

WORM GEARBOX



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RV WORM GEARED MOTORS AND WORM GEAR UNITS

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Products guide



■ **STRUCTURE FEATURES**

RV series worm gear speed reducer is a new-generation of product developed by on the basis of perfecting WJ series products with a compromise of advanced technology both at home and abroad, its main features areas follows:

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

■ **MAIN MATERIALS**

1. Housing : die-cast aluminium alloy (frame size : 025 to 090); cast iron (frame size: 110 to 130).
2. Worm : 20Cr, carbonize & quencher heat treatment make the hardness of gear's surface up to 56~62 HRC, retain carburization layers's thickness between 0.3 and 0.5mm after precise grinding.
3. Worm wheel : wearable stannum bronze alloy.

■ **SURFACE PAINTING**

Aluminum alloy housing :

1. Shot blasting and special antiseptic treatment on the aluminum alloy surface.
2. After phosphating, paint with RAL5010 blue or RAL9010 Silver.

Cast iron housing.

First paint with red antitrust paint, then paint RAL5010 blue or RAL9010 silver



■ RV/NRV WORM GEARED MOTORS AND WORM GEAR UNITS

RV 063 - 40 - E FA1 AS1 71B5 B3 - 7124/or 0.37 - 4 / 1

①
②
③
④
⑤
⑥
⑦
⑧
⑨
⑩

| NO | Comments |
|----|---|
| 1 | Model code 1).RV: Hole input with flange 2).NRV: Shaft input without flange |
| 2 | Central distance of worm gear units(spec) |
| 3 | Speed ratio of reducer (i=7.5;10;15;20;25;30;40;50;60;80;100) |
| 4 | 1).No mark means single extension worm shaft 2).E: Double extension worm shaft |
| 5 | 1).No mark means without output flange 2).FA,FB,FC,FD,FE(1/2):output Flange and position |
| 6 | 1).NO mark means hole output 2).AS(1/2):Single output shaft and position 3).AB: Double output shaft |
| 7 | Normalized form of input flange(without motor) |
| 8 | Installation position code |
| 9 | 1).No mark means without motor 2).Model motors(poles of power) |
| 10 | Position diagram for motor terminal box default position 1 not to write out is ok |

■ PC-RV WORM GEARS WITH PRE-STAGE HELICAL UNITS

PC 071 - RV 063 - 40 E FA1 AS1 B3

①
②
③
④
⑤
⑥
⑦
⑧
⑨

| NO | Comments |
|----|---|
| 1 | Helical Pre-stage unit |
| 2 | Motor frame size |
| 3 | Model code 1).RV: Hole input with flange 2).NRV: Shaft input without flange |
| 4 | Central distance of worm gear units(spec) |
| 5 | Speed ratio of reducer(i=7.5;10;15;20;25;30;40;50;60;80;100) |
| 6 | 1).No mark means single extension worm shaft 2).E: Double extension worm shaft |
| 7 | 1).No mark means without output flange 2).FA,FB,FC,FD,FE(1/2):output Flange and position |
| 8 | 1).NO mark means hole output 2).AS(1/2):Single output shaft and position 3).AB: Double output shaft |
| 9 | Installation position code |

When ordering, you should show whether the reducers are equipped with motors, otherwise reducers aren't supplied with motors.

■ RELEVANT PARAMETER

1). Power

$$P_1 = \frac{P_2}{\eta_d} \text{ [KW]}$$

$$P_{1n} \geq P_1 \cdot f_s \text{ [KW]}$$

P₁ Input power

P₂ Output power

P_{1n} Selected motor power

The parameter can be found in the gearbox rating charts and represents the KW that can be safely transmitted to the gearbox, based on input speed n₁ and service factor f_s=1.

f_s Service factor

η_d Dynamic efficiency

Values of η_d are calculated for gearboxes after a sufficiently long running-in period. After the running-in period the surface temperature in operation reduces and finally becomes stable. It may be worth highlighting that values of rated torque M_{2n} given in the catalogue take the dynamic efficiency η_d into consideration.

2). Rotation speed

n₁ Gear units input speed

n₂ Gear units output speed

3). Transmission ratio

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

4). Torque

$$M_2 = \frac{9550 \cdot P_1 \cdot \eta_d}{n_2} \text{ [Nm]}$$

$$M_{2n} \geq M_2 \cdot f_s \text{ [Nm]}$$

M₂ Output torque

M_{2n} Selected output torque

The torque that can be transmitted continuously through the output shaft, with the gear unit operated under a service factor f_s=1. Rating is speed sensitive.

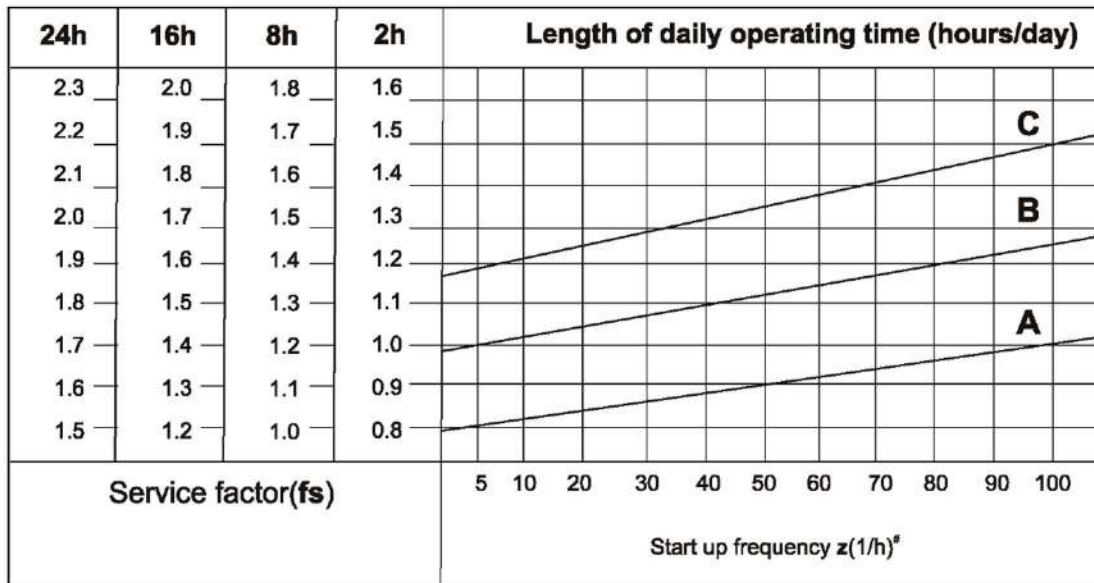
P₁ Input power

η_d Dynamic efficiency

f_s Service factor

5). Service factor f_s

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



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

type of load:

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

Load classifications:

A Screw feeders for light materials, fans, assembly lines, conveyor belts for light materials, small mixers, lifts, cleaning machines, fillers, control machines.

B Winding devices, woodworking machine feeders, good lifts, balancers, threading machines, medium mixers, conveyor belts for heavy materials, winches, sliding doors, fertilizer scrapers, packing machines, concrete mixers, crane mechanisms, milling cutters, folding machines, gear pumps.

C Mixers for heavy materials, shears, presses, centrifuges, rotating supports, winches and lifts for heavy materials, grinding lathes, stone mills, bucket elevators, drilling machines, hammer mills, cam presses, folding machines, turntables, tumbling barrels, vibrators, shredders.

The mass acceleration factor is calculated as follows:

$$F_a = \frac{J_c}{J_m}$$

fa Mass acceleration factor

Jc All external mass moments of inertia(kgm²)

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

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

Service factor **fs** should be adjusted as followings:

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

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

6). The admissible radial load on the shaft

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

$$F_{re} = \frac{M \cdot 2000 \cdot f_z}{d_o}$$

Fre(N) Resulting radial load

M(Nm) Torque on the shaft

do(mm) Diameter of the transmission element mounted on the shaft

Fr(N) The admitted radial load force(see relative tables)

fz Transmission element factor

When the resulting radial load is not applied on the centre line of the shaft, it is necessary to calculate the effective load with the following formula:

$$F_{re} \leq \frac{F_r \cdot a}{(b+x)} \leq F_{r1max} \cdot F_{r2max}$$

a =worm casing constant

b =worm casing constant

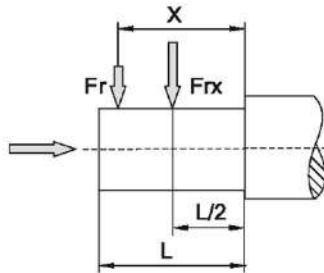
x =distance of load from shaft shoulder(mm)

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

Transmission element factor Fz

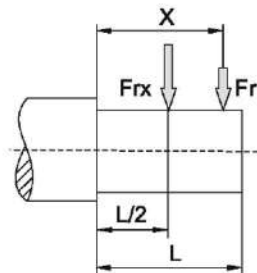
| Transmission element | Transmission element factor Fz | Comments |
|-----------------------|--------------------------------|--------------------------------|
| Gears | 1.00 | ≥17teeth |
| | 1.15 | <17teeth |
| | 1.00 | ≥20teeth |
| Chain sprockets | 1.25 | <20teeth |
| | 1.40 | <13teeth |
| Narrow V-belt pulleys | 1.75 | Influence of the tensile force |
| Flat belt pulleys | 2.50 | Influence of the tensile force |
| Toothed belt pulleys | 2.50 | Influence of the tensile force |

Output shafts radial loads



| RV | 025 | 030 | 040 | 050 | 063 | 075 | 090 | 110 | 130 |
|----------------|------|------|------|------|------|------|------|-------|-------|
| a | 50 | 65 | 84 | 101 | 120 | 131 | 162 | 176 | 188 |
| b | 38 | 50 | 64 | 76 | 95 | 101 | 122 | 136 | 148 |
| Fr2 max | 1350 | 1830 | 3490 | 4840 | 6270 | 7380 | 8180 | 12000 | 13500 |

Input shafts radial loads



| NRV | 030 | 040 | 050 | 063 | 075 | 090 | 110 | 130 |
|----------------|-----|------|-----|-----|-----|------|------|------|
| a | 86 | 106 | 129 | 159 | 192 | 227 | 266 | 314 |
| b | 76 | 94.5 | 114 | 139 | 167 | 202 | 236 | 274 |
| Fr1 max | 210 | 350 | 490 | 700 | 980 | 1270 | 1700 | 2100 |

■ SELECTION EXAMPLE

1).Worm geared motors

Example:The input power of driver machine is 1.5KW, $n_1=1400$ r/min, heavy load, continuous running for 24 hours, the ambient temperature is $+32^\circ\text{C}$, then choose the service factor, $f_s=1.7 \times 1.2=1.904$, $n_2=93.3$ r/min, B3 mounted SO:

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

$$P_{in} \geq P_1 \cdot f_s = 0.5 \times 1.904 = 0.952 [\text{kw}]$$

Choose type:

RV075-15-B3-1.1-4

Count output torque:

$$M_2 = \frac{9550 \cdot P_1 \cdot \eta_d}{n_2} = \frac{9550 \cdot 0.5 \cdot 0.84}{93.3} = 43 [\text{Nm}]$$

$$M_{2n} = 95 \geq M_2 \cdot f_s = 43 \times 1.904 = 81.9 [\text{Nm}]$$

2).Worm gear units

Example: Required torque 300Nm on driven machine, continuous running for 8 hours, uniform Load, the ambient temperature is 30°C , then choose the service factor $f_s=1.2 \times 1.1=1.32$, $n_1=900$ r/min. $N_2=22.5$ r/min.

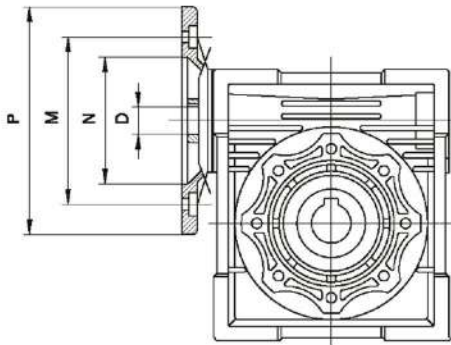
$$M_{2n} \geq M_2 \cdot f_s = 300 \times 1.32 = 396 [\text{Nm}]$$

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

Choose type:

NRV090-40

■ THE CONFIGURATION COMBINE RV SPEC WITH MOTORS COUPLING FLANGE AND RATIO

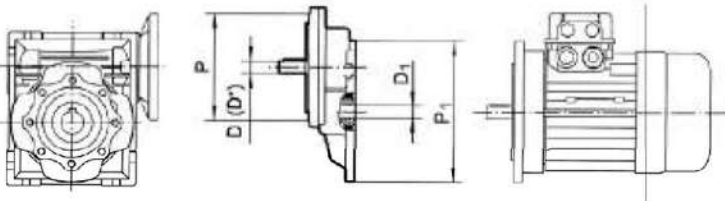


*If you want special key, please call our Technical Service

| | Motor flange | | | | The hole diameter of input shaft | | | | | | | | | | | |
|-------|--------------|-----|-----|-----|----------------------------------|-----|-----|-----|-----|-----|-----|----|----|----|-----|----|
| | PAM IEC | P | M | N | Transmission ratio | | | | | | | | | | | |
| | | | | | 7.5 | 10 | 15 | 20 | 25 | 30 | 40 | 50 | 60 | 80 | 100 | |
| RV025 | 56B14 | 80 | 65 | 50 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | | | |
| RV030 | 63B5 | 140 | 115 | 95 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | | | |
| | 63B14 | 90 | 75 | 60 | | | | | | | | | | | | |
| | 56B5 | 120 | 100 | 80 | | | | | | | | | | | | |
| RV040 | 56B14 | 80 | 65 | 50 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
| | 71B5 | 160 | 130 | 110 | | | | | | | | | | | | |
| | 71B14 | 105 | 85 | 70 | | | | | | | | | | | | |
| | 63B5 | 140 | 115 | 95 | | | | | | | | | | | | |
| | 63B14 | 90 | 75 | 60 | | | | | | | | | | | | |
| | 56B5 | 120 | 100 | 80 | | | | | | | | | | | | |
| RV050 | 80B5 | 200 | 165 | 130 | 19 | 19 | 19 | 19 | 19 | 19 | | | | | | |
| | 80B14 | 120 | 100 | 80 | | | | | | | | | | | | |
| | 71B5 | 160 | 130 | 110 | | | | | | | | | | | | |
| | 71B14 | 105 | 85 | 70 | | | | | | | | | | | | |
| | 63B5 | 140 | 115 | 95 | | | | | | | | | | | | |
| RV063 | 90B5 | 200 | 165 | 130 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | | | | | |
| | 90B14 | 140 | 115 | 95 | | | | | | | | | | | | |
| | 80B5 | 200 | 165 | 130 | | | | | | | | | | | | |
| | 80B14 | 120 | 100 | 80 | | | | | | | | | | | | |
| | 71B5 | 160 | 130 | 110 | | | | | | | | | | | | |
| | 71B14 | 105 | 85 | 70 | | | | | | | | | | | | |
| RV075 | 110/112B5 | 250 | 215 | 180 | 28 | 28 | 28 | 28 | 28 | 28 | 28 | | | | | |
| | 110/112B14 | 160 | 130 | 110 | | | | | | | | | | | | |
| | 90B5 | 200 | 165 | 130 | | | | | | | | | | | | |
| | 90B14 | 140 | 115 | 95 | | | | | | | | | | | | |
| | 80B5 | 200 | 165 | 130 | | | | | | | | | | | | |
| | 80B14 | 120 | 100 | 80 | | | | | | | | | | | | |
| | 71B5 | 160 | 130 | 110 | | | | | | | | | | | | |
| RV090 | 100/112B5 | 250 | 215 | 180 | 28 | 28 | 28 | 28 | 28 | 28 | 28 | 28 | 28 | 28 | | |
| | 110/112B14 | 160 | 130 | 110 | | | | | | | | | | | | |
| | 90B5 | 200 | 165 | 130 | | | | | | | | | | | | |
| | 90B14 | 140 | 115 | 95 | | | | | | | | | | | | |
| | 80B5 | 200 | 165 | 130 | | | | | | | | | | | | |
| | 80B14 | 120 | 100 | 80 | | | | | | | | | | | | |
| RV110 | 132B5 | 300 | 265 | 230 | 38* | 38* | 38* | 38* | | | | | | | | |
| | 110/112B5 | 250 | 215 | 180 | 28 | 28 | 28 | 28 | 28 | 28 | 28 | 28 | 28 | 28 | | |
| | 90B5 | 200 | 165 | 130 | | | | | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 |
| | 80B5 | 200 | 165 | 130 | | | | | | | | | | | 19 | 19 |
| RV130 | 132B5 | 300 | 265 | 230 | 38* | 38* | 38* | 38* | 38* | 38* | 38* | | | | | |
| | 100/112B5 | 250 | 215 | 180 | | | | | 28 | 28 | 28 | 28 | 28 | 28 | 28 | 28 |
| | 90B5 | 200 | 165 | 130 | | | | | | | | | | | 24 | 24 |

■ PC-RV COMBINATIONS

| | i | PC063 | | PC071 | | PC080 | | | PC090 | | |
|-------|-----|---------------|---------------|---------------|---------------|---------------|---------------|---------------|------------------|------------------|------------------|
| | | 105/11 i=3 | 105/14 i=3 | 120/14 i=3 | 120/19 i=3 | 160/19 i=3 | 160/24 i=3 | 160/28 i=3 | 160/19 i=2.42 | 160/24 i=2.42 | 160/28 i=2.42 |
| RV040 | 25 | | | | | | | | | | |
| | 30 | | | | | | | | | | |
| | 40 | | | | | | | | | | |
| | 50 | | | | | | | | | | |
| | 60 | | | | | | | | | | |
| | 80 | | | | | | | | | | |
| | 100 | | | | | | | | | | |
| RV050 | 25 | | | | | | | | | | |
| | 30 | | | | | | | | | | |
| | 40 | | | | | | | | | | |
| | 50 | | | | | | | | | | |
| | 60 | | | | | | | | | | |
| | 80 | | | | | | | | | | |
| | 100 | | | | | | | | | | |
| RV063 | 25 | | | | | | | | | | |
| | 30 | | | | | | | | | | |
| | 40 | | | | | | | | | | |
| | 50 | | | | | | | | | | |
| | 60 | | | | | | | | | | |
| | 80 | | | | | | | | | | |
| | 100 | | | | | | | | | | |
| RV075 | 25 | | | | | | | | | | |
| | 30 | | | | | | | | | | |
| | 40 | | | | | | | | | | |
| | 50 | | | | | | | | | | |
| | 60 | | | | | | | | | | |
| | 80 | | | | | | | | | | |
| | 100 | | | | | | | | | | |
| RV090 | 25 | | | | | | | | | | |
| | 30 | | | | | | | | | | |
| | 40 | | | | | | | | | | |
| | 50 | | | | | | | | | | |
| | 60 | | | | | | | | | | |
| | 80 | | | | | | | | | | |
| | 100 | | | | | | | | | | |
| RV110 | 25 | | | | | | | | | | |
| | 30 | | | | | | | | | | |
| | 40 | | | | | | | | | | |
| | 50 | | | | | | | | | | |
| | 60 | | | | | | | | | | |
| | 80 | | | | | | | | | | |
| | 100 | | | | | | | | | | |
| RV130 | 25 | | | | | | | | | | |
| | 30 | | | | | | | | | | |
| | 40 | | | | | | | | | | |
| | 50 | | | | | | | | | | |
| | 60 | | | | | | | | | | |
| | 80 | | | | | | | | | | |
| | 100 | | | | | | | | | | |



| | P | P* | P ₁ |
|--------|--------|--------------------|----------------|
| PC 063 | 105/11 | 105/14* | 63B5-140/11 |
| PC 071 | 120/14 | 120/19* | 71B5-160/14 |
| PC 080 | 160/19 | 160/24* 160/28* | 80B5-200/19 |
| PC 090 | 160/24 | 160/19* 160/28* | 90B5-200/24 |

***Only on request**

■ RV-RV/NRV-RV

ASSIGNMENT TABLE OF COMBINATION RATIO

| n1=1400r/min | | RV025/030 | | | RV025/040 | | | RV030/040 | | | RV030/050 | | | RV030/063 | | |
|--------------|------|-----------|------|------|-----------|------|------|-----------|--------|--------|-----------|------|------|-----------|------|------|
| i | n2 | P1 (Kw) | i025 | i030 | P1 (Kw) | i025 | i040 | P1 (Kw) | i(030) | i(040) | P1 (Kw) | i030 | i050 | P1 (Kw) | i030 | i060 |
| 100 | 14 | 0.09 | 10 | 10 | — | — | — | — | — | — | — | — | — | — | — | — |
| 150 | 9.3 | 0.06 | 10 | 15 | — | — | — | — | — | — | — | — | — | — | — | — |
| 200 | 7 | 0.06 | 10 | 20 | — | — | — | — | — | — | — | — | — | — | — | — |
| 250 | 5.6 | 0.06 | 10 | 25 | — | — | — | — | — | — | — | — | — | — | — | — |
| 300 | 4.7 | 0.06 | 10 | 30 | 0.06 | 10 | 30 | 0.09 | 10 | 30 | 0.18 | 10 | 30 | 0.22 | 10 | 30 |
| 400 | 3.5 | 0.06 | 20 | 20 | 0.06 | 10 | 40 | 0.06 | 10 | 40 | 0.12 | 10 | 40 | 0.18 | 10 | 40 |
| 500 | 2.8 | 0.06 | 20 | 25 | 0.06 | 20 | 25 | 0.06 | 20 | 25 | 0.09 | 10 | 50 | 0.18 | 10 | 50 |
| 600 | 2.3 | 0.06 | 20 | 30 | 0.06 | 20 | 30 | 0.06 | 20 | 30 | 0.09 | 20 | 30 | 0.12 | 20 | 30 |
| 750 | 1.9 | 0.06 | 30 | 25 | 0.06 | 25 | 30 | 0.06 | 25 | 30 | 0.09 | 25 | 30 | 0.12 | 25 | 30 |
| 900 | 1.6 | 0.06 | 30 | 30 | 0.06 | 30 | 30 | 0.06 | 30 | 30 | 0.06 | 30 | 30 | 0.09 | 30 | 30 |
| 1200 | 1.2 | 0.06 | 40 | 30 | 0.06 | 40 | 30 | 0.06 | 40 | 30 | 0.06 | 40 | 30 | 0.09 | 40 | 30 |
| 1500 | 0.93 | 0.06 | 50 | 30 | 0.06 | 50 | 30 | 0.06 | 50 | 30 | 0.06 | 50 | 30 | 0.06 | 50 | 30 |
| 1800 | 0.78 | 0.06 | 60 | 30 | 0.06 | 60 | 30 | 0.06 | 60 | 30 | 0.06 | 60 | 30 | 0.06 | 60 | 30 |
| 2400 | 0.58 | 0.06 | 60 | 40 | 0.06 | 60 | 40 | 0.06 | 60 | 40 | 0.06 | 60 | 40 | 0.06 | 60 | 40 |
| 3000 | 0.47 | 0.06 | 60 | 50 | 0.06 | 60 | 50 | 0.06 | — | — | 0.06 | 60 | 50 | 0.06 | 60 | 50 |
| 3200 | 0.44 | — | — | — | — | — | — | — | 80 | 40 | — | — | — | — | — | — |
| 4000 | 0.35 | — | — | — | 0.06 | 50 | 80 | 0.06 | 80 | 50 | 0.06 | 80 | 50 | 0.06 | 80 | 50 |
| 4800 | 0.29 | — | — | — | — | — | — | — | — | — | 0.06 | 80 | 60 | — | — | — |
| 5000 | 0.28 | — | — | — | 0.06 | 50 | 100 | 0.06 | 50 | 100 | — | — | — | 0.06 | 100 | 50 |

| n1=1400r/min | | RV040/075 | | | RV040/090 | | | RV050/110 | | | RV063/130 | | |
|--------------|------|-----------|------|---------|-----------|------|------|-----------|------|------|-----------|------|------|
| i | n2 | P1 (Kw) | i040 | P1 (Kw) | i075 | i040 | i090 | P1 (Kw) | i050 | i110 | P1 (Kw) | i063 | i030 |
| 300 | 4.7 | 0.37 | 10 | 30 | 0.37 | 10 | 30 | 0.75 | 10 | 30 | 1.5 | 10 | 30 |
| 400 | 3.5 | 0.25 | 10 | 40 | 0.37 | 10 | 40 | 0.75 | 10 | 40 | 1 | 10 | 40 |
| 500 | 2.8 | 0.25 | 10 | 50 | 0.37 | 10 | 50 | 0.55 | 20 | 25 | 1 | 10 | 50 |
| 600 | 2.3 | 0.18 | 20 | 30 | 0.37 | 20 | 30 | 0.55 | 20 | 30 | 0.75 | 15 | 40 |
| 750 | 1.9 | 0.18 | 25 | 30 | 0.25 | 25 | 30 | 0.55 | 25 | 30 | 0.75 | 25 | 30 |
| 900 | 1.6 | 0.12 | 30 | 30 | 0.25 | 30 | 30 | 0.37 | 30 | 30 | 0.75 | 30 | 30 |
| 1200 | 1.2 | 0.12 | 40 | 30 | 0.18 | 40 | 30 | 0.25 | 40 | 30 | 0.55 | 40 | 30 |
| 1500 | 0.93 | 0.09 | 50 | 30 | 0.18 | 50 | 30 | 0.25 | 50 | 30 | 0.37 | 50 | 30 |
| 1800 | 0.78 | 0.09 | 60 | 30 | 0.12 | 60 | 30 | 0.25 | 60 | 30 | 0.37 | 60 | 30 |
| 2400 | 0.58 | 0.06 | 60 | 40 | 0.12 | 60 | 40 | 0.18 | 60 | 40 | 0.25 | 60 | 40 |
| 3000 | 0.47 | 0.06 | 60 | 50 | 0.09 | 60 | 50 | 0.12 | 60 | 50 | 0.25 | 60 | 50 |
| 4000 | 0.35 | 0.06 | 80 | 50 | 0.06 | 80 | 50 | 0.12 | 80 | 50 | 0.25 | 80 | 50 |
| 5000 | 0.28 | 0.06 | 100 | 50 | 0.06 | 100 | 50 | 0.12 | 100 | 50 | 0.25 | 100 | 50 |

You can choose 025,030,040,050,063,075,090,110,130as combination unit to combine according to the fact your special needs.

■ PRESTAGE HELICAL GEARED UNITS(PC)

The PC construction is modular and therefore it can be as a separate unit mounted on any type of fitted geared motor (PAM), whose the various possibilities of flange/output shafts can be found on page 11. Fitting the pre-stage helical module on the main reduction unit is easily done as for any motor of type B4 .The prestage unit cannot be used by itself, but only coupled with another reduction unit.

Materials

Case in aluminium alloy.

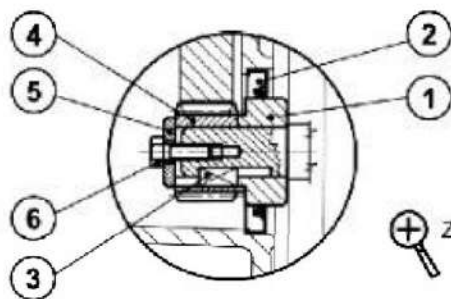
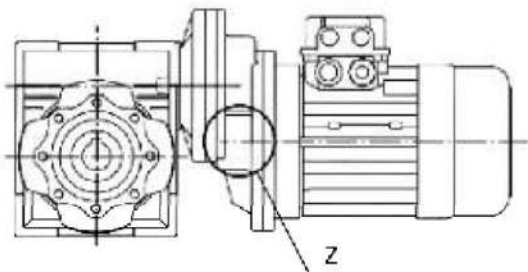
Gears: 20CrMo, machined accurately base on the accurate involute

Coupling to electric motor

Correctly fitting the pinion on the electric motor shaft requires you keep to the following instructions:

- a) Thoroughly clean the electric motor shaft.
- b) Remove the motor key from its seat.
- c) Fit the bush ① to the drive shaft as shown in the diagram. To make this easier, you can heat the bush to approximately 70/80°C
- d) Fit the new key ③ provided in place of the one removed beforehand.
- e) Fit the pinion ④ taking the same precautions as described in point
- f) Fit the washer ⑤ and tighten with the screw ⑥.
- g) Remove the rubber cap mounted on the seat of the oil seal, taking care since the pre-stage unit is already complete with lubricant.
- h) Fit the oil seal ② and then the motor assembly, taking care not to damage the lip of the oil seal.

N.B. For correct operation, with no vibration or noise, it is recommended to use good quality motors



■ EFFICIENCY & IRREVERSIBILITY CHARACTER

Efficiency is an important parameter of reducer, Efficiency depends on the following parameters:

- 1) Helix angle of gearing,
- 2) Driving speed,
- 3) Running-in of gearing,
- 4) The performance of oil, oil seal and bearing.

The mesh data table on page 15 shows dynamic efficiency($n_1=1400$) and static efficiency values. Remember that these values are only achieved after the unit has been run in. Torque values Mn_2 indicated in the catalogue are calculated by considering the steady-state performance of the gearboxes. The actual values mentioned above may have deflection.

Dynamic irreversibility

Dynamic irreversibility is achieved when the output shaft stops instantly when drive is no longer transmitted through the worm shaft. This condition requires a dynamic efficiency of $\eta_d < 0.4$ (see table on page 15).

Static irreversibility

Static irreversibility is achieved when the gear reducer at a standstill, the application of a load to the output shaft can't drive the worm shaft. This condition requires a static efficiency of $\eta_s < 0.5$ (see table on page 15).

| η_d | >0.6 | 0.5~0.6 | 0.4~0.5 | <0.4 |
|--------------------------------|-----------------------|---------------------------|------------------------------|-------------------------|
| DYNAMIC IRREVERSIBILITY | dynamic reversibility | Low dynamic reversibility | Good dynamic irreversibility | Dynamic irreversibility |



| η_s | >0.55 | 0.5~0.55 | <0.5 |
|-------------------------------|----------------------|--------------------------|------------------------|
| STATIC IRREVERSIBILITY | Static reversibility | Low Static reversibility | Static irreversibility |







The table shows approximate irreversibility classes. Vibrations and shocks can affect a gear reducer's irreversibility. As it is virtually impossible to provide and guarantee total non reversing, we recommend the use of an external brake with sufficient capability to prevent vibrations in duced starting, where these circumstances are required. For the irreversibility conditions of a combined geared unit one must consider that the efficiency of the group is given by the product of the efficiencies of each single reducer, i.e.: $\eta_{101} = \eta_1 \times \eta_2$.



