

# G Series


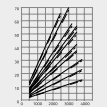



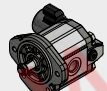
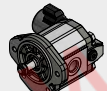
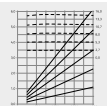
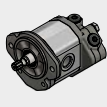
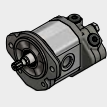
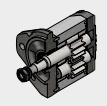
Group 2 gear pumps and motors



New

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### Features

Roquet gear pumps offer:

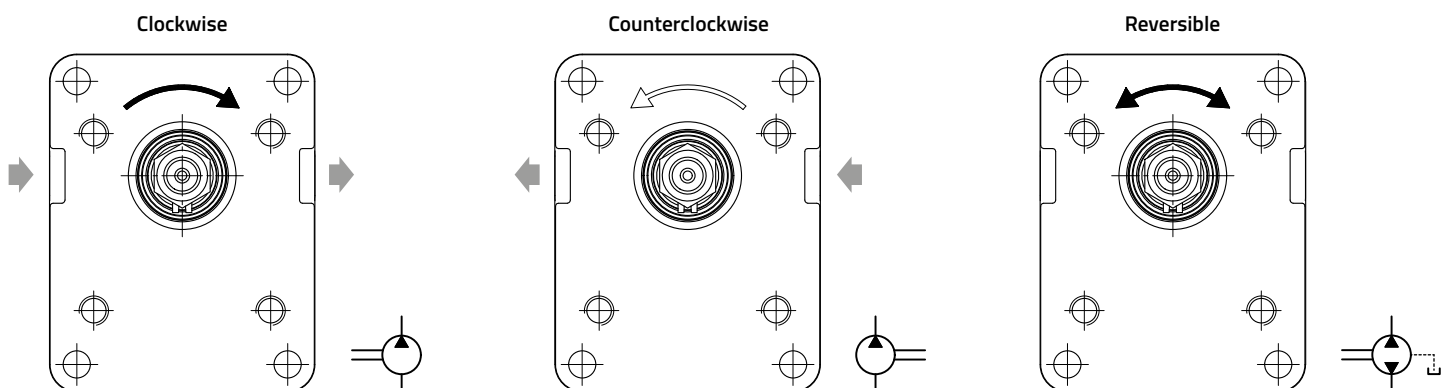
- High efficiency thanks to the specialized production processes.
- Axial compensation through floating bearings.
- High quality bushings for gear pumps.
- Aluminium or cast iron body.
- Front flange and back cover made of cast iron.
- NBR seals in the standard version.
- FKM seals available for high temperature applications.
- 100% of pumps delivered are tested.
- Option to create multiple pumps combining different Roquet pump models.
- Different multiple pumps inlets connected, common inlet & separate stages.
- Front flanges with outboard bearing configurations.
- Back covers with integrated valves.

### Technical information

|                           |   |
|---------------------------|---|
| Displacement range        | 4 – 26,7 cm <sup>3</sup> /rev   |
| Shafts, flanges and ports | According to European, German and American standards  |
| Direction of rotation     | Clockwise, counterclockwise and reversible  |
| Inlet port pressure range | 0,7 – 1,5 bar (absolute pressure)   |
| Fluid                     | Recommended Mineral oil - ISO 6743 tipo HM, HV o HG   |
| Viscosity                 | Recommended viscosity at work 20-80 cSt (mm <sup>2</sup> /s)<br>Maximum viscosity allowed at start 800 cSt (mm <sup>2</sup> /s) |
| Oil working temperature   | Recommended temperature 50 °C – Material NBR (-30/+80 °C) FKM (-20/+120 °C)   |
| Cleanliness               | ISO 4406 22/19/16   |

### Direction of rotation

The direction of rotation is always defined looking at the pump from the front flange.



### Common formulas

$$v = \frac{Q}{6 \cdot A} \quad [\text{m/s}]$$

$$Q = \frac{V \cdot n \cdot \eta_{\text{vol}}}{1000} \quad [\text{l/min}]$$

$$M = \frac{(V \cdot \Delta p)}{(62,8 \cdot \eta_{\text{hm}})} \quad [\text{N} \cdot \text{m}]$$

$$P = \frac{(Q \cdot \Delta p)}{(600 \cdot \eta_t)} \quad [\text{kW}]$$

$v$  = fluid speed [m/s]

$Q$  = pump flow [l/min]

$A$  = tube section [cm<sup>2</sup>]

$V$  = pump displacement [cm<sup>3</sup>/rev]

$n$  = rotation speed [rev/min]

$\Delta p$  = pressure difference [bar]

$M$  = necessary driving torque [N · m]

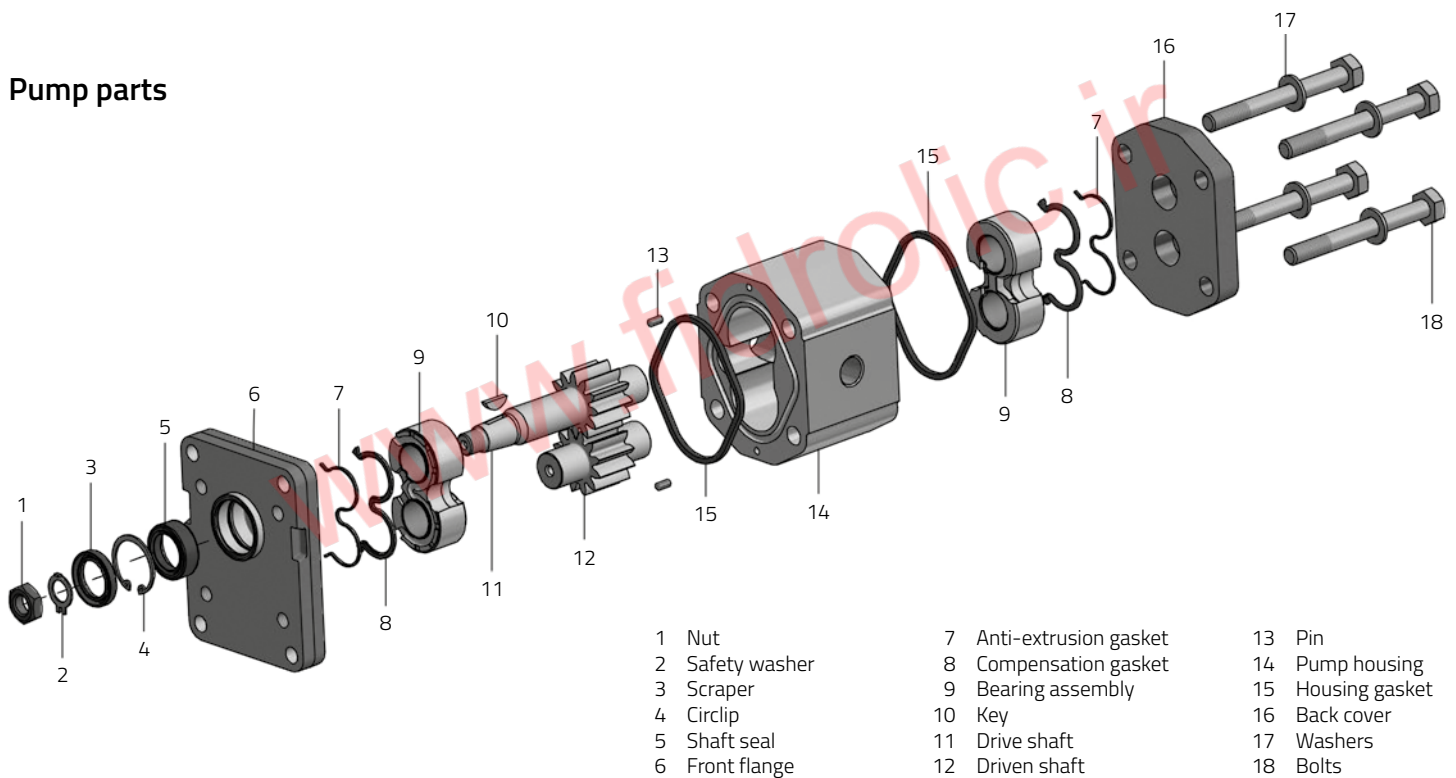
$P$  = necessary driving power [kW]

$\eta_{\text{vol}}$  = volumetric efficiency ( $\approx 0,95$ ) [%]

$\eta_{\text{hm}}$  = hydromechanical efficiency ( $\approx 0,89$ ) [%]

$\eta_t$  = total efficiency ( $\approx 0,85$ ) [%]

### Pump parts

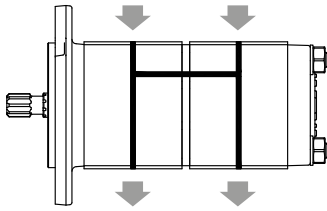


### Installation recommendations

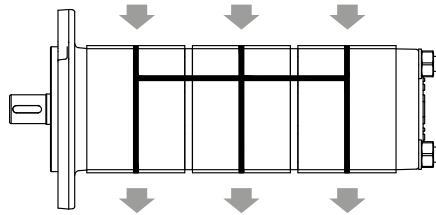
- Avoid radial and axial forces on the pump shaft for longer pump lifetime.
- The shafts of the pump have to be well aligned to avoid these forces.
- Elastic couplings are highly recommended.
- If these forces cannot be avoided, versions with outboard bearings can be offered.
- Avoid rotation speeds lower than those shown in the "technical data" section.
- Avoid pump starts under load at low temperatures.
- When starting, clean the whole installation before first run of system.
- Submerged installation recommended.
- If the pump shall be painted, protect the seal area and the drive shaft to avoid possible oil leaks.
- In reversible pumps, if possible, connect the drain to tank.

**Versions**

**Standard version (Inlets connected)**



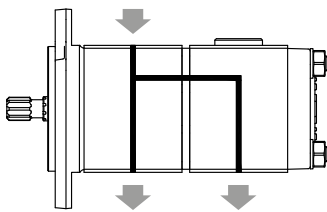
The oil can pass between sections.



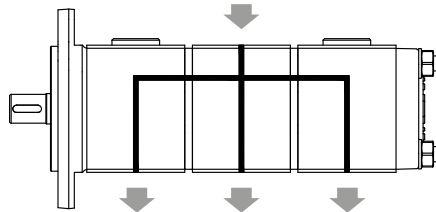
**Reference**

· (Without code).

**Common inlet**



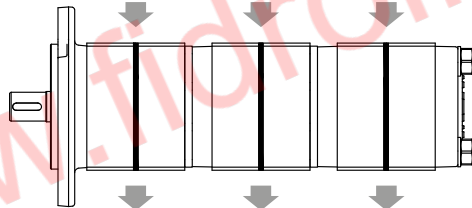
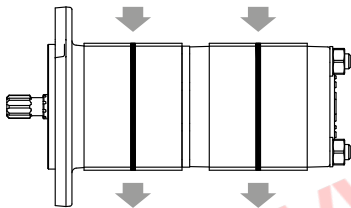
Designed to use less inlets than outlets.



- CI1 (Common inlet, body 1 inlet port).

- CI2 (Common inlet, body 2 inlet port).

**Separate stages version**



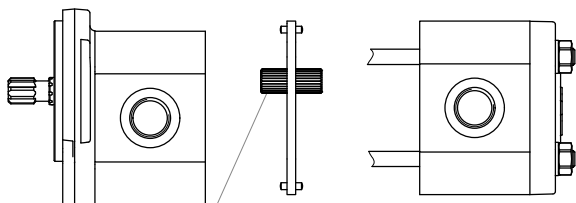
· SS (Separate stages).

**Note:** The pump length and the intermediate flanges are different than the above ones.

**Driving torques**

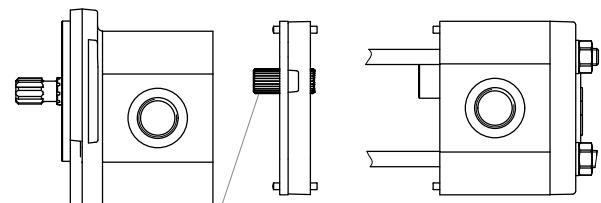
Driving torques between pumps

G+G - Common inlet



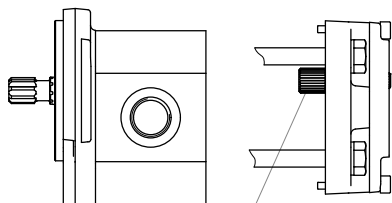
Max. 100 Nm

G+G - Separate stages



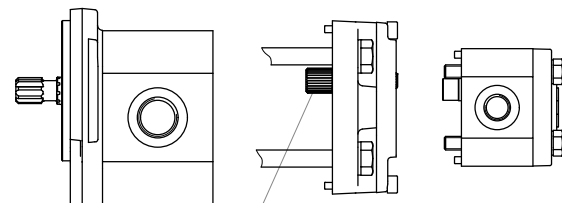
Max. 100 Nm

G+GS - Common inlet



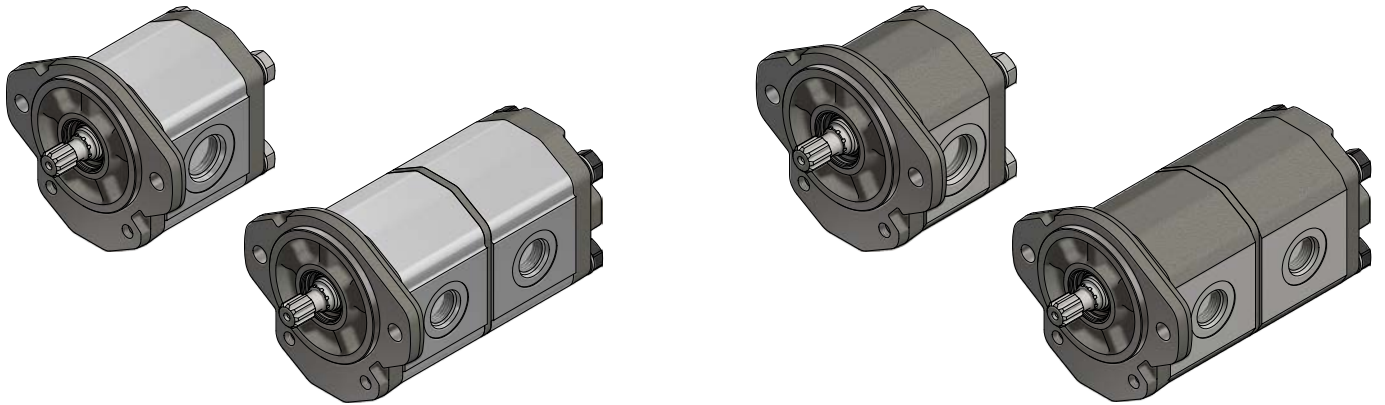
Max. 30 Nm

G+GS - Separate stages



Max. 30 Nm





### G Pump technical data (Aluminium body)

| Displacement                      | cm <sup>3</sup> /v-cc/rev<br>(in <sup>3</sup> /rev) | 4<br>(0,24)   | 6<br>(0,37) | 8<br>(0,49) | 10,7<br>(0,65) | 12<br>(0,73) | 14,7<br>(0,90) | 16<br>(0,98)  | 18<br>(1,10)  | 20,7<br>(1,26) | 23,3<br>(1,42) | 26,7<br>(1,62) |
|-----------------------------------|---|---------------|-------------|-------------|----------------|--------------|----------------|---------------|---------------|----------------|----------------|----------------|
| Cont. max. pressure               | bar<br>(psi)  | 275<br>(3990) |             |             | 250<br>(3625)  |              |                | 225<br>(3265) | 200<br>(2900) | 180<br>(2610)  | 170<br>(2465)  |                |
| Intermittent max. pressure        | bar<br>(psi)  | 300<br>(4350) |             |             | 275<br>(3990)  |              |                | 250<br>(3625) | 225<br>(3265) | 200<br>(2900)  | 190<br>(2755)  |                |
| Maximum peak pressure             | bar<br>(psi)  | 310<br>(4495) |             |             | 285<br>(4135)  |              |                | 260<br>(3770) | 235<br>(3410) | 210<br>(3045)  | 200<br>(2900)  |                |
| R.P.M. at cont. pressure          |   | 3500          |             | 3000        |                | 2500         |                | 2300          |               | 2000           |                |                |
| Max. R.P.M                        |   | 4000          |             | 3500        |                | 3200         |                | 3000          |               | 2500           |                |                |
| Min. R.P.M.<br>at given pressures | 100 bar<br>(1450 psi)                               | 500           |             |             |                |              |                |               |               |                |                |                |
|                                   | 175 bar<br>(2540 psi)                               | 1100          | 1200        | 1000        | 850            |              |                |               | 750           |                |                |                |
|                                   | 250 bar<br>(3625 psi)                               | 1400          |             | 1300        |                | 1200         |                | 1100          |               | -              |                |                |
|                                   | 300 bar<br>(4350 psi)                               | 1750          |             | 1500        |                | -            |                |               |               |                |                |                |

**Note:** Pressures obtained with flanged bodies.

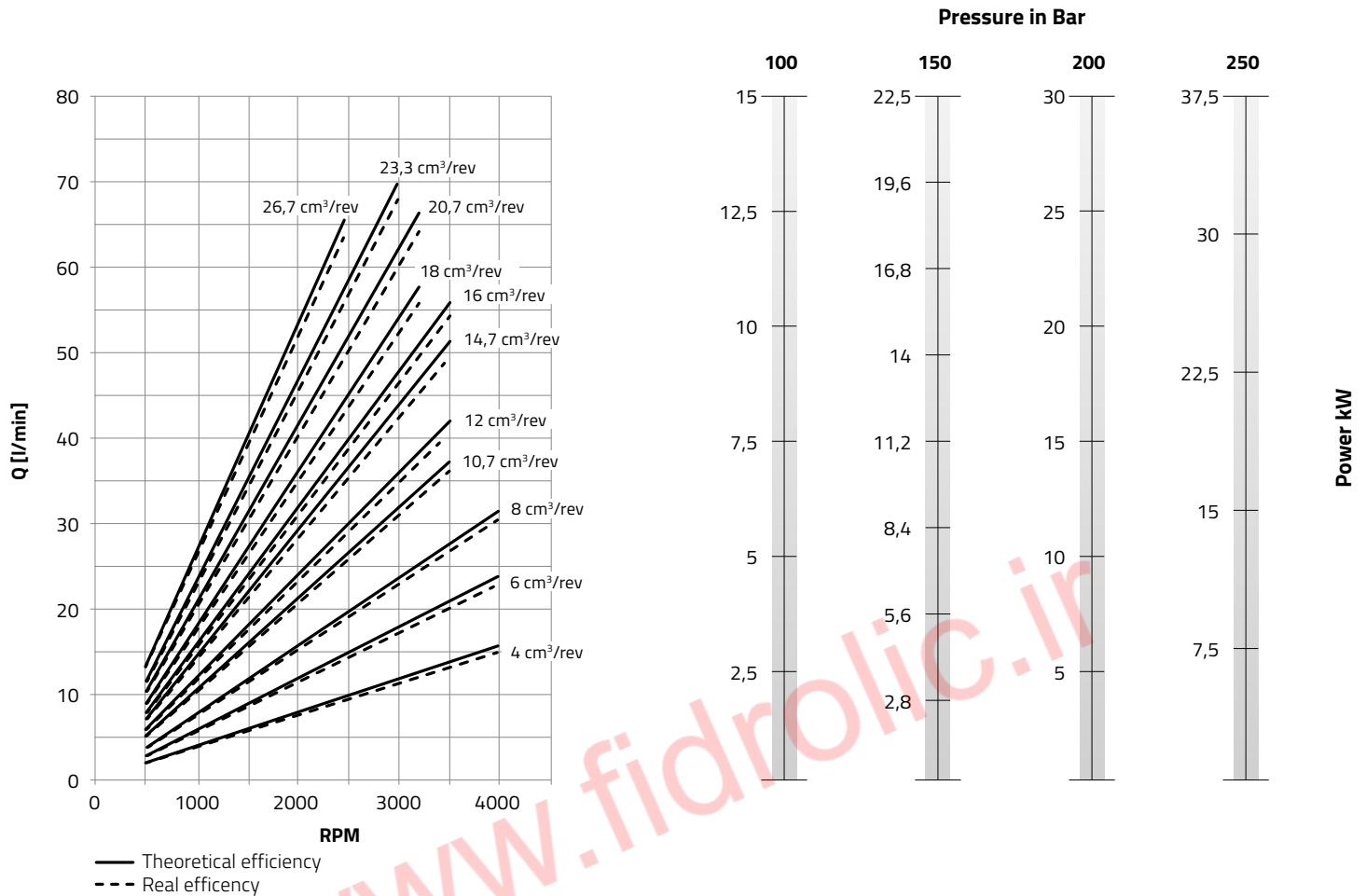
### GN Pump technical data (Cast iron body)

| Displacement                      | cm <sup>3</sup> /v-cc/rev<br>(in <sup>3</sup> /rev) | 4<br>(0,24)   | 6<br>(0,37) | 8<br>(0,49) | 10,7<br>(0,65) | 12<br>(0,73) | 14,7<br>(0,90) | 16<br>(0,98)  | 18<br>(1,10)  | 20,7<br>(1,26) | 23,3<br>(1,42) | 26,7<br>(1,62) |
|-----------------------------------|---|---------------|-------------|-------------|----------------|--------------|----------------|---------------|---------------|----------------|----------------|----------------|
| Cont. max. pressure               | bar<br>(psi)  | 290<br>(4205) |             |             | 275<br>(3990)  |              |                | 250<br>(3625) | 235<br>(3410) | 225<br>(3265)  | 215<br>(3120)  |                |
| Intermittent max. pressure        | bar<br>(psi)  | 350<br>(5075) |             |             | 330<br>(4785)  |              |                | 300<br>(4350) | 275<br>(3990) | 260<br>(3770)  | 250<br>(3625)  |                |
| Maximum peak pressure             | bar<br>(psi)  | 360<br>(5220) |             |             | 340<br>(4930)  |              |                | 310<br>(4495) | 285<br>(4135) | 270<br>(3915)  | 260<br>(3770)  |                |
| R.P.M. at cont. pressure          |   | 3500          |             | 3000        |                | 2500         |                | 2300          |               | 2000           |                |                |
| Max. R.P.M                        |   | 4000          |             | 3500        |                | 3200         |                | 3000          |               | 2500           |                |                |
| Min. R.P.M.<br>at given pressures | 100 bar<br>(1450 psi)                               | 500           |             |             |                |              |                |               |               |                |                |                |
|                                   | 175 bar<br>(2540 psi)                               | 1100          | 1200        | 1000        | 850            |              |                |               | 750           |                |                |                |
|                                   | 250 bar<br>(3625 psi)                               | 1400          |             | 1300        |                | 1200         |                | 1100          |               | -              |                |                |
|                                   | 300 bar<br>(4350 psi)                               | 1750          |             | 1500        |                | -            |                |               |               |                |                |                |

**Note:** With regard to all reversible pumps (G and GN), maximum pressure is 250 bar (3600 psi), except for those values where the pressure is lower.

