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# System 8

The name “System 8” stands for a modular system of solenoid coils, armature systems, solenoid operators and solenoid valves. The diameter of the armatures of all valve components is approximately 8 mm. This value is the major characteristic of this type. The components' efficiency has been increased to the optimum in years of simulation, construction and practical testing.

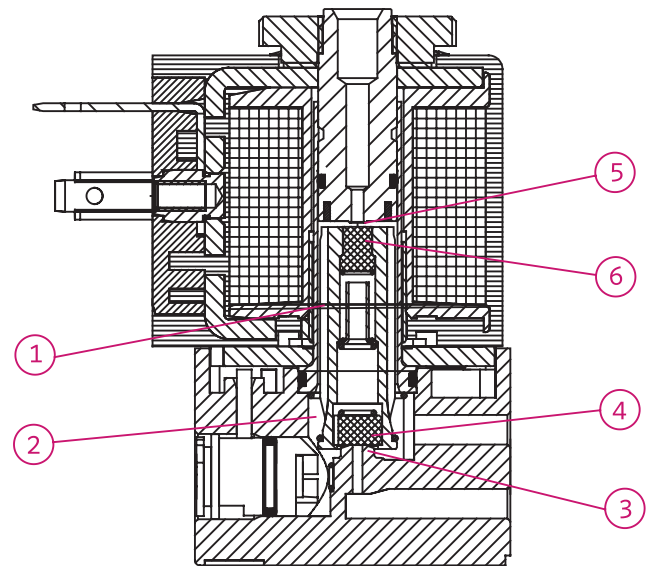
## APPLICATION OF SYSTEM 8

The solenoid operators and solenoid valves of system 8 can be used for operating 2/2- or 3/2 way valves, especially in pneumatics. Available switching functions are *normally closed* and *normally open*.

For 3/2 way valves of this series, typical maximum values for operating pressure and nominal orifice are 16 bar/2.5 mm. 2/2 way solenoid operators and solenoid valves can also be used for controlling liquids.

## FUNCTION

While the solenoid operator/solenoid valve is de-energized, the armature<sup>1</sup> is being pushed down on the lower valve seat<sup>3</sup> by the reset spring<sup>2</sup>. The lower valve seat is closed by a sealing element<sup>4</sup>. In this switch position the upper valve seat<sup>5</sup> in the magnetic core is open.



exceeds the force of the reset spring and moves the armature into the opposite extreme position. In this case the upper valve seat<sup>5</sup> is closed by the sealing element<sup>6</sup>, whereas the lower valve seat<sup>3</sup> is open.

Solenoid operators and solenoid valves have identical functionality. However, if solenoid operators are ordered, neither the lower valve seat nor the valve body is shipped. Those components have to be provided by the customer.

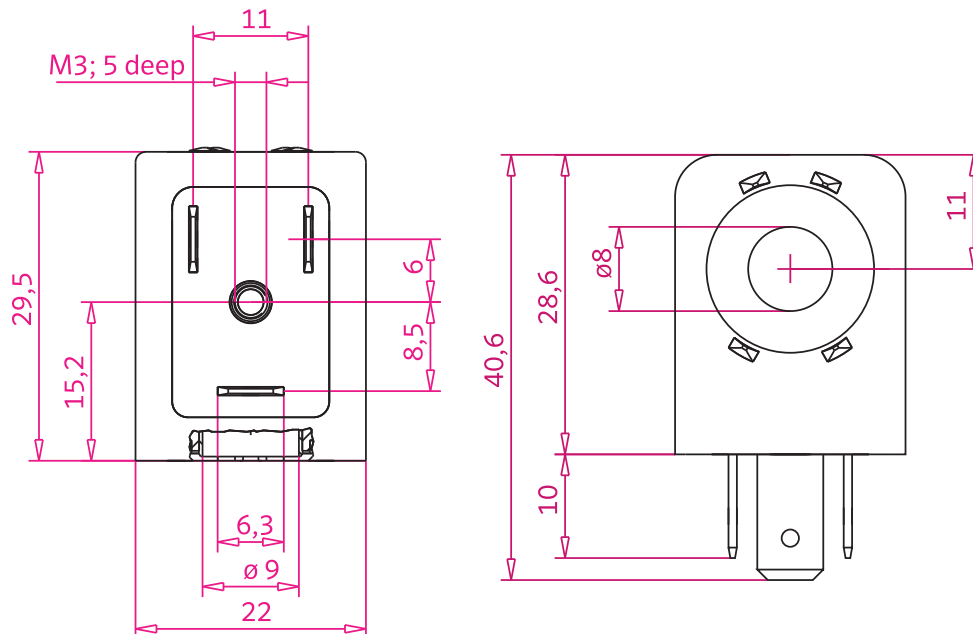
2/2 way valves do not have an upper valve seat. Besides that, the function of the magnet is identical.

## SOLENOID COIL

Width: 22 mm  
 Connection type: industry form  
 Moulding material: thermoset resin

### General Data

Voltage tolerance ..... ± 10 %  
 Ambient temperature ..... - 20 °C to + 50 °C  
 Relative duty cycle ..... 100 %  
 Insulation class of insulating materials  
 according to DIN VDE 0580 ..... F  
 Degree of protection with connector  
 according to EN 60529 ..... IP 65 (IP 67 possible with accessoires)  
 Imprint ..... *nass magnet* (customer imprint possible)  
 Protection class ..... I



**Technical Data Standard Versions**

| Part No.     | Voltage  | Frequency [Hz] | Rated Power [W] | Power Level [VA] | Power Level | $\Delta\theta_{32}$ [K] |
|--------------|----------|----------------|-----------------|------------------|-------------|-------------------------|
| 108-030-0048 | 24 V DC  | -              | 2,0             |                  | 2           | 35                      |
| 108-030-0862 | 110 V AC | 50             |                 | 4,1              | 2           | 50                      |
| 108-030-0862 | 110 V AC | 60             |                 | 3,3              | 2           | 50                      |
| 108-030-0798 | 230 V AC | 50             |                 | 3,9              | 2           | 50                      |
| 108-030-0798 | 230 V AC | 60             |                 | 3,2              | 2           | 50                      |
| 108-030-0050 | 24 V DC  | -              | 2,6             |                  | 3           | 45                      |
| 108-030-0052 | 24 V AC  | 50             |                 | 6,0              | 3           | 75                      |
| 108-030-0052 | 24 V AC  | 60             |                 | 4,9              | 3           | 75                      |
| 108-030-0049 | 220 V AC | 50             |                 | 6,0              | 3           | 75                      |
| 108-030-0049 | 220 V AC | 60             |                 | 4,9              | 3           | 75                      |
| 108-030-0051 | 230 V AC | 50             |                 | 6,0              | 3           | 75                      |
| 108-030-0051 | 230 V AC | 60             |                 | 4,9              | 3           | 75                      |
| 108-030-0043 | 12 V DC  | -              | 4,6             |                  | 4           | 70                      |
| 108-030-0043 | 24 V AC  | 50             |                 | 7,1              | 4           | 90                      |
| 108-030-0044 | 24 V DC  | -              | 4,8             |                  | 4           | 70                      |
| 108-030-0044 | 48 V AC  | 50             |                 | 7,7              | 4           | 90                      |
| 108-030-0047 | 220 V AC | 50             |                 | 8,5              | 4           | 95                      |
| 108-030-0046 | 230 V AC | 50             |                 | 7,9              | 4           | 90                      |
| 108-030-0046 | 230 V AC | 60             |                 | 6,4              | 4           | 90                      |
| 108-030-0047 | 240 V AC | 60             |                 | 9,0              | 4           | 95                      |
| 108-030-1169 | 12 V DC  | -              | 5,5             |                  | 5           | 85                      |
| 108-030-0045 | 24 V DC  | -              | 6,0             |                  | 5           | 85                      |
| 108-030-1169 | 24 V AC  | 50             |                 | 9,2              | 5           | 105                     |
| 108-030-0045 | 48 V AC  | 60             |                 | 7,6              | 5           | 85                      |
| 108-030-1120 | 230 V AC | 50             |                 | 9,4              | 5           | 102                     |

