Transmax

BEVEL GEAR SPEED REDUCER

# MPR MPB Bevel Gear Motor

## CONTENTS

## 1. PRODUCT PICTURE

**MPR28B~68B(IEC)**

**MPR28B~68B(MV)**

**MPR28C~68C(IEC)**

**MPR28C~68C(MV)**

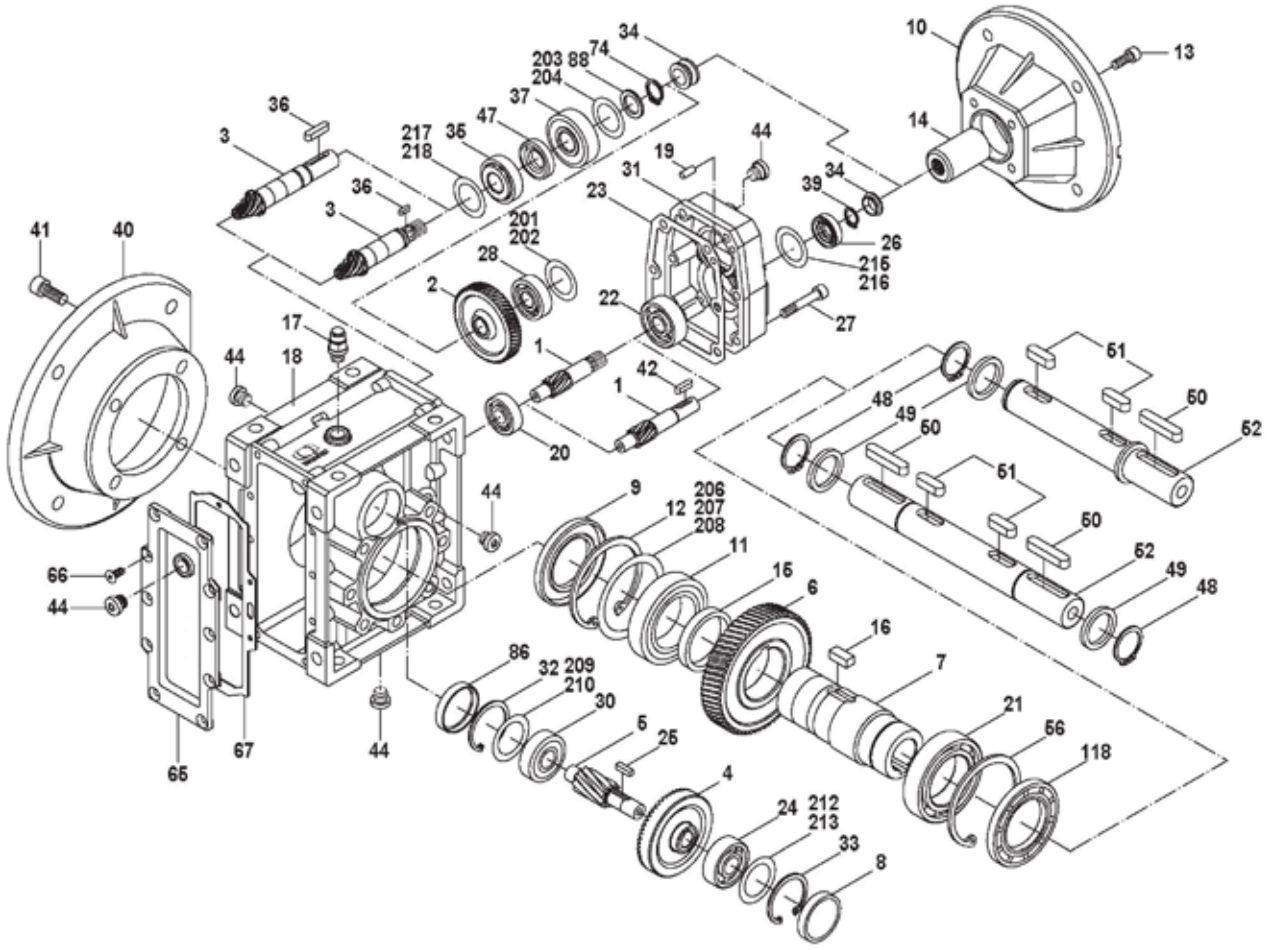
**MPB38B~68B(IEC)**

**MPB38B~68B(MV)**

**MPB38C~68C(IEC)**

**MPB38C~68C(MV)**

## 1.1 Basic structure




| | | | | | |
|---|---|---|---|---|---|
| **1** | Pinion | **25** | Key | **56** | Hole-circlip |
| **2** | Gear | **26** | Oil seal | **65** | Gearcase cover |
| **3** | Pinion shaft | **27** | Inner hex screw | **66** | Hexagon sunk screw |
| **4** | Gear | **28** | Bearing | **67** | Rubber gasket |
| **5** | Pinion shaft | **30** | Bearing | **74** | Shaft-circlip |
| **6** | Gear | **31** | 3 stage gearcase | **86** | Closing cap |
| **7** | Hollow shaft | **32** | Hole-circlip | **88** | Washer |
| **8** | Closing cap | **33** | Hole-circlip | **118** | Oil seal |
| **9** | Oil seal | **34** | Rubber boot | **201** | Shim ring |
| **10** | Intput flange | **35** | Bearing | **202** | Shim ring |
| **11** | Bearing | **36** | Key | **203** | Shim ring |
| **12** | Hole-circlip | **37** | Bearing | **204** | Shim ring |
| **13** | Inner hex screw | **39** | Shaft-circlip | **206** | Shim ring |
| **14** | Intput shaft | **40** | Output flage | **207** | Shim ring |
| **15** | Spacer | **41** | Inner hex screw | **208** | Shim ring |
| **16** | Key | **42** | Key | **209** | Shim ring |
| **17** | Breather valve | **44** | Oil plug | **210** | Shim ring |
| **18** | Gearcase | **47** | Oil seal | **212** | Shim ring |
| **19** | Stifte | **48** | Shaft-circlip | **213** | Shim ring |
| **20** | Bearing | **49** | Gasket | **215** | Shim ring |
| **21** | Bearing | **50** | Key | **216** | Shim ring |
| **22** | Bearing | **51** | Key | **217** | Shim ring |
| **23** | Housing gasket | **52** | Double output shaft | **218** | Shim ring |
| **24** | Bearing | **53** | Single output shaft | | |

# 2. SUMMARIZE

## 2.1 Products characteristics

**MPR MPB** series helical-hypoid gear units is a new-generation of product developed by us . with a compromise of advanced technology both at home and abroad, its main features are as follows:

1. Driven by hypoid gear,has big ratios.
2. High output torque,high efficiency,energy saving and environmental protection.
3. Made of high-quqlity aluminum alloy, light in weight and nonrusting.
4. Smooth in running and low in noise, can work long time in dreadful conditions.
5. Good appearance, durable in service life and small in volume.
6. Suitable for all round installation,wide application and easy of use.
7. The mounting dimension of **MPR** series are compatible with hollow shaft worm gear unit(A part
8. The mounting dimension of **MPB** series are compatible with **W** series worm gear unit.
9. Modular and multistructure can meet the demands of various conditions .

## 2.2 Main materials

1. Housing: die-cast aluminum alloy (frame size: 28 to 68); .
2. gear wheel: 20CrMnTiH1, carbonize & quenched heat treatment make the hardness of gear's surface up to 56~62 HRC，retain carburization layer's thickness between 0.3 and 0.5mm after precise grinding.

## 2.3 Surface painting

Aluminum alloy housing：

1. Shot blasting and special antiseptic treatment on the aluminum alloy surface.
2. After phosphating,spray the paint RAL9022 in silver white.

## 3. MODEL ILLUMINATE

### 3.1 Geared motor

**MPR 38 B - 20.25 - FA1 SS1 - B3 - MV71D4 / BMG / 270° / S**

① ② ③ ④ ⑤ ⑥ ⑧ ⑨ ⑩ ⑪ ⑫

| No | Comments |
|---|---|
| 1 | Code for gear units series：**MPR MPB** |
| 2 | Specification code of gear units 28、38、48、58、68 |
| 3 | 1).**B**： Means 2 stages<br>2).**C**： Means 3 stages |
| 4 | Speed ratio of reducer i |
| 5 | 1). No mark means without output flange<br>2). **FA,FB,FC,FD,FE(1/2)**: output Flange and position |
| 6 | 1). No mark means hole output<br>2). **SS(1/2)**: Single output shaft and position<br>3). **DS**: Double output shaft |
| 8 | Installation position code |
| 9 | motor type |
| 10 | 1). no code means no brake<br>2). **BMG**: brake |
| 11 | Position diagram for motor terminal box default position 0°(R) not to write out is ok |
| 12 | Coil in Position for motor , default position S not to write out is ok |

### 3.2 Gear unit or gear unit+IEC motor

Gear unit　　Motor

**MPR 38 B - 20.25 - FA1 SS1 - 71B5 B3 - 7124 / or0.37-4 / 270° / S**

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑪ ⑫

| No | Comments |
|---|---|
| 1 | Code for gear units series：**MPR MPB** |
| 2 | Specification code of gear units 28、38、48、58、68 |
| 3 | 1).**B**： Means 2 stages<br>2).**C**： Means 3 stages |
| 4 | Speed ratio of reducer i |
| 5 | 1). No mark means without output flange<br>2). **FA,FB,FC,FD,FE(1/2)**: output Flange and position |
| 6 | 1). No mark means hole output<br>2). **SS(1/2)**: Single output shaft and position<br>3). **DS**: Double output shaft |
| 7 | 1). Input flange code(63B5、71B5、71B14……)<br>2). **HS**：means shaft input |
| 8 | Installation position code |
| 9 | 1). No mark means without motor<br>2). Model motos (poles of power) |
| 11 | Position diagram for motor terminal box default position 0°(R) not to write out is ok |
| 12 | Coil in Position for motor , default position S not to write out is ok |

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

Example： **MPR58C - 200.66 - B3 - MV71D4**

**MPB68B - 59.22 - FA1 - 90B5**

# 4. RELEVANT PARAMETER

## 4.1 Power P

$$P_1 = \frac{P_2}{\eta} \text{ [kW]}$$

$$P_{1n} \geqslant P_1 \cdot f_s \text{ [kW]}$$

| | |
|---|---|
| $P_1$ | Input power |
| $P_2$ | Output power |
| $P_{1n}$ | Rated power driving motor |
| $f_s$ | Service factor |
| $\eta$ | Transmission efficiency |

The efficiency of **MPR , MPB** gear units varies with the number of gear stages, between 94 % (2-stage) , 92 % (3-stage).

## 4.2 Rotation speed n

| | |
|---|---|
| $n_1$ | Gear units input speed |
| $n_2$ | Gear units output speed |

If driven by the external gearing,1400r/min or lower rotation speed is suggested so as to optimize the working conditions and prolong the service life. Higher input rotation speed is permitted, but in this situation, the rated torque **M2** will be reduced.

## 4.3 Transmission ratio i

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

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

## 4.4 Torque M

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

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

| | |
|---|---|
| $M_2$ | Output torque |
| $M_{2n}$ | Selected output torque |
| $P_1$ | Input power |
| $\eta$ | Transmission efficiency |
| $f_S$ | Service factor |

## 4.5 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.

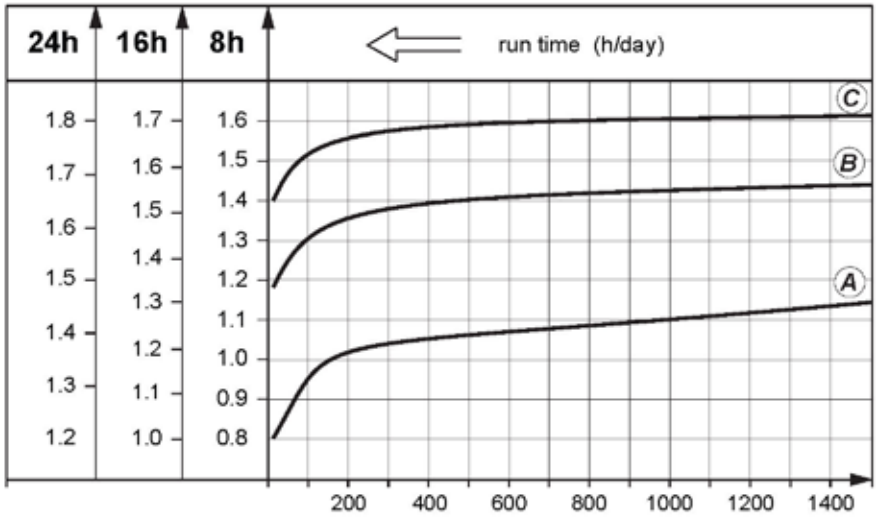



Fig: Service factor ($f_S$)

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

### *4.5.1 load classifications*

Ⓐ Uniform, permitted mass acceleration factor **fa**≤0.2

Ⓑ Moderate shock load, permitted mass acceleration factor **fa**≤3

Ⓒ Heavy shock load, permitted mass acceleration factor **fa**≤10

oad classifications：

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

Winding devices, woodworking machine feeders, goods 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.

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.

### 4.5.2 Mass acceleration factor

The mass acceleration factor is calculated as follows:

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

$f_a$ Mass acceleration factor

$J_c$ All external mass moments of inertia ( $kgm^2$ )

$J_m$ Mass moment of inertia on the motor end ( $kgm^2$ )

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

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

***Example:***

Mass acceleration factor 2.5 (load classification Ⓑ), 14 hours/day operating time (read off at 16 h/d) and 200 cycles/hour result in a service factor $f_S$ =1.48.

choose the service factor $f_S$ = 1.48 according to the parameter sheet .

### 4.6 Overhung loads and axial forces

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

| Transmission element | Transmission element factor $F_Z$ | Comments |
|---|---|---|
| Gears | 1.15 | < 17 teeth |
| Chain sprockets | 1.25 | < 20 teeth |
| | 1.40 | < 13 teeth |
| 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 |

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

$$F_r = \frac{M \cdot 2000 \cdot f_z}{d_0} \text{ [N]}$$

$F_r$ Resulting radial load [N]

M Torque on the shaft [Nm]

$d_0$ Mean diameter of the mounted transmission element in [mm]

$f_z$ Transmission element factor

The basis for determining the permitted radial loads is the computation of the rated service life $L_{10h}$ of the bearings (according to **ISO281**). For special operating conditions, the permitted radial loads can be determined with regard to the modified service life $L_{na}$.

The permitted radial loads given in the selection tables must be calculated using the following formula in the event of force application not in the center of the shaft end. The smaller of the two values $F_{XL}$ (according to bearing service life)

$F_{xL}$ according to bearing service life:

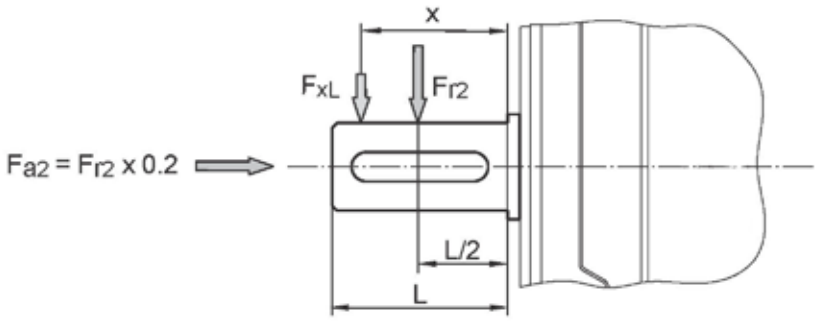
$$F_{xL} = F_{r(1,2)} \cdot \frac{a}{b + x} \text{ [N]}$$

$F_{r1}$, $F_{r2}$ = Permitted overhung load (x = L/2) for foot-mounted gear units according to he selection tables in [N]

**x** = Distance from the shaft shoulder to the force application point in [mm]

**a, b** = Gear unit constant for overhung load conversion [mm]

## Output shafts radial loads




$F_{a2}$ = Output axial loads

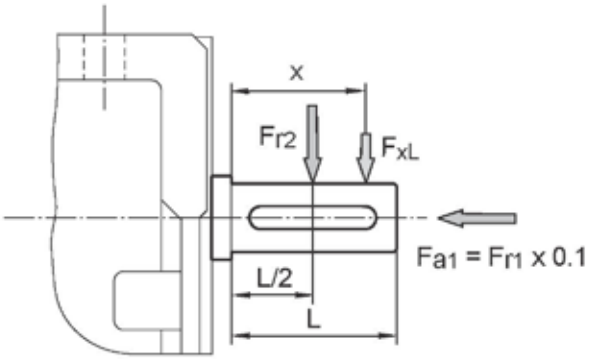
*MPR* Gear unit constantsfor overhung load conversion:

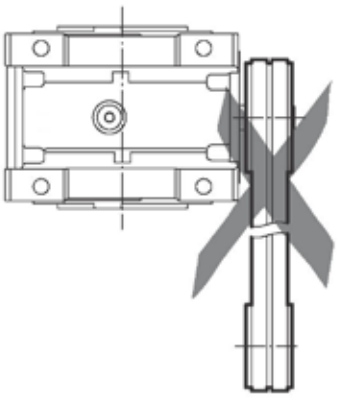
| | MPR28B | MPR28C | MPR38B | MPR38C | MPR48B | MPR48C | MPR58B | MPR58C | MPR68B | MPR68C |
|---|---|---|---|---|---|---|---|---|---|---|
| a | 104 | 104 | 118 | 118 | 131 | 131 | 159 | 159 | 174 | 174 |
| b | 78 | 78 | 93 | 93 | 101 | 101 | 119 | 119 | 134 | 134 |

*MPB* Gear unit constantsfor overhung load conversion:

| | | | MPB38B | MPB38C | MPB48B | MPB48C | MPB58B | MPB58C | MPB68B | MPB68C |
|---|---|---|---|---|---|---|---|---|---|---|
| a | | | 128 | 128 | 135 | 135 | 148.5 | 148.5 | 171 | 171 |
| b | | | 98 | 98 | 105 | 105 | 118.5 | 118.5 | 134 | 134 |

## Input shafts radial loads



| Input structure |
|---|
| Narrow V-belt pulleys |
| Flat belt pulleys |
| Toothed belt pulleys |

$F_{a1}$ = Input axial loads

It is forbidden to use the input on the right chart ( including 3 stage input ).

*MPR / MPB* Gear unit constantsfor overhung load conversion：

| | MPR28B | MPR28C | MPR38B MPB38B | MPR38C MPB38C | MPR48B MPB48B | MPR48C MPB48C | MPR58B MPB58B | MPR58C MPB58C | MPR68B MPB68B | MPR68C MPB68C |
|---|---|---|---|---|---|---|---|---|---|---|
| **a** | 51.5 | 56 | 58 | 56 | 73 | 70 | 81 | 70 | 101 | 87 |
| **b** | 40 | 44.5 | 43 | 44.5 | 53 | 55 | 61 | 55 | 76 | 67 |

## *4.7 Selection tables comments*

Combination with the motor in the header row **is possible**

Combination with the motor in the header row **is not possible**

* Finite gear unit reduction ratio;

$P_{1n}$ Rated power driving motor **[kW]**;

$n_2$ Output speed **[r/min]**;

$M_{2n}$ Output torque **[Nm]**;

$M_{2\,max}$ Max. permissible output torque **[Nm]**

$F_{r2}$ Permissible overhung load output side **[N]**

**i** Gear unit nominal ratio;

$i_a$ Gear unit actual ratio;

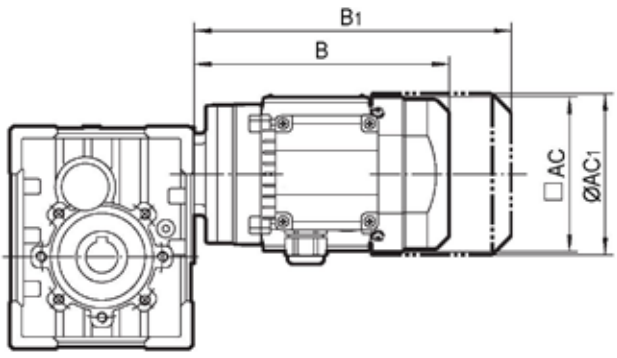
$f_s$ Service factor;

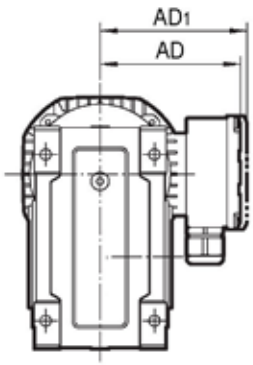
 Geared motor type

 Gear unit type;

 Motor type;

Page Dimension sheet page no;




**B** Total length of gearmotor;

**B1** Total length of gearmotor including brake;

**AC** Diameter of motor;

**AC1** Diameter of brake motor;

**AD** Center of motor shaft to top part of terminal box;

**AD1** Center of brake motor shaft to top part of terminal box.

# 5 SELECTION EXAMPLE

## 5.1 Gear motor

Example: Required power 0.25kW on driven machine, work for 8 h/day, moderate shock load, start up frequency 100(1/h), $n_2$=35r/min, **B3** mounted, So:

Check the service factor table at page 7 ,choose $f_S$=1.3

$$i = \frac{n_1}{n_2} = \frac{1400}{35} = 40$$

$$P_{1n} \geqslant P_1 \cdot f_s = \frac{P_2}{\eta} \cdot f_s = \frac{0.25}{0.94} \times 1.3 = 0.345 \text{ [kW]}$$

Choose type:

**MPR28B - 40.09 - MV71D4 - B3**

## 5.2 Gear units

Example: Recluired torque 200Nrn on driven machine, work 8 h/day, uniform load, start up frequency 400(1/h), **FA1** mounted, $n_1$=900 r/min,

$n_2$=2.5 r/min, so the only selection is 3 stage after checked the table:

Check the service factor table at page 7 ,choose $f_S$=1.05

$$i = \frac{n_1}{n_2} = \frac{900}{6} = 150$$

$$M_{2n} \geq M_2 \cdot f_s = 200 \times 1.05 = 210 \text{ [Nm]}$$

$$P_{1n} \geqslant P_1 \cdot f_s = \frac{M_2 \cdot n_1}{9550 \cdot \eta \cdot i} \cdot f_s = \frac{210 \times 900}{9550 \times 0.92 \times 150} \times 1.05 = 0.151 \text{ [kW]}$$

Choose type:

**MPR48C-151.20-FA1**

# 6. GEAR UNIT SELECTION TABLES

## 6.1 Possible geometrical combinations

### MPR28.. $n_1$=1400 r/min — 130Nm

| Gear units | | i Nominal | i Actual | gear ratio | $n_2$ [r/min] | $M_2$max [Nm] | $Fr_2$ [N] | MV63 | MV71 | MV80 | MV90 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 3 Stage | | | | | | | | | | | |
| MPR28C | | 300 | 291.79 | 4085 / 14 | 4.8 | 130 | 4100 | | | | |
| MPR28C | | 250 | 244.29 | 1710 / 7 | 5.7 | 130 | 4100 | | | | |
| MPR28C | | 200 | 200.44 | 18240 / 91 | 7.0 | 130 | 4100 | | | | |
| MPR28C | | 150 | 146.67 | 440 / 3 | 9.5 | 130 | 4000 | | | | |
| MPR28C | | 125 | 120.34 | 14080 / 117 | 11.6 | 130 | 3770 | | | | |
| MPR28C | | 100 | 101.04 | 2728 / 27 | 13.9 | 100 | 3560 | | | | |
| MPR28C | | 75 | 74.62 | 12760 / 171 | 18.8 | 80 | 3220 | | | | |
| MPR28C | | 60 | 62.36 | 2432 / 39 | 22 | 130 | 3030 | | | | |
| MPR28C | | 50 | 52.36 | 2356 / 45 | 27 | 100 | 2860 | | | | |
| 2 Stage | | | | | | | | | | | |
| MPR28B | | 60 | 58.36 | 817 / 14 | 24 | 130 | 2960 | | | | |
| MPR28B | | 50 | 48.86 | 342 / 7 | 29 | 130 | 2790 | | | | |
| MPR28B | | 40 | 40.09 | 3648 / 91 | 35 | 130 | 2610 | | | | |
| MPR28B | | 30 | 29.33 | 88 / 3 | 48 | 130 | 2350 | | | | |
| MPR28B | | 25 | 24.07 | 2816 / 117 | 58 | 130 | 2200 | | | | |
| MPR28B | | 20 | 20.21 | 2728 / 135 | 69 | 100 | 2080 | | | | |
| MPR28B | | 15 | 14.92 | 2552 / 171 | 94 | 80 | 1880 | | | | |
| MPR28B | | 12.5 | 12.47 | 2432 / 195 | 112 | 130 | 1770 | | | | |
| MPR28B | | 10 | 10.47 | 2356 / 225 | 134 | 100 | 1670 | | | | |
| MPR28B | | 7.5 | 7.73 | 116 / 15 | 181 | 80 | 1510 | | | | |

### MPR38..,MPB38.. $n_1$=1400 r/min — 200Nm

| Gear units | | i Nominal | i Actual | gear ratio | $n_2$ [r/min] | $M_2$max [Nm] | $Fr_2$ [N] | MV63 | MV71 | MV80 | MV90 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 3 Stage | | | | | | | | | | | |
| MPR38C | MPB38C | 300 | 302.50 | 605 / 2 | 4.6 | 200 | 4800 | | | | |
| MPR38C | MPB38C | 250 | 243.57 | 1705 / 7 | 5.7 | 200 | 4800 | | | | |
| MPR38C | MPB38C | 200 | 196.43 | 1375 / 7 | 7.1 | 180 | 4800 | | | | |
| MPR38C | MPB38C | 150 | 151.56 | 1364 / 9 | 9.2 | 200 | 4650 | | | | |
| MPR38C | MPB38C | 125 | 122.22 | 1100 / 9 | 11.5 | 180 | 4330 | | | | |
| MPR38C | MPB38C | 100 | 101.27 | 6380 / 63 | 13.8 | 150 | 4070 | | | | |
| MPR38C | MPB38C | 75 | 73.33 | 220 / 3 | 19.1 | 110 | 3650 | | | | |
| MPR38C | MPB38C | 60 | 63.33 | 190 / 3 | 22 | 180 | 3480 | | | | |
| MPR38C | MPB38C | 50 | 52.48 | 1102 / 21 | 27 | 150 | 3270 | | | | |
| 2 Stage | | | | | | | | | | | |
| MPR38B | MPB38B | 60 | 60.50 | 121 / 2 | 23 | 200 | 3430 | | | | |
| MPR38B | MPB38B | 50 | 48.71 | 341 / 7 | 29 | 200 | 3190 | | | | |
| MPR38B | MPB38B | 40 | 39.29 | 275 / 7 | 36 | 180 | 2970 | | | | |
| MPR38B | MPB38B | 30 | 30.31 | 1364 / 45 | 46 | 200 | 2720 | | | | |
| MPR38B | MPB38B | 25 | 24.44 | 220 / 9 | 57 | 180 | 2530 | | | | |
| MPR38B | MPB38B | 20 | 20.25 | 1276 / 63 | 69 | 150 | 2380 | | | | |
| MPR38B | MPB38B | 15 | 14.67 | 44 / 3 | 95 | 110 | 2130 | | | | |
| MPR38B | MPB38B | 12.5 | 12.67 | 38 / 3 | 110 | 180 | 2030 | | | | |
| MPR38B | MPB38B | 10 | 10.50 | 1102 / 105 | 133 | 150 | 1910 | | | | |
| MPR38B | MPB38B | 7.5 | 7.60 | 38 / 5 | 184 | 110 | 1710 | | | | |

## MPR48..,MPB48.. $n_1$=1400 r/min 350Nm

| Gear units | | i Nominal | i Actual | gear ratio | $n_2$ [r/min] | $M_2$max [Nm] | $Fr_2$ [N] | MV63 | MV71 | MV80 | MV90 | MV100 | MV112 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3 Stage | | | | | | | | | | | | | |
| MPR48C | MPB48C | 300 | 297.21 | 4161 / 14 | 4.7 | 350 | 6500 | | | | | | |
| MPR48C | MPB48C | 250 | 240.89 | 6745 / 28 | 5.8 | 350 | 6500 | | | | | | |
| MPR48C | MPB48C | 200 | 200.66 | 19665 / 98 | 7.0 | 300 | 6500 | | | | | | |
| MPR48C | MPB48C | 150 | 151.20 | 8165 / 54 | 9.3 | 350 | 6500 | | | | | | |
| MPR48C | MPB48C | 125 | 125.95 | 2645 / 21 | 11.1 | 300 | 5980 | | | | | | |
| MPR48C | MPB48C | 100 | 99.22 | 5060 / 51 | 14.1 | 240 | 5520 | | | | | | |
| MPR48C | MPB48C | 75 | 75.45 | 14260 / 189 | 18.6 | 200 | 5040 | | | | | | |
| MPR48C | MPB48C | 60 | 62.43 | 437 / 7 | 22 | 300 | 4730 | | | | | | |
| MPR48C | MPB48C | 50 | 49.18 | 836 / 17 | 28 | 240 | 4370 | | | | | | |
| 2 Stage | | | | | | | | | | | | | |
| MPR48B | MPB48B | 60 | 59.44 | 4161 / 70 | 24 | 350 | 4660 | | | | | | |
| MPR48B | MPB48B | 50 | 48.18 | 1349 / 28 | 29 | 350 | 4340 | | | | | | |
| MPR48B | MPB48B | 40 | 40.13 | 3933 / 98 | 35 | 300 | 4080 | | | | | | |
| MPR48B | MPB48B | 30 | 30.24 | 1633 / 54 | 46 | 350 | 3720 | | | | | | |
| MPR48B | MPB48B | 25 | 25.19 | 529 / 21 | 56 | 300 | 3500 | | | | | | |
| MPR48B | MPB48B | 20 | 19.84 | 1012 / 51 | 71 | 240 | 3230 | | | | | | |
| MPR48B | MPB48B | 15 | 15.09 | 2852 / 189 | 93 | 200 | 2950 | | | | | | |
| MPR48B | MPB48B | 12.5 | 12.49 | 437 / 35 | 112 | 300 | 2770 | | | | | | |
| MPR48B | MPB48B | 10 | 9.84 | 836 / 85 | 142 | 240 | 2550 | | | | | | |
| MPR48B | MPB48B | 7.5 | 7.48 | 2356 / 315 | 187 | 200 | 2330 | | | | | | |

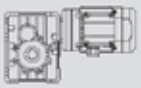
## MPR58..,MPB58.. $n_1$=1400 r/min 500Nm

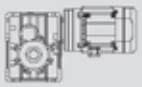
| Gear units | | i Nominal | i Actual | gear ratio | $n_2$ [r/min] | $M_2$max [Nm] | $Fr_2$ [N] | MV63 | MV71 | MV80 | MV90 | MV100 | MV112 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3 Stage | | | | | | | | | | | | | |
| MPR58C | MPB58C | 300 | 295.18 | 8265 / 28 | 4.7 | 500 | 8300 | | | | | | |
| MPR58C | MPB58C | 250 | 240.89 | 6745 / 28 | 5.8 | 500 | 8300 | | | | | | |
| MPR58C | MPB58C | 200 | 200.66 | 19665 / 98 | 7.0 | 480 | 8300 | | | | | | |
| MPR58C | MPB58C | 150 | 151.20 | 8165 / 54 | 9.3 | 500 | 8050 | | | | | | |
| MPR58C | MPB58C | 125 | 125.95 | 2645 / 21 | 11.1 | 480 | 7580 | | | | | | |
| MPR58C | MPB58C | 100 | 99.22 | 5060 / 51 | 14.1 | 380 | 7000 | | | | | | |
| MPR58C | MPB58C | 75 | 75.45 | 14260 / 189 | 18.6 | 300 | 6390 | | | | | | |
| MPR58C | MPB58C | 60 | 62.43 | 437 / 7 | 22 | 480 | 6000 | | | | | | |
| MPR58C | MPB58C | 50 | 49.18 | 836 / 17 | 28 | 380 | 5540 | | | | | | |
| 2 Stage | | | | | | | | | | | | | |
| MPR58B | MPB58C | 60 | 59.04 | 1653 / 28 | 24 | 500 | 5890 | | | | | | |
| MPR58B | MPB58B | 50 | 48.18 | 1349 / 28 | 29 | 500 | 5500 | | | | | | |
| MPR58B | MPB58B | 40 | 40.13 | 3933 / 98 | 35 | 480 | 5170 | | | | | | |
| MPR58B | MPB58B | 30 | 30.24 | 1633 / 54 | 46 | 500 | 4710 | | | | | | |
| MPR58B | MPB58B | 25 | 25.19 | 529 / 21 | 56 | 480 | 4430 | | | | | | |
| MPR58B | MPB58B | 20 | 19.84 | 1012 / 51 | 71 | 380 | 4090 | | | | | | |
| MPR58B | MPB58B | 15 | 15.09 | 2852 / 189 | 93 | 300 | 3730 | | | | | | |
| MPR58B | MPB58B | 12.5 | 12.49 | 437 / 35 | 112 | 480 | 3510 | | | | | | |
| MPR58B | MPB58B | 10 | 9.84 | 836 / 85 | 142 | 380 | 3240 | | | | | | |
| MPR58B | MPB58B | 7.5 | 7.48 | 2356 / 315 | 187 | 300 | 2950 | | | | | | |

## *MPR68..,MPB68..* $n_1$=1400 r/min **750Nm**

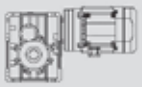
| Gear units | | i Nominal | i Actual | gear ratio | $n_2$ [r/min] | $M_2$max [Nm] | $Fr_2$ [N] | MV71 | MV80 | MV90 | MV100 | MV112 | MV132 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3 Stage | | | | | | | | | | | | | |
| MPR68C | MPB68C | 300 | 296.10 | 22800 / 77 | 4.7 | 750 | 10000 | | | | | | |
| MPR68C | MPB68C | 250 | 244.29 | 1710 / 7 | 5.7 | 750 | 10000 | | | | | | |
| MPR68C | MPB68C | 200 | 206.29 | 1444 / 7 | 6.8 | 750 | 9920 | | | | | | |
| MPR68C | MPB68C | 150 | 153.33 | 460 / 3 | 9.1 | 750 | 8980 | | | | | | |
| MPR68C | MPB68C | 125 | 129.48 | 3496 / 27 | 10.8 | 750 | 8490 | | | | | | |
| MPR68C | MPB68C | 100 | 103.64 | 8395 / 81 | 13.5 | 650 | 7880 | | | | | | |
| MPR68C | MPB68C | 75 | 75.55 | 680 / 9 | 18.5 | 520 | 7090 | | | | | | |
| MPR68C | MPB68C | 60 | 64.18 | 2888 / 45 | 22 | 750 | 6720 | | | | | | |
| MPR68C | MPB68C | 50 | 51.37 | 1387 / 27 | 27 | 650 | 6240 | | | | | | |
| 2 Stage | | | | | | | | | | | | | |
| MPR68B | MPB68B | 60 | 59.22 | 4560 / 77 | 24 | 750 | 6540 | | | | | | |
| MPR68B | MPB68B | 50 | 48.86 | 342 / 7 | 29 | 750 | 6130 | | | | | | |
| MPR68B | MPB68B | 40 | 41.26 | 1444 / 35 | 34 | 750 | 5800 | | | | | | |
| MPR68B | MPB68B | 30 | 30.67 | 92 / 3 | 46 | 750 | 5250 | | | | | | |
| MPR68B | MPB68B | 25 | 25.90 | 3496 / 135 | 54 | 750 | 4960 | | | | | | |
| MPR68B | MPB68B | 20 | 20.73 | 1679 / 81 | 68 | 650 | 4610 | | | | | | |
| MPR68B | MPB68B | 15 | 15.11 | 136 / 9 | 93 | 520 | 4150 | | | | | | |
| MPR68B | MPB68B | 12.5 | 12.84 | 2888 / 225 | 109 | 750 | 3930 | | | | | | |
| MPR68B | MPB68B | 10 | 10.27 | 1387 / 135 | 136 | 650 | 3650 | | | | | | |
| MPR68B | MPB68B | 7.5 | 7.49 | 2584 / 345 | 187 | 520 | 3280 | | | | | | |

## 6.2 MPR.. / MPB.. Performance parameter

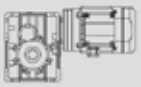
| $P_{1n}$ [kW] | $n_2$ [r/min] | $M_{2n}$ [Nm] | i Nominal | i Actual | $F_{r2}$ [N] | fs |  | | Page |  | |  | Page |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **0.12** | 4.8 | 215 | **300** | 291.79 | 4100 | 0.60 | **MPR28C** | **MV63S4** | 33 | **MPR28C** | **63B5** | **6314** | 51 |
| | 5.7 | 180 | **250** | 244.29 | 4100 | 0.72 | | | | | | | |
| | 7.0 | 148 | **200** | 200.44 | 4100 | 0.88 | | | | | | | |
| | 9.5 | 108 | **150** | 146.67 | 4000 | 1.2 | | | | | | | |
| | 11.6 | 89 | **125** | 120.34 | 3770 | 1.5 | | | | | | | |
| | 13.9 | 74 | **100** | 101.04 | 3560 | 1.3 | | | | | | | |
| | 18.8 | 55 | **75** | 74.62 | 3220 | 1.5 | | | | | | | |
| | 22 | 46 | **60** | 62.36 | 3030 | 2.8 | | | | | | | |
| | 27 | 39 | **50** | 52.36 | 2860 | 2.6 | | | | | | | |
| | 24 | 44 | **60** | 58.36 | 2960 | 3.0 | **MPR28B** | **MV63S4** | 32 | **MPR28B** | **63B5** | **6314** | 50 |
| | 29 | 37 | **50** | 48.86 | 2790 | 3.5 | | | | | | | |
| | 35 | 30 | **40** | 40.09 | 2610 | 4.3 | | | | | | | |
| | 48 | 22 | **30** | 29.33 | 2350 | 5.9 | | | | | | | |
| | 58 | 18.1 | **25** | 24.07 | 2200 | 7.2 | | | | | | | |
| | 69 | 15.2 | **20** | 20.21 | 2080 | 6.6 | | | | | | | |
| | 94 | 11.2 | **15** | 14.92 | 1880 | 7.1 | | | | | | | |
| | 112 | 9.4 | **12.5** | 12.47 | 1770 | 13.8 | | | | | | | |
| | 134 | 7.9 | **10** | 10.47 | 1670 | 12.7 | | | | | | | |
| | 181 | 5.8 | **7.5** | 7.73 | 1510 | 13.7 | | | | | | | |
| | 4.6 | 223 | **300** | 302.50 | 4800 | 0.90 | **MPR38C** | **MV63S4** | 35 | **MPR38C** | **63B5** | **6314** | 53 |
| | 5.7 | 179 | **250** | 243.57 | 4800 | 1.1 | **MPB38C** | **MV63S4** | 43 | **MPB38C** | **63B5** | **6314** | 61 |
| | 7.1 | 145 | **200** | 196.43 | 4800 | 1.2 | | | | | | | |
| | 9.2 | 112 | **150** | 151.56 | 4650 | 1.8 | | | | | | | |
| | 11.5 | 90 | **125** | 122.22 | 4330 | 2.0 | | | | | | | |
| | 13.8 | 75 | **100** | 101.27 | 4070 | 2.0 | | | | | | | |
| | 19.1 | 54 | **75** | 73.33 | 3650 | 2.0 | | | | | | | |
| | 22 | 47 | **60** | 63.33 | 3480 | 3.9 | | | | | | | |
| | 27 | 39 | **50** | 52.48 | 3270 | 3.9 | | | | | | | |
| | 23 | 46 | **60** | 60.50 | 3430 | 4.4 | **MPR38B** | **MV63S4** | 34 | **MPR38B** | **63B5** | **6314** | 52 |
| | 29 | 37 | **50** | 48.71 | 3190 | 5.5 | **MPB38B** | **MV63S4** | 42 | **MPB38B** | **63B5** | **6314** | 60 |
| | 36 | 30 | **40** | 39.29 | 2970 | 6.1 | | | | | | | |
| | 46 | 23 | **30** | 30.31 | 2720 | 8.8 | | | | | | | |
| | 4.7 | 219 | **300** | 297.21 | 6500 | 1.6 | **MPR48C** | **MV63S4** | 37 | **MPR48C** | **63B5** | **6314** | 55 |
| | 5.8 | 177 | **250** | 240.89 | 6500 | 2.0 | **MPB48C** | **MV63S4** | 45 | **MPB48C** | **63B5** | **6314** | 63 |
| | 7.0 | 148 | **200** | 200.66 | 6500 | 2.0 | | | | | | | |
| | 9.3 | 111 | **150** | 151.20 | 6500 | 3.1 | | | | | | | |
| | 11.1 | 93 | **125** | 125.95 | 5980 | 3.2 | | | | | | | |
| | 14.1 | 73 | **100** | 99.22 | 5520 | 3.3 | | | | | | | |
| | 18.6 | 56 | **75** | 75.45 | 5040 | 3.6 | | | | | | | |
| | 4.7 | 217 | **300** | 295.18 | 8300 | 2.3 | **MPR58C** | **MV63S4** | 39 | **MPR58C** | **63B5** | **6314** | 57 |
| | 5.8 | 177 | **250** | 240.89 | 8300 | 2.8 | **MPB58C** | **MV63S4** | 47 | **MPB58C** | **63B5** | **6314** | 65 |
| | 7.0 | 148 | **200** | 200.66 | 8300 | 3.2 | | | | | | | |
| | 9.3 | 111 | **150** | 151.20 | 8050 | 4.5 | | | | | | | |
| **0.18** | 9.6 | 161 | **300** | 291.79 | 4000 | 0.81 | **MPR28C** | **MV63S2** | 33 | **MPR28C** | **63B5** | **6312** | 51 |
| | 11.5 | 135 | **250** | 244.29 | 3790 | 0.96 | | | | | | | |
| | 14.0 | 111 | **200** | 200.44 | 3550 | 1.2 | | | | | | | |
| | 19.1 | 81 | **150** | 146.67 | 3200 | 1.6 | | | | | | | |
| | 23 | 66 | **125** | 120.34 | 2990 | 2.0 | | | | | | | |
| | 28 | 56 | **100** | 101.04 | 2820 | 1.8 | | | | | | | |
| | 38 | 41 | **75** | 74.62 | 2550 | 1.9 | | | | | | | |
| | 45 | 34 | **60** | 62.36 | 2400 | 3.8 | | | | | | | |
| | 53 | 29 | **50** | 52.36 | 2270 | 3.5 | | | | | | | |
| | 11.6 | 133 | **125** | 120.34 | 3770 | 0.98 | **MPR28C** | **MV63M4** | 33 | **MPR28C** | **63B5** | **6324** | 51 |
| | 13.9 | 112 | **100** | 101.04 | 3560 | 0.90 | | | | | | | |
| | 18.8 | 82 | **75** | 74.62 | 3220 | 0.97 | | | | | | | |
| | 22 | 69 | **60** | 62.36 | 3030 | 1.9 | | | | | | | |
| | 27 | 58 | **50** | 52.36 | 2860 | 1.7 | | | | | | | |

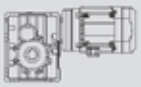
| $P_{1n}$ [kW] | $n_2$ [r/min] | $M_{2n}$ [Nm] | i Nominal | i Actual | $F_{r2}$ [N] | fs |  | | Page |  | |  | Page |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **0.18** | 24 | 66 | **60** | 58.36 | 2960 | 2.0 | **MPR28B** | **MV63M4** | 32 | **MPR28B** | **63B5** | **6324** | 50 |
| | 29 | 55 | **50** | 48.86 | 2790 | 2.4 | | | | | | | |
| | 35 | 45 | **40** | 40.09 | 2610 | 2.9 | | | | | | | |
| | 48 | 33 | **30** | 29.33 | 2350 | 3.9 | | | | | | | |
| | 58 | 27 | **25** | 24.07 | 2200 | 4.8 | | | | | | | |
| | 69 | 23 | **20** | 20.21 | 2080 | 4.4 | | | | | | | |
| | 94 | 16.9 | **15** | 14.92 | 1880 | 4.7 | | | | | | | |
| | 14.4 | 107 | **60** | 62.36 | 3510 | 1.2 | **MPR28C** | **MV63L6** | 33 | **MPR28C** | **71B5/B14** | **7116** | 51 |
| | 17.2 | 90 | **50** | 52.36 | 3310 | 1.1 | | | | | | | |
| | 15.4 | 103 | **60** | 58.36 | 3430 | 1.3 | **MPR28B** | **MV63L6** | 32 | **MPR28B** | **71B5/B14** | **7116** | 50 |
| | 18.4 | 86 | **50** | 48.86 | 3240 | 1.5 | | | | | | | |
| | 22 | 70 | **40** | 40.09 | 3030 | 1.8 | | | | | | | |
| | 31 | 52 | **30** | 29.33 | 2730 | 2.5 | | | | | | | |
| | 37 | 42 | **25** | 24.07 | 2550 | 3.1 | | | | | | | |
| | 45 | 36 | **20** | 20.21 | 2410 | 2.8 | | | | | | | |
| | 60 | 26 | **15** | 14.92 | 2180 | 3.1 | | | | | | | |
| | 72 | 22 | **12.5** | 12.47 | 2050 | 5.9 | | | | | | | |
| | 86 | 18.4 | **10** | 10.47 | 1930 | 5.4 | | | | | | | |
| | 116 | 13.6 | **7.5** | 7.73 | 1750 | 5.9 | | | | | | | |
| | 9.3 | 167 | **300** | 302.50 | 4650 | 1.2 | **MPR38C** | **MV63S2** | 35 | **MPR38C** | **63B5** | **6312** | 53 |
| | 11.5 | 135 | **250** | 243.57 | 4330 | 1.5 | **MPB38C** | **MV63S2** | 43 | **MPB38C** | **63B5** | **6312** | 61 |
| | 14.3 | 109 | **200** | 196.43 | 4030 | 1.7 | | | | | | | |
| | 18.5 | 84 | **150** | 151.56 | 3690 | 2.4 | | | | | | | |
| | 23 | 68 | **125** | 122.22 | 3440 | 2.7 | | | | | | | |
| | 28 | 56 | **100** | 101.27 | 3230 | 2.7 | | | | | | | |
| | 38 | 41 | **75** | 73.33 | 2900 | 2.7 | | | | | | | |
| | 44 | 35 | **60** | 63.33 | 2760 | 5.1 | | | | | | | |
| | 53 | 29 | **50** | 52.48 | 2590 | 5.2 | | | | | | | |
| | 7.1 | 217 | **200** | 196.43 | 4800 | 0.83 | **MPR38C** | **MV63M4** | 35 | **MPR38C** | **63B5** | **6324** | 53 |
| | 9.2 | 167 | **150** | 151.56 | 4650 | 1.2 | **MPB38C** | **MV63M4** | 43 | **MPB38C** | **63B5** | **6324** | 61 |
| | 11.5 | 135 | **125** | 122.22 | 4330 | 1.3 | | | | | | | |
| | 13.8 | 112 | **100** | 101.27 | 4070 | 1.3 | | | | | | | |
| | 19.1 | 81 | **75** | 73.33 | 3650 | 1.4 | | | | | | | |
| | 22 | 70 | **60** | 63.33 | 3480 | 2.6 | | | | | | | |
| | 27 | 58 | **50** | 52.48 | 3270 | 2.6 | | | | | | | |
| | 23 | 68 | **60** | 60.50 | 3430 | 2.9 | **MPR38B** | **MV63M4** | 34 | **MPR38B** | **63B5** | **6324** | 52 |
| | 29 | 55 | **50** | 48.71 | 3190 | 3.6 | **MPB38B** | **MV63M4** | 42 | **MPB38B** | **63B5** | **6324** | 60 |
| | 36 | 44 | **40** | 39.29 | 2970 | 4.1 | | | | | | | |
| | 7.4 | 210 | **125** | 122.22 | 4800 | 0.86 | **MPR38C** | **MV63L6** | 35 | **MPR38C** | **71B5/B14** | **7116** | 53 |
| | 8.9 | 174 | **100** | 101.27 | 4720 | 0.86 | **MPB38C** | **MV63L6** | 43 | **MPB38C** | **71B5/B14** | **7116** | 61 |
| | 12.3 | 126 | **75** | 73.33 | 4230 | 0.87 | | | | | | | |
| | 14.2 | 109 | **60** | 63.33 | 4030 | 1.7 | | | | | | | |
| | 17.1 | 90 | **50** | 52.48 | 3790 | 1.7 | | | | | | | |
| | 14.9 | 106 | **60** | 60.50 | 3970 | 1.9 | **MPR38B** | **MV63L6** | 34 | **MPR38B** | **71B5/B14** | **7116** | 52 |
| | 18.5 | 86 | **50** | 48.71 | 3690 | 2.3 | **MPB38B** | **MV63L6** | 42 | **MPB38B** | **71B5/B14** | **7116** | 60 |
| | 23 | 69 | **40** | 39.29 | 3440 | 2.6 | | | | | | | |
| | 30 | 53 | **30** | 30.31 | 3150 | 3.8 | | | | | | | |
| | 37 | 43 | **25** | 24.44 | 2930 | 4.2 | | | | | | | |
| | 44 | 36 | **20** | 20.25 | 2760 | 4.2 | | | | | | | |
| | 61 | 26 | **15** | 14.67 | 2470 | 4.3 | | | | | | | |
| | 9.4 | 164 | **300** | 297.21 | 6320 | 2.1 | **MPR48C** | **MV63S2** | 37 | **MPR48C** | **63B5** | **6312** | 55 |
| | 11.6 | 133 | **250** | 240.89 | 5890 | 2.6 | **MPB48C** | **MV63S2** | 45 | **MPB48C** | **63B5** | **6312** | 63 |
| | 14.0 | 111 | **200** | 200.66 | 5540 | 2.7 | | | | | | | |
| | 18.5 | 84 | **150** | 151.20 | 5040 | 4.2 | | | | | | | |
| | 4.7 | 328 | **300** | 297.21 | 6500 | 1.1 | **MPR48C** | **MV63M4** | 37 | **MPR48C** | **63B5** | **6324** | 55 |
| | 5.8 | 266 | **250** | 240.89 | 6500 | 1.3 | **MPB48C** | **MV63M4** | 45 | **MPB48C** | **63B5** | **6324** | 63 |
| | 7.0 | 222 | **200** | 200.66 | 6500 | 1.4 | | | | | | | |
| | 9.3 | 167 | **150** | 151.20 | 6500 | 2.1 | | | | | | | |
| | 11.1 | 139 | **125** | 125.95 | 5980 | 2.2 | | | | | | | |
| | 14.1 | 110 | **100** | 99.22 | 5520 | 2.2 | | | | | | | |
| | 18.6 | 83 | **75** | 75.45 | 5040 | 2.4 | | | | | | | |

