has advantages of compact structure, small size, easy installation, good reliability, high stability and long life-span. It has self locking. The maximum loading capability is 2.5 to 150 ton and the maximum input RPM is 1500r/m. The environment working temperature is between -20℃ and 100℃.

3. 产品结构图 Product structure



Number	名称 Name of parts	Number	名称 Name of parts
A	内六角螺丝 HEX. Screw	J	石棉垫片 Paper Packing
B	输入端盖 Input Shaft Cover	K	牛油嘴 Fittings
C	油封SC Oil Seal SC	L	内六角螺丝 HEX. Screw
D	放油螺栓 Oil Plug	M	输出端盖 output Shaft Cover
E	蜗轮箱 Outer Shell	N	石棉垫片 Paper Packing
F	油封TC Oil Seal TC	O	轴承 Taper Roller Bearing
G	蜗杆 Worm shaft	P	蜗轮 Worm wheel
H	键 Key	Q	丝杆 Screw
I	轴承 Ball Bearing		

4. 型式和标记 Type and earmark

4.1 结构型式

- I型—丝杆同时作旋转运动和轴向移动(见图1);
- II型—丝杆作旋转运动，丝杆上的螺母作轴向移动(见图2)。

4.2 装配型式

- 升降机每种结构型式又分为两种装配型式:
- A型—丝杆(或螺母)向上移动(见图1和图2);
- B型—丝杆(或螺母)向下移动(见图1和图2);

4.3 丝杆头部型式

- I型结构型式的丝杆头部分为I型(圆柱型)、II型(法兰型)、III型(螺纹型)和IV(扁头型)四种型式(见图1);
- II型结构型式的丝杆头部分为I型(圆柱型)和II型(螺纹型)两种型式(见图2)

4.4 传动比

升降机分为两种传动比，即普通(P)和慢速(M)。

4.5 丝杆的防护

- I型升降机丝杆的防护分为：基本型、防旋转型(F)和带防护罩型(Z);
- II型升降机丝杆的防护分为：基本型和带防护罩型(Z)

4.6 标记示例

4.1 Structural mode

- Type I—Screw spins and rotate axially at the same time (see Figure 1);
- Type II—Screw spins while nut on screw is rotating axially (see Figure 2);

4.2 Assemblage mode

- There are 2 assemblage modes available for each of elevator structural mode:
- Type A—Screw (or nut) moves upwards (see Figure 1 and Figure 2);
- Type B—Screw (or nut) moves downwards (see Figure 1 and Figure 2);

4.3 Screw head mode

- There are IV types available for the head of screw with Type I structural mode; Type I (cylinder mode); Type II (flange mode); Type III (thread mode); and Type IV (flat head mode)(see Figure 1).
- There are II types available for the head of screw with Type II structural mode; Type I (cylinder mode); Type II (thread mode);

4.4 Drive ratio

There are 2 drive ratios available for elevator: common ratio (P) and slow-speed ratio (M)

4.5 Screw protection

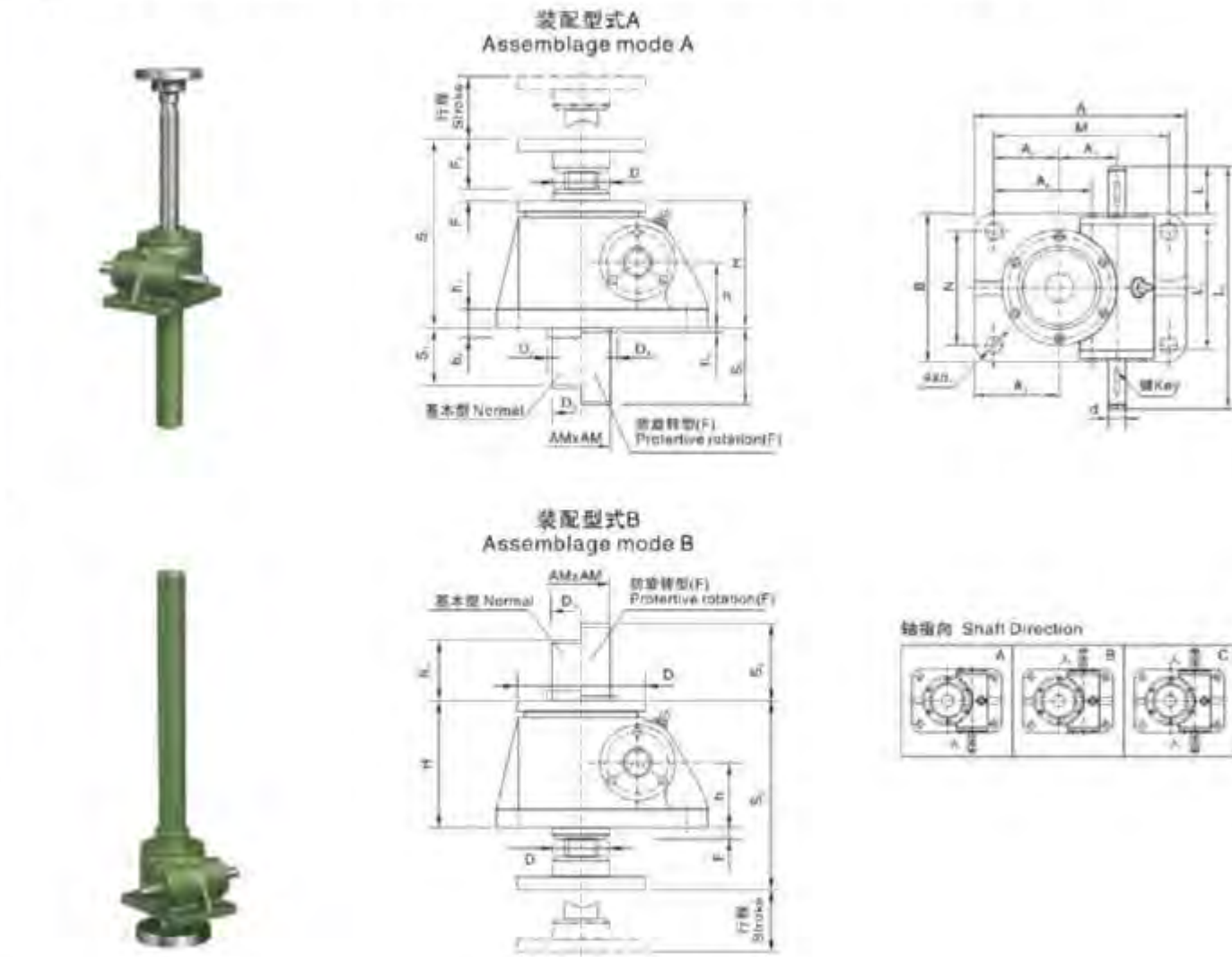
- Protections available for Type I elevator are: basic type, anti-rotary type (F) or shielded type (Z);
- Protections available for Type II elevator are: basic type and shielded type (Z);

4.6 Example of earmark



5. 产品尺寸
Product dimension

5.1 I型升降机的外形结构尺寸见图1和表1。
Fig 1 and Chart 1 show the outer structure and dimension of lifter model I.



丝杆头部型式 Type of screw head

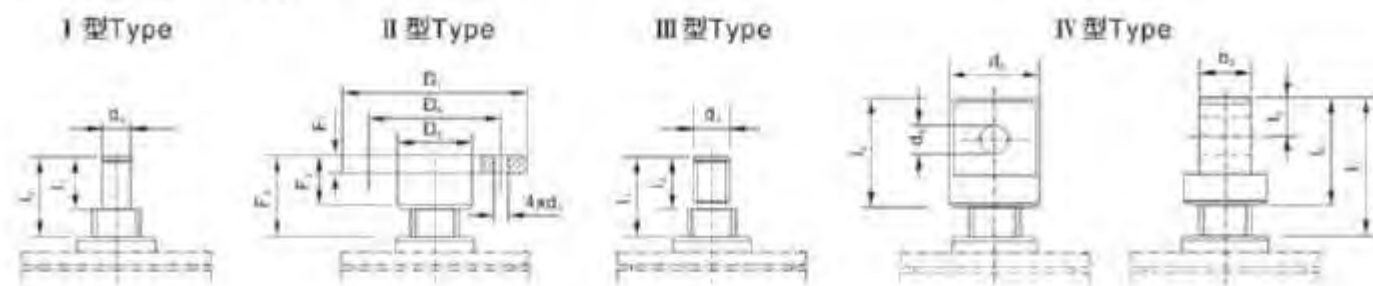


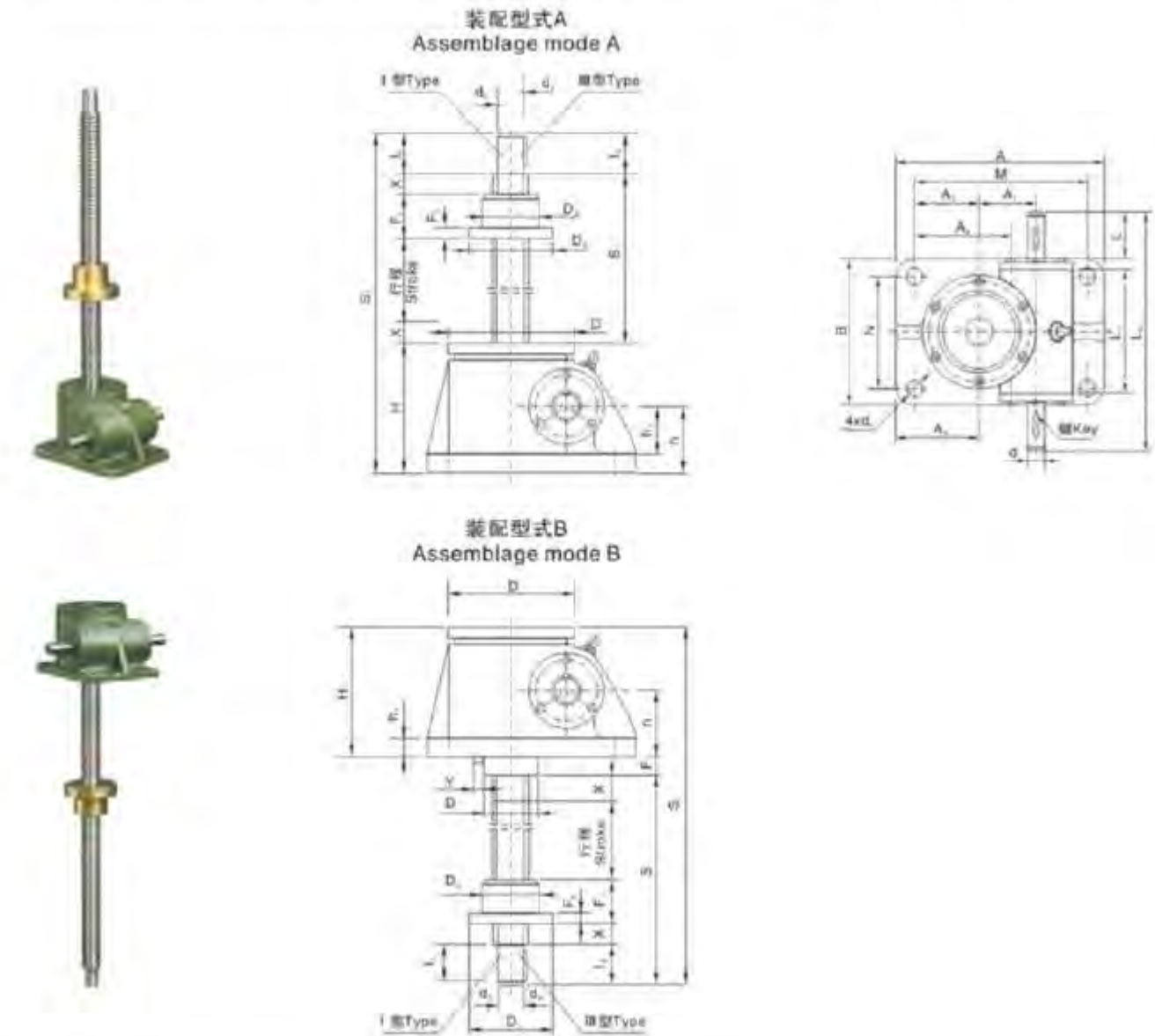
图1 I型结构型式 Type I structural mode

表(Table)1 mm

型号 type	SWL2.5	SWL5	SWL10 SWL15	SWL20	SWL25	SWL35	SWL50	SWL100	SWL120		
S ₁	行程+20	行程+20	行程+20	行程+20	行程+20	行程+20	行程+20	行程+20	行程+20		
S ₀	行程+110	行程+110	行程+150	行程+190	行程+205	行程+250	行程+285	行程+350	行程+400		
S ₀	160.5	193	230	262	317	350	416	550	570		
A	165	212	235	295	350	430	475	527.1	526		
B	120	155	200	215	260	280	500	526	622		
M	135	168	190	240	280	360	385	622	412		
N	90	114	155	180	190	210	408	412	508		
H	97	130	150	176	217	240	280	360	360		
h	45	61.5	70	87	102	115	121	155	155		
h ₁	12	14	16	20	25	30	32	38	42		
d(k6)	16	20	25	28	32	38	38	45	48		
d ₁	14	17	21	28	35	35	45	48	48		
键GB 1096	5x5x32	6x6x45	8x7x45	8x7x45	10x8x50	10x8x70	10x8x90	14x9x90	14x9x90		
L	-	-	42	42	58	80	100	100	100		
L ₁	110.5	132	172	213.5	221	265	310	380	380		
L ₂	190	228	280	322	355	430	558	610	610		
D	48	65	80	100	130	150	170	240	240		
D ₁	98	122	150	185	205	260	300	420	420		
D ₂	70	90	100	120	150	180	220	310	310		
D ₃	45	60	76	83	114	121	145	180	220		
D ₄	98	110	130	170	200	210	260	370	370		
AMxAM	50x50	60x60	80x80	80x80	120x120	150x150	150x150	200x200	250x250		
A ₁	45.2	56.2	65.8	72.5	97	120	135	190	190		
A ₂	50	58	63.5	85	95	135	160	166	166		
A ₃	65	80	86	122.5	130	170	205	223	223		
A ₄	-	-	-	-	-	-	-	208	208		
b ₁	20	25	30	35	35	35	45	80	80		
b ₂	20	18	12	31	19	40	25	30	30		
F	8.5	12	6.5	6	8	10	20	36.5	40		
丝杆头部型式 Screw head form	d ₂ (k6)	20	25	40	50	70	80	95	130	150	
	I	i ₁	30	40	50	60	63	80	90	120	140
		i ₂	45	51	73.5	80	92	100	120	150	170
		D ₁	98	122	150	185	205	260	300	370	400
	II	D ₂	75	85	105	140	155	200	225	280	310
		D ₃	40	50	65	90	100	130	150	200	230
		d ₃	14	17	21	28	27	33	39	48	48
		F ₁	12	18	20	20	25	30	35	75	80
		F ₂	30	40	50	60	63	80	90	120	140
		F ₃	45	51	73.5	80	92	100	120	150	170
	III	d ₄	M22x1.5-6g	M30x2-6g	M42x2-6g	M48x2-6g	M70x3-6g	M80x3-6g	M95x3-6g	M130x4-6g	M150x4-6g
		i ₃	30	39	50	60	63	80	90	120	140
		i ₄	45	51	73.5	80	92	100	120	150	170
		d ₅	50	65	90	110	130	150	180	220	260
		d ₆ (H8)	25	35	50	60	70	80	80	90	95
		b ₃	30	42	60	75	90	105	120	160	180
IV	i ₅	25	37.5	50	60	70	80	80	90	100	
	i ₆	50	75	100	120	140	160	160	180	200	
	i ₇	85	117	153.5	170	204	240	270	330	360	
	i ₈	70	105	130	150	175	220	240	300	335	

5.2 II型升降机的外形结构尺寸见图2和表2。
Fig 2 and Chart 2 show the outer structure and dimension of lifter model II.

表(Table)2 mm



丝杆头部型式 Type of screw head

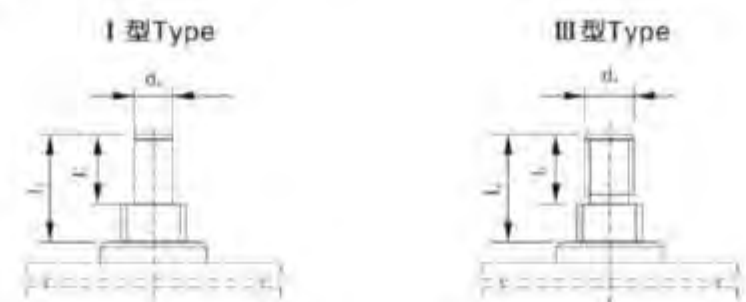
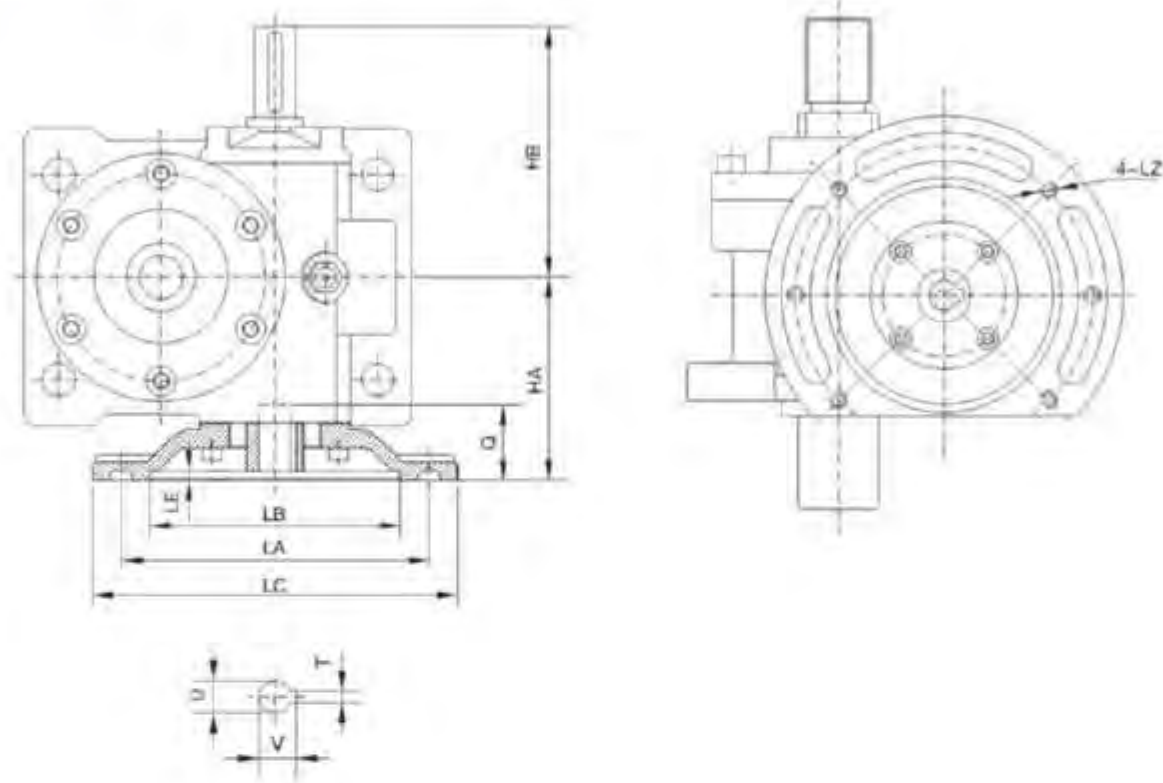


