



HANGZHOU MELCHIZEDEK IMPORT & EXPORT CO., LTD

Factory Add: Xinwan Industry, Qiantang, Hangzhou, Zhejiang, China.

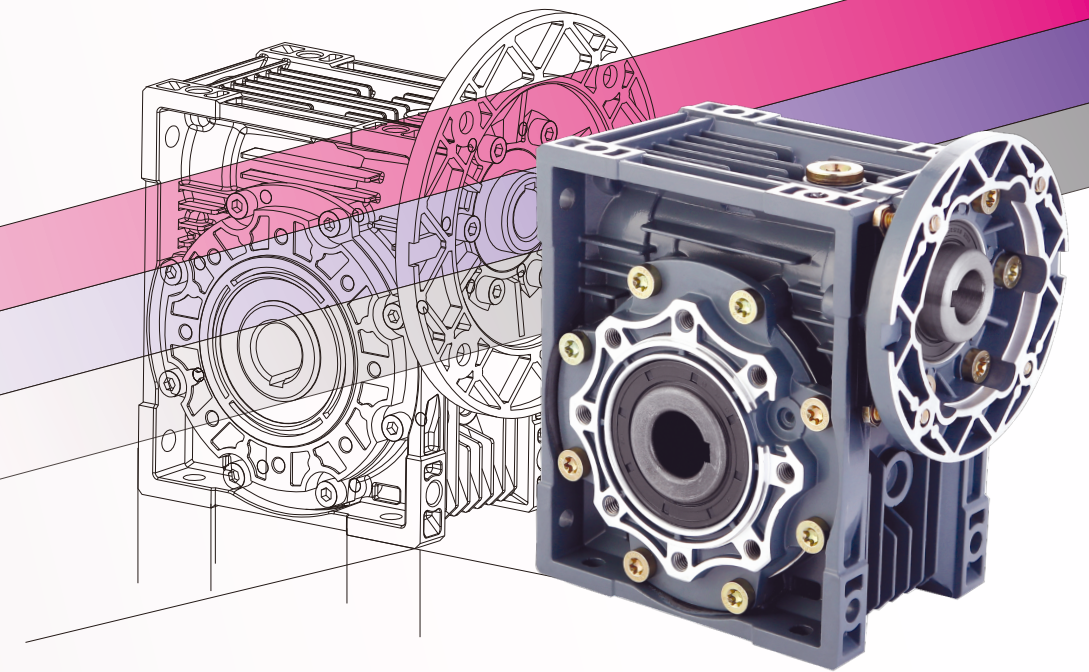
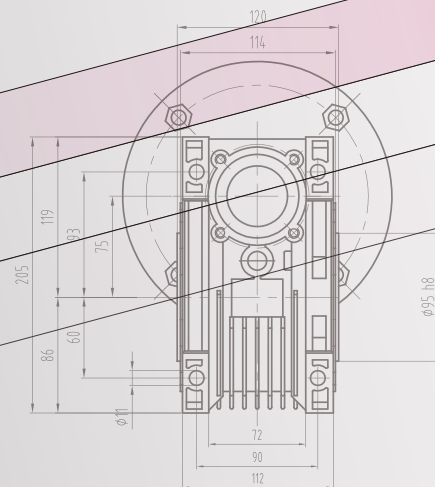
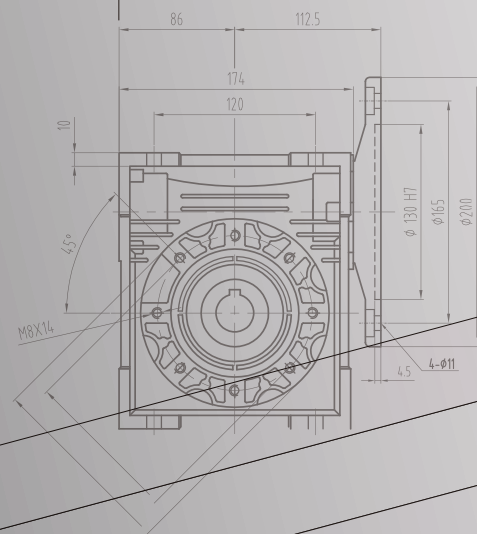
Office Add: C3-37 Wanging Building, YingFeng Road, Qianjiang Century City, Xiaoshan, Hangzhou, Zhejiang, China.

T: +86 571 5616 6162 F: +86 571 5616 6170 P: 311200 E: Jane@xdmade.com

杭州麦德进出口贸易有限公司

工厂地址: 中国浙江省杭州市钱塘区新湾工业园区

公司地址: 中国浙江省杭州市萧山区钱江世纪城盈丰路地铁口望京大厦C3-37



E-RV SERIES

WORM GEARBOX

公司简介

杭州麦德进出口贸易有限公司成立于2007年05月24日，位于浙江省杭州市萧山区望京大厦，是一家集研发，生产，销售为一体，专业提供减速机、齿轮马达等动力传动解决方案的综合性服务企业。

公司自行生产E-R、E-S、E-K、E-F型斜齿轮减速机，E-RV、E-VF、E-UDL、E-WP型蜗轮蜗杆减速机，E-GM、E-GR、E-BLDC、E-PMDC型齿轮马达，EPB、EPL、EPT、EPS型精密行星减速机，并为客户提供专业定制非标服务，在同行中处于领先地位。

麦德秉承“诚信，拼搏，创新，共赢”的价值观，精益求精、不断进步，促进全球生产力的持续革新。我们的目标是成为世界级动力传动领域专家，将品牌EED打造成为高端动力传动解决方案的全球供应商。

COMPANY PROFILE

Established on May 24th, 2007, Hangzhou Melchizedek Import & Export Co., Ltd. is located in Wangjing Mansion, Xiaoshan District, Hangzhou City, Zhejiang Province, which is a comprehensive service enterprise integrating research and development, production, and sales, and specializing in providing power transmission solutions for speed reducers, gear motors, and so on.

The company produces its own E-R, E-S, E-K, E-F helical gear reducer, E-RV, E-VF, E-UDL, E-WP worm gear reducer, E-GM, E-GR, E-BLDC, E-PMDC gear motor, EPB, EPL, EPT, EPS precision planetary gear reducer, and to provide customers with professional customized non-standard services. In the industry, we are in the leading position in the industry.

With the values of "integrity, hard work, innovation, and win-win", Melchizedek strives for excellence and continuous progress, and promotes the continuous innovation of global productivity. Our goal is to become a world-class expert in the field of power transmission, and build EED as a global supplier of high-end power transmission solutions.

EED
Transmission

EED
Transmission

Since 1984

目录
CONTENTS

一、E-RV/VV 系列蜗轮蜗杆减速机 E-RV/VV Series Worm Gear Units

1. 产品概述 Summary	01
2. 结构图 Structural View	02
3. 型号说明 Model Mark	03

二、选型指南 Type Selection Manual

1. 选型方法 Selection method	05
2. 安装尺寸 Installation dimensions	10
3. 选配件 Optional accessories	12

三、E-DRV/VV双极蜗轮减速机 Combination Worm Gear Units

1. E-DRV产品概述 Summary	16
2. E-DRV外形尺寸表图 Outline Dimension Sheet	17
3. E-VV/VV型号说明 Model Mark	21
4. E-VV/VV外形尺寸表图 Outline Dimension Sheet	22
5. 安装方位图 Installation Positions Diagram	26
6. 组合传动速比分配表 AssignmentTable Of Combination Ratio	28

四、性能参数 Performance Parameter

五、附录 appendix

1. 安装说明 Installation	44
2. 故障原因与排除 The Cause For Breakdown And Settlement	45
3. 润滑 Lubricants	46

一、E-RV系列减速机
E-RV SERIES WORM GEAR UNITS

产品概述
Summary

结构特点 STRUCTURE FEATURES

- 1、优质铝合金铸造，重量轻，不生锈；
- 2、输出扭矩大；
- 3、传动平稳，噪音小，适合在恶劣环境中长期连续工作；
- 4、散热效率高；
- 5、美观耐用，体积小；
- 6、可适应全方位安装。

- 1、Made of high-quality aluminum alloy, light in weight and non-rusting.
- 2、Large in output torque.
- 3、Smooth in running and low in noise, can work long time in dreadful conditions.
- 4、High in radiating efficiency.
- 5、Good-looking in appearance, durable in service life and small in volume.
- 6、Suitable for omnibearing installation.

主要材料 MAIN MATERIALS

- 1、外壳：铝合金（机座：025-090），铸铁（机座：110-150）；
- 2、蜗杆：20CrMnTi，渗碳淬火，齿面硬度56-62HRC，精磨后保持渗碳层厚度0.3-0.5mm；
- 3、蜗轮：耐磨锡青铜。

- 1、Housing:die-cast aluminum alloy(frame size:025 to 090);cast iron(frame size:110 to 150).
- 2、Worm:20CrMnTi, carbonize heat treatment make the hardness of gear's surface up to 56~62 HRC, retain carburization layer's thickness between 0.3 and 0.5mm after precise grinding.
- 3、Worm wheel:wearable stannum bronze alloy.

表面涂装 SURFACE PAINTING

铝合金外壳：

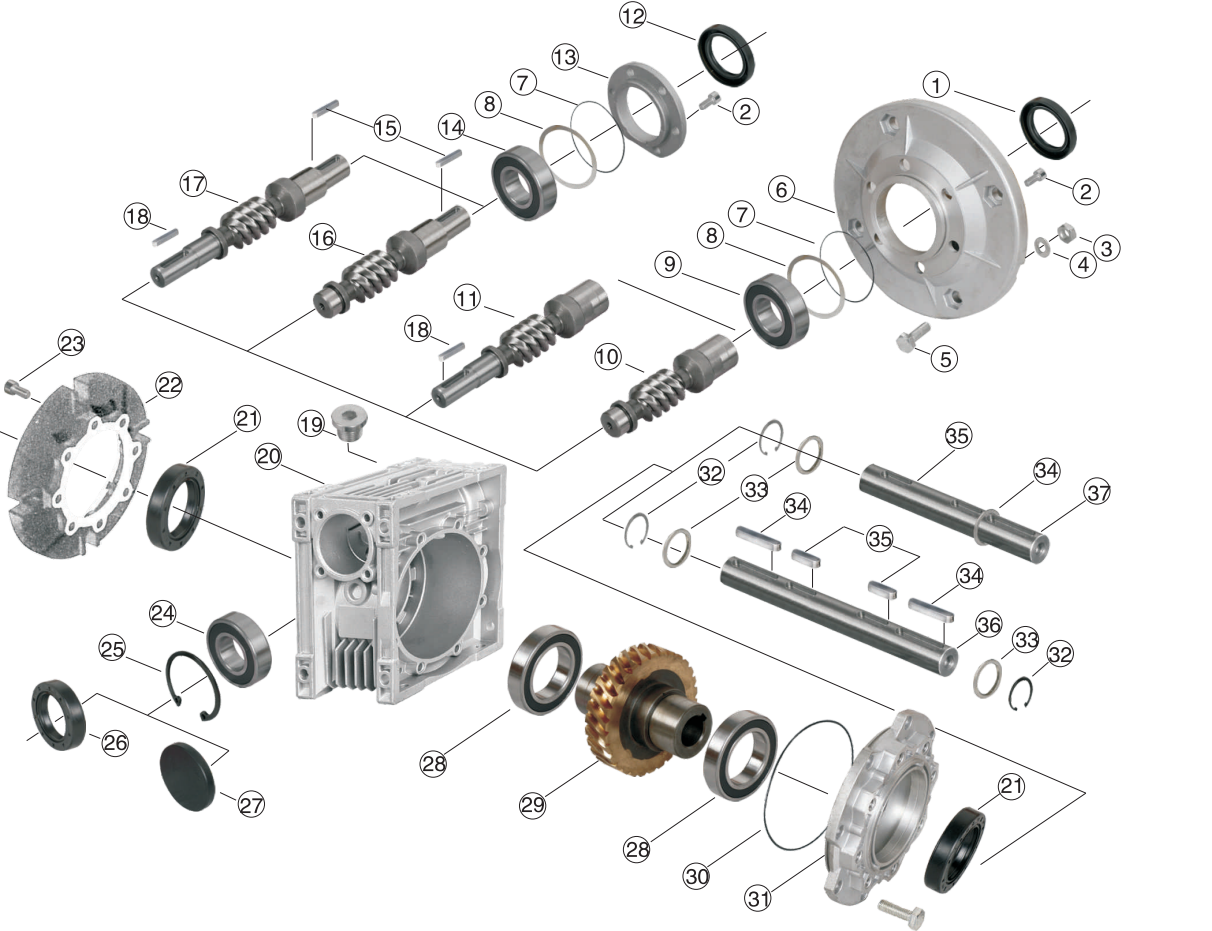
- 1、先抛丸处理，再经特种防腐处理，保持银白金属感，并耐汽油，二甲苯等有机溶剂的腐蚀；
- 2、磷化处理后，再喷RAL5010蓝色或银白色涂料。

Aluminum alloy housing:

- 1、Shot blasting and special antiseptic treatment on the aluminum alloy surface.
- 2、After phosphating, paint with RAL5010 blue or silvery white paint.



零件爆炸视图及名称
Exploded view & name of parts



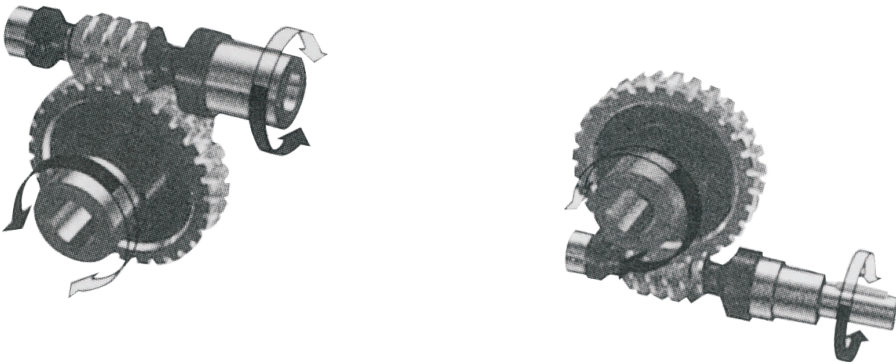
- | | | | |
|-------------|-----------------------------------|----------|---------------------|
| 1、油封 | Oil seal | 19、油塞 | Oil plug |
| 2、内六角螺钉 | Inner hex screw | 20、箱体 | Housing |
| 3、螺母 | Nut | 21、油封 | Oil seal |
| 4、弹性垫圈 | Spring washer | 22、输出法兰 | Output flange |
| 5、六角头螺栓 | Hex screw | 23、内六角螺钉 | Inner hex screw |
| 6、输入法兰 | Input flange | 24、轴承 | Bearing |
| 7、O形圈 | O-Ring | 25、孔用挡圈 | Hole-circlip |
| 8、调整垫片 | Adjust spacer | 26、油封 | Oil seal |
| 9、轴承 | Bearing | 27、盖子 | Cover |
| 10、孔输入蜗杆 | Hole input worm | 28、轴承 | Bearing |
| 11、孔输入轴输出蜗杆 | Hole input and shaft output worm | 29、蜗轮 | Worm wheel |
| 12、油封 | Oil seal | 30、O形圈 | O-Ring |
| 13、输入端盖 | Input cover | 31、输出端盖 | Output cover |
| 14、轴承 | Bearing | 32、轴用挡圈 | Shaft-circlip |
| 15、平键 | Key | 33、垫片 | Spacer |
| 16、轴输入蜗杆 | Shaft input worm | 34、平键 | Key |
| 17、轴输入轴输出蜗杆 | Shaft input and shaft output worm | 35、平键 | Key |
| 18、平键 | Key | 36、双向输出轴 | Double output shaft |
| | | 37、单向输出轴 | Single output shaft |

型号说明
Model Mark

减速机 Gear unit							电机 Motor		
E- RV 063- 40- E- FA1- AS1 71B5 B3- 7124或/ or0.37- 4/1									
①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩

NO	说 明	Comments
1	型号代码 1)E-RV:孔输入带输入法兰 2)E-V : 输入不带输入法兰	Model code 1).E-RV:Hole input with flange 2).E-V:Shaft input without flange
2	蜗轮蜗杆减速器中心距（规格）	Central distance of worm gear units(spec)
3	减速器速比 (I=7.5;10;15;20;25;30;40;50;60;80;100)	Speed ratio of reducer (I=7.5;10;15;20;25;30;40;50;60;80;100)
4	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 warm shaft 2).E : Double extension worm shaft
5	1).无代号表示不带输出法兰 2).FA,FB,FC,FD,FE(1/2):输出法兰代号和位置	1).No mark means without output flange 2).FA,FB,FC,FD,FE(1/2):output flange and position
6	1).无代号表示孔输出 2).AS (1/2) : 单向输出轴和位置 3).AB: 双向输出轴	1).No mark means hole output 2).AS (1/2) : Single output shaft and position 3).AB : Double output shaft
7	输入法兰规格型式（不带电机时）	Normalized form of input flange(without motor)
8	安装方位代号	Installation position code
9	1). 代号表示不带电机 2). 机型号或功率、极数	1).No mark means without motor 2).Model motors (poles of power)
10	电机接线盒位置，默认位置1 可以不写	Position diagram for motor terminal box default position1 can be no mention

蜗杆 蜗轮旋转方向
Direction of Rotation



E-VV蜗轮减速机
E-VV WORM GEAR UNITS



型号说明
Model Mark

减速机 Gear unit							电机 Motor			
E-VV	030-A-15-E-FA1-AS1-	71B5B3-	7124或/	or0.37-	4/	1				
①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪

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(规矩)	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	Central distance of worm gear units (spec) 1). A: Foot mounted overdriven 2). N: Foot mounted underdriven 3). V: Foot mounted wormshaft vertical
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).无代号表示不带输出法兰 2).FA,FB,FC,FD,FE(1/2): 出法兰轴号和位置	1).No mark means without output flange 2). FA,FB,FC,FD,FE(1/2): output flange and position
7	1).无代号表示孔输出 2).S(1/2) 单向输出轴和位置 3).B: 双向输出轴	1).No mark means hole output 2). S(1/2) Single output shaft and position 3). B: Double output shaft
8	1).IEC电机法兰 2).HS: 轴输入	1).IEC Motor flange 2).HS: Shaft input
9	安装方位代号	Installation position code
10	1).无代号表示不带电机 2).电机型号或功率、极数	1).No mark means without motor 2)Model or power poles (number)
11	电机接线盒位置, 默认位置 可以不写	Position diagram of motor terminal box default position1 as per option

二、选型指南
TYPE SELECTION MANUAL

2, 1 选型方法 Model selections

2.1.1符号及计量单位 Symbols and units of measure

- P: 功率 Power (KW)
- P₁: 输入功率 Input power
- P₂: 输出功率 Output power
- P_{1n}: 选用电机功率 Select motor power
- η_d: 动态效率 Dynamic efficiency

η_d是蜗轮箱经过足够长的时间跑和后, 表面温度下降并最终稳定后计算得到P2和P1之间的关系
The dynamic efficiency is the relationship of power delivered at output shaft P2 to power applied at input shaft P1. Value ofη_d are calculated for gearboxes after a sufficiently long running-in period.
After the running-in period the surface temperature in operation reduces and finally stabilises.