■ MESH DATA



| | I | 7.5 | 10 | 15 | 20 | 25 | 30 | 40 | 50 | 60 | 80 | 100 |
|-------|----------------------|---------|---------|---------|---------|---------|--------|--------|--------|--------|--------|--------|
| RV025 | z1 | 4 | 3 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | | |
| | m_n | 1.18 | 1.23 | 1.27 | 0.98 | 0.79 | 1.29 | 0.99 | 0.80 | 0.67 | | |
| | γ | 25° 18' | 19° 31' | 13° 18' | 11° 2' | 9° 5' | 6° 44' | 5° 34' | 4° 34' | 3° 55' | | |
| | η^d | 0.85 | 0.83 | 0.79 | 0.76 | 0.73 | 0.68 | 0.64 | 0.59 | 0.56 | | |
| | η_s | 0.71 | 0.67 | 0.60 | 0.56 | 0.52 | 0.45 | 0.41 | 0.36 | 0.33 | | |
| RV030 | z1 | 4 | 3 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | |
| | m_n | 1.36 | 1.39 | 1.42 | 1.09 | 1.69 | 1.43 | 1.10 | 0.89 | 0.74 | 0.56 | |
| | γ | 18° 55' | 14° 25' | 9° 44' | 7° 50' | 5° 33' | 4° 54' | 3° 56' | 3° 17' | 2° 43' | 2° 7' | |
| | η^d | 0.84 | 0.81 | 0.76 | 0.72 | 0.68 | 0.64 | 0.59 | 0.54 | 0.50 | 0.44 | |
| | η_s | 0.66 | 0.62 | 0.54 | 0.49 | 0.41 | 0.38 | 0.33 | 0.29 | 0.26 | 0.21 | |
| RV040 | z1 | 4 | 3 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 |
| | m_n | 1.87 | 1.95 | 2.00 | 1.54 | 1.26 | 2.04 | 1.55 | 1.27 | 1.06 | 0.80 | 0.65 |
| | γ | 23° 54' | 18° 23' | 12° 30' | 10° 3' | 8° 45' | 6° 19' | 5° 4' | 4° 24' | 3° 42' | 2° 52' | 2° 29' |
| | η^d | 0.86 | 0.84 | 0.80 | 0.77 | 0.74 | 0.69 | 0.65 | 0.61 | 0.57 | 0.51 | 0.47 |
| | η_s | 0.70 | 0.66 | 0.59 | 0.54 | 0.51 | 0.44 | 0.39 | 0.36 | 0.32 | 0.27 | 0.24 |
| RV050 | z1 | 4 | 3 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 |
| | m_n | 2.34 | 2.43 | 2.50 | 1.92 | 1.56 | 2.54 | 1.94 | 1.58 | 1.32 | 1.00 | 0.80 |
| | γ | 23° 49' | 18° 19' | 12° 27' | 10° 3' | 8° 33' | 6° 18' | 5° 4' | 4° 18' | 3° 38' | 2° 52' | 2° 17' |
| | η^d | 0.87 | 0.85 | 0.81 | 0.78 | 0.75 | 0.71 | 0.67 | 0.63 | 0.59 | 0.53 | 0.48 |
| | η_s | 0.70 | 0.66 | 0.59 | 0.54 | 0.51 | 0.44 | 0.39 | 0.36 | 0.32 | 0.27 | 0.24 |
| RV063 | z1 | 4 | 3 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 |
| | m_n | 2.96 | 3.08 | 3.17 | 2.44 | 1.98 | 3.23 | 2.47 | 1.99 | 1.68 | 1.27 | 1.02 |
| | γ | 24° 31' | 18° 53' | 12° 51' | 10° 29' | 8° 45' | 6° 30' | 5° 17' | 4° 24' | 3° 49' | 2° 59' | 2° 26' |
| | η^d | 0.88 | 0.86 | 0.82 | 0.80 | 0.77 | 0.73 | 0.69 | 0.65 | 0.62 | 0.56 | 0.51 |
| | η_s | 0.70 | 0.66 | 0.59 | 0.55 | 0.51 | 0.44 | 0.40 | 0.36 | 0.33 | 0.28 | 0.24 |
| RV075 | z1 | 4 | 3 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 |
| | m_n | 3.53 | 3.70 | 3.83 | 2.94 | 2.39 | 3.92 | 2.99 | 2.41 | 2.02 | 1.54 | 1.24 |
| | γ | 26° 38' | 20° 37' | 14° 5' | 11° 19' | 9° 29' | 7° 9' | 5° 43' | 4° 46' | 4° 1' | 3° 17' | 2° 44' |
| | η^d | 0.88 | 0.87 | 0.84 | 0.81 | 0.79 | 0.76 | 0.72 | 0.68 | 0.64 | 0.59 | 0.55 |
| | η_s | 0.71 | 0.68 | 0.61 | 0.57 | 0.53 | 0.47 | 0.41 | 0.37 | 0.34 | 0.29 | 0.26 |
| RV090 | z1 | 4 | 3 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 |
| | m_n | 4.23 | 4.47 | 4.66 | 3.6 | 2.93 | 4.79 | 3.67 | 2.97 | 2.49 | 1.89 | 1.52 |
| | γ | 29° 5' | 22° 39' | 15° 33' | 12° 50' | 10° 53' | 7° 55' | 6° 30' | 5° 29' | 4° 46' | 3° 45' | 3° 6' |
| | η^d | 0.89 | 0.88 | 0.85 | 0.83 | 0.81 | 0.78 | 0.74 | 0.71 | 0.68 | 0.63 | 0.59 |
| | η_s | 0.72 | 0.69 | 0.63 | 0.59 | 0.56 | 0.49 | 0.44 | 0.41 | 0.37 | 0.32 | 0.28 |
| RV110 | z1 | 4 | 3 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 |
| | m_n | 5.18 | 5.45 | 5.67 | 4.47 | 3.46 | 5.82 | 4.58 | 3.71 | 3.12 | 2.36 | 1.91 |
| | γ | 28° 15' | 21° 57' | 15° 2' | 14° 42' | 12° 33' | 7° 39' | 7° 29' | 6° 21' | 5° 33' | 4° 27' | 3° 46' |
| | η^d | 0.89 | 0.88 | 0.86 | 0.85 | 0.83 | 0.79 | 0.77 | 0.74 | 0.72 | 0.67 | 0.63 |
| | η_s | 0.72 | 0.69 | 0.62 | 0.62 | 0.59 | 0.48 | 0.48 | 0.44 | 0.41 | 0.36 | 0.32 |
| RV130 | z1 | 4 | 3 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 |
| | m_n | 6.11 | 6.45 | 6.72 | 5.24 | 4.28 | 6.91 | 5.36 | 4.35 | 3.65 | 2.76 | 2.23 |
| | γ | 28° 43' | 22° 20' | 15° 19' | 13° 47' | 11° 54' | 7° 48' | 6° 60' | 6° 1' | 5° 16' | 4° 8' | 3° 27' |
| | η^d | 0.90 | 0.89 | 0.87 | 0.85 | 0.84 | 0.80 | 0.78 | 0.75 | 0.73 | 0.68 | 0.64 |
| | η_s | 0.72 | 0.69 | 0.63 | 0.61 | 0.58 | 0.49 | 0.46 | 0.43 | 0.40 | 0.34 | 0.30 |



| P _{1n} [Kw] | n ₂ [1/min] | M _{2n} [Nm] | i | F _{r2} [N] | f _s |  |  | page |
|-------------------------|---------------------------|-------------------------|------|------------------------|----------------|---|---|------|
| 0.06 (5614) | 186.7 | 2.6 | 7.5 | 503 | 4.2 | RV025 | 5614 | 45 |
| | 140 | 3.4 | 10 | 553 | 3.5 | | | |
| | 93.3 | 4.9 | 15 | 633 | 2.5 | | | |
| | 70 | 6.2 | 20 | 697 | 2 | | | |
| | 56 | 7.5 | 25 | 751 | 1.8 | | | |
| | 46.7 | 8.3 | 30 | 798 | 1.6 | | | |
| | 35 | 10 | 40 | 878 | 1.3 | | | |
| | 28 | 12 | 50 | 946 | 0.9 | | | |
| | 23.3 | 14 | 60 | 1006 | 0.7 | | | |
| | 186.7 | 2.6 | 7.5 | 683 | 6.9 | RV030 | 5614 | 46 |
| | 140 | 3.3 | 10 | 752 | 5.4 | | | |
| | 93.3 | 4.7 | 15 | 861 | 3.8 | | | |
| | 70 | 5.9 | 20 | 948 | 3 | | | |
| | 56 | 6.8 | 25 | 1021 | 3 | | | |
| | 46.7 | 7.9 | 30 | 1085 | 2.5 | | | |
| | 35 | 9.7 | 40 | 1194 | 1.9 | | | |
| | 28 | 11 | 50 | 1286 | 1.5 | | | |
| | 23.3 | 12 | 60 | 1367 | 1.3 | | | |
| | 17.5 | 14 | 80 | 1504 | 0.9 | | | |
| | 14 | 25 | 100 | 1620 | 1.3 | RV025/030 | 5614 | 59 |
| | 9.3 | 33 | 150 | 1830 | 0.9 | | | |
| | 7 | 41 | 200 | 1830 | 0.7 | | | |
| | 5.6 | 45 | 250 | 1830 | 0.8 | | | |
| | 4.7 | 56 | 300 | 3490 | 1.2 | RV025/040 | 5614 | 59 |
| | 3.5 | 69 | 400 | 3490 | 0.9 | | | |
| | 2.8 | 94 | 500 | 3490 | 0.7 | | | |
| | 2.3 | 100 | 600 | 3490 | 0.6 | | | |
| | 1.9 | 115 | 750 | 3490 | 0.5 | | | |
| | 1.6 | 125 | 900 | 3490 | 0.5 | | | |
| | 1.2 | 153 | 1200 | 3490 | 0.4 | | | |
| | 0.93 | 185 | 1500 | 3490 | 0.3 | | | |
| | 0.78 | 198 | 1800 | 3490 | 0.3 | | | |
| | 0.58 | 247 | 2400 | 3490 | 0.2 | | | |
| | 0.47 | 280 | 3000 | 3490 | 0.2 | | | |
| | 0.35 | 295 | 4000 | 3490 | 0.1 | | | |
| | 0.28 | 348 | 5000 | 3490 | 0.1 | | | |
| | 4.7 | 55 | 300 | 3490 | 1.3 | RV030/040 | 5614 | 60 |
| | 3.5 | 67 | 400 | 3490 | 0.9 | | | |
| | 2.8 | 88 | 500 | 3490 | 0.6 | | | |
| | 2.3 | 95 | 600 | 3490 | 0.7 | | | |
| | 1.9 | 103 | 750 | 3490 | 0.6 | | | |
| | 1.6 | 118 | 900 | 3490 | 0.5 | | | |
| | 1.2 | 143 | 1200 | 3490 | 0.4 | | | |
| | 0.93 | 166 | 1500 | 3490 | 0.4 | | | |
| | 0.78 | 184 | 1800 | 3490 | 0.3 | | | |
| | 0.58 | 217 | 2400 | 3490 | 0.2 | | | |
| | 0.44 | 247 | 3200 | 3490 | 0.2 | | | |
| | 0.35 | 278 | 4000 | 3490 | 0.1 | | | |
| 0.28 | 327 | 5000 | 3490 | 0.1 | | | | |
| 1.6 | 118 | 900 | 4840 | 1 | RV030/050 | 5614 | 60 | |
| 1.2 | 143 | 1200 | 4840 | 0.7 | | | | |
| 0.93 | 166 | 1500 | 4840 | 0.7 | | | | |
| 0.78 | 184 | 1800 | 4840 | 0.7 | | | | |
| 0.58 | 227 | 2400 | 4840 | 0.5 | | | | |
| 0.47 | 256 | 3000 | 4840 | 0.4 | | | | |
| 0.35 | 278 | 4000 | 4840 | 0.3 | | | | |
| 0.29 | 316 | 4800 | 4840 | 0.3 | | | | |



| P _{1n} [Kw] | n ₂ [1/min] | M _{2n} [Nm] | i | F _{r2} [N] | f _s |  |  | page |
|--------------------------|---------------------------|-------------------------|------|------------------------|----------------|---|---|------|
| 0.06 (5614) | 0.93 | 173 | 1500 | 6270 | 1.1 | RV030/063 | 5614 | 60 |
| | 0.78 | 191 | 1800 | 6270 | 0.9 | | | |
| | 0.58 | 227 | 2400 | 6270 | 0.8 | | | |
| | 0.47 | 256 | 3000 | 6270 | 0.7 | | | |
| | 0.35 | 295 | 4000 | 6270 | 0.6 | | | |
| | 0.28 | 327 | 5000 | 6270 | 0.4 | | | |
| | 0.58 | 267 | 2400 | 7380 | 1.1 | RV040/075 | 5614 | 61 |
| | 0.47 | 305 | 3000 | 7380 | 0.8 | | | |
| | 0.35 | 360 | 4000 | 7380 | 0.7 | | | |
| | 0.28 | 409 | 5000 | 7380 | 0.5 | | | |
| | 0.47 | 329 | 3000 | 8180 | 1.4 | RV040/090 | 5614 | 61 |
| | 0.35 | 393 | 4000 | 8180 | 1.3 | | | |
| 0.28 | 430 | 5000 | 8180 | 1 | | | | |
| 0.09 (5612) (5624) | 373.3 | 2.0 | 7.5 | 399 | 3.9 | RV025 | 5612 | 45 |
| | 280 | 2.6 | 10 | 439 | 3.4 | | | |
| | 186.7 | 3.8 | 15 | 503 | 2.4 | | | |
| | 140 | 4.9 | 20 | 553 | 1.9 | | | |
| | 112 | 5.9 | 25 | 590 | 1.5 | | | |
| | 93.3 | 6.7 | 30 | 633 | 1.3 | | | |
| | 70 | 8.5 | 40 | 697 | 1.1 | | | |
| | 56 | 10.0 | 50 | 751 | 0.9 | | | |
| | 186.7 | 3.9 | 7.5 | 503 | 2.8 | RV025 | 5624 | 45 |
| | 140 | 5.1 | 10 | 553 | 2.4 | | | |
| | 93.3 | 7.3 | 15 | 633 | 1.6 | | | |
| | 70 | 9.3 | 20 | 697 | 1.3 | | | |
| | 56 | 11 | 25 | 751 | 1.2 | | | |
| | 46.7 | 13 | 30 | 798 | 1.1 | | | |
| | 35 | 16 | 40 | 878 | 0.9 | | | |
| | 373.3 | 2.0 | 7.5 | 542 | 6.5 | RV030 | 5612 | 46 |
| | 280 | 2.6 | 10 | 597 | 5 | | | |
| | 186.7 | 3.7 | 15 | 683 | 3.5 | | | |
| | 140 | 4.7 | 20 | 752 | 2.5 | | | |
| | 112 | 5.5 | 25 | 810 | 2.8 | | | |
| | 93.3 | 6.4 | 30 | 861 | 2.3 | | | |
| | 70 | 8.0 | 40 | 948 | 1.7 | | | |
| | 56 | 9.4 | 50 | 1021 | 1.4 | | | |
| | 46.7 | 10 | 60 | 1085 | 1.1 | | | |
| | 35 | 13 | 80 | 1194 | 0.9 | | | |
| | 186.7 | 3.9 | 7.5 | 683 | 4.6 | RV030 | 5624 | 46 |
| | 140 | 5.0 | 10 | 752 | 3.6 | | | |
| | 93.3 | 7.0 | 15 | 861 | 2.5 | | | |
| | 70 | 8.8 | 20 | 948 | 2 | | | |
| | 56 | 10 | 25 | 1021 | 1.9 | | | |
| | 46.7 | 12 | 30 | 1085 | 1.7 | | | |
| | 35 | 14 | 40 | 1194 | 1.2 | | | |
| | 28 | 17 | 50 | 1286 | 1 | | | |
| | 23.3 | 18 | 60 | 1367 | 0.9 | | | |
| | 28 | 18 | 100 | 1286 | 1.6 | RV025/030 | 5612 | 59 |
| | 18.7 | 25 | 150 | 1472 | 1.1 | | | |
| | 14 | 31 | 200 | 1620 | 0.9 | | | |
| | 14 | 37 | 100 | 1620 | 0.8 | RV025/030 | 5624 | 59 |
| | 9.3 | 50 | 150 | 1830 | 0.6 | | | |
| | 7 | 61 | 200 | 1830 | 0.5 | | | |
| | 5.6 | 68 | 250 | 1830 | 0.5 | | | |
| | 4.7 | 77 | 300 | 1830 | 0.4 | | | |
| 3.5 | 106 | 400 | 1830 | 0.3 | | | | |
| 2.8 | 117 | 500 | 1830 | 0.3 | | | | |



| P _{1n} [Kw] | n ₂ [1/min] | M _{2n} [Nm] | i | F _{r2} [N] | f _s |  |  | page |
|--------------------------|---------------------------|-------------------------|------|------------------------|----------------|---|---|------|
| 0.09 (5612) (5624) | 2.3 | 135 | 600 | 1830 | 0.2 | RV025/30 | 5624 | 59 |
| | 1.9 | 149 | 750 | 1830 | 0.2 | | | |
| | 1.6 | 167 | 900 | 1830 | 0.2 | | | |
| | 1.2 | 201 | 1200 | 1830 | 0.1 | | | |
| | 0.93 | 231 | 1500 | 1830 | 0.1 | | | |
| | 0.78 | 264 | 1800 | 1830 | 0.1 | | | |
| | 0.58 | 311 | 2400 | 1830 | 0.1 | | | |
| | 0.47 | 347 | 3000 | 1830 | 0.1 | | | |
| | 28 | 19 | 50 | 2475 | 2 | RV040 | 5624 | 47 |
| | 23.3 | 21 | 60 | 2630 | 1.7 | | | |
| | 17.5 | 25 | 80 | 2895 | 1.3 | | | |
| | 14 | 29 | 100 | 3118 | 1 | | | |
| | 9.3 | 43 | 300 | 3490 | 1.6 | RV025/040 | 5612 | 59 |
| | 7 | 52 | 400 | 3490 | 1.2 | | | |
| | 5.6 | 71 | 500 | 3490 | 0.8 | | | |
| | 4.7 | 82 | 300 | 3490 | 0.8 | RV030/040 | 5624 | 60 |
| | 3.5 | 103 | 400 | 4840 | 1.2 | RV030/050 | 5624 | 60 |
| | 2.8 | 120 | 500 | 4840 | 1 | | | |
| | 2.3 | 146 | 600 | 4840 | 0.9 | | | |
| | 1.9 | 158 | 750 | 4840 | 0.8 | | | |
| | 1.6 | 177 | 900 | 4840 | 0.7 | | | |
| | 1.6 | 188 | 900 | 6270 | 1 | RV030/063 | 5624 | 60 |
| | 1.2 | 222 | 1200 | 6270 | 0.9 | | | |
| | 0.93 | 259 | 1500 | 6270 | 0.7 | | | |
| 0.93 | 305 | 1500 | 7380 | 1.1 | RV040/075 | 5624 | 61 | |
| 0.78 | 331 | 1800 | 7380 | 1 | | | | |
| 0.58 | 400 | 2400 | 7380 | 0.7 | | | | |
| 0.47 | 494 | 3000 | 8180 | 0.9 | RV040/090 | 5624 | 61 | |
| 0.35 | 589 | 4000 | 8180 | 0.8 | | | | |
| 0.12 (5622) (6314) | 373.3 | 2.7 | 7.5 | 399 | 3 | RV025 | 5622 | 45 |
| | 280 | 3.5 | 10 | 439 | 2.6 | | | |
| | 186.7 | 5.1 | 15 | 503 | 1.8 | | | |
| | 140 | 6.5 | 20 | 553 | 1.4 | | | |
| | 112 | 7.9 | 25 | 590 | 1.1 | | | |
| | 93.3 | 9.0 | 30 | 633 | 1 | | | |
| | 70 | 11 | 40 | 697 | 0.8 | | | |
| | 186.7 | 5.2 | 7.5 | 683 | 3.4 | RV030 | 6314 | 46 |
| | 140 | 6.6 | 10 | 752 | 2.7 | | | |
| | 93.3 | 9.3 | 15 | 861 | 1.9 | | | |
| | 70 | 12 | 20 | 948 | 1.5 | | | |
| | 56 | 14 | 25 | 1021 | 1.5 | | | |
| | 46.7 | 16 | 30 | 1085 | 1.3 | | | |
| | 35 | 19 | 40 | 1194 | 0.9 | | | |
| | 28 | 22 | 50 | 1286 | 0.8 | | | |
| | 46.7 | 17 | 30 | 2087 | 2.6 | RV040 | 6314 | 47 |
| | 35 | 21 | 40 | 2298 | 1.9 | | | |
| | 28 | 25 | 50 | 2475 | 1.5 | | | |
| | 23.3 | 28 | 60 | 2630 | 1.3 | | | |
| | 17.5 | 33 | 80 | 2895 | 1 | | | |
| | 14 | 38 | 100 | 3118 | 0.8 | | | |
| | 18.7 | 42 | 75 | 2833 | 1.2 | PC063-RV040 | 6314 | 55 |
| | 15.6 | 46 | 90 | 3011 | 1.2 | | | |
| | 11.7 | 57 | 120 | 3314 | 0.9 | | | |
| 9.3 | 66 | 150 | 3490 | 0.7 | | | | |
| 7.8 | 74 | 180 | 3490 | 0.6 | | | | |
| 23.3 | 29 | 60 | 3610 | 2.3 | RV050 | 6314 | 48 | |
| 17.5 | 35 | 80 | 3973 | 1.9 | | | | |
| 14 | 39 | 100 | 4280 | 1.4 | | | | |



| P _{1n} [Kw] | n ₂ [1/min] | M _{2n} [Nm] | i | Fr ₂ [N] | f _s |  |  | page |
|------------------------------------|---------------------------|-------------------------|-------|------------------------|----------------|---|---|------|
| 0.12 (5622) (6314) | 9.3 | 68 | 150 | 4840 | 1.3 | PC063-RV050 | 6314 | 55 |
| | 7.8 | 75 | 180 | 4840 | 1.1 | | | |
| | 5.8 | 88 | 240 | 4840 | 0.8 | | | |
| | 4.7 | 98 | 300 | 4840 | 0.7 | | | |
| | 4.7 | 112 | 300 | 4840 | 1.2 | RV030/050 | 6314 | 60 |
| | 3.5 | 138 | 400 | 4840 | 0.9 | | | |
| | 2.8 | 160 | 500 | 4840 | 0.7 | | | |
| | 5.8 | 92 | 240 | 6270 | 1.5 | PC063-RV063 | 6314 | 56 |
| | 4.7 | 103 | 300 | 6270 | 1.2 | | | |
| | 2.8 | 168 | 500 | 6270 | 1.3 | RV030/063 | 6314 | 60 |
| | 2.3 | 199 | 600 | 6270 | 1.1 | | | |
| | 1.9 | 217 | 750 | 6270 | 0.9 | | | |
| | 1.6 | 279 | 900 | 7380 | 1.2 | RV040/075 | 6314 | 61 |
| | 1.2 | 344 | 1200 | 7380 | 0.9 | | | |
| | 0.78 | 470 | 1800 | 8180 | 0.9 | RV040/090 | 6314 | 61 |
| | 0.58 | 593 | 2400 | 8180 | 0.9 | | | |
| 0.47 | 731 | 3000 | 10320 | 1.2 | RV050/110 | 6314 | 61 | |
| 0.35 | 884 | 4000 | 10320 | 1 | | | | |
| 0.28 | 1023 | 5000 | 10320 | 0.8 | | | | |
| | | | | | | | | |
| 0.18 (6312) (6324) (7116) | 373.3 | 4.0 | 7.5 | 542 | 3.2 | RV030 | 6312 | 46 |
| | 280 | 5.2 | 10 | 597 | 2.5 | | | |
| | 186.7 | 7.4 | 15 | 683 | 1.7 | | | |
| | 140 | 9.5 | 20 | 752 | 1.3 | | | |
| | 112 | 11 | 25 | 810 | 1.4 | | | |
| | 93.3 | 13 | 30 | 861 | 1.1 | | | |
| | 70 | 16 | 40 | 948 | 0.9 | | | |
| | 186.7 | 7.7 | 7.5 | 683 | 2.3 | RV030 | 6324 | 46 |
| | 140 | 10 | 10 | 752 | 1.8 | | | |
| | 93.3 | 14 | 15 | 861 | 1.3 | | | |
| | 70 | 18 | 20 | 948 | 1 | | | |
| | 56 | 20 | 25 | 1021 | 0.9 | | | |
| | 46.7 | 24 | 30 | 1085 | 0.8 | | | |
| | 93.3 | 14 | 30 | 1657 | 2.4 | RV040 | 6312 | 47 |
| | 70 | 17 | 40 | 1824 | 1.8 | | | |
| | 56 | 21 | 50 | 1964 | 1.4 | | | |
| | 70 | 19 | 20 | 1824 | 2 | RV040 | 6324 | 47 |
| | 56 | 23 | 25 | 1964 | 1.7 | | | |
| | 46.7 | 25 | 30 | 2087 | 1.7 | | | |
| | 35 | 32 | 40 | 2298 | 1.3 | | | |
| | 28 | 37 | 50 | 2475 | 1 | | | |
| | 23.3 | 42 | 60 | 2630 | 0.8 | | | |
| | 45 | 28 | 20 | 2113 | 1.5 | RV040 | 7116 | 47 |
| | 36 | 34 | 25 | 2276 | 1.3 | | | |
| | 30 | 38 | 30 | 2419 | 1.3 | | | |
| | 22.5 | 47 | 40 | 2662 | 1 | | | |
| | 18.7 | 64 | 75 | 2833 | 0.8 | PC063-RV040 | 6324 | 55 |
| | 15.6 | 70 | 90 | 3011 | 0.8 | | | |
| | 11.7 | 85 | 120 | 3314 | 0.6 | | | |
| | 46.7 | 24 | 60 | 2865 | 2.1 | RV050 | 6312 | 48 |
| | 35 | 30 | 80 | 3153 | 1.5 | | | |
| | 28 | 34 | 100 | 3397 | 1.2 | | | |
| 35 | 33 | 40 | 3153 | 2.3 | RV050 | 6324 | 48 | |
| 28 | 39 | 50 | 3397 | 1.9 | | | | |
| 23.3 | 44 | 60 | 3610 | 1.6 | | | | |
| 17.5 | 52 | 80 | 3973 | 1.2 | | | | |
| 14 | 59 | 100 | 4280 | 0.9 | | | | |
| | | | | | | | | |
| 18 | 56 | 50 | 3936 | 1.4 | RV050 | 7116 | 48 | |
| 15 | 63 | 60 | 4183 | 1.1 | | | | |



| P_{1n} [Kw] | n_2 [1/min] | M_{2n} [Nm] | i | F_{r2} [N] | f_s |  |  | page |
|------------------------------------|------------------|------------------|-------|-----------------|-----------|---|---|------|
| 0.18 (6312) (6324) (7116) | 11.3 | 75 | 80 | 4604 | 0.9 | RV050 | 7116 | 48 |
| | 18.7 | 64 | 75 | 3889 | 1.4 | PC063-RV050 | 6324 | 55 |
| | 15.6 | 71 | 90 | 4132 | 1.5 | | | |
| | 11.7 | 87 | 120 | 4548 | 1.1 | | | |
| | 9.3 | 101 | 150 | 4840 | 0.9 | | | |
| | 7.8 | 113 | 180 | 4840 | 0.7 | | | |
| | 5.8 | 133 | 240 | 4840 | 0.6 | | | |
| | 12 | 95 | 75 | 4506 | 1.2 | PC071-RV050 | 7116 | 56 |
| | 10 | 105 | 90 | 4788 | 1.4 | | | |
| | 7.5 | 126 | 120 | 4840 | 1 | | | |
| | 15 | 66 | 60 | 5467 | 2.1 | RV063 | 7116 | 49 |
| | 11.3 | 79 | 80 | 6018 | 1.6 | | | |
| | 9 | 90 | 100 | 6270 | 1.4 | | | |
| | 9.3 | 103 | 150 | 6270 | 1.7 | PC063-RV063 | 6324 | 56 |
| | 7.8 | 117 | 180 | 6270 | 1.4 | | | |
| | 5.8 | 139 | 240 | 6270 | 1 | | | |
| | 4.7 | 155 | 300 | 6270 | 0.8 | | | |
| | 12 | 97 | 75 | 5889 | 2.2 | PC071-RV063 | 7116 | 56 |
| | 10 | 107 | 90 | 6259 | 2.4 | | | |
| | 7.5 | 131 | 120 | 6270 | 1.8 | | | |
| | 6 | 152 | 150 | 6270 | 1.4 | | | |
| | 5 | 168 | 180 | 6270 | 1.2 | | | |
| | 3.8 | 197 | 240 | 6270 | 0.9 | | | |
| | 3 | 218 | 300 | 6270 | 0.7 | | | |
| | 3.5 | 216 | 400 | 6270 | 1 | RV030/063 | 6324 | 60 |
| | 2.8 | 252 | 500 | 6270 | 0.8 | | | |
| | 5 | 179 | 180 | 7380 | 1.7 | PC071-RV075 | 7116 | 57 |
| | 3.8 | 211 | 240 | 7380 | 1.2 | | | |
| 3 | 235 | 300 | 7380 | 1 | | | | |
| 2.3 | 336 | 600 | 7380 | 1.1 | RV040/075 | 6324 | 61 | |
| 1.9 | 371 | 750 | 7380 | 0.9 | | | | |
| 1.6 | 419 | 900 | 7380 | 0.8 | | | | |
| 1.2 | 544 | 1200 | 8180 | 1 | RV040/090 | 6324 | 61 | |
| 0.93 | 647 | 1500 | 8180 | 0.8 | | | | |
| 0.78 | 727 | 1800 | 10320 | 1.5 | RV050/110 | 6324 | 61 | |
| 0.58 | 948 | 2400 | 10320 | 1.1 | | | | |
| 0.25 (6322) (7114) (7126) | 373.3 | 5.6 | 7.5 | 542 | 2.3 | RV030 | 6322 | 46 |
| | 280 | 7.2 | 10 | 597 | 1.8 | | | |
| | 186.7 | 10 | 15 | 683 | 1.3 | | | |
| | 140 | 13 | 20 | 752 | 0.9 | | | |
| | 112 | 15 | 25 | 810 | 1 | | | |
| | 93.3 | 18 | 30 | 861 | 0.8 | | | |
| | 186.7 | 11 | 7.5 | 1315 | 3.6 | RV040 | 7114 | 47 |
| | 140 | 14 | 10 | 1447 | 2.8 | | | |
| | 93.3 | 20 | 15 | 1657 | 1.9 | | | |
| | 70 | 26 | 20 | 1824 | 1.5 | | | |
| | 56 | 32 | 25 | 1964 | 1.2 | | | |
| | 46.7 | 35 | 30 | 2087 | 1.3 | | | |
| | 30 | 44 | 40 | 2298 | 0.9 | | | |
| | 120 | 17 | 7.5 | 1524 | 2.6 | RV040 | 7126 | 47 |
| | 90 | 22 | 10 | 1677 | 2 | | | |
| | 60 | 31 | 15 | 1920 | 1.4 | | | |
| | 45 | 39 | 20 | 2113 | 1.1 | | | |
| | 36 | 48 | 25 | 2276 | 0.9 | | | |
| | 30 | 53 | 30 | 2419 | 0.9 | | | |
| | 35 | 42 | 80 | 3153 | 1.1 | RV050 | 6322 | 48 |
| 28 | 48 | 100 | 3397 | 0.8 | | | | |
| 70 | 27 | 20 | 2503 | 2.7 | RV050 | 7114 | 48 | |



| P _{1n} [Kw] | n ₂ [1/min] | M _{2n} [Nm] | i | Fr ₂ [N] | f _s |  |  | page |
|------------------------------------|---------------------------|-------------------------|-------|------------------------|----------------|---|---|------|
| 0.25 (6322) (7114) (7126) | 56 | 32 | 25 | 2696 | 2.2 | RV050 | 7114 | 48 |
| | 46.7 | 36 | 30 | 2865 | 2.3 | | | |
| | 35 | 46 | 40 | 3153 | 1.7 | | | |
| | 28 | 54 | 50 | 3397 | 1.4 | | | |
| | 23.3 | 60 | 60 | 3610 | 1.1 | | | |
| | 17.5 | 72 | 80 | 3973 | 0.9 | | | |
| | 45 | 40 | 20 | 2900 | 1.9 | RV050 | 7126 | 48 |
| | 36 | 48 | 25 | 3124 | 1.5 | | | |
| | 30 | 54 | 30 | 3320 | 1.7 | | | |
| | 22.5 | 67 | 40 | 3654 | 1.2 | | | |
| | 18 | 78 | 50 | 3936 | 1 | | | |
| | 15 | 88 | 60 | 4183 | 0.8 | | | |
| | 18.7 | 88 | 75 | 3889 | 1 | PC071-RV050 | 7114 | 56 |
| | 15.6 | 98 | 90 | 4132 | 1.1 | | | |
| | 11.7 | 121 | 120 | 4548 | 0.8 | | | |
| | 28 | 55 | 50 | 4440 | 2.4 | RV063 | 7114 | 49 |
| | 23.3 | 64 | 60 | 4719 | 2 | | | |
| | 17.5 | 76 | 80 | 5193 | 1.6 | | | |
| | 14 | 87 | 100 | 5595 | 1.4 | | | |
| | 18 | 81 | 50 | 5145 | 1.8 | RV063 | 7126 | 49 |
| | 15 | 92 | 60 | 5467 | 1.5 | | | |
| | 11.3 | 110 | 80 | 6018 | 1.2 | | | |
| | 9 | 125 | 100 | 6270 | 1 | | | |
| | 18.7 | 91 | 75 | 5083 | 1.8 | PC071-RV063 | 7114 | 56 |
| | 15.6 | 100 | 90 | 5401 | 2 | | | |
| | 11.7 | 125 | 120 | 5945 | 1.5 | | | |
| | 9.3 | 143 | 150 | 6270 | 1.2 | | | |
| | 7.8 | 163 | 180 | 6270 | 1 | | | |
| | 5.8 | 192 | 240 | 6270 | 0.7 | | | |
| | 4.7 | 215 | 300 | 6270 | 0.6 | | | |
| | 12 | 135 | 75 | 5889 | 1.6 | PC071-RV063 | 7126 | 56 |
| | 10 | 148 | 90 | 6259 | 1.8 | | | |
| | 7.5 | 181 | 120 | 6270 | 1.3 | | | |
| | 6 | 211 | 150 | 6270 | 1 | | | |
| | 7 | 150 | 400 | 6270 | 1.4 | RV030/063 | 6322 | 60 |
| | 5.6 | 175 | 500 | 6270 | 1.2 | | | |
| | 17.5 | 80 | 80 | 6130 | 2.3 | RV075 | 7114 | 50 |
| | 14 | 94 | 100 | 6603 | 1.9 | | | |
| | 11.3 | 116 | 80 | 7103 | 1.7 | RV075 | 7126 | 50 |
| | 9 | 133 | 100 | 7380 | 1.4 | | | |
| | 9.3 | 151 | 150 | 7380 | 1.7 | PC071-RV075 | 7114 | 57 |
| | 7.8 | 172 | 180 | 7380 | 1.4 | | | |
| 5.8 | 201 | 240 | 7380 | 1.1 | | | | |
| 4.7 | 230 | 300 | 7380 | 0.9 | | | | |
| 12 | 139 | 75 | 6952 | 2.4 | PC071-RV075 | 7126 | 57 | |
| 10 | 155 | 90 | 7380 | 2.5 | | | | |
| 7.5 | 191 | 120 | 7380 | 1.9 | | | | |
| 6 | 219 | 150 | 7380 | 1.5 | | | | |
| 5 | 248 | 180 | 7380 | 1.2 | | | | |
| 3.5 | 321 | 400 | 7380 | 1.1 | RV040/075 | 7114 | 61 | |
| 2.8 | 375 | 500 | 7380 | 0.8 | | | | |
| 5 | 263 | 180 | 8180 | 1.9 | PC071-RV090 | 7126 | 57 | |
| 3.8 | 318 | 240 | 8180 | 1.4 | | | | |
| 3 | 358 | 300 | 8180 | 1.1 | | | | |
| 2.3 | 488 | 600 | 8180 | 1.2 | RV040/090 | 7114 | 61 | |
| 1.9 | 553 | 750 | 8180 | 0.9 | | | | |
| 1.6 | 612 | 900 | 8180 | 0.8 | | | | |
| 1.2 | 776 | 1200 | 10320 | 1.3 | RV050/110 | 7114 | 61 | |



| P _{1n} [Kw] | n ₂ [1/min] | M _{2n} [Nm] | i | F _{r2} [N] | f _s |  |  | page |
|------------------------------------|---------------------------|-------------------------|------|------------------------|----------------|---|---|------|
| 0.25 (6322) (7114) (7126) | 0.93 | 924 | 1500 | 10320 | 1.2 | RV050/110 | 7114 | 61 |
| | 0.78 | 1010 | 1800 | 10320 | 1.1 | | | |
| | 0.58 | 1358 | 2400 | 13500 | 1 | RV063/130 | 7114 | 62 |
| | 0.47 | 1626 | 3000 | 13500 | 0.8 | | | |
| | 0.35 | 1910 | 4000 | 13500 | 0.6 | | | |
| | 0.28 | 2132 | 5000 | 13500 | 0.5 | | | |
| 0.37 (7112) (7124) (8016) | 373.3 | 8.3 | 7.5 | 1044 | 3.3 | RV040 | 7112 | 47 |
| | 280 | 11 | 10 | 1149 | 2.6 | | | |
| | 186.7 | 16 | 15 | 1315 | 1.9 | | | |
| | 140 | 20 | 20 | 1447 | 1.4 | | | |
| | 112 | 25 | 25 | 1559 | 1.1 | | | |
| | 186.7 | 16 | 7.5 | 1315 | 2.4 | RV040 | 7124 | 47 |
| | 140 | 21 | 10 | 1447 | 1.9 | | | |
| | 93.3 | 30 | 15 | 1657 | 1.3 | | | |
| | 70 | 39 | 20 | 1824 | 1 | | | |
| | 56 | 47 | 25 | 1964 | 0.8 | | | |
| | 46.7 | 52 | 30 | 2087 | 0.8 | | | |
| | 112 | 25 | 25 | 2140 | 2 | RV050 | 7112 | 48 |
| | 93.3 | 29 | 30 | 2274 | 2.2 | | | |
| | 70 | 37 | 40 | 2503 | 1.6 | | | |
| | 56 | 44 | 50 | 2696 | 1.2 | | | |
| | 46.7 | 50 | 60 | 2865 | 1 | | | |
| | 35 | 62 | 80 | 3153 | 0.7 | | | |
| | 140 | 21 | 10 | 1987 | 3.3 | RV050 | 7124 | 48 |
| | 93.3 | 31 | 15 | 2274 | 2.4 | | | |
| | 70 | 39 | 20 | 2503 | 1.8 | | | |
| | 56 | 47 | 25 | 2696 | 1.5 | | | |
| | 46.7 | 54 | 30 | 2865 | 1.5 | | | |
| | 35 | 68 | 40 | 3153 | 1.1 | | | |
| | 28 | 80 | 50 | 3397 | 0.9 | | | |
| | 23.3 | 89 | 60 | 3610 | 0.8 | | | |
| | 120 | 25 | 7.5 | 2091 | 3.3 | RV050 | 8016 | 48 |
| | 90 | 33 | 10 | 2302 | 2.5 | | | |
| | 60 | 47 | 15 | 2635 | 1.8 | | | |
| | 45 | 59 | 20 | 2900 | 1.3 | | | |
| | 36 | 72 | 25 | 3124 | 1 | | | |
| | 30 | 80 | 30 | 3320 | 1.1 | | | |
| | 35 | 70 | 40 | 4122 | 2.1 | RV063 | 7124 | 49 |
| | 28 | 82 | 50 | 4440 | 1.6 | | | |
| | 23.3 | 94 | 60 | 4719 | 1.4 | | | |
| | 17.5 | 113 | 80 | 5193 | 1.1 | | | |
| | 14 | 129 | 100 | 5595 | 0.9 | | | |
| | 45 | 60 | 20 | 3791 | 2.4 | RV063 | 8016 | 49 |
| | 36 | 73 | 25 | 4084 | 1.9 | | | |
| | 30 | 82 | 30 | 4339 | 2.1 | | | |
| | 22.5 | 102 | 40 | 4776 | 1.6 | | | |
| | 18 | 120 | 50 | 5145 | 1.2 | | | |
| | 15 | 137 | 60 | 5467 | 1 | | | |
| | 18.7 | 134 | 75 | 5083 | 1.2 | PC071-RV063 | 7124 | 56 |
| | 15.6 | 148 | 90 | 5401 | 1.4 | | | |
| | 11.7 | 185 | 120 | 5945 | 1 | | | |
| | 9.3 | 212 | 150 | 6270 | 0.8 | | | |
| | 9.3 | 182 | 300 | 6270 | 1.3 | RV030/063 | 7112 | 60 |
| 7 | 222 | 400 | 6270 | 1 | | | | |
| 23.3 | 97 | 60 | 5569 | 2 | RV075 | 7124 | 50 | |
| 17.5 | 119 | 80 | 6130 | 1.6 | | | | |
| 14 | 139 | 100 | 6603 | 1.3 | | | | |
| 18 | 124 | 50 | 6073 | 1.8 | RV075 | 8016 | 50 | |