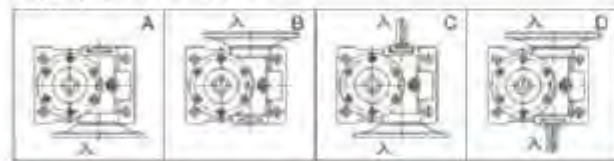
图2 II型结构型式 Type II structural mode

型号 Type	SWL2.5	SWL5	SWL10 SWL15	SWL20	SWL25	SWL35	SWL50	SWL100	SWL150	
S	行程+85	行程+100	行程+125	行程+150	行程+170	行程+205	行程+250	行程+320	行程+330	
S ₁	行程+215	行程+270	行程+335	行程+404	行程+476	行程+535	行程+603	行程+815	行程+845	
S ₂	行程+238.5	行程+300	行程+359	行程+430	行程+513	行程+580	行程+685	行程+880	行程+910	
A	165	212	235	295	350	430	475	526	526	
B	120	155	200	215	260	280	500	622	622	
M	135	168	190	240	180	360	385	412	412	
N	90	114	155	160	190	210	406	508	508	
H	100	131	160	194	226	250	290	375	375	
H ₁	97	131	150	181	211	250	280	360	360	
h	45	61.5	70	87	102	115	121	155	155	
h ₁	12	14	16	20	25	30	32	38	42	
d(k6)	16	20	25	28	32	38	38	45n6	48n6	
d ₁	14	17	21	28	35	35	45	48	48	
键GB 1096	5x5x32	6x6x32	8x7x45	8x7x45	10x8x50	10x8x70	10x8x90	14x9x90	14x9x90	
L	-	-	42	42	58	80	100	100	100	
L ₁	110.5	132	172	213.5	221	265	314	380	380	
L ₂	190	228	280	322	355	430	558	610	610	
D	98	122	150	185	205	260	300	420	420	
D ₁	88	83	110	140	160	180	200	260	260	
A ₁	45.2	56.2	86.8	72.5	97	120	135	190	190	
A ₂	50	58	63.5	95	95	135	160	166	166	
A ₃	65	80	86	122.5	130	170	205	223	223	
A ₄	-	-	-	-	-	-	-	206	206	
F	26.5	30	34	39	52	45	65	80	80	
安全系数 Safety factor	20	20	25	25	25	30	40	50	50	
Y	3	3	4	3	3	4	5	6	6	
蜗轮齿顶圆直径 D _o (mm)	D ₁	80	87	110	120	155	190	220	300	330
	D ₂ (h9)	50	70	90	90	130	150	180	240	260
	F ₁	45	60	75	100	120	145	170	220	270
	F ₂	15	18	25	30	35	35	50	70	80
蜗轮齿顶圆直径 D _o (mm)	d ₁ (k6)	20	25	40	50	70	80	95	130	150
	l ₁	30	40	50	60	80	80	108	127	130
蜗轮齿顶圆直径 D _o (mm)	d ₂	M22x1.5-6g	M30x2-6g	M42x2-6g	M48x2-6g	M70x3-6g	M80x3-6g	M95x3-6g	M130x4-6g	M150x4-6g
	l ₂	30	39	50	60	63	80	90	120	140

SWLD型结构型式 SWLD Type structure types



轴指向 Shaft Direction



型号 Size	法兰规格 Flange size	HA	HB	LA	LB	LC	LE	L2	D	Q	TxV
SWL2.5	71B5	85	102.5	130	110	160	4	M8	14	33	5x16.3
SWL5	80B5	111	120	165	130	200	4	M10	19	42	6x21.8
SWL10	90B5	138	150	185	130	200	4.5	M10	24	52	8x27.3
SWL15	90B5	138	150	185	130	200	4.5	M10	24	52	8x27.3
SWL20	100B5	156	161	215	160	250	5	M12	26	63	8x31.3
SWL25	112B5	160	177.5	215	160	250	5	M12	26	63	8x31.3
SWL35	132B5	202	215	265	230	300	5	M12	38	63	10x41.3

6. 性能参数
Specification

升降机的主要性能参数应按表3

The main specification the lifter is listed in chart 3

表(Table)3 mm

型号 Type	SWL2.5	SWL5	SWL10 SWL15	SWL20	SWL25	SWL35	SWL50	SWL100	SWL150
最大起升力 (kN) Maximum hoisting force	25	50	100/50	200	250	350	500	1000	1200
最大拉力 (kN) Maximum tensile force	25	50	99	166	250	350	500	1000	1200
丝杆螺成尺寸 Screw thread size	Tr30x6	Tr40x7	Tr58x12	Tr65x12	Tr90x16	Tr100x18	Tr120x20	Tr160x23	Tr180x25
蜗轮蜗杆传动比 (P) Worm wheel and worm screw drive ratio	6:1	6:1	7 $\frac{1}{2}$:1	8:1	10 $\frac{1}{2}$:1	10 $\frac{1}{2}$:1	10 $\frac{1}{2}$:1	12:1	12:1
蜗杆每转行程 (mm) Worm screw travel per turn	1.0	1.167	1.565	1.5	1.5	1.5	1.87	1.92	2.083
蜗轮蜗杆传动比 (M) Worm wheel and worm screw drive ratio	24:1	24:1	24:1	24:1	32:1	32:1	32:1	36:1	36:1
蜗杆每转行程 (mm) Worm screw travel per turn	0.250	0.292	0.5	0.5	0.5	0.56	0.625	0.638	0.694
蜗杆扭矩 (N.m) Worm screw torque	见附录B (提示的附录) See Attachment B (hanging)								
拉力负荷时丝杆的最大伸长 (mm) Maximum elongation of worm screw with tensile load	1500	2000	2500	3000	3500	4000	5500	6500	7000
压力负荷时丝杆的最大伸长 (mm) Maximum elongation of worm screw with compressive load	见附录C (提示的附录) See Attachment C (hanging)								
侧向力负荷时丝杆的最大伸长 (mm) Maximum elongation of worm screw with side force load	见附录D (提示的附录) See Attachment D (hanging)								
最大许用功率 (KW) Maximum allowable power	1.45	2.69	3.47	4.02	5.38	13.06	13.9	28.5	62
普通比(P)总效率% Total efficiency of common ratio (p)%	23	21	23	21	19	18	15	13	12
慢速比(M)总效率% Total efficiency of slow-speed ratio (M)%	14	12	15	13	11	11	11	10	8
润滑油量 Kg Lubricant quantity	0.1	0.25	0.5	0.75	1.1	1.9	2.2	2.5	2.5
不加行程的重量 (Kg) Weight without travel added	7.3	16.2	25	36	70.5	87	420	1010	1350
丝杆每100mm的重量 (Kg) Weight of screw per 100 mm	0.45	0.82	1.67	2.15	4.15	5.20	7.45	13.6	17.3

注 1 最大许用功率是在环境温度20℃, 工作连续率为20%/h的条件下的参数。

2 总功率为普通润滑条件下的参数。

3 工作环境温度为-20℃~80℃。

4 在静止状态一般可以自锁。

Note: 1. Maximum allowable power is a parameter applicable for the condition that ambient temperature is 20°C and service continuity rate is 20%/h.

2. Total power is a parameter applicable for grease lubrication.

3. Ambient temperature for service.

4. Usually self-lock may function at static status.

丝杆传动的许用起升速度、扭矩和功率按表4~表13。

The allowable temperature rise, torsion and efficiency of the worm driving are listed in Chart 4 to Chart 13.

(SWL2.5)

表(Table)4

Table 4: Performance data for SWL2.5 worm gear screw jack. Columns include worm speed, hoisting force (1, 2.5, 5, 10, 15, 20, 25 KN), and torque/power values in N.m, kW, Nm, and KW.

(SWL5)

表(Table)5

Table 5: Performance data for SWL5 worm gear screw jack. Columns include worm speed, hoisting force (2.5, 5, 10, 20, 30, 40, 50 KN), and torque/power values in N.m, kW, Nm, and KW.

(SWL10)

表(Table)6

Table 6: Performance data for SWL10 worm gear screw jack. Columns include worm speed, hoisting force (5, 10, 20, 30, 40, 50, 80, 100 KN), and torque/power values in N.m, kW, Nm, and KW.

(SWL15)

表(Table)7

Table 7: Performance data for SWL15 worm gear screw jack. Columns include worm speed, hoisting force (10, 20, 30, 40, 60, 80, 100, 150 KN), and torque/power values in N.m, kW, Nm, and KW.

(SWL20)

表(Table)8

Table 8: Performance data for SWL20 worm gear screw jack. Columns include worm speed, hoisting force (25, 50, 75, 100, 160, 200 KN), and torque/power values in N.m, kW, Nm, and KW.

(SWL25)

表(Table)9

Table 9: Performance data for SWL25 worm gear screw jack. Columns include worm speed, hoisting force (50, 75, 100, 120, 150, 200, 250 KN), and torque/power values in N.m, kW, Nm, and KW.

(SWL35)

表(Table)10

Table 10: Performance data for SWL35 worm gear screw jack. Columns include worm speed, hoisting force (50, 100, 150, 200, 250, 300, 350 KN), and torque/power values in N.m, kW, Nm, and KW.

(SWL50)

表(Table)11

Table 11: Performance data for SWL50 worm gear screw jack. Columns include worm speed, hoisting force (100, 200, 300, 350, 400, 450, 500 KN), and torque/power values in N.m, kW, Nm, and KW.

(SWL100)

表(Table)12

蜗杆转速 Worm speed r/min	起升速度 Hoisting speed m/min		起升力 hoisting force /kN																											
			1000		800		600		500		400		300		200															
			P	M	P	M	P	M	P	M	P	M	P	M	P	M	P	M												
1000	1.566	0.909	1928	203	1012	106	1747	183	915	96	1554	162	813	85	1308	142	711	74	1195	122	611	64	776	81	408	42.6	388	40.6	203	21.3
750	1.169	0.679	1928	152	1012	80	1747	137	915	72	1554	122	813	64	1308	108	711	55	1195	91	611	48	776	61	408	32	388	30.5	203	16
500	0.703	0.319	1928	102	1012	53	1747	91	915	48	1554	81	813	42	1308	71	711	37	1195	61	611	37	776	41	408	21	388	21	203	10.5
400	0.635	0.259	1928	81.4	1012	42.5	1747	73	915	38	1554	65	813	34	1308	58	711	30	1195	48	611	28.5	776	32	408	17	388	16	203	8.5
300	0.478	0.192	1928	61	1012	32	1747	55	915	28.8	1554	49	813	25	1308	43	711	22	1195	36	611	19.2	776	24	408	12.7	388	12	203	6.3
200	0.317	0.128	1928	40.8	1012	21	1747	38	915	19.2	1554	32.5	813	17	1308	28	711	15	1195	24	611	12.8	776	16	408	8.5	388	8	203	4.2
100	0.159	0.064	1928	20.3	1012	10.6	1747	18.2	915	9.6	1554	15	813	8.5	1308	14	711	7.5	1195	12	611	6.4	776	8	408	4.3	388	4	203	2.1
50	0.08	0.032	1928	10.2	1012	5.3	1747	9.1	915	4.8	1554	8	813	4.2	1308	7	711	3.8	1195	6	611	3.2	776	4	408	2.1	388	2	203	1.06

(SWL150)

表(Table)13

蜗杆转速 Worm speed r/min	起升速度 Hoisting speed m/min		起升力 hoisting force /kN																											
			1200		1000		800		600		400		200																	
			P	M	P	M	P	M	P	M	P	M	P	M	P	M														
1000	2.063	0.894	3315	347	1656	173	2792	289	1380	144	2488	260	1242	130	2206	231	1104	115	1657	173	828	86.5	1103	115	551	57.5	551	57.5	276	28.8
750	1.563	0.521	3315	250	1656	130	2792	217	1380	108	2488	196	1242	97	2206	173	1104	86	1657	130	828	66	1103	66	551	43	551	43	276	21.5
500	1.042	0.347	3315	173	1656	87	2792	144	1380	72	2488	130	1242	65	2206	115	1104	57	1657	86	828	48.5	1103	57	551	28.5	551	28.5	276	14.2
400	0.893	0.272	3315	138	1656	69	2792	115	1380	57	2488	104	1242	51	2206	92	1104	46	1657	69	828	34.5	1103	46	551	23	551	23	276	11.5
300	0.625	0.208	3315	104	1656	52	2792	88	1380	42	2488	78	1242	39	2206	69	1104	35	1657	52	828	26	1103	34.5	551	17.5	551	17.5	276	8.7
200	0.417	0.139	3315	69	1656	34	2792	58	1380	28	2488	52	1242	26	2206	48	1104	23	1657	34.5	828	17	1103	23	551	11.5	551	11.5	276	5.7
100	0.209	0.069	3315	34	1656	17	2792	29	1380	14	2488	25	1242	13	2206	23	1104	11.5	1657	17	828	8.5	1103	11.5	551	5.7	551	5.7	276	2.8
50	0.104	0.035	3315	17	1656	8.5	2792	14.5	1380	7	2488	13	1242	6.5	2206	11.5	1104	5.7	1657	8.5	828	4.2	1103	5.7	551	2.8	551	2.8	276	1.4

注：表4-表13中的参数适用于蜗轮速度为20℃，工作持续率为20%或30%/10min的条件下；对粗线型内的参数，使用时蜗杆会产生过热，应予以注意。
Note: Parameters listed in Table 4-Table 13 are applicable for the condition that ambient temperature is 20℃ and service continuity rate is 20%/h or 30%/10min. For those parameters within bold line, screw may overheat during service, so it should be closely monitored.

7. 附录
Attachment

附录A Attachment A (提示的附录 Hanging)

1. 升降机驱动功率的计算
1. Permitted radial force on worm shaft end

A1 驱动功率 A1 driving power

$$P = \frac{F_a \cdot u}{60 \eta}$$

式中：P—驱动功率 Driving power, kW;
F_a—起升力(或拉力) Hoisting force, kN;
u—起升速度, Hoisting speed m/min;
η—传递总效率(见表A1和表A2) Total efficiency of transmission (see Table A1 and Table A2)

A2 驱动扭矩 A2 driving torque

$$M_t = 9550 \times \frac{P}{n}$$

式中：M_t—驱动扭矩 Driving torque, N.m;
P—驱动功率 Driving power, kW;
n—转速 Rotate speed, r/min.

2. 油脂润滑时的总效率 η
2. The final efficiency when thick grease lubrication η

表(Table) A1

型号 Type	SWL											
	2.5	2.5M	5	5M	10/15	10M/15M	20	20M	25	25M	35	35M
η	0.23	0.14	0.21	0.12	0.23	0.15	0.21	0.13	0.19	0.11	0.18	0.11

3. 蜗杆副采用稀油润滑时的总效率 η (仅用于2型)
3. The final efficiency when thin grease lubrication on worm (only for model 2)

表(Table) A2

蜗杆转速 Worm speed r/min	型号 Type SWL											
	2.5	2.5M	5	5M	10/15	10M/15M	20	20M	25	25M	35	35M
1500	0.283	0.214	0.257	0.188	0.290	0.236	0.273	0.275	0.262	0.210	0.248	0.204
1000	0.279	0.206	0.252	0.180	0.285	0.227	0.268	0.217	0.257	0.200	0.243	0.195
750	0.276	0.201	0.249	0.175	0.282	0.222	0.266	0.212	0.253	0.194	0.240	0.189
500	0.272	0.194	0.245	0.168	0.277	0.215	0.262	0.205	0.249	0.187	0.236	0.183
300	0.267	0.187	0.241	0.161	0.272	0.207	0.257	0.198	0.243	0.179	0.231	0.175
100	0.257	0.172	0.231	0.148	0.261	0.191	0.247	0.183	0.233	0.164	0.222	0.160
50	0.251	0.164	0.225	0.138	0.255	0.183	0.242	0.175	0.226	0.155	0.216	0.152

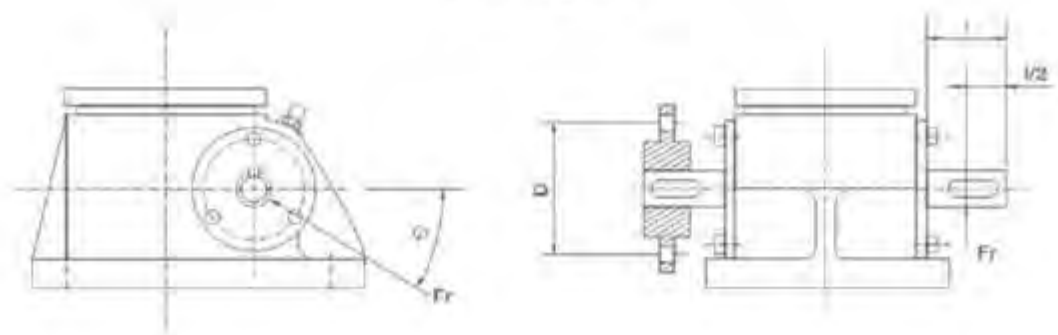
附录B Attachment B (提示的附录 Hanging)

蜗杆轴伸的许可径向力
Calculation of the lifer efficiency

B1 蜗杆轴伸上，由于安装齿轮、链轮或带轮所产生的径向力F₁，其最大许用力与起升力和型号有关。在1/2处所许用的最大径向力和扭矩见图B1和表B1。

B1 As gear, chain wheel and pulley are mounted on worm shaft end, it makes radial force F₁. The maximum allowable force is depend on lifting force and model. The maximum allowable radial force and torsion at 1/2 position are shown in Fig B1 and B2.

图B1 Figure B1



表(Table) B1

型号 Type	F_{max} N	M_{max} N.m
SWL2.5/2.5M	350	18
SWL5/5M	750	44.2
SWL10/10M/15/15M	1000	108
SWL20/20M	1300	182
SWL25/25M	2000	314
SWL35/35M	2300	398

注: 表中参数是按 $v=90^\circ$ 或 330° 计算的。 Note: Parameters listed in the table are calculated according to the temperature of 30°C or 330°C .

B2 齿轮或带轮的最小直径。
B2 The minimum diameter of gear and pulley.