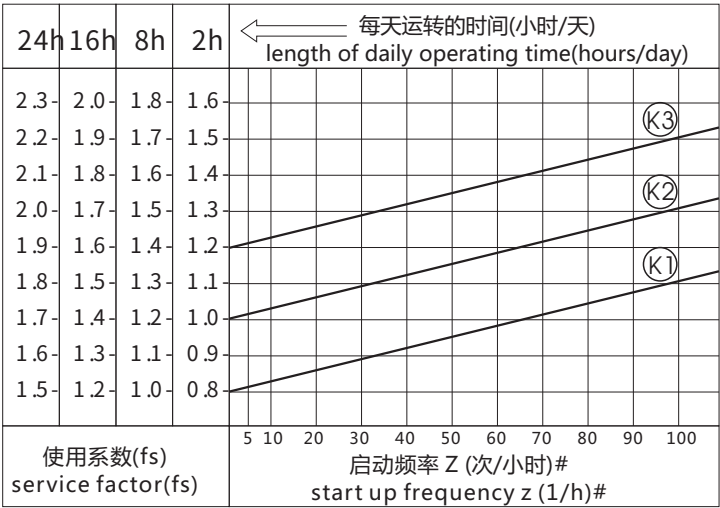
$$\eta_d = \frac{P_2}{P_1} \cdot 100\%$$
$$P_{1n} \geq P_1 \cdot f_s$$

η_s: 静态效率 Static efficient
η_s 是蜗轮箱启动阶段的效率, 在间歇工作制的选型中, 是非常重要的考虑因素。
Efficiency applicable at star-up of the gearbox. It is critical when selecting worm gearbox operating under intermittent duty.

f_s: 使用系数 Service factor
使用系数用来表示减速机的负载特性, 它考虑到与减速机应用场合有关的每天的运转条件, 负载的变化, 过载等因素。在下面的图标中, 在选型合适的“每天运行时间”列后, 即可由每小时的启动次数与曲线K1,K2或K3相交点获得使用系数。K 曲线是通过惯性加速K 与负载特性 (大致可分为: 均匀负载, 中等负载和重负载) 相联系的, 且与被驱动装置的转动惯量和电机的转动惯量壁纸有关。

This factor is the numeric value describing reducer service duty. It takes into consideration, with unavoidable approximation, daily operating condition, load variations and overloads connected with reducer application. In the graph below, after selecting proper “daily working hours” column, the service factor is given by intersecting the number of starts per hour and one of the K1,K2 or K3 curves. K_curves are linked with the service nature(approximately: uniform, medium and heavy) through the acceleration factor of masses K, connected to the ratio between driven masses and motor inertia values.

Fs取决于负荷 K-CURVES



受环境温度影响，使用系数做以下调整：

A. 环境温度30-40℃：f_s × (1.1-1.2)

B. 环境温度40-50℃：f_s × (1.3-1.4)

C. 环境温度50-60℃：f_s × (1.5-1.6)

Service factor should be adjusted as followings:

A, ambient temperature is30-40℃, f_s × (1.1-1.2)

B, ambient temperature is40-50℃, f_s × (1.3-1.4)

C, ambient temperature is50-60℃, f_s × (1.5-1.6)

●n₁: 减速机输入转速(r/min) Gear unit input speed(r/min)

n₂: 减速机输出转速(r/min) Gear unit output speed(r/min)

I: 速比 Ratio

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

●Fr1: 输入轴径向载荷

Input shaft radial loads

●Fr2: 输出轴径向载荷

Output shaft radial loads

●M₂: 输出扭矩(Nm) Output Torque (Nm)

M_{2n}: 选用输出扭矩 Selected output torque

$$M_2 = \frac{9550 \cdot P_1 \cdot \eta_d}{n_2}$$

$$M_{2n} \geq M_2 \cdot f_s$$

2.1.2选型考虑因素： Understanding the following when select the gearbox

- 负荷条件 Load condition
- 使用转速范围或速比（与双极组合，E-UDL 组合等） Speed scope or ratio in application
- 工作运转情况及环境（温度，湿度，腐蚀） Working condition and environment
- 安装空间 Installation space

2.1.3 选型举例 Examples for model chosen

●被驱动的设备扭矩是150 N.m, 输入转速是1400 r/min, 输出转速是 70 r/min, 中等负荷， 每天运行8小时， 每小时启动20次， 环境温度30℃。电机要求B3安装方位

- (1) . 确定速比I=n1/n2=1400/70=20
- (2) . 确定工作系数，中等负荷，选用K2曲线,取20次频率的交点，查得8小时/天的f_s=1.25
- (3) . 温度36℃，温度系数是1.1，则f_s=1.25×1.1=1.38
- (4) . 确定选用扭矩M_{2n}≥M₂·f_s=150×1.43=214.5 Nm
- (5) . 查性能参数表，符合3个条件，速比是20，M_{2n}等于或者大于214.5Nm, f_s要等于或大于1.38，查得最接近的是 E-RV 90-20-B3-2.2-4

Required torque 150 Nm on driven machine, n1=1400r/min, n2=70 r/min, medium load, running for 8 hours per day ,start 20 times per hours,the ambient temperature is 30℃,B3 mounted.

- (1)i=n1/n1=1400/70=20
- (2)Get the fs=1.25 from turning time and start frequency on Curve K2,
- (3)Get the f_s=1.25×1.1=1.38 from the working condition
- (4)Choose the M_{2n}≥M₂·f_s=150×1.43=214.5 Nm
- (5)To get the i=20, M_{2n}≥214.5 Nm, f_s≥1.38 from the performance parameter, choose E-RV 90-20-B3-2.2-4

●被驱动的设备输入功率是1.5 KW 输入转速是900 r/min, 输出转速是 60 r/min, 重冲击负荷， 每天运行16小时， 每小时启动100次， 环境温度20 ℃。

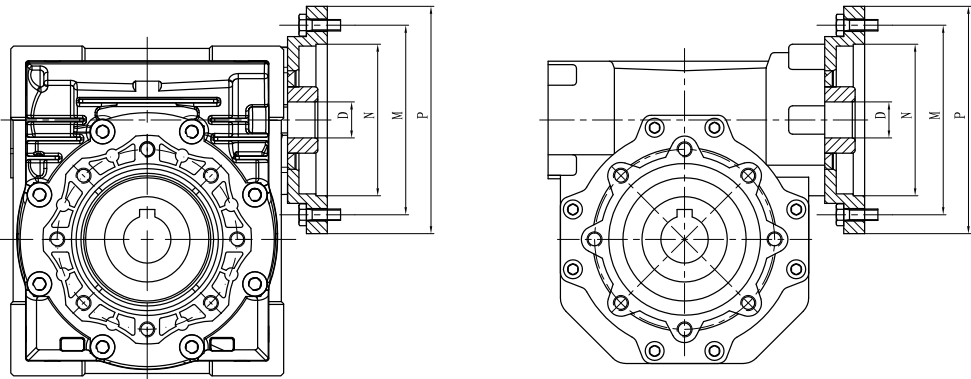
- (1) 确定速比I=n1/n2=900/60=15
- (2) 确定工作系数，重负荷，选用K3 曲线，找到16小时和100次的交叉点，查得f_s=1.9
- (3) 温度20 ℃，温度系数是1.0，则修正f_s=1.9×1=1.9
- (4) 确定选用电机P_{1n}≥P₁·f_s=1.5×1.9=2.85 kw
- (5) 查性能参数表，符合3个条件，I=15, f_s要等于或大于1.9, P_{1n}要等于或者大于2.85kw, 查得最接近的是 E-RV 110-15-132S6

The input power of the driver machine is 1.5kw, n1=900 r/min, n2=60r/min, heavy load, running 16 hours per day, starts 100 times for hour, ambient temperature is 20 ℃

- (1)i=n1/n1=900/60=15
- (2)Get the fs=1.9 from turning time and start frequency on Curve K3,
- (3)Get the f_s=1.9×1.0=1.9 from the working condition
- (4)Choose the P_{2n}≥P₂·f_s=1.5×1.9=2.85 KW
- (5)To get the i=15, P_{2n}≥2.85 KW, f_s≥1.9 from the performance parameter, choose E-RV 110-15-132S6.

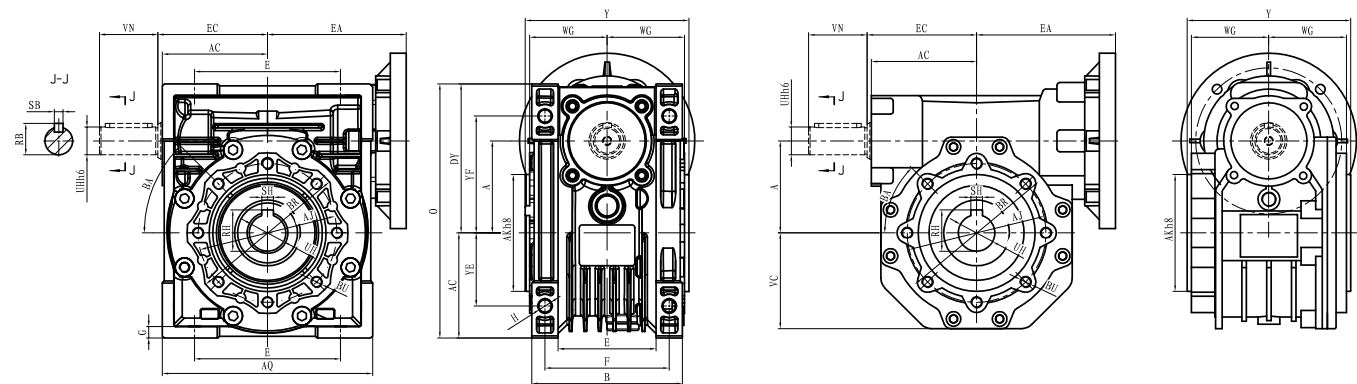
啮合参数
Mesh parameter

	i	7.5	10	15	20	25	30	40	50	60	80	100
E-RV025	Z ₁	4	3	2	2	2	1	1	1	1		
	M _x	1.3	1.3	1.3	0.995	0.8	1.3	0.995	0.8	0.67		
	Y	25°18'	19°31'	13°18'	11°02'	9°05'	6°44'	5°34'	4°34'	3°55'		
	η _d (1400)	0.85	0.83	0.79	0.75	0.71	0.67	0.62	0.58	0.55		
	η _s	0.71	0.68	0.61	0.56	0.5	0.46	0.41	0.36	0.34		
E-RV030 E-VV030	Z ₁	4	3	2	2	1	1	1	1	1		
	M _x	1.44	1.44	1.44	1.1	1.7	1.44	1.1	0.89	0.74	0.56	
	Y	18°55'	14°25'	9°44'	7°50'	5°33'	4°54'	3°55'	3°17'	2°43'	2°07'	
	η _d (1400)	0.85	0.82	0.77	0.73	0.68	0.65	0.59	0.55	0.51	0.44	
	η _s	0.67	0.63	0.55	0.5	0.43	0.39	0.35	0.31	0.27	0.23	
E-RV040 E-RV040	Z ₁	4	3	2	2	2	1	1	1	1	1	1
	M _x	2.05	2.05	2.05	1.56	1.27	2.05	1.56	1.27	1.06	0.8	0.65
	Y	23°54'	18°23'	12°30'	10°03'	8°45'	6°19'	5°04'	4°24'	3°42'	2°52'	2°29'
	η _d (1400)	0.87	0.85	0.82	0.78	0.75	0.7	0.65	0.62	0.58	0.52	0.47
	η _s	0.71	0.67	0.6	0.55	0.51	0.45	0.4	0.36	0.32	0.28	0.24
E-RV050 E-VV050	Z ₁	4	3	2	2	2	1	1	1	1	1	1
	M _x	2.56	2.56	2.56	1.95	1.58	2.56	1.95	1.58	1.32	1	0.8
	Y	23°49'	18°19'	12°27'	10°03'	8°33'	6°18'	5°04'	4°18'	3°38'	2°52'	2°17'
	η _d (1400)	0.88	0.86	0.82	0.79	0.76	0.72	0.67	0.63	0.59	0.53	0.49
	η _s	0.7	0.66	0.59	0.55	0.51	0.44	0.39	0.35	0.32	0.27	0.23
E-RV063 E-VV063	Z ₁	4	3	2	2	2	1	1	1	1	1	1
	M _x	3.25	3.25	3.25	2.48	2	3.25	2.48	2	1.68	1.27	1.02
	Y	24°31'	18°53'	12°51'	10°29'	8°45'	6°30'	5°17'	4°24'	3°49'	2°59'	2°26'
	η _d (1400)	0.88	0.87	0.83	0.81	0.78	0.74	0.7	0.66	0.62	0.57	0.51
	η _s	0.71	0.67	0.6	0.55	0.51	0.45	0.4	0.36	0.33	0.28	0.24
E-RV075 E-VV075	Z ₁	4	3	2	2	2	1	1	1	1	1	1
	M _x	3.95	3.95	3.95	3	2.42	3.95	3	2.42	2.03	1.54	1.24
	Y	26°38'	20°37'	14°05'	11°19'	9°29'	7°09'	5°43'	4°46'	4°01'	3°17'	2°44'
	η _d (1400)	0.89	0.88	0.85	0.82	0.8	0.76	0.72	0.69	0.65	0.6	0.55
	η _s	0.71	0.68	0.61	0.57	0.53	0.46	0.42	0.38	0.35	0.29	0.26
E-RV090 E-VV090	Z ₁	4	3	2	2	2	1	1	1	1	1	1
	M _x	4.84	4.84	4.84	3.69	2.98	4.84	3.69	2.98	2.5	1.89	1.52
	Y	29°05'	22°39'	15°33'	12°50'	10°53'	7°55'	6°30'	5°29'	4°46'	3°45'	3°06'
	η _d (1400)	0.9	0.89	0.86	0.84	0.82	0.78	0.75	0.72	0.68	0.63	0.59
	η _s	0.73	0.7	0.64	0.6	0.56	0.49	0.45	0.41	0.38	0.32	0.28
E-RV110	Z ₁	4	3	2	2	2	1	1	1	1	1	1
	M _x	5.875	5.875	5.875	4.62	3.73	5.875	4.62	3.73	3.13	2.37	1.91
	Y	28°15'	21°57'	15°02'	14°42'	12°33'	7°39'	7°29'	6°21'	5°33'	4°27'	3°46'
	η _d (1400)	0.9	0.89	0.86	0.85	0.84	0.79	0.78	0.75	0.72	0.67	0.63
	η _s	0.72	0.69	0.63	0.62	0.59	0.48	0.48	0.44	0.41	0.36	0.32
E-RV130	Z ₁	4	3	2	2	2	1	1	1	1	1	1
	M _x	6.97	6.97	6.97	5.4	4.37	6.97	5.4	4.37	3.67	2.77	2.23
	Y	28°43'	22°20'	15°19'	13°47'	11°54'	7°48'	7°00'	6°01'	5°16'	4°07'	3°27'
	η _d (1400)	0.91	0.89	0.87	0.86	0.84	0.8	0.78	0.75	0.72	0.68	0.64
	η _s	0.72	0.69	0.63	0.61	0.58	0.49	0.46	0.43	0.39	0.34	0.3



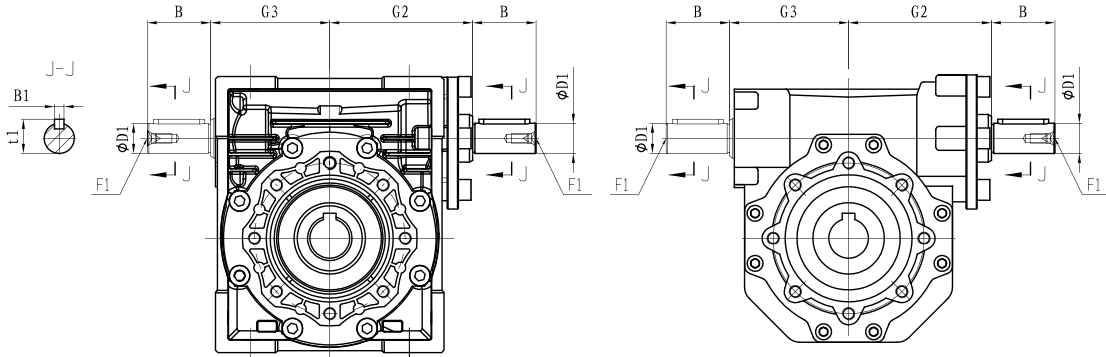
	电机法兰Motor flange				输入孔直径 D The hole diameter of input shaft												
	PAM IEC	P	M	N	传动比 Transmission ratio												
					7.5	10	15	20	25	30	40	50	60	80	100		
E-RV025	56B14	80	65	50	9	9	9	9	9	9	9	9	9				
	63B5	140	115	95	11	11	11	11	11	11	11	11					
E-RV030 E-VV030	63B14	90	75	60													
	56B5	120	100	80	9	9	9	9	9	9	9	9	9	9			
E-RV040 E-VV040	56B14	80	65	50													
	71B5	160	130	110	14	14	14	14	14	14	14						
	71B14	105	85	70													
	63B5	140	115	95	11	11	11	11	11	11	11	11	11	11	11	11	11
	63B14	90	75	60													
	56B5	120	100	80								9	9	9	9		
E-RV050 E-VV050	56B14	80	65	50													
	80B5	200	165	130	19	19	19	19	19	19							
	80B14	120	100	80													
	71B5	160	130	110	14	14	14	14	14	14	14	14	14	14			
	71B14	105	85	70													
	63B5	140	115	95								11	11	11	11		
E-RV063 E-VV063	63B14	90	75	60													
	90B5	200	165	130	24	24	24	24	24	24							
	90B14	140	115	95													
	80B5	200	165	130	19	19	19	19	19	19	19	19	19	19			
	80B14	200	100	80													
	71B5	160	130	110							14	14	14	14	14		
E-RV075 E-VV075	71B14	105	85	70													
	100/112B5	250	215	180	28	28	28										
	100/112B14	160	130	110													
	90B5	200	165	130	24	24	24	24	24	24							
	90B14	140	115	95													
	80B5	200	165	130				19	19	19	19	19	19	19	19		
E-RV090 E-VV090	80B14	120	100	80													
	71B5	160	130	110													
	100/112B5	250	215	180	28	28	28	28	28	28							
	100/112B14	160	130	110													
	90B5	200	165	130	24	24	24	24	24	24	24	24	24				
	90B14	140	115	95													
E-RV110	80B5	200	165	130							19	19	19	19	19		
	80B14	120	100	80													
	132B5	300	265	230	38*	38*	38*	38*									
	132B14	200	165	130													
	100/112B5	250	215	180	28	28	28	28	28	28	28	28	28	28	28		
	100/112B14	160	130	110													
E-RV130	90B5	200	165	130					24	24	24	24	24	24	24	24	24
	90B14	140	115	95													
	80B5	200	165	130												19	19
	132B5	300	265	230	38*	38*	38*	38*	38*	38*	38*						
	132B14	200	165	130													
	100/112B5	250	215	180					28	28	28	28	28	28	28	28	28
E-RV150	90B5	200	165	130											24	24	
	160B5	350	320	250	42	42	42	42	42								
	132B5	300	265	230													
	132B14	200	165	130				38	38	38	38	38	38	38			
	100/112B5	250	215	180								28	28	28	28	28	28