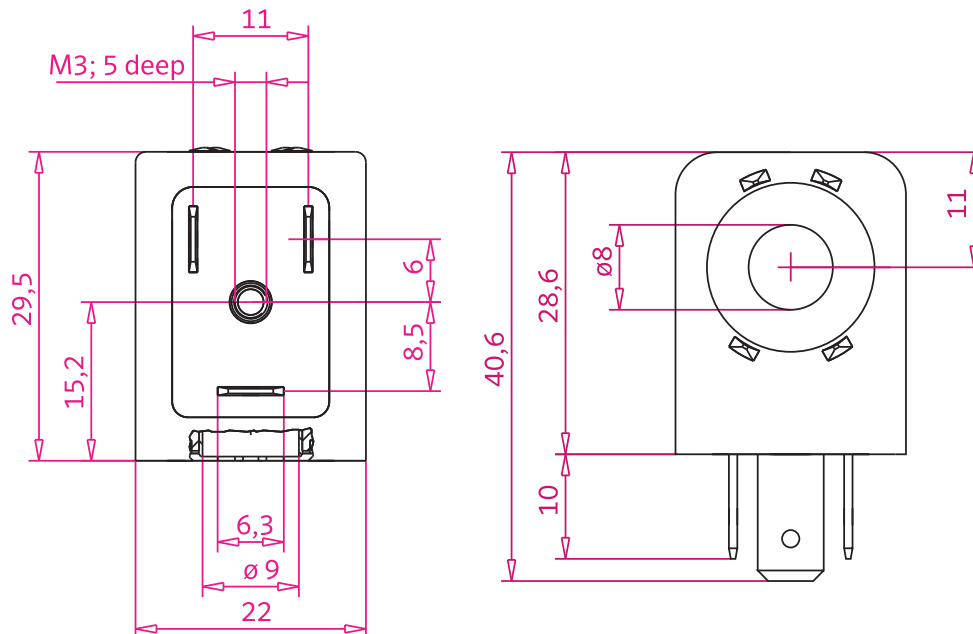
$\Delta\theta_{32}$  [K]: steady-state over-temperature according to VDE 0580

## SOLENOID COIL

Width: 22 mm  
 Connection type: industry form  
 Moulding material: thermoplastic

### General Data

Voltage tolerance .....  $\pm 10\%$   
 Ambient temperature .....  $-20\text{ }^{\circ}\text{C}$  to  $+50\text{ }^{\circ}\text{C}$   
 Relative duty cycle ..... 100 %  
 Insulation class of insulating materials  
 according to DIN VDE 0580 ..... F  
 Degree of protection with connector  
 according to EN 60529 ..... IP 65  
 Imprint ..... *nass magnet* (customer imprint possible)  
 Protection class ..... I



**Technical Data Standard Versions**

| Part No.     | Voltage  | Frequency [Hz] | Rated Power |      | Power Level | $\Delta\theta_{32}$ [K] |
|--------------|----------|----------------|-------------|------|-------------|-------------------------|
|              |          |                | [W]         | [VA] |             |                         |
| 108-030-0278 | 24 V DC  | -              | 1,1         |      | 1           | 20                      |
| 108-030-0273 | 24 V DC  | -              | 2,0         |      | 2           | 35                      |
| 108-030-0279 | 24 V AC  | 50             |             | 3,6  | 2           | 50                      |
| 108-030-0279 | 24 V AC  | 60             |             | 3,0  | 2           | 50                      |
| 108-030-0268 | 110 V AC | 50             |             | 4,1  | 2           | 50                      |
| 108-030-0268 | 110 V AC | 60             |             | 3,3  | 2           | 50                      |
| 108-030-0276 | 220 V AC | 50             |             | 3,9  | 2           | 50                      |
| 108-030-0276 | 220 V AC | 60             |             | 3,2  | 2           | 50                      |
| 108-030-0294 | 230 V AC | 50             |             | 3,9  | 2           | 50                      |
| 108-030-0294 | 230 V AC | 60             |             | 3,2  | 2           | 50                      |
| 108-030-0271 | 12 V DC  | -              | 2,4         |      | 3           | 45                      |
| 108-030-0275 | 24 V DC  | -              | 2,6         |      | 3           | 45                      |
| 108-030-0260 | 48 V DC  | -              | 2,7         |      | 3           | 75                      |
| 108-030-0260 | 110 V AC | 50             |             | 6,0  | 3           | 75                      |
| 108-030-0274 | 110 V DC | -              | 3,6         |      | 3           | 75                      |
| 108-030-0274 | 220 V AC | 50             |             | 6,0  | 3           | 105                     |
| 108-030-0281 | 230 V AC | 50             |             | 6,0  | 3           | 75                      |
| 108-030-0281 | 240 V AC | 60             |             | 5,5  | 3           | 75                      |
| 108-030-0257 | 12 V DC  | -              | 4,6         |      | 4           | 100                     |
| 108-030-0257 | 24 V DC  | 50             |             | 7,1  | 4           | 100                     |
| 108-030-0258 | 24 V DC  | -              | 4,8         |      | 4           | 70                      |
| 108-030-0258 | 48 V AC  | 50             |             | 8,0  | 4           | 70                      |
| 108-030-0259 | 48 V DC  | -              | 5,0         |      | 4           | 70                      |
| 108-030-0267 | 110 V AC | 50             |             | 8,6  | 4           | 100                     |
| 108-030-0267 | 110 V AC | 60             |             | 6,6  | 4           | 100                     |
| 108-030-0261 | 220 V AC | 50             |             | 9,3  | 4           | 105                     |
| 108-030-0269 | 230 V AC | 50             |             | 7,9  | 4           | 95                      |
| 108-030-0269 | 230 V AC | 60             |             | 6,4  | 4           | 99                      |
| 108-030-0270 | 12 V AC  | 50             |             | 8,8  | 5           | 105                     |
| 108-030-0264 | 24 V DC  | -              | 6,0         |      | 5           | 85                      |
| 108-030-0263 | 24 V AC  | 50             |             | 9,3  | 5           | 110                     |
| 108-030-0266 | 110 V AC | 50             |             | 8,6  | 5           | 105                     |
| 108-030-0286 | 110 V DC | -              | 6,1         |      | 5           | 105                     |
| 108-030-0266 | 120 V AC | 60             |             | 8,7  | 5           | 105                     |
| 108-030-0272 | 110 V DC | -              | 4,9         |      | 5           | 105                     |
| 108-030-0272 | 220 V AC | 50             |             | 8,5  | 5           | 105                     |
| 108-030-0287 | 220 V AC | 50             |             | 8,0  | 5           | 105                     |
| 108-030-0286 | 230 V AC | 60             |             | 9,7  | 5           | 105                     |
| 108-030-0298 | 220 V AC | 50             |             | 8,0  | 5           | 105                     |
| 108-030-0298 | 230 V AC | 50             |             | 9,4  | 5           | 105                     |