**Note:** The definition of the pressure ranges is shown on page 7.

### Flow, performance and power chart according to displacement



**NOTE:** The values shown in the above diagram have been obtained using 32cSt Kinematic viscosity oil.

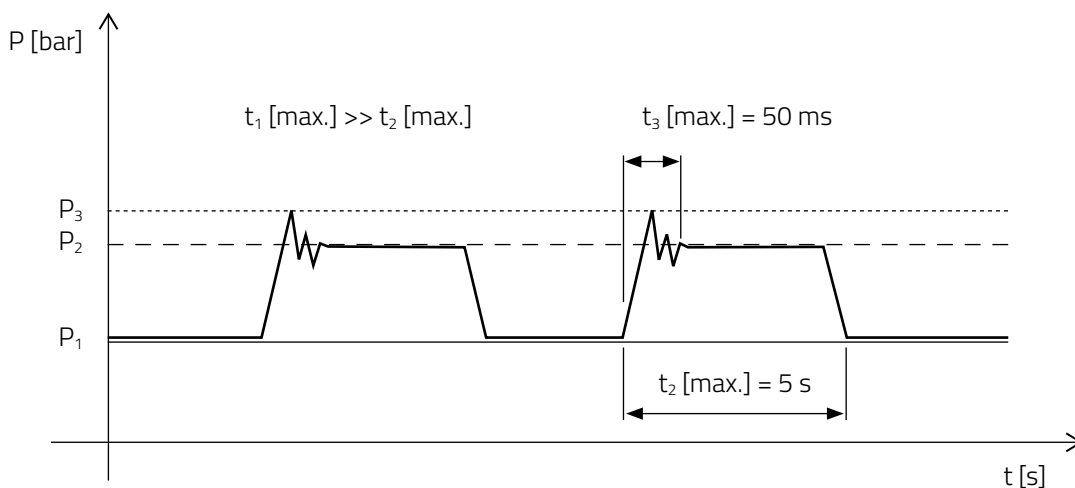
### Pressure definition

Technical data tables show 3 levels of maximum pressure to which a pump can be used:

$P_1, t_1$  – Maximum continuous pressure ———

$P_2, t_2$  – Maximum intermittent pressure - - - -

$P_3, t_3$  – Maximum peak pressure .....

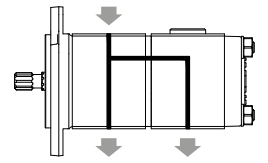


| Coding System  |  |      |   |   |    |   |   | Optional                        |                           |              |      |  |
|--|--|------|---|---|----|---|---|---------------------------------|---------------------------|--------------|------|--|
| 1  | G  | 15C  | D | E | 10 | R | / | V                               | 42                        | T***         | -*** |  |
| <b>Type</b>  |  |      |   |   |    |   |   | <b>Code</b>                     |                           |              |      |  |
| 1  | Without pulley                               |      |   |   |    |   |   | V                               | FKM seals and shaft seal  |              |      |  |
| 2  | With pulley                                  |      |   |   |    |   |   | RV                              | Only FKM shaft seal       |              |      |  |
| 5  | Pump with floating shaft and back-up bearing |      |   |   |    |   |   | ID                              | Internal drain            |              |      |  |
| <b>Model</b>   |  |      |   |   |    |   |   | <b>Alternatives with Valves</b> |                           |              |      |  |
| G  | Single – Aluminium body                      |      |   |   |    |   |   | VA                              | Check valve               |              |      |  |
| GN   | Single – Cast iron body                      |      |   |   |    |   |   | V@                              | Relief valve              |              |      |  |
| GM   | Multiple (G+G)                               |      |   |   |    |   |   | VBP@                            | Low pressure relief valve |              |      |  |
| GNM  | Multiple (GN+GN)                             |      |   |   |    |   |   | RC@V@                           | Priority flow valve       |              |      |  |
| GS   | Multiple (G+GO)                              |      |   |   |    |   |   | VC@V@                           | Flow control valve        |              |      |  |
| GNS  | Multiple (GN+GO)                             |      |   |   |    |   |   | See variants with valves →      |                           |              |      |  |
| <b>Pump Displacement [cm<sup>3</sup>/rev] &amp; [in<sup>3</sup>/rev]</b> |  |      |   |   |    |   |   | <b>Chamber Type</b>             |                           |              |      |  |
| 4C   | 4,0  | 0,24 |   |   |    |   |   |                                 | CI@                       | Standard     |      |  |
| 6C   | 6,0  | 0,37 |   |   |    |   |   |                                 | SS                        | Common inlet |      |  |
| 8C   | 8,0  | 0,49 |   |   |    |   |   |                                 | Separate stages           |              |      |  |
| 11C  | 10,7   | 0,65 |   |   |    |   |   |                                 |                           |              |      |  |
| 12C  | 12,0   | 0,73 |   |   |    |   |   |                                 |                           |              |      |  |
| 15C  | 14,7   | 0,90 |   |   |    |   |   |                                 |                           |              |      |  |
| 16C  | 16,0   | 0,98 |   |   |    |   |   |                                 |                           |              |      |  |
| 18C  | 18,0   | 1,10 |   |   |    |   |   |                                 |                           |              |      |  |
| 21C  | 20,7   | 1,26 |   |   |    |   |   |                                 |                           |              |      |  |
| 23C  | 23,3   | 1,42 |   |   |    |   |   |                                 |                           |              |      |  |
| 27C  | 26,7   | 1,62 |   |   |    |   |   |                                 |                           |              |      |  |
| <b>Rotation Direction</b>  |  |      |   |   |    |   |   | <b>Port Connection Forms</b>    |                           |              |      |  |
| D  | Clockwise                                    |      |   |   |    |   |   | R                               | BSP thread                |              |      |  |
| I  | Counterclockwise                             |      |   |   |    |   |   | F                               | German standard           |              |      |  |
| R  | Reversible                                   |      |   |   |    |   |   | B                               | European standard         |              |      |  |
|  |  |      |   |   |    |   |   | S                               | SAE thread                |              |      |  |
|  |  |      |   |   |    |   |   | T                               | Rear ports - BSP          |              |      |  |
|  |  |      |   |   |    |   |   | U                               | Rear ports - SAE          |              |      |  |
|  |  |      |   |   |    |   |   | For more options see ports →    |                           |              |      |  |
| <b>Drive Shaft Form</b>  |  |      |   |   |    |   |   | <b>Mounting Flange</b>          |                           |              |      |  |
| D  | SAE B - 13 teeth — SAE J498b                 |      |   |   |    |   |   | 09                              | SAE A - 2 bolts           |              |      |  |
| E  | European tapered 1:8                         |      |   |   |    |   |   | 10                              | European flange           |              |      |  |
| G  | SAE A - 9 teeth — SAE J498b                  |      |   |   |    |   |   | 22                              | German standard - 2 bolts |              |      |  |
| H  | SAE A - Ø15,88 straight                      |      |   |   |    |   |   | 23                              | German standard           |              |      |  |
| J  | German tapered 1:5                           |      |   |   |    |   |   | 89                              | SAE B - 2 bolts           |              |      |  |
| K  | SAE - 11 teeth — SAE J498b                   |      |   |   |    |   |   | 00                              | Multiple pumps            |              |      |  |
| L  | SAE - Ø19,05 straight                        |      |   |   |    |   |   | For more options see flanges →  |                           |              |      |  |
| T  | DIN-5482 - 9 teeth                           |      |   |   |    |   |   |                                 |                           |              |      |  |
| Q  | Multiple pumps — (SS)                        |      |   |   |    |   |   |                                 |                           |              |      |  |
| Z  | Multiple pumps — (CI)                        |      |   |   |    |   |   |                                 |                           |              |      |  |
| For more options see shafts →  |  |      |   |   |    |   |   |                                 |                           |              |      |  |



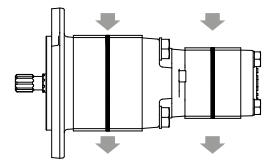
Part number example GM Pump

|                |               |   |   |           |          |          |           |          |          |                       |
|----------------|---------------|---|---|-----------|----------|----------|-----------|----------|----------|-----------------------|
| <b>1</b>       | <b>GM</b>     | <b>15C</b>  | <b>-</b>  | <b>6C</b> | <b>D</b> | <b>E</b> | <b>10</b> | <b>R</b> | <b>-</b> | <b>CI1</b>            |
| Without pulley |               |   |   |           |          |          |           |          |          | Common Inlet (Inlet1) |
|                | GM Pump (G+G) |   |   |           |          |          |           |          |          | Connection type: R    |
|                |               | Displacement of the Pump G-1 [cm <sup>3</sup> /rev] |   |           |          |          |           |          |          | Front flange type: 10 |
|                |               |   | Displacement of the Pump G-2 [cm <sup>3</sup> /rev] |           |          |          |           |          |          | Shaft form: E         |
|                |               |   |   |           |          |          |           |          |          | Clockwise Rotation    |



Part number example GS Pump

|                |                |   |  |           |          |          |           |          |          |                       |
|----------------|----------------|---|--|-----------|----------|----------|-----------|----------|----------|-----------------------|
| <b>1</b>       | <b>GS</b>      | <b>15C</b>  | <b>-</b>   | <b>5C</b> | <b>D</b> | <b>E</b> | <b>10</b> | <b>R</b> | <b>-</b> | <b>SS</b>             |
| Without pulley |                |   |  |           |          |          |           |          |          | Separate Stages       |
|                | GS Pump (G+G0) |   |  |           |          |          |           |          |          | Connection type: R    |
|                |                | Displacement of the Pump G [cm <sup>3</sup> /rev] |  |           |          |          |           |          |          | Front flange type: 10 |
|                |                |   | Displacement of the Pump G0 [cm <sup>3</sup> /rev] |           |          |          |           |          |          | Shaft form: E         |
|                |                |   |  |           |          |          |           |          |          | Clockwise Rotation    |



### Pumps and motors codification with integrated valves

| Relief valve   |                              |
|--|------------------------------|
| Tamper-proof sealable model and standard set pressure  |                              |
|  | Pressure range               |
| <b>V11</b>   | Set at 80 bar (5-80 bar)     |
| <b>V12</b>   | Set at 160 bar (85-175 bar)  |
| <b>V13</b>   | Set at 200 bar (180-250 bar) |
| Tamper-proof sealed model and specific set pressure  |                              |
|  | Pressure range               |
| <b>V41T***</b>   | 5-80 bar                     |
| <b>V42T***</b>   | 85-175 bar                   |
| <b>V43T***</b>   | 180-250 bar                  |
| <p>In the relief valve with tamper-proof cap, the signs *** have to be replaced by the set pressure (3 numbers) of the valve. See minimum set pressure curve (page 29).</p> <p>Example 1: 1G18CDE10R/V12<br/>Example 2: 1G11CDE10R/V41T060</p> |                              |

| Flow control valve with relief valve  |          |   |   |
|---|----------|---|---|
| VC  | @        | V   | @   |
| Controlled flow   |          | Tamper-proof sealable model and standard set pressure |   |
|   |          |   | Pressure range  |
| <b>05</b>   | 5 l/min  | <b>11</b><br><b>12</b><br><b>13</b>                   | Set at 80 bar (5-80 bar)<br>Set at 160 bar (85-175 bar)<br>Set at 200 bar (180-250 bar) |
| <b>08</b>   | 8 l/min  |   |   |
| <b>12</b>   | 12 l/min |   |   |
| <b>16</b>   | 16 l/min |   |   |
| <b>22</b>   | 22 l/min |   |   |
| <p>See minimum set pressure curve (page 30).<br/>Example: 1G8CDE10R/VC05V13</p> |          |   |   |

| Check valve |  |
|-------------|--|
| <b>VA</b>   | See pressure diagram - flow (page 29).<br>Example: 1G11CDE10R/VA |

| Low pressure relief valve |  |
|---------------------------|--|
| <b>VBPT**</b>             | The signs ** have to be replaced by the set pressure (2 numbers). See minimum set pressure curve (page 29).<br>Example: 1G15CDE10R/VBP14 |

| Priority flow rate with relief valve   |          |   |                              |
|--|----------|---|------------------------------|
| RC   | @        | V   | @                            |
| Priority flow PF   |          | Model without valve                                   |                              |
| <b>05</b>  | 5 l/min  | <b>00</b>   | Without relief valve         |
| <b>06</b>  | 6 l/min  | Tamper-proof sealable model and standard set pressure |                              |
| <b>08</b>  | 8 l/min  |   |                              |
| <b>10</b>  | 10 l/min |   |                              |
| <b>12</b>  | 12 l/min |   |                              |
| <b>14</b>  | 14 l/min |   |                              |
| <b>16</b>  | 16 l/min | Pressure range  |                              |
| <b>18</b>  | 18 l/min | <b>11</b>   | Set at 80 bar (5-80 bar)     |
| <b>20</b>  | 20 l/min | <b>12</b>   | Set at 160 bar (85-175 bar)  |
|  |          | <b>13</b>   | Set at 200 bar (180-250 bar) |
| Tamper-proof sealed model and specific set pressure  |          |   |                              |
|  |          |   | Pressure range               |
|  |          | <b>41T***</b>   | 5-80 bar                     |
|  |          | <b>42T***</b>   | 85-175 bar                   |
|  |          | <b>43T***</b>   | 180-250 bar                  |
| <p>In the relief valve with tamper-proof cap, the signs *** have to be replaced by the set pressure (3 numbers) of the valve. See minimum set pressure curve (page 30).</p> <p>Example 1: 1G11CDE10R/RC08V41T060<br/>Example 2: 1G16CDE10R/RC16V12</p> |          |   |                              |

### Drive shaft-front flange common combinations

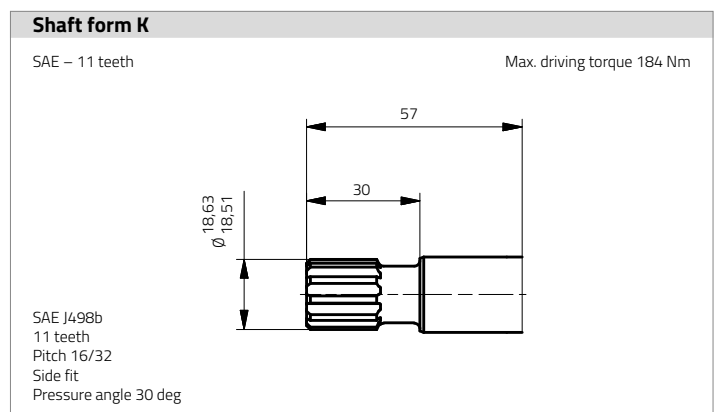
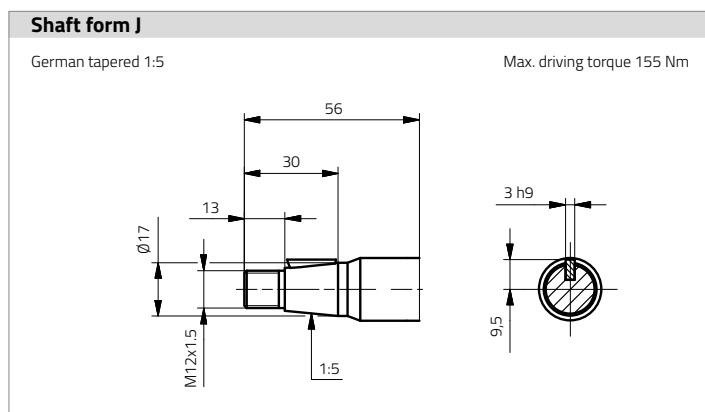
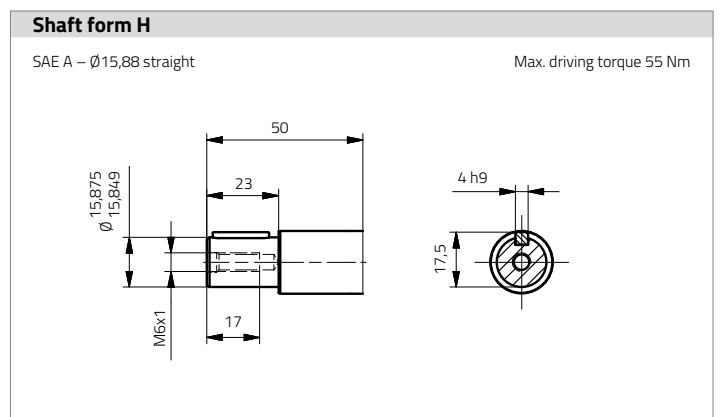
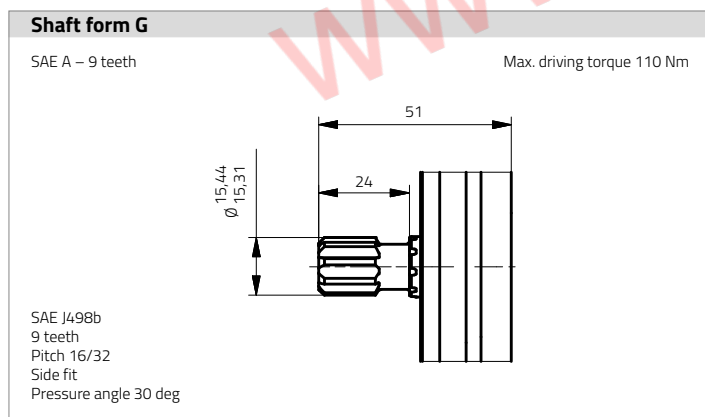
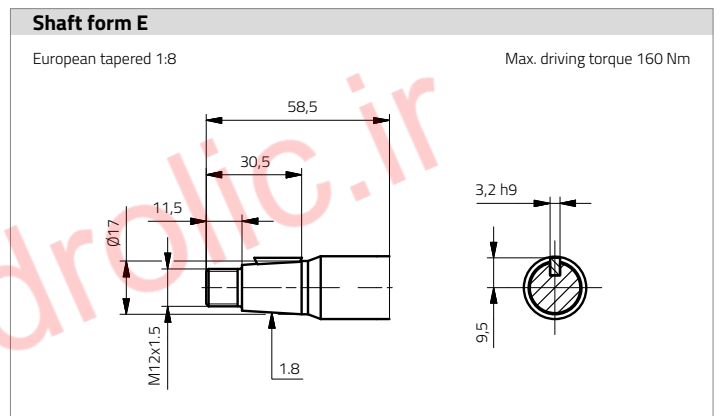
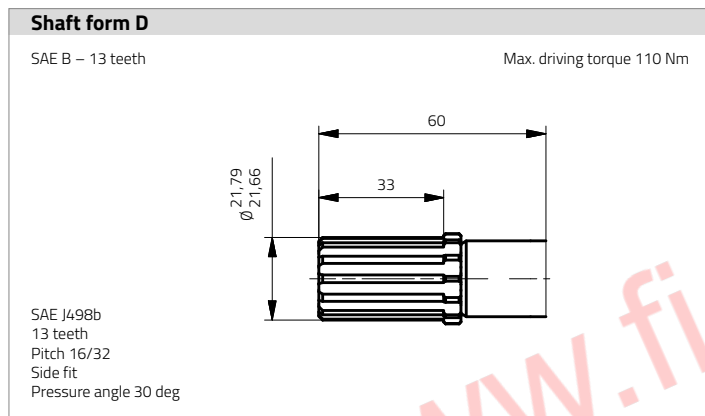
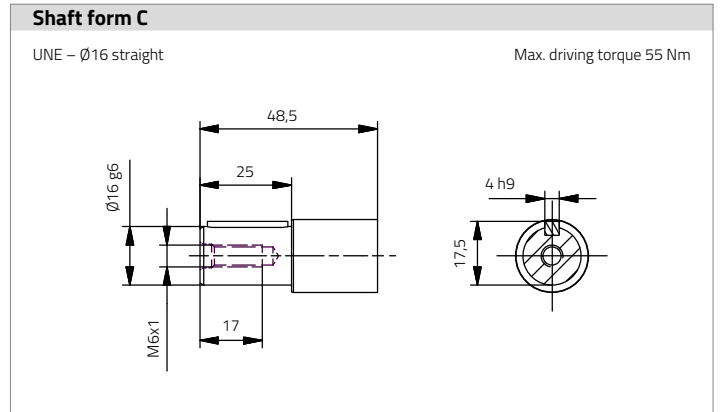
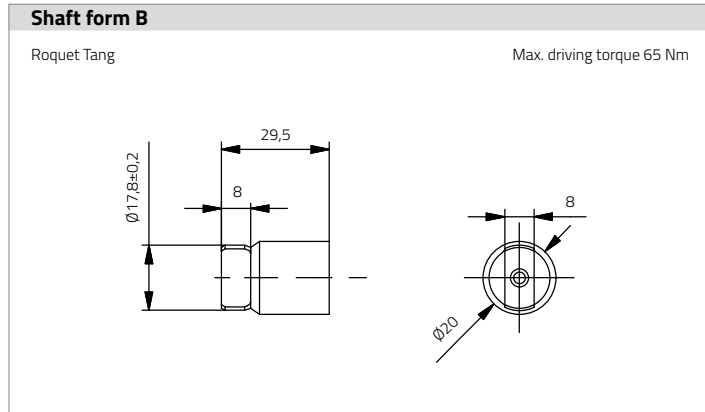
The table below only contains the most common combinations. Contact the Sales Department for other combinations.

|  | 09<br><br>SAE A – 2 bolts | 10<br><br>European | 19<br><br>German<br>2 bolts | 22<br><br>German<br>2 bolts | 23<br><br>German | 89<br><br>SAE B – 2 bolts |
|--|--|---|--|---|---|--|
| <b>D</b><br><br>SAE B – 13 teeth          |  |   |  |   |   | D 89   |
| <b>E</b><br><br>European tapered 1:8      |  | E 10  |  |   |   |  |
| <b>G</b><br><br>SAE A – 9 teeth         | G 09   |   |  |   |   |  |
| <b>H</b><br><br>SAE A – Ø15,88 straight | H 09   |   |  |   |   |  |
| <b>J</b><br><br>German tapered 1:5      |  |   |  | J 22  | J 23  |  |
| <b>K</b><br><br>SAE – 11 teeth          | K 09   |   |  |   |   |  |
| <b>L</b><br><br>SAE – Ø19,05 straight   | L 09   |   |  |   |   |  |
| <b>T</b><br><br>DIN-5482 – 9 teeth      |  |   |  |   | T 23  |  |
| <b>W</b><br><br>Tang                    |  |   | W19  |   |   |  |

### Drive shafts

Contact with the Sales Department for other combinations.

