

微型交、直流減速電機
AC & DC GEAR MOTOR



小型齒輪減速電機
SMALL REDUCE GEAR MOTOR



NMRV 蝸輪蝸杆減速器
NMRV WORM GEAR REDUCER

台灣工藝 · 精品製造

TQG
台崎減速機

选型工具书
SELECTION GUIDE

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WP 蝸輪蝸杆減速器
WP WORM GEAR REDUCER



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公司簡介

臺崎精密工業有限公司起初創建於台灣台北縣，是一家集精密齒輪傳動系列產品研發、生產、銷售一體化的專業廠家。作為國內工業馬達、工控傳動等自動化領域的先導，公司始終秉承“引領技術創新，成就卓越品質”的理念，目前主營產品有：微型齒輪減速電機，中型齒輪減速電機機、剎車調速電機、力矩電機、直流電機、NMRV蝸輪蝸杆電機，直交軸減速電機，WP系列蝸輪蝸杆減速機，及台灣各協力廠家之傳動產品等；產品廣泛應用於各種工業生產流水線、輸送機械、食品機械、醫療機械、印刷機械、紡織機械、包裝機械、辦公設備、儀器儀錶、自動麻將機等領域，是自動化設備首選的配套產品。公司配備德國KOEPPFER高性能滾齒機、日本HAMMI滾齒機、臺灣MV系列原裝進口數控加工中心等一流先進生產設備，嚴格按照ISO 9001品質管理體系要求，並先後通過國內外各類產品的認證，產品銷往國內、外各大客戶。

多年來由於全體同仁的勤奮努力，廣大客戶的支持信任，臺崎精工在自動化領域裏不斷成長，創新。面對未來，我們將堅持“客戶至上，誠信經營”的臺崎精工價值規範，發揚“勇於創新、勇爭一流、充滿激情、全力奮進”的臺崎精神，致力於成為全球領先的專業傳動產品製造商。

企业形象 ENTERPRISE IMAGE	关于我们 / ABOUT US	
	生产车间 / WORKSHOP	
	检测中心 / TEST CENTER	
	产品仓库 / WAREHOUSE	

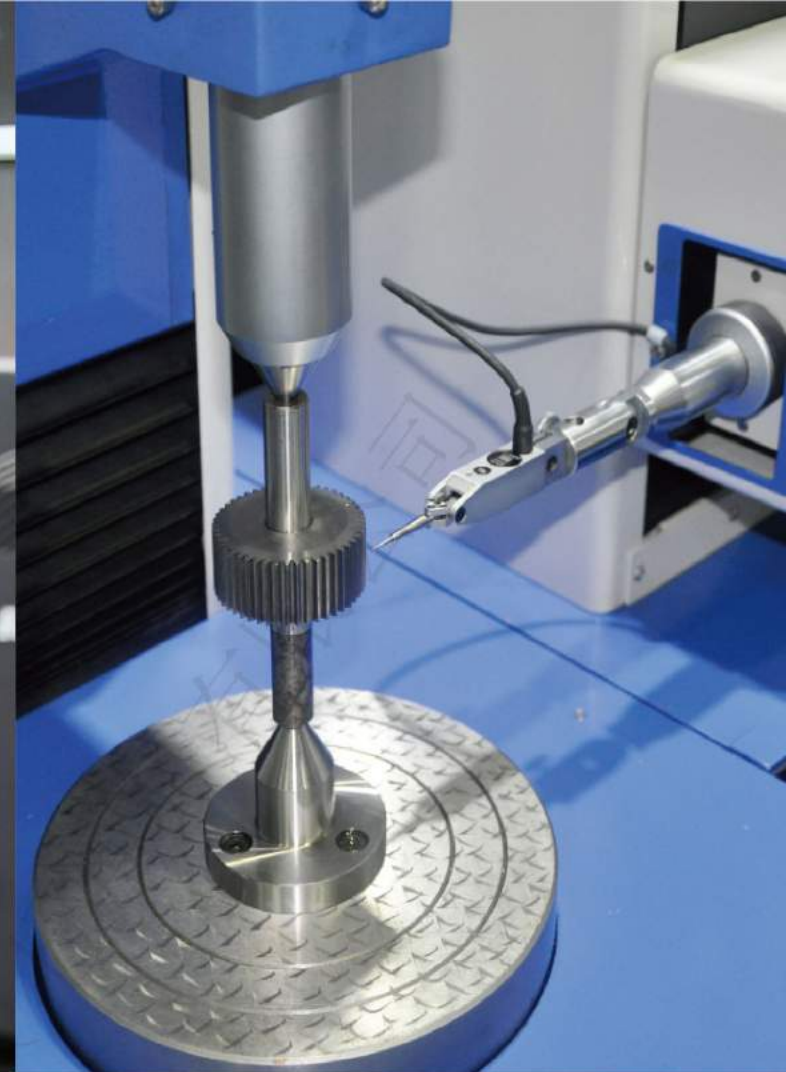
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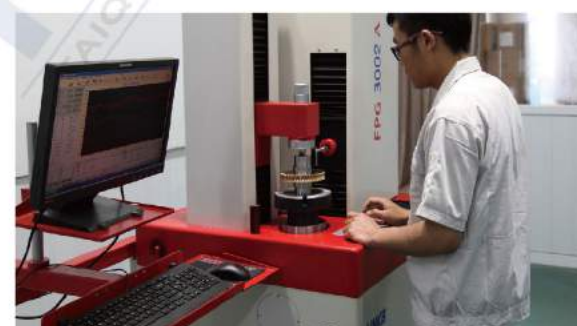
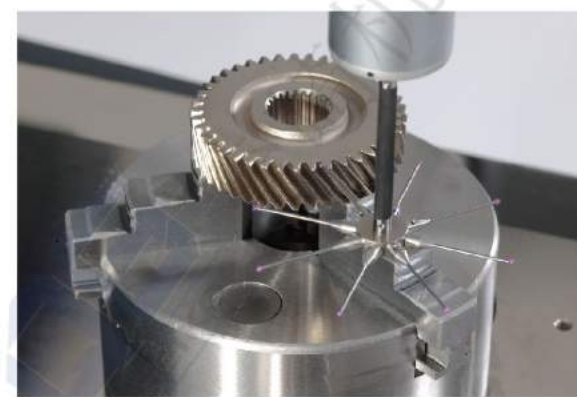
生产车间

每一道工序,要求精益求精
Perfection in Every LittleS

TEST CENTER

检测中心

每一件产品,皆是用心之作。
Each Product is Manufactured by Heart.





> WAREHOUSE

产品仓库

井然有序 蓄势待发
We are Always Prepared and Ready to Produce



NMRV 蜗轮蜗杆减速机

NMRV Worm geared motor



■ NMRV系列蜗轮减速机



■ NMRV系列蜗轮减速机



■ DRV系列蜗轮减速机



■ DRV系列蜗轮减速机



■ UDL系列无级变速器



■ UDL系列无级变速器



■ UDL系列+ NMRV系列蜗轮减速机



■ PC系列+ NMRV系列蜗轮减速机



■ 配件+带输出法兰



■ 配件+带输出轴



■ 配件+带扭力臂



■ 配件+带防尘盖

NMRV 产品概述 / PRODUCTS OVERVIEW

产品特点

NMRV系列蜗轮蜗杆减速机具有以下一些主要特点：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。

PRODUCTS CHARACTERISTICS

NMRV series worm gear units is a new-generation of product developed by our company on the basis of perfecting WJ series products with a compromise of advanced technology both at home and abroad. Its main features are as follows;

1. Made of high-quality aluminum alloy, light weight and non-rusting.
2. Large 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

1. 外壳：铝合金（机座：025 - 090），铸铁（机座：110 - 150）；
2. 蜗杆：20Cr，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。

MAIN MATERIALS

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

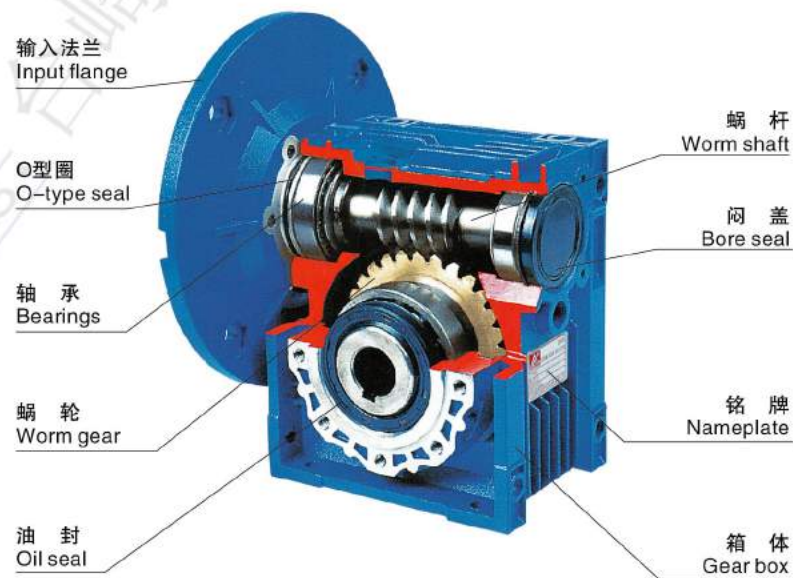
表面涂装

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，再喷RAL5010蓝色或银白色涂料。

铸铁外壳：先涂红色防锈漆，后喷涂RAL5010蓝色涂料。

NMRV结构分解图 / NMRV STRUCTURE DIAGRAM



RV 蜗轮减速机
RV Worm-gear speed reducer

选型相关参数 / RELEVANT PARAMETER

功率 P

$$P_1 = P_2 / \eta \text{ (kw)}$$

$$P_{1n} \geq P_1 \cdot f_s \text{ (kw)}$$

P_1 输入功率
 P_2 输出功率
 P_{1n} 输入电机额定功率

f_s 使用系数
 η 传动效率

在NMRV蜗轮蜗杆减速机选型表中，这个功率 P_{1n} 是指在输入转速为 n_1 并且对应的使用系数 $f_s=1$ 时，减速机的安全输入功率，单位kw。

传动效率 η 值是减速机经过足够长时间的跑合后计算得到的。跑合后在动转过程中，表面温度下降并最终稳定。需要特别强调的是样本中给定的额定转矩值 M_{2n} 应该考虑到传动效率 η 的关系。

Power P

$$P_1 = P_2 / \eta \text{ (kw)}$$

$$P_{1n} \geq P_1 \cdot f_s \text{ (kw)}$$

P_1 Input power
 P_2 Output power
 P_{1n} Rated input motor power

f_s Service factor
 η Transmission efficiency

The parameter can be found in the NMRV gear-box rating charts and represents the kw that can be safely transmitted to the gearbox, based on input speed n_1 and service factor $f_s=1$.

Values of η are calculated for gearboxes after a sufficiently in operation reduces and finally stabilizes. It may be worth high lighting that values of rated torque M_{2n} given in the catalogue take the transmission efficiency η into consideration.

转速 n

n_1 减速机输入转速
 n_2 减速机输出转速

若是减速箱外部传动装置驱动，为了优化工作条件和提高使用寿命，建议使用1400r/min或更低转速。

ROTATION SPEED N

n_1 Gear units input speed
 n_2 Gear units output speed

If driven by the external gearing, 1400r/min or lower rotation speed is suggested so as to optimize the working conditions and prolong the service life.

传动比 i

$$i = n_1 / n_2$$

TRANSMISSION RATIO I

$$i = n_1 / n_2$$

扭矩 M

$$M_2 = 9550 \cdot P_1 \cdot \eta / n_2 \text{ (Nm)}$$

$$M_{2n} \geq M_2 \cdot f_s \text{ (Nm)}$$

M_2 输出扭矩
 M_{2n} 额定输出扭矩
 P_1 输入功率
 η 传动效率
 f_s 使用系数

TORQUE M

$$M_2 = 9550 \cdot P_1 \cdot \eta / n_2 \text{ (Nm)}$$

$$M_{2n} \geq M_2 \cdot f_s \text{ (Nm)}$$

M_2 Output torque
 M_{2n} Rated output torque
 P_1 Input power
 η Transmission efficiency
 f_s Service factor

使用系数 f_s

减速机上的从动机构的受驱动效果是使用系数 f_s 这个系数来衡量的。该使用系数根据每天的运转时间和启动频率Z而定的。三种负载分类取决于惯性加速系数，在下图中可读取实际应用的使用系数，按这图表选取的使用系数必须小于或者等于性能参数表中提供的使用系数。

启动频率Z：周期包括所有启动，制动的次数以及变速电机高低速变化时的次数。
Starting frequency Z: The cycles include all starting and braking procedures as well as change overs from low to high speed.

负载类型

- 负载性质：
A 均匀冲击负载，允许惯性加速系数 $F_a \leq 0.3$
B 中等冲击负载，允许惯性加速系数 $F_a \leq 3$
C 重冲击负载，允许惯性加速系数 $F_a \leq 10$

SERVICE FACTOR f_s

The effect of the driven machine on the gear unit is taken into account to a sufficient level of accuracy using the service factor f_s . The service factor is determined according to the daily operating time and the starting frequency Z. Three load classifications are considered depending on the mass acceleration factor. You can read off the service factor applicable to your application in following figure. The service factor selected using this diagram must be less than or equal to the service factor as given in the performance parameter table.

LOAD CLASSIFICATIONS

- Type of load:
A Uniform, permitted mass acceleration factor $F_a \leq 0.3$
B Moderate shock load, permitted mass acceleration factor $F_a \leq 3$
C Heavy shock load, permitted mass acceleration factor $F_a \leq 10$

选型相关参数 / RELEVANT PARAMETER

负载类型:

轻负载的螺杆输送机, 风扇, 装配线, 输送带, 小型搅拌机, 电梯, 清洗机器, 过滤器, 控制驱动。
卷扬机, 木工机器送料器, 货物起重机, 平衡器, 绞螺纹机器, 中型搅拌机, 重型输送带, 绞盘, 滑动闸门, 刮料机, 包装机械, 混凝土搅拌机, 行车驱动装置, 铣床, 齿轮泵。
大型搅拌机, 剪床, 压机, 离心机, 旋转支撑装置, 重型绞盘和起重机, 磨床, 石材打磨机, 翻斗机, 钻床, 冲床, 凸轴压机, 摺床, 机床转盘, 翻桶装置, 振荡装置, 破碎机。

Load Classifications:

Screw feeders for light materials, fans, assembly lines, conveyor belts for light materials, small mixers, lifts, cleaning machines, medium mixers, conveyor belts for heavy materials, winches, sliding doors, fertilizer scrapers, packing machines, concrete mixers, crane mechanisms, milling cutters, folding machines, gear pumps.
Mixers for heavy materials, shears, presses centrifuges, rotating supports, winches and lifts for heavy materials, grinding lathes, stone mills, bucket elevators, drilling machines, hammer mills, compresses, folding machines, turntables, tumbling barrels, vibrators, shredders

惯性加速系数

惯性加速系数计算如下:

$$F_a = J_c / J_m$$

Fa 惯性加速系数

Jc 所有外部传动惯量 (kgm²)

Jm 驱动电机的传动惯量 (kgm²)

如果惯性加速系数fa > 10, 请与我们技术部联系。

受环境温度影响, 使用系数fs 仍须按以下调整:

1. 环境温度30~40°C: fs × (1.1~1.2)
2. 环境温度40~50°C: fs × (1.3~1.4)
3. 环境温度50~60°C: fs × (1.5~1.6)
4. 环境温度 > 60°C, 请与我们技术服务人员联系。

为了保持减速机的使用寿命, 从产品样本中所选择的使用系数fs应等于或略高于计算出的使用系数fs。

径向载荷Fr

在决定影响径向载荷时, 安装在轴端上的传动件类型必须考虑在内, 不同类型的传动对应不同的传动附加系数fz, 列表如下:

传动件 Transmission element	传动附加系数 fz Transmission element factor fz	注释 Comments
齿轮 Gears	1.00	≥ 17齿 teeth
	1.15	< 17齿 teeth
链轮 Chain sprockets	1.00	≥ 20齿 teeth
	1.25	< 20齿 teeth
	1.40	< 13齿 teeth
V带轮 Narrow V-belt pulleys	1.75	有预紧力作用 Influence of the tensile force
平带轮 Flat belt pulleys	2.50	有预紧力作用 Influence of the tensile force
齿带轮 Toothed belt pulleys	2.50	有预紧力作用 Influence of the tensile force

作用在轴上的径向载荷按如下公式计算:

$$F_r = \frac{M \cdot 2000 \cdot f_z}{d_o} \quad (N)$$

Fr 作用在轴上的载荷 (N)

M 作用在轴上的扭矩 (Nm)

d_o 安装在轴上传动件的平均直径 (mm)

fz 传动附加系数

The overhung loads exerted on the motor or gear shaft is then calculated as follows:

$$F_r = \frac{M \cdot 2000 \cdot f_z}{d_o} \quad (N)$$

Fr Resulting radial load (N)

M Torque on the shaft (Nm)

d_o Mean diameter of the mounted transmission element in (mm)

fz Transmission element factor

MASS ACCELERATION FACTOR

The mass acceleration factor is calculated as follows:

$$F_a = J_c / J_m$$

Fa Mass acceleration factor

Jc All external mass moments of inertia (kgm²)

Jm Mass moment of inertia on the motor end (kgm²)

If mass acceleration factors fa > 10, please call our Technical Service.

Service factor fs should be adjusted as follows:

1. ambient temperature is 30~40°C: fs × (1.1~1.2)
2. ambient temperature is 40~50°C: fs × (1.3~1.4)
3. ambient temperature is 50~60°C: fs × (1.5~1.6)
4. ambient temperature is > 60°C, please call our Technical Service.

To keep the service-life of gear units, the use factor fs selected from the catalogue must be equal or slightly higher than the calculated use factor fs

RADIAL LOADS FR

When determining the resulting radial loads, the type of transmission elements, mounted on the shaft end must be considered, Various transmission elements are corresponding with following transmission element factors fz.

选型相关参数 / RELEVANT PARAMETER

当径向负荷不作用在轴中点时, 按以下公式计算有效负荷:

$$F \times L \leq \frac{F_{r2} \cdot a}{(b+x)} \quad (N)$$

Fr₂ 依据下面表格给出中底脚安装式齿轮减速器的许可径向载荷 (X=L/2) (N)

a, b 齿轮减速器径向换算常量 (mm)

X 轴户到实际作用点的距离 (mm)

a, b, Fr₂ 的数值在下面表格给出:

The allowed radial load force on the shaft is calculated with the following formula:

$$F \times L \leq \frac{F_{r2} \cdot a}{(b+x)} \quad (N)$$

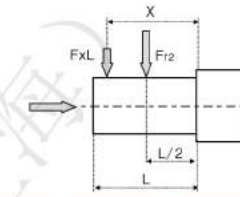
Fr₂ Permitted overhung load (x=L/2) for foot-mounted gear units according to the selection tables in (N)

a, b Gear unit constant for overhung load conversion (mm)

X Distance from the shaft shoulder to the force application point in (mm)

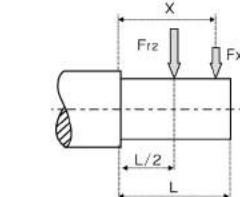
The values of a, b Fr₂ are given in the following tables:

输出轴径向载荷 / Out put shafts radial loads



NMRV	025	030	040	050	063	075	090	110	130	150
a	50	65	84	101	120	131	162	176	188	215
b	38	50	64	76	95	101	122	136	148	174
Fr ₂ max	1350	1830	3490	4840	6270	7380	8180	12000	13500	18000

输入轴径向载荷 / Input shafts radial loads



NMRV	030	040	050	063	075	090	110	130	150
a	86	106	129	159	192	227	266	314	350
b	76	94.5	114	139	167	202	236	274	310
Fr ₂ max	210	350	490	700	980	1270	1700	2100	2800

选型表注释 / SELECTION TABLES COMMENTS

P _{in} (kw)	n ₂ (r/min)	i	M _{2n} (Nm)	M _{2 max} (Nm)	fs	减速器型号	电机型号
P _{in}	n ₂	i	M _{2n}	M _{2 max}	fs	减速器型号	电机型号
输入电机额定功率 (kw);	输出转速 (r/min);	额定输出扭矩 (Nm);	最大允许输出扭矩 (Nm);	减速比;	使用系数;	减速器型号;	电机型号;
Rated power driving motor (kw)	Output speed (r/min)	Rated output torque (Nm)	Permissible output torque (Nm)	Gear unit ratio	Service factor	Gear unit type	Motor type

选型相关参数 / RELEVANT PARAMETER

选型举例 / SELECTION EXAMPLE

减速电机

例：被驱动设备所需功率0.5KW, $n_1=1400r/min$, 均匀冲击负载, 启动频率20次/小时, 24小时连续运行, 环境温度32℃, 输出转速 $n_2=93.3r/min$, 减速电机要求B3安装方位, 则:

$$i = \frac{n_1}{n_2} = \frac{1400}{93.3} = 15$$

查P19页啮合参数表, 估算当 $i=15$ 时, $\eta_d=0.82$
查图调整使用系数得 $f_s=1.53 \times 1.12=1.714$
 $P_{1n} \geq P_2 / \eta_d \cdot f_s = 0.5 / 0.82 \times 1.714 = 1.045(kw)$
查NMRV系列性能参数表可确定减速电机型号为:
NMRV075-15-B3-1.1-4
输出扭矩 M_2 计算:

$$M_2 = \frac{9550 \cdot P_2}{n_2} = \frac{9550 \cdot 0.5}{93.3} = 51.18(Nm)$$

$$M_{2n} = 95 \geq M_2 \cdot f_s = 51.18 \times 1.714 = 87.72(Nm)$$

减速机

例：被驱动设备所需扭矩为300Nm, 工作8小时连续运行, 均匀冲击负载, 启动频率5次/小时, 环境温度30℃, 即可选用系数 $f_s=1.2 \times 1.1=1.32$, 减速机输入转速 $n_1=900r/min$, 输出转速 $n_2=22.5r/min$.

$$M_{2n} \geq M_2 \cdot f_s = 300 \times 1.32 = 396(Nm)$$

$$i = \frac{n_1}{n_2} = \frac{900}{22.5} = 40$$

查NMRV系列性能参数表可确定减速机型号为:
NMRV090-40

效率与自锁特性 / EFFICIENCY & IRREVERSIBILITY CHARACTER

效率是减速机一个重要参数, 效率 η 的值取决于下列参数1.蜗轮蜗杆的螺旋角; 2.输入转速; 3.蜗轮蜗杆的磨合时间; 4.油品、油封和轴承的性能。在第21页上的啮合参数表列出了动态效率($n_1=1400$)及静态效率参数。请注意: 这些参数是指减速机磨合后性能稳定的计算值。另外, 样本中规定的扭矩 M_{2n} 也是减速机磨合性能稳定的计算值。上述的实际值可能会有上下偏差。

Efficiency is an important parameter of reducer, Efficiency η depends on the following parameters: 1. helix angle of gearing; 2. driving speed; 3. running-in of gearing; 4. The performance of oil, oil seal and bearing. The mesh data table on page 21 shows dynamic efficiency ($n_1=1400$) and static efficiency values. Remember that these values are only achieved after the unit has been run in. Torque values M_{2n} indicated in the catalogue are calculated by considering the steady-state performance of the gearboxes. The actual values mentioned above may be have deflection.

动态自锁

动态自锁是指当马达输入轴突然停止时, 输出轴能同步停止。此条件要求动态效率 $\eta_d < 0.5$

DYNAMIC IRREVERSIBILITY

Dynamic irreversibility is achieved when the output shaft stops instantly when drive is no longer transmitted through the worm shaft. This condition requires a dynamic efficiency of $\eta_d < 0.5$ (see table on page 21).