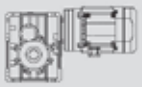
| $P_{1n}$ [kW] | $n_2$ [r/min] | $M_{2n}$ [Nm] | i Nominal | i Actual | $F_{r2}$ [N] | fs | | | Page | | | | Page |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **0.18** | 3.7 | 414 | **250** | 240.89 | 6500 | 0.85 | **MPR48C** | **MV63L6** | 37 | **MPR48C** | **71B5/B14** | **7116** | 55 |
| | 4.5 | 345 | **200** | 200.66 | 6500 | 0.87 | **MPB48C** | **MV63L6** | 45 | **MPB48C** | **71B5/B14** | **7116** | 63 |
| | 6.0 | 260 | **150** | 151.20 | 6500 | 1.3 | | | | | | | |
| | 7.1 | 217 | **125** | 125.95 | 6500 | 1.4 | | | | | | | |
| | 9.1 | 171 | **100** | 99.22 | 6400 | 1.4 | | | | | | | |
| | 11.9 | 130 | **75** | 75.45 | 5840 | 1.5 | | | | | | | |
| | 14.4 | 107 | **60** | 62.43 | 5480 | 2.8 | | | | | | | |
| | 18.3 | 85 | **50** | 49.18 | 5060 | 2.8 | | | | | | | |
| | 15.1 | 104 | **60** | 59.44 | 5390 | 3.4 | **MPR48B** | **MV63L6** | 36 | **MPR48B** | **71B5/B14** | **7116** | 54 |
| | 18.7 | 85 | **50** | 48.18 | 5030 | 4.1 | **MPB48B** | **MV63L6** | 44 | **MPB48B** | **71B5/B14** | **7116** | 62 |
| | 22 | 71 | **40** | 40.13 | 4730 | 4.3 | | | | | | | |
| | 9.5 | 163 | **300** | 295.18 | 7990 | 3.1 | **MPR58C** | **MV63S2** | 39 | **MPR58C** | **63B5** | **6312** | 57 |
| | 11.6 | 133 | **250** | 240.89 | 7470 | 3.8 | **MPB58C** | **MV63S2** | 47 | **MPB58C** | **63B5** | **6312** | 65 |
| | 14.0 | 111 | **200** | 200.66 | 7030 | 4.3 | | | | | | | |
| | 4.7 | 326 | **300** | 295.18 | 8300 | 1.5 | **MPR58B** | **MV63M4** | 39 | **MPR58B** | **63B5** | **6324** | 57 |
| | 5.8 | 266 | **250** | 240.89 | 8300 | 1.9 | **MPB58B** | **MV63M4** | 47 | **MPB58B** | **63B5** | **6324** | 65 |
| | 7.0 | 222 | **200** | 200.66 | 8300 | 2.2 | | | | | | | |
| | 9.3 | 167 | **150** | 151.20 | 8050 | 3.0 | | | | | | | |
| | 11.1 | 139 | **125** | 125.95 | 7580 | 3.4 | | | | | | | |
| | 14.1 | 110 | **100** | 99.22 | 7000 | 3.5 | | | | | | | |
| | 18.6 | 83 | **75** | 75.45 | 6390 | 3.6 | | | | | | | |
| | 3.0 | 507 | **300** | 295.18 | 8300 | 0.99 | **MPR58C** | **MV63L6** | 39 | **MPR58C** | **71B5/B14** | **7116** | 57 |
| | 3.7 | 414 | **250** | 240.89 | 8300 | 1.2 | **MPB58C** | **MV63L6** | 47 | **MPB58C** | **71B5/B14** | **7116** | 65 |
| | 4.5 | 345 | **200** | 200.66 | 8300 | 1.4 | | | | | | | |
| | 6.0 | 260 | **150** | 151.20 | 8300 | 1.9 | | | | | | | |
| | 7.1 | 217 | **125** | 125.95 | 8300 | 2.2 | | | | | | | |
| | 9.1 | 171 | **100** | 99.22 | 8110 | 2.2 | | | | | | | |
| | 11.9 | 130 | **75** | 75.45 | 7400 | 2.3 | | | | | | | |
| | 14.4 | 107 | **60** | 62.43 | 6950 | 4.5 | | | | | | | |
| | 18.3 | 85 | **50** | 49.18 | 6420 | 4.5 | | | | | | | |
| | 3.0 | 509 | **300** | 296.10 | 10000 | 1.5 | **MPR68C** | **MV63L6** | 41 | **MPR68C** | **71B5/B14** | **7116** | 59 |
| | 3.7 | 420 | **250** | 244.29 | 10000 | 1.8 | **MPB68C** | **MV63L6** | 49 | **MPB68C** | **71B5/B14** | **7116** | 67 |
| | 4.4 | 355 | **200** | 206.29 | 10000 | 2.1 | | | | | | | |
| | 5.9 | 264 | **150** | 153.33 | 10000 | 2.8 | | | | | | | |
| | 7.0 | 223 | **125** | 129.48 | 9840 | 3.4 | | | | | | | |
| | 8.7 | 178 | **100** | 103.64 | 9130 | 3.6 | | | | | | | |
| | 11.9 | 130 | **75** | 75.55 | 8220 | 4.0 | | | | | | | |
| **0.25** | 19.1 | 113 | **150** | 146.67 | 3200 | 1.2 | **MPR28C** | **MV63M2** | 33 | **MPR28C** | **63B5** | **6322** | 51 |
| | 23 | 92 | **125** | 120.34 | 2990 | 1.4 | | | | | | | |
| | 28 | 78 | **100** | 101.04 | 2820 | 1.3 | | | | | | | |
| | 38 | 57 | **75** | 74.62 | 2550 | 1.4 | | | | | | | |
| | 45 | 48 | **60** | 62.36 | 2400 | 2.7 | | | | | | | |
| | 53 | 40 | **50** | 52.36 | 2270 | 2.5 | | | | | | | |
| | 22 | 96 | **60** | 62.36 | 3030 | 1.4 | **MPR28C** | **MV63L4** | 33 | **MPR28C** | **71B5/B14** | **7114** | 51 |
| | 27 | 80 | **50** | 52.36 | 2860 | 1.2 | | | | | | | |
| | 24 | 92 | **60** | 58.36 | 2960 | 1.4 | **MPR28B** | **MV63L4** | 32 | **MPR28B** | **71B5/B14** | **7114** | 50 |
| | 29 | 77 | **50** | 48.86 | 2790 | 1.7 | | | | | | | |
| | 35 | 63 | **40** | 40.09 | 2610 | 2.1 | | | | | | | |
| | 48 | 46 | **30** | 29.33 | 2350 | 2.8 | | | | | | | |
| | 58 | 38 | **25** | 24.07 | 2200 | 3.4 | | | | | | | |
| | 69 | 32 | **20** | 20.21 | 2080 | 3.2 | | | | | | | |
| | 94 | 23 | **15** | 14.92 | 1880 | 3.4 | | | | | | | |
| | 15.4 | 142 | **60** | 58.36 | 3430 | 0.91 | **MPR28B** | **MV71D6** | 32 | **MPR28B** | **71B5/B14** | **7126** | 50 |
| | 18.4 | 119 | **50** | 48.86 | 3240 | 1.1 | | | | | | | |
| | 22 | 98 | **40** | 40.09 | 3030 | 1.3 | | | | | | | |
| | 31 | 72 | **30** | 29.33 | 2730 | 1.8 | | | | | | | |
| | 37 | 59 | **25** | 24.07 | 2550 | 2.2 | | | | | | | |
| | 45 | 49 | **20** | 20.21 | 2410 | 2.0 | | | | | | | |
| | 60 | 36 | **15** | 14.92 | 2180 | 2.2 | | | | | | | |
| | 72 | 30 | **12.5** | 12.47 | 2050 | 4.3 | | | | | | | |
| | 86 | 26 | **10** | 10.47 | 1930 | 3.9 | | | | | | | |
| | 116 | 18.9 | **7.5** | 7.73 | 1750 | 4.2 | | | | | | | |

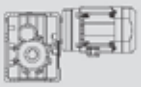
| $P_{1n}$ [kW] | $n_2$ [r/min] | $M_{2n}$ [Nm] | i Nominal | i Actual | $F_{r2}$ [N] | fs |  | | Page |  | |  | Page |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **0.25** | 9.3 | 232 | **300** | 302.50 | 4650 | 0.86 | **MPR38C** | **MV63M2** | 35 | **MPR38C** | **63B5** | **6322** | 53 |
| | 11.5 | 187 | **250** | 243.57 | 4330 | 1.1 | **MPB38C** | **MV63M2** | 43 | **MPB38C** | **63B5** | **6322** | 61 |
| | 14.3 | 151 | **200** | 196.43 | 4030 | 1.2 | | | | | | | |
| | 18.5 | 116 | **150** | 151.56 | 3690 | 1.7 | | | | | | | |
| | 23 | 94 | **125** | 122.22 | 3440 | 1.9 | | | | | | | |
| | 28 | 78 | **100** | 101.27 | 3230 | 1.9 | | | | | | | |
| | 38 | 56 | **75** | 73.33 | 2900 | 2.0 | | | | | | | |
| | 44 | 49 | **60** | 63.33 | 2760 | 3.7 | | | | | | | |
| | 53 | 40 | **50** | 52.48 | 2590 | 3.7 | | | | | | | |
| | 9.2 | 233 | **150** | 151.56 | 4650 | 0.86 | **MPR38C** | **MV63L4** | 35 | **MPR38C** | **71B5/B14** | **7114** | 53 |
| | 11.5 | 188 | **125** | 122.22 | 4330 | 0.96 | **MPB38C** | **MV63L4** | 43 | **MPB38C** | **71B5/B14** | **7114** | 61 |
| | 13.8 | 155 | **100** | 101.27 | 4070 | 0.97 | | | | | | | |
| | 19.1 | 113 | **75** | 73.33 | 3650 | 0.98 | | | | | | | |
| | 22 | 97 | **60** | 63.33 | 3480 | 1.9 | | | | | | | |
| | 27 | 81 | **50** | 52.48 | 3270 | 1.9 | | | | | | | |
| | 23 | 95 | **60** | 60.50 | 3430 | 2.1 | **MPR38B** | **MV63L4** | 34 | **MPR38B** | **71B5/B14** | **7114** | 52 |
| | 29 | 76 | **50** | 48.71 | 3190 | 2.6 | **MPB38B** | **MV63L4** | 42 | **MPB38B** | **71B5/B14** | **7114** | 60 |
| | 36 | 62 | **40** | 39.29 | 2970 | 2.9 | | | | | | | |
| | 46 | 48 | **30** | 30.31 | 2720 | 4.2 | | | | | | | |
| | 14.2 | 151 | **60** | 63.33 | 4030 | 1.2 | **MPR38C** | **MV71D6** | 35 | **MPR38C** | **71B5/B14** | **7126** | 53 |
| | 17.1 | 125 | **50** | 52.48 | 3790 | 1.2 | **MPB38C** | **MV71D6** | 43 | **MPB38C** | **71B5/B14** | **7126** | 61 |
| | 14.9 | 148 | **60** | 60.50 | 3970 | 1.4 | **MPR38B** | **MV71D6** | 34 | **MPR38B** | **71B5/B14** | **7126** | 52 |
| | 18.5 | 119 | **50** | 48.71 | 3690 | 1.7 | **MPB38B** | **MV71D6** | 42 | **MPB38B** | **71B5/B14** | **7126** | 60 |
| | 23 | 96 | **40** | 39.29 | 3440 | 1.9 | | | | | | | |
| | 30 | 74 | **30** | 30.31 | 3150 | 2.7 | | | | | | | |
| | 37 | 60 | **25** | 24.44 | 2930 | 3.0 | | | | | | | |
| | 44 | 49 | **20** | 20.25 | 2760 | 3.0 | | | | | | | |
| | 61 | 36 | **15** | 14.67 | 2470 | 3.1 | | | | | | | |
| | 9.4 | 228 | **300** | 297.21 | 6320 | 1.5 | **MPR48C** | **MV63M2** | 37 | **MPR48C** | **63B5** | **6322** | 55 |
| | 11.6 | 185 | **250** | 240.89 | 5890 | 1.9 | **MPB48C** | **MV63M2** | 45 | **MPB48C** | **63B5** | **6322** | 63 |
| | 14.0 | 154 | **200** | 200.66 | 5540 | 1.9 | | | | | | | |
| | 18.5 | 116 | **150** | 151.20 | 5040 | 3.0 | | | | | | | |
| | 22 | 97 | **125** | 125.95 | 4750 | 3.1 | | | | | | | |
| | 28 | 76 | **100** | 99.22 | 4380 | 3.2 | | | | | | | |
| | 37 | 58 | **75** | 75.45 | 4000 | 3.5 | | | | | | | |
| | 5.8 | 370 | **250** | 240.89 | 6500 | 0.95 | **MPR48C** | **MV63L4** | 37 | **MPR48C** | **71B5/B14** | **7114** | 55 |
| | 7.0 | 308 | **200** | 200.66 | 6500 | 0.97 | **MPB48C** | **MV63L4** | 45 | **MPB48C** | **71B5/B14** | **7114** | 63 |
| | 9.3 | 232 | **150** | 151.20 | 6500 | 1.5 | | | | | | | |
| | 11.1 | 193 | **125** | 125.95 | 5980 | 1.6 | | | | | | | |
| | 14.1 | 152 | **100** | 99.22 | 5520 | 1.6 | | | | | | | |
| | 18.6 | 116 | **75** | 75.45 | 5040 | 1.7 | | | | | | | |
| | 22 | 96 | **60** | 62.43 | 4730 | 3.1 | | | | | | | |
| | 28 | 75 | **50** | 49.18 | 4370 | 3.2 | | | | | | | |
| | 24 | 93 | **60** | 59.44 | 4660 | 3.8 | **MPR48B** | **MV63L4** | 36 | **MPR48B** | **71B5/B14** | **7114** | 54 |
| | 29 | 76 | **50** | 48.18 | 4340 | 4.6 | **MPB48B** | **MV63L4** | 44 | **MPB48B** | **71B5/B14** | **7114** | 62 |
| | 6.0 | 361 | **150** | 151.20 | 6500 | 0.97 | **MPR48C** | **MV71D6** | 37 | **MPR48C** | **71B5/B14** | **7126** | 55 |
| | 7.1 | 301 | **125** | 125.95 | 6500 | 1.00 | **MPB48C** | **MV71D6** | 45 | **MPB48C** | **71B5/B14** | **7126** | 63 |
| | 9.1 | 237 | **100** | 99.22 | 6400 | 1.0 | | | | | | | |
| | 11.9 | 180 | **75** | 75.45 | 5840 | 1.1 | | | | | | | |
| | 14.4 | 149 | **60** | 62.43 | 5480 | 2.0 | | | | | | | |
| | 18.3 | 117 | **50** | 49.18 | 5060 | 2.0 | | | | | | | |
| | 15.1 | 145 | **60** | 59.44 | 5390 | 2.4 | **MPR48B** | **MV71D6** | 36 | **MPR48B** | **71B5/B14** | **7126** | 54 |
| | 18.7 | 118 | **50** | 48.18 | 5030 | 3.0 | **MPB48B** | **MV71D6** | 44 | **MPB48B** | **71B5/B14** | **7126** | 62 |
| | 22 | 98 | **40** | 40.13 | 4730 | 3.1 | | | | | | | |
| | 9.5 | 227 | **300** | 295.18 | 7990 | 2.2 | **MPR58C** | **MV63M2** | 39 | **MPR58C** | **63B5** | **6322** | 57 |
| | 11.6 | 185 | **250** | 240.89 | 7470 | 2.7 | **MPB58C** | **MV63M2** | 47 | **MPB58C** | **63B5** | **6322** | 65 |
| | 14.0 | 154 | **200** | 200.66 | 7030 | 3.1 | | | | | | | |
| | 18.5 | 116 | **150** | 151.20 | 6390 | 4.3 | | | | | | | |
| | 4.7 | 453 | **300** | 295.18 | 8300 | 1.1 | **MPR58C** | **MV63L4** | 39 | **MPR58C** | **71B5/B14** | **7114** | 57 |
| | 5.8 | 370 | **250** | 240.89 | 8300 | 1.4 | **MPB58C** | **MV63L4** | 47 | **MPB58C** | **71B5/B14** | **7114** | 65 |

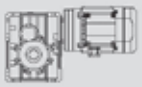
| $P_{1n}$ [kW] | $n_2$ [r/min] | $M_{2n}$ [Nm] | i Nominal | i Actual | $F_{r2}$ [N] | fs | | | Page | | | | Page |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **0.25** | 7.0 | 308 | **200** | 200.66 | 8300 | 1.6 | **MPR58C** | **MV63L4** | 39 | **MPR58C** | **71B5/B14** | **7114** | 57 |
| | 9.3 | 232 | **150** | 151.20 | 8050 | 2.2 | **MPB58C** | **MV63L4** | 47 | **MPB58C** | **71B5/B14** | **7114** | 65 |
| | 11.1 | 193 | **125** | 125.95 | 7580 | 2.5 | | | | | | | |
| | 14.1 | 152 | **100** | 99.22 | 7000 | 2.5 | | | | | | | |
| | 18.6 | 116 | **75** | 75.45 | 6390 | 2.6 | | | | | | | |
| | 22 | 96 | **60** | 62.43 | 6000 | 5.0 | | | | | | | |
| | 28 | 75 | **50** | 49.18 | 5540 | 5.0 | | | | | | | |
| | 3.0 | 705 | **300** | 295.18 | 8300 | 0.71 | **MPR58C** | **MV71D6** | 39 | **MPR58C** | **71B5/B14** | **7126** | 57 |
| | 3.7 | 575 | **250** | 240.89 | 8300 | 0.87 | **MPB58C** | **MV71D6** | 47 | **MPB58C** | **71B5/B14** | **7126** | 65 |
| | 4.5 | 479 | **200** | 200.66 | 8300 | 1.0 | | | | | | | |
| | 6.0 | 361 | **150** | 151.20 | 8300 | 1.4 | | | | | | | |
| | 7.1 | 301 | **125** | 125.95 | 8300 | 1.6 | | | | | | | |
| | 9.1 | 237 | **100** | 99.22 | 8110 | 1.6 | | | | | | | |
| | 11.9 | 180 | **75** | 75.45 | 7400 | 1.7 | | | | | | | |
| | 14.4 | 149 | **60** | 62.43 | 6950 | 3.2 | | | | | | | |
| | 18.3 | 117 | **50** | 49.18 | 6420 | 3.2 | | | | | | | |
| | 15.2 | 144 | **60** | 59.04 | 6820 | 3.5 | **MPR58B** | **MV71D6** | 38 | **MPR58B** | **71B5/B14** | **7126** | 56 |
| | 18.7 | 118 | **50** | 48.18 | 6370 | 4.3 | **MPB58B** | **MV71D6** | 46 | **MPB58B** | **71B5/B14** | **7126** | 64 |
| | 4.7 | 454 | **300** | 296.10 | 10000 | 1.7 | **MPR68C** | **MV63L4** | 41 | **MPR68C** | **71B5/B14** | **7114** | 59 |
| | 5.7 | 375 | **250** | 244.29 | 10000 | 2.0 | **MPB68C** | **MV63L4** | 49 | **MPB68C** | **71B5/B14** | **7114** | 67 |
| | 6.8 | 317 | **200** | 206.29 | 9920 | 2.4 | | | | | | | |
| | 9.1 | 235 | **150** | 153.33 | 8980 | 3.2 | | | | | | | |
| | 10.8 | 199 | **125** | 129.48 | 8490 | 3.8 | | | | | | | |
| | 13.5 | 159 | **100** | 103.64 | 7880 | 4.1 | | | | | | | |
| | 3.0 | 707 | **300** | 296.10 | 10000 | 1.1 | **MPR68C** | **MV71D6** | 41 | **MPR68C** | **71B5/B14** | **7126** | 59 |
| | 3.7 | 583 | **250** | 244.29 | 10000 | 1.3 | **MPB68C** | **MV71D6** | 49 | **MPB68C** | **71B5/B14** | **7126** | 67 |
| | 4.4 | 493 | **200** | 206.29 | 10000 | 1.5 | | | | | | | |
| | 5.9 | 366 | **150** | 153.33 | 10000 | 2.0 | | | | | | | |
| | 7.0 | 309 | **125** | 129.48 | 9840 | 2.4 | | | | | | | |
| | 8.7 | 247 | **100** | 103.64 | 9130 | 2.6 | | | | | | | |
| | 11.9 | 180 | **75** | 75.55 | 8220 | 2.9 | | | | | | | |
| **0.37** | 23 | 137 | **125** | 120.34 | 2990 | 0.95 | **MPR28C** | **MV63L2** | 33 | **MPR28C** | **71B5/B14** | **7112** | 51 |
| | 28 | 115 | **100** | 101.04 | 2820 | 0.87 | | | | | | | |
| | 38 | 85 | **75** | 74.62 | 2550 | 0.94 | | | | | | | |
| | 45 | 71 | **60** | 62.36 | 2400 | 1.8 | | | | | | | |
| | 53 | 59 | **50** | 52.36 | 2270 | 1.7 | | | | | | | |
| | 24 | 136 | **60** | 58.36 | 2960 | 0.96 | **MPR28B** | **MV71D4** | 32 | **MPR28B** | **71B5/B14** | **7124** | 50 |
| | 29 | 113 | **50** | 48.86 | 2790 | 1.1 | | | | | | | |
| | 35 | 93 | **40** | 40.09 | 2610 | 1.4 | | | | | | | |
| | 48 | 68 | **30** | 29.33 | 2350 | 1.9 | | | | | | | |
| | 58 | 56 | **25** | 24.07 | 2200 | 2.3 | | | | | | | |
| | 69 | 47 | **20** | 20.21 | 2080 | 2.1 | | | | | | | |
| | 94 | 35 | **15** | 14.92 | 1880 | 2.3 | | | | | | | |
| | 112 | 29 | **12.5** | 12.47 | 1770 | 4.5 | | | | | | | |
| | 134 | 24 | **10** | 10.47 | 1670 | 4.1 | | | | | | | |
| | 181 | 17.9 | **7.5** | 7.73 | 1510 | 4.5 | | | | | | | |
| | 22 | 145 | **40** | 40.09 | 3030 | 0.90 | **MPR28B** | **MV80K6** | 32 | **MPR28B** | **80B5/B14** | **8016** | 50 |
| | 31 | 106 | **30** | 29.33 | 2730 | 1.2 | | | | | | | |
| | 37 | 87 | **25** | 24.07 | 2550 | 1.5 | | | | | | | |
| | 45 | 73 | **20** | 20.21 | 2410 | 1.4 | | | | | | | |
| | 60 | 54 | **15** | 14.92 | 2180 | 1.5 | | | | | | | |
| | 72 | 45 | **12.5** | 12.47 | 2050 | 2.9 | | | | | | | |
| | 86 | 38 | **10** | 10.47 | 1930 | 2.6 | | | | | | | |
| | 116 | 28 | **7.5** | 7.73 | 1750 | 2.9 | | | | | | | |
| | 18.5 | 172 | **150** | 151.56 | 3690 | 1.2 | **MPR38C** | **MV63L2** | 35 | **MPR38C** | **71B5/B14** | **7112** | 53 |
| | 23 | 139 | **125** | 122.22 | 3440 | 1.3 | **MPB38C** | **MV63L2** | 43 | **MPB38C** | **71B5/B14** | **7112** | 61 |
| | 28 | 115 | **100** | 101.27 | 3230 | 1.3 | | | | | | | |
| | 38 | 83 | **75** | 73.33 | 2900 | 1.3 | | | | | | | |
| | 44 | 72 | **60** | 63.33 | 2760 | 2.5 | | | | | | | |
| | 53 | 60 | **50** | 52.48 | 2590 | 2.5 | | | | | | | |

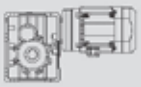
| $P_{1n}$ [kW] | $n_2$ [r/min] | $M_{2n}$ [Nm] | i Nominal | i Actual | $F_{r2}$ [N] | fs |  | | Page |  |  | | Page |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **0.37** | 22 | 144 | **60** | 63.33 | 3480 | 1.3 | **MPR38C** | **MV71D4** | 35 | **MPR38C** | **71B5/B14** | **7124** | 53 |
| | 27 | 119 | **50** | 52.48 | 3270 | 1.3 | **MPB38C** | **MV71D4** | 43 | **MPB38C** | **71B5/B14** | **7124** | 61 |
| | 23 | 140 | **60** | 60.50 | 3430 | 1.4 | **MPR38B** | **MV71D4** | 34 | **MPR38B** | **71B5/B14** | **7124** | 52 |
| | 29 | 113 | **50** | 48.71 | 3190 | 1.8 | **MPB38B** | **MV71D4** | 42 | **MPB38B** | **71B5/B14** | **7124** | 60 |
| | 36 | 91 | **40** | 39.29 | 2970 | 2.0 | | | | | | | |
| | 46 | 70 | **30** | 30.31 | 2720 | 2.8 | | | | | | | |
| | 57 | 57 | **25** | 24.44 | 2530 | 3.2 | | | | | | | |
| | 69 | 47 | **20** | 20.25 | 2380 | 3.2 | | | | | | | |
| | 95 | 34 | **15** | 14.67 | 2130 | 3.2 | | | | | | | |
| | 14.9 | 219 | **60** | 60.50 | 3970 | 0.92 | **MPR38B** | **MV80K6** | 34 | **MPR38B** | **80B5/B14** | **8016** | 52 |
| | 18.5 | 176 | **50** | 48.71 | 3690 | 1.1 | **MPB38B** | **MV80K6** | 42 | **MPB38B** | **80B5/B14** | **8016** | 60 |
| | 23 | 142 | **40** | 39.29 | 3440 | 1.3 | | | | | | | |
| | 30 | 109 | **30** | 30.31 | 3150 | 1.8 | | | | | | | |
| | 37 | 88 | **25** | 24.44 | 2930 | 2.0 | | | | | | | |
| | 44 | 73 | **20** | 20.25 | 2760 | 2.1 | | | | | | | |
| | 61 | 53 | **15** | 14.67 | 2470 | 2.1 | | | | | | | |
| | 71 | 46 | **12.5** | 12.67 | 2360 | 3.9 | | | | | | | |
| | 86 | 38 | **10** | 10.50 | 2210 | 4.0 | | | | | | | |
| | 118 | 27 | **7.5** | 7.60 | 1990 | 4.0 | | | | | | | |
| | 9.4 | 338 | **300** | 297.21 | 6320 | 1.0 | **MPR48C** | **MV63L2** | 37 | **MPR48C** | **71B5/B14** | **7112** | 55 |
| | 11.6 | 274 | **250** | 240.89 | 5890 | 1.3 | **MPB48C** | **MV63L2** | 45 | **MPB48C** | **71B5/B14** | **7112** | 63 |
| | 14.0 | 228 | **200** | 200.66 | 5540 | 1.3 | | | | | | | |
| | 18.5 | 172 | **150** | 151.20 | 5040 | 2.0 | | | | | | | |
| | 22 | 143 | **125** | 125.95 | 4750 | 2.1 | | | | | | | |
| | 28 | 113 | **100** | 99.22 | 4380 | 2.1 | | | | | | | |
| | 37 | 86 | **75** | 75.45 | 4000 | 2.3 | | | | | | | |
| | 45 | 71 | **60** | 62.43 | 3750 | 4.2 | | | | | | | |
| | 57 | 56 | **50** | 49.18 | 3470 | 4.3 | | | | | | | |
| | 9.3 | 343 | **150** | 151.20 | 6500 | 1.0 | **MPR48C** | **MV71D4** | 37 | **MPR48C** | **71B5/B14** | **7124** | 55 |
| | 11.1 | 286 | **125** | 125.95 | 5980 | 1.0 | **MPB48C** | **MV71D4** | 45 | **MPB48C** | **71B5/B14** | **7124** | 63 |
| | 14.1 | 225 | **100** | 99.22 | 5520 | 1.1 | | | | | | | |
| | 18.6 | 171 | **75** | 75.45 | 5040 | 1.2 | | | | | | | |
| | 22 | 142 | **60** | 62.43 | 4730 | 2.1 | | | | | | | |
| | 28 | 112 | **50** | 49.18 | 4370 | 2.1 | | | | | | | |
| | 24 | 138 | **60** | 59.44 | 4660 | 2.5 | **MPR48B** | **MV71D4** | 36 | **MPR48B** | **71B5/B14** | **7124** | 54 |
| | 29 | 112 | **50** | 48.18 | 4340 | 3.1 | **MPB48B** | **MV71D4** | 44 | **MPB48B** | **71B5/B14** | **7124** | 62 |
| | 35 | 93 | **40** | 40.13 | 4080 | 3.2 | | | | | | | |
| | 14.4 | 221 | **60** | 62.43 | 5480 | 1.4 | **MPR48C** | **MV80K6** | 37 | **MPR48C** | **80B5/B14** | **8016** | 55 |
| | 18.3 | 174 | **50** | 49.18 | 5060 | 1.4 | **MPB48C** | **MV80K6** | 45 | **MPB48C** | **80B5/B14** | **8016** | 63 |
| | 15.1 | 215 | **60** | 59.44 | 5390 | 1.6 | **MPR48B** | **MV80K6** | 36 | **MPR48B** | **80B5/B14** | **8016** | 54 |
| | 18.7 | 174 | **50** | 48.18 | 5030 | 2.0 | **MPB48B** | **MV80K6** | 44 | **MPB48B** | **80B5/B14** | **8016** | 62 |
| | 22 | 145 | **40** | 40.13 | 4730 | 2.1 | | | | | | | |
| | 30 | 109 | **30** | 30.24 | 4310 | 3.2 | | | | | | | |
| | 36 | 91 | **25** | 25.19 | 4050 | 3.3 | | | | | | | |
| | 45 | 72 | **20** | 19.84 | 3740 | 3.3 | | | | | | | |
| | 60 | 55 | **15** | 15.09 | 3410 | 3.7 | | | | | | | |
| | 9.5 | 335 | **300** | 295.18 | 7990 | 1.5 | **MPR58C** | **MV63L2** | 39 | **MPR58C** | **71B5/B14** | **7112** | 57 |
| | 11.6 | 274 | **250** | 240.89 | 7470 | 1.8 | **MPB58C** | **MV63L2** | 47 | **MPB58C** | **71B5/B14** | **7112** | 65 |
| | 14.0 | 228 | **200** | 200.66 | 7030 | 2.1 | | | | | | | |
| | 18.5 | 172 | **150** | 151.20 | 6390 | 2.9 | | | | | | | |
| | 22 | 143 | **125** | 125.95 | 6010 | 3.4 | | | | | | | |
| | 28 | 113 | **100** | 99.22 | 5550 | 3.4 | | | | | | | |
| | 37 | 86 | **75** | 75.45 | 5070 | 3.5 | | | | | | | |
| | 4.7 | 671 | **300** | 295.18 | 8300 | 0.75 | **MPR58C** | **MV71D4** | 39 | **MPR58C** | **71B5/B14** | **7124** | 57 |
| | 5.8 | 547 | **250** | 240.89 | 8300 | 0.91 | **MPB58C** | **MV71D4** | 47 | **MPB58C** | **71B5/B14** | **7124** | 65 |
| | 7.0 | 456 | **200** | 200.66 | 8300 | 1.1 | | | | | | | |
| | 9.3 | 343 | **150** | 151.20 | 8050 | 1.5 | | | | | | | |
| | 11.1 | 286 | **125** | 125.95 | 7580 | 1.7 | | | | | | | |
| | 14.1 | 225 | **100** | 99.22 | 7000 | 1.7 | | | | | | | |
| | 18.6 | 171 | **75** | 75.45 | 6390 | 1.8 | | | | | | | |
| | 22 | 142 | **60** | 62.43 | 6000 | 3.4 | | | | | | | |
| | 28 | 112 | **50** | 49.18 | 5540 | 3.4 | | | | | | | |

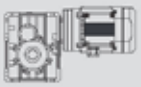
| $P_{1n}$ [kW] | $n_2$ [r/min] | $M_{2n}$ [Nm] | i Nominal | i Actual | $F_{r2}$ [N] | fs |  | | Page |  | |  | Page |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **0.37** | 24 | 137 | **60** | 59.04 | 5890 | 3.6 | **MPR58B** | **MV71D4** | 38 | **MPR58B** | **71B5/B14** | **7124** | 56 |
| | 29 | 112 | **50** | 48.18 | 5500 | 4.5 | **MPB58B** | **MV71D4** | 46 | **MPB58B** | **71B5/B14** | **7124** | 64 |
| | 6.0 | 534 | **150** | 151.20 | 8300 | 0.94 | **MPR58C** | **MV80K6** | 39 | **MPR58C** | **80B5/B14** | **8016** | 57 |
| | 7.1 | 445 | **125** | 125.95 | 8300 | 1.1 | **MPB58C** | **MV80K6** | 47 | **MPB58C** | **80B5/B14** | **8016** | 65 |
| | 9.1 | 351 | **100** | 99.22 | 8110 | 1.1 | | | | | | | |
| | 11.9 | 267 | **75** | 75.45 | 7400 | 1.1 | | | | | | | |
| | 14.4 | 221 | **60** | 62.43 | 6950 | 2.2 | | | | | | | |
| | 18.3 | 174 | **50** | 49.18 | 6420 | 2.2 | | | | | | | |
| | 15.2 | 213 | **60** | 59.04 | 6820 | 2.3 | **MPR58B** | **MV80K6** | 38 | **MPR58B** | **80B5/B14** | **8016** | 56 |
| | 18.7 | 174 | **50** | 48.18 | 6370 | 2.9 | **MPB58B** | **MV80K6** | 46 | **MPB58B** | **80B5/B14** | **8016** | 64 |
| | 22 | 145 | **40** | 40.13 | 6000 | 3.3 | | | | | | | |
| | 9.5 | 336 | **300** | 296.10 | 8880 | 2.2 | **MPR68C** | **MV63L2** | 41 | **MPR68C** | **71B5/B14** | **7112** | 59 |
| | 11.5 | 277 | **250** | 244.29 | 8330 | 2.7 | **MPB68C** | **MV63L2** | 49 | **MPB68C** | **71B5/B14** | **7112** | 67 |
| | 13.6 | 234 | **200** | 206.29 | 7870 | 3.2 | | | | | | | |
| | 18.3 | 174 | **150** | 153.33 | 7130 | 4.3 | | | | | | | |
| | 4.7 | 673 | **300** | 296.10 | 10000 | 1.1 | **MPR68C** | **MV71D4** | 41 | **MPR68C** | **71B5/B14** | **7124** | 59 |
| | 5.7 | 555 | **250** | 244.29 | 10000 | 1.4 | **MPB68C** | **MV71D4** | 49 | **MPB68C** | **71B5/B14** | **7124** | 67 |
| | 6.8 | 469 | **200** | 206.29 | 9920 | 1.6 | | | | | | | |
| | 9.1 | 348 | **150** | 153.33 | 8980 | 2.2 | | | | | | | |
| | 10.8 | 294 | **125** | 129.48 | 8490 | 2.5 | | | | | | | |
| | 13.5 | 235 | **100** | 103.64 | 7880 | 2.8 | | | | | | | |
| | 18.5 | 172 | **75** | 75.55 | 7090 | 3.0 | | | | | | | |
| | 4.4 | 729 | **200** | 206.29 | 10000 | 1.0 | **MPR68C** | **MV80K6** | 41 | **MPR68C** | **80B5/B14** | **8016** | 59 |
| | 5.9 | 542 | **150** | 153.33 | 10000 | 1.4 | **MPB68C** | **MV80K6** | 49 | **MPB68C** | **80B5/B14** | **8016** | 67 |
| | 7.0 | 458 | **125** | 129.48 | 9840 | 1.6 | | | | | | | |
| | 8.7 | 366 | **100** | 103.64 | 9130 | 1.8 | | | | | | | |
| | 11.9 | 267 | **75** | 75.55 | 8220 | 1.9 | | | | | | | |
| | 14.0 | 227 | **60** | 64.18 | 7780 | 3.3 | | | | | | | |
| | 17.5 | 182 | **50** | 51.37 | 7230 | 3.6 | | | | | | | |
| | 15.2 | 214 | **60** | 59.22 | 7580 | 3.5 | **MPR68B** | **MV80K6** | 40 | **MPR68B** | **80B5/B14** | **8016** | 58 |
| | 18.4 | 176 | **50** | 48.86 | 7110 | 4.2 | **MPB68B** | **MV80K6** | 48 | **MPB68B** | **80B5/B14** | **8016** | 66 |
| **0.55** | 45 | 105 | **60** | 62.36 | 2400 | 1.2 | **MPR28B** | **MV71D2** | 33 | **MPR28B** | **71B5/B14** | **7122** | 51 |
| | 53 | 88 | **50** | 52.36 | 2270 | 1.1 | | | | | | | |
| | 35 | 138 | **40** | 40.09 | 2610 | 0.94 | **MPR28B** | **MV80K4** | 32 | **MPR28B** | **80B5/B14** | **8014** | 50 |
| | 48 | 101 | **30** | 29.33 | 2350 | 1.3 | | | | | | | |
| | 58 | 83 | **25** | 24.07 | 2200 | 1.6 | | | | | | | |
| | 69 | 70 | **20** | 20.21 | 2080 | 1.4 | | | | | | | |
| | 94 | 51 | **15** | 14.92 | 1880 | 1.6 | | | | | | | |
| | 112 | 43 | **12.5** | 12.47 | 1770 | 3.0 | | | | | | | |
| | 134 | 36 | **10** | 10.47 | 1670 | 2.8 | | | | | | | |
| | 181 | 27 | **7.5** | 7.73 | 1510 | 3.0 | | | | | | | |
| | 37 | 129 | **25** | 24.07 | 2550 | 1.0 | **MPR28B** | **MV80N6** | 32 | **MPR28B** | **80B5/B14** | **8026** | 50 |
| | 45 | 109 | **20** | 20.21 | 2410 | 0.92 | | | | | | | |
| | 60 | 80 | **15** | 14.92 | 2180 | 1.00 | | | | | | | |
| | 72 | 67 | **12.5** | 12.47 | 2050 | 1.9 | | | | | | | |
| | 86 | 56 | **10** | 10.47 | 1930 | 1.8 | | | | | | | |
| | 116 | 42 | **7.5** | 7.73 | 1750 | 1.9 | | | | | | | |
| | 23 | 206 | **125** | 122.22 | 3440 | 0.87 | **MPR38C** | **MV71D2** | 35 | **MPR38C** | **71B5/B14** | **7122** | 53 |
| | 28 | 171 | **100** | 101.27 | 3230 | 0.88 | **MPB38C** | **MV71D2** | 43 | **MPB38C** | **71B5/B14** | **7122** | 61 |
| | 38 | 124 | **75** | 73.33 | 2900 | 0.89 | | | | | | | |
| | 44 | 107 | **60** | 63.33 | 2760 | 1.7 | | | | | | | |
| | 53 | 89 | **50** | 52.48 | 2590 | 1.7 | | | | | | | |
| | 23 | 209 | **60** | 60.50 | 3430 | 0.96 | **MPR38B** | **MV80K4** | 34 | **MPR38B** | **80B5/B14** | **8014** | 52 |
| | 29 | 168 | **50** | 48.71 | 3190 | 1.2 | **MPB38B** | **MV80K4** | 42 | **MPB38B** | **80B5/B14** | **8014** | 60 |
| | 36 | 136 | **40** | 39.29 | 2970 | 1.3 | | | | | | | |
| | 46 | 105 | **30** | 30.31 | 2720 | 1.9 | | | | | | | |
| | 57 | 84 | **25** | 24.44 | 2530 | 2.1 | | | | | | | |
| | 69 | 70 | **20** | 20.25 | 2380 | 2.1 | | | | | | | |
| | 95 | 51 | **15** | 14.67 | 2130 | 2.2 | | | | | | | |
| | 110 | 44 | **12.5** | 12.67 | 2030 | 4.1 | | | | | | | |
| | 133 | 36 | **10** | 10.50 | 1910 | 4.1 | | | | | | | |
| | 184 | 26 | **7.5** | 7.60 | 1710 | 4.2 | | | | | | | |

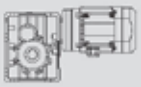
| $P_{1n}$ [kW] | $n_2$ [r/min] | $M_{2n}$ [Nm] | i Nominal | i Actual | $F_{r2}$ [N] | fs |  | | Page |  | |  | Page |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **0.55** | 23 | 211 | **40** | 39.29 | 3440 | 0.85 | **MPR38B** | **MV80N6** | 34 | **MPR38B** | **80B5/B14** | **8026** | 52 |
| | 30 | 163 | **30** | 30.31 | 3150 | 1.2 | **MPB38B** | **MV80N6** | 42 | **MPB38B** | **80B5/B14** | **8026** | 60 |
| | 37 | 131 | **25** | 24.44 | 2930 | 1.4 | | | | | | | |
| | 44 | 109 | **20** | 20.25 | 2760 | 1.4 | | | | | | | |
| | 61 | 79 | **15** | 14.67 | 2470 | 1.4 | | | | | | | |
| | 71 | 68 | **12.5** | 12.67 | 2360 | 2.6 | | | | | | | |
| | 86 | 56 | **10** | 10.50 | 2210 | 2.7 | | | | | | | |
| | 118 | 41 | **7.5** | 7.60 | 1990 | 2.7 | | | | | | | |
| | 11.6 | 407 | **250** | 240.89 | 5890 | 0.86 | **MPR48C** | **MV71D2** | 37 | **MPR48C** | **71B5/B14** | **7122** | 55 |
| | 14.0 | 339 | **200** | 200.66 | 5540 | 0.89 | **MPB48C** | **MV71D2** | 45 | **MPB48C** | **71B5/B14** | **7122** | 63 |
| | 18.5 | 255 | **150** | 151.20 | 5040 | 1.4 | | | | | | | |
| | 22 | 213 | **125** | 125.95 | 4750 | 1.4 | | | | | | | |
| | 28 | 168 | **100** | 99.22 | 4380 | 1.4 | | | | | | | |
| | 37 | 127 | **75** | 75.45 | 4000 | 1.6 | | | | | | | |
| | 45 | 105 | **60** | 62.43 | 3750 | 2.8 | | | | | | | |
| | 57 | 83 | **50** | 49.18 | 3470 | 2.9 | | | | | | | |
| | 18.6 | 255 | **75** | 75.45 | 5040 | 0.79 | **MPR48C** | **MV80K4** | 37 | **MPR48C** | **80B5/B14** | **8014** | 55 |
| | 22 | 211 | **60** | 62.43 | 4730 | 1.4 | **MPB48C** | **MV80K4** | 45 | **MPB48C** | **80B5/B14** | **8014** | 63 |
| | 28 | 166 | **50** | 49.18 | 4370 | 1.4 | | | | | | | |
| | 24 | 205 | **60** | 59.44 | 4660 | 1.7 | **MPR48B** | **MV80K4** | 36 | **MPR48B** | **80B5/B14** | **8014** | 54 |
| | 29 | 166 | **50** | 48.18 | 4340 | 2.1 | **MPB48B** | **MV80K4** | 44 | **MPB48B** | **80B5/B14** | **8014** | 62 |
| | 35 | 139 | **40** | 40.13 | 4080 | 2.2 | | | | | | | |
| | 46 | 104 | **30** | 30.24 | 3720 | 3.4 | | | | | | | |
| | 56 | 87 | **25** | 25.19 | 3500 | 3.5 | | | | | | | |
| | 71 | 68 | **20** | 19.84 | 3230 | 3.5 | | | | | | | |
| | 93 | 52 | **15** | 15.09 | 2950 | 3.8 | | | | | | | |
| | 14.4 | 328 | **60** | 62.43 | 5480 | 0.91 | **MPR48C** | **MV80N6** | 37 | **MPR48C** | **80B5/B14** | **8026** | 55 |
| | 18.3 | 258 | **50** | 49.18 | 5060 | 0.93 | **MPB48C** | **MV80N6** | 45 | **MPB48C** | **80B5/B14** | **8026** | 63 |
| | 15.1 | 319 | **60** | 59.44 | 5390 | 1.1 | **MPR48B** | **MV80N6** | 36 | **MPR48B** | **80B5/B14** | **8026** | 54 |
| | 18.7 | 259 | **50** | 48.18 | 5030 | 1.4 | **MPB48B** | **MV80N6** | 44 | **MPB48B** | **80B5/B14** | **8026** | 62 |
| | 22 | 215 | **40** | 40.13 | 4730 | 1.4 | | | | | | | |
| | 30 | 162 | **30** | 30.24 | 4310 | 2.2 | | | | | | | |
| | 36 | 135 | **25** | 25.19 | 4050 | 2.2 | | | | | | | |
| | 45 | 107 | **20** | 19.84 | 3740 | 2.3 | | | | | | | |
| | 60 | 81 | **15** | 15.09 | 3410 | 2.5 | | | | | | | |
| | 9.5 | 498 | **300** | 295.18 | 7990 | 1.0 | **MPR58C** | **MV71D2** | 39 | **MPR58C** | **71B5/B14** | **7122** | 57 |
| | 11.6 | 407 | **250** | 240.89 | 7470 | 1.2 | **MPB58C** | **MV71D2** | 47 | **MPB58C** | **71B5/B14** | **7122** | 65 |
| | 14.0 | 339 | **200** | 200.66 | 7030 | 1.4 | | | | | | | |
| | 18.5 | 255 | **150** | 151.20 | 6390 | 2.0 | | | | | | | |
| | 22 | 213 | **125** | 125.95 | 6010 | 2.3 | | | | | | | |
| | 28 | 168 | **100** | 99.22 | 5550 | 2.3 | | | | | | | |
| | 37 | 127 | **75** | 75.45 | 5070 | 2.4 | | | | | | | |
| | 45 | 105 | **60** | 62.43 | 4760 | 4.6 | | | | | | | |
| | 57 | 83 | **50** | 49.18 | 4390 | 4.6 | | | | | | | |
| | 9.3 | 511 | **150** | 151.20 | 8050 | 0.98 | **MPR58C** | **MV80K4** | 39 | **MPR58C** | **80B5/B14** | **8014** | 57 |
| | 11.1 | 425 | **125** | 125.95 | 7580 | 1.1 | **MPB58C** | **MV80K4** | 47 | **MPB58C** | **80B5/B14** | **8014** | 65 |
| | 14.1 | 335 | **100** | 99.22 | 7000 | 1.1 | | | | | | | |
| | 18.6 | 255 | **75** | 75.45 | 6390 | 1.2 | | | | | | | |
| | 22 | 211 | **60** | 62.43 | 6000 | 2.3 | | | | | | | |
| | 28 | 166 | **50** | 49.18 | 5540 | 2.3 | | | | | | | |
| | 24 | 204 | **60** | 59.04 | 5890 | 2.5 | **MPR58B** | **MV80K4** | 38 | **MPR58B** | **80B5/B14** | **8014** | 56 |
| | 29 | 166 | **50** | 48.18 | 5500 | 3.0 | **MPB58B** | **MV80K4** | 46 | **MPB58B** | **80B5/B14** | **8014** | 64 |
| | 35 | 139 | **40** | 40.13 | 5170 | 3.5 | | | | | | | |
| | 46 | 104 | **30** | 30.24 | 4710 | 4.8 | | | | | | | |
| | 14.4 | 328 | **60** | 62.43 | 6950 | 1.5 | **MPR58C** | **MV80N6** | 39 | **MPR58C** | **80B5/B14** | **8026** | 57 |
| | 18.3 | 258 | **50** | 49.18 | 6420 | 1.5 | **MPB58C** | **MV80N6** | 47 | **MPB58C** | **80B5/B14** | **8026** | 65 |
| | 15.2 | 317 | **60** | 59.04 | 6820 | 1.6 | **MPR58B** | **MV80N6** | 38 | **MPR58B** | **80B5/B14** | **8026** | 56 |
| | 18.7 | 259 | **50** | 48.18 | 6370 | 1.9 | **MPB58B** | **MV80N6** | 46 | **MPB58B** | **80B5/B14** | **8026** | 64 |
| | 22 | 215 | **40** | 40.13 | 6000 | 2.2 | | | | | | | |
| | 30 | 162 | **30** | 30.24 | 5460 | 3.1 | | | | | | | |
| | 36 | 135 | **25** | 25.19 | 5130 | 3.5 | | | | | | | |
| | 45 | 107 | **20** | 19.84 | 4740 | 3.6 | | | | | | | |
| | 60 | 81 | **15** | 15.09 | 4330 | 3.7 | | | | | | | |

