

卓越品质 规格齐全

# 精北蜗轮蜗杆减速机选型手册

JNB SELECTION MANUAL OF WORM GEAR REDUCER

传动世界 驱动未来

精北传动机械(上海)有限公司

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### **SWL** 系列蜗轮丝杆升降机 **WORM GEAR SCREW JACK**

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## 1. 产品图片 Products Pictures

- ◎ 单级减速机
- ◎ Single Speed Reducer
- ◎ 速比1/5–1/100



**NMRV**



**NMRV..VS**



**NMRV..F2**



**NRV**



**NRV..VS**



**NRV..F2**



- ◎ 双级减速机
- ◎ Double Speed Reducer
- ◎ 速比1/300–1/5000



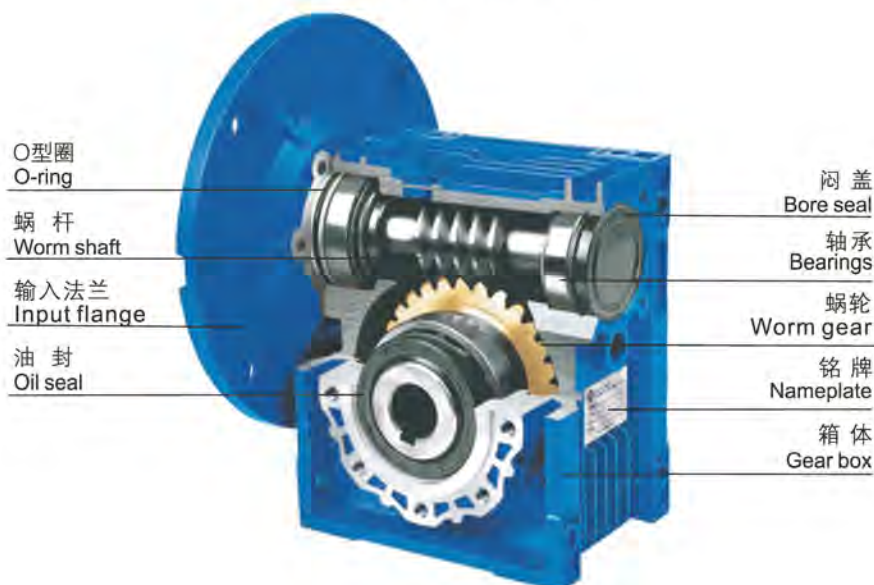
**NMRV+NMRV**





## 2. 产品结构

### Products Structure



## 3. 型号说明

### Model Instructions

型号结构表 Model And Structure Table

NMRV-110-100-VS-F1-AS1-80B5-0.75kW-AS1			
NMRV	产品代码: NMRV-蜗杆减速机, NMRV+NMRV-双蜗杆减速机 Product Code:NMRV-Worm gear speed reducer,NMRV+NMRV-Combined worm gear speed reducer		
NRV	产品代码: NRV-配接输入轴蜗杆减速机,NRV+NMRV-配接输入轴双蜗杆减速机 Unit Structure:NRV-Worm gear speed reducer,NRV+NMRV-Combined worm gear speed reducer		
110	蜗杆减速机中心距: 单级以蜗轮副中心表示110; 双级以两对蜗轮副中心距表示, 如63/130 Center Distance:The center distance of 110 expresses single step specifications,Double step specifications is expressed by the center distance of two pairs of worm gear 63/130		
100	减速比 Reduction ratio		
VS	双向输入轴 Double input shaft	F1	输出法兰位置 (按产品样本图选定) Output flange(Selecting it according to product sample figure)
AS1	单向输出轴位置 (按产品样本图选定) Single output shaft(Selecting it according to product sample figure)	AB	双向输出轴 Double output shaft
80B5	电机机座号 Motor mounting facility	0.75kW	电机功率 (需带电机时标明) Electric motor power(need motor,note "with motor")
B3	单级安装方式 (双级为第二级) Single step mounting position	AS1	双级装配型式 Double step mounting position

注: 1、用户需要带电机时, 请注明“带电机”字样, 并注明所带电机的基本参数。

2、附件为按用户需求随减速机附带之零件, 未直接装配在减速机上, 用户可根据实际需要自行装配。

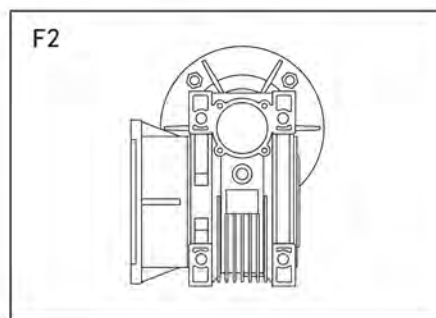
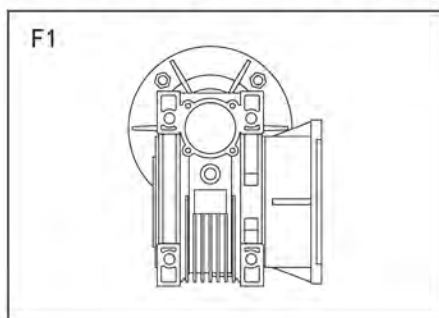
Note: 1.If you need motor ,please note "with motor" and the model,power & poles of the motor.

2.Accessories are unassembled, you may assemble them according to your need.

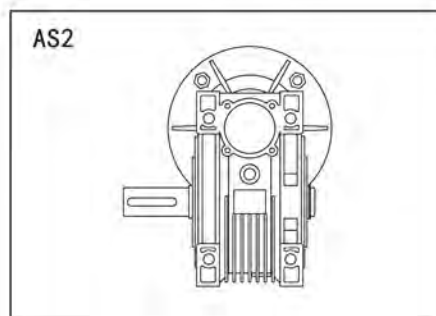
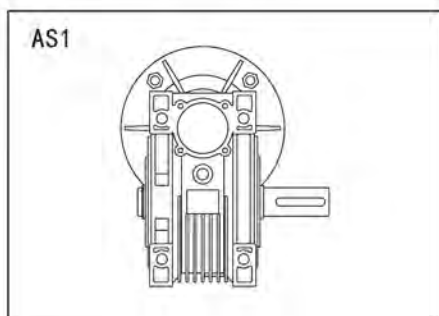
### 国内外型号对照图 Comparative Table Of Model

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

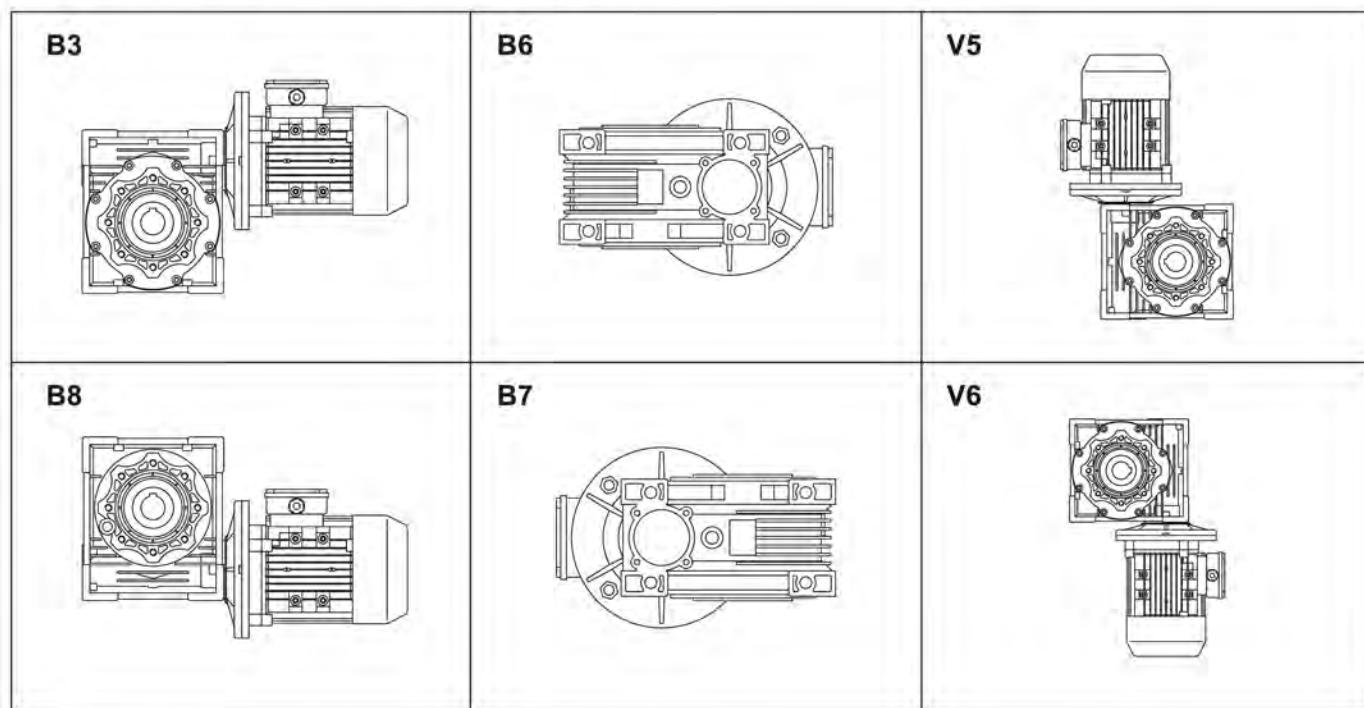
### 输出法兰位置图 Position Of Output Flange



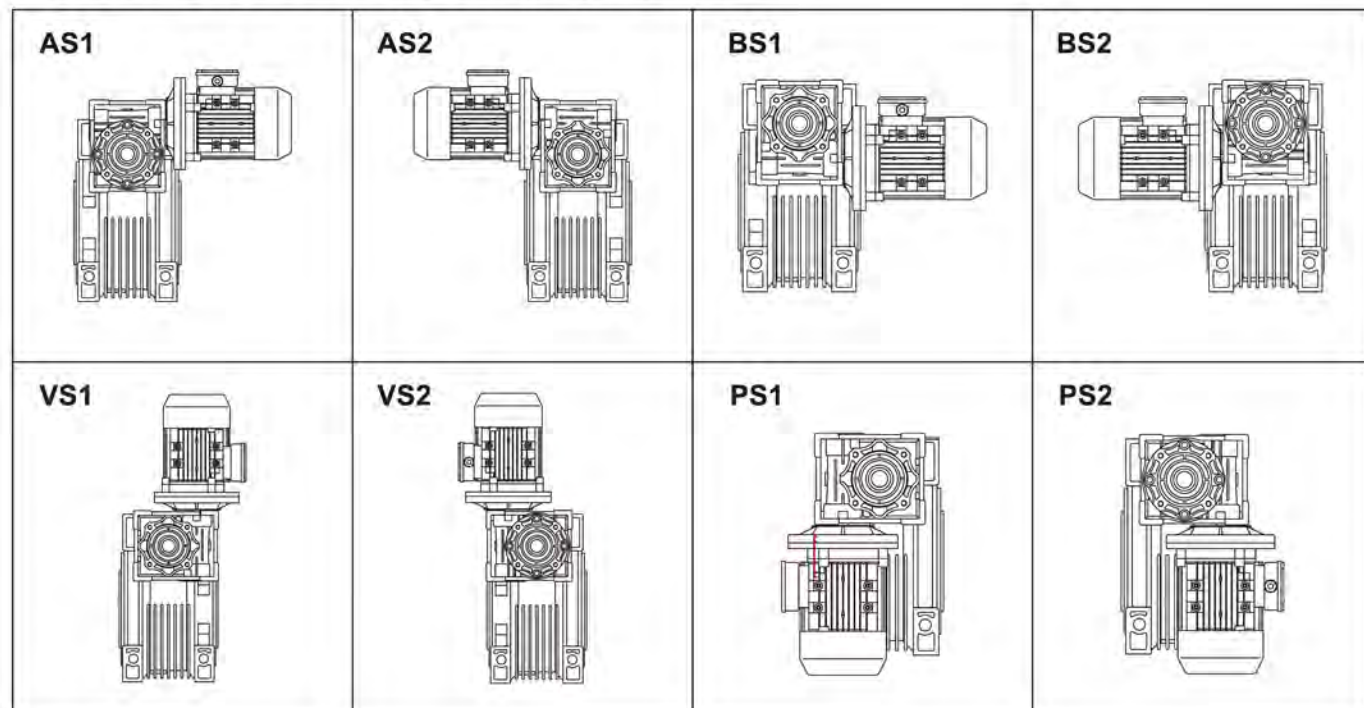
### 单向输出轴位置图 Position Of Single Output Shaft



## 单级安装方式 Single Step Mounting Positions



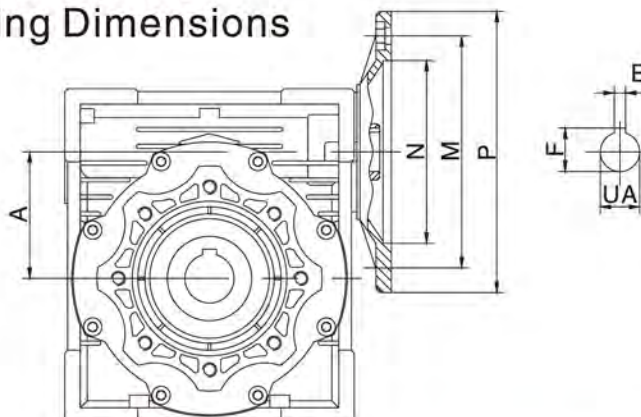
## 双级装配型式 Double Step Mounting Positions