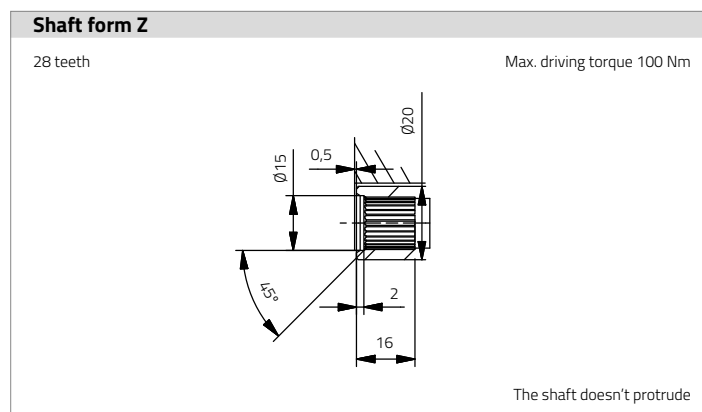
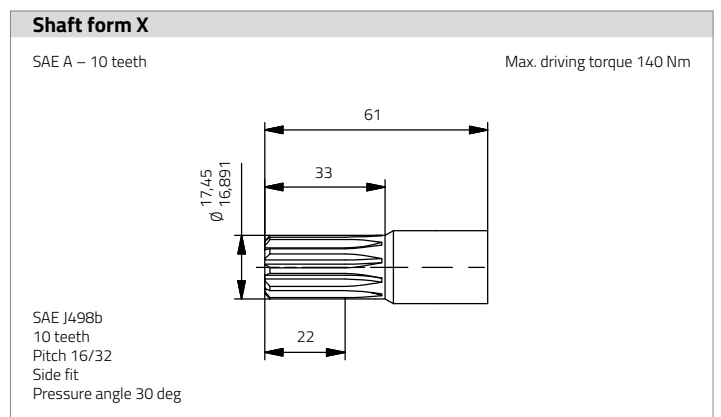
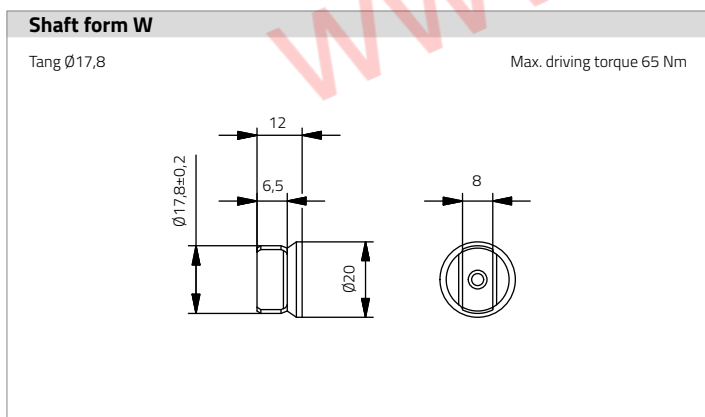
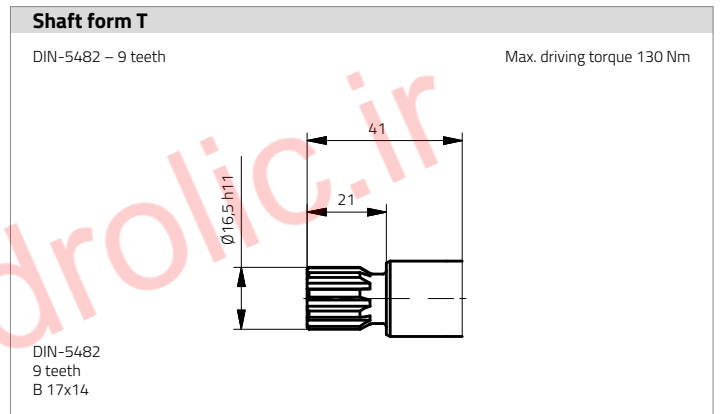
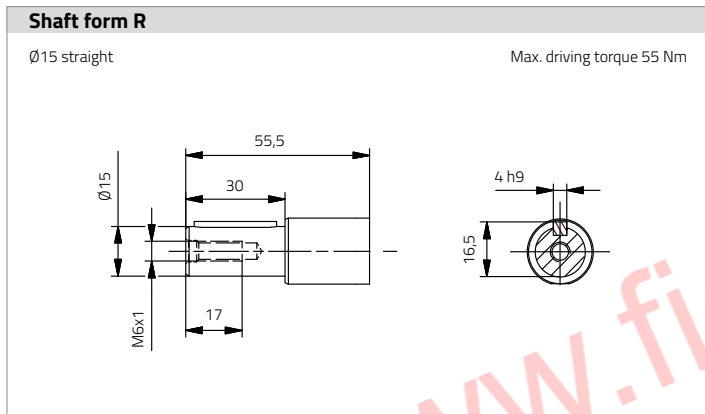
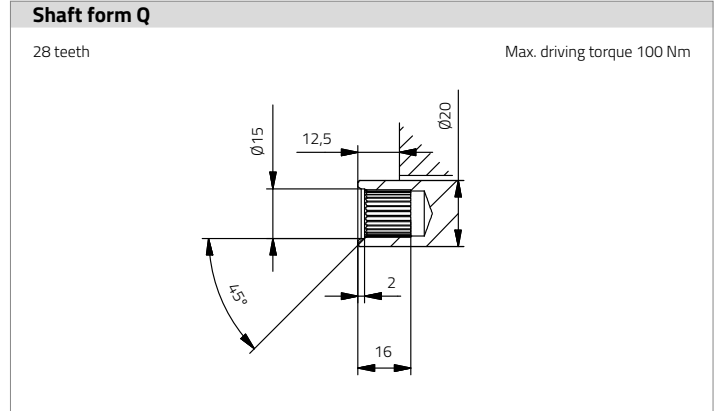
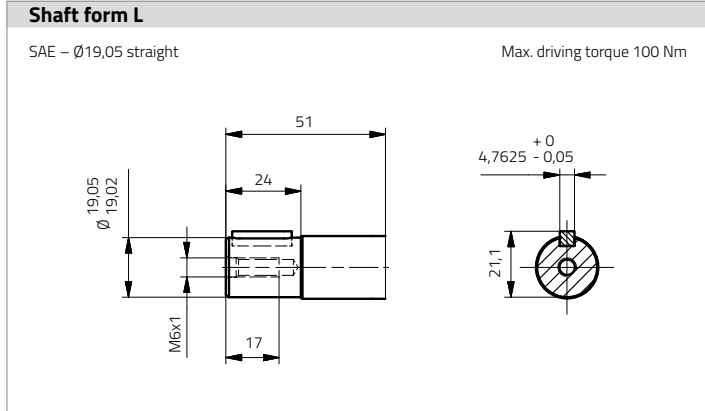
**NOTE:** The drive shaft length is given from the side A of the front flanges (see pages 14 and 15).



**Drive shafts**

Contact with the Sales Department for other combinations.

**NOTE:** The drive shaft length is given from the side A of the front flanges (see pages 14 and 15).



← Return to Pumps

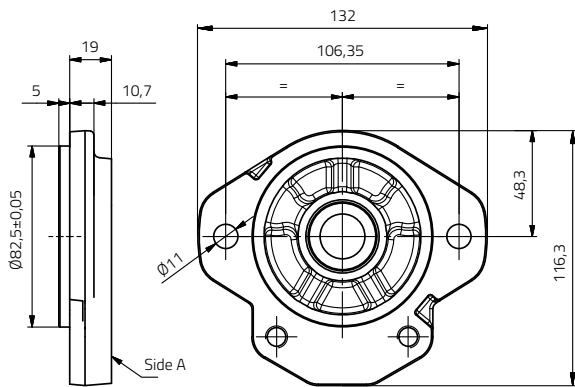
← Return to Motors

### Front flanges

Contact with the Sales Department for other combinations.

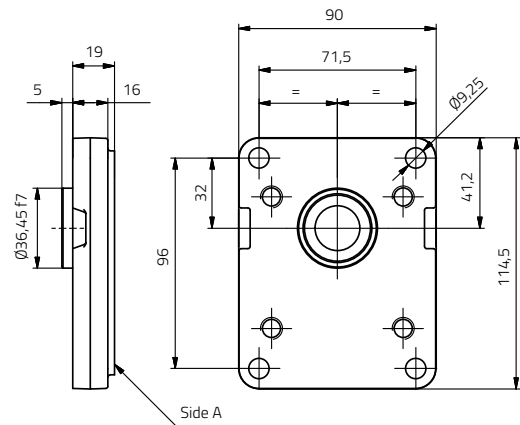
#### Front flange type 09

SAE A – 2 bolts



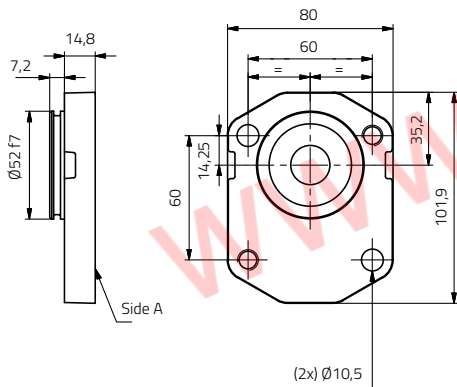
#### Front flange type 10

European standard



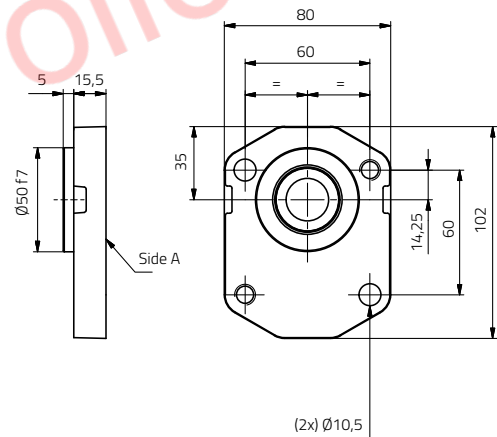
#### Front flange type 19

German standard – 2 bolts (Without shaft seal)



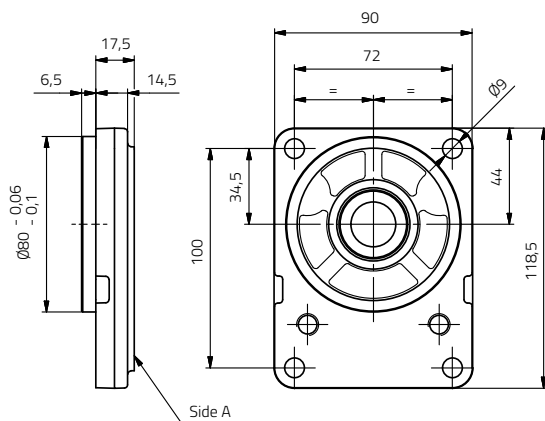
#### Front flange type 22

German standard – 2 bolts (With shaft seal)



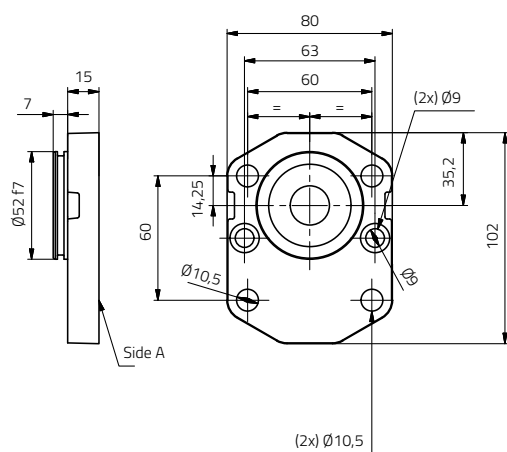
#### Front flange type 23

German standard



#### Front flange type 29

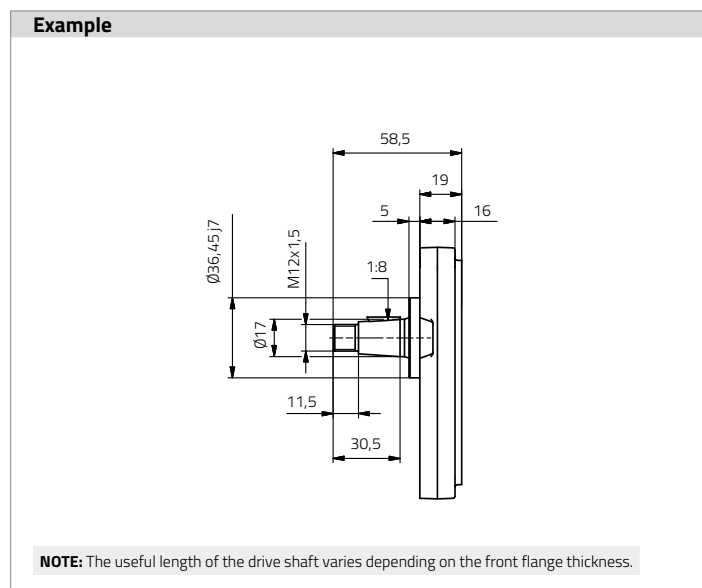
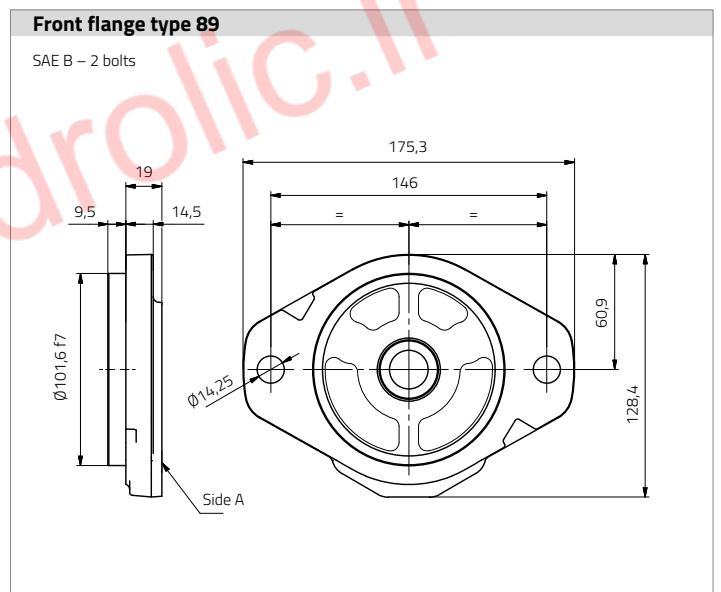
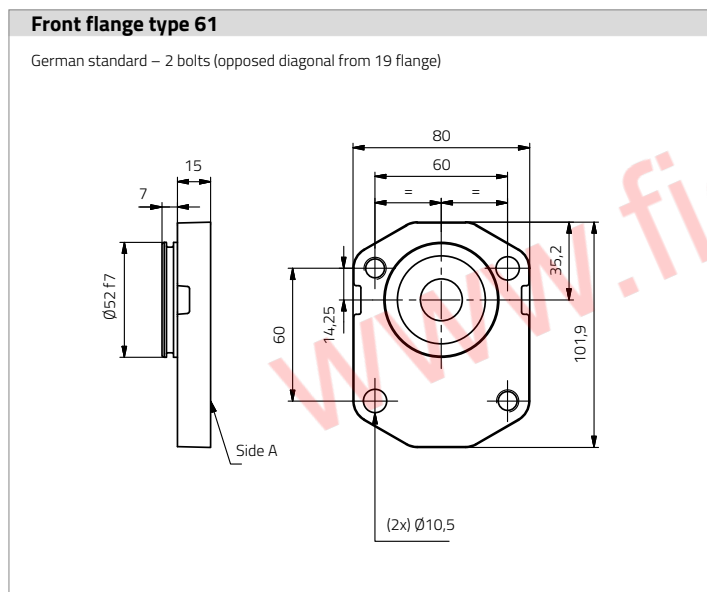
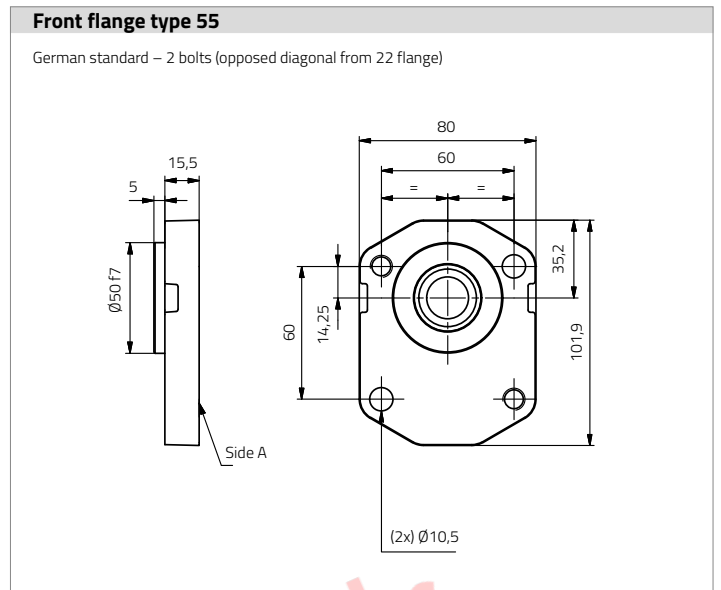
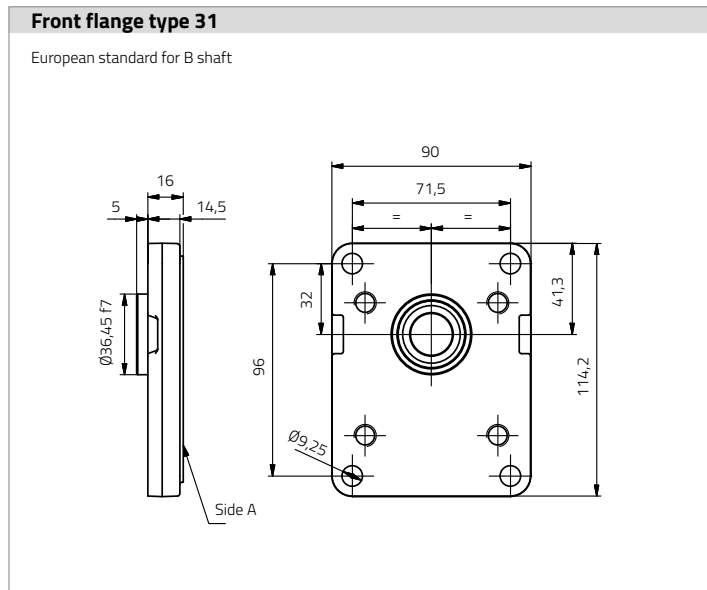
German standard (High pressure)





**Front flanges**

Contact with the Sales Department for other combinations.



