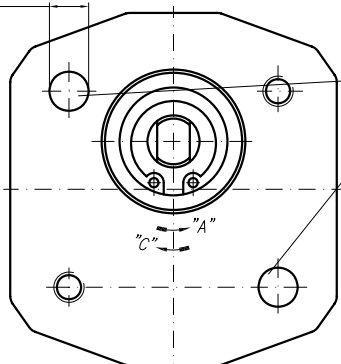


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2x $\phi$ 5.5 Gr. 00



To mount the pump use two screws  
M5xL/10.9 (8.8 black)

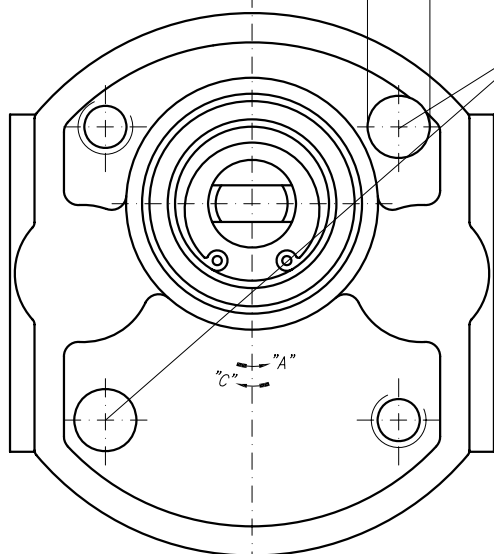
Torque  $5^{+1}$  Nm

For Pumps at types:

|      |      |      |      |       |
|------|------|------|------|-------|
| X033 | X034 | X044 | X047 | X048W |
| X051 | X052 | X063 | X065 |       |

And etc.

Gr. 10 2x $\phi$ 8,5



To mount the pump use two screws  
M8xL/10.9 (8.8 black)

Torque  $25^{+5}$  Nm

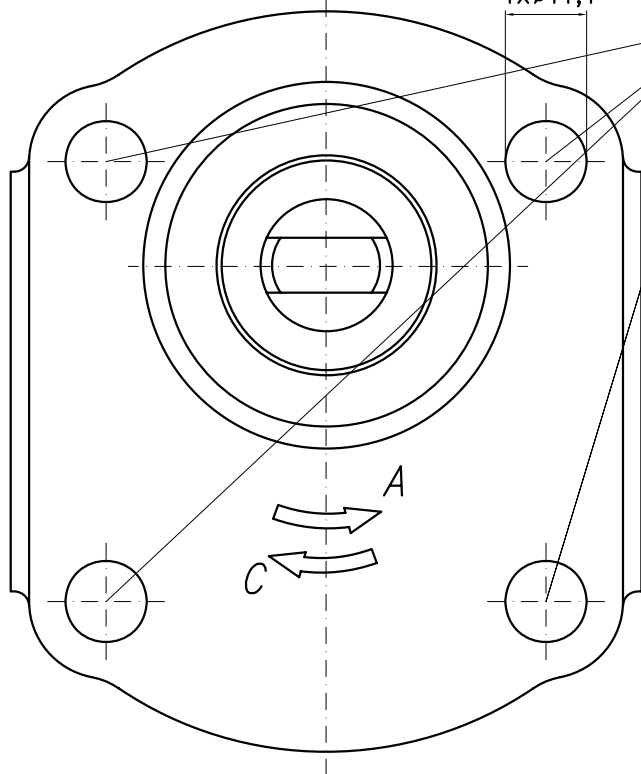
For Pumps at types:

|      |      |      |      |      |
|------|------|------|------|------|
| X001 | X027 | X054 | X131 | X135 |
| X142 | X175 | X179 | X182 | X230 |
| X231 | X238 | X244 | X254 | X255 |
| X278 | X302 | X303 | X330 | X340 |
| X343 | X348 | X375 | X394 | X400 |
| X417 | X442 | X445 | X465 | X475 |
| X479 | X485 | X488 | X489 | X531 |
| X551 | X552 | X571 | X574 | X575 |
| X579 | X594 | X649 | X682 | X686 |

And etc.

Gr. 20

4x $\phi$ 11,1



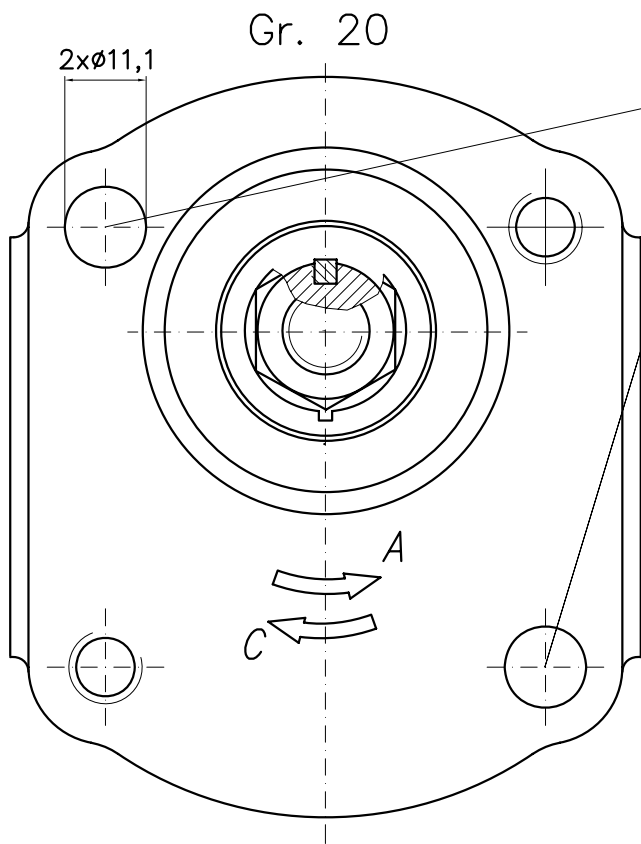
To mount the pump use four screws  
M10xL/10.9

Torque  $45^{+5}$  Nm

For Pumps at types:

|      |      |      |      |      |
|------|------|------|------|------|
| X066 | X072 | X077 | X097 | X110 |
| X156 | X161 | X173 | X178 | X185 |
| X305 | X381 | X451 | X495 | X536 |
| X538 | X597 | X602 | X622 | X665 |

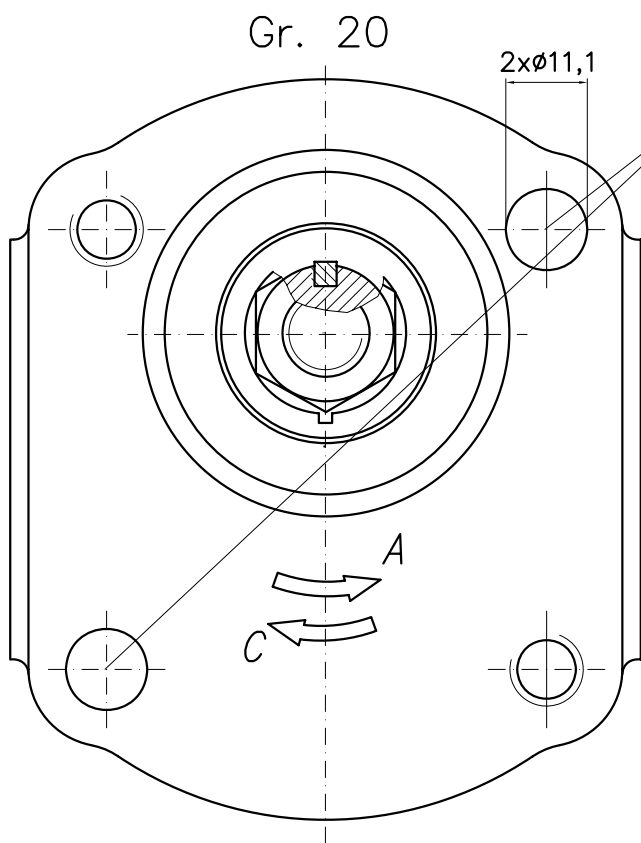
And etc.



To mount the pump use two screws  
 M10xL/10.9  
 Torque  $45^{+5}$ Nm

| For Pumps at types: |      |         |         |      |
|---------------------|------|---------|---------|------|
| X007                | X074 | X083    | X087    | X091 |
| X095                | X096 | X127    | X128    | X132 |
| X147                | X153 | X170    | X178    | X187 |
| X205                | X295 | X449SBA | X540WMS | X567 |
| X573                | X847 | X857    | X867    | X877 |

And etc.



To mount the pump use two screws  
 M10xL/10.9  
 Torque  $45^{+5}$ Nm

| For Pumps at types: |      |             |      |      |
|---------------------|------|-------------|------|------|
| X008                | X296 | X368        | X402 | X403 |
| X496                | X528 | X583        | X586 | X588 |
| X652-12SBAW         |      | X653-A1A40W |      | X776 |
| X803                | X843 | X848        | X868 | X878 |

And etc.

## General description

The gear pumps are designed for transforming the mechanical energy as energy of the working liquid (pressure and flow rate). They are simplified in construction and they have a relatively low cost. All these benefits ensure their wide application in the hydraulic systems.

## Drive arrangements

The pump drive may be direct or indirect (by gear, chains, or belt transmissions). Both drives should not impose axial or radial forces on the pump shaft. Oldham coupling serrated drive adapters are used with direct drive. For indirect drive refer to the manufacturer.

## The gear pumps are designed to work at the conditions mentioned below:

|                                 |                                                              |
|---------------------------------|--------------------------------------------------------------|
| - Working liquid:               | hydraulic oils with viscosity 16 ... 200 mm <sup>2</sup> /s; |
| - Degree of filtration:         | 15 ... 25 ì m;                                               |
| - Ambient temperature range:    | - 22 ... 55 °C;                                              |
| - Fluid temperature range:      | - 25 ... 80 °C;                                              |
| - Inlet pressure, absolute:     | 0.8 ... 2.2 bar;                                             |
| - Fluid velocity (suction line) | 0,5 ... 1 m/s                                                |
| - Outlet pressure               | up to 250 bar.                                               |

**The gear pumps made by “Caproni” are produced in 5 different groups: 00, 10, 20 and 20H, 30 and 40. The displacements of the pumps are in the range from 0.25 to 60 cm<sup>3</sup>.**

|           |                                  |
|-----------|----------------------------------|
| Group 00  | q = 0.25 ... 2 cm <sup>3</sup> ; |
| Group 10  | q = 1 ... 9.8 cm <sup>3</sup> ;  |
| Group 20  | q = 4.5 ... 25 cm <sup>3</sup> ; |
| Group 20H | q = 15 ... 36 cm <sup>3</sup> ;  |
| Group 30  | q = 20 ... 60 cm <sup>3</sup> ;  |
| Group 40  | q = 46 ... 60 cm <sup>3</sup> .  |

**There are different variants of flanges, shafts and ports for each pump group (standard; Germany; USA ...).**

## We offer the next variants too:

- tandem pumps;
- pumps with build-in valves;
- reversible pumps;
- reversible gear motors.