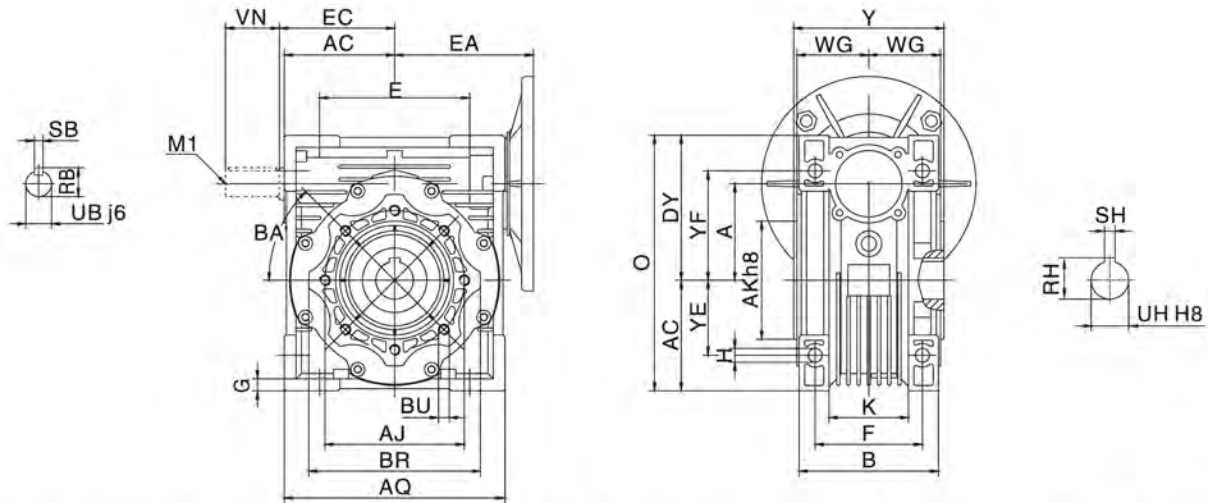
## 4. 安装尺寸 Mounting Dimensions

蜗杆减速机 Worm Gear Reducer  
电机输入法兰 Motor Input Flange



中心距 Center Distance A	电机法兰 Motor Flange						输入轴孔直径UA The Hole Diameter Of Shaft												
	PAM IEC	N	M	P	E	F	传动比 i Transmission Ratio												
							5	7.5	10	15	20	25	30	40	50	60	80	100	
NMRV030	63B5	95	115	140	4	12.8	-	11	11	11	11	11	11	11	11	-	-	-	
	63B14	60	75	90			-	-	-	-	-	-	-	-	-	-	-	-	
	56B5	80	100	120	3	10.4	-	9	9	9	9	9	9	9	9	9	9	-	
	56B14	50	65	80			-	-	-	-	-	-	-	-	-	-	-	-	
NMRV040	71B5	110	130	160	5	16.3	14	14	14	14	14	14	14	14	-	-	-	-	
	71B14	70	85	105			-	-	-	-	-	-	-	-	-	-	-	-	
	63B5	95	115	140	4	12.8	11	11	11	11	11	11	11	11	11	11	11	11	
	63B14	60	75	90			-	-	-	-	-	-	-	-	-	-	-	-	
	56B5	80	100	120	3	10.4	-	-	-	-	-	-	-	-	9	9	9	9	
	80B5	130	165	200			-	-	-	-	-	-	-	-	-	-	-	-	
NMRV050	80B14	80	100	120	6	21.8	19	19	19	19	19	19	19	-	-	-	-	-	
	71B5	110	130	160			-	-	-	-	-	-	-	-	-	-	-	-	
	71B14	70	85	105	5	16.3	14	14	14	14	14	14	14	14	14	14	14	-	
	63B5	95	115	140			-	-	-	-	-	-	-	11	11	11	11	11	
	90B5	130	165	200	8	27.3	24	24	24	24	24	24	24	-	-	-	-	-	
	90B14	95	115	140			-	-	-	-	-	-	-	-	-	-	-	-	
NMRV063	80B5	130	165	200	6	21.8	19	19	19	19	19	19	19	19	19	19	19	-	-
	80B14	80	100	120			-	-	-	-	-	-	-	-	-	-	-	-	
	71B5	110	130	160	5	16.3	-	-	-	-	-	-	-	14	14	14	14	14	
	71B14	70	85	105			-	-	-	-	-	-	-	-	-	-	-	-	
	100/112B5	180	215	250	8	31.3	-	28	28	28	-	-	-	-	-	-	-	-	
	100/112B14	110	130	160			-	-	-	-	-	-	-	-	-	-	-	-	
NMRV075	90B5	130	165	200	8	27.3	-	24	24	24	24	24	24	24	-	-	-	-	
	90B14	95	115	140			-	-	-	-	-	-	-	-	-	-	-	-	
	80B5	130	165	200	6	21.8	-	-	-	-	19	19	19	19	19	19	19	19	
	80B14	80	100	120			-	-	-	-	-	-	-	-	-	-	-	-	
	71B5	110	130	160	5	16.3	-	-	-	-	-	-	-	-	14	14	14	14	
	100/112B5	180	215	250			-	28	28	28	28	28	28	-	-	-	-	-	
NMRV090	100/112B14	110	130	160	8	31.3	-	28	28	28	28	28	28	-	-	-	-	-	
	90B5	130	165	200			-	24	24	24	24	24	24	24	24	24	-	-	
	90B14	95	115	140	6	21.8	-	-	-	-	-	-	-	19	19	19	19	19	
	80B5	130	165	200			-	-	-	-	-	-	-	-	-	-	-	-	
	80B14	80	100	120	10	41.1	-	38	38	38	38	38	38	38	-	-	-	-	
	100/112B5	180	215	250			-	28	28	28	28	28	28	28	28	28	-	-	
NMRV110	90B5	130	165	200	8	27.3	-	-	-	-	-	24	24	24	24	24	24	24	
	80B5	130	165	200			-	-	-	-	-	-	-	-	-	-	-	19	19
	132B5	230	265	300	10	41.1	-	38	38	38	38	38	38	38	-	-	-	-	
	100/112B5	180	215	250			-	-	-	-	-	28	28	28	28	28	28	28	28
NMRV130	90B5	130	165	200	8	27.3	-	-	-	-	-	-	-	-	-	-	-	24	24
	160B5	250	300	350			-	42	42	42	42	42	-	-	-	-	-	-	-
	132B5	230	265	300	10	41.3	-	-	-	-	38	38	38	38	38	38	38	-	-
100/112B5	180	215	250	-			-	-	-	-	-	-	-	-	28	28	28	28	
NMRV150	160B5	250	300	350	12	45.3	-	42	42	42	42	42	42	-	-	-	-	-	-
	132B5	230	265	300			-	-	-	-	38	38	38	38	38	38	38	-	-
	100/112B5	180	215	250	8	31.3	-	-	-	-	-	-	-	-	-	28	28	28	28

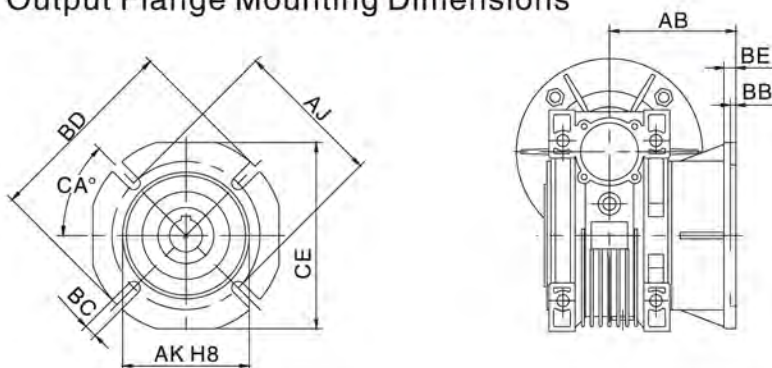
## NMRV安装尺寸 Mounting Dimensions



NMRV	030	040	050	063	075	090	110	130	150
A	30	40	50	63	75	90	110	130	150
AC	40	50	60	72	86	103	127.5	147.5	170
AJ	65	75	85	95	115	130	165	215	215
AK	55	60	70	80	95	110	130	180	180
AQ	80	100	120	144	172	206	252	292	340
B	56	71	85	103	112	130	144	155	185
BA	0°	45°	45°	45°	45°	45°	45°	45°	45°
BR	75	87	100	110	140	160	200	250	250
BU	M6x11(n.4)	M6x8(n.4)	M8x10(n.4)	M8x14(n.8)	M8x14(n.8)	M10x18(n.8)	M10x18(n.8)	M12x21(n.8)	M12x21(n.8)
DY	57	71.5	84	102	119	135	167.5	187.5	230
E	54	70	80	100	120	140	170	200	240
EA	55	70	80	95	112.5	130	160	180	210
EC	45	53	64	75	90	108	135	155	175
F	44	60	70	85	90	100	115	120	145
G	5.5	6.5	7	8	10	11	15	15	18
H	6.5	7	8.5	8.5	11	13	14	16	18
K	32	43	49	67	72	74	-	-	-
M1	-	-	M6	M6	M8	M8	M10	M10	M12
O	97	121.5	144	174	205	238	295	335	400
RB	10.2	12.5	16	21.5	27	27	31	33	38
RH	16.3	20.8	28.3	28.3	31.3	38.3	45.3	48.8	53.8
SB	3	4	5	6	8	8	8	8	10
SH	5	6	8	8	8	10	12	14	14
UB	9	11	14	19	24	24	28	30	35
UH	14	18	25	25	28	35	42	45	50
VN	20	23	30	40	50	50	60	80	80
WG	29	36.5	43.5	53	57	67	74	81	96
Y	63	78	92	112	120	140	155	170	200
YE	27	35	40	50	60	70	85	100	120
YF	44	55	64	80	93	102	125	140	180
重量(kg)	1.3	2.3	3.5	6.2	9	13	35	48	84



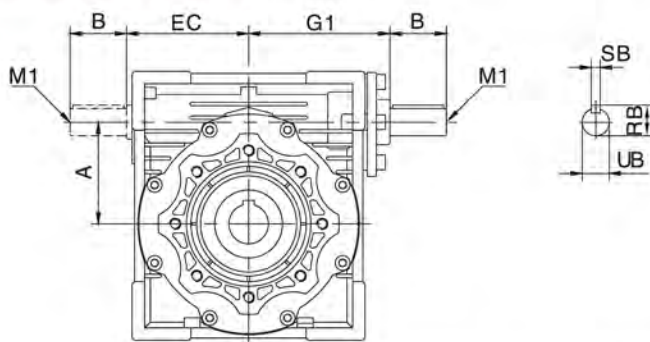
## 输出法兰安装尺寸 Output Flange Mounting Dimensions



NMRV	030	040	050	063	075	090	110	130	150
AB	54.5	67	90	82	111	111	131	140	155
AJ	68	80	90	150	165	175	230	255	255
AK	50	60	70	115	130	152	170	180	180
BB	4	4	5	6	6	6	6	6	6
BD	80	110	125	180	200	210	280	320	320
BE	6	7	9	10	13	13	15	15	15
BC	6.5(n.4)	9(n.4)	11(n.4)	11(n.4)	14(n.4)	14(n.4)	φ 14(n.8)	φ 16(n.8)	φ 16(n.8)
CA	45°	45°	45°	45°	45°	45°	45°	22.5°	22.5°
CE	70	95	110	142	170	200	260	290	290

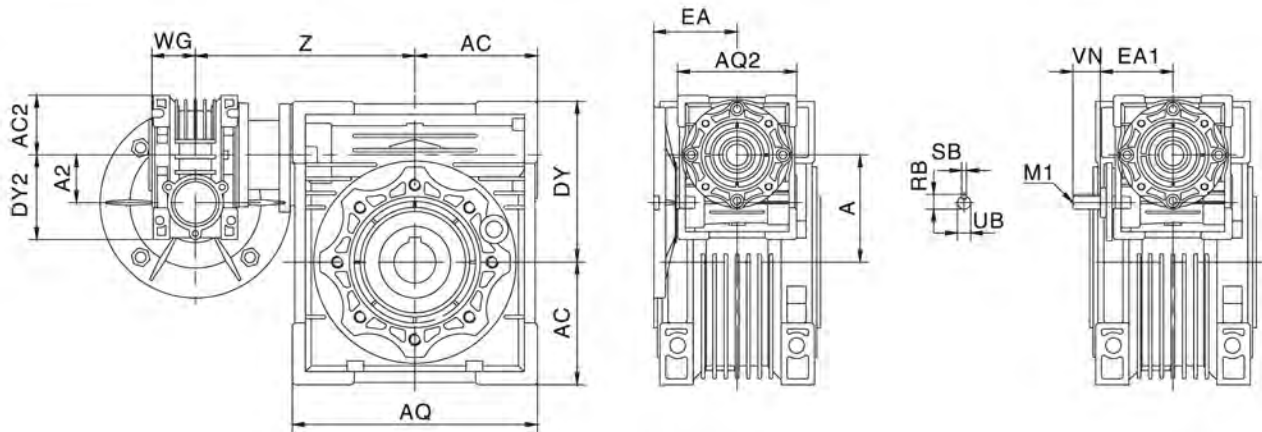
注：BC尺寸110~150为圆孔

## NRV轴输入尺寸 NRV Input Shaft Dimensions



NRV	030	040	050	063	075	090	110	130	150
A	30	40	50	63	75	90	110	130	150
B	20	23	30	40	50	50	60	80	80
UB(j6)	9	11	14	19	24	24	28	30	35
G1	51	61	74	90	105	125	142	162	195
EC	45	53	64	75	90	108	135	155	175
M1	—	—	M6	M6	M8	M8	M10	M10	M12
SB	3	4	5	6	8	8	8	8	10
RB	10.2	12.5	16	21.5	27	27	31	33	38

双级蜗杆减速机 Double Step Worm Gear Reducer  
NMRV+NMRV安装尺寸 Mounting Dimensions

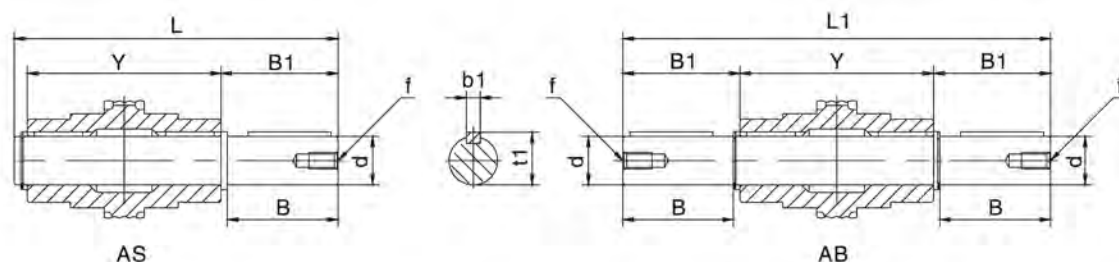


	30/40	30/50	30/63	40/75	40/90	50/110	63/130	63/150
A	40	50	63	75	90	110	130	150
A2	30	30	30	40	40	50	63	63
AC	50	60	72	86	103	127.5	147.5	170
AC2	40	40	40	50	50	60	72	72
AQ	100	120	144	172	206	252	292	340
AQ2	80	80	80	100	100	120	144	144
DY	71.5	84	102	119	135	167.5	187.5	230
DY2	57	57	57	71.5	71.5	84	102	102
EA	55	55	55	70	70	80	95	95
EA1	51	51	51	61	61	74	90	90
M1	—	—	—	—	—	M6	M6	M6
RB	10.2	10.2	10.2	12.5	12.5	16	21.5	21.5
SB	3	3	3	4	4	5	6	6
UB	9	9	9	11	11	14	19	19
VN	20	20	20	23	23	30	40	40
WG	29	29	29	36.5	36.5	43.5	53	53
Z	122	132	145	167.5	184.5	226	245	275