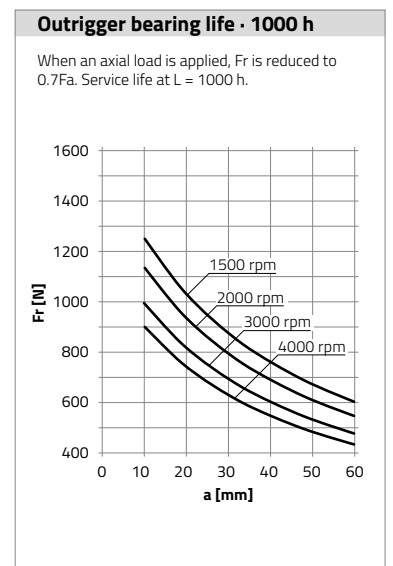
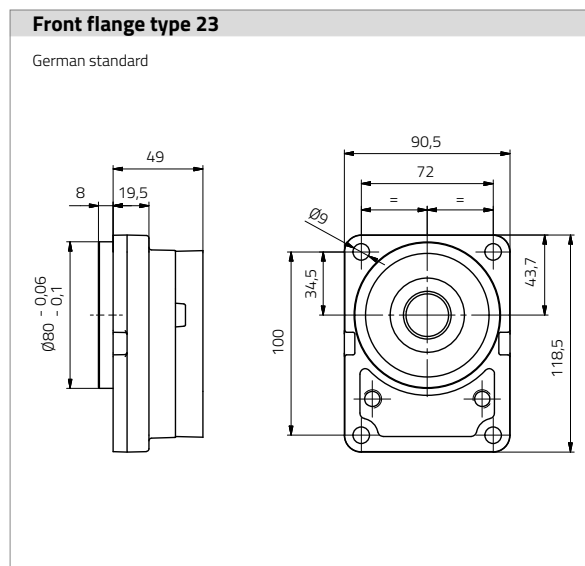
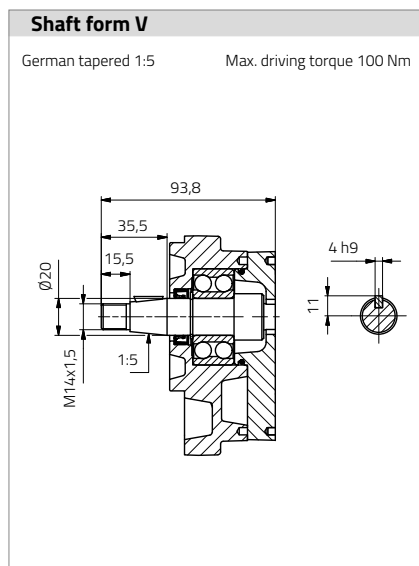
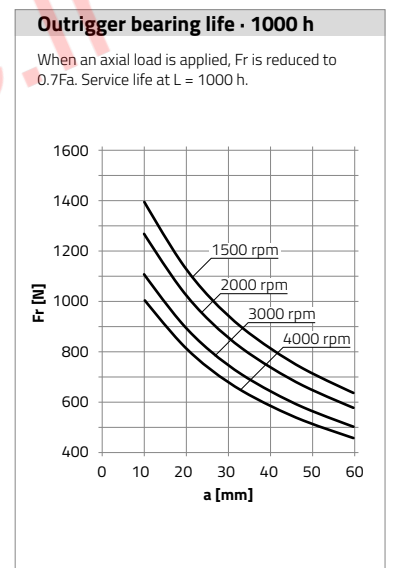
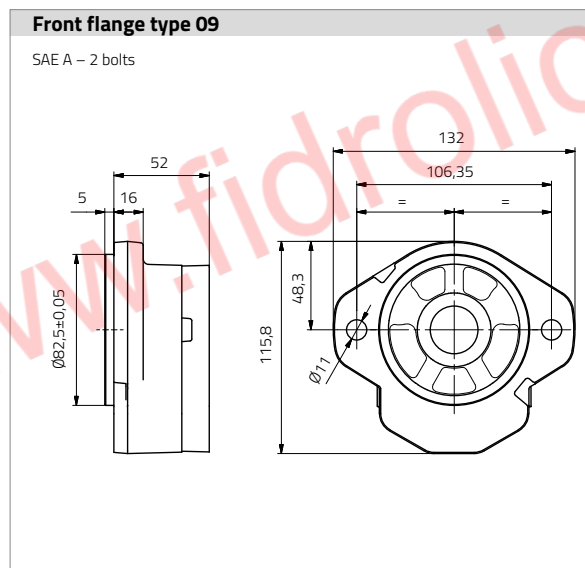
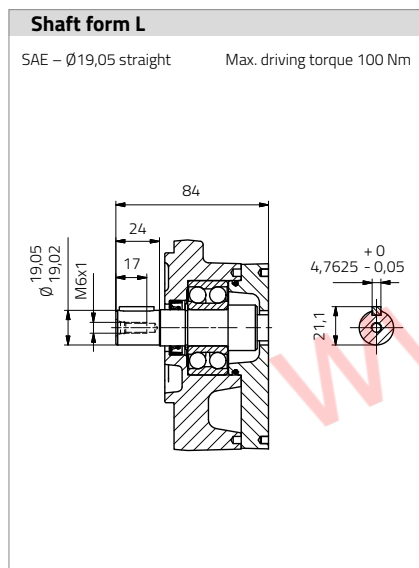
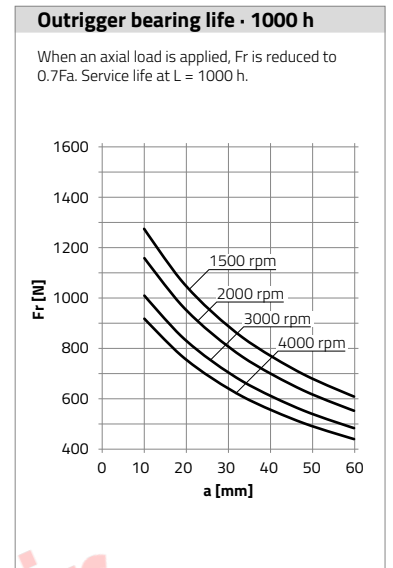
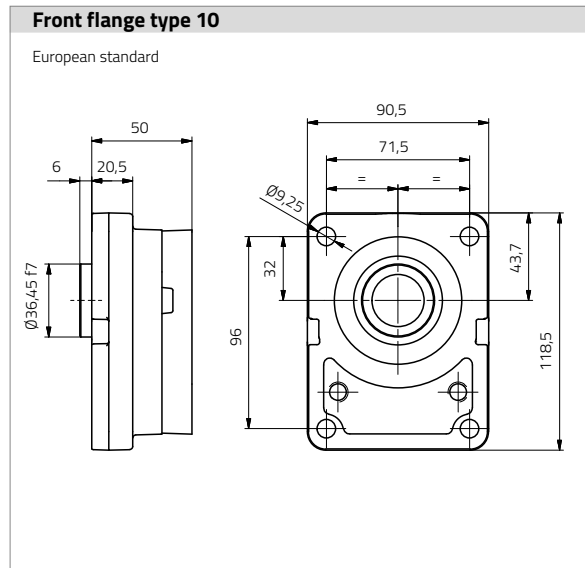
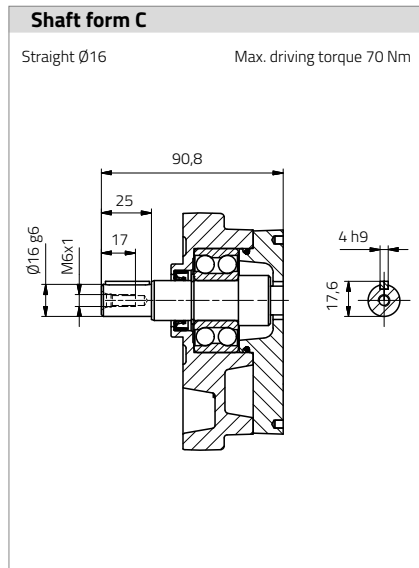
[← Return to Pumps](#)

[← Return to Motors](#)

### Front flanges and shaft with outrigger bearing

Maximum radial load 125 daN — Maximum axial load 125 daN

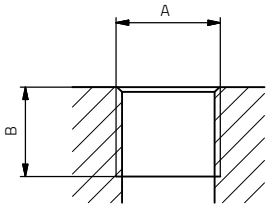
Each drive shaft and front flange on this page can be combined.



**NOTE:** Length "a" refers to the distance between the mating face and the equivalent force  $F_r$  applied.

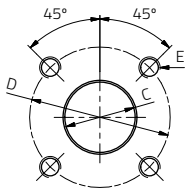
### Ports

#### Side ports



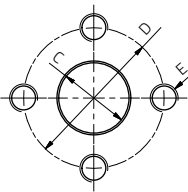
| R Ports                             | 1 rotation direction |    |          |    | Reversible |    |
|-------------------------------------|----------------------|----|----------|----|------------|----|
|                                     | Suction              |    | Pressure |    | A          | B  |
|                                     | A                    | B  | A        | B  |            |    |
| Displacement [cm <sup>3</sup> /rev] |                      |    |          |    |            |    |
| 4                                   | 3/8" BSP             | 15 | 3/8" BSP | 15 | 3/8" BSP   | 15 |
| 6 ... 14,7                          | 1/2" BSP             | 18 | 3/8" BSP | 15 | 1/2" BSP   | 18 |
| 16 ... 26,7                         | 3/4" BSP             | 17 | 1/2" BSP | 18 | 3/4" BSP   | 17 |

Dimensions according to ISO 1179-1 (Parallel threads)



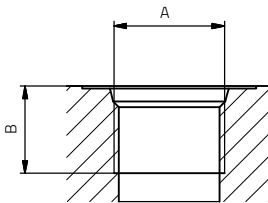
| F Ports                             | 1 rotation direction |    |    |          |    |    | Reversible |    |    |
|-------------------------------------|----------------------|----|----|----------|----|----|------------|----|----|
|                                     | Suction              |    |    | Pressure |    |    | C          | D  | E  |
|                                     | C                    | D  | E  | C        | D  | E  |            |    |    |
| Displacement [cm <sup>3</sup> /rev] |                      |    |    |          |    |    |            |    |    |
| 4 ... 6                             | 15                   | 40 | M6 | 15       | 35 | M6 | 20         | 40 | M6 |
| 8 ... 26,7                          | 20                   | 40 | M6 | 15       | 35 | M6 | 20         | 40 | M6 |

Flanged ports - German standard



| B Ports                             | 1 rotation direction |    |    |          |    |    | Reversible |    |    |
|-------------------------------------|----------------------|----|----|----------|----|----|------------|----|----|
|                                     | Suction              |    |    | Pressure |    |    | C          | D  | E  |
|                                     | C                    | D  | E  | C        | D  | E  |            |    |    |
| Displacement [cm <sup>3</sup> /rev] |                      |    |    |          |    |    |            |    |    |
| 4 ... 6                             | 13,5                 | 30 | M6 | 13,5     | 30 | M6 | 13,5       | 30 | M6 |
| 8 ... 12                            | 20                   | 40 | M8 | 15       | 30 | M6 | 15         | 30 | M6 |
| 15 ... 26,7                         | 20                   | 40 | M8 | 15       | 30 | M6 | 20         | 40 | M8 |

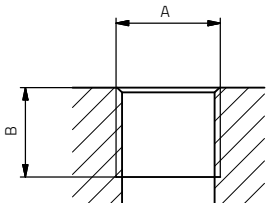
Flanged ports - European standard



| S Ports                             | 1 rotation direction |    |             |    | Reversible  |    |
|-------------------------------------|----------------------|----|-------------|----|-------------|----|
|                                     | Suction              |    | Pressure    |    | A           | B  |
|                                     | A                    | B  | A           | B  |             |    |
| Displacement [cm <sup>3</sup> /rev] |                      |    |             |    |             |    |
| 4 ... 26,7                          | 1" 1/16-12 UNF       | 19 | 7/8"-14 UNF | 17 | 7/8"-14 UNF | 17 |

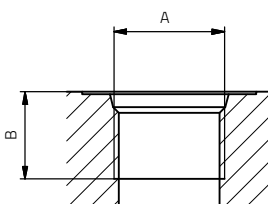
Dimensions according to ISO 11926-1 (Parallel threads)

#### Rear ports



| T Ports                             | 1 rotation direction + Reversible |    |          |    | Drain  |    |
|-------------------------------------|-----------------------------------|----|----------|----|--------|----|
|                                     | Suction                           |    | Pressure |    | A      | B  |
|                                     | A                                 | B  | A        | B  |        |    |
| Displacement [cm <sup>3</sup> /rev] |                                   |    |          |    |        |    |
| 4 ... 26,7                          | 1/2" BSP                          | 15 | 1/2" BSP | 15 | 1/4" G | 14 |

Dimensions according to ISO 1179-1 (Parallel threads)



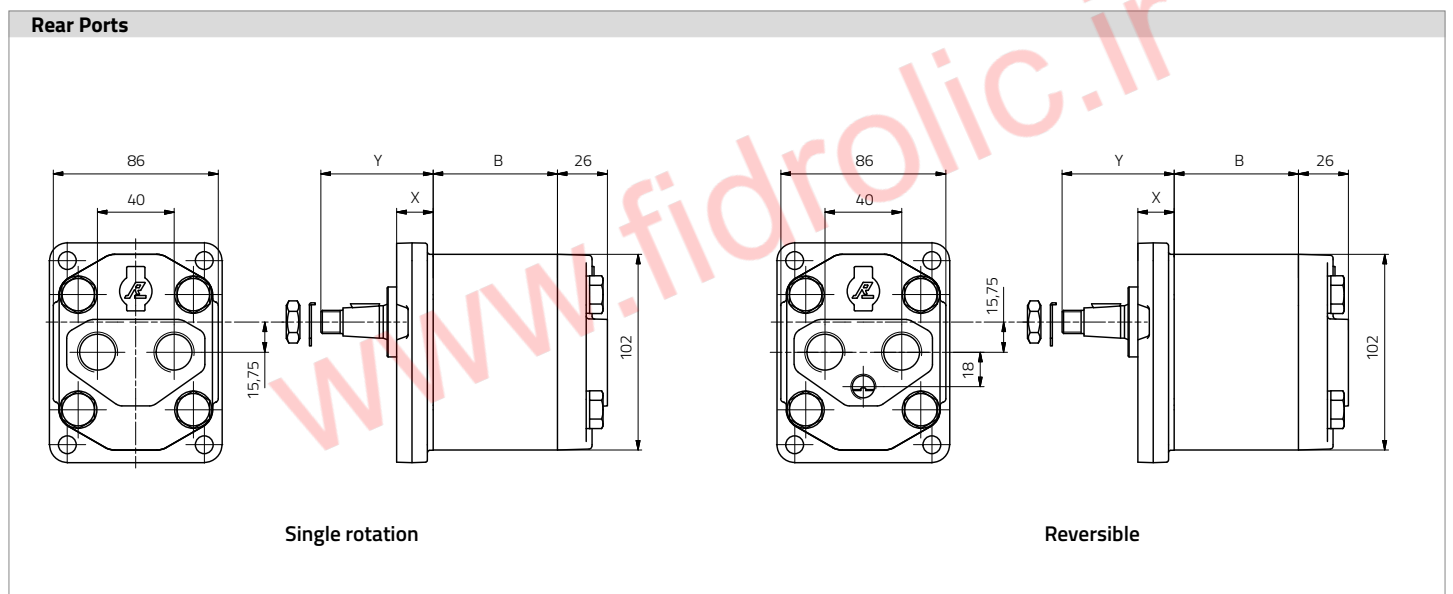
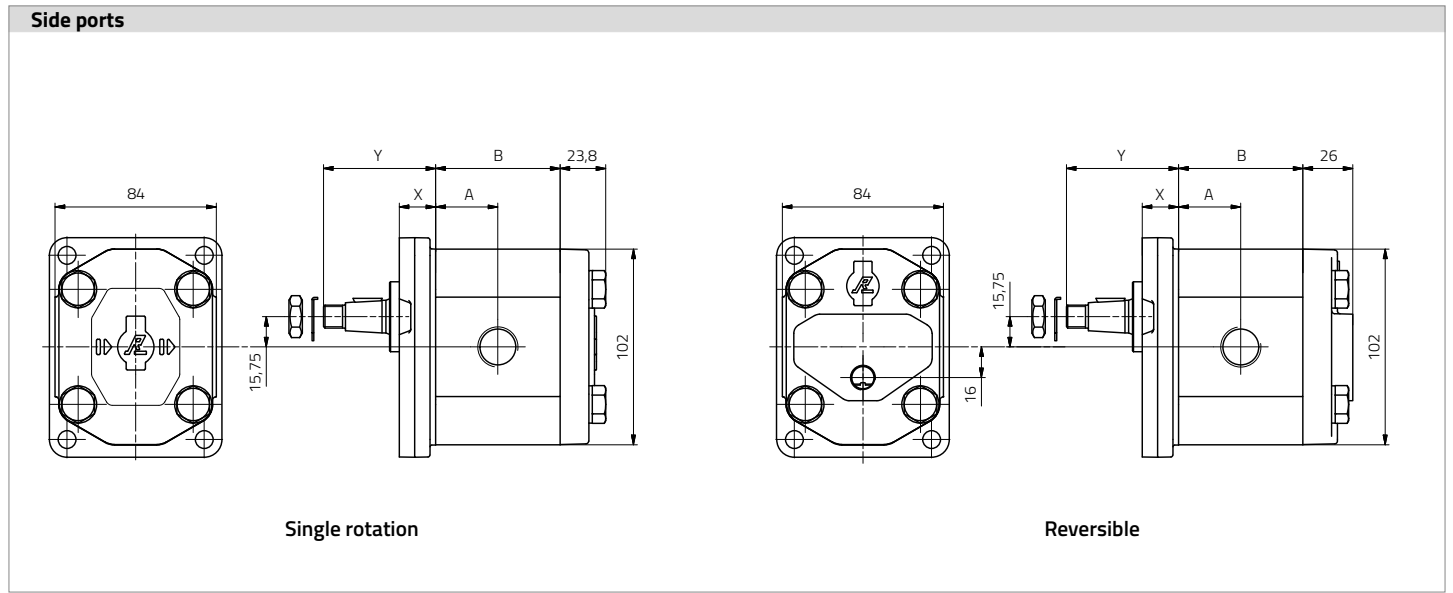
| U Ports                             | 1 rotation direction |    |             |    | Reversible  |    | Drain        |    |
|-------------------------------------|----------------------|----|-------------|----|-------------|----|--------------|----|
|                                     | Suction              |    | Pressure    |    | A           | B  | A            | B  |
|                                     | A                    | B  | A           | B  |             |    |              |    |
| Displacement [cm <sup>3</sup> /rev] |                      |    |             |    |             |    |              |    |
| 4 ... 26,7                          | 1" 1/16-12 UNF       | 19 | 7/8"-14 UNF | 17 | 7/8"-14 UNF | 17 | 9/16"-18 UNF | 14 |

Dimensions according to ISO 11926-1 (Parallel threads)

[← Return to Pumps](#)

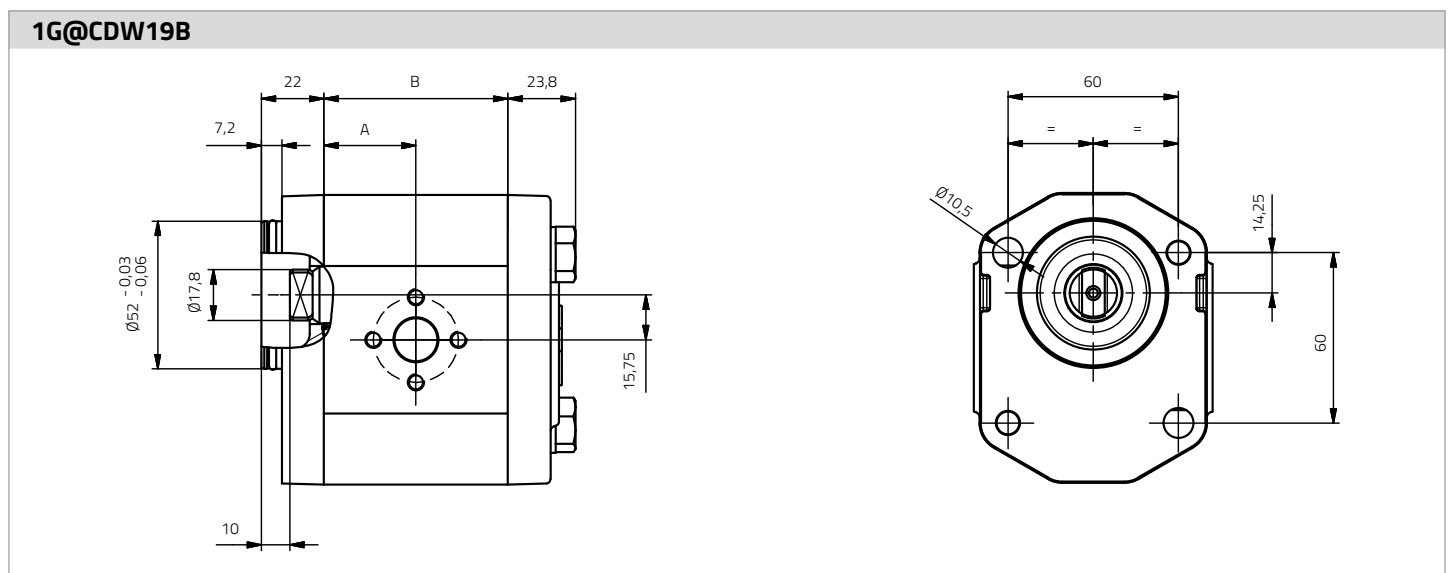
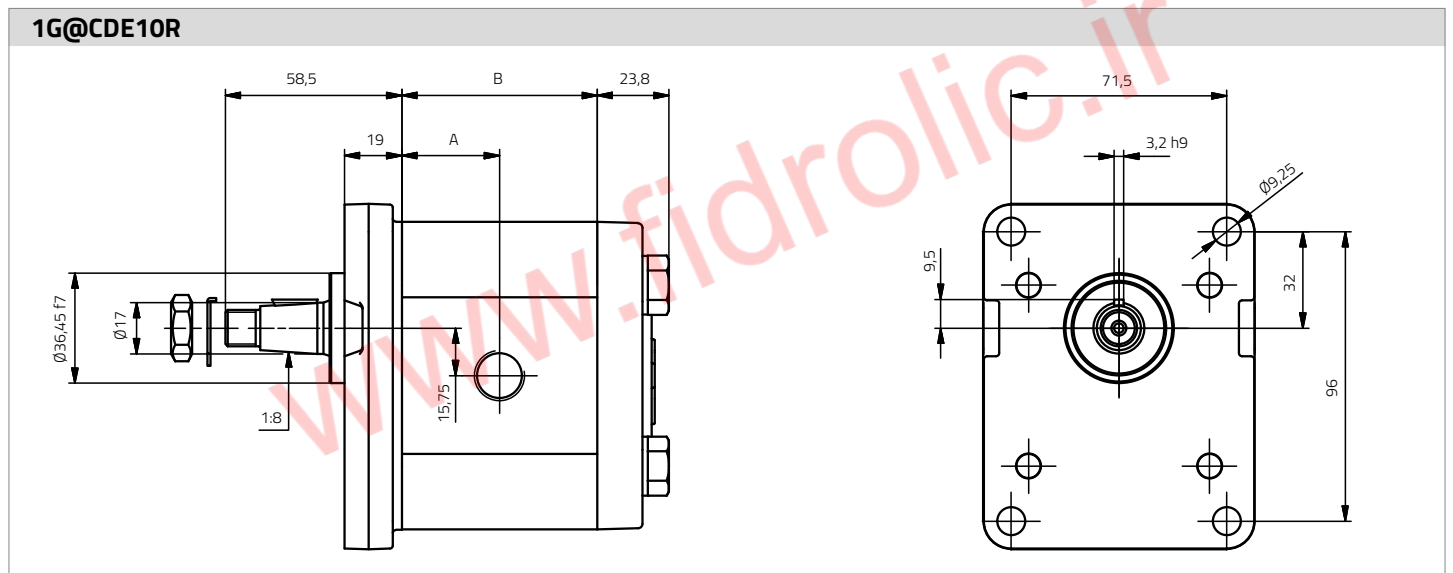
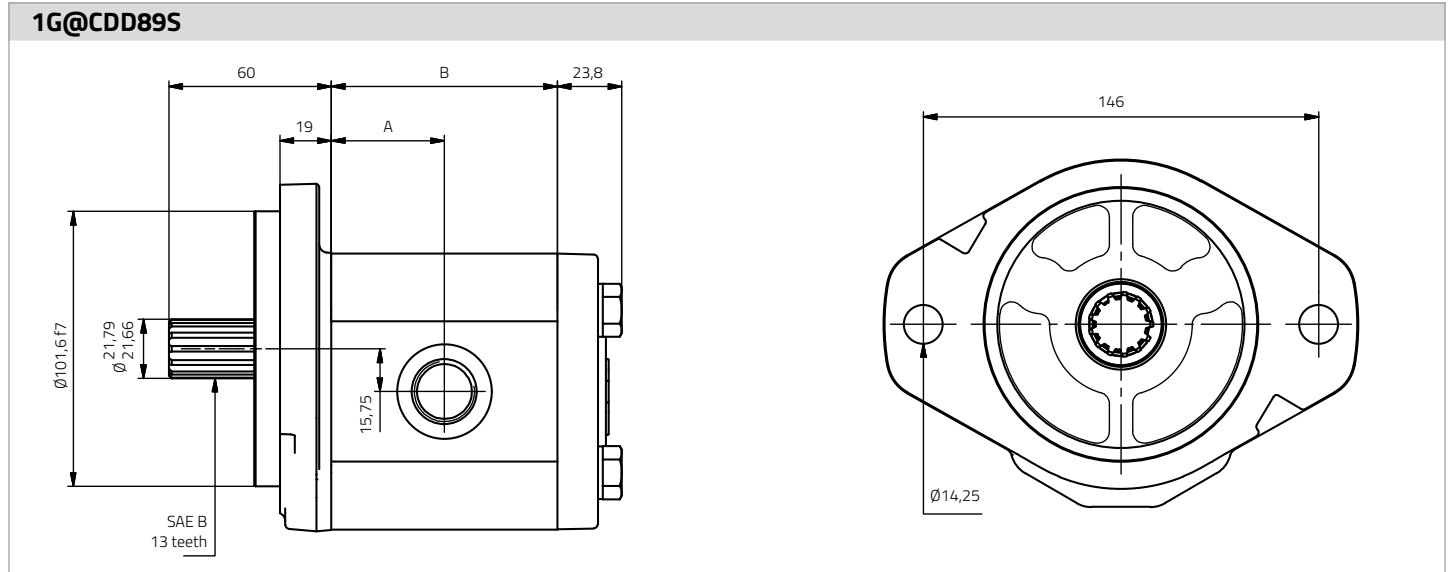
[← Return to Motors](#)

