

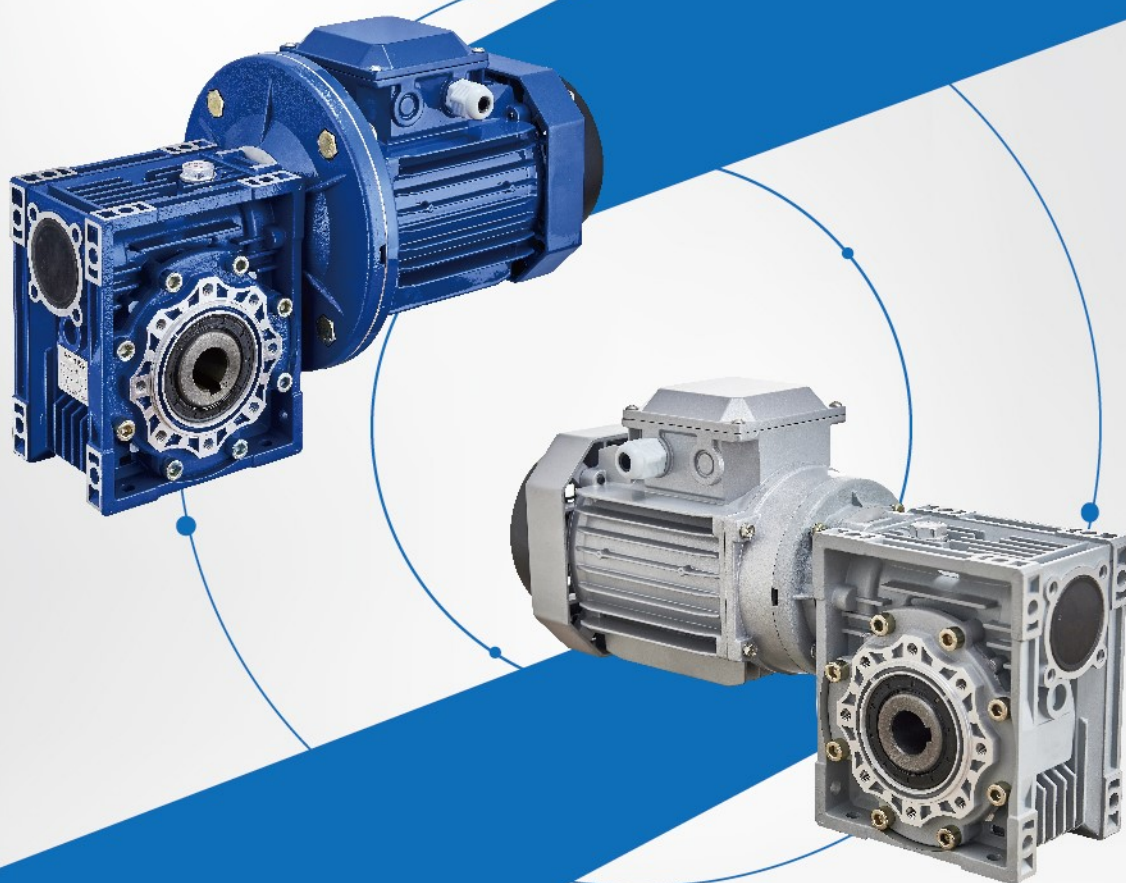


HKM双曲面齿轮减速机
HKM double curved surface gear reducer

UDL无极变速机
UDL stepless speed changer

VF蜗轮蜗杆减速机
VF worm gear reducer

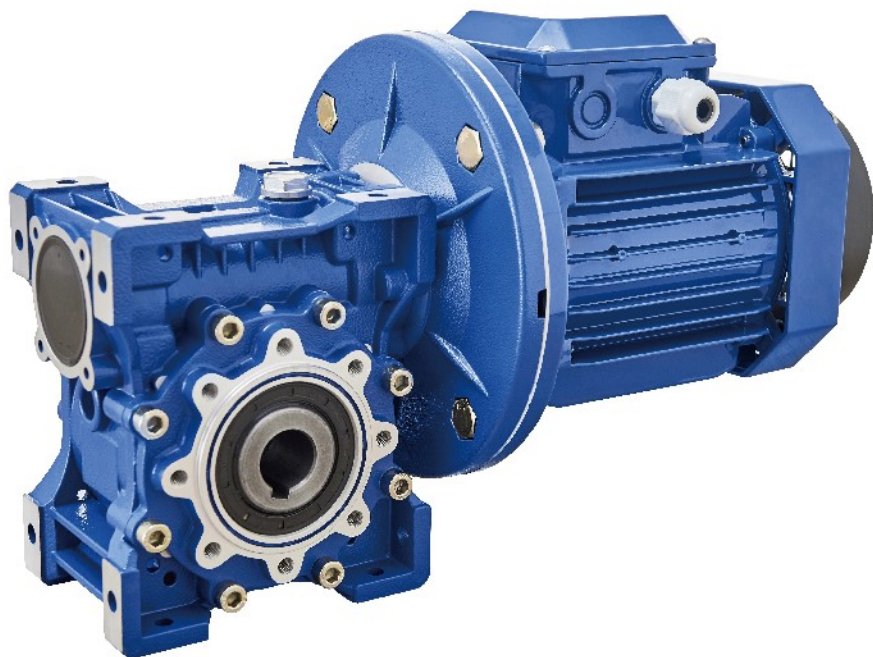
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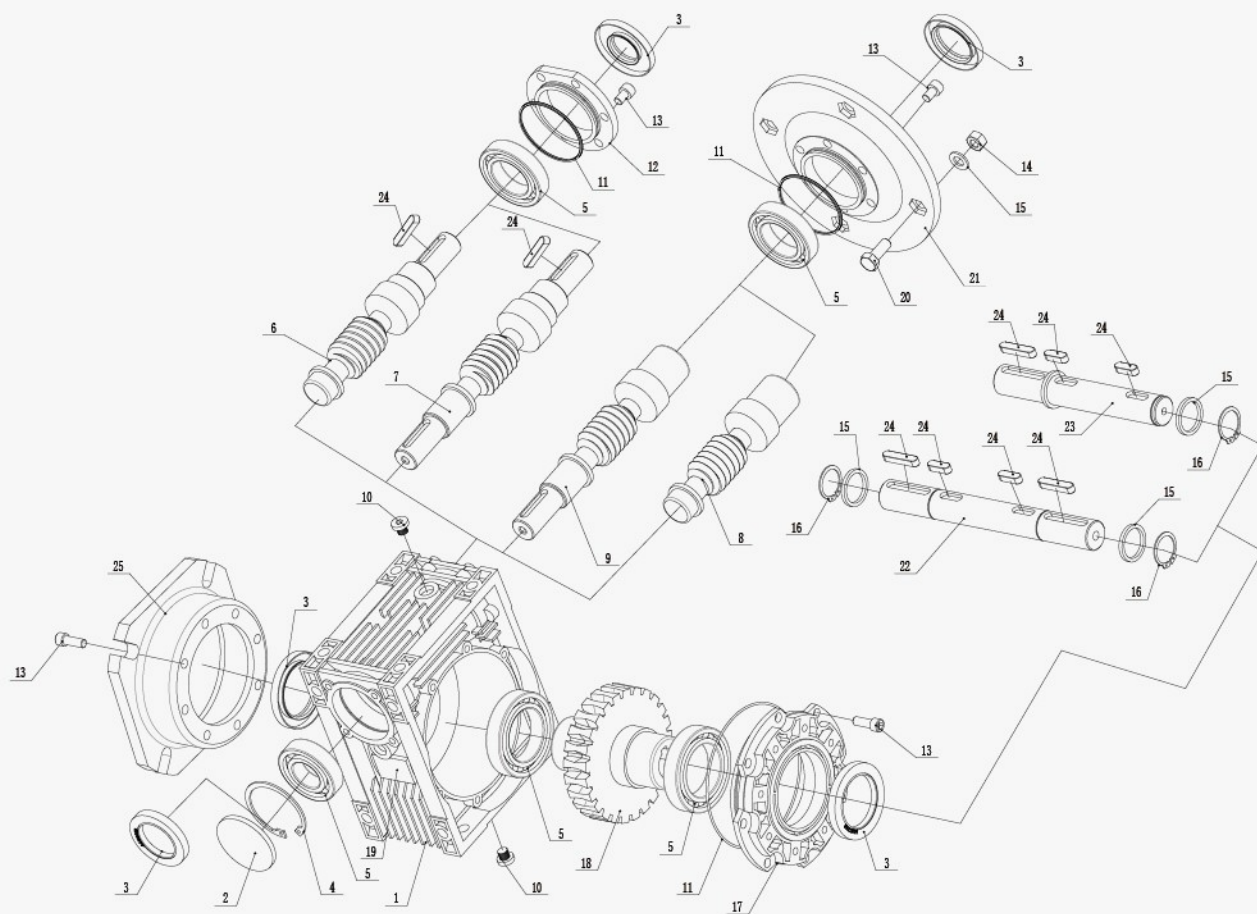
NMRV WORM GEAR REDUCER

NMRV蜗轮蜗杆减速机

产品形式 / TYPE



结构分解图 / STRUCTURE DIAGRAM



序号	名称	序号	名称	序号	名称	序号	名称
1	箱体/Case	7	双轴输入蜗杆/Double input worm	13	内六角螺钉/Inner hex screw	19	铭牌/Nameplate
2	油盖/Closing cap	8	孔输入蜗杆/Input hole worm	14	外六角螺母/Six hexagon nut	20	外六角螺栓/Six hexagon bolt
3	油封/Oil seal	9	孔输入轴输入蜗杆/Input shaft and hole worm	15	垫圈/Washer	21	输入法兰/Intput flange
4	孔用挡圈/Hole-circlip	10	油塞/Oil plug	16	轴用挡圈/Shaft-circlip	22	双向输出轴/Double output shaft
5	轴承/Bearing	11	O型橡胶密封圈/O-ring	17	输出端盖/Bearing support cover	23	单向输出轴/single output shaft
6	输入蜗杆/Input worm	12	轴承座/Bearing block	18	蜗轮/Worm gear	24	键/Key
25	输出法兰/Output flange						

产品概述 / SUMMARIZE

结构特点 /
Structure Feature

1. 优质铝合金铸造箱体，适应全方位的万能安装配置；
2. 充分的冷却筋条，使机体具有优良的热传导性能；
3. 从025-150共10种机座规格；传递功率范围从60W-15kW；
4. 速比范围大，每个机座具有从5:1到100:1得12种减速比；
5. 精密磨削加工得硬齿面传动蜗杆，效率高、输出扭矩大；
6. 低噪声平稳运行，能适合在恶劣环境中长期连续工作；
7. 重量轻，机械强度高；
8. 模块化组合DRV将NMRV 减速机得传动比拓展至：i=5--5000

1. high quality die casting aluminum alloy housing, suitable for universal mounting.
2. Heat sink design for cooling provides great surface area and higher thermal conductivity than the casting iron housings.
3. 025 to 150, transmit power scope from 60W to 15kW.
4. Larger speed ratio range. each single frame size has 12 ratios from 5:1 to 100:1
5. Hardened worm with fine grinding has the features of higher efficiency and big output torque.
6. Low noise and stably running, can adapt long term work condition in terrible environments
7. Light weight, high mechanical strength
8. Modularization combination DRV extend the ration of NMRV reducers from i=5:1 to 5000:1

主要材料 /
Main Materials

1. 外壳：铝合金（机座：025-090），铸铁（机座：110-150）；
2. 蜗杆：20Cr，渗碳淬火，齿面硬度58-62HRC，精磨后保持渗碳层厚度0.3-0.5mm；
3. 蜗轮：耐磨锡青铜。

1. Housing: die-cast aluminum alloy (frame size 025 to 090); cast iron (frame size: 110 to 150);
2. Worm: 20Cr, carbonize & quencher heat treatment make the hardness of gear's surface up to 58-62HRC, retain carburized layer's thickness between 0.3 and 0.5mm after accurate grinding.
3. Worm wheel: wearable nickel bronze alloy.

表面涂装 /
Surface Painting

铝合金外壳

1. 先抛丸处理，再经特种防腐处理，保持银白金属感，并耐汽油、二甲苯等有机溶剂得腐蚀；
 2. 磷化处理后，再喷RAL5010蓝色或RAL7035浅灰色涂料。
- 铸铁外壳：先涂红色防锈漆，后涂RAL5010蓝色或RAL7035浅灰色涂料。

Aluminum alloy housing:

1. Shot blasting and special antiseptic treatment on the aluminum alloy surface.
2. After phosphating, paint with RAL5010 blue or RAL7035 grey paint.

Cast iron housing: First paint with red antirust paint, then paint with RAL5010 blue or RAL7035 grey paint.