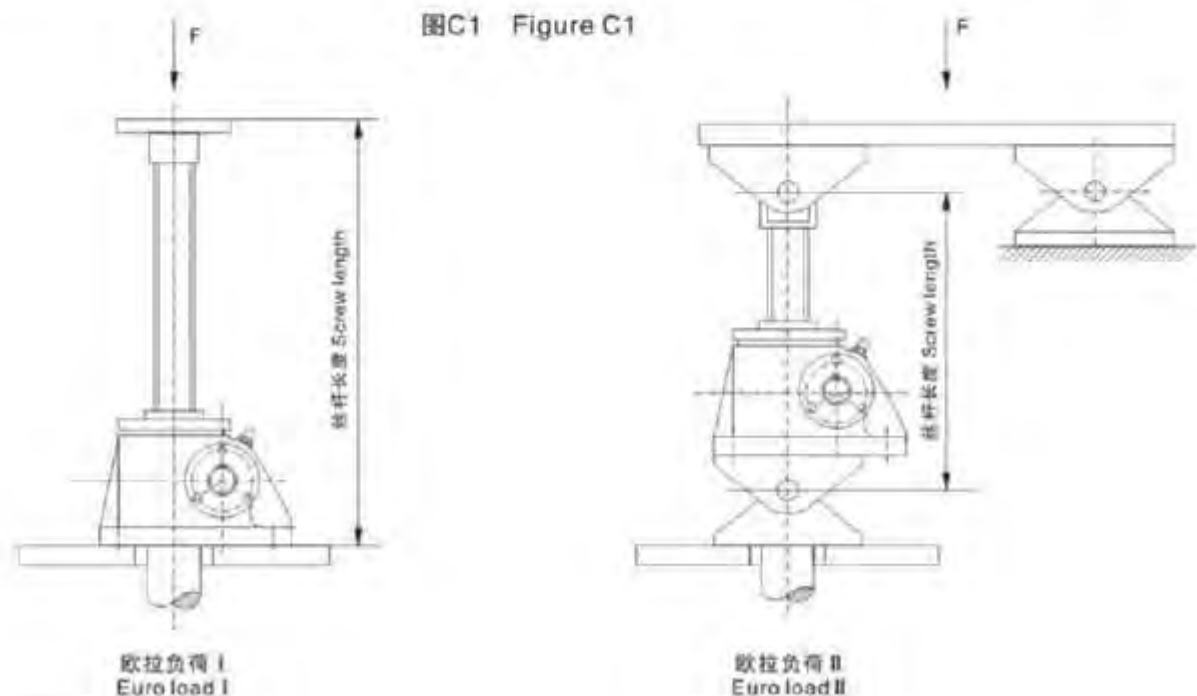
$$D_{min} = 19100 \times \frac{P}{F_{max} \cdot n} = \frac{2M_i}{F_{max}}$$

式中: D_{min} —齿轮或带轮的最小直径 Minimum diameter of gear wheel or belt wheel, m;
P—驱动功率 Driving power, kW;
 F_{max} —最大径向力 Maximum radial force, N;
n—蜗杆转速 Worm screw speed, r/min;
 M_i —驱动扭矩 Driving torque, N.m.

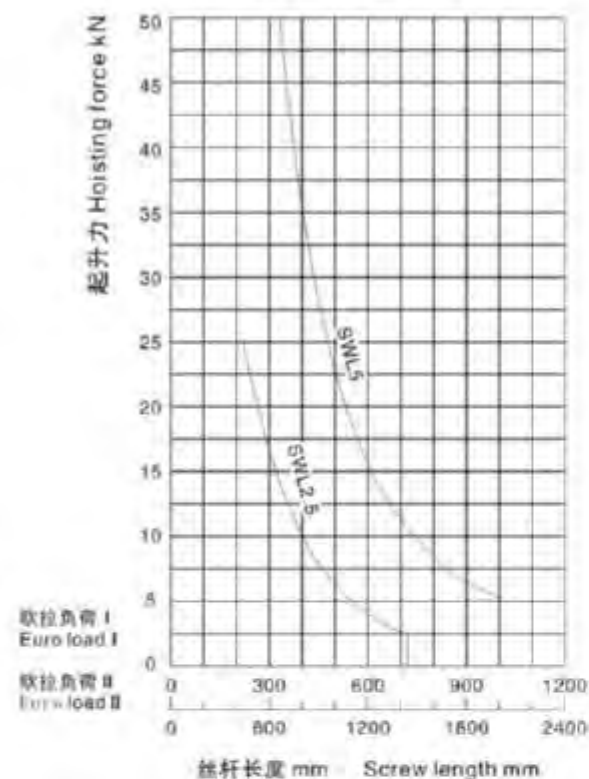
附录C Attachment C (提示的附录 Hanging)

丝杆长度与极限负荷的关系
The relation of worm length and loading limit

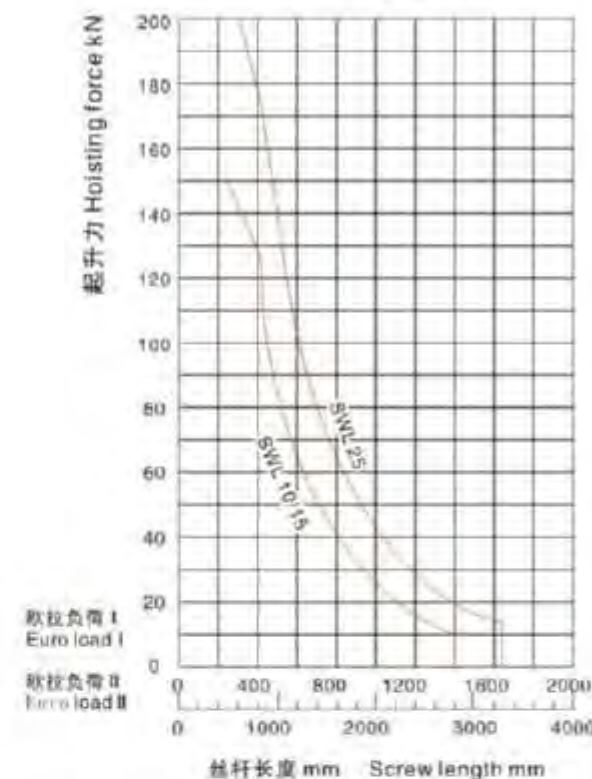
在欧拉负荷I和II情况下, 丝杆长度与极限负荷的关系见图C1~图C4。
Under condition of load I and II, the relation of worm length and load limit is shown in Chart C1 to chart C4.



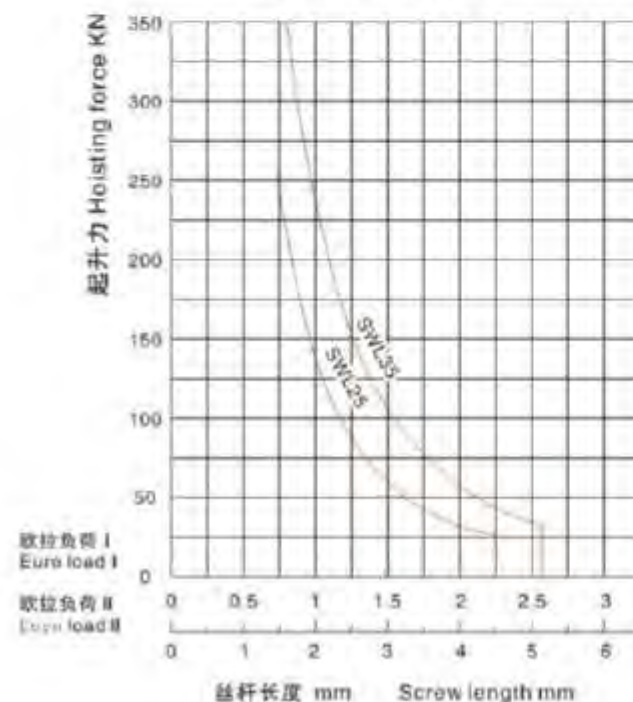
图C2 Figure C2



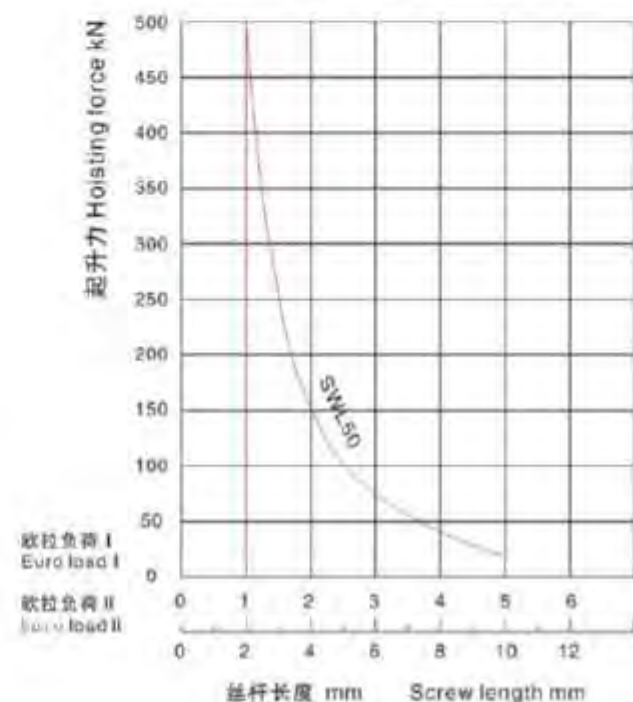
图C3 Figure C3



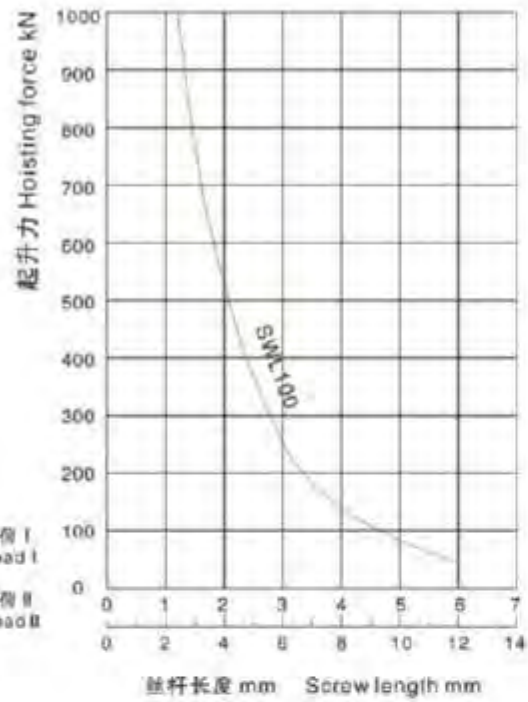
图C4 Figure C4



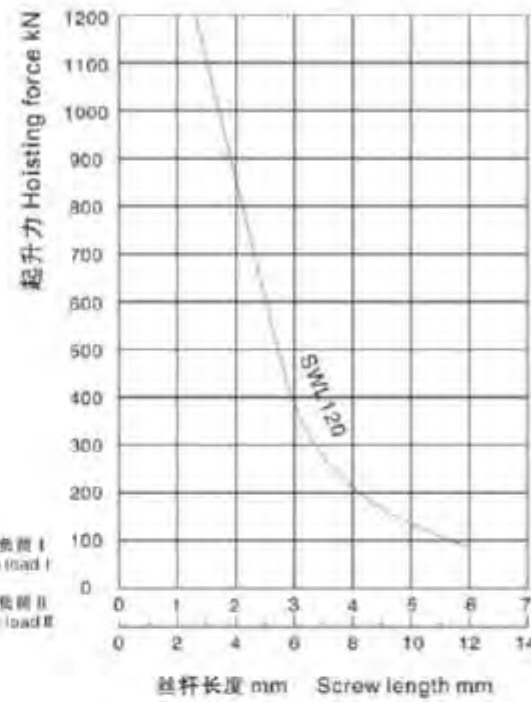
图C5 Figure C5



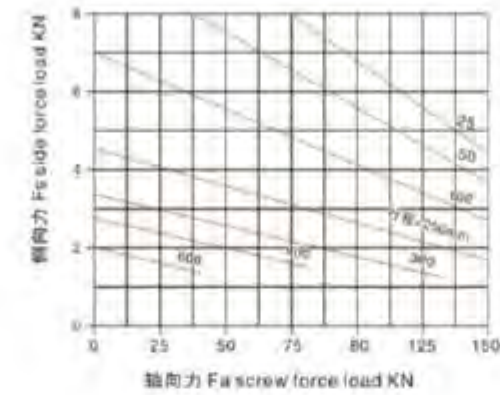
图C6 Figure C6



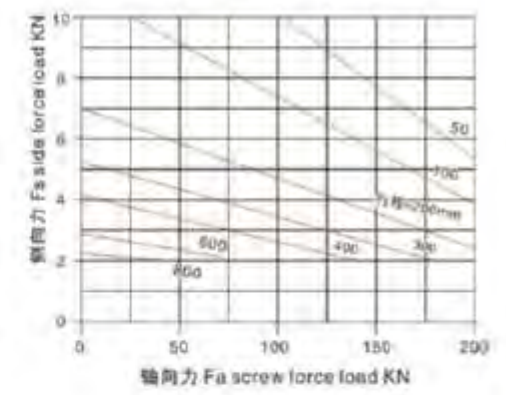
图C7 Figure C7



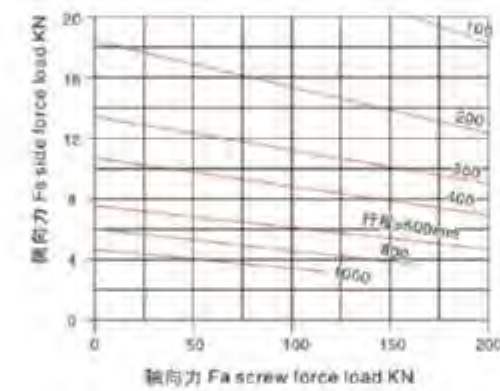
图D4 Figure D4 SWL10/15



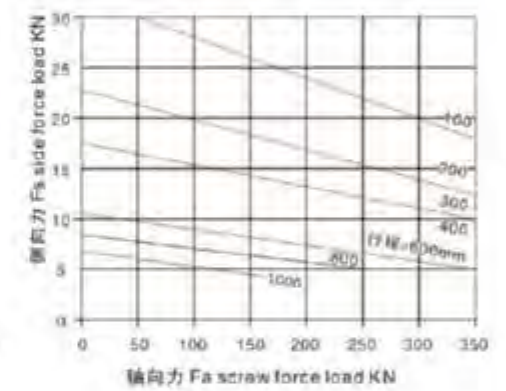
图D5 Figure D5 SWL20



图D6 Figure D6 SWL25



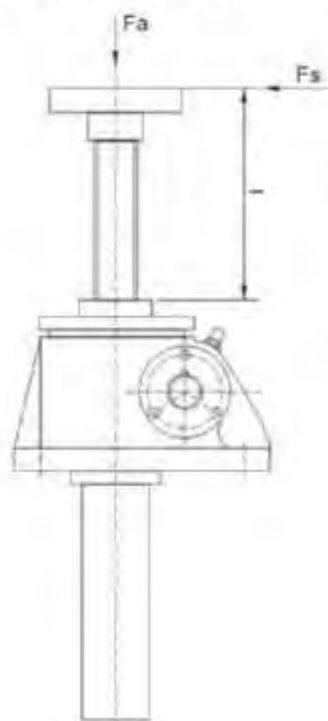
图D7 Figure D7 SWL35



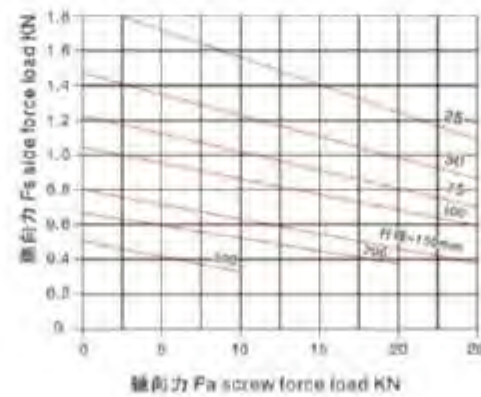
附录D Attachment D (提示的附录 Hanging)

丝杆许用侧向力 F_s ，和轴向力 F_a 与行程的关系
The relation of worm allowable side force F_s axial force F_a and moving distance

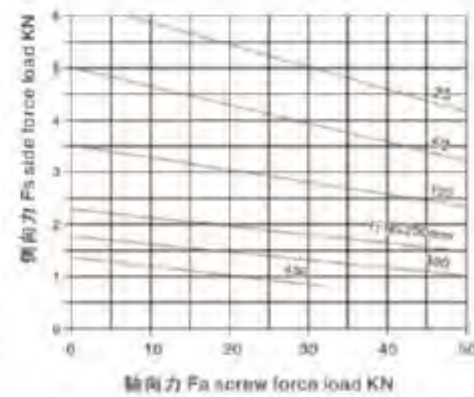
图D1 Figure D1



图D2 Figure D2 AWL2.5



图D3 Figure D3 SWL5



附录E Attachment E (提示的附录 Hanging)

工作持续率与环境温度的关系
The relation of duration and environment temperature

工作持续率与环境温度的关系见表E1。
环境温度超过40℃时，应考虑减小工作持续率。
Chart E1 tells the relation between working duration and environment temperature .
When environment temperature exceeds 40℃, the working duration should be reduced.

表(Table) E1

环境温度 °C Ambient temperature °C	50	60	70	80
许用最大工作持续率 Maximum allowable service continuity rate %/h	18	15	10	5
许用最大工作持续率 Maximum allowable service continuity rate %/10min	36	30	20	10

JW系列丝杆升降机 JW series screw jack

1. 产品图片 Picture of products



2. JW丝杆升降机概述 Product overview

2.1 JWM型(梯形丝杆型)

低速、低频率

JWM型(梯形丝杆型)适用于低速、低频率的场合,主要构成部件为:精密梯形丝杆副与高精度蜗轮蜗杆副。

- 1) 经济: 结构紧凑、操作简单、保养方便。
- 2) 低速、低频率: 主要用于大负荷、低速与无需频繁工作的场所。
- 3) 保持载重: 梯形丝杆具有自动锁定功能, 即使没有制动装置也可保持载重。
* 在受到较大振动, 冲击载荷时, 可能会使自锁功能失效, 此时请外加制动装置。

2.1 JWM (Trapezoid screw)

LOW SPEED, LOW FREQUENCY

JWM (trapezoidal screw) is suitable for low speed and low frequency. Main components: Precision trapezoid screw pair and high precision worm-gears pair.

- 1) Saving: Compact structure, simple operation, convenient servicing.
- 2) Low speed, low frequency: Be suitable for heavy load, low speed, low service frequency.
- 3) Holding load: Trapezoid guide screw has self-locking ability, it can hold up load without the arresting device.
* The arresting device must be added when its self-locking function is lost because of great shock or impact load.

2.2 JWB型(普通滚珠丝杆型)

高速、高频率

JWB型(普通滚珠丝杆型), 适用于高速、高频率和高性能的装置中, 主要构成部件为精密滚珠丝杆副与高精度蜗轮蜗杆副。

- 1) 高效率: 只需很小的驱动力, 就可以产生很大的推动力。
- 2) 高速化: 与梯形丝杆相比, 速度有很大的提高, 能轻松而高速地运转。
- 3) 使用寿命长: 采用高质量的滚珠丝杆, 使其工作寿命提高3倍以上。

2.2 JWB (General ball screw)

HIGH SPEED, HIGH FREQUENCY

JWB (General ball screw) is suitable for high speed, high frequency and excellent performance. Main components: Precision ball screw pair and high precision worm-gears pair.