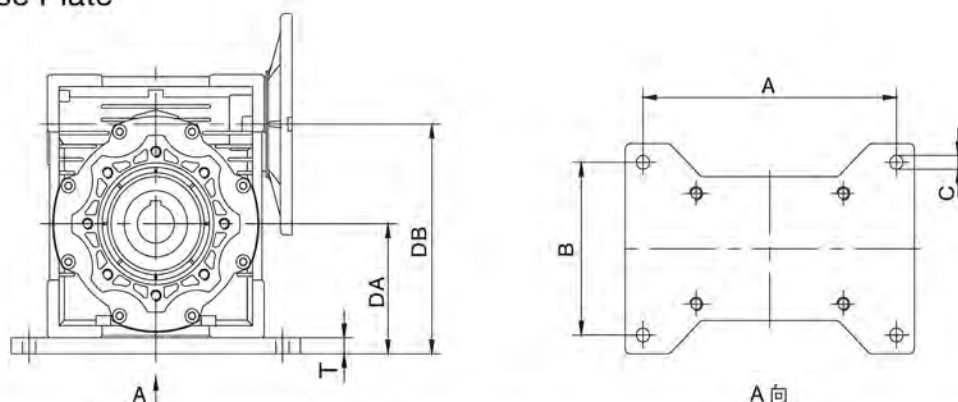
## 附件 Accessories

### 单(AS)双(AB)出轴尺寸 Single & Double Output Shaft Dimensions



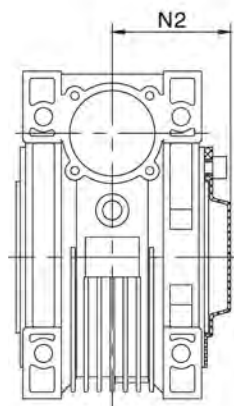
	030	040	050	063	075	090	110	130	150
d(h6)	14	18	25	25	28	35	42	45	50
B	30	40	50	50	60	80	80	80	82
B1	32.5	43	53.5	53.5	63.5	84.5	84.5	85	87
Y	63	78	92	112	120	140	155	170	200
L	102	128	153	173	192	234	249	265	297
L1	128	164	199	219	247	309	324	340	374
f	M6	M6	M10	M10	M10	M12	M16	M16	M16
b1	5	6	8	8	8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

## 基座 (C) Base Plate



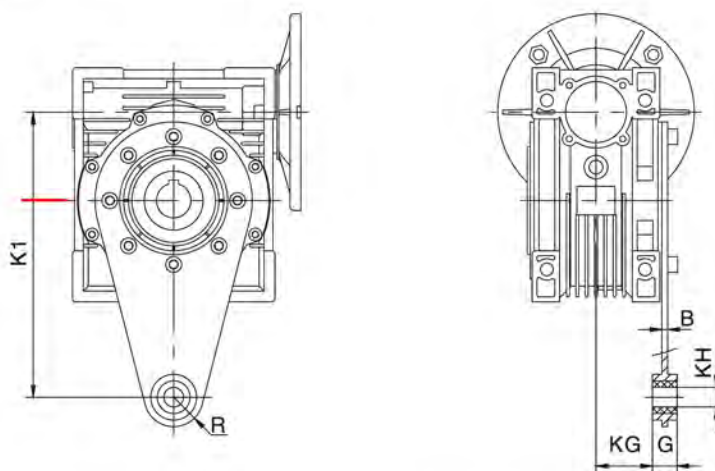
	030	040-A	040-B	050	063-A	063-B	075	090
A	111	111	146	162	179	203	214	241
B	84	84	114	119	124	133	149	156
C	8.5	8.5	10.5	12.5	12.5	12.5	12.5	12.5
DA	57	67	70	76	89	93	101.5	117.5
DB	87	107	110	126	152	156	176.5	207.5
T	17	17	20	16	17	21	15.5	14.5

## 防护罩(D) Protective Cover(D)



NMRV	030	040	050	063	075	090	110	130	150
N2	42	50	58	69	74	86	94	102	117

## 扭力臂(E) Torque Arm(E)



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



## 5. 选型方法 Model Selections

为正确选择NMRV蜗杆减速机，敬请用户首先了解以下几点：

1. 负荷条件
2. 使用转速范围或速比（双级组合可获得超低输出转速）
3. 工作运转情况及环境（温度、湿度、腐蚀等）
4. 安装空间

确定工作情况系数 $k_1$ 及工作情况修正系数 $k_2$

1. 根据表1，决定机械负荷种类A、B、C。
2. 根据运转时间（小时/天）和启动频率（次数/小时）从图1中求得工作情况系数 $k_1$ 。
3. 根据表2，查取工作情况修正系数 $k_2$ 。

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

1. Load condition.
2. Speed scope or ratio in application.
3. Working condition and environment.
4. Installation space

Define working si condition Coefficient  $k_1$  and revise coefficient  $k_2$ .

1. Ensure machinery load types A,B,C according to table 1.
2. Get the working condition coefficient  $k_1$  from diagram 1 according to turning time(hour/day)and start frequency(times/hour).
3. Inspect working condition and select coefficient  $k_2$  from table 2.

机械负荷种类选定（表1）

Table 1 machinery load classification selection

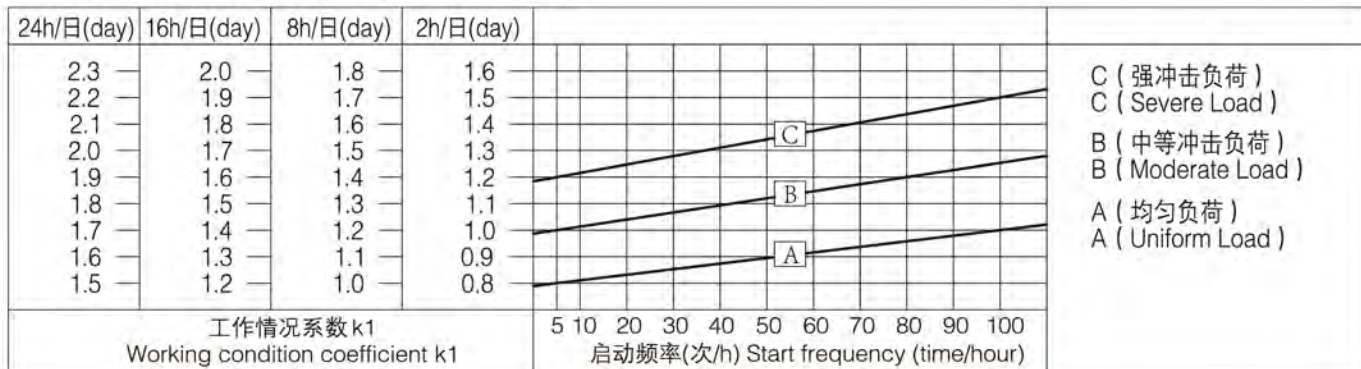
使用情况 Using Situation	示例 Example	负荷种类 Load Type
无冲击均匀负荷 Uniform Load	传送带（均速输送） Convey Band(Uniform Conveying)	A(均匀负荷) A(Uniform Load)
中等冲击负荷 Moderak Load	传送带（变速输送） Speed Changed Conveying	B(中等冲击负荷) B(Moderate Load)
强烈冲击负荷 Severe Load	压缩机、粉碎机等 Compressor、Pulverizer,etc	C(强冲击负荷) C(Severe Load)

工作情况修正系数 $k_2$ 选定（表2）

Table 2 working condition coefficient  $k_2$

环境温度 Ambient Temperature	工作情况修正系数 $k_2$ Working Condition Coefficient $k_2$
-10℃ ~ 30℃	1
30℃ ~ 40℃	1.1 ~ 1.2

工作情况系数 $k_1$ 选定(图1) Diagram 1 working condition coefficient  $k_1$



### 选定减速机

1. 用户须先确定工作机输入机械负荷 $T$  (转矩), 以 $T$ 乘以工作情况系数 $k_1$ , 再乘以工作情况修正系数 $k_2$ , 即获得减速机应有的输出转矩值, 以此为据, 并结合速比值或输出转速值, 选定所需减速机规格。

2. 用户也可以根据已知的输入功率, 结合速比值或输出转速值, 计算输出转矩, 选定减速机。

### 选型示例

#### 例1. 通用传送带 (均匀负荷)

转矩:  $19\text{N} \cdot \text{m}$ , 运转时间: 8小时/天, 启动频率: 10次/小时,  
转速: 约55r/min, 环境温度: 室内 $25^\circ\text{C}$ , 电机直联 减速比: 1/25。

① 根据表1, 决定负荷种类;

① 负荷种类: 无冲击均匀负荷, 选A;

② 根据图1, 在A线上取频率10次/小时的交点, 求出运转时间8小时/天的系数 $k_1=1$ ;

③ 根据表2, 查得系数 $k_2=1$ ;

④ 则转矩值为 $19 \times k_1 \times k_2 = 19 \times 1 \times 1 = 19\text{N} \cdot \text{m}$ , 可选择最接近 $19\text{N} \cdot \text{m}$ 的减速机。

选定结果: NMRV30-1/25 输入功率0.18kW, 输出转速56转/分, 输出转矩 $21\text{N} \cdot \text{m}$

#### 例2. 输送带 (中等冲击负荷)

转矩:  $70\text{N} \cdot \text{m}$ , 运转时间: 16小时/天, 启动频率: 100次/小时,  
转速: 约21r/min, 环境温度: 室内 $35^\circ\text{C}$ , 电机直联 减速比: 1/60。

① 根据表1, 决定负荷种类;

① 负荷种类: 轻度冲击负荷, 选B;

② 根据图1, 在B线上取频率100次/小时的交点, 求出运转时间16小时/天的系数 $k_1=1.65$ ;

③ 根据表2, 查得系数 $k_2=1.15$ ;

④ 则转矩值为 $70 \times k_1 \times k_2 = 70 \times 1.65 \times 1.15 = 133\text{N} \cdot \text{m}$ , 可选择最接近 $133\text{N} \cdot \text{m}$ 的减速机。

选定结果: NMRV63-1/60 输入功率0.55kW, 输出转速23转/分, 输出转矩 $140\text{N} \cdot \text{m}$

### Reducer Selected

1. At first it is better to make sure the value input machinery load  $T$  (torque) and then you can get the output torque through  $M$  (multiply) with work situation coefficient  $k_1$  and work situation revise coefficient  $k_2$ . The required model can be gained by the above and connecting ratio or output speed.

2. You can also select the reducer as followings: calculate output torque according to known input power and then select the reducer in accordance with output torque rotate speed.

### Examples for Model Chosen

#### Ex1. Common convey band (uniform load)

Torque:  $19\text{N} \cdot \text{m}$  Turning time: 8hours/day Start frequency: 10times/hours  
Speed: About 55r/min Environment temperature: indoor $25^\circ\text{C}$ , Connect with motor directly Ratio: 1/25

① As per table 1; Select load classification. Load classification: Uniform load, choose A.

② As per the cross point of 10 times/hour frequency on line A in diagram 1, get coefficient  $k_1$  value is 1 that turning time is 8 hours/day

③ Get the coefficient  $k_2$  according to table 2.

④ So the torque value is  $19\text{N} \cdot \text{m}$ .

Choose model: NMRV30-1/25 Input power is 0.18kW, output speed is 56r/min, output torque is  $21\text{N} \cdot \text{m}$

#### Ex2. Covey band (moderate load)

Torque:  $70\text{N} \cdot \text{m}$  Turning time: 16hours/day Start frequency: 100times/hours  
Speed: About 21r/min Environment temperature: indoor $35^\circ\text{C}$ , Connect with motor directly Ratio: 1/60

① As per load classification 1, moderate load, choose B

② As per the cross point of 100 times/hour frequency on line B in diagram 1, get coefficient  $k_1$  value is 1.68 that turning time is 16 hours/day.

③ Get the coefficient  $k_2$  1.15 according to table 2.

④ So the torque value is  $70\text{N} \cdot \text{m}$  You can select the model that torque value most close to  $133\text{N} \cdot \text{m}$ .

Choose model: NMRV63-1/60 Input power is 0.55kW, output speed is 23r/min, output torque is  $140\text{N} \cdot \text{m}$ .