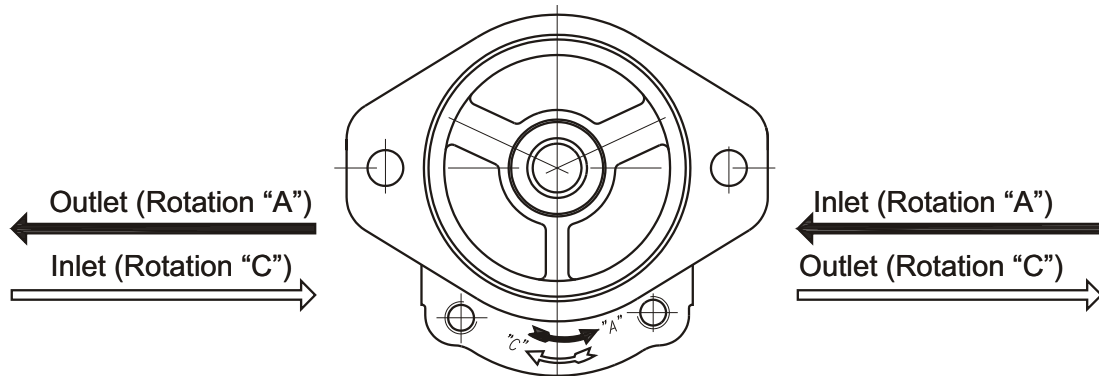
## Used symbols:

|                                                           |                       |
|-----------------------------------------------------------|-----------------------|
| n - speed of rotation                                     | [min <sup>-1</sup> ]; |
| p - pressure                                              | [bar];                |
| q - displacement                                          | [cm <sup>3</sup> ];   |
| $\eta$ - total efficiency $\eta = \eta_q \cdot \eta_{hm}$ | [-];                  |
| $\eta_{hm}$ - hydromechanical efficiency                  | [-];                  |
| $\eta_q$ - volumetric efficiency                          | [-].                  |

## Commonly used formulas:

|              |                                          |         |
|--------------|------------------------------------------|---------|
| Flow:        | $Q = \frac{q \cdot n \cdot \eta}{1000}$  | [l/min] |
| Torque:      | $M \cong \frac{q \cdot p}{20 \cdot \pi}$ | [N.m]   |
| Drive power: | $P = \frac{Q \cdot p}{600}$              | [kW]    |

A relationship between the direction of rotation and the place of the inlet and outlet ports of the pumps



**How to order:**

| Group                      | Rotation          | Displacement code | Drive shaft                                                | Pump code | Ports                                                                                                    |
|----------------------------|-------------------|-------------------|------------------------------------------------------------|-----------|----------------------------------------------------------------------------------------------------------|
| 00<br>10<br>20<br>30<br>40 | A ↻<br>C ↻<br>R ↻ |                   | X - Through the front cover<br>Y - Through the both covers | ***(*)    | - A flange with metric threads<br>P4- A flange with UNC threads<br>M - Metric<br>G - GAS<br>U - SAE J475 |

| Group 00 |                 |
|----------|-----------------|
| Code     | cm <sup>3</sup> |
| 0,25     | 0,25            |
| 0,3      | 0,3             |
| 0,5      | 0,5             |
| 0,75     | 0,75            |
| 1        | 1               |
| 1,25     | 1,25            |
| 1,5      | 1,5             |
| 1,75     | 1,75            |
| 2        | 2               |

| Group 10 |                 |
|----------|-----------------|
| Code     | cm <sup>3</sup> |
| 1        | 1               |
| 1,25     | 1,25            |
| 1,6      | 1,6             |
| 2        | 2               |
| 2,5      | 2,5             |
| 2,65*    | 2,65            |
| 3,15     | 3,15            |
| 3,65     | 3,65            |
| 4,2      | 4,2             |
| 4,7*     | 4,7             |
| 5        | 5               |
| 5,7      | 5,7             |
| 6,1      | 6,1             |
| 7,4      | 7,4             |
| 8*       | 8               |
| 8,5      | 8,5             |
| 9,8      | 9,8             |

| Group 20 |                 |
|----------|-----------------|
| Code     | cm <sup>3</sup> |
| 4,5      | 4,5             |
| 6,3      | 6,3             |
| 7*       | 7               |
| 8,2      | 8,2             |
| 10       | 10              |
| 11       | 11,3            |
| 12       | 12              |
| 14       | 14              |
| 15       | 15              |
| 16       | 16              |
| 17*      | 17,3            |
| 19       | 19              |
| 22       | 22              |
| 25       | 25              |
| 28       | 28              |
| 32       | 32              |
| 36       | 36              |

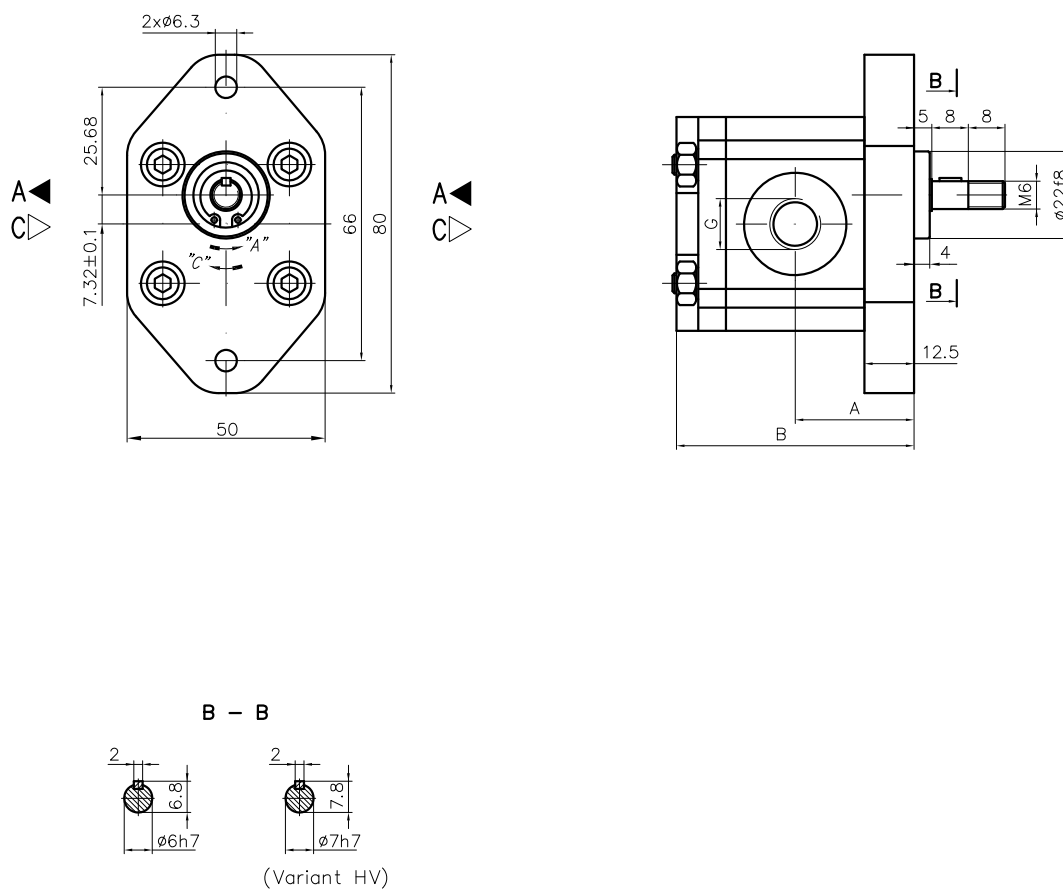
| Group 20H |                 |
|-----------|-----------------|
| Code      | cm <sup>3</sup> |
| 15        | 15              |
| 16        | 16              |
| 19        | 19              |
| 22        | 22              |
| 25        | 25              |
| 28        | 28              |
| 32        | 32              |
| 36        | 36              |

| Group 30 |                 |
|----------|-----------------|
| Code     | cm <sup>3</sup> |
| 20       | 20              |
| 22,5     | 22,5            |
| 25       | 25              |
| 28       | 28              |
| 32       | 32              |
| 36       | 36              |
| 42       | 42              |
| 46       | 46              |
| 50       | 50              |
| 55       | 55              |
| 60       | 60              |

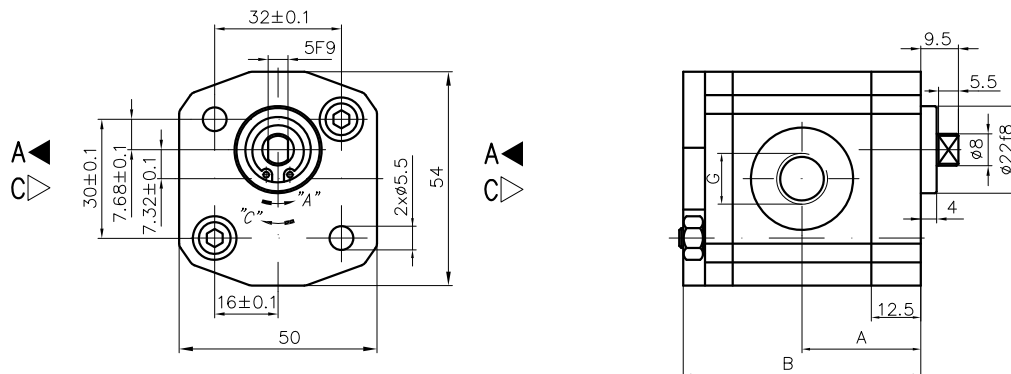
| Group 40 |                 |
|----------|-----------------|
| Code     | cm <sup>3</sup> |
| 36       | 36              |
| 42       | 42              |
| 46       | 46              |
| 50       | 50              |
| 55       | 55              |
| 60       | 60              |

**Example:** 20A14X073 - Hydraulic gear pump, 20 group, direction of rotation - counter clockwise, displacement 14 cm<sup>3</sup>, modification 073.

