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24th edition



**YUQIU
MACHINE**

HANGZHOU YUQIU MACHINE CO.,LTD



WORM GEAR REDUCER

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BRIEF INTRODUCTION

Hangzhou YUQIU Machinery Co., Ltd. set worm gear, Gear Reducer R & D, production and sales in one, founded in 2000, is located in Qiantang District, Hangzhou, is a professional production of decelerating motor of large-scale industry and trade enterprises. Dedicated to the industry to provide professional, efficient and human-oriented overall transmission program.

The company's leading products include NMRV series worm gear reducers, RFKS four major series gear reducers, KRV hyperbolic reducers, YE3 three-phase asynchronous motors, WP series worm gear reducers, and SWL screw elevators. The company has a batch of advanced transmission machinery production equipment and precision testing equipment both domestically and internationally, and has established the Zhejiang Provincial High tech R&D Center to continuously improve and innovate based on market demand and customer feedback. With years of research and development experience and technological accumulation, our company is at the forefront of domestic technology, equipment, and product performance, entering the international advanced ranks. Our products are aimed at important fields such as food, chemical, mining, metallurgy, textiles, woodworking machinery, packaging, wind energy, electricity, and lifting.

The company has advanced production equipment and perfect production management system, modern production technology and strict quality control system to ensure that each reducer products are in line with relevant standards and customer requirements. At the same time the company is also committed to improve production efficiency and reduce costs, to provide customers with more competitive products and services.

The company has established a sound sales network, with a professional sales team and technical services team, to provide customers with a full range of sales support and after-sales service. Always adhere to customer-centric, customer-oriented needs, to provide customers with quality services and solutions.

The company has successively won honorary titles such as National High tech Enterprise, Zhejiang Manufacturing Product Label Certification, Zhejiang Province Specialized and Innovative Small and Medium sized Enterprise, Zhejiang Province High tech Enterprise Research and Development Center, etc. The company's products have passed ISO9001 quality system, ISO14001 environmental management system, ISO45001 occupational health management system, 3C certification, CE certification, energy efficiency certification, and have self operated import and export rights. Currently, the products are widely sold throughout the country and developed countries around the world.



Production Workshop And Testing Equipment

We have advanced and perfect inspecting equipment to inspect the spare parts and whole machine precisely.



PRODUCTS GUIDE



NMRV



NMRV



NMRV



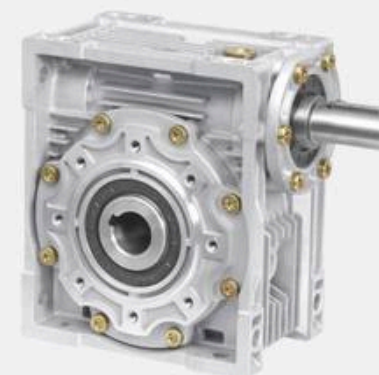
VF



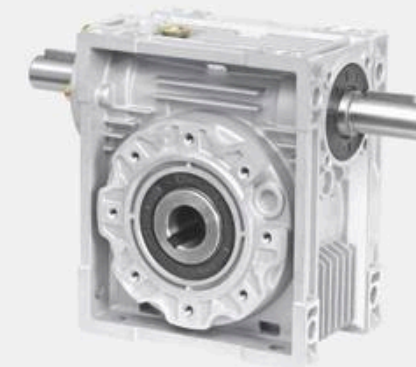
NMRV



NMRV



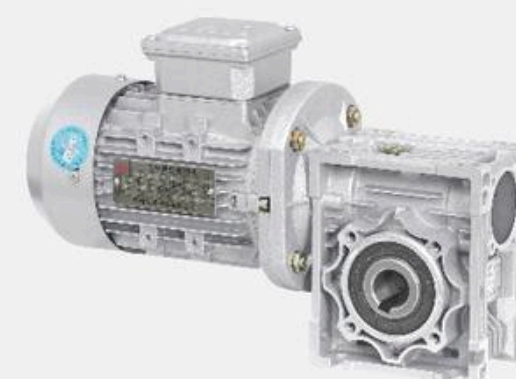
NRV



NRV

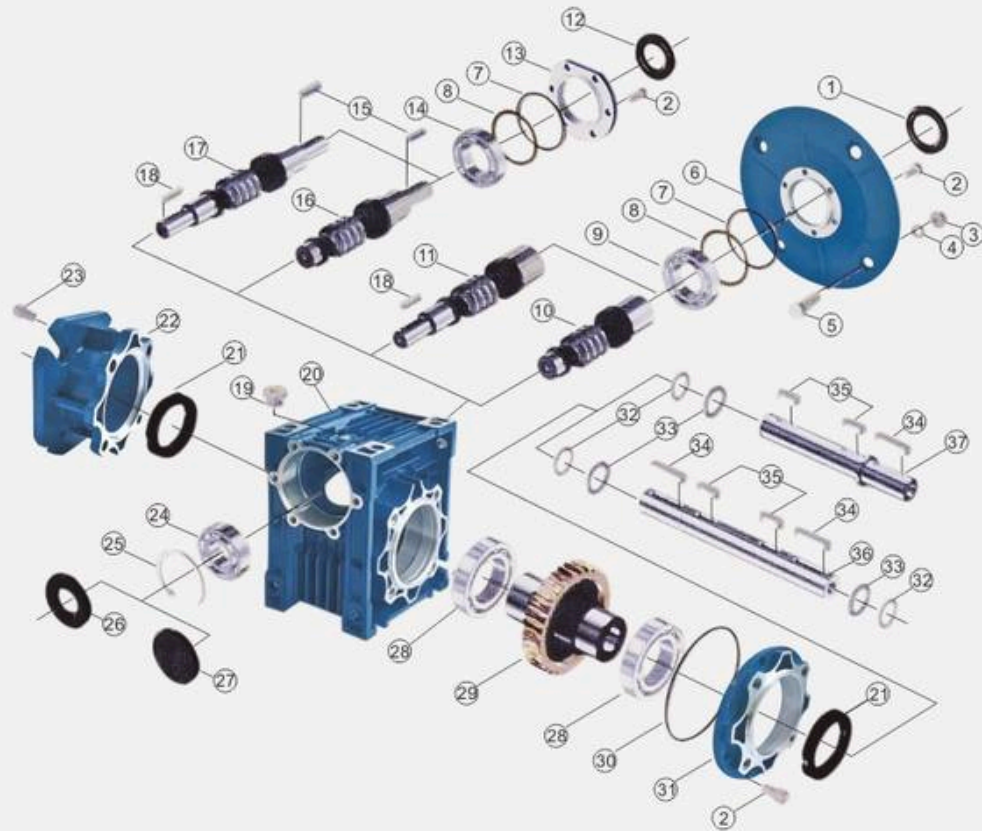


NMRV



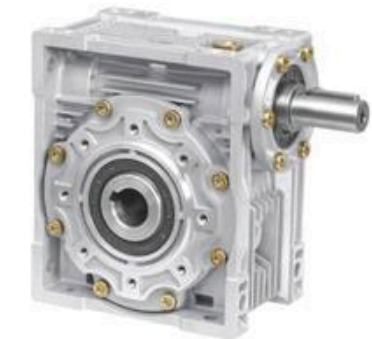
NMRV

Product Structure Decomposition Diagram



- | | |
|---------------------------------------|-------------------------|
| 1. Oil seal | 19. Oil plug |
| 2. Inner hex screw | 20. Casing |
| 3. Nut | 21. Oil seal |
| 4. Spring washer | 22. Output flange |
| 5. Hex screw | 23. Inner hex screw |
| 6. Input flange | 24. Bearing |
| 7. O-Ring | 25. Hole-circlip |
| 8. Adjust spacer | 26. Oil seal |
| 9. Bearing | 27. Cover |
| 10. Hole input worm | 28. Bearing |
| 11. Hole input and shaft output worm | 29. Worm wheel |
| 12. Oil seal | 30. O-Ring |
| 13. Input cover | 31. Output cover |
| 14. Bearing | 32. Shaft-circlip |
| 15. Key | 33. Spacer |
| 16. Shaft input worm | 34. Key |
| 17. Shaft input and shaft output worm | 35. Key |
| 18. Key | 36. Double output shaft |
| | 37. Single output shaft |

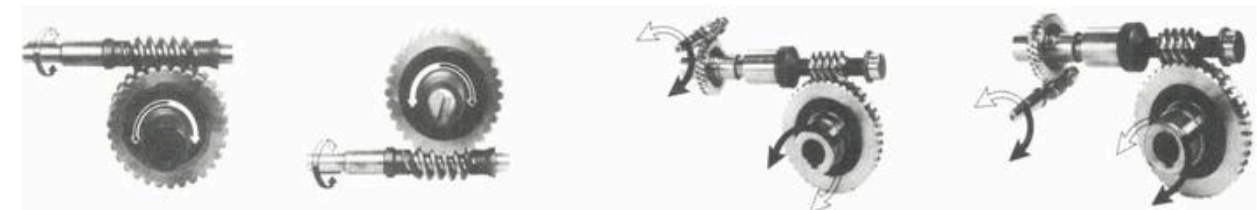
Versions


NMRV 025-150

NRV 030-150

NMRV+NMRV....

NRV+NMRV....

Design features



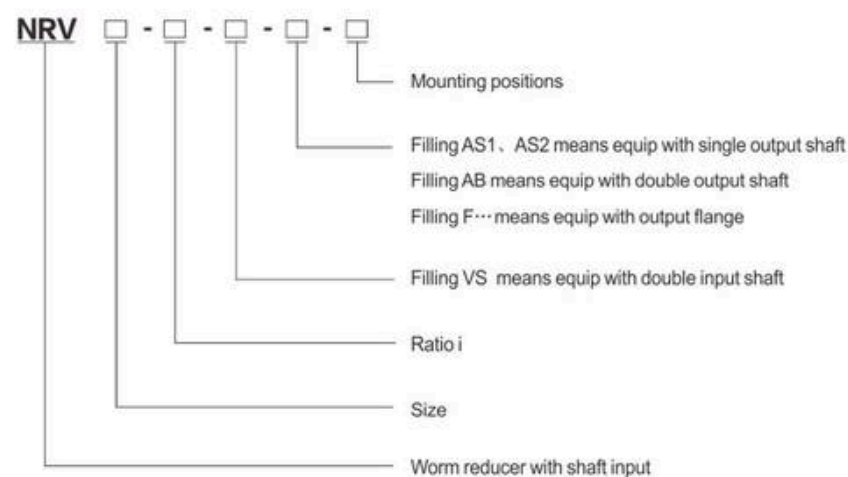
The helix is right-handed.