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型号说明 / MODEL ILLUMINATE

NMRV
1

063 / 40
2 3

E
4

F
5

DZ
6

TA
7

B3
8

71B5
9

序号	说明	
1	减速机系列代号:1.NMRV为孔输入 2.NRV为轴输入3.DRV为双蜗轮减速机	Gear unit code:1.NMRV means hole input ,2.NRV means shaft input 3.DRV means double gear units
2	减速机中心距 (025~150)	Gear unit' s center distance
3	减速机速比 (7.5~100)	Ratio
4	E为蜗杆同向尾出轴 (无代号为不带尾出轴)	Double extension worm shaft (No mark means single extension worm shaft)
5	输出法兰	Output flange
6	DZ为单向输出轴,SZ为双向输出轴	DZ-single output shaft,SZ-Double output shaft
7	扭力臂	Torque arm
8	安装方位代号	The code of installation position
9	电机机座号	Motor frame

■ 扭矩 M / Torque (N · M)

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

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

M_2 输出扭矩

P_1 输入功率

fs 服务系数

M_{2n} 额定输出扭矩

η 传动效率

M_2 Output torque

P_1 Input power

fs Service factor

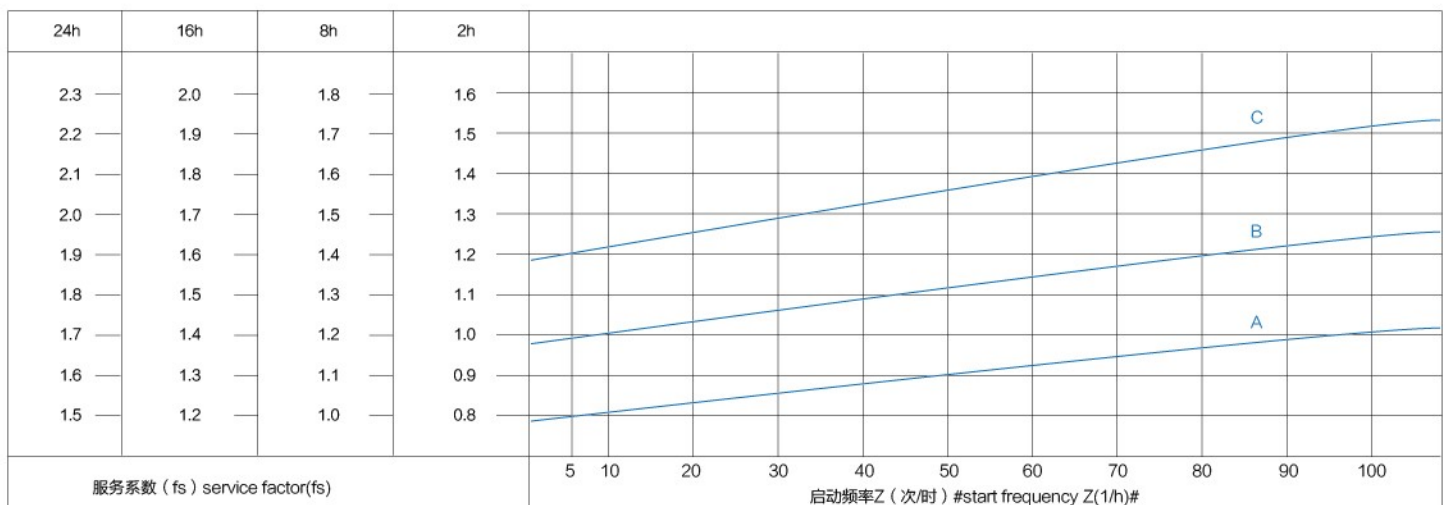
M_{2n} Rated output torque

η Transmission efficiency

■ 服务系数 fs / Service factor fs

减速机上的从动机构的受驱动效果是用服务系数 fs 这个系数来衡量的。该服务系数根据每天的运转时间和启动频率而定的。三种负载分类取决于惯性加速系数,按这图标选取的服务系数必须小于或者等于性能参数表中提供的服务系数。

The effect of the driven machine on the gear unit is taken into account to a sufficient level of accuracy using the service factor fs . 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 table.



启动频率Z: 周期包括所有启动, 制动的次数及变速电机高低速变化时的次数她。

Starting frequency Z: The cycles include all starting and braking times as well as change overs from low to high speed.

■ 负载类型 / Load classifications

负载性质
Type of load

- | | |
|----------------------------------|---|
| A.均匀冲击负载，允许惯性加速系数 $F_a \leq 0.3$ | A.Uniform,permitted mass acceleration factor $F_a \leq 0.3$ |
| B.中等冲击负载，允许惯性加速系数 $F_a \leq 3$ | B.Moderate shock load,permitted mass acceleration factor $F_a \leq 3$ |
| C.重冲击负载，允许惯性加速系数 $F_a \leq 10$ | C.Heavy shock load,permitted mass acceleration factor $F_a \leq 10$ |

负载类型
Load Classifications:

轻负载的螺杆输送，风扇，装备线，输送带，小型搅拌机。电梯，清洗机器，过滤器，控制驱动。
卷扬机，木工机器进料器，货物起重机，平衡器，纹螺纹机器，中型搅拌机，重型输送带，绞盘，滑动闸门，
挂料机，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，震荡装置，破碎机。

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, tumblers, tumbling barrels, vibrators, shredders.

■ 惯性加速系数 / Mass acceleration factor

惯性加速系数计算如下：

$F_a = J_c / J_m$
 F_a 惯性加速系数
 J_c 所有外部传动惯量 (kgm^2)
 J_m 驱动电机的传动惯量 (kgm^2)
 如果惯性加速系数 $F_a > 10$ ，请与我们技术部联系。

受环境温度影响，服务系数 f_s 仍须按以下调整：
 1. 环境温度 $30 \sim 40^\circ\text{C}$ ： $f_s \times (1.1 \sim 1.2)$
 2. 环境温度 $40 \sim 50^\circ\text{C}$ ： $f_s \times (1.3 \sim 1.4)$
 3. 环境温度 $50 \sim 60^\circ\text{C}$ ： $f_s \times (1.5 \sim 1.6)$
 4. 环境温度 $> 60^\circ\text{C}$ ，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服务系数 f_s 应等于或略高于计算出的服务系数 f_s

The mass acceleration factor is calculated as follows:

$F_a = J_c / J_m$
 F_a Mass acceleration factor
 J_c All external mass moments of inertia (kgm^2)
 J_m Mass moment of inertia on the motor end (kgm^2)
 If mass acceleration factors $f_a > 10$, please call our Technical Service.

Service factor f_s should be adjusted as follows:
 1. ambient temperature is $30 \sim 40^\circ\text{C}$: $f_s \times (1.1 \sim 1.2)$
 2. ambient temperature is $40 \sim 50^\circ\text{C}$: $f_s \times (1.3 \sim 1.4)$
 3. ambient temperature is $50 \sim 60^\circ\text{C}$: $f_s \times (1.5 \sim 1.6)$
 ambient temperature is $> 60^\circ\text{C}$, please call our Technical Service.

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

■ 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。

请注意：这些参数是指定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 value depends on the following parameters:

- 1 helix angle of worm and worm wheel and worm;
- 2 input speed; 3 worm wheel running in time;
- 4 oil, oil seal and bearing performance.

Please note: these parameters are specified for the performance stability of the speed reducer running after the calculation. In addition, the sample of the torque M_{2n} is also the speed reducer running performance stability of the calculated value. The actual value of the above may be up and down.



■ 径向载荷 Fr / Radial loads 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传动附加系数 fz，列表如下：

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

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
链轮 Chain sprockets	1.15	< 17齿 teeth
	1.00	≥ 20齿 teeth
	1.25	< 13齿 teeth
	1.40	有预紧力作用 Influence of the tensile force
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：

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

$$Fr = \frac{M \cdot 2000 \cdot fz}{d_0} \quad (N)$$

Fr 作用在轴上的载荷 (N)

M 作用在轴上的扭矩 (N/m)

d₀ 安装在轴上传动件的平均直径 (mm)

fz 传动附加系数

Resulting axial load (N)

Torque on the shaft (N/m)

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

Transmission element factor

当径向符合不作用在轴重点时，按以下公式计算有效负荷：

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

$$F_x L = \frac{F_{r2} \cdot a}{(b+x)} \quad (N)$$

F_{r2} 依据下面表格给出中底脚安装式齿轮减速机的许可径向载荷 (X=L/2) (N)

a, b 减速机径向换算常量 (mm)

x 轴肩到实际作用点的距离 (mm)

a, b, F_{r2} 的数值在下面表格给出：

F_{r2} 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)

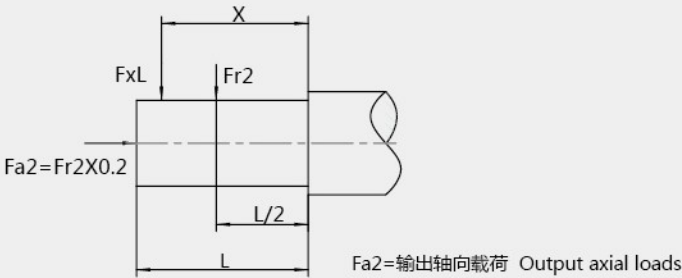
x Distance from the shaft shoulder to the force application point in (mm)

The values of a, b, F_{r2} are given in the following tables:

当径向和轴向负载同时存在时，最大的轴向负载值只是径向负载值的1/5，图表示的是输出轴的最大承重量。

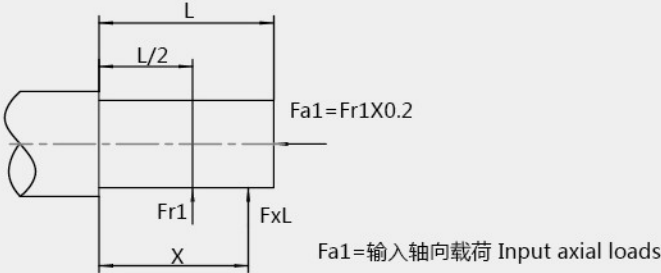
The maximum admissible axial loads are 1/5 of the value of the given radial load when they are applied in combination with the axial radial load. The tables relating to the output shafts give the maximum admissible value.

输出轴径向载荷 / Output 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	75	95	101	122	136	148	174
$F_{r2 \max}$	1350	1830	3490	4840	6270	7380	8180	12000	13500	18000

输入轴径向载荷 / Input shafts radial loads



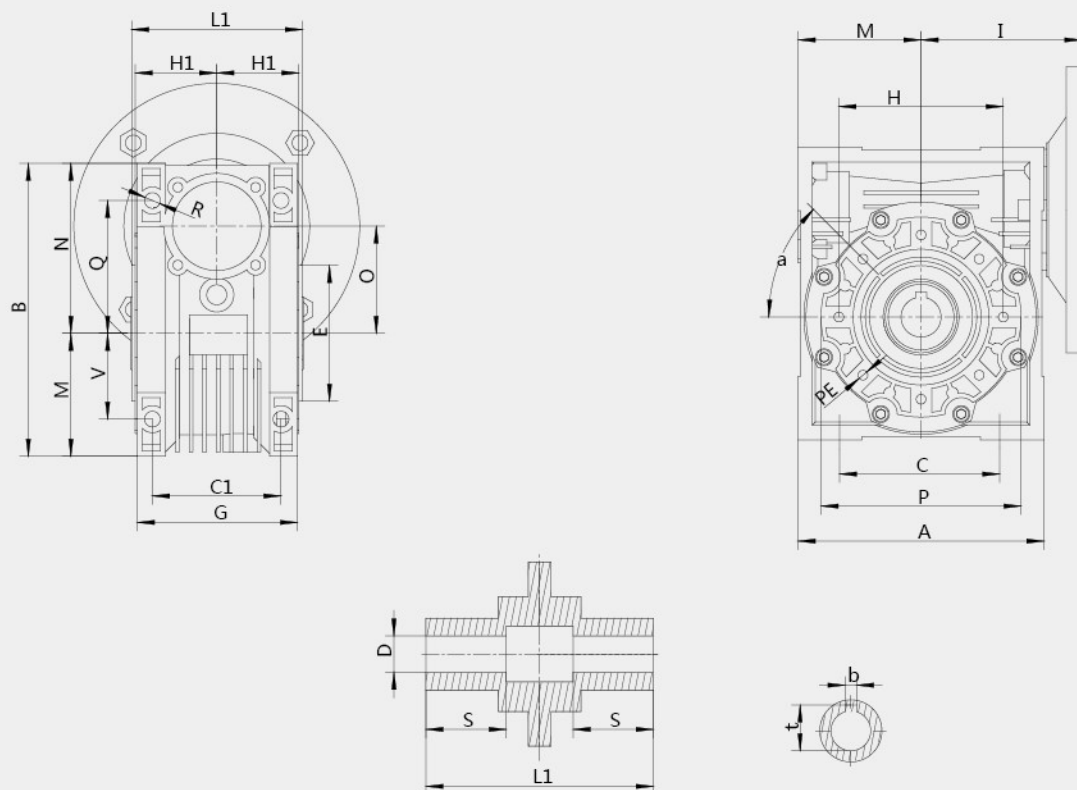
NMRV	030	040	050	063	075	090	110	130	150
A	86	106	129	159	192	227	266	314	350
B	76	94.5	114	139	167	202	326	274	310
$F_{r1 \max}$	210	350	490	700	980	1270	1700	2100	2800

选型表注释 /
Selection tables comments

P_{1n}	输入电机额定功率(kW)	Rated Power of driving motor(kw)
n_2	输出转速 (r/min)	Output speed(r/min)
M_{2n}	额定输出扭矩 (Nm)	Rated output torque(N · m)
M_{2max}	最大允许输出扭矩 (Nm)	Max.output turque(Nm)

i	减速机速比	Ratio
f_s	服务系数	Service factor
	RV减速机型号	RV gear unittype
	DRV减速机型号	DRV gear unittype
	电机型号	Motor type