\* - These pumps - only under a special order

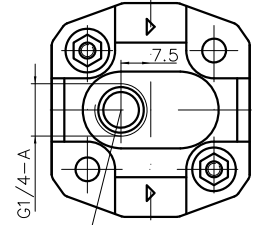
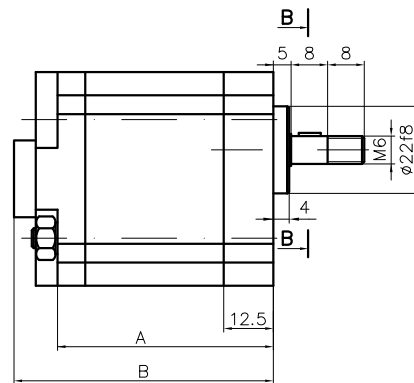
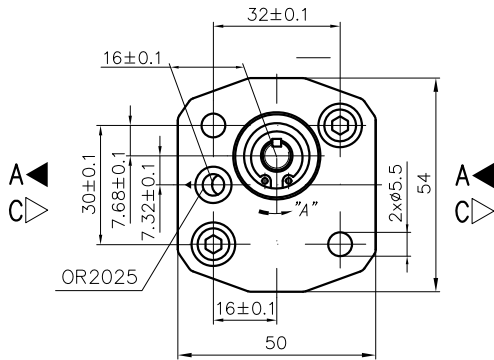


| Type           | Displacement<br>cm <sup>3</sup> /rev | Flow                 |                     | Pressure<br>P <sub>nom</sub><br>bar | max Speed<br>n<br>rpm | Dimension |         |       |  |      |        |  |      |
|----------------|--------------------------------------|----------------------|---------------------|-------------------------------------|-----------------------|-----------|---------|-------|--|------|--------|--|------|
|                |                                      | at 1500 rpm<br>l/min | at max rpm<br>l/min |                                     |                       | A<br>mm   | B<br>mm | Inlet |  |      | Outlet |  |      |
|                |                                      |                      |                     |                                     |                       |           |         |       |  | G    |        |  | G    |
| 00A(C)0,25X032 | 0,25                                 | 0,3                  | 0,8                 | 200                                 | 3500                  | 27,6      | 55,3    |       |  |      |        |  |      |
| 00A(C)0,3X032  | 0,3                                  | 0,4                  | 0,9                 | 200                                 | 3500                  | 27,7      | 55,7    |       |  |      |        |  |      |
| 00A(C)0,5X032  | 0,5                                  | 0,7                  | 1,6                 | 200                                 | 3500                  | 28,7      | 57,5    |       |  |      |        |  |      |
| 00A(C)0,75X032 | 0,75                                 | 1,0                  | 2,3                 | 200                                 | 3500                  | 29,9      | 59,8    |       |  |      |        |  |      |
| 00A(C)1X032    | 1                                    | 1,4                  | 3,2                 | 200                                 | 3500                  | 31,0      | 62,0    |       |  | 1/4" |        |  | 1/4" |
| 00A(C)1,25X032 | 1,25                                 | 1,7                  | 3,4                 | 200                                 | 3000                  | 32,1      | 64,2    |       |  |      |        |  |      |
| 00A(C)1,5X032  | 1,5                                  | 2,1                  | 3,5                 | 175                                 | 2500                  | 33,2      | 66,5    |       |  |      |        |  |      |
| 00A(C)1,75X032 | 1,75                                 | 2,4                  | 4,1                 | 160                                 | 2500                  | 34,3      | 68,7    |       |  |      |        |  |      |
| 00A(C)2X032    | 2                                    | 2,8                  | 3,7                 | 160                                 | 2000                  | 35,5      | 70,9    |       |  |      |        |  |      |



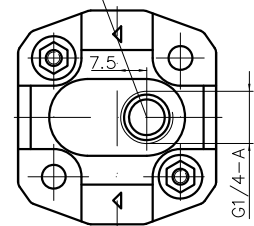
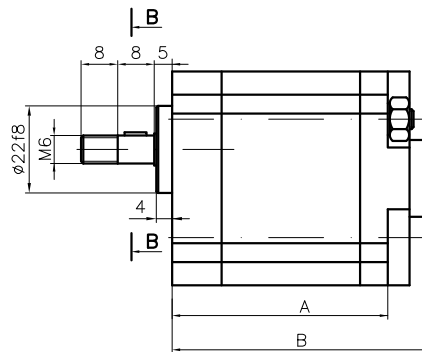
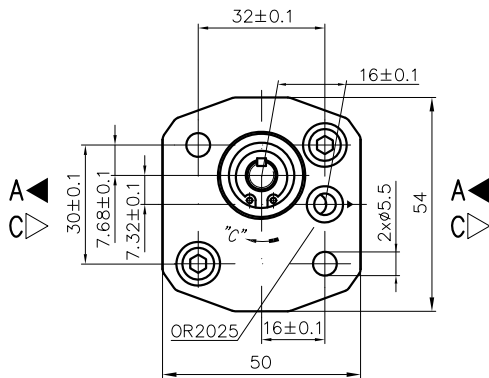
| Type              | Displacement<br>cm <sup>3</sup> /rev | Flow                 |                     | Pressure<br>P <sub>nom</sub><br>bar | max Speed<br>n<br>rpm | Dimension |         |            |  |  |             |      |
|-------------------|--------------------------------------|----------------------|---------------------|-------------------------------------|-----------------------|-----------|---------|------------|--|--|-------------|------|
|                   |                                      | at 1500 rpm<br>l/min | at max rpm<br>l/min |                                     |                       | A<br>mm   | B<br>mm | Inlet<br>G |  |  | Outlet<br>G |      |
| 00A(C)0,25X033... | 0,25                                 | 0,3                  | 0,8                 | 200                                 | 3500                  | 27,6      | 55,3    | 1/4"       |  |  |             | 1/4" |
| 00A(C)0,3X033...  | 0,3                                  | 0,4                  | 0,9                 | 200                                 | 3500                  | 27,7      | 55,7    |            |  |  |             |      |
| 00A(C)0,5X033...  | 0,5                                  | 0,7                  | 1,6                 | 200                                 | 3500                  | 28,7      | 57,5    |            |  |  |             |      |
| 00A(C)0,75X033... | 0,75                                 | 1,0                  | 2,3                 | 200                                 | 3500                  | 29,9      | 59,8    |            |  |  |             |      |
| 00A(C)1X033...    | 1                                    | 1,4                  | 3,2                 | 200                                 | 3500                  | 31,0      | 62,0    |            |  |  |             |      |
| 00A(C)1,25X033... | 1,25                                 | 1,7                  | 3,4                 | 200                                 | 3000                  | 32,1      | 64,2    |            |  |  |             |      |
| 00A(C)1,5X033...  | 1,5                                  | 2,1                  | 3,5                 | 175                                 | 2500                  | 33,2      | 66,5    |            |  |  |             |      |
| 00A(C)1,75X033... | 1,75                                 | 2,4                  | 4,1                 | 160                                 | 2500                  | 34,3      | 68,7    |            |  |  |             |      |
| 00A(C)2X033...    | 2                                    | 2,8                  | 3,7                 | 160                                 | 2000                  | 35,5      | 70,9    |            |  |  |             |      |

Rotation "A"

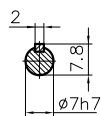
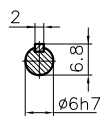


IN

Rotation "C"



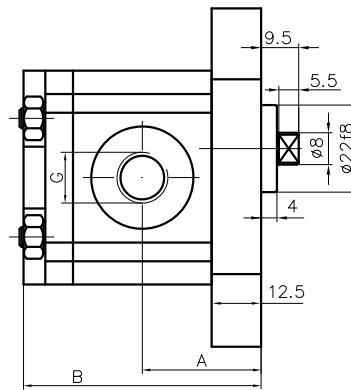
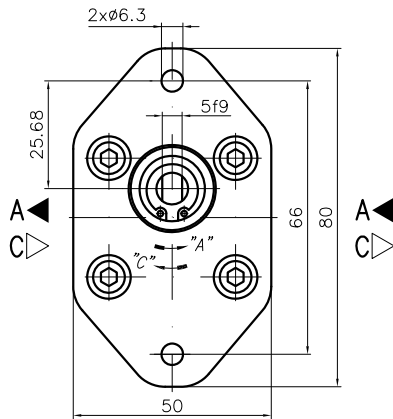
B - B



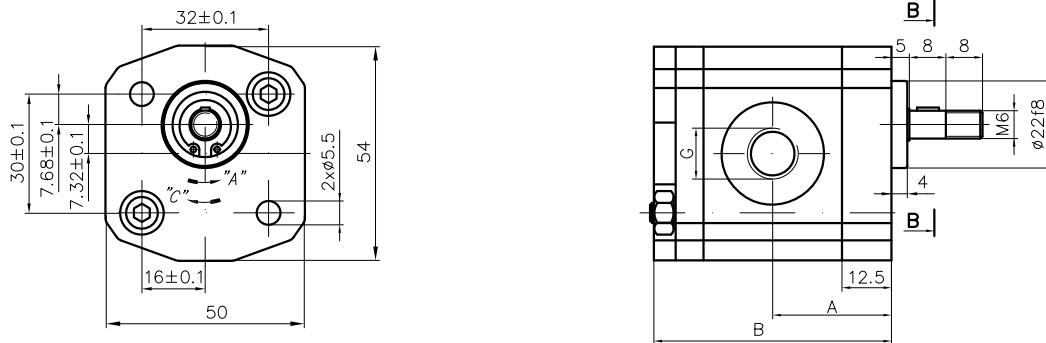
(Variant HV)

| Type           | Displacement<br>cm <sup>3</sup> /rev | Flow                 |                     | Pressure<br>P <sub>nom</sub><br>bar | max Speed<br>n<br>rpm | Dimension |         |       |  |      |        |  |      |  |
|----------------|--------------------------------------|----------------------|---------------------|-------------------------------------|-----------------------|-----------|---------|-------|--|------|--------|--|------|--|
|                |                                      | at 1500 rpm<br>l/min | at max rpm<br>l/min |                                     |                       | A<br>mm   | B<br>mm | Inlet |  |      | Outlet |  |      |  |
| 00A(C)0,25X034 | 0,25                                 | 0,3                  | 0,8                 | 200                                 | 3500                  | 55,3      | 60,8    |       |  |      |        |  |      |  |
| 00A(C)0,3X034  | 0,3                                  | 0,4                  | 0,9                 | 200                                 | 3500                  | 55,7      | 61,2    |       |  |      |        |  |      |  |
| 00A(C)0,5X034  | 0,5                                  | 0,7                  | 1,6                 | 200                                 | 3500                  | 57,5      | 63,0    |       |  |      |        |  |      |  |
| 00A(C)0,75X034 | 0,75                                 | 1,0                  | 2,3                 | 200                                 | 3500                  | 59,8      | 65,3    |       |  |      |        |  |      |  |
| 00A(C)1X034    | 1                                    | 1,4                  | 3,2                 | 200                                 | 3500                  | 62,0      | 67,5    |       |  | 1/4" |        |  | ø5,5 |  |
| 00A(C)1,25X034 | 1,25                                 | 1,7                  | 3,4                 | 200                                 | 3000                  | 64,2      | 69,7    |       |  |      |        |  |      |  |
| 00A(C)1,5X034  | 1,5                                  | 2,1                  | 3,5                 | 175                                 | 2500                  | 66,5      | 72,0    |       |  |      |        |  |      |  |
| 00A(C)1,75X034 | 1,75                                 | 2,4                  | 4,1                 | 160                                 | 2500                  | 68,7      | 74,2    |       |  |      |        |  |      |  |
| 00A(C)2X034    | 2                                    | 2,8                  | 3,7                 | 160                                 | 2000                  | 70,9      | 76,4    |       |  |      |        |  |      |  |