静态自锁

静态自锁是指当减速机处于静止状态时, 输出轴上的负载不能把蜗轮推动。此条件要求静态效率 $\eta_s < 0.5$

STATIC IRREVERSIBILITY

Static irreversibility is achieved when the gear reducer at a standstill, the application of a load to the output shaft can't drive the worm shaft. This condition requires a static efficiency of $\eta_s < 0.5$ (see table on page 21)

	$\eta_d > 0.6$	0.5~0.6	0.4~0.5	< 0.4
动态自锁效果	动态不自锁	动态自锁很低	动态自锁良好	动态自锁
Dynamic irreversibility	Dynamic reversibility	Low dynamic reversibility	Good dynamic irreversibility	Dynamic irreversibility

	$\eta_s > 0.55$	0.5~0.55	< 0.5
静态自锁效果	静态不自锁	静态自锁很低	静态自锁
Static irreversibility	Static reversibility	Low static reversibility	Static irreversibility

GEAR MOTOR

Example: The input power of driver machine is 0.5kw, $n_1=1400r/min$, uniform, start up frequency 20(1/h), continuous running for 24 hours, the ambient temperature is 32℃, $n_2=93.3r/min$, B3 mounted so:

$$i = \frac{n_1}{n_2} = \frac{1400}{93.3} = 15$$

Check mesh table on P19, estimate when the $i=15$, $\eta_d=0.82$
Check and adjust the service factor, will get $f_s=1.53 \times 1.12=1.714$
 $P_{1n} \geq P_2 / \eta_d \cdot f_s = 0.5 / 0.82 \times 1.714 = 1.045(kw)$

Choose type:
NMRV075-15-B3-1.1-4

$$M_2 = \frac{9550 \cdot P_2}{n_2} = \frac{9550 \cdot 0.5}{93.3} = 51.18(Nm)$$

$$M_{2n} = 95 \geq M_2 \cdot f_s = 51.18 \times 1.714 = 87.72(Nm)$$

GEAR UNITS

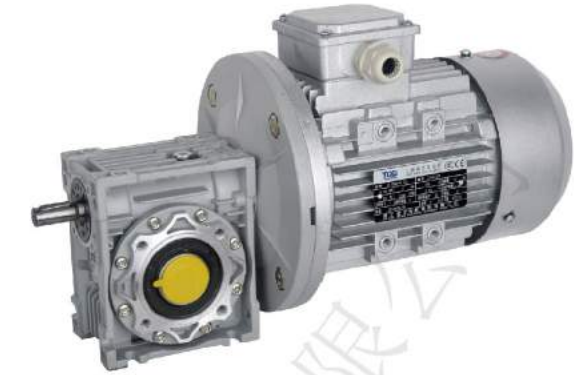
Example: Required torque 300um on driven machine, continuous running for 8 hours, uniform load, the ambient temperature is 30℃, then choose the service factor $f_s=1.2 \times 1.1=1.32$, $n_1=900r/min$, $n_2=22.5r/min$.

$$M_{2n} \geq M_2 \cdot f_s = 300 \times 1.32 = 396(Nm)$$

$$i = \frac{n_1}{n_2} = \frac{900}{22.5} = 40$$

Choose type:
NMRV090-40

型号说明 MODEL ILLUMINATE



■ NMRV系列蜗轮减速机

■ NMRV-E系列蜗轮减速机

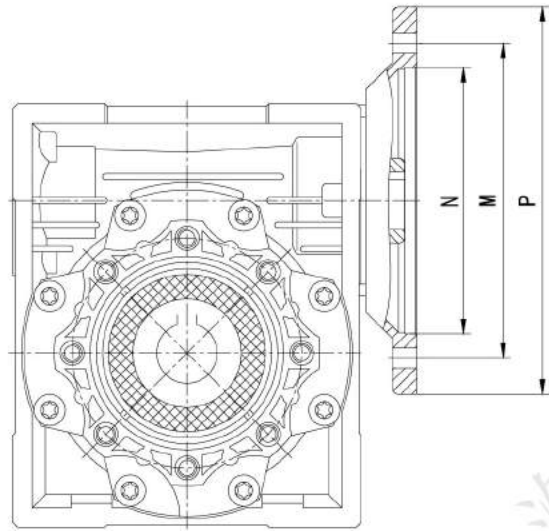
NMRV/NRV蜗轮蜗杆减速电机与减速器

WORM GEARED MOTORS AND WORM GEAR UNITS

减速器 Gear unit								电机 Motor	
NMRV	075	40	E	FA1	DZ1	80B5	B3	8014或/0.55-4	/ 1
①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩

No	说明	Comments
1	型号代码: 1.NMRV孔输入带输入法兰 2.NRV轴输入不带输入法兰	Model code 1.NMRV:Hole input with flange 2.NRV:Shaft input without flange
2	蜗轮蜗杆减速机中心距(规格)	Central distance of worm gear units(spec)
3	减速器速比 $i=5, 7.5, 10, 15, 20, 25, 30, 40, 50, 60, 80, 100$.	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尾出轴 2.E:带蜗杆同向尾出轴	1.No mark means single extension worm 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.DZ (1/2):单向输出轴和位置 3.SZ:双向输出轴	1.No mark means hole output 2.DZ(1/2):Single output shaft and position 3.SZ: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.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 motos(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 position 1 not to write out is ok

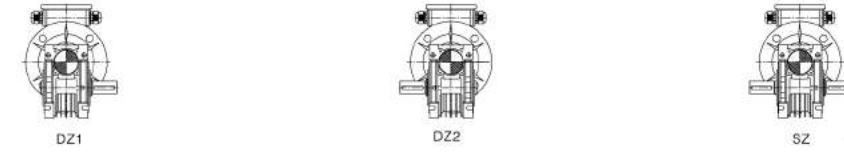
减速机输入尺寸 / NMRV REDUCER INPUT SIZE



NMRV	IEC接口				键槽		传动比 (i)													
	PAM-IEC	N	M	P	b	t	孔径 (D)													
025	56B14	50	65	80	3	10.4	9	9	9	9	9	/	9	9	9	9	/	/		
	56B5	50	65	80	3	10.4	9	9	9	9	9	9	9	9	9	9	9	/		
030	56B5	80	100	120	3	10.4	9	9	9	9	9	9	9	9	9	9	9	/		
	63B14	60	75	90	4	12.8	11	11	11	11	11	11	11	11	11	11	/	/		
040	63B5	95	115	140	4	12.8	11	11	11	11	11	11	11	11	11	11	11	11		
	56B5	80	100	120	3	10.4	/	/	/	/	/	/	/	/	9	9	9	9		
	63B14	60	75	90	4	12.8	11	11	11	11	11	11	11	11	11	11	11	11		
	63B5	95	115	140	4	12.8	11	11	11	11	11	11	11	11	11	11	11	11		
050	71B14	70	85	105	5	16.3	14	14	14	14	14	14	14	14	/	/	/	/		
	71B5	110	130	160	5	16.3	14	14	14	14	14	14	14	14	14	14	14	14		
	63B5	95	115	140	4	12.8	/	/	/	/	/	/	/	/	11	11	11	11		
	71B14	70	85	105	5	16.3	14	14	14	14	14	14	14	14	14	14	14	/		
063	80B14	80	100	120	6	21.8	19	19	19	19	19	19	19	19	19	19	19	19		
	80B5	130	165	200	6	21.8	/	19	19	19	19	19	19	19	19	19	19	19		
	90B14	95	115	140	8	27.3	/	24	24	24	24	24	24	24	/	/	/	/		
	90B5	130	165	200	8	27.3	/	24	24	24	24	24	24	24	/	/	/	/		
075	71B5	110	130	160	5	16.3	/	/	/	/	/	/	/	/	14	14	14	14		
	80B14	80	100	120	6	21.8	/	/	/	/	/	/	19	19	19	19	19	19		
	80B5	130	165	200	6	21.8	/	/	/	/	/	/	19	19	19	19	19	19		
	90B14	95	115	140	8	27.3	/	24	24	24	24	24	24	24	/	/	/	/		
090	90B5	130	165	200	8	27.3	/	24	24	24	24	24	24	24	24	24	24	/		
	100/112B14	110	130	160	8	31.3	/	28	28	28	28	28	28	28	/	/	/	/		
	100/112B5	180	215	250	8	31.3	/	28	28	28	28	28	28	28	/	/	/	/		
	80B14	80	100	120	6	21.8	/	/	/	/	/	/	19	19	19	19	19	19		
110	80B5	130	165	200	6	21.8	/	/	/	/	/	/	19	19	19	19	19	19		
	90B14	95	115	140	8	27.3	/	/	/	/	/	/	24	24	24	24	24	24		
	90B5	130	165	200	8	27.3	/	/	/	/	/	/	24	24	24	24	24	24		
	100/112B5	180	215	250	8	31.3	/	28	28	28	28	28	28	28	28	28	28	/		
130	132B5	230	265	300	10	41.3	/	38	38	38	38	38	38	38	38	38	38	/		
	90B5	130	165	200	8	27.3	/	/	/	/	/	/	/	/	/	/	24	24		
	100/112B5	180	215	250	8	31.3	/	/	/	/	/	/	28	28	28	28	28	28		
	132B5	230	265	300	10	41.3	/	38	38	38	38	38	38	38	38	38	38	/		
150	100/112B5	180	215	250	8	31.3	/	/	/	/	/	/	/	/	28	28	28	28		
	132B5	230	265	300	10	41.3	/	/	/	/	/	/	38	38	38	38	38	/		
	160B5	250	300	350	12	45.3	/	42	42	42	42	42	42	42	/	/	/	/		

配件安装方位 / ACCESSORIES INSTALLATION POSITION

输出轴位置 / THE OUTPUT SHAFT POSITION



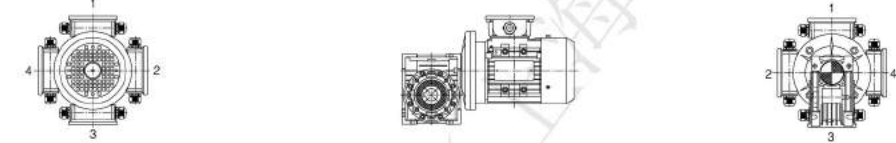
注: 如没有特别说明, 将按照如图DZ1和B3安装方面的组合样式供货。
Note: If there is no special instructions, will be as shown in figure DZ1 and B3 mounted with respect to the combination of styles available.

输出法兰位置 / OUTPUT FLANGE POSITION



注: 如没有特别说明, 将按照如图F...1和B3安装方面的组合样式供货。
Note: If there is no special instructions, will be in accordance with the figure F...1 and B3 mounted with respect to the combination of styles available.

电机接线盒位置 / MOTOR TERMINAL BOX POSITION

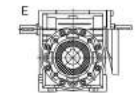


注: 如对电机接线盒位置有特别要求, 订购时须参考上图的要求指定接线盒方位, 否则接线盒方位将按安装方位图表中的方位提供。
Note: If the motor terminal box position have special requirements, when ordering reference is made to the above requirements specified terminal box position, or junction box range according to installation position chart position is provided.

扭力臂(A)位置 / TORQUE ARM (A) POSITION



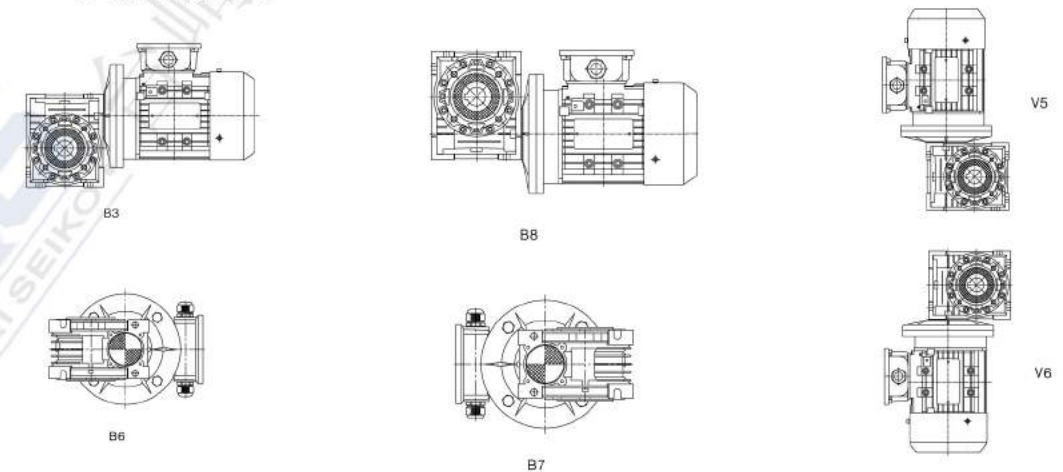
尾出轴(E) / TAIL SHAFT (E) POSITION



注: 如没有特别说明, 将按照如图A1和B3安装方面的组合样式供货。
Note: If there is no special instructions, will be as shown in figure A1 and B3 mounted with respect to the combination of styles available.

减速机安装方位 / GEAR BOX INSTALLATION POSITION

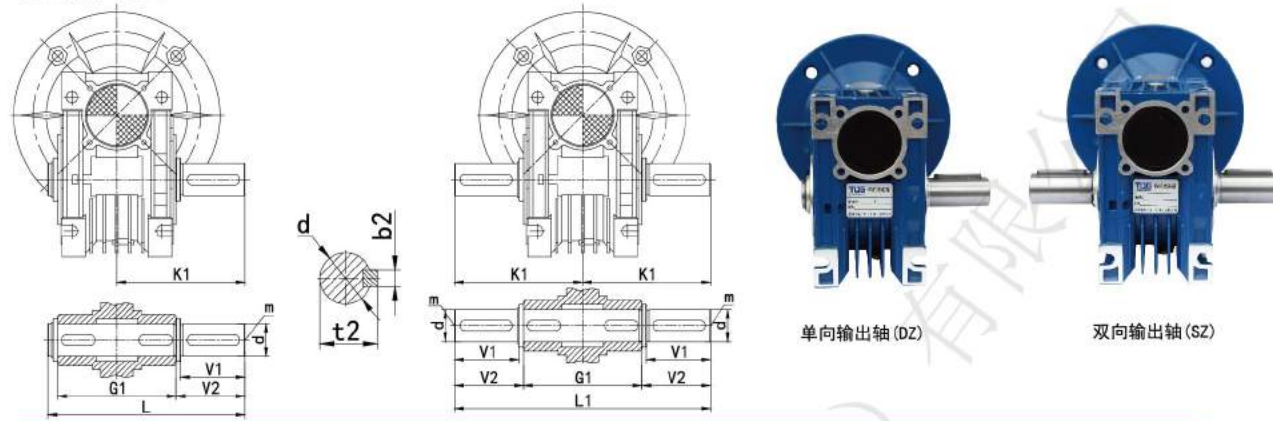
NMRV与电机安装方位 / NMRV AND MOTOR MOUNTING POSITION



注: 如在订货时无特别说明, 将按B3安装方式供货。
Note: if there is no special instructions to B3 standards for installation.

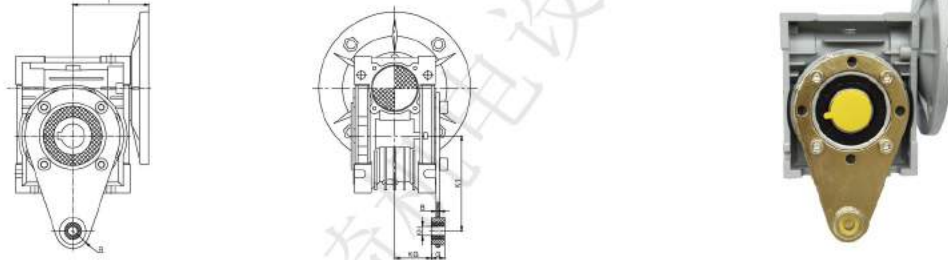
NMRV配件系列 / NMRV ACCESSORIES SERIES

输出轴尺寸 / OUTPUT SHAFT SIZE



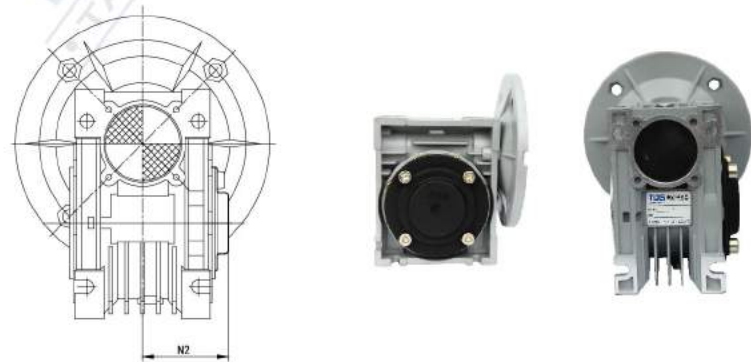
NMRV	G1	K1	L	L1	b2	t2	d(h6)	m	V1	V2
030	63	64	102	128	5	16	14	M6	30	32.5
040	78	82	128	164	6	20.5	18	M6	40	43
050	92	99.5	153	199	8	28	25	M10	50	53.5
063	112	109.5	173	219	8	28	25	M10	50	53.5
075	120	123.5	192	247	8	31	28	M10	60	63.5
090	140	154.5	234	309	10	38	35	M12	80	84.5
110	155	162	249	324	12	45	42	M16	80	84.5
130	170	170	265	340	14	48.5	45	M16	80	85
150	200	187	297	374	14	53.5	50	M16	82	87

扭力臂 (A) 尺寸 / TORQUE ARM (A) SIZE



NMRV	B	I	K1	G	KG	KH	R
025	4	45	70	14	17.5	8	15
030	4	55	85	14	24	8	15
040	4	70	100	14	31.5	10	18
050	4	80	100	14	38.5	10	18
063	6	95	150	14	49	10	18
075	6	112.5	200	25	47.5	20	30
090	6	129.5	200	25	57.5	20	30
110	6	160	250	30	62	25	35
130	6	179	250	30	69	25	35
150	8	210	250	30	84	25	35

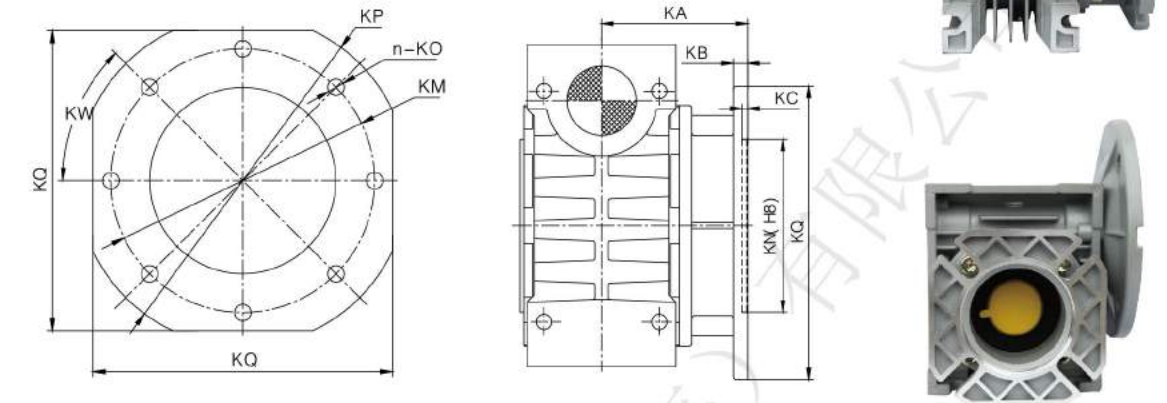
防尘盖尺寸 / DUST COVER SIZE



NMRV	N2
030	42
040	50
050	58
063	69
075	74
090	85
110	94
130	102
150	117

NMRV配件系列 / NMRV ACCESSORIES SERIES

输出法兰 (F) 尺寸 / OUTPUT FLANGE DIMENSIONS (F)



NMRV	030	040	050	063	075	090	110	130	150		
FA	KA	54.5	67	90	82	111	111	139	152	155	
	KB	6	7	9	10	13	13	15	15	15	
	KC	4	4	5	6	6	6	6	6	6	
	KN	50	60	70	115	130	152	170	180	180	
	KM	68	75	85	150	165	175	230	255	255	
	KO	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)	
	KP	80	110	125	180	200	210	280	320	320	
	KQ	70	95	110	142	170	200	260	290	290	
	KW	45°	45°	45°	45°	45°	45°	45°	45°	22.5°	
	FB	KA	-	97	120	112	-	122	-	-	-
KB		-	7	9	10	-	18	-	-	-	
KC		-	4	5	6	-	6	-	-	-	
KN		-	60	70	115	-	180	-	-	-	
KM		-	75	85	150	-	215	-	-	-	
KO		-	9(n=4)	11(n=4)	11(n=4)	-	14(n=4)	-	-	-	
KP		-	110	125	180	-	250	-	-	-	
KQ		-	95	110	142	-	-	-	-	-	
KW		-	45°	45°	45°	-	45°	-	-	-	
FC		KA	-	80	89	98	-	110	-	-	-
	KB	-	9	10	10	-	17	-	-	-	
	KC	-	5	5	5	-	6	-	-	-	
	KN	-	95	110	130	-	130	-	-	-	
	KM	-	115	130	165	-	165	-	-	-	
	KO	-	9.5(n=4)	9.5(n=4)	11(n=4)	-	11(n=4)	-	-	-	
	KP	-	140	160	200	-	200	-	-	-	
	KQ	-	45°	45°	45°	-	45°	-	-	-	
	FD	KA	-	58	72	107	-	151	-	-	-
		KB	-	12	14.5	10	-	13	-	-	-
KC		-	5	5	5	-	6	-	-	-	
KN		-	80	95	130	-	152	-	-	-	
KM		-	100	115	165	-	175	-	-	-	
KO		-	9(n=4)	11(n=4)	11(n=4)	-	14(n=4)	-	-	-	
KP		-	120	140	200	-	210	-	-	-	
KW		-	45°	45°	45°	-	45°	-	-	-	
FE		KA	-	-	80.5	-	-	-	-	-	-
		KB	-	-	16.5	-	-	-	-	-	-
	KC	-	-	5	-	-	-	-	-	-	
	KN	-	-	110	-	-	-	-	-	-	
	KM	-	-	130	-	-	-	-	-	-	
	KO	-	-	11(n=4)	-	-	-	-	-	-	
	KP	-	-	160	-	-	-	-	-	-	
KW	-	-	45°	-	-	-	-	-	-		

减速机选型表 / GEAR UNIT SELECTION TABLES

NMRV...IEC...性能参数 / PERFORMANCE PARAMETER

P_{1n} (kw)	n_2 (r/min)	i	M_{2n} (Nm)	F_{2r} (N)	f_s	NMRV025 56B14 5614		
280	5	1.8	439	6.2				
186.7	7.5	2.6	503	4.2				
140	10	3.4	553	3.5				
93.3	15	4.9	633	2.5				
70	20	6.2	697	1.9				
46.7	30	8.3	798	1.6				
35	40	10	878	1.2				
28	50	12	946	0.9				
23.3	60	14	1006	0.7				
186.7	7.5	2.6	683	7.0				
140	10	3.4	752	5.4				
93.3	15	4.7	861	3.9				
70	20	6	948	3.1				
56	25	7	1021	3.1				
46.7	30	8	1085	2.5				
35	40	9.7	1194	1.9				
28	50	11	1286	1.5				
23.3	60	13	1367	1.3				
17.5	80	14	1504	0.9				
373.3	7.5	2.0	399	3.9				
280	10	2.6	439	3.4				
186.7	15	3.8	503	2.4				
140	20	4.9	553	1.8				
93.3	30	6.7	633	1.3				
70	40	8.5	697	1.1				
56	50	10	751	0.9				
186.7	7.5	3.9	503	2.8				
140	10	5.1	553	2.4				
93.3	15	7.3	633	1.6				
70	20	9.3	697	1.3				
46.7	30	13	798	1.0				
35	40	16	878	0.8				
373.3	7.5	2.0	542	6.5				
280	10	2.6	597	5.0				
186.7	15	3.7	683	3.5				
140	20	4.7	752	2.5				
112	25	5.5	810	2.9				
93.3	30	6.4	861	2.3				
70	40	8.0	948	1.8				
56	50	9.4	1021	1.4				
46.7	60	10	1085	1.1				
35	80	13	1194	0.9				