### Single pumps and motors (G)



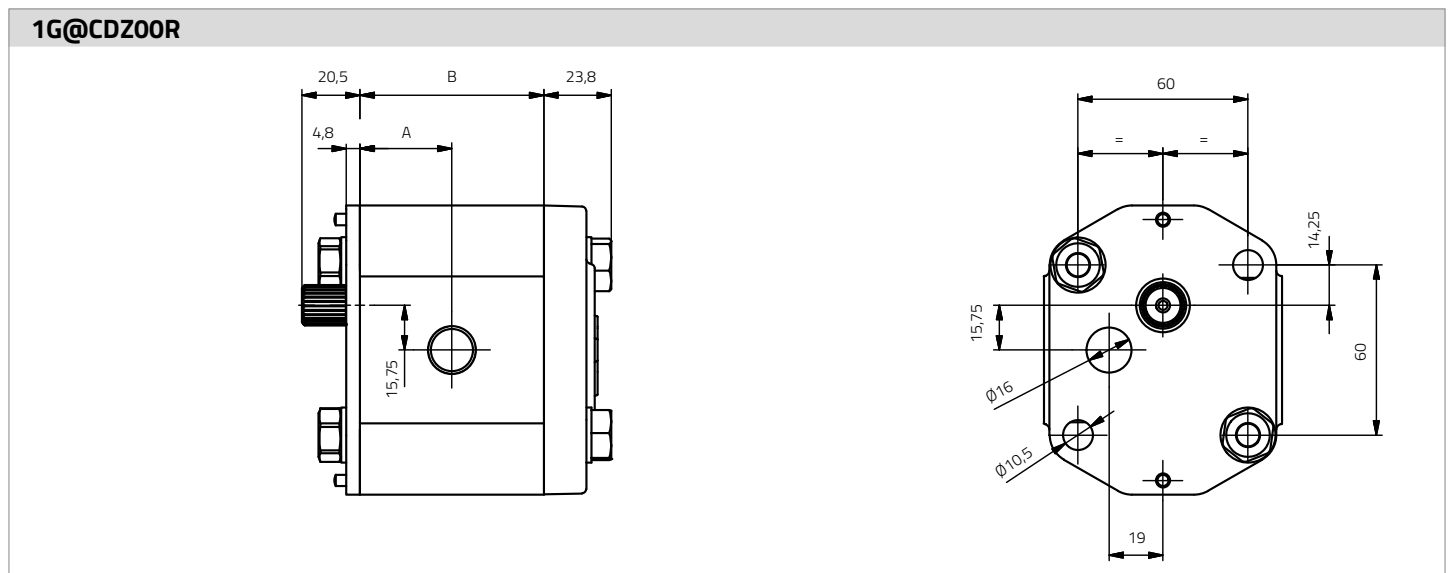
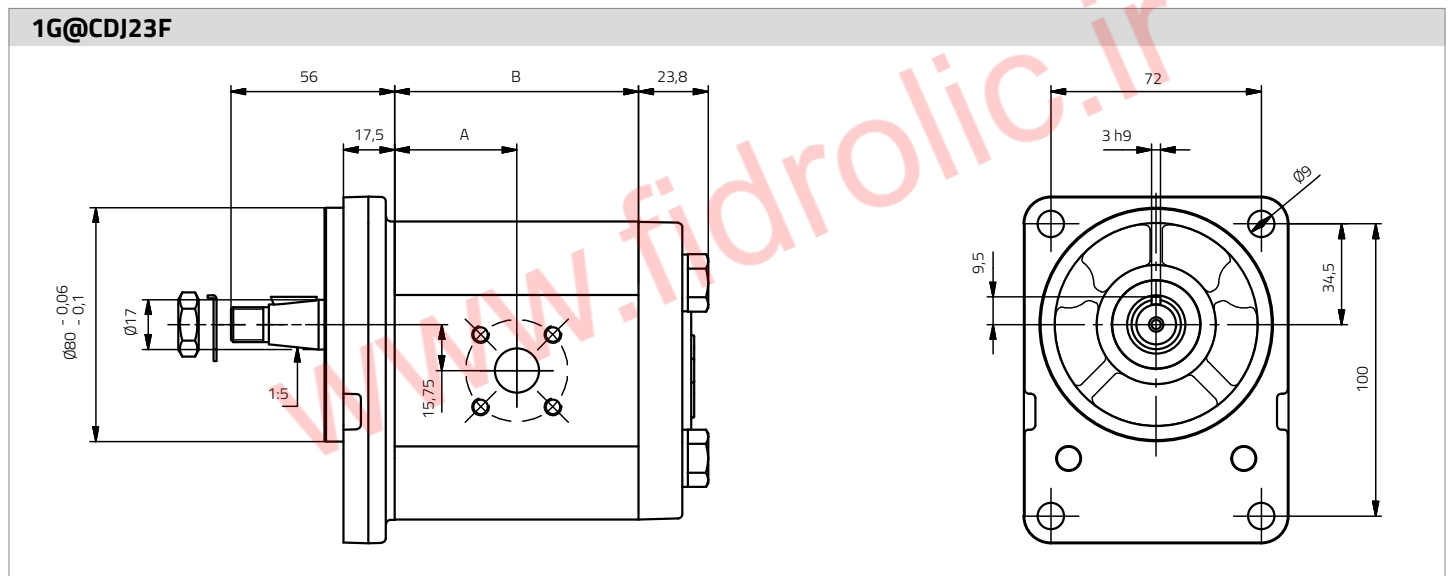
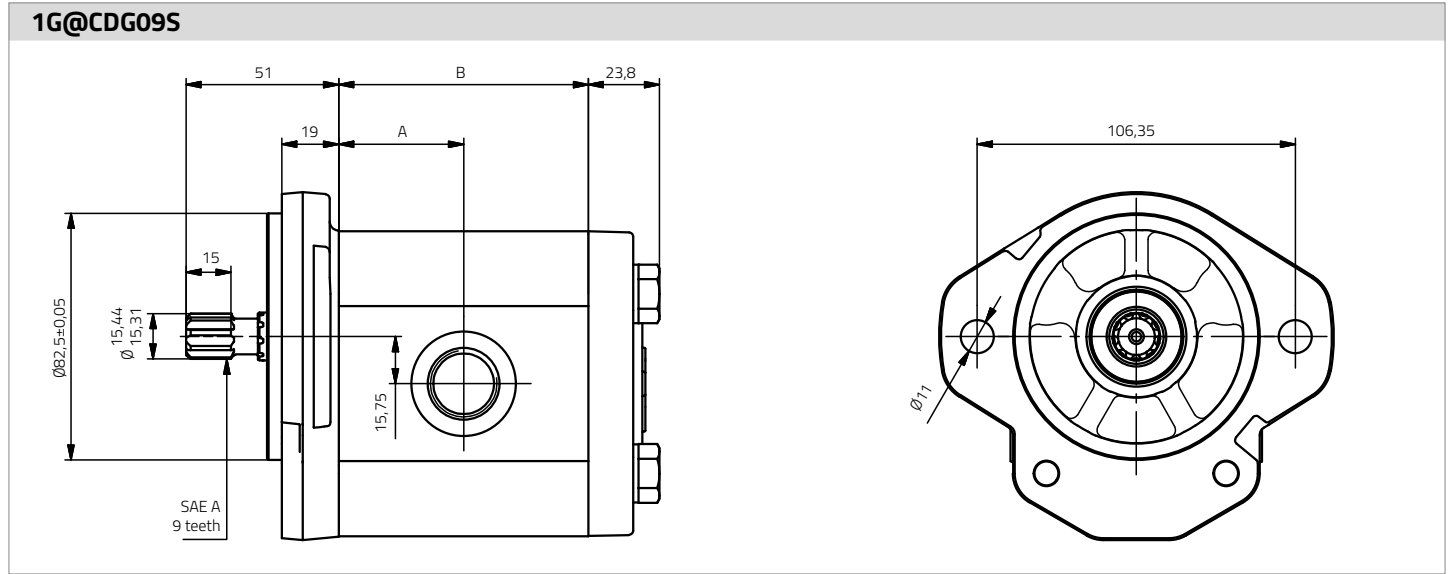
| Displacement<br>[cm <sup>3</sup> /rev] | A    | B    | Weight (kg)   |                | Weight (kg)   |                | Front<br>flange type | X<br>[mm] | Shaft<br>form | Y<br>[mm] |
|--|------|------|---------------|----------------|---------------|----------------|----------------------|-----------|---------------|-----------|
|  |      |      | Ex. 1G@C@E10@ | Ex. 1GN@C@E10@ | Ex. 1G@C@Z00@ | Ex. 1GN@C@Z00@ |                      |           |               |           |
| 4                                      | 23,4 | 46,8 | 3,3           | 4,3            | 2,2           | 3,1            | 09                   | 19        | B             | 29,5      |
| 6                                      | 25,2 | 50,3 | 3,4           | 4,5            | 2,3           | 3,3            | 10                   | 19        | C             | 48,5      |
| 8                                      | 26,8 | 53,5 | 3,5           | 4,6            | 2,4           | 3,5            | 19                   | 14,8      | D             | 60        |
| 10,7                                   | 29   | 58   | 3,6           | 4,8            | 2,5           | 3,7            | 22                   | 15,5      | E             | 58,5      |
| 12                                     | 30,3 | 60,5 | 3,8           | 5              | 2,6           | 3,8            | 23                   | 17,5      | G             | 51        |
| 14,7                                   | 32,4 | 64,8 | 3,9           | 5,2            | 2,7           | 4              | 29                   | 15        | H             | 50        |
| 16                                     | 33,5 | 67   | 4             | 5,4            | 2,8           | 4,1            | 31                   | 16        | J             | 56        |
| 18                                     | 35,3 | 70,5 | 4,2           | 5,7            | 2,9           | 4,3            | 55                   | 15,5      | K             | 57        |
| 20,7                                   | 37,5 | 75   | 4,4           | 6              | 3             | 4,5            | 61                   | 16        | L             | 51        |
| 23,3                                   | 39,8 | 79,5 | 4,6           | 6,3            | 3,1           | 4,7            | 89                   | 19        | Q             | 12,5      |
| 26,7                                   | 41,8 | 83,5 | 4,9           | 6,6            | 3,3           | 4,9            |                      |           | R             | 55,5      |
|  |      |      |               |                |               |                |                      |           | T             | 41        |
|  |      |      |               |                |               |                |                      |           | X             | 61        |
|  |      |      |               |                |               |                |                      |           | Z             | 0,5       |

Configuration and dimension examples



**NOTE:** Check general dimensions in the "dimensions" section (Page 18).

Configuration and dimension examples



**NOTE:** Check general dimensions in the "dimensions" section (Page 18).



**Multiple pumps**

**Multiple pump G (GM)**

Standard  
Common inlet

Technical drawing of Multiple pump G (GM) showing front and side views. The front view is a hexagonal shape with a width of 84. The side view shows a common inlet on the left and two pump stages. Dimensions include: Y (total width), X (inlet offset), A (stage offset), B (stage width), 5 (stage gap), B (stage width), and 27 (total width). A vertical dimension of 15.75 is shown for the inlet height.

**Multiple pump G (GM)**

Separate Stages

Technical drawing of Multiple pump G (GM) showing front and side views. The front view is a hexagonal shape with a width of 84. The side view shows two separate pump stages. Dimensions include: Y (total width), X (inlet offset), A (stage offset), B (stage width), 18 (stage gap), B (stage width), and 27 (total width). A vertical dimension of 15.75 is shown for the inlet height.

**Multiple pump G (GM)**

Reversible

Technical drawing of Multiple pump G (GM) showing front and side views. The front view is a hexagonal shape with a width of 84 and a central offset of 16. The side view shows a reversible pump configuration. Dimensions include: Y (total width), X (inlet offset), A (stage offset), B (stage width), 5 (stage gap), B (stage width), 27 (total width), and 26 (inlet offset). A vertical dimension of 15.75 is shown for the inlet height.

**Multiple pump G-GO (GS)**

Standard  
Common inlet  
Separate Stages  
Reversible

Technical drawing of Multiple pump G-GO (GS) showing front and side views. The front view is a hexagonal shape with a width of 84 and an inner width of 62. The side view shows a reversible pump configuration with separate stages. Dimensions include: Y (total width), X (inlet offset), A (stage offset), B (stage width), 37.5 (stage gap), D (stage width), 17.5 (stage offset), and 5.25 (inlet offset). A vertical dimension of 15.75 is shown for the inlet height.

**NOTE:** Check general dimensions in the "dimensions" section (Page 18).

### Features

Roquet gear motors offer:

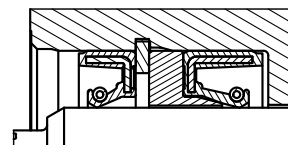
- High efficiency thanks to the specialized production processes.
- Axial compensation through floating bearings.
- High quality bushings for gear motors.
- Aluminium or cast iron body.
- Front flange and back cover made of cast iron.
- NBR seals in the standard version.
- FKM seals available for high temperature applications.
- 100% of motors delivered are tested.
- Front flanges with outboard bearing configurations.
- Back covers with integrated valves for motors.

### Technical information

|                           |   |
|---------------------------|---|
| Displacement range        | 4 – 26,7 cm <sup>3</sup> /rev   |
| Shafts, flanges and ports | According to European, German and American standards  |
| Direction of rotation     | Clockwise, counterclockwise and reversible  |
| Fluid                     | Recommended Mineral oil - ISO 6743 tipo HM, HV o HG   |
| Viscosity                 | Recommended viscosity at work 20-80 cSt (mm <sup>2</sup> /s)<br>Maximum viscosity allowed at start 800 cSt (mm <sup>2</sup> /s) |
| Oil working temperature   | Recommended temperature 50°C – Material NBR (-30/+80°C) FKM (-20/+120°C)  |
| Cleanliness               | ISO 4406 22/19/16   |

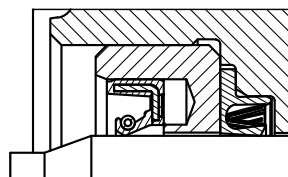
#### Standard motor shaft seal

Maximum drain line pressure - 5 bar (72 psi)  
(Maximum pressure value at minimum R.P.M.)



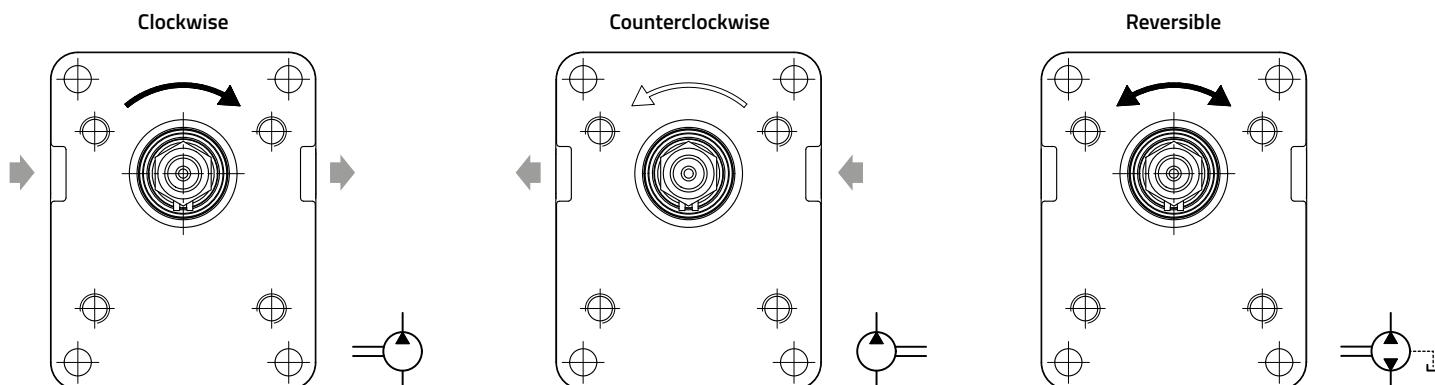
#### Peak pressure motor shaft seal (-LP)

Maximum drain line pressure - 20 bar (290 psi)  
(Maximum pressure value at minimum R.P.M.)



### Direction of rotation

The direction of rotation is always defined looking at the motor from the front flange.