Basic RV series worm gear reducer


NMRV

NRV

Model & mark



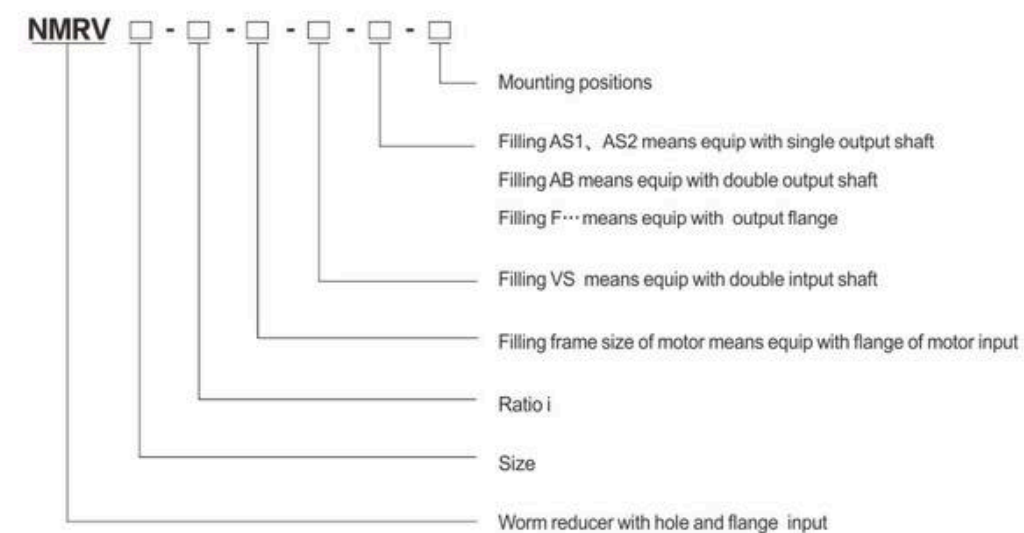
EXAMPLE

NRV063-40-As1-B3

- Mounting positions is B3
- Means equip with As1 single output shaft
- Ratio i is 40
- Size is 063
- Worm reducer with shaft input

NRV050-10-FA₁-B6

- Mounting positions is B6
- Means equip with FA₁ output flange
- Ratio i is 10
- Size is 050
- Worm reducer with shaft input



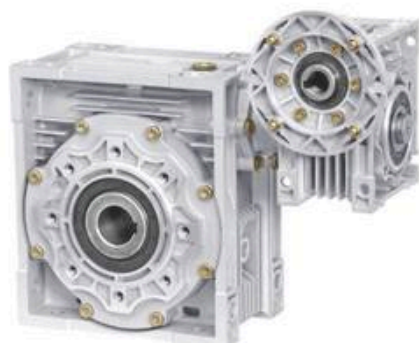
NMRV 063 - 40 - 80B5 - AS1 - B3

- Mounting positions is B3
- Means equip with AS 1 single output shaft
- Means equip with 80B5 flange
- Ratio is 40
- Size is 063
- Worm reducer with hole and flange input

NMRV 050 - 20 - 0.75 - FA₂ - B6

- Mounting positions is B6
- Means equip with FA₂ output flange
- Motor power is 0.75kw
- Ratio is 20
- Size is 050
- Worm reducer with hole and flange input

Double worm gear reducer

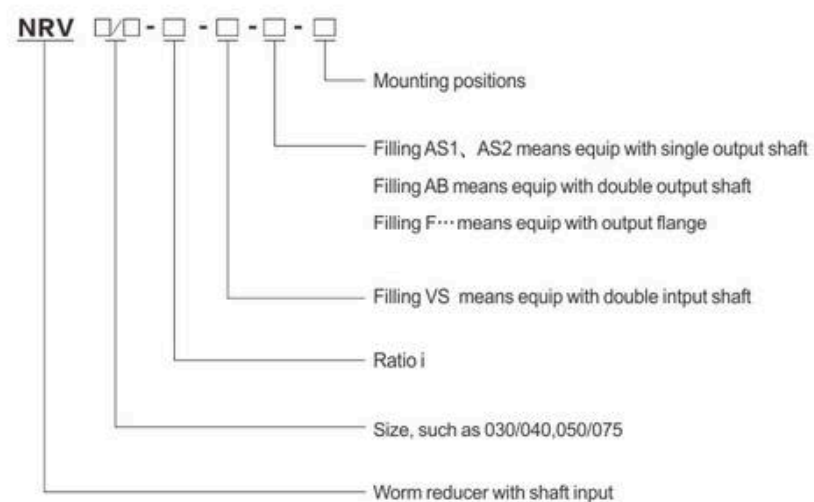


NMRV+NMRV....

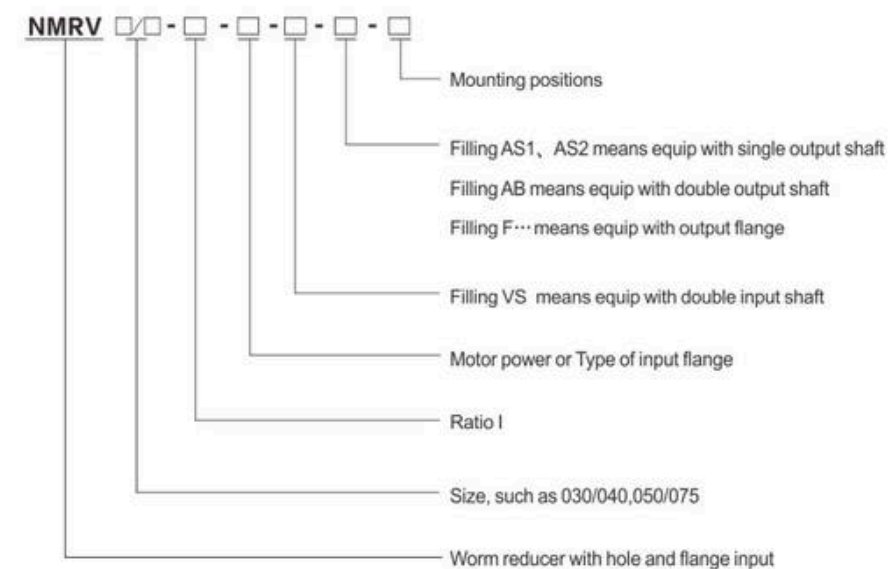
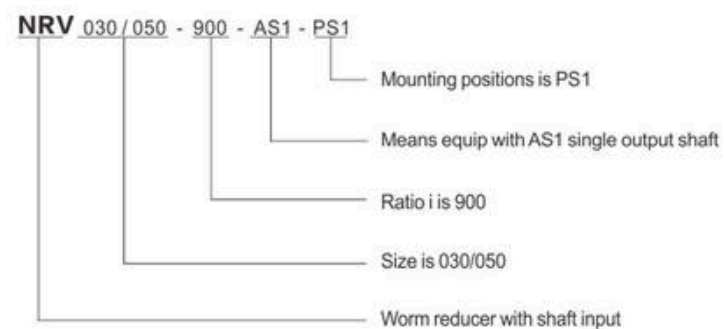


NRV+NMRV....

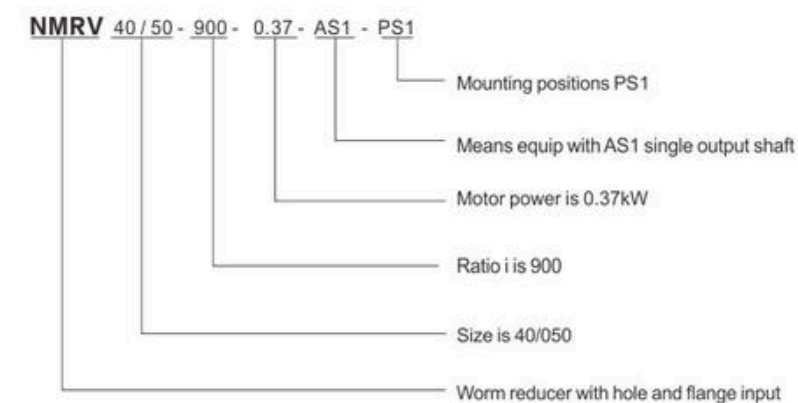
Model & mark



EXAMPLE

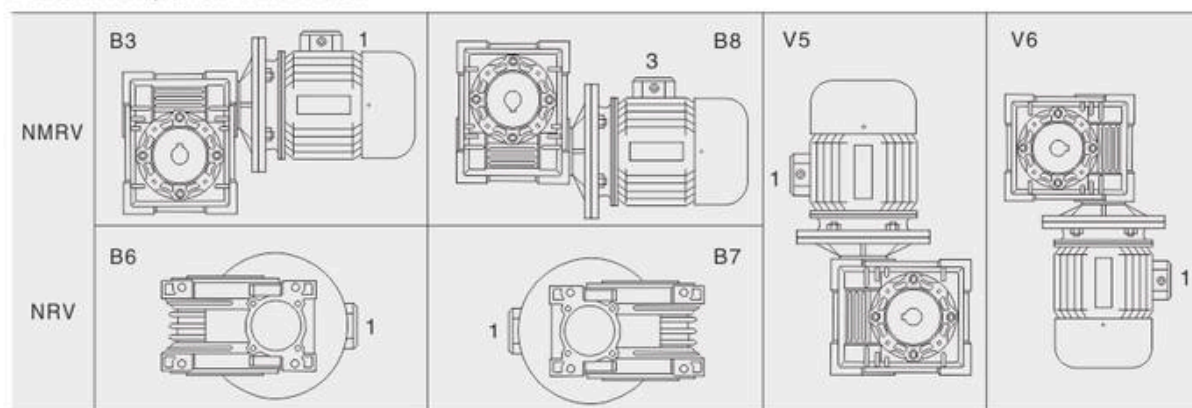


EXAMPLE

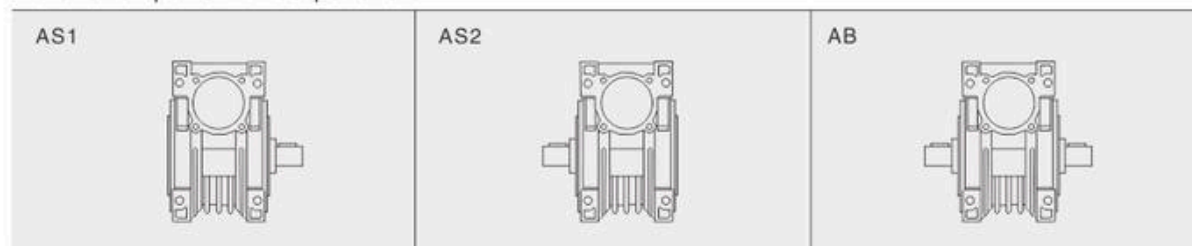


Installation pattern

Installation pattern with motor



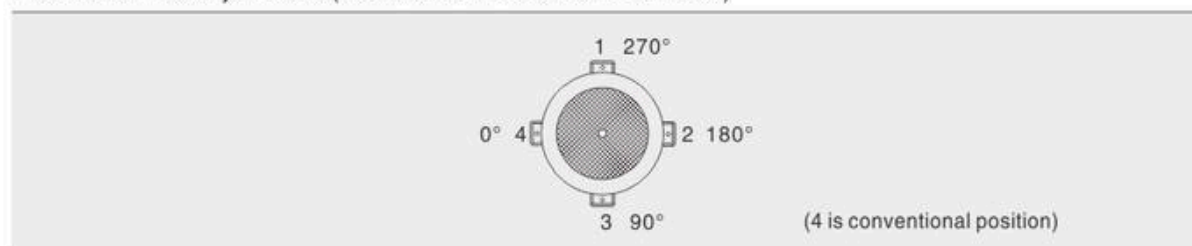
Installation pattern of output shaft



Installation pattern of output flange

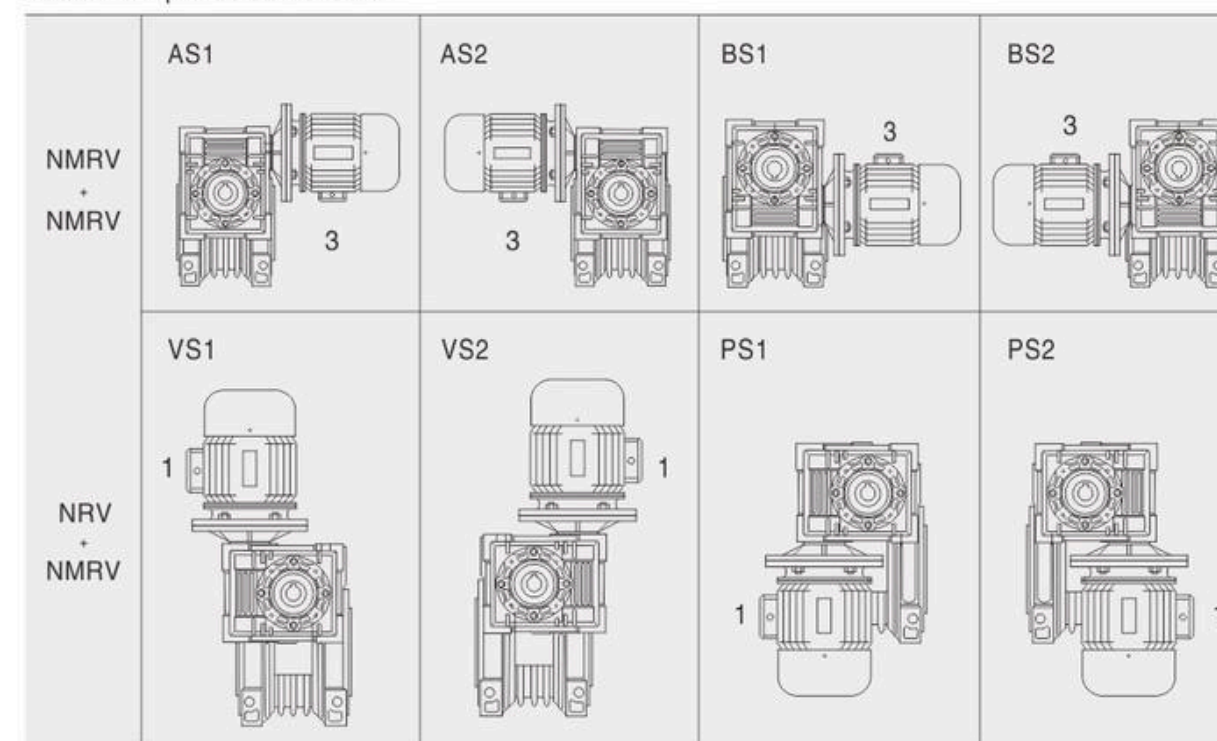


Position of motor joint box (viewed from the fan of the motor)