减速机选型表 / GEAR UNIT SELECTION TABLES

P_{1n} (kw)	n_2 (r/min)	i	M_{2n} (Nm)	F_{2r} (N)	f_s	NMRV040 63B5/B14 6312		
93.3	30	14	1657	2.5				
70	40	17	1824	1.8				
56	50	21	1964	1.4				
70	20	19	1824	2.1				
56	25	23	1964	1.7				
46.7	30	25	2087	1.8				
35	40	32	2298	1.3				
28	50	37	2475	1.0				
23.3	60	42	2630	0.9				
45	20	28	2113	1.6				
36	25	34	2276	1.3				
30	30	38	2419	1.3				
22.5	40	47	2662	1.0				
46.7	60	24	2865	2.1				
35	80	30	3153	1.5				
28	100	34	3397	1.2				
35	40	33	3153	2.3				
28	50	39	3397	1.9				
23.3	60	43	3610	1.6				
17.5	80	52	3973	1.2				
14	100	59	4280	0.9				
18	50	56	3936	1.4				
15	60	63	4183	1.1				
11.3	80	75	4604	0.9				
15	60	66	5467	2.1				
11.3	80	79	6018	1.6				
9	100	90	6270	1.4				
373.3	7.5	5.6	542	2.3				
280	10	7.2	597	1.8				
186.7	15	10	683	1.3				
140	20	13	752	0.9				
112	25	15	810	1.0				
93.3	30	18	861	0.8				
186.7	7.5	11	1315	3.6				
140	10	14	1447	2.8				
93.3	15	20	1657	2.0				
70	20	26	1824	1.5				
56	25	32	1964	1.2				
46.7	30	35	2087	1.3				
35	40	44	2298	0.9				
120	7.5	17	1524	2.6				
90	10	22	1677	2.0				
60	15	31	1920	1.4				
45	20	39	2113	1.1				
36	25	48	2276	0.9				
30	30	53	2419	0.9				

减速机选型表 / GEAR UNIT SELECTION TABLES

P_{1n} (kw)	n_1 (r/min)	i	M_{2n} (Nm)	F_{t2} (N)	f_s				
0.37	56	25	47	2696	1.5	NMRV050 71B5/B14 7124			
	46.7	30	54	2865	1.6				
	35	40	68	3153	1.1				
	28	50	80	3397	0.9				
	23.3	60	89	3610	0.8				
	120	7.5	25	2091	3.4				
	90	10	33	2302	2.6	NMRV050 80B5/B14 8016			
	60	15	47	2635	1.8				
	45	20	59	2900	1.3				
	36	25	72	3124	1.0				
	30	30	80	3320	1.1				
	35	40	70	4122	2.1				
	28	50	82	4440	1.6	NMRV063 71B5/B14 7124			
	23.3	60	94	4719	1.4				
	17.5	80	113	5193	1.1				
	14	100	129	5595	0.9				
	45	20	60	3791	2.4			NMRV063 80B5/B14 8016	
	36	25	73	4084	1.9				
30	30	82	4339	2.1					
22.5	40	102	4776	1.6					
18	50	120	5145	1.2					
15	60	137	5467	1.0					
23.3	60	97	5569	2.1	NMRV075 71B5 7124				
17.5	80	119	6130	1.6					
14	100	139	6603	1.3					
18	50	124	6073	1.8			NMRV075 80B5/B14 8016		
15	60	141	6453	1.5					
11.3	80	173	7103	1.2					
9	100	196	7380	1.0	NMRV090 80B5/B14 8016				
11.3	80	185	7859	1.7					
9	100	212	8180	1.3					
373.3	7.5	12	1044	2.3			NMRV040 71B5/B14 7122		
280	10	16	1149	1.8					
186.7	15	24	1315	1.3					
140	20	30	1447	1.0					
112	25	37	1559	0.8					
140	20	31	1987	1.7	NMRV050 71B5/B14 7122				
112	25	38	2140	1.4					
93.3	30	43	2274	1.5					
70	40	55	2503	1.1					
56	50	65	2696	0.8					
46.7	60	74	2865	0.7			NMRV050 80B5/B14 8014		
186.7	7.5	24	1805	2.9					
140	10	32	1987	2.3					
93.3	15	46	2274	1.6					
70	20	59	2503	1.2					
56	25	70	2696	1.0					
46.7	30	80	2865	1.1					

减速机选型表 / GEAR UNIT SELECTION TABLES

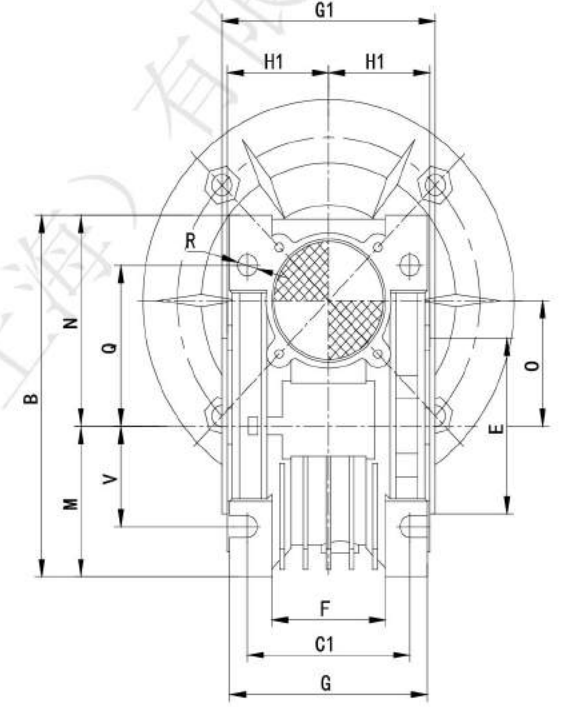
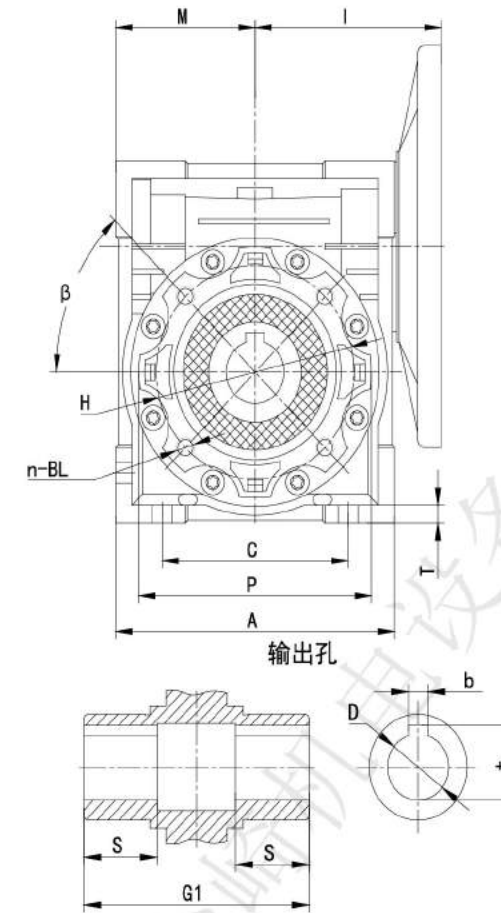
P_{1n} (kw)	n_1 (r/min)	i	M_{2n} (Nm)	F_{t2} (N)	f_s			
0.55	120	7.5	37	2091	2.3	NMRV050 80B5/B14 8026		
	90	10	48	2302	1.7			
	60	15	69	2635	1.2			
	45	20	88	2900	0.9			
	70	40	56	3272	1.9			
	56	50	68	3524	1.5			
	46.7	60	78	3745	1.2	NMRV063 71B5/B14 7122		
	35	80	96	4122	0.9			
	28	100	111	4440	0.7			
	70	20	60	3272	2.2			
	56	25	72	3524	1.8			
	46.7	30	82	3745	1.9			
	35	40	104	4122	1.4	NMRV063 80B5/B14 8014		
	28	50	122	4440	1.1			
	23.3	60	140	4719	0.9			
	60	15	70	3444	2.2			
	45	20	90	3791	1.6			
	36	25	108	4084	1.3			
30	30	123	4339	1.4	NMRV063 80B5/B14 8026			
22.5	40	152	4776	1.1				
35	80	99	4865	1.3			NMRV075 71B5 7122	
28	100	116	5241	1.0				
35	40	108	4865	2.0				
28	50	128	5241	1.6				
23.3	60	144	5569	1.4				
17.5	80	177	6130	1.1				
14	100	206	6603	0.9	NMRV075 80B5/B14 8026			
30	30	124	5122	2.1				
22.5	40	156	5637	1.5				
18	50	184	6073	1.2				
15	60	210	6453	1.0				
17.5	80	189	6783	1.5			NMRV090 80B5/B14 8014	
14	100	221	7306	1.2				
18	50	196	6719	2.0	NMRV090 80B5/B14 8026			
15	60	224	7140	1.6				
11.3	80	275	7859	1.1				
9	100	315	8180	0.9				
17.5	80	201	8571	2.6				
14	100	236	9232	2.0				
11.3	80	294	9931	1.9	NMRV110 80B5 8026			
9	100	344	10320	1.5				

减速机选型表 / GEAR UNIT SELECTION TABLES

P_{in} (kw)	n_2 (r/min)	i	M_{21} (Nm)	F_{22} (N)	f_s						
4.0	140	10	240	4285	2.5	NMRV110	112B5	112M4			
	93.3	15	352	4905	1.9						
	70	20	464	5399	1.4						
	56	25	566	5816	1.2						
	46.7	30	647	6181	1.1						
	120	7.5	280	4511	2.3						
	90	10	369	4965	1.9	NMRV110	132B5	132M1-6			
	60	15	535	5684	1.4						
	56	25	573	7607	1.6						
	46.7	30	655	8084	1.6						
	35	40	851	8897	1.2						
	28	50	1023	9584	1.0						
	23.3	60	1195	10185	0.8	NMRV130	112B5	112M4			
	120	7.5	283	5901	3.1						
	90	10	369	6494	2.6						
	60	15	541	7434	2.0						
	45	20	705	8182	1.5						
	36	25	860	8814	1.2						
28	50	1037	13103	1.4	NMRV130	132B5	132M1-6				
23.3	60	1195	13924	1.1							
17.5	80	1484	15325	0.8							
186.7	7.5	250	3893	2.2				NMRV150	112B5	112M4	
140	10	330	4285	1.8							
93.3	15	484	4905	1.4							
70	20	638	5399	1.0							
140	10	334	5605	2.5							
93.3	15	490	6416	1.9							
5.5	70	20	638	7062	1.4	NMRV130	132B5	132S4			
	56	25	788	7607	1.2						
	46.7	30	900	8084	1.2						
	35	40	1171	8897	0.9						
	70	20	645	9654	2.0						
	56	25	788	10400	1.5						
	46.7	30	934	11051	1.3	NMRV150	132B5	132S4			
	35.0	40	1171	12163	1.3						
	28.0	50	1426	13103	1.0						
	23.3	60	1643	13924	0.8						
	186.7	7.5	341	3893	1.6				NMRV110	132B5	132M4
	140	10	450	4285	1.3						
93.3	15	660	4905	1.0							
186.7	7.5	345	5092	2.2							
140	10	455	5605	1.8							
93.3	15	668	6416	1.4							
7.5	70	20	870	7062	1.0	NMRV130	132B5	132M4			
	56	25	1074	7607	0.9						
	46.7	30	1228	8084	0.8						
	35	40	1596	8897	0.7						
	70	20	880	9654	1.5						
	56	25	1074	10400	1.1						
	46.7	30	1274	11051	0.9	NMRV150	132B5	132M4			
	35	40	1596	12163	1.0						
	186.7	7.5	512	6962	2.3				NMRV150	160B5	160M4
	140	10	675	7663	1.8						
	93.3	15	990	8771	1.3						
	70.0	20	1291	9654	1.0						
56.0	25	1576	10400	0.8							
186.7	7.5	698	6962	1.7	NMRV150	160B5	160L4				
140	10	921	7663	1.3							
93.3	15	1351	8771	0.9							
70.0	20	1760	9654	0.7							

RV产品介绍 / RV PRODUCT INTRODUCTION

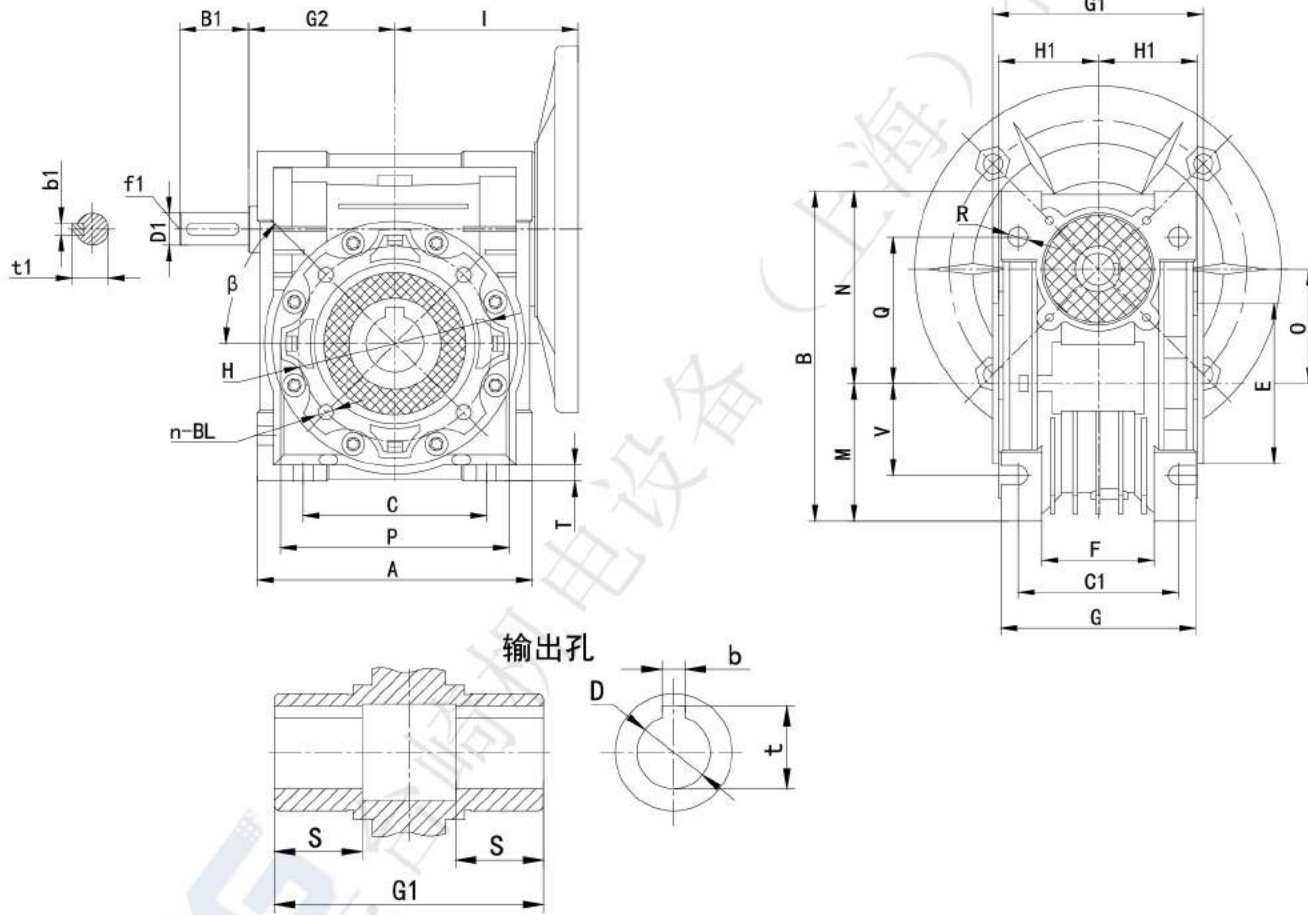
RV尺寸 / RV SIZE



RV	A	B	C	C1	D(H8)	E(+H8)	F	G	G1	H	H1	I	M	N	O	P	Q	R	S	T	BL	β	b	t	V
030	80	97	54	44	14	55	32	56	63	65	29	55	40	57	30	75	44	6.5	21	5.5	M6X10 (n=4)	0°	5	16.3	27
040	100	121.5	70	60	18(19)	60	43	71	78	75	36.5	70	50	71.5	40	87	55	6.5	26	6.5	M6X10 (n=4)	45°	6	20.8(21.8)	35
050	120	144	80	70	25(24)	70	49	85	92	85	43.5	80	60	84	50	100	64	8.5	30	7	M8X12 (n=4)	45°	8	28.3(27.3)	40
063	144	174	100	85	25(28)	80	67	103	112	95	53	95	72	102	63	110	80	8.5	36	8	M8X12 (n=8)	45°	8	28.3(31.3)	50
075	172	205	120	90	28(35)	95	72	112	120	115	57	112.5	86	119	75	140	93	11	40	10	M8X14 (n=8)	45°	8(10)	31.3(38.3)	60
090	206	238	140	100	35(38)	110	74	130	140	130	67	129.5	103	135	90	160	102	13	45	11	M10X16 (n=8)	45°	10	38.3(41.3)	70
110	255	295	170	115	42	130	-	144	155	165	74	160	127.5	167.5	110	200	125	14	50	14	M10X18 (n=8)	45°	12	45.3	85
130	293	335	200	120	45	180	-	155	170	215	81	179	146.5	187.5	130	250	140	16	60	15	M12X20 (n=8)	45°	14	48.8	100
150	340	400	240	145	50	180	-	185	200	215	96	210	170	230	150	250	180	18	72.5	18	M12X22 (n=8)	45°	14	53.8	120

RV-E产品介绍 / RV-E PRODUCT INTRODUCTION

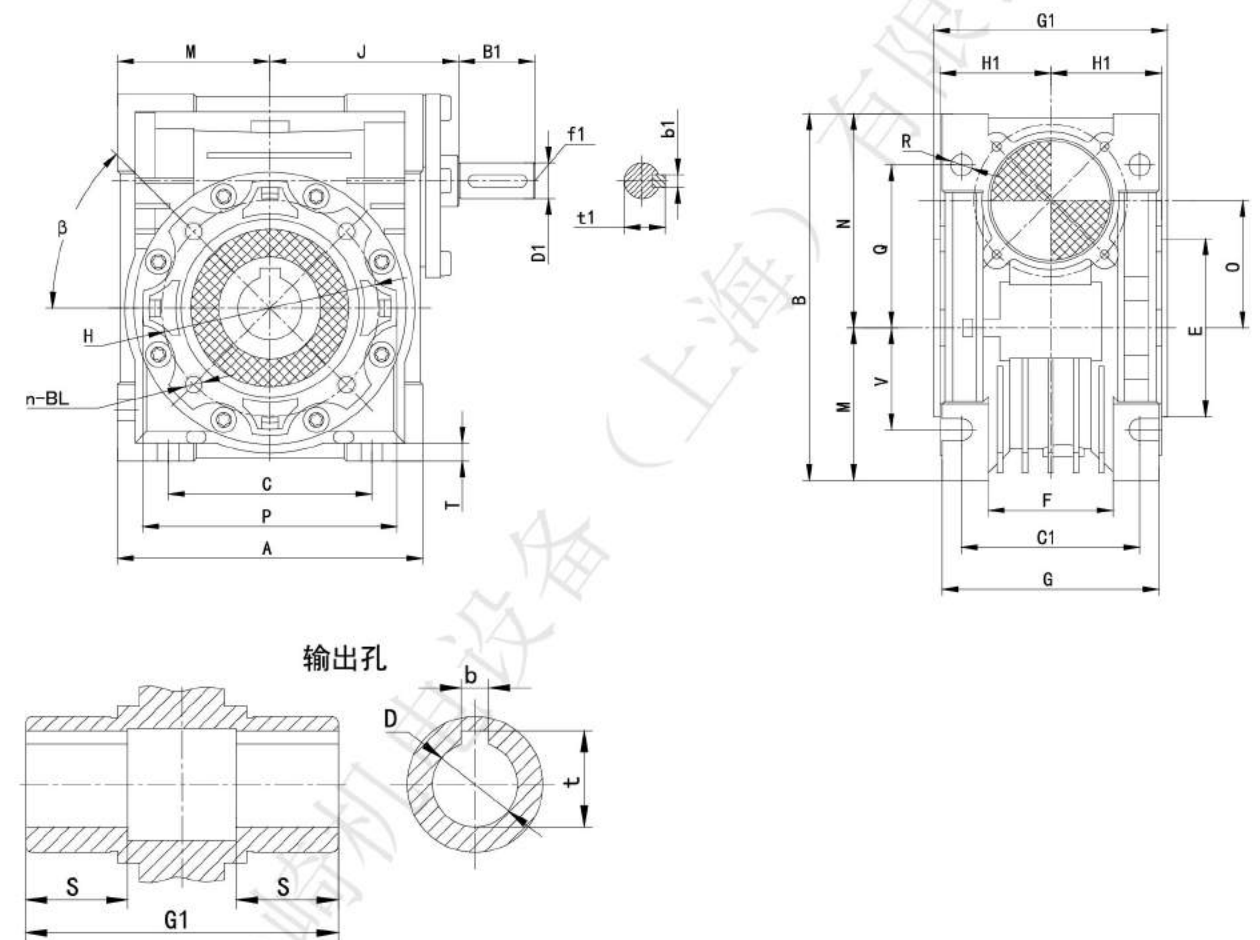
RV-E尺寸 / RV E SIZE



RV-E	A	B	B1	C	C1	D(H8)	D1(j6)	E(h8)	F	G	G1	G2	H	H1	I	M	N	O	P	Q	R	S	T	BL	β	b	b1	t	t1	f1	V
030	80	97	20	54	44	14	9	55	32	56	63	45	65	29	55	40	57	30	75	44	6.5	21	5.5	M6X10 (n=4)	0°	5	3	16.3	10.2	-	27
040	100	121.5	23	70	60	18(19)	11	60	43	71	78	53	75	36.5	70	50	71.5	40	87	55	6.5	26	6.5	M6X10 (n=4)	45°	6	4	20.8(21.8)	12.5	-	35
050	120	144	30	80	70	25(24)	14	70	49	85	92	64	85	43.5	80	60	84	50	100	64	8.5	30	7	M8X12 (n=4)	45°	8	5	28.3(27.3)	16	M6	40
063	144	174	40	100	85	25(28)	19	80	67	103	112	75	95	53	95	72	102	63	110	80	8.5	36	8	M8X12 (n=8)	45°	8	6	28.3(31.3)	21.5	M6	50
075	172	205	50	120	90	28(35)	24	95	72	112	120	90	115	57	112.5	86	119	75	140	93	11	40	10	M8X14 (n=8)	45°	8(10)	8	31.3(38.3)	27	M8	60
090	206	238	50	140	100	35(38)	24	110	74	130	140	108	130	67	129.5	103	135	90	160	102	13	45	11	M10X16 (n=8)	45°	10	8	38.3(41.3)	27	M8	70
110	255	295	60	170	115	42	28	130	-	144	155	135	165	74	160	127.5	167.5	110	200	125	14	50	14	M10X18 (n=8)	45°	12	8	45.3	31	M10	85
130	293	335	80	200	120	45	30	180	-	155	170	155	215	81	179	146.5	187.5	130	250	140	16	60	15	M12X20 (n=8)	45°	14	8	48.8	33	M10	100
150	340	400	80	240	145	50	35	180	-	185	200	175	215	96	210	170	230	150	250	180	18	72.5	18	M12X22 (n=8)	45°	14	10	53.8	38	M12	120