E-RV/E-VV安装尺寸
(E-RV/E-VV MOUNTING DIMENSIONS)



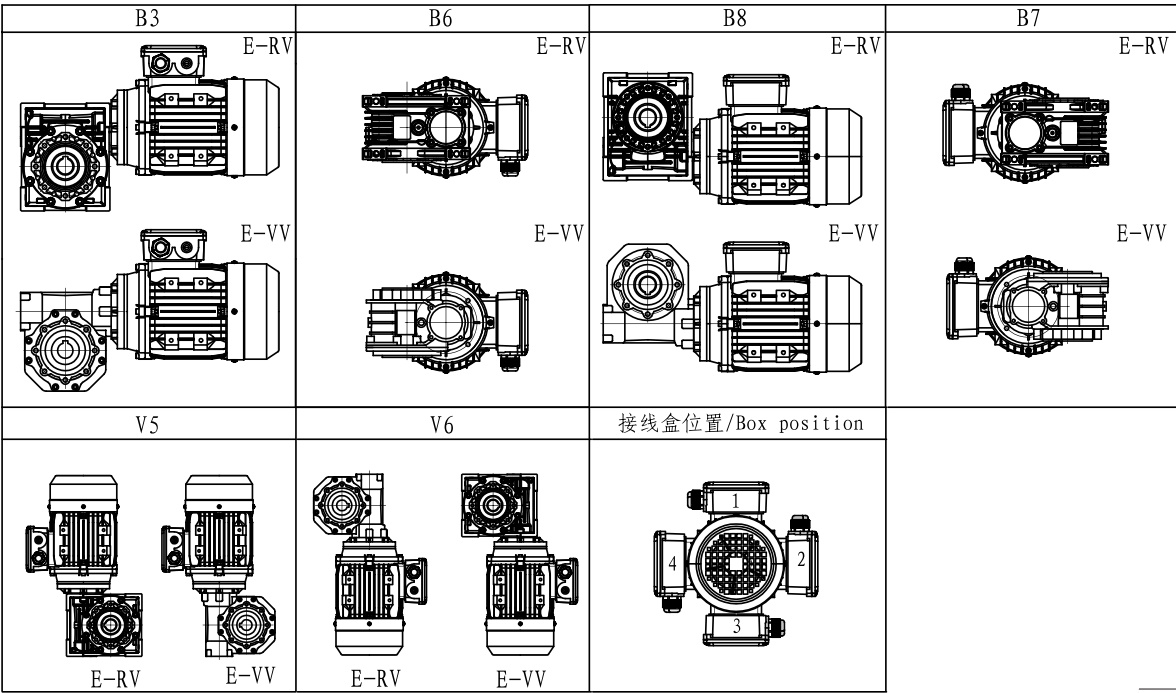
	E-RV025	E-RV030 E-VV030	E-RV040 E-VV040	E-RV050 E-VV050	E-RV063 E-VV063	E-RV075 E-VV075	E-RV090 E-VV090	E-RV110	E-RV130	E-RV150
A	25	30	40	50	63	75	90	110	130	150
AC	35	40	50	60	72	86	103	127.5	147.5	170
AJ	55	65	75	85	95	115	130	165	215	215
AK	45	55	60	70	80	95	110	130	180	180
AQ	70	80	100	120	144	172	206	252	292	340
B	42	56	71	85	103	112	130	144	155	185
BA	10°	0°	45°	45°	45°	45°	45°	45°	45°	45°
BR	65	75	87	100	110	140	160	200	250	250
BU	φ 6.5	M6x11(h ⁴)	M6x10(h ⁴)	M8x10(h ⁴)	M8x14(h ⁸)	M8x14(h ⁸)	M10x18(h ⁸)	M10x18(h ⁸)	M12x21(h ⁸)	M12x21(h ⁸)
DY	48	57	71.5	84	102	119	135	167.5	187.5	230
E	45	54	70	80	100	120	140	170	200	240
EA	45	55	71	80	95	112.5	130	160	180	210
EC	-	45	53	64	75	90	108	135	155	175
F	34	44	60	70	85	90	100	115	120	145
G	5	5.5	6.5	7	8	10	11	15	15	18
H	6	6.5	7	8.5	8.5	11	13	14	16	18
K	22	32	43	49	67	72	74	-	-	-
M1	-	-	-	M6	M6	M8	M8	M10	M10	M12
O	83	97	121.5	144	174	205	238	295	335	400
RB	-	10.2	12.5	16	21.5	27	27	31	33	38
RH	12.8	16.3	20.8	28.3	28.3	31.3	38.3	45.3	48.8	53.8
SB	-	3	4	5	6	8	8	8	8	10
SH	4	5	6	8	8	8	10	12	14	14
UB	-	9	11	14	19	24	24	28	30	35
UH	11	14	18	25	25	28	35	42	45	50
VN	-	20	23	30	40	50	50	60	80	80
WG	22.5	29	36.5	43.5	53	57	67	74	81	96
Y	50	63	78	92	112	120	140	155	170	200
YE	22	27	35	40	50	60	70	85	100	120
YF	35.5	44	55	64	80	93	102	125	140	180
VC	-	37.5	42	52	66	80	97	-	-	-
重量 (kg)	0.7	1.3	2.3	3.5	6.2	9	13	35	48	84

E-V / E-VV-HS安装尺寸
(E-V/E-VV-HS MOUNTING DIMENSIONS)



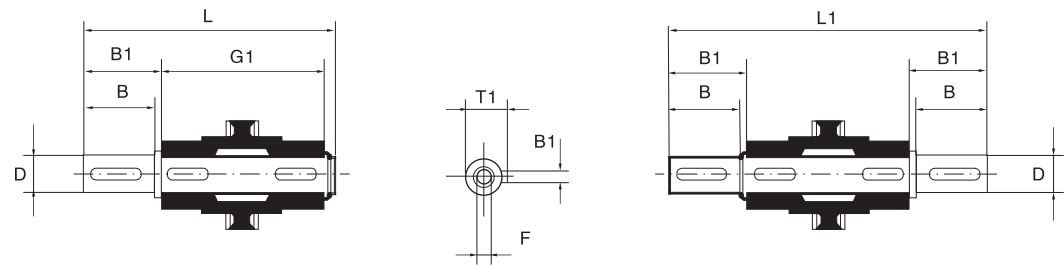
E-V	030	040	050	063	075	090	110	130	150
B	20	23	30	40	50	50	60	80	80
D1j6	9	11	14	19	24	24	28	30	35
G2	51	66	75	90	105	122	145	169	199
G3	45	53	64	75	90	108	135	155	175
A	30	40	50	63	75	90	110	130	150
B1	3	4	5	6	8	8	8	8	10
F1	-	-	M6	M6	M8	M8	M10	M10	M12
TI	10.2	12.5	16	21.5	27	27	31	33	38
输入轴平键									
规格	3x3	4x4	5x5	6x6	8x7	8x7	8x7	8x7	10x8
长度	15	20	25	35	45	45	55	70	70

单级安装型式
SINGLE STEP MOUNTING POSITIONS



选配件
OPTIONAL ACCESSORIES

输出轴 Output Shaft

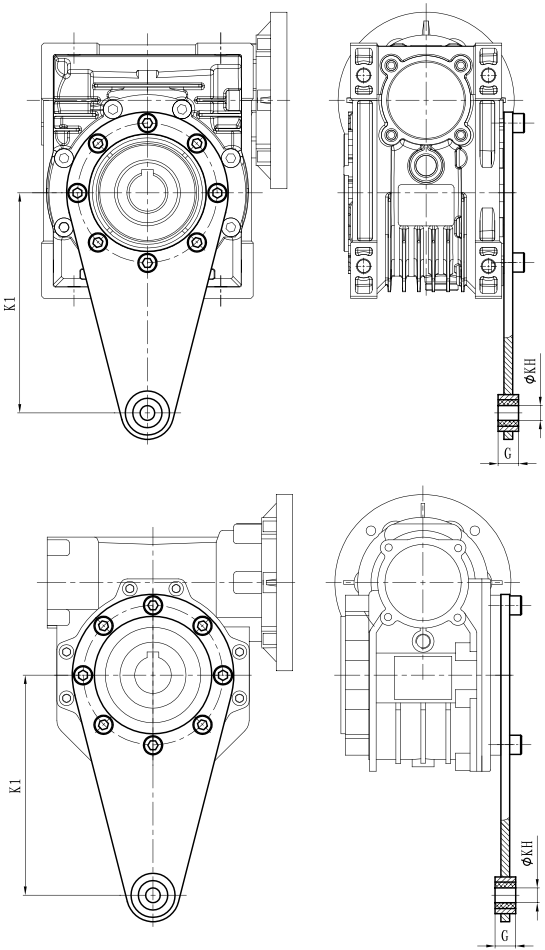


单向输出轴 Single Output Shaft

双向输出轴 Double Output Shaft

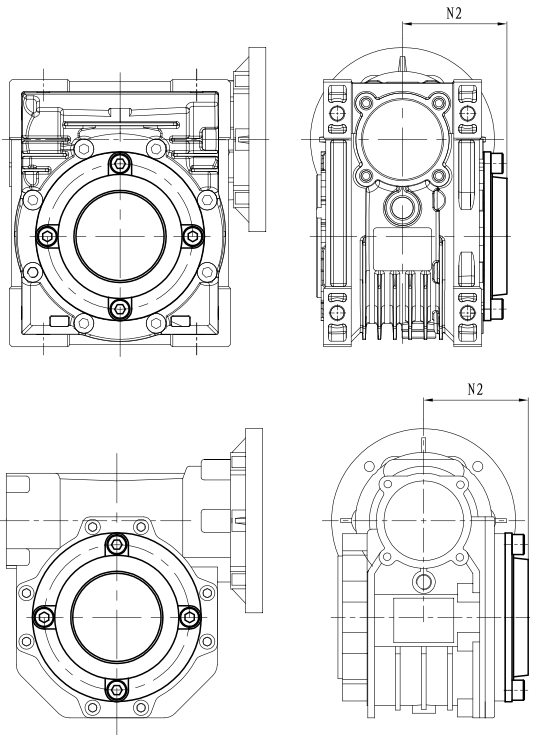
	Dh6	B	B1	G1	L	L1	F	B1	T1
E-RV025	11g6	23	25.5	50	81	101	-	4	12.5
	9*	25*	30	50	85.5*	101	-	3*	10.2*
E-RV030 /E-VV030	14	30	32.5	63	102	128	M 6	5	16
E-RV040 /E-VV040	18	40	43	78	128	164	M 6	6	20.5
E-RV050 /E-VV050	25	50	53.5	92	153	199	M 10	8	28
E-RV063 /E-VV063	25	50	53.5	112	173	219	M 10	8	28
E-RV075 /E-VV075	28	60	63.5	120	192	247	M 10	8	31
E-RV090 /E-VV090	35	80	84.5	140	234	309	M 12	10	38
E-RV110	42	80	84.5	155	249	324	M 16	12	45
E-RV130	45	80	85	170	265	340	M 16	14	48.5
E-RV150	50	82	87	200	297	374	M 16	14	53.5

扭力臂 Torque Arm



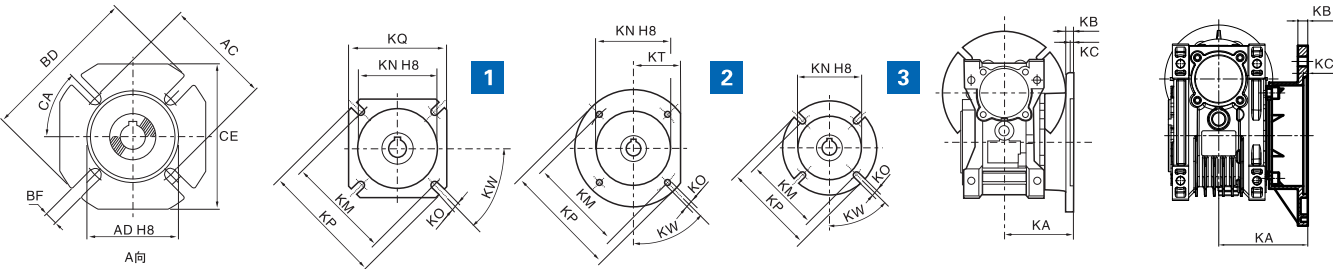
	K1	G	KG	KH	R
E-RV025	70	14	17.5	8	15
E-RV030/E-VV030	85	14	24	8	15
E-RV040/E-VV040	100	14	31.5	10	18
E-RV050/E-VV050	100	14	38.5	10	18
E-RV063/E-VV063	150	14	49	10	18
E-RV075/E-VV075	200	25	47.5	20	30
E-RV090/E-VV090	200	25	57.5	20	30
E-RV110	250	30	62	25	35
E-RV130	250	30	69	25	35
E-RV150	250	30	84	25	35

防尘盖 Cover

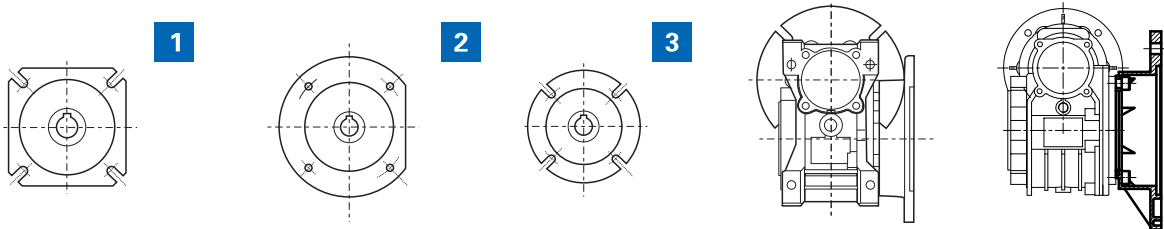


	N2
E-RV030/E-VV030	42
E-RV040/E-VV040	50
E-RV050/E-VV050	58
E-RV063/E-VV063	69
E-RV075/E-VV075	74
E-RV090/E-VV090	86
E-RV110	94
E-RV130	102
E-RV150	117

输出法兰 Output flange

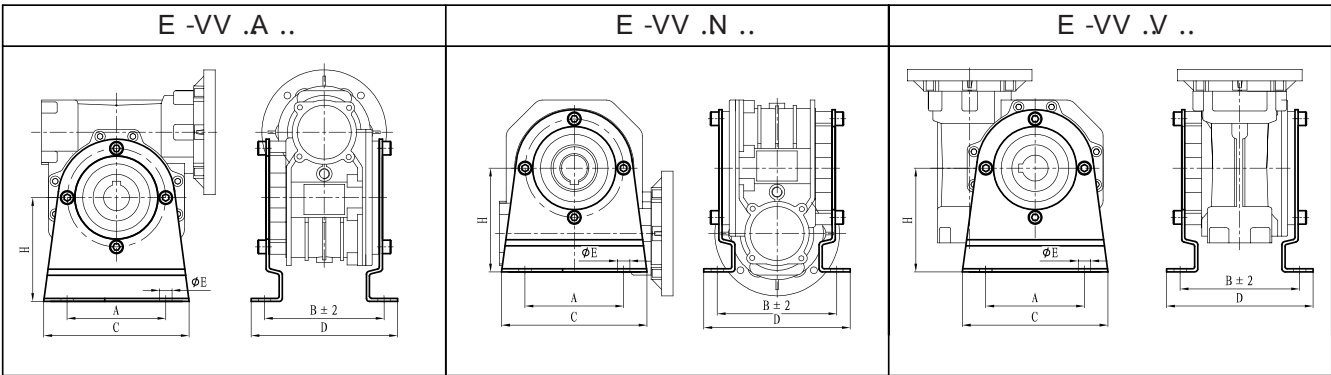


		030	040	050	063	075	090	110	130	150
FA	K A	54,5	67	90	82	111	111	131	140	155
	K B	6	7	9	10	13	13	15	15	15
	K C	4	4	5	6	6	6	6	6	6
	K N	50	60	70	115	130	152	170	180	180
	K M	68	80min	90min	150	165	175	230	255	255
	K O	6.5(n° 4)	9(n° 4)	11(n° 4)	11(n° 4)	14(n° 4)	14(n° 4)	14(n° 8)	16(n° 8)	16(n° 8)
	K P	80	110	125	180	200	210	280	320	320
	K Q	70	95	110	142	170	200	260	290	290
	K W	45°	45°	45°	45°	45°	45°	22.5°	22.5°	22.5°
FB	K A	-	97	120	112	90	122	180	-	-
	K B	-	7	9	10	13	18	15	-	-
	K C	-	4	5	6	6	6	6	-	-
	K N	-	60	70	115	110	180	170	-	-
	K M	-	80min	90min	150	130	215	230	-	-
	K O	-	9(n° 4)	11(n° 4)	11(n° 4)	14(n° 4)	14(n° 4)	14(n° 8)	-	-
	K P	-	110	125	180	160	250	280	-	-
	K Q	-	95	110	142	-	-	260	-	-
	K T	-	-	-	-	-	105	-	-	-
FC	K W	-	45°	45°	45°	45°	45°	-	-	-
	K A	-	80	89	98	-	110	-	-	-
	K B	-	9	10	10	-	17	-	-	-
	K C	-	5	5	5	-	6	-	-	-
	K N	-	95	110	130	-	130	-	-	-
	K M	-	115	130	165	-	165	-	-	-
	K O	-	9.5(n° 4)	9.5(n° 4)	11(n° 4)	-	11(n° 4)	-	-	-
	K P	-	140	160	200	-	200	-	-	-
	K T	-	56	66	80	-	-	-	-	-
FD	K W	-	45°	45°	45°	-	45°	-	-	-
	K A	-	58	72	107	-	151	-	-	-
	K B	-	12	14.5	10	-	13	-	-	-
	K C	-	5	5	5	-	6	-	-	-
	K N	-	80	95	130	-	152	-	-	-
	K M	-	100	115	165	-	175	-	-	-
	K O	-	9(n° 4)	11(n° 4)	11(n° 4)	-	14(n° 4)	-	-	-
	K P	-	120	140	200	-	210	-	-	-
	K Q	-	-	-	-	-	200	-	-	-
FE	K T	-	50	60	-	-	-	-	-	-
	K W	-	45°	45°	45°	-	45°	-	-	-
	K A	-	-	-	80,5	-	-	-	-	-
	K B	-	-	-	16,5	-	-	-	-	-
	K C	-	-	-	5	-	-	-	-	-
	K N	-	-	-	110	-	-	-	-	-
	K M	-	-	-	130	-	-	-	-	-
	K O	-	-	-	11(n° 4)	-	-	-	-	-
	K P	-	-	-	160	-	-	-	-	-
	K W	-	-	-	45°	-	-	-	-	-



	030	040	050	063	075	090	110	130	150
FA	1	1	1	1	1	1	1	1	1
FB	-	1	1	1	3	2	1	-	-
FC	-	2	2	2	-	3	-	-	-
FD	-	2	2	2	-	1	-	-	-
FE	-	-	-	3	-	-	-	-	-

底脚 Foot



	A	B	C	D	E	H
E-VV030..	50	66	80	82	7	55
E-VV040..	52	81	96.0	103	9	71
E-VV050..	85	96- 99	111	125	9	86
E-VV063..	95	115	140.0	141	12	100
E-VV075..	120	119	160.0	147	12	115
E-VV090..	160	145	210.0	177	13	149

三、E-DRV双极蜗轮减速器
COMBINATION WORM GEAR UNITS

产品概述 Summary

由单机涡轮减速机组合而成，具有单机E-RV的一切优点，和获得大的传动比。
It is combined by two single step reducers and has all the virtues of them,
with larger ratio.