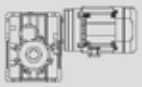
| $P_{1n}$ [kW] | $n_2$ [r/min] | $M_{2n}$ [Nm] | i Nominal | i Actual | $F_{r2}$ [N] | fs |  | | Page |  | |  | Page |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **0.55** | 9.5 | 500 | **300** | 296.10 | 8880 | 1.5 | **MPR68C** | **MV71D2** | 41 | **MPR68C** | **71B5/B14** | **7122** | 59 |
| | 11.5 | 412 | **250** | 244.29 | 8330 | 1.8 | **MPB68C** | **MV71D2** | 49 | **MPB68C** | **71B5/B14** | **7122** | 67 |
| | 13.6 | 348 | **200** | 206.29 | 7870 | 2.2 | | | | | | | |
| | 18.3 | 259 | **150** | 153.33 | 7130 | 2.9 | | | | | | | |
| | 22 | 219 | **125** | 129.48 | 6740 | 3.4 | | | | | | | |
| | 27 | 175 | **100** | 103.64 | 6260 | 3.7 | | | | | | | |
| | 37 | 128 | **75** | 75.55 | 5630 | 4.1 | | | | | | | |
| | 5.7 | 825 | **250** | 244.29 | 10000 | 0.91 | **MPR68C** | **MV80K4** | 41 | **MPR68C** | **80B5/B14** | **8014** | 59 |
| | 6.8 | 697 | **200** | 206.29 | 9920 | 1.1 | **MPB68C** | **MV80K4** | 49 | **MPB68C** | **80B5/B14** | **8014** | 67 |
| | 9.1 | 518 | **150** | 153.33 | 8980 | 1.4 | | | | | | | |
| | 10.8 | 437 | **125** | 129.48 | 8490 | 1.7 | | | | | | | |
| | 13.5 | 350 | **100** | 103.64 | 7880 | 1.9 | | | | | | | |
| | 18.5 | 255 | **75** | 75.55 | 7090 | 2.0 | | | | | | | |
| | 22 | 217 | **60** | 64.18 | 6720 | 3.5 | | | | | | | |
| | 27 | 173 | **50** | 51.37 | 6240 | 3.7 | | | | | | | |
| | 24 | 204 | **60** | 59.22 | 6540 | 3.7 | **MPR68B** | **MV80K4** | 40 | **MPR68B** | **80B5/B14** | **8014** | 58 |
| | 29 | 169 | **50** | 48.86 | 6130 | 4.4 | **MPB68B** | **MV80K4** | 48 | **MPB68B** | **80B5/B14** | **8014** | 66 |
| | 5.9 | 805 | **150** | 153.33 | 10000 | 0.93 | **MPR68C** | **MV80N6** | 41 | **MPR68C** | **80B5/B14** | **8026** | 59 |
| | 7.0 | 680 | **125** | 129.48 | 9840 | 1.1 | **MPB68C** | **MV80N6** | 49 | **MPB68C** | **80B5/B14** | **8026** | 67 |
| | 8.7 | 544 | **100** | 103.64 | 9130 | 1.2 | | | | | | | |
| | 11.9 | 397 | **75** | 75.55 | 8220 | 1.3 | | | | | | | |
| | 14.0 | 337 | **60** | 64.18 | 7780 | 2.2 | | | | | | | |
| | 17.5 | 270 | **50** | 51.37 | 7230 | 2.4 | | | | | | | |
| | 15.2 | 318 | **60** | 59.22 | 7580 | 2.4 | **MPR68B** | **MV80N6** | 40 | **MPR68B** | **80B5/B14** | **8026** | 58 |
| | 18.4 | 262 | **50** | 48.86 | 7110 | 2.9 | **MPB68B** | **MV80N6** | 48 | **MPB68B** | **80B5/B14** | **8026** | 66 |
| | 22 | 222 | **40** | 41.26 | 6720 | 3.4 | | | | | | | |
| | 29 | 165 | **30** | 30.67 | 6090 | 4.6 | | | | | | | |
| **0.75** | 48 | 138 | **30** | 29.33 | 2350 | 0.94 | **MPR28B** | **MV80N4** | 32 | **MPR28B** | **80B5/B14** | **8024** | 50 |
| | 58 | 113 | **25** | 24.07 | 2200 | 1.1 | | | | | | | |
| | 69 | 95 | **20** | 20.21 | 2080 | 1.1 | | | | | | | |
| | 94 | 70 | **15** | 14.92 | 1880 | 1.1 | | | | | | | |
| | 112 | 59 | **12.5** | 12.47 | 1770 | 2.2 | | | | | | | |
| | 134 | 49 | **10** | 10.47 | 1670 | 2.0 | | | | | | | |
| | 181 | 36 | **7.5** | 7.73 | 1510 | 2.2 | | | | | | | |
| | 72 | 91 | **12.5** | 12.47 | 2050 | 1.4 | **MPR28B** | **MV90S6** | 32 | **MPR28B** | **90B5/B14** | **90S6** | 50 |
| | 86 | 77 | **10** | 10.47 | 1930 | 1.3 | | | | | | | |
| | 116 | 57 | **7.5** | 7.73 | 1750 | 1.4 | | | | | | | |
| | 44 | 146 | **60** | 63.33 | 2760 | 1.2 | **MPR38C** | **MV80K2** | 35 | **MPR38C** | **80B5/B14** | **8012** | 53 |
| | 53 | 121 | **50** | 52.48 | 2590 | 1.2 | **MPB38C** | **MV80K2** | 43 | **MPB38C** | **80B5/B14** | **8012** | 61 |
| | 29 | 229 | **50** | 48.71 | 3190 | 0.87 | **MPR38B** | **MV80N4** | 34 | **MPR38B** | **80B5/B14** | **8024** | 52 |
| | 36 | 185 | **40** | 39.29 | 2970 | 0.97 | **MPB38B** | **MV80N4** | 42 | **MPB38B** | **80B5/B14** | **8024** | 60 |
| | 46 | 143 | **30** | 30.31 | 2720 | 1.4 | | | | | | | |
| | 57 | 115 | **25** | 24.44 | 2530 | 1.6 | | | | | | | |
| | 69 | 95 | **20** | 20.25 | 2380 | 1.6 | | | | | | | |
| | 95 | 69 | **15** | 14.67 | 2130 | 1.6 | | | | | | | |
| | 110 | 60 | **12.5** | 12.67 | 2030 | 3.0 | | | | | | | |
| | 133 | 49 | **10** | 10.50 | 1910 | 3.0 | | | | | | | |
| | 184 | 36 | **7.5** | 7.60 | 1710 | 3.1 | | | | | | | |
| | 30 | 222 | **30** | 30.31 | 3150 | 0.90 | **MPR38B** | **MV90S6** | 34 | **MPR38B** | **90B5/B14** | **90S6** | 52 |
| | 37 | 179 | **25** | 24.44 | 2930 | 1.0 | **MPB38B** | **MV90S6** | 42 | **MPB38B** | **90B5/B14** | **90S6** | 60 |
| | 44 | 148 | **20** | 20.25 | 2760 | 1.0 | | | | | | | |
| | 61 | 107 | **15** | 14.67 | 2470 | 1.0 | | | | | | | |
| | 71 | 93 | **12.5** | 12.67 | 2360 | 1.9 | | | | | | | |
| | 86 | 77 | **10** | 10.50 | 2210 | 2.0 | | | | | | | |
| | 118 | 56 | **7.5** | 7.60 | 1990 | 2.0 | | | | | | | |
| | 18.5 | 348 | **150** | 151.20 | 5040 | 1.0 | **MPR48C** | **MV80K2** | 37 | **MPR48C** | **80B5/B14** | **8012** | 55 |
| | 22 | 290 | **125** | 125.95 | 4750 | 1.0 | **MPB48C** | **MV80K2** | 45 | **MPB48C** | **80B5/B14** | **8012** | 63 |
| | 28 | 228 | **100** | 99.22 | 4380 | 1.1 | | | | | | | |
| | 37 | 174 | **75** | 75.45 | 4000 | 1.2 | | | | | | | |
| | 45 | 144 | **60** | 62.43 | 3750 | 2.1 | | | | | | | |
| | 57 | 113 | **50** | 49.18 | 3470 | 2.1 | | | | | | | |

| $P_{1n}$ [kW] | $n_2$ [r/min] | $M_{2n}$ [Nm] | i Nominal | i Actual | $F_{r2}$ [N] | fs |  | | Page |  | |  | Page |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **0.75** | 22 | 287 | **60** | 62.43 | 4730 | 1.0 | **MPR48C** | **MV80N4** | 37 | **MPR48C** | **80B5/B14** | **8024** | 55 |
| | 28 | 226 | **50** | 49.18 | 4370 | 1.1 | **MPB48C** | **MV80N4** | 45 | **MPB48C** | **80B5/B14** | **8024** | 63 |
| | 24 | 280 | **60** | 59.44 | 4660 | 1.3 | **MPR48B** | **MV80N4** | 36 | **MPR48B** | **80B5/B14** | **8024** | 54 |
| | 29 | 227 | **50** | 48.18 | 4340 | 1.5 | **MPB48B** | **MV80N4** | 44 | **MPB48B** | **80B5/B14** | **8024** | 62 |
| | 35 | 189 | **40** | 40.13 | 4080 | 1.6 | | | | | | | |
| | 46 | 142 | **30** | 30.24 | 3720 | 2.5 | | | | | | | |
| | 56 | 119 | **25** | 25.19 | 3500 | 2.5 | | | | | | | |
| | 71 | 93 | **20** | 19.84 | 3230 | 2.6 | | | | | | | |
| | 93 | 71 | **15** | 15.09 | 2950 | 2.8 | | | | | | | |
| | 18.7 | 353 | **50** | 48.18 | 5030 | 0.99 | **MPR48B** | **MV90S6** | 36 | **MPR48B** | **90B5/B14** | **90S6** | 54 |
| | 22 | 294 | **40** | 40.13 | 4730 | 1.0 | **MPB48B** | **MV90S6** | 44 | **MPB48B** | **90B5/B14** | **90S6** | 62 |
| | 30 | 221 | **30** | 30.24 | 4310 | 1.6 | | | | | | | |
| | 36 | 184 | **25** | 25.19 | 4050 | 1.6 | | | | | | | |
| | 45 | 145 | **20** | 19.84 | 3740 | 1.7 | | | | | | | |
| | 60 | 110 | **15** | 15.09 | 3410 | 1.8 | | | | | | | |
| | 72 | 91 | **12.5** | 12.49 | 3210 | 3.3 | | | | | | | |
| | 91 | 72 | **10** | 9.84 | 2960 | 3.3 | | | | | | | |
| | 120 | 55 | **7.5** | 7.48 | 2700 | 3.7 | | | | | | | |
| | 11.6 | 555 | **250** | 240.89 | 7470 | 0.90 | **MPR58C** | **MV80K2** | 39 | **MPR58C** | **80B5/B14** | **8012** | 57 |
| | 14.0 | 462 | **200** | 200.66 | 7030 | 1.0 | **MPB58C** | **MV80K2** | 47 | **MPB58C** | **80B5/B14** | **8012** | 65 |
| | 18.5 | 348 | **150** | 151.20 | 6390 | 1.4 | | | | | | | |
| | 22 | 290 | **125** | 125.95 | 6010 | 1.7 | | | | | | | |
| | 28 | 228 | **100** | 99.22 | 5550 | 1.7 | | | | | | | |
| | 37 | 174 | **75** | 75.45 | 5070 | 1.7 | | | | | | | |
| | 45 | 144 | **60** | 62.43 | 4760 | 3.3 | | | | | | | |
| | 57 | 113 | **50** | 49.18 | 4390 | 3.4 | | | | | | | |
| | 11.1 | 580 | **125** | 125.95 | 7580 | 0.83 | **MPR58C** | **MV80N4** | 39 | **MPR58C** | **80B5/B14** | **8024** | 57 |
| | 14.1 | 457 | **100** | 99.22 | 7000 | 0.83 | **MPB58C** | **MV80N4** | 47 | **MPB58C** | **80B5/B14** | **8024** | 65 |
| | 18.6 | 347 | **75** | 75.45 | 6390 | 0.86 | | | | | | | |
| | 22 | 287 | **60** | 62.43 | 6000 | 1.7 | | | | | | | |
| | 28 | 226 | **50** | 49.18 | 5540 | 1.7 | | | | | | | |
| | 24 | 278 | **60** | 59.04 | 5890 | 1.8 | **MPR58B** | **MV80N4** | 38 | **MPR58B** | **80B5/B14** | **8024** | 56 |
| | 29 | 227 | **50** | 48.18 | 5500 | 2.2 | **MPB58B** | **MV80N4** | 46 | **MPB58B** | **80B5/B14** | **8024** | 64 |
| | 35 | 189 | **40** | 40.13 | 5170 | 2.5 | | | | | | | |
| | 46 | 142 | **30** | 30.24 | 4710 | 3.5 | | | | | | | |
| | 56 | 119 | **25** | 25.19 | 4430 | 4.0 | | | | | | | |
| | 71 | 93 | **20** | 19.84 | 4090 | 4.1 | | | | | | | |
| | 93 | 71 | **15** | 15.09 | 3730 | 4.2 | | | | | | | |
| | 14.4 | 447 | **60** | 62.43 | 6950 | 1.1 | **MPR58C** | **MV90S6** | 39 | **MPR58C** | **90B5/B14** | **90S6** | 57 |
| | 18.3 | 352 | **50** | 49.18 | 6420 | 1.1 | **MPB58C** | **MV90S6** | 47 | **MPB58C** | **90B5/B14** | **90S6** | 65 |
| | 15.2 | 432 | **60** | 59.04 | 6820 | 1.2 | **MPR58B** | **MV90S6** | 38 | **MPR58B** | **90B5/B14** | **90S6** | 56 |
| | 18.7 | 353 | **50** | 48.18 | 6370 | 1.4 | **MPB58B** | **MV90S6** | 46 | **MPB58B** | **90B5/B14** | **90S6** | 64 |
| | 22 | 294 | **40** | 40.13 | 6000 | 1.6 | | | | | | | |
| | 30 | 221 | **30** | 30.24 | 5460 | 2.3 | | | | | | | |
| | 36 | 184 | **25** | 25.19 | 5130 | 2.6 | | | | | | | |
| | 45 | 145 | **20** | 19.84 | 4740 | 2.6 | | | | | | | |
| | 60 | 110 | **15** | 15.09 | 4330 | 2.7 | | | | | | | |
| | 9.5 | 682 | **300** | 296.10 | 8880 | 1.1 | **MPR68C** | **MV80K2** | 41 | **MPR68C** | **80B5/B14** | **8012** | 59 |
| | 11.5 | 562 | **250** | 244.29 | 8330 | 1.3 | **MPB68C** | **MV80K2** | 49 | **MPB68C** | **80B5/B14** | **8012** | 67 |
| | 13.6 | 475 | **200** | 206.29 | 7870 | 1.6 | | | | | | | |
| | 18.3 | 353 | **150** | 153.33 | 7130 | 2.1 | | | | | | | |
| | 22 | 298 | **125** | 129.48 | 6740 | 2.5 | | | | | | | |
| | 27 | 239 | **100** | 103.64 | 6260 | 2.7 | | | | | | | |
| | 37 | 174 | **75** | 75.55 | 5630 | 3.0 | | | | | | | |
| | 9.1 | 706 | **150** | 153.33 | 8980 | 1.1 | **MPR68C** | **MV80N4** | 41 | **MPR68C** | **80B5/B14** | **8024** | 59 |
| | 10.8 | 596 | **125** | 129.48 | 8490 | 1.3 | **MPB68C** | **MV80N4** | 49 | **MPB68C** | **80B5/B14** | **8024** | 67 |
| | 13.5 | 477 | **100** | 103.64 | 7880 | 1.4 | | | | | | | |
| | 18.5 | 348 | **75** | 75.55 | 7090 | 1.5 | | | | | | | |
| | 22 | 296 | **60** | 64.18 | 6720 | 2.5 | | | | | | | |
| | 27 | 237 | **50** | 51.37 | 6240 | 2.7 | | | | | | | |

| $P_{1n}$ [kW] | $n_2$ [r/min] | $M_{2n}$ [Nm] | i Nominal | i Actual | $F_{r2}$ [N] | fs |  | | Page |  | |  | Page |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **0.75** | 24 | 279 | **60** | 59.22 | 6540 | 2.7 | **MPR68B** | **MV80N4** | 40 | **MPR68B** | **80B5/B14** | **8024** | 58 |
| | 29 | 230 | **50** | 48.86 | 6130 | 3.3 | **MPB68B** | **MV80N4** | 48 | **MPB68B** | **80B5/B14** | **8024** | 66 |
| | 34 | 194 | **40** | 41.26 | 5800 | 3.9 | | | | | | | |
| | 8.7 | 742 | **100** | 103.64 | 9130 | 0.88 | **MPR68C** | **MV90S6** | 41 | **MPR68C** | **90B5/B14** | **90S6** | 59 |
| | 11.9 | 541 | **75** | 75.55 | 8220 | 0.96 | **MPB68C** | **MV90S6** | 49 | **MPB68C** | **90B5/B14** | **90S6** | 67 |
| | 14.0 | 460 | **60** | 64.18 | 7780 | 1.6 | | | | | | | |
| | 17.5 | 368 | **50** | 51.37 | 7230 | 1.8 | | | | | | | |
| | 15.2 | 434 | **60** | 59.22 | 7580 | 1.7 | **MPR68B** | **MV90S6** | 40 | **MPR68B** | **90B5/B14** | **90S6** | 58 |
| | 18.4 | 358 | **50** | 48.86 | 7110 | 2.1 | **MPB68B** | **MV90S6** | 48 | **MPB68B** | **90B5/B14** | **90S6** | 66 |
| | 22 | 302 | **40** | 41.26 | 6720 | 2.5 | | | | | | | |
| | 29 | 225 | **30** | 30.67 | 6090 | 3.3 | | | | | | | |
| | 35 | 190 | **25** | 25.90 | 5750 | 4.0 | | | | | | | |
| | 43 | 152 | **20** | 20.73 | 5340 | 4.3 | | | | | | | |
| **1.1** | 112 | 86 | **12.5** | 12.47 | 1770 | 1.5 | **MPR28B** | **MV90S4** | 32 | **MPR28B** | **90B5/B14** | **90S4** | 50 |
| | 134 | 72 | **10** | 10.47 | 1670 | 1.4 | | | | | | | |
| | 181 | 53 | **7.5** | 7.73 | 1510 | 1.5 | | | | | | | |
| | 72 | 134 | **12.5** | 12.47 | 2050 | 0.97 | **MPR28B** | **MV90L6** | 32 | **MPR28B** | **90B5/B14** | **90L6** | 50 |
| | 86 | 112 | **10** | 10.47 | 1930 | 0.89 | | | | | | | |
| | 116 | 83 | **7.5** | 7.73 | 1750 | 0.96 | | | | | | | |
| | 46 | 209 | **30** | 30.31 | 2720 | 0.96 | **MPR38B** | **MV90S4** | 34 | **MPR38B** | **90B5/B14** | **90S4** | 52 |
| | 57 | 169 | **25** | 24.44 | 2530 | 1.1 | **MPB38B** | **MV90S4** | 42 | **MPB38B** | **90B5/B14** | **90S4** | 60 |
| | 69 | 140 | **20** | 20.25 | 2380 | 1.1 | | | | | | | |
| | 95 | 101 | **15** | 14.67 | 2130 | 1.1 | | | | | | | |
| | 110 | 87 | **12.5** | 12.67 | 2030 | 2.1 | | | | | | | |
| | 133 | 72 | **10** | 10.50 | 1910 | 2.1 | | | | | | | |
| | 184 | 52 | **7.5** | 7.60 | 1710 | 2.1 | | | | | | | |
| | 71 | 136 | **12.5** | 12.67 | 2360 | 1.3 | **MPR38B** | **MV90L6** | 34 | **MPR38B** | **90B5/B14** | **90L6** | 52 |
| | 86 | 113 | **10** | 10.50 | 2210 | 1.3 | **MPB38B** | **MV90L6** | 42 | **MPB38B** | **90B5/B14** | **90L6** | 60 |
| | 118 | 82 | **7.5** | 7.60 | 1990 | 1.3 | | | | | | | |
| | 45 | 211 | **60** | 62.43 | 3750 | 1.4 | **MPR48C** | **MV80N2** | 37 | **MPR48C** | **80B5/B14** | **8022** | 55 |
| | 57 | 166 | **50** | 49.18 | 3470 | 1.4 | **MPB48C** | **MV80N2** | 45 | **MPB48C** | **80B5/B14** | **8022** | 63 |
| | 24 | 410 | **60** | 59.44 | 4660 | 0.85 | **MPR48B** | **MV90S4** | 36 | **MPR48B** | **90B5/B14** | **90S4** | 54 |
| | 29 | 333 | **50** | 48.18 | 4340 | 1.1 | **MPB48B** | **MV90S4** | 44 | **MPB48B** | **90B5/B14** | **90S4** | 62 |
| | 35 | 277 | **40** | 40.13 | 4080 | 1.1 | | | | | | | |
| | 46 | 209 | **30** | 30.24 | 3720 | 1.7 | | | | | | | |
| | 56 | 174 | **25** | 25.19 | 3500 | 1.7 | | | | | | | |
| | 71 | 137 | **20** | 19.84 | 3230 | 1.8 | | | | | | | |
| | 93 | 104 | **15** | 15.09 | 2950 | 1.9 | | | | | | | |
| | 112 | 86 | **12.5** | 12.49 | 2770 | 3.5 | | | | | | | |
| | 142 | 68 | **10** | 9.84 | 2550 | 3.5 | | | | | | | |
| | 187 | 52 | **7.5** | 7.48 | 2330 | 3.9 | | | | | | | |
| | 30 | 325 | **30** | 30.24 | 4310 | 1.1 | **MPR48B** | **MV90L6** | 36 | **MPR48B** | **90B5/B14** | **90L6** | 54 |
| | 36 | 271 | **25** | 25.19 | 4050 | 1.1 | **MPB48B** | **MV90L6** | 44 | **MPB48B** | **90B5/B14** | **90L6** | 62 |
| | 45 | 213 | **20** | 19.84 | 3740 | 1.1 | | | | | | | |
| | 60 | 162 | **15** | 15.09 | 3410 | 1.2 | | | | | | | |
| | 72 | 134 | **12.5** | 12.49 | 3210 | 2.2 | | | | | | | |
| | 91 | 106 | **10** | 9.84 | 2960 | 2.3 | | | | | | | |
| | 120 | 80 | **7.5** | 7.48 | 2700 | 2.5 | | | | | | | |
| | 18.5 | 511 | **150** | 151.20 | 6390 | 0.98 | **MPR58C** | **MV80N2** | 39 | **MPR58C** | **80B5/B14** | **8022** | 57 |
| | 22 | 425 | **125** | 125.95 | 6010 | 1.1 | **MPB58C** | **MV80N2** | 47 | **MPB58C** | **80B5/B14** | **8022** | 65 |
| | 28 | 335 | **100** | 99.22 | 5550 | 1.1 | | | | | | | |
| | 37 | 255 | **75** | 75.45 | 5070 | 1.2 | | | | | | | |
| | 45 | 211 | **60** | 62.43 | 4760 | 2.3 | | | | | | | |
| | 57 | 166 | **50** | 49.18 | 4390 | 2.3 | | | | | | | |
| | 22 | 422 | **60** | 62.43 | 6000 | 1.1 | **MPR58C** | **MV90S4** | 39 | **MPR58C** | **90B5/B14** | **90S4** | 57 |
| | 28 | 332 | **50** | 49.18 | 5540 | 1.1 | **MPB58C** | **MV90S4** | 47 | **MPB58C** | **90B5/B14** | **90S4** | 65 |
| | 24 | 408 | **60** | 59.04 | 5890 | 1.2 | **MPR58B** | **MV90S4** | 38 | **MPR58B** | **90B5/B14** | **90S4** | 56 |
| | 29 | 333 | **50** | 48.18 | 5500 | 1.5 | **MPB58B** | **MV90S4** | 46 | **MPB58B** | **90B5/B14** | **90S4** | 64 |
| | 35 | 277 | **40** | 40.13 | 5170 | 1.7 | | | | | | | |
| | 46 | 209 | **30** | 30.24 | 4710 | 2.4 | | | | | | | |

| $P_{1n}$ [kW] | $n_2$ [r/min] | $M_{2n}$ [Nm] | i Nominal | i Actual | $F_{r2}$ [N] | fs |  | | Page |  | |  | Page |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1.1** | 56 | 174 | **25** | 25.19 | 4430 | 2.8 | **MPR58B** | **MV90S4** | 38 | **MPR58B** | **90B5/B14** | **90S4** | 56 |
| | 71 | 137 | **20** | 19.84 | 4090 | 2.8 | **MPB58B** | **MV90S4** | 46 | **MPB58B** | **90B5/B14** | **90S4** | 64 |
| | 93 | 104 | **15** | 15.09 | 3730 | 2.9 | | | | | | | |
| | 15.2 | 634 | **60** | 59.04 | 6820 | 0.79 | **MPR58B** | **MV90L6** | 38 | **MPR58B** | **90B5/B14** | **90L6** | 56 |
| | 18.7 | 517 | **50** | 48.18 | 6370 | 0.97 | **MPB58B** | **MV90L6** | 46 | **MPB58B** | **90B5/B14** | **90L6** | 64 |
| | 22 | 431 | **40** | 40.13 | 6000 | 1.1 | | | | | | | |
| | 30 | 325 | **30** | 30.24 | 5460 | 1.5 | | | | | | | |
| | 36 | 271 | **25** | 25.19 | 5130 | 1.8 | | | | | | | |
| | 45 | 213 | **20** | 19.84 | 4740 | 1.8 | | | | | | | |
| | 60 | 162 | **15** | 15.09 | 4330 | 1.9 | | | | | | | |
| | 72 | 134 | **12.5** | 12.49 | 4060 | 3.6 | | | | | | | |
| | 91 | 106 | **10** | 9.84 | 3750 | 3.6 | | | | | | | |
| | 120 | 80 | **7.5** | 7.48 | 3420 | 3.7 | | | | | | | |
| | 11.5 | 825 | **250** | 244.29 | 8330 | 0.91 | **MPR68C** | **MV80N2** | 41 | **MPR68C** | **80B5/B14** | **8022** | 59 |
| | 13.6 | 697 | **200** | 206.29 | 7870 | 1.1 | **MPB68C** | **MV80N2** | 49 | **MPB68C** | **80B5/B14** | **8022** | 67 |
| | 18.3 | 518 | **150** | 153.33 | 7130 | 1.4 | | | | | | | |
| | 22 | 437 | **125** | 129.48 | 6740 | 1.7 | | | | | | | |
| | 27 | 350 | **100** | 103.64 | 6260 | 1.9 | | | | | | | |
| | 37 | 255 | **75** | 75.55 | 5630 | 2.0 | | | | | | | |
| | 44 | 217 | **60** | 64.18 | 5330 | 3.5 | | | | | | | |
| | 55 | 173 | **50** | 51.37 | 4950 | 3.7 | | | | | | | |
| | 10.8 | 874 | **125** | 129.48 | 8490 | 0.86 | **MPR68C** | **MV90S4** | 41 | **MPR68C** | **90B5/B14** | **90S4** | 59 |
| | 13.5 | 700 | **100** | 103.64 | 7880 | 0.93 | **MPB68C** | **MV90S4** | 49 | **MPB68C** | **90B5/B14** | **90S4** | 67 |
| | 18.5 | 510 | **75** | 75.55 | 7090 | 1.0 | | | | | | | |
| | 22 | 433 | **60** | 64.18 | 6720 | 1.7 | | | | | | | |
| | 27 | 347 | **50** | 51.37 | 6240 | 1.9 | | | | | | | |
| | 24 | 409 | **60** | 59.22 | 6540 | 1.8 | **MPR68B** | **MV90S4** | 40 | **MPR68B** | **90B5/B14** | **90S4** | 58 |
| | 29 | 337 | **50** | 48.86 | 6130 | 2.2 | **MPB68B** | **MV90S4** | 48 | **MPB68B** | **90B5/B14** | **90S4** | 66 |
| | 34 | 285 | **40** | 41.26 | 5800 | 2.6 | | | | | | | |
| | 46 | 212 | **30** | 30.67 | 5250 | 3.5 | | | | | | | |
| | 54 | 179 | **25** | 25.90 | 4960 | 4.2 | | | | | | | |
| | 68 | 143 | **20** | 20.73 | 4610 | 4.5 | | | | | | | |
| | 14.0 | 674 | **60** | 64.18 | 7780 | 1.1 | **MPR68C** | **MV90L6** | 41 | **MPR68C** | **90B5/B14** | **90L6** | 59 |
| | 17.5 | 540 | **50** | 51.37 | 7230 | 1.2 | **MPB68C** | **MV90L6** | 49 | **MPB68C** | **90B5/B14** | **90L6** | 67 |
| | 15.2 | 636 | **60** | 59.22 | 7580 | 1.2 | **MPR68B** | **MV90L6** | 40 | **MPR68B** | **90B5/B14** | **90L6** | 58 |
| | 18.4 | 525 | **50** | 48.86 | 7110 | 1.4 | **MPB68B** | **MV90L6** | 48 | **MPB68B** | **90B5/B14** | **90L6** | 66 |
| | 22 | 443 | **40** | 41.26 | 6720 | 1.7 | | | | | | | |
| | 29 | 329 | **30** | 30.67 | 6090 | 2.3 | | | | | | | |
| | 35 | 278 | **25** | 25.90 | 5750 | 2.7 | | | | | | | |
| | 43 | 223 | **20** | 20.73 | 5340 | 2.9 | | | | | | | |
| | 60 | 162 | **15** | 15.11 | 4810 | 3.2 | | | | | | | |
| **1.5** | 112 | 117 | **12.5** | 12.47 | 1770 | 1.1 | **MPR28B** | **MV90L4** | 32 | **MPR28B** | **90B5/B14** | **90L4** | 50 |
| | 134 | 99 | **10** | 10.47 | 1670 | 1.0 | | | | | | | |
| | 181 | 73 | **7.5** | 7.73 | 1510 | 1.1 | | | | | | | |
| | 57 | 230 | **25** | 24.44 | 2530 | 0.8 | **MPR38B** | **MV90L4** | 34 | **MPR38B** | **90B5/B14** | **90L4** | 52 |
| | 69 | 191 | **20** | 20.25 | 2380 | 0.79 | **MPB38B** | **MV90L4** | 42 | **MPB38B** | **90B5/B14** | **90L4** | 60 |
| | 95 | 138 | **15** | 14.67 | 2130 | 0.80 | | | | | | | |
| | 110 | 119 | **12.5** | 12.67 | 2030 | 1.5 | | | | | | | |
| | 133 | 99 | **10** | 10.50 | 1910 | 1.5 | | | | | | | |
| | 184 | 72 | **7.5** | 7.60 | 1710 | 1.5 | | | | | | | |
| | 45 | 287 | **60** | 62.43 | 3750 | 1.0 | **MPR48C** | **MV90S2** | 37 | **MPR48C** | **90B5/B14** | **90S2** | 55 |
| | 57 | 226 | **50** | 49.18 | 3470 | 1.1 | **MPB48C** | **MV90S2** | 45 | **MPB48C** | **90B5/B14** | **90S2** | 63 |
| | 29 | 454 | **50** | 48.18 | 4340 | 0.77 | **MPR48B** | **MV90L4** | 36 | **MPR48B** | **90B5/B14** | **90L4** | 54 |
| | 35 | 378 | **40** | 40.13 | 4080 | 0.79 | **MPB48B** | **MV90L4** | 44 | **MPB48B** | **90B5/B14** | **90L4** | 62 |
| | 46 | 285 | **30** | 30.24 | 3720 | 1.2 | | | | | | | |
| | 56 | 237 | **25** | 25.19 | 3500 | 1.3 | | | | | | | |
| | 71 | 187 | **20** | 19.84 | 3230 | 1.3 | | | | | | | |
| | 93 | 142 | **15** | 15.09 | 2950 | 1.4 | | | | | | | |
| | 112 | 118 | **12.5** | 12.49 | 2770 | 2.6 | | | | | | | |
| | 142 | 93 | **10** | 9.84 | 2550 | 2.6 | | | | | | | |
| | 187 | 70 | **7.5** | 7.48 | 2330 | 2.8 | | | | | | | |

| $P_{1n}$ [kW] | $n_2$ [r/min] | $M_{2n}$ [Nm] | i Nominal | i Actual | $F_{r2}$ [N] | fs |  | | Page |  | |  | Page |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1.5** | 45 | 291 | **20** | 19.84 | 3740 | 0.83 | **MPR48B** | **MV100M6** | 36 | **MPR48B** | **100B5/B14** | **100L6** | 54 |
| | 60 | 221 | **15** | 15.09 | 3410 | 0.91 | **MPB48B** | **MV100M6** | 44 | **MPB48B** | **100B5/B14** | **100L6** | 62 |
| | 72 | 183 | **12.5** | 12.49 | 3210 | 1.6 | | | | | | | |
| | 91 | 144 | **10** | 9.84 | 2960 | 1.7 | | | | | | | |
| | 120 | 110 | **7.5** | 7.48 | 2700 | 1.8 | | | | | | | |
| | 22 | 580 | **125** | 125.95 | 6010 | 0.83 | **MPR58C** | **MV90S2** | 39 | **MPR58C** | **90B5/B14** | **90S2** | 57 |
| | 28 | 457 | **100** | 99.22 | 5550 | 0.83 | **MPB58C** | **MV90S2** | 47 | **MPB58C** | **90B5/B14** | **90S2** | 65 |
| | 37 | 347 | **75** | 75.45 | 5070 | 0.86 | | | | | | | |
| | 45 | 287 | **60** | 62.43 | 4760 | 1.7 | | | | | | | |
| | 57 | 226 | **50** | 49.18 | 4390 | 1.7 | | | | | | | |
| | 24 | 556 | **60** | 59.04 | 5890 | 0.90 | **MPR58B** | **MV90L4** | 38 | **MPR58B** | **90B5/B14** | **90L4** | 56 |
| | 29 | 454 | **50** | 48.18 | 5500 | 1.1 | **MPB58B** | **MV90L4** | 46 | **MPB58B** | **90B5/B14** | **90L4** | 64 |
| | 35 | 378 | **40** | 40.13 | 5170 | 1.3 | | | | | | | |
| | 46 | 285 | **30** | 30.24 | 4710 | 1.8 | | | | | | | |
| | 56 | 237 | **25** | 25.19 | 4430 | 2.0 | | | | | | | |
| | 71 | 187 | **20** | 19.84 | 4090 | 2.0 | | | | | | | |
| | 93 | 142 | **15** | 15.09 | 3730 | 2.1 | | | | | | | |
| | 112 | 118 | **12.5** | 12.49 | 3510 | 4.1 | | | | | | | |
| | 142 | 93 | **10** | 9.84 | 3240 | 4.1 | | | | | | | |
| | 187 | 70 | **7.5** | 7.48 | 2950 | 4.3 | | | | | | | |
| | 30 | 443 | **30** | 30.24 | 5460 | 1.1 | **MPR58B** | **MV100M6** | 38 | **MPR58B** | **100B5/B14** | **100L6** | 56 |
| | 36 | 369 | **25** | 25.19 | 5130 | 1.3 | **MPB58B** | **MV100M6** | 46 | **MPB58B** | **100B5/B14** | **100L6** | 64 |
| | 45 | 291 | **20** | 19.84 | 4740 | 1.3 | | | | | | | |
| | 60 | 221 | **15** | 15.09 | 4330 | 1.4 | | | | | | | |
| | 72 | 183 | **12.5** | 12.49 | 4060 | 2.6 | | | | | | | |
| | 91 | 144 | **10** | 9.84 | 3750 | 2.6 | | | | | | | |
| | 120 | 110 | **7.5** | 7.48 | 3420 | 2.7 | | | | | | | |
| | 18.3 | 706 | **150** | 153.33 | 7130 | 1.1 | **MPR68C** | **MV90S2** | 41 | **MPR68C** | **90B5/B14** | **90S2** | 59 |
| | 22 | 596 | **125** | 129.48 | 6740 | 1.3 | **MPB68C** | **MV90S2** | 49 | **MPB68C** | **90B5/B14** | **90S2** | 67 |
| | 27 | 477 | **100** | 103.64 | 6260 | 1.4 | | | | | | | |
| | 37 | 348 | **75** | 75.55 | 5630 | 1.5 | | | | | | | |
| | 44 | 296 | **60** | 64.18 | 5330 | 2.5 | | | | | | | |
| | 55 | 237 | **50** | 51.37 | 4950 | 2.7 | | | | | | | |
| | 22 | 591 | **60** | 64.18 | 6720 | 1.3 | **MPR68C** | **MV90L4** | 41 | **MPR68C** | **90B5/B14** | **90L4** | 59 |
| | 27 | 473 | **50** | 51.37 | 6240 | 1.4 | **MPB68C** | **MV90L4** | 49 | **MPB68C** | **90B5/B14** | **90L4** | 67 |
| | 24 | 557 | **60** | 59.22 | 6540 | 1.3 | **MPR68B** | **MV90L4** | 40 | **MPR68B** | **90B5/B14** | **90L4** | 59 |
| | 29 | 460 | **50** | 48.86 | 6130 | 1.6 | **MPB68B** | **MV90L4** | 48 | **MPB68B** | **90B5/B14** | **90L4** | 67 |
| | 34 | 388 | **40** | 41.26 | 5800 | 1.9 | | | | | | | |
| | 46 | 289 | **30** | 30.67 | 5250 | 2.6 | | | | | | | |
| | 54 | 244 | **25** | 25.90 | 4960 | 3.1 | | | | | | | |
| | 68 | 195 | **20** | 20.73 | 4610 | 3.3 | | | | | | | |
| | 93 | 142 | **15** | 15.11 | 4150 | 3.7 | | | | | | | |
| | 15.2 | 867 | **60** | 59.22 | 7580 | 0.86 | **MPR68B** | **MV100M6** | 40 | **MPR68B** | **100B5/B14** | **100L6** | 58 |
| | 18.4 | 715 | **50** | 48.86 | 7110 | 1.0 | **MPB68B** | **MV100M6** | 48 | **MPB68B** | **100B5/B14** | **100L6** | 66 |
| | 22 | 604 | **40** | 41.26 | 6720 | 1.2 | | | | | | | |
| | 29 | 449 | **30** | 30.67 | 6090 | 1.7 | | | | | | | |
| | 35 | 379 | **25** | 25.90 | 5750 | 2.0 | | | | | | | |
| | 43 | 304 | **20** | 20.73 | 5340 | 2.1 | | | | | | | |
| | 60 | 221 | **15** | 15.11 | 4810 | 2.4 | | | | | | | |
| | 70 | 188 | **12.5** | 12.84 | 4550 | 4.0 | | | | | | | |
| | 88 | 150 | **10** | 10.27 | 4220 | 4.3 | | | | | | | |
| | 120 | 110 | **7.5** | 7.49 | 3800 | 4.7 | | | | | | | |
| **2.2** | 46 | 418 | **30** | 30.24 | 3720 | 0.84 | **MPR48B** | **MV100M4** | 36 | **MPR48B** | **100B5/B14** | **100LA4** | 54 |
| | 56 | 348 | **25** | 25.19 | 3500 | 0.86 | **MPB48B** | **MV100M4** | 44 | **MPB48B** | **100B5/B14** | **100LA4** | 62 |
| | 71 | 274 | **20** | 19.84 | 3230 | 0.88 | | | | | | | |
| | 93 | 208 | **15** | 15.09 | 2950 | 0.96 | | | | | | | |
| | 112 | 172 | **12.5** | 12.49 | 2770 | 1.7 | | | | | | | |
| | 142 | 136 | **10** | 9.84 | 2550 | 1.8 | | | | | | | |
| | 187 | 103 | **7.5** | 7.48 | 2330 | 1.9 | | | | | | | |

| $P_{1n}$ [kW] | $n_2$ [r/min] | $M_{2n}$ [Nm] | i Nominal | i Actual | $F_{r2}$ [N] | fs |  | | Page |  |  | | Page |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **2.2** | 72 | 268 | **12.5** | 12.49 | 3210 | 1.1 | **MPR48B** | **MV112M6** | 36 | **MPR48B** | **112B5/B14** | **112M6** | 54 |
| | 91 | 211 | **10** | 9.84 | 2960 | 1.1 | **MPB48B** | **MV112M6** | 44 | **MPB48B** | **112B5/B14** | **112M6** | 62 |
| | 120 | 161 | **7.5** | 7.48 | 2700 | 1.2 | | | | | | | |
| | 45 | 422 | **60** | 62.43 | 4760 | 1.1 | **MPR58C** | **MV90L2** | 39 | **MPR58C** | **90B5/B14** | **90L2** | 57 |
| | 57 | 332 | **50** | 49.18 | 4390 | 1.1 | **MPB58C** | **MV90L2** | 47 | **MPB58C** | **90B5/B14** | **90L2** | 65 |
| | 35 | 554 | **40** | 40.13 | 5170 | 0.87 | **MPR58B** | **MV100M4** | 38 | **MPR58B** | **100B5/B14** | **100LA4** | 56 |
| | 46 | 418 | **30** | 30.24 | 4710 | 1.2 | **MPB58B** | **MV100M4** | 46 | **MPB58B** | **100B5/B14** | **100LA4** | 64 |
| | 56 | 348 | **25** | 25.19 | 4430 | 1.4 | | | | | | | |
| | 71 | 274 | **20** | 19.84 | 4090 | 1.4 | | | | | | | |
| | 93 | 208 | **15** | 15.09 | 3730 | 1.4 | | | | | | | |
| | 112 | 172 | **12.5** | 12.49 | 3510 | 2.8 | | | | | | | |
| | 142 | 136 | **10** | 9.84 | 3240 | 2.8 | | | | | | | |
| | 187 | 103 | **7.5** | 7.48 | 2950 | 2.9 | | | | | | | |
| | 36 | 541 | **25** | 25.19 | 5130 | 0.89 | **MPR58B** | **MV112M6** | 38 | **MPR58B** | **112B5/B14** | **112M6** | 56 |
| | 45 | 426 | **20** | 19.84 | 4740 | 0.89 | **MPB58B** | **MV112M6** | 46 | **MPB58B** | **112B5/B14** | **112M6** | 64 |
| | 60 | 324 | **15** | 15.09 | 4330 | 0.93 | | | | | | | |
| | 72 | 268 | **12.5** | 12.49 | 4060 | 1.8 | | | | | | | |
| | 91 | 211 | **10** | 9.84 | 3750 | 1.8 | | | | | | | |
| | 120 | 161 | **7.5** | 7.48 | 3420 | 1.9 | | | | | | | |
| | 22 | 874 | **125** | 129.48 | 6740 | 0.86 | **MPR68C** | **MV90L2** | 41 | **MPR68C** | **90B5/B14** | **90L2** | 59 |
| | 27 | 700 | **100** | 103.64 | 6260 | 0.93 | **MPB68C** | **MV90L2** | 49 | **MPB68C** | **90B5/B14** | **90L2** | 67 |
| | 37 | 510 | **75** | 75.55 | 5630 | 1.0 | | | | | | | |
| | 44 | 433 | **60** | 64.18 | 5330 | 1.7 | | | | | | | |
| | 55 | 347 | **50** | 51.37 | 4950 | 1.9 | | | | | | | |
| | 24 | 818 | **60** | 59.22 | 6540 | 0.92 | **MPR68B** | **MV100M4** | 40 | **MPR68B** | **100B5/B14** | **100LA4** | 58 |
| | 29 | 675 | **50** | 48.86 | 6130 | 1.1 | **MPB68B** | **MV100M4** | 48 | **MPB68B** | **100B5/B14** | **100LA4** | 66 |
| | 34 | 570 | **40** | 41.26 | 5800 | 1.3 | | | | | | | |
| | 46 | 423 | **30** | 30.67 | 5250 | 1.8 | | | | | | | |
| | 54 | 358 | **25** | 25.90 | 4960 | 2.1 | | | | | | | |
| | 68 | 286 | **20** | 20.73 | 4610 | 2.3 | | | | | | | |
| | 93 | 209 | **15** | 15.11 | 4150 | 2.5 | | | | | | | |
| | 109 | 177 | **12.5** | 12.84 | 3930 | 4.2 | | | | | | | |
| | 136 | 142 | **10** | 10.27 | 3650 | 4.6 | | | | | | | |
| | 187 | 103 | **7.5** | 7.49 | 3280 | 5.0 | | | | | | | |
| | 29 | 659 | **30** | 30.67 | 6090 | 1.1 | **MPR68B** | **MV112M6** | 40 | **MPR68B** | **112B5/B14** | **112M6** | 58 |
| | 35 | 556 | **25** | 25.90 | 5750 | 1.3 | **MPB68B** | **MV112M6** | 48 | **MPB68B** | **112B5/B14** | **112M6** | 66 |
| | 43 | 445 | **20** | 20.73 | 5340 | 1.5 | | | | | | | |
| | 60 | 325 | **15** | 15.11 | 4810 | 1.6 | | | | | | | |
| | 70 | 276 | **12.5** | 12.84 | 4550 | 2.7 | | | | | | | |
| | 88 | 221 | **10** | 10.27 | 4220 | 2.9 | | | | | | | |
| | 120 | 161 | **7.5** | 7.49 | 3800 | 3.2 | | | | | | | |
| **3** | 112 | 235 | **12.5** | 12.49 | 2770 | 1.3 | **MPR48B** | **MV100L4** | 36 | **MPR48B** | **100B5/B14** | **100LB4** | 54 |
| | 142 | 185 | **10** | 9.84 | 2550 | 1.3 | **MPB48B** | **MV100L4** | 44 | **MPB48B** | **100B5/B14** | **100LB4** | 62 |
| | 187 | 141 | **7.5** | 7.48 | 2330 | 1.4 | | | | | | | |
| | 46 | 569 | **30** | 30.24 | 4710 | 0.88 | **MPR58B** | **MV100L4** | 38 | **MPR58B** | **100B5/B14** | **100LB4** | 56 |
| | 56 | 474 | **25** | 25.19 | 4430 | 1.0 | **MPB58B** | **MV100L4** | 46 | **MPB58B** | **100B5/B14** | **100LB4** | 64 |
| | 71 | 374 | **20** | 19.84 | 4090 | 1.0 | | | | | | | |
| | 93 | 284 | **15** | 15.09 | 3730 | 1.1 | | | | | | | |
| | 112 | 235 | **12.5** | 12.49 | 3510 | 2.0 | | | | | | | |
| | 142 | 185 | **10** | 9.84 | 3240 | 2.1 | | | | | | | |
| | 187 | 141 | **7.5** | 7.48 | 2950 | 2.1 | | | | | | | |
| | 44 | 591 | **60** | 64.18 | 5330 | 1.3 | **MPR68C** | **MV100M2** | 41 | **MPR68C** | **100B5/B14** | **100L2** | 59 |
| | 55 | 473 | **50** | 51.37 | 4950 | 1.4 | **MPB68C** | **MV100M2** | 49 | **MPB68C** | **100B5/B14** | **100L2** | 67 |
| | 34 | 777 | **40** | 41.26 | 5800 | 0.97 | **MPR68B** | **MV100L4** | 40 | **MPR68B** | **100B5/B14** | **100LB4** | 58 |
| | 46 | 577 | **30** | 30.67 | 5250 | 1.3 | **MPB68B** | **MV100L4** | 48 | **MPB68B** | **100B5/B14** | **100LB4** | 66 |
| | 54 | 488 | **25** | 25.90 | 4960 | 1.5 | | | | | | | |
| | 68 | 390 | **20** | 20.73 | 4610 | 1.7 | | | | | | | |
| | 93 | 284 | **15** | 15.11 | 4150 | 1.8 | | | | | | | |
| | 109 | 242 | **12.5** | 12.84 | 3930 | 3.1 | | | | | | | |
| | 136 | 193 | **10** | 10.27 | 3650 | 3.4 | | | | | | | |
| | 187 | 141 | **7.5** | 7.49 | 3280 | 3.7 | | | | | | | |

| $P_{1n}$ [kW] | $n_2$ [r/min] | $M_{2n}$ [Nm] | i Nominal | i Actual | $F_{r2}$ [N] | fs | | | Page | | | | Page |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3 | 35 | 759 | **25** | 25.90 | 5750 | 0.99 | **MPR68B** | **MV132S6** | 40 | | | | |
| | 43 | 607 | **20** | 20.73 | 5340 | 1.1 | **MPB68B** | **MV132S6** | 48 | | | | |
| | 60 | 443 | **15** | 15.11 | 4810 | 1.2 | | | | | | | |
| | 70 | 376 | **12.5** | 12.84 | 4550 | 2.0 | | | | | | | |
| | 88 | 301 | **10** | 10.27 | 4220 | 2.2 | | | | | | | |
| | 120 | 219 | **7.5** | 7.49 | 3800 | 2.4 | | | | | | | |
| 4 | 112 | 314 | **12.5** | 12.49 | 2770 | 0.96 | **MPR48B** | **MV112M4** | 36 | **MPR48B** | **112B5/B14** | **112M4** | 54 |
| | 142 | 247 | **10** | 9.84 | 2550 | 0.97 | **MPB48B** | **MV112M4** | 44 | **MPB48B** | **112B5/B14** | **112M4** | 62 |
| | 187 | 188 | **7.5** | 7.48 | 2330 | 1.1 | | | | | | | |
| | 112 | 314 | **12.5** | 12.49 | 3510 | 1.5 | **MPR58B** | **MV112M4** | 38 | **MPR58B** | **112B5/B14** | **112M4** | 56 |
| | 142 | 247 | **10** | 9.84 | 3240 | 1.5 | **MPB58B** | **MV112M4** | 46 | **MPB58B** | **112B5/B14** | **112M4** | 64 |
| | 187 | 188 | **7.5** | 7.48 | 2950 | 1.6 | | | | | | | |
| | 46 | 770 | **30** | 30.67 | 5250 | 0.97 | **MPR68B** | **MV112M4** | 40 | **MPR68B** | **112B5/B14** | **112M4** | 58 |
| | 54 | 650 | **25** | 25.90 | 4960 | 1.2 | **MPB68B** | **MV112M4** | 48 | **MPB68B** | **112B5/B14** | **112M4** | 66 |
| | 68 | 520 | **20** | 20.73 | 4610 | 1.2 | | | | | | | |
| | 93 | 379 | **15** | 15.11 | 4150 | 1.4 | | | | | | | |
| | 109 | 322 | **12.5** | 12.84 | 3930 | 2.3 | | | | | | | |
| | 136 | 258 | **10** | 10.27 | 3650 | 2.5 | | | | | | | |
| | 187 | 188 | **7.5** | 7.49 | 3280 | 2.8 | | | | | | | |
| 5.5 | 68 | 716 | **20** | 20.73 | 4610 | 0.91 | **MPR68B** | **MV132S4** | 40 | | | | |
| | 93 | 522 | **15** | 15.11 | 4150 | 1.00 | **MPB68B** | **MV132S4** | 48 | | | | |
| | 109 | 443 | **12.5** | 12.84 | 3930 | 1.7 | | | | | | | |
| | 136 | 354 | **10** | 10.27 | 3650 | 1.8 | | | | | | | |
| | 187 | 259 | **7.5** | 7.49 | 3280 | 2.0 | | | | | | | |