## 6. 选型参数

### Parameter Selections

NMRV单级减速机 (法兰输入, 输入转速1400r/min) /(配4极电机)

NMRV Single Reducer (flange input, input speed is 1400r/min)/(matched with 4 poles motor)

机型代号 Model	输出转速 N <sub>2</sub> (r/min)	输出转矩 M <sub>2</sub> (N·m)	传动比 i	输出轴 径向力 (kN)	使用系数 f.s.
<b>0.06kW</b>					
NMRV30	186.7	2.6	7.5	0.68	6.9
	140	3.4	10	0.75	5.4
	93.3	4.7	15	0.86	3.8
	70	6	20	0.94	3.0
	56	7	25	1.02	3.0
	46.7	8	30	1.08	2.5
	35	9.7	40	1.19	1.9
	28	11	50	1.28	1.5
	23.3	13	60	1.36	1.3
	17.5	14	80	1.50	0.9
<b>0.09kW</b>					
NMRV30	186.7	3.9	7.5	0.68	4.6
	140	5	10	0.75	3.6
	93.3	7.1	15	0.86	2.5
	70	9	20	0.94	2.0
	56	10	25	1.02	2.0
	46.7	12	30	1.08	1.7
	35	14	40	1.19	1.2
	28	17	50	1.28	1.0
	23.3	19	60	1.36	0.9
NMRV40	28	19	50	2.47	2.0
	23.3	21	60	2.63	1.7
	17.5	26	80	2.89	1.3
	14	29	100	3.11	1.0
<b>0.12kW</b>					
NMRV30	186.7	5.2	7.5	0.68	3.4
	140	6.7	10	0.75	2.7
	93.3	9.5	15	0.86	1.9
	70	12	20	0.94	1.5
	56	14	25	1.02	1.5
	46.7	16	30	1.08	1.3
	35	19	40	1.19	0.9
	28	23	50	1.28	0.8
	23.3	29	60	1.36	0.8
NMRV40	46.7	17	30	2.08	2.6
	35	21	40	2.29	1.9
	28	25	50	2.47	1.5
	23.3	28	60	2.63	1.3
	17.5	34	80	2.89	1.0
NMRV50	14	38	100	3.11	0.8
	23.3	29	60	3.61	2.3
	17.5	35	80	3.97	1.9
	14	40	100	4.28	1.4
<b>0.18kW</b>					
NMRV30	186.7	7.8	7.5	0.68	2.3
	140	10	10	0.75	1.8
	93.3	14	15	0.86	1.3
	70	18	20	0.94	1.0
	56	21	25	1.02	1.0
	46.7	24	30	1.08	0.8

机型代号 Model	输出转速 N <sub>2</sub> (r/min)	输出转矩 M <sub>2</sub> (N·m)	传动比 i	输出轴 径向力 (kN)	使用系数 f.s.
<b>0.18kW</b>					
NMRV40	70	19	20	1.82	2.0
	56	23	25	1.96	1.7
	46.7	26	30	2.08	1.7
	35	32	40	2.29	1.3
	28	38	50	2.47	1.0
	23.3	43	60	2.63	0.8
NMRV50	35	33	40	3.15	2.3
	28	39	50	3.39	1.9
	23.3	43	60	3.61	1.6
	17.5	52	80	3.97	1.2
	14	60	100	4.28	0.9
<b>0.25kW</b>					
NMRV40	280	8	5	1.15	4.5
	186.7	11	7.5	1.31	3.6
	140	14	10	1.44	2.8
	93.3	21	15	1.65	1.9
	70	27	20	1.82	1.5
	56	32	25	1.96	1.2
	46.7	36	30	2.08	1.3
	35	44	40	2.29	0.9
	28	54	50	3.39	1.4
	23.3	60	60	3.61	1.1
NMRV50	17.5	72	80	3.97	0.9
	28	56	50	4.44	2.4
	23.3	63	60	4.71	2.0
	17.5	78	80	5.19	1.6
	14	87	100	5.59	1.4
NMRV63	17.5	82	80	6.13	2.3
	14	94	100	6.60	1.9
<b>0.37kW</b>					
NMRV40	280	11	5	1.15	3.0
	186.7	16	7.5	1.31	2.4
	140	21	10	1.44	1.9
	93.3	31	15	1.65	1.3
	70	39	20	1.82	1.0
	56	47	25	1.96	0.8
	46.7	53	30	2.08	0.8
	140	22	10	1.98	3.3
	93.3	31	15	2.27	2.4
	70	40	20	2.50	1.8
NMRV50	56	48	25	2.69	1.5
	46.7	55	30	2.86	1.5
	35	68	40	3.15	1.1
	28	80	50	3.39	0.9
	23.3	89	60	3.61	0.8



机型代号 Model	输出转速 N <sub>2</sub> (r/min)	输出转矩 M <sub>2</sub> (N·m)	传动比 i	输出轴 径向力 (kN)	使用系数 f.s.
<b>0.37kW</b>					
NMRV63	35	71	40	4.12	2.1
	28	83	50	4.44	1.6
	23.3	94	60	4.71	1.4
	17.5	115	80	5.19	1.1
	14	129	100	5.59	0.9
NMRV75	23.3	98	60	5.57	2.0
	17.5	121	80	6.13	1.6
	14	139	100	6.60	1.3
<b>0.55kW</b>					
NMRV50	280	17	5	1.58	3.7
	186.7	25	7.5	1.80	2.9
	140	32	10	1.98	2.2
	93.3	46	15	2.27	1.6
	70	59	20	2.50	1.2
	56	71	25	2.69	1.0
	46.7	81	30	2.86	1.0
	35	105	40	4.12	1.4
NMRV63	28	124	50	4.44	1.1
	23.3	140	60	4.71	0.9
NMRV75	35	108	40	4.86	2.0
	28	129	50	5.24	1.6
	23.3	146	60	5.56	1.4
	17.5	180	80	6.13	1.1
	14	206	100	6.60	0.9
NMRV90	17.5	189	80	6.78	1.5
	14	221	100	7.30	1.2
NMRV110	17.5	201	80	8.57	2.6
	14	236	100	9.23	2.0
<b>0.75kW</b>					
NMRV50	280	23	5	1.58	2.7
	186.7	34	7.5	1.80	2.1
	140	44	10	1.98	1.6
	93.3	63	15	2.27	1.2
	70	81	20	2.50	0.9
NMRV63	93.3	63	15	2.97	2.2
	70	83	20	3.27	1.6
	56	100	25	3.52	1.3
	46.7	114	30	3.74	1.4
	35	143	40	4.12	1.0
NMRV75	56	102	25	4.16	2.0
	46.7	117	30	4.42	2.0
	35	147	40	4.86	1.5
	28	177	50	5.24	1.2
	23.3	200	60	5.56	1.0
NMRV90	28	184	50	5.79	1.8
	23.3	212	60	6.16	1.5
	17.5	258	80	6.78	1.1
	14	302	100	7.30	0.9
NMRV110	17.5	274	80	8.57	1.9
	14	322	100	9.23	1.5

机型代号 Model	输出转速 N <sub>2</sub> (r/min)	输出转矩 M <sub>2</sub> (N·m)	传动比 i	输出轴 径向力 (kN)	使用系数 f.s.
<b>1.1kW</b>					
NMRV63	280	33	5	2.00	3.3
	186.7	50	7.5	2.35	2.6
	140	65	10	2.59	2.0
	93.3	93	15	2.97	1.5
	70	122	20	3.27	1.1
	56	146	25	3.52	0.9
	46.7	167	30	3.74	1.0
	35	216	40	4.86	1.0
NMRV75	93.3	95	15	3.50	2.1
	70	123	20	3.86	1.7
	56	150	25	4.16	1.3
	46.7	171	30	4.42	1.3
NMRV90	35	225	40	5.38	1.6
	28	270	50	5.79	1.3
	23.3	311	60	6.16	1.0
NMRV110	28	281	50	7.32	2.3
	23.3	324	60	7.78	1.9
	17.5	402	80	8.57	1.3
	14	473	100	9.23	1.0
NMRV130	17.5	408	80	11.20	2.1
	14	480	100	12.07	1.5
<b>1.5kW</b>					
NMRV63	280	45	5	2	2.4
	186.7	68	7.5	2.35	1.9
	140	89	10	2.59	1.5
	93.3	127	15	2.97	1.1
	70	166	20	3.27	0.8
NMRV75	140	90	10	3.06	2.2
	93.3	130	15	3.50	1.5
	70	168	20	3.86	1.3
	56	205	25	4.16	1.0
	46.7	233	30	4.42	1.0
NMRV90	70	172	20	4.27	2.1
	56	210	25	4.60	1.6
	46.7	239	30	4.89	1.7
	35	307	40	5.38	1.2
	28	368	50	5.79	0.9
	23.3	424	60	6.16	0.8
NMRV110	35	319	40	6.80	2.2
	28	384	50	7.32	1.7
	23.3	442	60	7.78	1.4
	17.5	548	80	8.57	0.9
NMRV130	17.5	557	80	11.20	1.5
	14	655	100	12.07	1.1
<b>2.2kW</b>					
NMRV75	186.7	100	7.5	2.78	1.8
	140	132	10	3.06	1.5
	93.3	191	15	3.50	1.0
NMRV90	186.7	101	7.5	3.08	2.9
	140	134	10	3.39	2.3
	93.3	194	15	3.88	1.9
	70	252	20	4.27	1.4
	56	308	25	4.60	1.1
	46.7	351	30	4.89	1.2



机型代号 Model	输出转速 N <sub>2</sub> (r/min)	输出转矩 M <sub>2</sub> (N·m)	传动比 i	输出轴 径向力 (kN)	使用系数 f.s.
2.2kW					
NMRV110	70	255	20	5.39	2.5
	56	315	25	5.81	2.2
	46.7	356	30	6.18	2.0
	35	468	40	6.80	1.5
	28	563	50	7.32	1.2
NMRV130	23.3	648	60	7.78	1.0
	35	468	40	8.89	2.2
	28	563	50	9.58	1.7
	23.3	648	60	10.18	1.4
	17.5	816	80	11.21	1.0
NMRV150	14	869	100	10.62	0.8
	28	570	50	13.10	2.5
	23.3	657	60	13.92	1.9
	17.5	816	80	15.32	1.4
NMRV75	14	960	100	16.50	1.0
	28	570	50	13.10	2.5
	23.3	657	60	13.92	1.9
3kW					
NMRV75	186.7	137	7.5	2.78	1.4
	140	180	10	3.06	1.1
	93.3	261	15	3.50	0.8
NMRV90	186.7	138	7.5	3.08	2.1
	140	182	10	3.39	1.7
	93.3	264	15	3.88	1.4
	70	344	20	4.27	1.0
	56	420	25	4.60	0.8
NMRV110	46.7	479	30	4.89	0.9
	93.3	264	15	4.90	2.5
	70	348	20	5.39	1.9
	56	430	25	5.81	1.6
	46.7	485	30	6.18	1.5
NMRV130	35	638	40	6.80	1.1
	28	767	50	7.32	0.9
	56	430	25	7.60	2.2
	46.7	491	30	8.08	2.1
	35	638	40	8.89	1.6
NMRV150	28	767	50	9.58	1.3
	23.3	884	60	10.18	1.0
	17.5	1113	80	11.21	0.8
	28	778	50	13.10	1.8
	23.3	896	60	13.92	1.4
NMRV75	17.5	1113	80	15.32	1.0
	14	1310	100	16.50	0.8
	28	570	50	13.10	2.5
4kW					
NMRV75	186.7	182	7.5	2.78	1.0
	140	240	10	3.06	0.8
	93.3	352	15	3.88	1.0
NMRV90	186.7	184	7.5	3.08	1.6
	140	243	10	3.39	1.3
	93.3	352	15	3.88	1.0
NMRV110	70	458	20	4.27	0.8
	140	243	10	4.28	2.5
	93.3	352	15	4.90	1.9
NMRV130	70	464	20	5.39	1.4
	56	573	25	5.81	1.2
	46.7	647	30	6.18	1.1

机型代号 Model	输出转速 N <sub>2</sub> (r/min)	输出转矩 M <sub>2</sub> (N·m)	传动比 i	输出轴 径向力 (kN)	使用系数 f.s.
4kW					
NMRV130	56	573	25	7.60	1.6
	46.7	655	30	8.08	1.6
	35	851	40	8.89	1.2
	28	1023	50	9.58	1.0
	23.3	1179	60	10.18	0.8
NMRV150	28	1037	50	13.10	1.4
	23.3	1195	60	13.92	1.1
	17.5	1484	80	15.32	0.8
5.5kW					
NMRV110	186.7	253	7.5	3.89	2.2
	140	334	10	4.28	1.8
	93.3	484	15	4.90	1.4
	70	638	20	5.39	1.0
NMRV130	140	334	10	5.60	2.5
	93.3	490	15	6.41	1.9
	70	645	20	7.06	1.4
	56	788	25	7.60	1.2
	46.7	900	30	8.08	1.2
NMRV150	35	1171	40	8.89	0.9
	70	645	20	9.65	2.0
	56	788	25	10.40	1.5
	46.7	934	30	11.05	1.3
	35	1171	40	12.16	1.3
NMRV75	28	1426	50	13.10	1.0
	23.3	1643	60	13.92	0.8
7.5kW					
NMRV110	186.7	345	7.5	3.89	1.6
	140	455	10	4.28	1.3
	93.3	660	15	4.90	1.0
NMRV130	186.7	349	7.5	5.09	2.1
	140	455	10	5.6	1.8
	93.3	668	15	6.41	1.4
	70	880	20	7.06	1.0
	56	1074	25	7.6	0.9
	46.7	1228	30	8.08	0.8
	35	1596	40	8.89	0.7
NMRV150	70	880	20	9.65	1.5
	56	1074	25	10.40	1.1
	46.7	1274	30	11.05	0.9
	35	1596	40	12.16	1.0
11kW					
NMRV150	186.7	512	7.5	6.96	2.3
	140	675	10	7.66	1.8
	93.3	990	15	8.77	1.3
	70	1291	20	9.65	1.0
	56	1576	25	10.40	0.8
15kW					
NMRV150	186.7	698	7.5	6.96	1.7
	140	921	10	7.66	1.3
	93.3	1351	15	8.77	0.9
	70	1760	20	9.65	0.7



NMRV+NMRV双级减速机(法兰输入, 输入转速1400r/min)/(配4极电机)

Double Step Reducer(flange input, input speed is 1400r/min)/(matched with 4 poles motor)