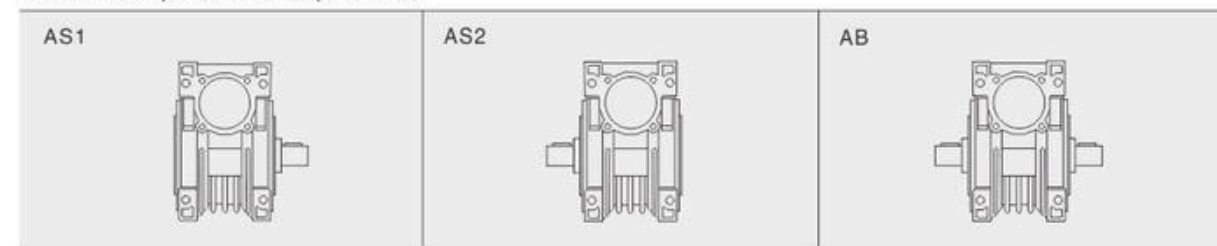


Installation pattern

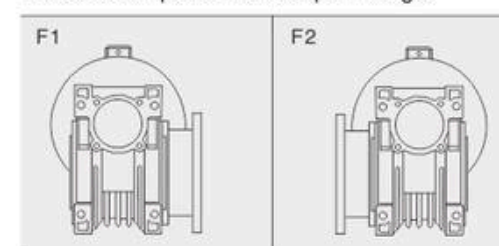
Installation pattern with motor



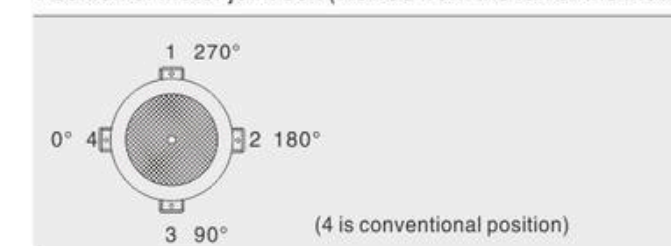
Installation pattern of output shaft



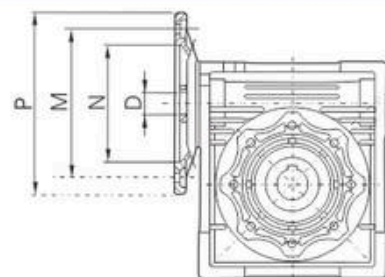
Installation pattern of output flange



Position of motor joint box (viewed from the fan of the motor)

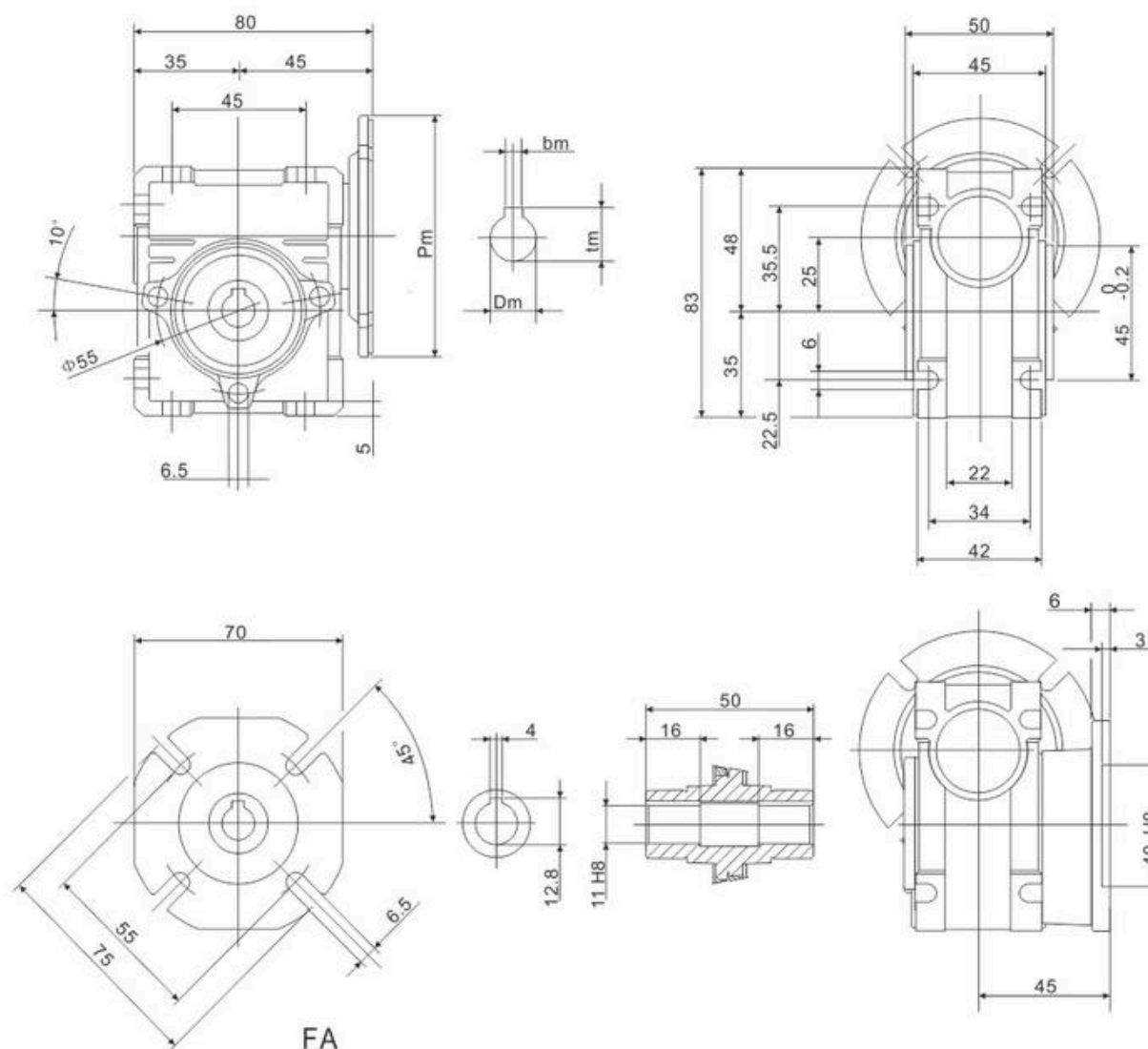


Predisposition



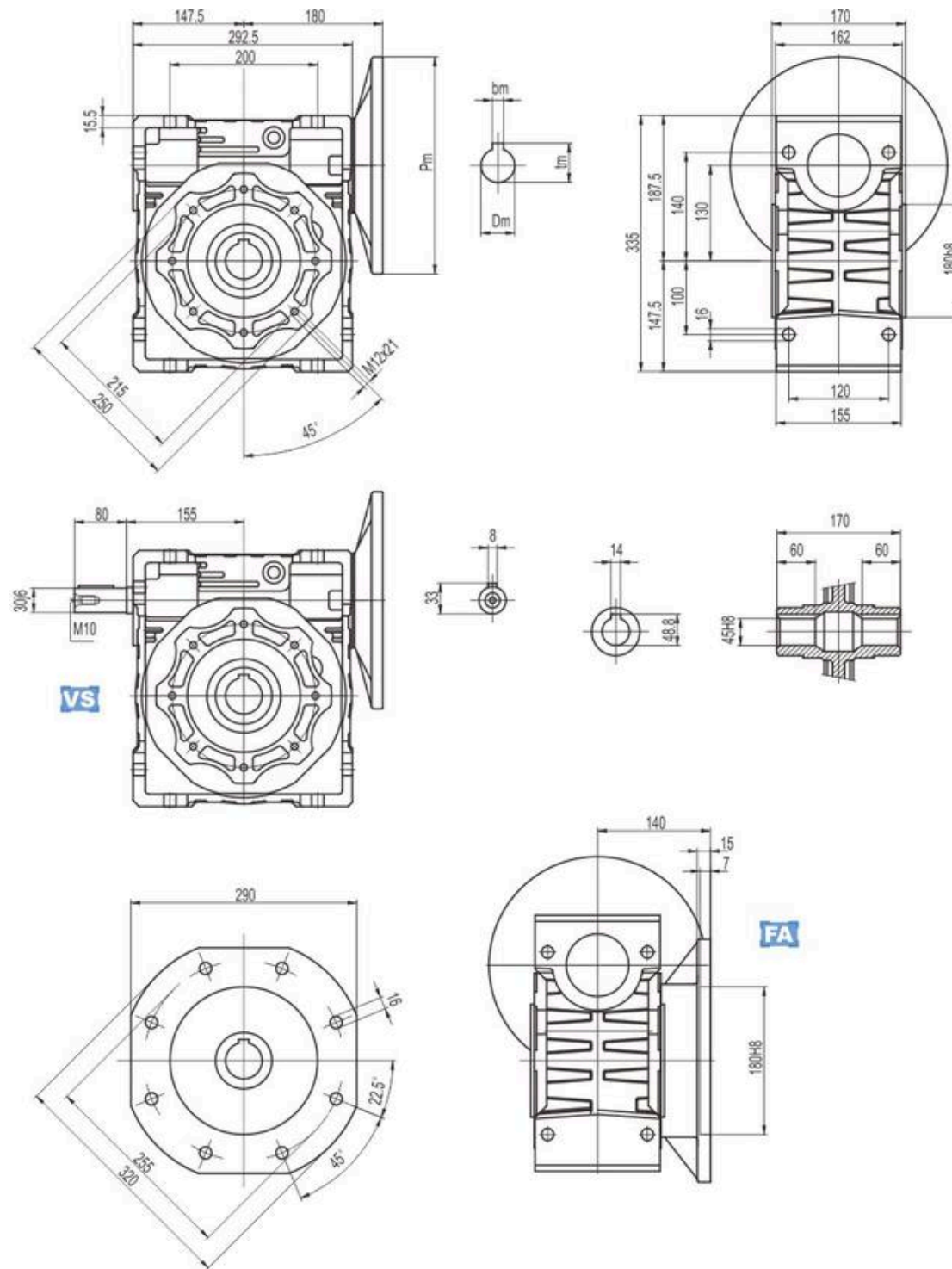
NMRV	PAM IEC	N	M	P	D											
					5	7,5	10	15	20	25	30	40	50	60	80	100
025	56B14	50	65	80	9	9	9	9	9	-	9	9	9	9	-	-
030	63B5	95	115	140	11	11	11	11	11	11	11	11	11	-	-	-
	63B14	60	75	90	-	-	-	-	-	-	-	-	-	-	-	-
	56B5	80	100	120	9	9	9	9	9	9	9	9	9	9	9	-
040	56B14	50	65	80	-	-	-	-	-	-	-	-	-	-	-	-
	71B5	110	130	160	14	14	14	14	14	14	14	14	-	-	-	-
	71B14	70	85	105	-	-	-	-	-	-	-	-	-	-	-	-
	63B5	95	115	140	11	11	11	11	11	11	11	11	11	11	11	11
	63B14	60	75	90	-	-	-	-	-	-	-	-	-	-	-	-
050	56B5	80	100	120	-	-	-	-	-	-	-	-	9	9	9	9
	80B5	130	165	200	19	19	19	19	19	19	19	-	-	-	-	-
	80B14	80	100	120	-	-	-	-	-	-	-	-	-	-	-	-
	71B5	110	130	160	14	14	14	14	14	14	14	14	14	14	14	-
	71B14	70	85	105	-	-	-	-	-	-	-	11	11	11	11	11
063	63B5	95	115	140	-	-	-	-	-	-	-	11	11	11	11	11
	90B5	130	165	200	-	24	24	24	24	24	24	-	-	-	-	-
	90B14	95	115	140	-	-	-	-	-	-	-	-	-	-	-	-
	80B5	130	165	200	-	19	19	19	19	19	19	19	19	19	-	-
	80B14	80	100	120	-	-	-	-	-	-	-	14	14	14	14	14
075	71B5	110	130	160	-	-	-	-	-	-	-	14	14	14	14	14
	71B14	70	85	105	-	-	-	-	-	-	-	-	-	-	-	-
	100/112B5	180	215	250	-	28	28	28	28	28	28	-	-	-	-	-
	100/112B14	110	130	160	-	-	-	-	-	-	-	-	-	-	-	-
	90B5	130	165	200	-	24	24	24	24	24	24	24	-	-	-	-
090	90B14	95	115	140	-	-	-	-	-	-	-	-	-	-	-	-
	80B5	130	165	200	-	-	-	-	-	-	-	19	19	19	19	19
	80B14	80	100	120	-	-	-	-	-	-	-	-	-	-	-	-
	100/112B5	180	215	250	-	28	28	28	28	28	28	-	-	-	-	-
	100/112B14	110	130	160	-	-	-	-	-	-	-	-	-	-	-	-
110	90B5	130	165	200	-	24	24	24	24	24	24	24	24	24	24	24
	80B5	130	165	200	-	-	-	-	-	-	-	-	-	-	19	19
	132B5	230	265	300	-	38	38	38	38	38	38	38	-	-	-	-
	100/112B5	180	215	250	-	28	28	28	28	28	28	28	28	28	28	28
130	90B5	130	165	200	-	-	-	-	-	-	-	-	-	-	24	24
	160B5	250	300	350	-	42	42	42	42	42	-	-	-	-	-	-
150	132B5	230	265	300	-	-	-	-	38	38	38	38	38	38	-	-
	100/112B5	180	215	250	-	-	-	-	-	-	-	-	28	28	28	28