### 6.3 MPR/MPB.. HS Performance parameter

## $n_1$=1400r/min

| $M_{2\,max}$ [Nm] | $n_2$ [r/min] | i Nominal | i Actual | $P_{1n}$ [kW] | $Fr_2$ [N] | $Fr_1$ [N] |  | Page |
|---|---|---|---|---|---|---|---|---|
| 130 | 4.8 | 300 | 291.79 | 0.07 | 4100 | 400 | **MPR28C..HS** | 68 |
| 130 | 5.7 | 250 | 244.29 | 0.09 | 4100 | 400 | | |
| 130 | 7.0 | 200 | 200.44 | 0.11 | 4100 | 400 | | |
| 130 | 9.5 | 150 | 146.67 | 0.14 | 4000 | 400 | | |
| 130 | 11.6 | 125 | 120.34 | 0.18 | 3770 | 400 | | |
| 100 | 13.9 | 100 | 101.04 | 0.16 | 3560 | 400 | | |
| 80 | 18.8 | 75 | 74.62 | 0.17 | 3220 | 400 | | |
| 130 | 22 | 60 | 62.36 | 0.34 | 3030 | 400 | | |
| 100 | 27 | 50 | 52.36 | 0.31 | 2860 | 400 | | |
| 130 | 24 | 60 | 58.36 | 0.35 | 2960 | 400 | **MPR28B..HS** | 68 |
| 130 | 29 | 50 | 48.86 | 0.42 | 2790 | 400 | | |
| 130 | 35 | 40 | 40.09 | 0.52 | 2610 | 400 | | |
| 130 | 48 | 30 | 29.33 | 0.71 | 2350 | 400 | | |
| 130 | 58 | 25 | 24.07 | 0.86 | 2200 | 400 | | |
| 100 | 69 | 20 | 20.21 | 0.79 | 2080 | 400 | | |
| 80 | 94 | 15 | 14.92 | 0.85 | 1880 | 400 | | |
| 130 | 112 | 12.5 | 12.47 | 1.7 | 1770 | 400 | | |
| 100 | 134 | 10 | 10.47 | 1.5 | 1670 | 400 | | |
| 80 | 181 | 7.5 | 7.73 | 1.6 | 1510 | 400 | | |
| 200 | 4.6 | 300 | 302.50 | 0.11 | 4800 | 400 | **MPR38C..HS** | 68 |
| 200 | 5.7 | 250 | 243.57 | 0.13 | 4800 | 400 | **MPB38C..HS** | 68 |
| 180 | 7.1 | 200 | 196.43 | 0.15 | 4800 | 400 | | |
| 200 | 9.2 | 150 | 151.56 | 0.21 | 4650 | 400 | | |
| 180 | 11.5 | 125 | 122.22 | 0.24 | 4330 | 400 | | |
| 150 | 13.8 | 100 | 101.27 | 0.24 | 4070 | 400 | | |
| 110 | 19.1 | 75 | 73.33 | 0.24 | 3650 | 400 | | |
| 180 | 22 | 60 | 63.33 | 0.46 | 3480 | 400 | | |
| 150 | 27 | 50 | 52.48 | 0.47 | 3270 | 400 | | |
| 200 | 23 | 60 | 60.50 | 0.53 | 3430 | 530 | **MPR38B..HS** | 68 |
| 200 | 29 | 50 | 48.71 | 0.65 | 3190 | 530 | **MPB38B..HS** | 68 |
| 180 | 36 | 40 | 39.29 | 0.73 | 2970 | 530 | | |
| 200 | 46 | 30 | 30.31 | 1.1 | 2720 | 530 | | |
| 180 | 57 | 25 | 24.44 | 1.2 | 2530 | 530 | | |
| 150 | 69 | 20 | 20.25 | 1.2 | 2380 | 530 | | |
| 110 | 95 | 15 | 14.67 | 1.2 | 2130 | 530 | | |
| 180 | 110 | 12.5 | 12.67 | 2.3 | 2030 | 530 | | |
| 150 | 133 | 10 | 10.50 | 2.3 | 1910 | 530 | | |
| 110 | 184 | 7.5 | 7.60 | 2.3 | 1710 | 530 | | |
| 350 | 4.7 | 300 | 297.21 | 0.19 | 6500 | 560 | **MPR48C..HS** | 68 |
| 350 | 5.8 | 250 | 240.89 | 0.24 | 6500 | 560 | **MPB48C..HS** | 68 |
| 300 | 7.0 | 200 | 200.66 | 0.24 | 6500 | 560 | | |
| 350 | 9.3 | 150 | 151.20 | 0.38 | 6500 | 560 | | |
| 300 | 11.1 | 125 | 125.95 | 0.39 | 5980 | 560 | | |
| 240 | 14.1 | 100 | 99.22 | 0.39 | 5520 | 560 | | |
| 200 | 18.6 | 75 | 75.45 | 0.43 | 5040 | 560 | | |
| 300 | 22 | 60 | 62.43 | 0.78 | 4730 | 560 | | |
| 240 | 28 | 50 | 49.18 | 0.79 | 4370 | 560 | | |
| 350 | 24 | 60 | 59.44 | 0.94 | 4660 | 860 | **MPR48B..HS** | 68 |
| 350 | 29 | 50 | 48.18 | 1.2 | 4340 | 860 | **MPB48B..HS** | 68 |
| 300 | 35 | 40 | 40.13 | 1.2 | 4080 | 860 | | |
| 350 | 46 | 30 | 30.24 | 1.8 | 3720 | 860 | | |
| 300 | 56 | 25 | 25.19 | 1.9 | 3500 | 860 | | |

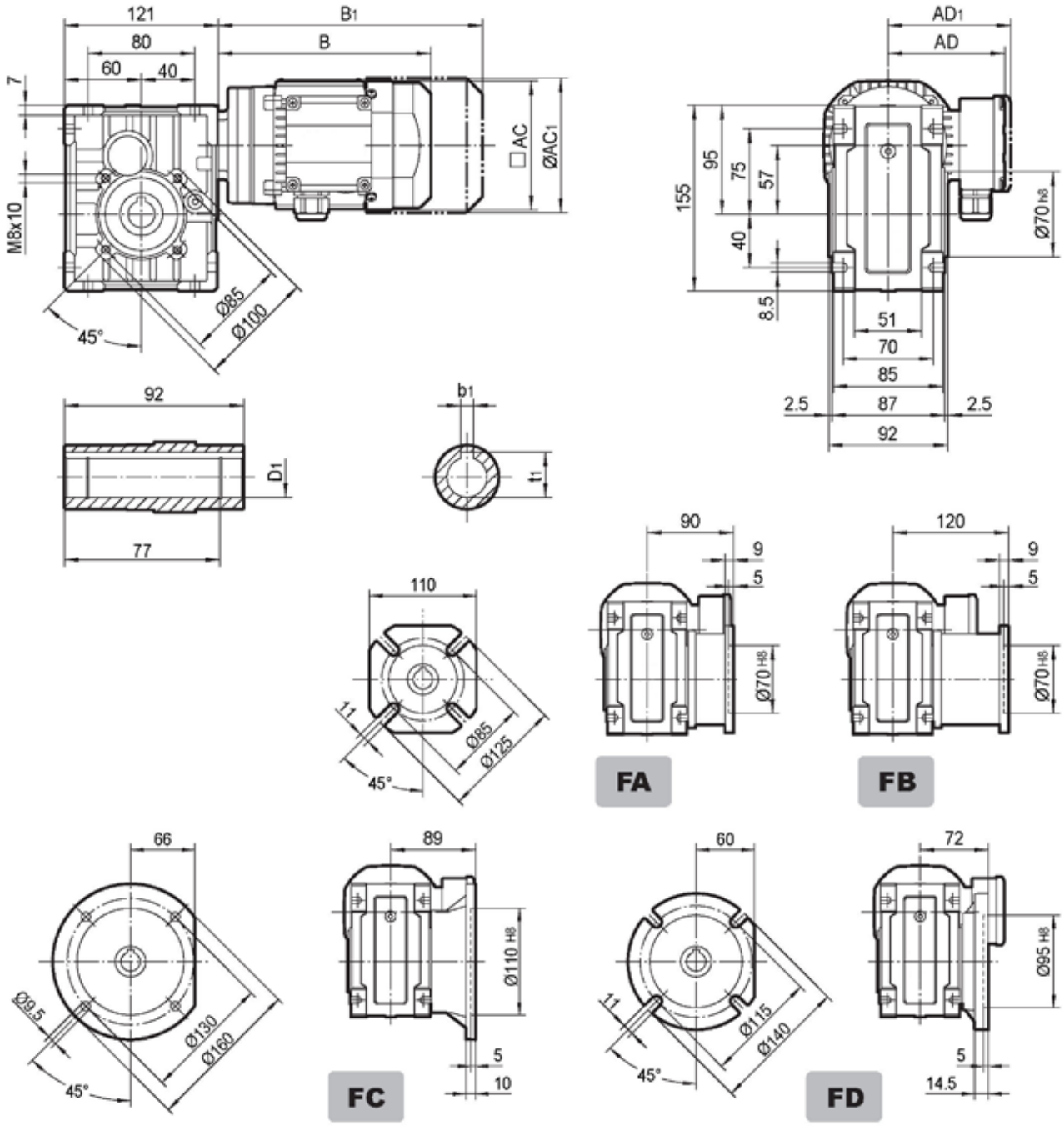
## $n_1$=1400r/min

| $M_{2\,max}$ [Nm] | $n_2$ [r/min] | i Nominal | i Actual | $P_{1n}$ [kW] | $Fr_2$ [N] | $Fr_1$ [N] |  | Page |
|---|---|---|---|---|---|---|---|---|
| 240 | 71 | 20 | 19.84 | 1.9 | 3230 | 860 | MPR48B..HS | 68 |
| 200 | 93 | 15 | 15.09 | 2.1 | 2950 | 860 | MPB48B..HS | 68 |
| 300 | 112 | 12.5 | 12.49 | 3.8 | 2770 | 860 | | |
| 240 | 142 | 10 | 9.84 | 3.9 | 2550 | 860 | | |
| 200 | 187 | 7.5 | 7.48 | 4.3 | 2330 | 860 | | |
| 500 | 4.7 | 300 | 295.18 | 0.27 | 8300 | 560 | MPR58C..HS | 68 |
| 500 | 5.8 | 250 | 240.89 | 0.34 | 8300 | 560 | MPB58C..HS | 68 |
| 480 | 7.0 | 200 | 200.66 | 0.39 | 8300 | 560 | | |
| 500 | 9.3 | 150 | 151.20 | 0.54 | 8050 | 560 | | |
| 480 | 11.1 | 125 | 125.95 | 0.62 | 7580 | 560 | | |
| 380 | 14.1 | 100 | 99.22 | 0.62 | 7000 | 560 | | |
| 300 | 18.6 | 75 | 75.45 | 0.65 | 6390 | 560 | | |
| 480 | 22 | 60 | 62.43 | 1.3 | 6000 | 560 | | |
| 380 | 28 | 50 | 49.18 | 1.3 | 5540 | 560 | | |
| 500 | 24 | 60 | 59.04 | 1.3 | 5890 | 1260 | MPR58B..HS | 68 |
| 500 | 29 | 50 | 48.18 | 1.7 | 5500 | 1260 | MPB58B..HS | 68 |
| 480 | 35 | 40 | 40.13 | 1.9 | 5170 | 1260 | | |
| 500 | 46 | 30 | 30.24 | 2.6 | 4710 | 1260 | | |
| 480 | 56 | 25 | 25.19 | 3.0 | 4430 | 1260 | | |
| 380 | 71 | 20 | 19.84 | 3.1 | 4090 | 1260 | | |
| 300 | 93 | 15 | 15.09 | 3.2 | 3730 | 1260 | | |
| 480 | 112 | 12.5 | 12.49 | 6.1 | 3510 | 1260 | | |
| 380 | 142 | 10 | 9.84 | 6.2 | 3240 | 1260 | | |
| 300 | 187 | 7.5 | 7.48 | 6.4 | 2950 | 1260 | | |
| 750 | 4.7 | 300 | 296.10 | 0.40 | 10000 | 740 | MPR68C..HS | 68 |
| 750 | 5.7 | 250 | 244.29 | 0.50 | 10000 | 740 | MPB68C..HS | 68 |
| 750 | 6.8 | 200 | 206.29 | 0.59 | 9920 | 740 | | |
| 750 | 9.1 | 150 | 153.33 | 0.80 | 8980 | 740 | | |
| 750 | 10.8 | 125 | 129.48 | 0.94 | 8490 | 740 | | |
| 650 | 13.5 | 100 | 103.64 | 1.0 | 7880 | 740 | | |
| 520 | 18.5 | 75 | 75.55 | 1.1 | 7090 | 740 | | |
| 750 | 22 | 60 | 64.18 | 1.9 | 6720 | 740 | | |
| 650 | 27 | 50 | 51.37 | 2.1 | 6240 | 740 | | |
| 750 | 24 | 60 | 59.22 | 2.0 | 6540 | 1490 | MPR68B..HS | 68 |
| 750 | 29 | 50 | 48.86 | 2.4 | 6130 | 1490 | MPB68B..HS | 68 |
| 750 | 34 | 40 | 41.26 | 2.9 | 5800 | 1490 | | |
| 750 | 46 | 30 | 30.67 | 3.9 | 5250 | 1490 | | |
| 750 | 54 | 25 | 25.90 | 4.6 | 4960 | 1490 | | |
| 650 | 68 | 20 | 20.73 | 5.0 | 4610 | 1490 | | |
| 520 | 93 | 15 | 15.11 | 5.5 | 4150 | 1490 | | |
| 750 | 109 | 12.5 | 12.84 | 9.3 | 3930 | 1490 | | |
| 650 | 136 | 10 | 10.27 | 10.1 | 3650 | 1490 | | |
| 520 | 187 | 7.5 | 7.49 | 11.1 | 3280 | 1490 | | |

## *7. OUTLINE DIMENSION SHEET*

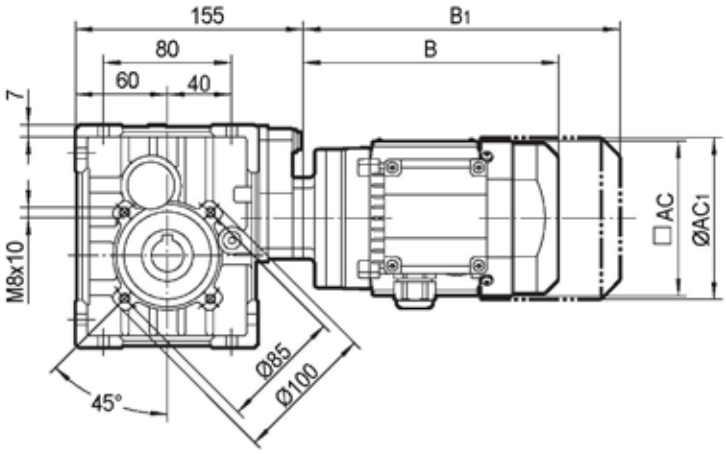
### *7.1 MPR.. MV.. Outline Dimension*

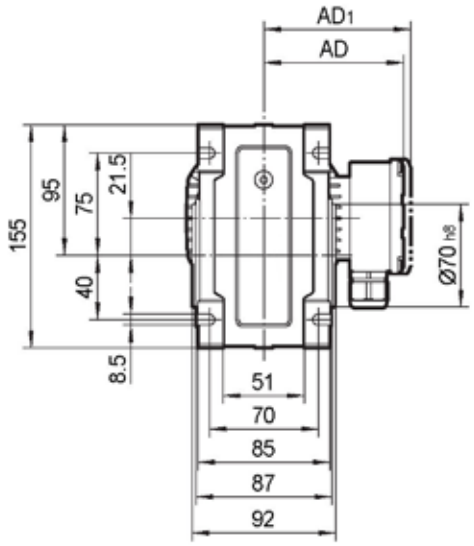
### *MPR28B..MV..*

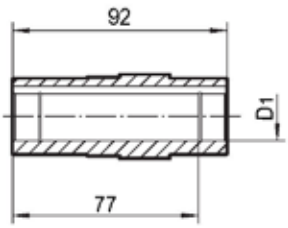


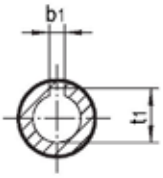

| MV.. | B | B1 | AC | AC1 | AD | AD1 | D1 H8 | b1 | t1 |
|---|---|---|---|---|---|---|---|---|---|
| **MV63..** | 207 | 262 | 132 | 132 | 105 | 105 | 24 | 6 | 22.8 |
| **MV71..** | 222 | 286 | 134 | 148 | 122 | 127 | 25 | 8 | 28.3 |
| **MV80..** | 257 | 350 | 134 | 148 | 122 | 127 | * Only on request | | |
| **MV90..** | 281 | 366 | 182 | 203 | 154 | 161 | | | |
| | | | | | | | | | |

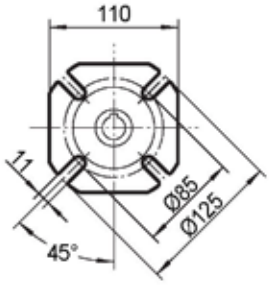
## MPR28C..MV..

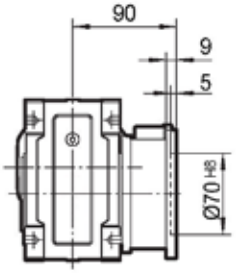


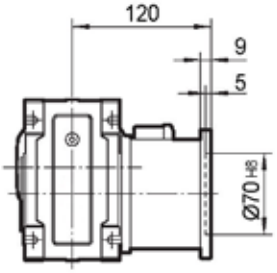



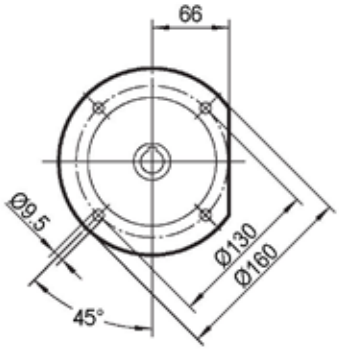



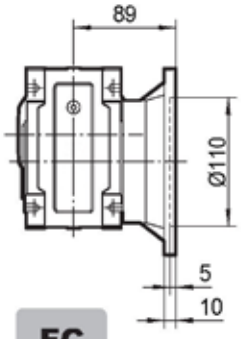




FA

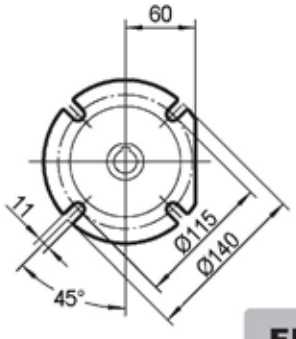


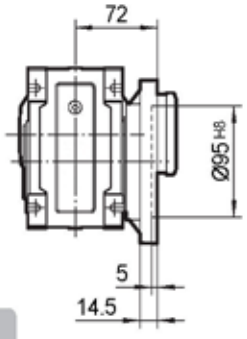

FB




FC

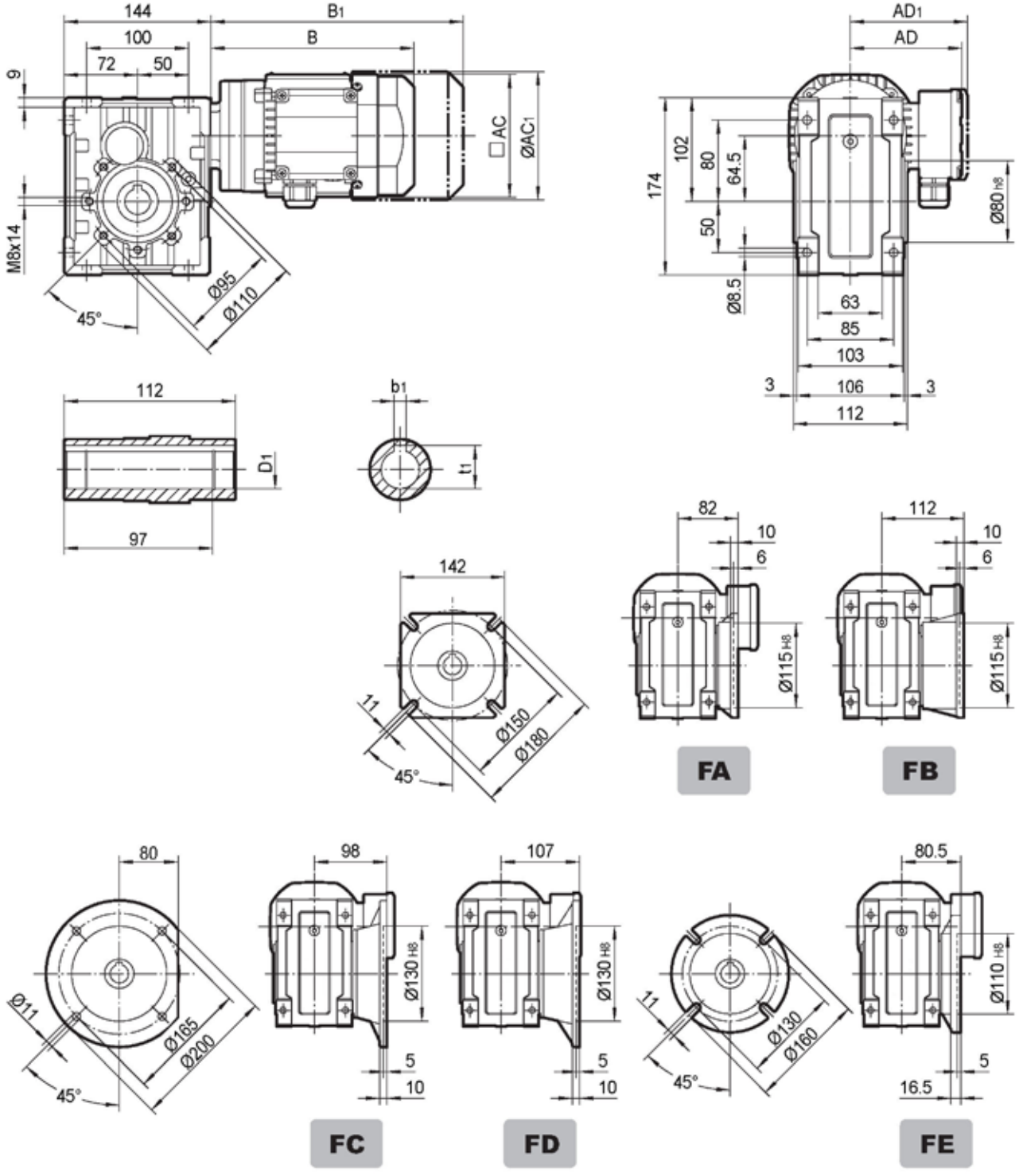



FD

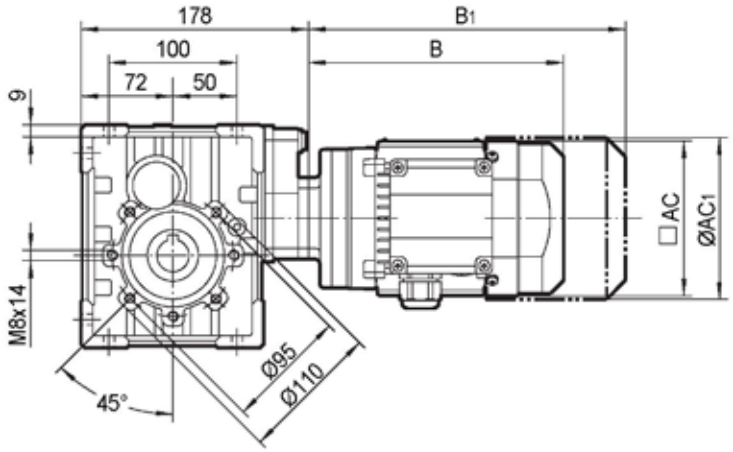
| MV.. | B | B1 | AC | AC1 | AD | AD1 | D1 H8 | b1 | t1 |
|---|---|---|---|---|---|---|---|---|---|
| MV63.. | 207 | 262 | 132 | 132 | 105 | 105 | 24 | 6 | 22.8 |
| MV71.. | 222 | 286 | 134 | 148 | 122 | 127 | 25 | 8 | 28.3 |
| | | | | | | | * Only on request | | |
| | | | | | | | | | |
| | | | | | | | | | |

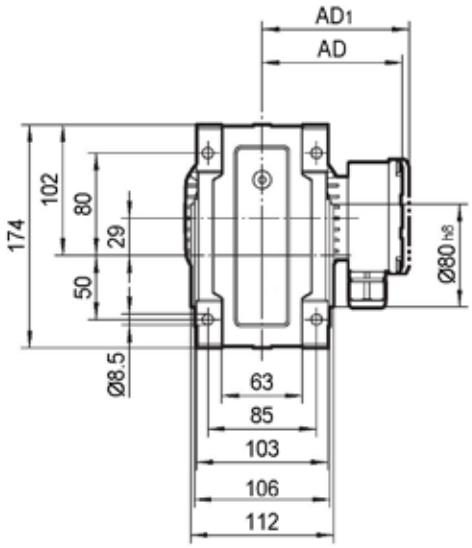
## *MPR38B..MV..*

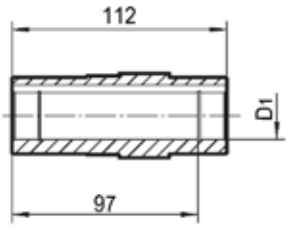


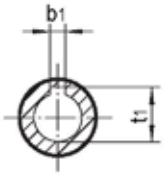

| MV.. | B | B1 | AC | AC1 | AD | AD1 | D1 H8 | b1 | t1 |
|---|---|---|---|---|---|---|---|---|---|
| **MV63..** | 207 | 262 | 132 | 132 | 105 | 105 | 25 | 8 | 28.3 |
| **MV71..** | 222 | 286 | 134 | 148 | 122 | 127 | 28 * | 8 | 31.3 |
| **MV80..** | 257 | 350 | 134 | 148 | 122 | 127 | * Only on request | | |
| **MV90..** | 281 | 366 | 182 | 203 | 154 | 161 | | | |
| | | | | | | | | | |

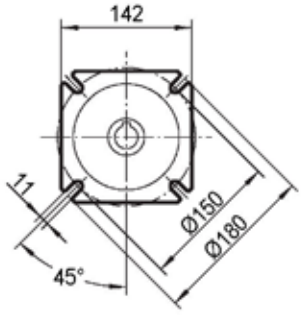
## MPR38C..MV..

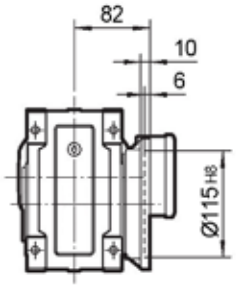


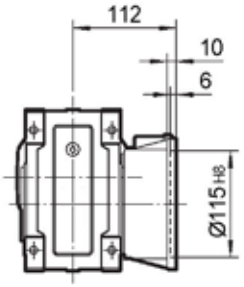



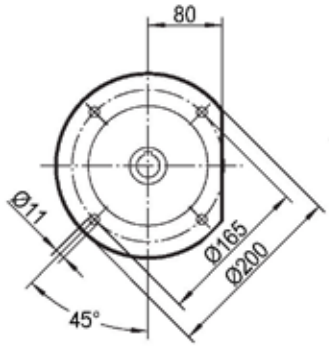



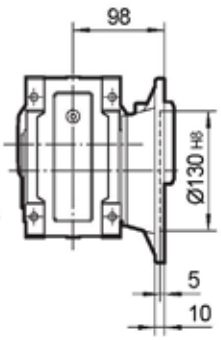




FA

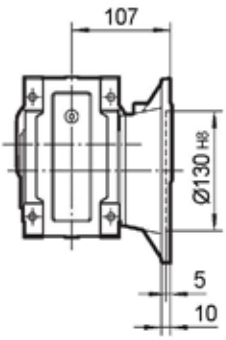



FB

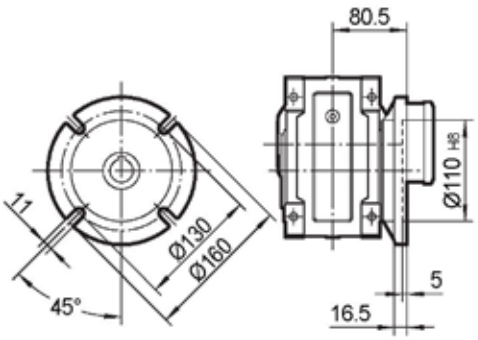



FC



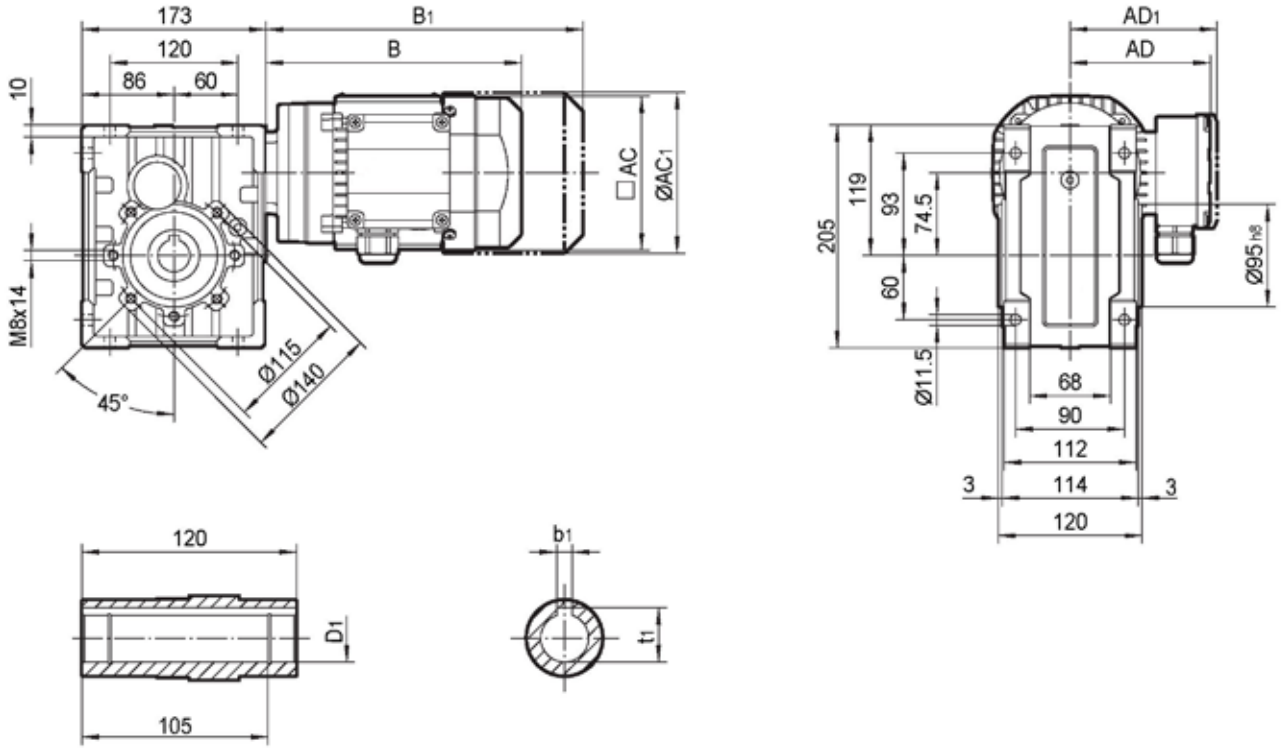

FD

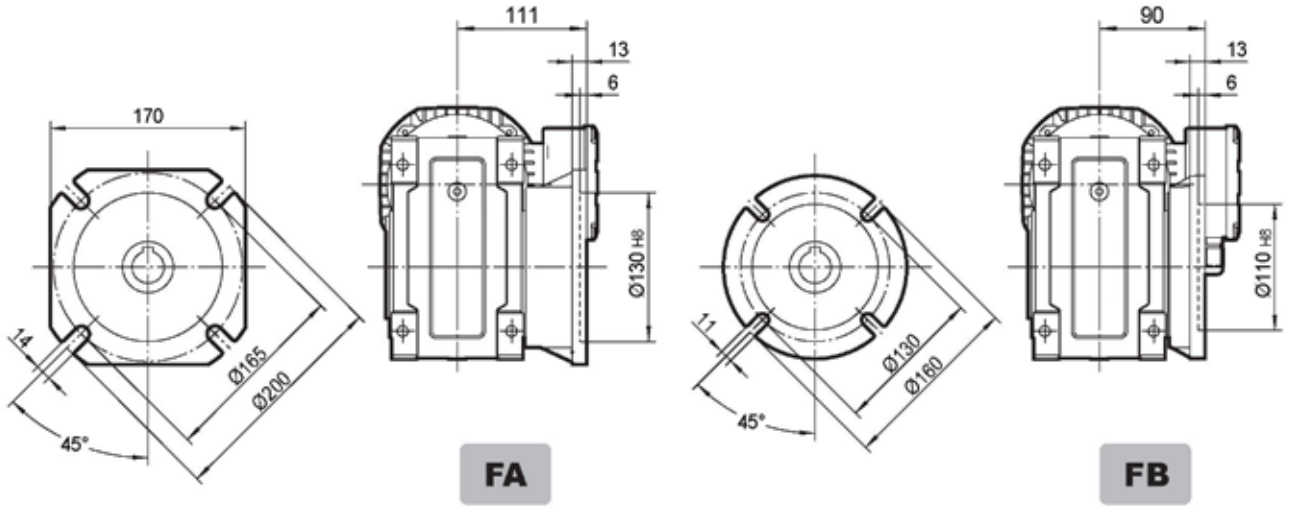



FE

| MV.. | B | B1 | AC | AC1 | AD | AD1 | D1 H8 | b1 | t1 |
|---|---|---|---|---|---|---|---|---|---|
| MV63.. | 207 | 262 | 132 | 132 | 105 | 105 | 25 | 8 | 28.3 |
| MV71.. | 222 | 286 | 134 | 148 | 122 | 127 | 28 * | 8 | 31.3 |
| MV80.. | 257 | 350 | 134 | 148 | 122 | 127 | * Only on request | | |
| | | | | | | | | | |
| | | | | | | | | | |

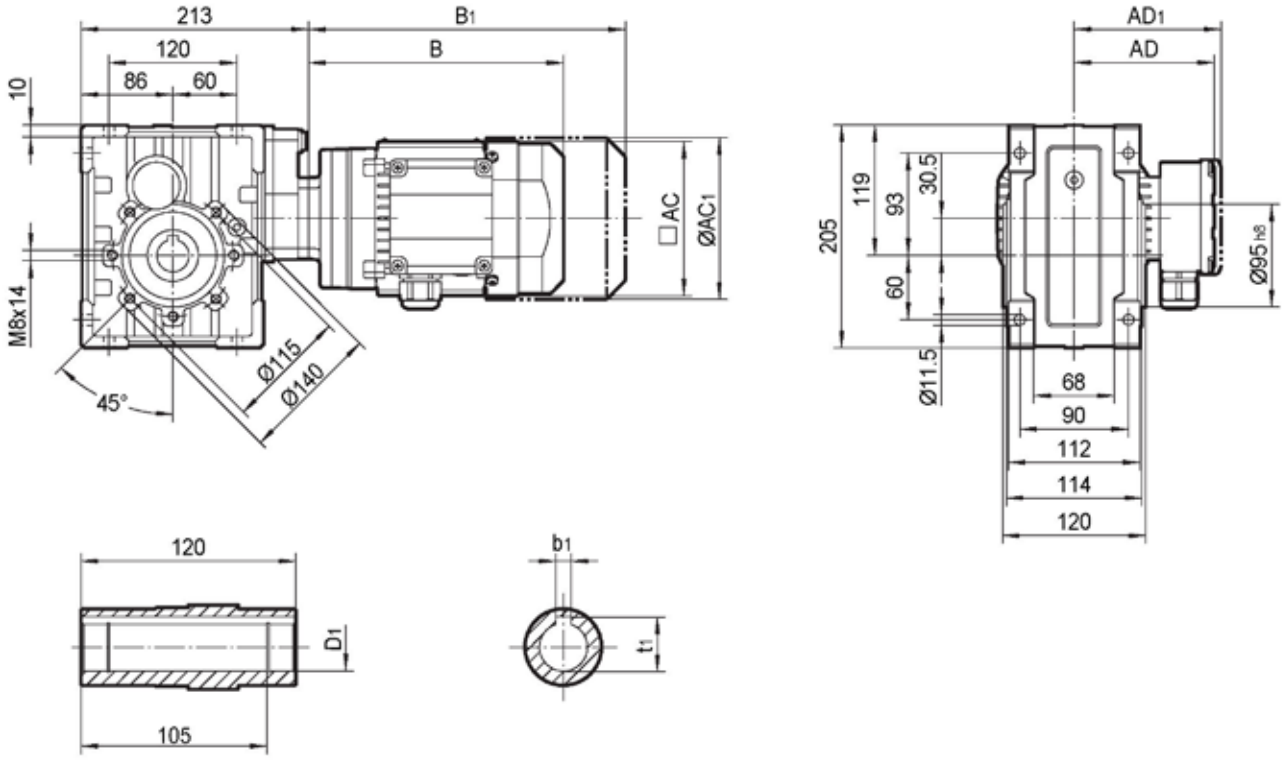
## *MPR48B..MV..*

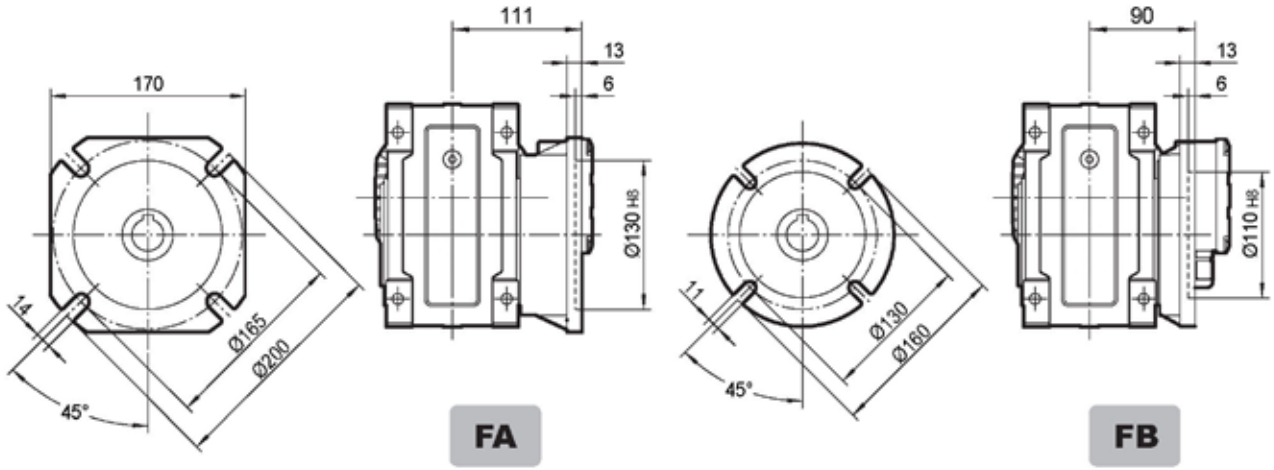



| MV.. | B | B1 | AC | AC1 | AD | AD1 | D1 H8 | b1 | t1 |
|---|---|---|---|---|---|---|---|---|---|
| MV71.. | 226 | 290 | 134 | 148 | 122 | 127 | 28 | 8 | 31.3 |
| MV80.. | 261 | 354 | 134 | 148 | 122 | 127 | 30* | 8 | 33.3 |
| MV90.. | 285 | 370 | 182 | 203 | 154 | 161 | 35* | 10 | 38.3 |
| MV100M.. | 325 | 410 | 182 | 203 | 154 | 161 | * Only on request | | |
| MV100L.. | 355 | 440 | 182 | 203 | 154 | 161 | | | |
| MV112.. | 373 | 453 | 206 | 221 | 179 | 182 | | | |

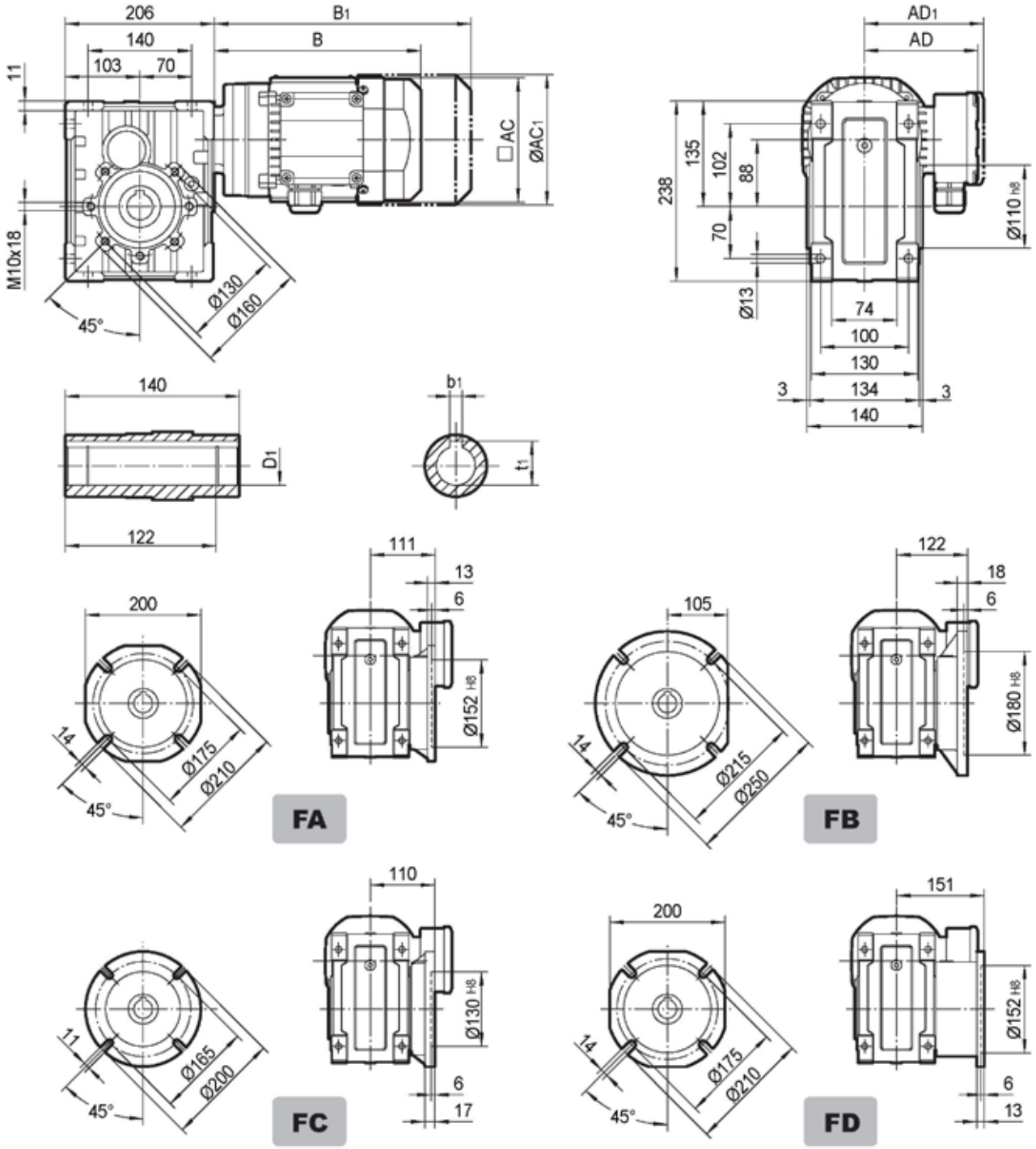
## MPR48C..MV..