| P _{1n} [Kw] | n ₂ [1/min] | M _{2n} [Nm] | i | F _{r2} [N] | f _s |  |  | page |
|------------------------------------|---------------------------|-------------------------|-------|------------------------|----------------|---|---|------|
| 0.37 (7112) (7124) (8016) | 15 | 141 | 60 | 6453 | 1.5 | RV040/075 | 8016 | 61 |
| | 11.3 | 172 | 80 | 7103 | 1.2 | | | |
| | 9 | 196 | 100 | 7380 | 1 | | | |
| | 18.7 | 138 | 75 | 6000 | 1.8 | PC071-RV075 | 7124 | 57 |
| | 15.6 | 154 | 90 | 6375 | 1.9 | | | |
| | 11.7 | 191 | 120 | 7017 | 1.5 | | | |
| | 9.3 | 223 | 150 | 7380 | 1.1 | | | |
| | 7.8 | 254 | 180 | 7380 | 0.9 | | | |
| | 12 | 206 | 75 | 6952 | 1.6 | PC080-RV075 | 8016 | 57 |
| | 10 | 230 | 90 | 7380 | 1.7 | | | |
| | 7.5 | 283 | 120 | 7380 | 1.3 | | | |
| | 6 | 324 | 150 | 7380 | 1 | | | |
| | 4.7 | 383 | 300 | 7380 | 1 | RV040/075 | 7124 | 61 |
| | 3.5 | 474 | 400 | 7380 | 0.7 | | | |
| | 11.3 | 184 | 80 | 7859 | 1.7 | RV090 | 8016 | 51 |
| | 9 | 212 | 100 | 8180 | 1.3 | | | |
| | 7.8 | 268 | 180 | 8180 | 1.5 | PC071-RV090 | 7124 | 57 |
| | 5.8 | 321 | 240 | 8180 | 1.1 | | | |
| | 4.7 | 371 | 300 | 8180 | 0.9 | | | |
| | 6 | 347 | 150 | 8180 | 1.6 | PC080-RV090 | 8016 | 58 |
| | 5 | 389 | 180 | 8180 | 1.3 | | | |
| | 3.8 | 471 | 240 | 8180 | 1 | | | |
| | 4.7 | 406 | 300 | 8180 | 1.5 | RV040/090 | 7124 | 61 |
| | 3.5 | 505 | 400 | 8180 | 1.2 | | | |
| | 2.8 | 593 | 500 | 8180 | 0.9 | | | |
| | 2.3 | 722 | 600 | 8180 | 0.8 | | | |
| | 3.8 | 509 | 240 | 10320 | 1.6 | PC080-RV110 | 8016 | 58 |
| | 3 | 577 | 300 | 10320 | 1.3 | | | |
| 1.9 | 837 | 750 | 10320 | 1.3 | RV050/110 | 7124 | 61 | |
| 1.6 | 928 | 900 | 10320 | 1.2 | | | | |
| 1.2 | 1148 | 1200 | 10320 | 0.8 | | | | |
| 0.93 | 1444 | 1500 | 13500 | 1.1 | RV063/130 | 7124 | 62 | |
| 0.78 | 1586 | 1800 | 13500 | 0.9 | | | | |
| 0.55 (7122) (8014) (8026) | 373.3 | 12 | 7.5 | 1044 | 2.2 | RV040 | 7122 | 47 |
| | 280 | 16 | 10 | 1149 | 1.8 | | | |
| | 186.7 | 24 | 15 | 1315 | 1.3 | | | |
| | 140 | 30 | 20 | 1447 | 0.9 | | | |
| | 112 | 37 | 25 | 1559 | 0.8 | | | |
| | 140 | 31 | 20 | 1987 | 1.7 | RV050 | 7122 | 48 |
| | 112 | 38 | 25 | 2140 | 1.4 | | | |
| | 93.3 | 43 | 30 | 2274 | 1.5 | | | |
| | 70 | 55 | 40 | 2503 | 1.1 | | | |
| | 56 | 65 | 50 | 2696 | 0.8 | | | |
| | 46.7 | 74 | 60 | 2865 | 0.7 | | | |
| | 186.7 | 24 | 7.5 | 1805 | 2.9 | RV050 | 8014 | 48 |
| | 140 | 32 | 10 | 1987 | 2.2 | | | |
| | 93.3 | 46 | 15 | 2274 | 1.6 | | | |
| | 70 | 59 | 20 | 2503 | 1.2 | | | |
| | 56 | 70 | 25 | 2696 | 1 | | | |
| | 46.7 | 80 | 30 | 2865 | 1 | | | |
| | 120 | 37 | 7.5 | 2091 | 2.2 | RV050 | 8026 | 48 |
| | 90 | 48 | 10 | 2302 | 1.7 | | | |
| | 60 | 69 | 15 | 2635 | 1.2 | | | |
| | 45 | 88 | 20 | 2900 | 0.9 | | | |
| | 70 | 56 | 40 | 3272 | 1.9 | RV063 | 7122 | 49 |
| | 56 | 68 | 50 | 3524 | 1.5 | | | |
| | 46.7 | 78 | 60 | 3745 | 1.2 | | | |
| | 35 | 96 | 80 | 4122 | 0.9 | | | |



| P _{1n} [Kw] | n ₂ [1/min] | M _{2n} [Nm] | i | F _{r2} [N] | f _s |  |  | page |
|------------------------------------|---------------------------|-------------------------|-------|------------------------|----------------|---|---|------|
| 0.55 (7122) (8014) (8026) | 28 | 111 | 100 | 4440 | 0.7 | RV063 | 7122 | 49 |
| | 70 | 60 | 20 | 3272 | 2.2 | RV063 | 8014 | 49 |
| | 56 | 72 | 25 | 3524 | 1.8 | | | |
| | 46.7 | 82 | 30 | 3745 | 1.9 | | | |
| | 35 | 104 | 40 | 4122 | 1.4 | | | |
| | 28 | 122 | 50 | 4440 | 1.1 | | | |
| | 23.3 | 140 | 60 | 4719 | 0.9 | | | |
| | 60 | 70 | 15 | 3444 | 2.2 | RV063 | 8026 | 49 |
| | 45 | 90 | 20 | 3791 | 1.6 | | | |
| | 36 | 108 | 25 | 4084 | 1.3 | | | |
| | 30 | 123 | 30 | 4339 | 1.4 | | | |
| | 22.5 | 152 | 40 | 4776 | 1.1 | | | |
| | 35 | 99 | 80 | 4865 | 1.3 | RV075 | 7122 | 50 |
| | 28 | 116 | 100 | 5241 | 1 | | | |
| | 35 | 108 | 40 | 4865 | 2 | RV075 | 8014 | 50 |
| | 28 | 128 | 50 | 5241 | 1.6 | | | |
| | 23.3 | 144 | 60 | 5569 | 1.4 | | | |
| | 17.5 | 177 | 80 | 6130 | 1.1 | | | |
| | 14 | 206 | 100 | 6603 | 0.9 | | | |
| | 30 | 124 | 30 | 5122 | 2 | RV075 | 8026 | 50 |
| | 22.5 | 156 | 40 | 5637 | 1.5 | | | |
| | 18 | 184 | 50 | 6073 | 1.2 | | | |
| | 15 | 210 | 60 | 6453 | 1 | | | |
| | 18.7 | 205 | 75 | 6000 | 1.2 | PC080-RV075 | 8014 | 57 |
| | 15.6 | 230 | 90 | 6375 | 1.3 | | | |
| | 11.7 | 284 | 120 | 7017 | 1 | | | |
| | 9.3 | 332 | 150 | 7380 | 0.8 | | | |
| | 12 | 306 | 75 | 6952 | 1.1 | PC080-RV075 | 8026 | 57 |
| | 10 | 341 | 90 | 7380 | 1.1 | | | |
| | 17.5 | 189 | 80 | 6783 | 1.5 | RV090 | 8014 | 51 |
| | 14 | 221 | 100 | 7306 | 1.2 | | | |
| | 18 | 196 | 50 | 6719 | 2 | RV090 | 8026 | 51 |
| | 15 | 224 | 60 | 7140 | 1.6 | | | |
| | 11.3 | 274 | 80 | 7859 | 1.1 | | | |
| | 9 | 315 | 100 | 8180 | 0.9 | | | |
| | 15.6 | 240 | 90 | 7054 | 2.3 | PC080-RV090 | 8014 | 58 |
| | 11.7 | 297 | 120 | 7764 | 1.6 | | | |
| | 9.3 | 355 | 150 | 8180 | 1.3 | | | |
| | 7.8 | 398 | 180 | 8180 | 1 | | | |
| | 10 | 357 | 90 | 8174 | 2 | PC080-RV090 | 8026 | 58 |
| | 7.5 | 441 | 120 | 8180 | 1.4 | | | |
| | 6 | 516 | 150 | 8180 | 1.1 | | | |
| 5 | 578 | 180 | 8180 | 0.9 | | | | |
| 9.3 | 305 | 300 | 8180 | 2 | RV040/090 | 7122 | 61 | |
| 7 | 375 | 400 | 8180 | 1.5 | | | | |
| 5.6 | 441 | 500 | 8180 | 1.2 | | | | |
| 175 | 201 | 80 | 8571 | 2.6 | RV110 | 8014 | 52 | |
| 14 | 236 | 100 | 9232 | 2 | | | | |
| 11.3 | 293 | 80 | 9931 | 1.9 | RV110 | 8026 | 52 | |
| 9 | 344 | 100 | 10320 | 1.5 | | | | |
| 7.8 | 425 | 180 | 10320 | 1.8 | PC080-RV110 | 8014 | 58 | |
| 5.8 | 513 | 240 | 10320 | 1.3 | | | | |
| 4.7 | 597 | 300 | 10320 | 1 | | | | |
| 7.5 | 462 | 120 | 10320 | 2.6 | PC080-RV110 | 8026 | 58 | |
| 6 | 552 | 150 | 10320 | 2 | | | | |
| 5 | 620 | 180 | 10320 | 1.6 | | | | |
| 3.8 | 756 | 240 | 10320 | 1.1 | | | | |
| 4.7 | 615 | 300 | 10320 | 2 | RV050/110 | 8014 | 61 | |



| P _{1n} [Kw] | n ₂ [1/min] | M _{2n} [Nm] | i | F _{r2} [N] | f _s |  |  | page |
|------------------------------------|---------------------------|-------------------------|------|------------------------|----------------|---|---|------|
| 0.55 (7122) (8014) (8026) | 3.5 | 810 | 400 | 10320 | 1.4 | RV050/110 | 8014 | 61 |
| | 2.8 | 938 | 500 | 10320 | 1.1 | | | |
| | 2.3 | 1096 | 600 | 10320 | 1 | | | |
| | 1.9 | 1244 | 750 | 10320 | 0.9 | | | |
| | 3.8 | 756 | 240 | 13500 | 1.6 | PC080-RV130 | 8026 | 58 |
| | 3 | 858 | 300 | 13500 | 1.3 | | | |
| 0.75 (8012) (8024) (90S6) | 2.8 | 957 | 500 | 13500 | 1.6 | RV063/130 | 8014 | 62 |
| | 1.9 | 1382 | 750 | 13500 | 1.2 | | | |
| | 1.2 | 2057 | 1200 | 13500 | 0.8 | | | |
| | 373.3 | 17 | 7.5 | 1433 | 3 | RV050 | 8012 | 48 |
| | 280 | 22 | 10 | 1577 | 2.4 | | | |
| | 186.7 | 31 | 15 | 1805 | 1.7 | | | |
| | 140 | 41 | 20 | 1987 | 1.3 | | | |
| | 112 | 49 | 25 | 2140 | 1 | | | |
| | 93.3 | 56 | 30 | 2274 | 1.1 | | | |
| | 186.7 | 33 | 7.5 | 1805 | 2.1 | RV050 | 8024 | 48 |
| | 140 | 43 | 10 | 1987 | 1.6 | | | |
| | 93.3 | 62 | 15 | 2274 | 1.2 | | | |
| | 70 | 80 | 20 | 2503 | 0.9 | | | |
| | 140 | 43 | 20 | 2597 | 2.3 | RV063 | 8012 | 49 |
| | 112 | 52 | 25 | 2797 | 1.8 | | | |
| | 93.3 | 60 | 30 | 2973 | 2 | | | |
| | 70 | 77 | 40 | 3272 | 1.4 | | | |
| | 56 | 92 | 50 | 3524 | 1.1 | | | |
| | 46.7 | 106 | 60 | 3745 | 0.9 | | | |
| | 93.3 | 63 | 15 | 2973 | 2.2 | RV063 | 8024 | 49 |
| | 70 | 82 | 20 | 3272 | 1.6 | | | |
| | 56 | 98 | 25 | 3524 | 1.3 | | | |
| | 46.7 | 112 | 30 | 3745 | 1.4 | | | |
| | 35 | 141 | 40 | 4122 | 1 | | | |
| | 120 | 51 | 7.5 | 2734 | 2.9 | RV063 | 90S6 | 49 |
| | 90 | 67 | 10 | 3009 | 2.3 | | | |
| | 60 | 96 | 15 | 3444 | 1.6 | | | |
| 45 | 123 | 20 | 3791 | 1.2 | | | | |
| 36 | 147 | 25 | 4084 | 0.9 | | | | |
| 30 | 167 | 30 | 4339 | 1 | | | | |
| 46.7 | 107 | 60 | 4421 | 1.3 | RV075 | 8012 | 50 | |
| 28 | 159 | 100 | 5241 | 0.8 | | | | |
| 56 | 101 | 25 | 4160 | 2 | RV075 | 8024 | 50 | |
| 46.7 | 117 | 30 | 4421 | 2 | | | | |
| 35 | 147 | 40 | 4865 | 1.5 | | | | |
| 28 | 174 | 50 | 5241 | 1.2 | | | | |
| 23.3 | 197 | 60 | 5569 | 1 | | | | |
| 60 | 97 | 15 | 4065 | 5.4 | RV075 | 90S6 | 50 | |
| 45 | 124 | 20 | 4474 | 1.9 | | | | |
| 36 | 149 | 25 | 4820 | 1.4 | | | | |
| 30 | 170 | 30 | 5122 | 1.5 | | | | |
| 22.5 | 213 | 40 | 5637 | 1.1 | | | | |
| 18.7 | 280 | 75 | 6000 | 0.9 | PC080-RV075 | 8024 | 57 | |
| 15.6 | 313 | 90 | 6375 | 1 | | | | |
| 35 | 143 | 80 | 5383 | 1.6 | RV090 | 8012 | 51 | |
| 28 | 169 | 100 | 5799 | 1.2 | | | | |
| 28 | 182 | 50 | 5799 | 1.8 | RV090 | 8024 | 51 | |
| 23.3 | 209 | 60 | 6163 | 1.5 | | | | |
| 17.5 | 258 | 80 | 6783 | 1.1 | | | | |
| 14 | 302 | 100 | 7306 | 0.9 | | | | |
| 30 | 179 | 30 | 5667 | 2.6 | RV090 | 90S6 | 51 | |
| 22.5 | 226 | 40 | 6238 | 1.8 | | | | |



| P _{1n} [Kw] | n ₂ [1/min] | M _{2n} [Nm] | i | F _{r2} [N] | f _s |  |  | page |
|------------------------------------|---------------------------|-------------------------|-------|------------------------|----------------|---|---|------|
| 0.75 (8012) (8024) (90S6) | 18 | 267 | 50 | 6719 | 1.4 | RV090 | 90S6 | 51 |
| | 15 | 306 | 60 | 7140 | 1.1 | | | |
| | 15.6 | 327 | 90 | 7054 | 1.7 | PC080-RV090 | 8024 | 58 |
| | 11.7 | 405 | 120 | 7764 | 1.2 | | | |
| | 9.3 | 483 | 150 | 8180 | 0.9 | | | |
| | 7.8 | 543 | 180 | 8180 | 0.7 | | | |
| | 7 | 512 | 400 | 8180 | 1.1 | RV040/090 | 8012 | 61 |
| | 5.6 | 601 | 500 | 8180 | 0.9 | | | |
| | 17.5 | 274 | 80 | 8571 | 1.9 | RV110 | 8024 | 52 |
| | 14 | 322 | 100 | 9232 | 1.5 | | | |
| | 15 | 325 | 60 | 9023 | 2.1 | RV110 | 90S6 | 52 |
| | 11.3 | 399 | 80 | 9931 | 1.4 | | | |
| | 9 | 470 | 100 | 10320 | 1.1 | | | |
| | 11.7 | 430 | 120 | 9811 | 2.2 | PC080-RV110 | 8024 | 58 |
| | 9.3 | 506 | 150 | 10320 | 1.7 | | | |
| | 7.8 | 580 | 180 | 10320 | 1.3 | | | |
| | 5.8 | 700 | 240 | 10320 | 0.9 | | | |
| | 12.4 | 393 | 73 | 9614 | 3.2 | PC090-RV110 | 90S6 | 58 |
| | 9.3 | 508 | 96.8 | 10320 | 2.3 | | | |
| | 7.4 | 607 | 121 | 10320 | 1.8 | | | |
| | 6.2 | 682 | 145.2 | 10320 | 1.5 | | | |
| | 4.6 | 832 | 193.6 | 10320 | 1 | | | |
| | 9.3 | 424 | 300 | 10320 | 2.8 | RV050/110 | 8012 | 61 |
| | 7 | 553 | 400 | 10320 | 2.1 | | | |
| | 5.6 | 640 | 500 | 10320 | 1.6 | | | |
| | 4.7 | 838 | 300 | 10320 | 1.5 | RV050/110 | 8024 | 61 |
| | 3.5 | 1105 | 400 | 10320 | 1.1 | | | |
| | 11.3 | 399 | 80 | 12989 | 2.1 | RV130 | 90S6 | 53 |
| | 9 | 470 | 100 | 13500 | 1.7 | | | |
| | 5.8 | 712 | 240 | 13500 | 1.4 | PC080-RV130 | 8024 | 58 |
| | 4.7 | 813 | 300 | 13500 | 1.1 | | | |
| | 12.4 | 399 | 73 | 12575 | 4.4 | PC090-RV130 | 90S6 | 58 |
| 9.3 | 508 | 96.8 | 13500 | 3.2 | | | | |
| 7.4 | 607 | 121 | 13500 | 2.6 | | | | |
| 6.2 | 682 | 145.2 | 13500 | 2.1 | | | | |
| 4.6 | 832 | 193.6 | 13500 | 1.5 | | | | |
| 3.7 | 944 | 242 | 13500 | 1.2 | | | | |
| 2.8 | 1305 | 500 | 13500 | 1.1 | RV063/130 | 8024 | 62 | |
| 2.3 | 1557 | 600 | 13500 | 1 | | | | |
| 1.9 | 1772 | 750 | 13500 | 0.9 | | | | |
| 1.6 | 2014 | 900 | 13500 | 0.8 | | | | |
| 1.1 (8022) (90L6) (90S4) | 373.3 | 25 | 7.5 | 1433 | 2.1 | RV050 | 8022 | 48 |
| | 280 | 33 | 10 | 1577 | 1.6 | | | |
| | 186.7 | 48 | 15 | 1805 | 1.2 | | | |
| | 140 | 62 | 20 | 1987 | 0.9 | | | |
| | 186.7 | 46 | 15 | 2359 | 2.1 | RV063 | 8022 | 49 |
| | 140 | 60 | 20 | 2597 | 1.6 | | | |
| | 112 | 72 | 25 | 2797 | 1.2 | | | |
| | 93.3 | 82 | 30 | 2973 | 1.4 | | | |
| | 70 | 104 | 40 | 3272 | 1 | | | |
| | 120 | 75 | 7.5 | 2734 | 2 | RV063 | 90L6 | 49 |
| | 90 | 98 | 10 | 3009 | 1.5 | | | |
| | 60 | 140 | 15 | 3444 | 1.1 | | | |
| | 45 | 180 | 20 | 3791 | 0.8 | | | |
| | 186.7 | 50 | 7.5 | 2359 | 2.6 | RV063 | 90S4 | 49 |
| | 140 | 65 | 10 | 2597 | 2 | | | |
| | 93.3 | 92 | 15 | 2973 | 1.5 | | | |
| 70 | 120 | 20 | 3272 | 1.1 | | | | |

| P _{1n} [Kw] | n ₂ [1/min] | M _{2n} [Nm] | i | F _{r2} [N] | f _s |  |  | page |
|-----------------------------------|---------------------------|-------------------------|-------|------------------------|----------------|---|---|------|
| 1.1 (8022) (90L6) (90S4) | 56 | 144 | 25 | 3524 | 0.9 | RV063 | 90S4 | 49 |
| | 46.7 | 164 | 30 | 3745 | 1 | | | |
| | 112 | 77 | 25 | 3302 | 1.9 | RV075 | 8022 | 50 |
| | 93.3 | 89 | 30 | 3509 | 1.9 | | | |
| | 70 | 114 | 40 | 3862 | 1.4 | | | |
| | 56 | 137 | 50 | 4160 | 1.1 | | | |
| | 46.7 | 157 | 60 | 4421 | 0.9 | | | |
| | 90 | 98 | 10 | 3551 | 2.3 | RV075 | 90L6 | 50 |
| | 60 | 142 | 15 | 4065 | 1.6 | | | |
| | 45 | 182 | 20 | 4474 | 1.3 | | | |
| | 36 | 219 | 25 | 4820 | 1 | | | |
| | 30 | 249 | 30 | 5122 | 1 | | | |
| | 93.3 | 95 | 15 | 3509 | 2.1 | RV075 | 90S4 | 50 |
| | 70 | 122 | 20 | 3862 | 1.7 | | | |
| | 56 | 148 | 25 | 4160 | 1.3 | | | |
| | 46.7 | 171 | 30 | 4421 | 1.3 | | | |
| | 35 | 216 | 40 | 4865 | 1 | | | |
| | 35 | 210 | 80 | 5383 | 1.1 | RV090 | 8022 | 51 |
| | 28 | 248 | 100 | 5799 | 0.8 | | | |
| | 36 | 228 | 25 | 5333 | 1.6 | RV090 | 90L6 | 51 |
| | 30 | 263 | 30 | 5667 | 1.8 | | | |
| | 22.5 | 331 | 40 | 6238 | 1.2 | | | |
| | 18 | 391 | 50 | 6719 | 1 | | | |
| | 15 | 448 | 60 | 7140 | 0.8 | | | |
| | 35 | 222 | 40 | 5383 | 1.6 | RV090 | 90S4 | 51 |
| | 28 | 266 | 50 | 5799 | 1.3 | | | |
| | 23.3 | 307 | 60 | 6163 | 1 | | | |
| | 22.5 | 345 | 40 | 7882 | 2.3 | RV110 | 90L6 | 52 |
| | 18 | 414 | 50 | 8491 | 1.8 | | | |
| | 15 | 476 | 60 | 9023 | 1.4 | | | |
| | 11.3 | 586 | 80 | 9931 | 1 | | | |
| | 28 | 278 | 50 | 7328 | 2.3 | RV110 | 90S4 | 52 |
| | 23.3 | 325 | 60 | 7787 | 1.9 | | | |
| | 17.5 | 402 | 80 | 8571 | 1.3 | | | |
| | 14 | 473 | 100 | 9232 | 1 | | | |
| | 12.4 | 576 | 73 | 9614 | 2.2 | PC090-RV110 | 90L6 | 58 |
| | 9.3 | 746 | 96.8 | 10320 | 1.6 | | | |
| | 7.4 | 890 | 121 | 10320 | 1.2 | | | |
| | 6.2 | 1000 | 145.2 | 10320 | 1 | | | |
| | 19.3 | 392 | 73 | 8298 | 2.5 | PC090-RV110 | 90S4 | 58 |
| 14.5 | 508 | 96.8 | 9133 | 1.8 | | | | |
| 11.6 | 599 | 121 | 9838 | 1.5 | | | | |
| 9.6 | 686 | 145.2 | 10320 | 1.1 | | | | |
| 7.2 | 828 | 193.6 | 10320 | 0.8 | | | | |
| 9.3 | 621 | 300 | 10320 | 1.9 | RV050/110 | 8022 | 61 | |
| 7 | 810 | 400 | 10320 | 1.4 | | | | |
| 5.6 | 938 | 500 | 10320 | 1.1 | | | | |
| 11.3 | 586 | 80 | 12989 | 1.4 | RV130 | 90L6 | 53 | |
| 9 | 689 | 100 | 13500 | 1.1 | | | | |
| 17.5 | 408 | 80 | 11210 | 2.1 | RV130 | 90S4 | 53 | |
| 14 | 480 | 100 | 12076 | 1.5 | | | | |
| 12.4 | 585 | 73 | 12575 | 3 | PC090-RV130 | 90L6 | 58 | |
| 9.3 | 746 | 96.8 | 13500 | 2.2 | | | | |
| 7.4 | 890 | 121 | 13500 | 1.7 | | | | |
| 6.2 | 1000 | 145.2 | 13500 | 1.4 | | | | |
| 4.6 | 1220 | 193.6 | 13500 | 1 | | | | |
| 19.3 | 398 | 73 | 10853 | 3.5 | PC090-RV130 | 90S4 | 58 | |
| 14.5 | 508 | 96.8 | 11945 | 2.6 | | | | |


| P _{1n} [Kw] | n ₂ [1/min] | M _{2n} [Nm] | i | F _{r2} [N] | f _s |  |  | page |
|------------------------------------|---------------------------|-------------------------|-------|------------------------|----------------|--|---|-------|
| 1.1 (8022) (90L6) (90S4) | 11.6 | 608 | 121 | 12868 | 2 | PC090-RV130 | 90S4 | 58 |
| | 9.6 | 686 | 145.2 | 13500 | 1.6 | | | |
| | 7.2 | 843 | 193.6 | 13500 | 1.2 | | | |
| | 5.8 | 962 | 242 | 13500 | 0.9 | RV063/130 | 90S4 | 62 |
| | 4.7 | 1274 | 300 | 13500 | 1.3 | | | |
| | 3.5 | 1621 | 400 | 13500 | 1 | | | |
| 2.8 | 1913 | 500 | 13500 | 0.8 | | | | |
| 1.5 (90S2) (90L4) (100L6) | 373.3 | 34 | 7.5 | 1433 | 1.5 | RV050 | 80S2 | 48 |
| | 280 | 45 | 10 | 1577 | 1.2 | | | |
| | 186.7 | 65 | 15 | 1805 | 0.9 | | | |
| | 186.7 | 68 | 7.5 | 2359 | 1.9 | RV063 | 90L4 | 49 |
| | 140 | 88 | 10 | 2597 | 1.5 | | | |
| | 93.3 | 126 | 15 | 2973 | 1.1 | | | |
| | 70 | 164 | 20 | 3272 | 0.8 | | | |
| | 373.3 | 35 | 7.5 | 1873 | 2.7 | RV063 | 90S2 | 49 |
| | 280 | 45 | 10 | 2061 | 2.1 | | | |
| | 186.7 | 66 | 15 | 2359 | 1.6 | | | |
| | 140 | 86 | 20 | 2597 | 1.2 | | | |
| | 112 | 105 | 25 | 2797 | 0.9 | | | |
| | 93.3 | 120 | 30 | 2973 | 1 | | | |
| | 120 | 103 | 7.5 | 3227 | 2 | RV075 | 100L6 | 50 |
| | 90 | 134 | 10 | 3551 | 1.7 | | | |
| | 60 | 193 | 15 | 4065 | 1.2 | | | |
| | 140 | 89 | 10 | 3065 | 2.2 | RV075 | 90L4 | 50 |
| | 93.3 | 129 | 15 | 3509 | 1.5 | | | |
| | 70 | 166 | 20 | 3862 | 1.3 | | | |
| | 56 | 202 | 25 | 4160 | 1 | | | |
| | 46.7 | 233 | 30 | 4421 | 1 | | | |
| | 280 | 45 | 10 | 2433 | 3.1 | | | |
| | 186.7 | 66 | 15 | 2785 | 2.2 | | | |
| | 140 | 86 | 20 | 3065 | 1.8 | | | |
| | 112 | 105 | 25 | 3302 | 1.4 | | | |
| | 93.3 | 121 | 30 | 3509 | 1.4 | | | |
| | 70 | 156 | 40 | 3862 | 1 | | | |
| | 56 | 187 | 50 | 4160 | 0.8 | | | |
| | 46.7 | 215 | 60 | 4421 | 0.7 | | | |
| | 90 | 137 | 10 | 3929 | 2.7 | RV090 | 100L6 | 51 |
| | 60 | 198 | 15 | 4498 | 2.1 | | | |
| | 45 | 258 | 20 | 4951 | 1.5 | | | |
| | 36 | 310 | 25 | 5333 | 1.2 | | | |
| | 30 | 358 | 30 | 5667 | 1.3 | | | |
| | 70 | 170 | 20 | 4273 | 2.1 | RV090 | 90L4 | 51 |
| | 56 | 207 | 25 | 4603 | 1.6 | | | |
| | 46.7 | 239 | 30 | 4891 | 1.7 | | | |
| | 35 | 303 | 40 | 5383 | 1.2 | | | |
| | 28 | 363 | 50 | 5799 | 0.9 | | | |
| | 23.3 | 418 | 60 | 6163 | 0.8 | | | |
| | 56 | 197 | 50 | 4603 | 1.4 | | | |
| | 46.7 | 227 | 60 | 4891 | 1.1 | | | |
| 45 | 264 | 20 | 6256 | 2.7 | RV110 | 100L6 | 52 | |
| 36 | 322 | 25 | 6739 | 2.4 | | | | |
| 30 | 363 | 30 | 7161 | 2.3 | | | | |
| 22.5 | 471 | 40 | 7882 | 1.7 | | | | |
| 18 | 565 | 50 | 8491 | 1.3 | | | | |
| 15 | 649 | 60 | 9023 | 1.1 | | | | |
| 35 | 315 | 40 | 6803 | 2.2 | | | | RV110 |
| 28 | 379 | 50 | 7328 | 1.7 | | | | |
| 23.3 | 443 | 60 | 7787 | 1.4 | | | | |

| P _{1n} [Kw] | n ₂ [1/min] | M _{2n} [Nm] | i | Fr ₂ [N] | f _s |  |  | page |
|--------------------------------------|---------------------------|-------------------------|-------|------------------------|----------------|---|---|------|
| 1.5 (90S2) (90L4) (100L6) | 17.5 | 548 | 80 | 8571 | 0.9 | RV110 | 90L4 | 52 |
| | 46.7 | 236 | 60 | 6181 | 2 | RV110 | 90S2 | 52 |
| | 35 | 299 | 80 | 6803 | 1.3 | | | |
| | 28 | 358 | 100 | 7328 | 1 | | | |
| | 19.3 | 535 | 73 | 8298 | 1.9 | PC090-RV110 | 90L4 | 58 |
| | 14.5 | 693 | 96.8 | 9133 | 1.3 | | | |
| | 11.6 | 817 | 121 | 9838 | 1.1 | | | |
| | 9.6 | 936 | 145.2 | 10320 | 0.8 | | | |
| | 9.3 | 847 | 300 | 10320 | 1.4 | RV050/110 | 90S2 | 61 |
| | 7 | 1105 | 400 | 10320 | 1 | | | |
| | 5.6 | 1279 | 500 | 10320 | 0.8 | | | |
| | 22.5 | 471 | 40 | 10309 | 2.3 | RV130 | 100L6 | 53 |
| | 18 | 565 | 50 | 11105 | 1.8 | | | |
| | 15 | 659 | 60 | 11801 | 1.4 | | | |
| | 11.3 | 799 | 80 | 12989 | 1.1 | | | |
| | 17.5 | 557 | 80 | 11210 | 1.5 | RV130 | 90L4 | 53 |
| | 14 | 655 | 100 | 12076 | 1.1 | | | |
| | 19.3 | 542 | 73 | 10853 | 2.6 | PC090-RV130 | 90L4 | 58 |
| | 14.5 | 693 | 96.8 | 11945 | 1.9 | | | |
| | 11.6 | 830 | 121 | 12868 | 1.5 | | | |
| 9.6 | 936 | 145.2 | 13500 | 1.1 | | | | |
| 7.2 | 1149 | 194 | 13500 | 0.8 | | | | |
| 9.3 | 878 | 300 | 13500 | 1.9 | RV063/130 | 90S2 | 62 | |
| 7 | 1105 | 400 | 13500 | 1.4 | | | | |
| 5.6 | 1305 | 500 | 13500 | 1.1 | | | | |
| 4.7 | 1737 | 300 | 13500 | 1 | RV063/130 | 90L4 | 62 | |
| 3.5 | 2210 | 400 | 13500 | 0.7 | | | | |
| 2.2 (90L2) (100LA4) (112M6) | 373.3 | 51 | 7.5 | 1873 | 1.8 | RV063 | 90L2 | 49 |
| | 280 | 66 | 10 | 2061 | 1.5 | | | |
| | 186.7 | 97 | 15 | 2359 | 1.1 | | | |
| | 186.7 | 99 | 7.5 | 2785 | 1.8 | RV075 | 100LA4 | 50 |
| | 140 | 131 | 10 | 3065 | 1.5 | | | |
| | 93.3 | 189 | 15 | 3509 | 1 | | | |
| | 373.3 | 50 | 7.5 | 2210 | 2.5 | RV075 | 90L2 | 50 |
| | 280 | 66 | 10 | 2433 | 2.1 | | | |
| | 186.7 | 97 | 15 | 2785 | 1.5 | | | |
| | 140 | 126 | 20 | 3065 | 1.3 | | | |
| | 112 | 154 | 25 | 3302 | 1 | | | |
| | 93.3 | 178 | 30 | 3509 | 0.9 | | | |
| | 186.7 | 100 | 7.5 | 3081 | 2.9 | RV090 | 100LA4 | 51 |
| | 140 | 132 | 10 | 3391 | 2.3 | | | |
| | 93.3 | 191 | 15 | 3882 | 1.9 | | | |
| | 70 | 249 | 20 | 4273 | 1.4 | | | |
| | 56 | 304 | 25 | 4603 | 1.1 | | | |
| | 46.7 | 351 | 30 | 4891 | 1.2 | | | |
| | 120 | 154 | 7.5 | 3570 | 2.2 | RV090 | 112M6 | 51 |
| | 90 | 201 | 10 | 3929 | 1.8 | | | |
| | 60 | 291 | 15 | 4498 | 1.4 | | | |
| | 45 | 378 | 20 | 4951 | 1 | | | |
| | 140 | 129 | 20 | 3391 | 2 | RV090 | 90L2 | 51 |
| | 112 | 159 | 25 | 3653 | 1.6 | | | |
| 93.3 | 185 | 30 | 3882 | 1.7 | | | | |
| 70 | 237 | 40 | 4273 | 1.2 | | | | |
| 56 | 289 | 50 | 4603 | 0.9 | | | | |
| 70 | 255 | 20 | 5399 | 2.5 | RV110 | 100LA4 | 52 | |
| 56 | 311 | 25 | 5816 | 2.2 | | | | |
| 46.7 | 355 | 30 | 6181 | 2 | | | | |
| 35 | 462 | 40 | 6803 | 1.5 | | | | |