025 / Outline & installation sizes

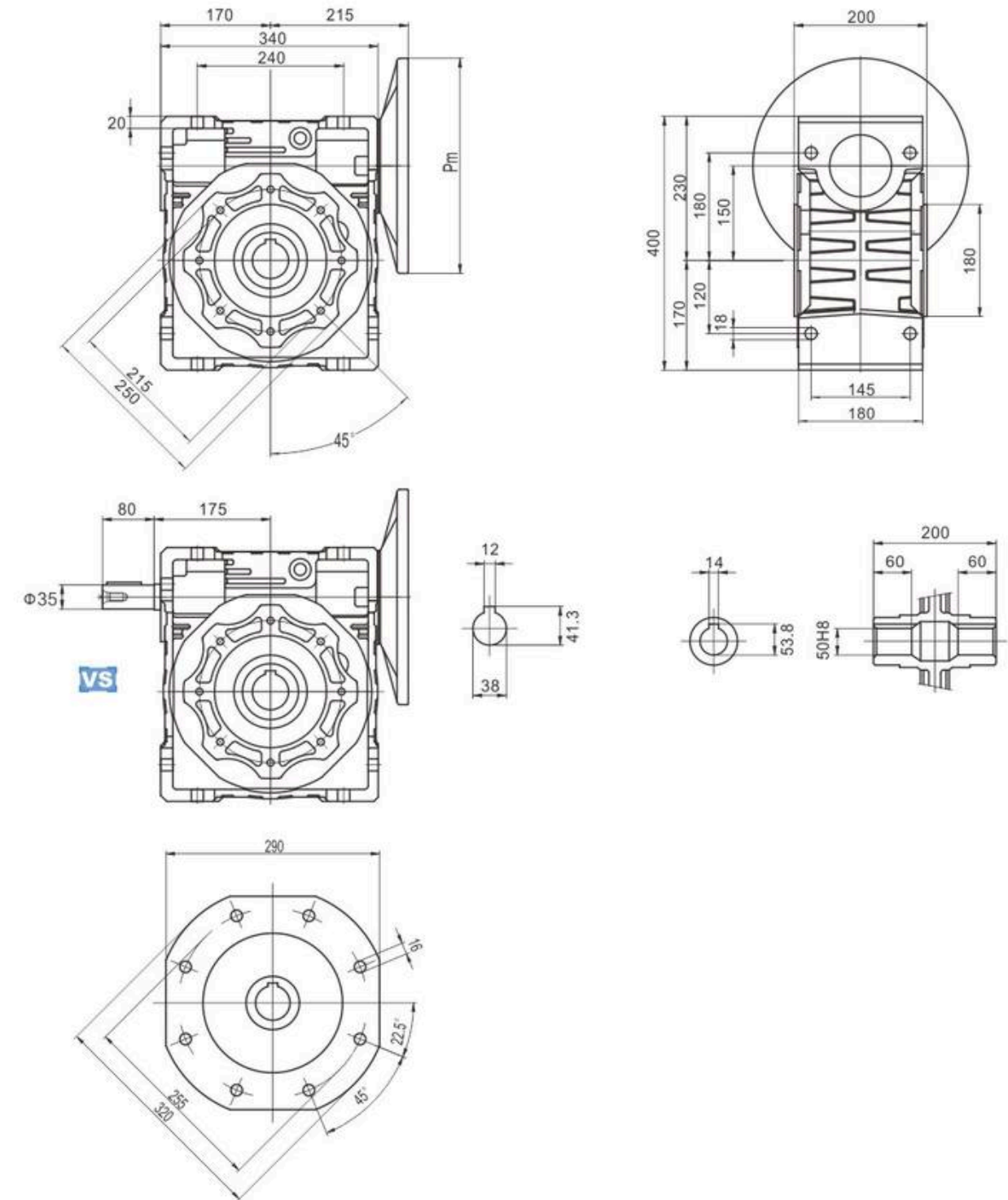


- Weight without motor~0.7kg

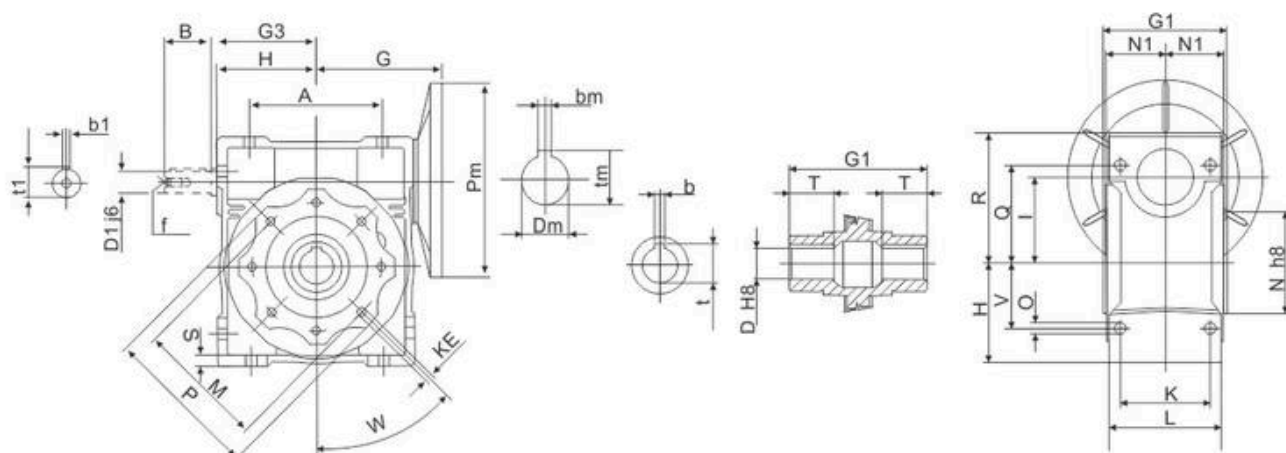
For the dimensions concerning the motor connection area(Pm,Dm,bm,tm)please refer to the table shown at page 24.

NMRV130


* Weight without motor: 48kg
 * input size (Pm, Dm, bm, tm)

NMRV150


* Weight without motor: 87.8kg
 * input size (Pm, Dm, bm, tm)

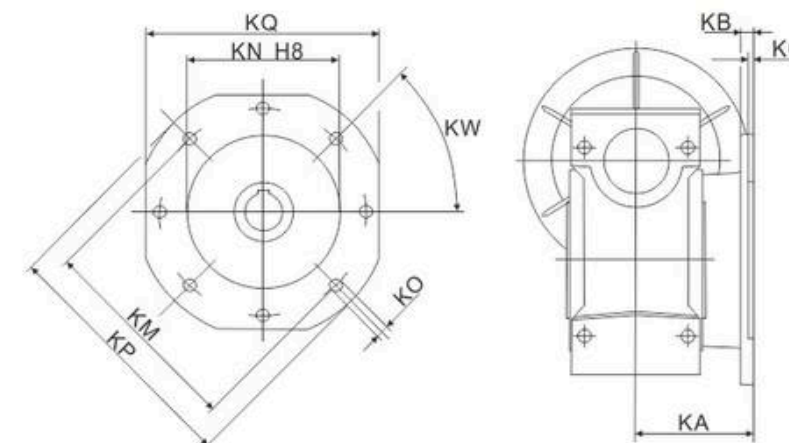
030-150 / Outline & installation sizes


(...)Only on request

	030	040	050	063	075	090	110	130	150
A	54	70	80	100	120	140	170	200	240
B	20	23	30	40	50	50	60	80	80
D	14	18(19)	25(24)	25(28)	28(35)	35(38)	42	45	50
D1	9	11	14	19	24	24	28	30	35
G	55	70	80	95	112.5	129.5	160	180	210
G1	63	78	92	112	120	140	155	170	200
G3	45	53	64	75	90	108	135	155	175
H	40	50	60	72	86	103	127.5	147.5	170
I	30	40	50	63	75	90	110	130	150
K	44	60	70	85	90	100	115	120	145
KE	M6*11(4)	M6*10(4)	M8*10(4)	M8*14(8)	M8*14(8)	M10*18(8)	M10*18(8)	M12*21(8)	M12*21(8)
L	56	71	85	103	112	130	144	155	185
M	65	75	85	95	115	130	165	215	215
N	55	60	70	80	95	110	130	180	180
N1	29	36.5	43.5	53	57	67	74	81	96
O	6.5	6.5	8.5	8.5	11.5	13	14	16	18
P	75	87	100	110	140	160	200	250	250
Q	44	55	64	80	93	102	125	140	180
R	57	71.5	84	102	119	135	167.5	187.5	230
S	5.5	6.5	7	8	10	11	14.5	15.5	18
T	21	26	30	36	40	45	50	60	72.5
V	27	35	40	50	60	70	85	100	120
W	0°	45°	45°	45°	45°	45°	45°	45°	45°
b	5	6	8	8	8(10)	10	12	14	14
t	16.3	20.8(21.8)	28.3(27.3)	28.3(31.3)	31.3(38.3)	38.3(41.3)	45.3	48.8	53.8
b1	3	4	5	6	8	8	8	8	10
t1	10.2	12.5	16	21.5	27	27	31	33	38
f	-	-	M6	M6	M8	M8	M10	M10	M12
~kg	1.2	2.3	3.5	6.2	9	13	35	48	84

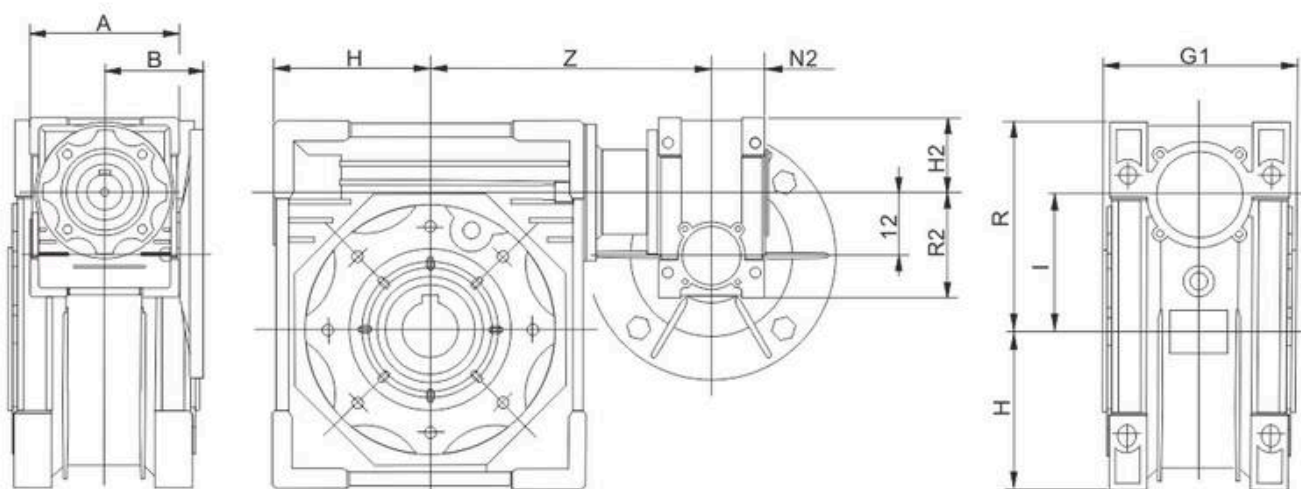
Weight without motor

For the dimensions concerning the motor connection area(Pm,Dm,bm,tm)please refer to the table shown at page 24.