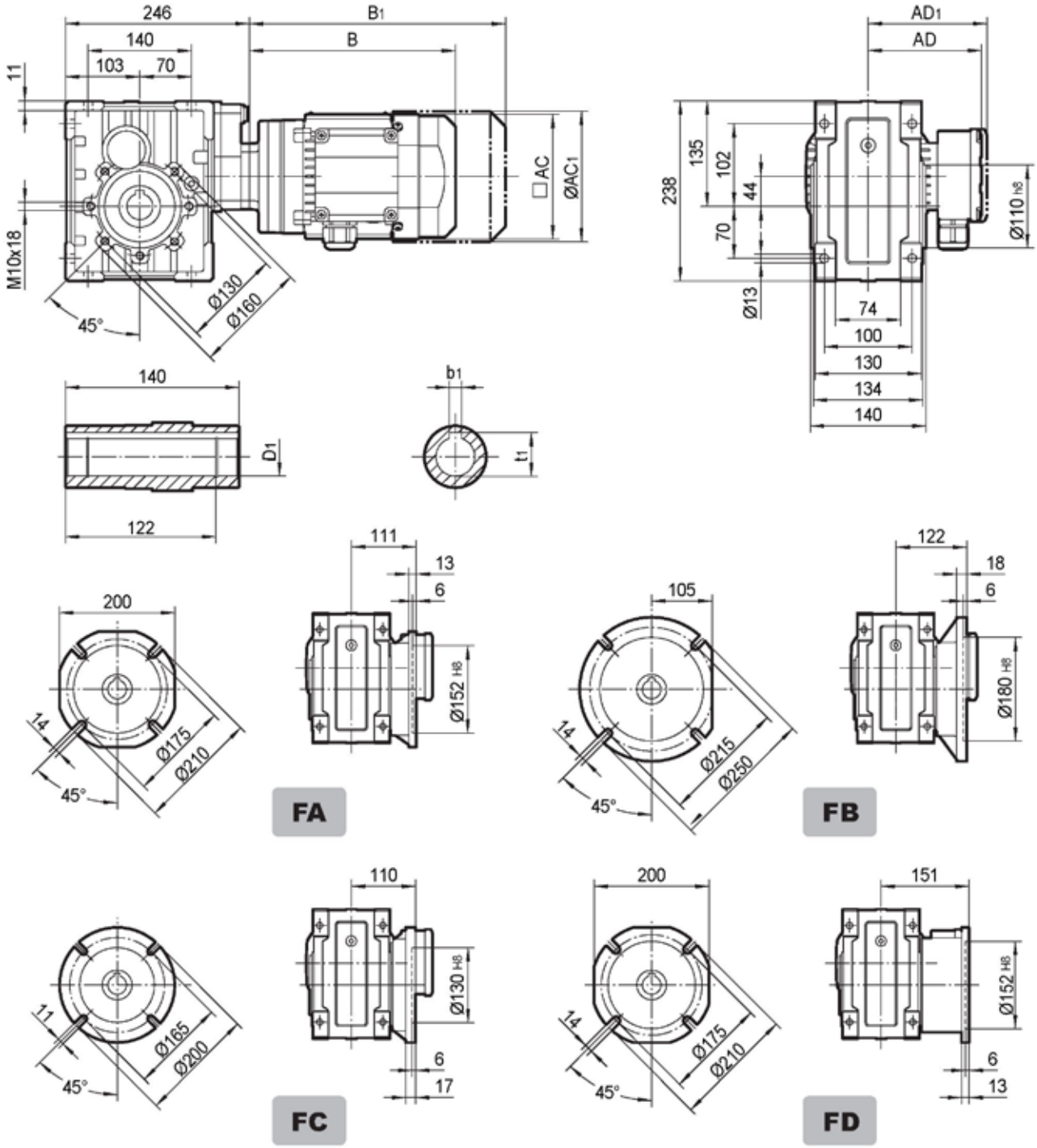

| MV.. | B | B1 | AC | AC1 | AD | AD1 | D1 H8 | b1 | t1 |
|---|---|---|---|---|---|---|---|---|---|
| MV63.. | 211 | 266 | 132 | 132 | 105 | 105 | 28 | 8 | 31.3 |
| MV71.. | 226 | 290 | 134 | 148 | 122 | 127 | 30 * | 8 | 33.3 |
| MV80.. | 261 | 354 | 134 | 148 | 122 | 127 | 35 * | 10 | 38.3 |
| MV90.. | 285 | 370 | 182 | 203 | 154 | 161 | * Only on request | | |
| | | | | | | | | | |
| | | | | | | | | | |

## *MPR58B..MV..*



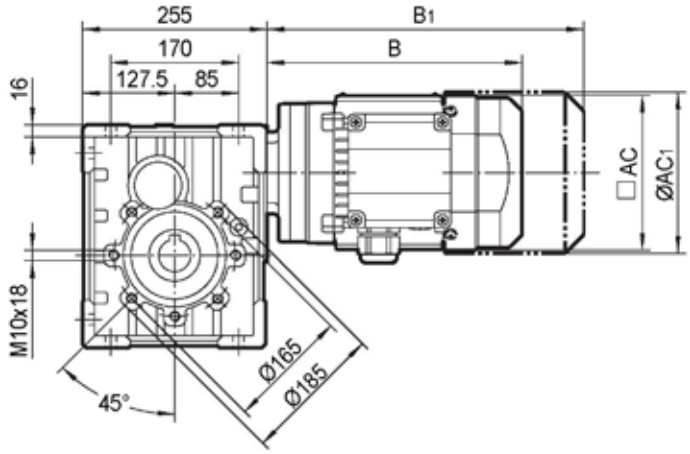

| MV.. | B | B1 | AC | AC1 | AD | AD1 | D1 H8 | b1 | t1 |
|---|---|---|---|---|---|---|---|---|---|
| MV71.. | 226 | 290 | 134 | 148 | 122 | 127 | 35 | 10 | 38.3 |
| MV80.. | 261 | 354 | 134 | 148 | 122 | 127 | 38 * | 10 | 41.3 |
| MV90.. | 285 | 370 | 182 | 203 | 154 | 161 | * Only on request | | |
| MV100M.. | 325 | 410 | 182 | 203 | 154 | 161 | | | |
| MV100L.. | 355 | 440 | 182 | 203 | 154 | 161 | | | |
| MV112.. | 373 | 453 | 206 | 221 | 179 | 182 | | | |

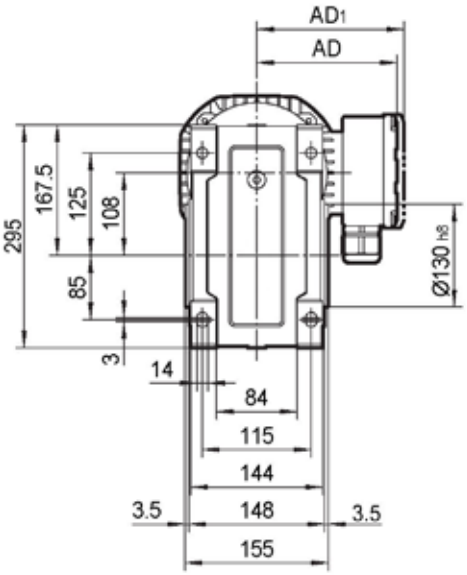
## MPR58C..MV..

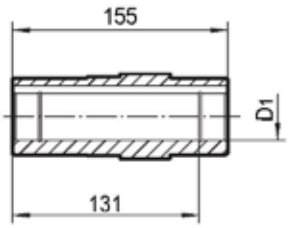


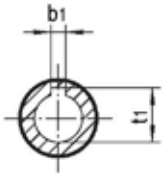

| MV.. | B | B1 | AC | AC1 | AD | AD1 | D1 H8 | b1 | t1 |
|---|---|---|---|---|---|---|---|---|---|
| MV63.. | 211 | 266 | 132 | 132 | 105 | 105 | 35 | 10 | 38.3 |
| MV71.. | 226 | 290 | 134 | 148 | 122 | 127 | 38 * | 10 | 41.3 |
| MV80.. | 261 | 354 | 134 | 148 | 122 | 127 | * Only on request | | |
| MV90.. | 285 | 370 | 182 | 203 | 154 | 161 | | | |
| | | | | | | | | | |
| | | | | | | | | | |

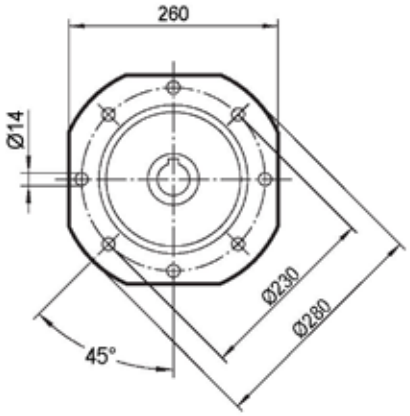
## *MPR68B..MV..*

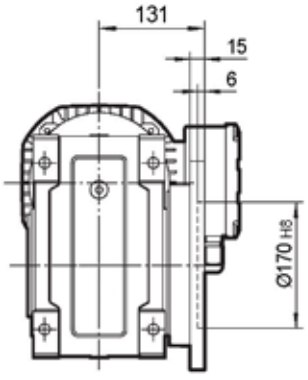


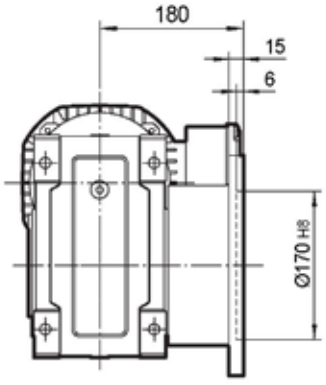



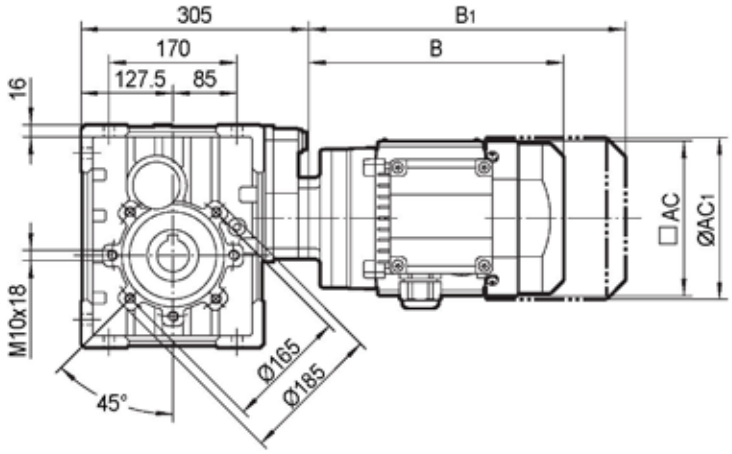

**FA**

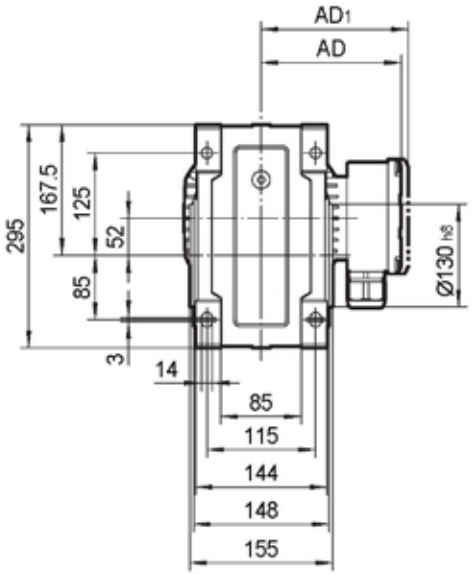


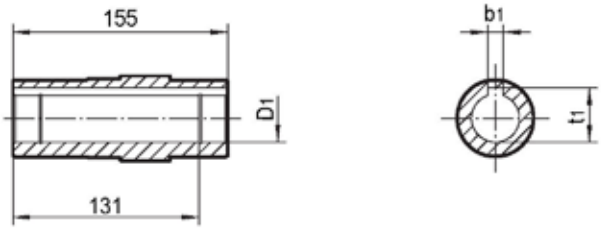

**FB**

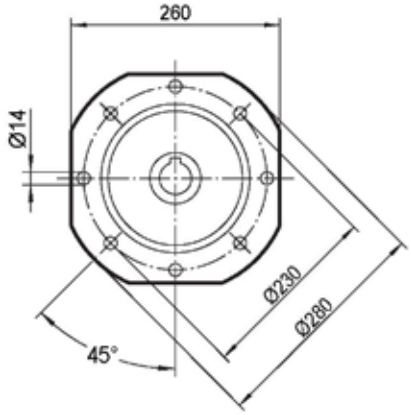
| MV.. | B | B1 | AC | AC1 | AD | AD1 | D1 H8 | b1 | t1 |
|---|---|---|---|---|---|---|---|---|---|
| **MV80..** | 267 | 360 | 134 | 148 | 122 | 127 | 40 * | 12 | 43.3 |
| **MV90..** | 291 | 376 | 182 | 203 | 154 | 161 | 42 | 12 | 45.3 |
| **MV100M..** | 331 | 416 | 182 | 203 | 154 | 161 | * Only on request | | |
| **MV100L..** | 361 | 446 | 182 | 203 | 154 | 161 | | | |
| **MV112..** | 379 | 459 | 206 | 221 | 179 | 182 | | | |
| **MV132..** | 424 | 504 | 206 | 221 | 179 | 182 | | | |

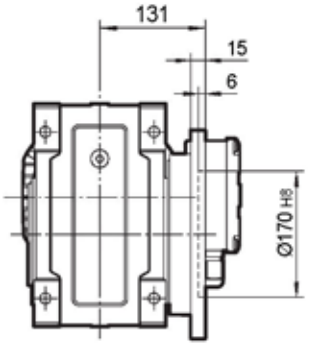
## MPR68C..MV..



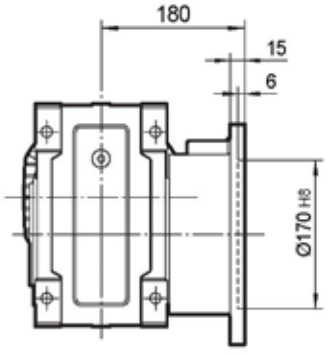




FA

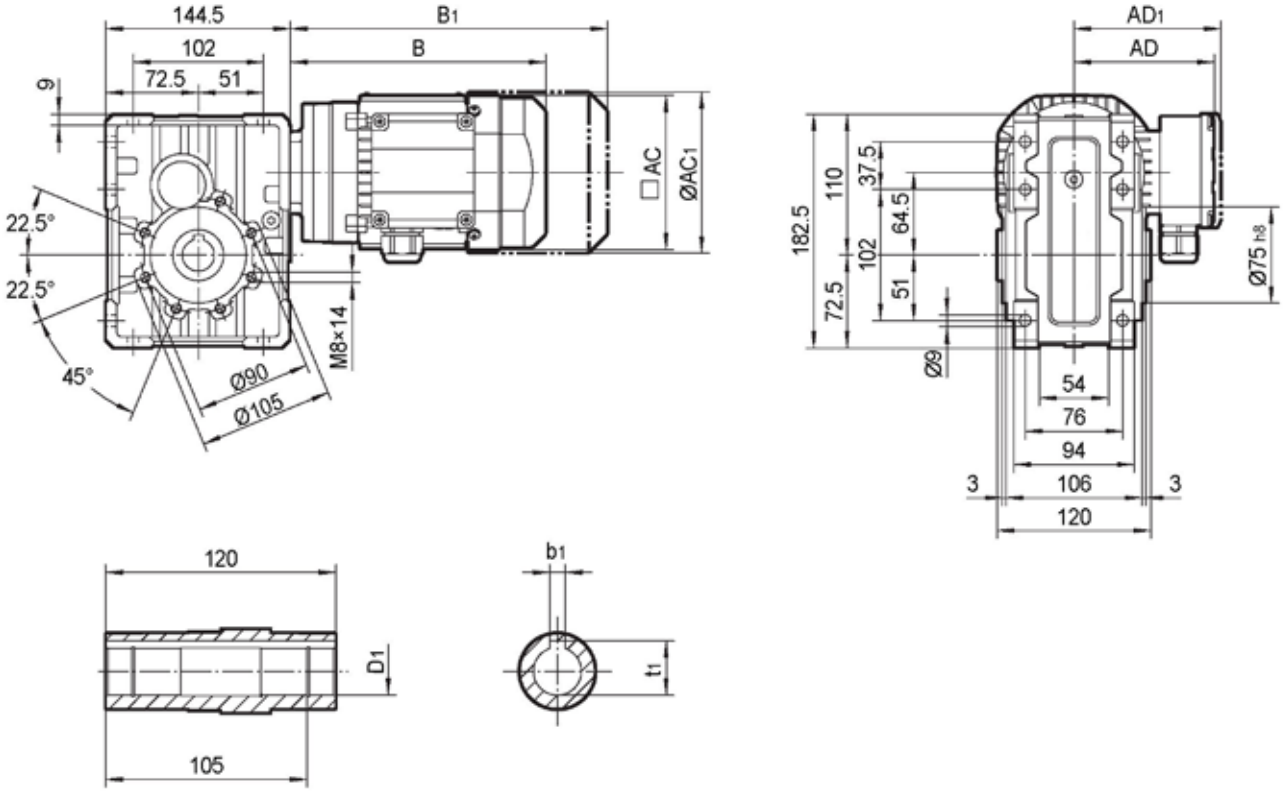


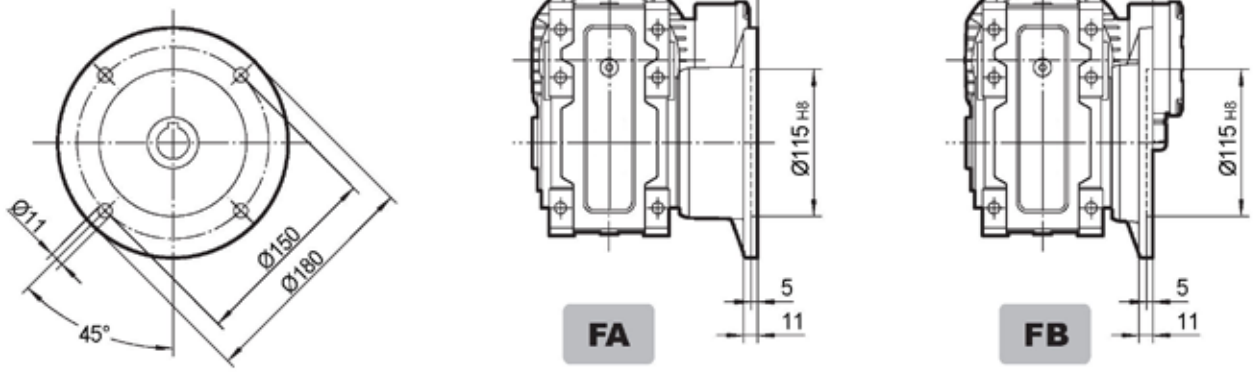

FB

| MV.. | B | B1 | AC | AC1 | AD | AD1 | D1 H8 | b1 | t1 |
|---|---|---|---|---|---|---|---|---|---|
| MV71.. | 232 | 325 | 134 | 148 | 122 | 127 | 40 * | 12 | 43.3 |
| MV80.. | 267 | 360 | 134 | 148 | 122 | 127 | 42 | 12 | 45.3 |
| MV90.. | 291 | 376 | 182 | 203 | 154 | 161 | * Only on request | | |
| MV100M.. | 331 | 416 | 182 | 203 | 154 | 161 | | | |
| MV100L.. | 361 | 446 | 182 | 203 | 154 | 161 | | | |
| | | | | | | | | | |

### *7.2 MPB38B..MV.. Outline Dimension*

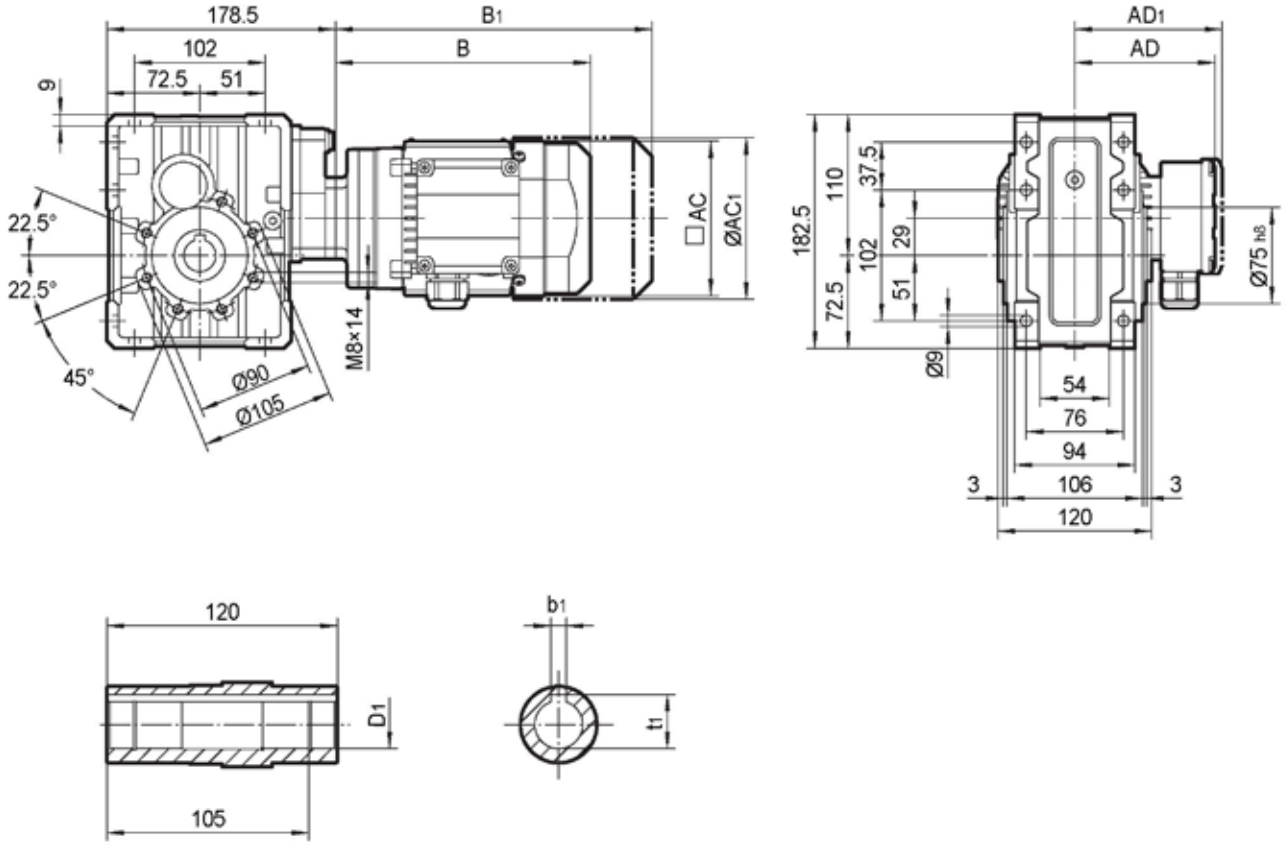
## *MPB38B..MV..*

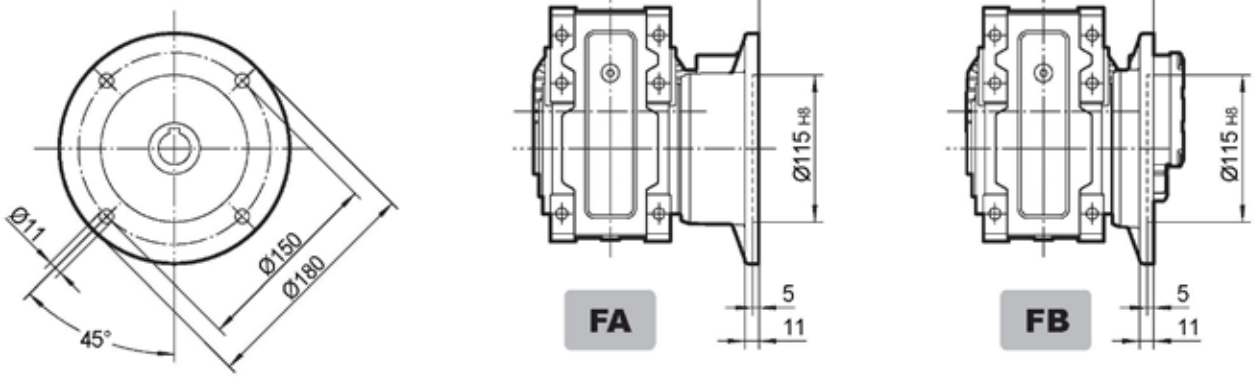



| MV.. | B | B1 | AC | AC1 | AD | AD1 | D1 H8 | b1 | t1 |
|---|---|---|---|---|---|---|---|---|---|
| MV63.. | 207 | 262 | 132 | 132 | 105 | 105 | 25 | 8 | 28.3 |
| MV71.. | 222 | 286 | 134 | 148 | 122 | 127 | 28 * | 8 | 31.3 |
| MV80.. | 257 | 350 | 134 | 148 | 122 | 127 | * Only on request | | |
| MV90.. | 281 | 366 | 182 | 203 | 154 | 161 | | | |
| | | | | | | | | | |

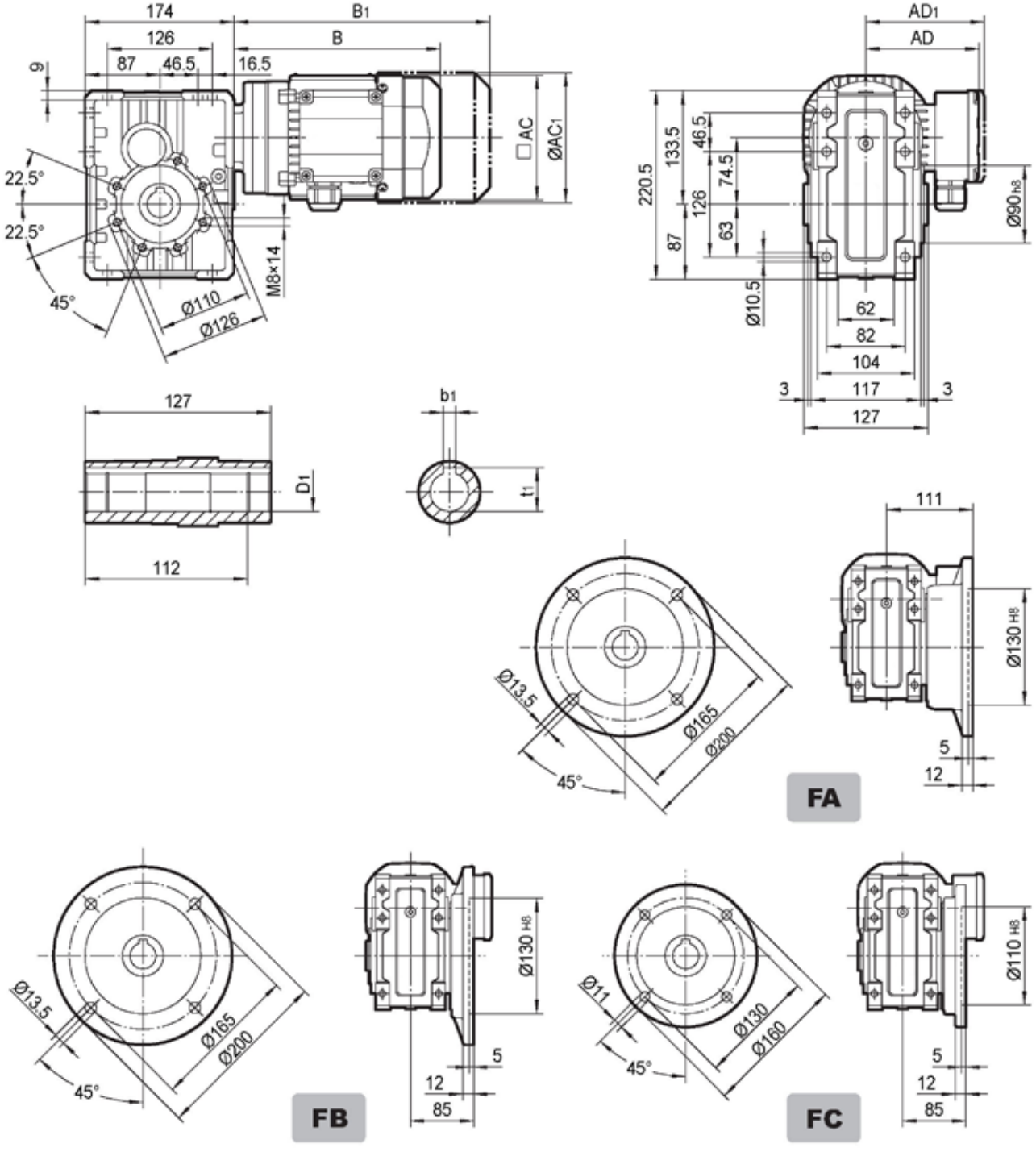
## MPB38B..MV..



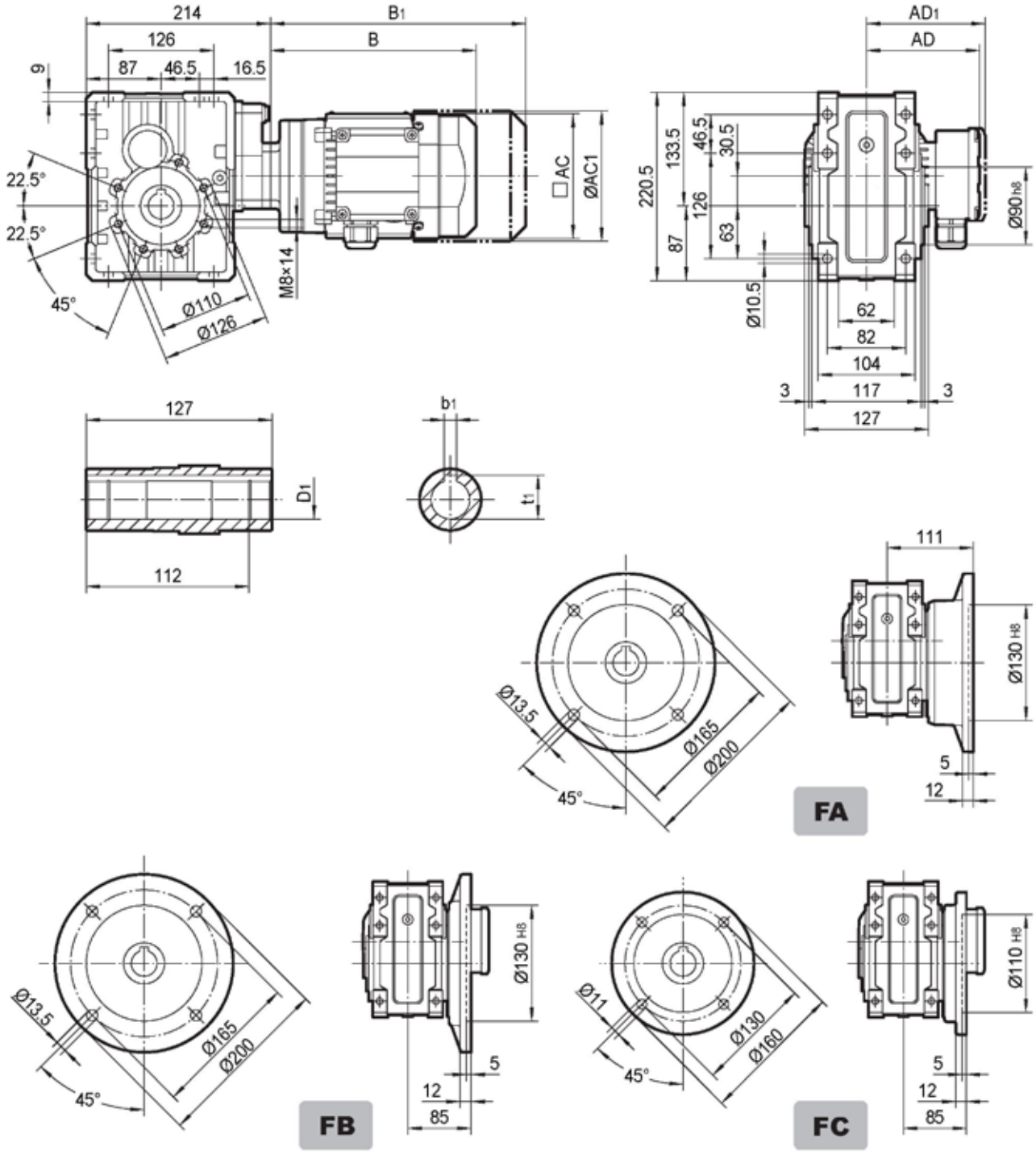

| MV.. | B | B1 | AC | AC1 | AD | AD1 | D1 H8 | b1 | t1 |
|---|---|---|---|---|---|---|---|---|---|
| MV63.. | 207 | 262 | 132 | 132 | 105 | 105 | 25 | 8 | 28.3 |
| MV71.. | 222 | 286 | 134 | 148 | 122 | 127 | 28 * | 8 | 31.3 |
| MV80.. | 257 | 350 | 134 | 148 | 122 | 127 | * Only on request | | |
| | | | | | | | | | |
| | | | | | | | | | |

## MPB48B..MV..



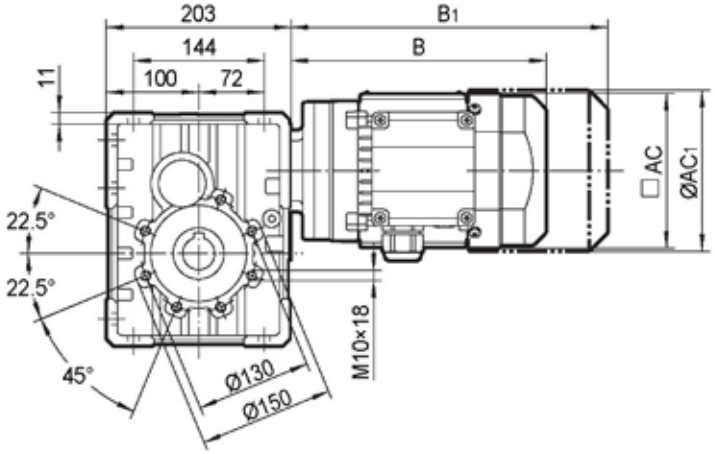

| MV.. | B | B1 | AC | AC1 | AD | AD1 | D1 H8 | b1 | t1 |
|---|---|---|---|---|---|---|---|---|---|
| MV71.. | 226 | 290 | 134 | 148 | 122 | 127 | 28* | 8 | 31.3 |
| MV80.. | 261 | 354 | 134 | 148 | 122 | 127 | 30 | 8 | 33.3 |
| MV90.. | 285 | 370 | 182 | 203 | 154 | 161 | 35* | 10 | 38.3 |
| MV100M.. | 325 | 410 | 182 | 203 | 154 | 161 | * Only on request | | |
| MV100L.. | 355 | 440 | 182 | 203 | 154 | 161 | | | |
| MV112.. | 373 | 453 | 206 | 221 | 179 | 182 | | | |

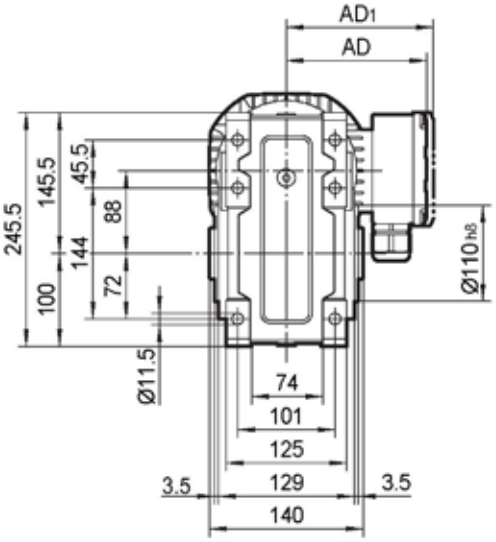
## MPB48B..MV..

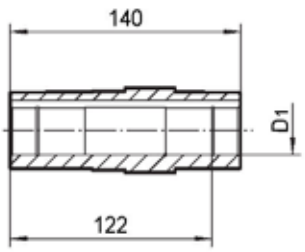


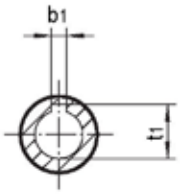

| MV.. | B | B1 | AC | AC1 | AD | AD1 | D1 H8 | b1 | t1 |
|---|---|---|---|---|---|---|---|---|---|
| MV63.. | 211 | 266 | 132 | 132 | 105 | 105 | 28 * | 8 | 31.3 |
| MV71.. | 226 | 290 | 134 | 148 | 122 | 127 | 30 | 8 | 33.3 |
| MV80.. | 261 | 354 | 134 | 148 | 122 | 127 | 35 * | 10 | 38.3 |
| MV90.. | 285 | 370 | 182 | 203 | 154 | 161 | * Only on request | | |
| | | | | | | | | | |
| | | | | | | | | | |

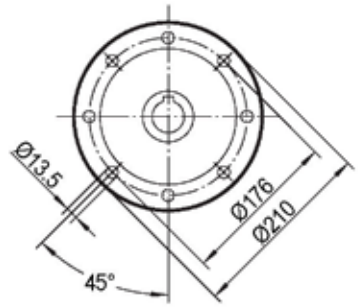
## *MPB58B..MV..*

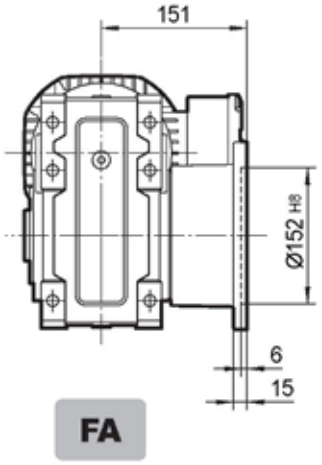


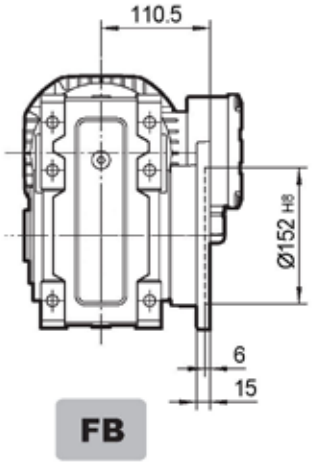



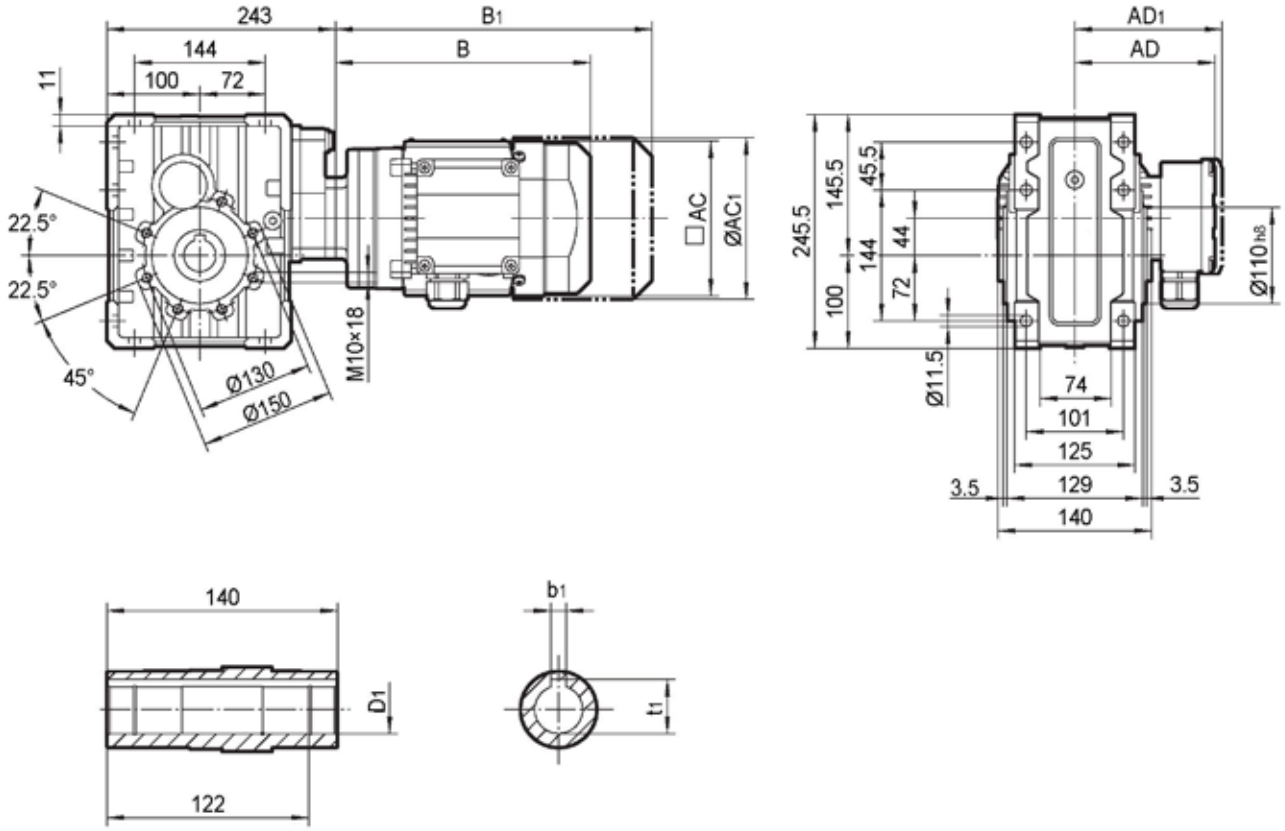



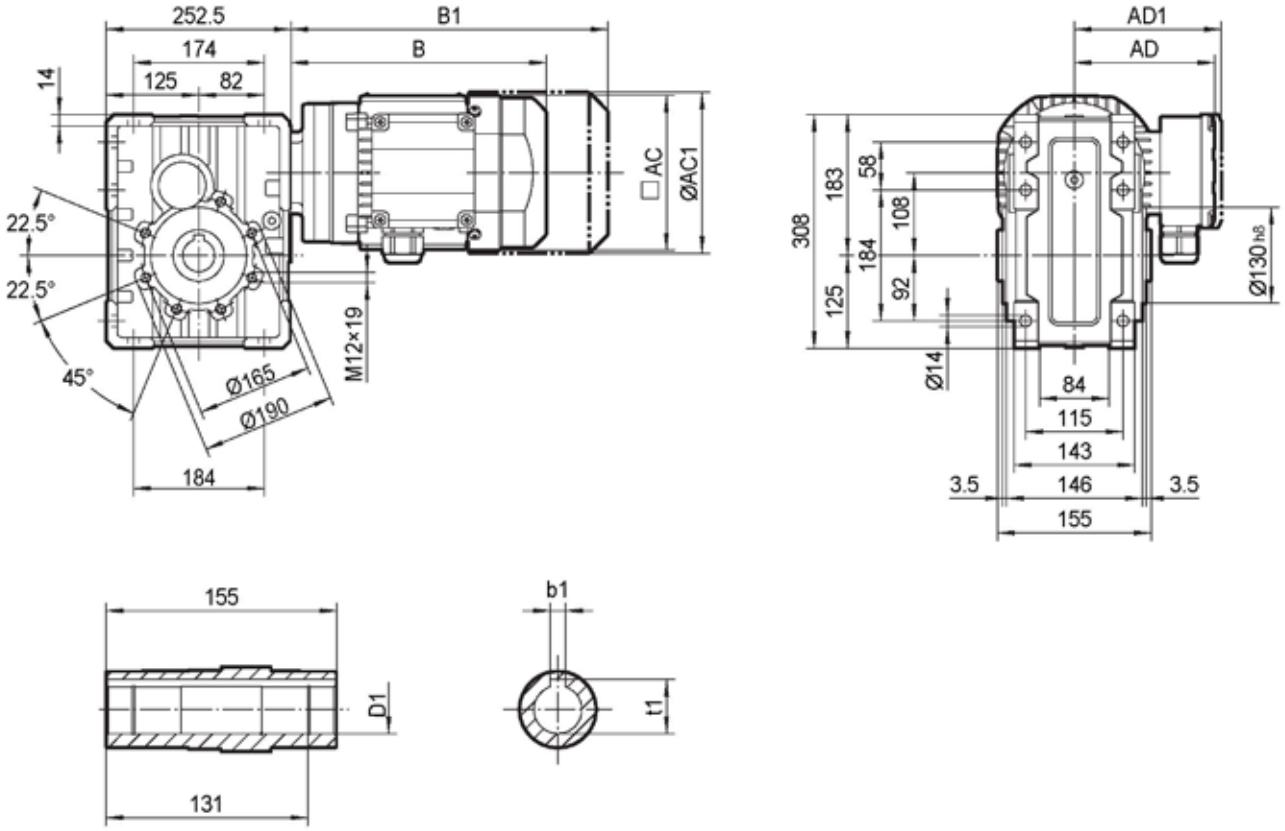

| MV.. | B | B1 | AC | AC1 | AD | AD1 | D1 H8 | b1 | t1 |
|---|---|---|---|---|---|---|---|---|---|
| MV71.. | 226 | 290 | 134 | 148 | 122 | 127 | 35 | 10 | 38.3 |
| MV80.. | 261 | 354 | 134 | 148 | 122 | 127 | 38* | 10 | 41.3 |
| MV90.. | 285 | 370 | 182 | 203 | 154 | 161 | * Only on request | | |
| MV100M.. | 325 | 410 | 182 | 203 | 154 | 161 | | | |
| MV100L.. | 355 | 440 | 182 | 203 | 154 | 161 | | | |
| MV112.. | 373 | 453 | 206 | 221 | 179 | 182 | | | |