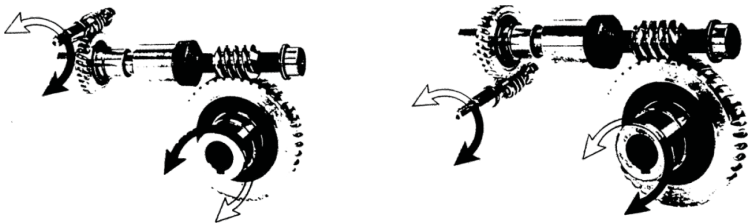


型号说明
Model Mark

减速机 Gear unit					电机 Motor				
E-DRV	050/110- 900	E	FA1	AS1	71B5	PS1-7124或/	or0.37-	4/1	
①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩

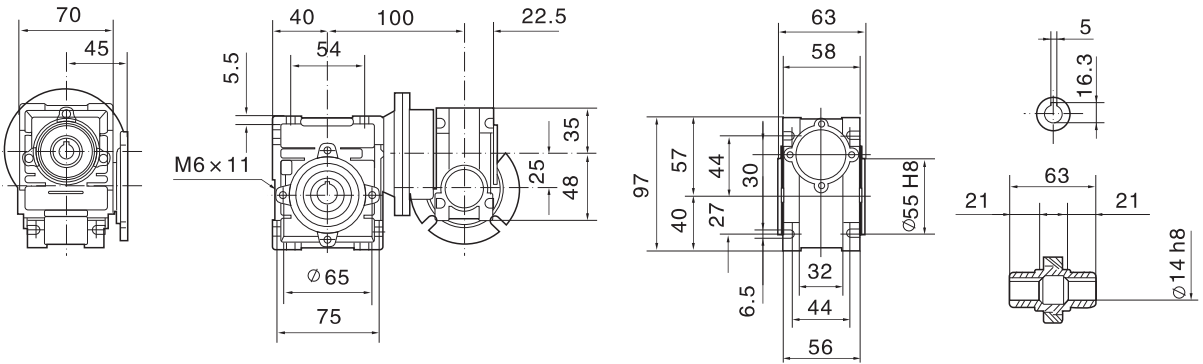
NO	说 明	Comments
1	蜗轮减速器代号 E-DRV 为带输入法兰孔输入, E-V为不带输入法兰轴输入	Code of worm-gear speed reducer E-DRV:Hole input with flange, E-V: Shaft input without flange
2	蜗轮减速器中心距	Center distance of two worm gear units
3	蜗轮减速器速比	Speed ratio of worm-gear speed reducer
4	1).无代号表示不带蜗杆同向输出轴 2). E :带蜗杆同向输出轴	1).No mark means single extension warm shaft 2). E : Double extension worm shaft
5	1).无代号表示不带输出法兰 2). FA,FB,FC,FD,FE(1/2):输出法兰代号和位置	1).No mark means without output flange 2). FA,FB,FC,FD,FE(1/2):output flange and position
6	1).无代号表示孔输出 2). AS (1/2) : 单向输出轴和位置 3). AB: 双向输出轴	1).No mark means hole output 2). AS (1/2) : Single output shaft and position 3). AB : Double output shaft
7	输入法兰规格型号	Normalized form of input flange(without motor)
8	安装方位代号	Installation position code
9	1). 优号表示不带电机 2). 槐型号或功率、极数	1).No mark means without motor 2). Model motors (poles of power)
10	电机接线盒位置，默认位置 1 可以不写	Position diagram for motor terminal box default position1 can be no mention

蜗杆 蜗轮旋转方向
Direction of Rotation

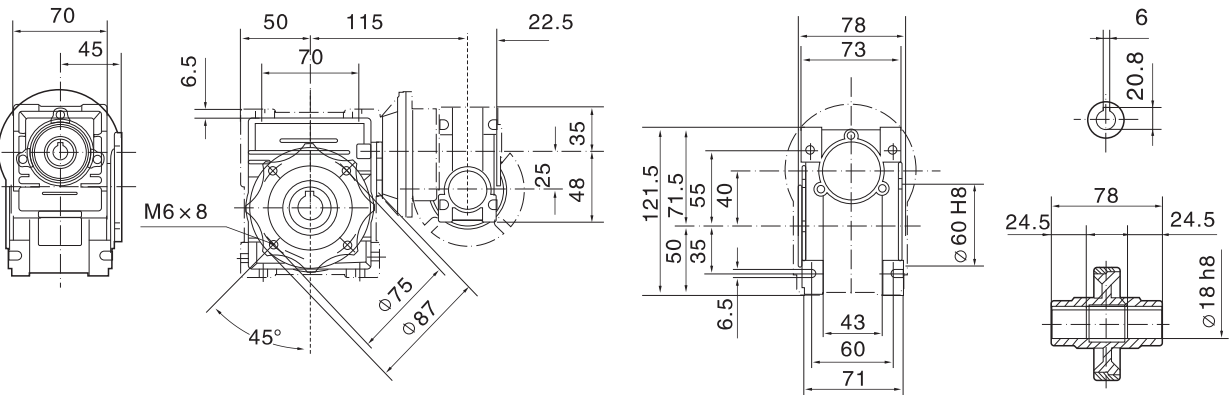


外形尺寸图表
OUTLINE DIMENSION SHEET

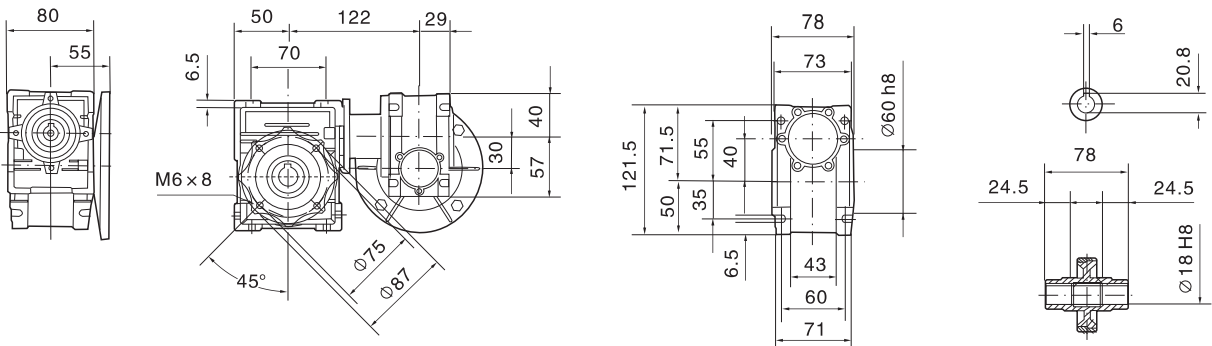
E-DRV025/030



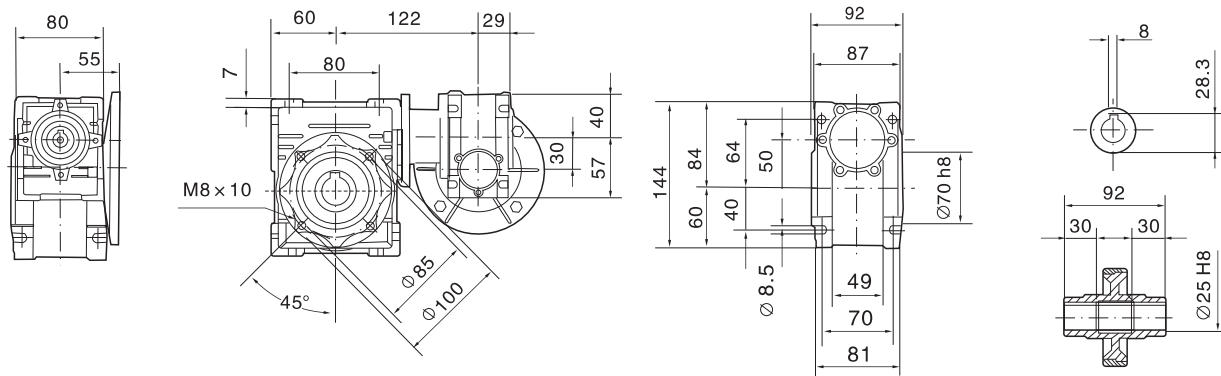
E-DRV025/040



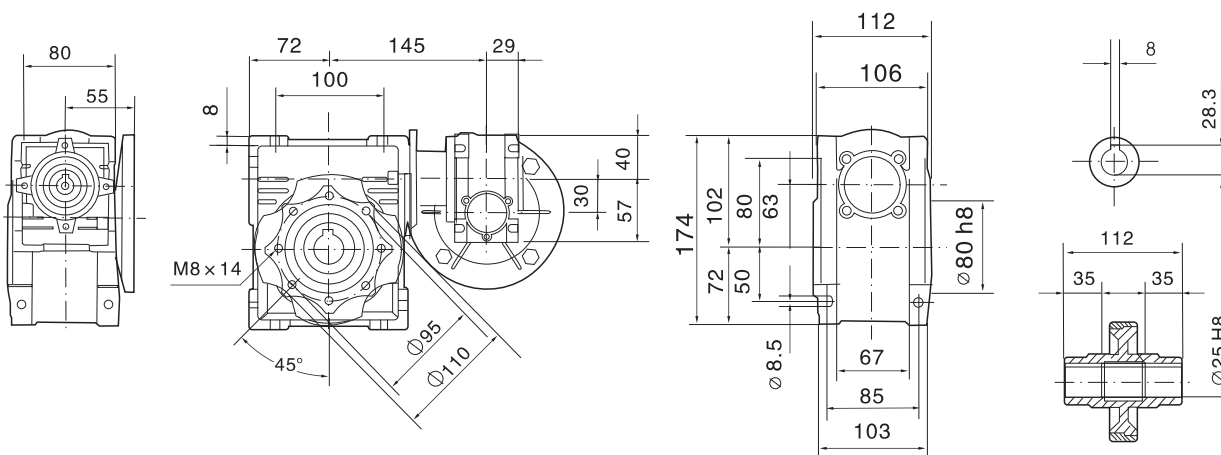
E-DRV030/040



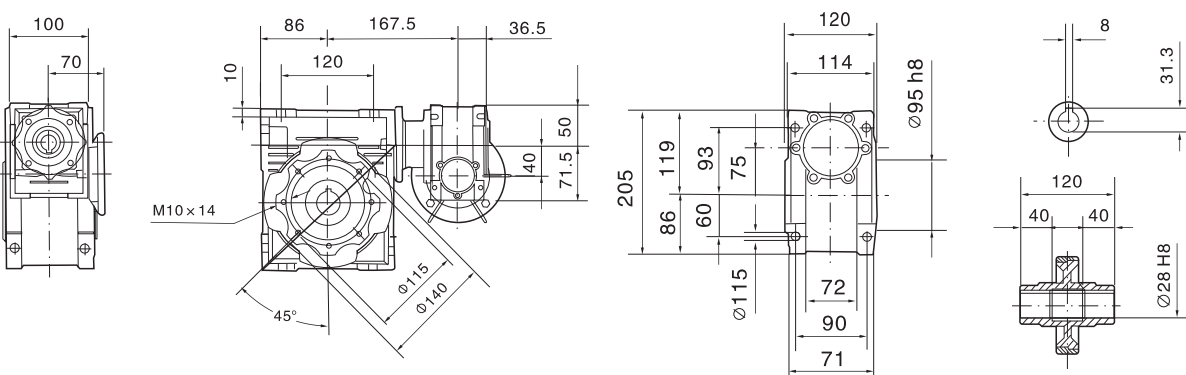
E-DRV030/050



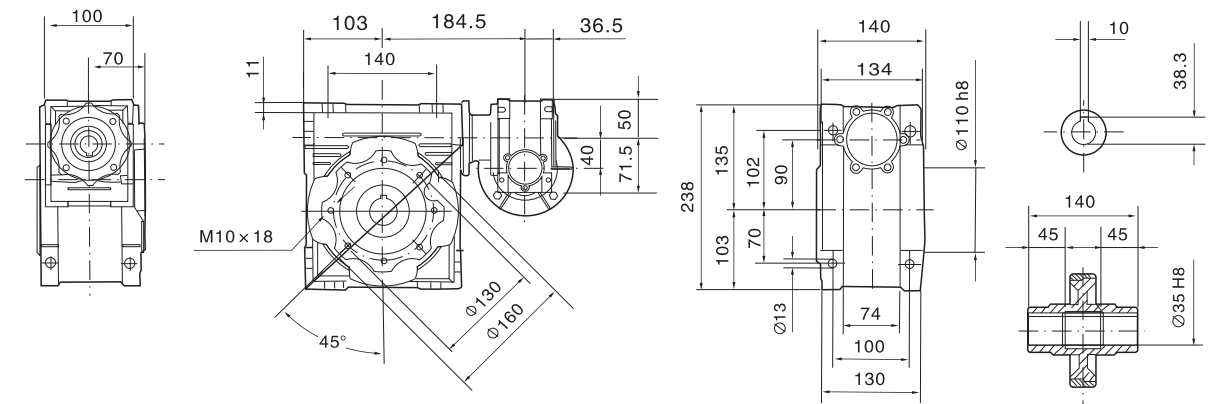
E-DRV030/063



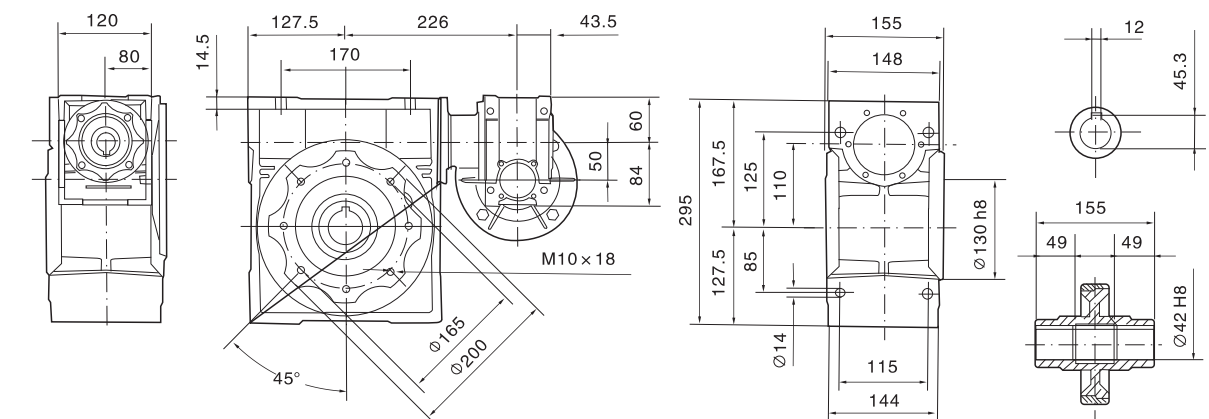
E-DRV040/075



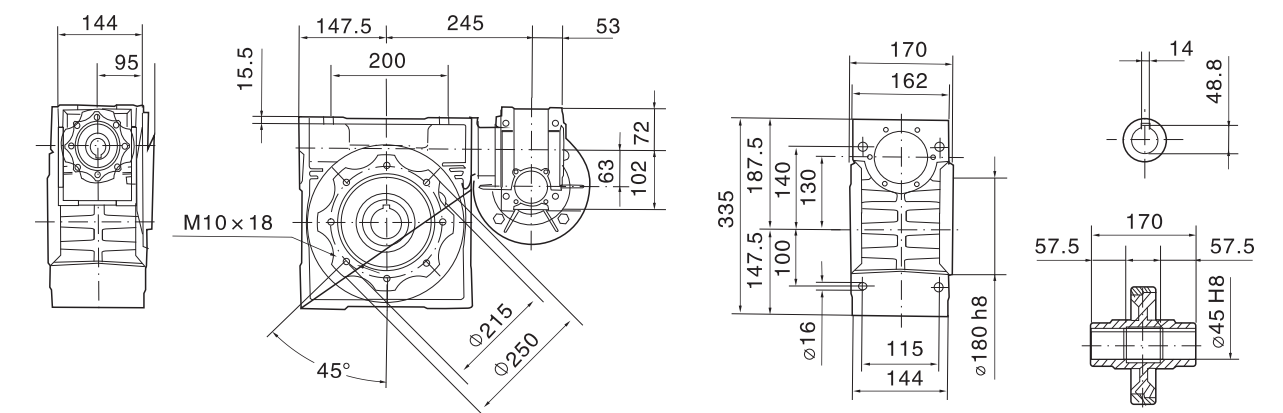
E-DRV040/090



E-DRV050/110



E-DRV063/130

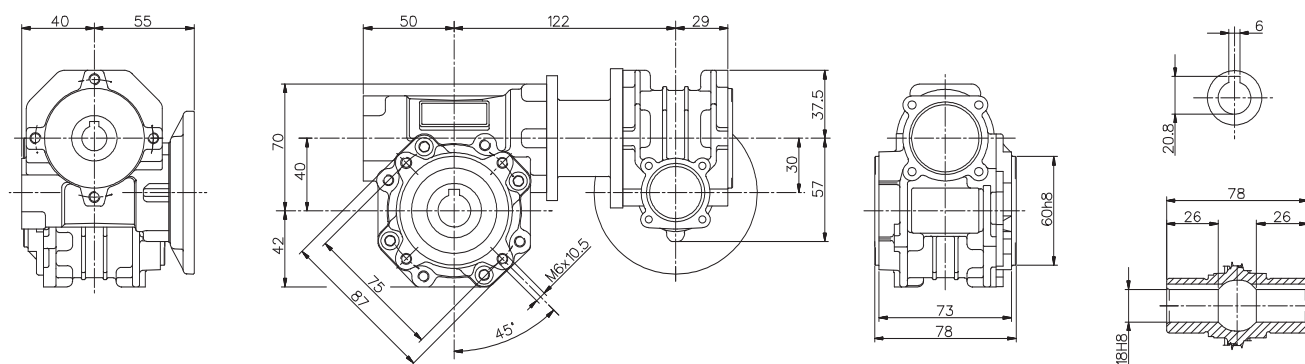


E-VV/E-VV双极蜗轮减速器 外形尺寸图表

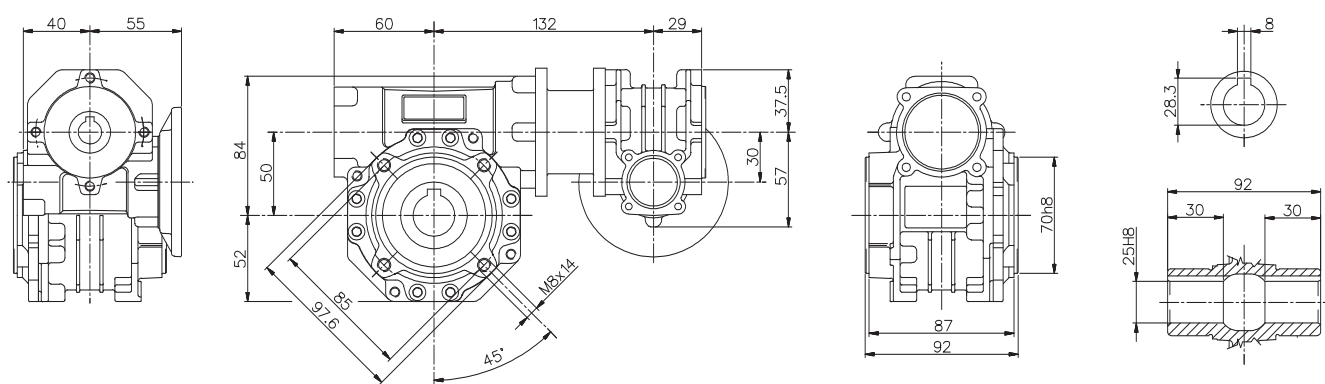
COMBINATION DIMENSION SHEET FOR E-VV/E-VV