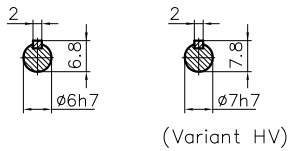




| Type           | Displacement<br>cm <sup>3</sup> /rev | Flow                 |                     | Pressure<br>P <sub>nom</sub><br>bar | max Speed<br>n<br>rpm | Dimension |         |       |  |      |        |  |      |
|----------------|--------------------------------------|----------------------|---------------------|-------------------------------------|-----------------------|-----------|---------|-------|--|------|--------|--|------|
|                |                                      | at 1500 rpm<br>l/min | at max rpm<br>l/min |                                     |                       | A<br>mm   | B<br>mm | Inlet |  |      | Outlet |  |      |
|                |                                      |                      |                     |                                     |                       |           |         |       |  | G    |        |  | G    |
| 00A(C)0,25X043 | 0,25                                 | 0,3                  | 0,8                 | 200                                 | 3500                  | 27,6      | 55,3    |       |  |      |        |  |      |
| 00A(C)0,3X043  | 0,3                                  | 0,4                  | 0,9                 | 200                                 | 3500                  | 27,7      | 55,7    |       |  |      |        |  |      |
| 00A(C)0,5X043  | 0,5                                  | 0,7                  | 1,6                 | 200                                 | 3500                  | 28,7      | 57,5    |       |  |      |        |  |      |
| 00A(C)0,75X043 | 0,75                                 | 1,0                  | 2,3                 | 200                                 | 3500                  | 29,9      | 59,8    |       |  |      |        |  |      |
| 00A(C)1X043    | 1                                    | 1,4                  | 3,2                 | 200                                 | 3500                  | 31,0      | 62,0    |       |  | 1/4" |        |  | 1/4" |
| 00A(C)1,25X043 | 1,25                                 | 1,7                  | 3,4                 | 200                                 | 3000                  | 32,1      | 64,2    |       |  |      |        |  |      |
| 00A(C)1,5X043  | 1,5                                  | 2,1                  | 3,5                 | 175                                 | 2500                  | 33,2      | 66,5    |       |  |      |        |  |      |
| 00A(C)1,75X043 | 1,75                                 | 2,4                  | 4,1                 | 160                                 | 2500                  | 34,3      | 68,7    |       |  |      |        |  |      |
| 00A(C)2X043    | 2                                    | 2,8                  | 3,7                 | 160                                 | 2000                  | 35,5      | 70,9    |       |  |      |        |  |      |



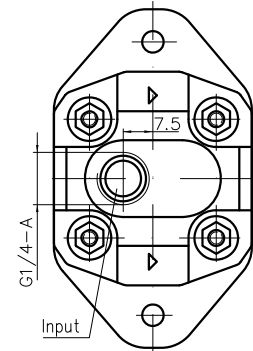
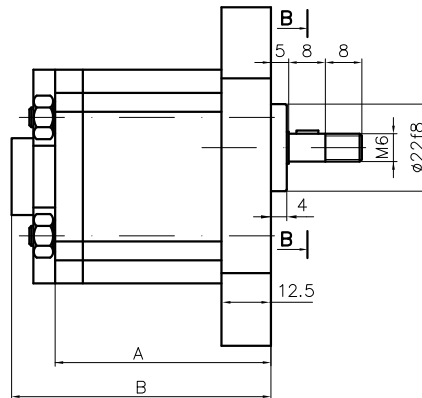
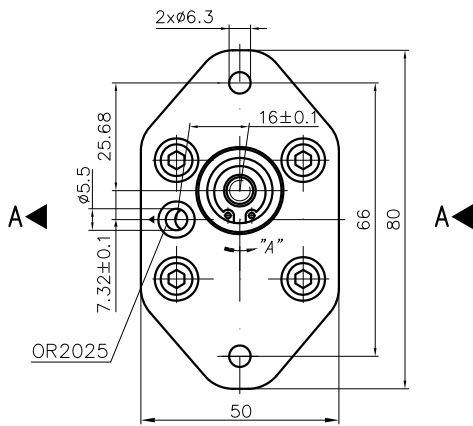
B - B



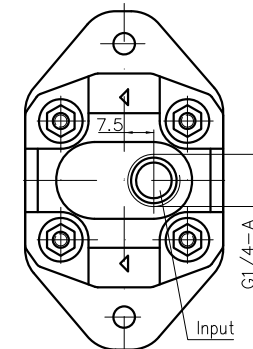
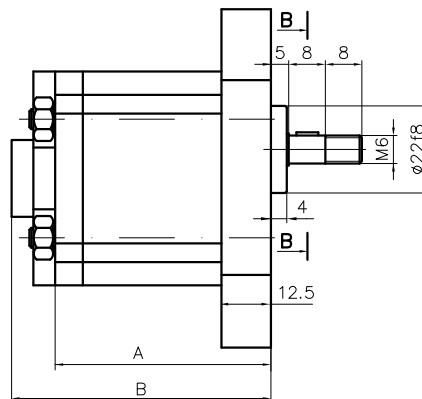
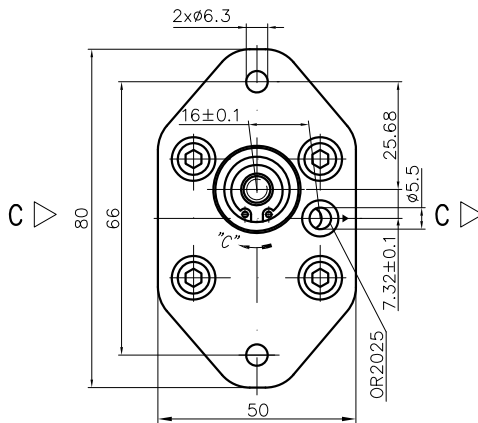
| Type           | Displacement<br>cm <sup>3</sup> /rev | Flow                 |                     | Pressure<br>P <sub>nom</sub><br>bar | max Speed<br>n<br>rpm | Dimension |         |       |  |      |        |  |      |
|----------------|--------------------------------------|----------------------|---------------------|-------------------------------------|-----------------------|-----------|---------|-------|--|------|--------|--|------|
|                |                                      | at 1500 rpm<br>l/min | at max rpm<br>l/min |                                     |                       | A<br>mm   | B<br>mm | Inlet |  |      | Outlet |  |      |
|                |                                      |                      |                     |                                     |                       |           |         |       |  | G    |        |  | G    |
| 00A(C)0,25X044 | 0,25                                 | 0,3                  | 0,8                 | 200                                 | 3500                  | 27,6      | 55,3    |       |  |      |        |  |      |
| 00A(C)0,3X044  | 0,3                                  | 0,4                  | 0,9                 | 200                                 | 3500                  | 27,7      | 55,7    |       |  |      |        |  |      |
| 00A(C)0,5X044  | 0,5                                  | 0,7                  | 1,6                 | 200                                 | 3500                  | 28,7      | 57,5    |       |  |      |        |  |      |
| 00A(C)0,75X044 | 0,75                                 | 1,0                  | 2,3                 | 200                                 | 3500                  | 29,9      | 59,8    |       |  |      |        |  |      |
| 00A(C)1X044    | 1                                    | 1,4                  | 3,2                 | 200                                 | 3500                  | 31,0      | 62,0    |       |  | 1/4" |        |  | 1/4" |
| 00A(C)1,25X044 | 1,25                                 | 1,7                  | 3,4                 | 200                                 | 3000                  | 32,1      | 64,2    |       |  |      |        |  |      |
| 00A(C)1,5X044  | 1,5                                  | 2,1                  | 3,5                 | 175                                 | 2500                  | 33,2      | 66,5    |       |  |      |        |  |      |
| 00A(C)1,75X044 | 1,75                                 | 2,4                  | 4,1                 | 160                                 | 2500                  | 34,3      | 68,7    |       |  |      |        |  |      |
| 00A(C)2X044    | 2                                    | 2,8                  | 3,7                 | 160                                 | 2000                  | 35,5      | 70,9    |       |  |      |        |  |      |



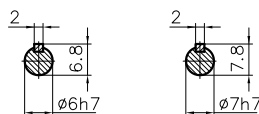
Rotation "A"



Rotation "C"