## MPB58C..MV..



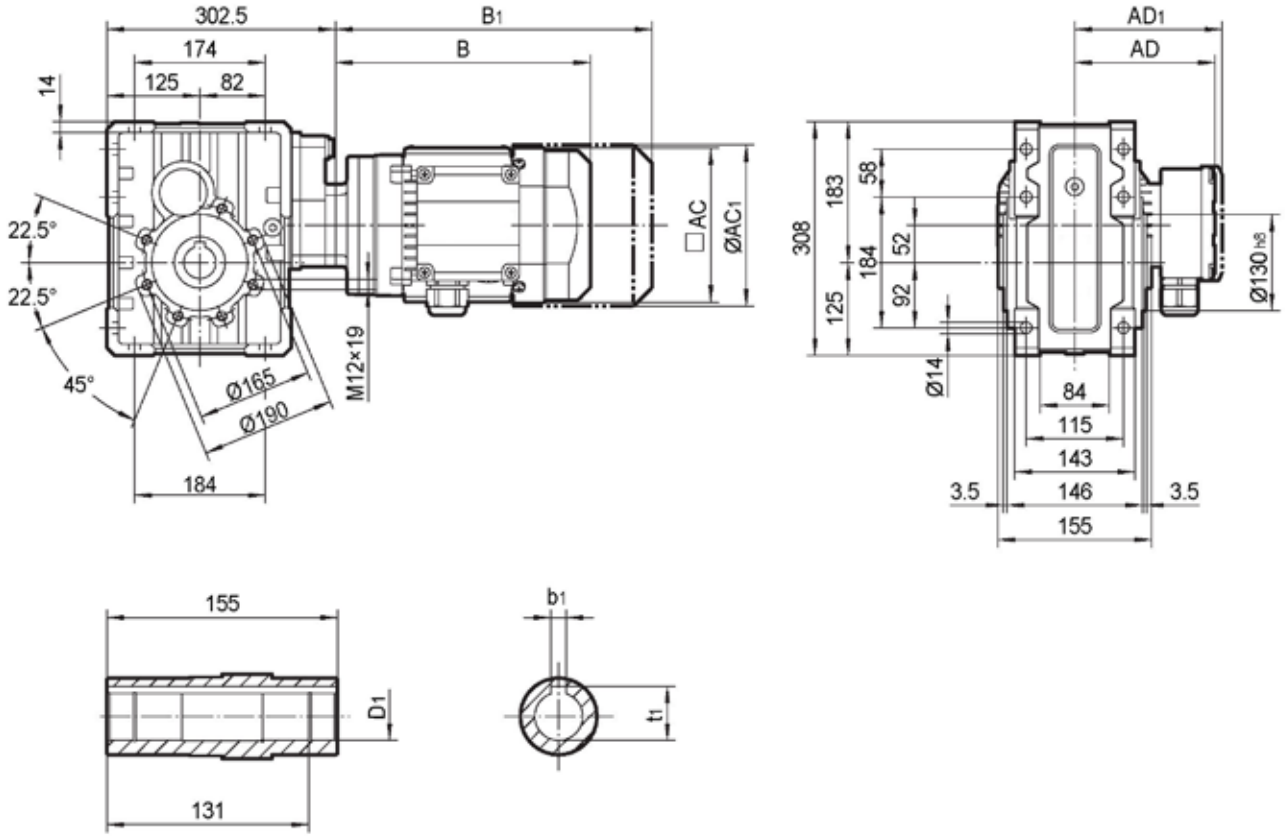

| MV.. | B | B1 | AC | AC1 | AD | AD1 | D1 H8 | b1 | t1 |
|---|---|---|---|---|---|---|---|---|---|
| MV63.. | 211 | 266 | 132 | 132 | 105 | 105 | 35 | 10 | 38.3 |
| MV71.. | 226 | 290 | 134 | 148 | 122 | 127 | 38 * | 10 | 41.3 |
| MV80.. | 261 | 354 | 134 | 148 | 122 | 127 | * Only on request | | |
| MV90.. | 285 | 370 | 182 | 203 | 154 | 161 | | | |
| | | | | | | | | | |
| | | | | | | | | | |

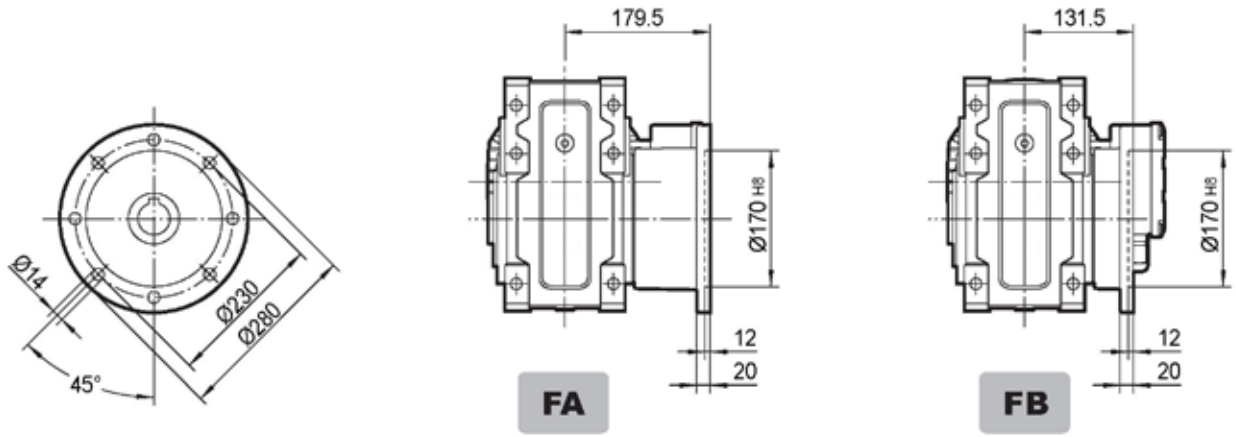
## *MPB68B..MV..*




| MV.. | B | B1 | AC | AC1 | AD | AD1 | D1 H8 | b1 | t1 |
|---|---|---|---|---|---|---|---|---|---|
| MV80.. | 267 | 360 | 134 | 148 | 122 | 127 | 40 * | 12 | 43.3 |
| MV90.. | 291 | 376 | 182 | 203 | 154 | 161 | 42 | 12 | 45.3 |
| MV100M.. | 331 | 416 | 182 | 203 | 154 | 161 | * Only on request | | |
| MV100L.. | 361 | 446 | 182 | 203 | 154 | 161 | | | |
| MV112.. | 379 | 459 | 206 | 221 | 179 | 182 | | | |
| MV132.. | 424 | 504 | 206 | 221 | 179 | 182 | | | |

## MPB68C..MV..

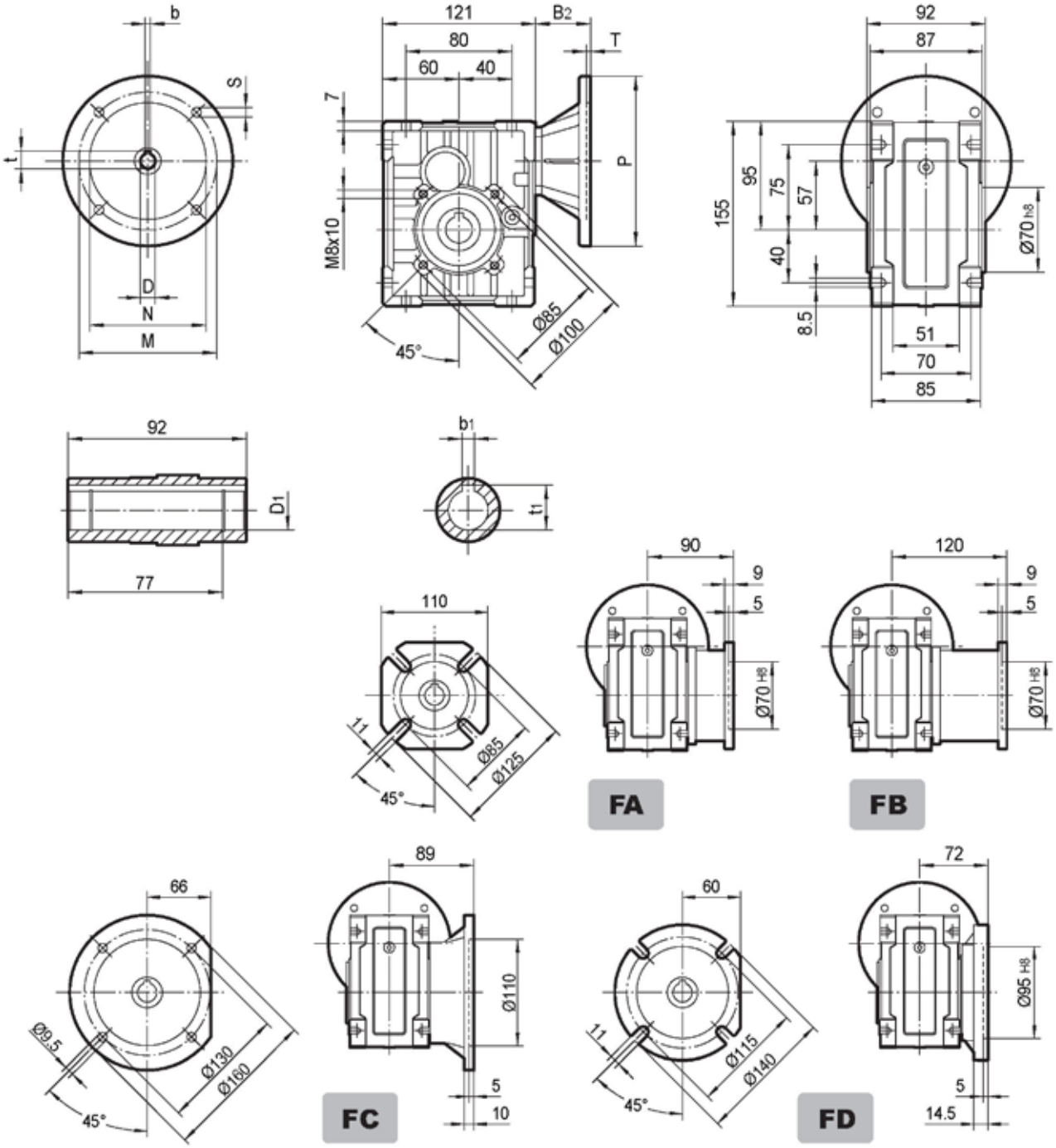



| MV.. | B | B1 | AC | AC1 | AD | AD1 | D1 H8 | b1 | t1 |
|---|---|---|---|---|---|---|---|---|---|
| MV71.. | 232 | 325 | 134 | 148 | 122 | 127 | 40 * | 12 | 43.3 |
| MV80.. | 267 | 360 | 134 | 148 | 122 | 127 | 42 | 12 | 45.3 |
| MV90.. | 291 | 376 | 182 | 203 | 154 | 161 | * Only on request | | |
| MV100M.. | 331 | 416 | 182 | 203 | 154 | 161 | | | |
| MV100L.. | 361 | 446 | 182 | 203 | 154 | 161 | | | |
| | | | | | | | | | |

### *7.3 MPR..(IEC) Outline Dimension*

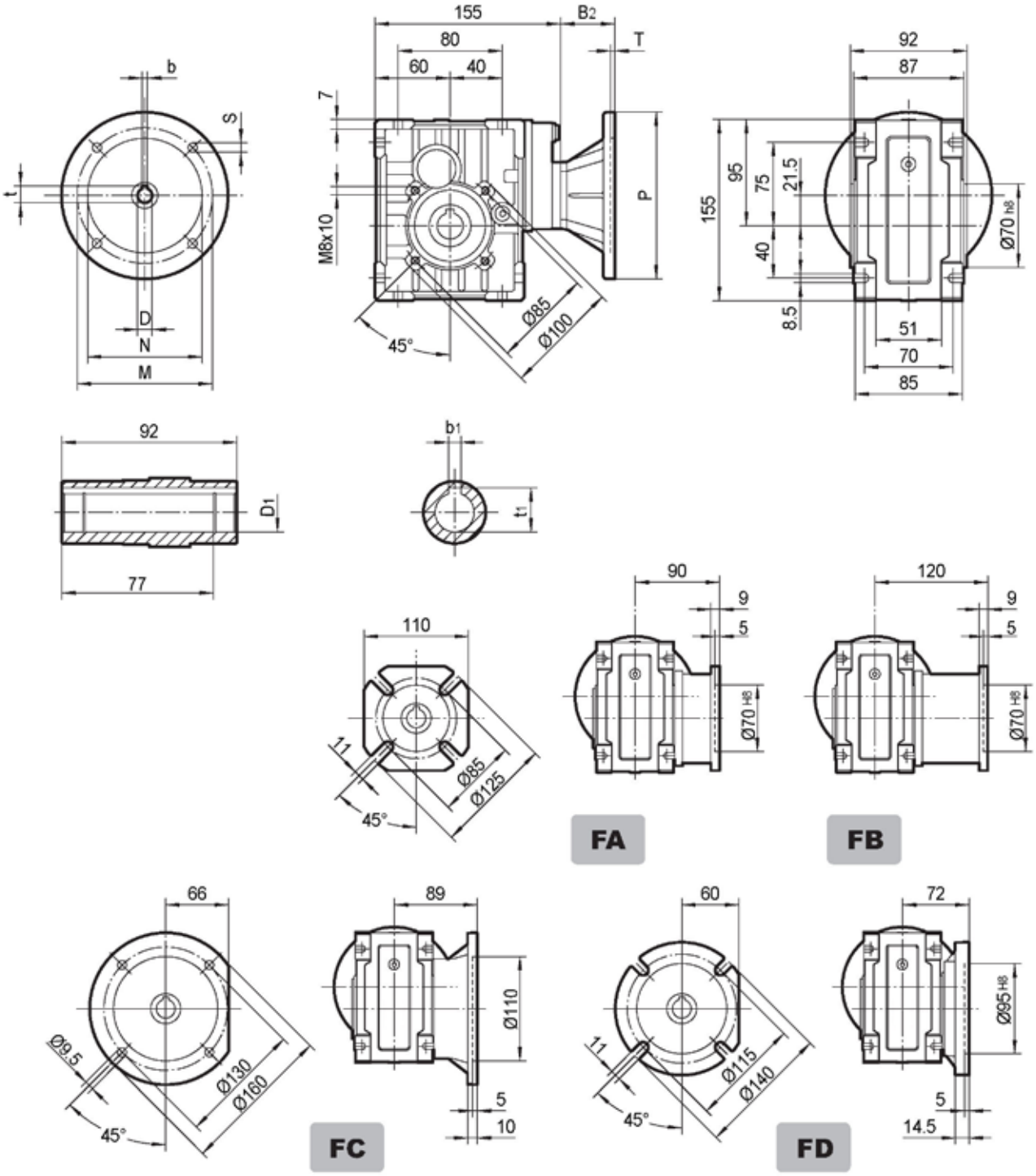
## *MPR28B..(IEC)*




| IEC | DE8 | b | t | P | M | N | S | T | B2 | D1 H8 | b1 | t1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **63B5** | 11 | 4 | 12.8 | 140 | 115 | 95 | 9 | 4 | 45 | 24 | 6 | 22.8 |
| **71B5** | 14 | 5 | 16.3 | 160 | 130 | 110 | 9 | 4 | 52 | 25 | 8 | 27.3 |
| **71B14** | 14 | 5 | 16.3 | 105 | 85 | 70 | 7 | 4 | 52 | * Only on request | | |
| **80B5** | 19 | 6 | 21.8 | 200 | 165 | 130 | 11 | 4 | 72 | | | |
| **80B14** | 19 | 6 | 21.8 | 120 | 100 | 80 | 7 | 4 | 72 | | | |
| **90B5** | 24 | 8 | 27.3 | 200 | 165 | 130 | 11 | 4 | 72 | | | |
| **90B14** | 24 | 8 | 27.3 | 140 | 115 | 95 | 9 | 4 | 72 | | | |

Weight without motor
≈ 4.2 kg

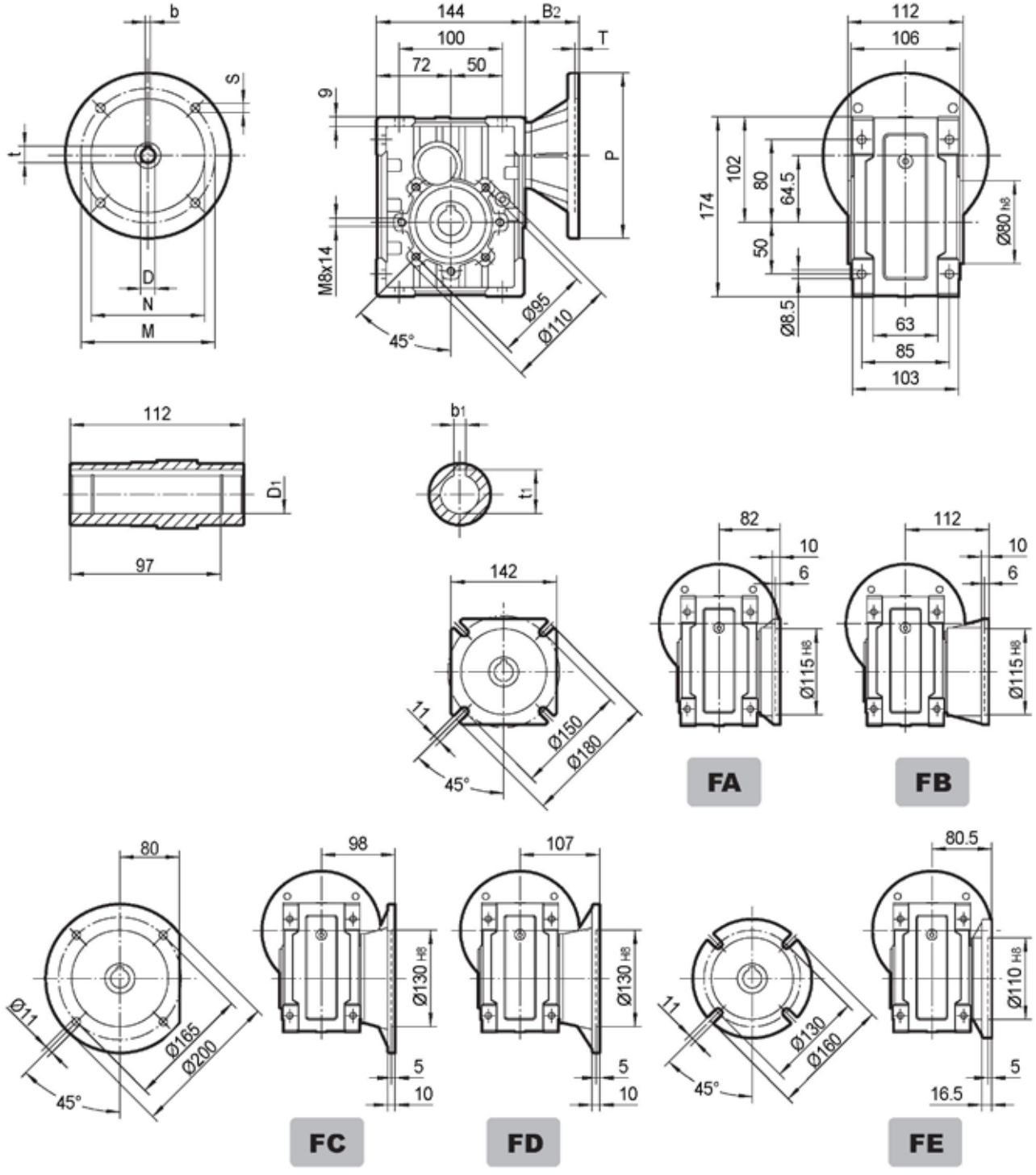
## MPR28C..(IEC)




| IEC | $D_{E8}$ | b | t | P | M | N | S | T | $B_2$ | $D_{1\ H8}$ | $b_1$ | $t_1$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **63B5** | 11 | 4 | 12.8 | 140 | 115 | 95 | 9 | 4 | 45 | 24 | 6 | 22.8 |
| **71B5** | 14 | 5 | 16.3 | 160 | 130 | 110 | 9 | 4 | 52 | 25 | 8 | 27.3 |
| **71B14** | 14 | 5 | 16.3 | 105 | 85 | 70 | 7 | 4 | 52 | * Only on request | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |

Weight without motor
≈ 5 kg

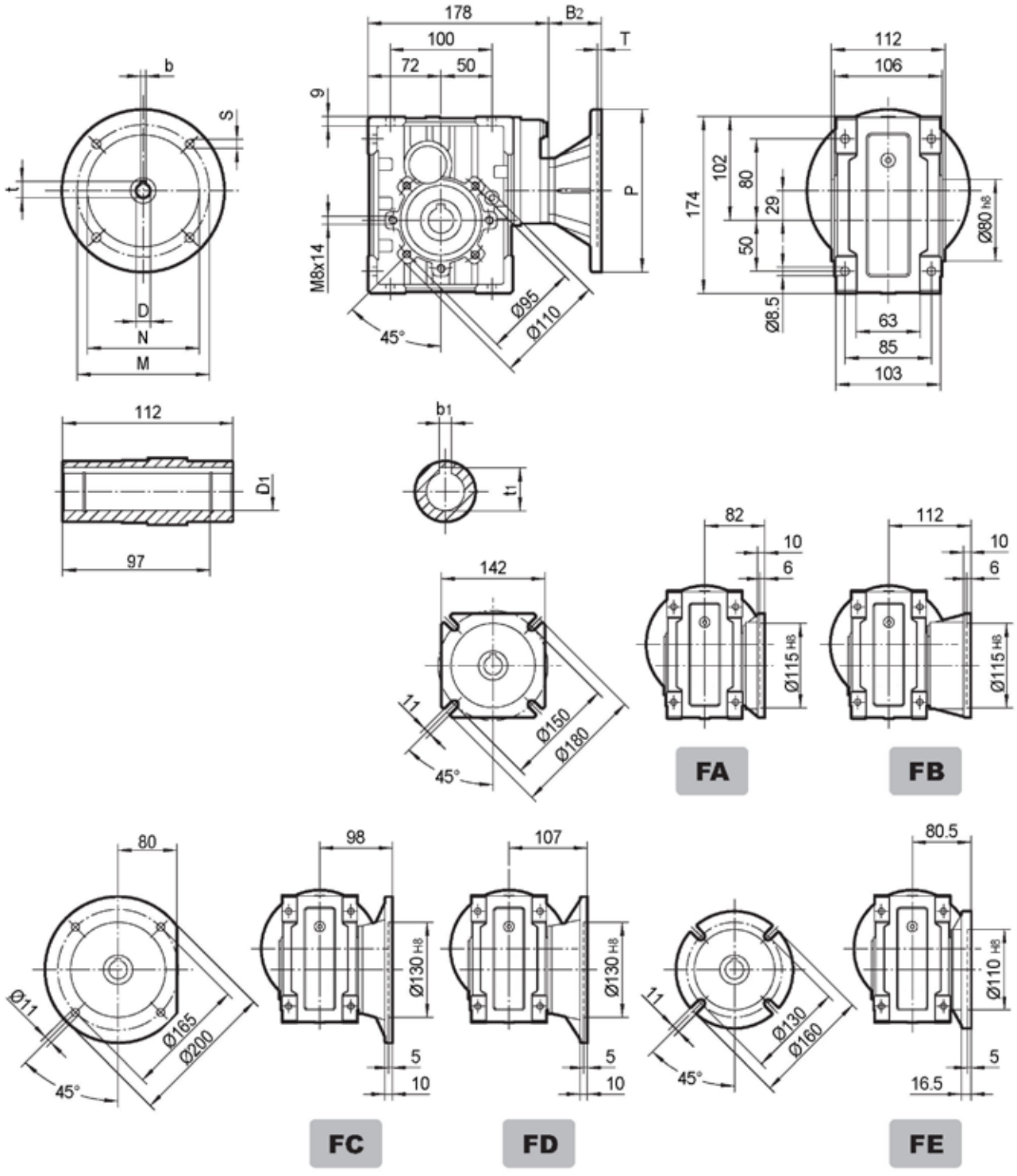
## *MPR38B..(IEC)*




| IEC | $D_{E8}$ | b | t | P | M | N | S | T | $B_2$ | $D_{1\ H8}$ | $b_1$ | $t_1$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **63B5** | 11 | 4 | 12.8 | 140 | 115 | 95 | 9 | 4 | 45 | 25 | 8 | 28.3 |
| **71B5** | 14 | 5 | 16.3 | 160 | 130 | 110 | 9 | 4 | 52 | 28* | 8 | 31.3 |
| **71B14** | 14 | 5 | 16.3 | 105 | 85 | 70 | 7 | 4 | 52 | * Only on request | | |
| **80B5** | 19 | 6 | 21.8 | 200 | 165 | 130 | 11 | 4 | 72 | | | |
| **80B14** | 19 | 6 | 21.8 | 120 | 100 | 80 | 7 | 4 | 72 | | | |
| **90B5** | 24 | 8 | 27.3 | 200 | 165 | 130 | 11 | 4 | 72 | | | |
| **90B14** | 24 | 8 | 27.3 | 140 | 115 | 95 | 9 | 4 | 72 | | | |

Weight without motor
≈ 6.0 kg

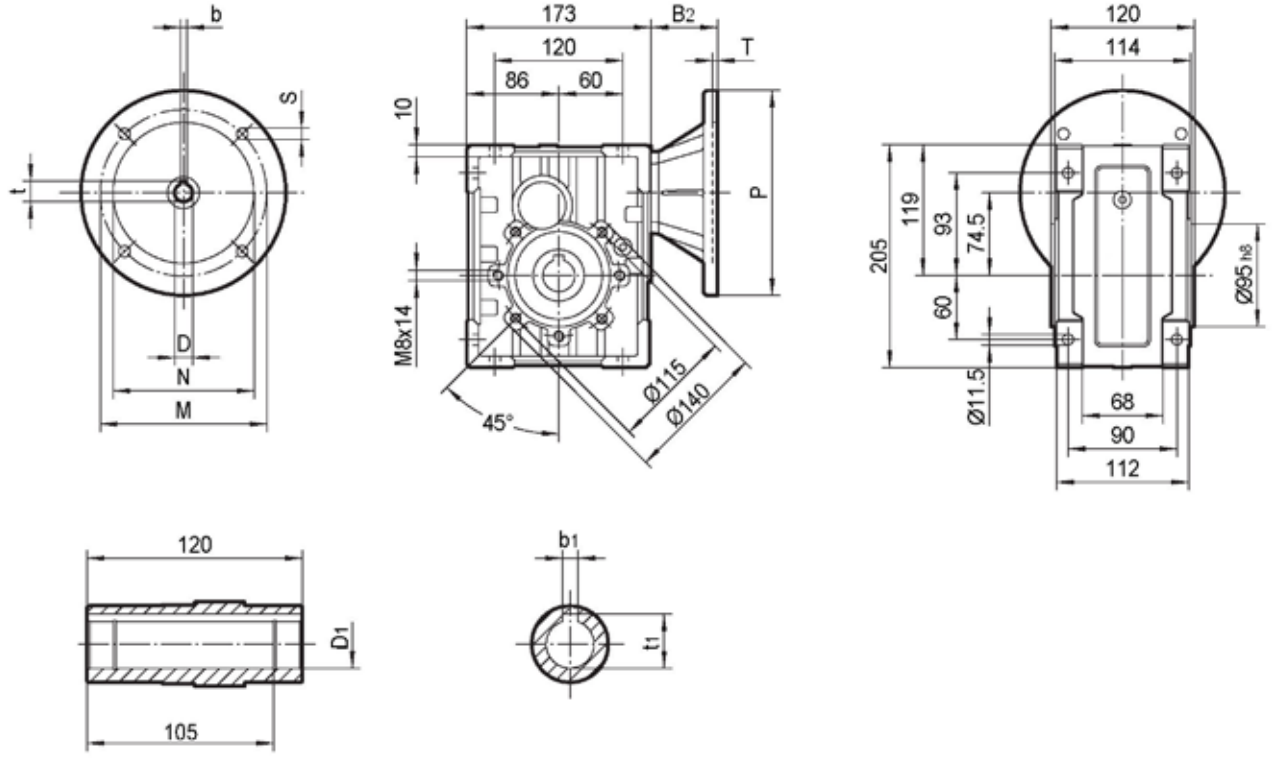
## MPR38C..(IEC)..

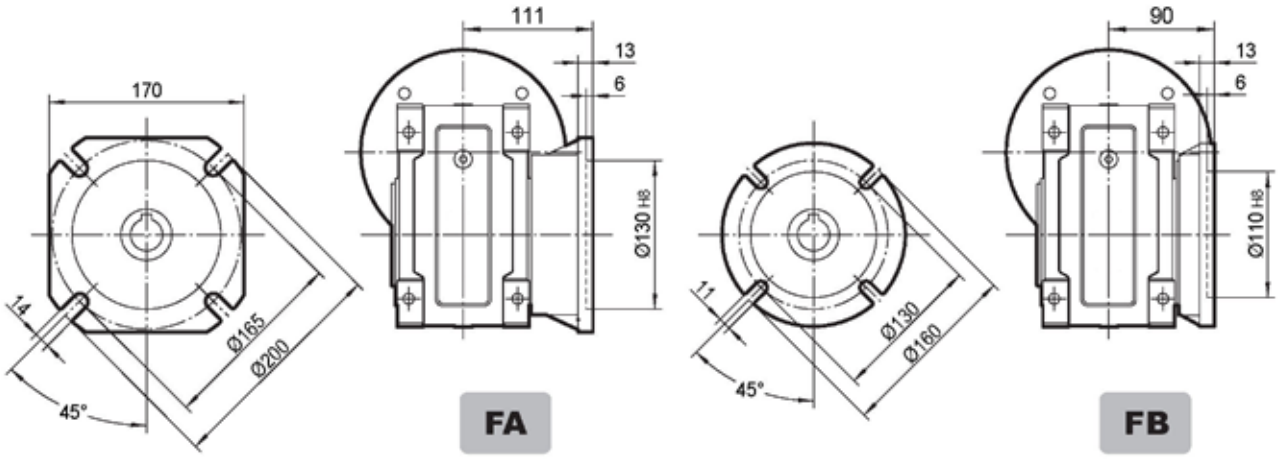



| IEC | D E8 | b | t | P | M | N | S | T | B2 | D1 H8 | b1 | t1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **63B5** | 11 | 4 | 12.8 | 140 | 115 | 95 | 9 | 4 | 45 | 25 | 8 | 28.3 |
| **71B5** | 14 | 5 | 16.3 | 160 | 130 | 110 | 9 | 4 | 52 | 28* | 8 | 31.3 |
| **71B14** | 14 | 5 | 16.3 | 105 | 85 | 70 | 7 | 4 | 52 | * Only on request | | |
| **80B5** | 19 | 6 | 21.8 | 200 | 165 | 130 | 11 | 4 | 72 | | | |
| **80B14** | 19 | 6 | 21.8 | 120 | 100 | 80 | 7 | 4 | 72 | | | |

Weight without motor
≈ 6.8 kg

## *MPR48B..(IEC)*

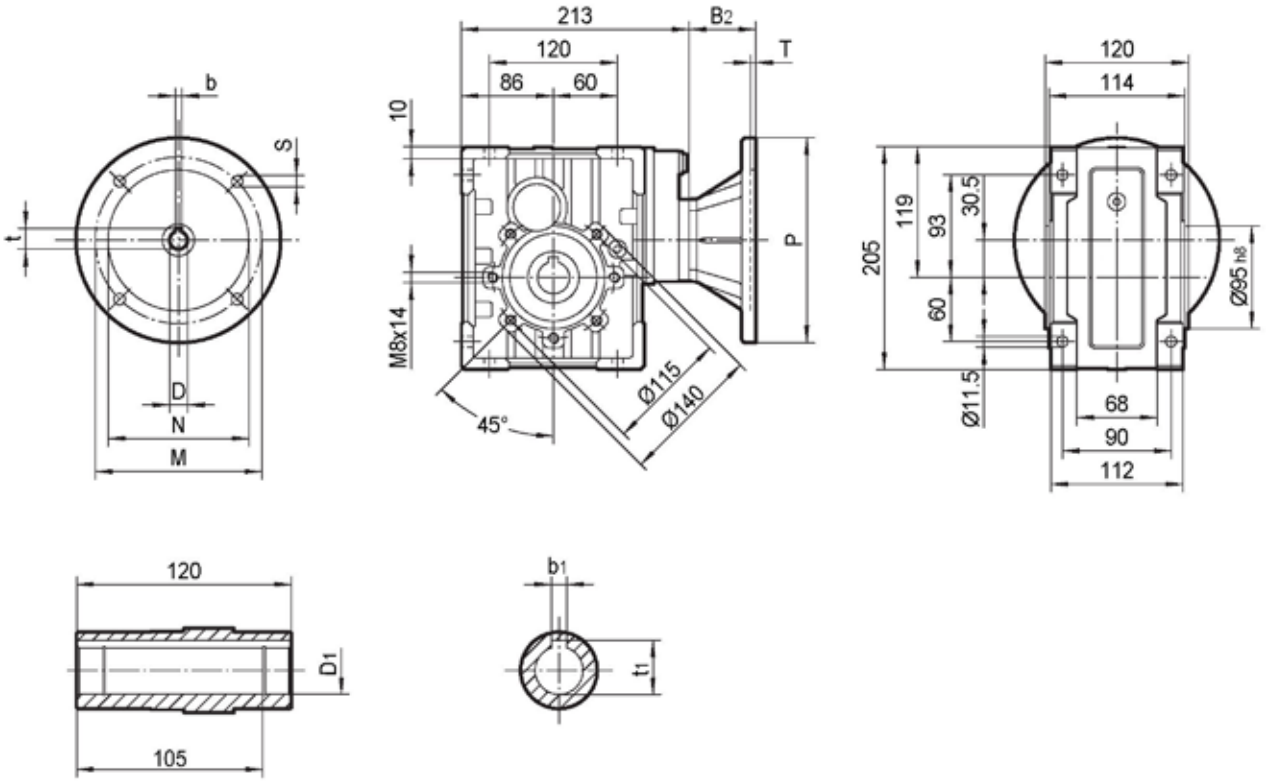


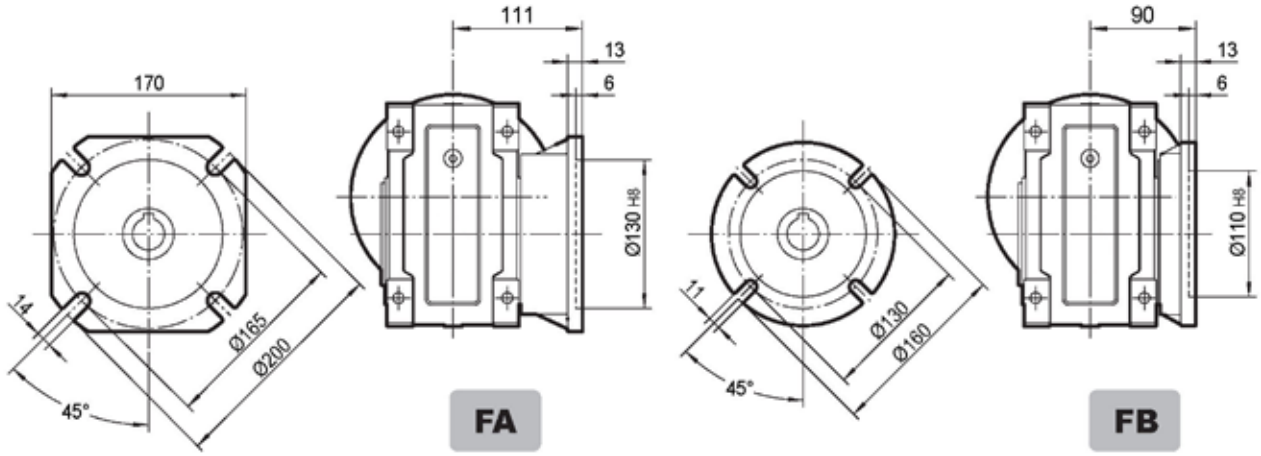




| IEC | D E8 | b | t | P | M | N | S | T | B2 | D1 H8 | b1 | t1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **71B5** | 14 | 5 | 16.3 | 160 | 130 | 110 | 9 | 4 | 59 | 28 | 8 | 31.3 |
| **80B5** | 19 | 6 | 21.8 | 200 | 165 | 130 | 11 | 4 | 79 | 30 * | 8 | 33.3 |
| **80B14** | 19 | 6 | 21.8 | 120 | 100 | 80 | 7 | 4 | 79 | 35 * | 10 | 38.3 |
| **90B5** | 24 | 8 | 27.3 | 200 | 165 | 130 | 11 | 4 | 79 | * Only on request | | |
| **90B14** | 24 | 8 | 27.3 | 140 | 115 | 95 | 9 | 4 | 79 | | | |
| **100/112B5** | 28 | 8 | 31.3 | 250 | 215 | 180 | 13.5 | 4.5 | 89 | | | |
| **100/112B14** | 28 | 8 | 31.3 | 160 | 130 | 110 | 9 | 4.5 | 89 | | | |

Weight without motor
≈ 9.2 kg

## MPR48C..(IEC)

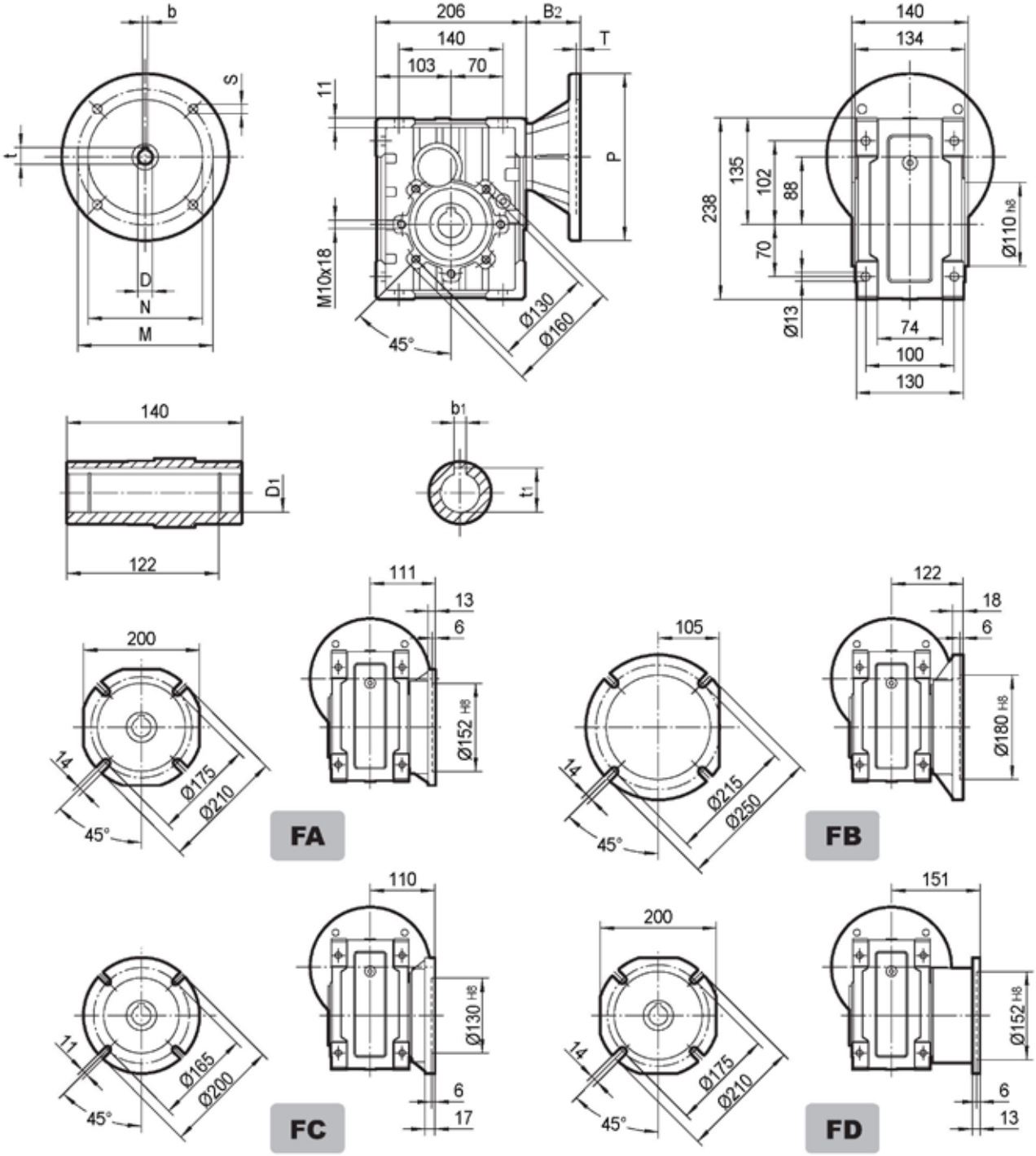



| IEC | D E8 | b | t | P | M | N | S | T | B2 | D1 H8 | b1 | t1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **63B5** | 11 | 4 | 12.8 | 140 | 115 | 95 | 9 | 4 | 52 | 28 | 8 | 31.3 |
| **71B5** | 14 | 5 | 16.3 | 160 | 130 | 110 | 9 | 4 | 59 | 30* | 8 | 33.3 |
| **80B5** | 19 | 6 | 21.8 | 200 | 165 | 130 | 11 | 4 | 79 | 35* | 10 | 38.3 |
| **80B14** | 19 | 6 | 21.8 | 120 | 100 | 80 | 7 | 4 | 79 | * Only on request | | |
| **90B5** | 24 | 8 | 27.3 | 200 | 165 | 130 | 11 | 4 | 79 | | | |
| **90B14** | 24 | 8 | 27.3 | 140 | 115 | 95 | 9 | 4 | 79 | | | |

Weight without motor
≈ 10.8 kg

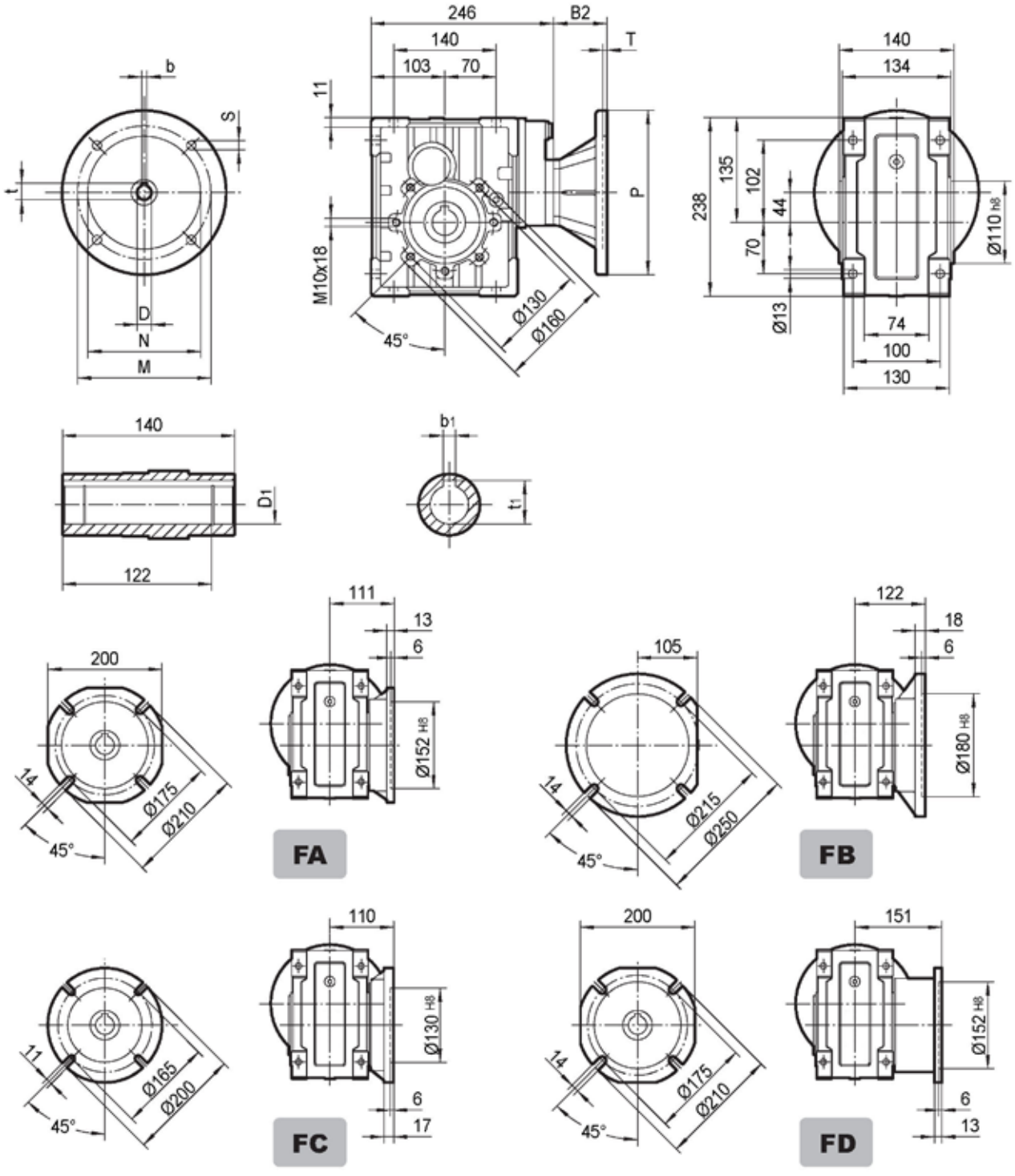
## *MPR58B..(IEC)*




| IEC | $D_{E8}$ | b | t | P | M | N | S | T | $B_2$ | $D_{1\ H8}$ | $b_1$ | $t_1$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **71B5** | 14 | 5 | 16.3 | 160 | 130 | 110 | 9 | 4 | 59 | 35 | 10 | 38.3 |
| **80B5** | 19 | 6 | 21.8 | 200 | 165 | 130 | 11 | 4 | 79 | 38* | 10 | 41.3 |
| **80B14** | 19 | 6 | 21.8 | 120 | 100 | 80 | 7 | 4 | 79 | * Only on request | | |
| **90B5** | 24 | 8 | 27.3 | 200 | 165 | 130 | 11 | 4 | 79 | | | |
| **90B14** | 24 | 8 | 27.3 | 140 | 115 | 95 | 9 | 4 | 79 | | | |
| **100/112B5** | 28 | 8 | 31.3 | 250 | 215 | 180 | 13.5 | 4.5 | 89 | | | |
| **100/112B14** | 28 | 8 | 31.3 | 160 | 130 | 110 | 9 | 4.5 | 89 | | | |

Weight without motor
≈ 13.3 kg

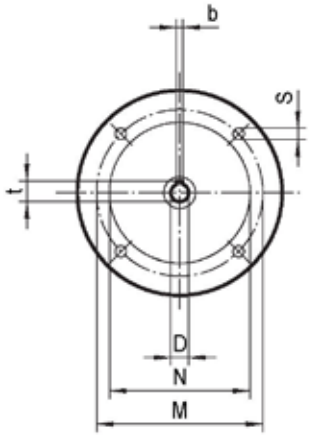
## MPR58C..(IEC)