- 有关输出法兰F的尺寸, 请参阅有关RV型号的图纸
For the dimensions of the output flange F, please consider the drawing of the relevant RV size
- 有关中空轴的尺寸, 请参阅有关RV型号的图纸
For the dimensions of the hollow shafts in option, please consider the drawing of the relevant RV size
- 有关双延伸轴的尺寸, 请参阅有关RV型号的图纸
For the dimensions of the double extension worm shafts, please consider the drawing of the relevant RV size

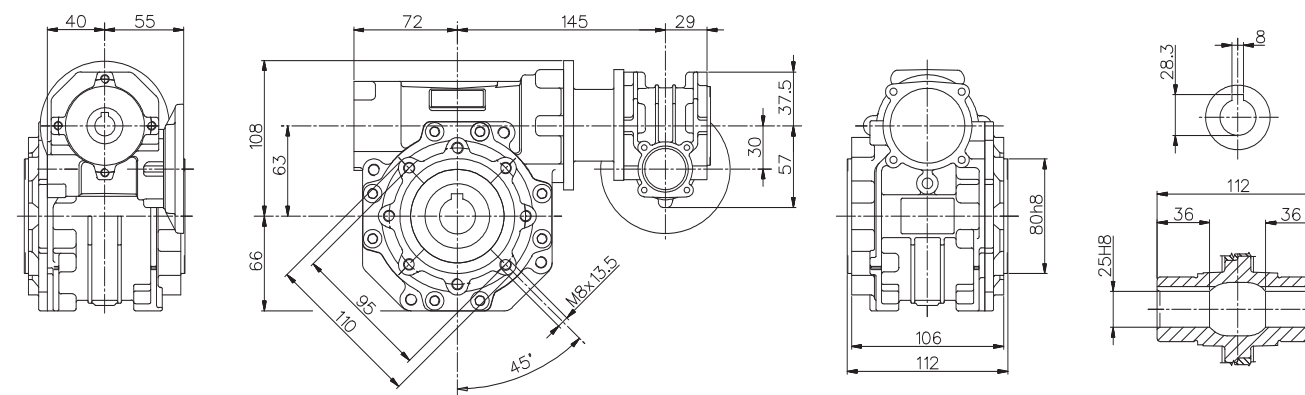
E-VV030-040



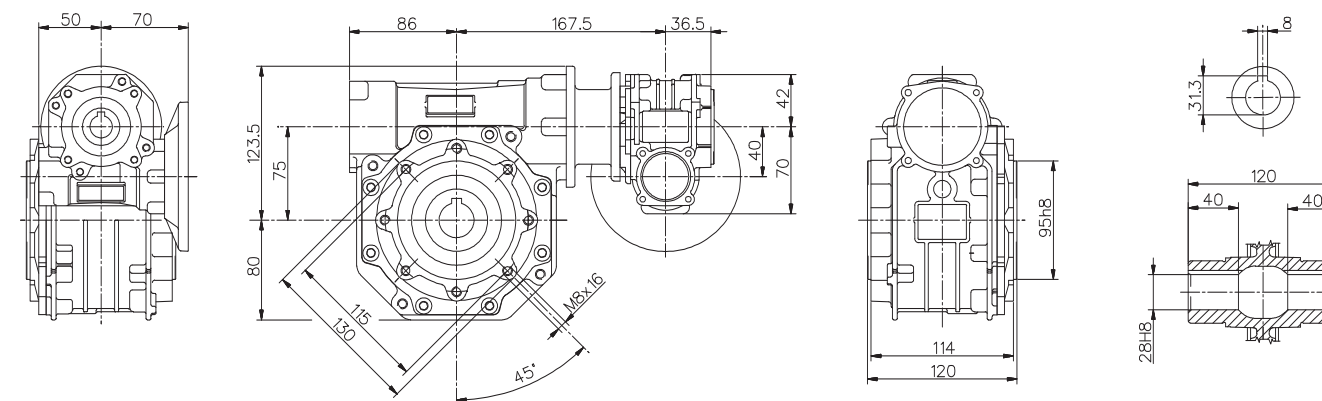
E-VV030-050



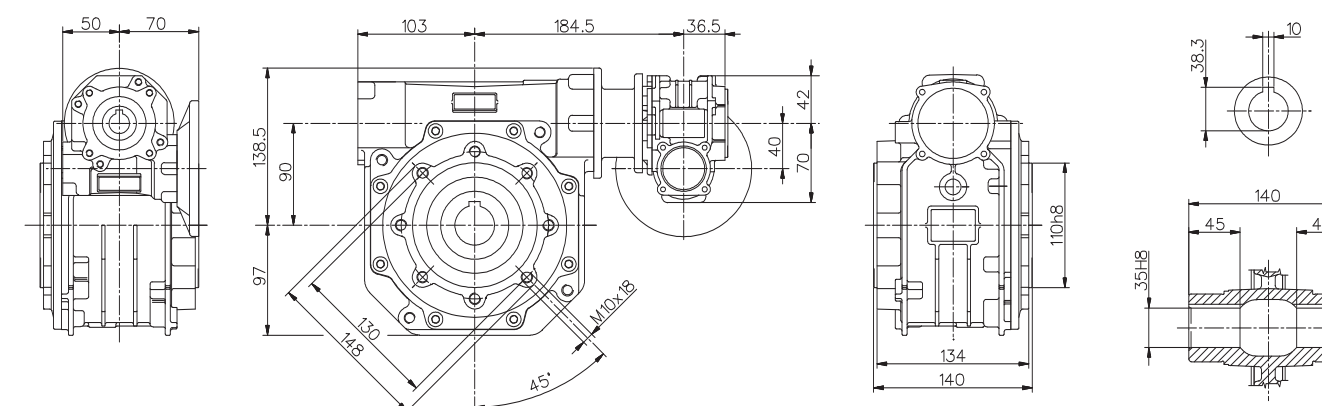
E-VV030-063



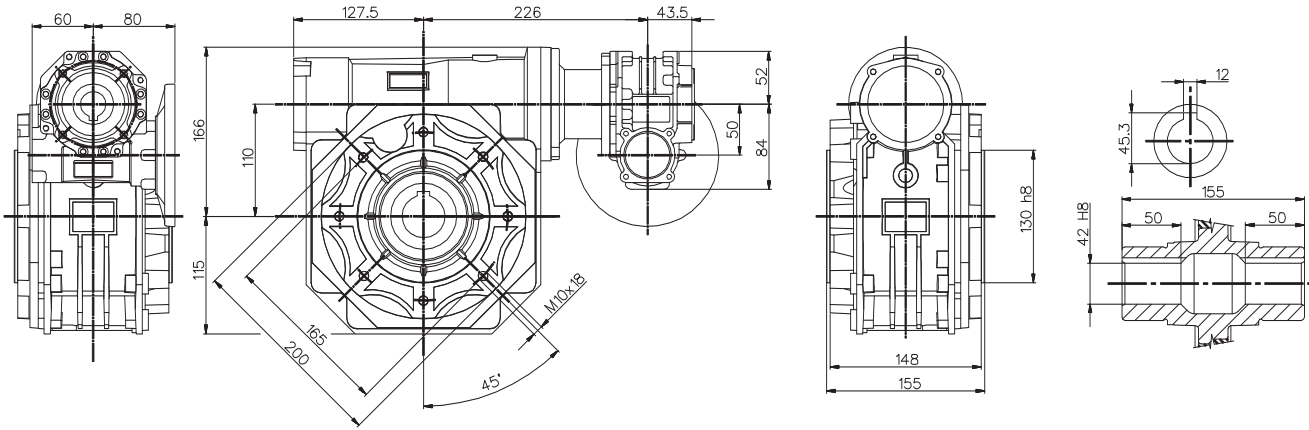
E-VV040-075



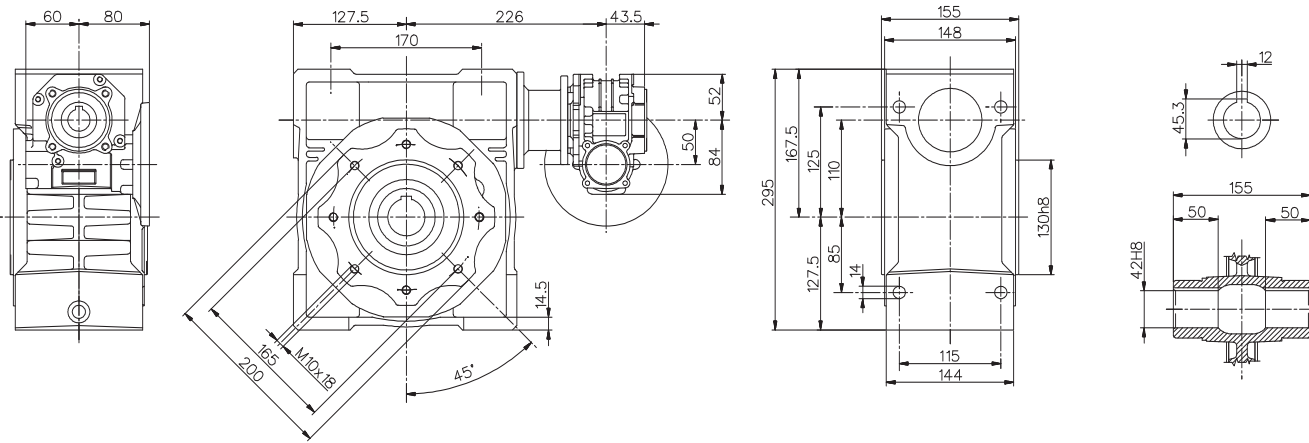
E-VV040-090



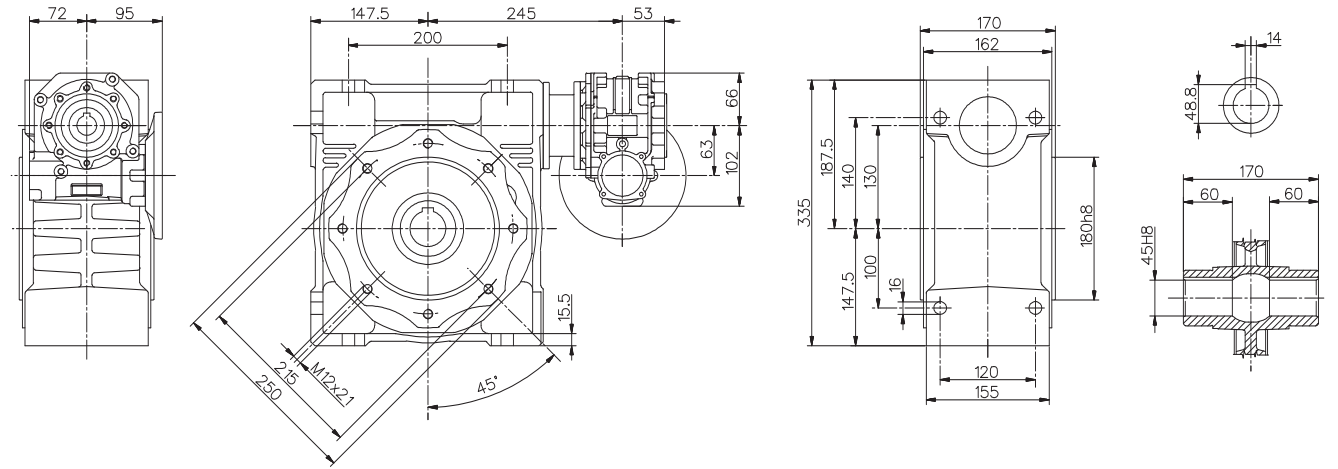
E-VV050-105



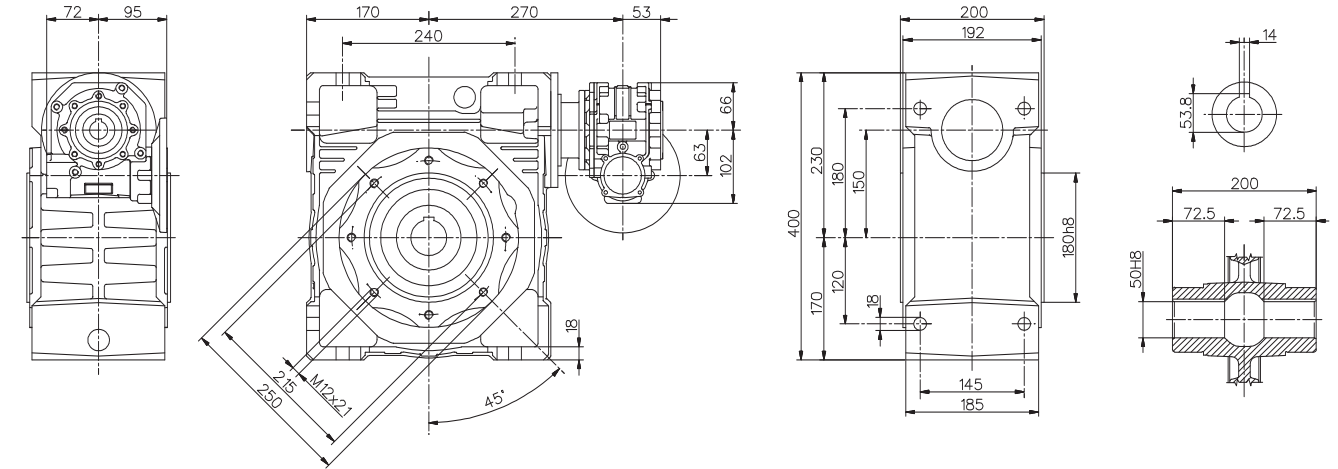
E-VV050-110



E-VV063-130

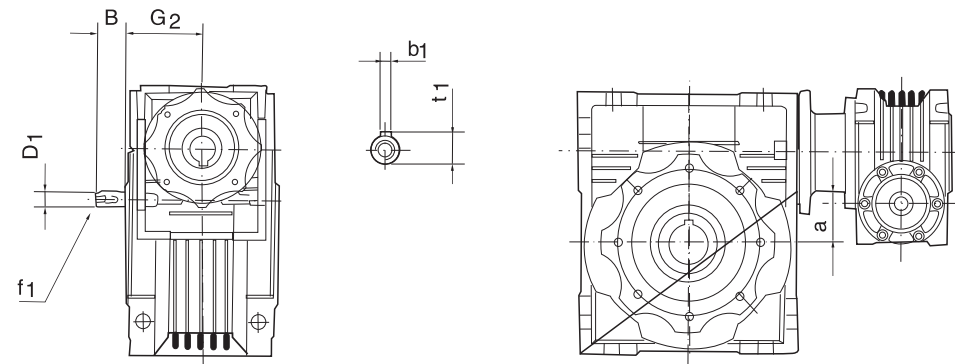


E-VV063-150



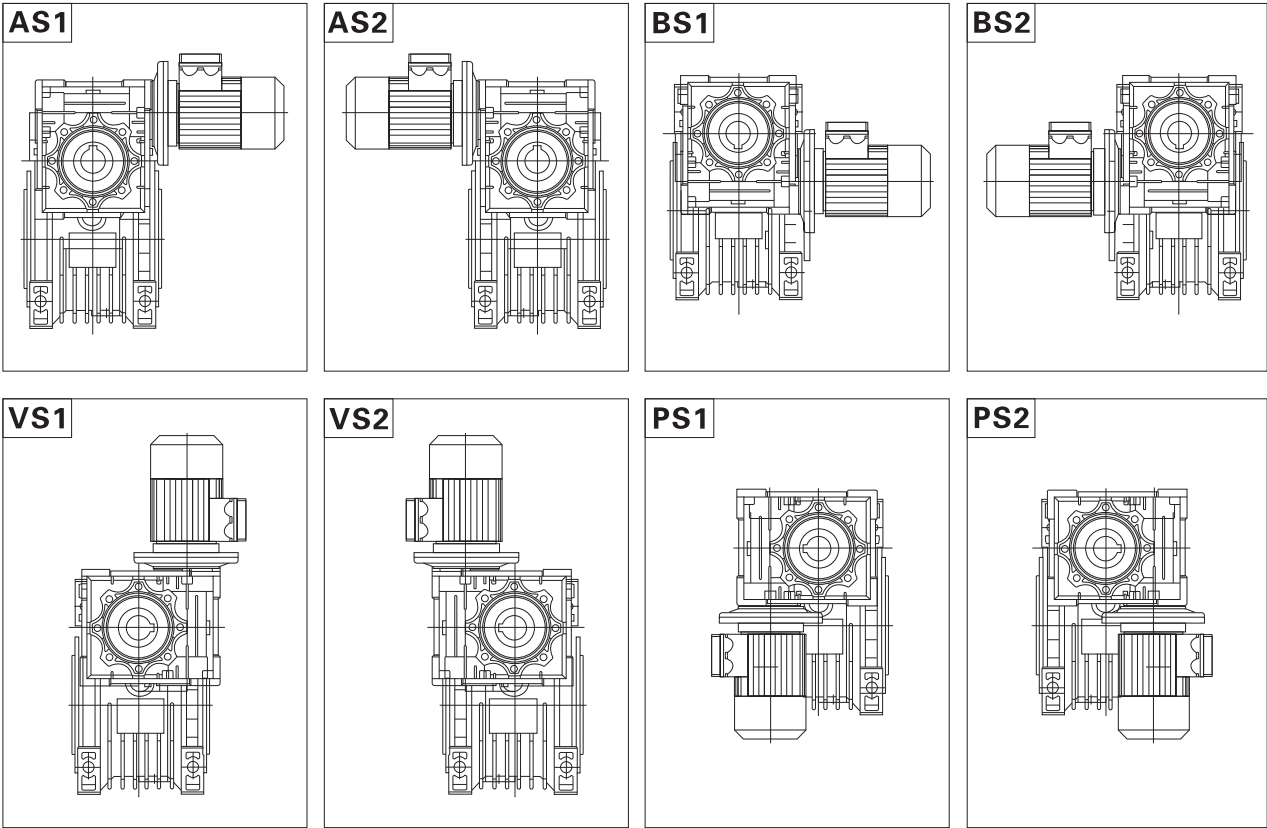
安装方位图
INSTALLATION POSITIONS DIAGRAM

E-DRV双极蜗轮减速器 COMBINATION WORM GEAR UNITS

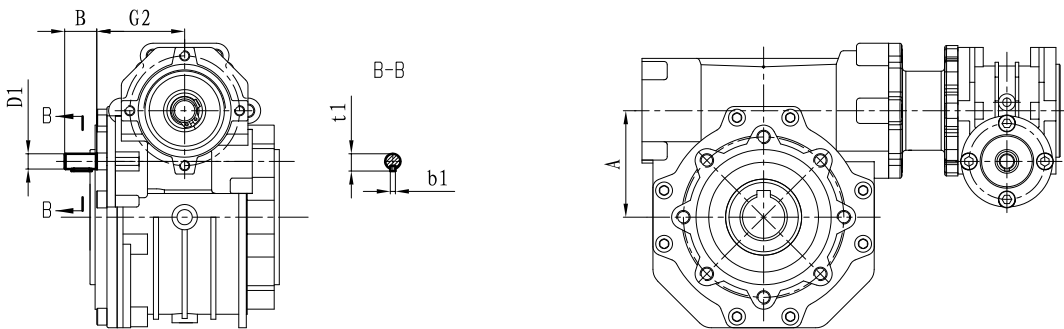


E-DRV	030/040	030/050	030/063	040/073	040/093	050/110	063/130
B	20	20	20	23	23	30	40
D1j6	9	9	9	11	11	14	19
G2	51	51	51	60	60	74	90
A	10	20	33	35	50	60	67
B1	3	3	3	4	4	5	6
F1	-	-	-	-	-	M 6	M 6
TI	10.2	10.2	10.2	12.5	12.5	16	21.5