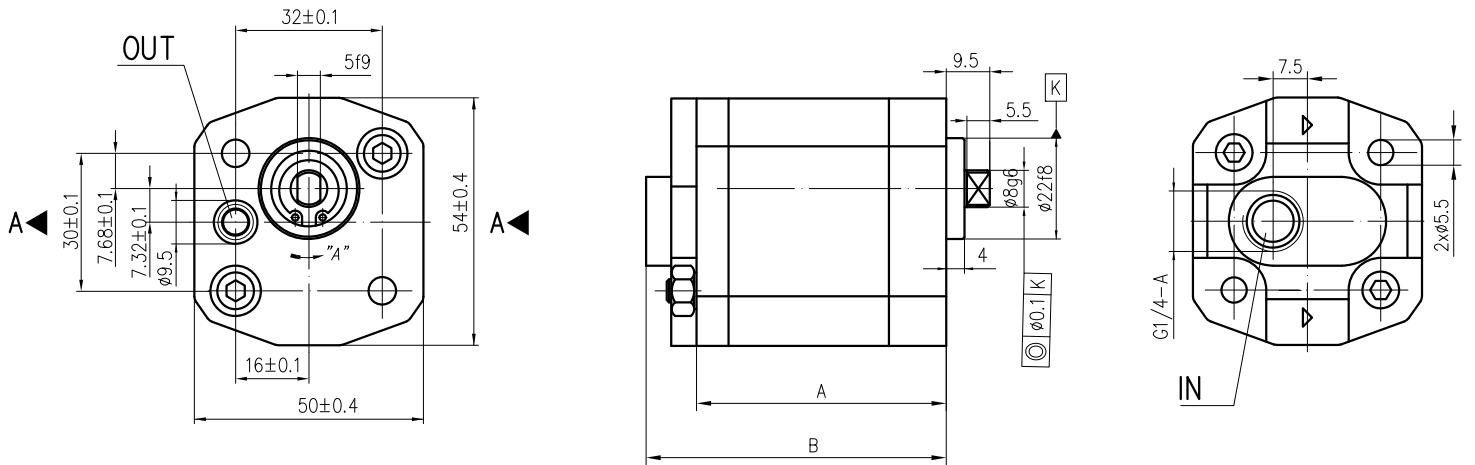
B - B



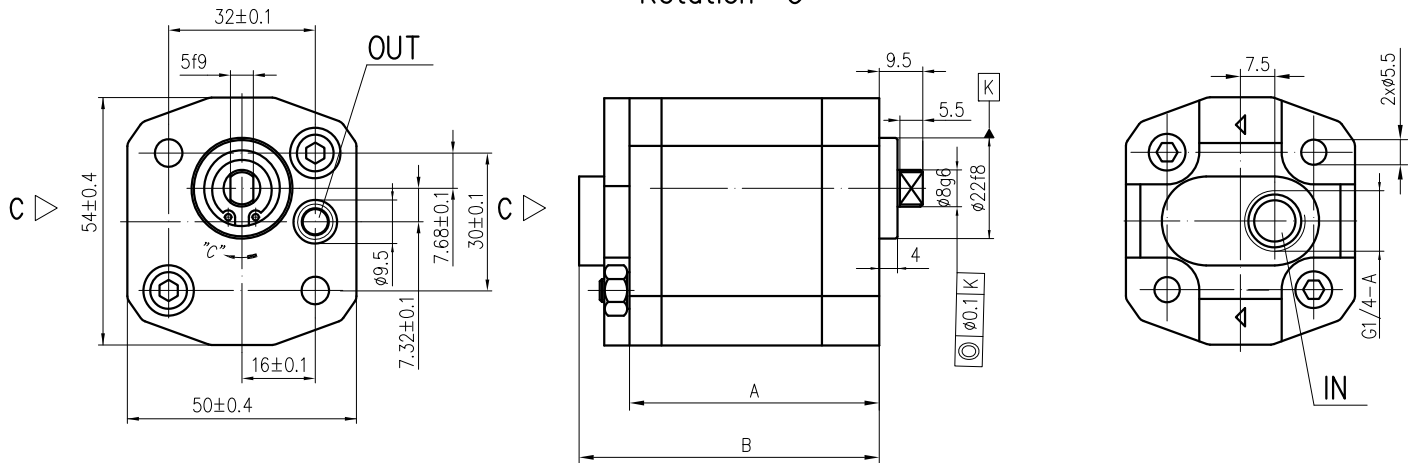
(Variant HV)

| Type           | Displacement<br>cm <sup>3</sup> /rev | Flow                 |                     | Pressure<br>P <sub>nom</sub><br>bar | max Speed<br>n<br>rpm | Dimension |         |       |  |        |  |      |  |
|----------------|--------------------------------------|----------------------|---------------------|-------------------------------------|-----------------------|-----------|---------|-------|--|--------|--|------|--|
|                |                                      | at 1500 rpm<br>l/min | at max rpm<br>l/min |                                     |                       | A<br>mm   | B<br>mm | Inlet |  | Outlet |  |      |  |
| 00A(C)0,25X046 | 0,25                                 | 0,3                  | 0,8                 | 200                                 | 3500                  | 55,3      | 60,8    |       |  |        |  |      |  |
| 00A(C)0,3X046  | 0,3                                  | 0,4                  | 0,9                 | 200                                 | 3500                  | 55,7      | 61,2    |       |  |        |  |      |  |
| 00A(C)0,5X046  | 0,5                                  | 0,7                  | 1,6                 | 200                                 | 3500                  | 57,5      | 63,0    |       |  |        |  |      |  |
| 00A(C)0,75X046 | 0,75                                 | 1,0                  | 2,3                 | 200                                 | 3500                  | 59,8      | 65,3    |       |  |        |  |      |  |
| 00A(C)1X046    | 1                                    | 1,4                  | 3,2                 | 200                                 | 3500                  | 62,0      | 67,5    |       |  | 1/4"   |  | ∅5,5 |  |
| 00A(C)1,25X046 | 1,25                                 | 1,7                  | 3,4                 | 200                                 | 3000                  | 64,2      | 69,7    |       |  |        |  |      |  |
| 00A(C)1,5X046  | 1,5                                  | 2,1                  | 3,5                 | 175                                 | 2500                  | 66,5      | 72,0    |       |  |        |  |      |  |
| 00A(C)1,75X046 | 1,75                                 | 2,4                  | 4,1                 | 160                                 | 2500                  | 68,7      | 74,2    |       |  |        |  |      |  |
| 00A(C)2X046    | 2                                    | 2,8                  | 3,7                 | 160                                 | 2000                  | 70,9      | 76,4    |       |  |        |  |      |  |

Rotation "A"

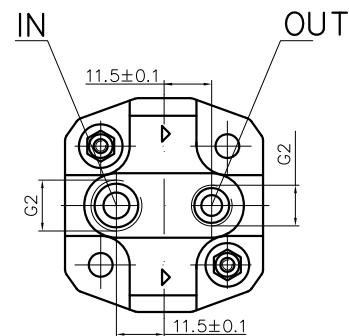
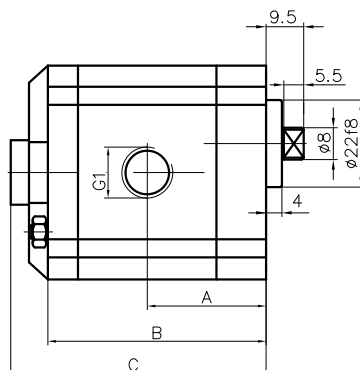
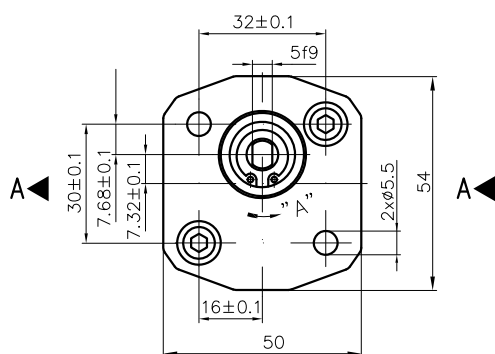


Rotation "C"

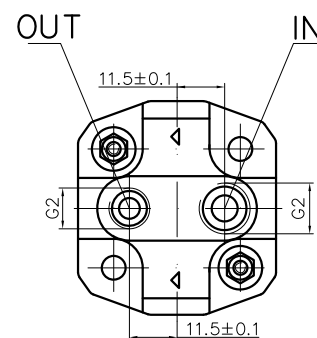
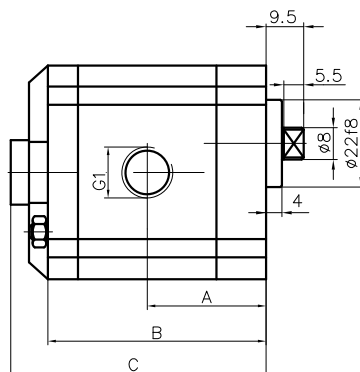
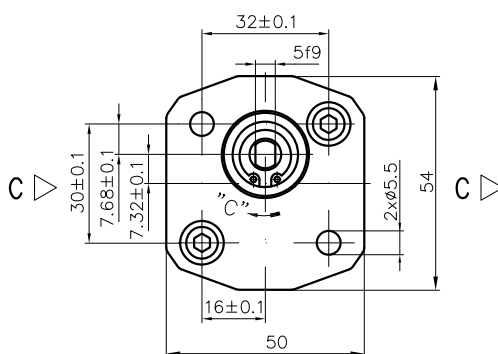


| Type           | Displacement<br>cm <sup>3</sup> /rev | Flow                 |                     | Pressure<br>P <sub>nom</sub><br>bar | max Speed<br>n<br>rpm | Dimension |         |       |  |        |  |      |
|----------------|--------------------------------------|----------------------|---------------------|-------------------------------------|-----------------------|-----------|---------|-------|--|--------|--|------|
|                |                                      | at 1500 rpm<br>l/min | at max rpm<br>l/min |                                     |                       | A<br>mm   | B<br>mm | Inlet |  | Outlet |  |      |
|                |                                      |                      |                     |                                     |                       |           |         | G     |  |        |  |      |
| 00A(C)0,25X047 | 0,25                                 | 0,3                  | 0,8                 | 200                                 | 3500                  | 55,3      | 60,8    |       |  |        |  |      |
| 00A(C)0,3X047  | 0,3                                  | 0,4                  | 0,9                 | 200                                 | 3500                  | 55,7      | 61,2    |       |  |        |  |      |
| 00A(C)0,5X047  | 0,5                                  | 0,7                  | 1,6                 | 200                                 | 3500                  | 57,5      | 63,0    |       |  |        |  |      |
| 00A(C)0,75X047 | 0,75                                 | 1,0                  | 2,3                 | 200                                 | 3500                  | 59,8      | 65,3    |       |  |        |  |      |
| 00A(C)1X047    | 1                                    | 1,4                  | 3,2                 | 200                                 | 3500                  | 62,0      | 67,5    |       |  | 1/4"   |  | Ø5,5 |
| 00A(C)1,25X047 | 1,25                                 | 1,7                  | 3,4                 | 200                                 | 3000                  | 64,2      | 69,7    |       |  |        |  |      |
| 00A(C)1,5X047  | 1,5                                  | 2,1                  | 3,5                 | 175                                 | 2500                  | 66,5      | 72,0    |       |  |        |  |      |
| 00A(C)1,75X047 | 1,75                                 | 2,4                  | 4,1                 | 160                                 | 2500                  | 68,7      | 74,2    |       |  |        |  |      |
| 00A(C)2X047    | 2                                    | 2,8                  | 3,7                 | 160                                 | 2000                  | 70,9      | 76,4    |       |  |        |  |      |

Rotation "A"

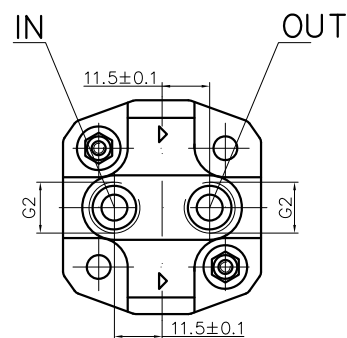
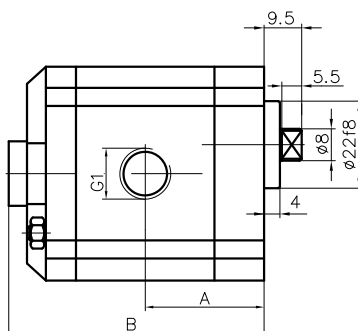
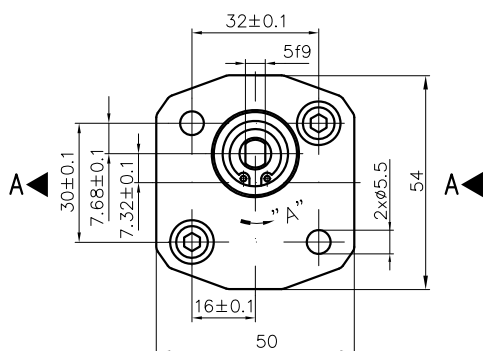