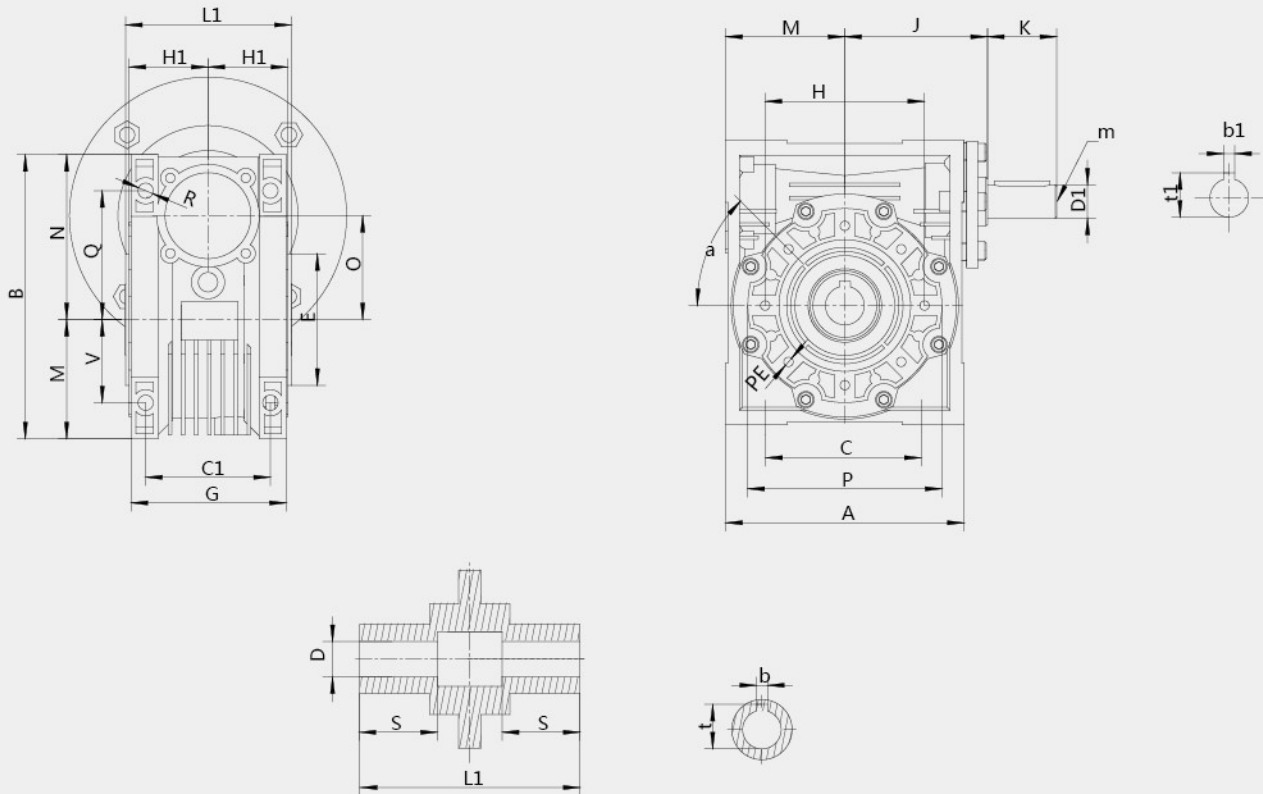
NMRV外形尺寸图表 / OUTLINE DIMENSION SHEET



NMRV	A	B	C	C1	D(H7)	E(h7)	G	H	H1	I	L1	M	N	O
025	70	83	45	34	11	45	42	55	22.5	45	50	35	48	25
030	80	97	54	44	14	55	56	65	29	55	63	40	57	30
040	100	121.5	70	60	18(19)	60	71	75	36.5	70	78	50	71.5	40
050	120	144	80	70	25(24)	70	85	85	43.5	80	92	60	84	50
063	144	174	100	85	25(28)	80	103	95	53	95	112	72	102	63
075	172	205	120	90	28(35)	95	112	115	57	112.5	120	86	119	75
090	206	238	140	100	35(38)	110	130	130	67	129.5	140	103	135	90
110	255	295	170	115	42	130	144	165	74	160	155	127.5	167.5	110
130	293	335	200	120	45	180	155	215	81	179	170	146.5	187.5	130
150	340	400	240	145	50	180	185	215	96	210	200	170	230	150

NMRV	P	Q	R	S	V	PE	b	t	α
025	65	35.5	6	18	22.5	Φ6.5(n=3)	4	12.5	—
030	75	44	6.5	21	27	M6 × 11 (n=4)	5	16.3	0°
040	87	55	6.5	26	35	M6 × 11 (n=4)	6	20.8(21.8)	45°
050	100	64	8.5	30	40	M8 × 10 (n=4)	8	28.3(27.3)	45°
063	110	80	8.5	36	50	M8 × 14 (n=8)	8	28.3(31.3)	45°
075	140	93	11	40	60	M8 × 14 (n=8)	8(10)	31.3(38.3)	45°
090	160	102	13	45	70	M10 × 18 (n=8)	10	38.3(41.3)	45°
110	200	125	14	50	85	M10 × 18 (n=8)	12	45.3	45°
130	250	140	16	60	100	M12 × 21 (n=8)	14	48.8	45°
150	250	180	18	72.5	120	M12 × 21 (n=8)	14	53.8	45°

NRV外形尺寸图表 / NRV OUTLINE DIMENSION

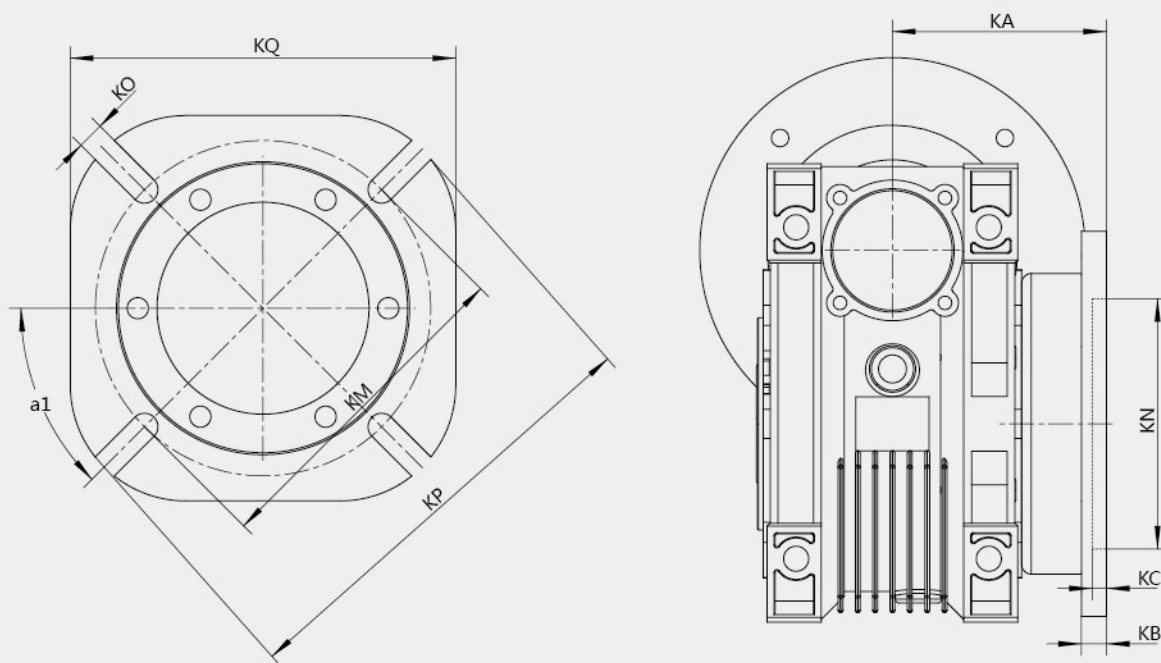


NMRV	A	B3	C	C1	D(H7)	D1(j7)	IE(h7)	G	H	H1	J	K	L1	M	N	O
025	70	83	45	34	11	9	45	42	55	22.5	37	20	50	35	48	25
030	80	97	54	44	14	9	55	56	65	29	51	20	63	40	57	30
040	100	121.5	70	60	18(19)	11	60	71	75	36.5	60	23	78	50	71.5	40
050	120	144	80	70	25(24)	14	70	85	85	43.5	74	30	92	60	84	50
063	144	174	100	85	25(28)	19	80	103	95	53	90	40	112	72	102	63
075	172	205	120	90	28(35)	24	95	112	115	57	105	50	120	86	119	75
090	206	238	140	100	35(38)	24	110	130	130	67	125	50	140	103	135	90
110	255	295	170	115	42	28	130	144	165	74	142	60	155	127.5	167.5	110
130	293	335	200	120	45	30	180	155	215	81	162	80	170	146.5	187.5	130
150	340	400	240	145	50	35	180	185	215	96	195	80	200	170	230	150

NMRV	P	Q	R	S	V	PE	b	b1	t	t1	m	α
025	65	35.5	6	18	22.5	Φ6.5(n=3)	4	3	12.8	10.2	-	-
030	75	44	6.5	21	27	M6×11 (n=4)	5	3	16.3	10.2	-	0°
040	87	55	6.5	26	35	M6×11 (n=4)	6	4	20.8(21.8)	12.5	-	45°
050	100	64	8.5	30	40	M8×10 (n=4)	8	5	28.3(27.3)	16.0	M6	45°
063	110	80	8.5	36	50	M8×14 (n=8)	8	6	28.3(31.3)	21.5	M6	45°
075	140	93	11	40	60	M8×14 (n=8)	8(10)	8	31.3(38.3)	27.0	M8	45°
090	160	102	13	45	70	M10×18 (n=8)	10	8	38.3(41.3)	27.0	M8	45°
110	200	125	14	50	85	M10×18 (n=8)	12	8	45.3	31.0	M10	45°
130	250	140	16	60	100	M12×21 (n=8)	14	8	48.8	33.0	M10	45°
150	250	180	18	72.5	120	M12×21 (n=8)	14	10	53.8	38	M12	45°

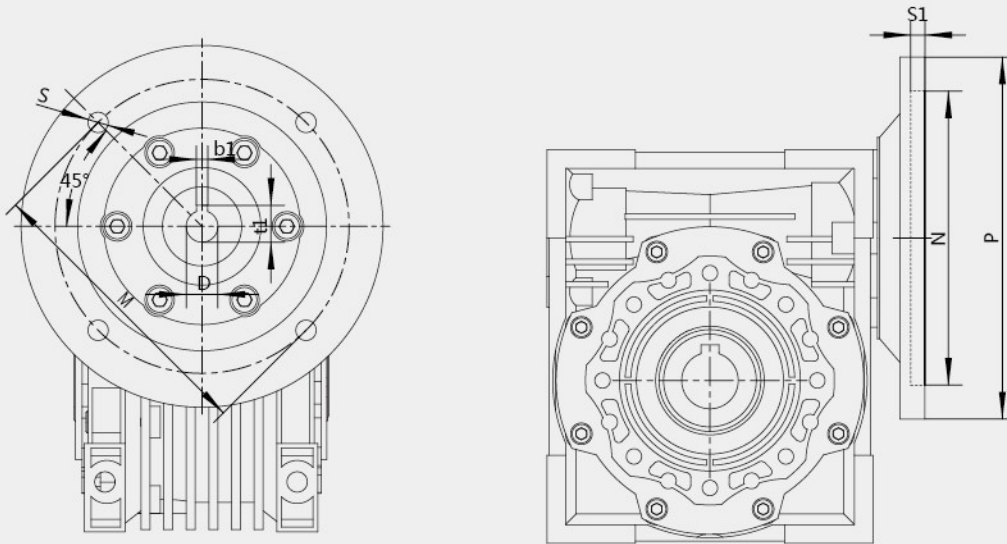


NMRV输出法兰尺寸图 / NMRV OUTPUT FLANGE DIMENSION SHEET



NMRV	F							
	a1	KA	KB	KC	KN(h8)	KO	KP	KQ
025	45°	45	6	2.5	40	6.5(n=4)	75	70
030	45°	54.5	6	4	50	6.5(n=4)	80	70
040	45°	67(97)	7	4	60	9(n=4)	110	95
050	45°	90.5(120)	9	5	70	11(n=4)	125	110
063	45°	82.5(112.5)	10	6	115	11(n=4)	180	142
075	45°	111	13	6	130	14(n=4)	200	170
090	45°	111	13	6	152	14(n=4)	210	200
110	45°	131	15	6	170	14(n=4)	280	260
130	22.5°	141.5	15	6	180	16(n=4)	320	290
150	22.5°	157.5	15	6	180	16(n=4)	320	290