双级安装型式
Double Step Mounting Positions

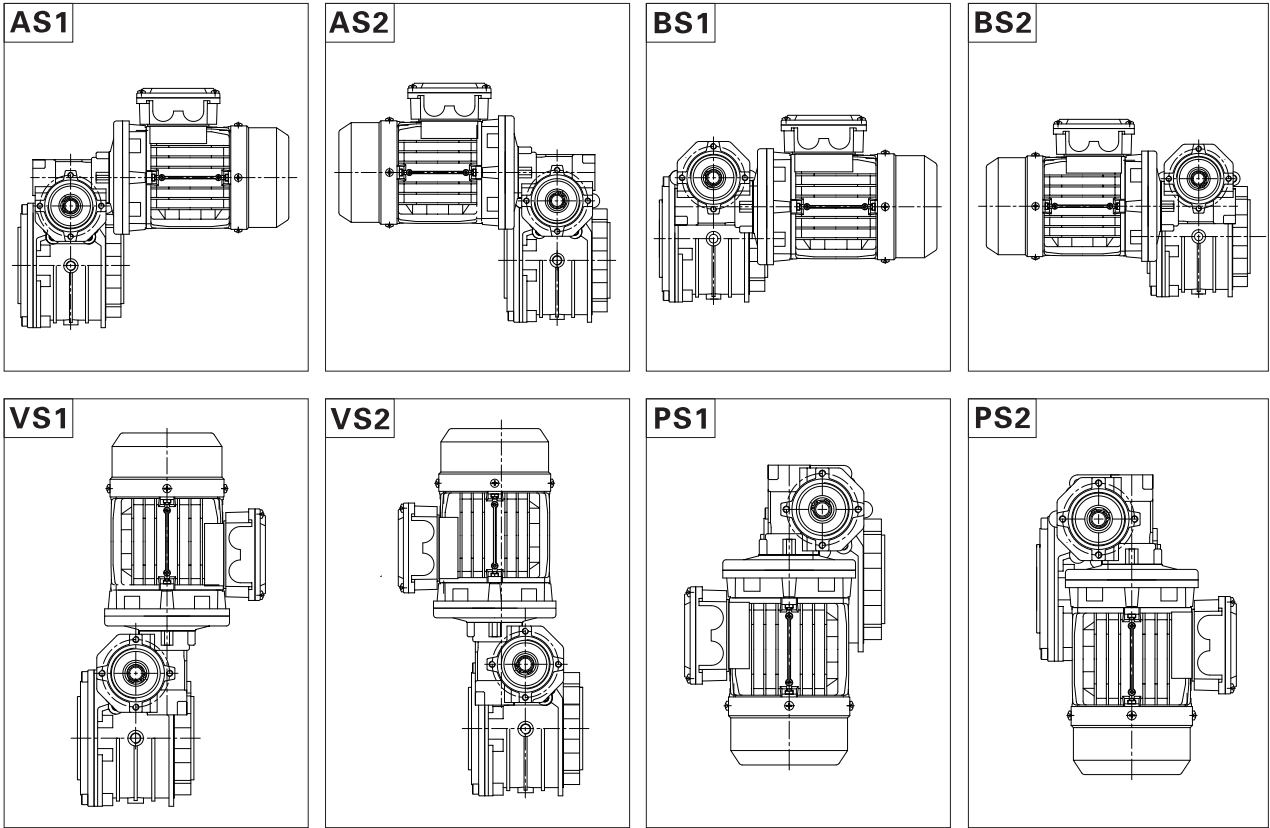


E-VV双极蜗轮减速器
COMBINATION WORM GEAR UNITS



E-VV	030/040	030/050	030/063	040/073	040/093	050/110	063/130
B	20	20	20	23	23	30	40
D1j6	9	9	9	11	11	14	19
G2	51	51	51	60	60	74	90
A	10	20	33	35	50	60	67
B1	3	3	3	4	4	5	6
F1	-	-	-	-	-	M 6	M 6
TI	10.2	10.2	10.2	12.5	12.5	16	21.5

双级安装型式
Double Step Mounting Positions



组合传动速比分配表
ASSIGNMENTTABLE OF COMBINATION RATIO

n1=1400r/min		E-DRV025/030			E-DRV025/040			E-DRV030/040 E-VV030/040			E-DRV030/050 E-VV030/050			E-DRV030/063 E-VV030/063		
i	n2	P1 (kw)	i025	i030	P1 (kw)	i025	i040	P1 (kw)	i030	i040	P1 (kw)	i030	i050	P1 (kw)	i030	i060
100	14	0.09	10	10	—	—	—	—	—	—	—	—	—	—	—	—
150	9.3	0.06	10	15	—	—	—	—	—	—	—	—	—	—	—	—
200	7	0.06	10	20	—	—	—	—	—	—	—	—	—	—	—	—
250	5.6	0.06	10	25	—	—	—	—	—	—	—	—	—	—	—	—
300	4.7	0.06	10	30	0.06	10	30	0.09	10	30	0.18	10	30	0.22	10	30
400	3.5	0.06	20	20	0.06	10	40	0.06	10	40	0.12	10	40	0.18	10	40
500	2.8	0.06	20	25	0.06	20	25	0.06	20	25	0.09	10	50	0.18	10	50
600	2.3	0.06	20	30	0.06	20	30	0.06	20	30	0.09	20	30	0.12	20	30
750	1.9	0.06	30	25	0.06	25	30	0.06	25	30	0.09	25	30	0.12	25	30
900	1.6	0.06	30	30	0.06	30	30	0.06	30	30	0.06	30	30	0.09	30	30
1200	1.2	0.06	40	30	0.06	40	30	0.06	40	30	0.06	40	30	0.09	40	30
1500	0.93	0.06	50	30	0.06	50	30	0.06	50	30	0.06	50	30	0.06	50	30
1800	0.78	0.06	60	30	0.06	60	30	0.06	60	30	0.06	60	30	0.06	60	30
2400	0.58	0.06	60	40	0.06	60	40	0.06	60	40	0.06	60	40	0.06	60	40
3000	0.47	0.06	60	50	0.06	60	50	0.06	—	—	0.06	60	50	0.06	60	50
3200	0.44	—	—	—	—	—	—	—	80	40	—	—	—	—	—	—
4000	0.35	—	—	—	0.06	50	80	0.06	80	50	0.06	80	50	0.06	80	50
4800	0.29	—	—	—	—	—	—	—	—	—	0.06	80	60	—	—	—
5000	0.28	—	—	—	0.06	50	100	0.06	50	100	—	—	—	0.06	100	50

N1=1400r/min		E-DRV040/075 E-VV040/075			E-DRV040/090 E-VV040/090			E-DRV050/110			E-DRV063/130		
i	n2	P1 (kw)	i040	i075	P1 (kw)	i040	i090	P1 (kw)	i050	i0110	P1 (kw)	i063	i030
300	4.7	0.37	10	30	0.37	10	30	0.75	10	30	1.5	10	30
400	3.5	0.25	10	40	0.37	10	40	0.75	10	40	1	10	40
500	2.8	0.25	10	50	0.37	10	50	0.55	20	25	1	10	50
600	2.3	0.18	20	30	0.37	20	30	0.55	20	30	0.75	15	40
750	1.9	0.18	25	30	0.25	25	30	0.55	25	30	0.75	25	30
900	1.6	0.12	30	30	0.25	30	30	0.37	30	30	0.75	30	30
1200	1.2	0.12	40	30	0.18	40	30	0.25	40	30	0.55	40	30
1500	0.93	0.09	50	30	0.18	50	30	0.25	50	30	0.37	50	30
1800	0.78	0.09	60	30	0.12	60	30	0.25	60	30	0.37	60	30
2400	0.58	0.06	60	40	0.12	60	40	0.18	60	40	0.25	60	40
3000	0.47	0.06	60	50	0.09	60	50	0.12	60	50	0.25	60	50
4000	0.35	0.06	80	50	0.06	80	50	0.12	80	50	0.25	80	50
5000	0.28	0.06	100	50	0.06	100	50	0.12	100	50	0.25	100	50

用户有特殊要求时,可根据实际需要选择025、030、040、050、063、075、090、110、130、150作为组合单位另行组合
You can choose 025、030、040、050、063、075、090、110、130、150 as combination unit to combine according to the fact your special needs.

E-RV, E-DRV, E-VV性能参数
PERFORMANCEPARAMETER

P1n [Kw]	n2 [1/min]	M2n [Nm]	i	Fr2 [N]	fs		
0.06 (5614)	186.7	2.6	7.5	503	4.2	E-RV025	5614
	140	3.4	10	553	3.5		
	93.3	4.9	15	633	2.5		
	70	6.2	20	697	2		
	56	7.5	25	751	1.8		
	46.7	8.3	30	798	1.6		
	35	10	40	878	1.3		
	28	12	50	946	0.9		
	23.3	14	60	1006	0.7		
	186.7	2.6	7.5	683	6.9	E-RV030 E-VV030	5614
	140	3.4	10	752	5.4		
	93.3	4.7	15	861	3.8		
	70	6	20	948	3		
	56	7	25	1021	3		
	46.7	8	30	1085	2.5		
	35	9.7	40	1194	1.9		
	28	11.3	50	1286	1.5		
	23.3	12.5	60	1367	1.3		
	17.5	12.5	80	1504	0.9		
	14	25	100	1620	1.3	E-DRV025/030	5614
	9.3	33	150	1830	0.9		
	7	41	200	1830	0.7		
	5.6	45	250	1830	0.8		
	4.7	56	300	3490	1.2	E-DRV025/040	5614
	3.5	69	400	3490	0.9		
	2.8	94	500	3490	0.7		
	2.3	100	600	3490	0.6		
	1.9	115	750	3490	0.5		
	1.6	125	900	3490	0.5		
	1.2	153	1200	3490	0.4		
	0.93	185	1500	3490	0.3		
	0.78	198	1800	3490	0.3		
	0.58	247	2400	3490	0.2		
	0.47	280	3000	3490	0.2		
	0.35	295	4000	3490	0.1		
	0.28	348	5000	3490	0.1		
	4.7	55	300	3490	1.3	E-DRV030/040 E-VV030/040	5614
	3.5	67	400	3490	0.9		
	2.8	88	500	3490	0.6		
	2.3	95	600	3490	0.7		
	1.9	103	750	3490	0.6		
	1.6	118	900	3490	0.5		
	1.2	143	1200	3490	0.4		
	0.93	166	1500	3490	0.4		
	0.78	184	1800	3490	0.3		
	0.58	217	2400	3490	0.2		
	0.44	247	3200	3490	0.2		
	0.35	278	4000	3490	0.1		
	0.28	327	5000	3490	0.1		
	1.6	118	900	4840	1	E-DRV030/050 E-VV030/050	5614
	1.2	143	1200	4840	0.7		
	0.93	166	1500	4840	0.7		
	0.78	184	1800	4840	0.7		
	0.58	227	2400	4840	0.5		
	0.47	256	3000	4840	0.4		
	0.35	278	4000	4840	0.3		
	0.29	316	4800	4840	0.3		

N1=1400
N1=2800
N1=900

P1n [Kw]	n2 [1/min]	M2n [Nm]	i	Fr2 [N]	fs		
0.06 (5614)	0.93	173	1500	6270	1.1	E-DRV030/063 E-VV030/063	5614
	0.78	191	1800	6270	0.9		
	0.58	227	2400	6270	0.8		
	0.47	256	3000	6270	0.7		
	0.35	295	4000	6270	0.6		
	0.28	327	5000	6270	0.4		
	0.58	267	2400	7380	1.1	E-DRV040/075 E-VV040/075	5614
	0.47	305	3000	7380	0.8		
	0.35	360	4000	7380	0.7		
	0.28	409	5000	7380	0.5		
	0.47	329	3000	8180	1.4	E-DRV040/090 E-VV040/090	5614
	0.35	393	4000	8180	1.3		
	0.28	430	5000	8180	1		
0.09 (5612) (5624)	373.3	2.0	7.5	399	3.9	E-RV025	5612
	280	2.6	10	439	3.4		
	186.7	3.8	15	503	2.4		
	140	4.9	20	553	1.9		
	112	5.9	25	590	1.5		
	93.3	6.7	30	633	1.3		
	70	8.5	40	697	1.1		
	56	10.0	50	751	0.9		
	186.7	3.9	7.5	503	2.8	E-RV025 E-VV025	5624
	140	5.1	10	553	2.4		
	93.3	7.3	15	633	1.6		
	70	9.3	20	697	1.3		
	56	11	25	751	1.2		
	46.7	13	30	798	1.1		
	35	16	40	878	0.9		
	373.3	2.0	7.5	542	6.5	E-RV030 E-VV030	5612
	280	2.6	10	597	5		
	186.7	3.7	15	683	3.5		
	140	4.7	20	752	2.5		
	112	5.5	25	810	2.8		
	93.3	6.4	30	861	2.3		
	70	8.0	40	948	1.7		
	56	9.4	50	1021	1.4		
	46.7	10	60	1085	1.1		
	35	13	80	1194	0.9		
	186.7	3.9	7.5	683	4.6	E-RV030 E-VV030	5624
	140	5.0	10	752	3.6		
	93.3	7.0	15	861	2.5		
	70	8.8	20	948	2		
	56	10	25	1021	1.9		
	46.7	12	30	1085	1.7		
	35	14	40	1194	1.2		
	28	17	50	1286	1		
	23.3	18	60	1367	0.9		
	28	18	100	1286	1.6	E-DRV025/030	5612
	18.7	25	150	1472	1.1		
	14	31	200	1620	0.9		
	14	37	100	1620	0.8	E-DRV025/030	5624
	9.3	50	150	1830	0.6		
	7	61	200	1830	0.5		
	5.6	68	250	1830	0.5		
	4.7	77	300	1830	0.4		
	3.5	106	400	1830	0.3		
	2.8	117	500	1830	0.3		

	N1=1400
	N1=2800
	N1=900

P1n [Kw]	n2 [1/min]	M2n [Nm]	i	Fr2 [N]	fs		
0.09 (5612) (5624)	2.3	135	600	1830	0.2	E-DRV025/030	5624
	1.9	149	750	1830	0.2		
	1.6	167	900	1830	0.2		
	1.2	201	1200	1830	0.1		
	0.93	231	1500	1830	0.1		
	0.78	264	1800	1830	0.1		
	0.58	311	2400	1830	0.1		
	0.47	347	3000	1830	0.1		
	28	19	50	2475	2	E-RV040 E-VV040	5624
	23.3	21	60	2630	1.7		
	17.5	25	80	2895	1.3		
	14	29	100	3118	1		
	9.3	43	300	3490	1.6	E-DRV025/040	5612
	7	52	400	3490	1.2		
	5.6	71	500	3490	0.8		
	4.7	82	300	3490	0.8	E-DRV/VV030/040	5624
	3.5	103	400	4840	1.2		
	2.8	120	500	4840	1	E-DRV030/050 E-VV030/050	5624
	2.3	146	600	4840	0.9		
	1.9	158	750	4840	0.8		
	1.6	177	900	4840	0.7		
	1.6	188	900	6270	1	E-DRV030/063 E-VV030/063	5624
	1.2	222	1200	6270	0.9		
	0.93	259	1500	6270	0.7		
	0.93	305	1500	7380	1.1	E-DRV040/075 E-VV040/075	5624
	0.78	331	1800	7380	1		
	0.58	400	2400	7380	0.7		
	0.47	494	3000	8180	0.9	E-DRV040/090 E-VV040/090	5624
	0.35	589	4000	8180	0.8		
0.12 (5622) (6314)	373.3	2.7	7.5	399	3	E-RV025	5622
	280	3.5	10	439	2.6		
	186.7	5.1	15	503	1.8		
	140	6.5	20	553	1.4		
	112	7.9	25	590	1.1		
	93.3	9.0	30	633	1		
	70	11	40	697	0.8		
	186.7	5.2	7.5	683	3.4	E-RV030 E-VV030	6314
	140	6.6	10	752	2.7		
	93.3	9.3	15	861	1.9		
	70	12	20	948	1.5		
	56	14	25	1021	1.5		
	46.7	16	30	1085	1.3		
	35	19	40	1194	0.9		
	28	22	50	1286	0.8		
	46.7	17	30	2087	2.6	E-RV040 E-VV040	6314
	35	21	40	2298	1.9		
	28	25	50	2475	1.5		
	23.3	28	60	2630	1.3		
	17.5	33	80	2895	1		
	14	38	100	3118	0.8		
	23.3	29	60	3610	2.3	E-RV050 E-VV050	6314
	17.5	35	80	3973	1.9		
	14	39	100	4280	1.4		
	4.7	112	300	4840	1.2	E-DRV030/050 E-VV030/050	6314
	3.5	138	400	4840	0.9		
	2.8	160	500	4840	0.7		
	2.8	168	500	6270	1.3	E-DRV/VV030/063	6314