- 1) High efficiency: Rolling friction improve efficiency greatly, only a little drive power can generate great thrust force.
- 2) High speed: Rolling friction speed up travel of screw easily.
- 3) Lifetime longer: Its service life can be more than three times longer than others by adopting high quality ball screw.

注: 本身无自锁功能, 需外加制动装置或选择带有制动的驱动源。

Note: It hasn't self-locking ability, need to add the arresting device or the drive power has arresting device.

2.3 机器装配形状、特点 Assembly type and features

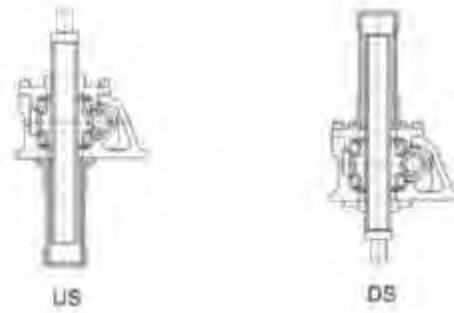
基本形式 (US、DS)

螺母转动，丝杆上下移动并伴随附加的旋转运动，(如下图):

US: 上押 DS: 吊下

*请根据载荷方向、安装方向来选择合适的升降机(US或DS)。

*丝杆轴在升降时，会产生旋转力，所以必须做好防止旋转措施。



Plain mode (US、DS)

Worm wheel rotating, threaded spindles travel up and down
Ordinary mounting mode is applied here.

US: UPRISE DS: DROP

*Select US or DS according to the load and mounting positions.

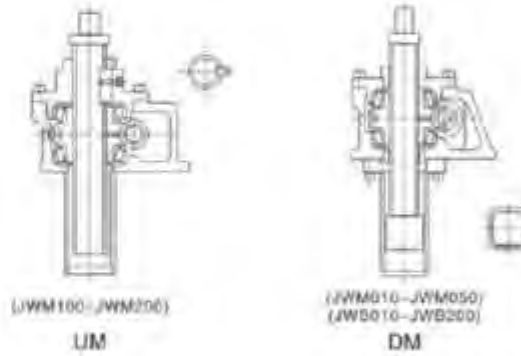
*Anti-rotation measures must be taken because torque on screw will be caused when screw traveling up and down.

止旋构造(UM、DM)

UM: 押上 DM: 吊下

*丝杆只能上下移动

*请根据载荷方向、安装方向来选择合适的升降机(UM或DM)



With Anti-rotation device (UM、DM)

UM: UPRISE DM: DROP

* No rotation of screw, which only travel up and down.

*Select UM or DM according to the load and mounting positions.

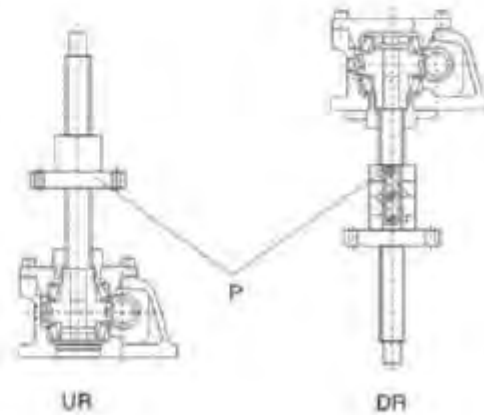
活动螺母构造 (UR、DR)

一般情况下，升降机必须具有因丝杆轴的升降而产生的行程和丝杆罩所需的空间，若想在有限的空间内增长行程时，使用此活动螺母构造非常适应（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，可以一以得到很好的传动效果。

UR: 押上 DR: 吊下

请根据载荷方向、安装方向来选择合适的升降机(押上或吊下)。

选型和型号表示方法中，还需注明螺母的放置方向。



Moveable nut configuration(UR、DR)

In general, Jack need enough space for screw's traveling journey and dust-hood. Using traveling nut can help jack realize longer traveling journey in limited space. The top end fittings are column, it can be a supporting point for a good transmission effect when a long traveling journey is selected.

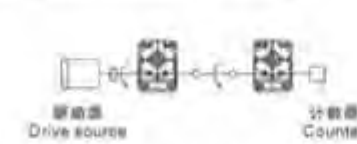
UR: UPRISE DR: DROP

Select UR or DR according to the load and mounting positions.

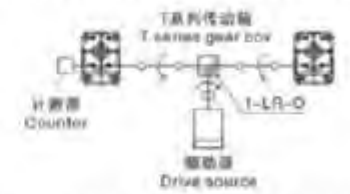
3. 应用示例
Application example

两台连动 Two gear boxes linking:

直线型
Line type

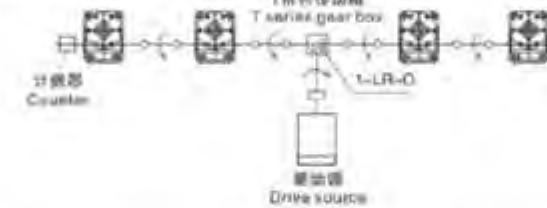


T型
T type

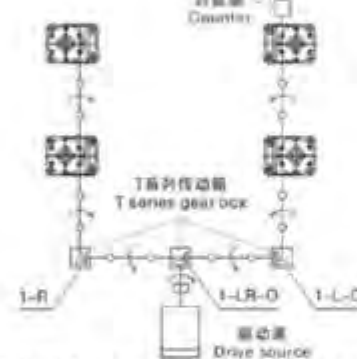


四台连动 Four gear boxes linking:

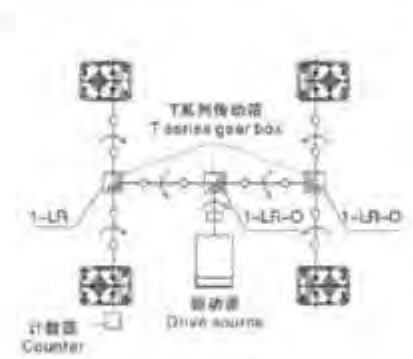
T型
T type



U型
U type

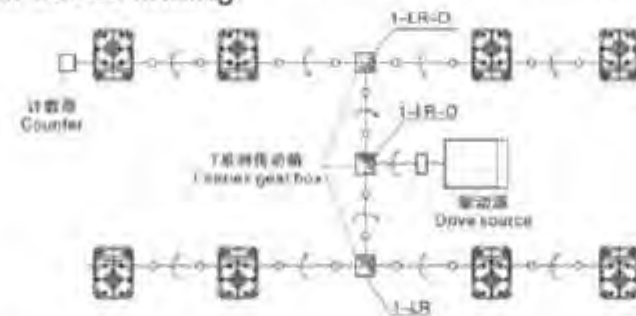


H型
H type

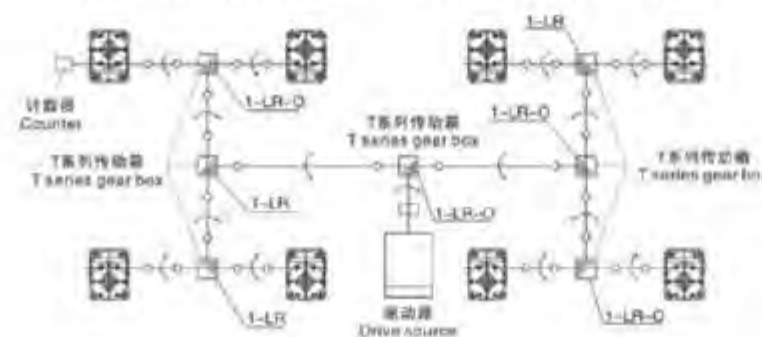


八台连动 Eight gear boxes linking:

H发展型
H development type



2H型
2H type



4. 型号说明
Model introduction



5. 基本参数
Basic parameter

5.1 JWM(梯形丝杆类型)基本参数 JWM (Trapezoid screw) basic parameter

型号 Type	JWM02	JWM03	JWM10	JWM25	JWM50	JWM100	JWM150	JWM200	JWM300	JWM500	JWM750	JWM1000
最大载荷(kN) Maximal load	1.95	4.90	9.80	24.5	49.0	98.0	147	196	294	490	735	980
丝杆外径(mm) Outer diameter of screw	12	16	20	26	40	50	55	65	85	120	130	150
丝杆内径(mm) Small diameter of screw	8.5	10.5	14.8	19.7	30.5	38.4	43.4	51.3	67	102	112	127
丝杆螺距(mm) Pitch of screw	3	4	4	5	8	10	10	12	16	16	18	20
减速比(i) Ratio	H速度 Speed	5	5	5	6	6	6	6	10 ^{2/3}	10 ^{2/3}	10 ^{2/3}	12
	L速度 Speed	20	20	20	24	24	24	24	32	32	32	36
综合效率 % Integrated efficiency	H速度 Speed	26	26	21	21	22	22	20	19	15	13	13
	L速度 Speed	15	15	12	12	14	15	14	13	11	10	8
允许输入最大功率(kW) Permissible output maximal power	H速度 Speed	0.16	0.39	0.49	1.0	2.0	2.8	3.1	5.0	8.4	14.4	21.4
	L速度 Speed	0.08	0.18	0.36	0.46	0.63	1.4	2.2	3.2	4.6	7.2	9.4
空载扭矩(N.m) No-load torque	0.11	0.11	0.29	0.62	1.4	2.0	2.6	3.9	9.8	19.8	29.4	39.2
允许输入轴扭矩(N.m)* Permissible torque of input shaft	9.8	9.8	19.6	49.0	153.9	292.0	292.0	292.0	735.0	1372.0	1784.0	2450.0
最大载荷时所需输入轴扭矩(N.m)** Required torque of input shaft at maximal load	H速度 Speed	0.83	2.5	6.2	16.1	48.7	90.7	149.0	238.1	400.1	856.0	2040.8
	L速度 Speed	0.42	1.1	2.9	7.4	20.0	45.3	72.3	124.0	244.0	453.3	1278.3
输入轴每回转一圈丝杆(滚动螺母)轴向位移量(mm) Axial journey of screw when input shaft rotate a circle	H速度 Speed	0.60	0.80	0.60	0.83	1.33	1.25	1.25	1.50	1.50	1.50	1.67
	L速度 Speed	0.15	0.20	0.20	0.21	0.33	0.42	0.42	0.50	0.50	0.50	0.58
最大载荷时允许输入轴转速(rpm) Permissible rotational speed of screw shaft at maximal load	H速度 Speed	1800	1500	750	600	400	300	200	200	150	100	100
	L速度 Speed	1800	1500	1200	600	300	300	290	250	180	120	70
最大载荷时丝杆回转扭矩(N.m) Rotational torque of screw at maximal load	2.8	8.8	20.1	65.1	201.5	503.8	813.2	1287.7	2531.9	5551.3	8921.8	13878.3

*减速器输入轴的允许扭矩(滚动丝杆时请确认)
**包括无负载空转扭矩的数据。

* Permission torque of shaft of reducer.
** Include torque under the condition of no-load operating.

5.2 JWB(普通滚珠丝杆)基本参数 JWB (General ball screw) basic parameter

型号 Type	JWB005	JWB010	JWB025	JWB050	JWB100	JWB150	JWB200	JWB300	JWB500
最大载荷(kN) Maximal load	4.90	9.80	24.5	49.0	99.0	147	196	294	490
丝杆外径(mm) Outer diameter of screw	16	20	25	36	45	50	63	85	100
丝杆内径(mm) Small diameter of screw	13.5	17.5	21.4	31.3	39.1	43.1	55.7	74.8	87
丝杆螺距(mm) Pitch of screw	5	5	8	10	12	16	16	20	24
减速比(i) Ratio	H速度 Speed	5	5	6	6	6	8	8	10 ^{2/3}
	L速度 Speed	20	20	24	24	24	24	24	32
综合效率 % Integrated efficiency	H速度 Speed	63	61	62	64	63	63	62	56
	L速度 Speed	37	34	35	39	43	43	41	34
允许输入最大功率(kW) Permissible output maximal power	H速度 Speed	0.25	0.54	1.3	2.2	3.6	4.0	5.5	8.9
	L速度 Speed	0.12	0.27	0.63	1.0	1.9	2.1	2.8	4.1
空载扭矩(N.m) No-load torque	0.11	0.29	0.62	1.37	1.98	2.65	3.92	9.81	19.8
保持扭矩(N.m) Holding torque	H速度 Speed	0.89	1.27	4.31	10.78	19.6	39.2	51.0	68.6
	L速度 Speed	0.14	0.36	0.91	3.4	5.8	11.8	15.0	19.5
允许输入轴扭矩(N.m)* Permissible torque of input shaft	9.8	19.6	49.0	153.9	292.0	292.0	292.0	735.0	1372.0
最大载荷时所需输入轴扭矩(N.m)** Required torque of input shaft at maximal load	H速度 Speed	1.3	2.8	9.0	21.5	39.1	77.0	104.5	169.6
	L速度 Speed	0.62	1.4	4.3	9.8	20.4	39.6	54.2	98.5
输入轴每回转一圈丝杆(滚动螺母)轴向位移量(mm) Axial displacement of screw when input shaft rotate a circle	H速度 Speed	1	1	1.33	1.67	1.5	2	2	1.88
	L速度 Speed	0.25	0.25	0.33	0.42	0.5	0.67	0.67	0.63
最大载荷时允许输入轴转速(rpm) Permissible rotational speed of screw shaft at maximal load	H速度 Speed	1500	1500	1400	1000	890	500	500	400
	L速度 Speed	1500	1500	1400	1000	890	500	500	350
最大载荷时丝杆回转扭矩(N.m) Rotational torque of screw at maximal load	4.0	8.7	34.3	86.7	208.2	416.3	655.1	1040.9	2081.7

*减速器输入轴的允许扭矩(滚动丝杆时请确认)
**包括无负载空转扭矩的数据。

* Expression torque of shaft of reducer
** Include torque under the condition of no-load operating.

6. 注意事项
Cautions

- 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。
Select a Jack with sufficient capacity according to safety factor, service journey and stability. And stationary load, Dynamic load and shock load must be lower than permissible maximum load.
- 一定要注意丝杆轴转速与承受的载荷进行搭配, 对升降机的允许最大载荷、允许外加负载、允许丝杆轴的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。
Please note that rotation speed of screw must match load, permissible maximum load, permissible maximum outer load, and permissible rotation speed of screw must be verified. If these figures exceed that of products, jacks will be damaged greatly.
- 升降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。
The surface temperature will be limited in -15℃-80℃ when jack working to ensure the temperature of traveling nuts in -15℃-80℃.
- 输入轴允许转速为1500r/min, 输入轴不得超过此转速。
Maximum input speed is 1500r/min.
- JWM和JWB都不可连续运转。

单台升降机的负荷时间率(%ED)以30分为单位计算, JWM (梯形丝杆-类型) 的负荷时间率不得超过20%ED, JWB (普通滚珠丝杆) 的负荷时间率不得超过20%ED。

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

JWM and JWB aren't suitable for continuous operation Jack Duty(%ED),
JWM duty(%ED) cannot exceed 20%ED,
JWB duty(%ED) cannot exceed 30%ED.

$$\text{Duty \%ED} = \frac{\text{Jack operating time(lift \& lower cycle)}}{\text{Elapsed cycle time}} \times 100\%$$

6.6 对于在同一轴线上连接数台升降机时, 请务必对输入轴速度进行校核, 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。

When several Jacks are connected on the same axial line, the loaded torque with each Jack must be verified and limited within permissible input torque.

6.7 驱动源的起动扭矩应确保在使用扭矩的200%以上。

Starting torque must be 200% of service torque.

6.8 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。

At below 0°C ambient temperature, changed adhesion of lubrication will lower Jack's efficiency so that sufficient drive is necessary. 6.9 JWM型理论上具有自锁功能, 但工作在振动冲击较大的场合时会导致自锁功能失灵, 因此须外加一制动装置或选

择带有制动的驱动源。

JWB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的自重而产生逆转, 必须外加制动装置或选择带有制动的驱动源, 请确保制动扭矩大于保持扭矩。

JWM has self-lock function, but an Extra braking device or drive source with braking device is necessary to be equipped because self-lock will be of mal-function when Jack is loaded a heavy shock.

JWB has no self-lock function, to avoid backspin of screw under axial load and its weight, a braking device or drive source with braking device is necessary to be equipped and braking torque must be larger than operating torque of Jack.

6.10 升降机使用的环境如下:

Jack's operating conditions

使用场所 Working Location	室内无雨水侵入的场所 Tndoor location without rainwater
周围空气 Ambient Air	灰尘为一般工厂状态 Normal
环境温度 Ambient Temperature	-15℃~40℃
相对湿度 Relative Humidity	85%以下 Less than 85%

6.11 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。

When working in dusty space, Jack must be equipped with elastic dust-hood on screw; in open air, shield must be equipped to prevent exposure to wind and rain.

6.12 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坏。

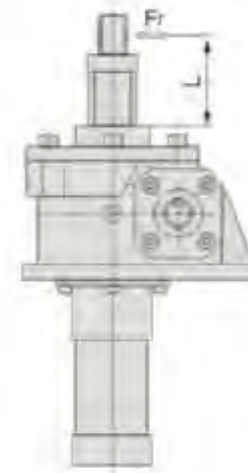
When working, Jack cannot be forced to stop, or will be damaged seriously.

6.13 在有负载的情况下, 请不要将JWB型的输入轴驱动方式变为手动操作, 负载有可能会造成输入轴旋转非常危险。

Under load, don't change motor drive mode into manual drive, or which will cause backspin of screw and cause Great danger.