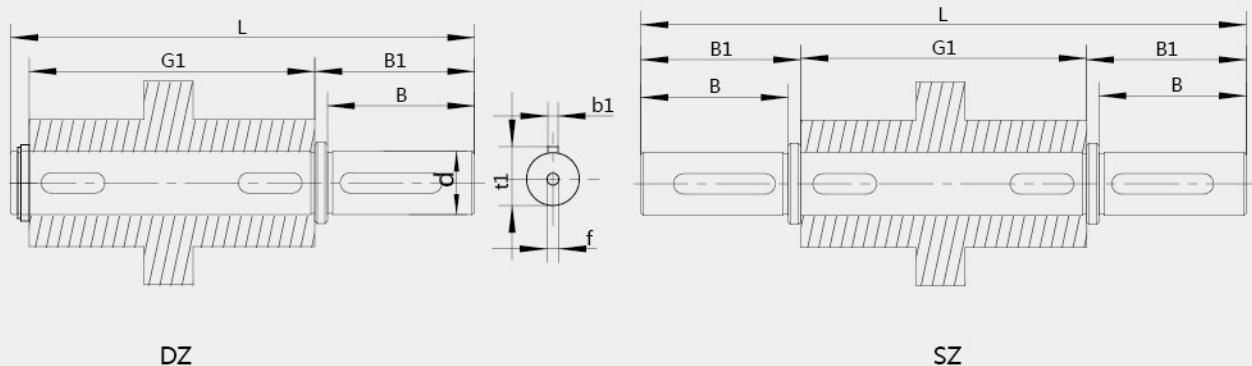
NMRV.IEC输入法兰尺寸图 / NMRV.IEC INPUT FLANGE DIMENSION SHEET



NMRV	PAM-IEC	N		M		P		S		b1	t1	s1	I(速比/ratio)											
													5	7.5	10	15	20	25	30	40	50	60	80	100
		B5	B14	B5	B14	B5	B14	B5	B14				D											
025	56B14	-	50	-	65	-	80	-	6	3	10.4	4	9	9	9	9	9	9	9	9	9	-	-	-
030	56B5/B14	80	50	100	65	120	80	6.5	5.5	3	10.4	4	9	9	9	9	9	9	9	9	9	9	9	-
	63B5/B14	95	60	115	75	140	90	9	5.5	4	12.8	4	11	11	11	11	11	11	11	11	-	-	-	-
040	56B5/B14	80	50	100	65	120	80	6.5	5.5	3	10.4	4	-	-	-	-	-	-	-	9	9	9	9	9
	63B5/B14	95	60	115	75	140	90	9	5.5	4	12.8	4	11	11	11	11	11	11	11	11	11	11	11	11
	71B5/B14	110	70	130	85	160	105	9	7	5	16.3	5	14	14	14	14	14	14	14	-	-	-	-	-
050	63B5/B14	95	60	115	75	140	90	9	5.5	4	12.8	5	-	-	-	-	-	-	-	11	11	11	11	11
	71B5/B14	110	70	130	85	160	105	9	7	5	16.3	5	14	14	14	14	14	14	14	14	14	14	14	-
	80B5/B14	130	80	165	100	200	120	11	7	6	21.8	5	19	19	19	19	19	19	19	19	-	-	-	-
063	71B5/B14	110	70	130	85	160	105	9	7	5	16.3	5	-	-	-	-	-	-	-	14	14	14	14	14
	80B5/B14	130	80	165	100	200	120	11	7	6	21.8	5	-	19	19	19	19	19	19	19	19	19	19	19
	90B5/B14	130	95	165	115	200	140	11	9	8	27.3	5	-	24	24	24	24	24	24	-	-	-	-	-
075	71B5	110	-	130	-	160	-	9	7	5	16.3	5	-	-	-	-	-	-	-	-	14	14	14	14
	80B5/B14	130	80	165	100	200	120	11	7	6	21.8	5	-	-	-	-	-	-	-	19	19	19	19	19
	90B5/B14	130	95	165	115	200	140	11	9	8	27.3	5	-	24	24	24	24	24	24	-	-	-	-	-
	100B5/B14	180	110	215	130	250	160	13	9	8	31.3	5.5	-	28	28	28	-	-	-	-	-	-	-	-
	112B5/B14	180	110	215	130	250	160	13	9	8	31.3	5.5	-	28	-	-	-	-	-	-	-	-	-	-
090	80B5/B14	130	80	165	100	200	120	11	7	6	21.8	5	-	-	-	-	-	-	-	-	19	19	19	19
	90B5/B14	130	95	165	115	200	140	11	9	8	27.3	5	-	-	-	-	-	24	24	24	24	24	-	-
	100B5/B14	180	110	215	130	250	160	13	9	8	31.3	5	-	28	28	28	28	28	28	-	-	-	-	-
	112B5/B14	180	110	215	130	250	160	13	9	8	31.3	5.5	-	28	28	28	28	-	-	-	-	-	-	-
110	80B5	130	-	165	-	200	-	11	7	6	21.8	5.5	-	-	-	-	-	-	-	-	-	-	19	19
	90B5	130	-	165	-	200	-	11	9	8	27.3	6	-	-	-	-	-	-	24	24	24	24	24	24
	100B5	180	-	215	-	250	-	13	9	8	27.3	6	-	28	28	28	28	28	28	28	28	-	-	-
	112B5	180	-	215	-	250	-	13	9	8	31.3	6	-	28	28	28	28	28	28	-	-	-	-	-
	132B5	230	-	265	-	300	-	13	-	10	41.3	6	-	38	38	38	38	-	-	-	-	-	-	-
130	90B5	130	-	165	-	200	-	11	9	8	27.3	6	-	-	-	-	-	-	-	-	-	-	24	24
	100B5	180	-	215	-	250	-	13	9	8	31.3	6	-	-	-	-	-	-	-	28	28	28	28	28
	112B5	180	-	215	-	250	-	13	9	8	31.3	6	-	28	28	28	28	28	28	28	28	28	-	-
	132B5	230	-	265	-	300	-	13	-	10	41.3	6	-	38	38	38	38	38	38	-	-	-	-	-
150	100/112B5	180	-	215	-	250	-	13	9	8	31.3	6	-	-	-	-	-	-	-	-	28	28	28	28
	132B5	230	-	265	-	300	-	13	-	10	41.3	6	-	-	-	-	38	38	38	38	38	38	-	-
	160B5	250	-	300	-	350	-	19	-	12	45.3	6	-	42	42	42	42	42	-	-	-	-	-	-

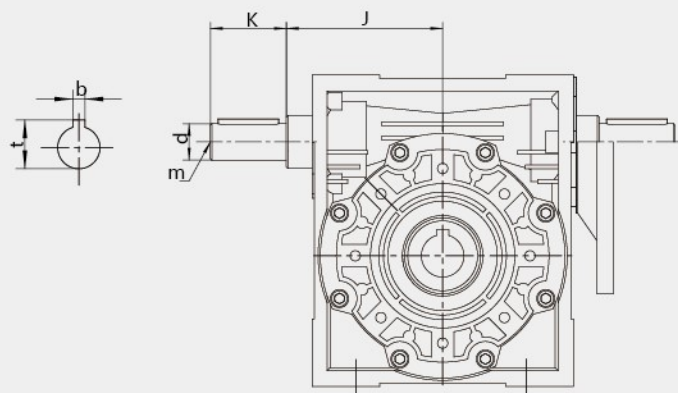
附件尺寸图表 / ACCESSORIES OUTLINE DIMENSION SHEET

输出轴 / Output Shafts



NMRV	d(h6)	B	B1	G1	L	L1	f	b1	t1
025	11	23	25.5	50	81	102	—	4	12.5
030	14	30	32.5	63	102	128	M6*17	5	16
040	18	40	43	78	128	164	M6*17	6	20.5
050	25	50	53.5	92	153	199	M10*20	8	28
063	25	50	53.5	112	173	219	M10*20	8	28
075	28	60	63.5	120	192	247	M10*20	8	31
090	35	80	84.5	140	234	309	M12*30	10	38
110	42	80	84.5	155	249	324	M16*30	12	45
130	45	80	85	170	265	340	M16*30	14	48.5
150	50	82	87	200	297	374	M16*30	14	53.5

蜗杆尾出轴 (E) / Extension worm shaft(E)



NMRV	J	d(f6)	K	m	b1	t1
025	37	9	20	—	3	10.2
030	45	9	20	—	3	10.2
040	53	11	23	—	4	12.5
050	64	14	30	M6	5	16
063	75	19	40	M6	6	21.5
075	90	24	50	M8	8	27
090	108	24	50	M8	8	27
110	135	28	60	M10	8	31
130	155	30	80	M10	8	33
150	175	35	80	M12	10	38

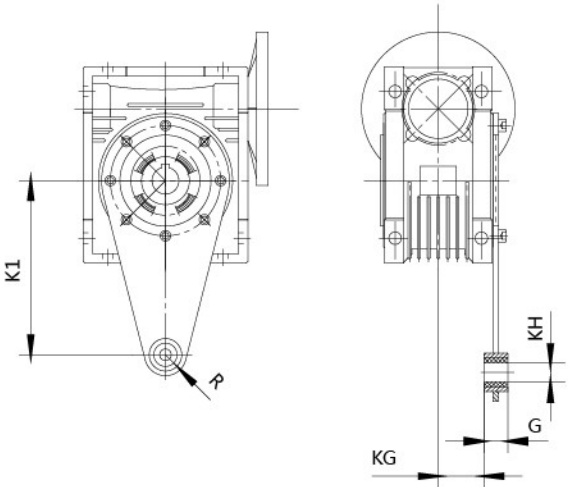
DRV双蜗轮组合
DRV double worm gear combination

NMRV+UDL蜗轮蜗杆减速机与无极变速组合
NMRV+UDL worm and worm gear reducer and the combination of stepless speed change

无限传动，动静由我
Infinite drive, movement by me

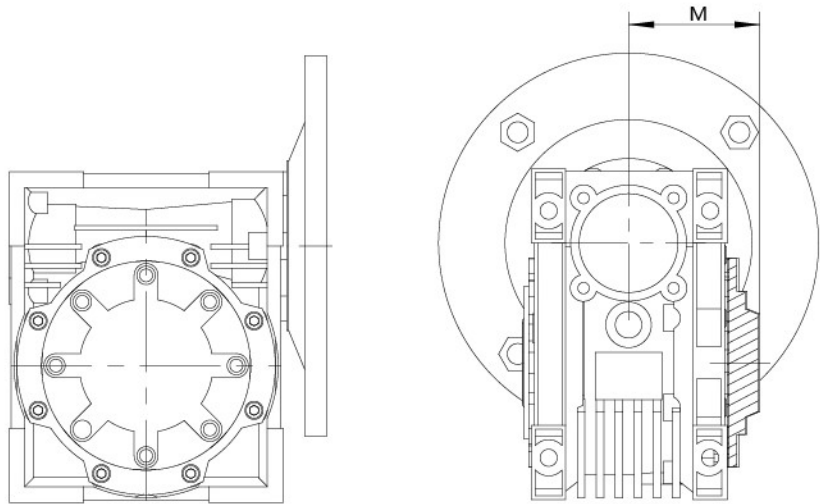
附件尺寸图表 / ACCESSORIES OUTLINE DIMENSION SHEET

扭力臂 / Torque Arm



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

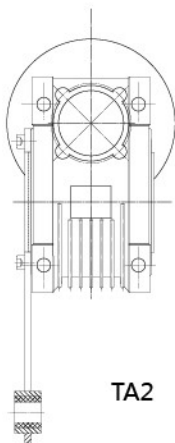
防尘盖 / Cover



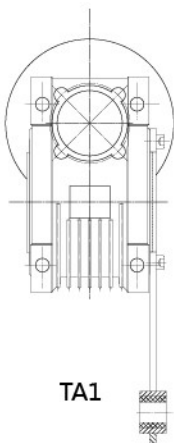
NMRV	M
030	42
040	50
050	58
063	69
075	74
090	85
110	94
130	102
150	117

安装方位图 / INSTALLATION POSITIONS DIAGRAM

扭力臂位置 / Torque arm Position



TA2

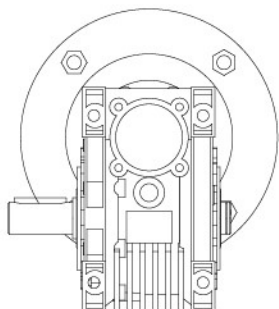


TA1

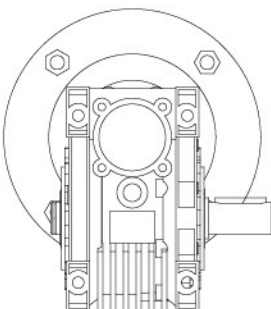
如果没有特殊要求，一般按出厂标准位置如图TA1方式和B3位置提供。

Unless specified otherwise, the gear units is supplied with the flange in pos.TA1 referred to position B3.

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



DZ2

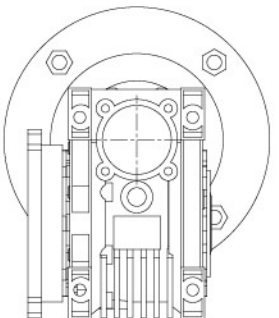


DZ1

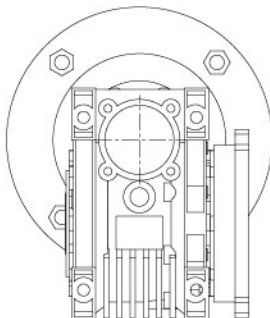
如果没有特殊要求，一般按出厂标准位置如图DZ1方式和B3位置提供。

Unless specified otherwise, the gear units is supplied with the flange in pos.DZ1 referred to position B3.