组合 机型 Model	输出转速 N2 (r/min)	输出转矩 M2 (N·m)	总传 动比 i	高速级 传动比 i1	低速级 传动比 i2	输出轴 径向力 (kN)	使用 系数 f.s.
<b>0.06kW</b>							
30/40	4.7	57	300	10	30	3.49	1.3
	3.5	70	400	10	40	3.49	0.9
	2.8	96	500	20	25	3.49	0.6
	2.3	104	600	20	30	3.49	0.7
	1.9	121	750	25	30	3.49	0.6
	1.6	139	900	30	30	3.49	0.5
	1.2	166	1200	30	40	3.49	0.4
	0.93	196	1500	50	30	3.49	0.4
	0.78	218	1800	60	30	3.49	0.3
	0.58	261	2400	60	40	3.49	0.2
	0.44	300	3200	80	40	3.49	0.2
	0.35	279	4000	50	80	3.49	0.1
	0.28	338	5000	50	100	3.49	0.1
30/50	1.6	141	900	30	30	4.84	1.0
	1.2	169	1200	30	40	4.84	0.7
	0.93	199	1500	50	30	4.84	0.7
	0.78	222	1800	60	30	4.84	0.7
	0.58	266	2400	60	40	4.84	0.5
	0.47	307	3000	60	50	4.84	0.4
	0.35	288	4000	50	80	4.84	0.3
	0.28	311	4800	60	80	4.84	0.3
30/63	0.93	204	1500	30	50	6.27	1.1
	0.78	225	1800	30	60	6.27	0.9
	0.58	276	2400	60	40	6.27	0.8
	0.47	319	3000	60	50	6.27	0.7
	0.35	306	4000	50	80	6.27	0.6
	0.28	360	5000	50	100	6.27	0.4
40/75	0.58	330	2400	60	40	7.38	1.1
	0.47	377	3000	60	50	7.38	0.8
	0.35	355	4000	50	80	7.38	0.7
	0.28	419	5000	50	100	7.38	0.5
40/90	0.47	406	3000	60	50	8.18	1.4
	0.35	365	4000	50	80	8.18	1.3
	0.28	431	5000	50	100	8.18	1.0
<b>0.09kW</b>							
30/40	4.7	88	300	10	30	3.49	0.8

组合 机型 Model	输出转速 N2 (r/min)	输出转矩 M2 (N·m)	总传 动比 i	高速级 传动比 i1	低速级 传动比 i2	输出轴 径向力 (kN)	使用 系数 f.s.
<b>0.09kW</b>							
30/50	3.5	107	400	10	40	4.84	1.2
	2.8	123	500	10	50	4.84	1.0
	2.3	159	600	20	30	4.84	0.9
	1.9	185	750	25	30	4.84	0.8
	1.6	212	900	30	30	4.84	0.7
30/63	1.6	200	900	15	60	6.27	1.0
	1.2	263	1200	30	40	6.27	0.9
	0.93	305	1500	30	50	6.27	0.7
40/75	0.93	360	1500	50	30	7.38	1.1
	0.78	404	1800	60	30	7.38	1.0
	0.58	496	2400	60	40	7.38	0.7
40/90	0.47	609	3000	60	50	8.18	0.9
	0.35	548	4000	50	80	8.18	0.8
<b>0.12kW</b>							
30/50	4.7	119	300	10	30	4.84	1.2
	3.5	142	400	10	40	4.84	0.9
	2.8	164	500	10	50	4.84	0.7
30/63	2.8	171	500	10	50	6.27	1.3
	2.3	208	600	15	40	6.27	1.1
	1.9	241	750	15	50	6.27	0.9
40/75	1.6	325	900	30	30	7.38	1.2
	1.2	399	1200	30	40	7.38	0.9
40/90	0.78	547	1800	30	60	8.18	0.9
	0.58	695	2400	60	40	8.18	0.9
50/110	0.47	884	3000	60	50	10.32	1.2
	0.35	784	4000	50	80	10.32	1.0
	0.28	928	5000	50	100	10.32	0.8
<b>0.18kW</b>							
30/63	3.5	222	400	10	40	6.27	1.0
	2.8	257	500	10	50	6.27	0.8
40/75	2.3	362	600	20	30	7.38	1.1
	1.9	435	750	25	30	7.38	0.9
	1.6	487	900	30	30	7.38	0.8
40/90	1.2	629	1200	30	40	8.18	1.0
	0.93	735	1500	30	50	8.18	0.8
50/110	0.78	860	1800	60	30	10.32	1.5
	0.58	1113	2400	60	40	10.32	1.1



组合 机型 Model	输出转速 N2 (r/min)	输出转矩 M2 (N·m)	总传 动比 i	高速级 传动比 i1	低速级 传动比 i2	输出轴 径向力 (kN)	使用 系数 f.s.
0.25kW							
40/75	3.5	336	400	10	40	7.38	1.1
	2.8	384	500	10	50	7.38	0.8
40/90	2.3	512	600	15	40	8.18	1.2
	1.9	598	750	15	50	8.18	0.9
	1.6	667	900	15	60	8.18	0.8
50/110	1.2	943	1200	30	40	10.32	1.3
	0.93	1064	1500	50	30	10.32	1.2
	0.78	1195	1800	60	30	10.32	1.1
63/130	0.58	1624	2400	60	40	13.5	1.0
	0.47	1935	3000	60	50	13.5	0.8
	0.35	2046	4000	50	80	13.5	0.6
	0.28	2430	5000	50	100	13.5	0.5
	0.28	2430	5000	50	100	13.5	0.5
63/150	0.78	1199	1800	60	30	18	1.8
	0.58	1446	2400	60	40	18	1.8
	0.47	1713	3000	60	50	18	1.4
	0.35	2026	4000	50	80	18	0.9
	0.28	2251	5000	50	100	18	0.7
0.37kW							
40/75	4.7	405	300	10	30	7.38	1.0
	3.5	498	400	10	40	7.38	0.7
40/90	4.7	402	300	7.5	40	8.18	1.5
	3.5	523	400	10	40	8.18	1.2
	2.8	611	500	10	50	8.18	0.9
	2.3	757	600	15	40	8.18	0.8
50/110	1.9	950	750	25	30	10.32	1.3
	1.6	1079	900	30	30	10.32	1.2
	1.2	1396	1200	30	40	10.32	0.8
63/130	0.93	1674	1500	50	30	13.5	1.1
	0.78	1887	1800	60	30	13.5	0.9
63/150	0.78	1775	1800	60	30	18	1.2
	0.58	2141	2400	60	40	18	1.2
	0.47	2535	3000	60	50	18	0.9
0.55kW							
50/110	4.7	639	300	10	30	10.32	2.0
	3.5	826	400	10	40	10.32	1.4
	2.8	984	500	10	50	10.32	1.1
	2.3	1181	600	15	40	10.32	1.0
	1.9	1411	750	25	30	10.32	0.9

组合 机型 Model	输出转速 N2 (r/min)	输出转矩 M2 (N·m)	总传 动比 i	高速级 传动比 i1	低速级 传动比 i2	输出轴 径向力 (kN)	使用 系数 f.s.
0.55kW							
63/130	2.8	996	500	10	50	13.5	1.6
	1.9	1471	750	25	30	13.5	1.2
	1.2	2132	1200	30	40	13.5	0.8
63/150	0.78	2638	1800	60	30	18	0.8
	0.58	3182	2400	60	40	18	0.8
0.75kW							
50/110	4.7	871	300	10	30	10.32	1.5
	3.5	1126	400	10	40	10.32	1.1
63/130	2.8	1358	500	10	50	13.5	1.1
	2.3	1631	600	15	40	13.5	1.0
	1.9	2005	750	25	30	13.5	0.9
	1.6	2283	900	30	30	13.5	0.8
63/150	2.8	1291	500	10	50	18	1.8
	2.3	1529	600	15	40	18	1.7
	1.9	1783	750	25	30	18	1.3
	1.6	2215	900	30	30	18	0.9
	1.2	2680	1200	30	40	18	1.0
1.1kW							
63/130	4.7	1312	300	10	30	13.5	1.3
	3.5	1671	400	10	40	13.5	1.0
	2.8	1991	500	10	50	13.5	0.8
63/150	9.3	753	150	10	15	18	3.1
	7.0	966	200	10	20	18	2.4
	5.6	1175	250	10	25	18	1.7
	4.7	1364	300	10	30	18	1.7
	3.5	1619	400	10	40	18	1.6
	2.8	1893	500	10	50	18	1.2
	2.3	2242	600	15	40	18	1.2
	1.9	2616	750	25	30	18	0.9
	1.9	2616	750	25	30	18	0.9
1.5kW							
63/130	4.7	1789	300	10	30	13.5	1.0
	3.5	2279	400	10	40	13.5	0.7
63/150	9.3	1026	150	10	15	18	2.3
	7.0	1317	200	10	20	18	1.8
	5.6	1602	250	10	25	18	1.3
	4.7	1860	300	10	30	18	1.3
	3.5	2208	400	10	40	18	1.2
	2.8	2582	500	10	50	18	0.9
	2.3	3057	600	15	40	18	0.9
	2.3	3057	600	15	40	18	0.9



NRV单级(轴伸输入, 输入转速1400r/min)

NRV Singles Step Reducer (shaft extend input,input speed is 1400r/min )

机型代号 Model	输入轴 功率 kW	输出转速 N2 (r/min)	输出转矩 M2 (N·m)	传动比 i	输出轴 径向力 (kN)	输入轴 径向力 (kN)
NRV030	0.4	186.7	18	7.5	0.68	0.15
	0.3	140	18	10	0.75	0.16
	0.2	93.3	18	15	0.86	0.16
	0.2	70	18	20	0.94	0.19
	0.2	56	21	25	1.02	0.21
	0.2	46.7	20	30	1.08	0.21
	0.1	35	18	40	1.19	0.21
	0.1	28	17	50	1.28	0.21
	0.1	23.3	16	60	1.36	0.21
	0.1	17.5	13	80	1.50	0.21
NRV040	1.1	280	34	5	1.15	0.25
	0.9	186.7	40	7.5	1.31	0.29
	0.7	140	40	10	1.44	0.33
	0.5	93.3	40	15	1.65	0.33
	0.4	70	39	20	1.82	0.35
	0.3	56	38	25	1.96	0.35
	0.3	46.7	45	30	2.08	0.35
	0.2	35	41	40	2.29	0.35
	0.2	28	39	50	2.47	0.35
	0.2	23.3	36	60	2.63	0.35
NRV050	0.1	17.5	33	80	2.89	0.35
	0.1	14	29	100	3.11	0.35
	2.0	280	62	5	1.58	0.35
	1.6	186.7	71	7.5	1.80	0.4
	1.2	140	72	10	1.98	0.49
	0.9	93.3	74	15	2.27	0.49
	0.7	70	73	20	2.50	0.49
	0.5	56	70	25	2.69	0.49
	0.6	46.7	84	30	2.86	0.49
	0.4	35	76	40	3.15	0.49
NRV063	0.3	28	73	50	3.39	0.49
	0.3	23.3	68	60	3.61	0.49
	0.2	17.5	65	80	3.97	0.49
	0.2	14	55	100	4.28	0.49
	3.5	280	108	5	2.00	0.43
	2.8	186.7	128	7.5	2.35	0.5
	2.2	140	130	10	2.59	0.57
	1.6	93.3	140	15	2.97	0.61
	1.2	70	135	20	3.27	0.66
	1.0	56	130	25	3.52	0.70
NRV075	1.1	46.7	160	30	3.74	0.70
	0.8	35	145	40	4.12	0.70
	0.6	28	135	50	4.44	0.70
	0.5	23.3	130	60	4.71	0.70
	0.4	17.5	122	80	5.19	0.70
	0.3	14	118	100	5.59	0.70
	4.1	186.7	185	7.5	2.78	0.70
	3.2	140	195	10	3.06	0.83
	2.3	93.3	200	15	3.50	0.85

机型代号 Model	输入轴 功率 kW	输出转速 N2 (r/min)	输出转矩 M2 (N·m)	传动比 i	输出轴 径向力 (kN)	输入轴 径向力 (kN)
NRV075	1.9	70	210	20	3.86	0.98
	1.5	56	200	25	4.16	0.98
	1.5	46.7	230	30	4.42	0.98
	1.1	35	220	40	4.86	0.98
	0.9	28	210	50	5.24	0.98
	0.8	23.3	200	60	5.56	0.98
	0.6	17.5	190	80	6.13	0.98
	0.5	14	180	100	6.60	0.98
	6.3	186.7	290	7.5	3.08	0.90
	5.1	140	310	10	3.39	1.08
NRV090	4.1	93.3	360	15	3.88	1.25
	3.1	70	355	20	4.27	1.27
	2.4	56	340	25	4.60	1.27
	2.6	46.7	410	30	4.89	1.27
	1.8	35	360	40	5.38	1.27
	1.4	28	340	50	5.79	1.27
	1.1	23.3	320	60	6.16	1.27
	0.8	17.5	285	80	6.78	1.27
	0.7	14	270	100	7.30	1.27
NRV110	12.0	186.7	552	7.5	3.89	1.20
	9.8	140	598	10	4.28	1.46
	7.5	93.3	656	15	4.90	1.60
	5.6	70	644	20	5.39	1.70
	4.7	56	679	25	5.81	1.70
	4.5	46.7	725	30	6.18	1.70
	3.3	35	702	40	6.80	1.70
	2.6	28	660	50	7.32	1.70
	2.1	23.3	616	60	7.78	1.70
	1.4	17.5	515	80	8.57	1.70
NRV130	1.1	14	483	100	9.23	1.70
	16.1	186.7	750	7.5	5.09	1.50
	13.5	140	820	10	5.60	1.84
	10.3	93.3	920	15	6.41	2.07
	7.8	70	910	20	7.06	2.10
	6.5	56	930	25	7.60	2.10
	6.4	46.7	1040	30	8.08	2.10
	4.9	35	1050	40	8.89	2.10
	3.8	28	980	50	9.58	2.10
	3.1	23.3	900	60	10.18	2.10
NRV150	2.3	17.5	840	80	11.21	2.10
	1.7	14	740	100	12.07	2.10
	25.8	186.7	1200	7.5	6.96	1.95
	20.2	140	1240	10	7.66	2.26
	13.9	93.3	1250	15	8.77	2.28
	11.1	70	1300	20	9.65	2.67
	8.4	56	1200	25	10.40	2.80
	7.1	46.7	1200	30	11.05	2.80
	7.3	35	1550	40	12.16	2.80
	5.4	28	1400	50	13.10	2.80
	4.2	23.3	1260	60	13.92	2.80
	3.1	17.5	1150	80	15.32	2.80
	2.3	14	1000	100	16.50	2.80



NRV+NMRV双级减速机(轴伸输入, 输入转速1400r/min)

NRV+NMRV Double Step Reducer (shaft extend input, input speed is 1400r/min)