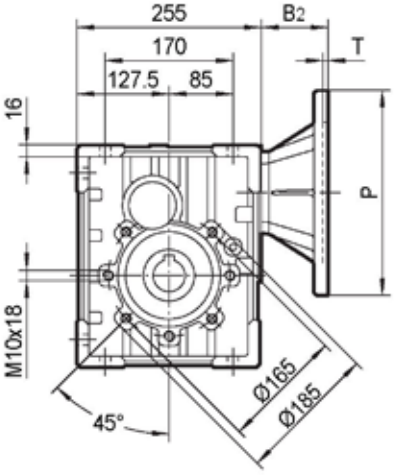


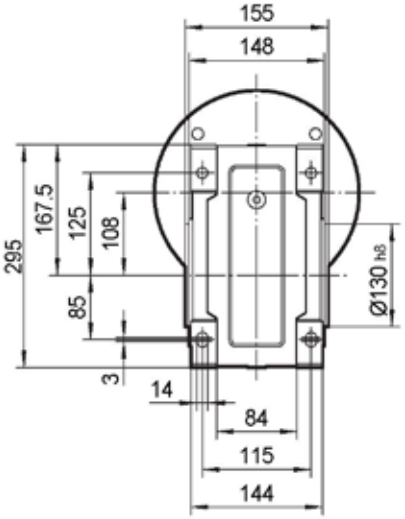

| IEC | $D_{E8}$ | b | t | P | M | N | S | T | $B_2$ | $D_{1\ H8}$ | $b_1$ | $t_1$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **63B5** | 11 | 4 | 12.8 | 140 | 115 | 95 | 9 | 4 | 52 | 35 | 10 | 38.3 |
| **71B5** | 14 | 5 | 16.3 | 160 | 130 | 110 | 9 | 4 | 59 | 38* | 10 | 41.3 |
| **80B5** | 19 | 6 | 21.8 | 200 | 165 | 130 | 11 | 4 | 79 | * Only on request | | |
| **80B14** | 19 | 6 | 21.8 | 120 | 100 | 80 | 7 | 4 | 79 | | | |
| **90B5** | 24 | 8 | 27.3 | 200 | 165 | 130 | 11 | 2 | 79 | | | |
| **90B14** | 24 | 8 | 27.3 | 140 | 115 | 95 | 9 | 4 | 79 | | | |

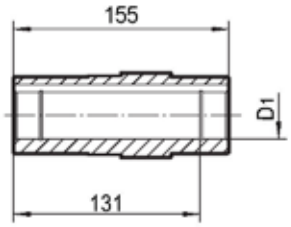
Weight without motor
≈ 14.8 kg

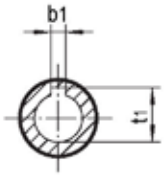
## *MPR68B..(IEC)*

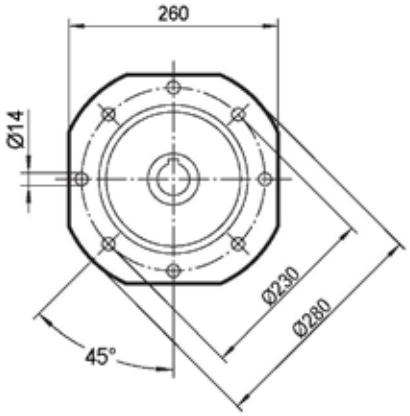


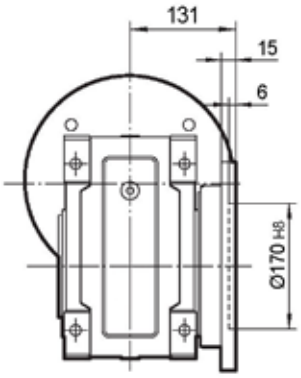



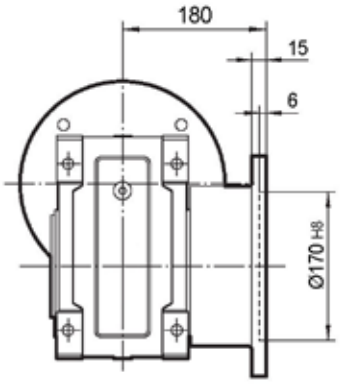




**FA**

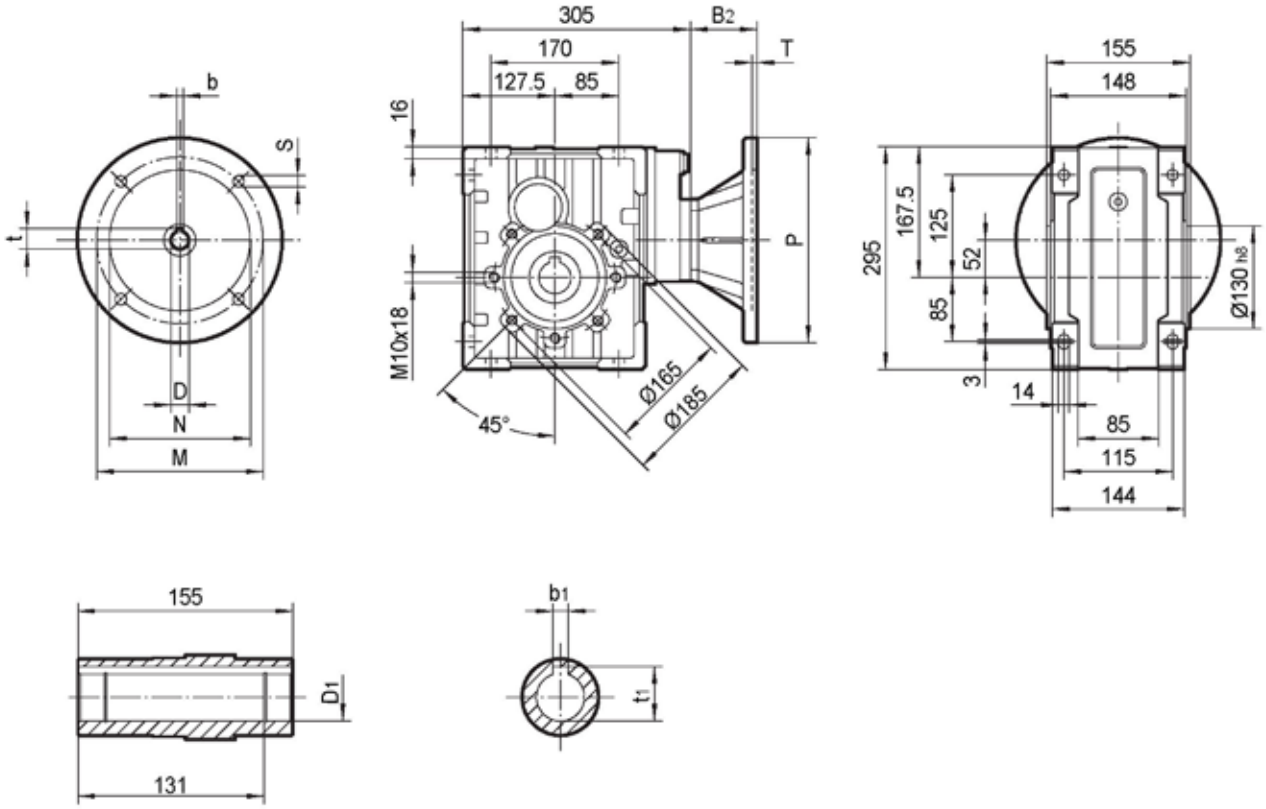


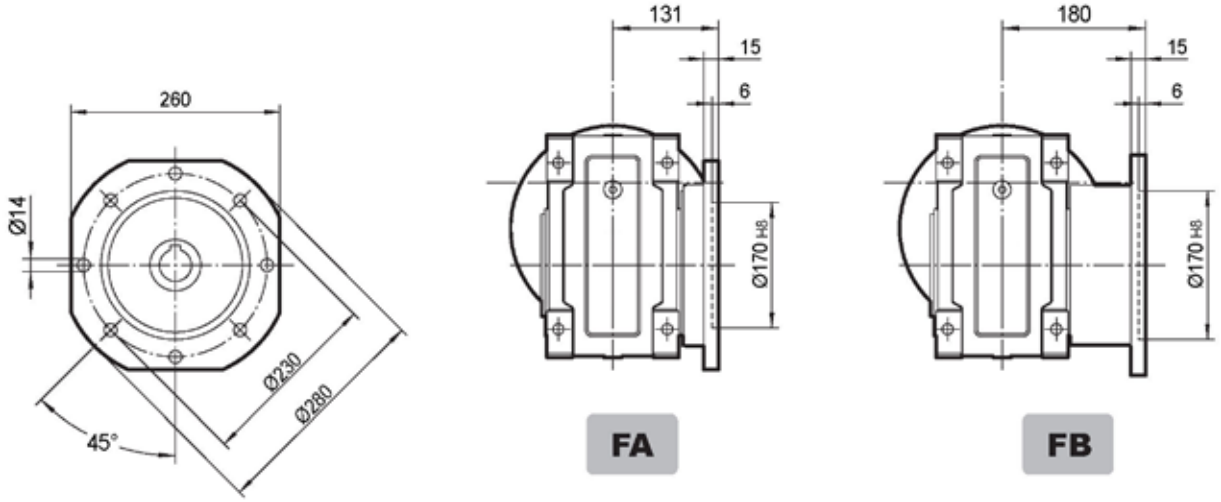

**FB**

| IEC | $D_{E8}$ | b | t | P | M | N | S | T | $B_2$ | $D1_{H8}$ | b1 | t1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **71B5** | 14 | 5 | 16.3 | 160 | 130 | 110 | 9 | 4 | 64 | 40* | 12 | 43.3 |
| **80B5** | 19 | 6 | 21.8 | 200 | 165 | 130 | 11 | 4 | 84 | 42 | 12 | 45.3 |
| **90B5** | 24 | 8 | 27.3 | 200 | 165 | 130 | 11 | 4 | 84 | * Only on request | | |
| **100/112B5** | 28 | 8 | 31.3 | 250 | 215 | 180 | 13.5 | 4.5 | 94 | | | |
| **100/112B14** | 28 | 8 | 31.3 | 160 | 130 | 110 | 9 | 4.5 | 94 | | | |
| **132B5** | 38 | 10 | 41.3 | 300 | 265 | 230 | 14 | 4.5 | 114 | | | |

Weight without motor
≈ 21.5 kg

## MPR68C..(IEC)



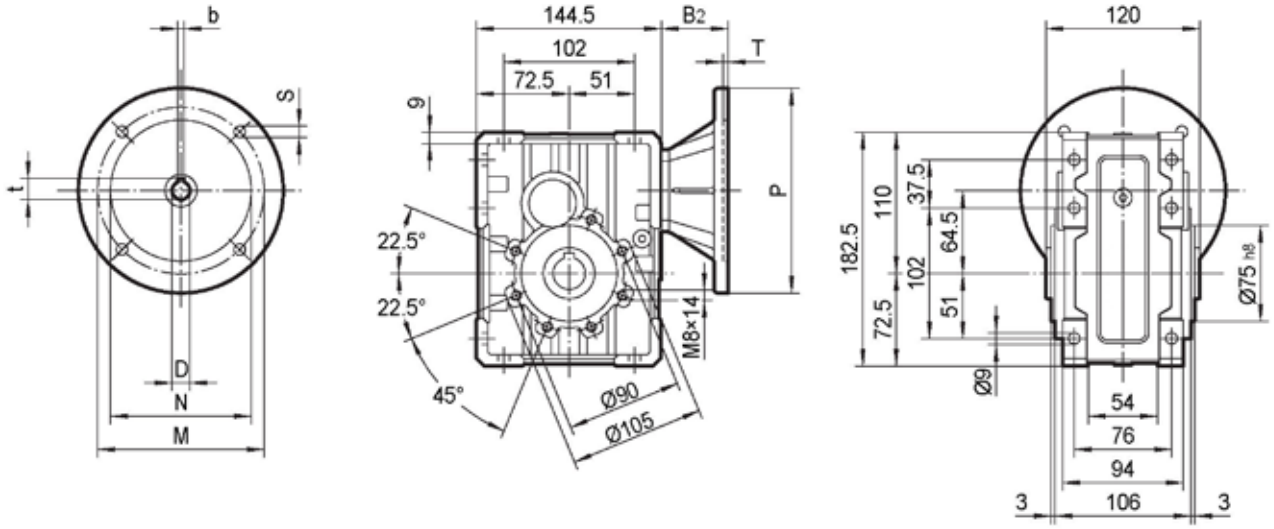



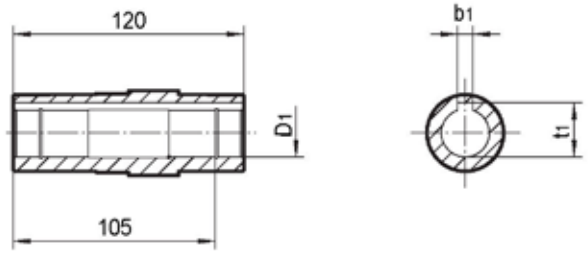

| IEC | D E8 | b | t | P | M | N | S | T | B2 | D1 H8 | b1 | t1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **71B5** | 14 | 5 | 16.3 | 160 | 130 | 110 | 9 | 4 | 64 | 40* | 12 | 43.3 |
| **80B5** | 19 | 6 | 21.8 | 200 | 165 | 130 | 11 | 4 | 84 | 42 | 12 | 45.3 |
| **90B5** | 24 | 8 | 27.3 | 200 | 165 | 130 | 11 | 4 | 84 | * Only on request | | |
| **100B5** | 28 | 8 | 31.3 | 250 | 215 | 180 | 13.5 | 4.5 | 94 | | | |
| **10014** | 28 | 8 | 31.3 | 160 | 130 | 110 | 9 | 4.5 | 94 | | | |

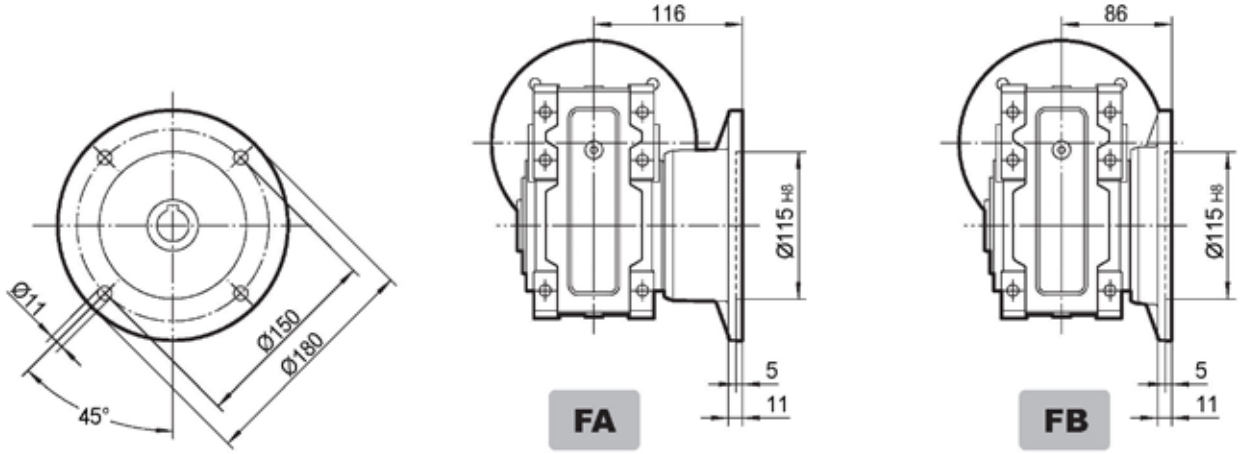
Weight without motor
≈ 23.5 kg

### *7.4 MPB..(IEC) Outline Dimension*

## *MPB38B..(IEC)*



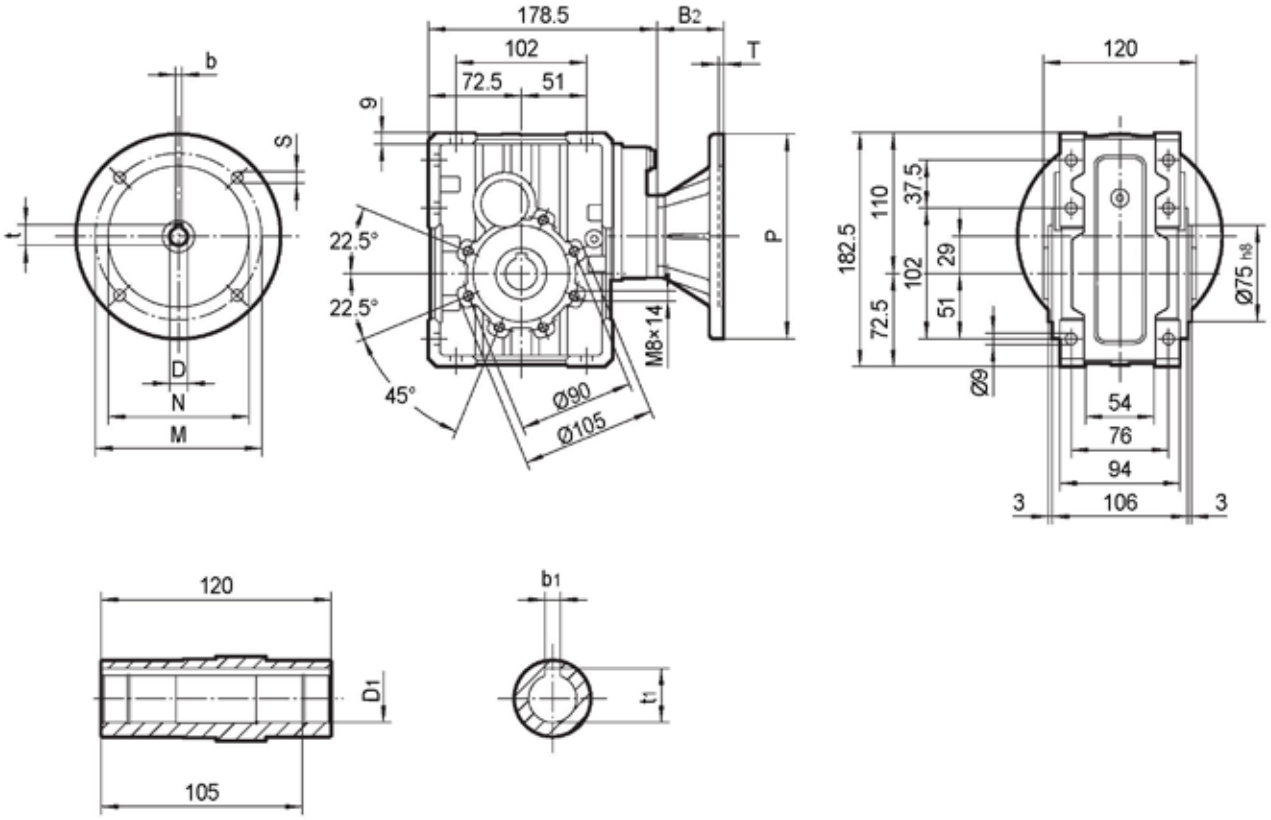



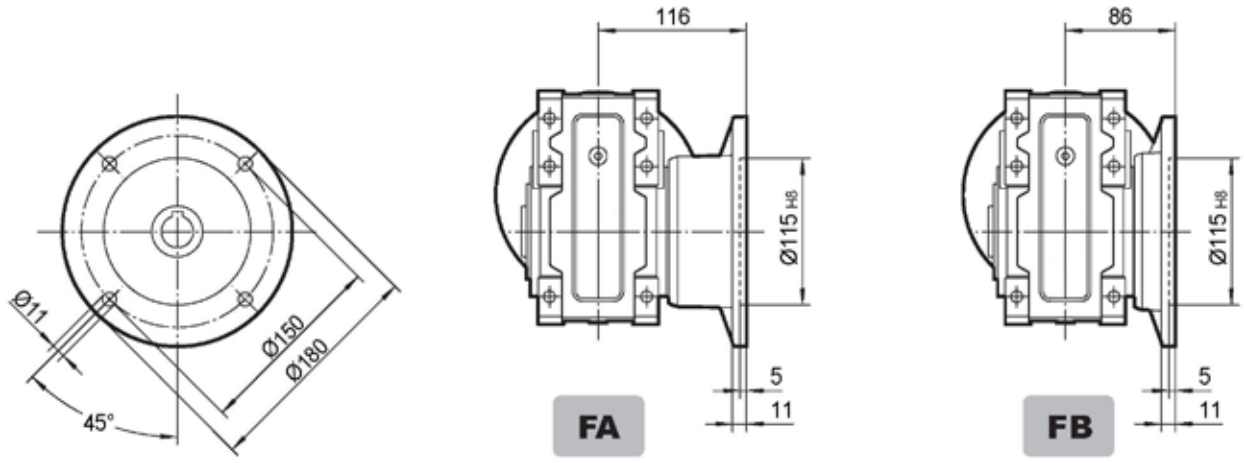




| IEC | $D_{E8}$ | b | t | P | M | N | S | T | $B_2$ | $D_{1\ H8}$ | $b_1$ | $t_1$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **63B5** | 11 | 4 | 12.8 | 140 | 115 | 95 | 9 | 4 | 45 | 25 | 8 | 28.3 |
| **71B5** | 14 | 5 | 16.3 | 160 | 130 | 110 | 9 | 4 | 52 | 28 * | 8 | 31.3 |
| **71B14** | 14 | 5 | 16.3 | 105 | 85 | 70 | 7 | 4 | 52 | * Only on request | | |
| **80B5** | 19 | 6 | 21.8 | 200 | 165 | 130 | 11 | 4 | 72 | | | |
| **80B14** | 19 | 6 | 21.8 | 120 | 100 | 80 | 7 | 4 | 72 | | | |
| **90B5** | 24 | 8 | 27.3 | 200 | 165 | 130 | 11 | 4 | 72 | | | |
| **90B14** | 24 | 8 | 27.3 | 140 | 115 | 95 | 9 | 4 | 72 | | | |

Weight without motor
≈ 6.0 kg

## MPB38C..(IEC)

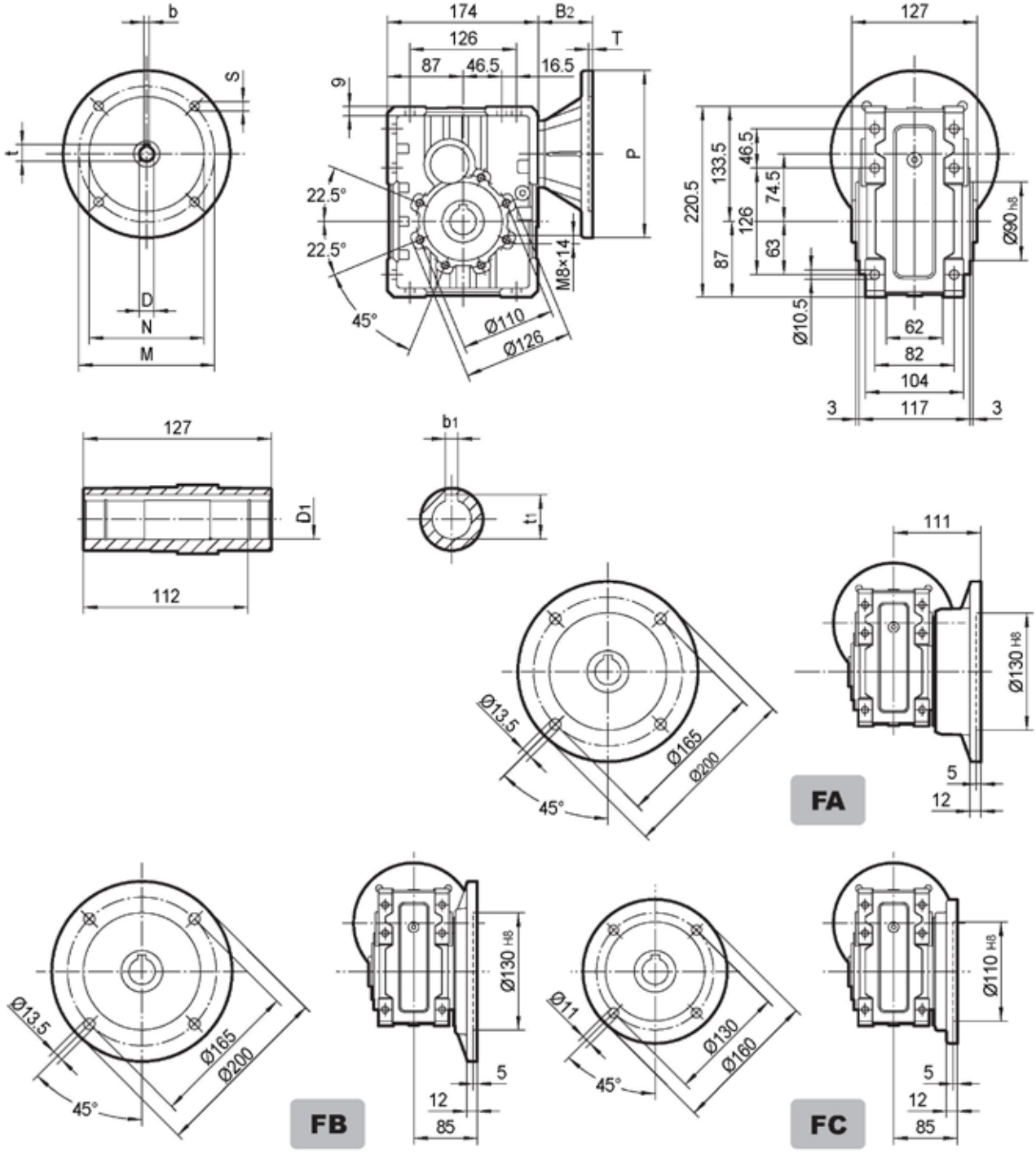



| IEC | D E8 | b | t | P | M | N | S | T | B2 | D1 H8 | b1 | t1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 63B5 | 11 | 4 | 12.8 | 140 | 115 | 95 | 9 | 4 | 45 | 25 | 8 | 28.3 |
| 71B5 | 14 | 5 | 16.3 | 160 | 130 | 110 | 9 | 4 | 52 | 28* | 8 | 31.3 |
| 71B14 | 14 | 5 | 16.3 | 105 | 85 | 70 | 7 | 4 | 52 | * Only on request | | |
| 80B5 | 19 | 6 | 21.8 | 200 | 165 | 130 | 11 | 4 | 72 | | | |
| 80B14 | 19 | 6 | 21.8 | 120 | 100 | 80 | 7 | 4 | 72 | | | |

Weight without motor
≈ 6.8 kg

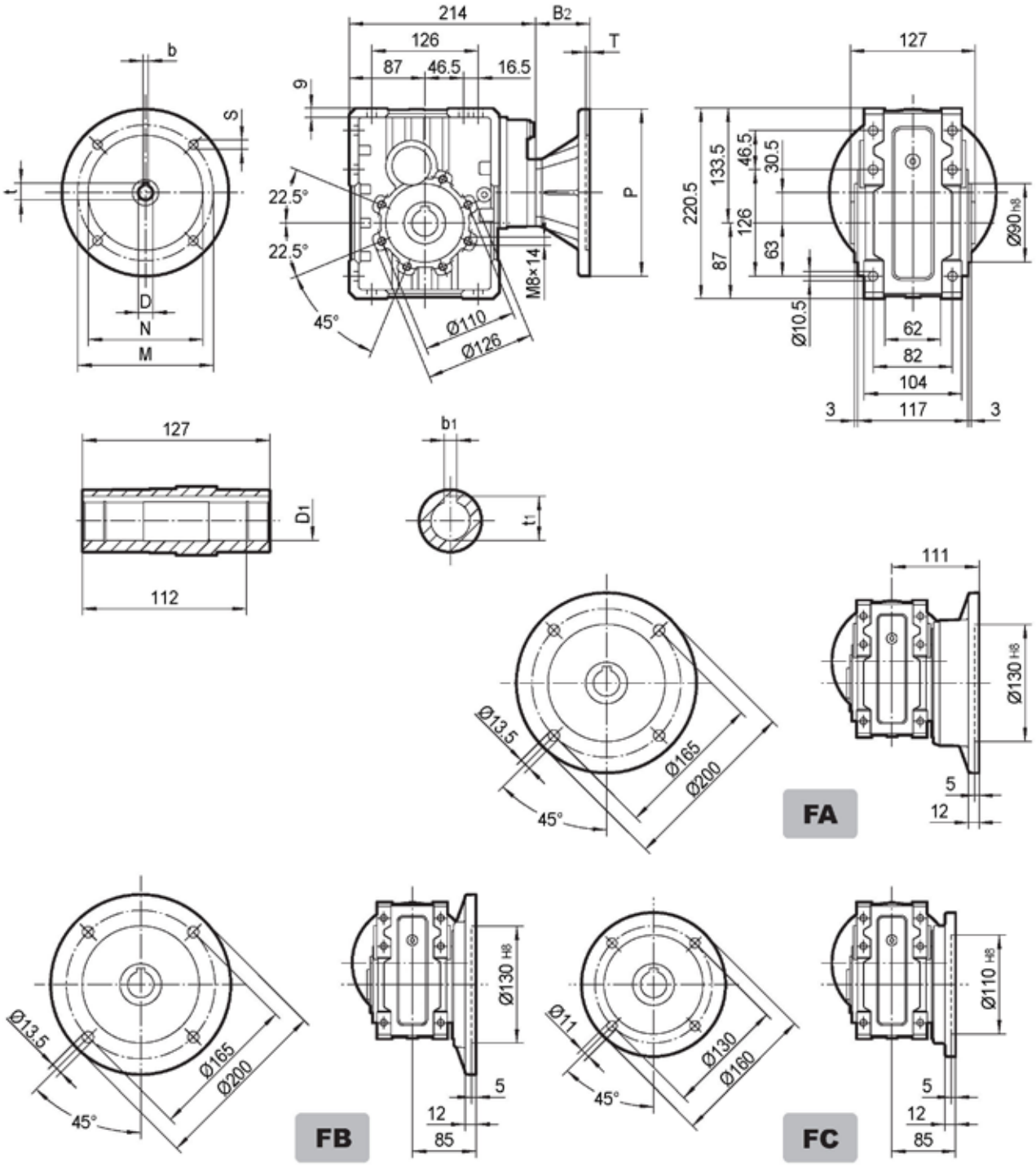
## *MPB48B..(IEC)..*




| IEC | $D_{E8}$ | b | t | P | M | N | S | T | $B_2$ | $D_{1\ H8}$ | $b_1$ | $t_1$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **71B5** | 14 | 5 | 16.3 | 160 | 130 | 110 | 9 | 4 | 59 | 28* | 8 | 31.3 |
| **80B5** | 19 | 6 | 21.8 | 200 | 165 | 130 | 11 | 4 | 79 | 30 | 8 | 33.3 |
| **80B14** | 19 | 6 | 21.8 | 120 | 100 | 80 | 7 | 4 | 79 | 35* | 10 | 38.3 |
| **90B5** | 24 | 8 | 27.3 | 200 | 165 | 130 | 11 | 4 | 79 | * Only on request | | |
| **90B14** | 24 | 8 | 27.3 | 140 | 115 | 95 | 9 | 4 | 79 | | | |
| **100/112B5** | 28 | 8 | 31.3 | 250 | 215 | 180 | 13.5 | 4.5 | 89 | | | |
| **100/112B14** | 28 | 8 | 31.3 | 160 | 130 | 110 | 9 | 4.5 | 89 | | | |

Weight without motor
≈ 9.5 kg

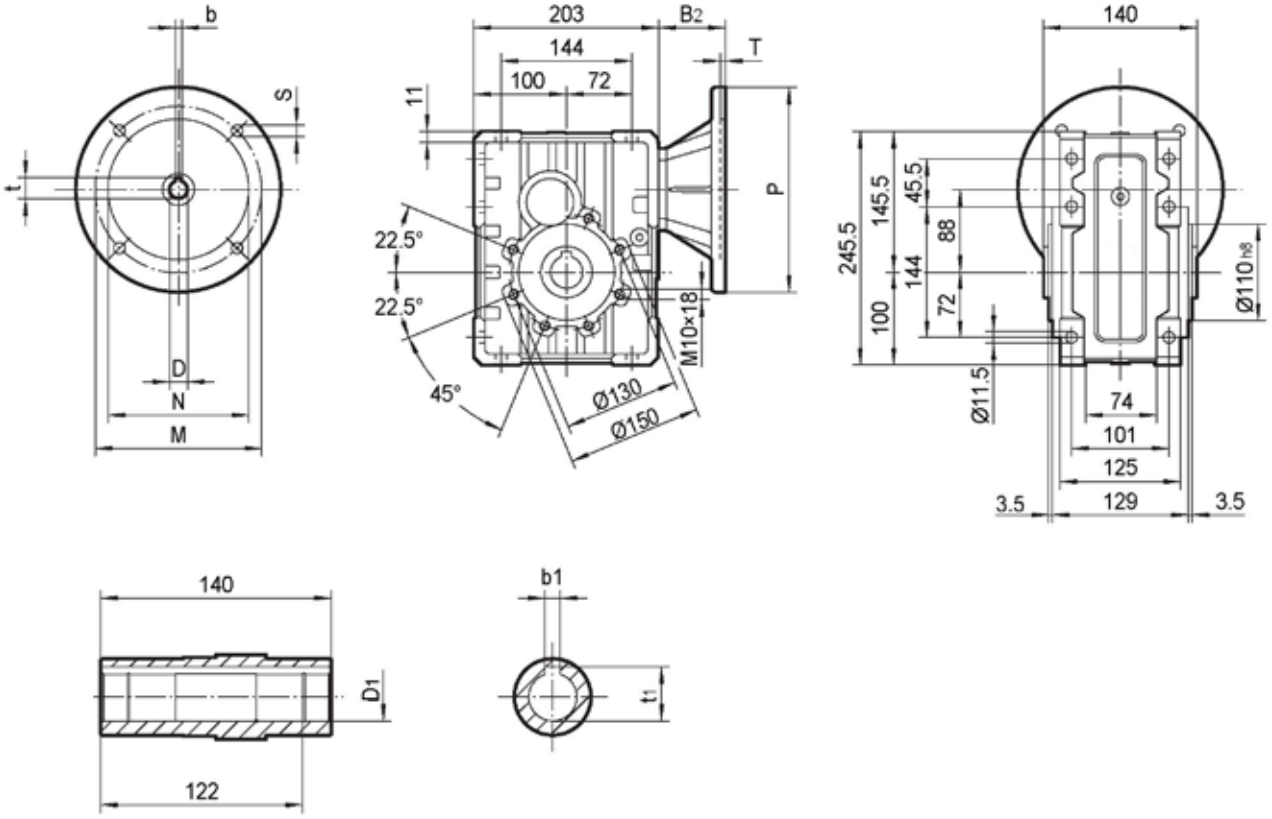
## MPB48C..(IEC)

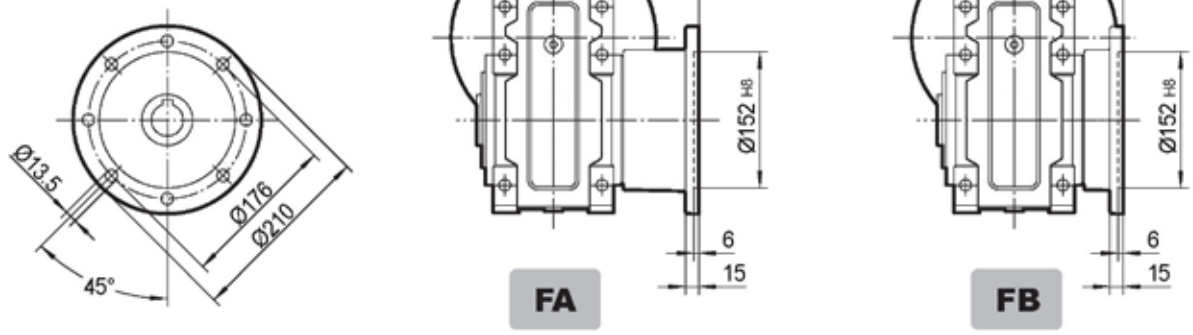



| IEC | $D_{E8}$ | b | t | P | M | N | S | T | L | $D_{1\ H8}$ | $b_1$ | $t_1$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **63B5** | 11 | 4 | 12.8 | 140 | 115 | 95 | 9 | 4 | 52 | 28 * | 8 | 31.3 |
| **71B5** | 14 | 5 | 16.3 | 160 | 130 | 110 | 9 | 4 | 59 | 30 | 8 | 33.3 |
| **80B5** | 19 | 6 | 21.8 | 200 | 165 | 130 | 11 | 4 | 79 | 35* | 10 | 38.3 |
| **80B14** | 19 | 6 | 21.8 | 120 | 100 | 80 | 7 | 4 | 79 | * Only on request | | |
| **90B5** | 24 | 8 | 27.3 | 200 | 165 | 130 | 11 | 4 | 79 | | | |
| **90B14** | 24 | 8 | 27.3 | 140 | 115 | 95 | 9 | 4 | 79 | | | |

Weight without motor
≈ 10.8 kg

## *MPB58B..(IEC)*

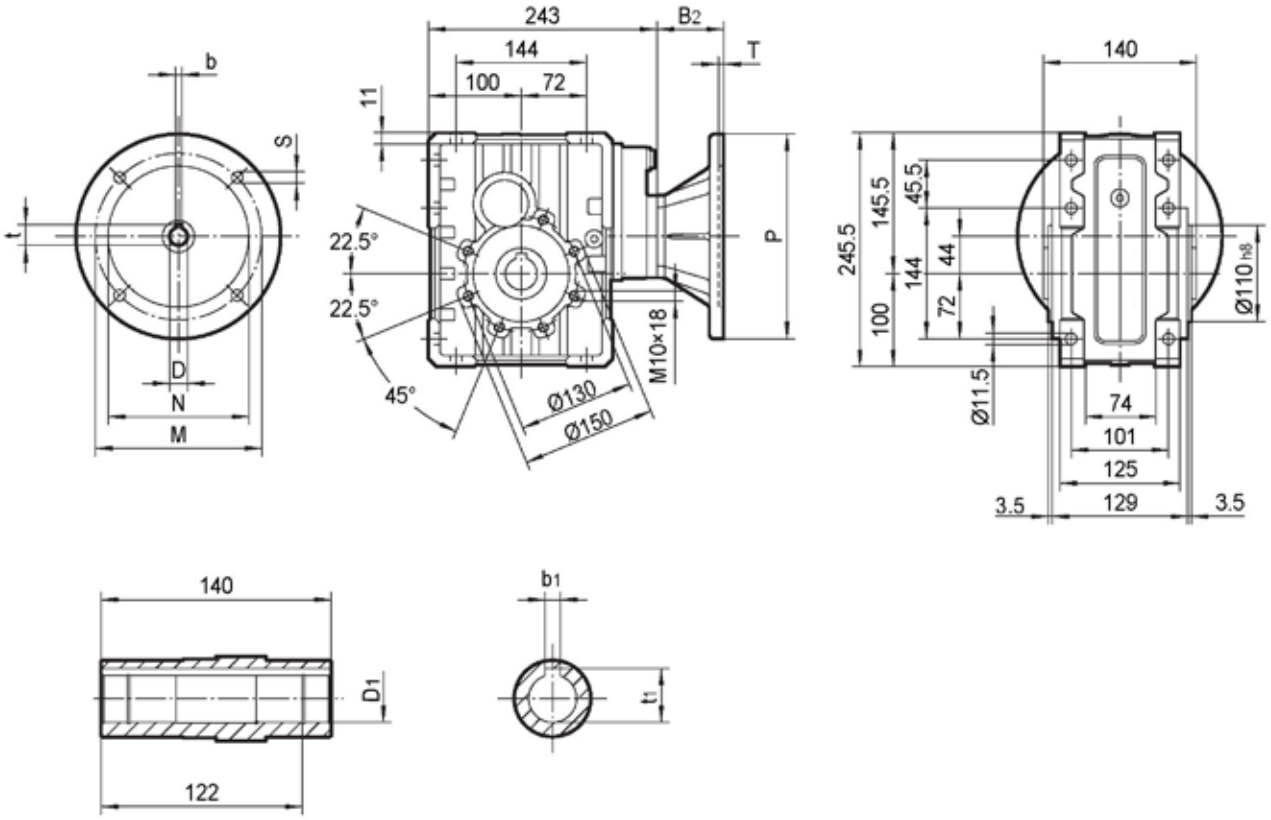


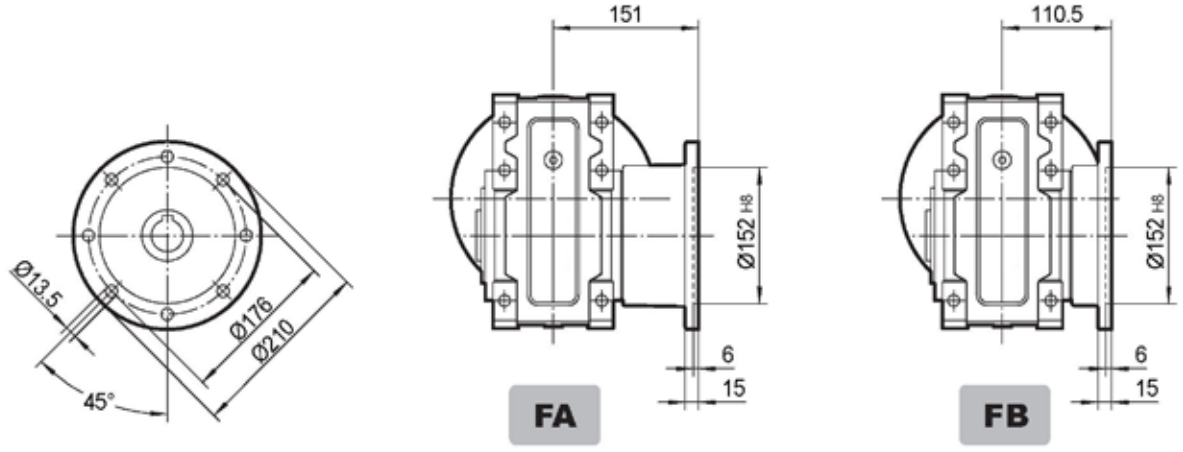




| IEC | $D_{E8}$ | b | t | P | M | N | S | T | $B_2$ | $D_{1\ H8}$ | $b_1$ | $t_1$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **71B5** | 14 | 5 | 16.3 | 160 | 130 | 110 | 9 | 4 | 59 | 35 | 10 | 38.3 |
| **80B5** | 19 | 6 | 21.8 | 200 | 165 | 130 | 11 | 4 | 79 | 38* | 10 | 41.3 |
| **80B14** | 19 | 6 | 21.8 | 120 | 100 | 80 | 7 | 4 | 79 | * Only on request | | |
| **90B5** | 24 | 8 | 27.3 | 200 | 165 | 130 | 11 | 4 | 79 | | | |
| **90B14** | 24 | 8 | 27.3 | 140 | 115 | 95 | 9 | 4 | 79 | | | |
| **100/112B5** | 28 | 8 | 31.3 | 250 | 215 | 180 | 13.5 | 4.5 | 89 | | | |
| **100/112B14** | 28 | 8 | 31.3 | 160 | 130 | 110 | 9 | 4.5 | 89 | | | |

Weight without motor
≈ 13.5 kg

## MPB58C..(IEC)

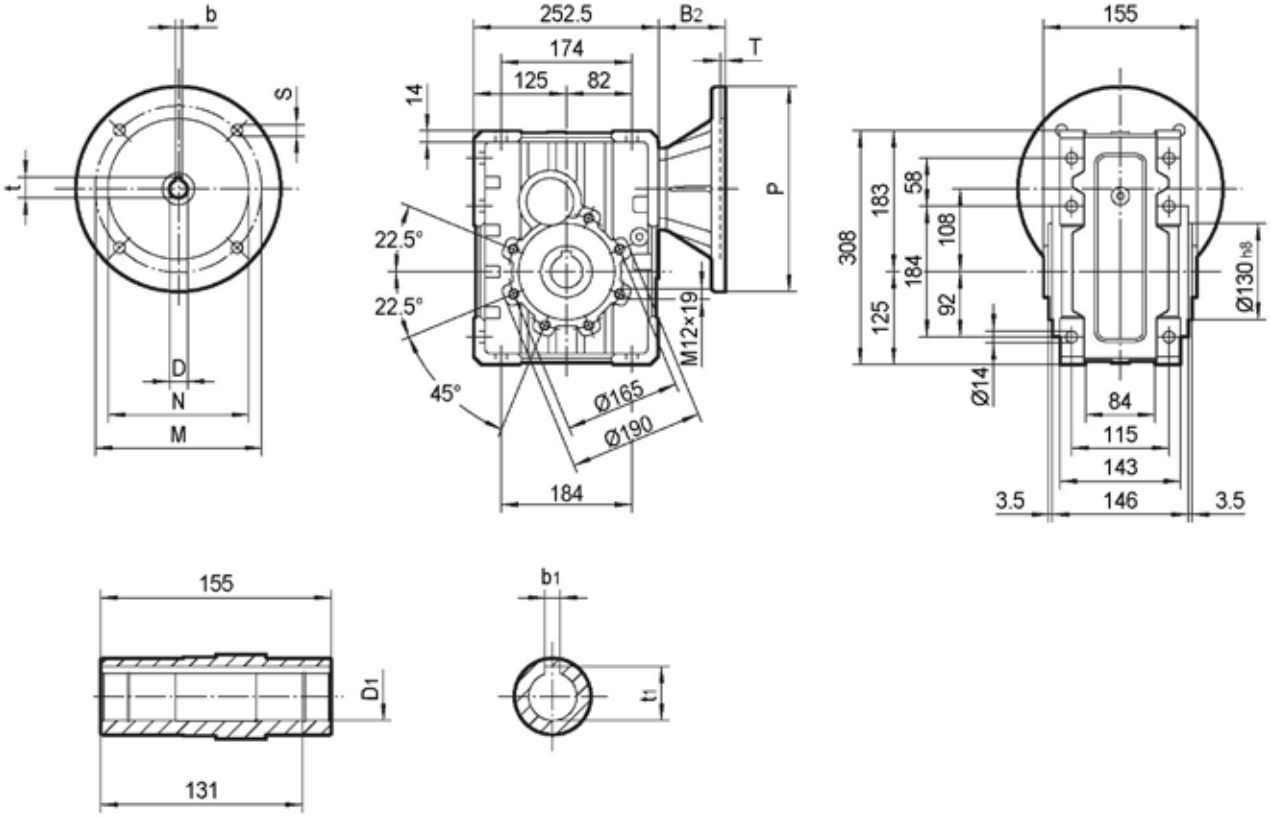


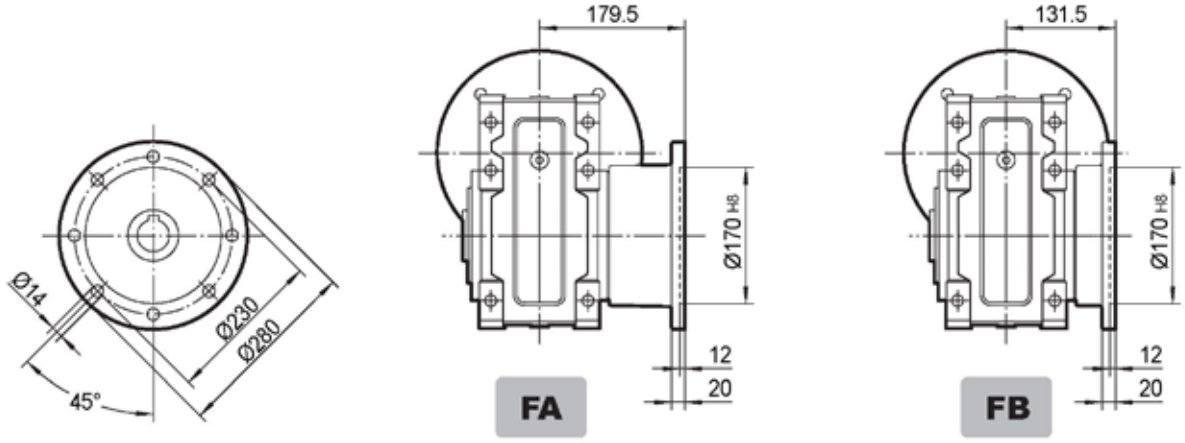




| IEC | $D_{E8}$ | b | t | P | M | N | S | T | $B_2$ | $D_{1\ H8}$ | $b_1$ | $t_1$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **63B5** | 11 | 4 | 12.8 | 140 | 115 | 95 | 9 | 4 | 52 | 35 | 10 | 38.3 |
| **71B5** | 14 | 5 | 16.3 | 160 | 130 | 110 | 9 | 4 | 59 | 38* | 10 | 41.3 |
| **80B5** | 19 | 6 | 21.8 | 200 | 165 | 130 | 11 | 4 | 79 | * Only on request | | |
| **80B14** | 19 | 6 | 21.8 | 120 | 100 | 80 | 7 | 4 | 79 | | | |
| **90B5** | 24 | 8 | 27.3 | 200 | 165 | 130 | 11 | 4 | 79 | | | |
| **90B14** | 24 | 8 | 27.3 | 140 | 115 | 95 | 9 | 4 | 79 | | | |