| P _{1n} [Kw] | n ₂ [1/min] | M _{2n} [Nm] | i | Fr ₂ [N] | f _s |  |  | page |
|---------------------------------------|---------------------------|-------------------------|-------|------------------------|----------------|--|---|------|
| 2.2 (90L2) (100LA4) (112M6) | 28 | 555 | 50 | 7328 | 1.2 | RV110 | 100LA4 | 52 |
| | 23.3 | 649 | 60 | 7787 | 1 | | | |
| | 90 | 203 | 10 | 4965 | 3.5 | RV110 | 112M6 | 52 |
| | 60 | 294 | 15 | 5684 | 2.6 | | | |
| | 45 | 388 | 20 | 6256 | 1.9 | | | |
| | 36 | 473 | 25 | 6739 | 1.6 | | | |
| | 30 | 532 | 30 | 7161 | 1.6 | | | |
| | 112 | 161 | 25 | 4616 | 3.1 | RV110 | 90L2 | 52 |
| | 93.3 | 187 | 30 | 4905 | 3 | | | |
| | 70 | 243 | 40 | 5399 | 2.1 | | | |
| | 56 | 296 | 50 | 5816 | 1.7 | | | |
| | 46.7 | 346 | 60 | 6181 | 1.4 | | | |
| | 38.6 | 398 | 73 | 6502 | 2.1 | PC090-RV110 | 90L2 | 58 |
| | 28.9 | 516 | 96.8 | 7249 | 1.5 | | | |
| | 23.1 | 617 | 121 | 7809 | 1.2 | | | |
| | 35 | 468 | 40 | 8897 | 2.2 | RV130 | 100LA4 | 53 |
| | 28 | 563 | 50 | 9584 | 1.7 | | | |
| | 23.3 | 658 | 60 | 10185 | 1.4 | | | |
| | 17.5 | 816 | 80 | 11210 | 1 | | | |
| | 36 | 473 | 25 | 8814 | 2.2 | RV130 | 112M6 | 53 |
| | 30 | 539 | 30 | 9366 | 2.1 | | | |
| | 22.5 | 691 | 40 | 10309 | 1.6 | | | |
| | 18 | 829 | 50 | 11105 | 1.2 | | | |
| | 15 | 966 | 60 | 11801 | 1 | | | |
| | 35 | 444 | 80 | 8897 | 1.3 | RV130 | 90L2 | 53 |
| | 28 | 525 | 100 | 9584 | 1 | | | |
| | 38.6 | 409 | 73 | 8614 | 2.9 | PC090-RV130 | 90L2 | 58 |
| | 28.9 | 545 | 96.8 | 9481 | 2 | | | |
| 23.1 | 654 | 121 | 10213 | 1.6 | | | | |
| 19.3 | 752 | 145.2 | 10853 | 1.3 | | | | |
| 3.0 (100L2) (100LB4) (132S6) | 373.3 | 68 | 7.5 | 2210 | 1.9 | RV075 | 100L2 | 50 |
| | 280 | 90 | 10 | 2433 | 1.6 | | | |
| | 186.7 | 135 | 7.8 | 2785 | 1.4 | RV075 | 100LB4 | 50 |
| | 140 | 178 | 10 | 3065 | 1.1 | | | |
| | 93.3 | 258 | 15 | 3509 | 0.8 | | | |
| | 373.3 | 70 | 7.5 | 2446 | 3 | RV090 | 100L2 | 51 |
| | 280 | 92 | 10 | 2692 | 2.6 | | | |
| | 186.7 | 137 | 7.5 | 3081 | 2.1 | RV090 | 100LB4 | 51 |
| | 140 | 180 | 10 | 3391 | 1.7 | | | |
| | 93.3 | 261 | 15 | 3882 | 1.4 | | | |
| | 70 | 340 | 20 | 4273 | 1 | | | |
| | 56 | 414 | 25 | 4603 | 0.8 | | | |
| | 46.7 | 479 | 30 | 4891 | 0.9 | | | |
| | 93.3 | 264 | 15 | 4905 | 2.5 | RV110 | 100LB4 | 52 |
| | 70 | 348 | 20 | 5399 | 1.9 | | | |
| | 56 | 425 | 25 | 5816 | 1.6 | | | |
| | 46.7 | 485 | 30 | 6181 | 1.5 | | | |
| | 35 | 630 | 40 | 6803 | 1.1 | | | |
| | 28 | 757 | 50 | 7328 | 0.9 | | | |
| | 120 | 210 | 7.5 | 4511 | 3.1 | RV110 | 132S6 | 52 |
| | 90 | 277 | 10 | 4965 | 2.5 | | | |
| | 60 | 401 | 15 | 5684 | 1.9 | | | |
| | 45 | 528 | 20 | 6256 | 1.4 | | | |
| | 56 | 430 | 25 | 7607 | 2.2 | RV130 | 100LB4 | 53 |
| | 46.7 | 491 | 30 | 8084 | 2.1 | | | |
| | 35 | 638 | 40 | 8897 | 1.6 | | | |
| | 28 | 767 | 50 | 9584 | 1.3 | | | |
| | 23.3 | 898 | 60 | 10185 | 1 | | | |

| P _{1n} [Kw] | n ₂ [1/min] | M _{2n} [Nm] | i | F _{r2} [N] | f _s |  |  | page |
|---------------------------------------|---------------------------|-------------------------|------|------------------------|----------------|---|---|------|
| 3.0 (100L2) (100LB4) (132S6) | 17.5 | 1113 | 80 | 11270 | 0.8 | RV130 | 100LB4 | 53 |
| | 90 | 277 | 10 | 6494 | 3.4 | RV130 | 132S6 | 53 |
| | 60 | 406 | 15 | 7434 | 2.6 | | | |
| | 45 | 528 | 20 | 8182 | 1.9 | | | |
| | 36 | 645 | 25 | 8814 | 1.6 | | | |
| | 30 | 735 | 30 | 9366 | 1.6 | | | |
| | 22.5 | 942 | 40 | 10309 | 1.2 | | | |
| 4.0 (112M2) (112M4) (132MA6) | 373.3 | 91 | 7.5 | 2210 | 1.4 | RV075 | 112M2 | 50 |
| | 280 | 120 | 10 | 2433 | 1.2 | | | |
| | 186.7 | 180 | 7.5 | 2785 | 1 | RV075 | 112M4 | 50 |
| | 140 | 237 | 10 | 3065 | 0.8 | | | |
| | 373.3 | 93 | 7.5 | 2446 | 2.2 | RV090 | 112M2 | 51 |
| | 280 | 123 | 10 | 2692 | 1.9 | | | |
| | 186.7 | 182 | 7.5 | 3081 | 1.6 | RV090 | 112M4 | 51 |
| | 140 | 240 | 10 | 3391 | 1.3 | | | |
| | 93.3 | 348 | 15 | 3882 | 1 | | | |
| | 70 | 453 | 20 | 4273 | 0.8 | | | |
| | 140 | 240 | 10 | 4285 | 2.5 | RV110 | 112M4 | 52 |
| | 93.3 | 352 | 15 | 4905 | 1.9 | | | |
| | 70 | 464 | 20 | 5399 | 1.4 | | | |
| | 56 | 566 | 25 | 5816 | 1.2 | | | |
| | 46.7 | 646 | 30 | 6181 | 1.1 | | | |
| | 120 | 280 | 7.5 | 4511 | 2.3 | RV110 | 132MA6 | 52 |
| | 90 | 369 | 10 | 4965 | 1.9 | | | |
| | 60 | 535 | 15 | 5684 | 1.4 | | | |
| | 56 | 573 | 25 | 7607 | 1.6 | RV130 | 112M4 | 53 |
| | 46.7 | 654 | 30 | 8084 | 1.6 | | | |
| | 35 | 851 | 40 | 8897 | 1.2 | | | |
| | 28 | 1023 | 50 | 9584 | 1 | | | |
| | 23.3 | 1197 | 60 | 10185 | 0.8 | | | |
| | 120 | 283 | 7.5 | 5901 | 3.1 | RV130 | 132MA6 | 53 |
| 90 | 369 | 10 | 6494 | 2.6 | | | | |
| 60 | 541 | 15 | 7434 | 2 | | | | |
| 45 | 705 | 20 | 8182 | 1.5 | | | | |
| 36 | 860 | 25 | 8814 | 1.2 | | | | |
| 5.5 (132S4) | 186.7 | 250 | 7.5 | 3893 | 2.2 | RV110 | 132S4 | 52 |
| | 140 | 330 | 10 | 4285 | 1.8 | | | |
| | 93.3 | 484 | 15 | 4905 | 1.4 | | | |
| | 70 | 638 | 20 | 5399 | 1 | | | |
| | 140 | 334 | 10 | 5605 | 2.5 | RV130 | 132S4 | 53 |
| | 93.3 | 490 | 15 | 6416 | 1.9 | | | |
| | 70 | 638 | 20 | 7062 | 1.4 | | | |
| | 56 | 788 | 25 | 7607 | 1.2 | | | |
| | 46.7 | 900 | 30 | 8084 | 1.2 | | | |
| | 35 | 1171 | 40 | 8897 | 0.9 | | | |
| | 186.7 | 341 | 7.5 | 3893 | 1.6 | RV110 | 132M4 | 52 |
| | 140 | 450 | 10 | 4285 | 1.3 | | | |
| 93.3 | 660 | 15 | 4905 | 1 | | | | |
| 7.5 (132M4) | 186.7 | 345 | 7.5 | 5092 | 2.1 | RV130 | 132M4 | 53 |
| | 140 | 455 | 10 | 5605 | 1.8 | | | |
| | 93.3 | 668 | 15 | 6416 | 1.4 | | | |
| | 70 | 870 | 20 | 7062 | 1 | | | |
| | 56 | 1074 | 25 | 7607 | 0.9 | | | |
| | 46.7 | 1227 | 30 | 8084 | 0.8 | | | |
| | 35 | 1596 | 40 | 8897 | 0.7 | | | |


■ NRV...(n1=2800)

| M2n [Nm] | i | P1n [Kw] | n2 [1/min] | Fr2 [N] | Fr1 [N] |  | page |
|-------------|-----|-------------|---------------|------------|------------|---|------|
| 13 | 7.5 | 0.58 | 373.3 | 542 | 125 | NRV030 | 54 |
| 13 | 10 | 0.45 | 280 | 597 | 140 | | |
| 13 | 15 | 0.31 | 186.7 | 683 | 140 | | |
| 12 | 20 | 0.23 | 140 | 752 | 146 | | |
| 15 | 25 | 0.25 | 112 | 810 | 210 | | |
| 15 | 30 | 0.21 | 93.3 | 861 | 210 | | |
| 14 | 40 | 0.16 | 70 | 948 | 127 | | |
| 12 | 50 | 0.12 | 56 | 1021 | 128 | | |
| 12 | 60 | 0.1 | 46.7 | 1085 | 126 | | |
| 11 | 80 | 0.08 | 35 | 1194 | 130 | | |
| 27 | 7.5 | 1.2 | 373.3 | 1044 | 233 | NRV040 | 54 |
| 30 | 10 | 1 | 280 | 1149 | 272 | | |
| 31 | 15 | 0.72 | 186.7 | 1315 | 291 | | |
| 29 | 20 | 0.52 | 140 | 1447 | 204 | | |
| 28 | 25 | 0.42 | 112 | 1559 | 236 | | |
| 34 | 30 | 0.44 | 93.3 | 1657 | 350 | | |
| 31 | 40 | 0.32 | 70 | 1824 | 350 | | |
| 30 | 50 | 0.26 | 56 | 1964 | 350 | | |
| 27 | 60 | 0.21 | 46.7 | 2087 | 350 | | |
| 25 | 80 | 0.16 | 35 | 2298 | 350 | | |
| 22 | 100 | 0.12 | 28 | 2475 | 350 | | |
| 52 | 7.5 | 2.3 | 373.3 | 1433 | 324 | NRV050 | 54 |
| 53 | 10 | 1.8 | 280 | 1577 | 378 | | |
| 57 | 15 | 1.3 | 186.7 | 1805 | 399 | | |
| 53 | 20 | 0.95 | 140 | 1987 | 417 | | |
| 51 | 25 | 0.75 | 112 | 2140 | 482 | | |
| 65 | 30 | 0.82 | 93.3 | 2274 | 490 | | |
| 59 | 40 | 0.59 | 70 | 2503 | 490 | | |
| 53 | 50 | 0.45 | 56 | 2696 | 490 | | |
| 50 | 60 | 0.37 | 46.7 | 2865 | 490 | | |
| 45 | 80 | 0.27 | 35 | 3153 | 490 | | |
| 40 | 100 | 0.21 | 28 | 3397 | 490 | | |
| 92 | 7.5 | 4.0 | 373.3 | 1873 | 395 | NRV063 | 54 |
| 96 | 10 | 3.2 | 280 | 2064 | 463 | | |
| 101 | 15 | 2.3 | 186.7 | 2359 | 492 | | |
| 97 | 20 | 1.7 | 140 | 2597 | 538 | | |
| 91 | 25 | 1.3 | 112 | 2797 | 593 | | |
| 120 | 30 | 1.5 | 93.3 | 2973 | 700 | | |
| 113 | 40 | 1.1 | 70 | 3272 | 700 | | |
| 102 | 50 | 0.83 | 56 | 3524 | 700 | | |
| 96 | 60 | 0.68 | 46.7 | 3745 | 700 | | |
| 86 | 80 | 0.49 | 35 | 4122 | 700 | | |
| 74 | 100 | 0.37 | 28 | 4440 | 700 | | |


■ NRV ...(n1=2800)

| M _{2n} [Nm] | i | P _{1n} [Kw] | n ₂ [1/min] | F _{r2} [N] | F _{r1} [N] |  | page | | |
|-------------------------|-----|-------------------------|---------------------------|------------------------|------------------------|---|------|--------|----|
| 128 | 7.5 | 5.6 | 373.3 | 2210 | 560 | NRV075 | 54 | | |
| 141 | 10 | 4.7 | 280 | 2433 | 703 | | | | |
| 150 | 15 | 3.4 | 186.7 | 2785 | 727 | | | | |
| 160 | 20 | 2.8 | 140 | 3065 | 872 | | | | |
| 147 | 25 | 2.1 | 112 | 3302 | 980 | | | | |
| 170 | 30 | 2.1 | 93.3 | 3509 | 980 | | | | |
| 166 | 40 | 1.6 | 70 | 3862 | 980 | | | | |
| 149 | 50 | 1.2 | 56 | 4160 | 980 | | | | |
| 143 | 60 | 1.0 | 46.7 | 4421 | 980 | | | | |
| 130 | 80 | 0.72 | 35 | 4865 | 980 | | | | |
| 123 | 100 | 0.58 | 28 | 5241 | 980 | | | | |
| 207 | 7.5 | 8.9 | 373.3 | 2446 | 715 | | | NRV090 | 54 |
| 236 | 10 | 7.7 | 280 | 2692 | 900 | | | | |
| 270 | 15 | 6.0 | 186.7 | 3081 | 1034 | | | | |
| 258 | 20 | 4.4 | 140 | 3391 | 1120 | | | | |
| 246 | 25 | 3.4 | 112 | 3653 | 1270 | | | | |
| 311 | 30 | 3.7 | 93.3 | 3882 | 1270 | | | | |
| 280 | 40 | 2.6 | 70 | 4273 | 1270 | | | | |
| 263 | 50 | 2.0 | 56 | 4603 | 1270 | | | | |
| 242 | 60 | 1.6 | 46.7 | 4891 | 1270 | | | | |
| 229 | 80 | 1.2 | 35 | 5383 | 1270 | | | | |
| 203 | 100 | 0.9 | 28 | 5799 | 1270 | | | | |
| 386 | 7.5 | 16.6 | 373.3 | 3090 | 950 | NRV110 | 54 | | |
| 433 | 10 | 14.1 | 280 | 3401 | 1194 | | | | |
| 482 | 15 | 10.7 | 186.7 | 3893 | 1337 | | | | |
| 475 | 20 | 8.0 | 140 | 4285 | 1485 | | | | |
| 499 | 25 | 6.8 | 112 | 4616 | 1700 | | | | |
| 552 | 30 | 6.5 | 93.3 | 4905 | 1700 | | | | |
| 519 | 40 | 4.7 | 70 | 5399 | 1700 | | | | |
| 498 | 50 | 3.7 | 56 | 5816 | 1700 | | | | |
| 472 | 60 | 3.0 | 46.7 | 6181 | 1700 | | | | |
| 398 | 80 | 2.0 | 35 | 6803 | 1700 | | | | |
| 382 | 100 | 1.6 | 28 | 7328 | 1700 | | | | |
| 514 | 7.5 | 22.1 | 373.3 | 4042 | 1190 | | | NRV130 | 54 |
| 574 | 10 | 18.7 | 280 | 4449 | 1493 | | | | |
| 669 | 15 | 14.7 | 186.7 | 5092 | 1725 | | | | |
| 660 | 20 | 11 | 140 | 5605 | 1912 | | | | |
| 660 | 25 | 9.0 | 112 | 6038 | 2100 | | | | |
| 774 | 30 | 9.0 | 93.3 | 6416 | 2100 | | | | |
| 727 | 40 | 6.5 | 70 | 7062 | 2100 | | | | |
| 696 | 50 | 5.1 | 56 | 7607 | 2100 | | | | |
| 638 | 60 | 4.0 | 46.7 | 8084 | 2100 | | | | |
| 606 | 80 | 3.0 | 35 | 8897 | 2100 | | | | |
| 525 | 100 | 2.2 | 28 | 9584 | 2100 | | | | |


■ NRV ...(n1=1400)

| M _{2n} [Nm] | i | P _{1n} [Kw] | n ₂ [1/min] | F _{r2} [N] | F _{r1} [N] |  | page |
|-------------------------|-----|-------------------------|---------------------------|------------------------|------------------------|---|------|
| 18 | 7.5 | 0.41 | 186.7 | 683 | 150 | NRV030 | 54 |
| 18 | 10 | 0.32 | 140 | 752 | 169 | | |
| 18 | 15 | 0.23 | 93.3 | 861 | 169 | | |
| 18 | 20 | 0.18 | 70 | 948 | 190 | | |
| 20 | 25 | 0.18 | 56 | 1021 | 210 | | |
| 20 | 30 | 0.15 | 46.7 | 1085 | 210 | | |
| 18 | 40 | 0.11 | 35 | 1194 | 210 | | |
| 17 | 50 | 0.09 | 28 | 1286 | 210 | | |
| 16 | 60 | 0.08 | 23.3 | 1367 | 210 | | |
| 12 | 80 | 0.05 | 17.5 | 1504 | 210 | | |
| 40 | 7.5 | 0.9 | 186.7 | 1315 | 294 | NRV040 | 54 |
| 40 | 10 | 0.69 | 140 | 1447 | 331 | | |
| 39 | 15 | 0.48 | 93.3 | 1657 | 331 | | |
| 39 | 20 | 0.37 | 70 | 1824 | 350 | | |
| 38 | 25 | 0.3 | 56 | 1964 | 350 | | |
| 44 | 30 | 0.31 | 46.7 | 2087 | 350 | | |
| 41 | 40 | 0.23 | 35 | 2298 | 350 | | |
| 37 | 50 | 0.18 | 28 | 2475 | 350 | | |
| 35 | 60 | 0.15 | 23.3 | 2630 | 350 | | |
| 33 | 80 | 0.12 | 17.5 | 2895 | 350 | | |
| 29 | 100 | 0.09 | 14 | 3118 | 350 | | |
| 71 | 7.5 | 1.6 | 186.7 | 1805 | 401 | NRV050 | 54 |
| 70 | 10 | 1.2 | 140 | 1987 | 490 | | |
| 73 | 15 | 0.88 | 93.3 | 2274 | 490 | | |
| 72 | 20 | 0.68 | 70 | 2503 | 490 | | |
| 69 | 25 | 0.54 | 56 | 2696 | 490 | | |
| 83 | 30 | 0.57 | 46.7 | 2865 | 490 | | |
| 77 | 40 | 0.42 | 35 | 3153 | 490 | | |
| 73 | 50 | 0.34 | 28 | 3397 | 490 | | |
| 68 | 60 | 0.28 | 23.3 | 3610 | 490 | | |
| 64 | 80 | 0.22 | 17.5 | 3973 | 490 | | |
| 52 | 100 | 0.16 | 14 | 4280 | 490 | | |
| 126 | 7.5 | 2.8 | 186.7 | 2359 | 500 | NRV063 | 54 |
| 129 | 10 | 2.2 | 140 | 2597 | 571 | | |
| 134 | 15 | 1.6 | 93.3 | 2973 | 615 | | |
| 131 | 20 | 1.2 | 70 | 3272 | 667 | | |
| 131 | 25 | 1.0 | 56 | 3524 | 700 | | |
| 164 | 30 | 1.1 | 46.7 | 3745 | 700 | | |
| 143 | 40 | 0.76 | 35 | 4122 | 700 | | |
| 133 | 50 | 0.6 | 28 | 4440 | 700 | | |
| 130 | 60 | 0.51 | 23.3 | 4719 | 700 | | |
| 119 | 80 | 0.39 | 17.5 | 5193 | 700 | | |
| 118 | 100 | 0.34 | 14 | 5595 | 700 | | |


■ NRV ...(n1=1400)

| M _{2n} [Nm] | i | P _{1n} [Kw] | n ₂ [1/min] | F _{r2} [N] | F _{r1} [N] |  | page |
|-------------------------|-----|-------------------------|---------------------------|------------------------|------------------------|---|------|
| 185 | 7.5 | 4.1 | 186.7 | 2785 | 700 | NRV075 | 54 |
| 190 | 10 | 3.2 | 140 | 3065 | 830 | | |
| 198 | 15 | 2.3 | 93.3 | 3509 | 851 | | |
| 210 | 20 | 1.9 | 70 | 3862 | 980 | | |
| 202 | 25 | 1.5 | 56 | 4160 | 980 | | |
| 233 | 30 | 1.5 | 46.7 | 4421 | 980 | | |
| 216 | 40 | 1.0 | 35 | 4865 | 980 | | |
| 206 | 50 | 0.89 | 28 | 5241 | 980 | | |
| 197 | 60 | 0.75 | 23.3 | 5569 | 980 | | |
| 187 | 80 | 0.58 | 17.5 | 6130 | 980 | | |
| 180 | 100 | 0.48 | 14 | 6603 | 980 | | |
| 287 | 7.5 | 6.3 | 186.7 | 3081 | 900 | NRV090 | 54 |
| 306 | 10 | 5.1 | 140 | 3391 | 1082 | | |
| 357 | 15 | 4.1 | 93.3 | 3882 | 1257 | | |
| 351 | 20 | 3.1 | 70 | 4273 | 1270 | | |
| 332 | 25 | 2.4 | 56 | 4603 | 1270 | | |
| 415 | 30 | 2.6 | 46.7 | 4891 | 1270 | | |
| 363 | 40 | 1.8 | 35 | 5383 | 1270 | | |
| 339 | 50 | 1.4 | 28 | 5799 | 1270 | | |
| 307 | 60 | 1.1 | 23.3 | 6163 | 1270 | | |
| 285 | 80 | 0.83 | 17.5 | 6783 | 1270 | | |
| 270 | 100 | 0.67 | 14 | 7306 | 1270 | | |
| 546 | 7.5 | 12 | 186.7 | 3893 | 1200 | NRV110 | 54 |
| 588 | 10 | 9.8 | 140 | 4285 | 1463 | | |
| 660 | 15 | 7.5 | 93.3 | 4905 | 1604 | | |
| 649 | 20 | 5.6 | 70 | 5399 | 1700 | | |
| 665 | 25 | 4.7 | 56 | 5816 | 1700 | | |
| 727 | 30 | 4.5 | 46.7 | 6181 | 1700 | | |
| 693 | 40 | 3.3 | 35 | 6803 | 1700 | | |
| 656 | 50 | 2.6 | 28 | 7328 | 1700 | | |
| 620 | 60 | 2.1 | 23.3 | 7787 | 1700 | | |
| 512 | 80 | 1.4 | 17.5 | 8571 | 1700 | | |
| 473 | 100 | 1.1 | 14 | 9232 | 1700 | | |
| 741 | 7.5 | 16.1 | 186.7 | 5092 | 1500 | NRV130 | 54 |
| 820 | 10 | 13.5 | 140 | 5605 | 1845 | | |
| 917 | 15 | 10.3 | 93.3 | 6416 | 2070 | | |
| 905 | 20 | 7.8 | 70 | 7062 | 2100 | | |
| 931 | 25 | 6.5 | 56 | 7607 | 2100 | | |
| 1047 | 30 | 6.4 | 46.7 | 8084 | 2100 | | |
| 1043 | 40 | 4.9 | 35 | 8897 | 2100 | | |
| 972 | 50 | 3.8 | 28 | 9584 | 2100 | | |
| 928 | 60 | 3.1 | 23.3 | 10185 | 2100 | | |
| 853 | 80 | 2.3 | 17.5 | 11210 | 2100 | | |
| 742 | 100 | 1.7 | 14 | 12076 | 2100 | | |


■ NRV ...(n1=900)

| M _{2n} [Nm] | i | P _{1n} [Kw] | n ₂ [1/min] | F _{r2} [N] | F _{r1} [N] |  | page | | |
|-------------------------|-----|-------------------------|---------------------------|------------------------|------------------------|---|------|--------|----|
| 20 | 7.5 | 0.3 | 120 | 792 | 175 | NRV030 | 54 | | |
| 20 | 10 | 0.24 | 90 | 871 | 197 | | | | |
| 20 | 15 | 0.17 | 60 | 997 | 197 | | | | |
| 19 | 20 | 0.13 | 45 | 1098 | 210 | | | | |
| 23 | 25 | 0.14 | 36 | 1183 | 210 | | | | |
| 21 | 30 | 0.11 | 30 | 1257 | 210 | | | | |
| 21 | 40 | 0.09 | 22.5 | 1383 | 210 | | | | |
| 19 | 50 | 0.07 | 18 | 1490 | 210 | | | | |
| 18 | 60 | 0.06 | 15 | 1583 | 210 | | | | |
| 14 | 80 | 0.04 | 11.3 | 1743 | 210 | | | | |
| 43 | 7.5 | 0.65 | 120 | 1524 | 319 | NRV040 | 54 | | |
| 44 | 10 | 0.5 | 90 | 1677 | 350 | | | | |
| 45 | 15 | 0.36 | 60 | 1920 | 350 | | | | |
| 44 | 20 | 0.28 | 45 | 2113 | 350 | | | | |
| 44 | 25 | 0.23 | 36 | 2276 | 350 | | | | |
| 48 | 30 | 0.23 | 30 | 2419 | 350 | | | | |
| 44 | 40 | 0.17 | 22.5 | 2662 | 350 | | | | |
| 43 | 50 | 0.14 | 18 | 2868 | 350 | | | | |
| 38 | 60 | 0.11 | 15 | 3047 | 350 | | | | |
| 37 | 80 | 0.09 | 11.3 | 3354 | 350 | | | | |
| 33 | 100 | 0.07 | 9 | 3490 | 350 | | | | |
| 81 | 7.5 | 1.2 | 120 | 2091 | 448 | | | NRV050 | 54 |
| 83 | 10 | 0.94 | 90 | 2302 | 490 | | | | |
| 84 | 15 | 0.67 | 60 | 2635 | 490 | | | | |
| 76 | 20 | 0.48 | 45 | 2900 | 490 | | | | |
| 76 | 25 | 0.39 | 36 | 3124 | 490 | | | | |
| 91 | 30 | 0.42 | 30 | 3320 | 490 | | | | |
| 83 | 40 | 0.31 | 22.5 | 3654 | 490 | | | | |
| 78 | 50 | 0.25 | 18 | 3936 | 490 | | | | |
| 74 | 60 | 0.21 | 15 | 4183 | 490 | | | | |
| 66 | 80 | 0.16 | 11.3 | 4604 | 490 | | | | |
| 56 | 100 | 0.12 | 9 | 4840 | 490 | | | | |
| 151 | 7.5 | 2.2 | 120 | 2734 | 580 | NRV063 | 54 | | |
| 152 | 10 | 1.7 | 90 | 3009 | 661 | | | | |
| 153 | 15 | 1.2 | 60 | 3444 | 670 | | | | |
| 149 | 20 | 0.91 | 45 | 3791 | 700 | | | | |
| 135 | 25 | 0.69 | 36 | 4084 | 700 | | | | |
| 176 | 30 | 0.79 | 30 | 4339 | 700 | | | | |
| 160 | 40 | 0.58 | 22.5 | 4776 | 700 | | | | |
| 146 | 50 | 0.45 | 18 | 5145 | 700 | | | | |
| 137 | 60 | 0.37 | 15 | 5467 | 700 | | | | |
| 127 | 80 | 0.29 | 11.3 | 6018 | 700 | | | | |
| 125 | 100 | 0.25 | 9 | 6270 | 700 | | | | |


■ NRV ...(n1=900)

| M _{2n} [Nm] | i | P _{1n} [Kw] | n ₂ [1/min] | F _{r2} [N] | F _{r1} [N] |  | page |
|-------------------------|-----|-------------------------|---------------------------|------------------------|------------------------|---|------|
| 212 | 7.5 | 3.1 | 120 | 3227 | 810 | NRV075 | 54 |
| 223 | 10 | 2.5 | 90 | 3551 | 975 | | |
| 232 | 15 | 1.8 | 60 | 4065 | 980 | | |
| 232 | 20 | 1.4 | 45 | 4474 | 980 | | |
| 219 | 25 | 1.1 | 36 | 4820 | 980 | | |
| 249 | 30 | 1.1 | 30 | 5122 | 980 | | |
| 236 | 40 | 0.83 | 22.5 | 5637 | 980 | | |
| 217 | 50 | 0.65 | 18 | 6073 | 980 | | |
| 206 | 60 | 0.54 | 15 | 6453 | 980 | | |
| 200 | 80 | 0.43 | 11.3 | 7103 | 980 | | |
| 191 | 100 | 0.36 | 9 | 7380 | 980 | | |
| 336 | 7.5 | 4.8 | 120 | 3570 | 1040 | NRV090 | 54 |
| 365 | 10 | 4.0 | 90 | 3929 | 1270 | | |
| 410 | 15 | 3.1 | 60 | 4498 | 1270 | | |
| 395 | 20 | 2.3 | 45 | 4951 | 1270 | | |
| 372 | 25 | 1.8 | 36 | 5333 | 1270 | | |
| 454 | 30 | 1.9 | 30 | 5667 | 1270 | | |
| 422 | 40 | 1.4 | 22.5 | 6238 | 1270 | | |
| 391 | 50 | 1.1 | 18 | 6719 | 1270 | | |
| 350 | 60 | 0.86 | 15 | 7140 | 1270 | | |
| 314 | 80 | 0.63 | 11.3 | 7859 | 1270 | | |
| 281 | 100 | 0.49 | 9 | 8180 | 1270 | | |
| 644 | 7.5 | 9.2 | 120 | 4511 | 1390 | NRV110 | 54 |
| 702 | 10 | 7.6 | 90 | 4965 | 1700 | | |
| 749 | 15 | 5.6 | 60 | 5684 | 1700 | | |
| 722 | 20 | 4.1 | 45 | 6256 | 1700 | | |
| 752 | 25 | 3.5 | 36 | 6739 | 1700 | | |
| 847 | 30 | 3.5 | 30 | 7161 | 1700 | | |
| 785 | 40 | 2.5 | 22.5 | 7882 | 1700 | | |
| 753 | 50 | 2.0 | 18 | 8491 | 1700 | | |
| 693 | 60 | 1.6 | 15 | 9023 | 1700 | | |
| 586 | 80 | 1.1 | 11.3 | 9931 | 1700 | | |
| 526 | 100 | 0.84 | 9 | 10320 | 1700 | | |
| 871 | 7.5 | 12.3 | 120 | 5901 | 1740 | NRV130 | 54 |
| 951 | 10 | 10.3 | 90 | 6494 | 2100 | | |
| 1055 | 15 | 7.8 | 60 | 7434 | 2100 | | |
| 1022 | 20 | 5.8 | 45 | 8182 | 2100 | | |
| 1031 | 25 | 4.8 | 36 | 8814 | 2100 | | |
| 1152 | 30 | 4.7 | 30 | 9366 | 2100 | | |
| 1099 | 40 | 3.5 | 22.5 | 10309 | 2100 | | |
| 1017 | 50 | 2.7 | 18 | 11105 | 2100 | | |
| 923 | 60 | 2.1 | 15 | 11801 | 2100 | | |
| 852 | 80 | 1.6 | 11.3 | 12989 | 2100 | | |
| 751 | 100 | 1.2 | 9 | 13500 | 2100 | | |