### Common formulas

$$v = \frac{Q}{(6 \cdot A)} \quad [\text{m/s}]$$

$$n = \frac{Q \cdot 1000 \cdot \eta_{\text{vol}}}{V} \quad [\text{min}^{-1}]$$

$$M = \frac{(V \cdot \Delta p \cdot \eta_{\text{hm}})}{(62,8)} \quad [\text{N} \cdot \text{m}]$$

$$P = \frac{(Q \cdot \Delta p)}{(600 \cdot \eta_t)} \quad [\text{kW}]$$

$v$  = fluid speed [m/s]

$Q$  = pump flow [l/min]

$A$  = tube section [cm<sup>2</sup>]

$V$  = pump displacement [cm<sup>3</sup>/rev]

$n$  = rotation speed [rev/min]

$\Delta p$  = pressure difference [bar]

$M$  = necessary driving torque [N · m]

$P$  = necessary driving power [kW]

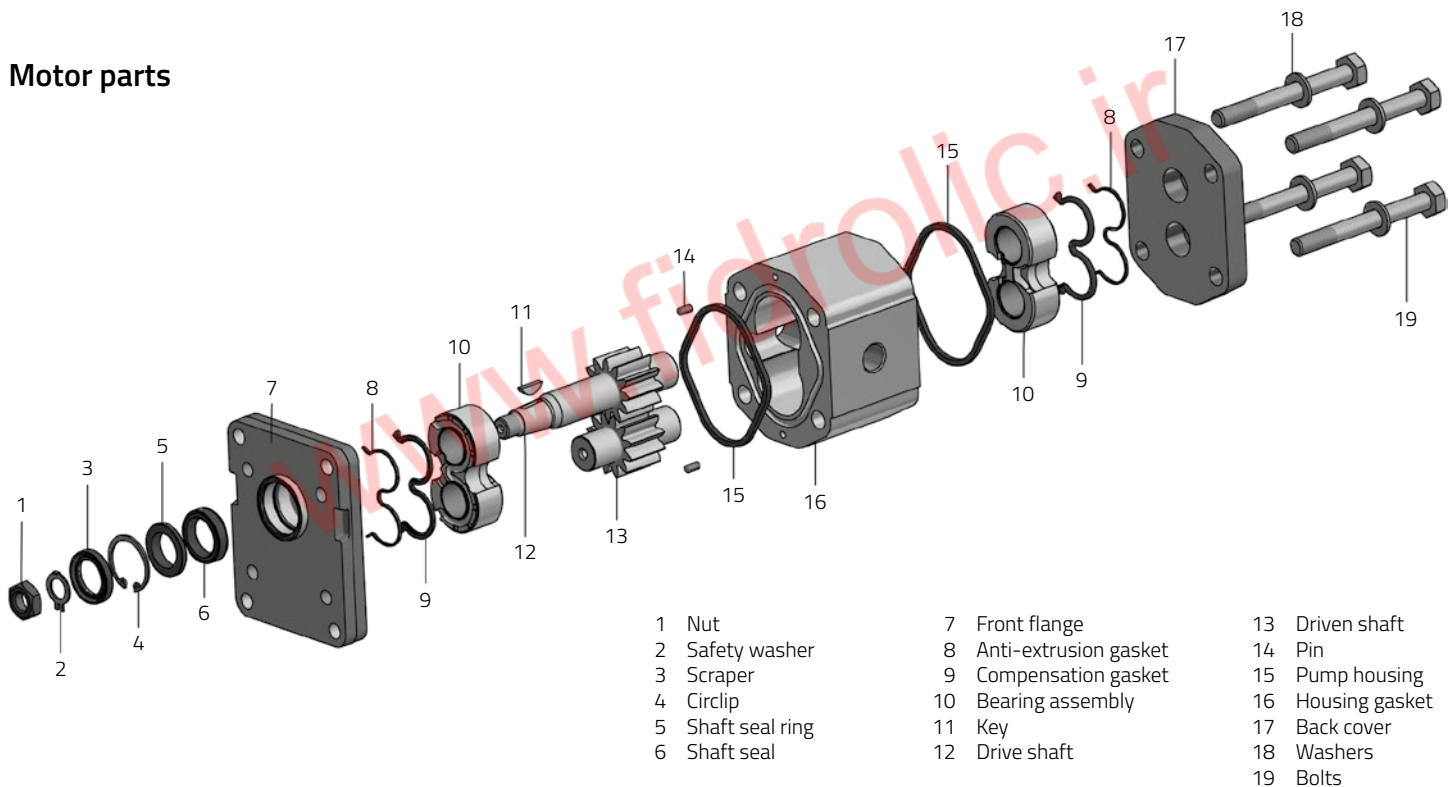
$\eta_{\text{vol}}$  = volumetric efficiency ( $\approx 0,95$ ) [%]

$\eta_{\text{hm}}$  = hydromechanical efficiency ( $\approx 0,85$ ) [%]

$\eta_t$  = total efficiency ( $\approx 0,82$ ) [%]

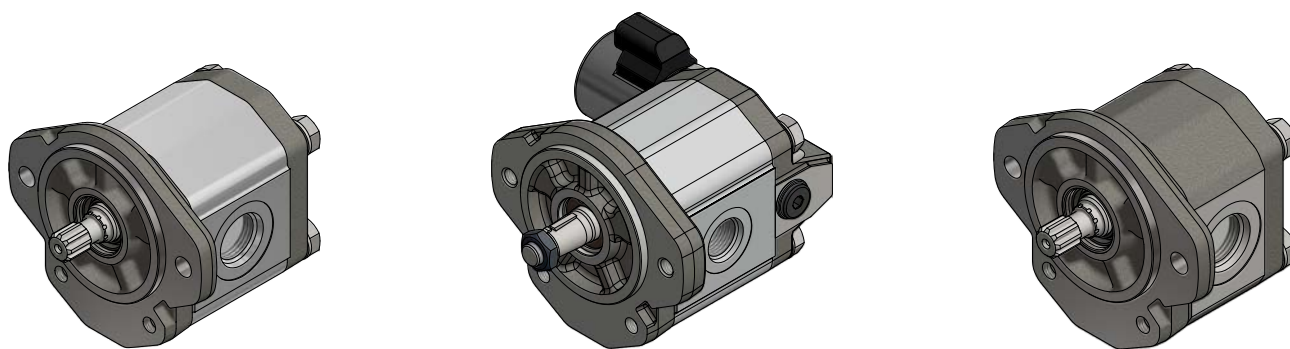
**Note:** Use a minimum pressure of 20 bar to ensure the starting torque.

### Motor parts



### Installation recommendations

- Avoid radial and axial forces on the motor shaft for longer pump lifetime.
- The shafts of the motor have to be well aligned to avoid these forces.
- Elastic couplings are highly recommended.
- If these forces cannot be avoided, versions with outboard bearings can be offered.
- Avoid rotation speeds lower than those shown in the "technical data" section.
- Avoid motor starts under load at low temperatures.
- When starting, clean the whole installation before first run of system.
- If the motor shall be painted, protect the seal area and the drive shaft to avoid possible oil leaks.
- In reversible motors, if possible, connect the drain to tank.



### MG motor technical data (Aluminium body)

| Displacement                      | cm <sup>3</sup> /v-cc/rev<br>(in <sup>3</sup> /rev) | 4<br>(0,24)   | 6<br>(0,37) | 8<br>(0,49) | 10,7<br>(0,65) | 12<br>(0,73) | 14,7<br>(0,90) | 16<br>(0,98)  | 18<br>(1,10)  | 20,7<br>(1,26) | 23,3<br>(1,42) | 26,7<br>(1,62) |
|-----------------------------------|---|---------------|-------------|-------------|----------------|--------------|----------------|---------------|---------------|----------------|----------------|----------------|
| Cont. max. pressure               | bar<br>(psi)  | 275<br>(3990) |             |             | 250<br>(3625)  |              |                | 225<br>(3265) | 200<br>(2900) | 180<br>(2610)  | 170<br>(2465)  |                |
| Intermittent max. pressure        | bar<br>(psi)  | 300<br>(4350) |             |             | 275<br>(3990)  |              |                | 250<br>(3625) | 225<br>(3265) | 200<br>(2900)  | 190<br>(2755)  |                |
| Maximum peak pressure             | bar<br>(psi)  | 310<br>(4495) |             |             | 285<br>(4135)  |              |                | 260<br>(3770) | 235<br>(3410) | 210<br>(3045)  | 200<br>(2900)  |                |
| R.P.M. at cont. pressure          |   | 3500          |             | 3000        |                | 2500         |                | 2300          |               | 2000           |                |                |
| Max. R.P.M                        |   | 4000          |             | 3500        |                | 3200         |                | 3000          |               | 2500           |                |                |
| Min. R.P.M.<br>at given pressures | 100 bar<br>(1450 psi)                               | 500           |             |             |                |              |                |               |               |                |                |                |
|                                   | 175 bar<br>(2540 psi)                               | 1100          | 1200        | 1000        | 850            |              |                |               | 750           |                |                |                |
|                                   | 250 bar<br>(3625 psi)                               | 1400          |             | 1300        |                | 1200         |                | 1100          |               | -              |                |                |
|                                   | 300 bar<br>(4350 psi)                               | 1750          |             | 1500        |                | -            |                |               |               |                |                |                |

**Note:** Pressures obtained with flanged bodies.

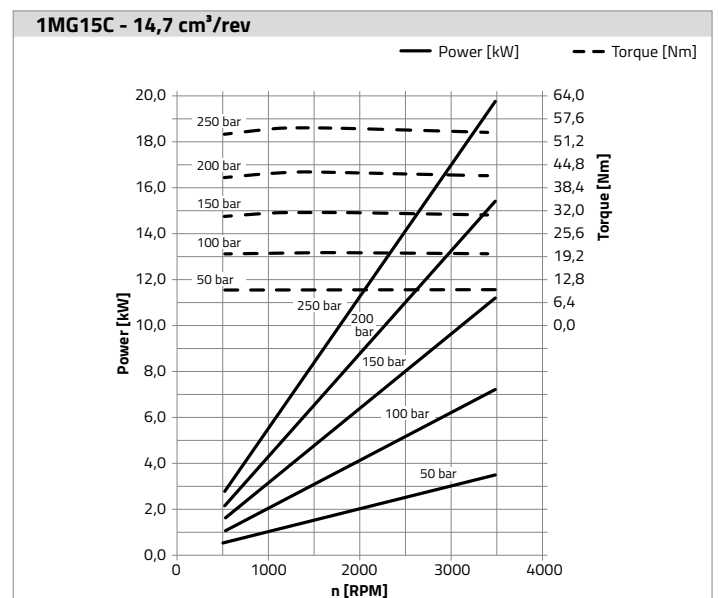
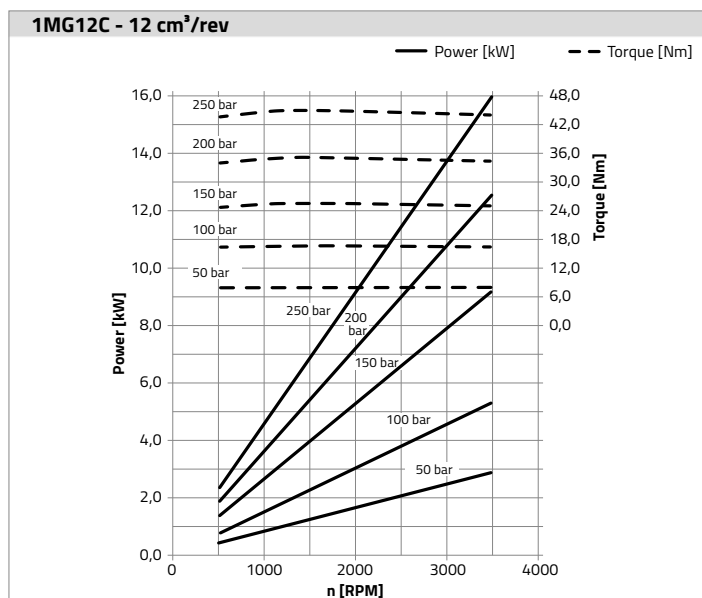
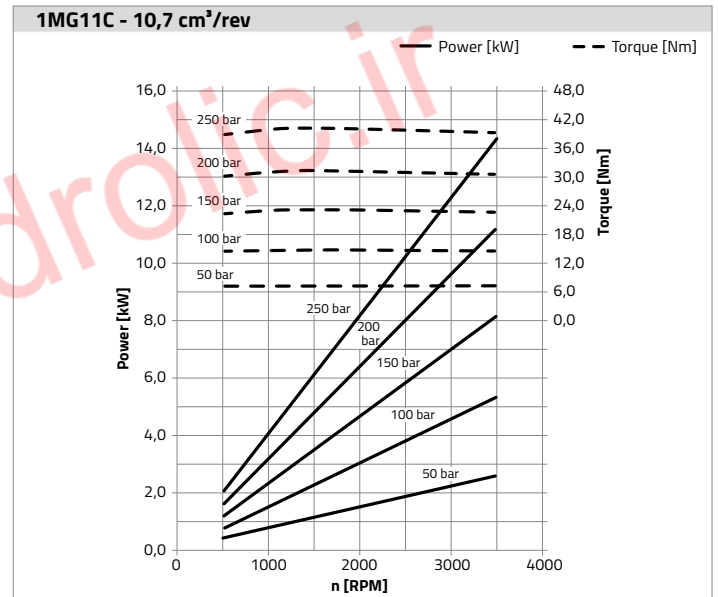
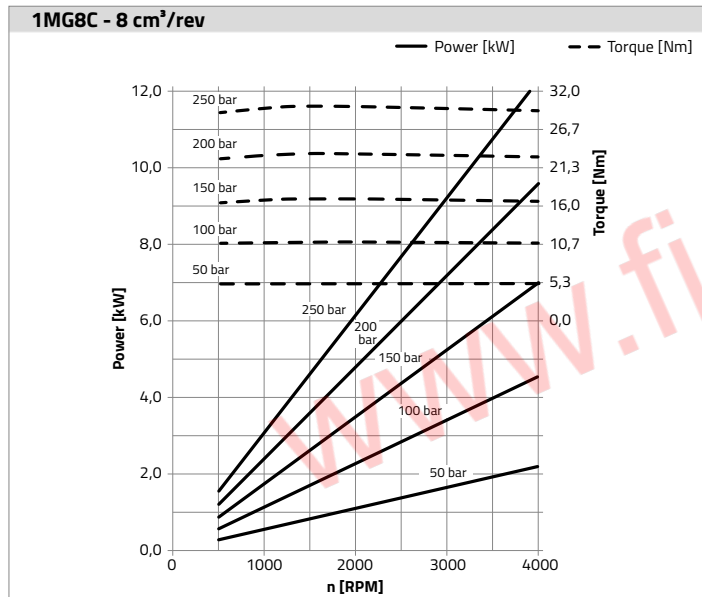
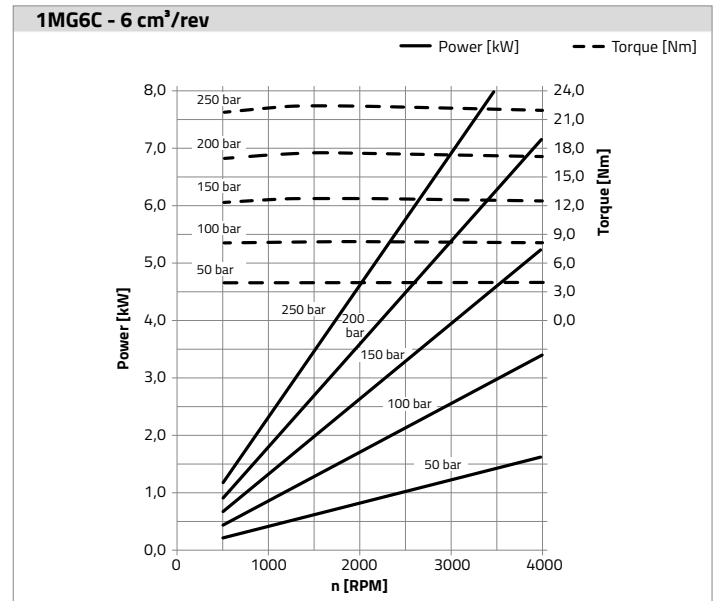
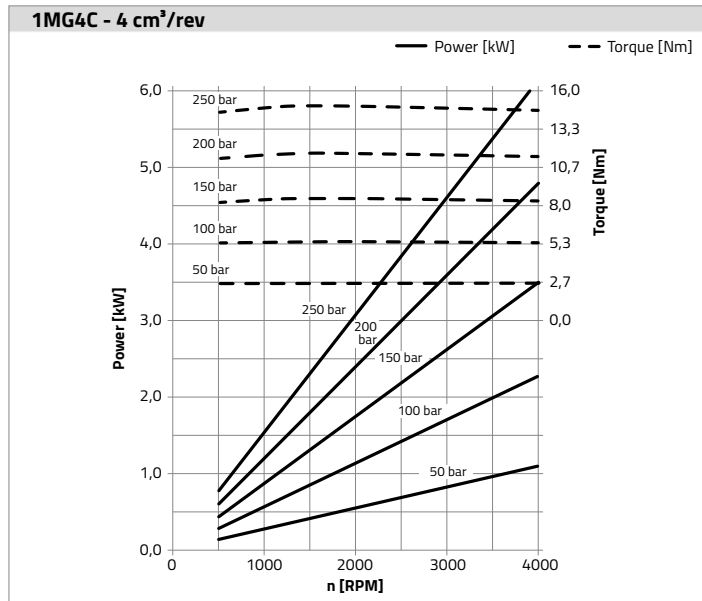
### MGN motor technical data (Cast iron body)

| Displacement                      | cm <sup>3</sup> /v-cc/rev<br>(in <sup>3</sup> /rev) | 4<br>(0,24)   | 6<br>(0,37) | 8<br>(0,49) | 10,7<br>(0,65) | 12<br>(0,73) | 14,7<br>(0,90) | 16<br>(0,98)  | 18<br>(1,10)  | 20,7<br>(1,26) | 23,3<br>(1,42) | 26,7<br>(1,62) |
|-----------------------------------|---|---------------|-------------|-------------|----------------|--------------|----------------|---------------|---------------|----------------|----------------|----------------|
| Cont. max. pressure               | bar<br>(psi)  | 290<br>(4205) |             |             | 275<br>(3990)  |              |                | 250<br>(3625) | 235<br>(3410) | 225<br>(3265)  | 215<br>(3120)  |                |
| Intermittent max. pressure        | bar<br>(psi)  | 310<br>(4495) |             |             | 300<br>(4350)  |              |                | 280<br>(4060) | 275<br>(3990) | 260<br>(3770)  | 250<br>(3625)  |                |
| Maximum peak pressure             | bar<br>(psi)  | 325<br>(4715) |             |             | 310<br>(4495)  |              |                | 300<br>(4350) | 285<br>(4135) | 270<br>(3915)  | 260<br>(3770)  |                |
| R.P.M. at cont. pressure          |   | 3500          |             | 3000        |                | 2500         |                | 2300          |               | 2000           |                |                |
| Max. R.P.M                        |   | 4000          |             | 3500        |                | 3200         |                | 3000          |               | 2500           |                |                |
| Min. R.P.M.<br>at given pressures | 100 bar<br>(1450 psi)                               | 500           |             |             |                |              |                |               |               |                |                |                |
|                                   | 175 bar<br>(2540 psi)                               | 1100          | 1200        | 1000        | 850            |              |                |               | 750           |                |                |                |
|                                   | 250 bar<br>(3625 psi)                               | 1400          |             | 1300        |                | 1200         |                | 1100          |               | -              |                |                |
|                                   | 300 bar<br>(4350 psi)                               | 1750          |             | 1500        |                | -            |                |               |               |                |                |                |

**Note:** With regard to all reversible motors (MG and MGN), maximum pressure is 250 bar (3600 psi), except for those values where the pressure is lower.

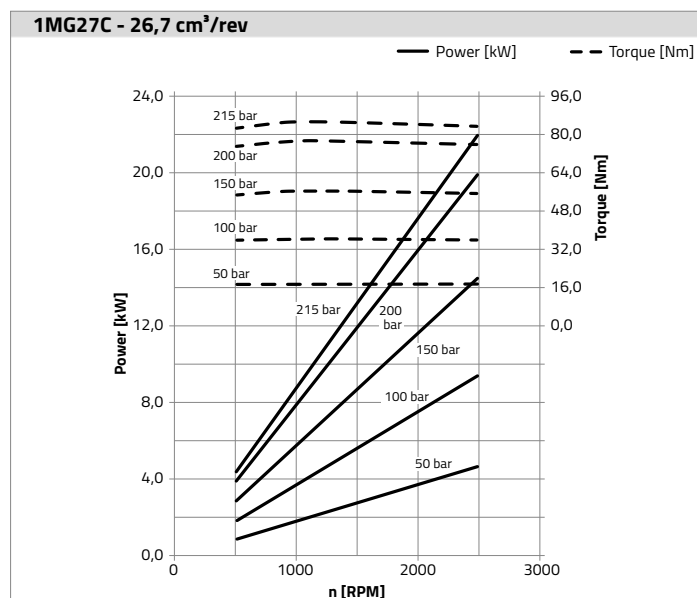
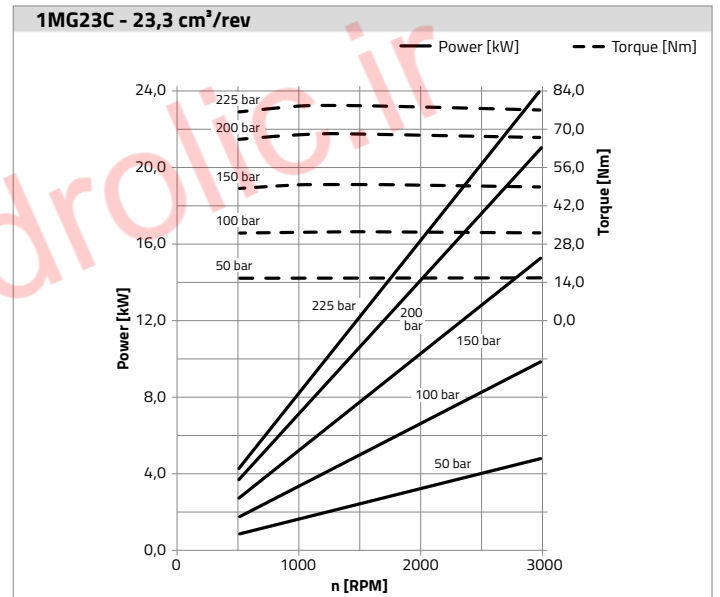
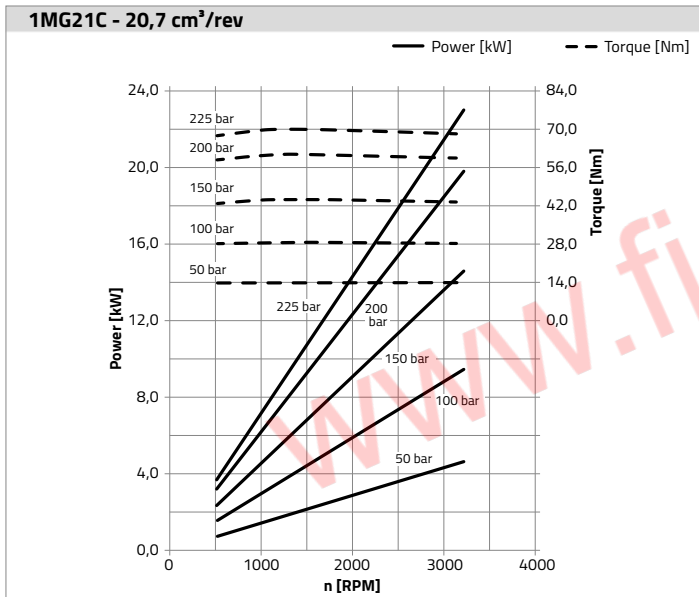
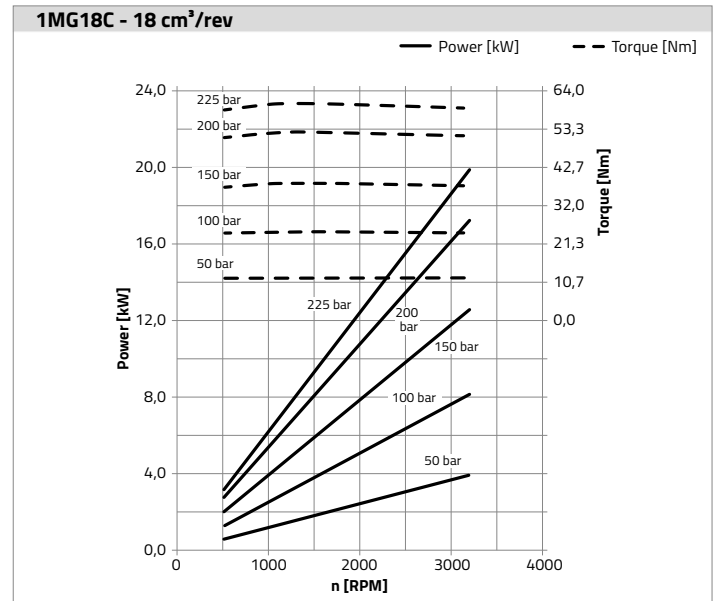
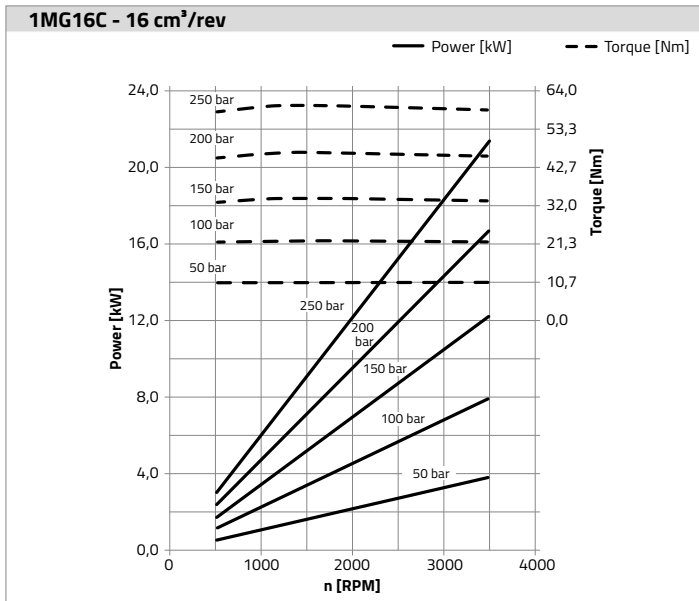
**Note:** The definition of the pressure ranges is shown on page 7.