Rotation "C"

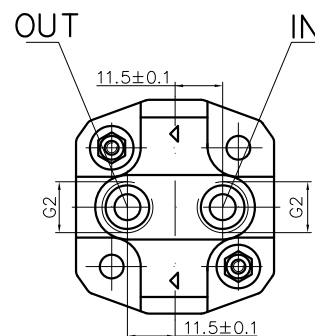
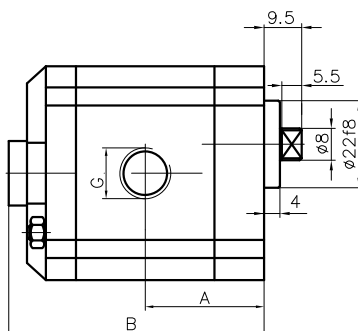
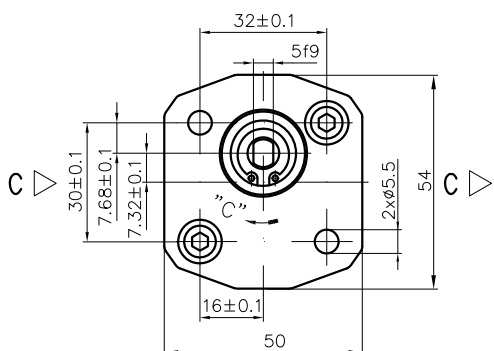


| Type             | Displacement         | Flow        |            | Pressure | max Speed | Dimension        |      |      |      |      |       |      |        |
|------------------|----------------------|-------------|------------|----------|-----------|------------------|------|------|------|------|-------|------|--------|
|                  |                      | at 1500 rpm | at max rpm |          |           | P <sub>nom</sub> | n    | A    | B    | C    | Inlet |      | Outlet |
|                  | cm <sup>3</sup> /rev | l/min       | l/min      | bar      | rpm       | mm               | mm   |      | G1   | G2   |       | G1   | G2     |
| 00A(C)0,25X048W1 | 0,25                 | 0,3         | 0,8        | 200      | 3500      | 27,6             | 55,3 | 60,8 | 1/4" | 1/4" |       | 1/4" | 1/8"   |
| 00A(C)0,3X048W1  | 0,3                  | 0,4         | 0,9        | 200      | 3500      | 27,7             | 55,7 | 61,2 |      |      |       |      |        |
| 00A(C)0,5X048W1  | 0,5                  | 0,7         | 1,6        | 200      | 3500      | 28,7             | 57,5 | 63,0 |      |      |       |      |        |
| 00A(C)0,75X048W1 | 0,75                 | 1,0         | 2,3        | 200      | 3500      | 29,9             | 59,8 | 65,3 |      |      |       |      |        |
| 00A(C)1X048W1    | 1                    | 1,4         | 3,2        | 200      | 3500      | 31,0             | 62,0 | 67,5 |      |      |       |      |        |
| 00A(C)1,25X048W1 | 1,25                 | 1,7         | 3,4        | 200      | 3000      | 32,1             | 64,2 | 69,7 |      |      |       |      |        |
| 00A(C)1,5X048W1  | 1,5                  | 2,1         | 3,5        | 175      | 2500      | 33,2             | 66,5 | 72,0 |      |      |       |      |        |
| 00A(C)1,75X048W1 | 1,75                 | 2,4         | 4,1        | 160      | 2500      | 34,3             | 68,7 | 74,2 |      |      |       |      |        |
| 00A(C)2X048W1    | 2                    | 2,8         | 3,7        | 160      | 2000      | 35,5             | 70,9 | 76,4 |      |      |       |      |        |

Rotation "A"

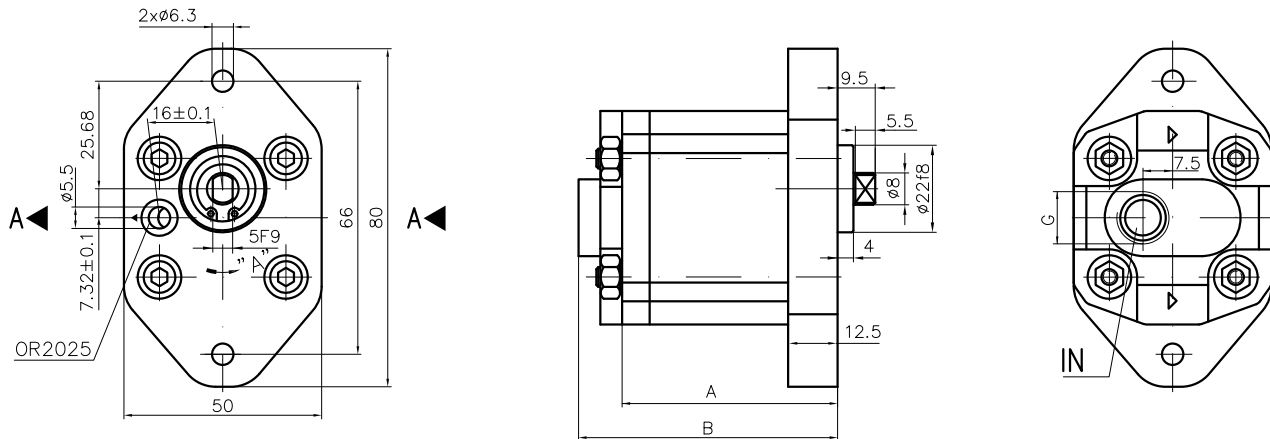


Rotation "C"

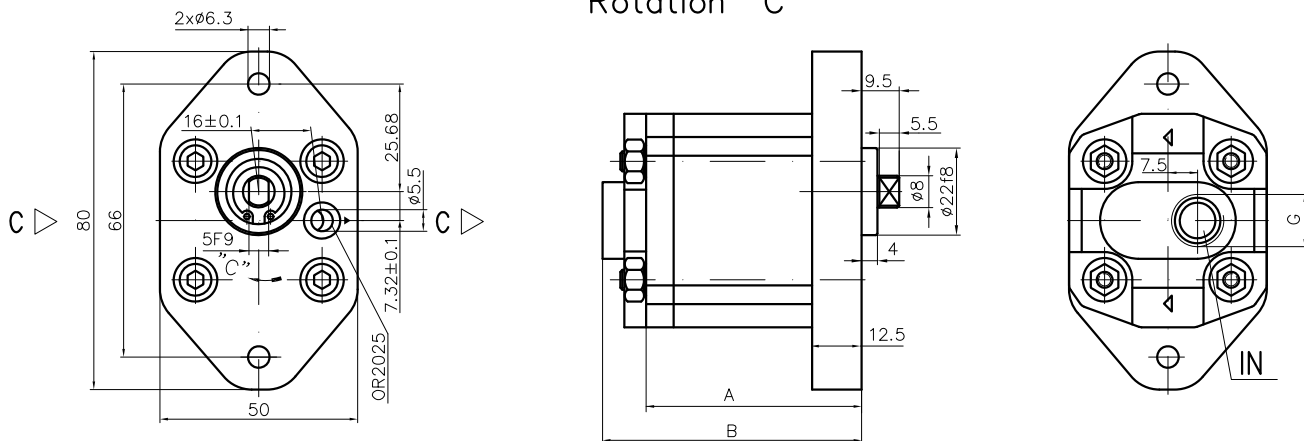


| Type             | Displacement<br>cm <sup>3</sup> /rev | Flow                 |                     | Pressure<br>P <sub>nom</sub><br>bar | max Speed<br>n<br>rpm | Dimension |         |         |                |      |                 |      |
|------------------|--------------------------------------|----------------------|---------------------|-------------------------------------|-----------------------|-----------|---------|---------|----------------|------|-----------------|------|
|                  |                                      | at 1500 rpm<br>l/min | at max rpm<br>l/min |                                     |                       | A<br>mm   | B<br>mm | C<br>mm | Inlet<br>G1 G1 |      | Outlet<br>G2 G2 |      |
| 00A(C)0,25X048W2 | 0,25                                 | 0,3                  | 0,8                 | 200                                 | 3500                  | 27,6      | 55,3    | 60,8    | 1/4"           | 1/4" | 1/4"            | 1/4" |
| 00A(C)0,3X048W2  | 0,3                                  | 0,4                  | 0,9                 | 200                                 | 3500                  | 27,7      | 55,7    | 61,2    |                |      |                 |      |
| 00A(C)0,5X048W2  | 0,5                                  | 0,7                  | 1,6                 | 200                                 | 3500                  | 28,7      | 57,5    | 63,0    |                |      |                 |      |
| 00A(C)0,75X048W2 | 0,75                                 | 1,0                  | 2,3                 | 200                                 | 3500                  | 29,9      | 59,8    | 65,3    |                |      |                 |      |
| 00A(C)1X048W2    | 1                                    | 1,4                  | 3,2                 | 200                                 | 3500                  | 31,0      | 62,0    | 67,5    |                |      |                 |      |
| 00A(C)1,25X048W2 | 1,25                                 | 1,7                  | 3,4                 | 200                                 | 3000                  | 32,1      | 64,2    | 69,7    |                |      |                 |      |
| 00A(C)1,5X048W2  | 1,5                                  | 2,1                  | 3,5                 | 175                                 | 2500                  | 33,2      | 66,5    | 72,0    |                |      |                 |      |
| 00A(C)1,75X048W2 | 1,75                                 | 2,4                  | 4,1                 | 160                                 | 2500                  | 34,3      | 68,7    | 74,2    |                |      |                 |      |
| 00A(C)2X048W2    | 2                                    | 2,8                  | 3,7                 | 160                                 | 2000                  | 35,5      | 70,9    | 76,4    |                |      |                 |      |

Rotation "A"

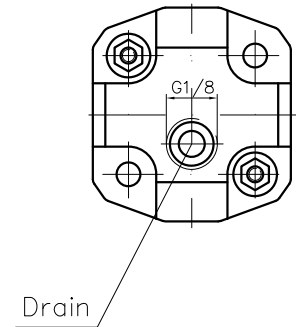
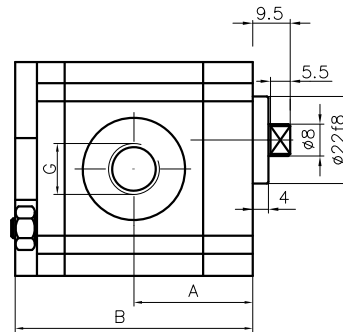
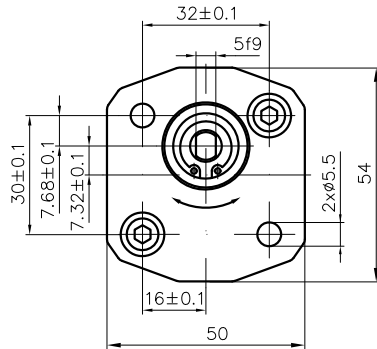