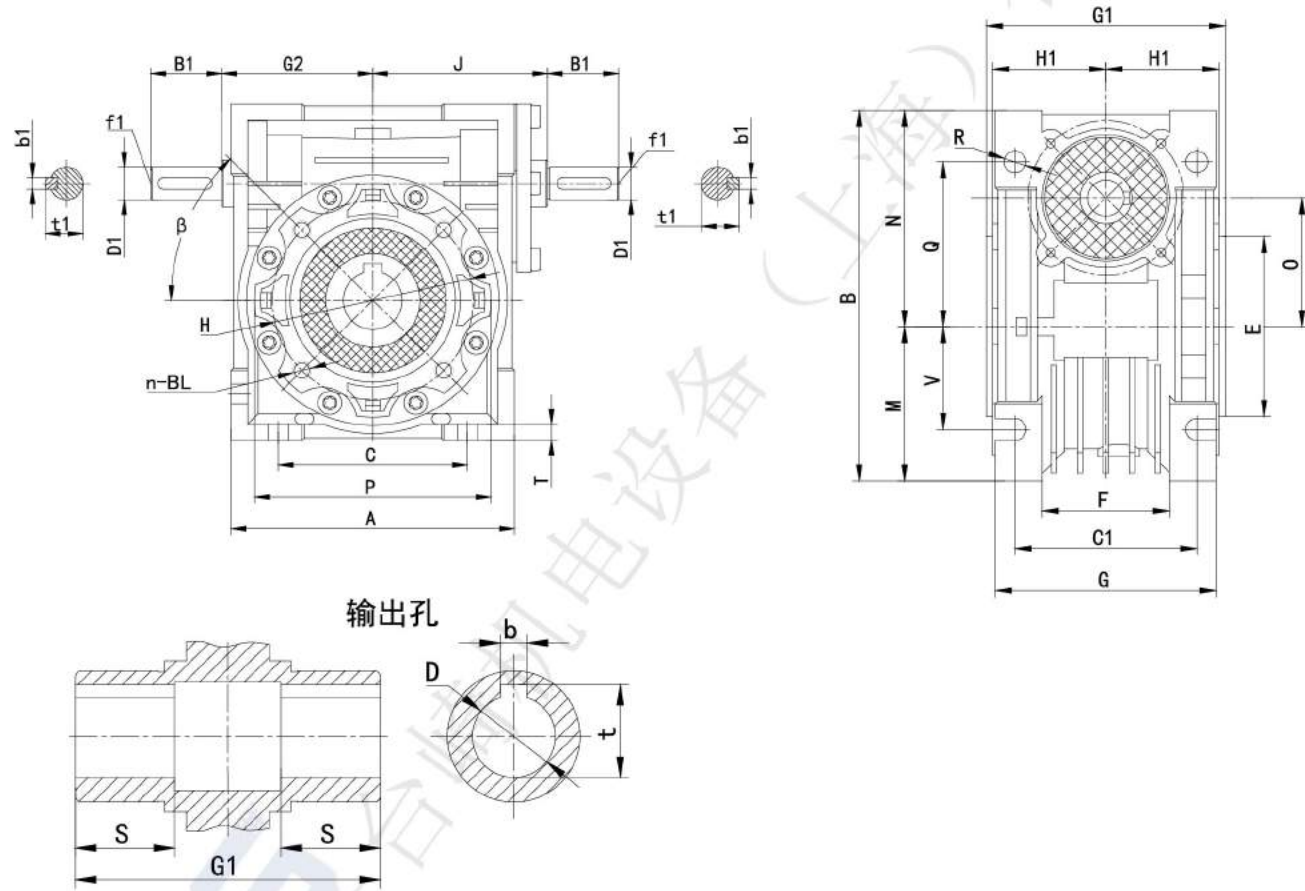
NRV产品介绍 / NRV PRODUCT INTRODUCTION

NRV尺寸 / NRV SIZE

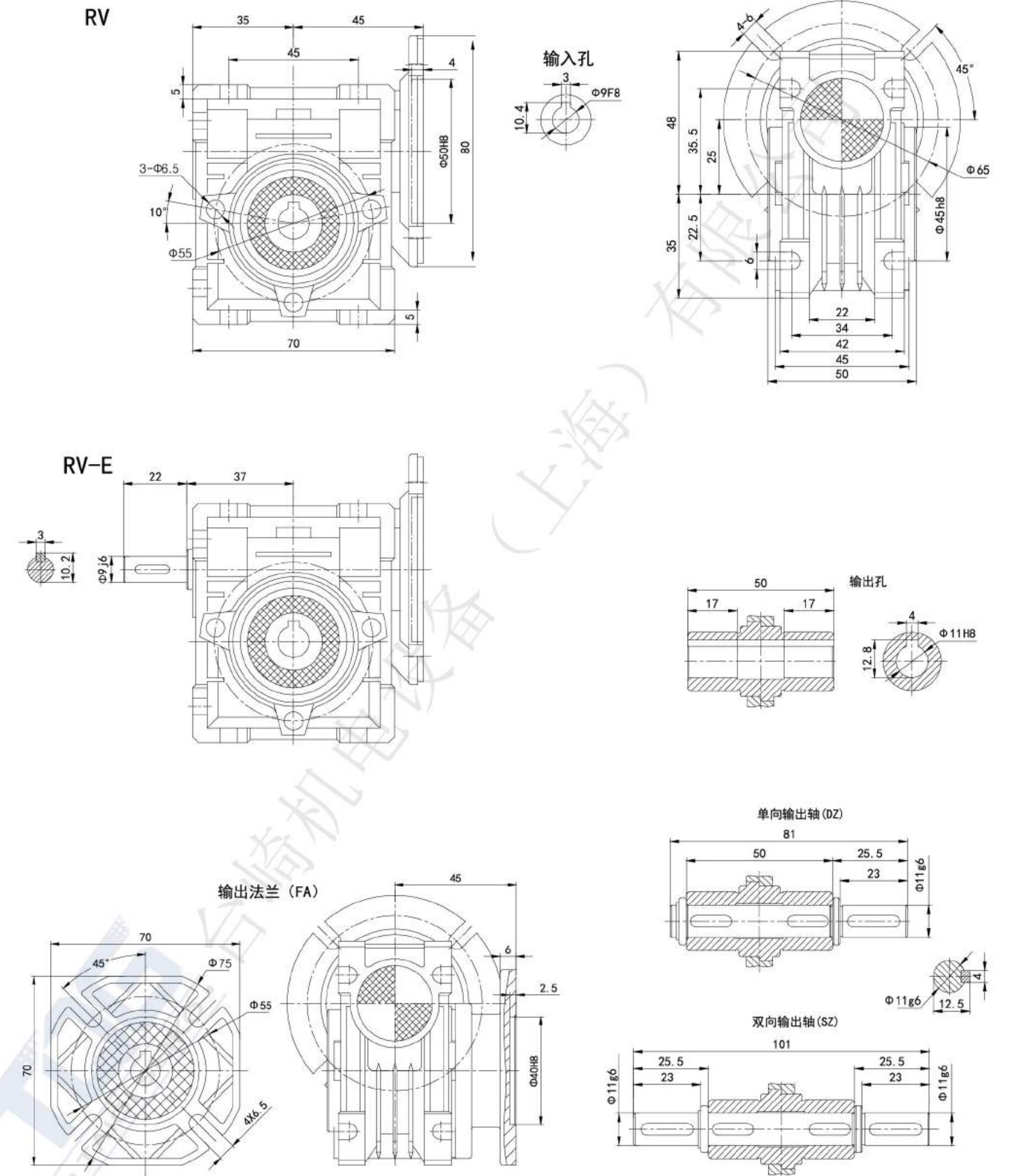


NRV	A	B	B1	C	C1	D(H8)	D1(H8)	E(h8)	F	G	G1	H	H1	J	M	N	O	P	Q	R	S	T	BL	β	b	b1	t	t1	f1	V
030	80	97	20	54	44	14	9	55	32	56	63	65	29	51	40	57	30	75	44	6.5	21	5.5	M6X10 (n=4)	0°	5	3	16.3	10.2	-	27
040	100	121.5	23	70	60	18(19)	11	60	43	71	78	75	36.5	60	50	71.5	40	87	55	6.5	26	6.5	M6X10 (n=4)	45°	6	4	20.8(21.8)	12.5	-	35
050	120	144	30	80	70	25(24)	14	70	49	85	92	85	43.5	74	60	84	50	100	64	8.5	30	7	M8X12 (n=4)	45°	8	5	28.3(27.3)	16	M6	40
063	144	174	40	100	85	25(28)	19	80	67	103	112	95	53	90	72	102	63	110	80	8.5	36	8	M8X12 (n=8)	45°	8	6	28.3(31.3)	21.5	M6	50
075	172	205	50	120	90	28(35)	24	95	72	112	120	115	57	105	86	119	75	140	93	11	40	10	M8X14 (n=8)	45°	8(10)	8	31.3(38.3)	27	M8	60
090	206	238	50	140	100	35(38)	24	110	74	130	140	130	67	125	103	135	90	160	102	13	45	11	M10X16 (n=8)	45°	10	8	38.3(41.3)	27	M8	70
110	255	295	60	170	115	42	28	130	-	144	155	165	74	142	127.5	167.5	110	200	125	14	50	14	M10X18 (n=8)	45°	12	8	45.3	31	M10	85
130	293	335	80	200	120	45	30	180	-	155	170	215	81	162	146.5	187.5	130	250	140	16	60	15	M12X20 (n=8)	45°	14	8	48.8	33	M10	100
150	340	400	80	240	145	50	35	180	-	185	200	215	96	195	170	230	150	250	180	18	72.5	18	M12X22 (n=8)	45°	14	10	53.8	38	M12	120

NRV-E尺寸 / NRV-E SIZE



NRV-E	A	B	B1	C	C1	D (H8)	D1 (H8)	E (h8)	F	G	G1	G2	H	H1	J	M	N	O	P	Q	R	S	T	BL	β	b	b1	t	t1	f1	V
030	80	97	20	54	44	14	9	55	32	56	63	45	65	29	51	40	57	30	75	44	6.5	21	5.5	M6X10 (n=4)	0°	5	3	16.3	10.2	-	27
040	100	121.5	23	70	60	18 (19)	11	60	43	71	78	53	75	36.5	60	50	71.5	40	87	55	6.5	26	6.5	M6X10 (n=4)	45°	6	4	20.8 (21.8)	12.5	-	35
050	120	144	30	80	70	25 (24)	14	70	49	85	92	64	85	43.5	74	60	84	50	100	64	8.5	30	7	M8X12 (n=4)	45°	8	5	28.3 (27.3)	16	M6	40
063	144	174	40	100	85	25 (28)	19	80	67	103	112	75	95	53	90	72	102	63	110	80	8.5	36	8	M8X12 (n=8)	45°	8	6	28.3 (31.3)	21.5	M6	50
075	172	205	50	120	90	28 (35)	24	95	72	112	120	90	115	57	105	86	119	75	140	93	11	40	10	M8X14 (n=8)	45°	8 (10)	8	31.3 (38.3)	27	M8	60
090	206	238	50	140	100	35 (38)	24	110	74	130	140	108	130	67	125	103	135	90	160	102	13	45	11	M10X16 (n=8)	45°	10	8	38.3 (41.3)	27	M8	70
110	255	295	60	170	115	42	28	130	-	144	155	135	165	74	142	127.5	167.5	110	200	125	14	50	14	M10X18 (n=8)	45°	12	8	45.3	31	M10	85
130	293	335	80	200	120	45	30	180	-	155	170	155	215	81	162	146.5	187.5	130	250	140	16	60	15	M12X20 (n=8)	45°	14	8	48.8	33	M10	100
150	340	400	80	240	145	50	35	180	-	185	200	175	215	96	195	170	230	150	250	180	18	72.5	18	M12X22 (n=8)	45°	14	10	53.8	38	M12	120



DRV产品介绍 / DRV PRODUCT INTRODUCTION



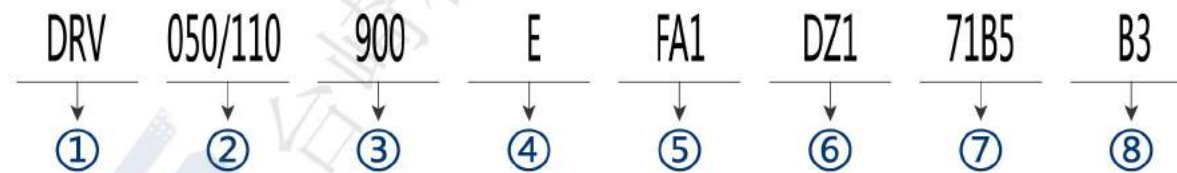
不带电机
without the motor



带电机
with motor

型号说明 / MODEL ILLUSTRATE

DRV双蜗轮蜗杆减速机 / COMBINATION WORM GEAR UNITS



NO	说明	Comments
1	型号代码: DRV双联体蜗轮蜗杆减速机	Model code: DRV duplex worm reducer
2	蜗轮蜗杆减速机中心距(规格)	Central distance of worm gear units (spec)
3	减速机速比	Speed ratio of reducer
4	1. 无代号表示不带蜗杆同尾出轴 2. 带蜗杆同尾出轴	1. No mark means single extension worm 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 hole 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. DZ(1/2): 单向输出轴和位置 3. SZ: 双向输出轴	1. No mark means hole output 2. DZ(1/2): Single output shaft and position 3. SZ: Double output shaft
7	输入法兰规格型式	Normalized form of input flange
8	安装方位代号	Installation position code

NMRV+NMRV/NRV+NMRV组合方式 / POSSIBLE COMBINATIONS

	i	n_2	IEC motor	i_1	i_2		i	n_2	IEC motor	i_1	i_2
DRV 025/030	100	14	56	10	10	DRV 040/075	300	4.7	56 63 71	10	30
	150	9.3		10	15		400	3.5		10	40
	200	7		10	20		500	2.8		10	50
	250	5.6		10	25		600	2.3		20	30
	300	4.7		10	30		750	1.9		25	30
	400	3.5		20	20		900	1.6		30	30
	500	2.8		20	25		1200	1.2		30	40
	600	2.3		20	30		1500	0.93		50	30
	750	1.9		30	25		1800	0.78		60	30
	900	1.6		30	30		2400	0.58		60	40
	1200	1.2		40	30		3000	0.47		60	50
	1500	0.93		50	30		4000	0.35		50	80
	1800	0.78		60	30		5000	0.28		50	100
	2400	0.58		60	40						
DRV 025/040	3000	0.47	56	60	50	DRV 040/090	300	4.7	56 63 71	7.5	40
	300	4.7		10	30		400	3.5		10	40
	400	3.5		10	40		500	2.8		10	50
	500	2.8		20	25		600	2.3		15	40
	600	2.3		20	30		750	1.9		15	50
	750	1.9		30	25		900	1.6		15	60
	900	1.6		30	30		1200	1.2		30	40
	1200	1.2		40	30		1500	0.93		30	50
	1500	0.93		50	30		1800	0.78		30	60
	1800	0.78		60	30		2400	0.58		60	40
	2400	0.58		60	40		3000	0.47		60	50
	3000	0.47		60	50		4000	0.35		50	80
	4000	0.35		50	80		5000	0.28		50	100
	5000	0.28		50	100						
DRV 030/040	300	4.7	56	10	30	DRV 050/110	300	4.7	63 71 80	10	30
	400	3.5		10	40		400	3.5		10	40
	500	2.8		20	25		500	2.8		10	50
	600	2.3		20	30		600	2.3		15	40
	750	1.9		25	30		750	1.9		15	40
	900	1.6		30	30		900	1.6		15	50
	1200	1.2		30	40		1200	1.2		30	40
	1500	0.93		50	30		1500	0.93		30	50
	1800	0.78		60	30		1800	0.78		30	60
	2400	0.58		60	40		2400	0.58		60	40
	3200	0.44		80	40		3000	0.47		60	50
	4000	0.35		80	80		4000	0.35		50	80
	5000	0.28		50	100		5000	0.28		50	100
DRV 030/050	300	4.7	56 63	10	30	DRV 063/130	300	4.7	71 80 90	10	30
	400	3.5		10	40		400	3.5		10	40
	500	2.8		10	50		500	2.8		10	50
	600	2.3		20	30		600	2.3		15	40
	750	1.9		20	30		750	1.9		15	40
	900	1.6		25	30		900	1.6		15	50
	1200	1.2		30	30		1200	1.2		30	40
	1500	0.93		30	40		1500	0.93		30	50
	1800	0.78		50	30		1800	0.78		30	60
	2400	0.58		60	40		2400	0.58		60	40
	3000	0.47		60	50		3000	0.47		60	50
	4000	0.35		60	80		4000	0.35		50	80
	5000	0.28		60	100		5000	0.28		50	100
DRV 030/063	300	4.7	56 63	7.5	40	DRV 063/150	150	9.3	71 80 90	10	15
	400	3.5		10	40		200	7.1		10	20
	500	2.8		10	50		250	5.6		10	25
	600	2.3		10	50		300	4.7		10	30
	750	1.9		15	40		400	3.5		10	40
	900	1.6		15	50		500	2.8		10	50
	1200	1.2		15	60		600	2.3		15	40
	1500	0.93		30	40		750	1.9		15	40
	1800	0.78		30	50		900	1.6		25	30
	2400	0.58		30	60		1200	1.2		30	30
	3000	0.47		60	40		1800	0.78		30	40
	4000	0.35		60	50		2400	0.58		60	40
	5000	0.28		60	80		3000	0.47		60	50
				50	80		4000	0.35		50	80
		50	100	5000	0.28	50	100				

注: 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作为组合单元另行组合。
Note: users have special requirement, can according to the actual need to select 025, 030, 040, 050, 063, 075, 090, 110, 130, 150 as a combined unit further combination.

减速机选型表 / GEAR UNIT SELECTION TABLES

DRV性能参数 PERFORMANCE PARAMETERS

Main gear unit selection table with columns for P1n (kw), n1 (r/min), i, M2n (Nm), F12 (N), fs, and model numbers like DRV025/030, 5612, etc.

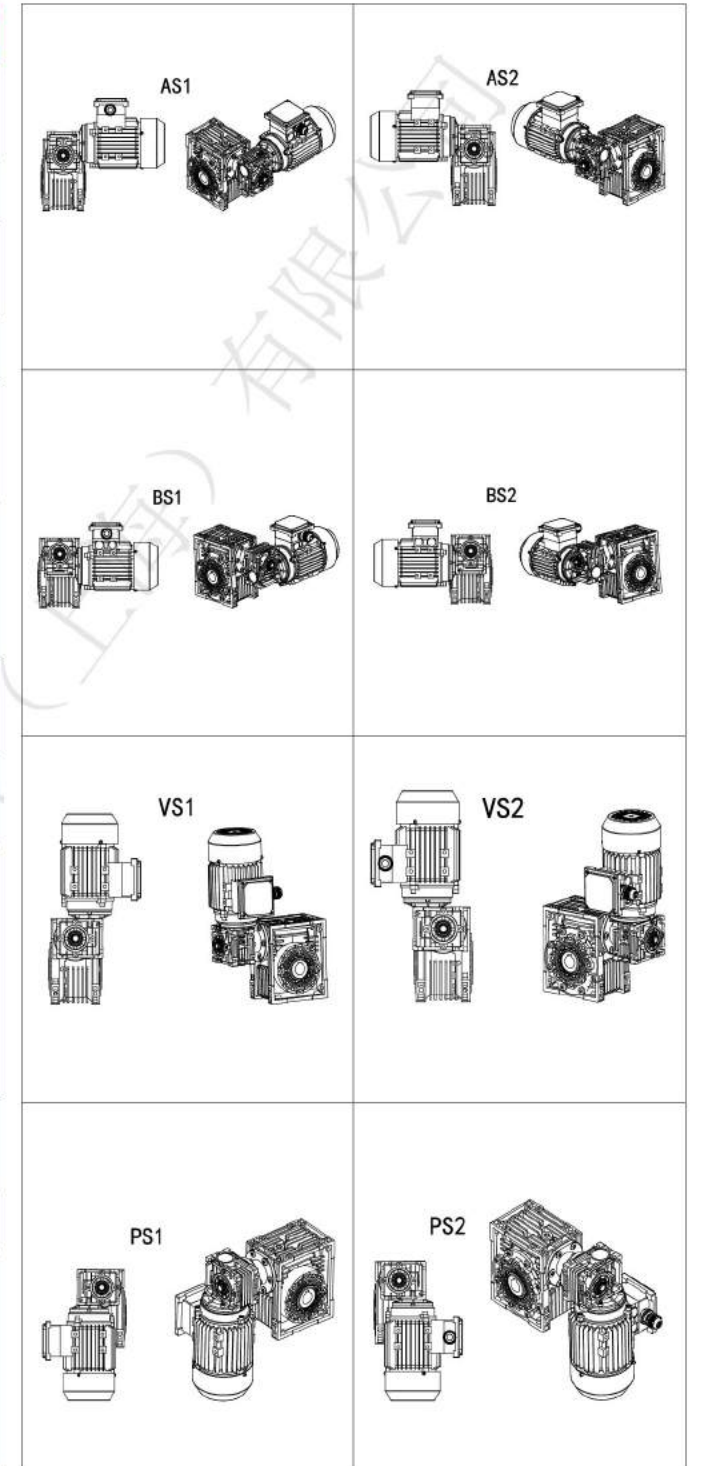
减速机选型表 / GEAR UNIT SELECTION TABLES

DRV性能参数 PERFORMANCE PARAMETERS

Secondary gear unit selection table with columns for P1n (kw), n1 (r/min), i, M2n (Nm), F12 (N), fs, and model numbers like DRV030/063, 6324, etc.