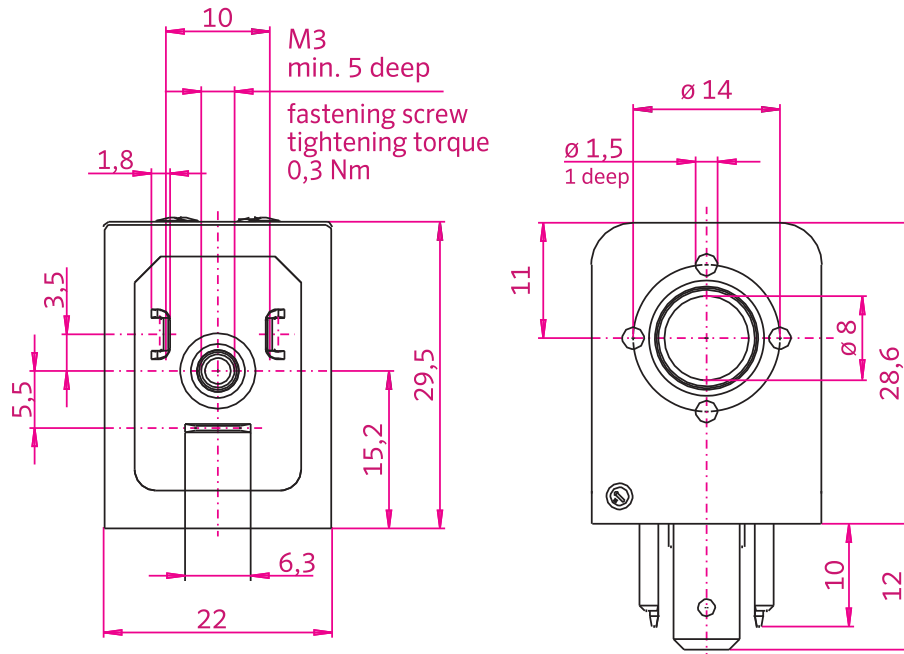
$\Delta\theta_{32}$  [K]: steady-state over-temperature according to VDE 0580

## SOLENOID COIL

Width: 22 mm  
 Connection type: form B - EN 175301-803-B  
 Moulding material: thermoset resin

### General Data

Voltage tolerance ..... ± 10 %  
 Ambient temperature ..... - 20 °C to + 50 °C  
 Relative duty cycle ..... 100 %  
 Insulation class of insulating materials  
 according to DIN VDE 0580 ..... F  
 Degree of protection with connector  
 according to EN 60529 ..... IP 65 (IP 67 possible with accessoires)  
 Imprint ..... *nass magnet* (customer imprint possible)  
 Protection class ..... I



**Technical Data** Standard Versions

| Part No.     | Voltage  | Frequency [Hz] | Rated Power<br>[W]      [VA] | Power Level | $\Delta\theta_{32}$ [K] |
|--------------|----------|----------------|------------------------------|-------------|-------------------------|
| 108-030-0524 | 24 V DC  | -              | 6,0                          | 5           | 85                      |
| 108-030-0524 | 48 V AC  | 60             | 7,6                          | 5           | 85                      |
| 108-030-0525 | 110 V AC | 50             | 8,6                          | 5           | 105                     |
| 108-030-0525 | 120 V AC | 60             | 8,7                          | 5           | 105                     |

$\Delta\theta_{32}$  [K]: steady-state over-temperature according to VDE 0580

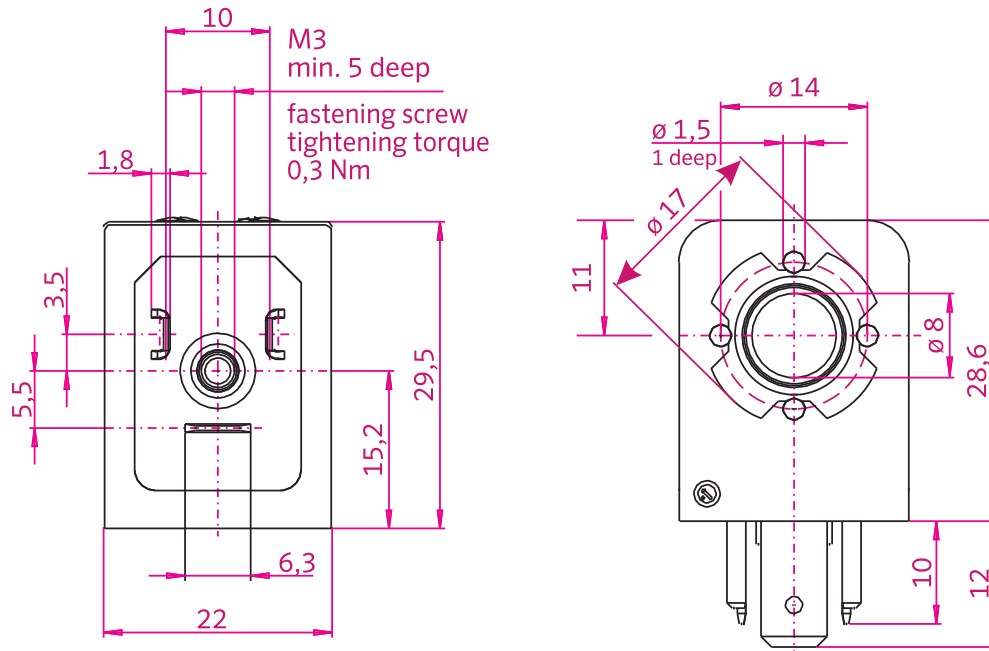


## SOLENOID COIL

Width: 22 mm  
 Connection type: form B - EN 175301-803-B  
 Moulding material: thermoplastic

### General Data

Voltage tolerance ..... ± 10 %  
 Ambient temperature ..... - 20 °C to + 50 °C  
 Relative duty cycle ..... 100 %  
 Insulation class of insulating materials  
 according to DIN VDE 0580 ..... F  
 Degree of protection with connector  
 according to EN 60529 ..... IP 65  
 Imprint ..... *nass magnet* (customer imprint possible)  
 Protection class ..... I



**Technical Data Standard Versions**

| Part No.     | Voltage  | Frequency [Hz] | Rated Power<br>[W] | Power Level<br>[VA] | Power Level | $\Delta\theta_{32}$ [K] |
|--------------|----------|----------------|--------------------|---------------------|-------------|-------------------------|
| 108-030-0889 | 24 V DC  | -              | 1,7                |                     | 2           | 35                      |
| 108-030-0891 | 24 V DC  | -              | 2,6                |                     | 3           | 45                      |
| 108-030-0892 | 230 V AC | 50             |                    | 6,0                 | 3           | 75                      |
| 108-030-0892 | 230 V AC | 60             |                    | 4,9                 | 3           | 75                      |
| 108-030-0887 | 24 V DC  | -              | 4,8                |                     | 4           | 70                      |
| 108-030-0887 | 48 V AC  | 50             |                    | 7,7                 | 4           | 70                      |
| 108-030-0890 | 110 V DC | -              | 4,9                |                     | 4           | 100                     |
| 108-030-0890 | 220 V AC | 50             |                    | 8,5                 | 4           | 100                     |
| 108-030-0893 | 24 V AC  | 50             |                    | 7,9                 | 4           | 95                      |
| 108-030-0893 | 24 V AC  | 60             |                    | 6,4                 | 4           | 95                      |
| 108-030-0888 | 24 V DC  | -              | 6,0                |                     | 5           | 85                      |
| 108-030-0888 | 48 V AC  | 60             |                    | 7,6                 | 5           | 85                      |

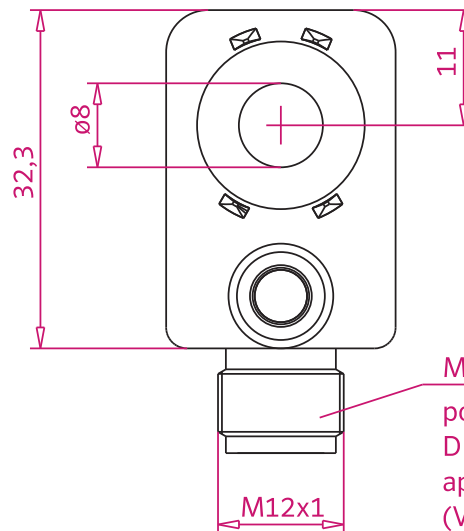
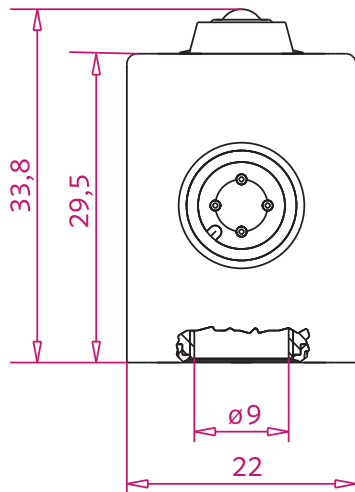
$\Delta\theta_{32}$  [K]: steady-state over-temperature according to VDE 0580