7. 许用横向载荷及校验 Permitted radial load and verify

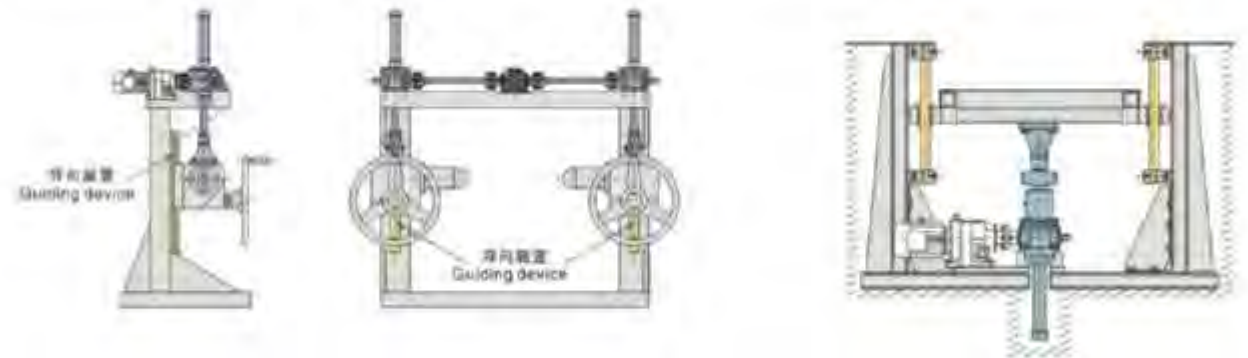
7.1 JWM许用横向载荷 Permitted radial load Fr (N)



Fr(N) Type L(mm)	002	005	010	025	050	100	150	200	300	500	750	1000
100	83	128	318	570	2500	4010	4610	8210	38200	85300	73500	186200
200	42	64	159	290	1250	2010	2300	4110	23000	50400	56800	145000
300	28	43	106	190	830	1340	1540	2740	15300	33600	46100	104700
400	21	32	79	140	620	1000	1150	2050	11400	25200	39300	78500
500	27	64	64	110	500	800	920	1640	9100	20200	33900	
600	25	53	53	100	420	670	770	1370	7600	16800	29900	
700	23	51	51	90	360	570	660	1170	6500	14400	26700	
800	21	48	48	90	310	500	580	1030	5700	12600	24100	
900		45	45	90	280	450	510	910	5000	11200	22000	
1000		42	42	90	250	400	460	820	4500	10100	20200	

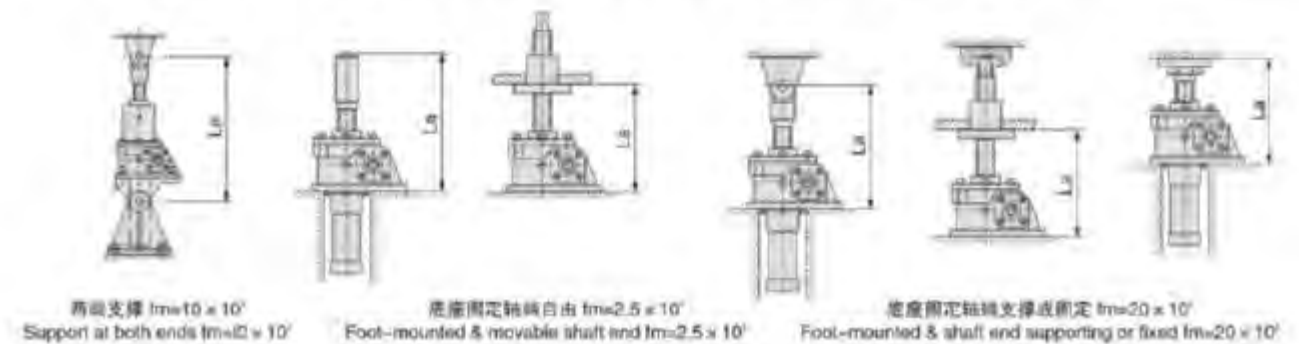
7.2 JWB或JWM超过许用横向载荷时, 请外加导向装置, 举例如下:

When operating radial load exceeds critical radial load, please add guiding device, for example.



7.3 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:

Verifying the stability of screw, the values of La and fm as follows.



7.4 丝杆轴转速校核时, Lb(Lb值计算根据各型号尺寸)与fn(长度系数)选取如下:
Verifying the rotation speed of screw, the values of Lb and fn as follows.



8. 选型方法
How to select type

8.1 升降机型号的确定 Type confirmation

1) 计算总机的当量载荷Ws(N) Calculate total equivalent loadWs (N)

$$W_s = \text{最大载荷 } W_{max} \times \text{使用系数 } f_1(N) \quad W_s = W_{max} \times f_1(N)$$

被驱动设备系数(f1)表 Service factor for driven machine (f1):

载荷性质 Load character	使用举例 Example	被驱动设备系数 (f1) Factor for driven machine
无冲击载荷, 负荷惯性小 Shockless load & small inertia load	开关、阀门传动带切换装置 Switch, valve transmission belt swithing device	1.0-1.3
轻微冲击载荷, 负荷惯性中等 Moderate shock & moderate inertia	各种移动装置; 升降用各种升降机 All kinds of moving devices, all kinds of elevators	1.3-1.5
大冲击推动载荷, 负荷惯性大 Heavy shock & large inertia	用台车搬运东西; 保持压瓦滚轮的位置 Carrying something by trolley to keep the position of idling gear	1.5-3.0

2) 计算单台升降机的当量载荷W

Calculate equivalent load single lifter W:

$$W_s = \frac{WS}{\text{使用台数} \times \text{连动系数 } f_d} \quad \text{Number} \times \text{Linkage factor } (f_d)$$

连动系数 Linkage factor(f_d):

连动台数 Number of linkage jack	1	2	3	4	5-6
连动系数 Linkage factor	1	0.95	0.9	0.85	0.8

3) 确定升降机型号 Temporarily determine Jack type:

充分考虑载重, 速度, 行程, 效率, 驱动源后暂时选定型号。

Temporarily determine Jack type after taking full consideration of load, speed, journey, efficiency and drive source.

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。

Determine JW type according to service journey, ambient conditions, connection mode of end-fittings.

8.2 输入功率校核 Verify input power:

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。

If required input power under load exceeds permissible maximum input power, please select larger type or lower the speed of screw rotation.

负载所需输入功率计算 Calculation of required input power under load:

输入轴转速 Required rotation speed of input shaft n1 (r/min)	$n_1 = \frac{V}{L_1} \times i$
所需输入轴扭矩 Required torque of input shaft T1 (N.m)	$T_1 = \frac{W \times L_1}{2\pi \times i \times \eta} + T_0$
所需输入功率 Required input power P1 (kW)	$P_1 = \frac{T_1 \times n_1}{9550}$

V: 升降机丝杆轴(活动螺母)升降速度mm/min L1: 丝杆螺距(mm) 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 T0: 空载扭矩(N.m) (L1, i, η, T0参照基本参数表)

V: linear speed of screw mm/min L1: Pitch of screw (mm) i: ratio

W: Equivalent load of single jack π: pi η: integrated efficiency T0: No-load torque (N.m)

(L1, i, η, T0 refer to basic parameter table)

8.3 其他校核项目 Other checking items:

1) 当所选类型为活动螺母类型时, 请对丝杆轴转速进行校核。

2) 当有横向载荷时, 请外加导向器。

3) 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)如图须对各升降机输入轴端进行速度校核。

1) Please check screw shaft rotational speed as the type selected is moveable nut type.

2) Please add the guider when include lateral load.

3) Must check every lifter strength of input shaft side as connection in series as picture.



9. 升降机选择举例
Example

9.1 例: 4台连动脚上用, 结构如下图所示的4台连动模式, 工厂内保持常温, 有少许灰尘, 有横向负荷, 在升降机侧面设置了导向器, 安装状态采用底座固定, 轴端采用一固定一支撑, 电源为三相380V/50Hz, 使用频率为2次/小时 × 8小时。

1) 最大轴向载荷: 88 KN/4台

2) 升降速度: 10mm/s(600mm/min)

3) 使用行程: 260mm

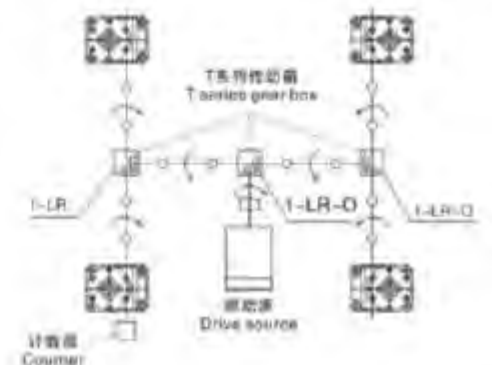
Example: Four Jacks, linked as the following drawing.

normal temperature, thin dust, radial load, with guiding devices on one side, foot-mounted, fixed the screw top-end, 380V/50Hz, service frequency 2cycle/hour × 8 hours.

1) Maximum axial load: 88 KN/4sets

2) Linear speed: 10mm/s (600mm/min)

3) Service journey: 260mm



9.2 升降机型号确定 Determine Jack type:

- 1) 计算总机当量载荷Ws (取被驱动设备系数为1.3) $W_s = W_{max} \cdot f_s = 88200 \times 1.3 = 114660N$
Calculate total equivalent load W_s (Factor for driven machine is 1.3)
- 2) 计算单台当量载荷W
Calculate single equivalent load W : $W = \frac{114660}{4 \times 0.85} = 33724N$
- 3) 暂定型号 Temporarily determine type:
考虑速度、效率、驱动源、载重后暂定选择JWB050USH(参照基本参数表)。
Temporarily determine JWB050USH according to speed, efficiency, drive and Load (refer to basic parameter table).
- 4) 行程校核 Verify Journey:
使用行程为260mm, 充分考虑余量后选定行程为300mm(参照TWBOSOUS尺寸表)。
Service journey is 260mm, determine journey should be 300 after considering surplus.
(Please refer to dimension sheet of JWB050US).
- 5) 输入功率校核 Check input power:
(1) 所需输入功率计算 Calculate required input power:

$$n1 = \frac{V}{L1} \times i = \frac{0.60}{0.010} \times 6 = 360r/min$$

$$T1 = \frac{W \times L1}{2\pi \times i \times \eta} + T0 = \frac{33724 \times 0.010}{2 \times 3.14 \times 6 \times 0.64} + 1.37 = 15.4N.m$$

$$P1 = \frac{T1 \times n1}{9550} = \frac{15.4 \times 360}{9550} = 0.58kW$$

- (2) 参照基本参数表, $P_{max} = 2.2kW > P1 \dots \dots OK$
Refer to basic parameter table, $P_{max} = 2.2kW > P1 \dots \dots OK$

10. 校验
Checkings

10.1 丝杆稳定性校核 Verify the stability of screw:

升降机丝杆临界稳定载荷通过以下公式计算:
The formula to calculate the critical load as follows.

确保 ensure $P_{cs} = fm \times \left(\frac{d^4}{L_a}\right)$
 $P_{cs} > W \times SF (SF=4)$

P_{cs} : 临界载荷(N)
 d : 丝杆直径mm(参照基本参数表)
 fm : 支撑系数
 L_a : 作用点间距离(mm)
 W : 单台升降机当量载荷(N)
 SF : 安全系数(一般SF=4)

P_{cs} : Critical load (N)
 d : Small diameter of screw end (mm) (refer to basic parameter table)
 fm : Support factor
 L_a : Distance between load-supporting point and mounting point as drawing.
 W : Equivalent load of single Jack (N)
 SF : Safety factor (SF=4 as usual)

10.2 容许丝杆轴转速 Safety screw shaft rotational speed

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, 若超出临界转速, 请提高型号再计算。(当升降机工作在速度为H速度、行程为机器的标准行程内各标准的行程见各型号的尺寸图), 当其输入轴转速在900r/min以上是, 或者工作在超过本型号的标准行程使用, 请务必核对其转速。

Must control the screw shaft rotational speed lower than critical speed when select moveable nut type. Please select one grade higher type if the value exceeds the safety speed. Must check the rotational speed if input speed more than 900r/min or exceeds the standard stroke.

$$n_c = \frac{96 \times fn \times d \times 10^6}{L_a^2} \quad n_s = \frac{n1}{i}$$

n : 容许丝杆轴转速 r/min
 d : 丝杆直径mm (参照基本参数表)
 fn : 支撑系数 (参照基本参数表)
 L_a : 支撑间距mm
 n : 丝杆轴转速 r/min
 $n1$: 输入轴回转速度 r/min
 i : 减速比

n_c : Safety screw shaft rotational speed
 d : Small diameter of screw (refer to basic parameter table)
 fn : Length factor (refer to basic parameter table)
 L_a : Distance between both supporting face
 n_c : Rotational speed of screw
 $n1$: Rotational speed of input shaft
 i : Ratio

请确保 Ensure: $n_c > n_s$

计算举例 Example for calculation:

JWM200UR-H1200PI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: $d=51.3$, $L_b=1437$ 。
Take JWM200UR-H1200PI as example, $n1=1200r/min$, connecting mode of top-end-I, we can know $d=51.3$, $L_b=1437$ referring to dimension and transmission capacity table.

$$n_s = \frac{n1}{i} = \frac{1200}{10^{2/3}} = 112.5r/min$$

$$n_c = \frac{96 \times fn \times d \times 10^6}{L_a^2} = \frac{96 \times 1.56 \times 51.3 \times 10^6}{(1437)^2} = 3720r/min$$

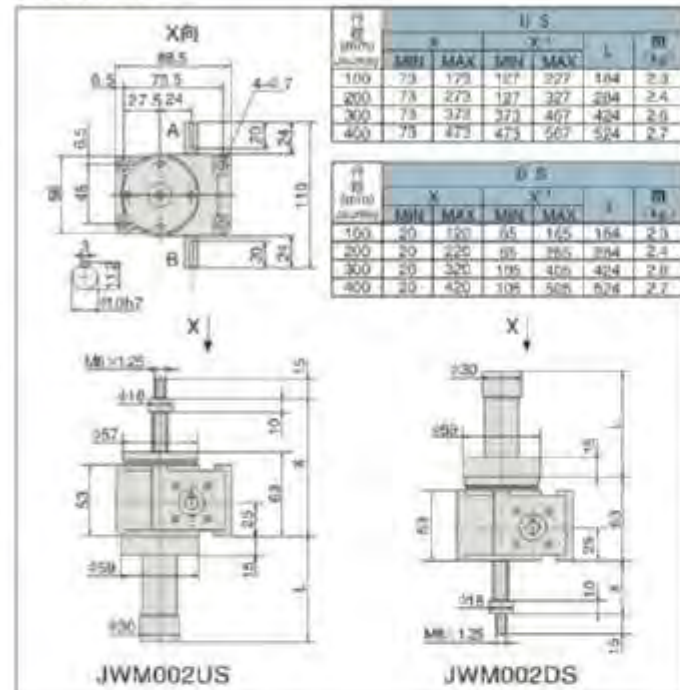
$N_c = 3720r/min > n_s = 112.5r/min \dots \dots OK$

11. JW系列外形尺寸表
JW series outline size chart

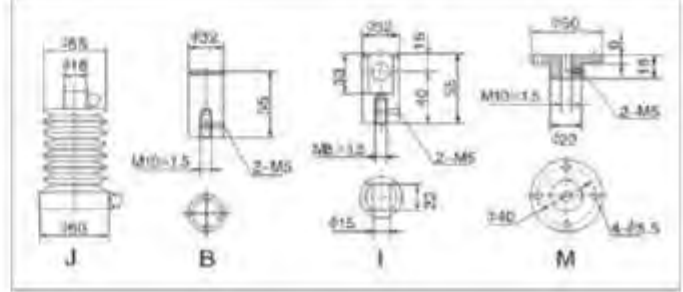
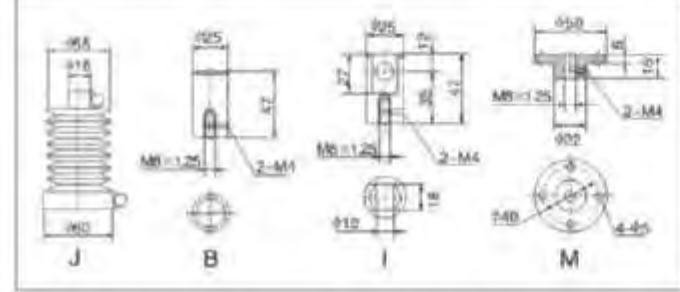
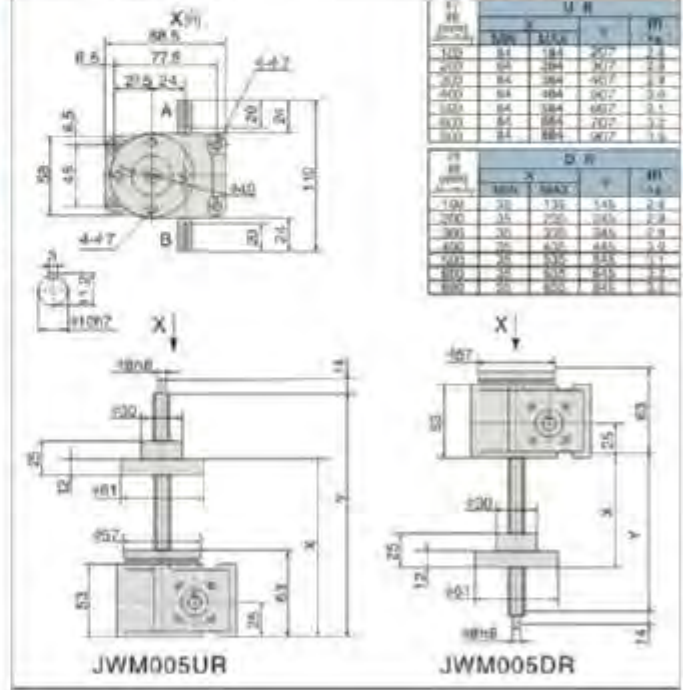
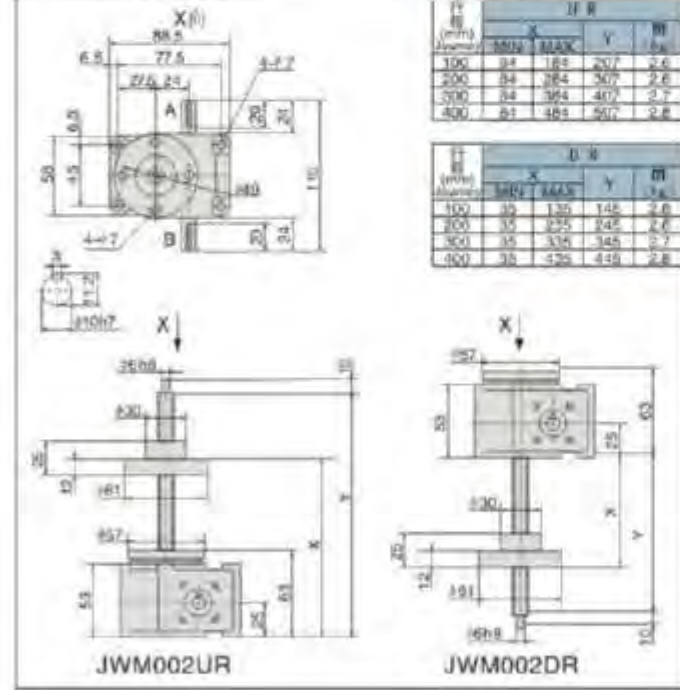
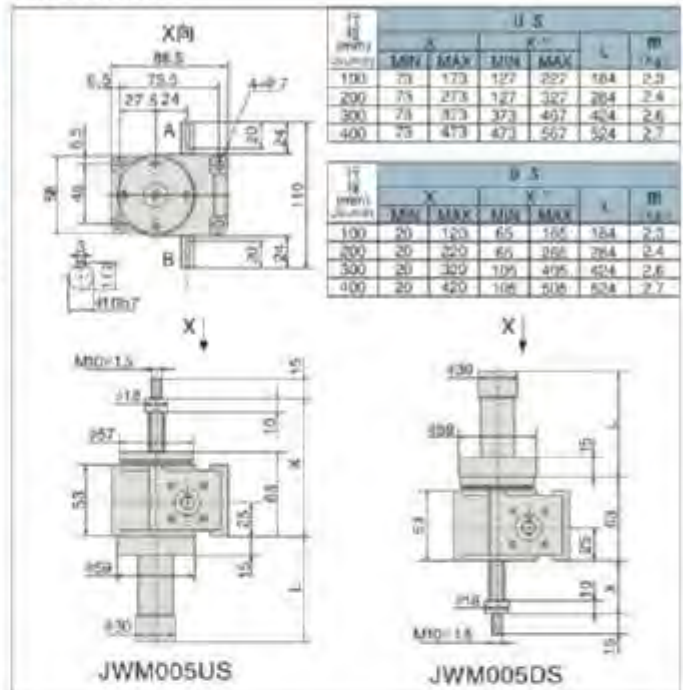
- 备注: 1. JW外形基本相同JWB, 选型时另咨询。
2. UM, DM型结构的基本尺寸与US, DS的基本相同, 选型时另咨询。
3. X⁰⁰为加防尘罩时的尺寸。

Note: 1. Please contact us when select JW and JWB type as their outline is similar.
2. Please contact us when select the type as size of UM/DM and US/DS is similar.
3. X⁰⁰ is the size with dust-proof cover.