Rotation "C"

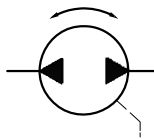


| Type           | Displacement<br>cm <sup>3</sup> /rev | Flow                 |                     | Pressure<br>P <sub>nom</sub><br>bar | max Speed<br>n<br>rpm | Dimension |         |       |  |        |  |  |            |
|----------------|--------------------------------------|----------------------|---------------------|-------------------------------------|-----------------------|-----------|---------|-------|--|--------|--|--|------------|
|                |                                      | at 1500 rpm<br>l/min | at max rpm<br>l/min |                                     |                       | A<br>mm   | B<br>mm | Inlet |  | Outlet |  |  |            |
| 00A(C)0,25X049 | 0,25                                 | 0,3                  | 0,8                 | 200                                 | 3500                  | 55,3      | 60,8    |       |  |        |  |  |            |
| 00A(C)0,3X049  | 0,3                                  | 0,4                  | 0,9                 | 200                                 | 3500                  | 55,7      | 61,2    |       |  |        |  |  |            |
| 00A(C)0,5X049  | 0,5                                  | 0,7                  | 1,6                 | 200                                 | 3500                  | 57,5      | 63,0    |       |  |        |  |  |            |
| 00A(C)0,75X049 | 0,75                                 | 1,0                  | 2,3                 | 200                                 | 3500                  | 59,8      | 65,3    |       |  |        |  |  |            |
| 00A(C)1X049    | 1                                    | 1,4                  | 3,2                 | 200                                 | 3500                  | 62,0      | 67,5    |       |  | 1/4"   |  |  | $\phi 5,5$ |
| 00A(C)1,25X049 | 1,25                                 | 1,7                  | 3,4                 | 200                                 | 3000                  | 64,2      | 69,7    |       |  |        |  |  |            |
| 00A(C)1,5X049  | 1,5                                  | 2,1                  | 3,5                 | 175                                 | 2500                  | 66,5      | 72,0    |       |  |        |  |  |            |
| 00A(C)1,75X049 | 1,75                                 | 2,4                  | 4,1                 | 160                                 | 2500                  | 68,7      | 74,2    |       |  |        |  |  |            |
| 00A(C)2X049    | 2                                    | 2,8                  | 3,7                 | 160                                 | 2000                  | 70,9      | 76,4    |       |  |        |  |  |            |



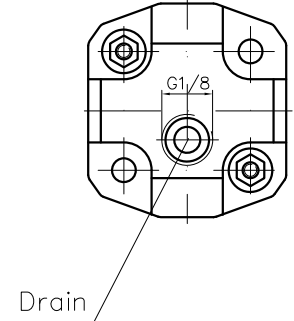
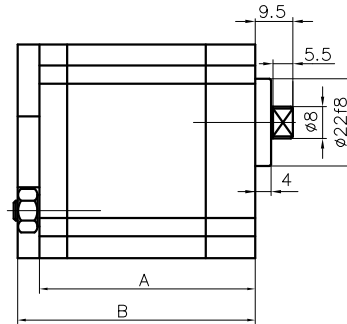
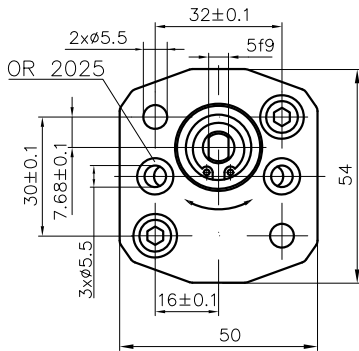


P<sub>max</sub>=170bar

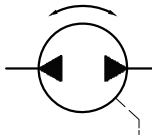


| Type        | Displacement<br>cm <sup>3</sup> /rev | Flow                 |                     | Pressure<br>P <sub>nom</sub><br>bar | max Speed<br>n<br>rpm | Dimension |         |       |  |      |        |  |      |
|-------------|--------------------------------------|----------------------|---------------------|-------------------------------------|-----------------------|-----------|---------|-------|--|------|--------|--|------|
|             |                                      | at 1500 rpm<br>l/min | at max rpm<br>l/min |                                     |                       | A<br>mm   | B<br>mm | Inlet |  |      | Outlet |  |      |
| 00R0,25X051 | 0,25                                 | 0,3                  | 0,8                 | 170                                 | 3500                  | 27,6      | 55,3    |       |  |      |        |  |      |
| 00R0,3X051  | 0,3                                  | 0,4                  | 0,9                 | 170                                 | 3500                  | 27,7      | 55,7    |       |  |      |        |  |      |
| 00R0,5X051  | 0,5                                  | 0,7                  | 1,6                 | 170                                 | 3500                  | 28,7      | 57,5    |       |  |      |        |  |      |
| 00R0,75X051 | 0,75                                 | 1,0                  | 2,3                 | 170                                 | 3500                  | 29,9      | 59,8    |       |  |      |        |  |      |
| 00R1X051    | 1                                    | 1,4                  | 3,2                 | 170                                 | 3500                  | 31,0      | 62,0    |       |  | 1/4" |        |  | 1/4" |
| 00R1,25X051 | 1,25                                 | 1,7                  | 3,4                 | 170                                 | 3000                  | 32,1      | 64,2    |       |  |      |        |  |      |
| 00R1,5X051  | 1,5                                  | 2,1                  | 3,5                 | 170                                 | 2500                  | 33,2      | 66,5    |       |  |      |        |  |      |
| 00R1,75X051 | 1,75                                 | 2,4                  | 4,1                 | 160                                 | 2500                  | 34,3      | 68,7    |       |  |      |        |  |      |
| 00R2X051    | 2                                    | 2,8                  | 3,7                 | 160                                 | 2000                  | 35,5      | 70,9    |       |  |      |        |  |      |



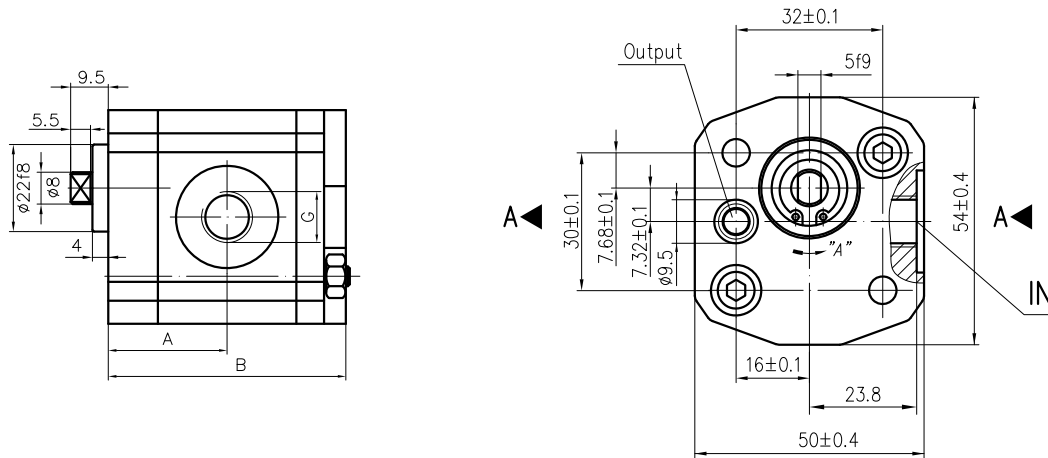


P<sub>max</sub>=170bar

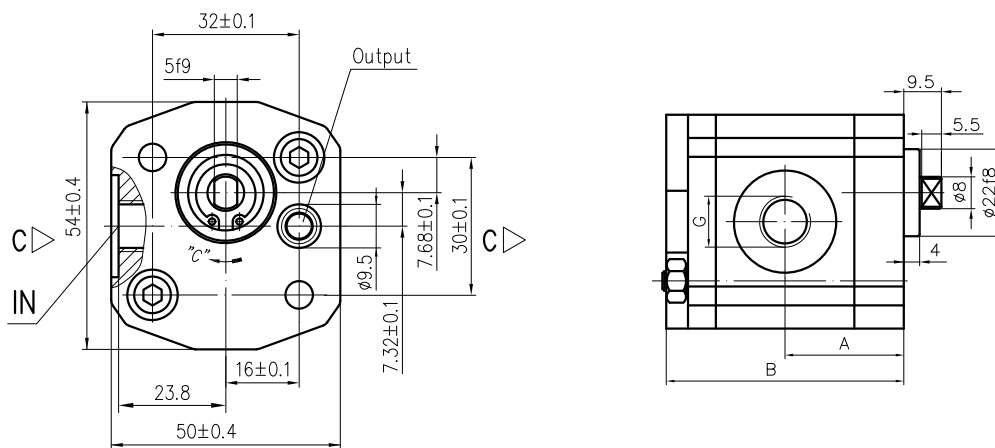


| Type        | Displacement<br>cm <sup>3</sup> /rev | Flow                 |                     | Pressure<br>P <sub>nom</sub><br>bar | max Speed<br>n<br>rpm | Dimension |         |       |      |  |        |  |      |  |
|-------------|--------------------------------------|----------------------|---------------------|-------------------------------------|-----------------------|-----------|---------|-------|------|--|--------|--|------|--|
|             |                                      | at 1500 rpm<br>l/min | at max rpm<br>l/min |                                     |                       | A<br>mm   | B<br>mm | Inlet |      |  | Outlet |  |      |  |
| 00R0,25X060 | 0,25                                 | 0,3                  | 0,8                 | 170                                 | 3500                  | 27,6      | 55,3    |       |      |  |        |  |      |  |
| 00R0,3X060  | 0,3                                  | 0,4                  | 0,9                 | 170                                 | 3500                  | 27,7      | 55,7    |       |      |  |        |  |      |  |
| 00R0,5X060  | 0,5                                  | 0,7                  | 1,6                 | 170                                 | 3500                  | 28,7      | 57,5    |       |      |  |        |  |      |  |
| 00R0,75X060 | 0,75                                 | 1,0                  | 2,3                 | 170                                 | 3500                  | 29,9      | 59,8    |       |      |  |        |  |      |  |
| 00R1X060    | 1                                    | 1,4                  | 3,2                 | 170                                 | 3500                  | 31,0      | 62,0    |       | Ø5,5 |  |        |  | Ø5,5 |  |
| 00R1,25X060 | 1,25                                 | 1,7                  | 3,4                 | 170                                 | 3000                  | 32,1      | 64,2    |       |      |  |        |  |      |  |
| 00R1,5X060  | 1,5                                  | 2,1                  | 3,5                 | 170                                 | 2500                  | 33,2      | 66,5    |       |      |  |        |  |      |  |
| 00R1,75X060 | 1,75                                 | 2,4                  | 4,1                 | 160                                 | 2500                  | 34,3      | 68,7    |       |      |  |        |  |      |  |
| 00R2X060    | 2                                    | 2,8                  | 3,7                 | 160                                 | 2000                  | 35,5      | 70,9    |       |      |  |        |  |      |  |