## SOLENOID COIL

Width: 22 mm  
 Connection type: M 12 metal thread  
 Moulding material: thermoset resin

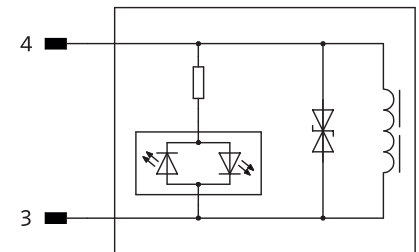
### General Data

Voltage tolerance ..... ± 10 %  
 Ambient temperature ..... - 20 °C to + 50 °C  
 Relative duty cycle ..... 100 %  
 Insulation class of insulating materials  
 according to DIN VDE 0580 ..... F  
 Degree of protection with connector  
 according to EN 60529 ..... IP 65 (IP 67 on request)  
 Imprint ..... *nass magnet* (customer imprint possible)  
 Protection class ..... II



M12-Connector  
 port acc. to  
 DIN EN 60947-5-2  
 appendix D  
 (VDE 0660 part 208)

Circuit Diagram



**Technical Data** Standard Versions

| Part No.     | Voltage | Rated Power [W] | Power Level | $\Delta\theta_{st}$ [K] | LED yellow |
|--------------|---------|-----------------|-------------|-------------------------|------------|
| 108-030-1109 | 24 V DC | 2,5             | 3           | 45                      | x          |
| 108-030-0240 | 24 V DC | 4,8             | 4           | 70                      | x          |

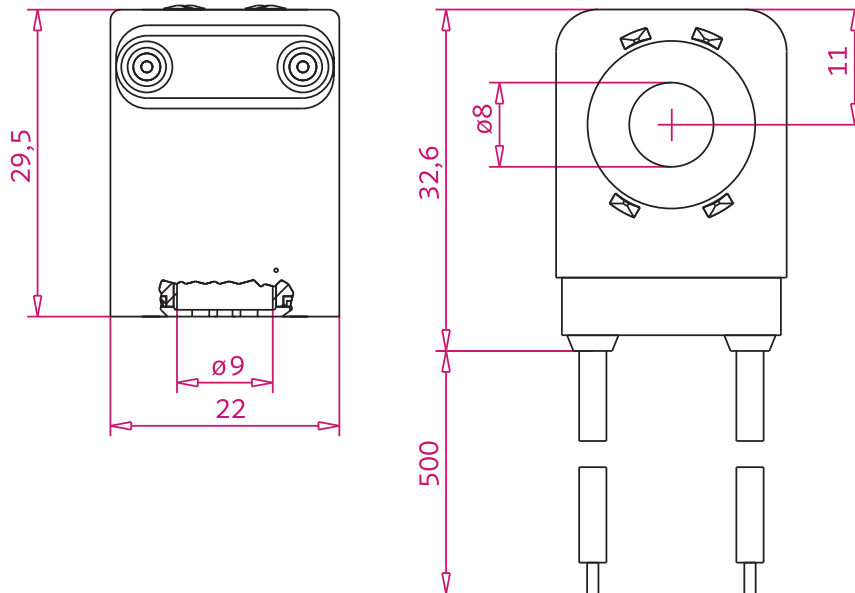
$\Delta\theta_{st}$  [K]: steady-state over-temperature according to VDE 0580

## SOLENOID COIL

Width: 22 mm  
 Connection type: flying leads  
 Moulding material: thermoplastic

### General Data

Voltage tolerance ..... ± 10 %  
 Ambient temperature ..... - 20 °C to + 50 °C  
 Relative duty cycle ..... 100 %  
 Insulation class of insulating materials  
 according to DIN VDE 0580 ..... F  
 Degree of protection ..... IP 65  
 Imprint ..... *nass magnet* (customer imprint possible)  
 Protection class ..... III



**Technical Data Standard Versions**

| Part No.     | Voltage  | Frequency [Hz] | Rated Power |      | Power Level | $\Delta\theta_{32}$ [K] | Length of Flying Leads |
|--------------|----------|----------------|-------------|------|-------------|-------------------------|------------------------|
|              |          |                | [W]         | [VA] |             |                         |                        |
| 108-030-0788 | 24 V DC  | -              | 2,6         |      | 3           | 45                      | 500 mm                 |
| 108-030-0785 | 48 V DC  | -              | 2,7         |      | 3           | 45                      | 500 mm                 |
| 108-030-0784 | 24 V DC  | -              | 4,8         |      | 4           | 70                      | 500 mm                 |
| 108-030-0784 | 48 V AC  | 50             |             | 8,5  | 4           | 70                      | 500 mm                 |
| 108-030-0785 | 110 V AC | 50             |             | 6,0  | 4           | 45                      | 500 mm                 |
| 108-030-0786 | 24 V DC  | -              | 6,0         |      | 5           | 85                      | 500 mm                 |

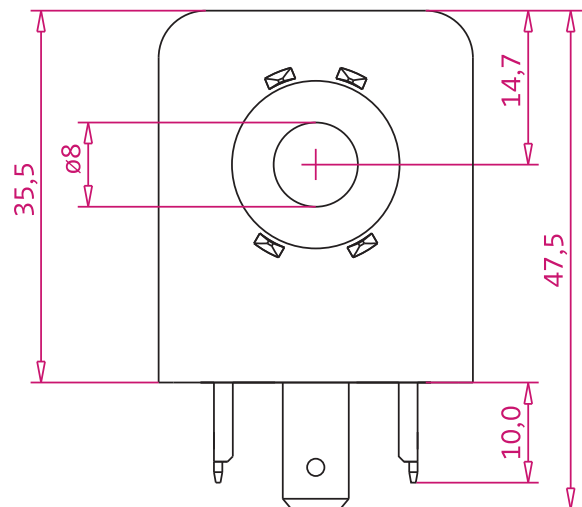
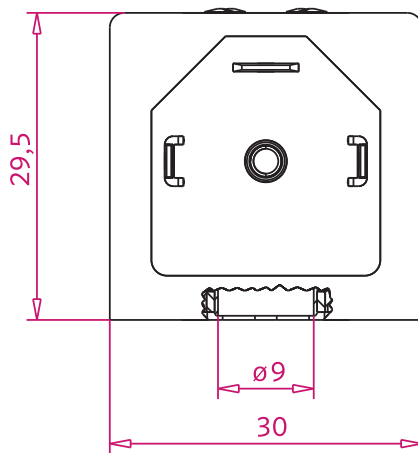
$\Delta\theta_{32}$  [K]: steady-state over-temperature according to VDE 0580

## SOLENOID COIL

Width: 30 mm  
 Connection type: form A - EN 175301-803-A  
 Moulding material: thermoset resin

### General Data

Voltage tolerance ..... ± 10 %  
 Ambient temperature ..... - 20 °C to + 50 °C  
 Relative duty cycle ..... 100 %  
 Insulation class of insulating materials  
 according to DIN VDE 0580 ..... F  
 Degree of protection with connector  
 according to EN 60529 ..... IP 65 (IP 67 possible with accessoires)  
 Imprint ..... *nass magnet* (customer imprint possible)  
 Protection class ..... I