JWM002

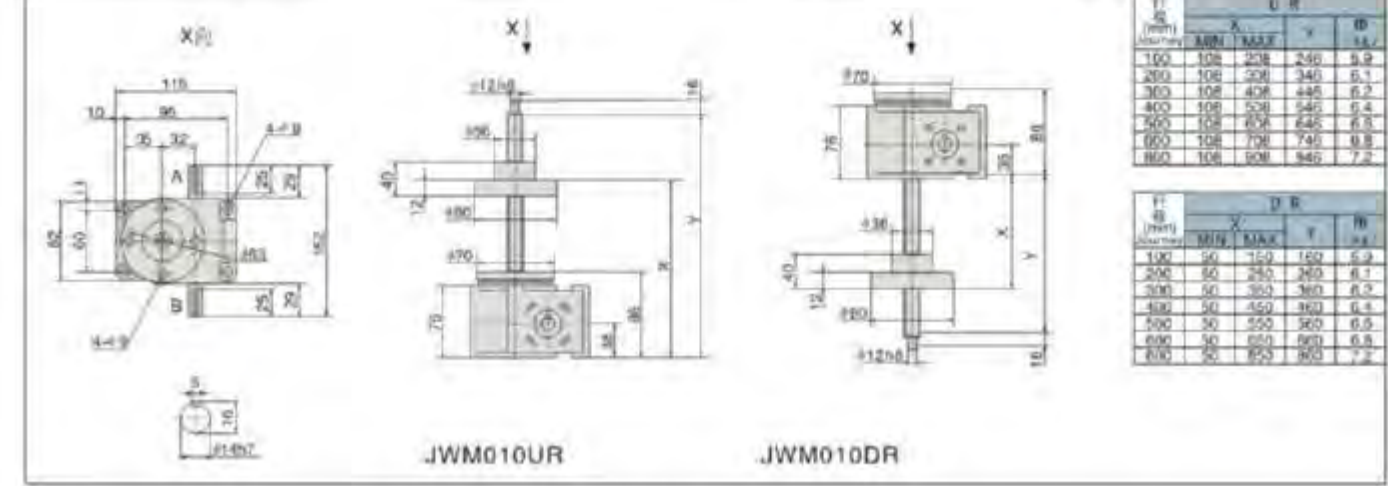
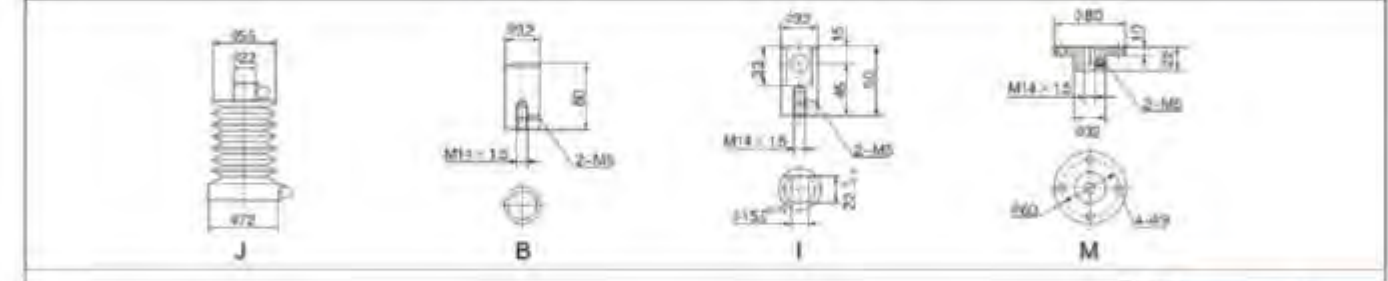
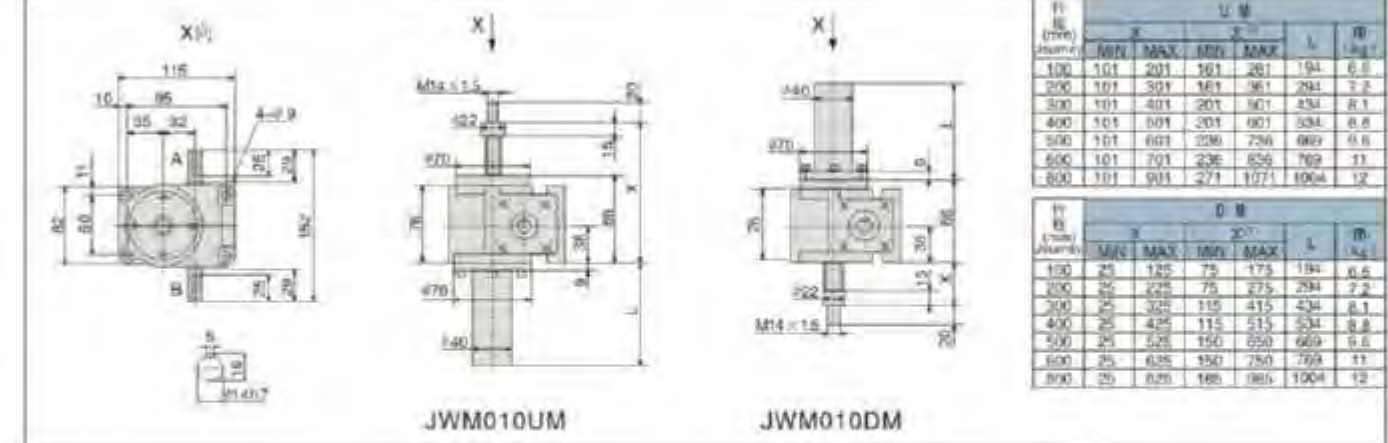
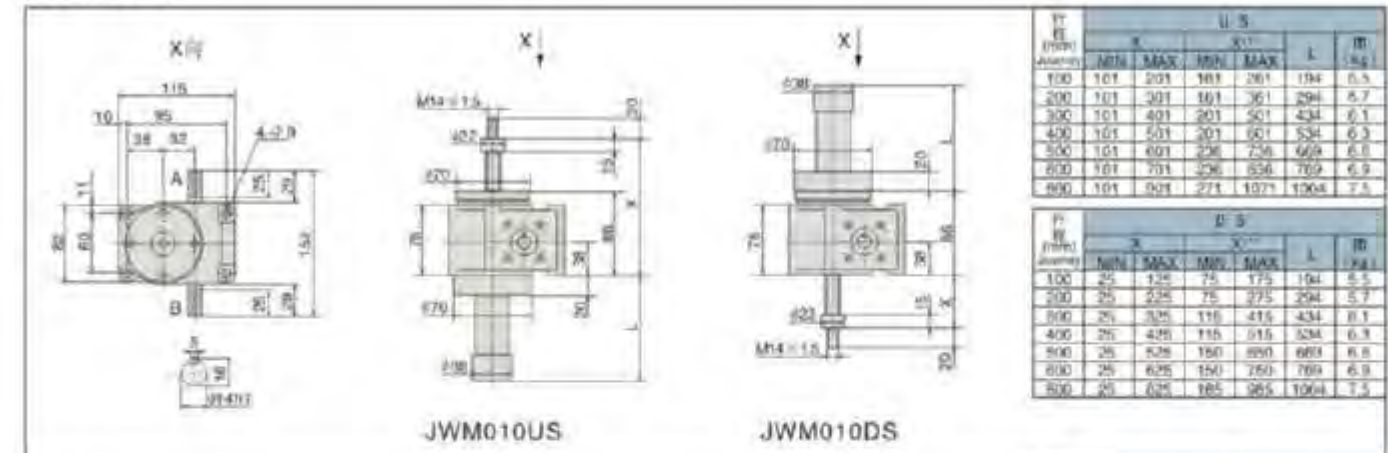


JWM005



注: X¹为加防尘罩时的尺寸。 Note: X¹ is the size with dust-proof cover.

JWM010



注: X¹为加防尘罩时的尺寸。 Note: X¹ is the size with dust-proof cover.

JWM025

F (mm)	U S				L	m
	MIN	MAX	MIN	MAX		
100	132	232	147	247	149	7.7
200	132	332	147	347	249	8.1
300	132	432	167	457	359	8.5
400	132	532	187	557	469	8.9
500	132	632	187	657	569	9.4
600	132	732	187	757	669	9.8
800	132	932	207	1057	869	11
1000	132	1132	227	1257	1129	12

F (mm)	D S				L	m
	MIN	MAX	MIN	MAX		
100	42	142	57	157	143	7.7
200	42	242	57	257	249	8.1
300	42	342	77	357	359	8.5
400	42	442	77	457	469	8.9
500	42	542	97	557	569	9.4
600	42	642	97	657	669	9.8
800	42	842	117	857	869	11
1000	42	1042	137	1057	1129	12

F (mm)	U W				L	m
	MIN	MAX	MIN	MAX		
100	132	232	147	257	179	10
200	132	332	147	357	279	12
300	132	432	167	457	379	13
400	132	532	187	557	479	14
500	132	632	187	657	579	15
600	132	732	187	757	679	17
800	132	932	207	1057	879	19
1000	132	1132	227	1257	1159	21

F (mm)	D W				L	m
	MIN	MAX	MIN	MAX		
100	42	142	57	157	179	10
200	42	242	57	257	279	12
300	42	342	77	357	379	13
400	42	442	77	457	479	14
500	42	542	97	557	579	15
600	42	642	97	657	679	17
800	42	842	117	857	879	19
1000	42	1042	137	1057	1159	21

F (mm)	J R				L	m
	MIN	MAX	Y	h		
100	132	232	279	220	9.2	
200	132	332	379	320	9.5	
300	132	432	479	420	9.9	
400	132	532	579	520	11	
500	132	632	679	620	11	
600	132	732	779	720	11	
800	132	932	879	820	12	
1000	132	1132	1079	920	13	

F (mm)	D R				L	m
	MIN	MAX	Y	h		
100	72	172	180	220	9.2	
200	72	272	280	320	9.5	
300	72	372	380	420	9.9	
400	72	472	480	520	11	
500	72	572	580	620	11	
600	72	672	680	720	11	
800	72	872	880	820	12	
1000	72	1072	1080	920	13	

JWM050

F (mm)	U S				L	m
	MIN	MAX	MIN	MAX		
100	154	254	169	269	147	18
200	154	354	169	369	247	19
300	154	454	189	469	357	20
400	154	554	189	569	457	21
500	154	654	209	669	557	22
600	154	754	209	769	657	23
800	154	954	229	1069	857	25
1000	154	1154	249	1269	1127	27

F (mm)	D S				L	m
	MIN	MAX	MIN	MAX		
100	42	142	57	157	147	18
200	42	242	57	257	247	19
300	42	342	77	357	357	20
400	42	442	77	457	457	21
500	42	542	97	557	557	22
600	42	642	97	657	657	23
800	42	842	117	857	857	25
1000	42	1042	137	1057	1127	27

F (mm)	U W				L	m
	MIN	MAX	MIN	MAX		
100	154	254	169	269	170	22
200	154	354	169	369	275	24
300	154	454	189	469	380	26
400	154	554	189	569	485	28
500	154	654	209	669	590	30
600	154	754	209	769	695	32
800	154	954	229	1069	895	36
1000	154	1154	249	1269	1155	40

F (mm)	D W				L	m
	MIN	MAX	MIN	MAX		
100	42	142	57	157	170	22
200	42	242	57	257	275	24
300	42	342	77	357	380	26
400	42	442	77	457	485	28
500	42	542	97	557	590	30
600	42	642	97	657	695	32
800	42	842	117	857	895	36
1000	42	1042	137	1057	1155	40

注: X⁰为加防尘罩时的尺寸。

Note: X⁰ is the size with dust-proof cover.

JWM100

T H (mm) Inches	U S				L	m (kg)
	MIN	MAX	MIN	MAX		
100	161	261	171	271	151	27
200	161	361	171	371	252	29
300	161	461	168	468	350	32
400	161	561	165	568	465	34
500	161	661	211	711	501	37
600	161	761	211	811	601	40
800	161	961	228	1028	808	45
1000	161	1161	238	1238	1116	50
1200	161	1361	251	1491	1341	55

T H (mm) Inches	D S				L	m (kg)
	MIN	MAX	MIN	MAX		
100	42	142	52	152	151	27
200	42	242	52	252	252	29
300	42	342	67	357	350	32
400	42	442	67	467	465	34
500	42	542	92	592	501	37
600	42	642	92	692	601	40
800	42	842	107	907	808	45
1000	42	1042	117	1117	1116	50
1200	42	1242	142	1342	1341	55

T H (mm) Inches	U S				L	m (kg)
	MIN	MAX	MIN	MAX		
100	194	294	204	304	151	30
200	194	394	204	404	252	32
300	194	494	219	519	350	35
400	194	594	219	619	450	37
500	194	694	254	744	501	40
600	194	794	254	844	601	43
800	194	994	259	1099	808	48
1000	194	1194	260	1290	1116	53
1200	194	1394	264	1494	1341	58

T H (mm) Inches	D S				L	m (kg)
	MIN	MAX	MIN	MAX		
100	42	142	52	152	151	30
200	42	242	52	252	252	32
300	42	342	67	357	350	35
400	42	442	67	467	450	37
500	42	542	92	592	501	40
600	42	642	92	692	601	43
800	42	842	107	907	808	48
1000	42	1042	117	1117	1116	53
1200	42	1242	142	1342	1341	58

J **B** **I** **M**

注: X¹为加防尘罩时的尺寸。 Note: X¹ is the size with dust-proof cover.

JWM150

T H (mm) Inches	U S				L	m (kg)
	MIN	MAX	MIN	MAX		
100	183	283	193	293	151	33
200	183	383	193	393	252	35
300	183	483	208	498	350	38
400	183	583	208	598	465	41
500	183	683	233	733	501	45
600	183	783	233	833	601	47
800	183	983	248	1048	808	53
1000	183	1183	258	1258	1116	59
1200	183	1383	263	1463	1341	65

T H (mm) Inches	D S				L	m (kg)
	MIN	MAX	MIN	MAX		
100	42	142	52	152	151	33
200	42	242	52	252	252	35
300	42	342	67	357	350	38
400	42	442	67	467	465	41
500	42	542	92	592	501	45
600	42	642	92	692	601	47
800	42	842	107	907	808	53
1000	42	1042	117	1117	1116	59
1200	42	1242	142	1342	1341	65

T H (mm) Inches	U S				L	m (kg)
	MIN	MAX	MIN	MAX		
100	219	319	229	329	151	37
200	219	419	229	429	252	40
300	219	519	244	544	350	43
400	219	619	244	644	465	46
500	219	719	260	760	501	49
600	219	819	260	860	601	52
800	219	1019	264	1064	808	58
1000	219	1219	264	1264	1116	64
1200	219	1419	310	1519	1341	70

T H (mm) Inches	D S				L	m (kg)
	MIN	MAX	MIN	MAX		
100	42	142	52	152	151	37
200	42	242	52	252	252	40
300	42	342	67	357	350	43
400	42	442	67	467	465	46
500	42	542	92	592	501	49
600	42	642	92	692	601	52
800	42	842	107	907	808	58
1000	42	1042	117	1117	1116	64
1200	42	1242	142	1342	1341	70

J **B** **I** **M**

注: X¹为加防尘罩时的尺寸。 Note: X¹ is the size with dust-proof cover.

JWM200

T H H mm Journes	U S				L	m
	MIN	MAX	MIN	MAX		
100	200	300	210	310	151	42
200	200	400	210	410	252	65
300	200	600	210	610	353	89
400	200	800	210	810	454	112
500	200	1000	210	1010	555	136
600	200	1200	210	1210	656	159
800	200	1600	210	1610	858	201
1000	200	2000	210	2010	1060	243
1200	200	2400	210	2410	1262	285

T H H mm Journes	D S				L	m
	MIN	MAX	MIN	MAX		
100	42	142	52	152	151	42
200	42	242	52	252	252	65
300	42	342	67	357	353	89
400	42	442	67	457	454	112
500	42	542	82	557	555	136
600	42	642	82	657	656	159
800	42	842	107	857	858	201
1000	42	1042	117	1117	1116	243
1200	42	1242	142	1342	1341	285

T H H mm Journes	U M				L	m
	MIN	MAX	MIN	MAX		
100	210	352	252	350	151	51
200	210	452	252	452	252	75
300	210	552	277	577	353	99
400	210	652	277	677	454	122
500	210	752	302	752	555	146
600	210	852	302	852	656	169
800	210	1052	317	1117	858	211
1000	210	1252	337	1337	1116	253
1200	210	1452	352	1532	1341	295

T H H mm Journes	D M				L	m
	MIN	MAX	MIN	MAX		
100	42	142	52	152	151	51
200	42	242	52	252	252	75
300	42	342	67	357	353	99
400	42	442	67	457	454	122
500	42	542	82	557	555	146
600	42	642	82	657	656	169
800	42	842	107	857	858	211
1000	42	1042	117	1117	1116	253
1200	42	1242	142	1342	1341	295

T H H mm Journes	U R				Y	m
	MIN	MAX	Y	MAX		
100	210	357	257	352	56	58
200	210	457	257	452	60	78
300	210	557	272	552	64	98
400	210	657	272	652	68	118
500	210	757	297	752	72	138
600	210	857	297	852	76	158
800	210	1057	312	1052	80	178
1000	210	1257	332	1252	84	198
1200	210	1457	352	1452	88	198

T H H mm Journes	D R				Y	m
	MIN	MAX	Y	MAX		
100	151	251	251	251	56	58
200	151	351	251	351	60	78
300	151	451	266	451	64	98
400	151	551	266	551	68	118
500	151	651	281	651	72	138
600	151	751	281	751	76	158
800	151	951	296	951	80	178
1000	151	1151	316	1151	84	198
1200	151	1351	336	1351	88	198

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注: X^H为加防尘罩时的尺寸。 Note: X^H is the size with dust-proof cover.