机型代号 Model	输入轴 功率 kW	输出转速 N2 (r/min)	输出转矩 M2 (N·m)	传动比 i	输出轴 径向力 (kN)	输入轴 径向力 (kN)
30/40	0.1	4.7	73	300	3.49	0.21
	0.1	3.5	65	400	3.49	0.21
	0.08	2.8	61	500	3.49	0.21
	0.06	2.3	73	600	3.49	0.21
	0.04	1.9	73	750	3.49	0.21
	0.03	1.6	73	900	3.49	0.21
	0.02	1.2	65	1200	3.49	0.21
	0.02	0.93	73	1500	3.49	0.21
	0.02	0.78	73	1800	3.49	0.21
	0.01	0.58	65	2400	3.49	0.21
	0.01	0.44	65	3200	3.49	0.21
	0.01	0.35	33	4000	3.49	0.21
	0.01	0.28	29	5000	3.49	0.21
	0.01	0.28	29	5000	3.49	0.21
30/50	0.15	4.7	145	300	4.84	0.21
	0.1	3.5	124	400	4.84	0.21
	0.1	2.8	120	500	4.84	0.21
	0.1	2.3	145	600	4.84	0.21
	0.1	1.9	145	750	4.84	0.21
	0.1	1.6	145	900	4.84	0.21
	0.08	1.2	124	1200	4.84	0.21
	0.06	0.93	145	1500	4.84	0.21
	0.04	0.78	145	1800	4.84	0.21
	0.03	0.58	124	2400	4.84	0.21
	0.02	0.47	120	3000	4.84	0.21
	0.02	0.35	82	4000	4.84	0.21
	0.02	0.28	82	4800	4.84	0.21
	0.02	0.28	82	4800	4.84	0.21
30/63	0.24	4.7	230	300	6.27	0.21
	0.2	3.5	230	400	6.27	0.21
	0.2	2.8	216	500	6.27	0.21
	0.13	2.3	230	600	6.27	0.21
	0.11	1.9	216	750	6.27	0.21
	0.1	1.6	198	900	6.27	0.21
	0.1	1.2	230	1200	6.27	0.21
	0.1	0.93	216	1500	6.27	0.21
	0.1	0.78	198	1800	6.27	0.21
	0.1	0.58	230	2400	6.27	0.21
	0.08	0.47	216	3000	6.27	0.21
	0.06	0.35	172	4000	6.27	0.21
	0.04	0.28	150	5000	6.27	0.21
	0.04	0.28	150	5000	6.27	0.21
40/75	0.4	4.7	390	300	7.38	0.35
	0.3	3.5	360	400	7.38	0.35
	0.21	2.8	320	500	7.38	0.35
	0.2	2.3	390	600	7.38	0.35
	0.2	1.9	390	750	7.38	0.35
	0.14	1.6	390	900	7.38	0.35
	0.11	1.2	360	1200	7.38	0.35
	0.1	0.93	390	1500	7.38	0.35
	0.1	0.78	390	1800	7.38	0.35
	0.1	0.58	360	2400	7.38	0.35
	0.1	0.47	320	3000	7.38	0.35
	0.08	0.35	250	4000	7.38	0.35
	0.06	0.28	230	5000	7.38	0.35
	0.06	0.28	230	5000	7.38	0.35

机型代号 Model	输入轴 功率 kW	输出转速 N2 (r/min)	输出转矩 M2 (N·m)	传动比 i	输出轴 径向力 (kN)	输入轴 径向力 (kN)
40/90	0.6	4.7	610	300	8.18	0.35
	0.43	3.5	610	400	8.18	0.35
	0.34	2.8	560	500	8.18	0.35
	0.3	2.3	610	600	8.18	0.35
	0.23	1.9	560	750	8.18	0.35
	0.2	1.6	505	900	8.18	0.35
	0.2	1.2	610	1200	8.18	0.35
	0.14	0.93	560	1500	8.18	0.35
	0.11	0.78	505	1800	8.18	0.35
	0.11	0.58	610	2400	8.18	0.35
	0.1	0.47	560	3000	8.18	0.35
	0.1	0.35	460	4000	8.18	0.35
	0.1	0.28	410	5000	8.18	0.35
	0.1	0.28	410	5000	8.18	0.35
50/110	1.1	4.7	1265	300	10.32	0.49
	0.8	3.5	1185	400	10.32	0.49
	0.61	2.8	1100	500	10.32	0.49
	0.6	2.3	1185	600	10.32	0.49
	0.5	1.9	1265	750	10.32	0.49
	0.43	1.6	1265	900	10.32	0.49
	0.31	1.2	1185	1200	10.32	0.49
	0.3	0.93	1265	1500	10.32	0.49
	0.3	0.78	1265	1800	10.32	0.49
	0.2	0.58	1185	2400	10.32	0.49
	0.15	0.47	1100	3000	10.32	0.49
	0.13	0.35	819	4000	10.32	0.49
	0.1	0.28	746	5000	10.32	0.49
	0.1	0.28	746	5000	10.32	0.49
63/130	1.5	4.7	1760	300	13.5	0.7
	1.1	3.5	1650	400	13.5	0.7
	0.9	2.8	1550	500	13.5	0.7
	0.8	2.3	1650	600	13.5	0.7
	0.7	1.9	1760	750	13.5	0.7
	0.6	1.6	1760	900	13.5	0.7
	0.5	1.2	1650	1200	13.5	0.7
	0.4	0.93	1760	1500	13.5	0.7
	0.35	0.78	1760	1800	13.5	0.7
	0.3	0.58	1650	2400	13.5	0.7
	0.2	0.47	1550	3000	13.5	0.7
	0.15	0.35	1220	4000	13.5	0.7
	0.11	0.28	1100	5000	13.5	0.7
	0.11	0.28	1100	5000	13.5	0.7
63/150	3.4	9.3	2340	150	18	0.7
	2.7	7.0	2340	200	18	0.7
	1.9	5.6	2050	250	18	0.7
	1.9	4.7	2340	300	18	0.7
	1.8	3.5	2670	400	18	0.7
	1.4	2.8	2330	500	18	0.7
	1.3	2.3	2670	600	18	0.7
	1.0	1.9	2330	750	18	0.7
	0.71	1.6	2100	900	18	0.7
	0.75	1.2	2670	1200	18	0.7
	0.44	0.78	2100	1800	18	0.7
	0.5	0.58	2670	2400	18	0.7
	0.34	0.47	2330	3000	18	0.7
	0.23	0.35	1880	4000	18	0.7
	0.2	0.28	1650	5000	18	0.7



## 7. 使用说明

### Operating Instructions

#### 单级蜗杆减速机

○减速机型号30-90采用优质铝合金压铸箱体，外形轻巧美观，结构紧凑，体积小，重量轻，节省安装空间，不易锈蚀。

○减速机型号110-150采用灰铸铁射芯模铸造，外型美观坚固，可多方位安装使用。

○散热性能好，安全可靠，效率高。

○承载能力高，传动平稳，振动小，噪音低。

○具有动力输入及转矩输出的多种联接结构，满足多种联接需要；箱体外形设计及底脚孔设置布局适应多种安装方式，通用性强。

#### 双级蜗杆减速机

○由单级蜗杆减速机组合而成，具有单级蜗杆减速机的一切优点，能获得较大传动比

○常用双级组合机型：30/40、30/50、30/63、40/75、40/90、50/110、63/130、63/150，用户若有特殊要求时，可根据实际需要选择30、40、50、63、75、90、110、130、150作为组合单元另行组合。

#### 安装注意事项

○减速机须安装在平整坚固的底座上，底脚螺栓必须紧固、防震。

○原动机—减速机—工作机的各联接轴伸，安装后必须互相准确对准轴线。

○减速机输入端及输出端轴伸外径尺寸公差分别是j6及h6制作，与之相匹配的联轴器、皮带轮、链轮等传动件内孔需按合适公差尺寸配置，避免装配过紧损坏轴承，装配过松影响正常的动力传递。

○链轮、齿轮等传动件装上轴伸时，应尽量靠近轴承，以减少轴伸弯曲应力。

○减速机装配电机时，应在蜗杆头部内孔孔壁及键槽处涂抹黄油，避免装配过紧，防止轴孔日久生锈。

○使用各类电机直联型减速机时，若电机重量偏大，应设支撑装置。

#### 使用注意事项

○使用前应注意检查减速机型式结构、中心距规格、传动比、输入轴连接方式、输出轴结构、输入轴输出轴指向和回转方向等是否符合使用要求，蜗杆输入转速不宜超过2000r/min，一般适用范围为600-1800r/min。

○开机时应逐步施加载荷，不能满载起动。

○规格30-90减速机仅设加油孔，出厂时减速机内已加好ISO VG320合成润滑油。用户无需再加油，机器连续运转约10000小时后，应该更换新润滑油。

○型号110-150减速机设有加油孔，放油孔和油标孔，减速机内已加ISO VG460矿物润滑油，用户在使用前须换上通气器。首次运行500小时候后更换新油，以后每隔约5000小时换油一次。

○减速机允许最高油温为95℃，超过时应停机检查。

○若减速机使用环境温度超过或低于表中规定使用环境温度5℃以上，请与我公司人员联系。



### Single step worm gear reducer

- The reducer which is 30–90 made of Aluminum alloy die-casting box, good looking in appearance, compact in structure rust proofing on surface and small volume to save mounting space.
- The reducer model 110–150 is made of cast iron which casted with Aluminum mould. It's good looking and solid, and can be used through the setting of multi-azimuth.
- Good radiating characteristic leads safe and high efficiency for using.
- The strong capacity of loading and overload ensure stable transmission, make less vibration and noise.
- Varies of connecting structure for power input and torque output meet different requirements; the design of box outline and the set of foot hole is apt to with high many kinds of mounting.

### Double step worm gear reducer

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

### Notes of installation

- The base-plate must be plane and stoutness and the base-bolts must be screwed down and shockproof.
- The connecting shafts of prime mover, reducer and operation device must be coaxial after installation.
- The diameter tolerance zone of input and output shaft is j6 and h6, the holes of fittings (such as couplings, belt-pulley, sprocket wheel and so on) must properly mate the shaft, which prevents bearing from breakage because of over-tight mate or avoid effecting normal power transmission because of over-loose mate.
- Drivers such as sprocket wheel and gear must be fitted close to bearing in order to reduce bending stress of hanging shaft.
- While assembling motor to the reducer, it is necessary to add butters to the worm shaft input hole and keyway, so as to avoid tightly assembling and rusting when it is used for a long time.
- Supporting unit is required when reducers directly match with motors whose weight is bigger than normal types motor is a little bigger than normal.

### Operating notes

- Before using, please check carefully whether the reducer mode, distance size, ratio, input connecting method, output shaft structure, input and output shaft direction and revolving direction are right according to requirement. It is better for the input speed of worm shaft shouldn't exceed 2000 RPW, the general range is 600–1800 RPM.
- The load should be added step by step when using the machine, Never running it with full load.
- The reducer which model is among 30–90 has the oil add hole only. It has been full of synthetic lubrication oil ISO VG 320. User doesn't need to think about oil adding, after about 10000 hours continual running, please change new lubrication oil.
- The reducer model of 110–150 has oil add hole, oil out hole and oil gauge. Mineral lubrication oil ISO VG460 has been filled in enough, before using, user must need to change the ventilation breather. After the first 500 hours running, clean the inter box and change new oil in it. Then change the oil once per 5000 hours.
- The permitted temperature of the oil in reducer is 95°C. If up to this value, it must be stopped and checked.
- When the ambient temperature is 5°C upper or lower than the normal level stated in the table, please, contact with us.

## 8. 润滑油品 Lubricant

润滑油选用表 Lubrication Oil Chosen Table

减速机规格 Reducer size	30~90	110~150	
润滑油类型 Type of lubrication oil	合成润滑油 Synthetic lubrication oil	矿物润滑油 Mineral lubrication oil	
环境温度℃ Ambient temperature	-25~+50	-5~+40	-15~+25
ISO VG	ISO VG 320	ISO VG 460	ISO VG 220
AGIP	TELIUM VSF320	BLASIA 460	BLASIA 220
SHELL	TIVELA S320	TIVELA S460	TIVELA S220
ESSO	S220	SPARTAN EP460	SPARTAN EP220
MOBIL	GLYGOYLE HE320	MOBIL GEAR 634xP	MOBIL GEAR 630xP
CASTROL	ALPHASYN PG320	ALPHA MAX 460	ALPHA MAX 220
BP	ENERGOL SG-XP320	ENERGOL GR-XP460	ENERGOL GR-XP220

润滑油注油量(L) Adding Capacity Of Lubrication Oil

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



## 9. 故障分析

### Malfunctions Analysis

故障情况 Fault Description	故障原因 Reasons	解决办法 Solutions
过 热 Overheating	原动力、减速机、工作机连接不当 Improper connection among prime mover, reducer and the operation device	调整至适当位置，使三者相联轴线同轴 Adjust to proper position
	超负荷运转 Overloading	适当调整负荷 Adjust to proper load
	油封过度摩擦 Over friction of oil seals	在油封唇口处滴润滑油 Drop lubricant at oil seal
	润滑油过少或过多 Lubricant oil overmuch or shortage	按注油方式或调整油量 Adjust to proper oil quantity as lubricant capacity table
	润滑油杂质多或润滑性差 Much impurity in oil or inferior oil	按润滑油选用表更换合适新油 Refill proper oil
振 动 Vibration	原动力、减速机、工作机固定不良 Prime mover, reducer and the operation device mount badly	查出不良固定部件，正确紧固 Find out the bad place, tighten it
	蜗轮副齿面磨损或损伤 Tooth surface of worm gear sets worn-out or damaged	更换蜗轮副（需要时公司配合） Replace worm gear sets (we will cooperate with you when necessary)
	轴承磨损 Bearing worn-out	更换轴承 Replace Bearing
	螺栓松脱 Bolt loose	紧固螺栓 Tighten Screw
杂 音 Noise	原动力与减速机连接不当 Improper connection among prime mover, reducer and the operation device	原动机重新调整连接 Adjust to proper position
	轴承损伤或间隙过大 Bearing damaged or too large clearance	更换轴承 Replace Bearing
	蜗轮副啮合不良 Worm gear sets mesh badly	修整齿面或更换蜗轮副（请与本公司联系） Mend tooth surface or replace worm gear sets (please contact with us)
	润滑油不足 Lubricant oil shortage	按注油方式或补加润滑油 Fill in adequate oil as lubricant capacity table
漏 油 Oil leakage	油封唇口磨损 Oil seal lip worn-out	更换油封 Replace oil seal
	油封档轴颈磨损 Shaft of oil seal area worn out	更换输入轴或带轮轴蜗轮 Replace input or output shaft with worm gear
	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	按规定要求适时更换润滑油 Replacing oil in time according to requirement
	运转温度过高 Overheating while running	1. 按“过热”故障处理 2. 采取合适措施，降低周边环境温度 1. Deal with it as 'Overheating' 2. Adopting proper measures to make environment temperature fall