**Technical Data Standard Versions**

| Part No.     | Voltage  | Frequency [Hz] | Rated Power<br>[W] | Power Level<br>[VA] | $\Delta\theta_{32}$ [K] |
|--------------|----------|----------------|--------------------|---------------------|-------------------------|
| 108-030-1089 | 24 V DC  | -              | 2,1                | 3                   | 35                      |
| 108-030-0093 | 24 V DC  | -              | 2,7                | 4                   | 35                      |
| 108-030-0716 | 24 V AC  | 50             | 5,2                | 4                   | 70                      |
| 108-030-0716 | 24 V AC  | 60             | 3,9                | 4                   | 60                      |
| 108-030-0092 | 220 V AC | 50             | 4,9                | 4                   | 60                      |
| 108-030-0092 | 240 V AC | 60             | 4,8                | 4                   | 60                      |
| 108-030-0094 | 24 V DC  | -              | 4,5                | 5                   | 60                      |
| 108-030-0098 | 48 V DC  | -              | 4,9                | 5                   | 60                      |
| 108-030-0477 | 110 V AC | 50             | 7,6                | 5                   | 70                      |
| 108-030-0477 | 120 V AC | 60             | 6,9                | 5                   | 70                      |
| 108-030-0096 | 48 V AC  | 50             | 9,9                | 6                   | 85                      |
| 108-030-0096 | 48 V AC  | 60             | 7,1                | 6                   | 85                      |
| 108-030-0095 | 110 V AC | -              | 6,9                | 6                   | 90                      |
| 108-030-0097 | 110 V AC | 50             | 10,5               | 6                   | 90                      |
| 108-030-0097 | 120 V AC | 60             | 9,9                | 6                   | 90                      |
| 108-030-0095 | 220 V AC | 50             | 10,5               | 6                   | 90                      |

$\Delta\theta_{32}$  [K]: steady-state over-temperature according to VDE 0580

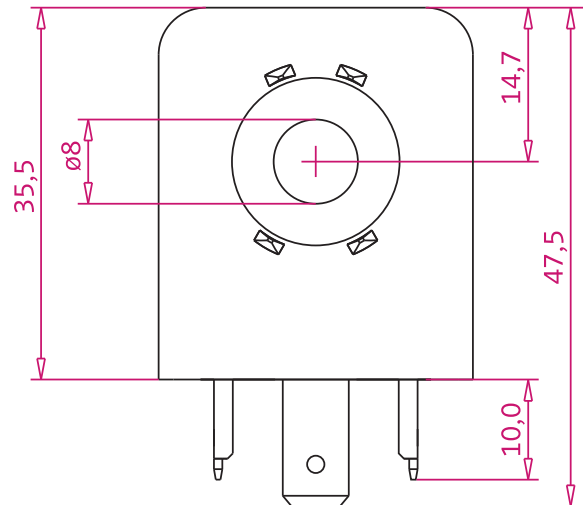
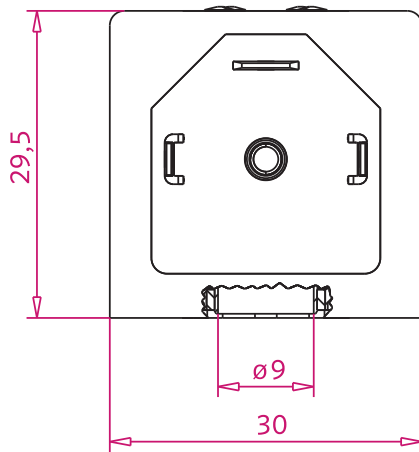


## SOLENOID COIL

Width: 30 mm  
 Connection type: form A - EN 175301-803-A  
 Moulding material: thermoplastic

### General Data

Voltage tolerance ..... ± 10 %  
 Ambient temperature ..... - 20 °C to + 50 °C  
 Relative duty cycle ..... 100 %  
 Insulation class of insulating materials  
 according to DIN VDE 0580 ..... F  
 Degree of protection with connector  
 according to EN 60529 ..... IP 65  
 Imprint ..... *nass magnet* (customer imprint possible)  
 Protection class ..... I



**Technical Data Standard Versions**

| Part No.     | Voltage  | Frequency [Hz] | Rated Power<br>[W] [VA] | Power Level | $\Delta\theta_{32}$ [K] |
|--------------|----------|----------------|-------------------------|-------------|-------------------------|
| 108-030-0570 | 24 V DC  | -              | 0,7                     | 1           | 15                      |
| 108-030-0559 | 24 V DC  | -              | 2,1                     | 3           | 35                      |
| 108-030-0564 | 12 V DC  | -              | 2,6                     | 4           | 40                      |
| 108-030-0557 | 24 V AC  | 50             | 5,2                     | 4           | 70                      |
| 108-030-0557 | 24 V AC  | 60             | 3,9                     | 4           | 70                      |
| 108-030-0560 | 24 V DC  | -              | 2,7                     | 4           | 40                      |
| 108-030-0555 | 48 V DC  | -              | 3,4                     | 4           | 60                      |
| 108-030-0555 | 110 V AC | 50             | 4,8                     | 4           | 60                      |
| 108-030-0553 | 220 V AC | 50             | 4,9                     | 4           | 60                      |
| 108-030-0553 | 220 V AC | 60             | 3,7                     | 4           | 60                      |
| 108-030-0561 | 24 V DC  | -              | 4,5                     | 5           | 60                      |
| 108-030-0554 | 110 V DC | -              | 6,0                     | 5           | 75                      |
| 108-030-0569 | 110 V DC | -              | 5,3                     | 5           | 75                      |
| 108-030-0556 | 110 V AC | 50             | 7,6                     | 5           | 70                      |
| 108-030-0556 | 120 V AC | 60             | 6,9                     | 5           | 70                      |
| 108-030-0554 | 220 V AC | 50             | 8,0                     | 5           | 75                      |
| 108-030-0569 | 230 V AC | 50             | 7,9                     | 5           | 75                      |
| 108-030-0558 | 12 V DC  | -              | 6,2                     | 6           | 85                      |
| 108-030-0563 | 24 V DC  | -              | 6,8                     | 6           | 85                      |
| 108-030-0563 | 48 V AC  | 50             | 9,9                     | 6           | 90                      |
| 108-030-0562 | 110 V DC | -              | 6,5                     | 6           | 90                      |
| 108-030-0565 | 110 V AC | 50             | 10,5                    | 6           | 90                      |
| 108-030-0565 | 120 V AC | 60             | 9,9                     | 6           | 90                      |
| 108-030-0562 | 220 V AC | 50             | 10,5                    | 6           | 90                      |
| 108-030-0568 | 230 V AC | 50             | 10,5                    | 6           | 90                      |
| 108-030-0568 | 230 V AC | 60             | 7,6                     | 6           | 90                      |

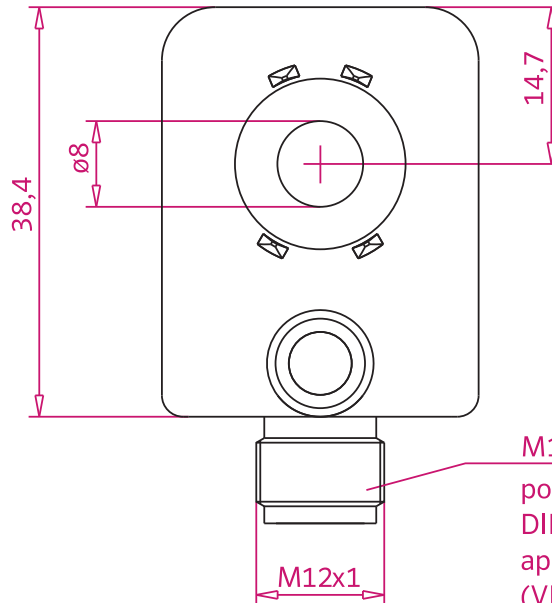
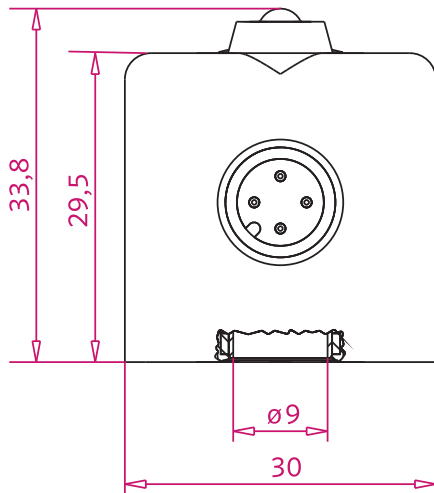
$\Delta\theta_{32}$  [K]: steady-state over-temperature according to VDE 0580