JWM300

T H H mm Journes	U S				L	m
	MIN	MAX	MIN	MAX		
100	255	355	265	365	160	55
200	255	455	265	465	260	80
300	255	655	280	660	375	110
400	255	855	280	860	475	140
500	255	1055	295	1060	575	170
600	255	1255	295	1260	675	200
800	255	1655	310	1660	875	260
1000	255	2055	330	2060	1075	320
1200	255	2455	350	2460	1275	380
1500	255	2855	365	2860	1660	490

T H H mm Journes	D S				L	m
	MIN	MAX	MIN	MAX		
100	42	142	52	152	151	42
200	42	242	52	252	252	65
300	42	342	67	357	353	89
400	42	442	67	457	454	112
500	42	542	82	557	555	136
600	42	642	82	657	656	159
800	42	842	107	857	858	201
1000	42	1042	117	1117	1116	243
1200	42	1242	142	1342	1341	285

T H H mm Journes	U M				L	m
	MIN	MAX	MIN	MAX		
100	210	352	252	350	151	51
200	210	452	252	452	252	75
300	210	552	277	577	353	99
400	210	652	277	677	454	122
500	210	752	302	752	555	146
600	210	852	302	852	656	169
800	210	1052	317	1117	858	211
1000	210	1252	337	1337	1116	253
1200	210	1452	352	1532	1341	295

T H H mm Journes	D M				L	m
	MIN	MAX	MIN	MAX		
100	42	142	52	152	151	51
200	42	242	52	252	252	75
300	42	342	67	357	353	99
400	42	442	67	457	454	122
500	42	542	82	557	555	146
600	42	642	82	657	656	169
800	42	842	107	857	858	211
1000	42	1042	117	1117	1116	253
1200	42	1242	142	1342	1341	295

T H H mm Journes	U R				Y	m
	MIN	MAX	Y	MAX		
100	210	357	257	352	56	58
200	210	457	257	452	60	78
300	210	557	272	552	64	98
400	210	657	272	652	68	118
500	210	757	297	752	72	138
600	210	857	297	852	76	158
800	210	1057	312	1052	80	178
1000	210	1257	332	1252	84	198
1200	210	1457	352	1452	88	198

T H H mm Journes	D R				Y	m
	MIN	MAX	Y	MAX		
100	151	251	251	251	56	58
200	151	351	251	351	60	78
300	151	451	266	451	64	98
400	151	551	266	551	68	118
500	151	651	281	651	72	138
600	151	751	281	751	76	158
800	151	951	296	951	80	178
1000	151	1151	316	1151	84	198
1200	151	1351	336	1351	88	198

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注: X^H为加防尘罩时的尺寸。 Note: X^H is the size with dust-proof cover.

JWM500

T H H mm Journes	U S				L	m
	MIN	MAX	MIN	MAX		
100	315	415	320	420	165	55
200	315	515	320	520	265	80
300	315	615	340	640	365	110
400	315	715	340	740	465	140
500	315	815	360	850	565	170
600	315	915	360	950	665	200
800	315	1115	365	1165	865	260
1000	315	1315	390	1360	1065	320
1200	315	1515	390	1560	1265	380
1500	315	1815	410	1810	1665	490
2000	315	2315	445	2445	2190	670

T H H mm Journes	D S				L	m
	MIN	MAX	MIN	MAX		
100	42	142	52	152	151	42
200	42	242	52	252	252	65
300	42	342	67	357	353	89
400	42	442	67	457	454	112
500	42	542	82	557	555	136
600	42	642	82	657	656	159
800	42	842	107	857	858	201
1000	42	1042	117	1117	1116	243
1200	42	1242	142	1342	1341	285

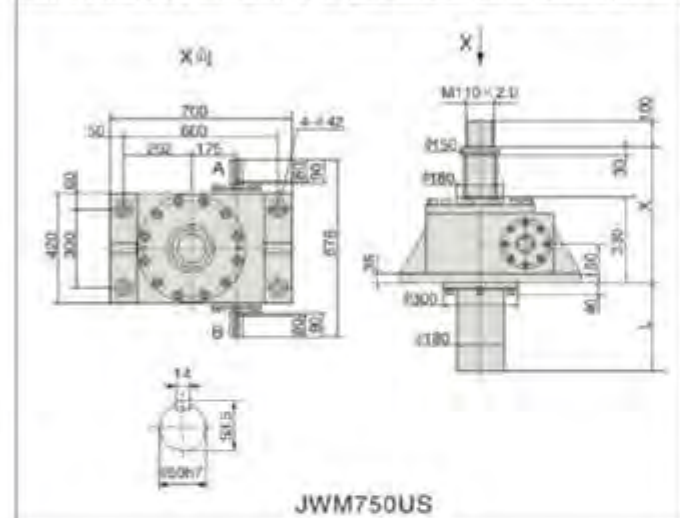
T H H mm Journes	U M				L	m
	MIN	MAX	MIN	MAX		
100	210	352	252	350	151	51
200	210	452	252	452	252	75
300	210	552	277	577	353	99
400	210	652	277	677	454	122
500	210	752	302	752	555	146
600	210	852	302	852	656	169
800	210	1052	317	1117	858	211
1000	210	1252	337	1337	1116	253
1200	210	1452	352	1532	1341	295

T H H mm Journes	D M				L	m
	MIN	MAX	MIN	MAX		
100	42	142	52	152	151	51
200	42	242	52	252	252	75
300	42	342	67	357	353	99
400	42	442	67	457	454	122
500	42	542	82	557	555	146
600	42	642	82	657	656	169
800	42	842	107	857	858	211
1000	42	1042	117	1117	1116	253
1200	42	1242	142	1342	1341	295

T H H mm Journes	U R				Y	m
	MIN	MAX	Y	MAX		
100	210	357	257	352	56	58
200	210	457	257	452	60	78
300	210	557	272	552	64	98
400	210	657	272	652	68	118
500	210	757	297	752	72	138
600	210	857	297	852	76	158
800	210	1057	312	1052	80	178
1000	210	1257	332	1252	84	198

JWM750

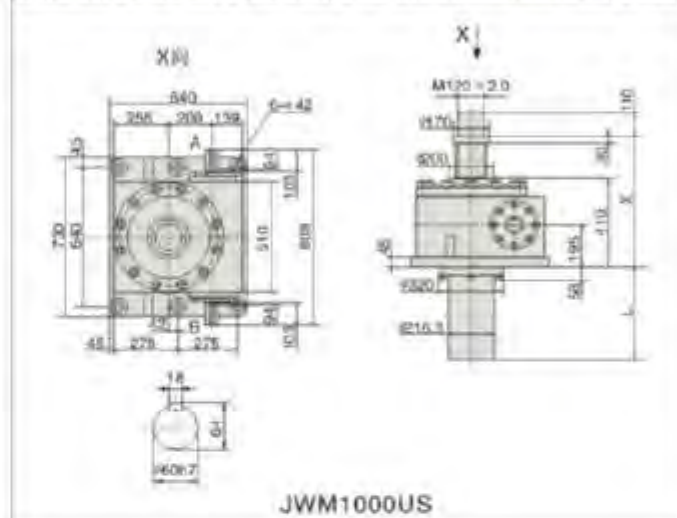
行程 (mm)	U-S				L	D-S				m	
	MIN	MAX	MIN	MAX		MIN	MAX	MIN	MAX		
100	370	470	380	480	165	70	170	80	180	155	370
200	370	570	380	580	265	70	270	80	280	255	570
300	370	670	380	680	365	70	370	80	380	355	670
400	370	770	380	780	465	70	470	80	480	455	770
500	370	870	380	880	565	70	570	80	580	555	870
600	370	970	380	980	665	70	670	80	680	655	970
800	370	1170	380	1225	910	70	870	125	925	910	1170
1000	370	1370	380	1435	1125	70	1070	155	1135	1125	1370
1200	370	1570	380	1650	1335	70	1270	185	1350	1335	1570
1500	370	1870	380	1965	1665	70	1570	225	1665	1665	1870
2000	370	2370	380	2500	2190	70	2070	285	2300	2190	2370



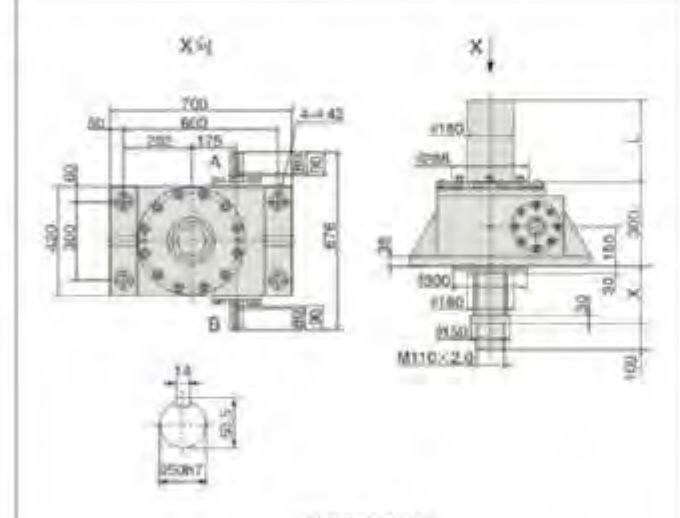
JWM750US

JWM1000

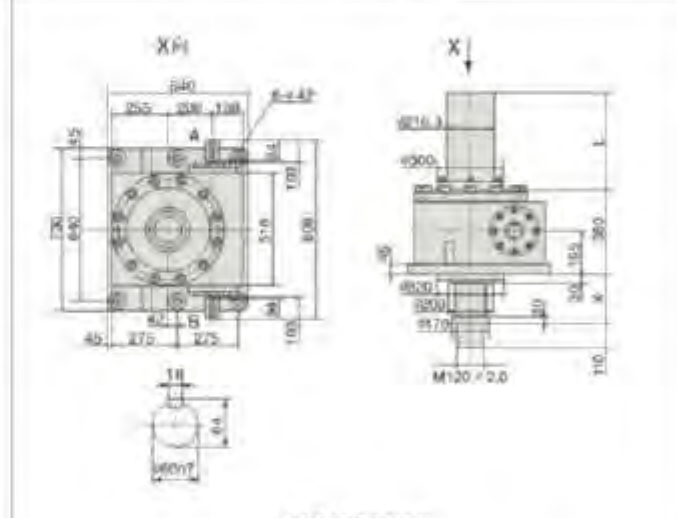
行程 (mm)	U-S				L	D-S				m	
	MIN	MAX	MIN	MAX		MIN	MAX	MIN	MAX		
100	450	550	460	560	165	70	170	80	180	165	748
200	450	650	460	660	265	70	270	80	280	265	766
300	450	750	475	775	365	70	370	85	385	365	787
400	450	850	475	875	465	70	470	85	485	465	905
500	450	950	485	985	565	70	570	105	605	565	924
600	450	1050	485	1085	665	70	670	105	705	665	942
800	450	1250	500	1300	910	70	870	120	920	910	981
1000	450	1450	510	1510	1125	70	1070	150	1130	1125	998
1200	450	1650	525	1725	1335	70	1270	145	1345	1335	957
1500	450	1950	545	2045	1665	70	1570	165	1665	1665	1014
2000	450	2450	575	2575	2190	70	2070	195	2165	2190	1109



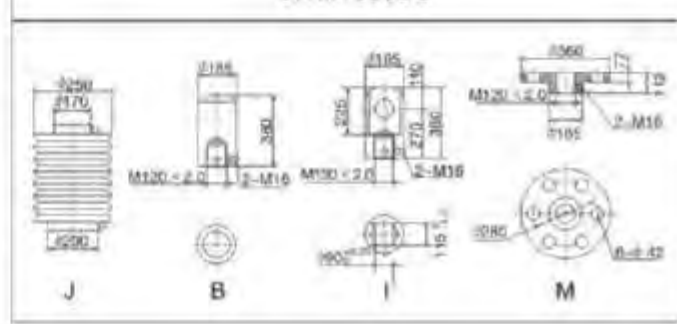
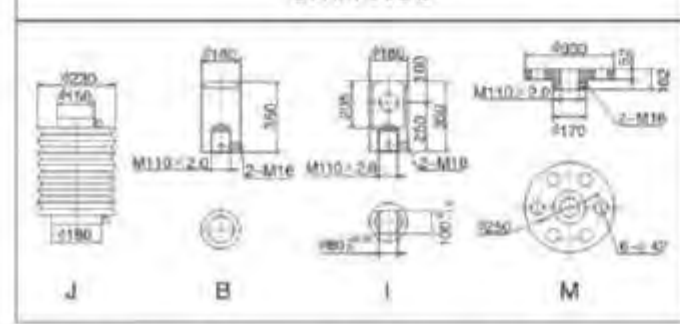
JWM1000US



JWM750DS



JWM1000DS



注: X¹为加防尘罩时的尺寸。 Note: X¹ is the size with dust-proof cover.

JWB005

行程 (mm)	U-S				L	m
	MIN	MAX	MIN	MAX		
100	162	202	212	252	184	6.7
200	162	302	212	352	284	7.0
300	162	402	252	452	334	7.4
400	162	502	252	552	384	7.6
500	162	602	287	652	434	8.0
600	162	702	287	752	484	8.2

行程 (mm)	U-S				L	m
	MIN	MAX	MIN	MAX		
100	25	125	75	175	194	6.7
200	25	225	75	275	294	7.0
300	25	325	115	375	334	7.4
400	25	425	115	475	384	7.6
500	25	525	150	575	434	8.0
600	25	625	150	675	484	8.2

行程 (mm)	U-R				L	m
	MIN	MAX	MIN	MAX		
100	34	184	204	234	217	7.7
200	34	284	204	334	317	7.9
300	34	384	244	434	367	8.1
400	34	484	244	534	417	8.3
500	34	584	284	634	467	8.5
600	34	684	284	734	517	8.7
800	34	884	324	934	617	9.1

行程 (mm)	D-S				L	m
	MIN	MAX	MIN	MAX		
100	30	130	135	165	145	6.7
200	30	230	135	265	245	7.0
300	30	330	135	365	345	7.4
400	30	430	135	465	445	7.6
500	30	530	135	565	545	8.0
600	30	630	135	665	645	8.2

注: X¹为加防尘罩时的尺寸。 Note: X¹ is the size with dust-proof cover.

JWB010

H mm 行程	U S		L		m kg	
	MIN	MAX	MIN	MAX		
100	162	262	212	312	194	6.7
200	162	362	212	412	294	7.0
300	162	462	262	552	434	7.4
400	162	562	262	652	534	7.6
500	162	662	262	752	634	8.0
600	162	762	262	852	734	8.2

H mm 行程	U M		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	634	11
600	25	625	150	750	734	12

H mm 行程	U W		L		m kg	
	MIN	MAX	MIN	MAX		
100	108	208	208	308	208	9.2
200	108	308	208	408	308	9.5
300	108	408	258	508	408	9.9
400	108	508	258	608	508	11
500	108	608	258	708	608	11
600	108	708	258	808	708	12

H mm 行程	U W		L		m kg	
	MIN	MAX	MIN	MAX		
100	69	169	169	269	208	9.2
200	69	269	169	369	308	9.5
300	69	369	219	469	408	9.9
400	69	469	219	569	508	11
500	69	569	219	669	608	11
600	69	669	219	769	708	12

注: X⁺为加防尘罩时的尺寸。 Note: X⁺ is the size with dust-proof cover.

JWB025

H mm 行程	U S		L		m kg	
	MIN	MAX	MIN	MAX		
100	215	315	290	390	140	11
200	215	415	290	490	240	11
300	215	515	290	590	340	11
400	215	615	290	690	440	12
500	215	715	270	790	540	12
600	215	815	270	890	640	13
800	215	1015	290	1090	900	14

H mm 行程	U M		L		m kg	
	MIN	MAX	MIN	MAX		
100	42	142	97	197	140	11
200	42	242	97	297	240	11
300	42	342	97	397	340	11
400	42	442	97	497	440	12
500	42	542	97	597	540	12
600	42	642	97	697	640	13
800	42	842	117	917	900	14

H mm 行程	U W		L		m kg	
	MIN	MAX	MIN	MAX		
100	215	315	290	390	175	12
200	215	415	290	490	275	13
300	215	515	260	590	375	15
400	215	615	260	690	475	16
500	215	715	270	790	575	17
600	215	815	270	890	675	18
800	215	1015	290	1090	935	21

H mm 行程	U W		L		m kg	
	MIN	MAX	MIN	MAX		
100	42	142	97	197	175	12
200	42	242	97	297	275	13
300	42	342	97	397	375	15
400	42	442	97	497	475	16
500	42	542	97	597	575	17
600	42	642	97	697	675	18
800	42	842	117	917	935	21

注: X⁺为加防尘罩时的尺寸。 Note: X⁺ is the size with dust-proof cover.

JWB050

F H (mm)	U S				L	H
	MIN	MAX	MIN	MAX		
100	200	362	254	384	147	23
200	209	469	264	484	247	23
300	209	569	304	604	307	24
400	209	669	314	704	467	25
500	209	769	324	824	587	26
600	209	869	324	924	687	27
800	209	1069	344	1144	907	29
1000	209	1269	364	1364	1127	30

F H (mm)	D S				L	H
	MIN	MAX	MIN	MAX		
100	42	142	57	157	147	23
200	42	242	57	257	247	23
300	42	342	77	377	307	24
400	42	442	77	477	467	25
500	42	542	97	597	587	26
600	42	642	97	697	687	27
800	42	842	117	917	907	29
1000	42	1042	137	1137	1127	30

F H (mm)	U M				L	H
	MIN	MAX	MIN	MAX		
100	200	362	254	384	175	25
200	209	469	264	484	275	27
300	209	569	304	604	335	28
400	209	669	314	704	495	29
500	209	769	324	824	615	30
600	209	869	324	924	715	31
800	209	1069	344	1144	935	33
1000	209	1269	364	1364	1155	34

F H (mm)	D M				L	H
	MIN	MAX	MIN	MAX		
100	42	142	57	157	175	25
200	42	242	57	257	275	27
300	42	342	77	377	335	28
400	42	442	77	477	495	29
500	42	542	97	597	615	30
600	42	642	97	697	715	31
800	42	842	117	917	935	33
1000	42	1042	137	1137	1155	34

注: X¹为加防尘罩时的尺寸。 Note: X¹ is the size with dust-proof cover.