## 1. 产品图片 Products Pictures

蜗轮丝杆升降机  
Worm Gear Screw Jack



SWL-Ⅰ型



SWL-Ⅱ型



SWL-Ⅲ型



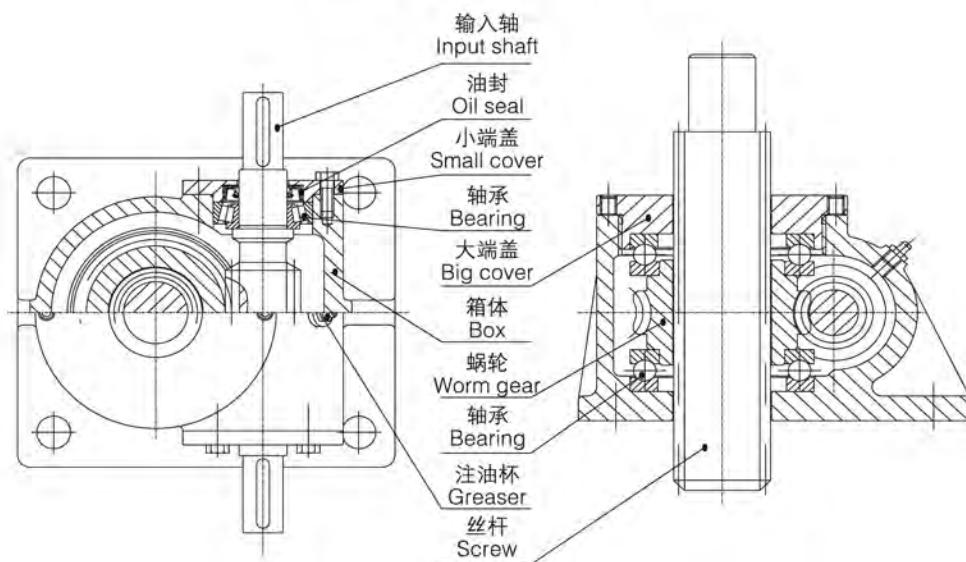
SWL-Ⅳ型





## 2. 产品结构

### Products Structure



## 3. 型号说明

### Model Instructions

型号结构表 Model And Structure Table

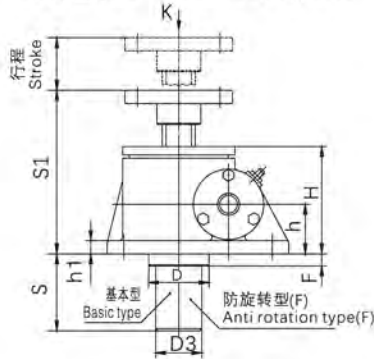
SWL 2.5 M – 1 A – II 500 FZ	
SWL	蜗轮丝杆升降机Worm gear screw jack
2.5	承载能力(25kN, 相当于2.5吨): 1、2.5、5、10、15、20、25、35、50、100 Carrying capacity(25kN, amount to 2.5tons): 1、2.5、5、10、15、20、25、35、50、100
M	传动比代号(普通P不标注)Transmission ratio's code(General ratio no note)
1	结构型式代号: 1型-丝杆作轴向移动, 2型-丝杆作旋转运动、螺母作轴向移动 Structural type code: Type 1 –Screw move axially;Type 2 –Screw fluctuate with rotation, nut move axially
A	装配型式代号: A型-丝杆(或螺母)向上移动, B型-丝杆(或螺母)向下移动 Assembly type code:Type A– Screw (nut) move up; Type B –Screw (nut) move down
II	丝杆头部型式代号: I 型-圆柱型, II 型-法兰型, III 型-螺纹型, IV 型-扁头型 Screw head type code:Type I –Cylindrical ;Type II –Flange ;Type III –Thread ;Type IV –Flat head type
500	丝杆行程 (mm) Screw stroke (mm)
FZ	丝杆防护型式代号(基本型不标注): F-防旋转型, Z-带防护罩型 Protection cover type code(Basic type no note):F–Anti rotation type, Z–Protection cover type

## 4. 安装尺寸

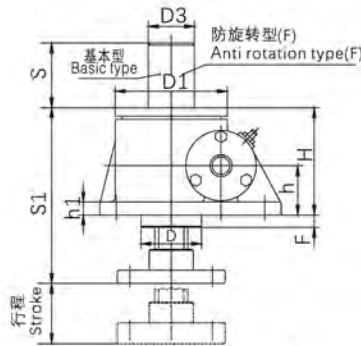
### Mounting Dimensions

#### 1 型结构型式 Type 1 Structural

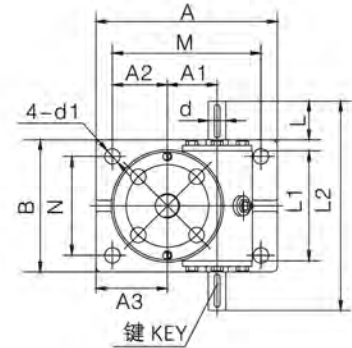
装配型式A Assembly type A



装配型式B Assembly type B



K向 Side K

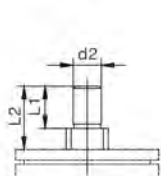


型号 Model	S	S1	A	B	M	N	H	h	h1	d(k6)	d1	键key	L	L1	L2	D	D1	A1	A2	A3	F	D3
SWL1	行程+20	100	120	105	95	85	84	40	10	14	9	5X25	28	85	161	—	80	31	34	47	—	33
SWL2.5	行程+20	150	168	125	135	90	97	45	12	16	14	5X30	36	100	190	55	98	45.2	50	70	11	42
SWL5	行程+20	190	215	155	168	114	130	62	16	20	17	6X35	40	118	228	65	120	56.2	58	82	12	48
SWL10	行程+30	230	238	205	190	155	150	70	18	25	21	8X45	50	153	285	80	150	66.8	63.5	86	6.5	75
SWL15																						
SWL20	行程+35	260	300	220	240	160	190	87	20	28	28	8X45	50	192	322	100	185	73	95	123	6	75
SWL25	行程+40	310	350	260	280	190	217	102	25	32	35	10X50	58	210	368	130	210	97	95	130	10	114
SWL35	行程+40	350	430	280	360	210	240	115	30	38	35	10X70	80	266	466	150	260	120	135	170	10	114
SWL50	行程+40	410	550	475	455	380	280	135	32	38	45	10X90	105	308	558	170	310	135	125	170	16	150
SWL100	行程+50	540	530	610	410	510	400	150	38	55	45	16X100	110	358	620	190	410	192	140	200	35	160

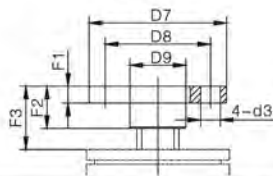
注：行程stroke

#### 丝杆头部型式 Screw head type

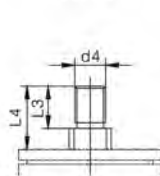
I 型



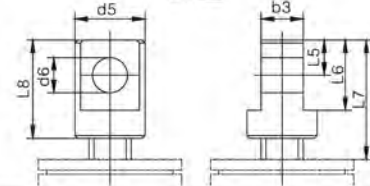
II 型



III 型



IV 型

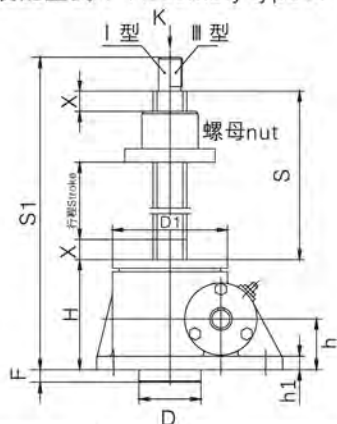


型号 Model	丝杆头部尺寸 Screw head dimension																				
	I			II							III				IV						
	d2(k6)	L1	L2	D7	D8	D9	d3	F1	F2	F3	d4		L3	L4	d5	d6(H8)	b3	L5	L6	L7	L8
SWL1	20	20	30	80	65	40	10	8	25	30	M20x1.5-6g		15	30	45	20	25	20	45	70	65
SWL2.5	20	30	45	98	75	40	14	12	30	45	M22x1.5-6g		30	45	50	25	30	25	50	85	70
SWL5	25	40	51	122	85	50	17	18	40	51	M30x2-6g		39	51	65	35	42	37.5	75	117	105
SWL10	40	50	73	150	105	65	21	20	50	73	M42x2-6g		50	73	90	50	60	50	100	153	130
SWL15																					
SWL20	50	60	80	185	140	90	26	20	60	80	M48x2-6g		60	80	110	60	75	60	120	170	150
SWL25	70	63	92	205	155	100	27	25	63	92	M70x3-6g		63	92	130	70	90	70	140	204	175
SWL35	80	80	100	260	200	130	33	30	80	100	M80x3-6g		80	100	150	80	105	80	160	240	220
SWL50	95	90	120	300	225	150	39	35	90	120	M95x3-6g		90	120	180	80	120	80	160	270	240
SWL100	130	120	150	370	280	200	48	75	120	150	M130x4-6g		120	150	220	90	160	90	180	330	300

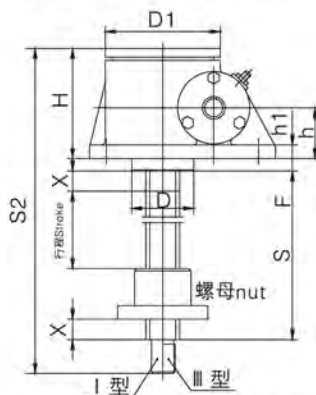


## 2 型结构型式 Type 2 Structural

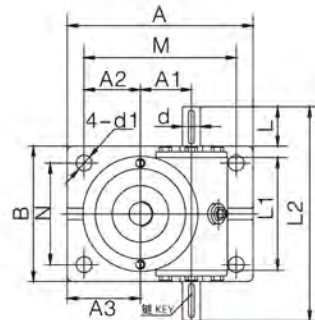
装配型式A Assembly type A



装配型式B Assembly type B



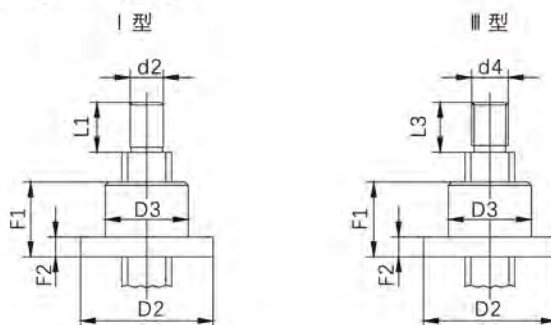
K向 Side K



型号model	S	S1	S2	A	B	M	N	H	h	h1	d(k6)	d1	键Key	L	L1	L2	D1	D	A1	A2	A3	F	安全裕量X Safety Margin
SWL1	行程+50	行程+120	行程+238	120	105	95	85	84	40	10	14	9	5X25	28	85	161	80	-	31	34	47	-	25
SWL2.5	行程+85	行程+215	行程+238	168	125	135	90	97	45	12	16	14	5X30	36	100	190	98	55	45	50	70	11	20
SWL5	行程+100	行程+270	行程+300	215	155	168	114	130	62	14	20	17	6X35	40	116	228	120	65	56	58	82	12	25
SWL10	行程+125	行程+335	行程+359	238	205	190	155	150	70	16	25	21	8X45	50	150	285	150	80	67	64	86	7	25
SWL15																							
SWL20	行程+150	行程+404	行程+430	300	220	240	160	190	87	20	28	28	8X45	50	192	322	185	100	73	95	123	6	25
SWL25	行程+170	行程+476	行程+513	350	260	280	190	217	102	25	32	35	10X50	58	210	368	210	130	97	95	130	10	25
SWL35	行程+205	行程+535	行程+580	430	280	360	210	240	115	30	38	35	10X70	80	266	466	260	150	120	135	170	10	30
SWL50	行程+250	行程+603	行程+685	550	475	455	380	280	135	32	38	45	10X90	105	308	558	310	170	135	125	170	16	40
SWL100	行程+320	行程+815	行程+880	530	610	410	510	400	150	38	55	45	16X100	110	358	620	410	190	192	140	200	35	50

注：行程stroke

### 丝杆头部型式及螺母尺寸 screw head types and nut dimension



型号 Model	丝杆头部尺寸 Screw head dimension				活动螺母尺寸 nut dimension			
	I		II					
	d2(k6)	L1	d4	L3	D2	D3 (h9)	F1	F2
SWL2.5	20	30	M22x1.5-6g	30	80	50	45	15
SWL5	25	40	M30x2-6g	39	87	70	60	18
SWL10	40	50	M42x2-6g	50	110	90	75	25
SWL15								
SWL20	50	60	M48x2-6g	60	120	90	100	30
SWL25	70	63	M70x3-6g	63	155	130	120	35
SWL35	80	80	M80x3-6g	80	190	150	145	35
SWL50	95	90	M95x3-6g	90	220	180	170	50
SWL100	130	120	M130x4-6g	120	300	240	220	70