■ NRV ...(n1=500)

| M2n [Nm] | i | P1n [Kw] | n2 [1/min] | Fr2 [N] | Fr1 [N] |  | page |
|-------------|-----|-------------|---------------|------------|------------|---|------|
| 24 | 7.5 | 0.21 | 66.7 | 963 | 210 | NRV030 | 54 |
| 24 | 10 | 0.16 | 50 | 1060 | 210 | | |
| 24 | 15 | 0.12 | 33.3 | 1213 | 210 | | |
| 23 | 20 | 0.09 | 25 | 1336 | 210 | | |
| 29 | 25 | 0.1 | 20 | 1439 | 210 | | |
| 26 | 30 | 0.08 | 16.7 | 1529 | 210 | | |
| 24 | 40 | 0.06 | 12.5 | 1683 | 210 | | |
| 22 | 50 | 0.05 | 10 | 1813 | 210 | | |
| 20 | 60 | 0.04 | 8.3 | 1830 | 210 | | |
| 17 | 80 | 0.03 | 6.3 | 1830 | 210 | | |
| 53 | 7.5 | 0.45 | 66.7 | 1853 | 350 | NRV040 | 54 |
| 53 | 10 | 0.35 | 50 | 2040 | 350 | | |
| 56 | 15 | 0.26 | 33.3 | 2335 | 350 | | |
| 52 | 20 | 0.19 | 25 | 2570 | 350 | | |
| 49 | 25 | 0.15 | 20 | 2769 | 350 | | |
| 58 | 30 | 0.16 | 16.7 | 2942 | 350 | | |
| 53 | 40 | 0.12 | 12.5 | 3238 | 350 | | |
| 52 | 50 | 0.1 | 10 | 3488 | 350 | | |
| 46 | 60 | 0.08 | 8.3 | 3490 | 350 | | |
| 40 | 80 | 0.06 | 6.3 | 3490 | 350 | | |
| 38 | 100 | 0.05 | 5 | 3490 | 350 | | |
| 102 | 7.5 | 0.86 | 66.7 | 2544 | 490 | NRV050 | 54 |
| 104 | 10 | 0.67 | 50 | 2800 | 490 | | |
| 102 | 15 | 0.47 | 33.3 | 3205 | 490 | | |
| 92 | 20 | 0.33 | 25 | 3528 | 490 | | |
| 94 | 25 | 0.28 | 20 | 3800 | 490 | | |
| 106 | 30 | 0.29 | 16.7 | 4038 | 490 | | |
| 99 | 40 | 0.22 | 12.5 | 4445 | 490 | | |
| 89 | 50 | 0.17 | 10 | 4788 | 490 | | |
| 82 | 60 | 0.14 | 8.3 | 4840 | 490 | | |
| 75 | 80 | 0.11 | 6.3 | 4840 | 490 | | |
| 69 | 100 | 0.09 | 5 | 4840 | 490 | | |
| 180 | 7.5 | 1.5 | 66.7 | 3325 | 700 | NRV063 | 54 |
| 188 | 10 | 1.2 | 50 | 3660 | 700 | | |
| 188 | 15 | 0.85 | 33.3 | 4190 | 700 | | |
| 178 | 20 | 0.63 | 25 | 4611 | 700 | | |
| 163 | 25 | 0.48 | 20 | 4967 | 700 | | |
| 204 | 30 | 0.54 | 16.7 | 5279 | 700 | | |
| 186 | 40 | 0.4 | 12.5 | 5810 | 700 | | |
| 174 | 50 | 0.32 | 10 | 6259 | 700 | | |
| 162 | 60 | 0.26 | 8.3 | 6270 | 700 | | |
| 138 | 80 | 0.19 | 6.3 | 6270 | 700 | | |
| 131 | 100 | 0.16 | 5 | 6270 | 700 | | |


■ NRV ...(n1=500)

| M _{2n} [Nm] | i | P _{1n} [Kw] | n ₂ [1/min] | F _{r2} [N] | F _{r1} [N] |  | page |
|-------------------------|-----|-------------------------|---------------------------|------------------------|------------------------|---|------|
| 253 | 7.5 | 2.1 | 66.7 | 3925 | 980 | NRV075 | 54 |
| 266 | 10 | 1.7 | 50 | 4320 | 980 | | |
| 268 | 15 | 1.2 | 33.3 | 4945 | 980 | | |
| 281 | 20 | 0.98 | 25 | 5443 | 980 | | |
| 251 | 25 | 0.73 | 20 | 5863 | 980 | | |
| 299 | 30 | 0.77 | 16.7 | 6231 | 980 | | |
| 279 | 40 | 0.58 | 12.5 | 6858 | 980 | | |
| 248 | 50 | 0.44 | 10 | 7380 | 980 | | |
| 234 | 60 | 0.37 | 8.3 | 7380 | 980 | | |
| 220 | 80 | 0.29 | 6.3 | 7380 | 980 | | |
| 206 | 100 | 0.24 | 5 | 7380 | 980 | | |
| 406 | 7.5 | 3.3 | 66.7 | 4343 | 1270 | | |
| 433 | 10 | 2.7 | 50 | 4780 | 1270 | | |
| 488 | 15 | 2.1 | 33.3 | 5472 | 1270 | | |
| 477 | 20 | 1.6 | 25 | 6022 | 1270 | | |
| 430 | 25 | 1.2 | 20 | 6487 | 1270 | | |
| 568 | 30 | 1.4 | 16.7 | 6894 | 1270 | | |
| 486 | 40 | 0.95 | 12.5 | 7588 | 1270 | | |
| 451 | 50 | 0.75 | 10 | 8174 | 1270 | | |
| 407 | 60 | 0.59 | 8.3 | 8180 | 1270 | | |
| 368 | 80 | 0.45 | 6.3 | 8180 | 1270 | | |
| 328 | 100 | 0.35 | 5 | 8180 | 1270 | | |
| 788 | 7.5 | 6.4 | 66.7 | 5488 | 1700 | NRV110 | 54 |
| 844 | 10 | 5.2 | 50 | 6040 | 1700 | | |
| 906 | 15 | 3.9 | 33.3 | 6914 | 1700 | | |
| 856 | 20 | 2.8 | 25 | 7610 | 1700 | | |
| 894 | 25 | 2.4 | 20 | 8198 | 1700 | | |
| 988 | 30 | 2.4 | 16.7 | 8711 | 1700 | | |
| 909 | 40 | 1.7 | 12.5 | 9588 | 1700 | | |
| 882 | 50 | 1.4 | 10 | 10320 | 1700 | | |
| 810 | 60 | 1.1 | 8.3 | 10320 | 1700 | | |
| 668 | 80 | 0.76 | 6.3 | 10320 | 1700 | | |
| 609 | 100 | 0.59 | 5 | 10320 | 1700 | | |
| 1071 | 7.5 | 8.6 | 66.7 | 7178 | 2100 | | |
| 1153 | 10 | 7.1 | 50 | 7900 | 2100 | | |
| 1293 | 15 | 5.5 | 33.3 | 9043 | 2100 | | |
| 1222 | 20 | 4.0 | 25 | 9953 | 2100 | | |
| 1192 | 25 | 3.2 | 20 | 10722 | 2100 | | |
| 1378 | 30 | 3.3 | 16.7 | 11394 | 2100 | | |
| 1284 | 40 | 2.4 | 12.5 | 12540 | 2100 | | |
| 1216 | 50 | 1.9 | 10 | 13500 | 2100 | | |
| 1105 | 60 | 1.5 | 8.3 | 13500 | 2100 | | |
| 967 | 80 | 1.1 | 6.3 | 13500 | 2100 | | |
| 877 | 100 | 0.85 | 5 | 13500 | 2100 | | |



■ UDL...-RV...(n1=1400)

| M2n [Nm] | i | P1n [Kw] | n2 [1/min] | Fr2 [N] | Fr1 [N] |  | page |
|-------------|------|-------------|---------------|------------|------------|---|------|
| 73 | 300 | 0.08 | 4.7 | 3490 | 210 | NRV030/040 | 62 |
| 67 | 400 | 0.06 | 3.5 | 3490 | 210 | | |
| 59 | 500 | 0.04 | 2.8 | 3490 | 210 | | |
| 63 | 600 | 0.04 | 2.3 | 3490 | 210 | | |
| 68 | 750 | 0.04 | 1.9 | 3490 | 210 | | |
| 59 | 900 | 0.03 | 1.6 | 3490 | 210 | | |
| 48 | 1200 | 0.02 | 1.2 | 3490 | 210 | | |
| 57 | 1500 | 0.02 | 0.9 | 3490 | 210 | | |
| 60 | 1800 | 0.02 | 0.8 | 3490 | 210 | | |
| 36 | 2400 | 0.01 | 0.58 | 3490 | 210 | | |
| 45 | 3200 | 0.01 | 0.4 | 3490 | 210 | | |
| 33 | 4000 | 0.01 | 0.4 | 3490 | 210 | | |
| 29 | 5000 | 0.01 | 0.28 | 3490 | 210 | | |
| 140 | 300 | 0.15 | 4.7 | 4840 | 210 | | |
| 115 | 400 | 0.1 | 3.5 | 4840 | 210 | | |
| 120 | 500 | 0.09 | 2.8 | 4840 | 210 | | |
| 130 | 600 | 0.08 | 2.3 | 4840 | 210 | | |
| 123 | 750 | 0.07 | 1.9 | 4840 | 210 | | |
| 118 | 900 | 0.06 | 1.6 | 4840 | 210 | | |
| 96 | 1200 | 0.04 | 1.2 | 4840 | 210 | | |
| 111 | 1500 | 0.04 | 0.93 | 4840 | 210 | | |
| 122 | 1800 | 0.04 | 0.78 | 4840 | 210 | | |
| 110 | 2400 | 0.03 | 0.6 | 4840 | 210 | | |
| 80 | 3000 | 0.02 | 0.5 | 4840 | 210 | | |
| 82 | 4000 | 0.02 | 0.35 | 4840 | 210 | | |
| 82 | 4800 | 0.02 | 0.29 | 4840 | 210 | | |
| 234 | 300 | 0.24 | 4.7 | 6270 | 210 | NRV030/063 | 62 |
| 228 | 400 | 0.19 | 3.5 | 6270 | 210 | | |
| 210 | 500 | 0.15 | 2.8 | 6270 | 210 | | |
| 216 | 600 | 0.13 | 2.3 | 6270 | 210 | | |
| 199 | 750 | 0.11 | 1.9 | 6270 | 210 | | |
| 188 | 900 | 0.09 | 1.6 | 6270 | 210 | | |
| 197 | 1200 | 0.08 | 1.2 | 6270 | 210 | | |
| 173 | 1500 | 0.06 | 0.93 | 6270 | 210 | | |
| 159 | 1800 | 0.05 | 0.78 | 6270 | 210 | | |
| 189 | 2400 | 0.05 | 0.58 | 6270 | 210 | | |
| 171 | 3000 | 0.04 | 0.47 | 6270 | 210 | | |
| 147 | 4000 | 0.03 | 0.35 | 6270 | 210 | | |
| 109 | 5000 | 0.02 | 0.28 | 6270 | 210 | | |
| 373 | 300 | 0.36 | 4.7 | 7380 | 350 | | |
| 346 | 400 | 0.27 | 3.5 | 7380 | 350 | | |
| 315 | 500 | 0.21 | 2.8 | 7380 | 350 | | |
| 355 | 600 | 0.19 | 2.3 | 7380 | 350 | | |
| 330 | 750 | 0.16 | 1.9 | 7380 | 350 | | |
| 326 | 900 | 0.14 | 1.6 | 7380 | 350 | | |



■ UDL...-RV ...(n1=1400)

| M2n [Nm] | i | P1n [Kw] | n2 [1/min] | Fr2 [N] | Fr1 [N] |  | page |
|-------------|------|-------------|---------------|------------|------------|---|------|
| 315 | 1200 | 0.11 | 1.2 | 7380 | 350 | NRV040/075 | 62 |
| 339 | 1500 | 0.1 | 0.93 | 7380 | 350 | | |
| 331 | 1800 | 0.09 | 0.78 | 7380 | 350 | | |
| 311 | 2400 | 0.07 | 0.58 | 7380 | 350 | | |
| 254 | 3000 | 0.05 | 0.47 | 7380 | 350 | | |
| 240 | 4000 | 0.04 | 0.35 | 7380 | 350 | | |
| 205 | 5000 | 0.03 | 0.28 | 7380 | 350 | | |
| 614 | 300 | 0.56 | 4.7 | 8180 | 350 | NRV040/090 | 62 |
| 587 | 400 | 0.43 | 3.5 | 8180 | 350 | | |
| 545 | 500 | 0.34 | 2.8 | 8180 | 350 | | |
| 585 | 600 | 0.3 | 2.3 | 8180 | 350 | | |
| 509 | 750 | 0.23 | 1.9 | 8180 | 350 | | |
| 465 | 900 | 0.19 | 1.6 | 8180 | 350 | | |
| 514 | 1200 | 0.17 | 1.2 | 8180 | 350 | | |
| 503 | 1500 | 0.14 | 0.93 | 8180 | 350 | | |
| 431 | 1800 | 0.11 | 0.78 | 8180 | 350 | | |
| 543 | 2400 | 0.11 | 0.58 | 8180 | 350 | | |
| 439 | 3000 | 0.08 | 0.47 | 8180 | 350 | | |
| 460 | 4000 | 0.08 | 0.35 | 8180 | 350 | | |
| 410 | 5000 | 0.06 | 0.28 | 8180 | 350 | | |
| 1229 | 300 | 1.1 | 4.7 | 10320 | 490 | NRV050/100 | 62 |
| 1164 | 400 | 0.79 | 3.5 | 10320 | 490 | | |
| 1248 | 500 | 0.61 | 2.8 | 10320 | 490 | | |
| 1096 | 600 | 0.55 | 2.3 | 10320 | 490 | | |
| 1108 | 750 | 0.49 | 1.9 | 10320 | 490 | | |
| 1078 | 900 | 0.43 | 1.6 | 10320 | 490 | | |
| 962 | 1200 | 0.31 | 1.2 | 10320 | 490 | | |
| 1109 | 1500 | 0.3 | 0.93 | 10320 | 490 | | |
| 1051 | 1800 | 0.26 | 0.78 | 10320 | 490 | | |
| 1001 | 2400 | 0.19 | 0.58 | 10320 | 490 | | |
| 914 | 3000 | 0.15 | 0.47 | 10320 | 490 | | |
| 819 | 4000 | 0.13 | 0.35 | 10320 | 490 | | |
| 746 | 5000 | 0.1 | 0.28 | 10320 | 490 | | |
| 1737 | 300 | 1.5 | 4.7 | 13500 | 700 | | |
| 1621 | 400 | 1.1 | 3.5 | 13500 | 700 | | |
| 1496 | 500 | 0.86 | 2.8 | 13500 | 700 | | |
| 1578 | 600 | 0.76 | 2.3 | 13500 | 700 | | |
| 1559 | 750 | 0.66 | 1.9 | 13500 | 700 | | |
| 1558 | 900 | 0.58 | 1.6 | 13500 | 700 | | |
| 1403 | 1200 | 0.43 | 1.2 | 13500 | 700 | | |
| 1522 | 1500 | 0.39 | 0.93 | 13500 | 700 | | |
| 1500 | 1800 | 0.35 | 0.78 | 13500 | 700 | | |
| 1358 | 2400 | 0.25 | 0.58 | 13500 | 700 | | |
| 1300 | 3000 | 0.2 | 0.47 | 13500 | 700 | | |
| 1146 | 4000 | 0.15 | 0.35 | 13500 | 700 | | |
| 938 | 5000 | 0.11 | 0.28 | 13500 | 700 | | |



■ UDL...-RV...(n1=1400)

| P _{1n} [Kw] | n ₂ [1/min] | M _{2n} [Nm] | i |  |  | page |
|-------------------------|---------------------------|-------------------------|---------------|---|---|-------|
| 0.18 | 117-22.5 | 9-18 | 12-61.5 | UDL0.18-RV040 | 6324 | 47&63 |
| | 88-17 | 12-23 | 16-82 | | | |
| | 58.7-11.3 | 17-32 | 24-123 | | | |
| | 44-8.5 | 22-40 | 32-164 | | | |
| | 35.2-6.8 | 27-47 | 40-205 | | | |
| | 29.3-5.7 | 30-51 | 48-246 | | | |
| | 22-4.3 | 37-62 | 64-328 | | | |
| | 17.6-3.4 | 43-60 | 80-410 | | | |
| | 22-4.3 | 38-63 | 64-328 | UDL0.18-RV050 | 6324 | 48&63 |
| | 17.6-3.4 | 44-73 | 80-410 | | | |
| | 14.7-2.8 | 50-80 | 96-492 | | | |
| | 11-2.1 | 59-82 | 128-656 | | | |
| | 8.8-1.7 | 66-79 | 160-820 | | | |
| | | | | | | |
| 0.37 | 133-26.7 | 19-36 | 10.5-52.5 | UDL0.37-RV050 | 7124 | 48&63 |
| | 100-20 | 25-47 | 14-70 | | | |
| | 66.7-13.3 | 36-65 | 21-105 | | | |
| | 50-10 | 46-82 | 28-140 | | | |
| | 40-8 | 55-97 | 35-175 | | | |
| | 33.3-6.7 | 61-107 | 42-210 | | | |
| | 25-5 | 76-124 | 56-280 | | | |
| | 20-4 | 89-120 | 70-350 | | | |
| | 25-5 | 79-134 | 56-280 | UDL0.37-RV063 | 7124 | 49&63 |
| | 20-4 | 92-155 | 70-350 | | | |
| | 16.7-3.3 | 104-173 | 84-420 | | | |
| | 12.5-2.5 | 125-173 | 112-560 | | | |
| | 10-2 | 139-150 | 140-700 | | | |
| | | | | | | |
| 0.55 | 133-26.7 | 26-49 | 10.5-52.5 | UDL0.55-RV063 | 8014 | 49&63 |
| | 100-20 | 34-63 | 14-70 | | | |
| | 66.7-13.3 | 48-88 | 21-105 | | | |
| | 50-10 | 62-112 | 28-140 | | | |
| | 40-8 | 75-133 | 35-175 | | | |
| | 33.3-6.7 | 81-146 | 42-210 | | | |
| | 25-5 | 105-179 | 56-280 | | | |
| | 20-4 | 123-207 | 70-350 | | | |
| | 20-4 | 129-216 | 70-350 | UDL0.55-RV075 | 8014 | 50&63 |
| | 16.7-3.3 | 146-242 | 84-420 | | | |
| | 12.5-2.5 | 176-250 | 112-560 | | | |
| | 12.5-2.5 | 189-309 | 112-560 | | | |
| | 10-2 | 218-350 | 140-700 | | | |
| | | | | | | |
| 0.75 | 133-26.7 | 39-73 | 10.5-52.5 | UDL0.75-RV063 | 8024 | 49&63 |
| | 100-20 | 51-94 | 14-70 | | | |
| | 66.7-13.3 | 72-132 | 21-105 | | | |
| | 50-10 | 92-168 | 28-140 | | | |
| | 40-8 | 112-199 | 35-175 | | | |
| | 33.3-6.7 | 126-219 | 42-210 | | | |
| | 25-5 | 156-232 | 56-280 | | | |
| | 20-4 | 185-310 | 70-350 | | | |
| | 20-4 | 192-320 | 70-350 | UDL0.75-RV075 | 8024 | 50&63 |
| | 16.7-3.3 | 219-300 | 84-420 | | | |
| | 16.7-3.3 | 230-389 | 84-420 | | | |
| | 12.5-2.5 | 265-428 | 112-560 | | | |
| | 10-2 | 303-410 | 140-700 | | | |
| | | | | | | |
| 12.5-2.5 | 302-503 | 112-560 | UDL0.75-RV110 | 8024 | 52&63 | |
| 10-2 | 348-575 | 140-700 | | | | |

■ UDL...-RV...(n1=1400)

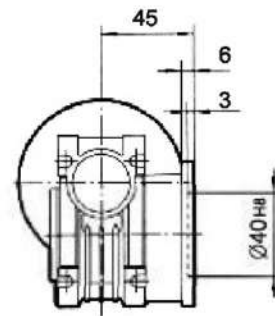
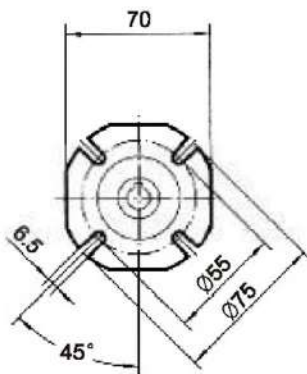
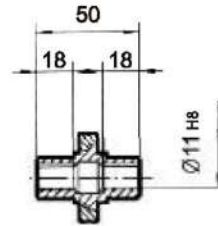
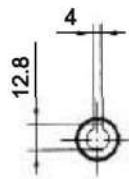
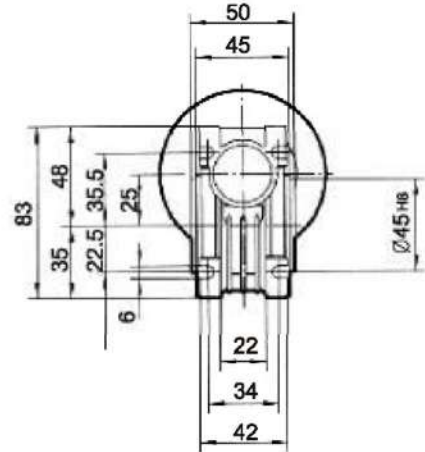
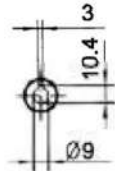
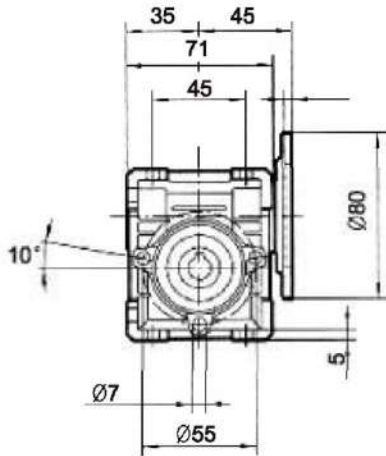
| P _{1n} [Kw] | n ₂ [1/min] | M _{2n} [Nm] | i |  |  | page |
|-------------------------|---------------------------|-------------------------|-----------|---|---|-------|
| 1.1 | 133-26.7 | 59-111 | 10.5-52.5 | UD1.1-RV075 | 90S4 | 50&63 |
| | 100-20 | 77-144 | 14-70 | | | |
| | 66.7-13.3 | 110-203 | 21-105 | | | |
| | 50-10 | 142-258 | 28-140 | | | |
| | 40-8 | 172-308 | 35-175 | | | |
| | 33.3-6.7 | 195-340 | 42-210 | | | |
| | 25-5 | 245-360 | 56-280 | | | |
| | 100-20 | 78-146 | 14-70 | UD1.1-RV090 | 90S4 | 51&63 |
| | 66.7-13.3 | 113-208 | 21-105 | | | |
| | 50-10 | 146-266 | 28-140 | | | |
| | 40-8 | 177-320 | 35-175 | | | |
| | 33.3-6.7 | 202-356 | 42-210 | | | |
| | 25-5 | 256-442 | 56-280 | | | |
| | 20-4 | 304-517 | 70-350 | | | |
| | 20-4 | 320-550 | 70-350 | UD1.1-RV110 | 90S4 | 52&63 |
| | 16.7-3.3 | 368-625 | 84-420 | | | |
| | 12.5-2.5 | 455-754 | 112-560 | | | |
| | 10-2 | 522-710 | 140-700 | | | |
| | 16.7-3.3 | 373-623 | 84-420 | UD1.1-RV130 | 90S4 | 53&63 |
| | 12.5-2.5 | 460-749 | 112-560 | | | |
| | 10-2 | 531-868 | 140-700 | | | |
| 1.5 | 133-26.7 | 78-148 | 10.5-52.5 | UD1.5-RV075 | 90L4 | 50&63 |
| | 100-20 | 102-192 | 14-70 | | | |
| | 66.7-13.3 | 147-270 | 21-105 | | | |
| | 50-10 | 190-344 | 28-140 | | | |
| | 40-8 | 229-330 | 35-175 | | | |
| | 33.3-6.7 | 260-390 | 42-210 | | | |
| | 25-5 | 327-360 | 56-280 | | | |
| | 133-26.7 | 77-150 | 10.5-52.5 | UD1.5-RV090 | 90L4 | 51&63 |
| | 100-20 | 104-195 | 14-70 | | | |
| | 66.7-13.3 | 150-277 | 21-105 | | | |
| | 50-10 | 194-355 | 28-140 | | | |
| | 40-8 | 236-427 | 35-175 | | | |
| | 33.3-6.7 | 270-474 | 42-210 | | | |
| | 25-5 | 341-589 | 56-280 | | | |
| | 20-4 | 406-560 | 70-350 | | | |
| | 20-4 | 426-733 | 70-350 | UD1.5-RV110 | 90L4 | 52&63 |
| | 16.7-3.3 | 490-833 | 84-420 | | | |
| | 16.7-3.3 | 498-831 | 84-420 | UD1.5-RV130 | 90L4 | 53&63 |
| | 12.5-2.5 | 614-999 | 112-560 | | | |
| | 10-2 | 696-1100 | 140-700 | | | |

■ UDL...-RV...(n1=1400)

| P _{1n} [Kw] | n ₂ [1/min] | M _{2n} [Nm] | i |  |  | page |
|-------------------------|---------------------------|-------------------------|-----------|---|---|-------|
| 2.2 | 133-26.7 | 120-226 | 10.5-52.5 | UD2.2-RV110 | 100LA4 | 52&63 |
| | 100-20 | 157-294 | 14-70 | | | |
| | 66.7-13.3 | 228-418 | 21-105 | | | |
| | 50-10 | 298-549 | 28-140 | | | |
| | 40-8 | 364-664 | 35-175 | | | |
| | 33.3-6.7 | 413-717 | 42-210 | | | |
| | 25-5 | 533-931 | 56-280 | | | |
| | 25-5 | 542-932 | 56-280 | UD2.2-RV130 | 100LA4 | 53&63 |
| | 20-4 | 648-1097 | 70-350 | | | |
| | 16.7-3.3 | 746-1246 | 84-420 | | | |
| 12.5-2.5 | 921-1499 | 112-560 | | | | |
| 10-2 | 1040-1690 | 140-700 | | | | |
| 3.0 | 133-26.7 | 160-302 | 10.5-52.5 | UD3-RV110 | 100LB4 | 52&63 |
| | 100-20 | 210-392 | 14-70 | | | |
| | 66.7-13.3 | 304-558 | 21-105 | | | |
| | 50-10 | 398-732 | 28-140 | | | |
| | 40-8 | 485-885 | 35-175 | | | |
| | 33.3-6.7 | 547-956 | 42-210 | | | |
| | 25-5 | 711-1030 | 56-280 | | | |
| | 133-26.7 | 160-301 | 10.5-52.5 | | | |
| | 100-20 | 211-395 | 14-70 | UD3-RV130 | 100LB4 | 53&63 |
| | 66.7-13.3 | 307-563 | 21-105 | | | |
| 50-10 | 402-733 | 28-140 | | | | |
| 40-8 | 490-885 | 35-175 | | | | |
| 33.3-6.7 | 562-973 | 42-210 | | | | |
| 25-5 | 720-1242 | 56-280 | | | | |
| 20-4 | 864-1463 | 70-350 | | | | |
| 4.0 | 133-26.7 | 213-402 | 10.5-52.5 | UD4-RV110 | 124M4 | 52&63 |
| | 100-20 | 279-523 | 14-70 | | | |
| | 66.7-13.3 | 405-744 | 21-105 | | | |
| | 50-10 | 530-975 | 28-140 | | | |
| | 40-8 | 647-1020 | 35-175 | | | |
| | 133-26.7 | 214-401 | 10.5-52.5 | UD4-RV130 | 124M4 | 53&63 |
| | 100-20 | 281-527 | 14-70 | | | |
| | 66.7-13.3 | 410-751 | 21-105 | | | |
| | 50-10 | 536-978 | 28-140 | | | |
| | 40-8 | 653-1180 | 35-175 | | | |
| 33.3-6.7 | 749-1298 | 42-210 | | | | |
| 25-5 | 960-1650 | 56-280 | | | | |

■ **WORM GEAR UNITS
RV025**

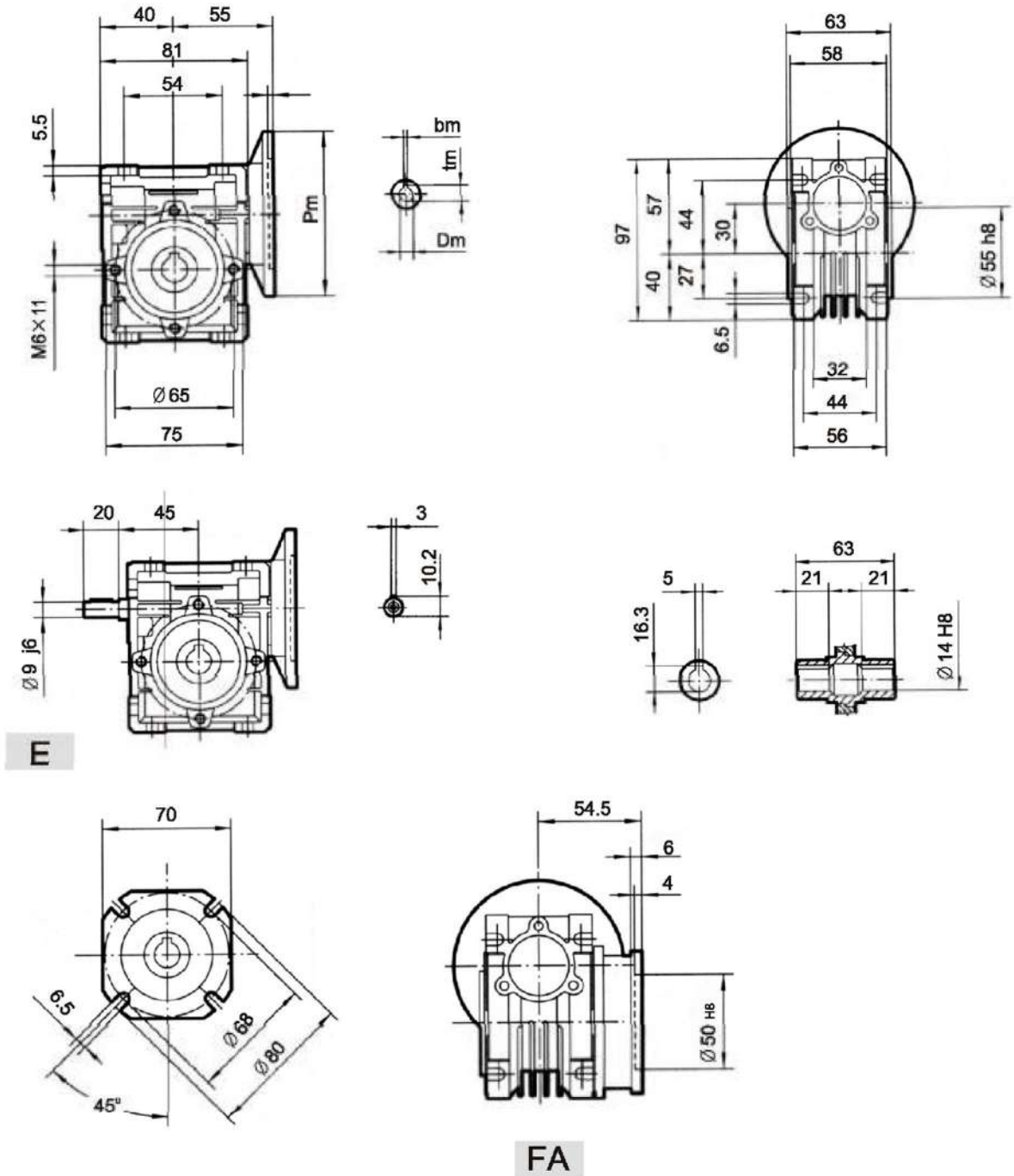
Weight without motor $\approx 0.7\text{kg}$



FA

■ **RV030**

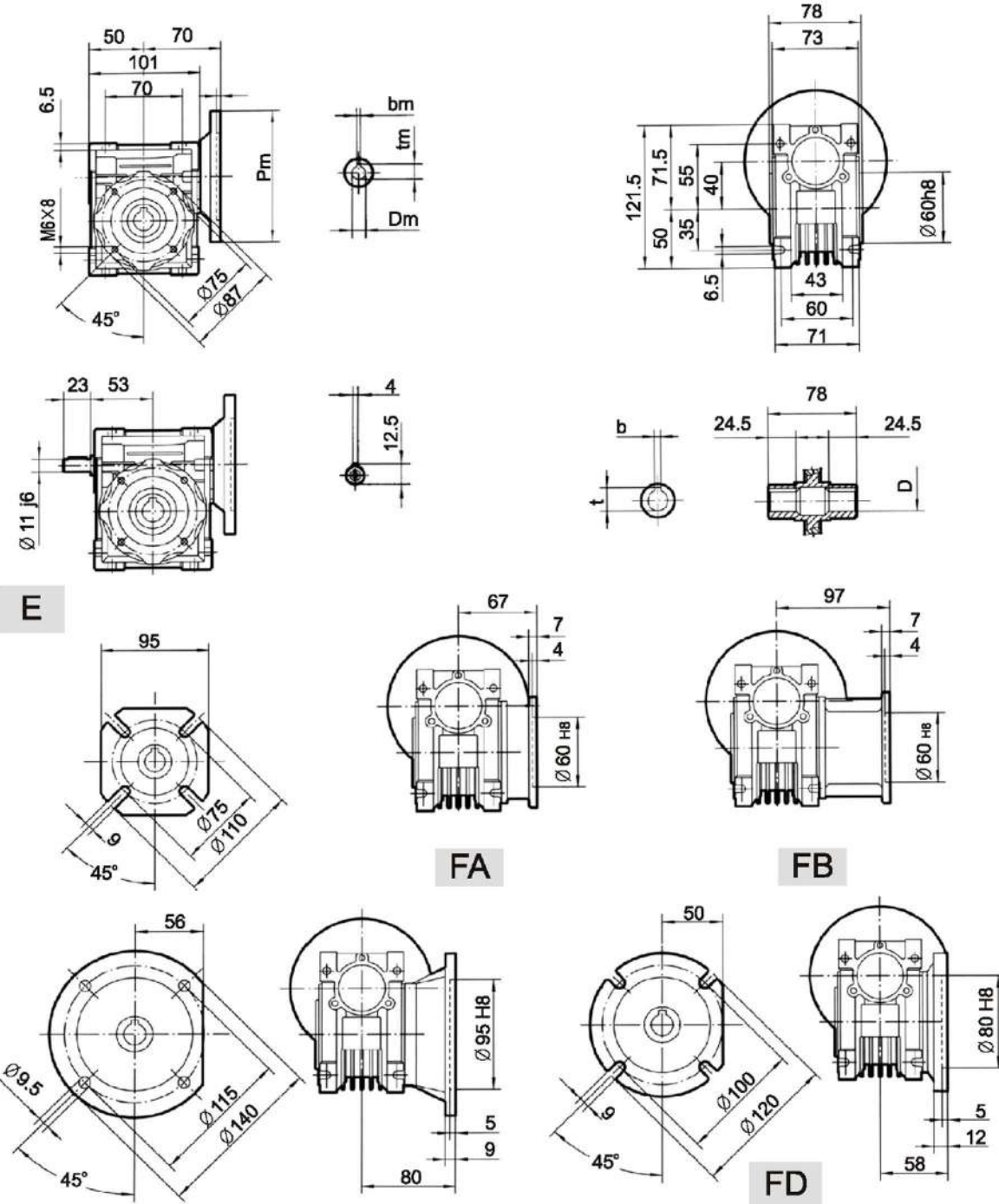
Weight without motor $\approx 1.2\text{kg}$



| PAM IEC | Pm | Dm E8 | bm | tm |
|---------|-----|-------|----|------|
| 63B5 | 140 | 11 | 4 | 12.8 |
| 56B5 | 120 | 9 | 3 | 10.4 |
| 63B14 | 90 | 11 | 4 | 12.8 |
| 56B14 | 80 | 9 | 3 | 10.4 |