DRV组合带电机安装方位

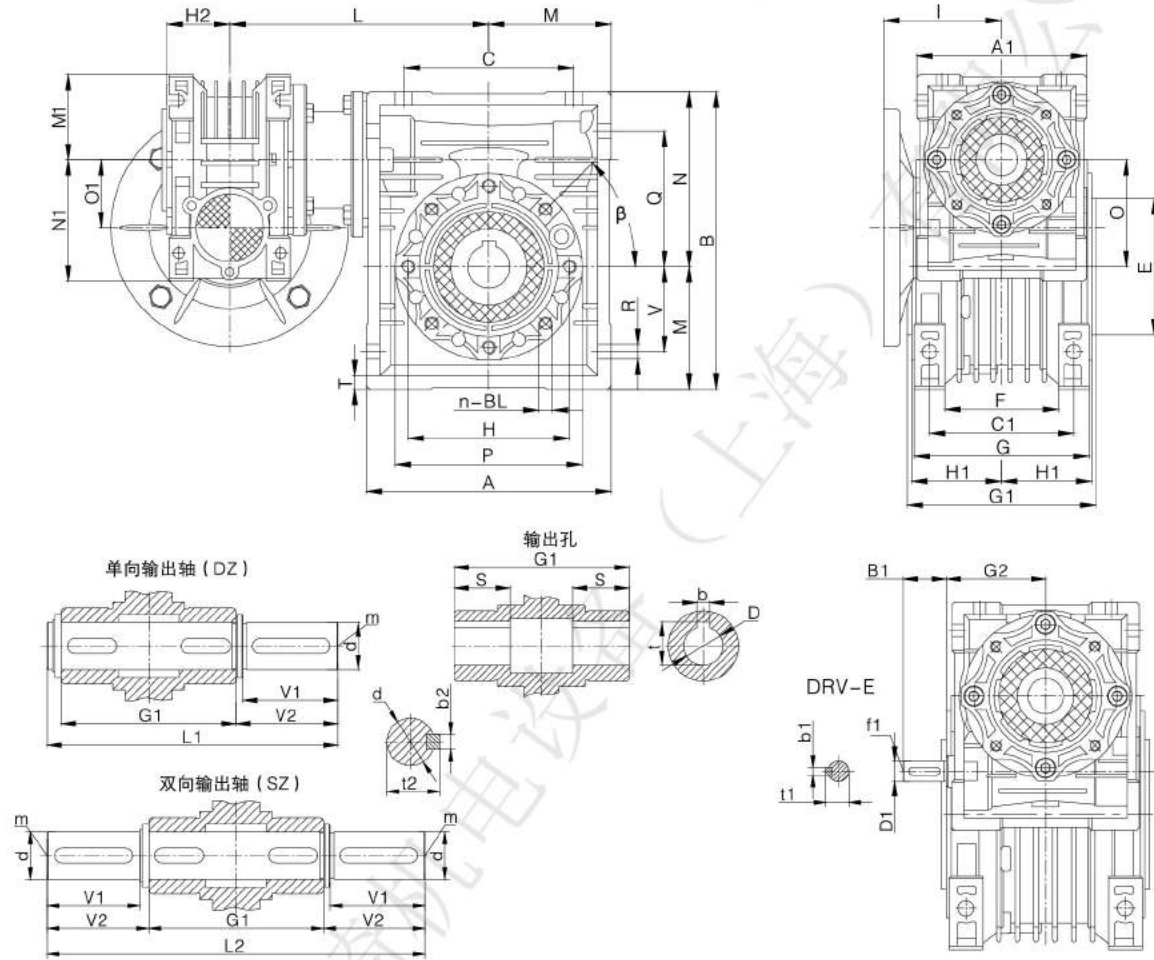
DRV COMBINED WITH MOTOR MOUNTING POSITION



第一级和第二级减速机按上图方式组合,如在订货时没有特别说明,将按照AS2组合方式供货;第二级减速机实际安装方式参照14页的安装方位图。

Note: the first stage and the second stage reducer according to the above combinations, such as when the ordering is not specified, will be in accordance with the AS2 combination supply; second stage reducer practical mode of installation 14 installation azimuth diagram.

DRV尺寸 / DRV SIZE



DRV	A	A1	B	B1	C	C1	D(H7)	D1(j6)	E(h8)	F	G	G1	G2	H	H1	H2	L	L1	L2	M	M1	N	N1	O	O1
025-030	80	70	97	-	54	44	14	-	55	32	56	63	-	65	29	22.5	100	102	128	40	35	57	48	30	25
025-040	100	70	121.5	-	70	60	18(19)	-	60	43	71	78	-	75	36.5	22.5	115	128	164	50	35	71.5	48	40	25
030-040	100	80	121.5	20	70	60	18(19)	9	60	43	71	78	51	75	36.5	29	120	128	164	50	40	71.5	57	40	30
030-050	120	80	144	20	80	70	25(24)	9	70	49	85	92	51	85	43.5	29	130	153	199	60	40	84	57	50	30
030-063	144	80	174	20	100	85	25(28)	9	80	67	103	112	51	95	53.0	29	145	173	219	72	40	102	57	63	30
040-075	172	100	205	23	120	90	28(35)	11	95	72	112	120	60	115	57.0	36.5	165	192	247	86	50	119	71.5	75	40
040-090	206	100	238	23	140	100	35(38)	11	110	74	130	140	60	130	67.0	36.5	182	234	309	103	50	135	71.5	90	40
050-110	255	120	295	30	170	115	42	14	130	-	144	155	74	165	74.0	43.5	225	249	324	127.5	60	167.5	84	110	50
063-130	293	144	335	40	200	120	45	19	180	-	155	170	90	215	81.0	53	245	265	340	146.5	72	187.5	102	130	63
063-150	340	144	400	40	240	145	50	19	180	-	185	200	90	215	96	53	275	297	374	170	72	230	102	150	63

DRV	P	Q	R	S	T	BL	β	b	b1	b2	t	t1	t2	d(h6)	f1	m	V	V1	V2
025-030	75	44	6.5	21	5.5	M6 x 10 (n=4)	0°	5	-	5	16.3	-	16	14	-	M6	27	30	32.5
025-040	87	55	6.5	26	6.5	M6 x 10 (n=4)	45°	6	-	6	20.8(21.8)	-	20.5	18	-	M6	35	40	43
030-040	87	55	6.5	26	6.5	M6 x 10 (n=4)	45°	6(6)	3	6	20.8(21.8)	10.2	20.5	18	-	M6	35	40	43
030-050	100	64	8.5	30	7	M8 x (n=4)	45°	8(8)	3	8	28.3(27.3)	10.2	28	25	-	M10	40	50	53.5
030-063	110	80	8.5	36	8	M8 x (n=8)	45°	8(8)	3	8	28.3(31.3)	10.2	28	25	-	M10	50	50	53.5
040-075	140	93	11	40	10	M8 x 14 (n=8)	45°	8(10)	4	8	31.3(38.3)	12.5	31	28	-	M10	60	60	63.5
040-090	160	102	13	45	11	M10 x (n=8)	45°	10	4	10	38.3(41.3)	12.5	38	35	-	M12	70	80	84.5
050-110	200	125	14	50	14	M10 x 18 (n=8)	45°	12	5	12	45.3	16.0	45	42	M6	M16	85	80	84.5
063-130	250	140	16	60	15	M12 x (n=8)	45°	14	6	14	48.3	21.5	48.5	45	M6	M16	100	80	85
063-150	250	180	18	72	18	M12 x (n=8)	45°	14	6	14	53.8	21.5	53.5	50	M6	M16	120	82	87

产品图片 PRODUCT PICTURE



UDL系列无级变速器



UDL系列无级变速器



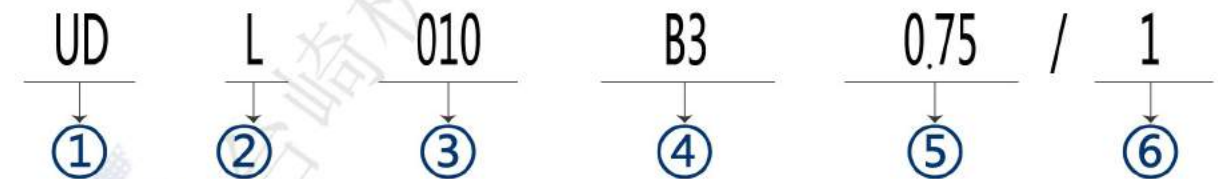
UDL系列+NMRV系列蜗轮减速机



UDL系列+NMRV系列蜗轮减速机

型号说明 / MODEL ILLUMINATE

无级变速器 STEPLESS SPEED VARIATOR



NO	说明	Comments
1	无级变速器代号	Code of stepless speed variator
2	L: 铝合金机壳 不标注时为铸铁机壳	L: Aluminium alloy casing No mark means cast iron casing
3	无级变速器机座号	Steat NO. of stepless speed variato
4	B3: 底脚安装机型 B5: 法兰安装机型	B3: Foot-mounted model B5: Flange-mounted positon
5	电机功率	Motor power
6	电机接线盒位置, 默认位置1可以不写	Position diagram for motor terminal box default position 1not to write out is ok

产品概述 / PRODUCTS OVERVIEW

UDL系列无级变速器的设计，融合了国内外的先进技术，产品具有以下特点：

1. 调整精度高：达0.5 - 1转。
2. 变速范围大，输出速比可在1：1.4至1：7之间任意变化。
3. 强度高，寿命长。
4. 调速方便。
5. 可连续工作运转，且可正反方向运转，运转平稳，性能稳定，噪音低。
6. 全密封，对环境要求低。
7. 机构紧凑，体积小。
8. 采取优质铝合金压铸成型，外形美观，重量轻，永不生锈。
9. 适应性好。UDL系列无级变速器可与各种减速机组合，实现低速无级变速。

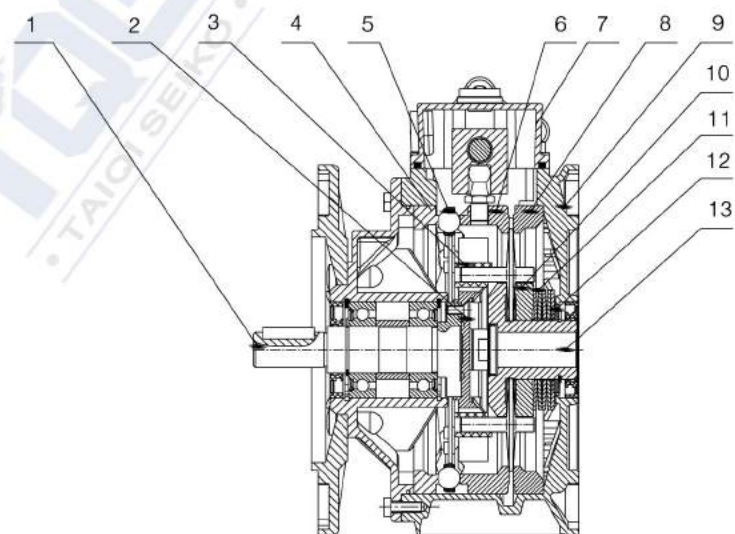
UDL系列无级变速器可广泛应用于食品、包装、化工、制药、塑料、造纸、机床、交通以及各种需调速的自动生产线、输送线、装配流水线，是您机器上理想的伙伴。

The design of UDL series stepless speed variator comprises the advanced technology both at home and abroad. The products include the following main characteristics:

1. High speed precision: 0.5-1 shaft
2. High speed-changing range: The speed ratio ranges from 1:1.4 to 1:7 freely.
3. High in strength and long in service life.
4. Convenient to regulate the speed.
5. Continuous in running, front-to-back in running direction, smooth in driving, stable in performance and low in noise.
6. Full in sealing and suitable for any environment.
7. Compact in structure and small in volume
8. Made of high-quality aluminium alloy diecast into forming, good-looking in appearance, light in weight and it never gets rusty
9. Good in adaptation: UDL series stepless speed variators can be combined with all kinds of speed reducers, as to achieve low stepless speed-changing.

UDL series stepless speed variators are widely used for foodstuffs, packing, chemicals, pharmacy, plastics, paper-making, machine-tools, communications, and all kinds of automatic lines, pipelines and assembly lines which need speeregulation, It is a good companion for production.

结构 STRUSTURE

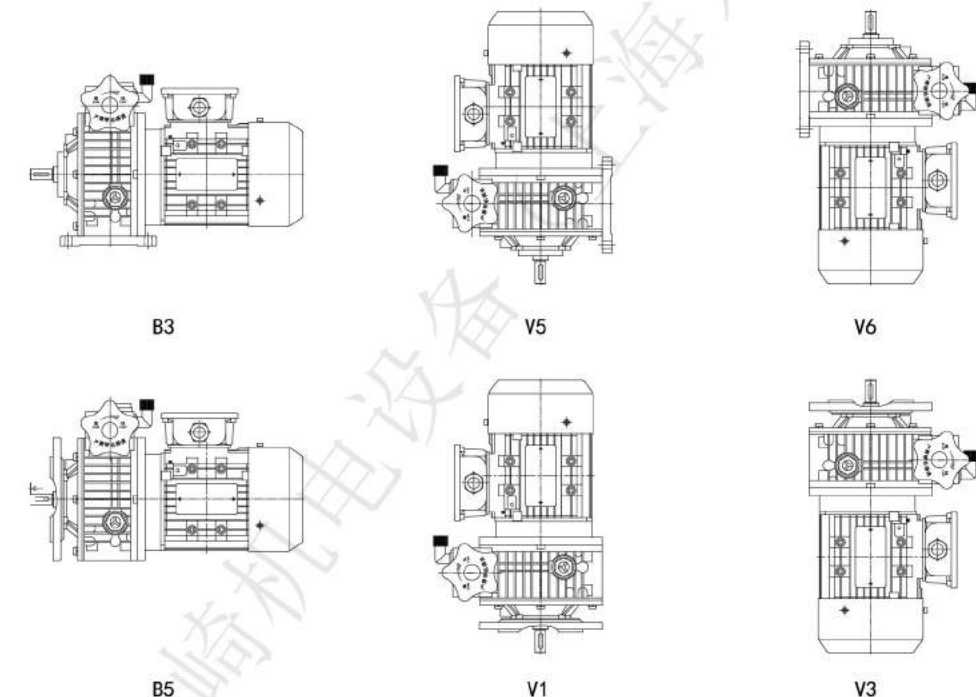


1. 输出轴 Output shaft
2. 转臂 Turn arm
3. 滑块 Slider
4. 固定凸轮 Fixed CAM
5. 滚珠环 Ball ring
6. 调速凸轮 Speed CAM
7. 操作盖 Oprating cover
8. 定环 Sfet ring
9. 箱体 Cabinet
10. 压盘 Pressure plate
11. 碟形弹簧 Will spring
12. 挡圈 Block circle
13. 电机轴 Motor shaft

性能参数 / PERFORMANCE PARAMRTER

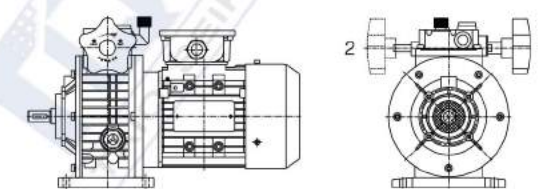
电机功率 Motor power	型号 Model	i	n ₂ [r/min]	M ₂ (Nm)
0.18KW	UDL002	1.6~8.2	880~170	1.5~3
0.25KW	UDL005	1.4~7	1000~200	2.2~6
0.37KW	UDL005	1.4~7	1000~200	3~6
0.55KW	UDL010	1.4~7	1000~200	4~8
0.75KW	UDL010	1.4~7	1000~200	6~12
1.1KW	UD020	1.4~7	1000~200	9~18
1.5KW	UD020	1.4~7	1000~200	12~24
2.2KW	UD030S	1.4~7	1000~200	18~36
3.0KW	UD030L	1.4~7	1000~200	24~48
4.0KW	UD030L	1.4~7	1000~200	32~64
5.5KW	UD050S	1.4~7	1000~200	45~90
7.5KW	UD050L	1.4~7	1000~200	59~118

UDL与NMRV安装方位 / UDL AND NMRV INSTALLATION POSITION

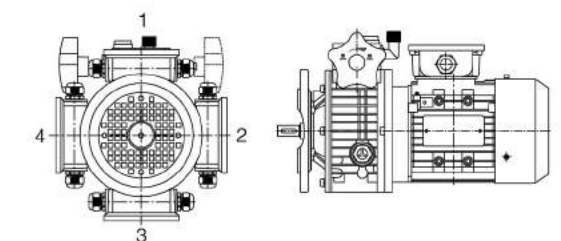


附件位置 / THE ATTACHMENT POSITION

手轮位置 THE POSITION OF THE HAND WHEEL



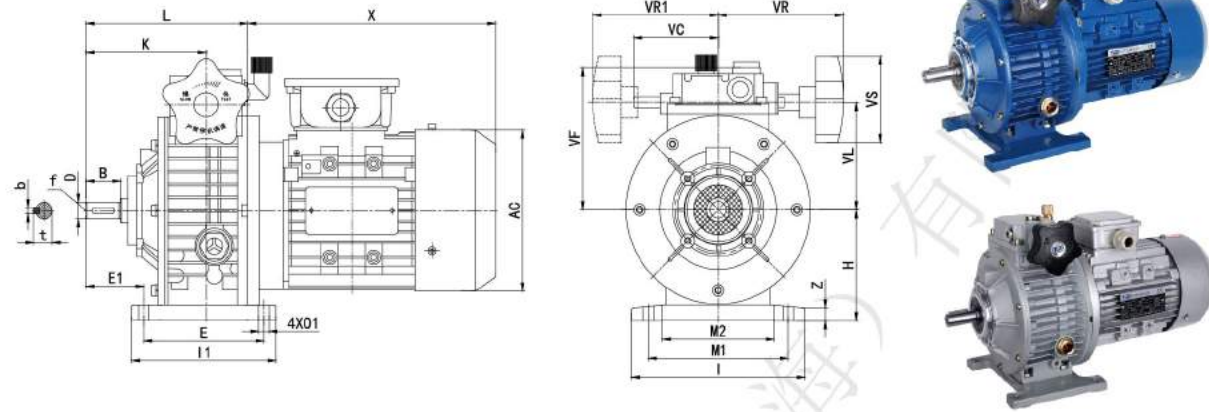
电机接线盒位置 MOTOR TERMINAL BOX POSITION



注:如没有特别说明,手轮将按照如图1位和B3安装方位的组合方式提供。
Note: if no special note, the handwheel will be in accordance with the figure 1 and B3 installation azimuth combination is provided.

UDL-B3产品介绍 / UDL-B3 PRODUCT INTRODUCTION

UDL-B3尺寸 / UDL - B3 SIZE

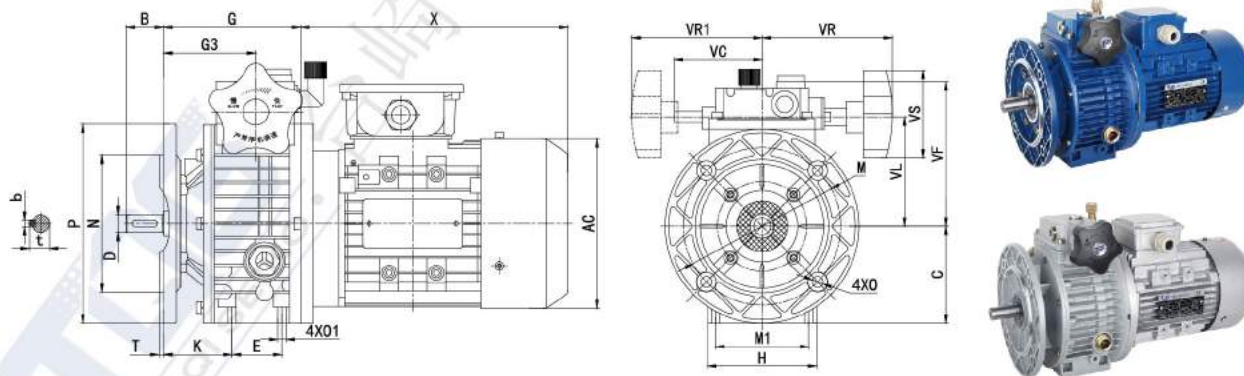


UDL-B3型机座安装形式 / UDL - B3 type frame installation form

TYPE	B	D(j6)	E	E1	H	I	I1	K	L	M1	M2	O1	VC	VF	VL	VR	VR1	VS	b	t	x	AC	Z
UDL002B3-0.18	23	11	105	80	80	145	120	87.5	135.5	110	71			111	78	110	110	85	4	12.5	194	120	10
UDL005B3-0.25	30	14	104	93	93	149	125	104	140	120	96	9	71	123	90	110	110		5	16	215	136	
UDL005B3-0.37																							
UDL010B3-0.55	40	19	125	113	113	190		125.5	179	160	135	11	79	140	107	120	120		6	21.5	247	155	15
UDL010B3-0.75							150																
UD020B3-1.1	50	24	140	123	123	241		165	238	180	143	12	-	144	122	150	-		8	27	260 285	175	18
UD020B3-1.5																							
UD030B3-2.2	60	28	230	150	150	300	270	191	268	245	190	14	-	188	150	160	-			31	323	195	25
UD030B3-3.0																							
UD030B3-4.0																						341	219
UD050B3-5.5	70	38	250	200	200	365	290	201	319	315	245	18	-		192	194	-			10	395 433	258	30
UD050B3-7.5																							

UDL-B5产品介绍 / UDL - B5 PRODUCT INTRODUCTION

UDL-B5尺寸 / UDL - B5 SIZE



UDL-B5型机座安装形式 / UDL - B5 type frame installation form

TYPE	B	C	D(j6)	E	G	G3	H	M	M1	O	O1	P	T	K	VC	VF	VL	VR	VR1	b	t	x	AC
UDL002B5-0.18	23	70	11	50	112.5	64.5	72	115	60	9	M6	140		46	71	111	78	110	110	4	12.5	194	120
UDL005B5-0.25	30	80	14	40	110	74	90	130	77	9	M8	160		53	71	123	90	110	110	5	16	215	136
UDL005B5-0.37																							
UDL010B5-0.55	40	100	19	58	139	85.5	98	165	84	11	M8	200	3.5	60	79	140	107	120	120	6	21.5	247	155
UDL010B5-0.75																							
UD020B5-1.1	50	109	24	-	188	115	241	165	-	11	-	200		-	-	144	122	150	-		27	260 285	175
UD020B5-1.5																							
UD030B5-2.2	60	130	28	-	208	131	270	215	-	15	-	250	4	-	-	188	150	160	-		31	323	195
UD030B5-3.0																							
UD030B5-4.0																						341	219
UD050B5-5.5	70	200	38	-	244	131	-	265	-	19	-	300	5	-	-	-	192	194	-		10	395 433	258
UD050B5-7.5																							

UDL+NMRV产品介绍 /

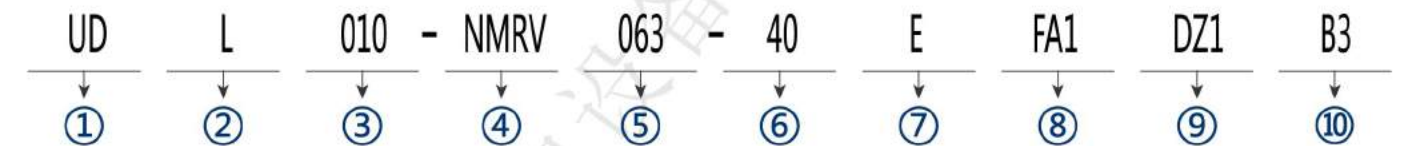
UDL+NMRV DURING INTRODUCTION



型号说明 / MODEL ILLUMINATE

UDL-NMRV无级变速器与蜗轮蜗杆减速机组合

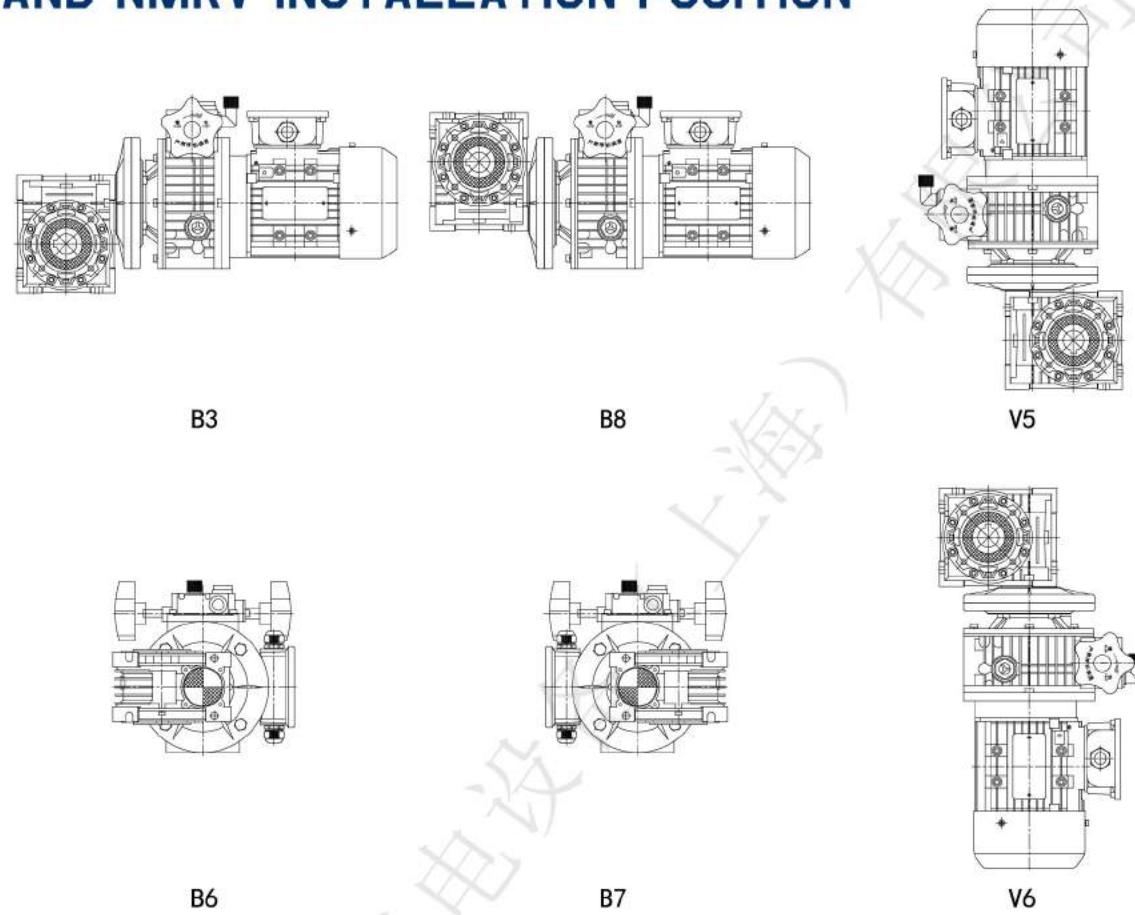
/ COMBINATION OF STEPLESS SPEED VARIATOR AND WORM GEAR UNITS