Weight without motor
≈ 14.8 kg

## *MPB68B..(IEC)*

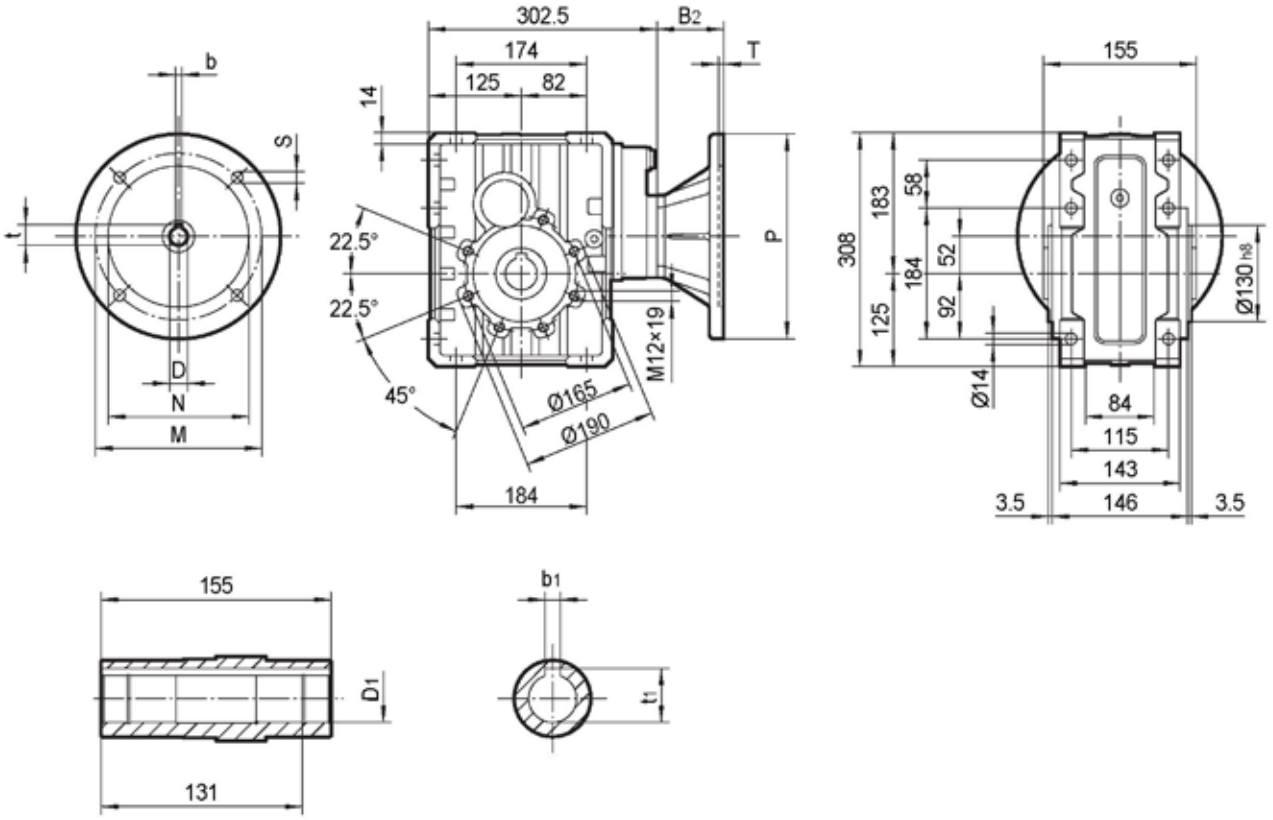


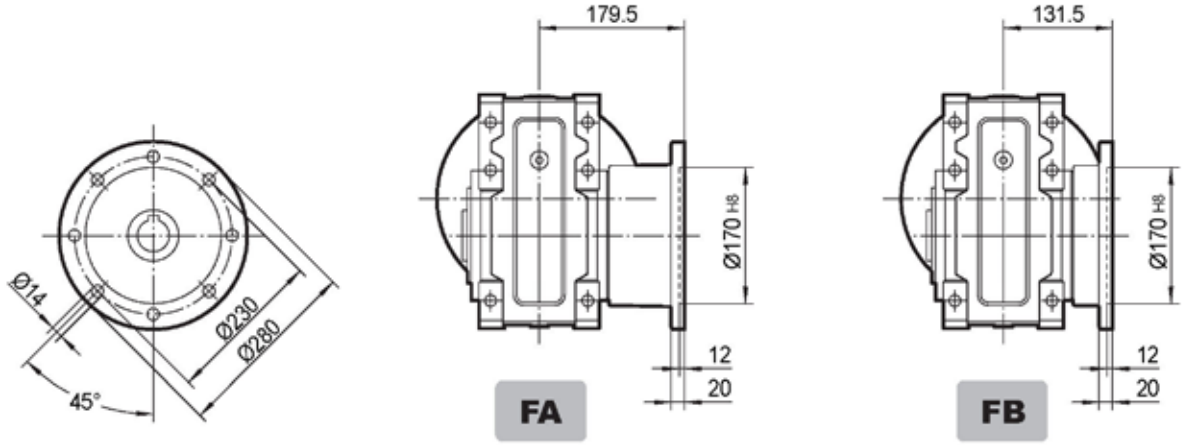




| IEC | D E8 | b | t | P | M | N | S | T | B2 | D1 H8 | b1 | t1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **80B5** | 19 | 6 | 21.8 | 200 | 165 | 130 | 11 | 4 | 84 | 40* | 12 | 43.3 |
| **90B5** | 24 | 8 | 27.3 | 200 | 165 | 130 | 11 | 4 | 84 | 42 | 12 | 45.3 |
| **100/112B5** | 28 | 8 | 31.3 | 250 | 215 | 180 | 13.5 | 4.5 | 94 | * Only on request | | |
| **100/112B14** | 28 | 8 | 31.3 | 160 | 130 | 110 | 9 | 4.5 | 94 | | | |
| **132B5** | 38 | 10 | 41.3 | 300 | 265 | 230 | 14 | 4.5 | 114 | | | |

Weight without motor
≈ 21.5 kg

## MPB68C..(IEC)



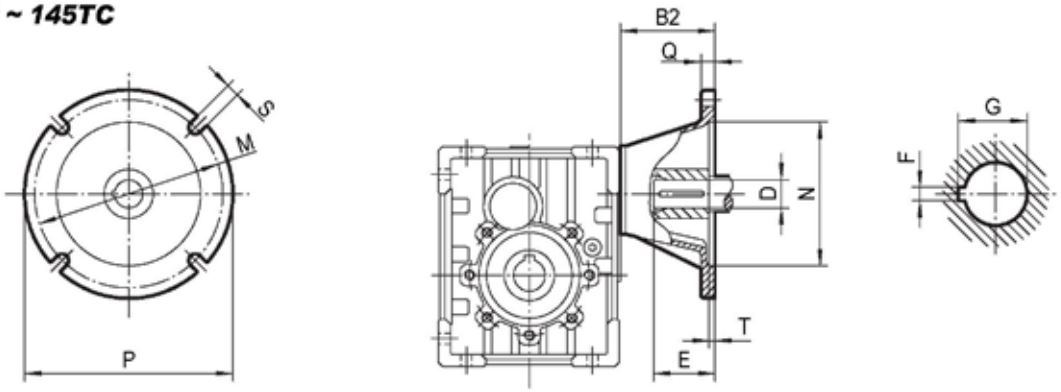




| IEC | $D_{E8}$ | b | t | P | M | N | S | T | $B_2$ | $D_{1\ H8}$ | $b_1$ | $t_1$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **71B5** | 14 | 5 | 16.3 | 160 | 130 | 110 | 9 | 4 | 64 | 40* | 12 | 43.3 |
| **80B5** | 19 | 6 | 21.8 | 200 | 165 | 130 | 11 | 4 | 84 | 42 | 12 | 45.3 |
| **90B5** | 24 | 8 | 27.3 | 200 | 165 | 130 | 11 | 4 | 84 | * Only on request | | |
| **100/112B5** | 28 | 8 | 31.3 | 250 | 215 | 180 | 13.5 | 4.5 | 94 | | | |
| **100/112B14** | 28 | 8 | 31.3 | 160 | 130 | 110 | 9 | 4.5 | 94 | | | |

Weight without motor
≈ 23.5 kg

## *7.5 MPR / MPB..NEMA Outline Dimension*

***56C ~ 145TC***




***182TC ~ 215TC***

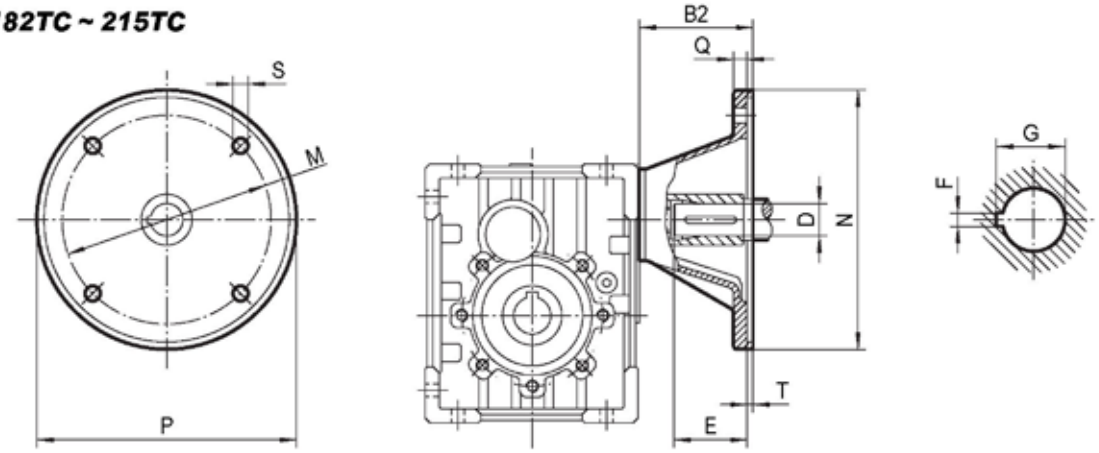
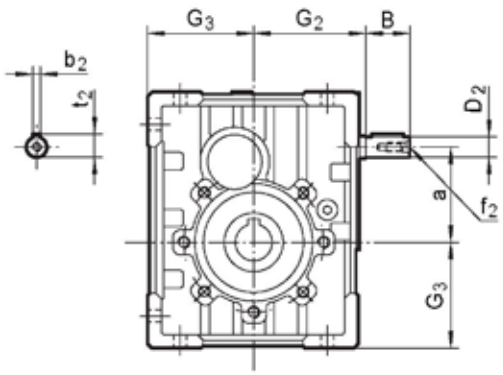



Table data unit is inch.

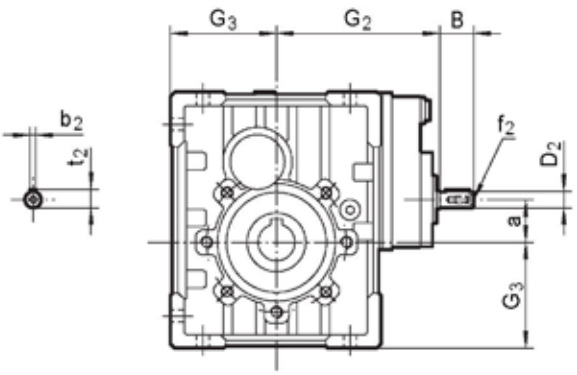
| TYPE | NEMA Flange | $B_2$ | D | E | F | G | M | N | P | Q | S | T |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MPR28 | 56C | 2.953 | 0.625 | 2.06 | 0.188 | 0.713 | 5.875 | 4.50 | 6.50 | 0.433 | 0.413 | 0.177 |
| MPR38 MPB38 | 56C | 2.953 | 0.625 | 2.06 | 0.188 | 0.713 | 5.875 | 4.50 | 6.50 | 0.433 | 0.413 | 0.177 |
| | 143TC 145TC | 2.953 | 0.875 | 2.12 | 0.188 | 0.963 | 5.875 | 4.50 | 6.50 | 0.433 | 0.413 | 0.177 |
| MPR48 MPR58 MPB48 MPB58 | 56C | 3.228 | 0.625 | 2.06 | 0.188 | 0.713 | 5.875 | 4.50 | 6.50 | 0.433 | 0.413 | 0.177 |
| | 143TC 145TC | 3.228 | 0.875 | 2.12 | 0.188 | 0.963 | 5.875 | 4.50 | 6.50 | 0.433 | 0.413 | 0.177 |
| | 182TC 184TC | 3.937 | 1.125 | 2.62 | 0.250 | 1.240 | 7.250 | 8.50 | 9.00 | 0.472 | 0.551 | 0.197 |
| MPR68 MPB68 | 143TC 145TC | 3.425 | 0.875 | 2.12 | 0.188 | 0.963 | 5.875 | 4.50 | 6.50 | 0.433 | 0.413 | 0.177 |
| | 182TC 184TC | 4.134 | 1.125 | 2.62 | 0.250 | 1.240 | 7.250 | 8.50 | 9.00 | 0.472 | 0.551 | 0.197 |
| | 213TC 215TC | 4.646 | 1.375 | 3.12 | 0.312 | 1.517 | 7.250 | 8.50 | 9.00 | 0.472 | 0.551 | 0.197 |

## 7.6 MPR..HS Outline Dimension

### MPR..B..HS



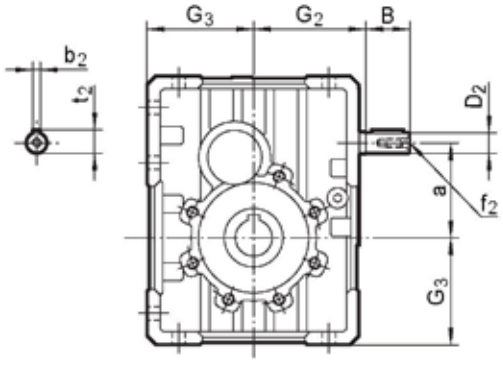

### MPR..C..HS



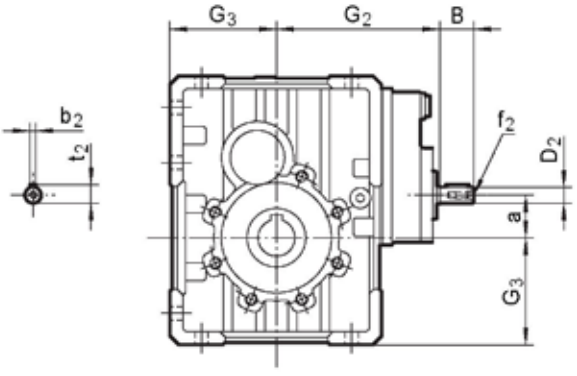

| | B | $D_{2\,j6}$ | $G_2$ | $G_3$ | a | $b_2$ | $f_2$ | $t_2$ |
|---|---|---|---|---|---|---|---|---|
| MPR28B | 23 | 11 | 65 | 60 | 57 | 4 | - | 12.5 |
| MPR28C | 23 | 11 | 100 | 60 | 21.5 | 4 | - | 12.5 |
| MPR38B | 30 | 14 | 76 | 72 | 64.5 | 5 | M6 | 16 |
| MPR38C | 23 | 11 | 111 | 72 | 29 | 4 | - | 12.5 |
| MPR48B | 40 | 16 | 91 | 86 | 74.5 | 5 | M6 | 18 |
| MPR48C | 30 | 14 | 132 | 86 | 30.5 | 5 | M6 | 16 |
| MPR58B | 40 | 19 | 107 | 103 | 88 | 6 | M6 | 21.5 |
| MPR58C | 30 | 14 | 148 | 103 | 44 | 5 | M6 | 16 |
| MPR68B | 50 | 24 | 132 | 127.5 | 108 | 8 | M8 | 27 |
| MPR68C | 40 | 19 | 181 | 127.5 | 52 | 6 | M6 | 21.5 |

## 7.7 MPB..HS Outline Dimension

### MPB..B..HS



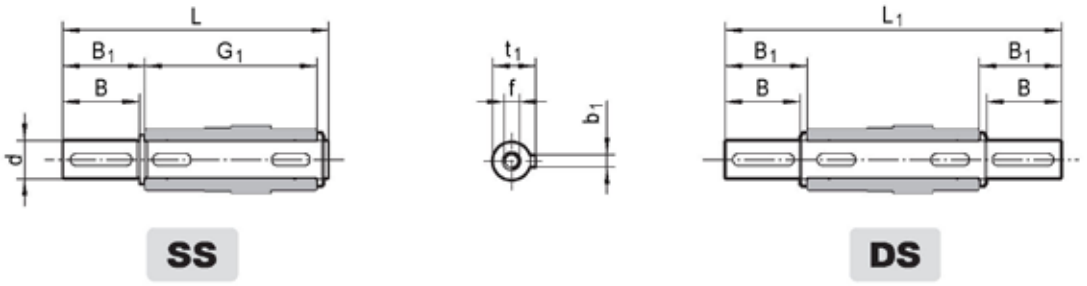

### MPB..C..HS




| | B | $D_{2\,j6}$ | $G_2$ | $G_3$ | a | $b_2$ | $f_2$ | $t_2$ |
|---|---|---|---|---|---|---|---|---|
| MPB38B | 30 | 14 | 76 | 72.5 | 64.5 | 5 | M6 | 16 |
| MPB38C | 23 | 11 | 111 | 72.5 | 29 | 4 | - | 12.5 |
| MPB48B | 40 | 16 | 91 | 87 | 74.5 | 5 | M6 | 18 |
| MPB48C | 30 | 14 | 132 | 87 | 30.5 | 5 | M6 | 16 |
| MPB58B | 40 | 19 | 107 | 100 | 88 | 6 | M6 | 21.5 |
| MPB58C | 30 | 14 | 148 | 100 | 44 | 5 | M6 | 16 |
| MPB68B | 50 | 24 | 132 | 125 | 108 | 8 | M8 | 27 |
| MPB68C | 40 | 19 | 181 | 125 | 52 | 6 | M6 | 21.5 |

# 8. ACCESSORIES OUTLINE DIMENSION SHEET

## 8.1 Output Shafts



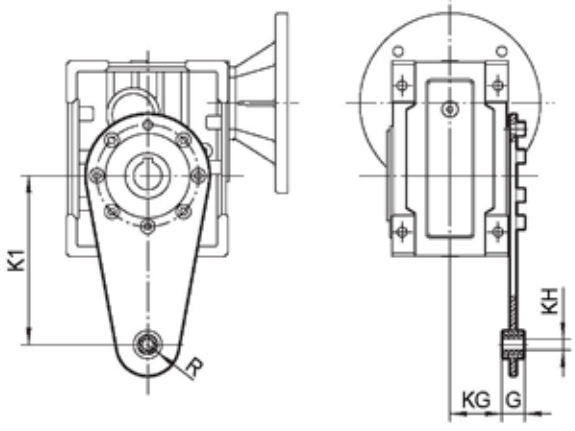

**SS** **DS**

| | d h6 | B | B1 | G1 | L | L1 | f | b1 | t1 |
|---|---|---|---|---|---|---|---|---|---|
| MPR28 | 25 | 50 | 53.5 | 92 | 153 | 199 | M10x22 | **8** | **28** |
| MPR38 | 25 | 50 | 53.5 | 112 | 173 | 219 | M10x22 | 8 | 28 |
| MPR48 | 28 | 60 | 63.5 | 120 | 192 | 247 | M10x22 | 8 | 31 |
| MPR58 | 35 | 80 | 84.5 | 140 | 234 | 309 | M12x28 | 10 | 38 |
| MPR68 | 42 | 80 | 84.5 | 155 | 249 | 324 | M16x36 | 12 | 45 |
| MPB38 | 25 | 60 | 65 | 120 | 192 | 246.4 | M8x19 | 8 | 28 |
| MPB48_d 28 | 28 | 60 | 65 | 127 | 199 | 255 | M8x20 | 8 | 31 |
| MPB48_d 30 | 30 | 60 | 65 | 127 | 199 | 255 | M10x22 | 8 | 33 |
| MPB58 | 35 | 60 | 65 | 140 | 214 | 268 | M12x22 | 10 | 38 |
| MPB68 | 42 | 75 | 80 | 155 | 244 | 313.5 | M12x28 | 12 | 45 |

* Only on request

## 8.2 Torque Arm

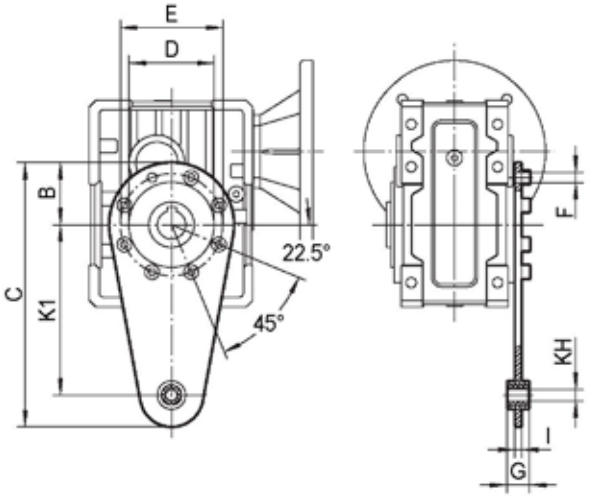
### 8.2.1 MPR.. Torque Arm




| | K1 | G | KG | KH | R |
|---|---|---|---|---|---|
| MPR28 | 100 | 14 | 38.5 | 10 | 18 |
| MPR38 | 150 | 14 | 49 | 10 | 18 |
| MPR48 | 200 | 25 | 47.5 | 20 | 30 |
| MPR58 | 200 | 25 | 57.5 | 20 | 30 |
| MPR68 | 250 | 30 | 62 | 25 | 35 |

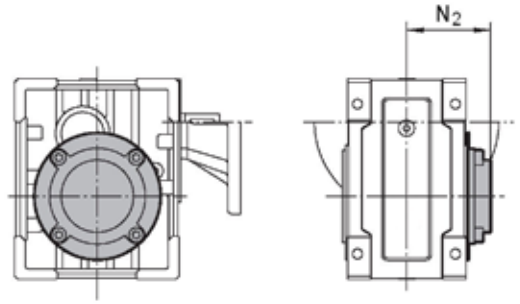
### 8.2.2 MPB.. Torque Arm

| | K1 | B | C | D | E | F | G | kH | I |
|---|---|---|---|---|---|---|---|---|---|
| MPB38 | 150 | 55 | 233 | 75 | 90 | 9 | 20 | 10 | 6 |
| MPB48 | 200 | 60 | 300 | 90 | 110 | 9 | 25 | 20 | 6 |
| MPB58 | 200 | 80 | 318 | 110 | 130 | 11 | 25 | 20 | 6 |
| MPB68 | 250 | 100 | 388 | 130 | 165 | 13 | 25 | 20 | 6 |



## 8.3 Cover

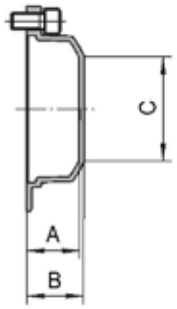
### 8.3.1 MPR.. Cover




| | $N_2$ |
|---|---|
| MPR28 | 63 |
| MPR38 | 73 |
| MPR48 | 79 |
| MPR58 | 94 |
| MPR68 | 102 |

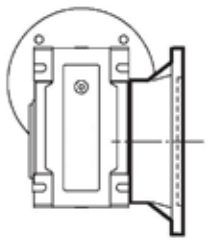
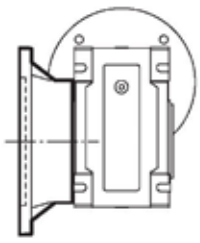
### 8.3.2 MPB.. Cover

| | A | B | C |
|---|---|---|---|
| MPB38 | 26.5 | 29 | Φ35 |
| MPB48 | 24.5 | 27 | Φ54 |
| MPB58 | 26.5 | 29 | Φ71 |
| MPB68 | 27.5 | 30 | Φ89 |



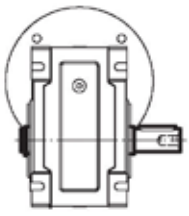
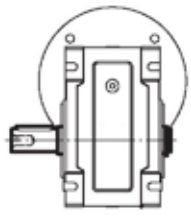

# 9. INSTALLATION POSITIONS DIAGRAM

## 9.1 Position diagram for output flange

| FA1,FB1,FC1,FD1,FE1 | FA2,FB2,FC2,FD2,FE2 |
|---|---|
|  |  |

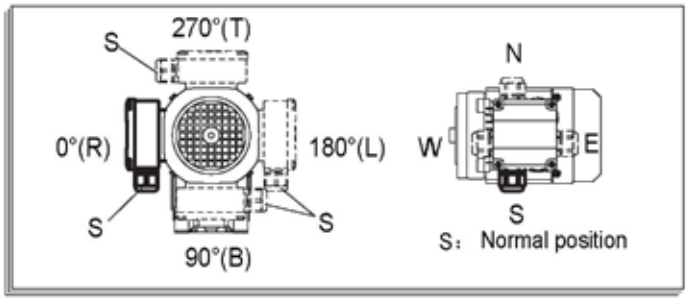
Unless specified otherwise, the gear units is supplied with the flange in pos. **F..1** referred to position B3.

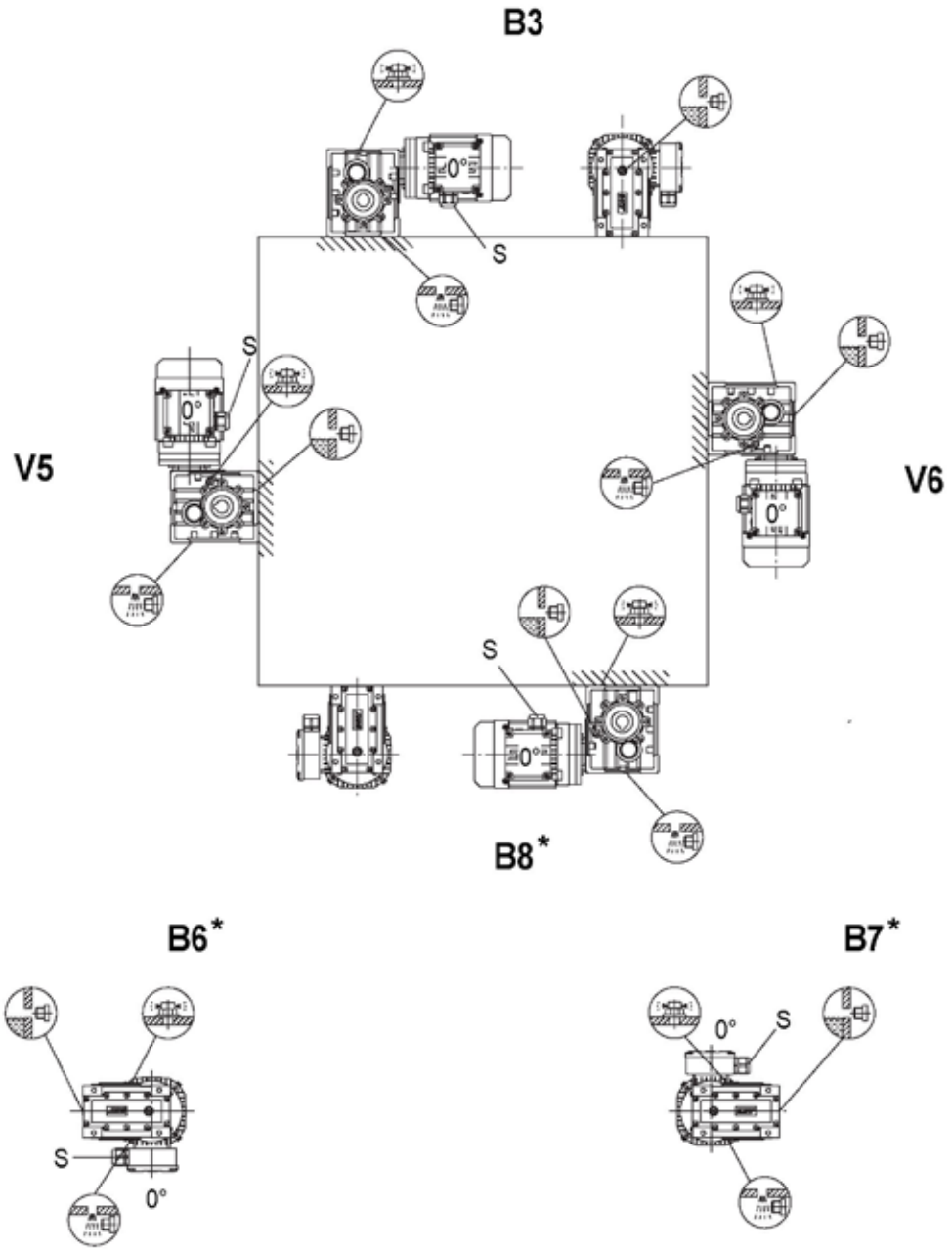
## 9.2 Position diagram for single output shaft

| SS1 | SS2 |
|---|---|
|  |  |

### *9.3 MPR.. OR MPB.. Mounting Positions*

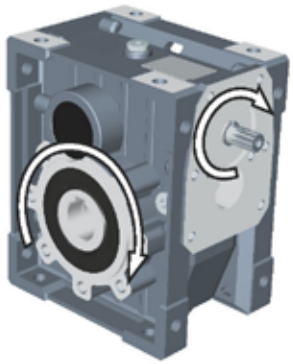
| Symbol | Meaning |
|---|---|
|  | Breather valve |
|  | Oil level plug |
|  | Oil drain plug |



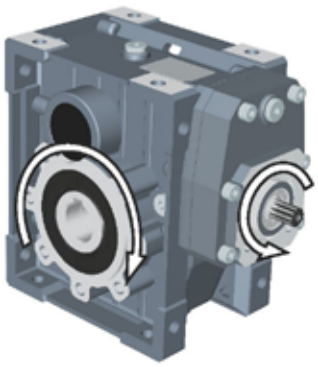




*：It means the lubricant can't be added according to the oil level line plug,but also higher the plug the fill quantity sa shown in the table

### 9.4 Direction of rotation



MPR..B / MPB..B



MPR..C / MPB..C

The motor can be run either **CW** or **CCW** while using with gearbox,the left chart is recommended

## 10. INSTALLATION

### 10.1 Note recommendations

To install the gear units it is necessary to note the following recommendations:

1. Check the correct direction of rotation of the gear units output shaft before fitting the unit to the machine.

2. Before mount 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 gear units 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 to function properly.

6. Painting must definitely not go over rubber parts and the holes on the breather plugs, if any.

7. When connect with hollow or solid shaft,please grease the joint to avoid lock or oxidation.

### *10.1 Note recommendations*

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 using various of reducer matched with motor directiy 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°C or > +40°C call the Technical Service.

### *10.2 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 and/or particular input speeds, refer to the tables that highlight different critical situations for each size of gear units. It is also necessary to take due consideration of and carefully assess the following applications by calling our Technical Service:1. As a speed increasing.

2. Applications with especially high inertia.

3. Use in services that could be hazardous for people if the gear units fails.

4. Applications with high dynamic strain on the case of the gear units.

5. In places with T° under -5°C or over 40°C.

6. Use in chemically aggressive environments.

7. Use in a salty environment.

8. Use in radioactive environments.

9. Use in environments pressures other than atmospheric pressure.

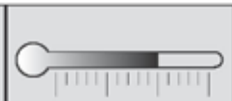
10. Mounting positions not envisaged in the catalogue.

Avoid applications where even partial immersion of the gear units is required.

The maximum torque that the gear units can support must not exceed two times the nominal torque (fs =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.

# 11. LUBRICATION

## 11.1 Types of lubrication

| |   | ISO | SHELL | MOBIL | BP | lubrication type |
|---|---|---|---|---|---|---|
| **MPR..<br>MPB..** | Standard -10 +40 | VG 220 | Shell Omala 220 | Mobilgear 630 | BP Energol GR-XP 220 | Mineral oil |
| | -20 +25 | VG 150<br>VG 100 | Shell Omala 100 | Mobilgear 627 | BP Energol GR-XP 100 | |
| | -30 +10 | VG 68-46<br>VG 32 | Shell Tellus T 32 | Mobil D.T.E. 13M | | |
| | -40 -20 | VG 22<br>VG 15 | Shell Tellus T 15 | Mobil D.T.E. 11M | BP Energol HLP-HM 15 | |
| | -40 +80 | VG 220 | Shell Omala HD 220 | Mobil SHC 630 | | Synthetic oil |
| | -40 +40 | VG 150 | | Mobil SHC 629 | | |
| | -40 +10 | VG 32 | | Mobil SHC 624 | | |

## 11.2 Lubricant fill quantity

The specified fill quantities are recommended values. The precise values vary depending on the number of stages and gear ratio. When filling, it is essential to check the oil level plug since it indicates the precise oil capacity. The following tables show guide values for lubricant fill quantities in relation to the mounting position （B3、B6、B7……)

### MPR.. Lubricant fill quantity

| Gear units | Fill quantity in liters (L) | | | | | |
|---|---|---|---|---|---|---|
| | B3 | B6 | B7 | B8 | V5 | V6 |
| **MPR28B** | 0.22 | 0.20* | 0.13* | 0.15 | 0.25 | 0.14 |
| **MPR28C #** | 0.07 | 0.04 | 0.04 | 0.05 | 0.08 | 0.09 |
| **MPR38B** | 0.42 | 0.35* | 0.24* | 0.22 | 0.46 | 0.25 |
| **MPR38C #** | 0.07 | 0.04 | 0.04 | 0.05 | 0.08 | 0.09 |
| **MPR48B** | 0.70 | 0.58* | 0.42* | 0.42 | 0.75 | 0.45 |
| **MPR48C #** | 0.13 | 0.09 | 0.09 | 0.09 | 0.15 | 0.17 |
| **MPR58B** | 1.21 | 0.95* | 0.72* | 0.67 | 1.30 | 0.74 |
| **MPR58C #** | 0.13 | 0.09 | 0.09 | 0.09 | 0.15 | 0.17 |
| **MPR68B** | 2.15 | 1.70* | 1.10* | 1.25 | 2.20 | 1.20 |
| **MPR68C #** | 0.25 | 0.17 | 0.17 | 0.20 | 0.32 | 0.36 |

### *MPB.. Lubricant fill quantity*

| Gear units | Fill quantity in liters (L) | | | | | |
|---|---|---|---|---|---|---|
| | B3 | B6 | B7 | B8 | V5 | V6 |
| MPB38B | 0.38 | 0.35* | 0.25* | 0.26* | 0.44 | 0.25 |
| MPB38C # | 0.07 | 0.04 | 0.04 | 0.05 | 0.08 | 0.09 |
| MPB48B | 0.66 | 0.60* | 0.45* | 0.48 | 0.78 | 0.48 |
| MPB48C # | 0.13 | 0.09 | 0.09 | 0.09 | 0.15 | 0.17 |
| MPB58B | 1.15 | 0.95* | 0.70* | 0.75* | 1.25 | 0.75 |
| MPB58C # | 0.13 | 0.09 | 0.09 | 0.09 | 0.15 | 0.17 |
| MPB68B | 2.00 | 1.70* | 1.10* | 1.40* | 2.20 | 1.20 |
| MPB68C # | 0.25 | 0.17 | 0.17 | 0.20 | 0.32 | 0.36 |

#: Means the oil quantity in the 3rd stage housing, as this one is separated from the 2nd housing, please fill them separately while in 3 stages.

*: It means the lubricant can't be added according to the oil level line plug,but also higher the plug the fill quantity sa shown in the table

## *12. MAINTENANCE*

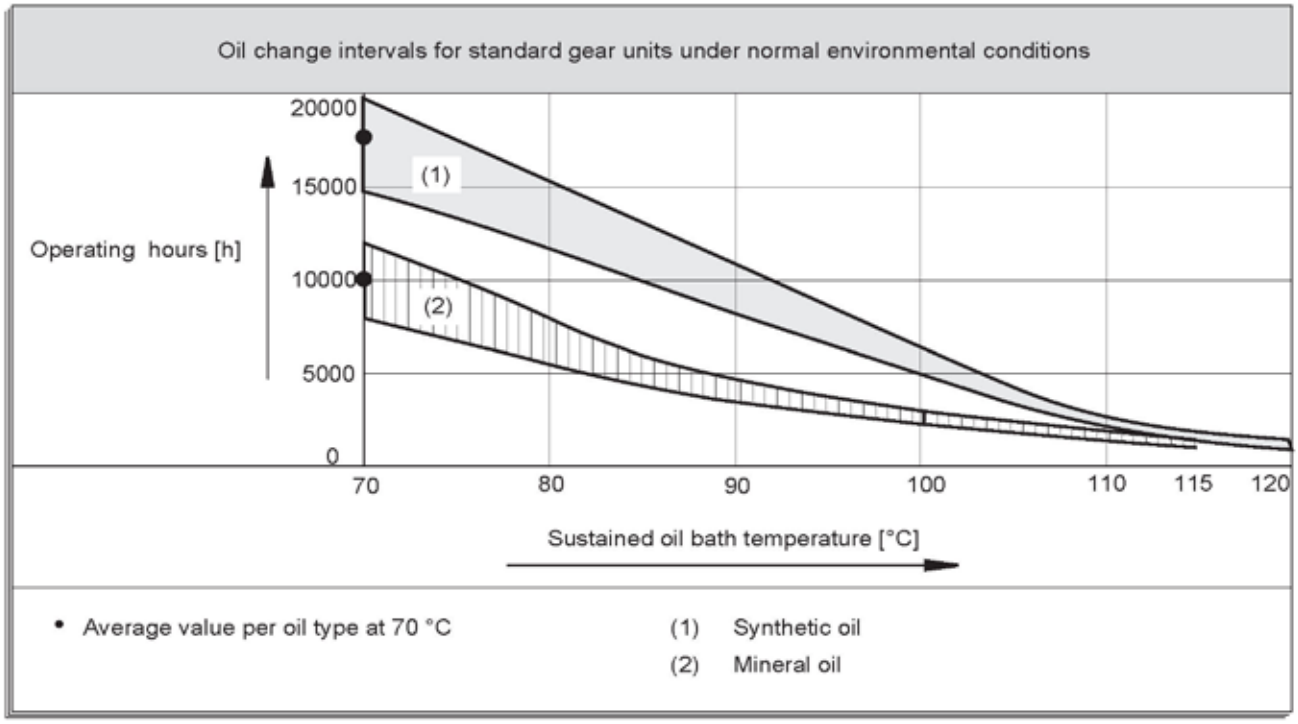
1). For gear units, first oil change should be after about 300 hours (run-in period). The right lotion is required to clean the gear units with care. Never mix the synthetic oil and mineral oil together.

2). Every 3000 working time, at least every 6 months, you have to check the oil and oil level, the seals visually for leakage. For IEC input gear units, the elastomer should be tested or replaced if necessary.

3). Depending on the operating conditions (see chart below), every 3 years at the latest for inspection is needed. Then change the mineral oil and replace the bearing grease.

4). Depending on the operating conditions, change the oil seals on output shaft.

5). Once the malfunctions appear, stop disassembling the parts, and firstly please contact the customer service (the information about specification, delivery date, series number, time used, name of machine, machine manufacturer, malfunction problems is required) , then take the reasonable measures.




## 13. STORAGE

1). Under roof, protected against rain and snow, no shock loads.

2). Underlay the block and other material between the ground and equipment.

3). The opened but not used gear units should be added with the anti-corrosive oil on its surface, and then return to the packing containers timely.

4). Two years or more given regular inspections. Check for cleanliness and mechanical damage as part of the inspection,Check corrosion protection.

## 14. NOTICE FOR ORDER

Please offer the following information when place the orders:

1). the model mark of the gear units(type, ratio, power and mounting position).

2). generally the gear units paint in silver.

3). quantity ordered.

4). other special requirements.

5). company, contact and telephone.

## 15. GEAR UNIT MALFUNCTIONS

| Problem | Possible cause | Remedy |
|---|---|---|
| Unusual, regular running noise | A. Meshing/grinding noise: Bearing damage.<br>B. Knocking noise: Irregularity in the gearing | A. Check the oil, change bearings<br>B. Contact customer service |
| Unusual, irregular running noise | Foreign bodies in the oil | • Check the oil<br>• Stop the drive, contact customer service |
| Oil leaking1)<br>• From the gear cover plate<br>• From the motor flange<br>• From the motor oil seal<br>• From the gear unit flange<br>• From the output end oil sea | A. Rubber seal on the gear cover plate leaking<br>B. Seal defective<br>C. Gear unit not vented | A. Tighten the bolts on the gear cover plate and observe the gear unit. Oil still leaking:Contact customer service<br>B. Contact customer service<br>C. Vent the gear unit (see "Mounting Positions") |
| Oil leaking from breaking valve | A. Too much oil<br>B. Drive operated in incorrect mounting position<br>C. Frequent cold starts(oil foams) and/or high oillevel | A. Correct the oil level (see Sec. "Inspection and Maintenance")<br>B. Mount the breather valve correctly (see Sec."Mounting Positions")and correct the oil level(see"Lubricants") |
| Output shaft does not turn although the motor is running or the input shaft is rotated | Connection between shaft and hub in gear unit interrupted | Send in the gear unit/gearmotor for repair |

1) Short-term oil/grease leakage at the oil seal is possible in the run-in phase (24 hours running time).

## 16. Charge Characteristic Chart (for reference)

| AIR BLOWERS | | Hoist gear assembly | A |
|---|---|---|---|
| Air blower(axial or radial) | A | Derrick gear assembly | B |
| Fan of cooling tower | B | Steering gear assembly | B |
| Induced draught fan | B | Moving gear assembly | C |
| Rotary piston type fan | B | LAND DREDGER | |
| Turbo-fan | A | Drum-type coveyer | C |
| CONSTRUCTION MACHINERY | | Drum-type rotation wheel | C |
| Concrete mixer | B | Dredger head | C |
| Hoist | B | Powered crab | B |
| Road building machinery | B | Pump | B |
| Boring mill | B | Pump turning gear assembly | B |
| CHEMICAL MACHINERY | | Moving gear assemhly (apron wheel) | C |
| Mixer (liquid) | A | Moving gear assembly (track) | B |
| Mixer (half liquid) | B | FOODSTUFF PROCESSING MACHINERY | |
| Centrifuge (heavy) | B | Placer or box filler | A |
| Centrifuge(light) | A | Cane crusher | A |
| ** Cooling rolling drum | B | ** Cane cutter | B |
| ** Dry rolling drum | B | ** Cane crasher | C |
| Mixer | B | Mixer | B |
| COMPRESSOR | | Paste bucket | B |
| Piston type compressor | C | Packager | A |
| Turbo-compressor | B | Beet slicer | B |
| TRANSMISSION FREIGHTER | | Beet washing machine | B |
| Pan conveyer | B | MOTOR AND CONVERSION EQUIPMENTS | |
| Balance lifter | B | Frequency converter | C |
| Trough conveyer | B | Motor | C |
| Ribbon conveyer (large piece) | C | Welding motor | C |
| Ribbon coveyer (small piece) | B | WASHING MACHINE | |
| Drum-type flour conveyer | A | Rolling drum | B |
| Chain conveyer | B | Washing machine | B |
| Ring type conveyer | B | METAL ROLLER MACHINE | |
| Lifter | B | ** Steel cutter | C |
| Hoist | B | ** Chain conveyer | B |
| Crank-connecting conveyer | B | ** Cold mill | C |
| Lifter | B | Continuous casting equipments | B |
| Worm conveyer | B | ** Cold bed | B |
| Steel-band conveyer | B | ** Cropper | C |
| Chain reed-type conveyer | B | ** Cross steering transmitter | B |
| Crab freighter | B | ** Deruster | C |
| HOIST | | ** Heavy and medium steel mill | C |
| Bracket swing gear assembly | B | ** Bar mill | C |

| BAR TRANSMISSION EQUIPMENTS | B | PUMPS | |
|---|---|---|---|
| Bar pusher | B | Centrifugal pump (thin liquid) | A |
| Push bed | B | Centrifugal pump (half liquid) | B |
| ** Shears | C | Displacement pump | C |
| ** Lumber elevator platform | B | Plunger pump | C |
| ROLL ADJUSTING EQUIPMENTS | B | Force pump | C |
| Roller leveling machine | B | PLASTIC EQUIPMENTS | |
| ** Mill rolling way (heavy) | C | ** Glazing press | B |
| ** Mill rolling way (light) | B | ** Ejecting press | B |
| ** Sheet rolling mill | C | ** Spiral extruding machine | B |
| ** Trimming shears | B | ** Mixing machine | B |
| Pipe welder | C | RUBBER EQUIPMENT | |
| Soldering machine(belt material and wire rod) | B | ** Glazing press | B |
| Wire drawbench | B | ** Ejecting press | C |
| METAL PROCESSING MACHINE TOOLS | | ** Mixing stir machine | B |
| Power shaft | A | Kneading machine | B |
| ** Forging machine | C | ** Roller machine | C |
| Drop hammer | C | STONE PORCELAIN CLAY PROCESSING EQUIPMENTS | |
| Machine tool and necessary | A | | |
| Machine tool and main driving equipment | B | Ball crusher | B |
| Metal facing machine | C | ** Ejecting press and breaker | C |
| Plate-leveling machine tool | C | Breaker | C |
| Backing-out punch | C | Brick press | C |
| Press machine tool | C | ** Beating crusher | C |
| Cutting machine | B | ** Converter | C |
| Sheet bending machine tool | B | ** Cylinder mill | C |
| PETROLEUM PROCESSING MACHINERY | | TEXTILE MACHINERY | |
| ** Pump of oil pipe line | B | Feeding machine | B |
| Rotary drilling equipment | C | Loom machine | B |
| PAPERING MACHINE | | Dyeing machine | B |
| ** Glazing press | C | Purified drum | B |
| ** Multilayer paper board machine | C | Welon machine | B |
| ** Drying cylinder | C | WASTER TREATMENT EQUIPMENTS | |
| ** Glazing cylinder | C | ** Air blast | B |
| ** Masher | C | Screw pump | B |
| ** Mashing and breaking machine | C | WOOD PROCESSING MACHINE TOOL | |
| ** Suction roll | C | Barker | C |
| ** Wet paper roller machine | C | Facing machine | B |
| ** Water absorbing roller machine | C | Saw bench | C |
| Welon machine | C | Wood processing machine tool | A |

Note: A - Uniform load; B - Moderate shock load; C - Heavy shock load; ** - for 24hour system.