| Coding System   |   |      |   |   |    |   |   |   | Optional                              |                           |                          |  |
|---|---|------|---|---|----|---|---|---|---------------------------------------|---------------------------|--------------------------|--|
| 1   | MG  | 15C  | D | E | 10 | R | / | V | 42                                    | T***                      | -***                     |  |
| <b>Type</b>   |   |      |   |   |    |   |   |   | <b>Code</b>                           |                           |                          |  |
| 1   | Without pulley                                |      |   |   |    |   |   |   | V                                     | FKM seals and shaft seal  |                          |  |
| 2   | With pulley                                   |      |   |   |    |   |   |   | RV                                    | Only FKM shaft seal       |                          |  |
| 5   | Motor with floating shaft and back-up bearing |      |   |   |    |   |   |   | ID                                    | Internal drain            |                          |  |
|   |   |      |   |   |    |   |   |   |                                       | LP                        | Peak pressure shaft seal |  |
| <b>Model</b>  |   |      |   |   |    |   |   |   | <b>Alternatives with Valves</b>       |                           |                          |  |
| MG  | Single – Aluminium body                       |      |   |   |    |   |   |   | VA                                    | Check valve               |                          |  |
| MGN   | Single – Cast iron body                       |      |   |   |    |   |   |   | V@                                    | Relief valve              |                          |  |
|   |   |      |   |   |    |   |   |   | <b>See variants with valves</b> →     |                           |                          |  |
| <b>Motor Displacement [cm<sup>3</sup>/rev] &amp; [in<sup>3</sup>/rev]</b> |   |      |   |   |    |   |   |   | <b>Port Connection Forms</b>          |                           |                          |  |
| 4C  | 4,0   | 0,24 |   |   |    |   |   |   |                                       |                           |                          |  |
| 6C  | 6,0   | 0,37 |   |   |    |   |   |   |                                       |                           |                          |  |
| 8C  | 8,0   | 0,49 |   |   |    |   |   |   |                                       |                           |                          |  |
| 11C   | 10,7  | 0,65 |   |   |    |   |   |   |                                       |                           |                          |  |
| 12C   | 12,0  | 0,73 |   |   |    |   |   |   |                                       |                           |                          |  |
| 15C   | 14,7  | 0,90 |   |   |    |   |   |   |                                       |                           |                          |  |
| 16C   | 16,0  | 0,98 |   |   |    |   |   |   |                                       |                           |                          |  |
| 18C   | 18,0  | 1,10 |   |   |    |   |   |   |                                       |                           |                          |  |
| 21C   | 20,7  | 1,26 |   |   |    |   |   |   |                                       |                           |                          |  |
| 23C   | 23,3  | 1,42 |   |   |    |   |   |   |                                       |                           |                          |  |
| 27C   | 26,7  | 1,62 |   |   |    |   |   |   |                                       |                           |                          |  |
| <b>Rotation Direction</b>   |   |      |   |   |    |   |   |   | <b>For more options see ports</b> →   |                           |                          |  |
| D   | Clockwise                                     |      |   |   |    |   |   |   |                                       |                           |                          |  |
| I   | Counterclockwise                              |      |   |   |    |   |   |   |                                       |                           |                          |  |
| R   | Reversible                                    |      |   |   |    |   |   |   |                                       |                           |                          |  |
| <b>Drive Shaft Form</b>   |   |      |   |   |    |   |   |   | <b>Mounting Flange</b>                |                           |                          |  |
| D   | SAE B - 13 teeth                              |      |   |   |    |   |   |   | 09                                    | SAE A - 2 bolts           |                          |  |
| E   | European tapered 1:8                          |      |   |   |    |   |   |   | 10                                    | European flange           |                          |  |
| G   | SAE A - 9 teeth                               |      |   |   |    |   |   |   | 22                                    | German standard - 2 bolts |                          |  |
| H   | SAE A - Ø15,88 straight                       |      |   |   |    |   |   |   | 23                                    | German standard           |                          |  |
| J   | German tapered 1:5                            |      |   |   |    |   |   |   | 89                                    | SAE B - 2 bolts           |                          |  |
| K   | SAE - 11 teeth                                |      |   |   |    |   |   |   | <b>For more options see flanges</b> → |                           |                          |  |
| L   | SAE - Ø19,05 straight                         |      |   |   |    |   |   |   |                                       |                           |                          |  |
| T   | DIN-5482 - 9 teeth                            |      |   |   |    |   |   |   |                                       |                           |                          |  |
| <b>For more options see shafts</b> →                                      |   |      |   |   |    |   |   |   |                                       |                           |                          |  |



**NOTE:** The values shown in the above diagram have been obtained using 32cSt kinematic viscosity oil.





**NOTE:** The values shown in the above diagram have been obtained using 32cSt kinematic viscosity oil.

Flow, performance and power chart according to displacement

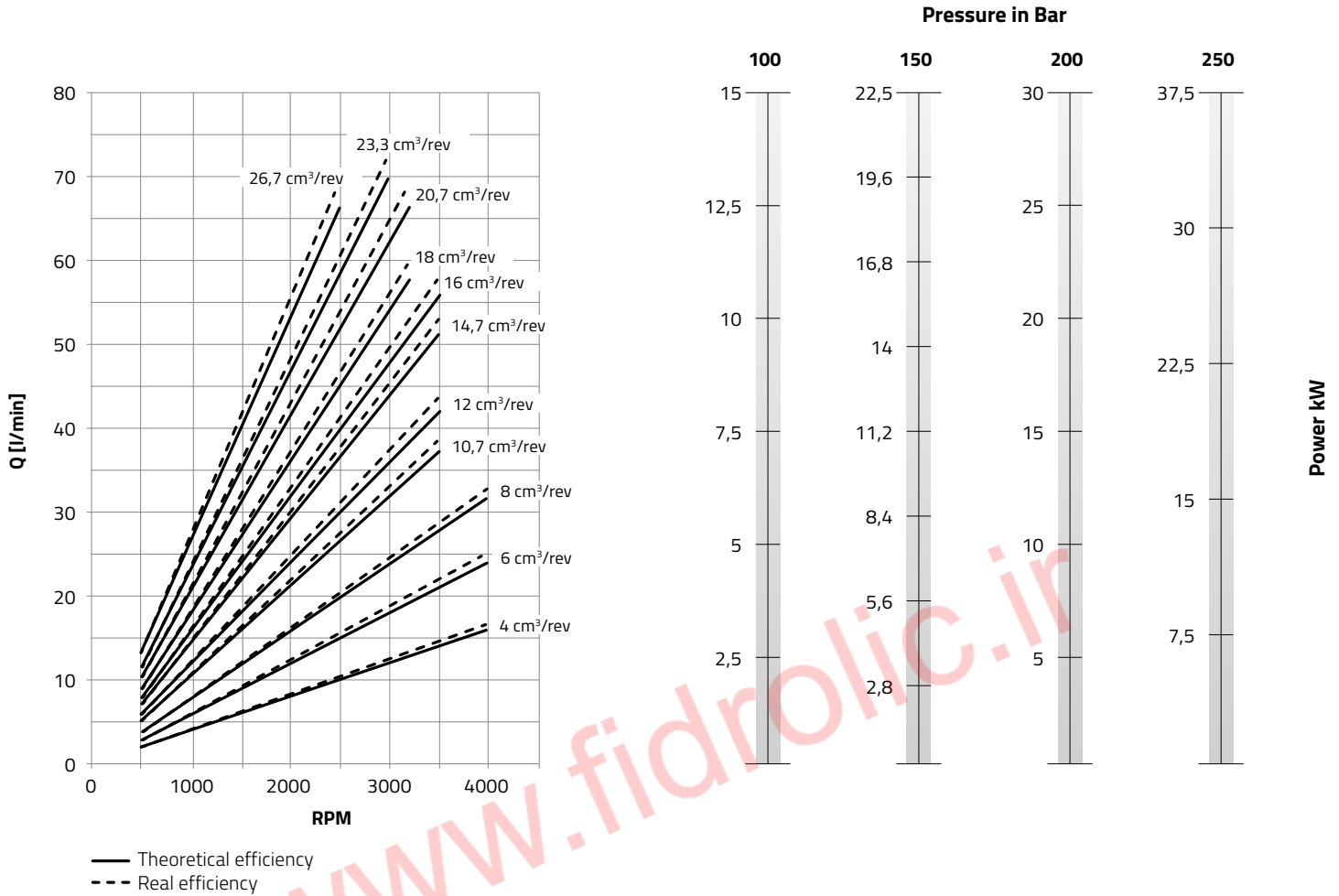
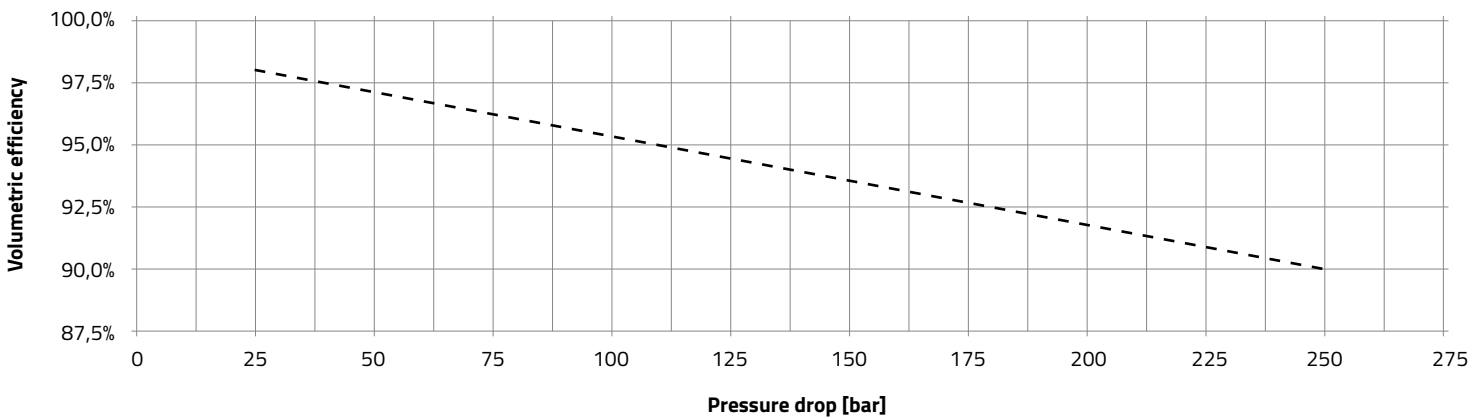


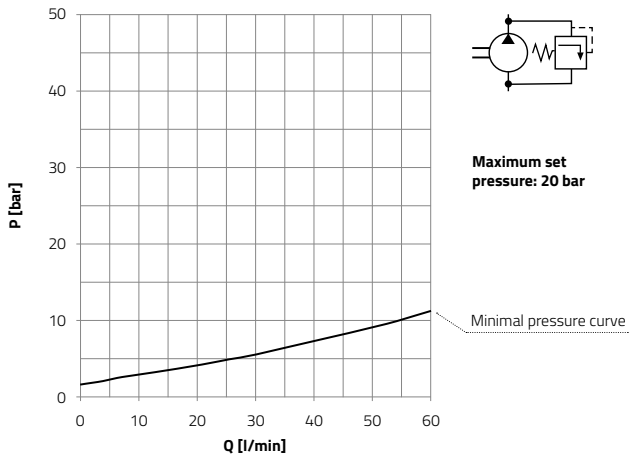
Diagram of the volumetric efficiency at 1500 R.P.M.



**NOTE:** The values shown in the above diagram have been obtained using 32cSt kinematic viscosity oil.

### Low pressure relief valve

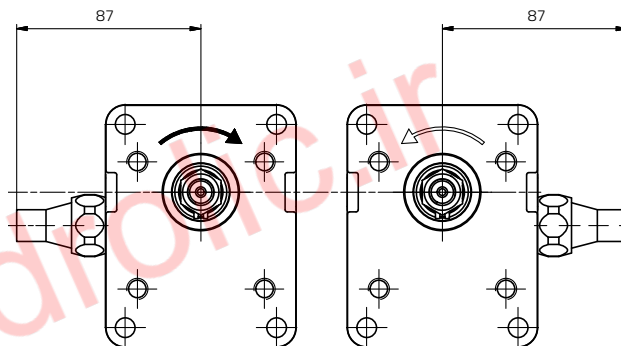
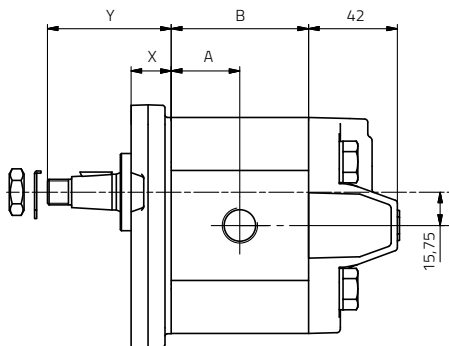
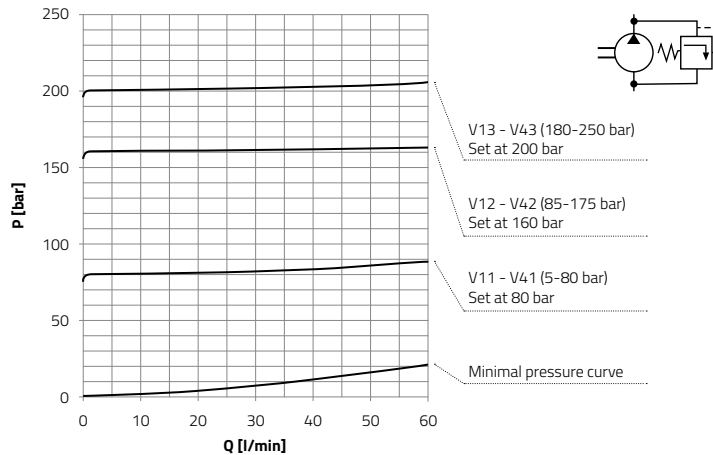
Minimum setting pressure diagram



**NOTE:** The values shown in the above diagram have been obtained using a 32cSt kinematic viscosity oil.

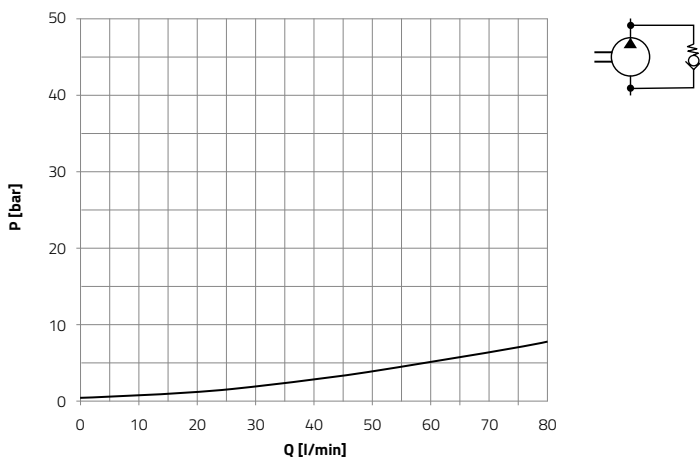
### Relief valve

Relief valve pressure-flow diagram depending on pressure range

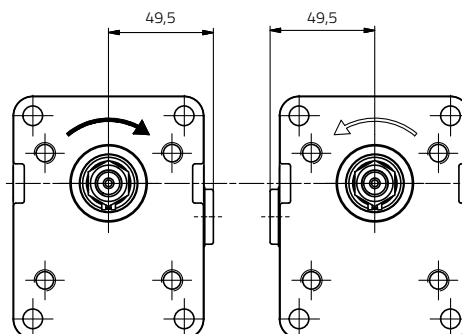
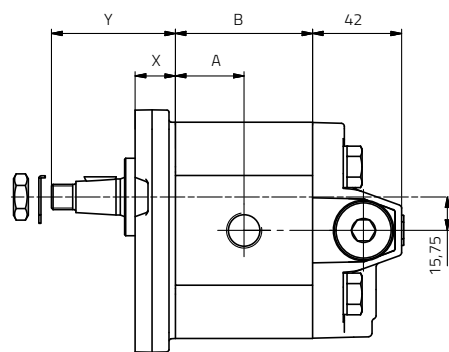


### Check valve

Check valve pressure-flow diagram



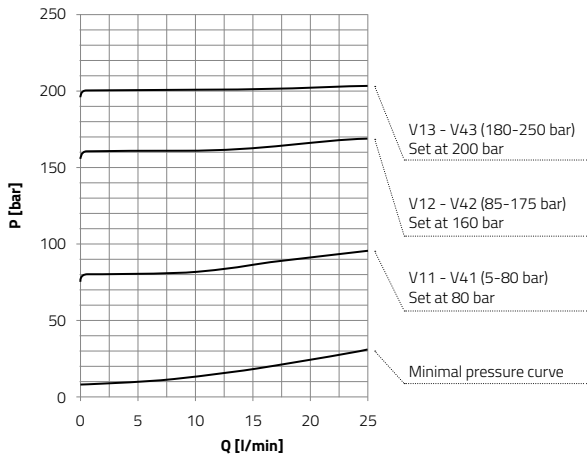
**NOTE:** The values shown in the above diagram have been obtained using a 32cSt kinematic viscosity oil.



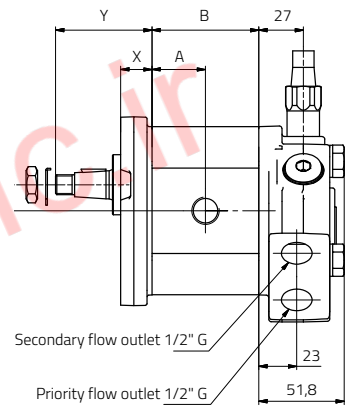
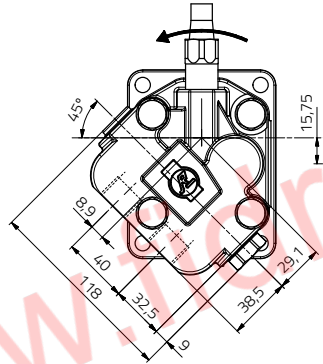
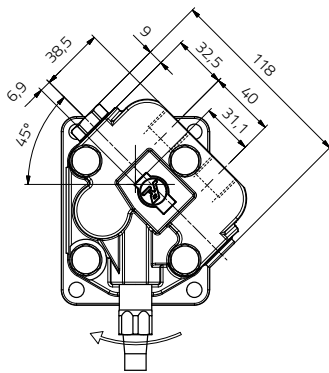
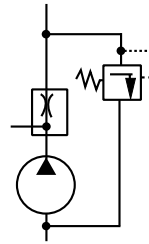
**NOTE:** Check general dimensions in the "dimensions" section (Page 18).