输出法兰位置 / Position diagram for output flange



F2



F1

如果没有特殊要求，一般按出厂标准位置如图F1方式和B3位置提供。

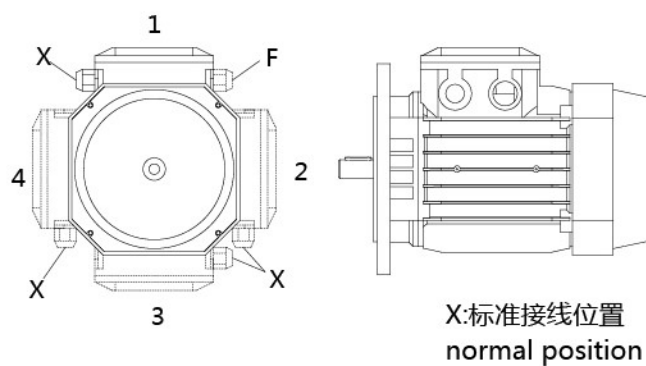
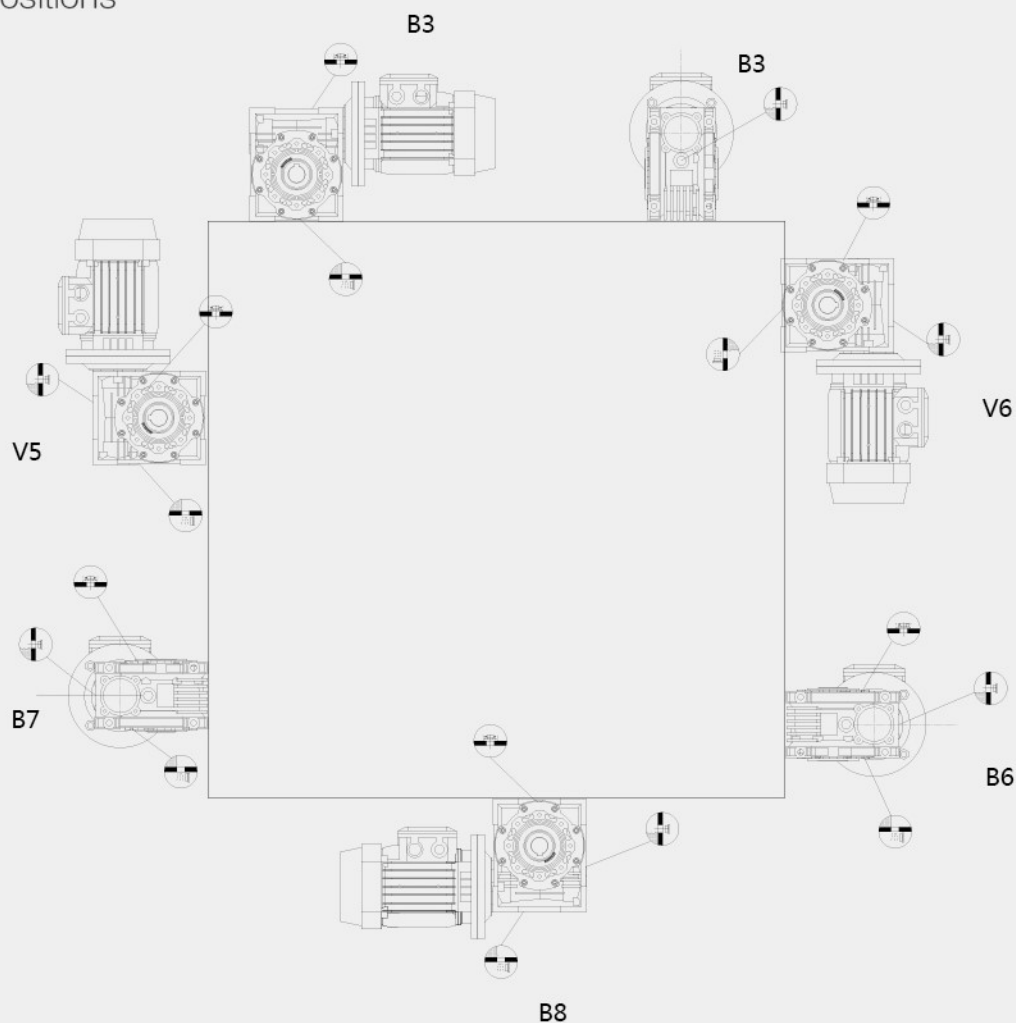
Unless specified otherwise, the gear units is supplied with the flange in pos.F1 referred to position B3.

安装方位图 / INSTALLATION POSITIONS DIAGRAM

符号释意 / Symbols Used

符号/Symbol	含义/Meaning
	排气阀 Breather Valve
	油位塞 Oil level plug
	放油塞 Oil drain plug

电机接线盒方位/Position of motor terminal box

NMRV..安装方位 /
Mounting Positions



NMRV..减速机参数/NMRV PARAMETER

NMRV	i	5	7.5	10	15	20	25	30	40	50	60	80	100
025	m	1.1	1.3	1.3	1.3	0.995	—	1.3	0.995	0.8	0.67	—	—
	Z1	6	4	3	2	2	—	1	1	1	1	—	—
	Z2	30	30	30	30	40	—	30	40	50	60	—	—
	γ	30° 58'	25° 18'	19° 31'	13° 18'	11° 02'	—	6° 44'	5° 34'	4° 34'	3° 54'	—	—
	η_d	0.87	0.85	0.83	0.97	0.75	—	0.67	0.62	0.58	0.55	—	—
	η_s	0.72	0.71	0.68	0.61	0.56	—	0.46	0.41	0.36	0.34	—	—
030	m	1.3	1.44	1.44	1.44	1.1	1.7	1.44	1.1	0.89	0.74	0.56	—
	Z1	6	4	3	2	2	1	1	1	1	1	1	—
	Z2	30	30	30	30	40	25	30	40	50	60	80	—
	γ	29° 03'	18° 55'	14° 25'	9° 44'	7° 49'	5° 33'	4° 54'	3° 55'	3° 17'	2° 43'	2° 07'	—
	η_d	0.87	0.856	0.829	0.782	0.673	0.7	0.667	0.62	0.567	0.52	0.422	—
	η_s	0.72	0.67	0.63	0.55	0.5	0.43	0.39	0.35	0.31	0.27	0.23	—
040	m	1.65	2.05	2.05	2.05	1.56	1.27	2.05	1.56	1.27	1.06	0.8	0.65
	Z1	6	4	3	2	2	2	1	1	1	1	1	1
	Z2	30	30	30	30	40	50	30	40	50	60	80	100
	γ	30° 58'	23° 49'	18° 23'	12° 30'	10° 03'	8° 45'	6° 19'	5° 04'	4° 24'	3° 42'	2° 52'	2° 29'
	η_d	0.89	0.862	0.839	0.805	0.792	0.738	0.675	0.668	0.604	0.541	0.513	0.477
	η_s	0.74	0.71	0.67	0.6	0.55	0.51	0.45	0.4	0.36	0.32	0.28	0.24
050	m	2.25	2.56	2.56	2.56	1.95	1.58	2.56	1.95	1.58	1.32	1	0.8
	Z1	6	4	3	2	2	2	1	1	1	1	1	1
	Z2	30	30	30	30	40	50	30	40	50	60	80	100
	γ	30° 58'	23° 49'	18° 19'	12° 27'	10° 03'	8° 33'	6° 18'	5° 04'	4° 18'	3° 38'	2° 52'	2° 17'
	η_d	0.89	0.874	0.852	0.808	0.805	0.771	0.711	0.693	0.634	0.532	0.53	0.483
	η_s	0.74	0.7	0.66	0.59	0.55	0.51	0.44	0.39	0.35	0.32	0.27	0.23
063	m	—	3.25	3.25	3.25	2.48	2	3.25	2.48	2	1.68	1.27	1.02
	Z1	—	4	3	2	2	2	1	1	1	1	1	1
	Z2	—	30	30	30	40	50	30	40	50	60	80	100
	γ	—	24° 31'	18° 43'	12° 51'	10° 29'	8° 45'	6° 30'	5° 17'	4° 24'	3° 49'	2° 59'	2° 26'
	η_d	—	0.88	0.87	0.83	0.82	0.78	0.74	0.716	0.66	0.571	0.562	0.486
	η_s	—	0.71	0.67	0.6	0.55	0.51	0.45	0.4	0.32	0.33	0.28	0.24
075	m	—	3.95	3.95	3.95	3	2.42	3.95	3	2.42	2.02	1.54	1.24
	Z1	—	4	3	2	2	2	1	1	1	1	1	1
	Z2	—	30	30	30	40	50	30	40	50	60	80	100
	γ	—	26° 38'	20° 37'	14° 05'	11° 19'	9° 29'	7° 09'	5° 43'	4° 46'	4° 01'	3° 17'	2° 44'
	η_d	—	0.912	0.904	0.876	0.85	0.848	0.81	0.77	0.769	0.719	0.695	0.626
	η_s	—	0.71	0.68	0.61	0.57	0.53	0.46	0.42	0.38	0.35	0.29	0.26
090	m	—	4.84	4.84	4.48	3.69	2.98	4.84	3.69	2.98	2.5	1.89	1.52
	Z1	—	4	3	2	2	2	1	1	1	1	1	1
	Z2	—	30	30	30	40	50	30	40	50	60	80	100
	γ	—	29° 05'	22° 39'	15° 33'	12° 50'	10° 53'	7° 55'	6° 30'	5° 29'	4° 46'	3° 45'	3° 06'
	η_d	—	0.905	0.898	0.873	0.849	0.824	0.804	0.765	0.727	0.69	0.638	0.572
	η_s	—	0.73	0.7	0.64	0.6	0.56	0.49	0.45	0.41	0.38	0.32	0.28
110	m	—	5.875	5.875	5.875	4.62	3.73	5.875	4.62	3.73	3.13	2.37	1.91
	Z1	—	4	3	2	2	2	1	1	1	1	1	1
	Z2	—	30	30	30	40	50	30	40	50	60	80	100
	γ	—	28° 15'	21° 57'	15° 02'	14° 42'	12° 33'	7° 39'	7° 29'	6° 21'	5° 33'	4° 27'	3° 46'
	η_d	—	0.901	0.891	0.862	0.848	0.851	0.793	0.776	0.768	0.729	0.692	0.628
	η_s	—	0.72	0.69	0.63	0.62	0.59	0.48	0.48	0.44	0.41	0.36	0.32
130	m	—	6.97	6.97	6.97	5.4	4.37	6.97	5.4	4.37	3.67	2.77	2.23
	Z1	—	4	3	2	2	2	1	1	1	1	1	1
	Z2	—	30	30	30	40	50	30	40	50	60	80	100
	γ	—	28° 43'	22° 20'	15° 19'	13° 47'	11° 54'	7° 48'	7° 00'	6° 01'	5° 16'	4° 08'	3° 27'
	η_d	—	0.911	0.891	0.872	0.86	0.845	0.803	0.779	0.758	0.749	0.671	0.657
	η_s	—	0.72	0.69	0.63	0.61	0.58	0.49	0.46	0.43	0.39	0.34	0.3
150	m	—	5.4	6.16	5.4	6.16	5	4.2	6.16	5	4.2	3.15	2.5
	Z1	—	45	40	45	40	50	60	40	50	60	80	100
	Z2	—	6	4	3	2	2	2	1	1	1	1	1
	γ	—	29° 37'	24° 41'	15° 52'	12° 56'	11° 19'	9° 56'	6° 34'	5° 43'	5° 00'	3° 45'	2° 52'
	η_d	—	0.91	0.9	0.88	0.86	0.84	0.83	0.78	0.76	0.73	0.68	0.64
	η_s	—	0.73	0.71	0.66	0.6	0.57	0.54	0.45	0.42	0.39	0.33	0.29

NMRV..性能参数 / PERFORMANCE PARAMETER

P_{1n} [kW]	n_2 [r/min]	i	M_{2max} [Nm]	F_{r2} [N]	fs		
0.06	280	5	1.8	439	6.2	NMRV025 56B14	5614
	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	NMRV030 56B5/B14	5614
	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		
0.09	373.3	7.5	2.0	399	3.9	NMRV025 56B14	5612
	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	NMRV025 56B14	5624
	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	NMRV030 56B5/B14	5612
	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		