JWB100

F H (mm)	U S				L	H
	MIN	MAX	MIN	MAX		
100	302	492	312	412	151	38
200	302	592	312	512	251	38
300	302	692	327	617	351	41
400	302	792	327	717	451	43
500	302	892	352	817	551	46
600	302	992	352	917	651	48
800	302	1192	367	1117	851	53
1000	302	1392	377	1317	1151	58
1200	302	1592	402	1517	1351	63

F H (mm)	D S				L	H
	MIN	MAX	MIN	MAX		
100	42	142	52	152	151	38
200	42	242	52	252	251	38
300	42	342	67	357	351	41
400	42	442	67	457	451	43
500	42	542	82	557	551	46
600	42	642	82	657	651	48
800	42	842	107	857	851	53
1000	42	1042	117	1117	1151	58
1200	42	1242	142	1317	1351	63

F H (mm)	U M				L	H
	MIN	MAX	MIN	MAX		
100	302	492	312	412	192	39
200	302	592	312	512	292	42
300	302	692	327	617	392	45
400	302	792	327	717	492	48
500	302	892	352	817	592	52
600	302	992	352	917	692	55
800	302	1192	367	1117	892	61
1000	302	1392	377	1317	1192	67
1200	302	1592	402	1517	1392	74

F H (mm)	D M				L	H
	MIN	MAX	MIN	MAX		
100	42	142	52	152	192	39
200	42	242	52	252	292	42
300	42	342	67	357	392	45
400	42	442	67	457	492	48
500	42	542	82	557	592	52
600	42	642	82	657	692	55
800	42	842	107	857	892	61
1000	42	1042	117	1117	1192	67
1200	42	1242	142	1317	1392	74

注: X¹为加防尘罩时的尺寸。 Note: X¹ is the size with dust-proof cover.

JWB150

F B (mm)	U S				L	m
	MIN	MAX	MIN	MAX		
100	342	442	352	452	151	45
200	342	542	352	552	252	48
300	342	642	352	652	353	51
400	342	742	352	752	454	54
500	342	842	352	852	555	57
600	342	942	352	952	656	60
800	342	1142	407	1207	808	68
1000	342	1342	417	1417	1119	70
1200	342	1542	442	1642	1341	78

F B (mm)	D S				L	m
	MIN	MAX	MIN	MAX		
100	42	142	52	152	151	48
200	42	242	52	252	252	48
300	42	342	67	357	353	51
400	42	442	67	457	454	54
500	42	542	82	557	555	57
600	42	642	82	657	656	60
800	42	842	102	907	808	68
1000	42	1042	117	1117	1119	70
1200	42	1242	142	1342	1341	78

F B (mm)	U W				L	m
	MIN	MAX	MIN	MAX		
100	342	442	352	452	221	52
200	342	542	352	552	321	55
300	342	642	352	652	420	58
400	342	742	352	752	520	62
500	342	842	352	852	621	65
600	342	942	352	952	721	68
800	342	1142	407	1207	873	75
1000	342	1342	417	1417	1184	82
1200	342	1542	442	1642	1411	89

F B (mm)	D W				L	m
	MIN	MAX	MIN	MAX		
100	42	142	52	152	221	52
200	42	242	52	252	321	55
300	42	342	67	357	420	58
400	42	442	67	457	520	62
500	42	542	82	557	621	65
600	42	642	82	657	721	68
800	42	842	102	907	873	75
1000	42	1042	117	1117	1184	82
1200	42	1242	142	1342	1411	89

注: X⁰为加防尘罩时的尺寸。 Note: X⁰ is the size with dust-proof cover.

JWB200

F B (mm)	U S				L	m
	MIN	MAX	MIN	MAX		
100	405	505	415	515	151	65
200	405	605	415	615	252	68
300	405	705	431	731	353	72
400	405	805	431	831	454	75
500	405	905	456	956	555	80
600	405	1005	456	1056	656	83
800	405	1205	471	1271	808	90
1000	405	1405	481	1481	1119	97
1200	405	1605	506	1706	1357	105

F B (mm)	D S				L	m
	MIN	MAX	MIN	MAX		
100	42	142	52	152	151	65
200	42	242	52	252	252	68
300	42	342	67	357	353	72
400	42	442	67	457	454	75
500	42	542	82	557	555	80
600	42	642	82	657	656	83
800	42	842	102	907	808	90
1000	42	1042	117	1117	1119	97
1200	42	1242	142	1342	1357	105

F B (mm)	U W				L	m
	MIN	MAX	MIN	MAX		
100	405	505	415	515	230	72
200	405	605	415	615	330	75
300	405	705	431	731	445	80
400	405	805	431	831	545	84
500	405	905	456	956	670	89
600	405	1005	456	1056	770	93
800	405	1205	471	1271	985	102
1000	405	1405	481	1481	1195	110
1200	405	1605	506	1706	1420	119

F B (mm)	D W				L	m
	MIN	MAX	MIN	MAX		
100	42	142	52	152	230	72
200	42	242	52	252	330	75
300	42	342	67	357	445	80
400	42	442	67	457	545	84
500	42	542	82	557	670	89
600	42	642	82	657	770	93
800	42	842	102	907	985	102
1000	42	1042	117	1117	1195	110
1200	42	1242	142	1342	1420	119

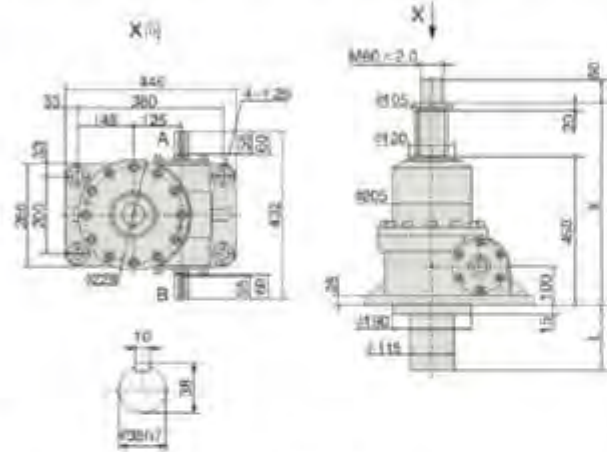
注: X⁰为加防尘罩时的尺寸。 Note: X⁰ is the size with dust-proof cover.

JWB300

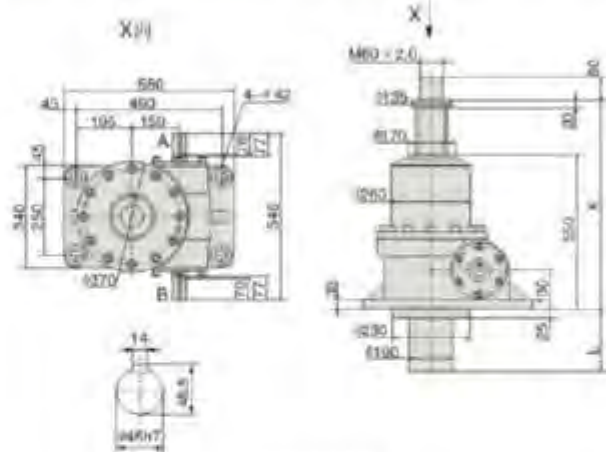
行程 (mm) Journey	US				L	DS				B	
	MIN	MAX	MIN	MAX		MIN	MAX	MIN	MAX		
100	480	580	490	590	160	55	155	65	155	100	152
200	480	680	490	690	260	55	255	65	255	200	159
300	480	780	505	805	375	55	355	80	360	375	166
400	480	880	505	905	475	55	455	80	460	475	172
500	480	980	520	1020	590	55	555	95	595	590	178
600	480	1080	520	1120	690	55	655	95	695	690	184
800	480	1280	535	1325	905	55	855	110	910	905	197
1000	480	1480	555	1555	1125	55	1050	130	1130	1125	210
1200	480	1680	565	1755	1335	55	1255	140	1340	1335	222
1500	480	1980	590	2060	1660	55	1550	165	1665	1660	242

JWB500

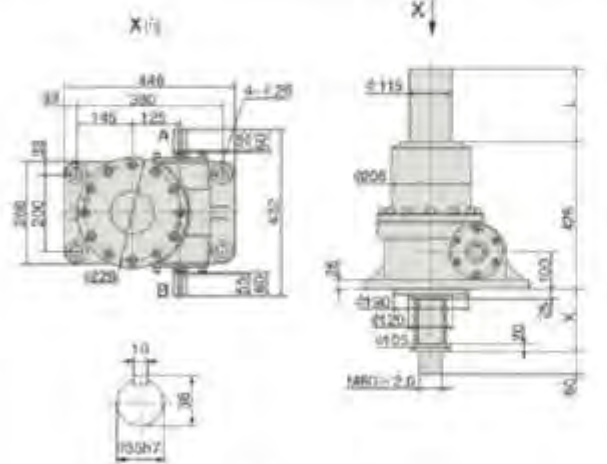
行程 (mm) Journey	US				L	DS				B	
	MIN	MAX	MIN	MAX		MIN	MAX	MIN	MAX		
100	580	680	585	685	165	55	155	60	160	115	310
200	580	780	585	785	265	55	255	60	260	265	320
300	580	880	605	905	365	55	355	80	360	365	330
400	580	980	605	1005	465	55	455	80	460	465	340
500	580	1080	615	1115	565	55	555	90	590	565	350
600	580	1180	615	1215	665	55	655	90	690	665	359
800	580	1380	630	1420	910	65	855	105	905	910	378
1000	580	1580	645	1645	1125	65	1055	120	1130	1125	399
1200	580	1780	655	1855	1335	65	1255	130	1330	1335	417
1500	580	2080	675	2175	1665	65	1555	150	1650	1665	448



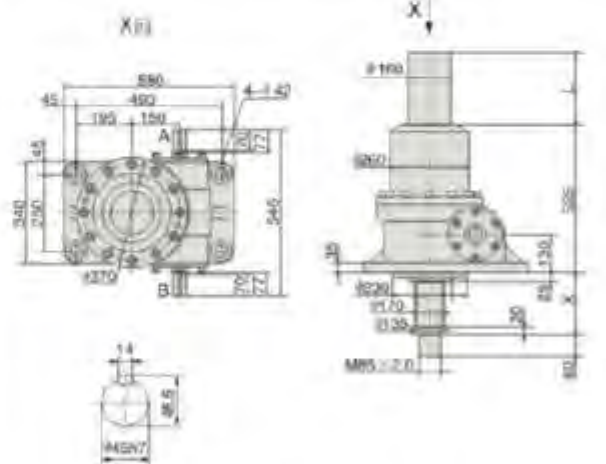
JWB300US



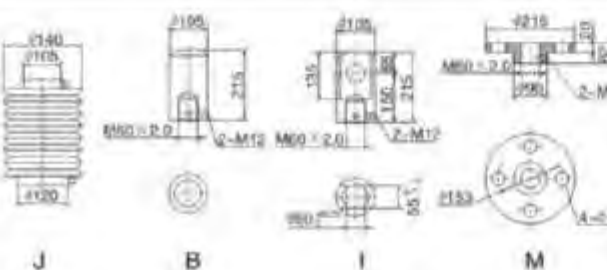
JWB500US



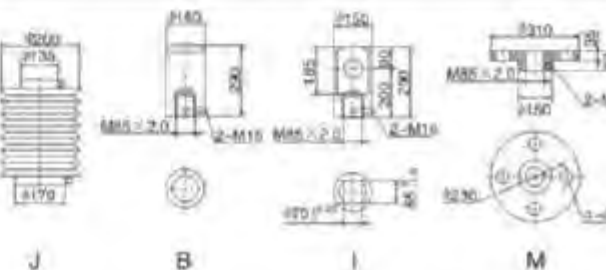
JWB300DS



JWB500DS



J B I M



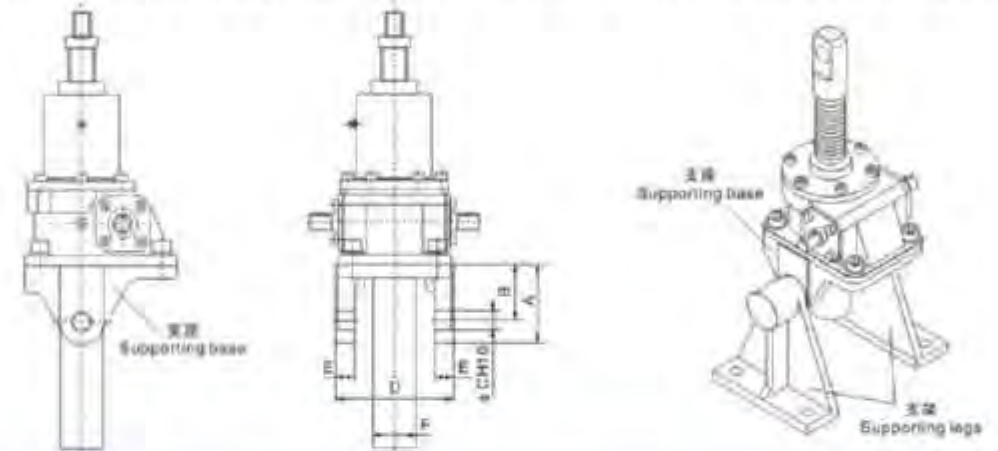
J B I M

注：X⁰为加防尘罩时的尺寸。 Note: X⁰ is the size with dust-proof cover.

12. 附件的确认
Accessory confirmation

12.1 支座 (C型安装) Support (Mode C mounting):

支座安装广泛应用于开关装置、倾斜装置。 Support-mounted mode widely apply to tilting equipment.



型号	A	B	C	D	E	F
002	75	60	15	64	12	25
005	75	80	15	64	12	25
010	75	60	15	86	15	35
025	100	75	20	115	20	45
050	105	75	25	158	25	58
100	145	100	40	201	30	76.3
150	155	105	50	224	44	76.3
200	173	110	63	244	50	89.1

12.2 支架 Supporting legs

支座与支架配合, 实现多方位升降。
Matching supporting base and legs realizes multi-angles lifting and lowering.



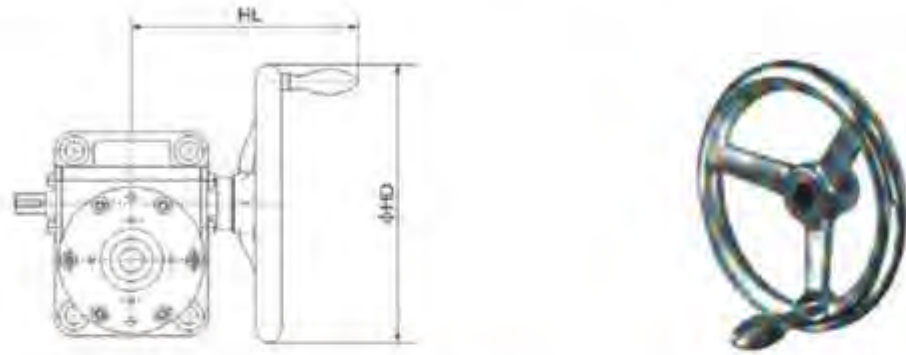
JW010-JW050

JW100-JW200

型号	M	N	O	P	Q	R	S	T	U	V	W	X
002	130	100	12	100	118.5	2-φ12	15	15	28	30	15	-
005	130	100	12	100	118.5	2-φ12	15	15	28	30	15	-
010	180	130	15	150	178	2-φ18	15	25	40	45	17	-
025	180	130	15	150	178	2-φ18	20	25	40	45	30	-
050	200	150	15	170	200	2-φ18	25	25	40	45	35	-
100	280	220	22	240	290	4-φ22	40	159	30	70	70	55
150	360	280	27	300	360	4-φ33	50	195	40	85	85	70
200	400	320	30	380	450	4-φ33	63	210	40	90	90	75

12.3 手轮盘 Hand wheel

此件只适应于JWM型工作在冲击、振动不大的场合，请不要应用在JWB、JWH结构中。
手动操作扭矩=所需输入扭矩/手轮操作盘半径
Hand wheel only apply to JWM under light shock or vibration condition but not for JWB.
Manual operation torque=Input torque required/Hand wheel radius.



尺寸表 Dimension sheet:

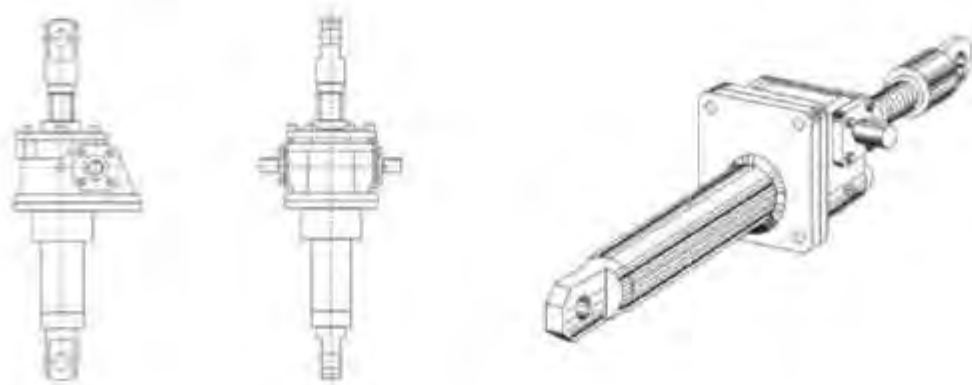
(mm)

型号 Type	NV80		NV100		NV200		NV280		NV450	
	HD	HL	HD	HL	HD	HL	HD	HL	HD	HL
JWM002	80	108	—	—	—	—	—	—	—	—
JWM005	80	108	—	—	—	—	—	—	—	—
JWM010	80	122	100	125	—	—	—	—	—	—
JWM025	—	—	100	140	200	198	—	—	—	—
JWM050	—	—	—	—	200	221	250	229	—	—
JWM100	—	—	—	—	—	—	250	242	450	295
JWM150	—	—	—	—	—	—	250	247	450	300
JWM200	—	—	—	—	—	—	—	—	450	304

注:手轮为外购件,以定货时实物尺寸为准。
Note: The dimension of hand wheel is subject to product purchased from other factories.

12.4 双头输出 Double end output

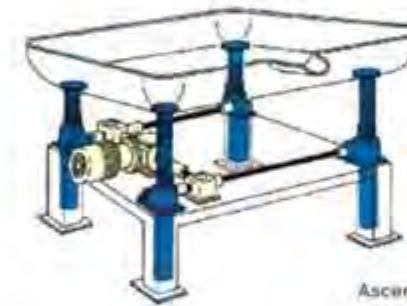
适用于开闭装置、反转装置。Apply to open and close devices, reversing devices.



12.5 带电机示意图 Link with the motor sketch:



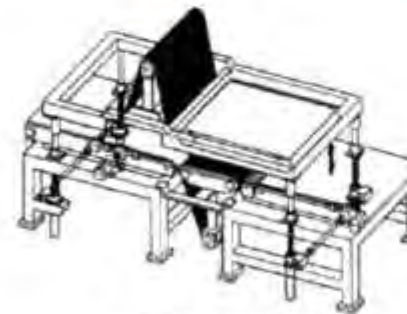
13. 应用举例 Application example



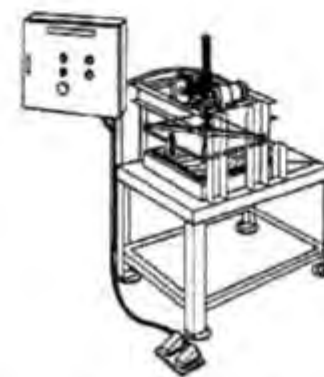
平台升降
Ascending and descending of flat slab



调整滑动传送带的倾斜程度
Adjust inclination pitch of conveyor apron



调整表面加工机的工作高度
Adjust operation height of surface machining tool



更改校正器的作业高度
Operation height of straightening machine



大型窗户(门)自动开关
Automatic switch on large windows (doors)