NO	说明	Comments
1	无级变速器代号	Code of stepless speed variator
2	铝合金机壳, 不标注时为铸铁机壳	Aluminium alloy housing, and no mark means cast iron casing
3	无级变速器机座号	Continuously variable transmission model
4	蜗轮蜗杆减速机代码	Code of worm gear units
5	蜗轮蜗杆减速机中心距 (规格)	Central distance of worm gear units(spec)
6	蜗轮蜗杆减速机速比	Speed ratio of worm gear units
7	1.无代号表示不带输出法兰 2.E:带蜗杆同向输出轴	1.No mark means single extension worm shaft 2.E: Double extension worm shaft
8	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
9	1.无代号表示孔输出 2.DZ(1/2): 单向输出轴和位置 3.SZ: 双向输出轴	1.No mark means hole output 2.DZ(1/2): Single output shaft and position 3.SZ: Double output shaft
10	安装方位代号	Installation position code

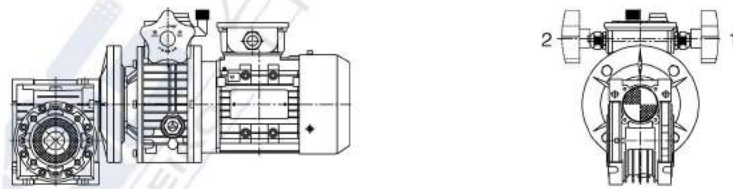
UDL与NMRV安装方位

UDL AND NMRV INSTALLATION POSITION



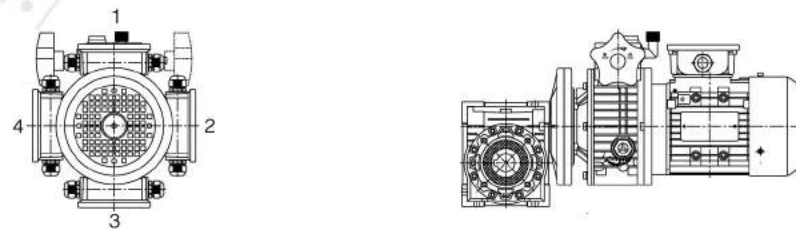
附件位置 / THE ATTACHMENT POSITION

NMRV...UDL...手轮位置 THE POSITION OF THE HAND WHEEL



注:如没有特别说明,手轮将按照如图1位和B3安装方位的组合方式提供。
 Note: if no special note, the handwheel will be in accordance with the figure 1 and B3 installation azimuth combination is provided.

NMRV...UDL...电机接线盒位置 MOTOR TERMINAL BOX POSITION



注:如对电机接线盒位置有特别要求,订购时须参考上图的要求指定接线盒方位,否则接线盒方位将按安装方位图表中的方位提供。
 Note: if the motor terminal box position have special requirements, when ordering reference is made to the above requirements specified terminal box position, or junction box range according to installation position chart position is provided.



减速机选型表 / GEAR UNIT SELECTION TABLES

UDL NMRV. (n= 1400r/min) 性能参数 PERFORMANCE PARAMETER

P_{in} (kw)	n_2 (r/min)	i	M_{in} (Nm)			
0.18	117~22.5	12~61.5	9~18	UDL002-NMRV040	6324	
	88~17	16~82	12~23			
	58.7~11.3	24~123	17~32			
	44~8.5	32~164	22~40			
	35.2~6.8	40~205	27~47			
	29.3~5.7	48~246	30~51			
	22~4.3	64~328	37~62			
	17.6~3.4	80~410	43~60			
	22~4.3	64~328	38~63			
	17.6~3.4	80~410	44~73			UDL002-NMRV050
14.7~2.8	96~492	50~80				
11~2.1	128~656	59~82				
8.8~1.7	160~820	66~79				
133~26.7	10.5~52.5	19~36	UDL005-NMRV050	7124		
100~20	14~70	25~47				
66.7~13.3	21~105	36~65				
50~10	28~140	46~82				
40~8	35~175	55~97				
33.3~6.7	42~210	61~107				
25~5	56~280	76~124				
20~4	70~350	89~120				
25~5	56~280	79~134				
20~4	70~350	92~155			UDL005-NMRV063	7124
16.7~3.3	84~420	104~173				
12.5~2.5	112~560	125~173				
10~2	140~700	139~150				
133~26.7	10.5~52.5	26~49	UDL010-NMRV063	8014		
100~20	14~70	34~63				
66.7~13.3	21~105	48~88				
50~10	28~140	62~112				
40~8	35~175	75~133				
33.3~6.7	42~210	81~146				
25~5	56~280	105~179				
20~4	70~350	123~207				
20~4	70~350	129~216				
16.7~3.3	84~420	146~242			UDL010-NMRV075	8014
12.5~2.5	112~560	176~250				
12.5~2.5	112~560	189~309				
10~2	140~700	218~350				
133~26.7	10.5~52.5	39~73	UDL010-NMRV090	8014		
100~20	14~70	51~94				
66.7~13.3	21~105	72~132				
50~10	28~140	92~168				
40~8	35~175	112~199				
33.3~6.7	42~210	126~219				
25~5	56~280	156~232				
20~4	70~350	185~310				
20~4	70~350	192~320				
16.7~3.3	84~420	219~300			UDL010-NMRV063	8024
133~26.7	10.5~52.5	39~73				
100~20	14~70	51~94				
66.7~13.3	21~105	72~132				
50~10	28~140	92~168				
40~8	35~175	112~199				
33.3~6.7	42~210	126~219				
25~5	56~280	156~232				
20~4	70~350	185~310				
20~4	70~350	192~320	UDL010-NMRV075	8024		
16.7~3.3	84~420	219~300				

减速机选型表 / GEAR UNIT SELECTION TABLES

UDL NMRV. (n= 1400r/min) 性能参数 PERFORMANCE PARAMETER

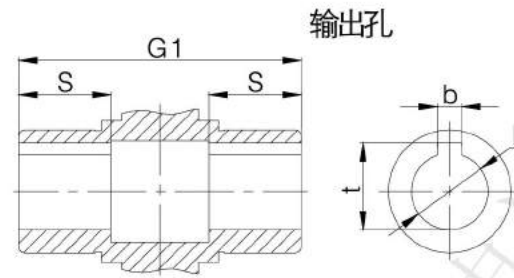
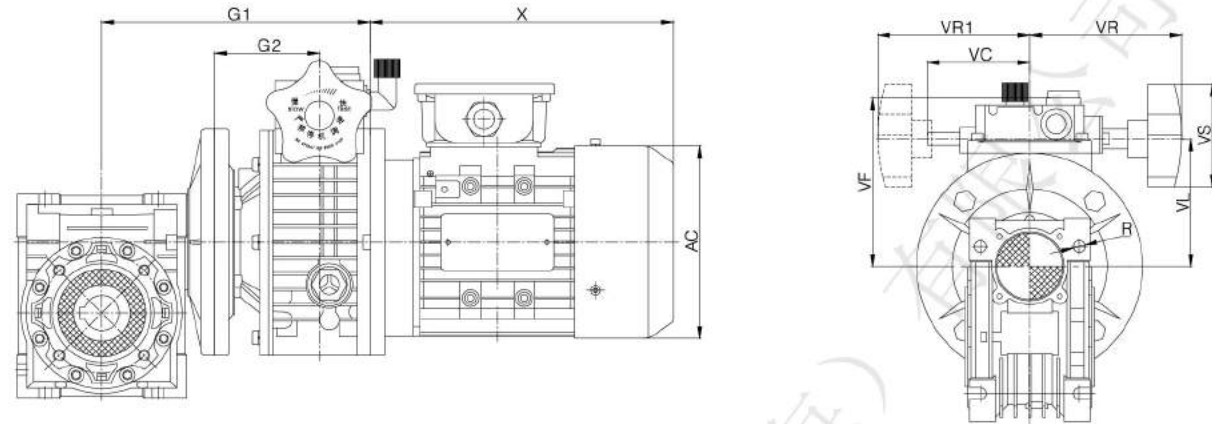
P _{in} (kw)	n ₂ (r/min)	i	M _{in} (Nm)	 		
0.75	16.7~3.3	84~420	230~389	UDL010-NMRV090	8024	
	12.5~2.5	112~560	265~428			
	10~2	140~700	303~410			
	12.5~2.5	112~560	302~503			
	10~2	140~700	348~575			
1.1	133~26.7	10.5~52.5	59~111	UD020-NMRV075	90S4	
	100~20	14~70	77~144			
	66.7~13.3	21~105	110~203			
	50~10	28~140	142~258			
	40~8	35~175	172~308			
	33.3~6.7	42~210	195~340			
	25~5	56~280	245~360			
	100~20	14~70	78~146			
	66.7~13.3	21~105	113~208			
	50~10	28~140	146~266			
	40~8	35~175	177~320	UD020-NMRV090	90S4	
	33.3~6.7	42~210	202~356			
	25~5	56~280	256~442			
	20~4	70~350	304~517			
	20~4	70~350	320~550			
	16.7~3.3	84~420	368~625			
	12.5~2.5	112~560	455~754			
	10~2	140~700	522~710			
	16.7~3.3	84~420	373~623			
	12.5~2.5	112~560	460~749			
10~2	140~700	531~868	UD020-NMRV130	90S4		
133~26.7	10.5~52.5	78~148				
100~20	14~70	102~192				
66.7~13.3	21~105	147~270				
50~10	28~140	190~344				
1.5	40~8	35~175	229~330	UD020-NMRV075	90L4	
	33.3~6.7	42~210	260~390			
	25~5	56~280	327~360			
	133~26.7	10.5~52.5	77~150			
	100~20	14~70	104~195			
	66.7~13.3	21~105	150~277			
	50~10	28~140	194~355			
	40~8	35~175	236~427			
	33.3~6.7	42~210	270~474			
	25~5	56~280	341~589			
	20~4	70~350	406~560			
	20~4	70~350	426~733	UD020-NMRV110	90L4	
	16.7~3.3	84~420	490~833			
	16.7~3.3	84~420	498~831			
	12.5~2.5	112~560	614~999			
	10~2	140~700	696~1100			
	2.2	133~26.7	10.5~52.5	120~226	UD030-NMRV110	100L1-4
		100~20	14~70	157~294		
		66.7~13.3	21~105	228~418		

减速机选型表 / GEAR UNIT SELECTION TABLES

UDL..NMRV..(n1=1400r/min) 性能参数 PERFORMANCE PARAMETER

P _{in} (kw)	n ₂ (r/min)	i	M _{in} (Nm)	 		
2.2	50~10	28~140	298~549	UD030-NMRV110	100L1-4	
	40~8	35~175	364~664			
	33.3~6.7	42~210	413~717			
	25~5	56~280	533~931			
	3.0	25~5	56~280	542~932	UD030-NMRV130	100L1-4
		20~4	70~350	648~1097		
		16.7~3.3	84~420	746~1246		
		12.5~2.5	112~560	921~1499		
10~2		140~700	1040~169			
133~26.7		10.5~52.5	160~302			
100~20		14~70	210~392			
66.7~13.3		21~105	304~558			
4.0	50~10	28~140	398~732	UD030-NMRV110	100L2-4	
	40~8	35~175	485~885			
	33.3~6.7	42~210	547~956			
	25~5	56~280	711~1030			
	133~26.7	10.5~52.5	160~301			
	100~20	14~70	211~395			
	66.7~13.3	21~105	307~563			
	50~10	28~140	402~733			
	40~8	35~175	490~885	UD030-NMRV130	100L2-4	
	33.3~6.7	42~210	562~973			
	25~5	56~280	720~1242			
	20~4	70~350	864~1463			
	133~26.7	10.5~52.5	213~402			
	100~20	14~70	279~523			
	66.7~13.3	21~105	405~744			
	50~10	28~140	530~975			
4.0	40~8	35~175	647~1020	UD050-NMRV110	112M4	
	133~26.7	10.5~52.5	214~401			
	100~20	14~70	281~527			
	66.7~13.3	21~105	410~751			
	4.0	50~10	28~140	536~978	UD050-NMRV130	112M4
		40~8	35~175	653~1180		
		33.3~6.7	42~210	749~1298		
		25~5	56~280	960~1650		

UDL+NMRV尺寸 / UDL+NMRV SIZE



型号 (model)	D(H8)	b	t	G1	G2	S	VF	VL	VR	VR1
UDL002-NMRV030	14	5	16.3	167.5	119.5	21	111	78	110	110
UDL002-NMRV040	18(19)	6	20.8(21.8)	182.5	134.5	26	111	78	110	110
UDL005-NMRV040				180	144		123	90	110	110
UDL002-NMRV050	25(24)	8	28.3(27.3)	192.5	144.5	30	111	78	110	110
UDL005-NMRV050				190	154		123	90	110	110
UDL005-NMRV063	25(28)	8	28.3(31.3)	205	169	36	123	90	110	110
UDL010-NMRV063				234	180.5		140	107	120	120
UDL005-NMRV075	28(35)	8(10)	31.3(38.3)	222.5	186.5	40	123	90	110	110
UDL010-NMRV075				251.5	198		140	107	120	120
UD020-NMRV075				300.5	227.5		144	122	150	-
UDL010-NMRV090	35(38)	10	38.3(41.3)	268.5	215	45	140	107	120	120
UD020-NMRV090				317.5	244.5		144	122	150	-
UDL010-NMRV110	42	12	45.3	299	245.5	50	140	107	120	120
UD020-NMRV110				348	275		144	122	150	-
UD030-NMRV110				368	291		188	150	160	-
UD020-NMRV130	45	14	48.8	368	295	60	144	122	150	-
UD030-NMRV130				388	311		188	150	160	-

注: 1. NMRV的其它尺寸请参考24页
2. UDL的其它尺寸请参考57, 59页
3. X、AC尺寸请参考94页

产品概述 / PRODUCTS OVERVIEW



材料 MATERIALS

铝合金外壳; 齿轮: 40Cr, 基于渐开线精密制造。

Case in aluminium alloy. Gears: 40Cr, machined accurately base on the accurate.

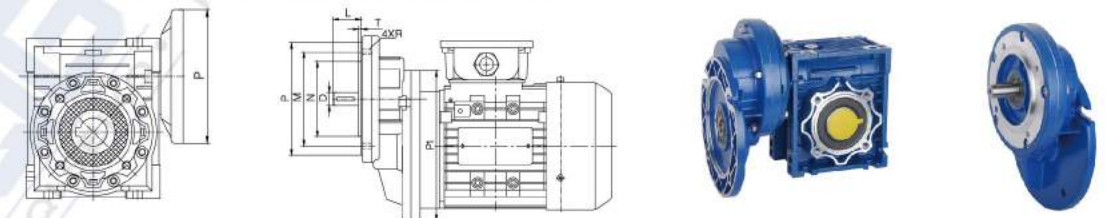
型号说明 / MODEL ILLUMINATE

PC-NMRV前置齿轮蜗轮蜗杆减速机/WORM GEARS WITH PRE-STAGE HELICAL UNITS

PC	071	NMRV	075	40	E	FA1	DZ1	B3
①	②	③	④	⑤	⑥	⑦	⑧	⑨

NO	说明	Comments
1	前置斜齿轮减速代号	Helical Pre-stage unit
2	电机座号	Motor frame size
3	型号代码: 1. RV孔输入带输入法兰 2. NRV轴输入不带输入法兰	Model code 1. NMRV:Hole input with flange 2. NRV:Shaft input without flange
4	减速机中心距 (规格)	Central distance of worm gear units(spec)
5	减速机速比 (i=5,7.5,10,15,20,25,30,40,50,60,80,100)	Speed ratio of reducer r(i=5,7.5;10;15;20;25;30;40;50;60;80;100)
6	1. 无代号表示不带蜗杆同向尾出轴 2. E: 带蜗杆同向尾出轴	1. No mark means single extension worm shaft 2. E: Double extension worm shaft
7	1. 无代号表示不带输出法兰 2. FA,FB,FC,FD,FE(1/2):输出法兰号和位置	1. No mark means without output flange 2. FA,FB,FC,FD,FE(1/2):output Flange and position
8	1. 无代号表示孔输出 2. DZ (1/2): 单向输出轴和位置 3. SZ: 双向输出轴	1. No mark means hole output 2. DZ(1/2):Single output shaft and position 3. SZ:Double output shaft
9	安装方位代号	Installation position code

PC接口尺寸 / PC CONNECTION SIZE



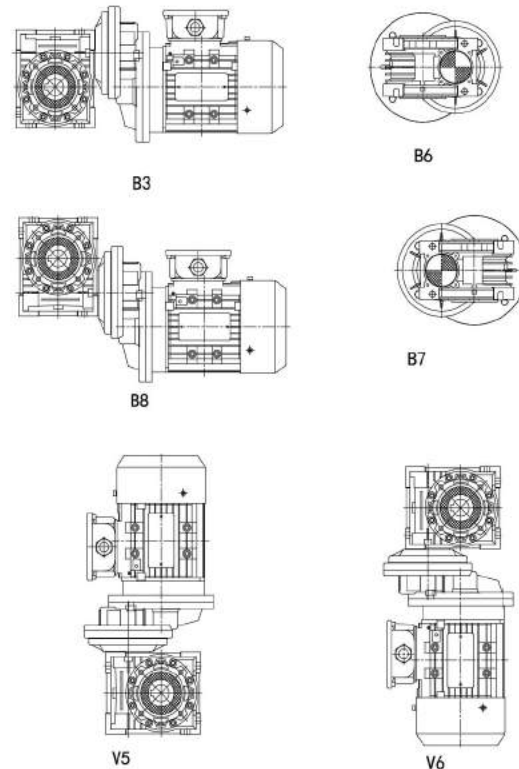
TYPE	D(k6)	N(j6)	M	i	P	P1	R	T	L
PC063	11(14)	70	85	2.93	105	140(63B5)	M6	3	23
PC071	14(19)	80	100	2.94	120	160(71B5)	M6		30
PC080	19(24/28)	110	130	3	160	200(80B5)	M8		40
PC090	24(19/28)	110	130	2.45	160	200(90B5)	M8		50

减速机选型表 / GEAR UNIT SELECTION TABLES

PC...NMRV...(n₁=1400r/min) 性能参数 PERFORMANCE PARAMETER

P _{in} (kw)	n ₂ (r/min)	i	M ₂ (Nm)	F ₂ (N)	f _s	PC080-NMRV110	8014	P _{in} (kw)	n ₂ (r/min)	i	M ₂ (Nm)	F ₂ (N)	f _s	PC090-NMRV130	90S4			
0.55	7.8	180	425	10320	1.8	PC080-NMRV110	8014	1.1	9.6	145.2	686	13500	1.6	PC090-NMRV130	90S4			
	5.8	240	513	10320	1.3				7.2	193.6	843	13500	1.2					
	4.7	300	597	10320	1.0				5.8	242	962	13500	0.9					
	7.5	120	462	10320	2.6				19.3	73	535	8298	1.9					
	6.0	150	552	10320	2.0	PC080-NMRV110	8026		14.5	96.8	693	9133	1.3	PC090-NMRV110	90L4			
	5.0	180	620	10320	1.6				11.6	121	817	9838	1.1					
	3.8	240	756	10320	1.1				9.6	145.2	936	10320	0.8					
	3.8	240	756	13500	1.6				19.3	73	542	10853	2.6					
0.75	3.0	300	858	13500	1.3	PC080-NMRV130	8026	1.5	14.5	96.8	693	11945	1.9	PC090-NMRV130	90L4			
	18.7	75	280	6000	0.9				11.6	121	830	12868	1.5					
	15.6	90	313	6375	1.0				9.6	145.2	936	13500	1.1					
	15.6	90	327	7054	1.7				7.2	194	1149	13500	0.8					
	11.7	120	405	7764	1.2	PC080-NMRV090	8024		2.2	38.6	73	398	6586			2.1	PC090-NMRV110	90L2
	9.3	150	483	8180	0.9					28.9	96.8	516	7249			1.5		
	7.8	180	543	8180	0.7					23.1	121	617	7809			1.2		
	11.7	120	430	9811	2.2					38.6	73	409	8614			2.9		
	9.3	150	506	10320	1.7	PC080-NMRV110	8024			28.9	96.8	545	9481	2.0	PC090-NMRV130	90L2		
	7.8	180	580	10320	1.3					23.1	121	654	10213	1.6				
	5.8	240	700	10320	0.9					19.3	145.2	752	10853	1.3				
	12.4	73	393	9614	3.2					0.75	PC090-NMRV110	90S6						
	9.3	96.8	508	10320	2.3													
	7.4	121	607	10320	1.8													
	6.2	145.2	682	10320	1.5													
	4.6	193.6	832	10320	1.0													
5.8	240	712	13500	1.4														
4.7	300	813	13500	1.1														
12.4	73	399	12575	4.4														
9.3	96.8	508	13500	3.2														
7.4	121	607	13500	2.6														
6.2	145.2	682	13500	2.1														
4.6	193.6	832	13500	1.5														
3.7	242	944	13500	1.2														
1.1	12.4	73	576	9614	2.2	PC090-NMRV130	90S6											
	9.3	96.8	746	10320	1.6													
	7.4	121	890	10320	1.2													
	6.2	145.2	1000	10320	1.0													
	19.3	73	392	8298	2.5	PC090-NMRV110	90S4											
	14.5	96.8	508	9133	1.8													
	11.6	121	599	9838	1.5													
	9.6	145.2	686	10320	1.1													
	7.2	193.6	828	10320	0.8	PC090-NMRV110	90S4											
	12.4	73	585	12575	3.0													
	9.3	96.8	746	13500	2.2													
	7.4	121	890	13500	1.7													
	6.2	145.2	1000	13500	1.4	PC090-NMRV130	90L6											
	4.6	193.6	1220	13500	1.0													
	19.3	73	398	10853	3.5													
	14.5	96.8	508	11945	2.6													
11.6	121	608	12868	2.0	PC090-NMRV130	90S4												

PC与NMRV安装方位 / PC AND NMRV INSTALLATION POSITION



注：如没有特别说明，以B3为标准安装方式
Note: if there is no special instructions to B3 standards for installation.