	N1=1400
	N1=2800
	N1=900

P1n [Kw]	n2 [1/min]	M2n [Nm]	i	Fr2 [N]	fs		
0.12 (5622) (6314)	2.3	199	600	6270	1.1	E-DRV030/063 E-VV030/063	6314
	1.9	217	750	6270	0.9		
	1.6	279	900	7380	1.2	E-DRV040/075 E-VV040/075	6314
	1.2	344	1200	7380	0.9		
	0.78	470	1800	8180	0.9	E-DRV040/090 E-VV040/090	6314
	0.58	593	2400	8180	0.9		
	0.47	731	3000	10320	1.2	E-DRV050/110	6314
0.18 (6312) (6324) (7116)	0.35	884	4000	10320	1		
	0.28	1023	5000	10320	0.8		
	373.3	4	7.5	542	3.2	E-RV030 E-VV030	6312
	280	5.2	10	597	2.5		
	186.7	7.4	15	683	1.7		
	140	9.5	20	752	1.3		
	112	11	25	810	1.4		
	93.3	13	30	861	1.1		
	70	16	40	948	0.9		
	186.7	7.7	7.5	683	2.3	E-RV030 E-VV030	6324
	140	10	10	752	1.8		
	93.3	14	15	861	1.3		
	70	18	20	948	1		
	56	20	25	1021	0.9		
	46.7	24	30	1085	0.8		
	93.3	14	30	1657	2.4	E-RV040 E-VV040	6312
	70	17	40	1824	1.8		
	56	21	50	1964	1.4		
	70	19	20	1824	2	E-RV040 E-VV040	6324
	56	23	25	1964	1.7		
	46.7	25	30	2087	1.7		
	35	32	40	2298	1.3		
	28	37	50	2475	1		
	23.3	42	60	2630	0.8		
	45	28	20	2113	1.5	E-RV040 E-VV040	7116
	36	34	25	2276	1.3		
	30	38	30	2419	1.3		
	22.5	47	40	2662	1	E-RV050 E-VV050	6312
	46.7	24	60	2865	2.1		
	35	30	80	3153	1.5		
	28	34	100	3397	1.2		
	35	33	40	3153	2.3	E-RV050 E-VV050	6324
	28	39	50	3397	1.9		
	23.3	44	60	3610	1.6		
	17.5	52	80	3973	1.2		
	14	59	100	4280	0.9		
	18	56	50	3936	1.4	E-RV050 E-VV050	7116
	15	63	60	4183	1.1		
	11.3	75	80	4604	0.9		
	15	66	60	5467	2.1	E-RV063 E-VV063	7116
	11.3	79	80	6018	1.6		
	9	90	100	6270	1.4		
	3.5	216	400	6270	1	E-DRV030/063 E-VV030/063	6324
	2.8	252	500	6270	0.8		
	2.3	336	600	7380	1.1	E-DRV040/075 E-VV040/075	6324
	1.9	371	750	7380	0.9		
	1.6	419	900	7380	0.8	E-DRV040/090 E-VV040/090	6324
	1.2	544	1200	8180	1		
	0.93	647	1500	8180	0.8		
	0.78	727	1800	10320	1.5	E-DRV050/110	6324
	0.58	948	2400	10320	1.1		

N1=1400
N1=2800
N1=900

P1n [Kw]	n2 [1/min]	M2n [Nm]	i	Fr2 [N]	fs		
0.25 (6322) (7114) (7126)	373.3	5.6	7.5	542	2.3	E-RV030 E-VV030	6322
	280	7.2	10	597	1.8		
	186.7	10	15	683	1.3		
	140	13	20	752	0.9		
	112	15	25	810	1		
	93.3	18	30	861	0.8		
	186.7	11	7.5	1315	3.6	E-RV040 E-VV040	7114
	140	14	10	1447	2.8		
	93.3	20	15	1657	1.9		
	70	26	20	1824	1.5		
	56	32	25	1964	1.2		
	46.7	35	30	2087	1.3		
	35	44	40	2298	0.9		
	120	17	7.5	1524	2.6	E-RV040 E-VV040	7126
	90	22	10	1677	2		
	60	31	15	1920	1.4		
	45	39	20	2113	1.1		
	36	48	25	2276	0.9		
	30	53	30	2419	0.9	E-RV050 E-VV050	6322
	35	42	80	3153	1.1		
	28	48	100	3397	0.8	E-RV050 E-VV050	7114
	70	27	20	2503	2.7		
	56	32	25	2696	2.2		
	46.7	36	30	2865	2.3		
	35	46	40	3153	1.7		
	28	54	50	3397	1.4		
	23.3	60	60	3610	1.1		
	17.5	72	80	3973	0.9	E-RV050 E-VV050	7126
	45	40	20	2900	1.9		
	36	48	25	3124	1.5		
	30	54	30	3320	1.7		
	22.5	67	40	3654	1.2		
	18	78	50	3936	1	E-RV063 E-VV063	7114
	15	88	60	4183	0.8		
	28	55	50	4440	2.4		
	23.3	64	60	4719	2		
	17.5	76	80	5193	1.6		
	14	87	100	5595	1.4	E-RV063 E-VV063	7126
	18	81	50	5145	1.8		
	15	92	60	5467	1.5		
	11.3	110	80	6018	1.2		
	9	125	100	6270	1		
	7	150	400	6270	1.4	E-DRV030/063 E-VV030/063	6322
	5.6	175	500	6270	1.2		
	17.5	80	80	6130	2.3	E-RV075 E-VV075	7114
	14	94	100	6603	1.9		
	11.3	116	80	7103	1.7	E-RV075 E-VV075	7126
	9	133	100	7380	1.4		
	3.5	321	400	7380	1.1	E-DRV040/075 E-VV040/075	7114
	2.8	375	500	7380	0.8		
	2.3	488	600	8180	1.2	E-DRV040/090 E-VV040/090	7114
	1.9	553	750	8180	0.9		
	1.6	612	900	8180	0.8	E-DRV050/110	7114
	1.2	776	1200	10320	1.3		
	0.93	924	1500	10320	1.2		
	0.78	1010	1800	10320	1.1		
	0.58	1358	2400	13500	1	E-DRV063/130	7114
	0.47	1626	3000	13500	0.8		

N1=1400
N1=2800
N1=900

P1n [Kw]	n2 [1/min]	M2n [Nm]	i	Fr2 [N]	fs		
0.37 (7112) (7124) (8026)	0.35	1910	4000	13500	0.6	E-DRV063/130	7114
	0.28	2132	5000	13500	0.5		
	0.8	1199	1800	18000	1.8	E-DRV063/150	7114
	0.6	1446	2400	18000	1.8		
	0.5	1713	3000	18000	1.4		
	0.4	2026	4000	18000	0.9		
	0.3	2251	5000	18000	0.7		
	373.3	8.3	7.5	1044	3.3	E-RV040 E-VV040	7112
	280	11	10	1149	2.6		
	186.7	16	15	1315	1.9		
	140	20	20	1447	1.4		
	112	25	25	1559	1.1		
	186.7	16	7.5	1315	24	E-RV040 E-VV040	7124
	140	21	10	1447	1.9		
	93.3	30	15	1657	1.3		
	70	39	20	1824	1		
	56	47	25	1964	0.8		
0.37 (7112) (7124) (8026)	46.7	52	30	2087	0.8	E-RV050 E-VV050	7112
	112	25	25	2140	2		
	93.3	29	30	2274	2.2		
	70	37	40	2503	1.6		
	56	44	50	2696	1.2		
	46.7	50	60	2865	1	E-RV050 E-VV050	7124
	35	62	80	3153	0.7		
	140	21	10	1987	3.3		
	93.3	31	15	2274	2.4		
	70	39	20	2503	1.8		
	56	47	25	2696	1.5	E-RV050 E-VV050	8016
	46.7	54	30	2865	1.5		
	35	68	40	3153	1.1		
	28	80	50	3397	0.9		
	23.3	89	60	3610	0.8		
	120	25	7.5	2091	3.3	E-RV063 E-VV063	7124
	90	33	10	2302	2.5		
	60	47	15	2635	1.8		
	45	59	20	2900	1.3		
	36	72	25	3124	1	E-RV063 E-VV063	8016
	30	80	30	3320	1.1		
	35	70	40	4122	2.1		
	28	82	50	4440	1.6		
	23.3	94	60	4719	1.4		
	17.5	113	80	5193	1.1	E-DRV030/063 E-VV030/063	7112
	14	129	100	5595	0.9		
	45	60	20	3791	2.4		
	36	73	25	4084	1.9		
	30	82	30	4339	2.1	E-RV075 E-VV075	7124
	22.5	102	40	4776	1.6		
	18	120	50	5145	1.2		
	15	137	60	5467	1		
	9.3	182	300	6270	1.3		
	7	222	400	6270	1	E-RV075 E-VV075	8016
	23.3	97	60	5569	2		
	17.5	119	80	6130	1.6		
	14	139	100	6603	1.3		
	18	124	50	6073	1.8		
	15	141	60	6453	1.5	E-RV075 E-VV075	8016
	11.3	172	80	7103	1.2		
	9	196	100	7380	1		

	N1=1400
	N1=2800
	N1=900

P1n [Kw]	n2 [1/min]	M2n [Nm]	i	Fr2 [N]	fs		
0.37 (7112) (7124) (8016)	4.7	383	300	7380	1	E-DRV/VV040/075	7124
	3.5	474	400	7380	0.7		
	11.3	184	80	7859	1.7	E-RV090 E-VV090	8016
	9	212	100	8180	1.3		
	4.7	406	300	8180	1.5	E-DRV/VV040/090	7124
	3.5	505	400	8180	1.2		
	2.8	593	500	8180	0.9	E-DRV040/090 E-VV040/090	7124
	2.3	722	600	8180	0.8		
	1.9	837	750	10320	1.3	E-DRV050/110	7124
	1.6	928	900	10320	1.2		
	1.2	1148	1200	10320	0.8	E-DRV063/130	7124
	0.93	1444	1500	13500	1.1		
0.55 (7122) (8014) (8026)	0.78	1586	1800	13500	0.9	E-DRV063/150	7124
	0.8	1774	1800	18000	1.2		
	0.6	2141	2400	18000	1.2		
	0.5	2535	3000	18000	0.9		
	373.3	12	7.5	1044	2.2	E-RV040 E-VV040	7122
	280	16	10	1149	1.8		
	186.7	24	15	1315	1.3		
	140	30	20	1447	0.9		
	112	37	25	1559	0.8	E-RV050 E-VV050	7122
	140	31	20	1987	1.7		
	112	38	25	2140	1.4		
	93.3	43	30	2274	1.5		
70	55	40	2503	1.1			
56	65	50	2696	0.8			
46.7	74	60	2865	0.7			
186.7	24	7.5	1805	2.9	E-RV050 E-VV050		
140	32	10	1987	2.2			
93.3	46	15	2274	1.6			
70	59	20	2503	1.2			
56	70	25	2696	1	E-RV050 E-VV050	8026	
46.7	80	30	2865	1			
120	37	7.5	2091	2.2			
90	48	10	2302	1.7			
60	69	15	2635	1.2	E-RV063 E-VV063	7122	
45	88	20	2900	0.9			
70	56	40	3272	1.9			
56	68	50	3524	1.5			
46.7	78	60	3745	1.2	E-RV063 E-VV063	8014	
35	96	80	4122	0.9			
28	111	100	4440	0.7			
70	60	20	3272	2.2			
56	72	25	3524	1.8	E-RV063 E-VV063	8026	
46.7	82	30	3745	1.9			
35	104	40	4122	1.4			
28	122	50	4440	1.1			
23.3	140	60	4719	0.9	E-RV075 E-VV075	7122	
60	70	15	3444	2.2			
45	90	20	3791	1.6			
36	108	25	4084	1.3			
30	123	30	4339	1.4	E-RV075 E-VV075	8014	
22.5	152	40	4776	1.1			
35	99	80	4865	1.3			
28	116	100	5241	1			
35	108	40	4865	2	E-RV075 E-VV075	8014	
28	128	50	5241	1.6			

	N1=1400
	N1=2800
	N1=900

	N1=1400
	N1=2800
	N1=900

P1n [Kw]	n2 [1/min]	M2n [Nm]	i	Fr2 [N]	fs		
0.55 (7112) (8014) (8026)	23.3	144	60	5569	1.4	E-RV075 E-VV075	8014
	17.5	177	80	6130	1.1		
	14	206	100	6603	0.9		
	30	124	30	5122	2	E-RV075 E-VV075	8026
	22.5	156	40	5637	1.5		
	18	184	50	6073	1.2		
	15	210	60	6453	1	E-RV090 E-VV090	8014
	17.5	189	80	6783	1.5		
	14	221	100	7306	1.2		
	18	196	50	6719	2	E-RV090 E-VV090	8026
	15	224	60	7140	1.6		
	11.3	274	80	7859	1.1		
	9	315	100	8180	0.9	E-DRV040/090 E-VV040/090	7122
	9.3	305	300	8180	2		
	7	375	400	8180	1.5		
	5.6	441	500	8180	1.2	E-RV110	8014
	17.5	201	80	8571	2.6		
	14	236	100	9232	2		
	11.3	293	80	9931	1.9	E-RV110	8026
	9	344	100	10320	1.5		
	4.7	615	300	10320	2	E-DRV050/110	8014
	3.5	810	400	10320	1.4		
	2.8	938	500	10320	1.1		
	2.3	1096	600	10320	1	E-DRV063/130	8014
	1.9	1244	750	10320	0.9		
	2.8	957	500	13500	1.6		
	1.9	1382	750	13500	1.2	E-DRV063/150	8014
	1.2	2057	1200	13500	0.8		
	0.8	2637	1800	1800	0.8		
0.75 (8012) (8024) (90S6)	373.3	17	7.5	1433	3	E-RV050 E-VV050	8012
	280	22	10	1577	2.4		
	186.7	31	15	1805	1.7		
	140	41	20	1987	1.3		
	112	49	25	2140	1		
	93.3	56	30	2274	1.1	E-RV050 E-VV050	8024
	186.7	33	7.5	1805	2.1		
	140	43	10	1987	1.6		
	93.3	62	15	2274	1.2		
	70	80	20	2503	0.9		
	140	43	20	2597	2.3	E-RV063 E-VV063	8012
	112	52	25	2797	1.8		
	93.3	60	30	2973	2		
	70	77	40	3272	1.4		
	56	92	50	3524	1.1		
	46.7	106	60	3745	0.9	E-RV063 E-VV063	8024
	93.3	63	15	2973	2.2		
	70	82	20	3272	1.6		
	56	98	25	3524	1.3		
	46.7	112	30	3745	1.4		
	35	141	40	4122	1	E-RV063 E-VV063	90S6
	120	51	7.5	2734	2.9		
	90	67	10	3009	2.3		
	60	96	15	3444	1.6		
	45	123	20	3791	1.2		
	36	147	25	4084	0.9		
	30	167	30	4339	1		

	N1=1400
	N1=2800
	N1=900

P1n [Kw]	n2 [1/min]	M2n [Nm]	i	Fr2 [N]	fs		
0.75 (8012) (8024) (90S6)	46.7	107	60	4421	1.3	E-RV075 E-VV075	8012
	28	159	100	5241	0.8		
	56	101	25	4160	2	E-RV075 E-VV075	8024
	46.7	117	30	4421	2		
	35	147	40	4865	1.5		
	28	174	50	5241	1.2		
	23.3	197	60	5569	1		
	60	97	15	4065	2.4	E-RV075 E-VV075	90S6
	45	124	20	4474	1.9		
	36	149	25	4820	1.4		
	30	170	30	5122	1.5	E-RV090 E-VV090	8012
	22.5	213	40	5637	1.1		
	35	143	80	5383	1.6		
	28	169	100	5799	1.2	E-RV090 E-VV090	8024
	28	182	50	5799	1.8		
	23.3	209	60	6163	1.5		
	17.5	258	80	6783	1.1	E-RV090 E-VV090	90S6
	14	302	100	7306	0.9		
	30	179	30	5667	2.6		
	22.5	226	40	6238	1.8	E-DRV040/090 E-VV040/090	8012
	18	267	50	6719	1.4		
	15	306	50	7140	1.4		
	7	512	400	8180	1.1	E-RV110	8024
	5.6	601	500	8180	0.9		
	17.5	274	80	8571	1.9		
	14	322	100	9232	1.5	E-RV110	90S6
	15	325	60	9023	2.1		
	11.3	399	80	9931	1.4		
	9	470	100	10320	1.1	E-DRV050/110	8012
	9.3	424	300	10320	2.8		
	7	553	400	10320	2.1		
1.1 (8022) (90L6) (90S4)	5.6	640	500	10320	1.6	E-DRV050/110	8024
	4.7	838	300	10320	1.5		
	3.5	1105	400	10320	1.1		
	11.3	399	80	12989	2.1	E-RV130	90S6
	9	470	100	13500	1.7		
	2.8	1305	500	13500	1.1	E-DRV063/130	8024
	2.3	1557	600	13500	1		
	1.9	1772	750	13500	0.9		
	1.6	2014	900	13500	0.8		
	2.8	1290	500	18000	1.8		
	2.3	1529	600	18000	1.7	E-DRV063/150	90L6
	1.9	1783	750	18000	1.3		
	1.6	2215	900	18000	0.9		
	1.2	2680	1200	18000	1		
	373.3	25	7.5	1433	2.1	E-RV050 E-VV050	8022
	280	33	10	1577	1.6		
	186.7	48	15	1805	1.2		
	140	62	20	1987	0.9		
	186.7	46	15	2359	2.1	E-RV063 E-VV063	8022
	140	60	20	2597	1.6		
	112	72	25	2797	1.2		
	93.3	82	30	2973	1.1		
	70	104	40	3272	1		
	120	75	7.5	2734	2	E-RV063 E-VV063	90L6
	90	98	10	3009	1.5		
	60	140	15	3444	1.1		
	45	180	20	3791	0.8		

	N1=1400
	N1=2800
	N1=900

P1n [Kw]	n2 [1/min]	M2n [Nm]	i	Fr2 [N]	fs		
1.1 (8022) (90L6) (90S4)	186.7	50	7.5	2359	2.6	E-RV063 E-VV063	90S4
	140	65	10	2597	2		
	93.3	92	15	2973	1.5		
	70	120	20	3272	1.1		
	56	144	25	3524	0.9		
	46.7	164	30	3745	1		
	112	77	25	3302	1.9	E-RV075 E-VV075	8022
	93.3	89	30	3509	1.9		
	70	114	40	3862	1.4		
	56	137	50	4160	1.1		
	46.7	157	60	4421	0.9		
	90	98	10	3551	2.3	E-RV075 E-VV075	90L6
	60	142	15	4065	1.6		
	45	182	20	4474	1.3		
	36	219	25	4820	1		
	30	249	30	5122	1		
	93.3	95	15	3509	2.1	E-RV075 E-VV075	90S4
	70	122	20	3862	1.7		
	56	148	25	4160	1.3		
	46.7	171	30	4421	1.3		
	35	216	40	4865	1		
	35	210	80	5383	1.1	E-RV090 E-VV090	8022
	28	248	100	5799	0.8		
	36	228	25	5333	1.6	E-RV090 E-VV090	90L6
	30	263	30	5667	1.8		
	22.5	331	40	6238	1.2		
	18	391	50	6719	1		
	15	448	60	7140	0.8		
	35	222	40	5383	1.6	E-RV090 E-VV090	90S4
	28	266	50	5799	1.3		
	23.3	307	60	6163	1		
	22.5	345	40	7882	2.3	E-RV110	90L6
	18	414	50	8491	1.8		
	15	476	60	9023	1.4		
	11.3	586	80	9931	1		
	28	278	50	7328	2.3	E-RV110	90S4
	23.3	325	60	7787	1.9		
	17.5	402	80	8571	1.3		
	14	473	100	9232	1		
	9.3	621	300	10320	1.9	E-DRV050/110	8022
	7	810	400	10320	1.4		
	5.6	938	500	10320	1.1		
	11.3	586	80	12989	1.4	E-RV130	90L6
	9	689	100	13500	1.1		
	17.5	408	80	11210	2.1	E-RV130	90S4
	14	480	100	12076	1.5		
	4.7	1274	300	13500	1.3	E-DRV063/130	90S4
	3.5	1621	400	13500	1		
	2.8	1913	500	13500	0.8		
	9.3	752	150	18000	3.1	E-DRV063/150	90S4
	7	966	200	18000	2.4		
	5.6	1175	250	18000	1.7		
	4.7	1364	300	18000	1.7		
	3.5	1619	400	18000	1.6		
	2.8	1893	500	18000	1.2		
	2.3	2242	600	18000	1.2		
	1.9	2616	750	18000	0.9		