### Priority flow valve

Relief valve pressure-flow diagram depending on pressure range

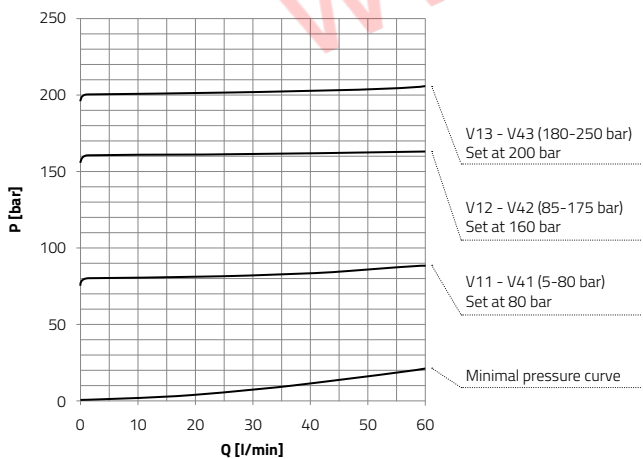


**NOTE:** The values shown in the above diagram have been obtained using a 32cSt kinematic viscosity oil.

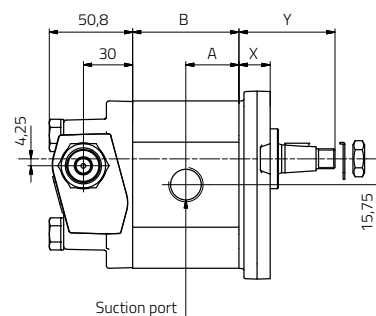
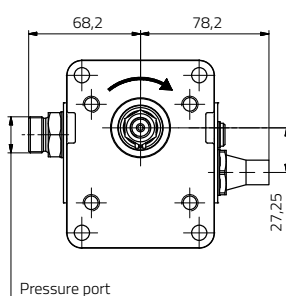
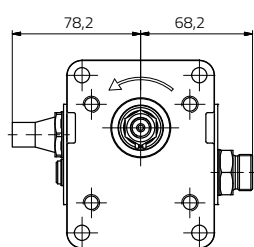
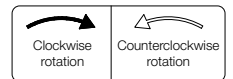
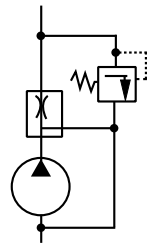


### Flow control valve and relief valve

Relief valve pressure-flow diagram depending on pressure range



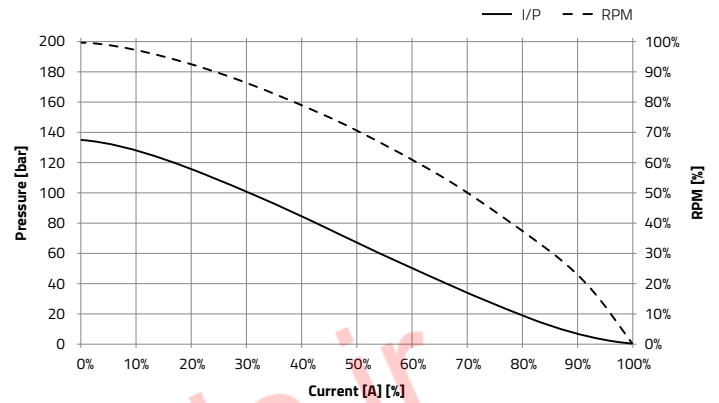
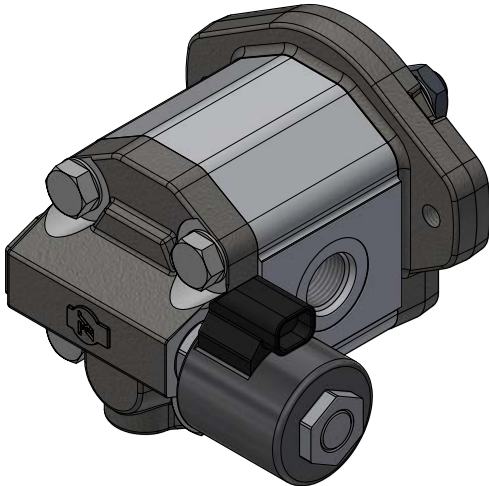
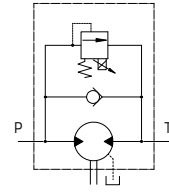
**NOTE:** The values shown in the above diagram have been obtained using a 32cSt kinematic viscosity oil.



**NOTE:** Check general dimensions in the "dimensions" section (Page 18).

### Motor with pressure proportional relief valve

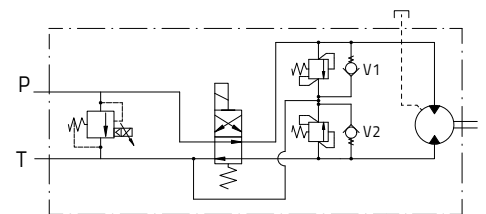
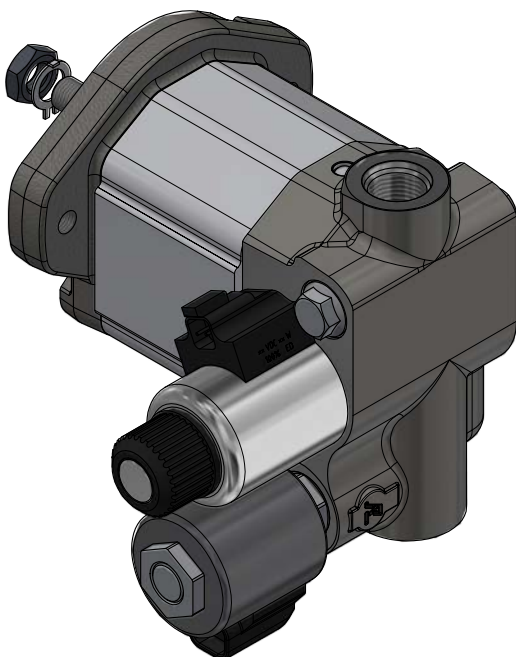
- Displacements, front flanges, drive shafts and ports most common available.
- Voltage range – 12V DC / 24V DC
- Connectors – Deutsch DT04-2P  
DIN 43650 / ISO 4400



**NOTE:** Graph of valve behavior adjusted at 135 bar and motor's RPM [%], in function of electric current [A] [%].

### Motor with electrical overcharge – suction valve

- Displacements, front flanges, drive shafts and ports most common available.
- Voltage range – 12V DC / 24V DC
- Connectors – Deutsch DT04-2P  
DIN 43650 / ISO 4400

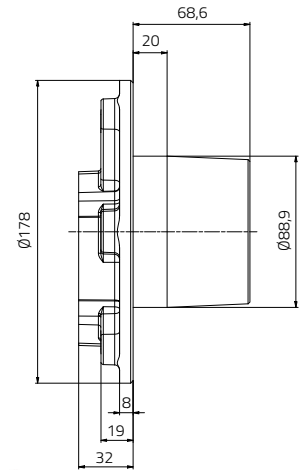
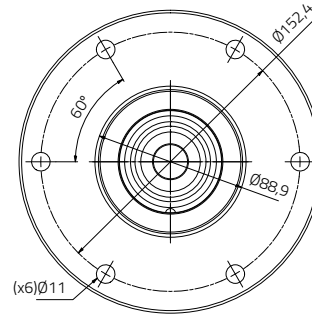
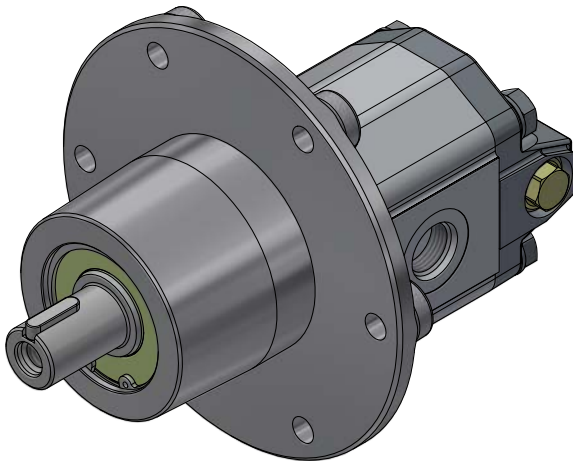


**NOTE:** Please contact Sales Department for more information about available ports, displacements, pressure setting and minimum order quantity.

### Motors and pumps with type 45 front flanges

Aluminium front flange with 6 fastening points, optimal for motors used for mowers.

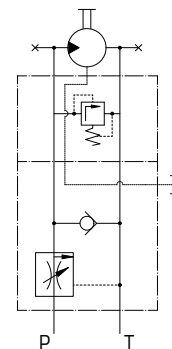
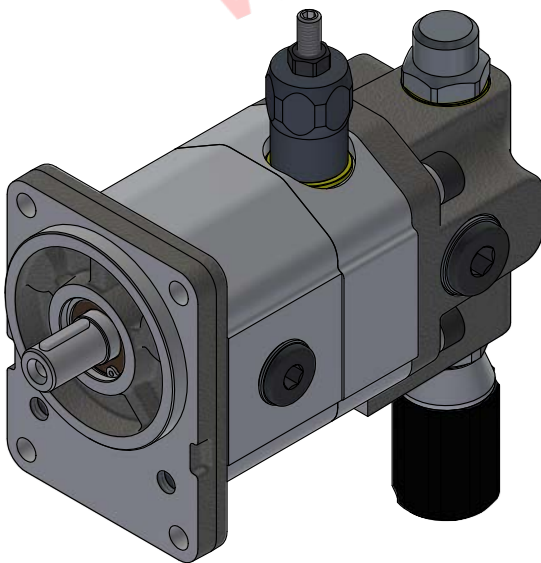
- Standard front flanges and displacements available for this option.



**NOTE:** Please contact Sales Department for more information about minimum order quantity.

### Motor for seeders

- Motors for seeders available with pressure relief valve, flow control valve, and anti-cavitation valve.
- Standard front flanges and displacements available for this option.

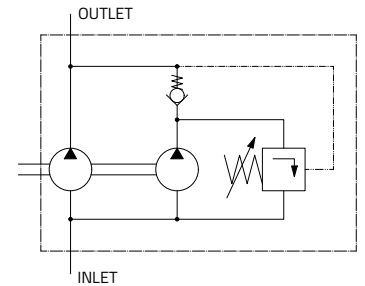
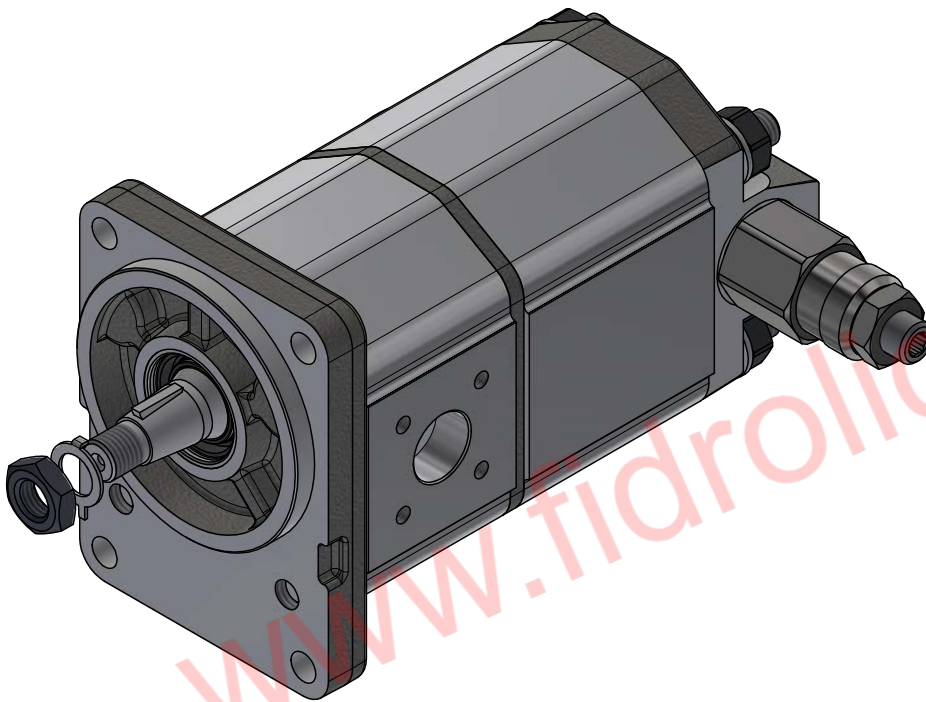


**NOTE:** Please contact Sales Department for more information about minimum order quantity.



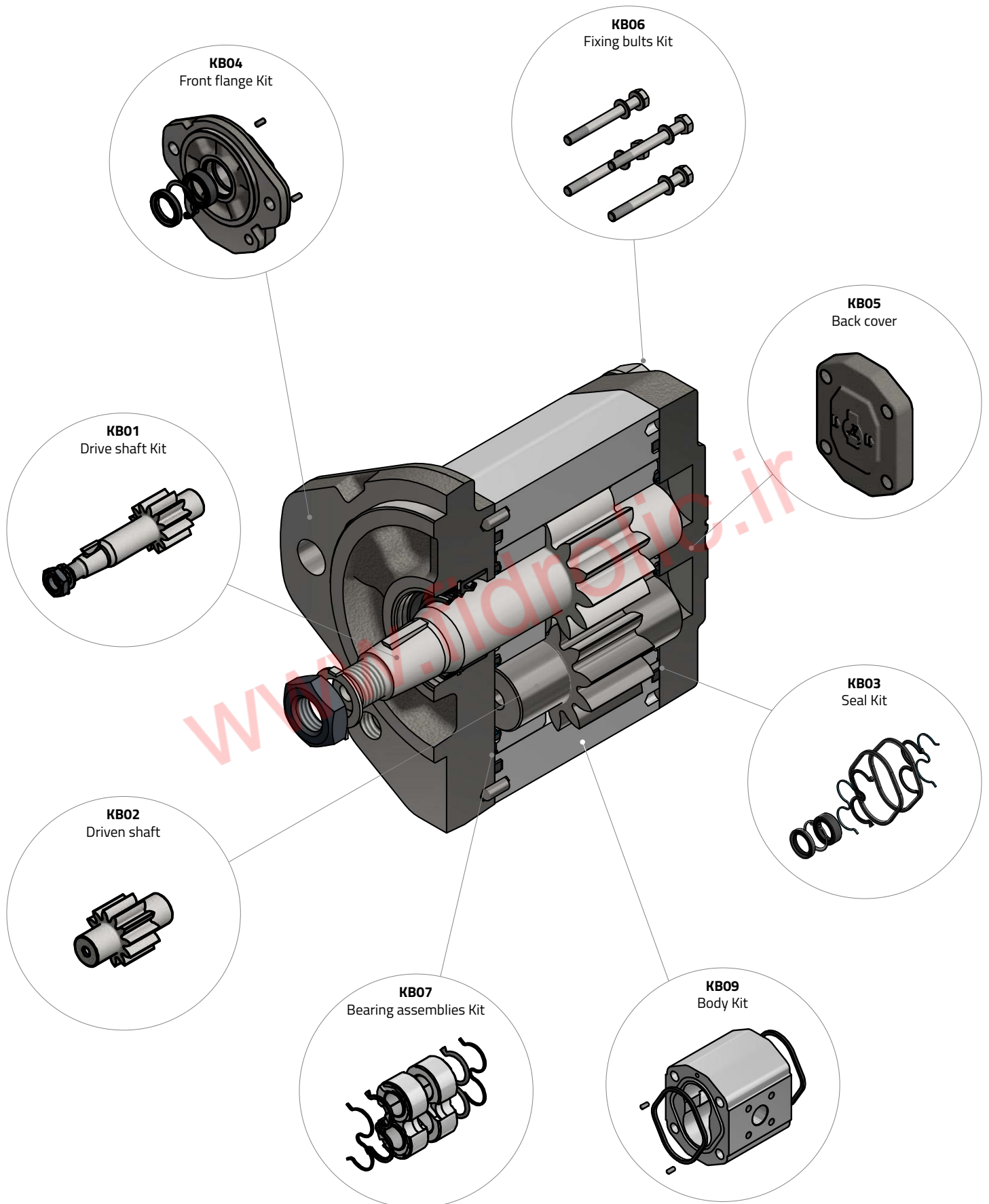
## High-Low multiple pump

Multiple High-Low pump is a double stage pump optimal for cutting machines, presses, clamping mechanisms and other applications whom require a fast movement at low pressure, and a slow movement at high pressure.



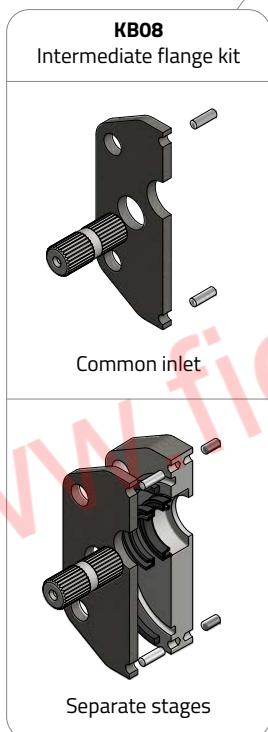
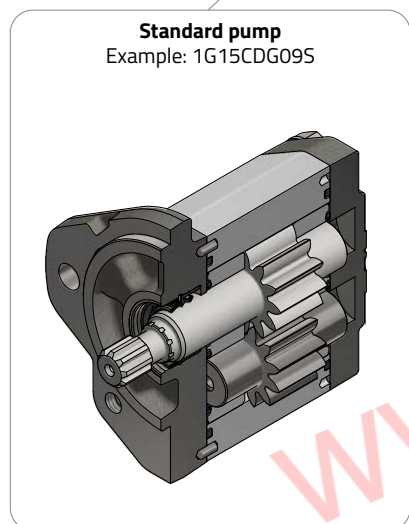
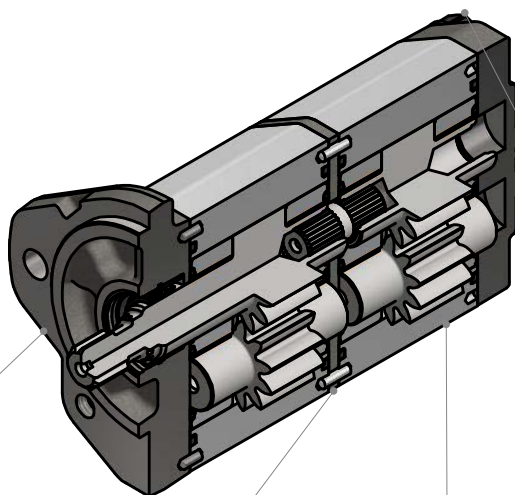
- Front flanges, drive shafts and ports most common available.
- Multiple displacement combinations available.
- Pressure settings available:
  - 50 - 100 bar (Default adjustment - 70 bar)
  - 90 - 180 bar (Default adjustment - 130 bar)

**NOTE:** Please contact Sales Department for more information about available ports, displacements, pressure setting and minimum order quantity.

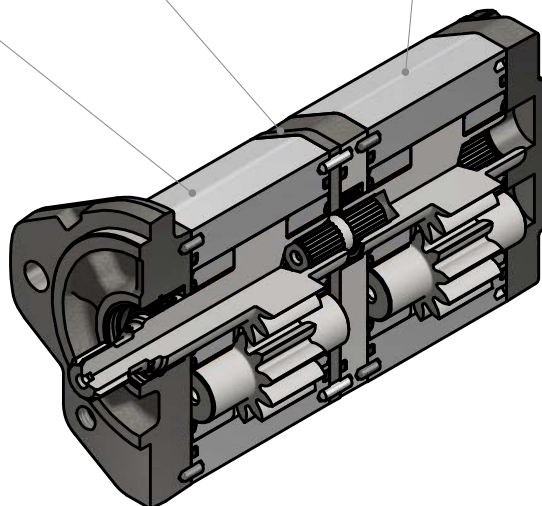


**NOTE:** For available reference contact the Sales Department or look in the spare parts catalogue.

Type GM

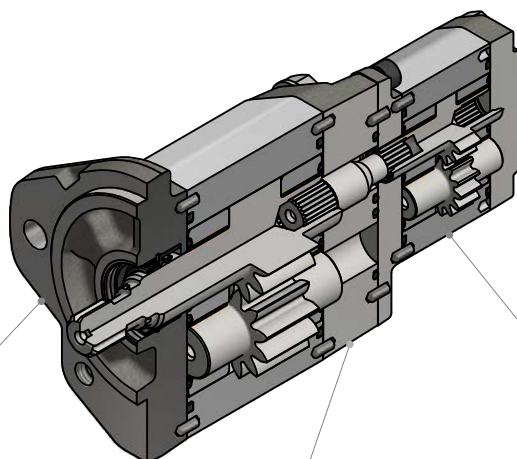


Separate stages type GM

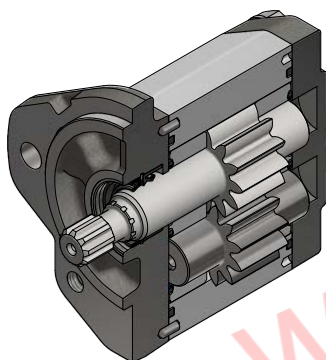


**NOTE:** A GM double pump can be assembled from a pump with standard reference and a pump with Z or Q shaft form for separate stages. The Z or Q kit are offered in order to transform the pump. For available reference contact the Sales Department or look at the spare parts catalogue.

Type GS

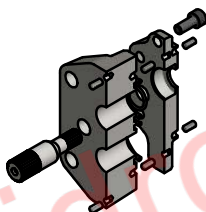


**Standard front pump**  
Example: 1G15CDG09S

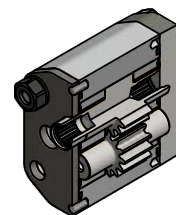


**Common inlet intermediate flange kit**

Example: KB0800G0G0D00-CID  
Example: KB0800G0G0D00-CII

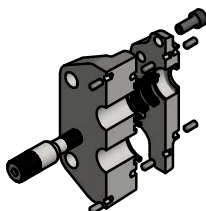


**Rear standard pump**  
Example: 1G03CDS00S

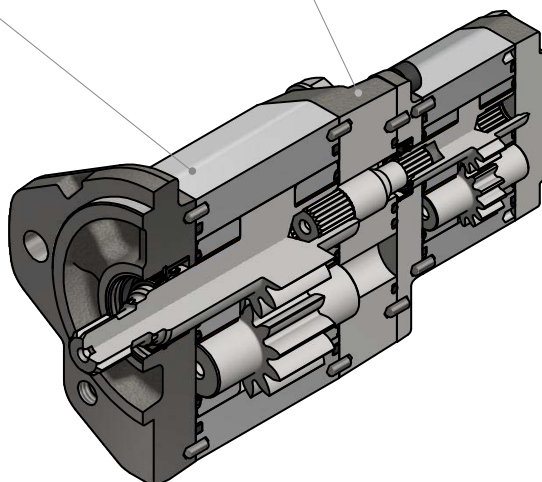


**Standard intermediate flange kit and separate stages flange kit**

Example: KB0800G0G0D00  
Example: KB0800G0G0D00-SS



Separate stages type GS



**NOTE:** A GS double pump can be assembled from a pump with standard reference and a pump with S shaft. Is offered an intermediate flange kit for standard, common inlet or separate stages versions. For available reference contact the Sales Department or look at the spare parts catalogue.

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