030-150F / Output flange mounting


		030	040	050	063	075	090	110	130	150
FA	KA	54.5	67	90	82	111	111	131	140	155
	KB	6	7	9	10	13	13	15	15	15
	KC	4	4	5	6	6	6	6	6	6
	KN	50	60	70	115	130	152	170	180	180
	KM	68	75	85	150	165	175	230	255	255
	KO	6.5(n° 4)	9(n° 4)	11(n° 4)	11(n° 4)	14(n° 4)	14(n° 4)	14(n° 8)	16(n° 8)	16(n° 8)
	KP	80	110	125	180	200	210	280	320	320
	KQ	70	95	110	142	170	200	260	290	290
KW	45°	45°	45°	45°	45°	45°	45°	22.5°	22.5°	
FB	KA	-	97	120	112	90	122	180	-	-
	KB	-	7	9	10	13	18	15	-	-
	KC	-	4	5	6	6	6	6	-	-
	KN	-	60	70	115	110	180	170	-	-
	KM	-	75	85	150	130	215	230	-	-
	KO	-	9(n° 4)	11(n° 4)	11(n° 4)	14(n° 4)	14(n° 4)	14(n° 8)	-	-
	KP	-	110	125	180	160	250	280	-	-
	KQ	-	95	110	142	-	-	260	-	-
KW	-	45°	45°	45°	45°	45°	45°	-	-	
FC	KA	-	80	89	98	-	110	-	-	-
	KB	-	9	10	10	-	17	-	-	-
	KC	-	5	5	5	-	6	-	-	-
	KN	-	95	110	130	-	130	-	-	-
	KM	-	115	130	165	-	165	-	-	-
	KO	-	9.5(n° 4)	9.5(n° 4)	11(n° 4)	-	11(n° 4)	-	-	-
	KP	-	140	160	200	-	200	-	-	-
	KW	-	45°	45°	45°	-	45°	-	-	-
FD	KA	-	58	72	107	-	151	-	-	-
	KB	-	12	14.5	10	-	13	-	-	-
	KC	-	5	5	5	-	6	-	-	-
	KN	-	80	95	130	-	152	-	-	-
	KM	-	100	115	165	-	175	-	-	-
	KO	-	9(n° 4)	11(n° 4)	11(n° 4)	-	14(n° 4)	-	-	-
	KP	-	120	140	200	-	210	-	-	-
	KW	-	45°	45°	45°	-	45°	-	-	-
FE	KA	-	-	-	80.5	-	-	-	-	-
	KB	-	-	-	16.5	-	-	-	-	-
	KC	-	-	-	5	-	-	-	-	-
	KN	-	-	-	110	-	-	-	-	-
	KM	-	-	-	130	-	-	-	-	-
	KO	-	-	-	11(n° 4)	-	-	-	-	-
	KP	-	-	-	160	-	-	-	-	-
	KW	-	-	-	45°	-	-	-	-	-

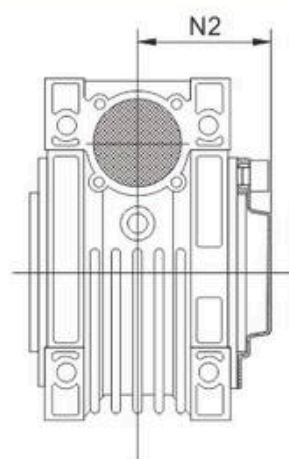
NMRV+NMRV / Outline & installation sizes



NMRV+NMRV										
	025-030	025-040	030-040	030-050	030-063	040-075	040-090	050-110	063-130	063-150
A	70	70	80	80	80	100	100	120	144	144
B	45	45	55	55	55	70	70	80	95	95
G1	63	78	78	92	112	120	140	155	170	200
H	40	50	50	60	72	86	103	127.5	147.5	170
I	30	40	40	50	63	75	90	110	130	150
R	57	71.5	71.5	84	102	119	135	167.5	187.5	230
H2	35	35	40	40	40	50	50	60	72	72
I2	25	25	30	30	30	40	40	50	63	63
N2	22.5	22.5	29	29	29	36.5	36.5	43.5	53	53
R2	48	48	57	57	57	71.5	71.5	84	102	102
Z	100	115	122	132	145	167.5	184.5	226	245	275
~Kg	1.9	3	3.5	4.7	7.4	11.3	15.3	38.5	54.2	90.2

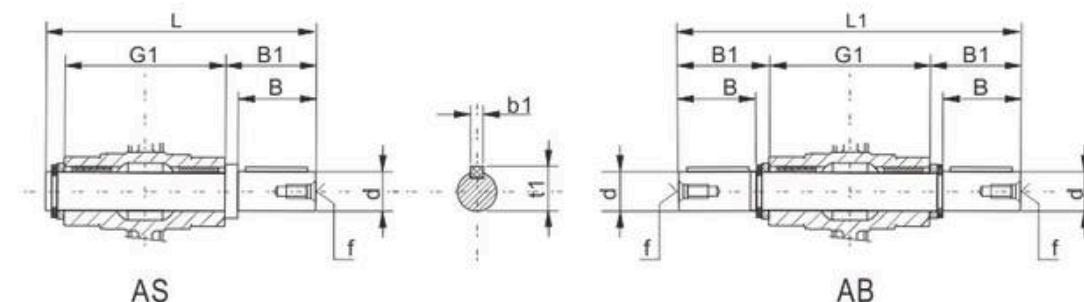
Weight without motor

Cover



	N2
030	42
040	50
050	57.5
063	68.5
075	73.5
090	85.5
110	94
130	102
150	117

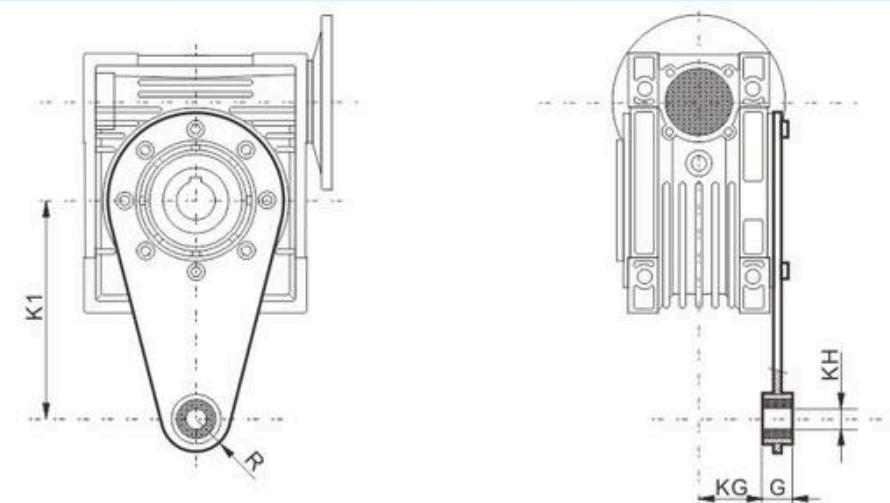
Low speed shafts



	d	B	B1	G1	L	L1	f	b1	t1
025	11g6 (9)	23 (25)	25.5 (30)	50	81 (85.5)	101	-	4 (3)	12.5 (10.2)
030	14 h6	30	32.5	63	102	128	M6	5	16
040	18 h6	40	43	78	128	164	M6	6	20.5
050	25 h6	50	53.5	92	153	199	M10	8	28
063	25 h6	50	53.5	112	173	219	M10	8	28
075	28 h6	60	63.5	120	192	247	M10	8	31
090	35 h6	80	84.5	140	234	309	M12	10	38
110	42 h6	80	84.5	155	249	324	M16	12	45
130	45 h6	80	85	170	265	340	M16	14	48.5
150	50 h6	82	87	200	297	374	M16	14	53.5

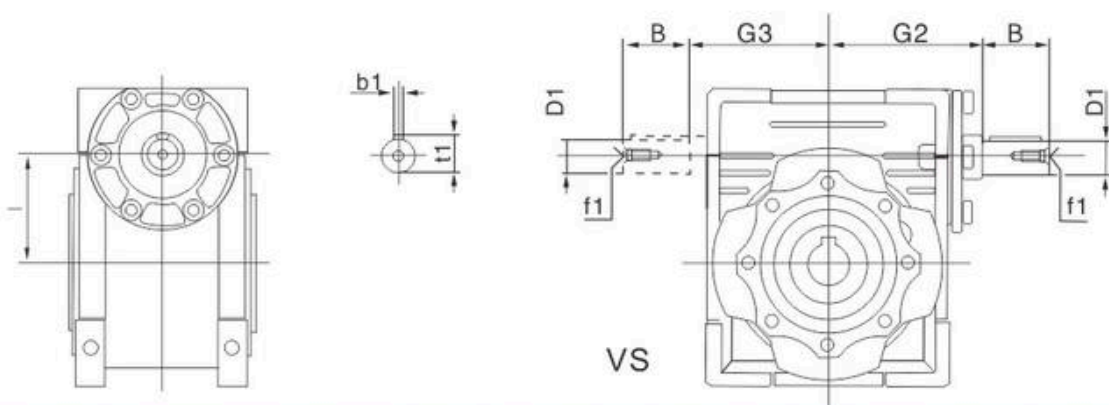
(...) Only on request

Torque arm



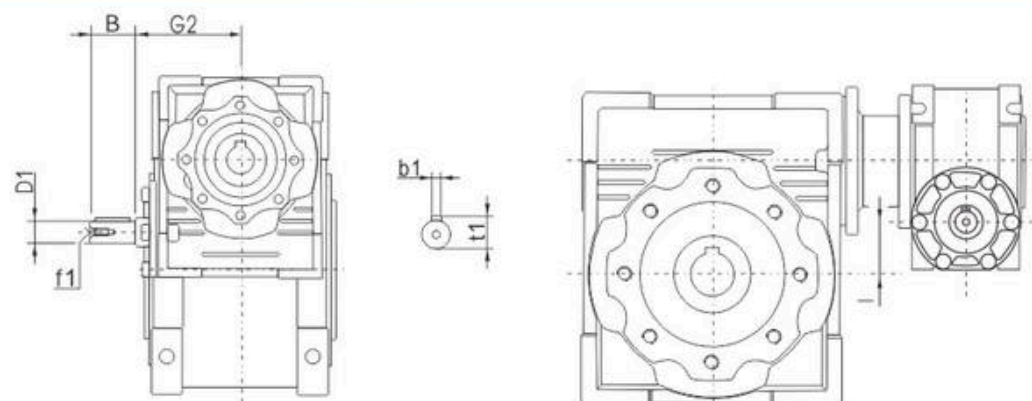
	K1	G	KG	KH	R
025	70	14	17.5	8	15
030	85	14	24	8	15
040	100	14	31.5	10	18
050	100	14	38.5	10	18
063	150	14	49	10	18
075	200	25	47.5	20	30
090	200	25	57.5	20	30
110	250	30	62	25	35
130	250	30	69	25	35
150	250	30	84	25	35

NRV / Dimensions



NRV	030	040	050	063	075	090	110	130	150
B	20	23	30	40	50	50	60	80	80
D1	9j6	11j6	14j6	19j6	24j6	24j6	28j6	30j6	35j6
G2	51	65	74	90	105	125	142	162	195
G3	45	53	64	75	90	108	135	155	175
I	30	40	50	63	75	90	110	130	150
b1	3	4	5	6	8	8	8	8	10
f1	-	-	M6	M6	M8	M8	M10	M10	M12
t1	10.2	12.5	16	21.5	27	27	31	33	38

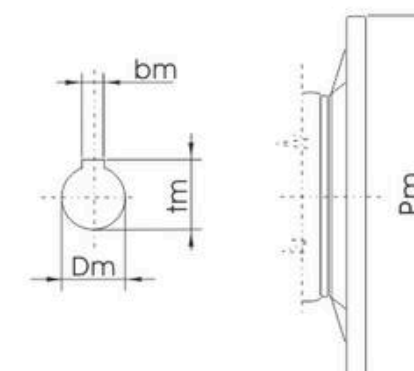
NRV+NMRV / Dimensions



NRV-NMRV	030-040	030-050	030-063	040-075	040-090	050-110	063-130	063-150
B	20	20	20	23	23	30	40	40
D1	9j6	9j6	9j6	11j6	11j6	14j6	19j6	19j6
G2	51	51	51	65	65	74	90	90
I	10	20	33	35	50	60	67	87
b1	3	3	3	4	4	5	6	6
f1	-	-	-	-	-	M6	M6	M6
t1	10.2	10.2	10.2	12.5	12.5	16	21.5	21.5

For the missing dimensions, please consider the drawing of relevant NMRV size.