## SOLENOID COIL

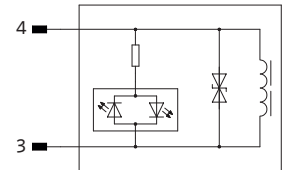
Width: 30 mm  
 Connection type: M 12 metal thread  
 Moulding material: thermoset resin

### General Data

Voltage tolerance ..... ± 10 %  
 Ambient temperature ..... - 20 °C to + 50 °C  
 Relative duty cycle ..... 100 %  
 Insulation class of insulating materials  
 according to DIN VDE 0580 ..... F  
 Degree of protection with connector ..... IP 65 (IP 67 on request)  
 Imprint ..... *nass magnet* (customer imprint possible)  
 Protection class ..... II



Circuit Diagram



M12-Connector  
 port acc. to  
 DIN EN 60947-5-2  
 appendix D  
 (VDE 0660 part 208)

**Technical Data** Standard Versions

| Part No.     | Voltage | Rated Power [W] | Power Level | $\Delta\theta_{32}$ [K] | LED    | Contact 2-pole |
|--------------|---------|-----------------|-------------|-------------------------|--------|----------------|
| 108-030-0181 | 24 V DC | 2,7             | 4           | 35                      | yellow | x              |
| 108-030-0182 | 24 V DC | 4,5             | 5           | 60                      | yellow | x              |

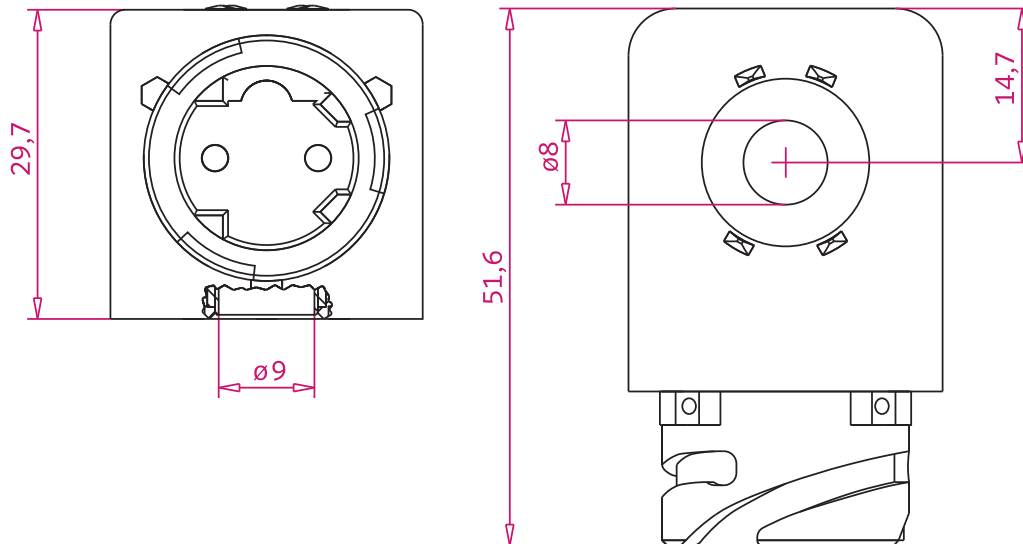
$\Delta\theta_{32}$  [K]: steady-state over-temperature according to VDE 0580

## SOLENOID COIL

Width: 30 mm  
 Connection type: bayonet (connector DIN 72585)  
 Moulding material: thermoplastic

### General Data

Voltage tolerance .....  $\pm 10\%$  ( $\pm 30\%$  on request)  
 Ambient temperature .....  $-40\text{ }^{\circ}\text{C}$  to  $+50\text{ }^{\circ}\text{C}$   
 (+  $80\text{ }^{\circ}\text{C}$  on request)  
 Relative duty cycle ..... 100 %  
 Degree of protection with connector  
 according to EN 60529 ..... IP 6K 9K  
 Imprint ..... *nass magnet* (customer imprint possible)  
 Protection class ..... III



**Technical Data** Standard Version

| Part No.     | Voltage | Rated Power [W] | Power Level | $\Delta\theta_{32}$ [K] |
|--------------|---------|-----------------|-------------|-------------------------|
| 108-030-0256 | 24 V DC | 4,5             | 5           | 60                      |

$\Delta\theta_{32}$  [K]: steady-state over-temperature according to VDE 0580

## SPECIAL REMARKS

**Note:** The proportions of the solenoid coils displayed in the images on this page do not represent the actual proportions.

The technical data are valid for the indicated standard voltages. Other voltages are available on request.

Perfect function of these solenoid coils with the pertinent components included in this catalogue is assured with the winding having reached its operating temperature (max. ambient temperature and max. voltage tolerance). The steady-state over-temperature is reached in case of valve bodies of plastic and coil encapsulation made of Thermoplastic. All valves are designed in compliance with DIN VDE 0580. Arrangement of the valves in modular design is possible, however, it may ensue a higher temperature increased by up

to 20 K and may limit the function. A general lifetime of the products cannot be specified, as it is decisively influenced by ambient conditions, the single application and combination with other components. The function can only be fulfilled in case of exclusive use of *nass magnet* products.

Should there be deviating or additional operating conditions compared to the abovementioned conditions, special testing is necessary in order to verify the usability of the *nass magnet* products.

***nass magnet* will be glad to give you the required advice.**



**Width:** 22 mm  
**Connection type:** industry form  
**Moulding material:** thermoset resin and thermoplastic



**Width:** 22 mm  
**Connection type:** form B  
**Moulding material:** thermoset resin and thermoplastic



**Width:** 22 mm  
**Connection type:** flying leads  
**Moulding material:** thermoplastic



**Width:** 22 mm  
**Connection type:** M 12 metal thread  
**Moulding material:** thermoset resin



**Width:** 30 mm  
**Connection type:** form A  
**Moulding material:** thermoset resin and thermoplastic



**Width:** 30 mm  
**Connection type:** M 12 metal thread  
**Moulding material:** thermoset resin



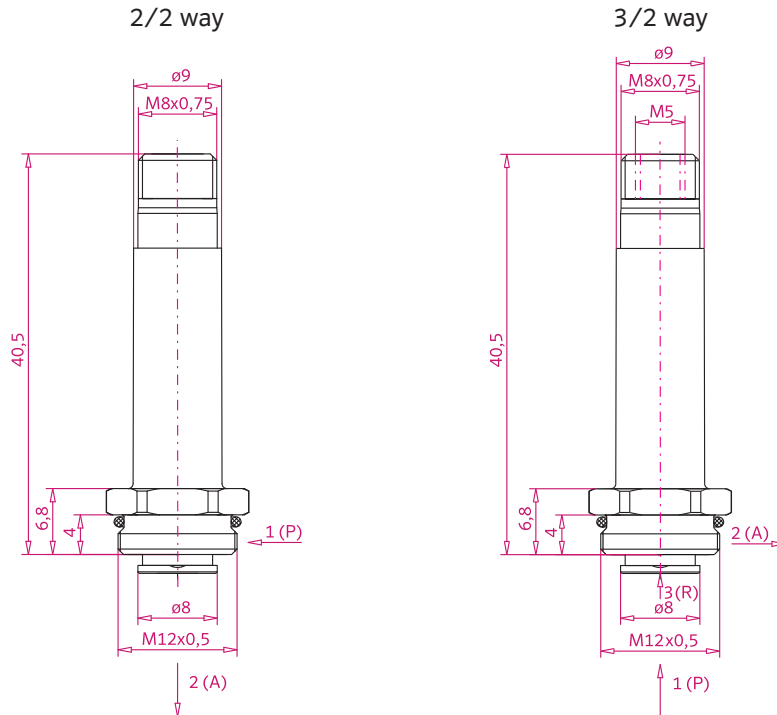
**Width:** 30 mm  
**Connection type:** bayonet  
**Moulding material:** thermoplastic