■ **RV040**

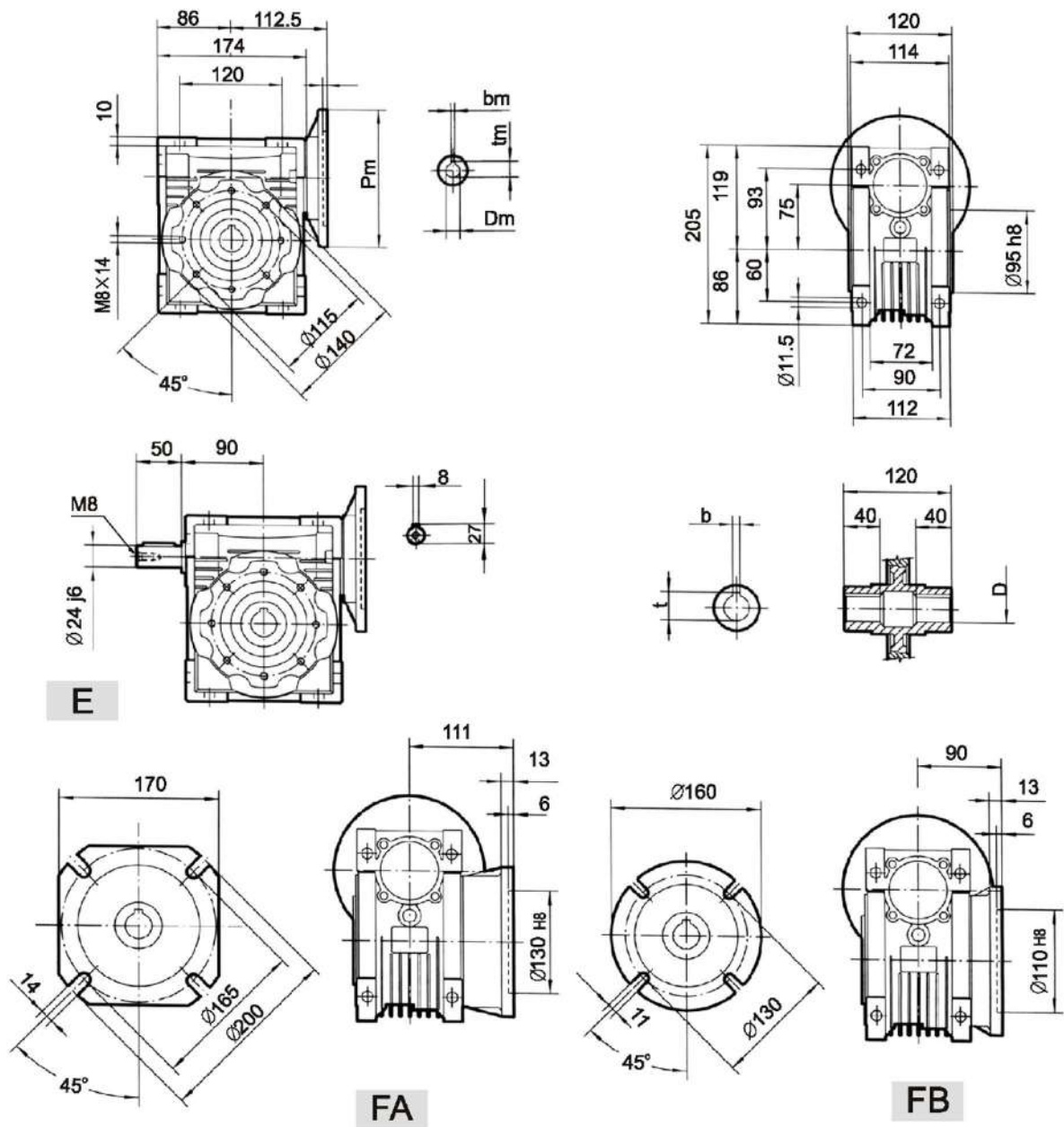
Weight without motor ≈ 2.3kg



| PAM IEC | P _M | D _M E _s | b _M | t _M | D _{i,8} | b | t |
|---------|----------------|-------------------------------|----------------|----------------|------------------|----|-------|
| 71B5 | 160 | 14 | 5 | 16.3 | 18 | 6 | 20.8 |
| 63B5 | 140 | 11 | 4 | 12.8 | 19 | 6* | 21.8* |
| 56B5 | 120 | 9 | 3 | 10.4 | *Only on request | | |
| 71B14 | 105 | 14 | 5 | 16.3 | | | |
| 63B14 | 90 | 11 | 4 | 12.8 | | | |

■ **RV075**

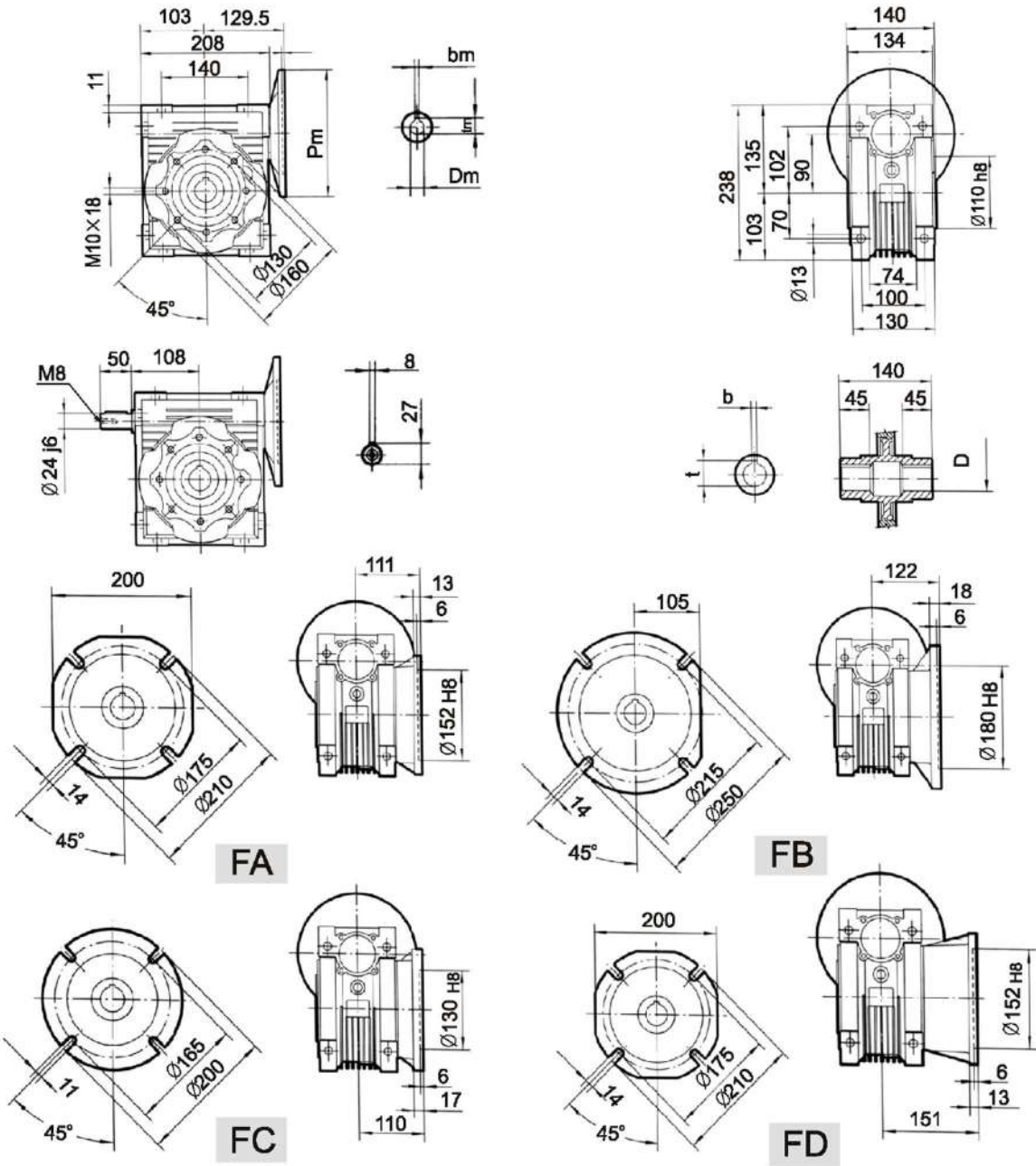
Weight without motor ≈ 9kg



| PAM IEC | P_m | $D_m\ E8$ | b_m | t_m | D_{H8} | b | t |
|------------|-------|-----------|-------|-------|------------------|-----|-------|
| 100/112B5 | 250 | 28 | 8 | 31.3 | 28 | 8 | 31.3 |
| 90B5 | 200 | 24 | 8 | 27.3 | 35* | 10* | 38.3* |
| 80B5 | 200 | 19 | 6 | 21.8 | *Only on request | | |
| 71B5 | 160 | 14 | 5 | 16.3 | | | |
| 100/112B14 | 160 | 28 | 8 | 31.3 | | | |
| 90B14 | 140 | 24 | 8 | 27.3 | | | |
| 80B14 | 120 | 19 | 6 | 21.8 | | | |

■ **RV090**

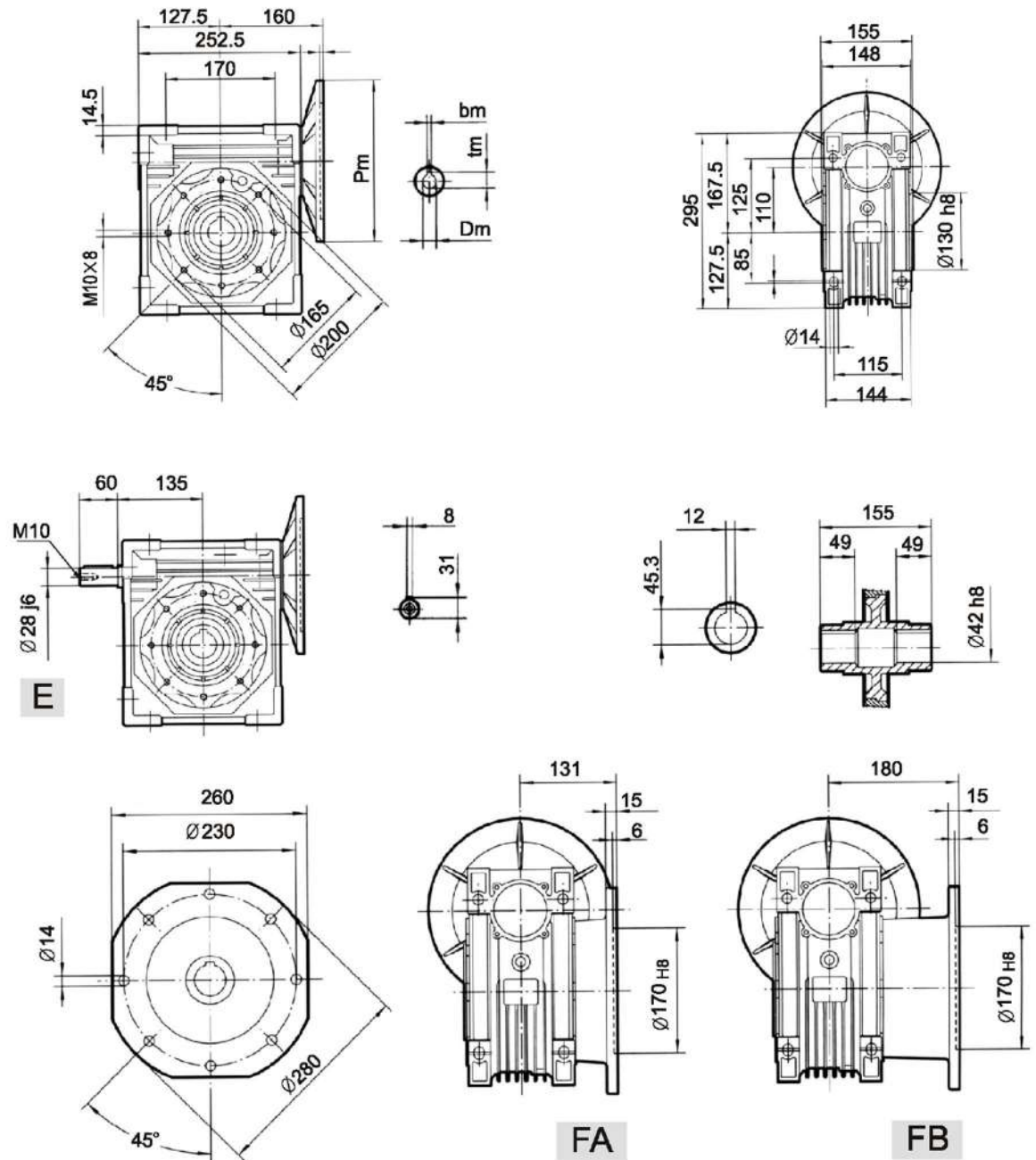
Weight without motor ≈ 13kg



| PAM IEC | P _m | D _m E8 | bm | tm | D _{H8} | b | t |
|------------|----------------|-------------------|----|------|------------------|-----|-------|
| 100/112B5 | 250 | 28 | 8 | 31.3 | 35 | 10 | 38.3 |
| 90B5 | 200 | 24 | 8 | 27.3 | 38* | 10* | 41.3* |
| 80B5 | 200 | 19 | 6 | 21.8 | *Only on request | | |
| 100/112B14 | 160 | 28 | 8 | 31.3 | | | |
| 90B14 | 140 | 24 | 8 | 27.3 | | | |
| 80B14 | 120 | 19 | 6 | 21.8 | | | |

■ **RV110**

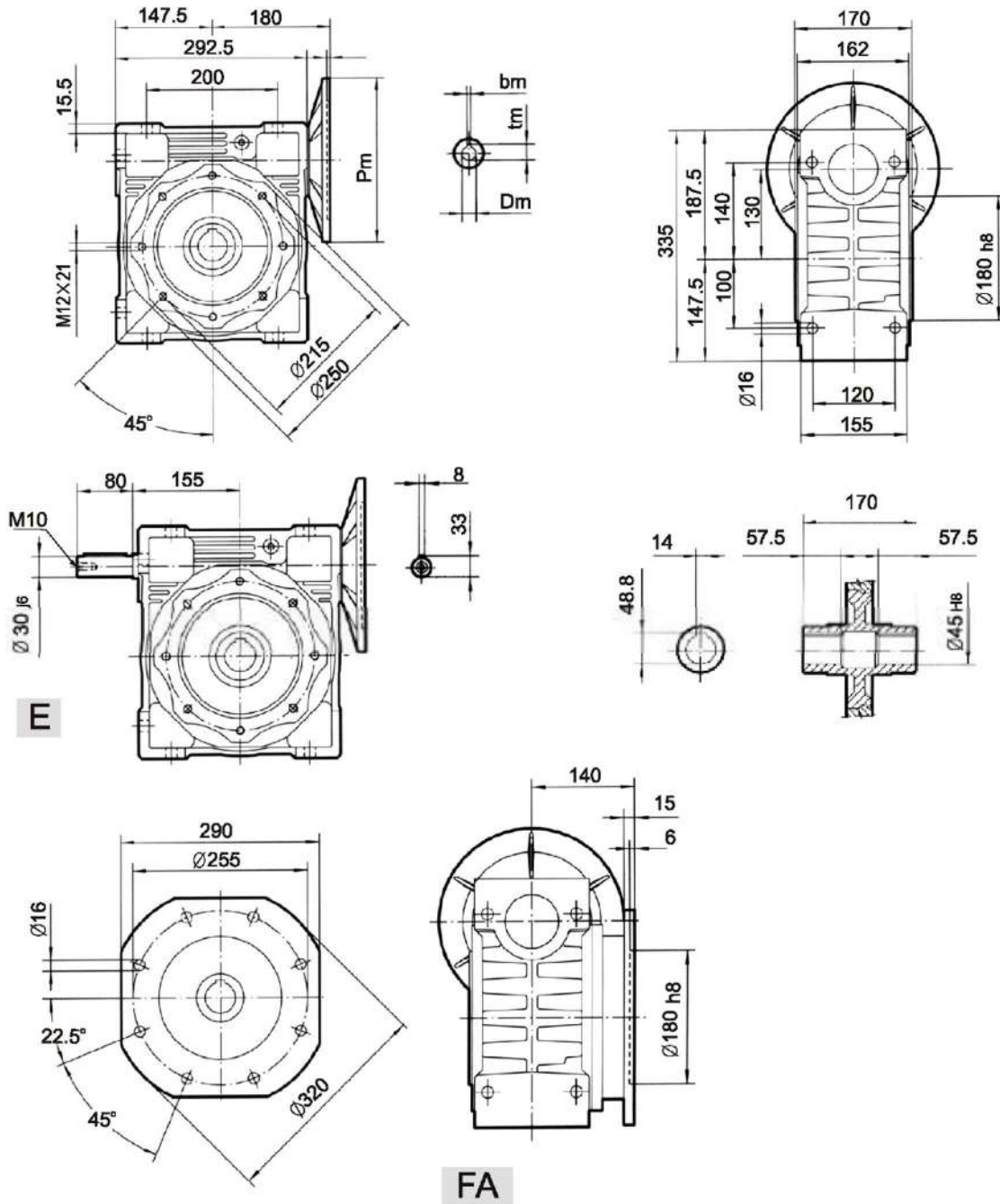
Weight without motor $\approx 35\text{kg}$



| PAM IEC | P _m | D _m E8 | b _M | t _M |
|---------|----------------|-------------------|----------------|----------------|
| 132B5 | 300 | 38 | 10 | 41.3 |
| 112B5 | 250 | 28 | 8 | 31.3 |
| 100B5 | 250 | 28 | 8 | 31.3 |
| 90B5 | 200 | 24 | 8 | 27.3 |
| 80B5 | 200 | 19 | 6 | 21.8 |

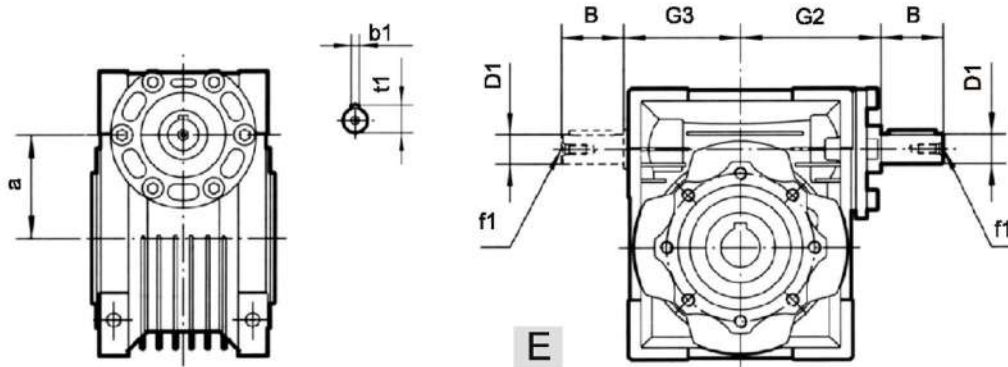
■ **RV130**

Weight without motor ≈ 48kg



| PAM IEC | Pm | Dm E8 | bm | tm |
|---------|-----|-------|----|------|
| 132B5 | 300 | 38 | 10 | 41.3 |
| 112B5 | 250 | 28 | 8 | 31.3 |
| 100B5 | 250 | 28 | 8 | 31.3 |
| 90B5 | 200 | 24 | 8 | 27.3 |

■ NRV WORM GEAR UNITS



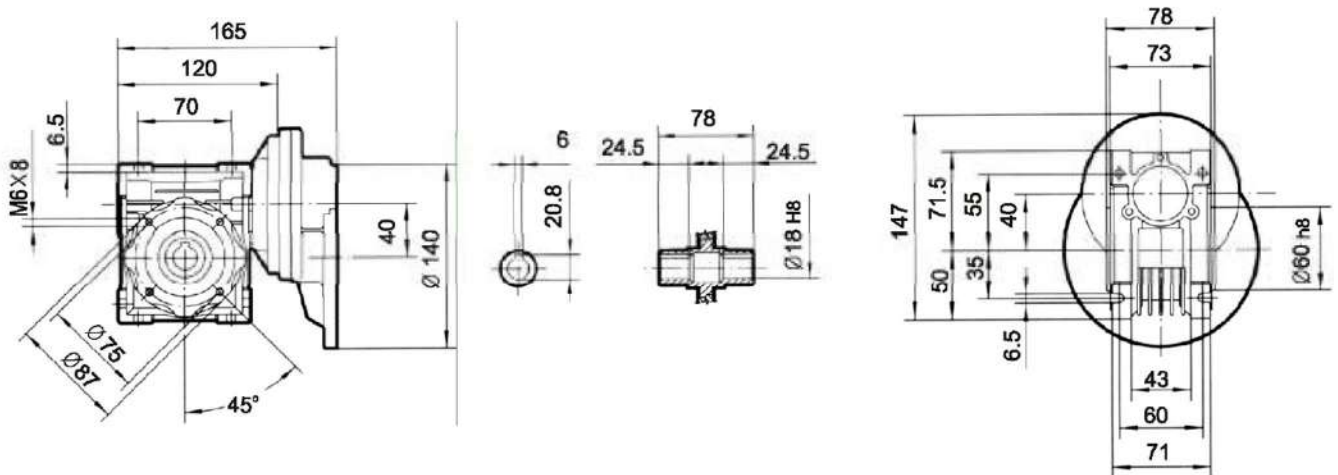
| NRV | 030 | 040 | 050 | 063 | 075 | 090 | 110 | 130 |
|-------|------|------|-----|------|-----|-----|-----|-----|
| B | 20 | 23 | 30 | 40 | 50 | 50 | 60 | 80 |
| D1 j6 | 9 | 11 | 14 | 19 | 24 | 24 | 28 | 30 |
| G2 | 51 | 60 | 74 | 90 | 105 | 125 | 142 | 162 |
| G3 | 45 | 53 | 64 | 75 | 90 | 108 |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

★ For the missing dimensions, Please refer to page 45-53

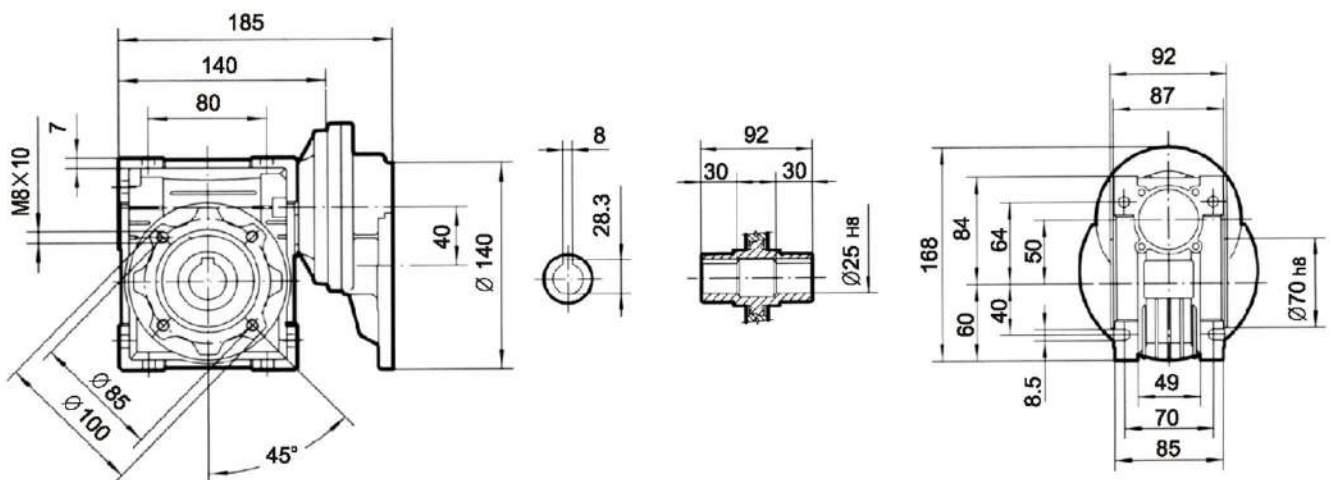
■ PC-RV OUTLINE DIMENSION

- ★ For the dimensions of the output flanges, Please refer to page 45-53
- ★ For the dimensions of the hollow shaft ,Please refer to page 45-53
- ★ For the dimensions of the double extension Worm, Please refer to page 64