NMRV..性能参数 / PERFORMANCE PARAMETER

P _{1n} [kW]	n ₂ [r/min]	i	M _{2max} [Nm]	F _{r2} [N]	f _s		
0.09	70	40	8.0	948	1.8	NMRV030 56B5/B14	5612
	56	50	9.4	1021	1.4		
	46.7	60	10	1085	1.1		
	35	80	13	1194	0.9		
	186.7	7.5	3.9	683	4.7	NMRV030 56B5/B14	5624
	140	10	5.0	752	3.6		
	93.3	15	7.0	861	2.6		
	70	20	8.8	948	2.0		
	56	25	10	1021	2.1		
	46.7	30	12	1085	1.7		
	35	40	14	1194	1.2		
	28	50	17	1286	1.0		
	23.3	60	18	1367	0.9	NMRV040 56B5	5624
	28	50	19	2475	2.1		
	23.3	60	21	2630	1.7		
	17.5	80	25	2895	1.3		
	14	100	29	3118	1.0	NMRV025 56B14	5622
	373.3	7.5	2.7	399	3.0		
	280	10	3.5	439	2.6		
	186.7	15	5.1	503	1.8		
	140	20	6.5	553	1.4		
	93.3	30	9.0	633	1.0		
0.12	70	40	11	697	0.8	NMRV030 63B5/B14	6314
	186.7	7.5	5.2	683	3.5		
	140	10	6.6	752	2.7		
	93.3	15	9.3	861	1.9		
	70	20	12	948	1.5		
	56	25	14	1021	1.6		
	46.7	30	16	1085	1.3		
	35	40	19	1194	0.9		
	28	50	22	1286	0.8	NMRV040 63B5/B14	6314
	46.7	30	17	2087	2.7		
	35	40	21	2298	1.9		
	28	50	25	2475	1.6		
	23.3	60	28	2630	1.3		
	17.5	80	33	2895	1.0		
	14	100	38	3118	0.8		
	23.3	60	29	3610	2.3		
	17.5	80	35	3973	1.9		

NMRV..性能参数 / PERFORMANCE PARAMETER

P_{1n} [kW]	n_2 [r/min]	i	M_{2max} [Nm]	F_{r2} [N]	f_s		
0.12	14	100	39	4280	1.4	NMRV050 63B5	6314
0.18	373.3	7.5	4.0	542	3.2	NMRV030 63B5/B14	6312
	280	10	5.2	597	2.5		
	186.7	15	7.4	683	1.8		
	140	20	9.5	752	1.3		
	112	25	11	810	1.4		
	93.3	30	13	861	1.2		
	70	40	16	948	0.9		
	186.7	7.5	7.7	683	2.3	NMRV030 63B5/B14	6324
	140	10	10	752	1.8		
	93.3	15	14	861	1.3		
	70	20	18	948	1.0		
	56	25	20	1021	1.0		
	46.7	30	24	1085	0.8		
	93.3	30	14	1657	2.5	NMRV040 63B5/B14	6312
	70	40	17	1824	1.8		
	56	50	21	1964	1.4		
	70	20	19	1824	2.1	NMRV040 63B5/B14	6324
	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	NMRV040 71B5/B14	7116
	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	NMRV050 63B5	6312
	35	80	30	3153	1.5		
	28	100	34	3397	1.2		
	35	40	33	3153	2.3	NMRV050 63B5	6324
	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	NMRV050 71B5/B14	7116
	15	60	63	4183	1.1		
	11.3	80	75	4604	0.9		
	15	60	66	5467	2.1	NMRV063 71B5/B14	7116



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NMRV..性能参数 / PERFORMANCE PARAMETER

P_{1n} [kW]	n_2 [r/min]	i	M_{2max} [Nm]	F_{r2} [N]	f_s		
0.18	11.3	80	79	6018	1.6	NMRV063 71B5/B14	7116
	9	100	90	6270	1.4		
0.25	373.3	7.5	5.6	542	2.3	NMRV030 63B5/B14	6322
	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	NMRV040 71B5/B14	7114
	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	NMRV040 71B5/B14	7126
	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	NMRV050 63B5/B14	6322
	35	80	42	3153	1.1		
	28	100	48	3397	0.8	NMRV050 63B5/B14	7114
	70	20	27	2503	2.7		
	56	25	32	2696	2.2		
	46.7	30	36	2865	2.3		
	35	40	46	3153	1.7		
	28	50	54	3397	1.4		
	23.3	60	60	3610	1.1	NMRV050 71B5/B14	7126
	17.5	80	72	3973	0.9		
	45	20	40	2900	1.9		
	36	25	48	3124	1.5		
	30	30	54	3320	1.7		
	22.5	40	67	3654	1.2		
	18	50	78	3936	1.0	NMRV063 71B5/B14	7114
	15	60	88	4193	0.8		
	28	50	55	4440	2.4		
	23.3	60	63	4719	2.0	NMRV063 71B5/B14	7114
	17.5	80	76	5193	1.6		

NMRV..性能参数 / PERFORMANCE PARAMETER

P_{1n} [kW]	n_2 [r/min]	i	M_{2max} [Nm]	F_{r2} [N]	f_s		
0.25	14	100	87	5595	1.4	NMRV063 71B5/B14	7114
	18	50	81	5145	1.8	NMRV063 71B5/B14	7126
	15	60	92	5467	1.5		
	11.3	80	110	6018	1.2		
	9	100	125	6270	1.0		
	17.5	80	80	6130	2.4	NMRV075 71B5	7114
	14	100	94	6603	1.9	NMRV075 71B5	7126
	11.3	80	117	7103	1.7		
0.37	373.3	7.5	8.3	1044	3.4	NMRV040 71B5/B14	7112
	280	10	11	1149	2.6		
	186.7	15	16	1315	1.9		
	140	20	20	1447	1.4		
	112	25	25	1559	1.1		
	186.7	7.5	16	1315	2.5	NMRV040 71B5/B14	7124
	140	10	21	1447	1.9		
	93.3	15	30	1657	1.3		
	70	20	39	1824	1.0		
	56	25	47	1964	0.8		
	46.7	30	52	2087	0.9		
	112	25	25	2140	2.0	NMRV050 71B5/B14	7112
	93.3	30	29	2274	2.2		
	70	40	37	2503	1.6		
	56	50	44	2696	1.2		
	46.7	60	50	2865	1.0		
	35	80	62	3153	0.7		
	140	10	21	1987	3.4	NMRV050 71B5/B14	7124
	93.3	15	31	2274	2.4		
	70	20	39	2503	1.9		
	56	25	47	2696	1.5		
	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	NMRV050 71B5/B14	8016
	90	10	33	2302	2.6		
	60	15	47	2635	1.8		
	45	20	59	2900	1.3		
	36	25	72	3124	1.0		



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P_{1n} [kW]	n_2 [r/min]	i	M_{2max} [Nm]	F_{r2} [N]	f_s		
0.37	30	30	80	3320	1.1	NMRV050 80B5/B14	8016
	35	40	70	4122	2.1	NMRV063 71B5/B14	7124
	28	50	82	4440	1.6		
	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	NMRV075 71B5	7124
	23.3	60	97	5569	2.1		
	17.5	80	119	6130	1.6		
	14	100	139	6603	1.3	NMRV075 80B5/B14	8016
	18	50	124	6073	1.8		
	15	60	141	6453	1.5		
	11.3	80	173	7103	1.2		
	9	100	196	7380	1.0		
	11.3	80	185	7859	1.7	NMRV090 80B5/B14	8016
	9	100	212	8180	1.3		
0.55	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		

NMRV..性能参数 / PERFORMANCE PARAMETER

P_{1n} [kW]	n_2 [r/min]	i	M_{2max} [Nm]	F_{r2} [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	NMRV063 71B5/B14	7122
	56	50	68	3524	1.5		
	46.7	60	78	3745	1.2		
	35	80	96	4122	0.9		
	28	100	111	4440	0.7		
	70	20	60	3272	2.2	NMRV063 80B5/B14	8014
	56	25	72	3524	1.8		
	46.7	30	82	3745	1.9		
	35	40	104	4122	1.4		
	28	50	122	4440	1.1		
	23.3	60	140	4719	0.9	NMRV063 80B5/B14	8026
	60	15	70	3444	2.2		
	45	20	90	3791	1.6		
	36	25	108	4084	1.3		
	30	30	123	4339	1.4		
	22.5	40	152	4776	1.1	NMRV075 71B5	7122
	35	80	99	4865	1.3		
	28	100	116	5241	1.0		
	35	40	108	4865	2.0	NMRV075 80B5/B14	8014
	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		
	30	30	124	5122	2.1	NMRV075 80B5/B14	8026
	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	NMRV110 80B5	8014
	14	100	236	9232	2.0		



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P_{1n} [kW]	n_2 [r/min]	i	M_{2max} [Nm]	F_{r2} [N]	f_s		
0.55	11.3	80	294	9931	1.9	NMRV110 80B5	8026
	9	100	344	10320	1.5		
0.75	373.3	7.5	17	1433	3.0	NMRV050 80B5/B14	8012
	280	10	22	1577	2.4		
	186.7	15	31	1805	1.7		
	140	20	41	1987	1.3		
	112	25	49	2140	1.0		
	93.3	30	56	2274	1.1		
	280	5	23	1577	2.7	NMRV050 80B5/B14	8024
	186.7	7.5	33	1805	2.1		
	140	10	43	1987	1.7		
	93.3	15	62	2274	1.2		
	70	20	80	2503	0.9		
	140	20	43	2597	2.3	NMRV063 80B5/B14	8012
	112	25	52	2797	1.8		
	93.3	30	60	2973	2.0		
	70	40	77	3272	1.4		
	56	50	92	3524	1.1		
	46.7	60	106	3745	0.9		
	93.3	15	63	2973	2.2	NMRV063 80B5/B14	8024
	70	20	82	3272	1.6		
	56	25	98	3524	1.3		
	46.7	30	112	3745	1.4		
	35	40	141	4122	1.0		
	120	7.5	51	2734	2.9	NMRV063 90B5/B14	90S6
	90	10	67	3009	2.3		
	60	15	96	3444	1.6		
	45	20	123	3791	1.2		
	36	25	147	4084	0.9		
	30	30	167	4339	1.0		
	46.7	60	107	4421	1.3	NMRV075 90B5/B14	8012
	35	80	135	4865	1.0		
	28	100	159	5241	0.8		
	56	25	101	4160	2.0	NMRV075 90B5/B14	8024
	46.7	30	117	4421	2.0		
	35	40	147	4865	1.5		
	28	50	174	5241	1.2		
	23.3	60	196	5569	1.0		
	60	15	97	4065	2.4	NMRV075 90B5/B14	90S6

NMRV..性能参数 / PERFORMANCE PARAMETER

P_{1n} [kW]	n_2 [r/min]	i	M_{2max} [Nm]	F_{r2} [N]	f_s		
0.75	45	20	124	4474	1.9	NMRV075 90B5/B14	90S6
	36	25	149	4820	1.4		
	30	30	170	5122	1.5		
	22.5	40	213	5637	1.1		
	35	80	143	5383	1.6	NMRV090 80B5/B14	80I2
	28	100	169	5799	1.2		
	28	50	182	5799	1.9	NMRV090 80B5/B14	8024
	23.3	60	209	6163	1.5		
	17.5	80	258	6783	1.1		
	14	100	302	7306	0.9		
	30	30	179	5667	2.6	NMRV090 80B5/B14	90S6
	22.5	40	226	6238	1.8		
	18	50	267	6719	1.5		
	15	60	306	7140	1.1		
	17.5	80	274	8571	1.9	NMRV110 80B5	8024
	14	100	322	9232	1.5		
1.1	15	60	325	9023	2.1	NMRV110 90B5	90S6
	11.3	80	401	9931	1.4		
	9	100	470	10320	1.1		
	11.3	80	401	12989	2.1	NMRV130 90B5	90S6
	9	100	470	13500	1.7		
	373.3	7.5	25	1433	2.1	NMRV050 80B5/B14	8022
	280	10	33	1577	1.7		
	186.7	15	48	1805	1.2		
	140	20	62	1987	0.9		
	186.7	15	46	2359	2.1	NMRV063 80B5/B14	8022
	140	20	60	2597	1.6		
	112	25	72	2797	1.2		
	93.3	30	82	2973	1.4		
	70	40	104	3272	1.0		
	120	7.5	75	2734	2.0	NMRV063 90B5/B14	90L6
	90	10	98	3009	1.6		
	60	15	140	3444	1.1		
	45	20	180	3791	0.8		
	186.7	7.5	50	2359	2.6	NMRV063 90B5/B14	90S4
	140	10	65	2597	2.0		
	93.3	15	92	2973	1.5		
	70	20	120	3272	1.1		
	56	25	144	3524	0.9		



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P_{1n} [kW]	n_2 [r/min]	i	M_{2max} [Nm]	F_{r2} [N]	f_s		
1.1	46.7	30	164	3745	1.0	NMRV063 90B5/B14	90S4
	112	25	77	3302	2.0	NMRV075 80B5/B14	8022
	93.3	30	89	3509	1.9		
	70	40	114	3862	1.4		
	56	50	137	4160	1.1		
	46.7	60	158	4421	0.9		
	90	10	98	3551	2.3	NMRV075 90B5/B14	90L6
	60	15	142	4065	1.7		
	45	20	182	4474	1.3		
	36	25	19	4820	1.0		
	30	30	249	5122	1.0		
	93.3	15	95	3509	2.1	NMRV075 90B5/B14	90S4
	70	20	122	3862	1.7		
	56	25	148	4160	1.3		
	46.7	30	171	4421	1.3		
	35	40	216	4865	1.0		
	35	80	210	5383	1.1	NMRV090 80B5/B14	8022
	28	100	248	5799	0.8		
	36	25	228	5333	1.6	NMRV090 90B5/B14	90L6
	30	30	263	5667	1.8		
	22.5	40	331	6238	1.2		
	18	50	391	6719	1.0		
	15	60	448	7140	0.8		
	35	40	222	5383	1.6	NMRV090 90B5/B14	90S4
	28	50	266	5799	1.3		
	23.3	60	306	6163	1.0		
	22.5	40	345	7882	2.3	NMRV110 90B5	90L6
	18	50	414	8491	1.8		
	15	60	476	9023	1.4		
	11.3	80	588	9931	1.0		
	28	50	278	7328	2.4	NMRV110 90B5	90S4
	23.3	60	324	7787	1.9		
	17.5	80	402	8571	1.3		
	14	100	473	9232	1.0		
	11.3	80	588	12989	1.5	NMRV130 90B5	90L6
	9	100	689	13500	1.1		
	17.5	80	408	11210	2.1	NMRV130 90B5	90S4
	14	100	480	12076	1.5		