## 5. 选型参数 Parameter Selections

升降机的主要性能参数表/Main Performance Parameter Table

型 号 Model		SWL1	SWL2.5	SWL5	SWL10	SWL15	SWL20	SWL25	SWL35	SWL50
最大起升力(kN)Maximum lifting force		20	25	50	100	150	200	250	350	500
丝杆螺纹尺寸Screw thread size		Tr22x4	Tr30x6	Tr40x7	Tr58x12		Tr65x12	Tr90x16	Tr100x20	Tr120x20
最大拉力(kN)Maximum tension		20	25	50	99		166	250	350	500
蜗轮蜗杆传动比 Worm gear Transmission	P	1/6	1/6	1/8	1/8		1/8	3/32	3/32	3/32
	M	1/24	1/24	1/24	1/24		1/24	1/32	1/32	1/32
蜗杆每转行程 ( mm ) Worm per stroke	P	0.667	1.0	0.875	1.5		1.5	1.5	1.875	1.875
	M	0.167	0.25	0.292	0.5		0.5	0.5	0.625	0.625
拉力负荷时丝杆的最大伸长 ( mm ) Tension load Maximum elongation of screw		1300	1500	2000	2500		3000	3500	4000	5500
最大压力负荷时的 最大提升高度(mm) Maximum pressure load Maximum lifting height(mm)	丝杆头部无导向 Screw head without guide	220	250	385	500	400	490	850	820	900
	丝杆头部导向 Screw head guide	300	400	770	1000	800	980	1700	1640	1900
满载时蜗杆扭矩(N.m) Full load torque of the worm	P	15	18	39.5	119	179	240	366	464	650
	M	8.30	8.86	19.8	60	90	122	217	253	350
效率(%) efficiency	P	20	22	23	20.5		19.5	16	18	20
	M	9	11	11.5	13		12.8	9	11	15
功率 ( kW ) power		P=Txn/9550 (T:扭矩 (N.m) ; n: 转速 (r/min) )								
不加行程的重量(Kg)Weight without stroke		6.3	7.3	16.2	25		36	70.5	87	95
丝杆每100mm的重量(Kg)Screw weight per 100mm		0.35	0.45	0.82	1.67		2.15	4.15	5.20	6.35
润滑剂Lubricant		合成钙钠基润滑脂Synthetic calcium - Sodium base grease ZGN-1&ZGN-2(-20℃~+100℃)								
润滑脂量(Kg)Grease content		0.08	0.1	0.3	0.5		0.75	1.1	1.9	2.2

提升力和提升速度表/Lift and lift speed table

型号 Model	提升力 (kN) Lifting power	提升速度 m/min(普通) lifting speed	蜗杆转速 r/min Worm speed	提升速度 m/min(慢速) lifting speed	蜗杆转速 r/min Worm speed	型号 Model	提升力 (kN) Lifting power	提升速度 m/min(普通) lifting speed	蜗杆转速 r/min Worm speed	提升速度 m/min(慢速) lifting speed	蜗杆转速 r/min Worm speed
SWL2.5	25			0.0125	50	SWL15	10	2.592	1800	0.90	1800
	20			0.15	600		200	0.15	100	0.10	200
	15			0.188	750		160	0.15	100	0.15	300
	10			0.25	1000		120	0.30	200	0.15	300
	5			0.45	1800		100	0.30	200	0.25	500
SWL5	50	0.044	50	0.0146	50	SWL20	75	0.45	300	0.375	750
	40	0.264	300	0.175	600		50	0.75	500	0.50	1000
	30	0.264	300	0.219	750		25	1.50	1000	0.90	1800
	20	0.526	600	0.292	1000		250	0.075	50	0.025	50
	10	0.876	1000	0.525	1800		200	0.15	100	0.10	200
	5	1.575	1800	0.525	1800		160	0.15	100	0.15	300
SWL10	100	0.288	200	0.15	300	SWL25	130	0.30	200	0.15	300
	75	0.432	300	0.25	500		100	0.45	300	0.25	500
	50	0.432	300	0.375	750		75	0.45	300	0.30	600
	35	0.864	600	0.90	1800		50	0.90	600	0.50	1000
	20	1.44	1000	0.90	1800		350	0.094	50	0.0313	50
	10	2.592	1800	0.90	1800		300	0.104	100	0.125	200
SWL15	150	0.072	50	0.025	50	SWL35	250	0.208	100	0.188	300
	100	0.288	200	0.15	300		200	0.416	200	0.188	300
	80	0.288	200	0.25	500		150	0.624	300	0.313	500
	60	0.432	300	0.30	600		100	0.624	300	0.47	750
	40	0.720	500	0.50	1000		50	1.248	600	0.626	1000
	20	1.44	1000	0.90	1800						

注：表中参数是在环境温度20℃，工作持续率每小时20%或每分钟40%情况下得出的：当转速超过表中数值时，提升元件会因为过热而出现早期磨损，使用时应严加注意。

Note:table parameters are at ambient temperature 20°C,Continuous work 20% hours per hour or at least 40% minutes per minute.When the speed exceeds the value of the table,lifting elements will wear out early due to overheating,pay special attention to use it.



### 丝杆长度与极限负荷的关系

The relationship between the length of screw rod and the ultimate load

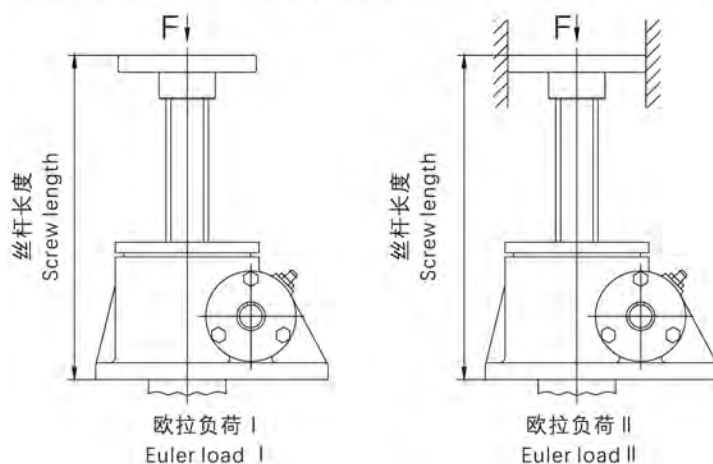


图1 Pic 1

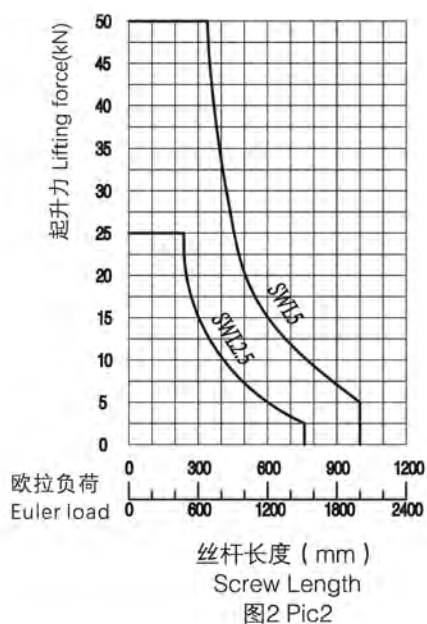


图2 Pic2

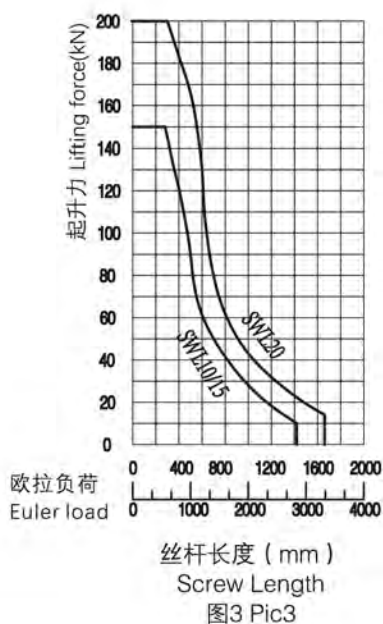


图3 Pic3

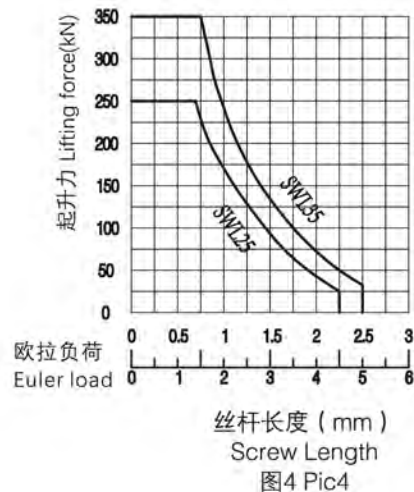


图4 Pic4

### 工作持续率与环境温度的关系

The relationship between work continued rate and ambient temperature

当环境温度超过40℃，应考虑减小工作持续率。

When the temperature is over 40℃, Should be considered to reduce work continued rate.

环境温度ambient temperature	℃	50	60	70	80
许用最大工作持续率 maximum work continued rate.	% · h <sup>-1</sup>	18	15	10	5
	% · (10 min) <sup>-1</sup>	36	30	20	10

## 6. 选型说明

### Selection Instructions

根据丝杆行程和提升负荷查图1-图4, 找出所需升降机的型号, 再查提升力和提升速度表, 校核提升速度是否满足要求。

例: 已知提升负荷为 $F=20\text{kN}$ , 丝杆行程 $=400\text{mm}$ , 提升速度 $V=0.65\text{m/min}$ , 试求所需的升降机。

根据 $F=20\text{kN}$ , 丝杆行程 $=400\text{mm}$ , 查图2, 选择SWL5升降机 再查提升力和提升速度表核对SWL升降机在 $25\text{kN}$ 负荷下只允许 $0.526\text{m/min}$ 的速度, 只有重选大型号的升降机, 再查提升力和提升速度表得知SWL10在 $20\text{kN}$ 负荷下允许提升速度为 $1.44\text{m/min}$ 而满足要求。

#### 说明

- 1、当压力负荷减小时, 提升高度可随之增大(两者具体关系详见图2-图4);
- 2、在提升不同的负荷时, 所允许的扭矩、功率、转速也不同, 且不同工作持续率的最大功率也不同;
- 3、1型结构采用油脂润滑, 随着温度的升高应及时补充润滑剂;
- 4、表中的效率为用油脂润滑条件下的参数;
- 5、工作期间应及时更换润滑剂;
- 6、工作环境温度:  $-20^{\circ}\text{C}\sim 80^{\circ}\text{C}$ ;
- 7、在静止状态一般可以自锁。

According to the screw stroke and lifting load look up Figure 1-Figure 4, find the model of the lift you required, look up the Lifting power and Lift table again, Check the lifting speed if meet the requirements. For example: Known lifting load is  $F=20\text{kN}$ , Screw stroke $=400\text{mm}$ , Lifting speed  $V=0.65\text{m/min}$  Try to find the required lift

According to  $F=20\text{kN}$ , Screw stroke $=400\text{mm}$  look up Figure 2, Select SWL 5 lift, look up the Lifting power and Lift table again to check, SWL lifts only allow  $0.526\text{m/min}$  speed at  $25\text{kN}$  load, can only choose a size large lift. Re check the lifting force and improve the speed table that SWL10 allows  $20\text{kN}$  to enhance the speed of  $1.44\text{m/min}$  and meet therequirements under the load.

#### Explain

1. When the pressure load is reduced, Lifting height can be increased (The specific relationship between the two is shown in figure 2-Figure 4)
2. When the load is different, the allowable torque power speed is also different, and the maximum power of different working duration is also different
3. Type 1 structural used Grease lubrication, Lubricant should be added in time as the temperature rises
4. The efficiency of the table is based on the parameters of grease lubrication
5. Lubricant should be replaced in time
6. Working environment temperature:  $-20^{\circ}\text{C}\sim 80^{\circ}\text{C}$
7. Under the static condition, it can be locked by itself



## 7. 使用说明

### Operating Instructions

SWL系列蜗轮丝杆是一种基础升降设备，该产品广泛应用于机械、冶金、化工、医药、建筑、水利、文化等行业，具有起升、下降及借助辅件推进、翻转及多种高、降位置调整等诸多功能。具有结构紧凑、体积小、重量轻，动力源广泛、无噪音、安装方便、使用灵活、功能多、配套形式多、可靠性强、使用寿命长等许多特点。可以单台或多台组合使用，能按一定程序准确地控制调整提升或推进的高度，可以用电动或其他动力，也可以手动。有不同的结构型式和装配型式，提升高度按用户的要求定制。

SWL series worm gear screw is a basic kind of lifting equipment. The product are widely used in the fields of machinery metallurgy, chemical industry, medicine, construction, water conservancy, cultural and other industries. It has many functions, such as ascending and descending, thrusting and overturning.

With the function of compact structure, small size, light weight, wide motivity, no noise, easy mounting, good flexibl, multifun, varied ypes, high-reliability, long service life. It can be applied in one unit or multiple units and also can accurately control the height of the lift or push.

Can be driven by electrical motor and manual force. There are different structural forms and assembly types. Lifting height is customized according to user's requirements.

#### 使用注意事项 Notices of usage

- 1) 请严格按选型参数表选择合适的与之对应的具有充分裕度载荷的升降机；
- 2) 升降机工作时应控制机表面和升降螺母表面温度在-15℃~80℃；
- 3) 升降机不得连续运转，单台升降机的负荷时间率(T%)以30分钟为单位计算，不得超过20%；

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

- 4) 必须保证有充足的驱动源动力；
- 5) 升降机理论上有自锁功能，但在振动冲击较大的场合会造成自锁功能失灵，请务必加制动装置；
- 6) 升降机工作时一般不允许有横向载荷，若有横向载荷时，请加导向装置；
- 7) 升降机使用环境。

- 1) Select the model with proper ratio and load;
- 2) The surface temperature of speed reducer and nut should be controlled in -15℃~80℃, when the screw lifter is working;
- 3) The scerw lifter cannot work all the time. The unit is thirty mins for duty ratio of unit one and can not exceed 20%;

$$\text{Duty ratio } (T\%) = \frac{\text{Time under working / cycle}}{\text{Time under working / cycle} + \text{interval / cycle}} \times 100\%$$

- 4) Insure adequate drive fountainhead;
- 5) Theoretically screw has self-lock function, but the self-lock function may not work in heavy shock condition;
- 6) Transverse load is not allowed when screw lifter is working. If transverse load occured, please add direction setting.
- 7) Using situation for screw lifter.

使用环境 Using situation	室内无雨水侵入的场所 Norain and water
周围空气 Ambient air	灰尘为一般工厂状况 Dust: usual condition for mill
环境温度 Ambient temperature	-15℃~40℃
相对湿度 Comparatively humidity	85%以下 Below 85%

选型热线 Business hotline

021-60649685

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