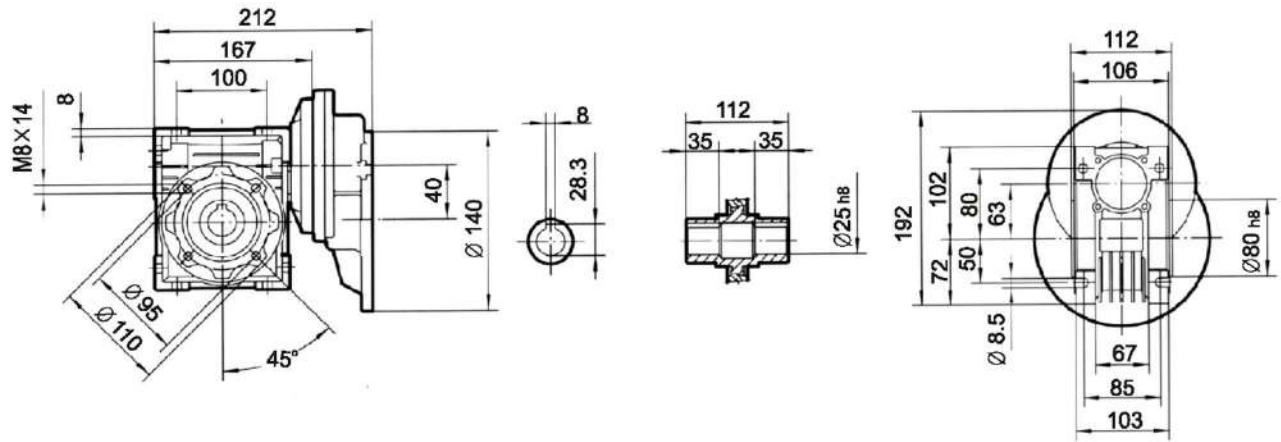
■ PC063-RV040



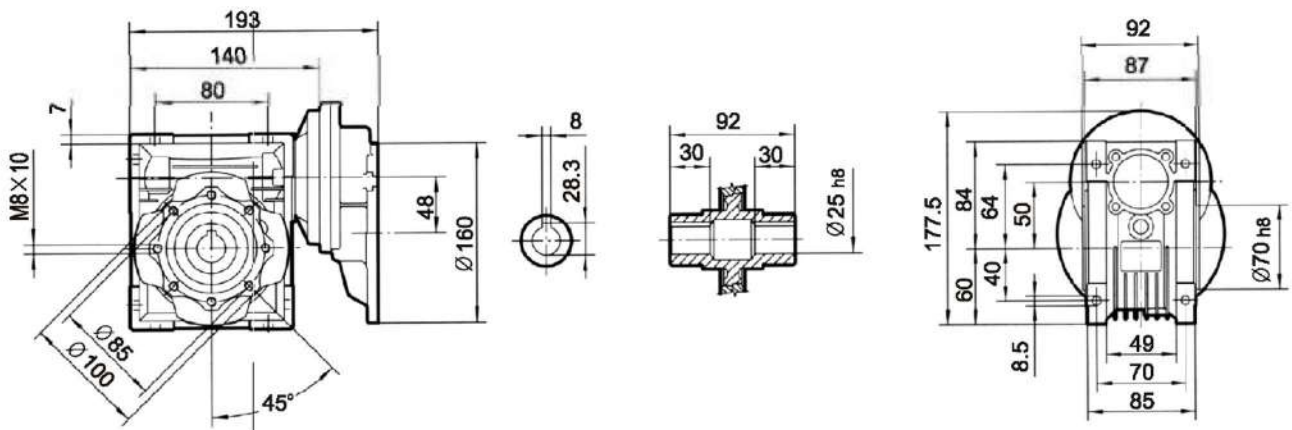
■ PC063-RV050



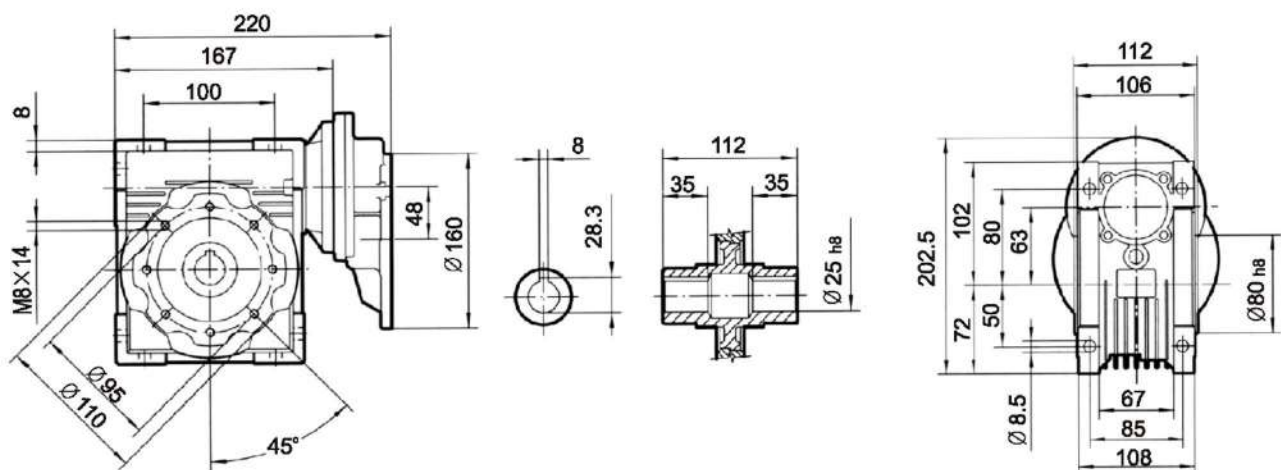
■ **PC063-RV063**



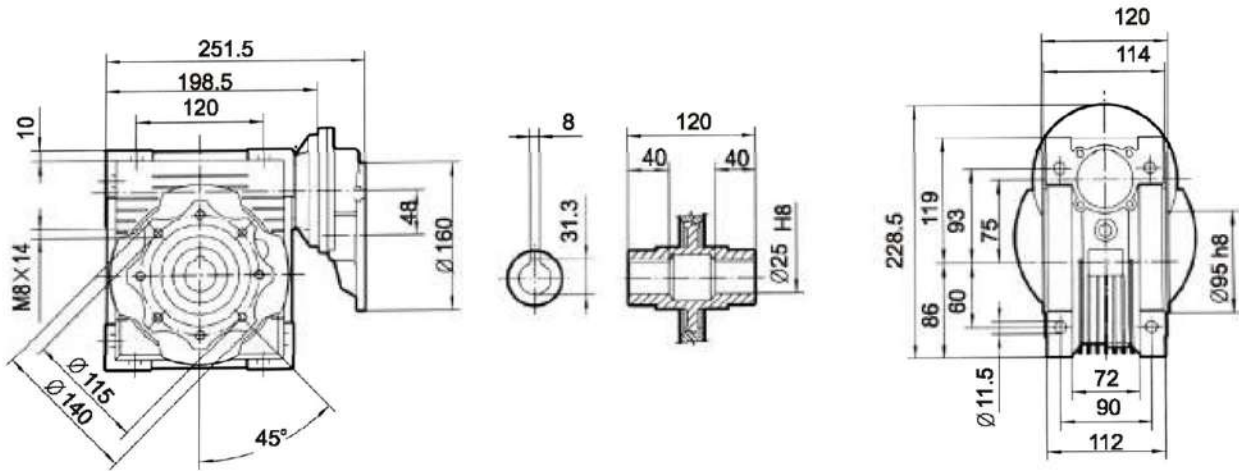
■ **PC071-RV050**



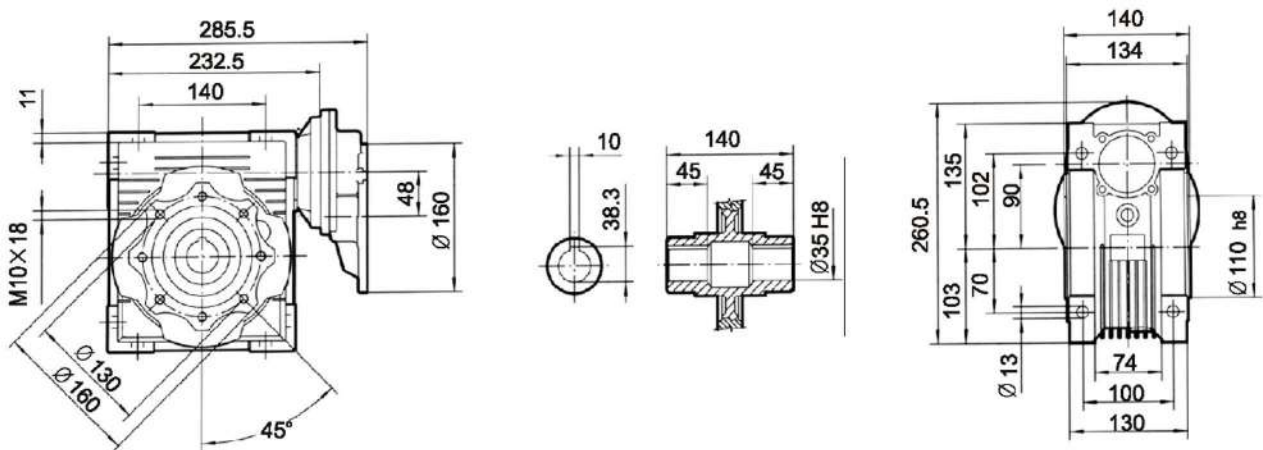
■ **PC071-RV063**



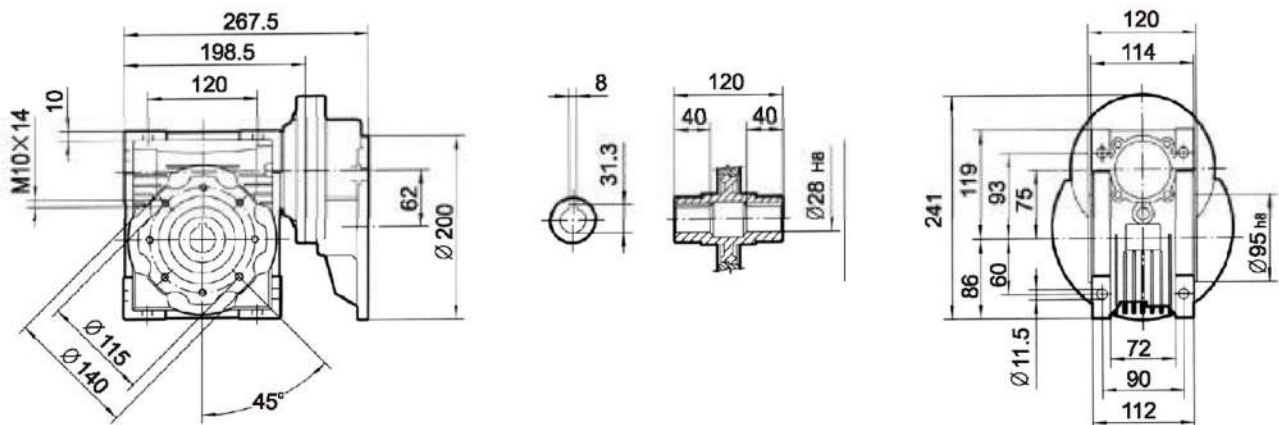
■ **PC071-RV075**



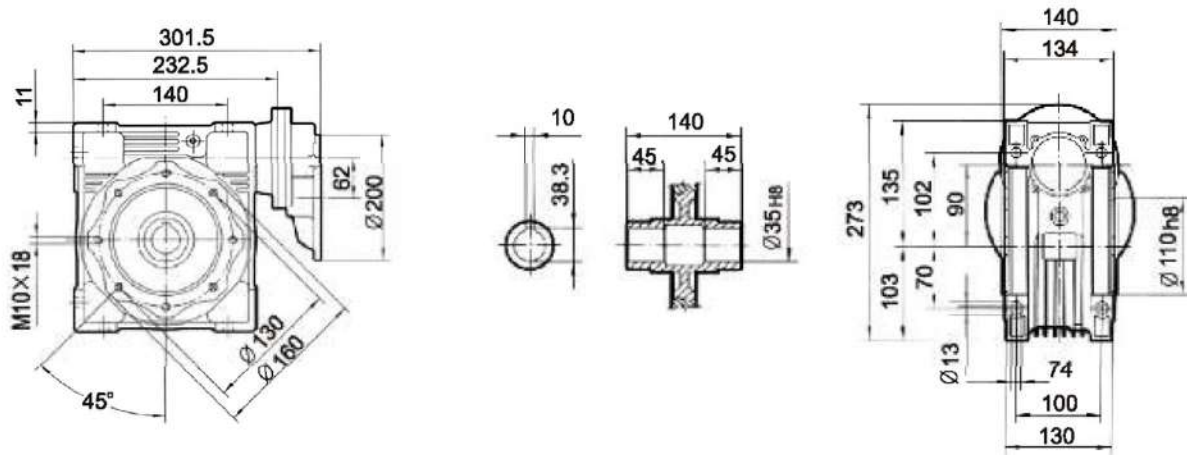
■ **PC071-RV090**



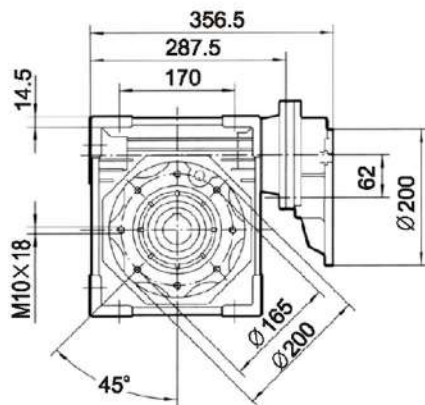
■ **PC080-RV075**



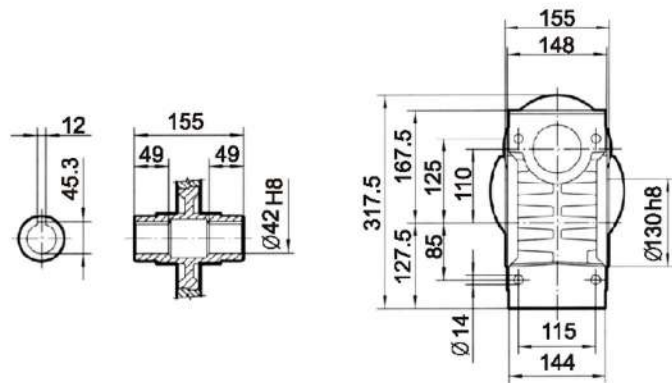
■ **PC080-RV090**



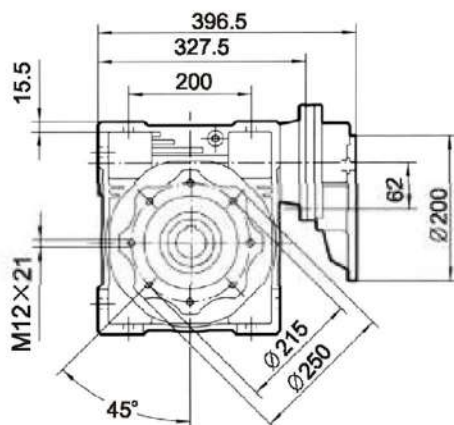
■ **PC080-RV110**



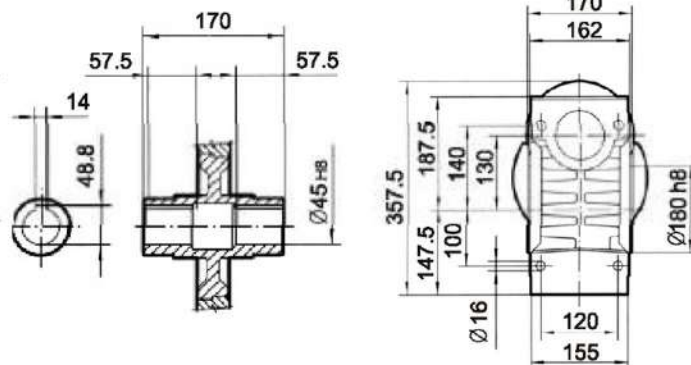
■ **PC090-RV110**



■ **PC080-RV130**



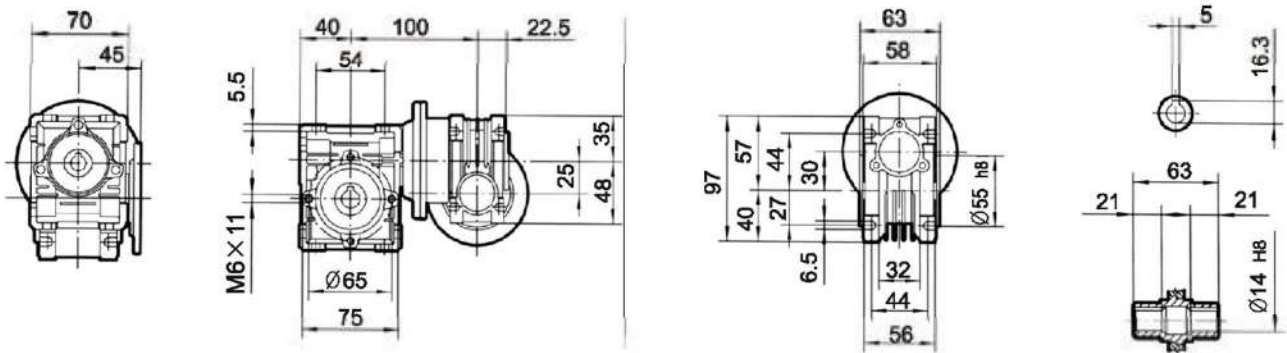
■ **PC090-RV130**



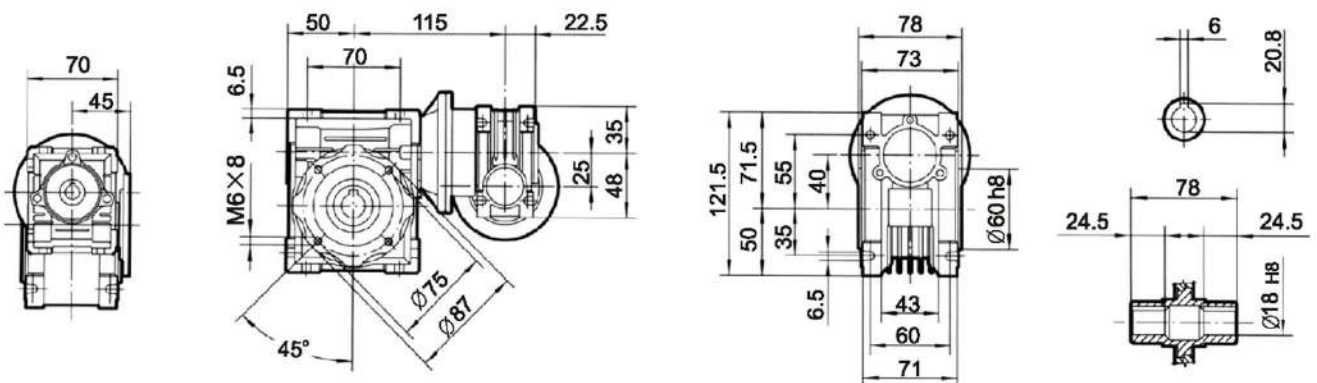
RV/RV OUTLINE DIMENSION

- ★ For the dimensions of the output flange, Please refer to page 45-53
- ★ For the dimensions of the hollow shaft, Please refer to page 45-53
- ★ For the dimensions of the double extension worm, Please refer to page 64

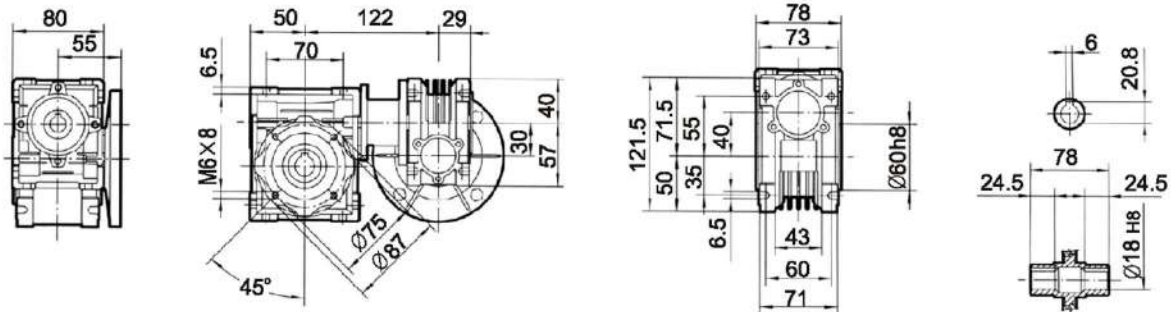
RV025/030



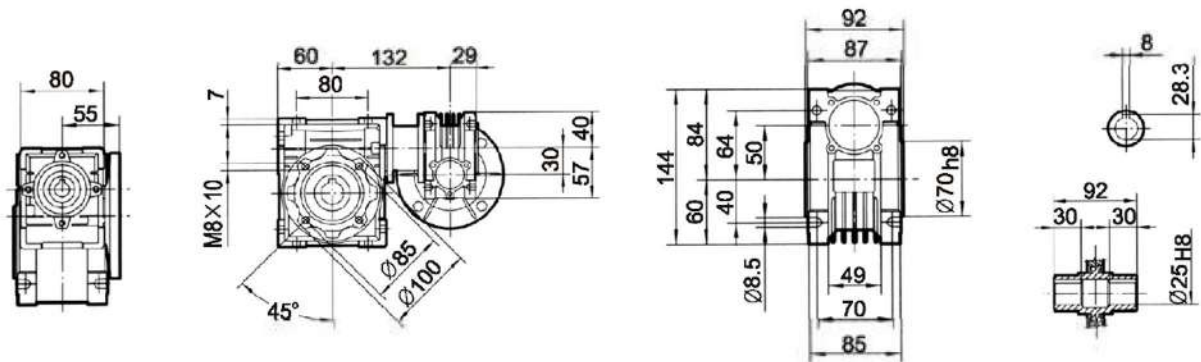
RV025/040



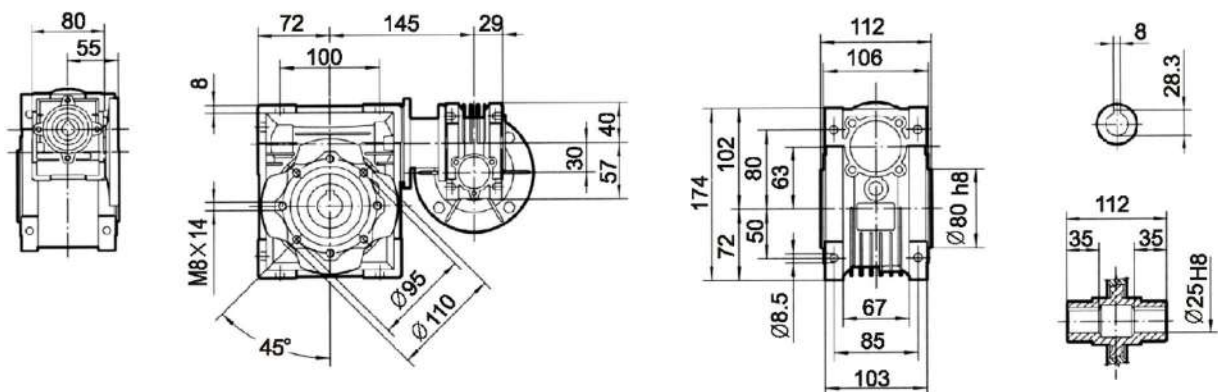
■ **RV030/040**



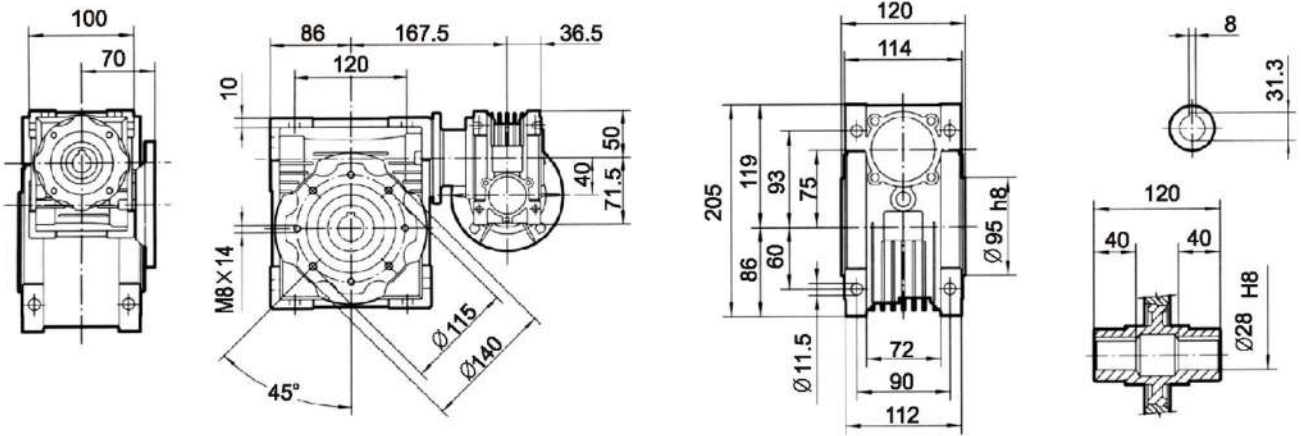
■ **RV030/050**



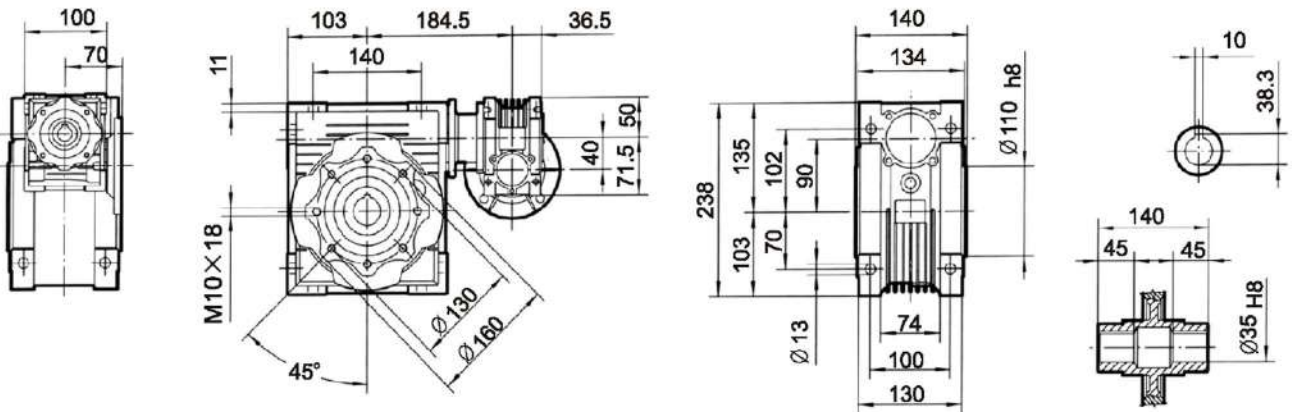
■ **RV030/063**



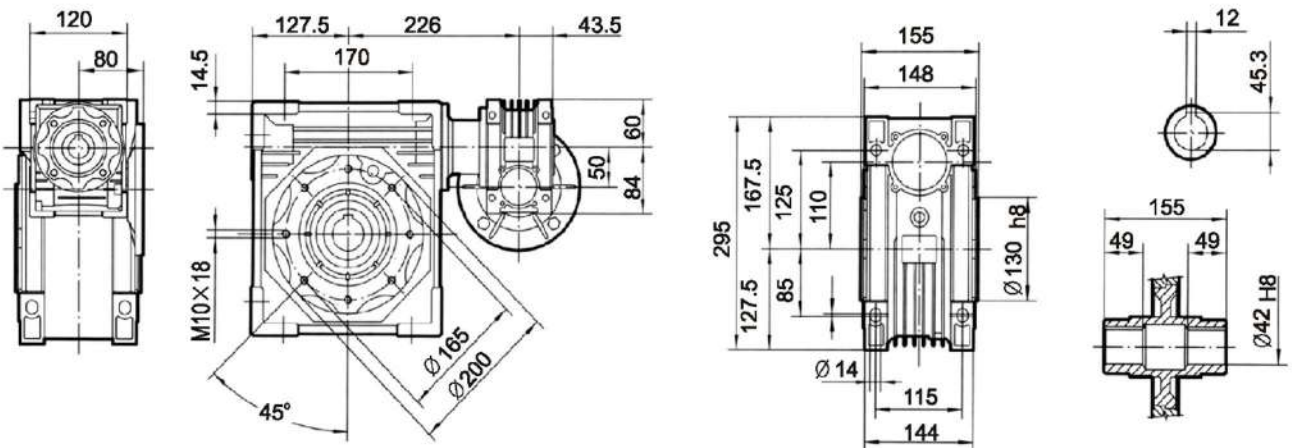
■ **RV040/075**



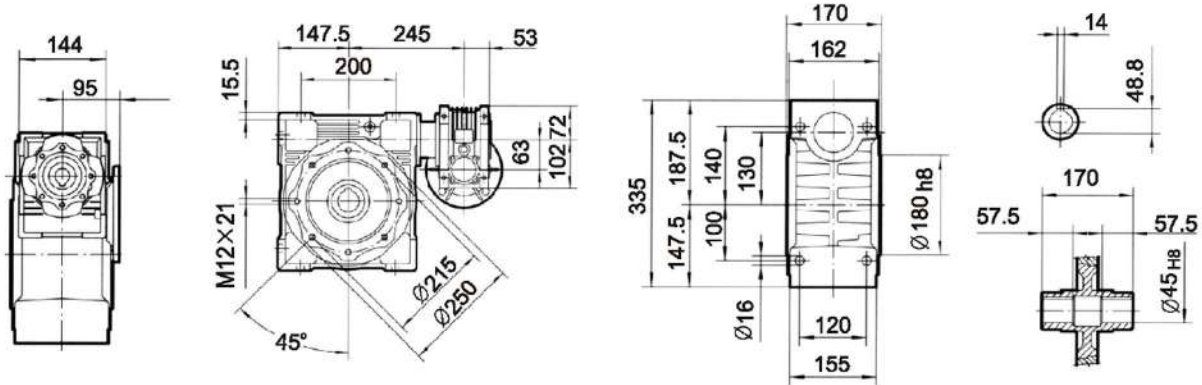
■ **RV040/090**



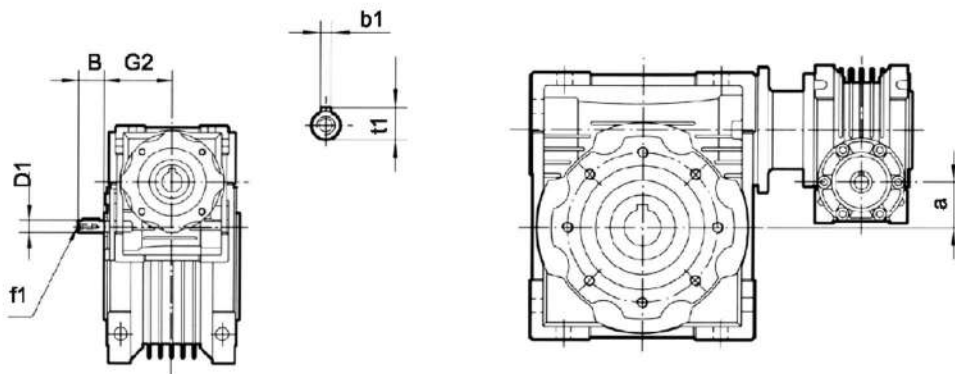
■ **RV050/110**



■ **RV063/130**

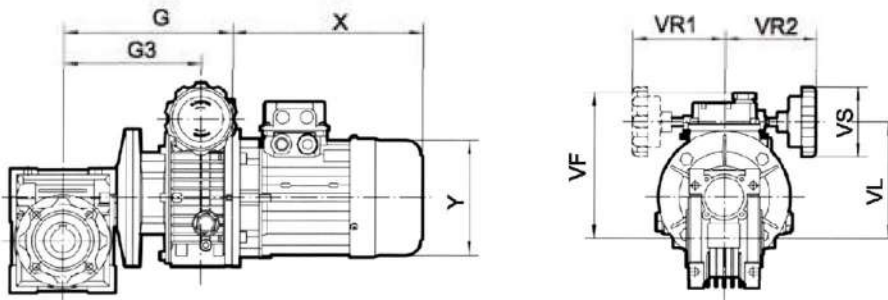


■ **NRV-RV COMBINATION WORM GEAR UNITS**



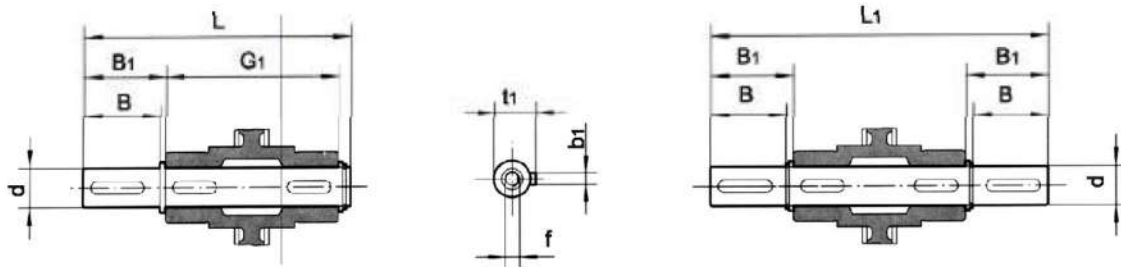
| NRV-nmrv | 030/040 | 030/050 | 030/063 | 040/070 | 040/090 | 050/110 | 063/130 |
|----------|---------|---------|---------|---------|---------|---------|---------|
| B | 20 | 20 | 20 | 23 | 23 | 30 | 40 |
| D1 j6 | 9 | 9 | 9 | 11 | 11 | 14 | 19 |
| G2 | 51 | 51 | 51 | 60 | 60 | 74 | 90 |
| a | 10 | 20 | 33 | 35 | 50 | 60 | 67 |
| b1 | 3 | 3 | 3 | 4 | 4 | 5 | 6 |
| f1 | - | - | - | - | - | M6 | M6 |
| t1 | 10.2 | 10.2 | 10.2 | 12.5 | 12.5 | 16 | 21.5 |

■ UDL-RV COMBINATION OF SPEED VARITOR AND WORM GEAR UNITS



| Model | G | G3 | VF | VL | VS | VR | VR1 | Base No.4P n1=1400r/min | X | Y |
|---------------|-------|-------|-----|-----|-----|-----|-----|----------------------------|-----|-----|
| UDL0.18-RV040 | 183 | 135 | 151 | 118 | 85 | 110 | 110 | 63 | 200 | 120 |
| UDL0.18-RV050 | 193 | 145 | 161 | 128 | 85 | 110 | 110 | | | |
| UDL0.37-RV050 | 190 | 154 | 173 | 140 | 85 | 110 | 110 | 71 | 227 | 141 |
| UDL0037-RV063 | 205 | 169 | 186 | 153 | 85 | 110 | 110 | | | |
| UDL0.55-RV063 | 234 | 181 | 203 | 170 | 110 | 120 | 120 | 80 | 268 | 160 |
| UDL0.75-RV063 | 234 | 181 | 203 | 170 | 110 | 120 | 120 | | | |
| UDL0.37-RV075 | 223 | 187 | 198 | 165 | 85 | 110 | 110 | 71 | 227 | 141 |
| UDL0.55-RV075 | 252 | 198 | 215 | 182 | 110 | 120 | 120 | | | |
| UDL0.75-RV075 | 252 | 198 | 215 | 182 | 110 | 120 | 120 | 80 | 268 | 160 |
| UD1.1-RV075 | 259.5 | 207.5 | 199 | 177 | 110 | 150 | - | | | |
| UD1.5-RV075 | 300.5 | 227.5 | 219 | 197 | 110 | 150 | - | 90L | 290 | 195 |
| UDL0,55-RV090 | 269 | 215 | 230 | 197 | 110 | 120 | 120 | 80 | 268 | 160 |
| UDL0.75-RV090 | 269 | 215 | 230 | 197 | 110 | 120 | 120 | | | |
| UD1.1-RV090 | 276.5 | 224.5 | 214 | 192 | 110 | 150 | - | 90S | 265 | 195 |
| UD1.5-RV090 | 317.5 | 244.5 | 234 | 212 | 110 | 150 | - | 90L | 290 | 195 |
| UD1.1-RV110 | 307 | 255 | 234 | 212 | 110 | 120 | - | 90S | 265 | 195 |
| UD1.5-RV110 | 348 | 275 | 254 | 232 | 110 | 150 | - | 90L | 290 | 195 |
| UD2.2-RV110 | 368 | 291 | 298 | 260 | 110 | 160 | - | 100L | 320 | 215 |
| UD3.0-RV110 | 368 | 291 | 298 | 260 | 110 | 160 | - | | | |
| UD4.0-RV110 | 368 | 291 | 298 | 260 | 110 | 160 | - | 112M | 340 | 240 |
| UD1.5-RV130 | 368 | 295 | 274 | 252 | 110 | 150 | - | 90L | 290 | 195 |
| UD2.2-RV130 | 388 | 311 | 318 | 280 | 110 | 160 | - | 100L | 320 | 215 |
| UD3.0-RV130 | 388 | 311 | 318 | 280 | 110 | 160 | - | | | |
| UD4.0-RV130 | 388 | 311 | 318 | 280 | 110 | 160 | - | 112M | 340 | 240 |

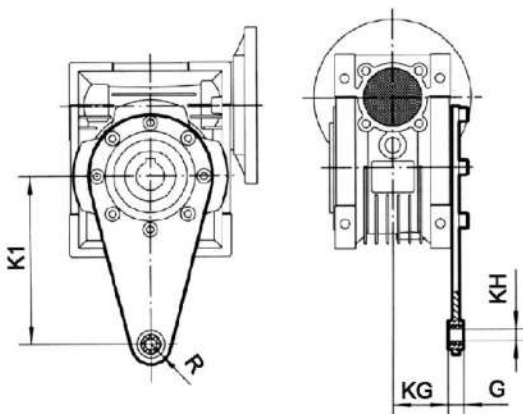
OUTPUT SHAFTS



| | dh6 | B | B1 | G1 | L | L1 | f | b1 | t1 |
|-------|------|-----|------|-----|-------|-----|-----|----|-------|
| RV025 | 11g6 | 23 | 25.5 | 50 | 81 | 101 | - | 4 | 12.5 |
| | 9* | 25* | 30* | 50 | 85.5* | 101 | - | 3* | 10.2* |
| RV030 | 14 | 30 | 32.5 | 63 | 102 | 128 | M6 | 5 | 16 |
| RV040 | 18 | 40 | 43 | 78 | 128 | 164 | M5 | 6 | 20.5 |
| RV050 | 25 | 50 | 53.5 | 92 | 153 | 199 | M10 | 8 | 28 |
| RV063 | 25 | 50 | 53.5 | 112 | 173 | 219 | M10 | 8 | 28 |
| RV075 | 28 | 60 | 63.5 | 120 | 192 | 247 | M10 | 8 | 31 |
| RV090 | 35 | 80 | 84.5 | 140 | 234 | 309 | M12 | 10 | 38 |
| RV110 | 42 | 80 | 84.5 | 155 | 249 | 324 | M16 | 12 | 45 |
| RV130 | 45 | 80 | 85 | 170 | 265 | 340 | M16 | 14 | 48.5 |

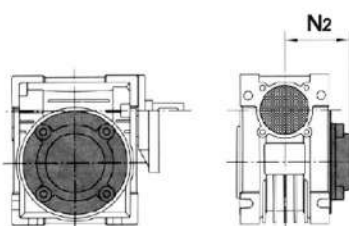
*Only on request

TORQUE ARM



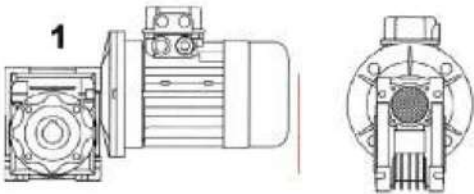
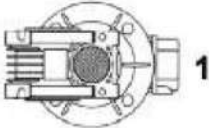
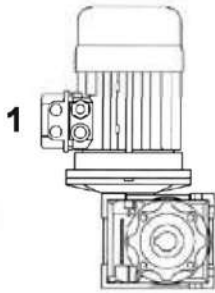
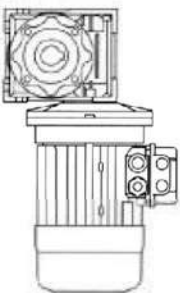
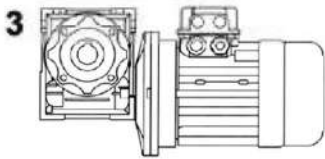
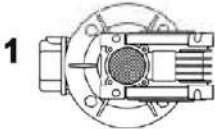
| | K1 | G | KG | KH | R |
|-------|-----|----|------|----|----|
| RV025 | 70 | 14 | 17.5 | 8 | 15 |
| RV030 | 85 | 14 | 24 | 8 | 15 |
| RV040 | 100 | 14 | 31.5 | 10 | 18 |
| RV050 | 100 | 14 | 38.5 | 10 | 18 |
| RV063 | 150 | 14 | 49 | 10 | 18 |
| RV075 | 200 | 25 | 47.5 | 20 | 30 |
| RV090 | 200 | 25 | 57.5 | 20 | 30 |
| RV110 | 250 | 30 | 62 | 25 | 35 |
| RV130 | 250 | 30 | 69 | 25 | 35 |

COVER

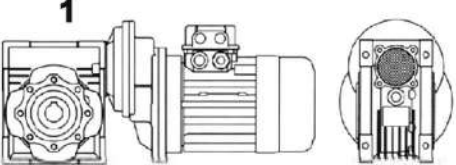
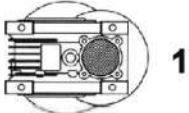
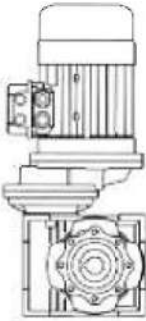
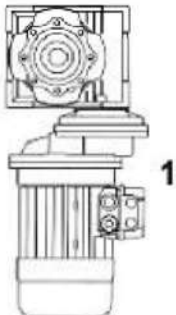
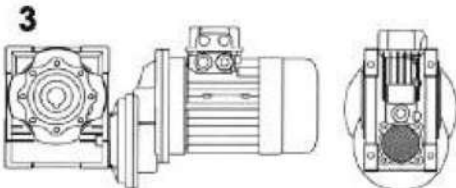
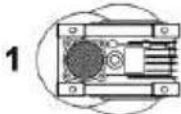


| | N2 | | N2 |
|-------|----|---------|-----|
| RV030 | 47 | NMRV075 | 79 |
| RV040 | 55 | NMRV090 | 94 |
| RV050 | 63 | NMRV110 | 102 |
| RV063 | 73 | NMRV130 | 117 |

■ INSTALLATION POSITIONS DIAGRAM RV..OR NRV..

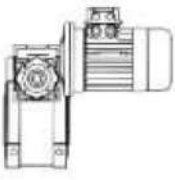
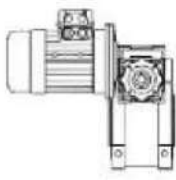
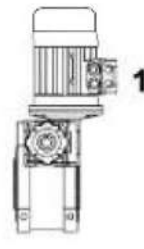
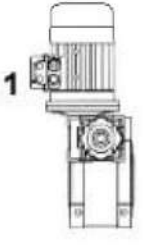
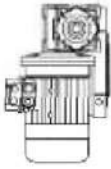
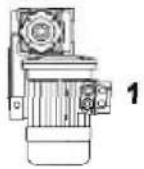
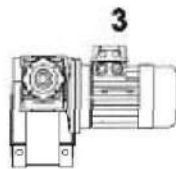
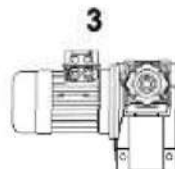
| RV...U-B3 | B6 | V5 | V6 |
|---|---|--|---|
|  |  |  |  |
| B8 | B7 | | |
|  |  | | |

■ PC.. - RV

| RV...U-B3 | B6 | V5 | V6 |
|---|---|--|---|
|  |  |  |  |
| B8 | B7 | | |
|  |  | | |

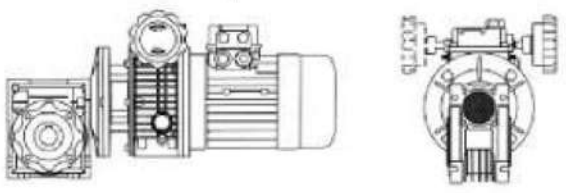
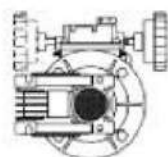
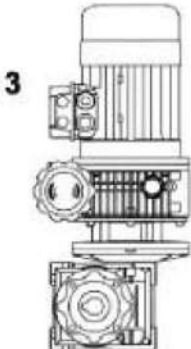
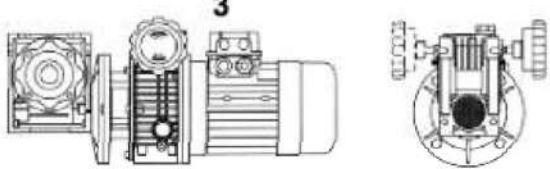
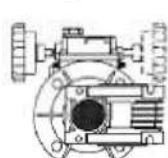
- "U" version is related to sizes from 025 to 075 and NRV030-063. For these sizes it is not necessary to specify mounting position.
- Unless specified otherwise, the standard positions are B3.
- For positions not envisaged, it is necessary to call our Technical Service.