NMRV..性能参数 / PERFORMANCE PARAMETER

P_{1n} [kW]	n_2 [r/min]	i	M_{2max} [Nm]	F_{r2} [N]	f_s		
1.5	373.3	7.5	34	1433	1.5	NMRV050 80B5/B14	8032
	280	10	45	1577	1.2		
	186.7	15	65	1805	0.9		
	186.7	7.5	68	2359	1.9	NMRV063 90B5/B14	90L4
	140	10	88	2597	1.5		
	93.3	15	126	2973	1.1		
	70	20	164	3272	0.8		
	373.3	7.5	35	1873	2.7	NMRV063 90B5/B14	90S2
	280	10	45	2061	2.2		
	186.7	15	66	2359	1.6	NMRV063 90B5/B14	90S2
	140	20	86	2597	1.2		
	112	25	105	2797	0.9		
	93.3	30	120	2973	1.0		
	120	7.5	103	3227	2.1	NMRV075 100B5/B14	100L6
	90	10	134	3551	1.7		
	60	15	193	4065	1.2		
	56	50	187	4160	1.3	NMRV075 90B5/B14	90S2
	46.7	60	215	4421	1.1		
	140	10	89	3065	2.2	NMRV075 90B5/B14	90L4
	93.3	15	129	3509	1.6		
	70	20	166	3862	1.3		
	56	25	202	4160	1.0		
	46.7	30	233	4421	1.0		
	280	10	45	2433	3.2	NMRV075 90B5/B14	90S2
	186.7	15	66	2785	2.3		
	140	20	86	3065	1.9		
	112	25	105	3302	1.4		
	93.3	30	121	3509	1.4		
	70	40	156	3862	1.1		
	90	10	137	3929	2.7	NMRV090 100B5/B14	100L6
	60	15	198	4498	2.1		
	45	20	258	4951	1.5		
	36	25	310	5333	1.2		
	30	30	358	5667	1.3		
	70	20	170	4273	2.1	NMRV090 90B5/B14	90L4
	56	25	207	4603	1.6		
	46.7	30	239	4891	1.7		
	35	40	303	5383	1.2		
	28	50	363	5799	0.9		



NMRV..性能参数 / PERFORMANCE PARAMETER

P_{1n} [kW]	n_2 [r/min]	i	M_{2max} [Nm]	F_{r2} [N]	f_s		
1.5	23.3	60	417	6163	0.8	NMRV090 90B5/B14	90L4
	56	50	197	4603	1.3	NMRV090 90B5/B14	90S2
	46.7	60	227	4891	1.1		
	45	20	264	6256	2.7	NMRV110 100B5/B14	100L6
	36	25	322	6739	2.4		
	30	30	363	7161	2.3		
	22.5	40	471	7882	1.7		
	18	50	565	8491	1.3		
	15	60	649	9023	1.1		
	35	40	315	6803	2.2	NMRV110 90B5	90L4
	28	50	379	7328	1.7		
	23.3	60	442	7787	1.4		
	17.5	80	548	8571	0.9		
	46.7	60	236	6181	2.0	NMRV110 90B5	90S2
	35	80	299	6803	1.3		
	28	100	358	7328	1.0		
	22.5	40	471	10309	2.3	NMRV130 100B5	100L6
	18	50	565	11105	1.9		
	15	60	659	11801	1.4		
	11.3	80	802	12989	1.1		
	17.5	80	557	11210	1.5	NMRV130 90B5	90L4
	14	100	655	12076	1.1		
2.2	373.3	7.5	51	1873	1.8	NMRV063 90B5/B14	90L2
	280	10	66	2061	1.5		
	186.7	15	97	2359	1.1		
	186.7	7.5	99	2785	1.9	NMRV075 100B5/B14	100L1-4
	140	10	131	3065	1.5		
	93.3	15	189	3509	1.1		
	373.3	7.5	50	2210	2.6	NMRV075 90B5/B14	90L2
	280	10	66	2433	2.2		
	186.7	15	97	2785	1.5		
	140	20	126	3065	1.3		
	112	25	154	3302	1.0	NMRV075 100B5/B14	90L2
	93.3	30	178	3509	1.0		
	186.7	7.5	100	3081	2.9	NMRV090 100B5/B14	100L1-4
	140	10	132	3391	2.3		
	93.3	15	191	3882	1.9		
	70	20	249	4273	1.4		

NMRV..性能参数 / PERFORMANCE PARAMETER

P_{1n} [kW]	n_2 [r/min]	i	M_{2max} [Nm]	F_{r2} [N]	f_s		
2.2	56	25	304	4603	1.1	NMRV090 100B5/B14	100L1-4
	46.7	30	351	4891	1.2		
	120	7.5	154	3570	2.2	NMRV090 112B5/B14	112M6
	90	10	201	3929	1.8		
	60	15	291	4498	1.4		
	45	20	378	4951	1.0		
	140	20	129	3391	2.0	NMRV090 90B5/B14	90L2
	112	25	159	3653	1.6		
	93.3	30	185	3882	1.7		
	70	40	237	4273	1.2		
	56	50	289	4603	0.9		
	70	20	255	5399	2.5	NMRV110 100B5	100L1-4
	56	25	311	5816	2.2		
	46.7	30	356	6181	2.0		
	35	40	462	6803	1.5		
	28	50	555	7328	1.2		
	23.3	60	648	7787	1.0		
	90	10	203	4965	3.5	NMRV110 112B5	112M6
	60	15	294	5684	2.6		
	45	20	388	6256	1.9		
	36	25	473	6739	1.6		
	30	30	532	7161	1.6		
	112	25	161	4616	3.1	NMRV110 90B5	90L2
	93.3	30	187	4905	3.0		
	70	40	243	5399	2.2		
	56	50	296	5816	1.7		
	46.7	60	347	6181	1.4		
	35	40	468	8897	2.2	NMRV110 100B5	100L1-4
	28	50	563	9584	1.7		
	23.3	60	657	10185	1.4		
	17.5	80	816	11210	1.0		
	36	25	473	8814	2.2	NMRV130 112B5	112M6
	30	30	539	9366	2.2		
	22.3	40	691	10309	1.6		
	18	50	829	11105	1.3		
	15	60	966	11801	1.0		
	35	80	444	8897	1.3	NMRV130 90B5	90L2
	28	100	525	9574	1.0		
	28	50	570	13103	2.5	NMRV150 100B5	100L1-4



HKM双曲面齿轮减速机
HKM double curved surface gear reducer

UDL无极变速器
UDL stepless speed changer

VF蜗轮蜗杆减速机
VF worm gear reducer

HKM双曲面齿轮减速机
HKM double curved surface gear reducer

NMRV..性能参数 / PERFORMANCE PARAMETER

P_{1n} [kW]	n_2 [r/min]	i	M_{2max} [Nm]	F_{r2} [N]	f_s		
2.2	23.3	60	657	13924	1.9	NMRV150 100B5	100L1-4
	17.5	80	816	15325	1.4		
	14	100	960	16508	1.0		
3.0	373.3	7.5	68	2210	1.9	NMRV075 100B5/B14	100L2
	280	10	90	2433	1.6		
	186.7	7.5	135	2785	1.4	NMRV075 100B5/B14	100L2-4
	140	10	178	3065	1.1		
	93.3	15	258	3509	0.8		
	373.3	7.5	70	2446	3.0	NMRV090 100B5/B14	100L2
	280	10	92	2692	2.6		
	186.7	7.5	137	3081	2.1	NMRV090 100B5/B14	100L2-4
	140	10	180	3391	1.7		
	93.3	15	261	3882	1.4		
	70	20	340	4273	1.0		
	56	25	414	4603	0.8		
	46.7	30	479	4891	0.9		
	93.3	15	264	4905	2.5	NMRV110 100B5	100L2-4
	70	20	348	5399	1.9		
	56	25	425	5816	1.6		
	46.7	30	485	6181	1.5		
	35	40	630	6803	1.1		
	28	50	757	7328	0.9		
	120	7.5	210	4511	3.1	NMRV110 100B5	132S6
	90	10	277	4965	2.6		
	60	15	401	5684	1.9		
	45	20	528	6256	1.4		
	56	25	430	7607	2.2	NMRV130 100B5	100L2-4
	46.7	30	491	8084	2.1		
	35	40	638	8897	1.6		
	28	50	767	9584	1.3		
	23.3	60	896	10185	1.0		
	17.5	80	1113	11210	0.8		
	90	10	277	6494	3.5	NMRV130 132B5	132S6
	60	15	406	7434	2.6		
	45	20	528	8182	2.0		
	36	25	645	8814	1.6		
	30	30	735	9366	1.6		
	22.5	40	942	10309	1.2		

NMRV..性能参数 / PERFORMANCE PARAMETER

P_{1n} [kW]	n_2 [r/min]	i	M_{2max} [Nm]	F_{r2} [N]	f_s		
3.0	28	50	778	13103	1.8	NMRV150 100B5	100L2-4
	23.3	60	896	13924	1.4		
	17.5	80	1113	15325	1.0		
	14.0	100	1310	16508	0.8		
4.0	373.3	7.5	91	2210	1.4	NMRV075 112B5/B14	112M2
	280	10	120	2433	1.2	NMRV075 112B5/B14	112M4
	186.7	7.5	180	2785	1.0		
	140	10	237	3065	0.8		
	373.3	7.5	93	2446	2.3	NMRV090 112B5/B14	112M2
	280	10	123	2692	1.9		
	186.7	7.5	182	3081	1.6	NMRV090 112B5	112M4
	140	10	240	3391	1.3		
	93.3	15	348	3882	1.0		
	70	20	453	4273	0.8		
	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	NMRV110 132B5	132M1-6
	120	7.5	280	4511	2.3		
	90	10	369	4965	1.9		
	60	15	535	5684	1.4		
	56	25	573	7607	1.6	NMRV130 112B5	112M4
	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		
	120	7.5	283	5901	3.1	NMRV130 132B5	132M1-6
	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	NMRV150 112B5	112M4
	23.3	60	1195	13924	1.1		
	17.5	80	1484	15325	0.8		
5.5	186.7	7.5	250	3893	2.2	NMRV110 132B5	132S4
	140	10	330	4285	1.8		
	93.3	15	484	4905	1.4		
	70	20	638	5399	1.0		