NMRV系列安装使用与保养

NMRV INSTALLATION USAGE & MAINTENANCE

安装减速机时要注意以下一些事项：

- ① 减速机与机械设备装配之前，要检查减速机输出轴的旋转方向是否正确。
- ② 减速机与原动机、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、过松影响减速机性能。
- ③ 减速机必须牢固地安装在机械设备上，避免有松动或振动。
- ④ 尽可能地避免减速机暴露在烈日阳光和恶劣环境中。
- ⑤ 如果减速机存放时间长达4 - 6个月，应检查油封是否浸润在润滑油中，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。
- ⑥ 所有橡胶件和透气孔不能沾有油漆。
- ⑦ 与减速机的空心轴配合连接时，应在轴上配合部分涂上润滑油，以免卡死或氧化。
- ⑧ 使用时必须检查油位（如油位镜孔或打开油塞，小型号是没有的）
- ⑨ 使用新减速机时，不能满负载启动，应该逐步增大负载。
- ⑩ 使用各类电机直联型减速器时，若电机重量偏大，应设支撑装置。
- ⑪ 确保电机风扇附近有良好的通风环境，以免影响散热效果。
- ⑫ 减速机的标准工作环境温度是 - 5°C至40°C，如果不在这范围时，请与我们技术服务人员联系。

UDL系列安装使用与保养

UDL INSTALLATION USAGE & MAINTENANCE

- ① 轴伸形式全部为圆柱形，按《圆柱形轴伸》GB1569-1990选定，键联接按《普通平键》GB1095 - 2003选定。
- ② 联轴器与电动机连接时应使轴线保持同心，安装误差不应大于所用联轴器的允许误差值。
- ③ 输出轴装联轴器或带轮时，用轴端螺孔压入，或加热装备，严禁捶打！
- ④ 机械无级变速器不宜用于可能超负荷或堵转适用场合。
- ⑤ 调速应在运转进行，严禁停车转动调速手轮！
- ⑥ 操作盒下的两端调速限位螺钉已调整好，请勿再动！
- ⑦ 本机不宜工作在高于40°C的环境中，温升不得高于45°C。关于本机的温升请看下面的介绍：
变速器采用四极电机时，此时部件在跑合（空车运转）开始，温度高于正常工作环境温度约为40 - 50°C。跑合60 - 80小时后，温升逐渐下降，此后温度高于环境温度20°C，并保持稳定的温升，跑合时高的温升影响正常工作条件，但对部件的使用寿命并无有害影响。
- ⑧ 变速器采用润滑油油浴润滑。润滑油牌号为Ub-3x，使用前请检查油位。
- ⑨ 出厂前润滑油已加入，首次使用1000小时后应更换润滑油，以后每隔5000小时换一次油。
- ⑩ 变速器内润滑油应保持在油标的三分之二高度，用户应经常检查油位高度，严禁在润滑不良的情况下使用。操作盒上的透气螺母出厂时为防止搬运中漏油已旋紧，运转时需松开，严禁未松开使用！

工作环境温度不在表中范围内，请与我们联系。

当工作环境温度低于 -30°C或高于60°C时，要使用特殊材质的油封。

当工作环境温度低于0°C时，必须考虑下列情况：

- ① 选用的电机必须在低温下能正常工作。
 - ② 如果减速机箱体的材质是铸铁，在温度 -15°C以下时，箱体变得会很脆，要注意尽量避免撞击。
 - ③ 在开始使用阶段时，由于润滑油的粘度很高，可能会产生一些问题，所以刚开始启动时最好让它空载运转几分钟。减速机运转大约10,000小时后，应更换润滑油，换油频率按减速机实际运行情况和周围环境条件而定。
- NMRV025、030、040、050、063、075、090规格的减速机在出厂时已加注了润滑油，可以按照样本中安装方位所提到的方位安装。V5或V6安装时，请与我们联系。
 - 减速机NMRV110、130和150规格在出厂时已加注了矿物润滑油（SHELL Omala OIL 460）。
 - 无级变速器在出厂时也加注了矿物润滑油（广研Ub-3x）。
 - 减速机NMRV110、130和150规格的安装方位在下单时要说明，否则润滑油理按B3方位提供。
 - NMRV系列的减速机，在特定的工作环境，需配排气阀（可选配件）。
 - PC已加注了耐用的合成润滑油（SHELL TEVELA OIL 320），因此能够安装任何方位。

润滑选用表 / LUBRICANTS OIL SHOSEN TABLE

型号	ISO	SHELL	AGIP	ESSO	MOBIL	CASTROL	BP	广研	油类
NMRV025~090 PC063~090	VG320	Tivela OIL S320	Telium VSF320	S220	Glygoyle 30	Alphasyn Pg320	Energol SG-XP320		合成油 Synthetic oil
NMRV110~150	VG460	Omala OIL 460	Blasia 460	Spartan Ep460	Mobilgear 634	Alpha MAX 460	Energol GR-XP460	CKE460	矿物油 Mineral oil
	VG220	Omala OIL 220	Blasia 220	Spartan Ep220	Mobilgear 630	Alpha MAX 220	Energol GR-XP220		
UDL	Vg32	A.T.F.DXRON	A.T.F.DXRON	A.T.F.DXRON	A.T.F.220	TQ.DXRON II	Autran DX	Ub-3x	矿物油 Mineral oil

润滑油加注量 / LUBRICANT FILL QUANTITY

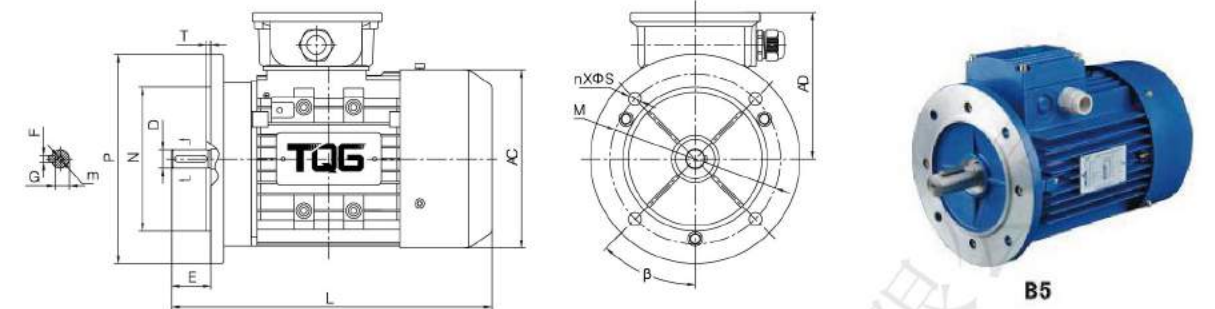
型号	安装方位	B3	B8	B6、B7	V5、V6
NMRV025				0.02	
NMRV030				0.042	
NMRV040				0.081	
NMRV050				0.153	
NMRV063				0.30	
NMRV075				0.58	
NMRV090				1.02	
NMRV110		3.02	2.25	2.55	3.02
NMRV130		4.55	3.35	3.55	4.55
NMRV150		7	5.1	5.4	5.4
PC063				0.05	
PC071				0.07	
PC080				0.15	
PC090				0.16	
型号	安装方位	B3、B5	V3、V6	V1、V5	
UDL002			0.13		0.15
UDL005			0.23		0.33
UDL010		0.33		0.43	0.6
UD020			0.8		1
UD030S/L			1.2		1.2

表格规定的加注量为参考值，准确值的变化与传动比和安装方式有关。

The fill quantity in the table is referenced, the exact value relating to the ratio and mounting positions.

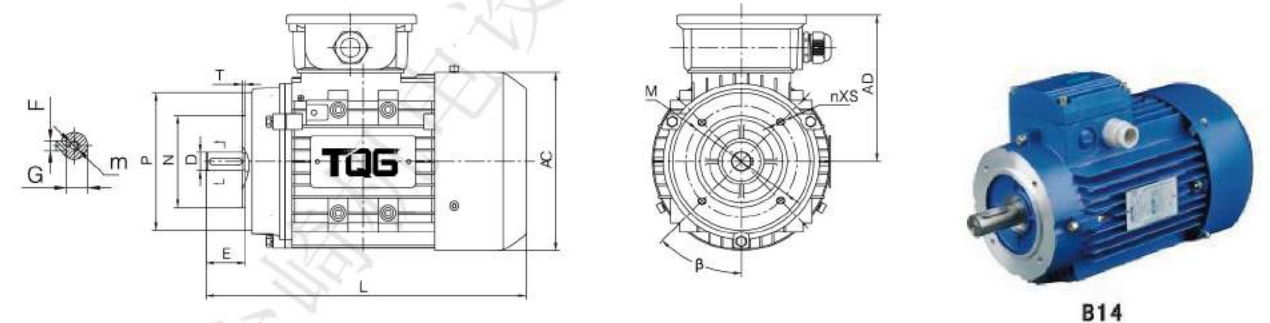
标准电机外形参考尺寸 STANDARD MOTOR EXTERNAL REFERENCE DIMENSION

B5型机座安装型式(B5 MOUNTING POSITION)



机座号 Frame size	电机极数 Motor power			外型尺寸 Forfilomtry				安装尺寸 Mounted size					轴伸尺寸 Shaft extension				
	2P	4P	6P	AC	AD	L	P	N	T	M	S	β	E	F	D	G	m
	电机功率 Motor poles (KW)																
56	0.09	0.12	0.06	113	96	199	120	80	3.0	100	7(n=4)	45°	20	3	9	7.2	M4X12
63	0.18	0.25	0.09	120	102	217	140	95	3.0	115	10(n=4)		23	4	11	8.5	
71	0.37	0.55	0.18	136	109	245	160	110		130			3.5	150	30	5	
80	0.75	1.10	0.37	155	124	287	200	130	3.5	165	12(n=4)		40	6	19	15.5	
90S	1.5	1.1	0.75	175	137	310	200	130	3.0	165	12(n=4)	45°	50		24	20	M8X19
90L	2.2	1.5	1.1										335				
100L	3	2.2	1.5	195	151	383	250	180	3.5	215	15(n=4)		60	8	28	24	M10X22
112M	4	4.0	2.2	219	169	401	250	180	3.5	215	15(n=4)		80	10	38	33	M12X28
132S	5.5	7.5	3.0	258	188	475						300	230	3.5	265		45°
132M	7.5	5.5	4.0	258	188	513	200	130	3.0	265	15(n=4)						
160M	11	15	7.5									315	242	609	350	250	
160L	18.5	15	11	315	242	653	350	250	5.0	300	19(n=4)						

B14型机座安装型式(B14 MOUNTING POSITION)

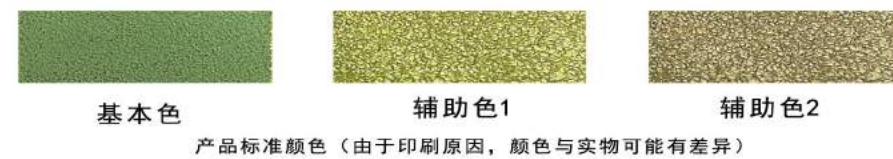


机座号 Frame size	电机极数 Motor power			外型尺寸 Forfilomtry				安装尺寸 Mounted size					轴伸尺寸 Shaft extension				
	2P	4P	6P	AC	AD	L	P	N	T	M	S	β	E	F	D	G	m
	电机功率 Motor poles (KW)																
56	0.09	0.12	0.06	113	96	199	80	50	2.5	65	M5(n=4)	45°	20	3	9	7.2	M4X12
63	0.18	0.25	0.09	120	102	217	90	60		75	M5(n=4)		23	4	11	8.5	
71	0.37	0.55	0.18	136	109	245	105	70		85	M6(n=4)		30	5	14	11	
80	0.75	1.10	0.37	155	124	287	120	80		100	M6(n=4)		40	6	19	15.5	
90S	1.5	1.1	0.75	175	137	310	140	95	3.0	115	M8(n=4)	45°	50		24	20	M8X19
90L	2.2	1.5	1.1										335				
100L	3	2.2	1.5	195	151	383	160	110	3.5	130			60	8	28	24	M10X22
112M	4	4.0	2.2	219	169	401	200	130	3.5	165	M10(n=4)		45°	80	10	38	33
132S	5.5	7.5	3.0	258	188	475						250		180	4.0	215	M12(n=4)
132M	7.5	5.5	4.0	258	188	513	200	130	3.0	265	15(n=4)						
160M	11	15	7.5									315		242	609	350	250
160L	18.5	15	11	315	242	653	350	250	5.0	300	19(n=4)						

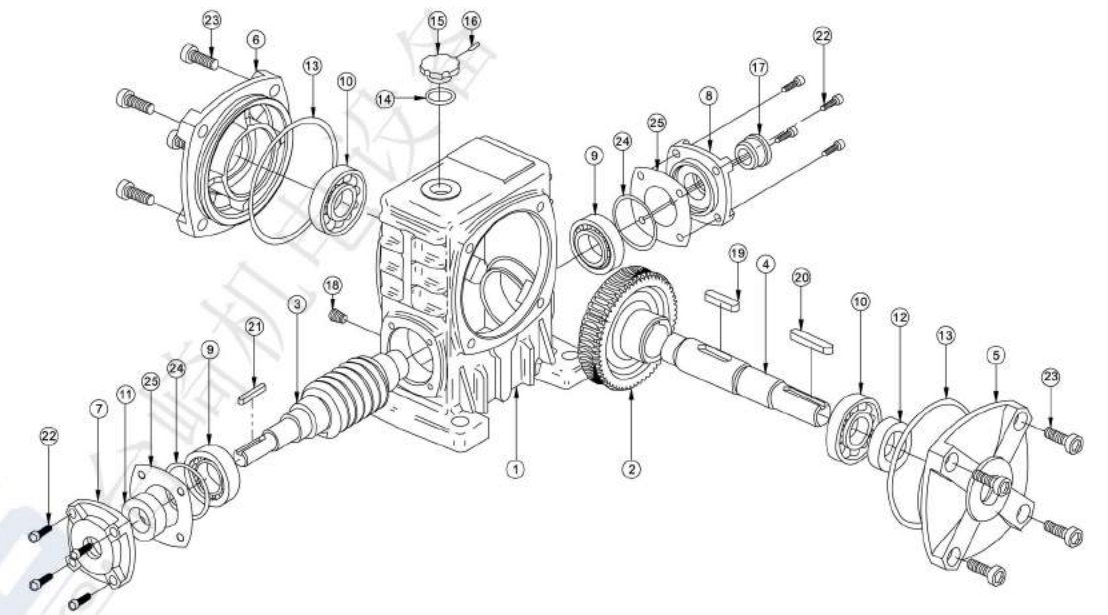
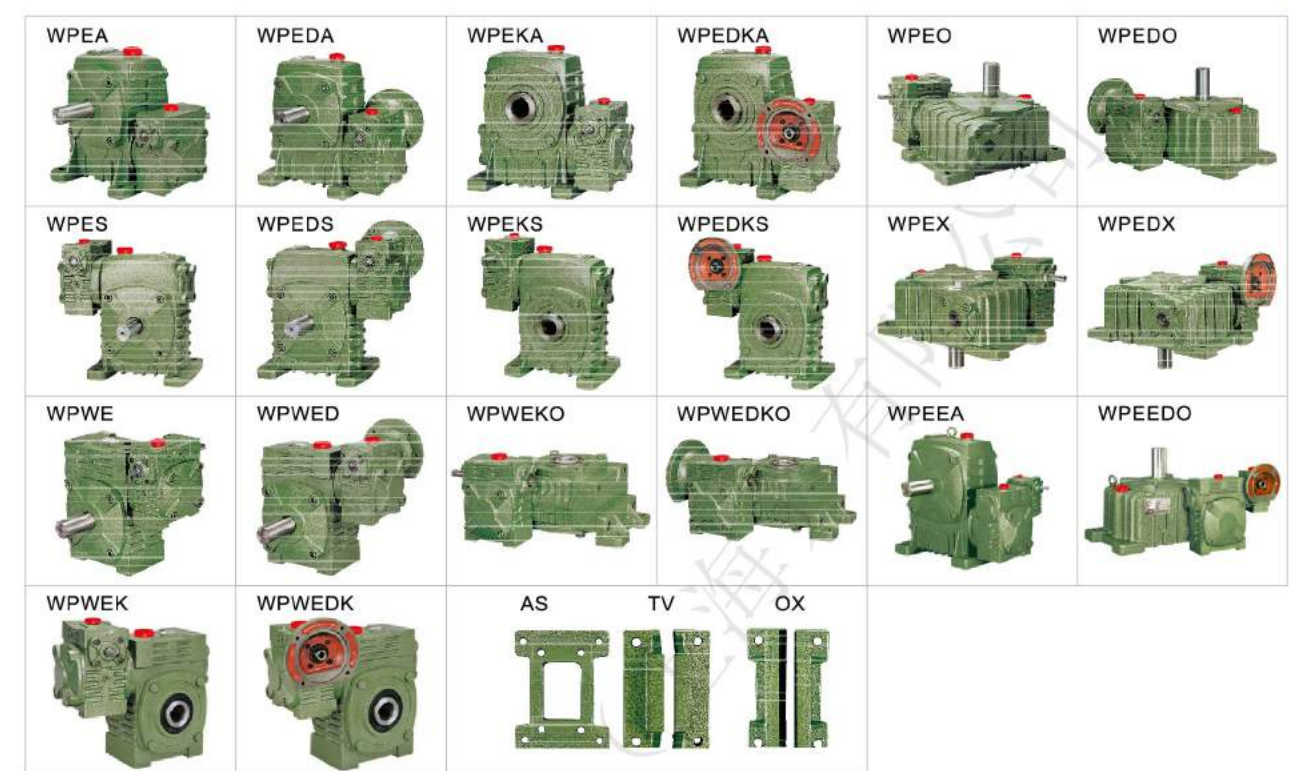
单级减速机 SINGLE SPEED REDUCER 速比1/5-1/60



万能型减速机 UNIVERSAL SPEED REDUCER 速比1/5-1/60



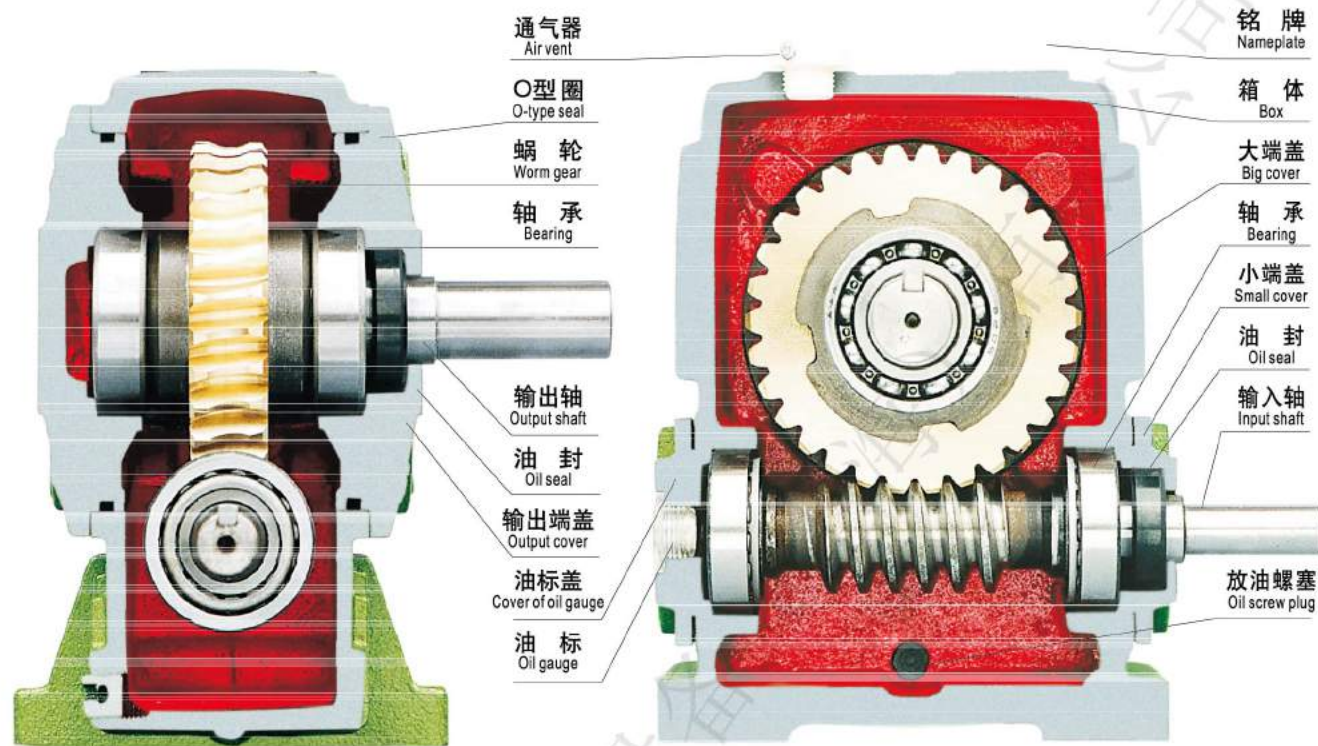
双级减速机 DOUBLE SPEED REDUCER 速比1/100-1/3600



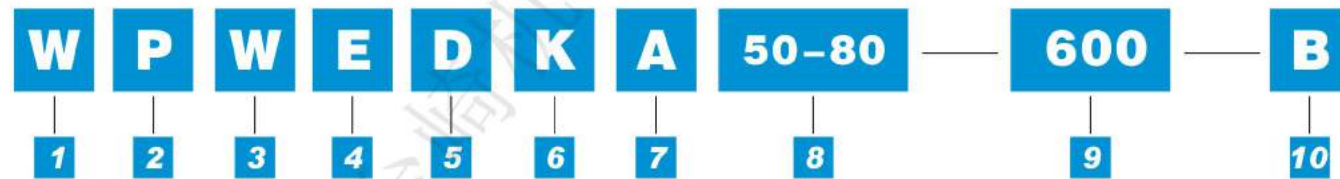
WP单级蜗轮减速机分解图
Worm Gear Speed Reducer Display Drawings
单级WP系列 Single WP series

- | | | | |
|--------------------------|-------------------------|-----------------------|-------------------------|
| 1 机座 Frame | 7 入力盖 Input shaft cover | 13 O型圈 O ring | 19 平键 Key |
| 2 蜗轮 Worm wheel | 8 入力盖 Input shaft cover | 14 O型圈 O ring | 20 平键 Key |
| 3 蜗杆轴 Worm shaft | 9 轴承 Bearing | 15 加油盖 Oil hole cover | 21 平键 Key |
| 4 出力轴 Output shaft | 10 轴承 Bearing | 16 塞子 Pin | 22 内六角螺钉 Intl.hex screw |
| 5 出力盖 Output shaft cover | 11 油封 Oil seal | 17 油标 Oil gauge | 23 内六角螺钉 Intl.hex screw |
| 6 出力盖 Output shaft cover | 12 油封 Oil seal | 18 油塞 Oil plug | 24 调整圈 Shim |
| | | | 25 密封垫 Gasket |