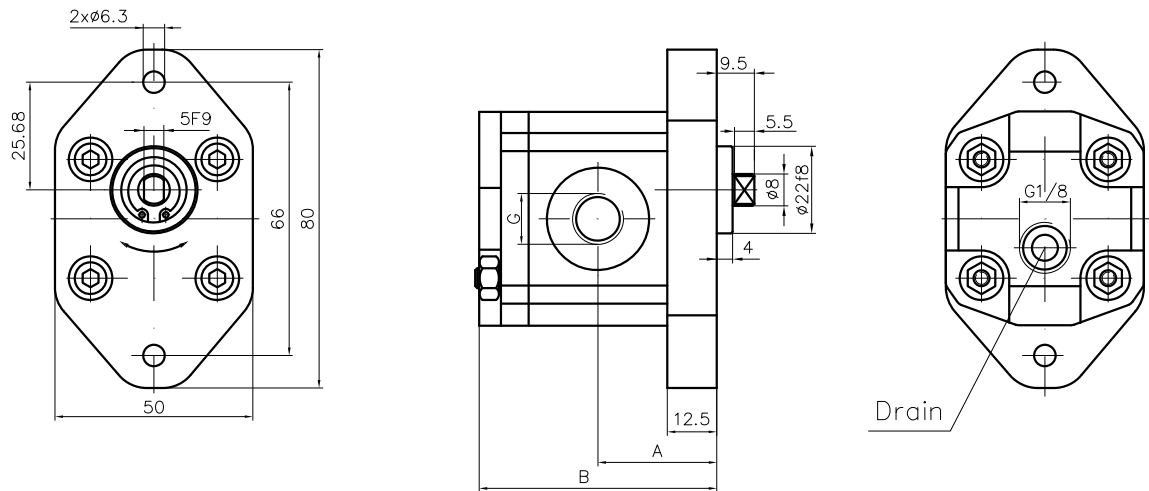
Rotation "A"



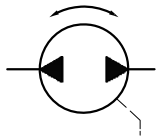
Rotation "C"



| Type           | Displacement<br>cm <sup>3</sup> /rev | Flow                 |                     | Pressure<br>P <sub>nom</sub><br>bar | max Speed<br>n<br>rpm | Dimension |         |       |   |      |        |            |
|----------------|--------------------------------------|----------------------|---------------------|-------------------------------------|-----------------------|-----------|---------|-------|---|------|--------|------------|
|                |                                      | at 1500 rpm<br>l/min | at max rpm<br>l/min |                                     |                       | A<br>mm   | B<br>mm | Inlet |   |      | Outlet |            |
|                |                                      |                      |                     |                                     |                       |           |         |       | G |      |        | G          |
| 00A(C)0,25X063 | 0,25                                 | 0,3                  | 0,8                 | 200                                 | 3500                  | 27,6      | 55,3    |       |   |      |        |            |
| 00A(C)0,3X063  | 0,3                                  | 0,4                  | 0,9                 | 200                                 | 3500                  | 27,7      | 55,7    |       |   |      |        |            |
| 00A(C)0,5X063  | 0,5                                  | 0,7                  | 1,6                 | 200                                 | 3500                  | 28,7      | 57,5    |       |   |      |        |            |
| 00A(C)0,75X063 | 0,75                                 | 1,0                  | 2,3                 | 200                                 | 3500                  | 29,9      | 59,8    |       |   |      |        |            |
| 00A(C)1X063    | 1                                    | 1,4                  | 3,2                 | 200                                 | 3500                  | 31,0      | 62,0    |       |   | 1/4" |        | $\phi 5,5$ |
| 00A(C)1,25X063 | 1,25                                 | 1,7                  | 3,4                 | 200                                 | 3000                  | 32,1      | 64,2    |       |   |      |        |            |
| 00A(C)1,5X063  | 1,5                                  | 2,1                  | 3,5                 | 175                                 | 2500                  | 33,2      | 66,5    |       |   |      |        |            |
| 00A(C)1,75X063 | 1,75                                 | 2,4                  | 4,1                 | 160                                 | 2500                  | 34,3      | 68,7    |       |   |      |        |            |
| 00A(C)2X063    | 2                                    | 2,8                  | 3,7                 | 160                                 | 2000                  | 35,5      | 70,9    |       |   |      |        |            |

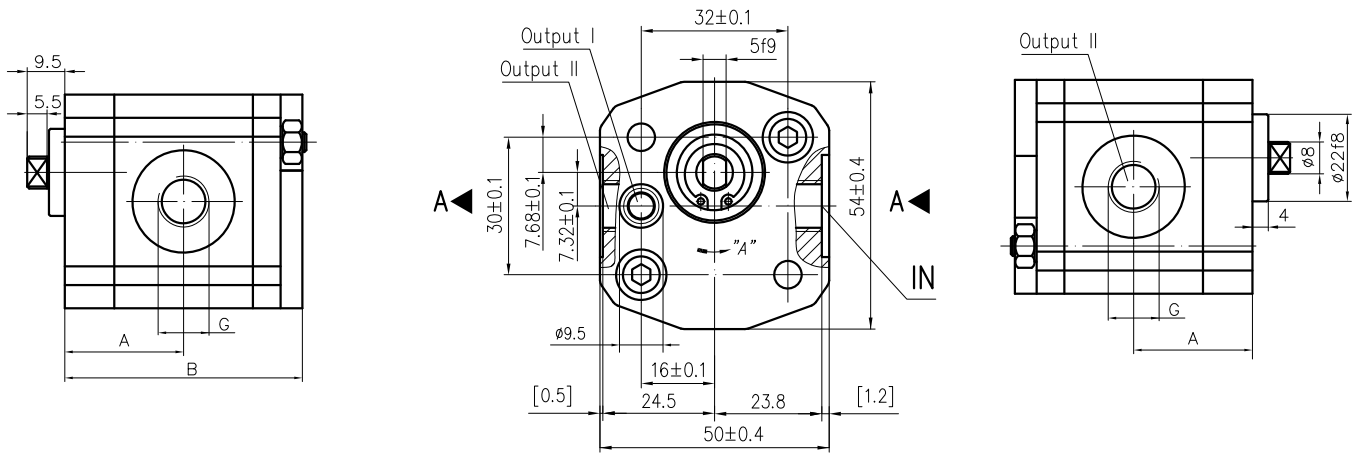


P<sub>max</sub>=170bar



| Type        | Displacement<br>cm <sup>3</sup> /rev | Flow                 |                     | Pressure<br>P <sub>nom</sub><br>bar | max Speed<br>n<br>rpm | Dimension |         |       |  |        |  |  |      |
|-------------|--------------------------------------|----------------------|---------------------|-------------------------------------|-----------------------|-----------|---------|-------|--|--------|--|--|------|
|             |                                      | at 1500 rpm<br>l/min | at max rpm<br>l/min |                                     |                       | A<br>mm   | B<br>mm | Inlet |  | Outlet |  |  |      |
| 00R0,25X064 | 0,25                                 | 0,3                  | 0,8                 | 170                                 | 3500                  | 27,6      | 55,3    |       |  |        |  |  |      |
| 00R0,3X064  | 0,3                                  | 0,4                  | 0,9                 | 170                                 | 3500                  | 27,7      | 55,7    |       |  |        |  |  |      |
| 00R0,5X064  | 0,5                                  | 0,7                  | 1,6                 | 170                                 | 3500                  | 28,7      | 57,5    |       |  |        |  |  |      |
| 00R0,75X064 | 0,75                                 | 1,0                  | 2,3                 | 170                                 | 3500                  | 29,9      | 59,8    |       |  |        |  |  |      |
| 00R1X064    | 1                                    | 1,4                  | 3,2                 | 170                                 | 3500                  | 31,0      | 62,0    |       |  | 1/4"   |  |  | 1/4" |
| 00R1,25X064 | 1,25                                 | 1,7                  | 3,4                 | 170                                 | 3000                  | 32,1      | 64,2    |       |  |        |  |  |      |
| 00R1,5X064  | 1,5                                  | 2,1                  | 3,5                 | 170                                 | 2500                  | 33,2      | 66,5    |       |  |        |  |  |      |
| 00R1,75X064 | 1,75                                 | 2,4                  | 4,1                 | 160                                 | 2500                  | 34,3      | 68,7    |       |  |        |  |  |      |
| 00R2X064    | 2                                    | 2,8                  | 3,7                 | 160                                 | 2000                  | 35,5      | 70,9    |       |  |        |  |  |      |

Rotation "A"



| Type           | Displacement<br>cm <sup>3</sup> /rev | Flow                 |                     | Pressure<br>P <sub>nom</sub><br>bar | max Speed<br>n<br>rpm | Dimension |         |       |   |   |        |
|----------------|--------------------------------------|----------------------|---------------------|-------------------------------------|-----------------------|-----------|---------|-------|---|---|--------|
|                |                                      | at 1500 rpm<br>l/min | at max rpm<br>l/min |                                     |                       | A<br>mm   | B<br>mm | Inlet |   |   | Outlet |
|                |                                      |                      |                     |                                     |                       |           |         |       | G | I | II     |
| 00A(C)0,25X065 | 0,25                                 | 0,3                  | 0,8                 | 200                                 | 3500                  | 27,6      | 55,3    |       |   |   |        |
| 00A(C)0,3X065  | 0,3                                  | 0,4                  | 0,9                 | 200                                 | 3500                  | 27,7      | 55,7    |       |   |   |        |
| 00A(C)0,5X065  | 0,5                                  | 0,7                  | 1,6                 | 200                                 | 3500                  | 28,7      | 57,5    |       |   |   |        |
| 00A(C)0,75X065 | 0,75                                 | 1,0                  | 2,3                 | 200                                 | 3500                  | 29,9      | 59,8    |       |   |   |        |
| 00A(C)1X065    | 1                                    | 1,4                  | 3,2                 | 200                                 | 3500                  | 31,0      | 62,0    |       |   |   |        |
| 00A(C)1,25X065 | 1,25                                 | 1,7                  | 3,4                 | 200                                 | 3000                  | 32,1      | 64,2    |       |   |   |        |
| 00A(C)1,5X065  | 1,5                                  | 2,1                  | 3,5                 | 175                                 | 2500                  | 33,2      | 66,5    |       |   |   |        |
| 00A(C)1,75X065 | 1,75                                 | 2,4                  | 4,1                 | 160                                 | 2500                  | 34,3      | 68,7    |       |   |   |        |
| 00A(C)2X065    | 2                                    | 2,8                  | 3,7                 | 160                                 | 2000                  | 35,5      | 70,9    |       |   |   |        |