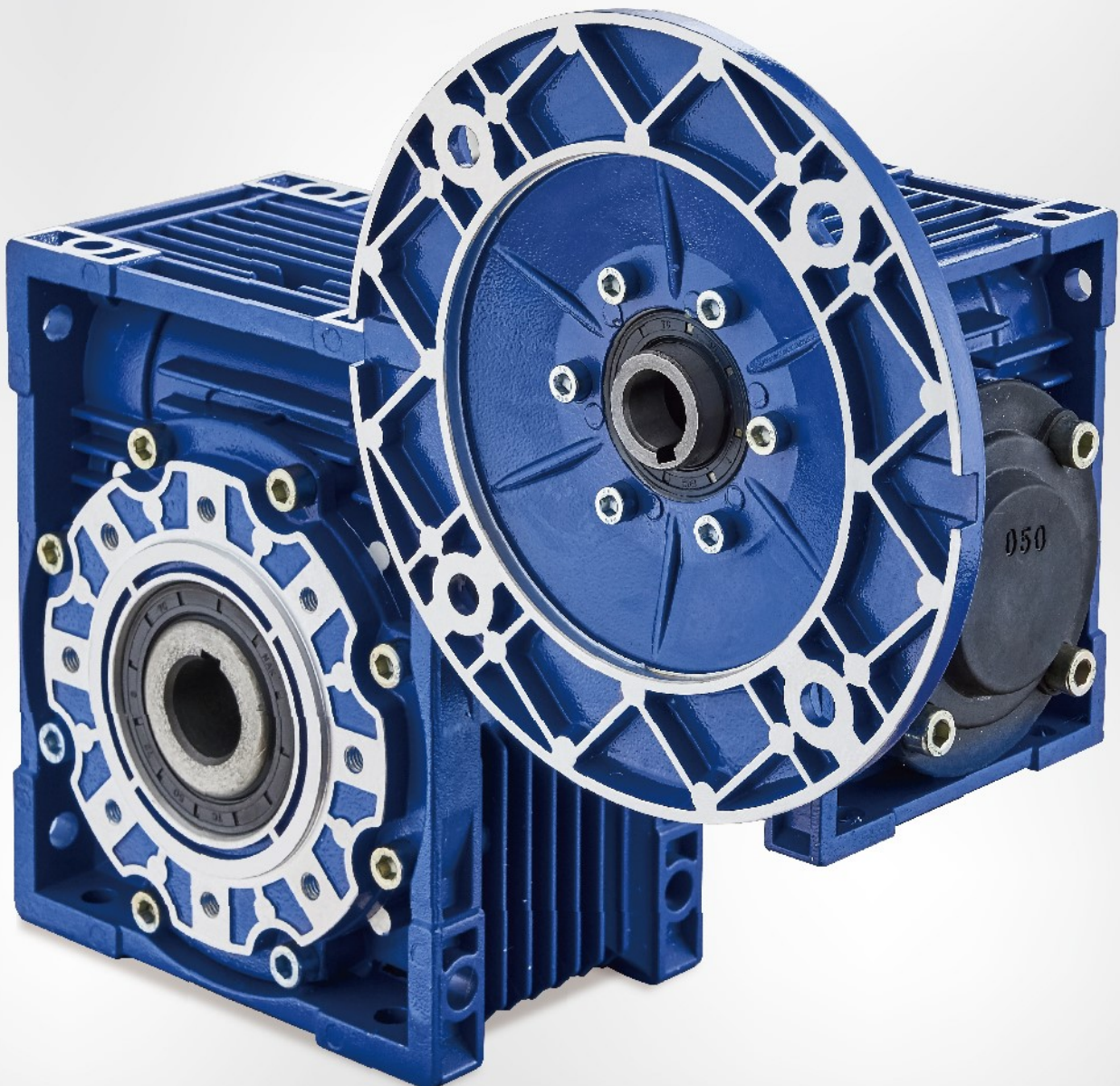


NMRV..性能参数 / PERFORMANCE PARAMETER

P_{1n} [kW]	n_2 [r/min]	i	M_{2max} [Nm]	F_{r2} [N]	f_s		
5.5	140	10	334	5605	2.5	NMRV130 132B5	132S4
	93.3	15	490	6416	1.9		
	70	20	638	7062	1.4		
	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	NMRV150 132B5	132S4
	56	25	788	10400	1.5		
	46.7	30	934	11051	1.3		
	35.0	40	1171	12163	1.3		
	28.0	50	1426	13103	1.0		
	23.3	60	1643	13924	0.8		
7.5	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	NMRV130 132B5	132M4
	140	10	455	5605	1.8		
	93.3	15	688	6416	1.4		
	70	20	870	7062	1.0		
	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	NMRV150 132B5	132M4
	56	25	1074	10400	1.1		
	46.7	30	1274	11051	0.9		
	35	40	1596	12163	1.0		
11	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	20	1291	9654	1.0		
	56	25	1576	10400	0.8		
15	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	20	1760	9654	0.7		

DRV DOUBLE WORM GEAR COMBINATION

DRV双蜗轮组合



DRV减速机型号 / DRV DECELERATION TYPE

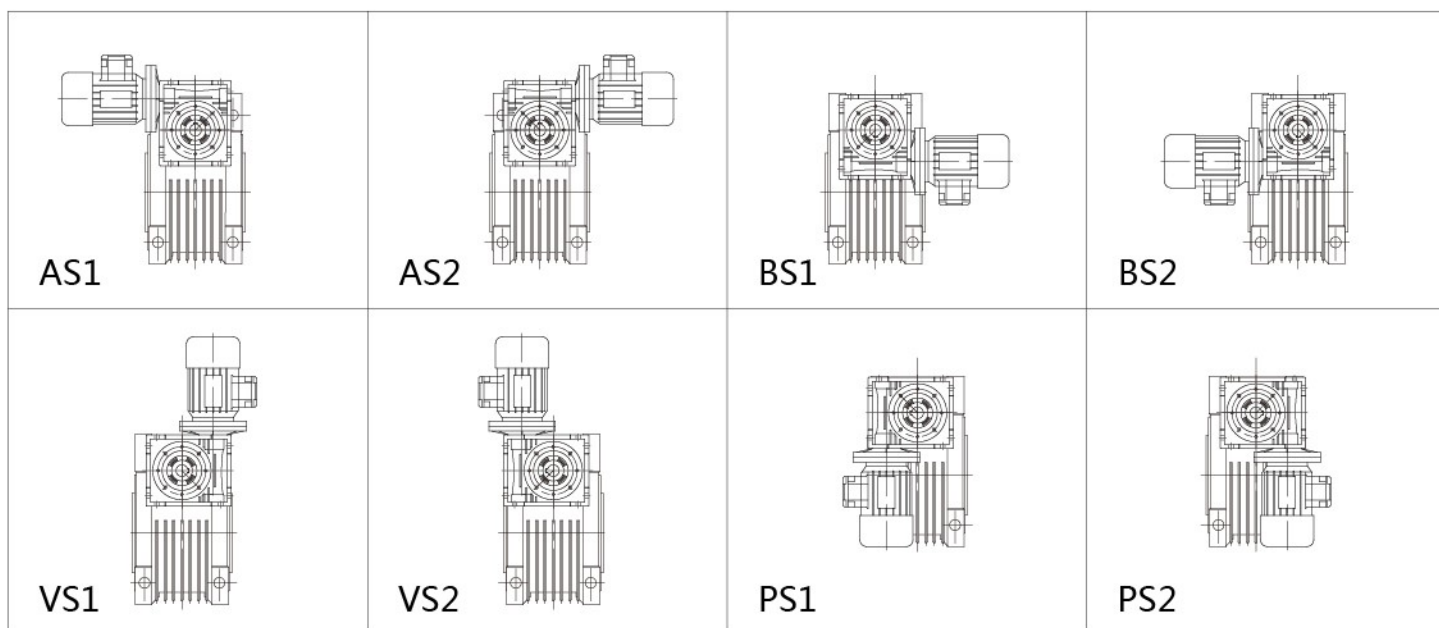
NMRV减速机本身可以组合成一个双级联体减速机（DRV）。DRV的传动比即为第一级NMRV和第二级NMRV传动比的乘积，可将传动比拓展至 $i=10000$ 的范围。

DRV并不是两个NMRV的简单组合，合理的组合应使两个减速机达到一致的工况。因此第二级减速机的基座规格要大于第一集减速机的基座规格。

NMRV reducers can be combined as a double reducers combination(DRV).The ratio of DRV is just the product of the first stage and second stage NMRV' s ratio.So the ratio can be extended to $i=10000$

DRV is not only simply combination of two NMRV reducers.the reasonably combinations should make two reducers operating at same condition.therefore the frame size of the second stage reducer should be bigger than the first stage reducer.

DRV..安装方位 / MOUNTING POSITIONS



如果没有特殊要求，一般按出厂标准位置如图AS2组合方式和B3位置提供。
Unless specified otherwise,the gear units is supplied with the flange in pos.AS2 referred to position B3

型号说明 / MODEL ILLUMINATE

$\frac{\text{DRV}}{1}$ - $\frac{50/75}{2}$ - $\frac{500}{3}$ $\frac{\text{E}}{4}$ $\frac{\text{F}}{5}$ $\frac{\text{VS}_1}{6}$ $\frac{80B5}{7}$

序号	说明	NO.	说明
1	双蜗轮减速机代号	1	Double worm gear unit codes
2	减速机中心距	2	The distance of centre to centre
3	减速机速比	3	Ratio
4	蜗杆同向尾出轴	4	The extension worm shaft
5	输出法兰	5	output flange
6	安装方式	6	Installation position
7	电机机座号	7	The frame of moter

选型相关参数 / RELEVANT PARAMETER

功率 P / POWER P

$$P_1 = P_2 / \eta \text{ (kW)} \quad P_{1n} \geq P_1 \cdot f_s \text{ (kW)}$$

 P_{1n} 输入电机额定功率
Rated input motor power P_1 输入功率
Input power P_2 输出功率
Rated output motor power f_s 服务系数
service factor η 传动效率
Transmission efficiency

转速 n / Rotation speed n

 n_1

减速机输入转速 Gear units input speed

 n_2

减速机输出转速 Gear units output speed

若是齿轮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。允许输入较高的输入转速，但在这种情况下额定扭矩 M_2 下降

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. Higher input rotation speed is permitted, but in this situation, the rated torque M_2 will be reduced

传动比 i / Transmission ratio i

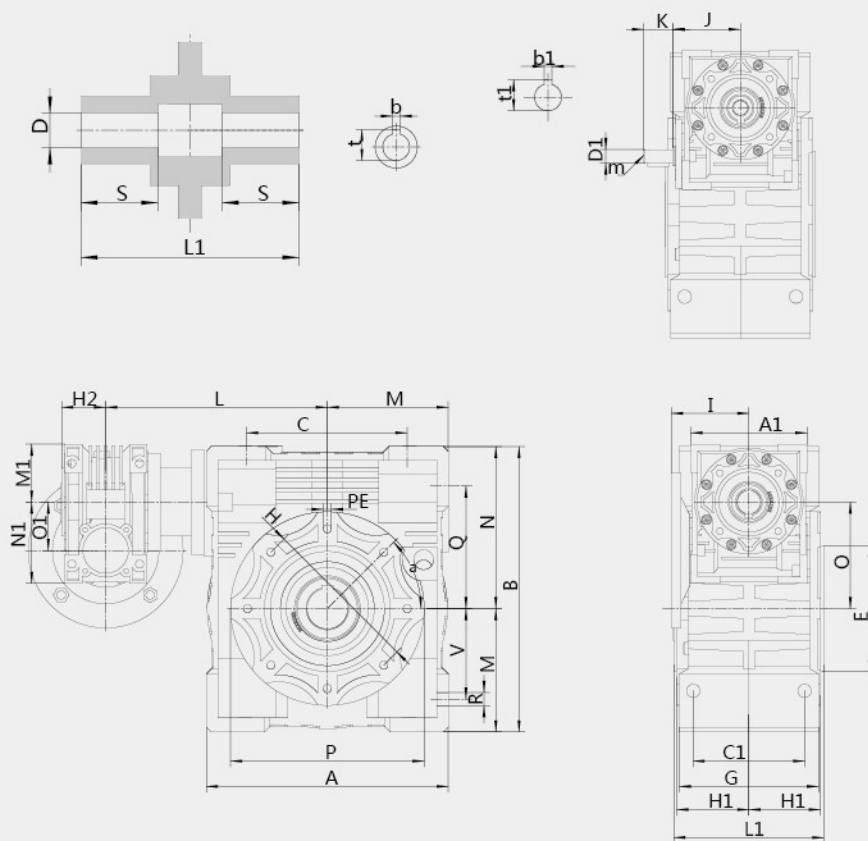
$$i = n_1 / n_2$$

传动比通常为小数，在选型表中保留与两位小数

Usually transmission ratio is decimal fraction with 2 radix point tagged in selection tables.



NMRV外形尺寸图表 / OUTLINE DIMENSION SHEET



DRV	A	A1	B	C	C1	D(H7)	D1(j6)	E(h8)	G	H	H1	H2	I	J	K	L	L1	M	M1
025/030	80	70	97	54	44	14	9	55	56	65	29	22.5	45	37	20	100	63	40	35
025/040	100	70	121.5	70	60	18(19)	9	60	71	75	36.5	22.5	45	37	20	115	78	50	35
030/040	100	80	121.5	70	60	18(19)	9	60	71	75	36.5	29	55	51	20	120	78	50	40
030/050	120	80	144	80	70	25(24)	9	70	85	85	43.5	29	55	51	20	130	92	60	40
030/063	144	80	174	100	85	25(28)	9	80	103	95	53	29	55	51	20	145	112	72	40
040/075	172	100	205	120	90	28(35)	11	95	112	115	57	36.5	70	60	23	165	120	86	50
040/090	206	100	238	140	100	35(38)	11	110	130	130	67	36.5	70	60	23	182	140	103	50
050/110	255	120	295	170	115	42	14	130	144	165	74	43.5	80	74	30	225	155	127.5	60
063/130	293	144	335	200	120	45	19	180	155	215	81	53	95	90	40	245	170	146.5	72
063/150	340	144	400	240	145	50	19	180	185	215	96	53	95	90	40	275	200	170	72

DRV	N	N1	O	O1	P	Q	R	S	V	PE	α	b	b1	t	t1	m
025/030	57	48	30	25	75	44	6.5	21	27	M6 × 10 (n=4)	0°	5	3	16.3	10.2	-
025/040	71.5	48	40	25	87	55	6.5	26	35	M6 × 10 (n=4)	45°	6	3	20.8(21.8)	10.2	-
030/040	71.5	57	40	30	87	55	6.5	26	35	M6 × 10 (n=4)	45°	6(6)	3	20.8(21.8)	10.2	-
030/050	84	57	50	30	100	64	8.5	30	40	M8 × 10 (n=4)	45°	8(8)	3	28.3(27.3)	10.2	-
030/063	102	57	63	30	110	80	8.5	36	50	M8 × 14 (n=8)	45°	8(8)	3	28.3(31.3)	10.2	-
040/075	119	71.5	75	40	140	93	11	40	60	M8 × 14 (n=8)	45°	8(10)	4	31.3(38.3)	12.5	-
040/090	135	71.5	90	40	160	102	13	45	70	M10 × 18 (n=8)	45°	10	4	38.3(41.3)	12.5	-
050/110	167.5	84	110	50	200	125	14	50	85	M10 × 18 (n=8)	45°	12	5	45.3	16	-
063/130	187.5	102	130	63	250	140	16	60	100	M12 × 21 (n=8)	45°	14	6	48.8	21.5	M6
063/150	230	102	150	63	250	180	18	72.5	120	M12 × 21 (n=8)	45°	14	6	53.8	21.5	M6