产品结构图 Product structural drawing



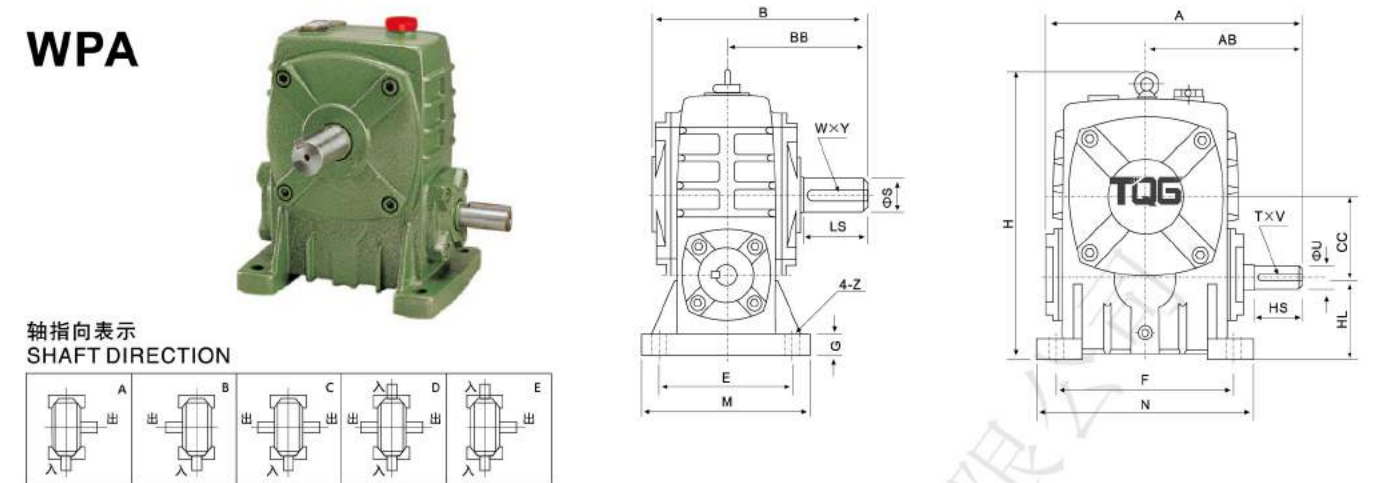
型号及表示法 Model and strure table



1	2	3	4	5
1 产品名称 W—蜗杆减速机 Product name W-worm speed reduce	2 箱体结构 P-整体 D-分体 Box structure P-whole D-separate	3 箱体形式 W-万能型 无代码-基本型 Box model W-universal Non-code-basic	4 整体结构 E-双级 EE-多级 无代码-基本型 Unit sture E-double EE-multistage Non-code-basic	5 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

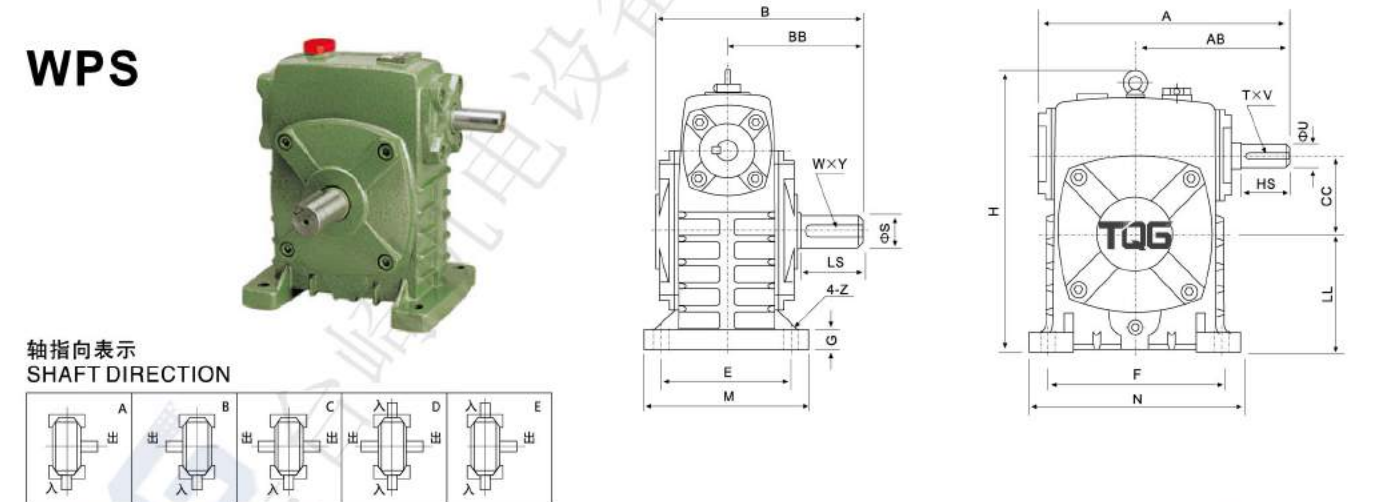
6	7	8	9	10
6 输出轴结构 K-中空输出轴 无代码-基本型 Structure of output shaft K-hollow Non-code-basic	7 输出、输入轴置式 A-入轴在下 S-入轴在上 O-出轴向上 X-出轴向下 T-入轴向上 V-入轴向下 无代码-基本型 Arrangement of input or output shaft A-input shaft is below S-input shaft is above O-output shaft is upward X-output shaft is downward T-input shaft is upward V-input shaft is downward Non-code-universal	8 中心距 50-80 Center distance 50-80	9 传动比 600 Ratio 600	10 轴指向 B Shaft direction B

WPA



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 (kg)	油量 (L)
															HS	U	T×V	LS	S	W×Y		
40	5	143	87	114	74	40	138	40	90	100	70	80	13	10	25	12	4×2.5	28	14	5×3	4	0.13
50	5	175	107	150	97	50	173	50	120	140	95	110	15	12	30	12	4×2.5	40	17	5×3	7	0.17
60	10	198	122	168	112	60	204	60	130	150	105	120	20	12	40	15	5×3	50	22	6×3.5	10	0.22
70	15	231	140	194	131	70	236	70	150	190	115	150	20	15	40	18	6×3.5	60	28	8×4	15	0.60
80	20	261	160	214	142	80	268	80	170	220	135	180	20	15	50	22	6×3.5	65	32	10×5	20	0.85
100	25	322	190	254	169	100	329	100	190	270	155	220	25	15	50	25	8×4	75	38	10×5	35	1.50
120	30	381	229	282	190	120	430	120	230	320	180	260	30	18	65	30	8×4	85	45	14×5.5	60	3.20
135	40	433	260	317	210	135	480	135	250	350	200	290	30	18	75	35	10×5	95	55	16×6	80	3.60
147	50	439	264	324	212	147	501	123	250	350	200	280	32	18	80	35	10×5	95	55	16×6	90	3.70
155	60	504	302	382	252	155	531	135	275	390	220	320	35	21	85	40	12×5	110	60	18×7	110	3.80
175	70	545	325	402	262	175	600	160	310	430	250	350	40	21	85	45	14×5.5	110	65	18×7	150	4.60
200	80	587	350	467	305	200	667	175	360	480	290	390	40	24	95	50	14×5.5	125	70	20×7.5	215	6.50
250	100	705	420	552	360	250	800	200	460	560	380	480	45	28	110	60	18×7	155	90	25×9	360	9.00

WPS



型号 size	传动比 ratio	A	AB	B	BB	CC	H	LL	M	N	E	F	G	Z	输入轴 input shaft			输出轴 output shaft			重量 (kg)	油量 (L)
															HS	U	T×V	LS	S	W×Y		
40	5	143	87	114	74	40	141	60	90	100	70	80	13	10	25	12	4×2.5	28	14	5×3	4	0.30
50	5	175	107	150	97	50	180	80	120	140	95	110	15	12	30	12	4×2.5	40	17	5×3	7	0.45
60	10	198	122	168	112	60	207	90	130	150	105	120	20	12	40	15	5×3	50	22	6×3.5	10	0.55
70	15	231	140	194	131	70	238	105	150	190	115	150	20	15	40	18	6×3.5	60	28	8×4	15	0.80
80	20	261	160	214	142	80	270	120	170	220	135	180	20	15	50	22	6×3.5	65	32	10×5	20	1.10
100	25	322	190	254	169	100	331	150	190	270	155	220	25	15	50	25	8×4	75	38	10×5	35	2.90
120	30	381	229	282	190	120	423	180	230	320	180	260	30	18	65	30	8×4	85	45	14×5.5	60	4.40
135	40	433	260	317	210	135	482	215	250	350	200	290	30	18	75	35	10×5	95	55	16×6	80	6.20
147	50	439	264	324	212	147	495	203	250	350	200	280	32	18	80	35	10×5	95	55	16×6	90	6.35
155	60	504	302	382	252	155	541	235	275	390	220	320	35	21	85	40	12×5	110	60	18×7	110	6.50
175	70	545	325	402	262	175	594	260	310	430	250	350	40	21	85	45	14×5.5	110	65	18×7	150	8.00
200	80	587	350	467	305	200	677	290	360	480	290	390	40	24	95	50	14×5.5	125	70	20×7.5	215	9.30
250	100	705	420	552	360	250	824	350	460	560	380	480	45	28	110	60	18×7	155	90	25×9	360	18.0

WPWDA

WPWDS



轴指向表示
SHAFT DIRECTION

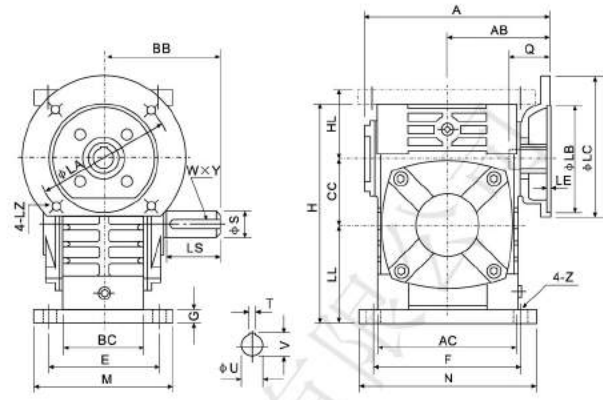
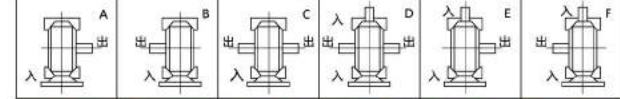


Table with columns: 型号 size, 输入功率 (kw), 传动比 ratio, and various dimensions (A, AB, BB, AC, BC, CC, HL, LL, H, M, N, E, F, G, Z, LA, LB, LC, LE, LZ, Q, U, T, X, V, LS, S, W, X, Y) and 重量 (kg). It lists specifications for models 40 through 250.

WPWK



轴指向表示
SHAFT DIRECTION

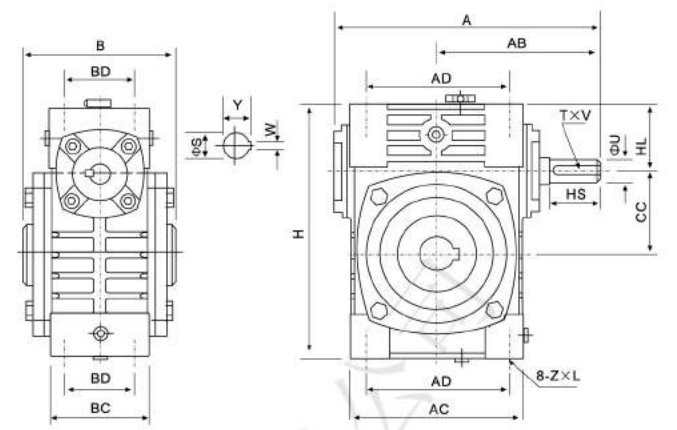
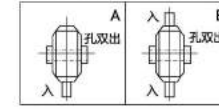


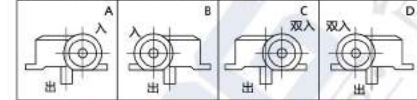
Table with columns: 型号 size, 传动比 ratio, and various dimensions (A, AB, B, AC, BC, AD, BD, CC, HL, H, Z, X, U, T, X, V, S, W, X, Y) and 重量 (kg). It lists specifications for models 40 through 250.

WPWDX

WPWDO



WPWDX轴指向表示
SHAFT DIRECTION



WPWDO轴指向表示
SHAFT DIRECTION

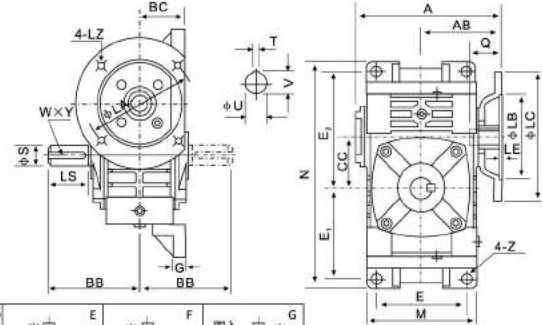
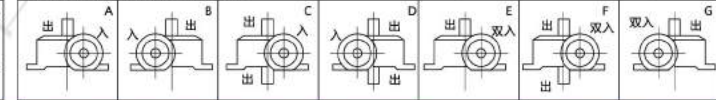


Table with columns: 型号 size, 输入功率 (kw), 传动比 ratio, and various dimensions (A, AB, BB, BC, CC, M, N, E, E1, E2, G, Z, LA, LB, LC, LE, LZ, Q, U, T, X, V, LS, S, W, X, Y) and 重量 (kg). It lists specifications for models 40 through 250.

WPWKA

WPWKS



轴指向表示
SHAFT DIRECTION

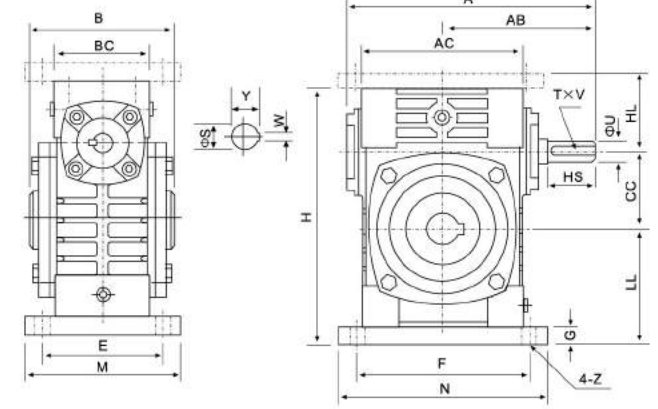
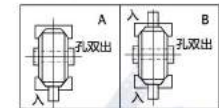


Table with columns: 型号 size, 传动比 ratio, and various dimensions (A, AB, B, AC, BC, CC, HL, LL, H, M, N, E, F, G, Z, HS, U, T, X, V, S, W, X, Y) and 重量 (kg). It lists specifications for models 40 through 250.

减速机选型方法 << Reducer Selection Methods

★ 选型要素 Selection Methods

★ 输入功率、输出转矩

输入功率和输出转矩的转换公式如下:

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

(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。

★ Input power & output torque

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

$$\text{Input power } p(\text{kW}) = \text{output torque } (n.m) \times \text{output}$$

Revolving speed $n_2(\text{r/min}) / (9549 \times \text{efficiency } \eta)$

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.

★ 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:

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

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。

★ Revolving speed of input shaft and output shaft

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

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

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 ver-friction.

★ 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, 下列表出效率的范围数值, 可供选型时参考:

★ Efficiency

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%

★ 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; 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。

★ 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.

★ 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:

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

★ Running Condition 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 them according to the following formula:

Revised output torque $T_2(\text{N.m}) = \text{theoretic output torque } t_1(\text{N.m}) \times \text{running condition factor } K$

★ 工况系数K值表

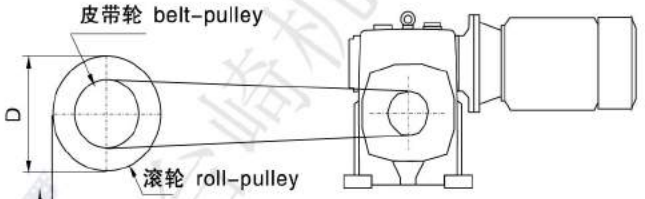
Table of running condition factor k

原动机 prime mover	载荷况 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 electro-motor	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一小时内达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 multiply 1.2

选型实例 << Selection example

★ 基本情况 The basic condition

传动结构 transmission structure	相关数据 relative data
 <p>皮带轮 belt-pulley 滚轮 roll-pulley</p>	<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

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	<p>根据输入轴及输出轴的转速确定传动比</p> <p>1. 计算皮带轮转速N_3 $N_3 = \text{起吊速度} V / (\text{滚轮直径} D \times \pi)$</p> <p>2. 计算总传动比$i$ $i = \text{输入轴转速} N_1 / \text{皮带轮转速} N_3$</p> <p>3. 计算减速机传动比$i_1$ $i_1 = \text{总传动比} i / \text{皮带轮传动比} i_2$</p> <p>Calculate the ratio according to input and output shaft revolving speed</p> <p>1. get belt-pulley revolving speed N_3 $N_3 = \text{speed of suspended object } V / (\text{roll-pulley diameter } D \times \pi)$</p> <p>2. calculate general ratio i $i = \text{input revolving speed } N_1 / \text{belt-pulley revolving speed } N_3$</p> <p>3. Calculate reducer ratio i_1 $i_1 = \text{general ratio } i / \text{belt-pulley ratio } i_2$</p>	<p>1. $N_3 = 12 / (0.4 \times 3.142) = 9.6 \text{r/min}$</p> <p>2. $i = 1440 / 9.6 = 150$</p> <p>3. 设定$i_2 = 5$, 则 $i_1 = 150 / 5 = 30$</p> <p>1. $N_3 = 12 / (0.4 \times 3.142) = 9.6 \text{r/min}$</p> <p>2. $i = 1440 / 9.6 = 150$</p> <p>3. Assume $i_2 = 5$, then $i_1 = 150 / 5 = 30$</p>
2	计算输出转矩 Calculate output torque	<p>计算减速机输出转矩T</p> <p>$T = \text{物体重量} W \times 10 \times \text{滚轮半径} (D/2) / (\text{皮带轮传动比} i_2 \times \text{皮带轮传动效率} \eta_1)$</p> <p>Calculate reducer output torque T</p> <p>$T = \text{weight of suspended object } W \times 10 \times \text{roll-pulley radius } (D/2) / (\text{belt-pulley ratio } i_2 \times \text{belt-pulley transmission efficiency } \eta_1)$</p>	<p>$T = 600 \times 10 \times (0.4/2) / (0.92 \times 5) = 260.9 \text{N.m}$</p>
3	修正输出转矩 Revise output torque	<p>根据使用条件,8小时运转,较大冲击,工况系数$K=1.5$</p> <p>计算修正输出转矩T_1 $T_1 = \text{输出转矩} T \times K$</p> <p>According to using condition: operatio 8 hours a day, heavy shock, running condition factor $K=1.5$</p> <p>calculate revised torque T_1 $T_1 = \text{output torque } T \times k$</p>	<p>$T_1 = 260.9 \times 1.25 = 326 \text{N.m}$</p>
4	计算输入功率 Calculate input power	<p>换算功率P</p> <p>$P = \text{修正输出转矩} T_1 \times \text{输出轴转速} N_2 / (9549 \times \text{减速机传动效率} \eta_2)$</p> <p>Calculate input shaft power P</p> <p>$P = \text{revised output torque } T_1 \times \text{output revolving speed } N_2 / (9549 \times \text{reducer transmission efficiency } \eta_2)$</p>	<p>$P = 326 \times (1440/30) / (9549 \times 0.71) = 2.3 \text{kW}$</p>
5	选型号规格 Select model	<p>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</p> <p>According to product manual, the selection is, model 120, ratio 1/30, rating input power 3kw, output torque 413N.m</p>	

承载能力表 << Dynamical Capacity Table

★ WP.WPK.WPW.WPWK(A.S.X.O.T.V) 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

功率及转矩 传动比 ratio power and moment	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	3.61	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	2266	2310	2579	2745	2674	2357	2371

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

★ WPD.WPDK.WPWD.WPWDK.(A.S.X.O.T.V) 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 (配用AO2或Y系列电机 Matching electric motor series AO2 or Y)

功率及转矩 传动比 ratio power and moment	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暂无WPW (A.S.X.O.T.V) 及WPWK (A.S.O.T.V)

★ WPE.WPEK.WPEW.WPWEK
WPED.WPEDK.WPWD.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.WPEW.WPWEK								WPED.WPEDK.WPWD.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	276	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	887		
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	662	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暂无WPWE (A.S.X.O) 及WPWEK (A.S.O)

故障原因及解决办法

Reasons and solutions for the faults of reducer

故障情况 Fault description	故障原因 Reasons	解决办法 Solutions
过热 Overheating	原动机、减速机、工作机连接不当 Improper Connection Among Prime, Reducer And The Operation Device	调整至适当位置，使三者轴联轴同轴 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
	润滑油过多或过少 Lubricant Oil Overmuch Or Shortage	按油标指示点调整油量 Adjust to proper oil quantity as indication
	润滑油杂质多或润滑油性能差 Much Impurity in Oil Or Inferior Oil	更换合适新油 Refill proper oil
振动 Vibration	原动机、减速机、工作机固定不良 Prime Move, Reducer And The Operation Device Mount Badly	查出固定不良部位，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
	螺栓松动 Bolt Loose	紧固螺栓 Tighten screw
杂音 Noise	轴承损坏或间隙过大 Bearing Damaged Or Too Large Clearance	更换轴承 Replace bearing
	蜗轮副齿合不良 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	按油标指示点补充加润滑油 Fill in adequate oil as indication
漏油 oil leakage	机体内有异物 Foreign Object In Box	倒净润滑油带出异物，重加清洁润滑油 Discharge all the oil in order to get 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
出力轴 不转	油量过多 Too Much Oil	按油标指示点调整油量 Discharge adequate oil as indication
	放油螺塞未旋紧 Oil Screw Plug Loose	螺纹处加密封胶，旋紧螺塞 Tighten oil screw plug
	油标破损 Oil Gauge Damaged	更换油标 Replace oil gauge
	蜗轮、蜗杆过热 蜗轮损坏 异物侵入	更换或维修 更换轴承 去除异物并更换润滑油
蜗轮副齿面 磨损过快 tooth surface of worm gear sets abrade extra-quickly	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
	未按规定适时换油，润滑油劣化 Not Replacing Lubricant Oil In Time According To Requirement, Oil Deteriorates	按规范要求的换油 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，降低环境温度 1. Deal with it as overheating 2. Adopting proper measures to make environment temperature fall

注: 如果发生其他故障无法解决时, 请随时与我们联系, 以便提供咨询服务。
Annotate: if other faults not listed above occur, please contact with us at any moment, our company will supply thorough consultation and service.

润滑油的选择使用

Choice of Lubricant

蜗杆减速机使用前应注入N220~N320 (环境温度-30°C~40°C) 或N320~N460 (环境温度40°C~65°C) 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 operating worm gear speed reducer, add N220~N230 (ambient temperature -30°C ~40°C), N320~N460 (ambient temperature 40°C ~65°C) lubrication oil upto 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 new lubrication oil in it. Do so here after every 2500 hours of operation.

★ 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

周围温度 Ambient Temp	负荷 Load	ISO VG	GB3141-82	壳牌 Shell	莫比尔 Mobil	美国齿轮 制造商协会 AGMA	中国石化
-30°C--15°C	普通 Commonly	VG-100	N100	Shell Omala 100	Gear 627	5	HD-100
	重 Weight	VG-150	N150	Shell Omala 150	Gear 629	7	HD-150
-15°C-5°C	普通 Commonly	VG-150	N150	Shell Omala 150	Gear 629	7	HD-150
	重 Weight	VG-220	N220	Shell Omala 220	Gear 630	7EP	HD-220
5°C-25°C	普通 Commonly	VG-220	N220	Shell Omala 220	Gear 630	7EP	HD-220
	重 Weight	VG-320	N320	Shell Omala 320	Gear 632	6	HD-320
25°C-40°C	普通 Commonly	VG-320	N320	Shell Omala 320	Gear 632	6	HD-320
	重 Weight	VG-460	N460	Shell Omala 460	Gear 634	8	HD-460
40°C-65°C	普通 Commonly	VG-460	N460	Shell Omala 460	Gear 634	8	HD-460
	重 Weight	VG-680	N680	Shell Omala 680	Gear 636	8EP	HD-680

After the first 100 hours of operation:
Drain unit and flush with light oil, refill

Every 2500 hours of operation:
Drain; flush and refill.