	N1=1400
	N1=2800
	N1=900

P1n [Kw]	n2 [1/min]	M2n [Nm]	i	Fr2 [N]	fs		
1.5 (90S2) (90L4) (100L6)	373.3	34	7.5	1433	1.5	E-RV050 E-VV050	90S2
	280	45	10	1577	1.2		
	186.7	65	15	1805	0.9		
	186.7	68	7.5	2359	1.9	E-RV063 E-VV063	90L4
	140	88	10	2597	1.5		
	93.3	126	15	2973	1.1		
	70	164	20	3272	0.8		
	373.3	35	7.5	1873	2.7	E-RV063 E-VV063	90S2
	280	45	10	2061	2.1		
	186.7	66	15	2359	1.6		
	140	86	20	2597	1.2		
	112	105	25	2797	0.9		
	93.3	120	30	2973	1		
	120	103	7.5	3227	2	E-RV075 E-VV075	100L6
	90	134	10	3551	1.7		
	60	193	15	4065	1.2		
	140	89	10	3065	2.2	E-RV075 E-VV075	90L4
	93.3	129	15	3509	1.5		
	70	166	20	3862	1.3		
	56	202	25	4160	1		
	46.7	233	30	4421	1		
	280	45	10	2433	3.1	E-RV075 E-VV075	90S2
	186.7	66	15	2785	2.2		
	140	86	20	3065	1.8		
	112	105	25	3302	1.4		
	93.3	121	30	3509	1.4		
	70	156	40	3862	1		
	56	187	50	4160	0.8		
	46.7	215	60	4421	0.7		
	90	137	10	3929	2.7		E-RV090 E-VV090
	60	198	15	4498	2.1		
	45	258	20	4951	1.5		
	36	310	25	5333	1.2		
	30	358	30	5667	1.3		
	70	170	20	4273	2.1	E-RV090 E-VV090	90L4
	56	207	25	4603	1.6		
	46.7	239	30	4891	1.7		
	35	303	40	5383	1.2		
	28	363	50	5799	0.9		
	23.3	418	60	6163	0.8		
	56	197	50	4603	1.4	E-RV090 E-VV090	90S4
	46.7	227	60	4891	1.1		
	45	264	20	6256	2.7	E-RV110	100L6
	36	322	25	6739	2.4		
	30	363	30	7161	2.3		
	22.5	471	40	7882	1.7		
	18	565	50	8491	1.3		
	15	649	60	9023	1.1		
	35	315	40	6803	2.2	E-RV110	90L4
	28	379	50	7328	1.7		
	23.3	443	60	7787	1.4		
	17.5	548	80	8571	0.9		
	46.7	236	60	6181	2	E-RV110	90S2
	35	299	80	6803	1.3		
	28	358	100	7328	1		
	9.3	847	300	10320	1.4	E-DRV050/110	90S2
	7	1105	400	10320	1		
	5.6	1279	500	10320	0.8		

P1n [Kw]	n2 [1/min]	M2n [Nm]	i	Fr2 [N]	fs		
1.5 (90S2) (90L4) (100L6)	22.5	471	40	10309	2.3	E-RV130	100L6
	18	565	50	11105	1.8		
	15	659	60	11801	1.4		
	11.3	799	80	12989	1.1		
	17.5	557	80	11210	1.5	E-RV130	90L4
	14	655	100	12076	1.1		
	9.3	878	300	13500	1.9	E-DRV063/130	90S2
	7	1105	400	13500	1.4		
	5.6	1305	500	13500	1.1		
	4.7	1737	300	13500	1	E-DRV063/130	90L4
	3.5	2210	400	13500	0.7		
	9.3	1026	150	18000	2.3	E-DRV063/150	90L4
	7	1317	200	18000	1.8		
	5.6	1602	250	18000	1.3		
	4.7	1860	300	18000	1.3		
	3.5	2208	400	18000	1.2		
	2.8	2582	500	18000	0.9		
	2.3	3057	600	18000	0.9		
	373.3	51	7.5	1873	1.8	E-RV063 E-VV063	90L2
	280	66	10	2061	1.5		
	186.7	97	15	2359	1.1		
2.2 (90L2) (100LA4) (112M6)	186.7	99	7.5	2785	1.8	E-RV075 E-VV075	100LA4
	140	131	10	3065	1.5		
	93.3	189	15	3509	1		
	373.3	50	7.5	2210	2.5	E-RV075 E-VV075	90L2
	280	66	10	2433	2.1		
	186.7	97	15	2785	1.5		
	140	126	20	3065	1.3		
	112	154	25	3302	1		
	93.3	178	30	3509	0.9		
	186.7	100	7.5	3081	2.9	E-RV090 E-VV090	100LA4
	140	132	10	3391	2.3		
	93.3	191	15	3882	1.9		
	70	249	20	4273	1.4		
	56	304	25	4603	1.1		
	46.7	351	30	4891	1.2		
	120	154	7.5	3570	2.2	E-RV090 E-VV090	112M6
	90	201	10	3929	1.8		
	60	291	15	4498	1.4		
	45	378	20	4951	1		
	140	129	20	3391	2	E-RV090 E-VV090	90L2
	112	159	25	3653	1.6		
	93.3	185	30	3882	1.7		
	70	237	40	4273	1.2		
	56	289	50	4603	0.9		
	70	255	20	5399	2.5	E-RV110	100LA4
	56	311	25	5816	2.2		
	46.7	355	30	6181	2		
	35	462	40	6803	1.5		
	28	555	50	7328	1.2		
	23.3	649	60	7787	1		
	90	203	10	4965	3.5	E-RV110	112M6
	60	294	15	5684	2.6		
	45	388	20	6256	1.9		
	36	473	25	6739	1.6		
	30	532	30	7161	1.6		
	112	161	25	4616	3.1	E-RV110	90L2
	93.3	187	30	4905	3		

	N1=1400
	N1=2800
	N1=900

P1n [Kw]	n2 [1/min]	M2n [Nm]	i	Fr2 [N]	fs		
2.2 (90L2) (100LA4) (112M6)	70	243	40	5399	2.1	E-RV110	90L2
	56	296	50	5816	1.7		
	46.7	346	60	6181	1.4		
	35	468	40	8897	2.2	E-RV130	100LA4
	28	563	50	9584	1.7		
	23.3	658	60	10185	1.4		
	17.5	816	80	11210	1		
	36	473	25	8814	2.2	E-RV130	112M6
	30	539	30	9366	2.1		
	22.5	691	40	10309	1.6		
	18	829	50	11105	1.2		
	15	966	60	11801	1		
	35	444	80	8897	1.3	E-RV130	90L2
	28	525	100	9584	1		
	28	570	50	13100	2.5	E-RV150	100LA4
	23.3	657	60	13920	1.9		
	17.5	816	80	15320	1.4		
	14	960	100	16500	1		
3.0 (100L2) (100LB4) (132S6)	373.3	68	7.5	2210	1.9	E-RV075 E-VV075	100L2
	280	90	10	2433	1.6		
	186.7	135	7.5	2785	1.4	E-RV075 E-VV075	100LB4
	140	178	10	3065	1.1		
	93.3	258	15	3509	0.8		
	373.3	70	7.5	2446	3	E-RV090 E-VV090	100L2
	280	92	10	2692	2.6		
	186.7	137	7.5	3081	2.1	E-RV090 E-VV090	100LB4
	140	180	10	3391	1.7		
	93.3	261	15	3882	1.4		
	70	340	20	4273	1		
	56	414	25	4603	0.8		
	46.7	479	30	4891	0.9		
	93.3	264	15	4905	2.5	E-RV110	100LB4
	70	348	20	5399	1.9		
	56	425	25	5816	1.6		
	46.7	485	30	6181	1.5		
	35	630	40	6803	1.1	E-RV110	132S6
	28	757	50	7328	0.9		
	120	210	7.5	4511	3.1		
	90	277	10	4965	2.5		
	60	401	15	5684	1.9		
	45	528	20	6256	1.4	E-RV130	100LB4
	56	430	25	7607	2.2		
	46.7	491	30	8084	2.1		
	35	638	40	8897	1.6		
	28	767	50	9584	1.3		
	23.3	898	60	10185	1	E-RV130	132S6
	17.5	1113	80	11210	0.8		
	90	277	10	6494	3.4		
	60	406	15	7434	2.6		
	45	528	20	8182	1.9		
	36	645	25	8814	1.6		
	30	735	30	9366	1.6		
	22.5	942	40	10309	1.2		

	N1=1400
	N1=2800
	N1=900

P1n [Kw]	n2 [1/min]	M2n [Nm]	i	Fr2 [N]	fs		
3.0 (100L2) (100LB4) (132S6)	28	777	50	13100	1.8	E-RV150	100LB4
	23.3	896	60	13920	1.4		
	17.5	1113	80	15320	1		
	14	1310	100	16500	0.8		
4.0 (112M2) (112M4) (132MA6)	373.3	91	7.5	2210	1.4	E-RV075	112M2
	280	120	10	2433	1.2	E-VV075	
	186.7	180	7.5	2785	1	E-RV075	112M4
	140	237	10	3065	0.8	E-VV075	
	373.3	93	7.5	2446	2.2	E-RV090	112M2
	280	123	10	2692	1.9	E-VV090	
	186.7	182	7.5	3081	1.6	E-RV090	112M4
	140	240	10	3391	1.3	E-VV090	
	93.3	348	15	3882	1		
	70	453	20	4273	0.8		
	140	240	10	4285	2.5	E-RV110	112M4
	93.3	352	15	4905	1.9		
	70	464	20	5399	1.4		
	56	566	25	5816	1.2		
	46.7	646	30	6181	1.1		
	120	280	7.5	4511	2.3	E-RV110	132MA6
	90	369	10	4965	1.9		
	60	535	15	5684	1.4		
	56	573	25	7607	1.6	E-RV130	112M4
	46.7	654	30	8084	1.6		
	35	851	40	8897	1.2		
	28	1023	50	9584	1		
	23.3	1197	60	10185	0.8		
	120	283	7.5	5901	3.1	E-RV130	132MA6
	90	369	10	6494	2.6		
	60	541	15	7434	2		
	45	705	20	8182	1.5		
	36	860	25	8814	1.2		
	28	1036	50	13100	1.4	E-RV150	112M4
	23.3	1195	60	13920	1.1		
	17.5	1484	80	15320	0.8		
5.5 (132S4)	186.7	250	7.5	3893	2.2	E-RV110	132S4
	140	330	10	4285	1.8		
	93.3	484	15	4905	1.4		
	70	638	20	5399	1		
	140	334	10	5605	2.5	E-RV130	132S4
	93.3	490	15	6416	1.9		
	70	638	20	7062	1.4		
	56	788	25	7607	1.2		
	46.7	900	30	8084	1.2		
	35	1171	40	8897	0.9		
	70	645	20	9650	2	E-RV150	132S4
	56	788	25	10400	1.5		
	46.7	934	30	11050	1.3		
	35	1171	40	12160	1.3		
	28	1426	50	13100	1		
	23.3	1643	60	13920	0.8		

	N1=1400
	N1=2800
	N1=900

P1n [Kw]	n2 [1/min]	M2n [Nm]	i	Fr2 [N]	fs		
7.5 (132M4)	186.7	341	7.5	3893	1.6	E-RV110	132M4
	140	450	10	4285	1.3		
	93.3	660	15	4905	1		
	186.7	345	7.5	5092	2.1	E-RV130	132M4
	140	455	10	5605	1.8		
	93.3	668	15	6416	1.4		
	70	870	20	7062	1		
	56	1074	25	7607	0.9		
	46.7	1227	30	8084	0.8		
	35	1596	40	8897	0.7		
	70	880	20	9650	1.5	E-RV150	
	56	1074	25	10400	1.1		
	46.7	1274	30	11050	0.9		
	35	1596	40	12160	1		
11 (160M4)	186.7	512	7.5	6960	2.3	E-RV150	
	140	675	10	7660	1.8		
	93.3	990	15	8770	1.3		
	70	1291	20	9650	1		
	56	1576	25	10400	0.8		
15 (160L4)	186.7	698	7.5	6960	1.7	E-RV150	
	140	921	10	7660	1.3		
	93.3	1351	15	8770	0.9		
	70	1760	20	9650	0.7		

	N1=1400
	N1=2800
	N1=900

安装
NOTES OF INSTALLATION

- 安装减速器时要注意以下一些事项：
- 1、减速器与机械设备装配之前，要检查减速器输出轴的旋转方向是否正确；
 - 2、减速器与原动机、设备装配之前，应检查各轴径、孔径、键和键槽的偏差尺寸，避免装配过紧损坏轴承，过松影响动力传递；
 - 3、减速器必须牢固地安装在机械设备上，避免有松动或振动；
 - 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
 - 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。
 - 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。

- To install the reduction unit it is necessary to note the following recommendations;
- 1、Check the correct direction of rotation of the reduction unit output shaft before fitting the unit to the machine.
 - 2、Before mount with the prime mover and device , please check the reducer's every axial diameter, aperture , key and key slot, to be sure their dimensions are not deviation, and avoid assembling too tight or too loose, unless it will influence the reducer's performance.
 - 3、The mounting on the machine must be stable to avoid any vibration.
 - 4、Drives such as sprocket wheel and gear must be fitted close to bearing in order to reduce bending stress of hanging shaft
 - 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.
 - 6、Supporting unit is required when reducers directly match with motors whose weight is bigger than normal types.

使用注意事项
NOTES OF OPERATING

- 1、使用前应注意检查减速机型式结构、中心距规格、传动比、输入轴联结方式、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
- 2、开机时应逐步施加载荷，不能满载启动
- 3、所有的减速机配有排气塞，在使用时，把密封塞换成随机附带的排气塞
- 4、使用时必须检查油位（如油位镜孔或打开油塞）
- 5、尽可能地避免减速器暴露在烈日阳光下和恶劣环境中；确保电机风扇附近有良好的通风环境，以免影响散热效果；
- 6、如果减速器存放时间长达4-6个月，应检查油封是否浸润滑油中，可能油封唇口会粘在轴上，甚至失去了弹性，由于适当的弹性是油封必须的工作条件，所以推荐更换油封；所有橡胶和透气孔不能沾有油漆；
- 7、减速器的标准工作环境温度是-5℃至40℃，如果不在这范围时，请与我们技术服务人员联系。

- 1、Before using, please check carfully whether the reducer model, distance size , ratio , input connecting method, output shaft structure, input and output shaft direction and revolving direction are tight according to requirement. It is better for the input speed of worm shaft not more than 1500r/min.
- 2、The load should be added step by step when using the machine. Never running it with full load.
- 3、All the reduction units are fitted with breather. Please replace the closed plug used for transportation with the breather plug supplied with the unit after installation.
- 4、Please check the correct level of the lubricant through the indicator or open the plug.
- 5、Whenever possible, protect the reduction unit against solar radiation and dad weather. Ensure the motor cools correctly by assuring good passage of air from the fan side.
- 6、In the case of particularly lengthy periods of storage(4-6 months), if the oil seal i s not immersed in the lubricant inside the unit, it is recommended to change it since the rubber could could stick to the shaft or may even have lost the elasticity.
- 7、In the case of ambient temperatures<-5℃ or >+40℃ call the Technical Service.

减速器的故障原因与排除
THE CAUSE FOR BREAKDOWN AND SETTLEMENT OF REDUCER

故障内容 Breakdown	可能的原因 Possible cause	排除的方法 The way of settlement
无负载状态下，电机不转 The motor does not run in case of no load	停电 Power off	检查电源，询问电力公司 Check power, consult with power company
	连接线断裂 Connecting wire break	检查接线 Check wire
	开关接触不良 The switch does not contact well	修理或更换 Repair or replace
	电机线圈断裂 The motor coil break	送专业工厂修理 Repair it in special factor
	三相电机接单相电压 3 phase motor connect single phase voltage	确认电压及接线方式 Confirm voltage and connecting ways
	单相电机未接电容器 Single phase motor does not connect condenser	连接电容器 Connect condenser
	单相电机起动器动作不良 Single motor's starter does work well	送专业工厂修理 Repair it at special factory
	齿轮、轴心及轴承损坏 Gear、axis and bearing are damaged	送专业工厂修理 Repair it at special factory
负载时，电机不转 The motor does not run in case of loading	电压过低 Voltage is too low	检查电源线是否过长或过细 Check to see if the wire is too long or too thin
	齿轮损坏 Gear is damaged	送专业工厂修理 Repair it in special factory
	超负载运转 Work with overload	减少负荷 Discharge load
异常发热 Very hot	超负载运转 Work with overload	减少负荷 Discharge load
	起动、停止过多 Start and stop too many	减少使用频率 Reduce using frequency
	轴承磨损 Bearing is damaged	修理或更换 Repair or replace
	电压过高或过低 Voltage is too high or too low	确认电压是否正常 Confirm to see if the voltage is normal
噪声太大 Loud noise	声音大且持续：轴承损坏，齿轮磨损 If the noise is loud and continuous,the bearing is damaged or the gear damaged	送专业工厂修理 Repair it in special factory
	偶尔声音大：齿轮损伤，有异物卡住 If the noise is loud and continuous,the gear must be damaged or something else block	与用户服务机构联系 Contact with the service institution
振动太大 Severe vibration	齿轮、轴承磨损 Gear or bearing is worn out	送专业工厂修理 Repair it in special factory
	固定不良，螺丝松动 Screw is loose	重新锁紧 Re-lock
异常的不稳定的运转噪声 Abnormal、unsteady、running noise	油已污染或油量不足 The oil is contaminated or short of	检查油颜色、浓度、油位 Check the color、density and level of oil
漏油 -在电机法兰处 -在电机油封处 -在减速机法兰处 -在输出部分的油封处 Leakage at flange and gasket	螺丝松动 The screw is loose	重新锁紧 Re-lock
	密封圈损坏 The gasket is damaged	替换之与用户服务机构联系 Replace it and contact service institution
通气塞处漏油 Leakage at ventilating plug	油量太多 The oil is too much	校正油量 Correct the oil amount
	通气塞安装不正确 The plug is not well installed	正确安装通气塞 Install it properly
	频繁冷起动 (油产生泡沫)或油位太高 Cold start too often(the oil produce foam) oil level is too high	将通气塞换成排气阀 Change the plug with ventilating valve
电机转动时输出轴不转 The output shaft does not move when the motor work	减速机轴键连接破坏 The connection between shaft and key is damaged	送专业工厂修理 Repair it in special factory

LUBRICANTS OIL CHOSEN TABLE

减速机在出厂时已经安装了润滑油(空运除外), 运行5000小时后要及时更换润滑油。润滑油加注表如下:
The reducers are supplied complete with lubricant before sending out(Except by air shipment). Please change the oil every 5000 hours running. Please see the table for Quantity of Lubricant.

SYNTETIC Oil	E - RV025	0.02	Mineral Oil		RV110	RV130	RV150
	E - RV030/E - VV030	0.04		B3	3	4	5.5
	E - RV040/E - VV040	0.08		B6	2.55	3.5	5
	E - RV050/E - VV050	0.15		B7	2.55	3.5	5
	E - RV063/E - VV063	0.33		B8	2.25	3.3	4.8
	E - RV075/E - VV075	0.55		V5	3.02	4.5	5.5
	E - RV090/E - VV090	1		V6	3.02	4.5	55

[illegible]