## ARMATURE ASSEMBLY GW (THREAD)

Switching function: 2/2 and 3/2 way  
 De-energized state: NC (normally closed)  
 Connection type: thread M 12 x 0,5

### General Data

Ambient temperature ..... - 10 °C to + 50 °C  
 Quality of medium according to ISO 8573-1 ..... compressed air class 4, 3, 4  
 Mounting position ..... any (preferably plunger in vertical direction)





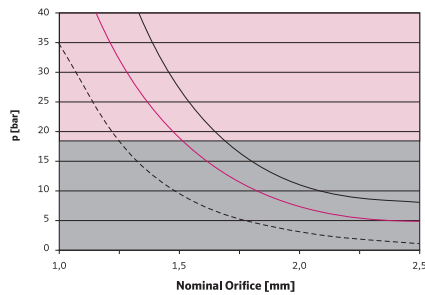
## Technical Data Standard Versions

| Part No.     | Function   | Power Level | Nominal Orifice [mm] |         | Pressure [bar] | Appropriate for |                 | Armature Guide |
|--------------|------------|-------------|----------------------|---------|----------------|-----------------|-----------------|----------------|
|              |            |             | inlet                | exhaust |                | brass           | stainless steel |                |
| 108-010-0082 | 3/2 way NC | 1           | 0,6                  | 0,8     | 10             | DC              | x               |                |
| 108-010-0085 | 3/2 way NC | 1           | 0,8                  | 1,0     | 8              | DC              | x               |                |
| 108-010-0027 | 3/2 way NC | 2           | 0,8                  | 1,0     | 10             | DC AC           | x               |                |
| 108-010-0017 | 3/2 way NC | 3           | 1,0                  | 1,3     | 10             | DC AC           | x               |                |
| 108-010-0053 | 3/2 way NC | 3           | 1,0                  | 1,3     | 10             | DC AC           |                 | x              |
| 108-010-0005 | 2/2 way NC | 3, 4, 5, 6  | see below            |         |                | DC AC           | x               |                |
| 108-010-0014 | 2/2 way NC | 3, 4, 5, 6  | see below            |         |                | DC AC           |                 | x              |
| 108-010-0016 | 3/2 way NC | 4           | 1,3                  | 1,5     | 10             | DC AC           | x               |                |
| 108-010-0002 | 3/2 way NC | 5           | 1,5                  | 1,7     | 10             | DC AC           | x               |                |
| 108-010-0045 | 3/2 way NC | 5           | 1,5                  | 1,7     | 10             | DC AC           |                 | x              |
| 108-010-0004 | 3/2 way NC | 6           | 1,7                  | 1,7     | 10             | DC AC           | x               |                |

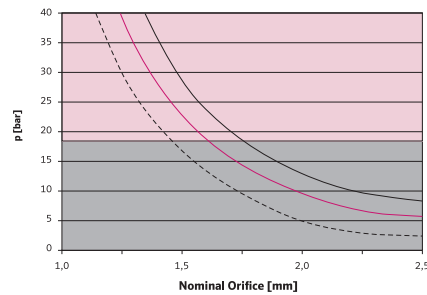
## Power Levels for 2/2 Way Versions

AC - 50 Hz    
 AC - 60 Hz    
 DC - 5 % residual ripple    
 max. test pressure: 18 bar · special versions on request

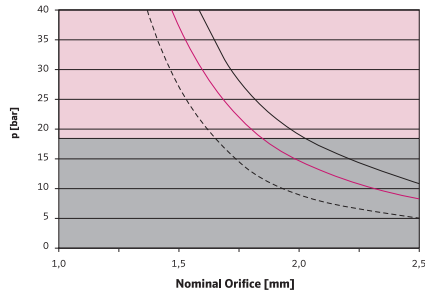
**Power Level 3**



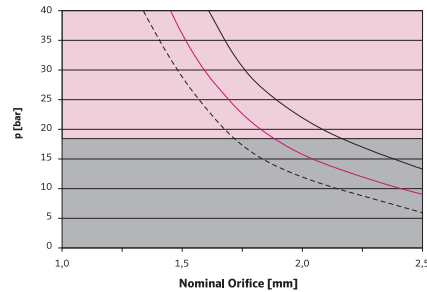
**Power Level 4**



**Power Level 5**



**Power Level 6**



## ARMATURE ASSEMBLY FL

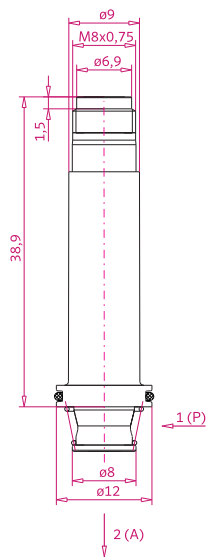
Switching function: 2/2 and 3/2 way  
 De-energized state: NC (normally closed),  
 NO (normally open)  
 Connection type: flange



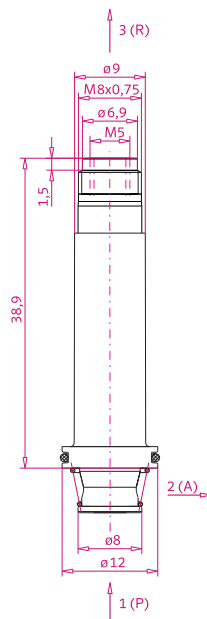
### General Data

Ambient temperature ..... - 10 °C to + 50 °C  
 Quality of medium according to ISO 8573-1 ..... compressed air class 4, 3, 4  
 Mounting position ..... any (preferably plunger in vertical direction)

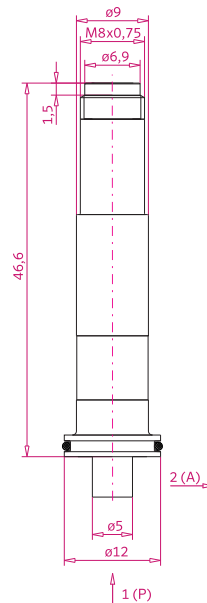
2/2 way (NC)



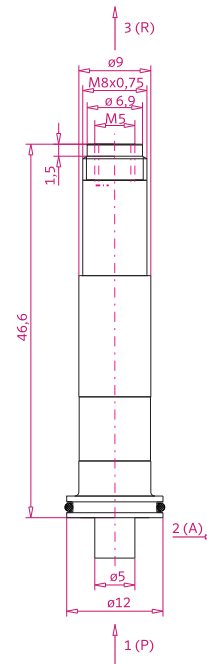
3/2 way (NC)



2/2 way (NO)



3/2 way (NO)