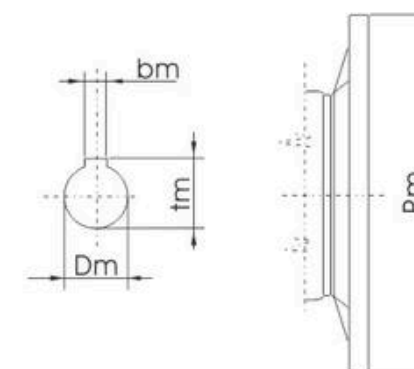
IEC B5 / PAM B5 - Dimensions



B5	IEC										
	056	063	071	080	090	100	112	132	160	180	200
Pm	120	140	160	200	200	250	250	300	350	350	400
Dm	9	11	14	19	24	28	28	38	42	48	55
bm	3	4	5	6	8	8	8	10	12	14	16
tm	10.4	12.8	16.3	21.8	27.3	31.3	31.3	41.3	45.3	51.3	59.3

NMRV(25~130) Tm=40.3(IEC 132)

IEC B14 / PAM B14 - Dimensions



B14	IEC							
	056	063	071	080	090	100	112	132
Pm	80	90	105	120	140	160	160	200
Dm	9	11	14	19	24	28	28	38
bm	3	4	5	6	8	8	8	10
tm	10.4	12.8	16.3	21.8	27.3	31.3	31.3	41.3

NMRV(25~130) Tm=40.3(IEC 132)

Model selections & Demonstration

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

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

2 Define working condition Coefficient K1 and revise coefficient K2.

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

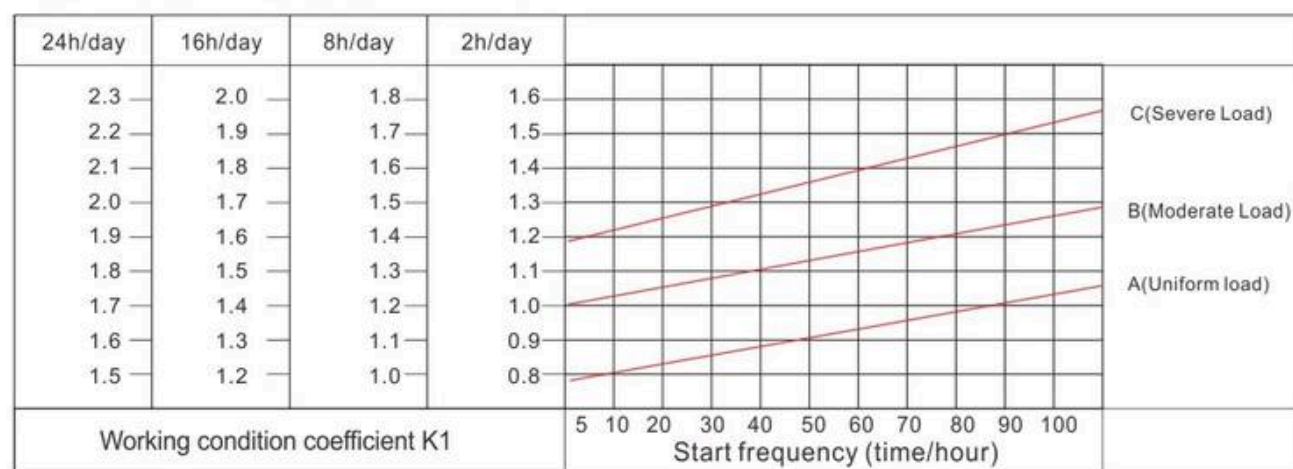
Table 1 Machinery Load classification selection

Using situation	Example	Load type
Uniform load	Convey band(uniform conveying)	A(Uniform load)
Moderate load	Speed changed conveying	B(Moderate load)
Severe load	Compressor, pulverizer, etc.	C(Severe load)

Table 2 working condition coefficient K2

Ambient temperature	Working condition coefficient K2
-10℃~30℃	1
30℃~40℃	1.1~1.2

Diagram 1 working Condition coefficient K1



3 Reducer selected

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

4 Examples for model chosen

Ex1 Common convey band (uniform load)

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

- As per table 1: Select load classification. Load classification: Uniformload, choose A.
- As per the cross point of 10 times/hour frequency on line A in diagram 1, get coefficient K1 value is 1 that turning time is 8 hours/day.
- Get the coefficient K2 according to table 2.
- So the torque value is 19 N.m.

Choose model: NMRV30-1/25

Input power is 0.18KW, output speed is 56r/min, output torque is 21N.m

Ex2 Covey band(moderate load)

Torque: 65N.m Turning time: 16 hours/day,
 Speed: 21r/min, Start frequency: 100times/hours,
 Ratio: 1/60, Environment temperature: indoor 35℃, Connect with motor directly

- As per load classification 1, moderate load, choose B.
- As per the cross point of 100times/hour frequency on line B in diagram 1, get coefficient K1 value is 1.68 that turning time is 16 hours/day.
- Get the coefficient K2 1.15 according to table 2.
- So the torque value is 65N.m. You can select the model that torque value most close to 123N.m.

Choose model: NMRV63-1/60

Input power is 0.55KW, output speed is 23.3r/min, output torque is 140N.m

Parameter Selections

1. NMRV single-stage (flange input, input speed 1400r/min)/(equipped with 4-pole motor)

Output speed r/min	Output torque N·m	Transmission ration i	Output radial force kN	Use coefficient k	Model code
0.06kw					
186.7	2.4	7.5	0.5	4.2	NMRV 25
140	3.1	10	0.55	3.5	
93.3	4.5	15	0.63	2.5	
70	5.8	20	0.69	2.0	
46.7	8.1	30	0.79	1.6	
35	10.1	40	0.87	1.3	
28	11	50	0.94	0.9	
23.3	11	60	1	0.7	
186.7	2.4	7.5	0.68	6.9	NMRV 30
140	3.1	10	0.75	5.4	
93.3	4.5	15	0.86	3.8	
70	5.8	20	0.94	3.0	
56	6.9	25	1.02	3.0	
46.7	8	30	1.08	2.5	
35	9.7	40	1.19	1.9	
28	11.3	50	1.28	1.5	
23.3	12.5	60	1.36	1.3	
17.5	12.5	80	1.5	0.9	
0.09kw					
186.7	3.6	7.5	0.5	2.8	NMRV 25
140	4.7	10	0.55	2.4	
93.3	6.8	15	0.63	1.6	
70	8.7	20	0.69	1.3	
46.7	12.1	30	0.79	1.1	
35	13	40	0.87	0.9	
186.7	3.6	7.5	0.68	4.6	NMRV 30
140	4.7	10	0.75	3.6	
93.3	6.8	15	0.86	2.5	
70	8.7	20	0.94	2.0	
56	10.4	25	1.02	2.0	
46.7	12	30	1.08	1.7	
35	14.5	40	1.19	1.2	
28	16.9	50	1.28	1.0	
23.3	16.9	60	1.36	0.9	
28	18.4	50	2.47	2.0	NMRV 40
23.3	21.3	60	2.63	1.7	
17.5	25.5	80	2.89	1.3	
14	28.9	100	3.11	1.0	
0.12kw					
186.7	4.9	7.5	0.68	3.4	NMRV 30

Output speed r/min	Output torque N·m	Transmission ration i	Output radial force kN	Use coefficient k	Model code
0.12kw					
140	6.3	10	0.75	2.7	NMRV 30
93.3	9	15	0.86	1.9	
70	11.6	20	0.94	1.5	
56	13.9	25	1.02	1.5	
46.7	16	30	1.08	1.3	
35	16.2	40	1.19	0.9	
28	24	50	1.28	0.8	
46.7	16.2	30	2.08	2.6	NMRV 40
35	20.3	40	2.29	1.9	
28	24.5	50	2.47	1.5	
23.3	28.4	60	2.63	1.3	
17.5	34	80	2.89	1.0	
14	39	100	3.11	0.8	
23.3	28.5	60	3.61	2.3	NMRV 50
17.5	34	80	3.97	1.9	
14	39.2	100	4.28	1.4	
0.18kw					
186.7	7.3	7.5	0.68	2.3	NMRV 30
140	9.5	10	0.75	1.8	
93.3	13.6	15	0.86	1.3	
70	17.4	20	0.94	1.0	
56	20	25	1.02	1.0	
46.7	24	30	1.08	0.8	
70	17.4	20	1.82	2.0	NMRV 40
56	20.8	25	1.96	1.7	
46.7	24.3	30	2.08	1.7	
35	30.4	40	2.29	1.3	
28	36.8	50	2.47	1.0	
23.3	42	60	2.63	0.8	
35	30.4	40	3.15	2.3	NMRV 50
28	36.8	50	3.39	1.9	
23.3	42	60	3.61	1.6	
17.5	51	80	3.97	1.2	
14	55	100	4.28	0.9	
0.25kw					
186.7	10.2	7.5	1.31	3.6	NMRV 40
140	13.3	10	1.44	2.8	
93.3	18.9	15	1.65	1.9	
70	24.2	20	1.82	1.5	

Output speed r/min	Output torque N·m	Transmission ration i	Output radial force kN	Use coefficient k	Model code
0.25kw					
56	28.9	25	1.96	1.2	NMRV 40
46.7	33.7	30	2.08	1.3	
35	42.2	40	2.29	0.9	
70	24.2	20	2.5	2.7	NMRV 50
56	28.9	25	2.69	2.2	
46.7	33.7	30	2.86	2.3	
35	42.2	40	3.15	1.7	
28	51	50	3.39	1.4	
23.3	59.3	60	3.61	1.1	
17.5	65	80	3.97	0.9	
28	51	50	4.44	2.4	NMRV 63
23.3	59.3	60	4.71	2.0	
17.5	70.9	80	5.19	1.6	
14	81.8	100	5.59	1.4	
0.37kw					
186.7	15.1	7.5	1.31	2.4	NMRV 40
140	19.6	10	1.44	1.9	
93.3	28	15	1.65	1.3	
70	35.8	20	1.82	1.0	
56	42.9	25	1.96	0.8	
46.7	49.9	30	2.08	0.8	
140	19.6	10	1.98	3.3	NMRV 50
93.3	28	15	2.27	2.4	
70	35.8	20	2.5	1.8	
56	42.9	25	2.69	1.5	
46.7	49.9	30	2.86	1.5	
35	62.5	40	3.15	1.1	
28	73	50	3.39	0.9	
23.3	87.8	60	3.61	0.8	
35	62.5	40	4.12	2.1	NMRV 63
28	75.7	50	4.44	1.6	
23.3	87.8	60	4.71	1.4	
17.5	105	80	5.19	1.1	
14	118	100	5.59	0.9	
0.55kw					
186.7	22.5	7.5	1.8	2.9	NMRV 50
140	29.2	10	1.98	2.2	
93.3	41.6	15	2.27	1.6	
70	53.2	20	2.5	1.2	
56	63	25	2.69	1.0	
46.7	74	30	2.86	1.0	