■ **RV.. - RV../NRV.. - RV..**

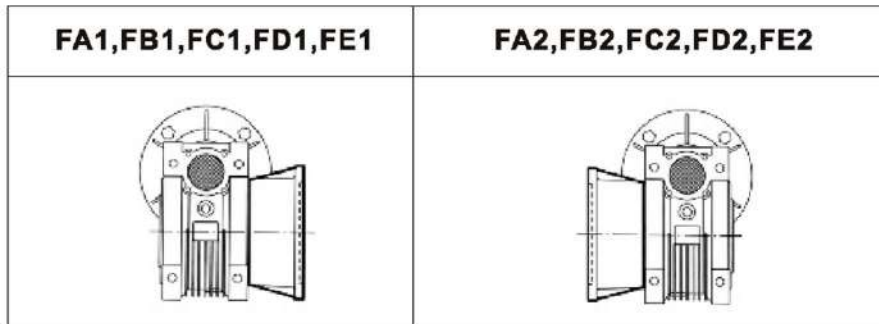
| AS1 | AS2 | VS1 | VS1 |
|--|--|--|--|
| 1  | 1  |  1 | 1  |
| PS1 | PS2 | BS1 | BS1 |
| 1  |  1 |  3 |  3 |

The position of 1st reducer with respect to the 2nd gear reducer depends on the versions. Unless specified at the time of order, combination groups are supplied in version BS2. The specified mounting position refers to the 1st gear reducer

■ **UDL.. - RV..**

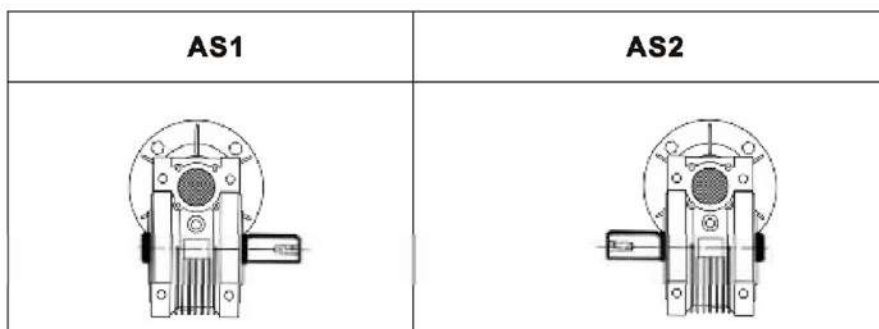
| RV..U-B3 | B6 | V5 |
|--|---|---|
| 1  | 4  |  3 |
| B8 | B7 | |
|  3 | 2  | |

■ POSITION DIAGRAM FOR OUTPUT FLANGE

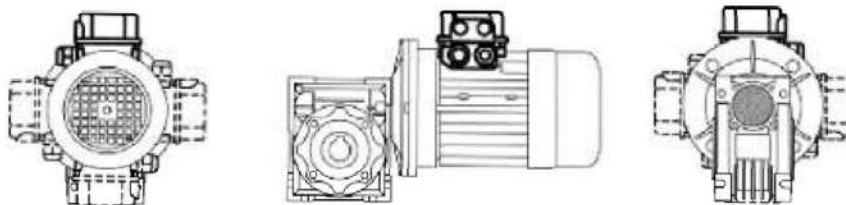


Unless specified, otherwise, the reduction unit is supplied with the flange in position F..1 referred to position B3

■ POSITION DIAGRAM FOR SINGLE OUTPUT SHAFT

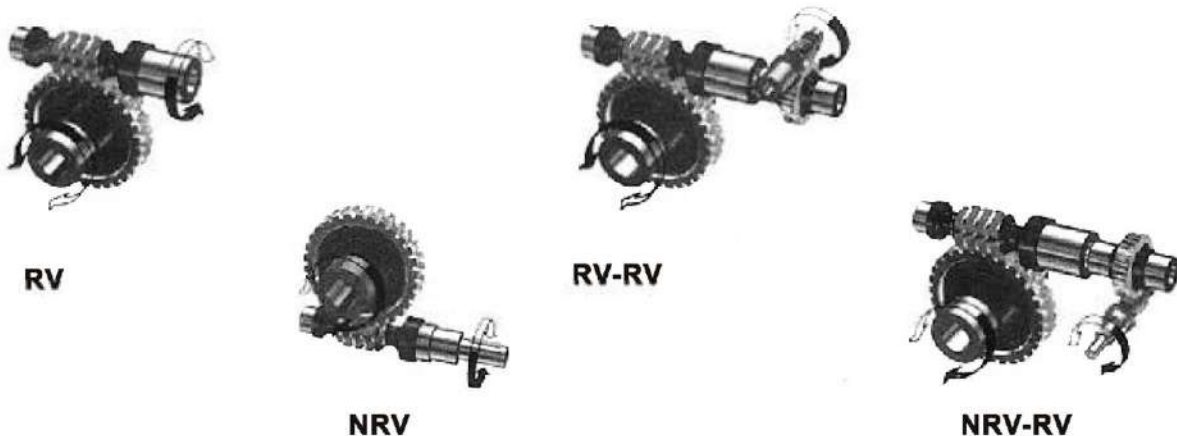


■ POSITION OF TERMINAL BOX



In case of specific requirements. When ordering, specify the position of the terminal box as shown in the diagram.

■ DIRECTION OF ROTATION



■ INSTALLATION

To install the reduction unit it is necessary to note the following recommendation:

1. Check the correct direction of rotation of the reduction unit output shaft before fitting the unit to the machine.
2. Before mounted with the prime mover and device, please check the reducer's every axial diameter, aperture, key and key slot, to be sure their dimensions are not deviation, and avoid assembling too tight or too loose, unless it will influence the reducer's performance.
3. The mounting on the machine must be stable to avoid any vibration.
4. Whenever possible, protect the reduction unit against solar radiation and bad weather.
5. In the case of particularly lengthy periods of storage (4–6 months), if the oil seal is not immersed in the lubricant inside the unit, it is recommended to change it since the rubber could stick to the shaft or may even have lost the elasticity. It needs function properly.
6. Painting must definitely not go over rubber parts and the holes on the breather plugs if any.
7. When connected with hollow or solid shaft, please grease the joint to avoid lock or oxidation.
8. Check the correct level of the lubricant through the indicator, if there is one.
9. Starting must take place gradually, without immediately applying the maximum load.
10. Supporting unit is required when various of reducers matched with motor directly and the weight of motor is a little bigger than common.
11. Ensure the motor cools correctly by assuring good passage of air from the fan side.
12. In the case of ambient temperatures $<-5^{\circ}\text{C}$ or $>+40^{\circ}\text{C}$ call the Technical Service.

■ CRITICAL APPLICATIONS

The performance given in the catalogue correspond to mounting position B3 or similar, when the first stage is not entirely immersed in oil. For other mounting positions with particular input speeds, refer to the tables that highlight different critical situations for each size of reduction unit. It is also necessary to take due consideration and carefully assess the following applications by calling our Technical Service:

1. As a speed increasing.
 2. Applications with especially high inertia.
 3. Use as a lifting winch.
 4. Use in services that could be hazardous for people if the reduction unit fails.
 5. Applications with high dynamic strain on the case of the reduction unit.
 6. In the places with temperature under -5°C or over 4°C .
 7. Use in chemically aggressive environments.
 8. Use in a salty environment.
 9. Use in radioactive environments.
 10. Use in environments pressures other than atmospheric pressure.
 11. Mounting positions not envisaged in the catalogue.
- Avoid applications where even partial immersion of the reduction unit is required.

The maximum torque that the gear reducer can support must not exceed two times the nominal torque ($f_s=1$) stated in the performance tables. Intended for momentary overloads due to starting at full load, braking, shocks or other causes, particularly those that are dynamic.

| | 025 | 030 | 040 | 050 | 063 | 075 | 090 | 110 | 130 |
|-------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| V5: $1500 < n_1 < 3000$ | - | - | - | - | - | B | B | B | B |
| $n_1 > 3000$ | B | B | B | B | B | A | A | A | A |
| V6 | B | B | B | B | B | B | B | B | B |

A Application not recommended

B Check the application and/or call our technical service

■ BRIEF INTRODUCTION TO STEPLESS SPEED VARIATOR

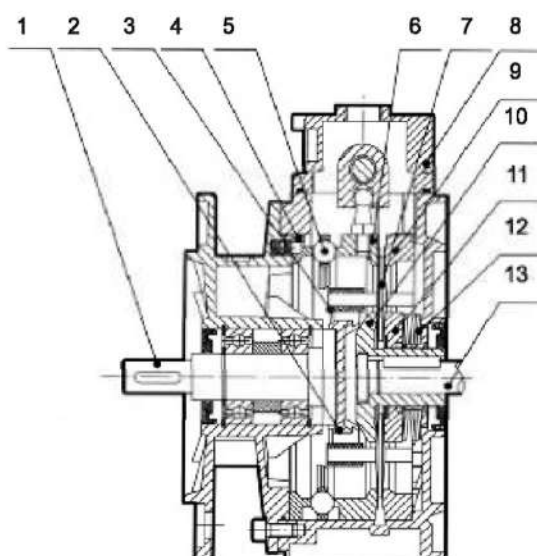
The design of UDL series stepless speed variator comprises the advanced technology both at home and abroad.

The products include the following main characteristics:

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

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

■ STRUCTURE



- 1. Output shaft**
- 2. Planet carrier**
- 3. Friction bearing-planet disk**
- 4. Cam ring**
- 5. Ball ring**
- 6. Adjustable annulus ring**
- 7. Planet disk**
- 8. Control cover**
- 9. Fixed annulus ring**
- 10. Fixed sun race**
- 11. Adjustable sun race**
- 12. Belleville spring**
- 13. Motor shaft**

■ STEPLESS SPEED VARIATOR

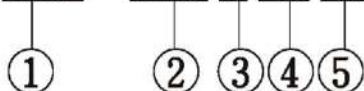
UD - L - 0.75 B5 B5



| NO | Comments |
|----|---|
| 1 | Code of stepless speed variator |
| 2 | 1).L: Aluminium alloy casing 2).No mark means cast iron casing |
| 3 | Motor power |
| 4 | 1).B3: Foot-mounted model 2).B5: Flange-mounted model |
| 5 | Code of installation position |

■ COMBINATION OF STEPLESS SPEED VARIATOR AND GEAR SPEED REDUCEI

UDL - 0.75 C B5 B5



| NO | Comments |
|----|--|
| 1 | Code of stepless speed variator with aluminum alloy casing |
| 2 | Motor Power |
| 3 | Code of gear reducer |
| 4 | 1).B3: Foot-mounted model 2).B5: Flange-mounted model |
| 5 | Code of installation position |



UDL..B3



UDL..B5

■ PERFORMANCE TABLE FOR UDL SERIES SPEED VARIATOR

$n_1 = 1400 \text{r/min}$

| B | Model | I | $n_2[\text{r/min}]$ | $M_2[\text{Nm}]$ |
|--------|---------|---------|---------------------|------------------|
| 1.18KW | UDL0.18 | 1.6~8.2 | 880~170 | 1.5~3 |
| 0.37KW | UDL0.37 | 1.4~7 | 1000~200 | 3~6 |
| 0.55KW | UDL0.55 | 1.4~7 | 1000~200 | 4~8 |
| 0.75KW | UDL0.75 | 1.4~7 | 1000~200 | 6~12 |
| 1.1KW | UD1.1 | 1.4~7 | 1000~200 | 9~18 |
| 1.5KW | UD1.5 | 1.4~7 | 1000~200 | 12~24 |
| 2.2KW | UD2.2 | 1.4~7 | 1000~200 | 18~36 |
| 3.0KW | UD3.0 | 1.4~7 | 1000~200 | 24~48 |
| 4.0KW | UD4.0 | 1.4~7 | 1000~200 | 32~64 |
| 5.5KW | UD5.5 | 1.4~7 | 1000~200 | 45~90 |
| 7.5KW | UD7.5 | 1.4~7 | 1000~200 | 59~118 |

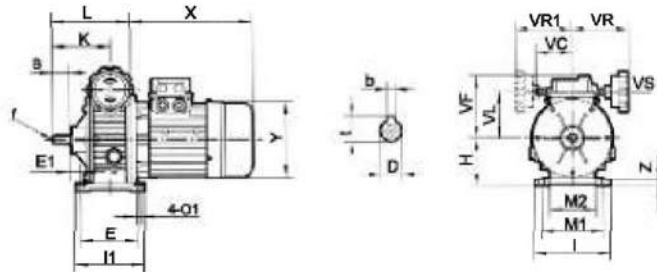
■ PERFORMANCE TABLE FOR STEPLESS SPEED VARIATOR & GEAR SPEED REDUCER

$n_1 = 1400 \text{r/min}$

| Model | i | $n_2[\text{r/min}]$ | $M_2[\text{Nm}]$ |
|-------------|---|---------------------|------------------|
| UDL0.18-CB3 | 5 | 176~34 | 7~15 |
| UDL0.37-CB3 | 5 | 200~40 | 15~30 |
| UDL0.75-CB3 | 5 | 200~40 | 30~60 |

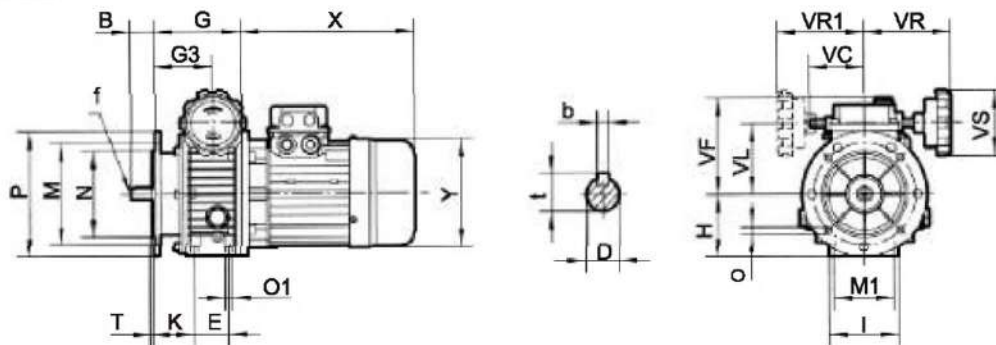
■ OUTLINE & INSTALLATION SIZES FOR STEPLESS SPEED VARIATOR

B3 MODEL



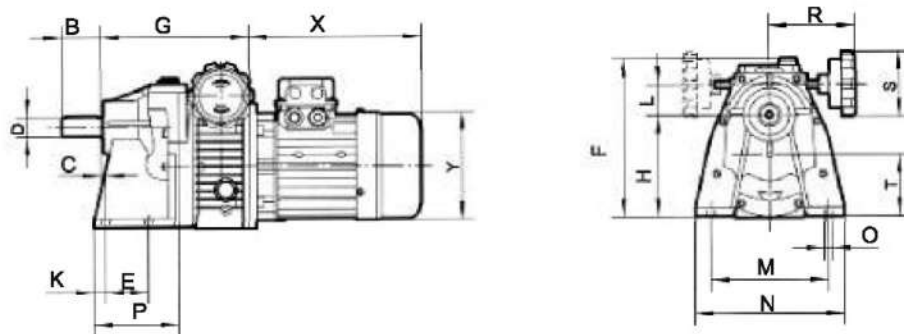
| | B | Dj6 | E | E1 | H | I | I1 | K | L | M1 | M2 | O1 | VC | VF | VL | VR | VR1 | VS | b | f | t | X | Y | Z |
|-----------|----|-----|-----|----|-----|-----|-----|-----|-----|-----|-----|----|----|-----|-----|-----|-----|-----|----|-----|------|-----|-----|----|
| UDL0.18B3 | 23 | 11 | 105 | 18 | 80 | 145 | 120 | 88 | 136 | 110 | 71 | 9 | 71 | 111 | 78 | 110 | 110 | 85 | 4 | - | 12.5 | 200 | 120 | 10 |
| UDL0.37B3 | 30 | 14 | 104 | 20 | 93 | 149 | 125 | 104 | 140 | 120 | 96 | 9 | 71 | 123 | 90 | 110 | 110 | 85 | 5 | M6 | 16 | 227 | 141 | 10 |
| UDL0.75B3 | 40 | 19 | 125 | 26 | 113 | 190 | 150 | 126 | 179 | 160 | 135 | 11 | 79 | 140 | 107 | 120 | 120 | 110 | 6 | M6 | 21.5 | 268 | 160 | 15 |
| UD1.1B3 | 40 | 24 | 105 | 35 | 100 | 207 | 130 | 136 | 187 | 160 | 115 | 13 | - | 124 | 102 | 150 | - | 110 | 8 | M8 | 27 | 265 | 195 | 15 |
| UD1.5B3 | 50 | 24 | 115 | 54 | 123 | 241 | 150 | 165 | 238 | 190 | 143 | 13 | - | 144 | 122 | 150 | - | 110 | 8 | M8 | 27 | 290 | 195 | 18 |
| UD2.2B3 | 60 | 30 | 230 | 25 | 150 | 300 | 270 | 191 | 268 | 245 | 190 | 14 | - | 188 | 150 | 150 | - | 110 | 8 | M8 | 33 | 320 | 215 | 25 |
| UD3.0B3 | 60 | 30 | 230 | 25 | 150 | 300 | 270 | 191 | 268 | 245 | 190 | 14 | - | 188 | 150 | 150 | - | 110 | 8 | M8 | 33 | 320 | 215 | 25 |
| UD4.0B3 | 60 | 30 | 230 | 25 | 150 | 300 | 270 | 191 | 269 | 245 | 190 | 14 | - | 188 | 150 | 150 | - | 110 | 8 | M8 | 33 | 340 | 240 | 25 |
| UD5.5B3 | 70 | 35 | 250 | 33 | 200 | 365 | 290 | 201 | 319 | 315 | 245 | 18 | - | - | 192 | 192 | - | 110 | 10 | M10 | 38 | 395 | 275 | 30 |
| UD7.5B 3 | 70 | 35 | 250 | 33 | 200 | 365 | 290 | 201 | 319 | 315 | 245 | 18 | - | - | 192 | 192 | - | 110 | 10 | M10 | 38 | 435 | 275 | 30 |

B5 MODEL



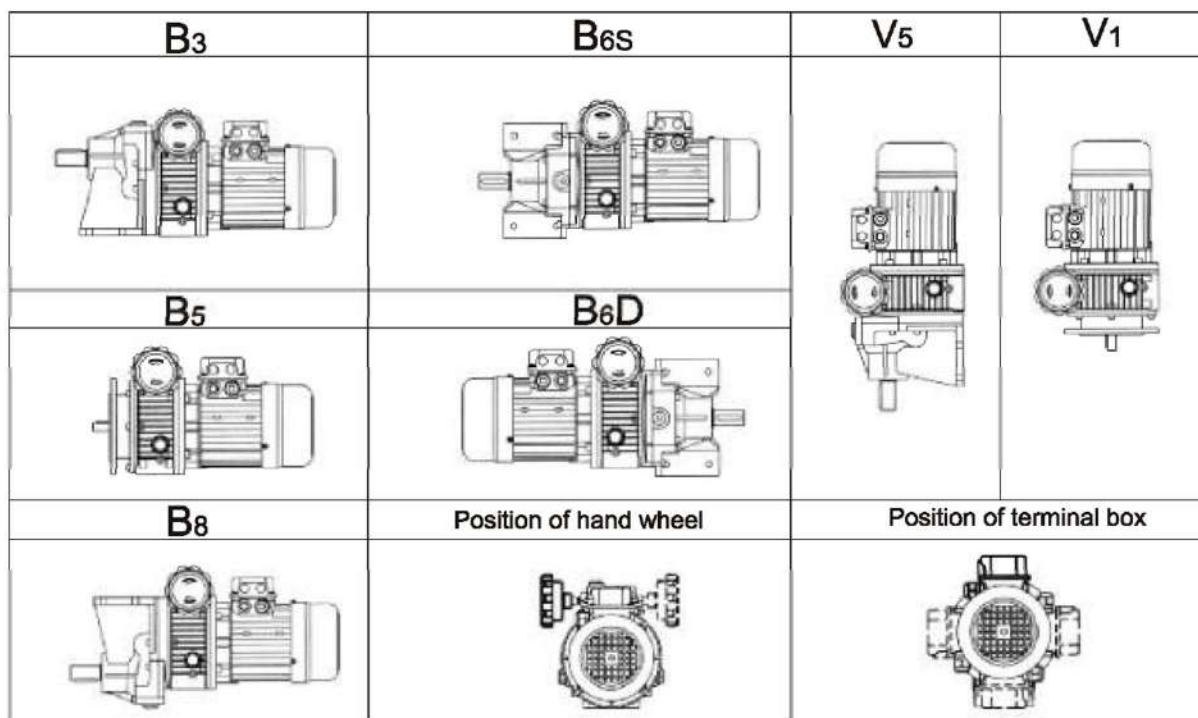
| | B | Dj6 | E | G | G3 | H | I | M | M1 | N | D | D1 | P | T | K | VC | VF | VL | VR | Vr1 | VS | b | f | t | X | Y |
|-----------|----|-----|----|-----|------|-----|-----|-----|----|-----|----|----|-----|-----|----|----|-----|-----|-----|-----|-----|----|-----|----|-----|-----|
| UDL0.18B5 | 23 | 11 | 50 | 113 | 64.5 | 70 | 72 | 115 | 60 | 95 | 9 | M6 | 140 | 3.5 | 46 | 71 | 111 | 78 | 110 | 110 | 85 | 4 | - | 13 | 200 | 120 |
| UDL0.37B5 | 30 | 14 | 40 | 110 | 74 | 80 | 90 | 130 | 77 | 110 | 9 | M8 | 160 | 3.5 | 53 | 71 | 123 | 90 | 100 | 110 | 85 | 5 | M6 | 16 | 227 | 141 |
| UDL0.75B5 | 40 | 19 | 58 | 139 | 85.5 | 100 | 98 | 165 | 84 | 130 | 11 | M8 | 200 | 3.5 | 60 | 79 | 140 | 107 | 120 | 120 | 110 | 6 | M6 | 22 | 268 | 160 |
| UD1.1B5 | 40 | 24 | - | 147 | 95 | 98 | 207 | 165 | - | 130 | 11 | - | 200 | 3.5 | - | - | 124 | 102 | 150 | - | 110 | 8 | M8 | 27 | 265 | 195 |
| UD1.5B5 | 50 | 24 | - | 188 | 115 | 126 | 241 | 165 | - | 130 | 11 | - | 200 | 3.5 | - | - | 144 | 122 | 150 | - | 110 | 8 | M8 | 27 | 290 | 195 |
| UD2.2B5 | 60 | 30 | - | 208 | 131 | 150 | 270 | 165 | - | 130 | 15 | - | 300 | 4 | - | - | 188 | 150 | 160 | - | 110 | 8 | M8 | 33 | 320 | 215 |
| UD3.0B5 | 60 | 30 | - | 208 | 131 | 150 | 270 | 265 | - | 230 | 15 | - | 300 | 4 | - | - | 188 | 150 | 160 | - | 110 | 8 | M8 | 33 | 320 | 215 |
| UD4.0B5 | 60 | 30 | - | 208 | 131 | 150 | 270 | 265 | - | 230 | 15 | - | 300 | 4 | - | - | 188 | 150 | 160 | - | 110 | 8 | M8 | 33 | 340 | 240 |
| UD5.5B5 | 70 | 35 | - | 244 | 131 | 200 | - | 300 | - | 250 | 19 | - | 350 | 5 | - | - | - | 192 | 194 | - | 110 | 10 | M10 | 38 | 395 | 275 |
| UD7.5B5 | 70 | 35 | - | 244 | 131 | 200 | - | 300 | - | 250 | 19 | - | 350 | 5 | - | - | - | 192 | 194 | - | 100 | 10 | M10 | 38 | 435 | 275 |

COMBINED OUTLINE & INSTALLATION SIZES FOR STEPLESS SPEED VARIATOR & GEAR SPEED REDUCER WITH FOOT SCREWS



| Model | B | C | D | E | F | G | H | Y | L | M | N | O | P | R | S | T | X | K |
|-------------|----|----|----|----|-----|-----|-----|-----|----|-----|-----|----|-----|-----|-----|----|-----|----|
| UDL0.18-CB3 | 40 | 18 | 19 | 45 | 162 | 189 | 108 | 120 | 33 | 115 | 130 | 9 | 80 | 110 | 85 | 66 | 200 | 16 |
| UDL0.37-CB3 | 50 | 6 | 24 | 70 | 187 | 190 | 130 | 141 | 39 | 150 | 190 | 10 | 110 | 100 | 85 | 79 | 227 | 15 |
| UDL0.75-CB3 | 60 | 7 | 28 | 70 | 228 | 225 | 160 | 160 | 46 | 165 | 210 | 12 | 130 | 130 | 110 | 99 | 268 | 25 |

INSTALLATION POSITIONS DIAGRAM



For special requirements, orders must specify the position of the terminal box with reference to the diagram. Unless specified the terminal box, otherwise the position of which will be mounted as shown in the diagram for the mounting position.

Unless specified, otherwise the standard positions are B₃ or B₅.

For positions not envisaged, it is necessary to call our Technical Service.

■ OPERATION & MAINTENANCE

1. The shapes of shaft extension are all cylindrical. It is subject to GB 1569-1990 Cylindrical shaft extension. The key joint refers to GB1095-2003 Ordinary flat key.
2. The shaft lines should be kept concentric when the coupling is connected with a motor. The installation error should be no more than the tolerance value of the coupling.
3. When the output shaft is installed with the coupling or belt wheel, they should be pressed into the screw hole on shaft end. Or assembled by heating. No hammering on it.
4. The mechanical stepless speed variator is not used in such an occasion where overload or running-blockage happened to occur.
5. Speed-regulation should be effected in running. Do not turn the hand wheel of speed-regulation when the machine stops!
6. The limit screws of speed-regulation on two ends under the operating box are well adjusted, Please don't touch them!
7. This set is not suited to work in the environment over 40°C, especially no more than 45°C when the temperature rises. In regard to its temperature rise, please read the explanation as follows:
 If a 4-pole motor is used for the speed variator, the temperature under running-in(empty running) is 40-50°C higher than that of normal working environment. After running-in up to 60-80 hours, the temperature will go down gradually. From that time on, it is 20°C higher than of environment; and the temperature will keep on rising stably. The high temperature rise in running will affect normal permissive working condition, but it won't bring any bad effects to the service life of parts.
8. The liquid lubricating oil is used for the speed variator. Its trade mark is Ub-3x. Please check up the oil level before use.
9. The machine is filled with lubricating oil before leaving factory. When it starts to work up to 2000 hours for the first time, its lubricating oil should be replaced, changing the lubricating oil every 5000hours later.
10. The lubricating oil level inside the speed variator should be kept at the height of tow-third in the oil scale. Users should usually check the height of oil level. It is strictly prohibited to operate it when lacking lubricating oil. The air screw nut on the operating box is screwed up for preventing from oil leakage in moving before leaving factory. It should be loosed when it starts to run. It is strictly forbidden to use it before loosing!

■ LUBRICANTS OIL CHIOSEN TABLE

| | TEMPERATURE | ISO | SHELL | AGIP | ESSO | MOBIL | CASTROL | BP | GMERI | |
|-----------------------|-------------|-------|-------------------|------------------|------------------|------------------|-------------------|---------------------|--------|------------------|
| RV025~09 PC063~090 | -25°C~50°C | VG320 | Tivela OILS320 | Telium VSF320 | S220 | Glygoyle 30 | Alphasyn Pg320 | Energol SG-XP32 | | Synthetic oil |
| RV 110~130 | -5°C~40°C | VG460 | Omala OIL460 | Blasia 460 | Spartan Ep460 | Mobilgear 634 | Alpha MAX 460 | Energol GR-XP460 | CKE460 | Mineral oil |
| | -15°C~25°C | VG220 | Omala OIL220 | Blasia 220 | Spartan Ep220 | Mobilgear 630 | Alpha MAX 220 | Energol GR-XP220 | | |
| UDL | -25°C~40°C | VG32 | ATFDXRON | ATFDXRON | ATFDXRON | A.T.F.220 | TQ.DXRON-II | Autran DX | Ub-3x | Mineral oil |

■ LUBRICENT FILL QUANTITY (L)

| | B3 | B6 | B7 | B8 | V5 | V6 |
|---------|-------|-----|-----|-----|------|-----|
| RV025 | 0.023 | | | | | |
| RV030 | 0.05 | | | | | |
| RV040 | 0.1 | | | | | |
| RV050 | 0.15 | | | | | |
| RV063 | 0.3 | | | | | |
| RV075 | 0.5 | | | | | |
| RV090 | 1 | | | | | |
| RV110 | 3 | 2.5 | 2.5 | 2.2 | 3 | 2.2 |
| RV130 | 4.5 | 3.5 | 3.5 | 3.3 | 4.5 | 3.3 |
| PC063 | 0.05 | | | | | |
| PC071 | 0.07 | | | | | |
| PC080 | 0.15 | | | | | |
| PC090 | 0.16 | | | | | |
| UDL0.18 | 0.13 | | | | 0.2 | |
| UDL0.37 | 0.15 | | | | 0.25 | |
| UDL0.55 | 0.33 | | | | 0.45 | |
| UDL0.75 | 0.33 | | | | 0.45 | |
| UD1.1 | 0.8 | | | | 1 | |
| UD1.5 | 0.8 | | | | 1 | |
| UD2.2 | 1.2 | | | | 1.2 | |
| UD3.0 | 1.2 | | | | 1.2 | |
| UD4.0 | 1.2 | | | | 1.2 | |

■ LUBRICATION

In case of ambient temperatures are not envisaged in the table, please call our Technical Service.

○ In the case of temperature under -30°C or over 60°C it is necessary to use oil seals with special material.

○ For operating ranges with temperature under 0°C it is necessary to consider the following: The motors need to be suitable for operation at the envisaged ambient temperature.

→ The power of the electric motor needs to be adequate for exceeding the higher starting torques required.

→ In the case of reduction units with a cast-iron case, pay attention to impacting loads since cast iron may have problems of fragility at temperatures under -15°C

→ During the early stages of service, problems of lubrication may arise due to the high level of viscosity taken on by the oil and so it is wise to have a few minutes of rotation under no load.

○ The oil needs to be changed after approximately 10,000 hours. This period depends on the type of service and the environment where the reduction unit works.

○ The reduction units size 025-030-040-050-063-075-090 are supplied completely with lubricant for life, synthetic oil (SHELL TEVELA OIL 320), and can therefore be mounted in any position envisaged in the catalogue, V5/V6 for which you should call our Technical Service to assess the condition of use.

○ The reduction units size 110 and 130 are supplied completely with lubricant, mineral oil, (SHELL TEVELA OIL 320)

○ The variator speed are supplied completely with lubricant, mineral oil (GMERL Ub-3x).

○ For size 110 and 130 it is necessary to specify the position, otherwise the reduction units are supplied with the quantity of oil relating to pos.B3.

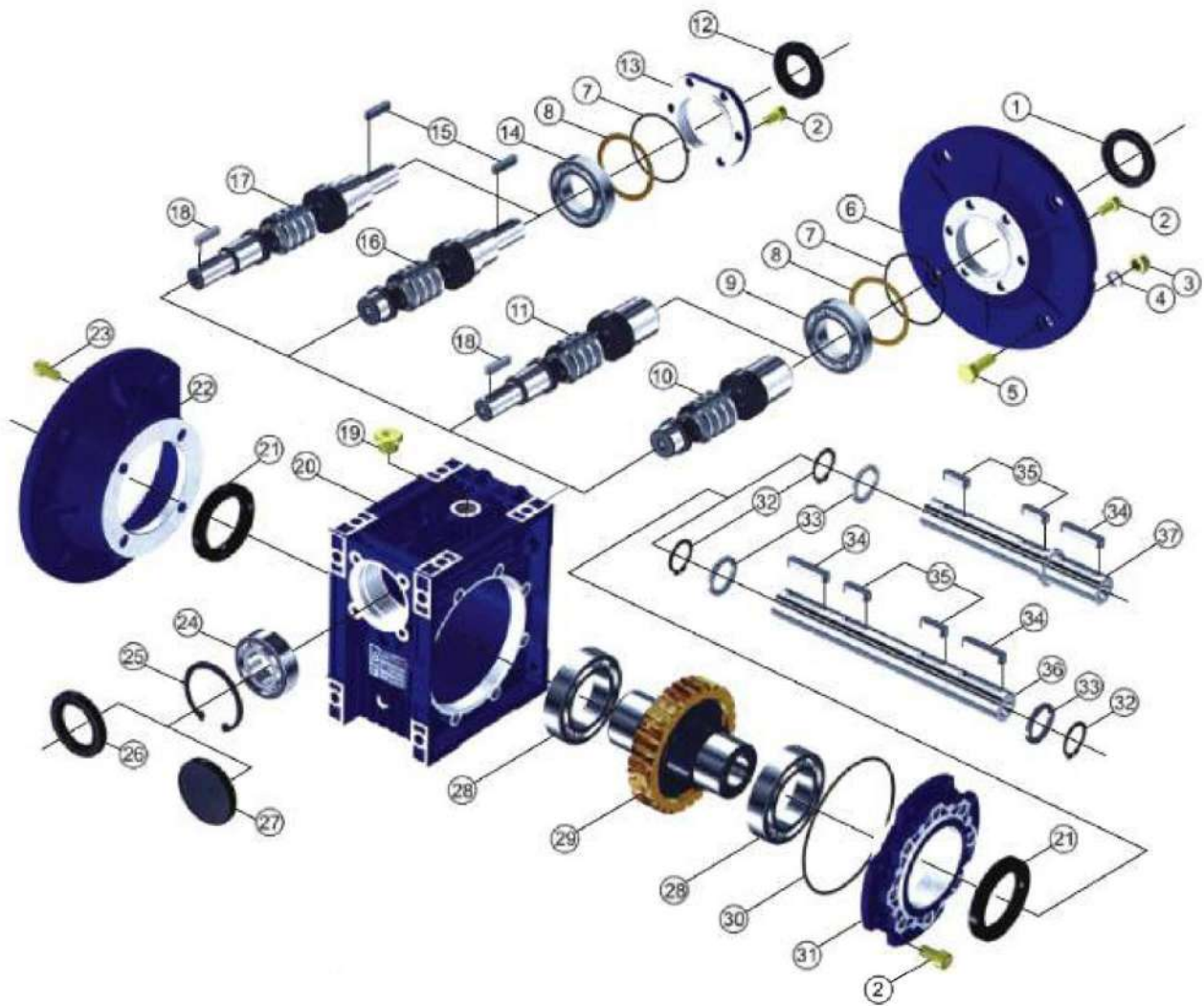
○ Only reduction units 110 and 130 are fitted with breather, level and oil drainage plugs. It is necessary, after installation, to replace the closed plug used for transportation with the breather plug supplied with the unit.

○ PC is supplied completely with life-long lubricant, synthetic oil (SHELL TEVELA OIL 320), and can therefore be mounted in all the positions.

■ NOTICE FOR ORDERING

1. Please refer to the sheet of performance parameter, RV series dimensions, mounting and operation diagram, make reasonable choice of model, and write down model mark to your required revolution scope, output torque and structural form on ordering (when ordering, you should show whether the reducers are equipped with motors, otherwise reducers aren't supplied with motors.)

2. Please make the best choice of standard products in this catalogue, and give an additional explanation for your special requirement and motors.



- | | |
|--------------------------------------|------------------------|
| 1.oil seal | 20.casing |
| 2.inner hex screw | 21.oil seal |
| 3.nut | 22.output flange |
| 4.spring washer | 23.inner hex screw |
| 5.hex screw | 24.bearing |
| 6.input flange | 25.hole-circlip |
| 7.O-Ring | 26.oil seal |
| 8.adjust spacer | 27.cover |
| 9.bearing | 28.bearing |
| 10.hole input worm | 29.worm wheel |
| 11.hole input and shaft output worm | 30.O-Ring |
| 12.oil seal | 31.output cover |
| 13.input cover | 32.shaft-circlip |
| 14.Bearing | 33.spacer |
| 15.key | 34.key |
| 16.shaft input worm | 35.key |
| 17.shaft input and shaft output worm | 36.double output shaft |
| 18.key | 37.single output shaft |
| 19.oil plug | |

Other products

R In-line Helical Geared Motor



WP Double speed reducer



F Parallel Shaft-Helical Geared Motor



WP Series reducer



K Helical-Bevel Geared Motor



VF series



S Helical-Worm Geared Motor



VF series