Output speed r/min	Output torque N·m	Transmission ration i	Output radial force kN	Use coefficient k	Model code
0.55kw					
70	53.2	20	3.27	2.2	NMRV 63
56	63	25	3.52	1.8	
46.7	74	30	3.74	1.9	
35	93	40	4.12	1.4	
28	112	50	4.44	1.1	
23.3	130.5	60	4.71	0.9	
35	93	40	4.86	2.0	NMRV 75
28	112	50	5.24	1.6	
23.3	130.5	60	5.56	1.4	
17.5	156	80	6.13	1.1	
14	180	100	6.6	0.9	
17.5	156	80	6.78	1.5	NMRV 90
14	180	100	7.3	1.2	
0.75kw					
186.7	30.6	7.5	1.8	2.1	NMRV 50
140	39.9	10	1.98	1.6	
93.3	56.7	15	2.27	1.2	
70	72	20	2.5	0.9	
93.3	56.7	15	2.97	2.2	NMRV 63
70	72	20	3.27	1.6	
56	87	25	3.52	1.3	
46.7	101	30	3.74	1.4	
35	126.8	40	4.12	1.0	
56	87	25	4.16	2.0	NMRV 75
46.7	101	30	4.42	2.0	
35	126.8	40	4.86	1.5	
28	153	50	5.24	1.2	
23.3	178	60	5.56	1.0	
28	153	50	5.79	1.8	NMRV 90
23.3	178	60	6.16	1.5	
17.5	212	80	6.78	1.1	
14	245	100	7.3	0.9	
1.1kw					
186.7	45	7.5	2.35	2.6	NMRV 63
140	58.5	10	2.59	2.0	
93.3	83	15	2.97	1.5	

Output speed r/min	Output torque N·m	Transmission ratio i	Output radial force kN	Use coefficient k	Model code
1.1kw					
70	106	20	3.27	1.1	NMRV 63
56	127	25	3.52	0.9	
46.7	148	30	3.74	1.0	
93.3	83	15	3.5	2.1	NMRV 75
70	106	20	3.86	1.7	
56	127	25	4.16	1.3	
46.7	148	30	4.42	1.3	
35	186	40	4.86	1.0	
35	186	40	5.38	1.6	NMRV 90
28	225	50	5.79	1.3	
23.3	261	60	6.16	1.0	
28	225	50	7.32	2.3	NMRV 110
23.3	261	60	7.78	1.9	
17.5	312	80	8.57	1.3	
14	360	100	9.23	1.0	
1.5kw					
186.7	61	7.5	2.35	1.9	NMRV 63
140	79.8	10	2.59	1.5	
93.3	113	15	2.97	1.1	
70	145	20	3.27	0.8	
140	79.8	10	3.06	2.2	NMRV 75
93.3	113	15	3.5	1.5	
70	145	20	3.86	1.3	
56	173.9	25	4.16	1.0	
46.7	202	30	4.42	1.0	
70	145	20	4.27	2.1	NMRV 90
56	173.9	25	4.6	1.6	
46.7	202	30	4.89	1.7	
35	253	40	5.38	1.2	
28	307	50	5.79	0.9	
23.3	356	60	6.16	0.8	
35	253	40	6.8	2.2	NMRV 110
28	307	50	7.32	1.7	
23.3	356	60	7.78	1.4	
17.5	425	80	8.57	0.9	
2.2kw					
186.7	90	7.5	2.78	1.8	NMRV 75
140	117	10	3.06	1.5	
93.3	166	15	3.5	1.0	
186.7	90	7.5	3.08	2.9	NMRV 90

Output speed r/min	Output torque N·m	Transmission ration i	Output radial force kN	Use coefficient k	Model code
2.2kw					
140	117	10	3.39	2.3	NMRV 90
93.3	166	15	3.88	1.9	
70	213	20	4.27	1.4	
56	255	25	4.6	1.1	
46.7	297	30	4.89	1.2	
70	213	20	5.39	2.5	NMRV 110
56	255	25	5.81	2.2	
46.7	297	30	6.18	2.0	
35	372	40	6.8	1.5	
28	450	50	7.32	1.2	
23.3	522	60	7.78	1.0	
35	372	40	8.89	2.2	NMRV 130
28	450	50	9.58	1.7	
23.3	522	60	10.18	1.4	
17.5	624	80	11.21	1.0	
14	720	100	10.62	0.8	
3kw					
186.7	122	7.5	2.78	1.4	NMRV 75
140	159	10	3.06	1.1	
93.3	227	15	3.5	0.8	
186.7	122	7.5	3.08	2.1	NMRV 90
140	159	10	3.39	1.7	
93.3	227	15	3.88	1.4	
70	290	20	4.27	1.0	
56	347	25	4.6	0.8	
46.7	405	30	4.89	0.9	
93.3	227	15	4.9	2.5	NMRV 110
70	290	20	5.39	1.9	
56	347	25	5.81	1.6	
46.7	405	30	6.18	1.5	
35	507	40	6.8	1.1	
28	613	50	7.32	0.9	
56	347	25	7.6	2.2	NMRV 130
46.7	405	30	8.08	2.1	
35	507	40	8.89	1.6	
28	613	50	9.58	1.3	
23.3	712	60	10.18	1.0	
17.5	851	80	11.21	0.8	

Output speed r/min	Output torque N·m	Transmission ration i	Output radial force kN	Use coefficient k	Model code
28	613	50	13.1	1.8	NMRV 150
23.3	712	60	13.92	1.4	
17.5	851	80	15.32	1.0	
14	982	100	16.5	0.8	
4kw					
186.7	163	7.5	3.08	1.6	NMRV 90
140	212	10	3.39	1.3	
93.3	302	15	3.88	1.0	
70	387	20	4.27	0.8	
140	212	10	4.28	2.5	NMRV 110
93.3	302	15	4.9	1.9	
70	387	20	5.39	1.4	
56	463	25	5.81	1.2	
46.7	540	30	6.18	1.1	
56	463	25	7.6	1.6	NMRV 130
46.7	540	30	8.08	1.6	
35	676	40	8.89	1.2	
28	818	50	9.58	1.0	
23.3	949	60	10.18	0.8	
28	818	50	13.1	1.4	NMRV 150
23.3	949	60	13.92	1.1	
17.5	1309	80	15.32	0.8	
5.5kw					
186.7	225	7.5	3.89	2.2	NMRV 110
140	292	10	4.28	1.8	
93.3	416	15	4.9	1.4	
70	532	20	5.39	1.0	
140	292	10	5.6	2.5	NMRV 130
93.3	416	15	6.41	1.9	
70	532	20	7.06	1.4	
56	637	25	7.6	1.2	
46.7	742	30	8.08	1.2	
35	930	40	8.89	0.9	
70	532	20	9.65	2.0	NMRV 150
56	637	25	10.4	1.5	
46.7	742	30	11.05	1.3	
35	930	40	12.16	1.3	
28	1125	50	13.1	1.0	
23.3	1305	60	13.92	0.8	

Output speed r/min	Output torque N·m	Transmission ratio i	Output radial force kN	Use coefficient k	Model code
7.5kw					
186.7	306	7.5	3.89	1.6	NMRV 110
140	399	10	4.28	1.3	
93.3	567	15	4.9	1.0	
186.7	306	7.5	5.09	2.1	NMRV 130
140	399	10	5.6	1.8	
93.3	567	15	6.41	1.4	
70	726	20	7.06	1.0	
56	869	25	7.6	0.9	
46.7	1012	30	8.08	0.8	
35	1268	40	8.89	0.7	
70	726	20	9.65	1.5	NMRV 150
56	869	25	10.4	1.1	
46.7	1012	30	11.05	0.9	
35	1268	40	12.16	1.0	
11kw					
186.7	450	7.5	6.96	2.3	NMRV 150
140	585	10	7.66	1.8	
93.3	832	15	8.77	1.3	
70	1065	20	9.65	1.0	
56	1275	25	10.4	0.8	
15kw					
186.7	613	7.5	6.96	1.7	NMRV 150
140	798	10	7.66	1.3	
93.3	1135	15	8.77	0.9	
70	1452	20	9.65	0.7	

2. NRV single-stage (shaft input, input speed 1400r/min)/(equipped with 4-pole motor)

Input Power kW	Output Speed r/min	Output torque N.m	Transmission ratio I	Output radial force kN	Input radial force kN	Model code
0.4	186.7	18	7.5	0.68	0.15	NRV 30
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	1.5	0.21	
0.9	186.7	40	7.5	1.31	0.29	NRV 40
0.7	140	40	10	1.44	0.33	
0.5	93.3	40	15	1.65	0.33	
0.4	70	39	20	1.82	0.35	
0.3	56	38	25	1.96	0.35	
0.3	46.7	45	30	2.08	0.35	
0.2	35	41	40	2.29	0.35	
0.2	28	39	50	2.47	0.35	
0.2	23.3	36	60	2.63	0.35	
0.1	17.5	33	80	2.89	0.35	
0.1	14	29	100	3.11	0.35	
1.6	186.7	71	7.5	1.8	0.4	NRV 50
1.2	140	72	10	1.98	0.49	
0.9	93.3	74	15	2.27	0.49	
0.7	70	73	20	2.5	0.49	
0.5	56	70	25	2.69	0.49	
0.6	46.7	84	30	2.86	0.49	
0.4	35	76	40	3.15	0.49	
0.3	28	73	50	3.39	0.49	
0.3	23.3	68	60	3.61	0.49	
0.2	17.5	65	80	3.97	0.49	
0.2	14	55	100	4.28	0.49	
2.8	186.7	128	7.5	2.35	0.5	NRV 63
2.2	140	130	10	2.59	0.57	
1.6	93.3	140	15	2.97	0.61	
1.2	70	135	20	3.27	0.66	
1.0	56	130	25	3.52	0.70	
1.1	46.7	160	30	3.74	0.70	
0.8	35	145	40	4.12	0.70	
0.6	28	135	50	4.44	0.70	
0.5	23.3	130	60	4.71	0.70	
0.4	17.5	118	80	5.59	0.70	
0.3	14	118	100	5.59	0.70	
4.1	186.7	185	7.5	2.78	0.70	NRV 75
3.2	140	195	10	3.06	0.83	
2.3	93.3	200	15	3.50	0.85	
1.9	70	210	20	3.86	0.98	
1.5	56	200	25	4.16	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	NRV 90
5.1	140	310	10	3.39	1.08	
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	
12	186.7	552	7.5	3.89	1.20	NRV 110
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	
1.1	14	483	100	9.23	1.70	
16.1	186.7	750	7.5	5.09	1.50	NRV 130
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	7.06	2.10	
6.4	46.7	1040	30	8.08	2.10	NRV 130
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	
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	NRV 150
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	

3. NMRV+NMRV dual stage (flange input, input speed 1400r/min)/(equipped with 4-pole motor)

Output Speed r/min	Output torque N.M	General transmission ratio I	High speed transmission ratio I1	Low speed transmission ratio I2	Output radial force kN	Use coefficient k	Combination model Size
0.06kw							
14	25	100	10	10	1.62	1.3	25/30
9.3	32	150	10	15	1.83	0.9	
7.0	41	200	10	20	1.83	0.7	
5.6	44	250	10	25	1.83	0.8	
4.7	59	300	10	30	3.49	1.2	25/40
3.5	71	400	10	40	3.49	0.9	
2.8	82	500	20	25	3.49	0.7	
2.3	101	600	20	30	3.49	0.6	
1.9	116	750	25	30	3.49	0.5	
1.6	143	900	30	30	3.49	0.5	
1.2	171	1200	30	40	3.49	0.4	
0.9	197	1500	50	30	3.49	0.3	
0.8	217	1800	60	30	3.49	0.3	
0.6	268	2400	60	40	3.49	0.2	
0.5	324	3000	60	50	3.49	0.2	30/40
0.4	294	4000	50	80	3.49	0.1	
0.3	356	5000	50	100	3.49	0.1	
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	
0.9	196	1500	50	30	3.49	0.4	30/50
0.8	218	1800	60	30	3.49	0.3	
0.58	261	2400	60	40	3.49	0.2	
0.4	300	3200	80	40	3.49	0.2	
0.4	279	4000	50	80	3.49	0.1	
0.28	338	5000	50	100	3.49	0.1	
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	
0.6	266	2400	60	40	4.84	0.5	30/63
0.5	307	3000	60	50	4.84	0.4	
0.35	288	4000	50	80	4.84	0.3	
0.29	311	4800	60	80	4.84	0.3	
0.9	203	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	

Output Speed r/min	Output torque N.M	General transmission ration i	High speed transmission ratio i1	Low speed transmission ratio i2	Output radial force kN	Use coefficient k	Combination model Size
0.06kw							
0.47	319	3000	60	50	6.27	0.7	30/63
0.35	306	4000	50	80	6.27	0.6	
0.28	360	5000	50	100	6.27	0.4	
0.6	330	2400	60	40	7.38	1.1	40/75
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	
0.5	405	3000	60	50	8.18	1.4	40/90
0.35	365	4000	50	80	8.18	1.3	
0.28	431	5000	50	100	8.18	1.0	
0.09kw							
14	37	100	10	10	1.62	0.8	25/30
9.3	49	150	10	15	1.83	0.6	
7.0	62	200	10	20	1.83	0.5	
5.6	66	250	10	25	1.83	0.5	
4.7	75	300	10	30	1.83	0.4	
3.5	107	400	10	40	1.83	0.3	
2.8	115	500	20	25	1.83	0.2	
2.3	135	600	20	30	1.83	0.2	
1.9	151	750	25	30	1.83	0.2	
1.6	178	900	30	30	1.83	0.2	
1.2	212	1200	30	40	1.83	0.1	
0.9	247	1500	50	30	1.83	0.1	
0.78	304	1800	60	30	1.83	0.1	
0.58	340	2400	60	40	1.83	0.1	
0.47	405	3000	60	50	1.83	0.1	
4.7	87	300	10	30	3.49	0.8	30/40
3.5	106	400	10	40	4.84	1.2	30/50
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	
1.6	200	900	15	60	6.27	1.0	30/63
1.2	263	1200	30	40	6.27	0.9	
0.93	305	1500	30	50	6.27	0.7	
0.9	359	1500	50	30	7.38	1.1	40/75
0.78	404	1800	60	30	7.38	1	
0.58	496	2400	60	40	7.38	0.7	
0.5	608	3000	60	50	8.18	0.9	40/90
0.35	548	4000	50	80	8.18	0.8	

Output Speed r/min	Output torque N.M	General transmission ratio i	High speed transmission ratio i1	Low speed transmission ratio i2	Output radial force kN	Use coefficient k	Combination model Size
0.25kw							
0.35	2046	4000	50	80	13.5	0.6	63/130
0.28	2430	5000	50	100	13.5	0.5	
0.8	1199	1800	60	30	18	1.8	63/150
0.6	1446	2400	60	40	18	1.8	
0.5	1713	3000	60	50	18	1.4	
0.4	2026	4000	50	80	18	0.9	
0.3	2251	5000	50	100	18	0.7	
0.37kw							
4.7	405	300	10	30	7.38	1.0	40/75
3.5	498	400	10	40	7.38	0.7	
4.7	401	300	7.5	40	8.18	1.5	40/90
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	
1.9	949	750	25	30	10.32	1.3	50/110
1.6	1079	900	30	30	10.32	1.2	
1.2	1396	1200	30	40	10.32	0.8	
0.9	1674	1500	50	30	13.5	1.1	63/130
0.78	1887	1800	60	30	13.5	0.9	
0.8	1774	1800	60	30	18	1.2	63/150
0.6	2141	2400	60	40	18	1.2	
0.5	2535	3000	60	50	18	0.9	
0.55kw							
4.7	638	300	10	30	10.32	2.0	50/110
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	
2.8	995	500	10	50	13.5	1.6	63/130
1.9	1471	750	25	30	13.5	1.2	
1.2	2132	1200	30	40	13.5	0.8	
0.8	2637	1800	60	30	18	0.8	63/150
0.6	3182	2400	60	40	18	0.8	

4. NRV+NMRV dual stage (shaft input, input speed 1400r/min)/(equipped with 4-pole motor)

Input Power kW	Output Speed r/min	Output torque N.m	Transmission ration I	Output radial force kN	Input radial force kN	Model code
0.1	4.7	73	300	3.49	0.21	30/40
0.1	3.5	65	400	3.49	0.21	
0.08	2.8	61	500	3.49	0.21	
0.06	2.3	73	600	3.49	0.21	
0.04	1.9	73	750	3.49	0.21	
0.03	0.6	73	900	3.49	0.21	
0.02	1.2	65	1200	3.49	0.21	
0.02	0.9	73	1500	3.49	0.21	
0.02	0.8	73	1800	3.49	0.21	
0.01	0.58	65	2400	3.49	0.21	
0.01	0.4	65	3200	3.49	0.21	
0.01	0.35	33	4000	3.49	0.21	
0.01	0.28	29	5000	3.49	0.21	
0.15	4.7	145	300	4.84	0.21	30/50
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	0.6	124	2400	4.84	0.21	
0.02	0.5	120	3000	4.84	0.21	
0.02	0.35	82	4000	4.84	0.21	
0.02	0.29	82	4800	4.84	0.21	
0.24	4.7	230	300	6.27	0.21	30/63
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	
0.4	4.7	390	300	7.38	0.35	40/75
0.3	3.5	360	400	7.38	0.35	
0.21	2.8	320	500	7.38	0.35	

Input Power kW	Output Speed r/min	Output torque N.m	Transmission ration I	Output radial force kN	Input radial force kN	Model code
0.2	2.3	390	600	7.38	0.35	40/75
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	
0.6	4.7	610	300	8.18	0.35	40/90
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	400	8.18	0.35	
0.1	0.28	410	5000	8.18	0.35	
1.1	4.7	1265	300	10.32	0.49	50/110
0.8	3.5	1185	400	10.32	0.49	
0.61	2.8	1100	500	10.32	0.49	
0.6	2.3	1185	600	10.32	0.49	
0.5	1.9	1265	750	10.32	0.49	
0.43	1.6	1265	900	10.32	0.49	
0.31	1.2	1186	1200	10.32	0.49	
0.3	0.93	1265	1500	10.32	0.49	
0.3	0.78	1265	1800	10.32	0.49	
0.2	0.58	1185	2400	10.32	0.49	
0.15	0.47	1100	3000	10.32	0.49	
0.13	0.35	819	4000	10.32	0.49	
0.1	0.28	746	5000	10.32	0.49	
1.5	4.7	1760	300	13.5	0.7	63/130
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	

Input Power kW	Output Speed r/min	Output torque N.m	Transmission ration I	Output radial force kN	Input radial force kN	Model code
0.6	1.6	1760	900	13.5	0.7	63/130
0.4	1.2	1650	1200	13.5	0.7	
0.4	0.93	1760	1500	13.5	0.7	
0.3	0.78	1760	1800	13.5	0.7	
0.3	0.58	1650	2400	13.5	0.7	
0.2	0.47	1550	3000	13.5	0.7	
0.1	0.35	1220	4000	13.5	0.7	
0.1	0.28	1100	5000	13.5	0.7	
3.4	9.3	2340	150	18	0.7	63/150
2.7	7.0	2340	200	18	0.7	
1.9	5.6	2050	250	18	0.7	
1.9	4.7	2340	300	18	0.7	
1.8	3.5	2670	400	18	0.7	
1.4	2.8	2330	500	18	0.7	
1.3	2.3	2670	600	18	0.7	
1.0	1.9	2330	750	18	0.7	
0.7	1.6	2100	900	18	0.7	
0.7	1.2	2670	1200	18	0.7	
0.4	0.8	2100	1800	18	0.7	
0.5	0.6	2670	2400	18	0.7	
0.3	0.5	2330	3000	18	0.7	
0.2	0.4	1880	4000	18	0.7	
0.2	0.3	1650	5000	18	0.7	

Operating Instructions

1 Single Step Worm Gear Reducer

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

2 Double Step Worm Gear Reducer

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

3 Notes of Installation

- 3.1 The base-plate must be plane and stoutness, and the base-bolts must be screwed down and shockproof.
- 3.2 The connecting shafts of prime mover, reducer and operation device must be coaxial after installation.
- 3.3 The diameter tolerance zone of input and output shaft is 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.
- 3.4 Drives such as sprocket wheel and gear must be fitted close to bearing in order to reduce bending stress of hanging shaft.
- 3.5 While assembling motor to the reducer, it is necessary to add butters to the worm shaft input hole and keyway, so as to avoid tightly assembling and rusting when it is used for a long time.
- 3.6 Supporting unit is required when reducers directly match with motors whose weight is bigger than normal.

4 Operating Notes

- 4.1 Before using, please check carefully whether the reducer mode, centre 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 no more than 1500r/min.

4.2 The load should be added step by step when using the machine. Never running it with full load.

4.3 The reducer is equipped with a filling hole, a discharge hole and an oil mark. ISO VG320 mineral oil has been added to the reducer. The user shall remove the rubber ring on the ventilator before use. First run 800 hours after the injection of new oil, after every about 1500 hours oil change once.

4.4 The permitted temperature of the oil in reducer is 95°C. If up to this value, it must be stopped and checked.

4.5 We propose to change oil seal when the reducer has been stored over four to six months and the oil seal has n't been immersed in lubrication oil before using.

4.6 When the ambient temperature is 5°C upper or lower than the normal level stated in the table, please contact with us.

Choice of lubricant

Lubrication oil chosen table

Reducer size	25~90	110~130	
Type of lubrication oil	Synthetic lubrication oil	Mineral lubrication oil	
Ambient temperature	-25~+50	-5~+40	-5~+25
ISO VG	ISO VG 320	ISO VG 460	ISO VG 220
AGIP	TELUM VSF320	BLASIA 460	BLASIA 220
SHELL	TIVELA OIL SC320	OMALA OIL460	OMALA OIL220
ESSO	S220	SPARTAN EP460	SPARTAN EP220
MOBIL	GLYGOYLE 30	MOBIL GEAR 634	MOBIL GEAR 630
CASTROL	ALPHASYNPG320	ALPHA MAX 460	ALPHA MAX 220
BP	ENERGOL SG-XP320	ENERGOL GR-XP460	ENERGOL GR-XP220

Adding Capacity of lubricationoil

Type Installation	025	030	040	050	063	075	090	110	130	150
B3	0.02	0.04	0.08	0.13	0.25	0.4	0.8	2.5	4	5.4
B6 B7								2.5	3.5	5.4
B8								2.2	3.3	5.1
V5								2.5	4	5.4
V6								2.2	3.3	5.1

Malfunctions Analysis

Fault Description	Reasons	Solutions
Overheating	Improper connection among prime mover, reducer and the operation device	Adjust to proper position
	Overloading	Adjust to proper load
	Over friction of oil seals	Drop lubricant at oil seal
	☆ Lubricant oil overmuch or shortage	Adjust to proper oil quantity as lubricant capacity table
	☆ Much impurity in oil or inferior oil	Refill proper oil
Vibration	Prime mover, reducer and the operation device mount badly	Find out the bad place, tighten it
	Tooth surface of worm gear sets worn-out or damaged	Replace worm gear sets(we will cooperate with you when necessary)
	Bearing worn-out	Replace Bearing
	Bolt loose	Tighten Screw
Noise	Improper connection among prime mover, reducer and the operation device	Adjust to proper position
	Bearing damaged or too large clearance	Replace Bearing
	Worm gear sets mesh badly	Mend tooth surface or replace worm gear sets (please contact to us)
	☆ Lubricant oil shortage	Fill in adequate oil as lubricant capacity table
Oil leakage	Oil seal lip worn-out	Replace oil seal
	Shaft of oil seal area worn-out	Replace input or output shaft with worm gear
	Oil screw plug loose	Tighten oil screw plug
	Oil gauge damaged	Replace oil gauge
Tooth surface of worm gear sets abrade extra-quickly	Overload	Adjust to proper loading
	☆ Lubricant oil not according with requirement	Replace proper lubricant oil
	☆ Lubricant oil shortage	Fill adequate oil as indication
	Not replacing lubricant oil in time according to requirement, oil deteriorates	Replacing oil in time according to requirement
	Overheating while running	1.Deal with it as "Overheating" 2.Adopting proper measures to make environment temperature fall

Annotate: 1. ☆ Accored after the lubricant changed.

2.If other faults not listed above occur, Please contact with us at any moment, Our company will supply thorough consultation and service.

Memo

This image shows a single sheet of white paper with horizontal blue or grey ruling lines. The lines are evenly spaced and run across the width of the page. There are approximately 20 lines visible. The paper appears to be a standard notebook page or a sheet of stationery designed for writing.