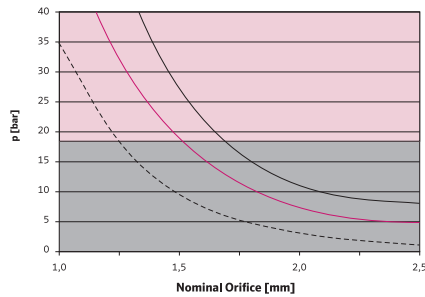
## Technical Data Standard Versions

| Part No.     | Function   | Power Level | Nominal Orifice [mm] |         | Pressure [bar] | Appropriate for |    | Armature Guide |                 |
|--------------|------------|-------------|----------------------|---------|----------------|-----------------|----|----------------|-----------------|
|              |            |             | inlet                | exhaust |                | DC              | AC | brass          | stainless steel |
| 108-010-0081 | 3/2 way NC | 1           | 0,6                  | 0,8     | 10             | DC              |    | x              |                 |
| 108-010-0084 | 3/2 way NC | 1           | 0,8                  | 1,0     | 8              | DC              |    | x              |                 |
| 108-010-0100 | 3/2 way NC | 1           | 0,6                  | 0,8     | 10             | DC              |    |                | x               |
| 108-010-0026 | 3/2 way NC | 2           | 0,8                  | 1,0     | 10             | DC              | AC | x              |                 |
| 108-010-0007 | 3/2 way NC | 3           | 1,0                  | 1,3     | 10             | DC              | AC |                | x               |
| 108-010-0010 | 3/2 way NC | 3           | 1,0                  | 1,3     | 10             | DC              | AC | x              |                 |
| 108-010-0006 | 2/2 way NC | 3, 4, 5, 6  | see below            |         |                | DC              | AC | x              |                 |
| 108-010-0088 | 2/2 way NC | 3, 4, 5, 6  | see below            |         |                | DC              |    |                | x               |
| 108-010-0009 | 3/2 way NC | 4           | 1,3                  | 1,5     | 10             | DC              | AC | x              |                 |
| 108-010-0049 | 3/2 way NC | 4           | 1,3                  | 1,5     | 10             | DC              | AC |                | x               |
| 108-010-0172 | 3/2 way NO | 4           | 1,0                  | 1,3     | 10             | DC              |    | x              |                 |
| 108-010-0001 | 3/2 way NC | 5           | 1,5                  | 1,7     | 10             | DC              | AC | x              |                 |
| 108-010-0060 | 3/2 way NC | 5           | 1,5                  | 1,7     | 10             | DC              | AC |                | x               |
| 108-010-0003 | 3/2 way NC | 6           | 1,7                  | 1,7     | 10             | DC              | AC | x              |                 |
| 108-010-0066 | 3/2 way NC | 6           | 1,7                  | 1,7     | 10             | DC              | AC |                | x               |

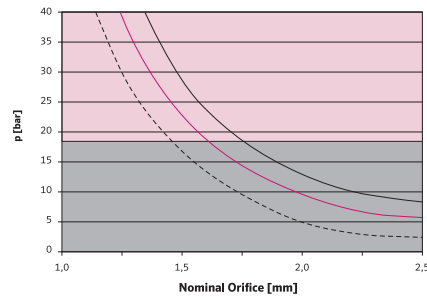
## Power Levels for 2/2 Way Versions

AC - 50 Hz   
 AC - 60 Hz   
 DC - 5 % residual ripple   
 max. test pressure: 18 bar · special versions on request

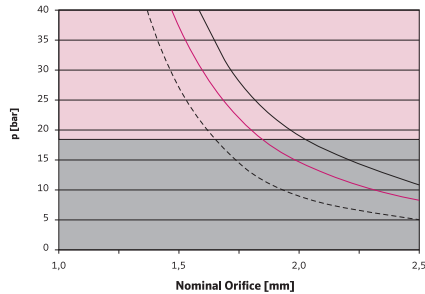
**Power Level 3**



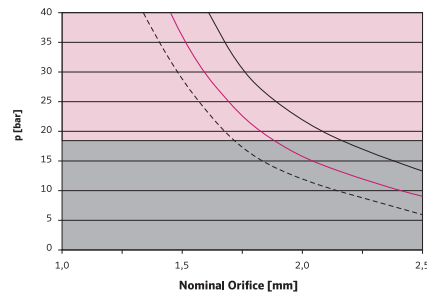
**Power Level 4**



**Power Level 5**



**Power Level 6**

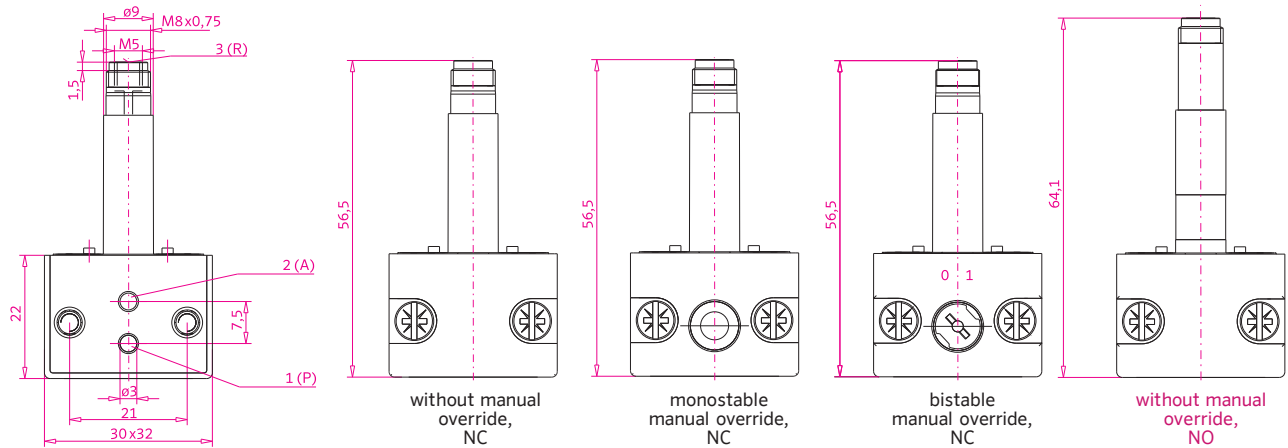


## VALVE SYSTEM CNOMO

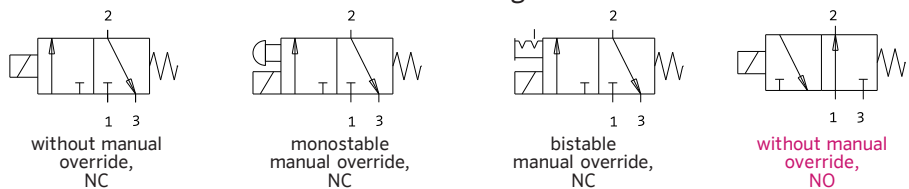
Height: 22 mm  
 Switching function: 2/2 and 3/2 way  
 De-energized state: NC (normally closed), NO (normally open)  
 Valve body: plastics

### General Data

Ambient temperature ..... - 10 °C to + 50 °C  
 Quality of medium according to ISO 8573-1 ..... compressed air class 4, 3, 4  
 Mounting position ..... any (preferably plunger in vertical direction)  
 Sealing material ..... FPM (other sealing materials on request)



### Pneumatic Diagram



## Technical Data Standard Versions

| Part No.     | Power Level | Nominal Orifice [mm] |         | Pressure [bar] | Flow Rate* [l/min] |     | Manual Override |            | Appropriate for |    |
|--------------|-------------|----------------------|---------|----------------|--------------------|-----|-----------------|------------|-----------------|----|
|              |             | inlet                | exhaust |                | 1-2                | 2-3 | bistable        | monostable |                 |    |
| 108-050-0190 | 1           | 0,8                  | 1,0     | 8              | 20                 | 30  | x               |            | DC              |    |
| 108-050-0194 | 1           | 0,6                  | 0,7     | 10             | 12                 | 22  | x               |            | DC              |    |
| 108-050-0202 | 1           | 0,8                  | 1,0     | 8              | 20                 | 30  |                 |            | DC              |    |
| 108-050-0207 | 1           | 0,8                  | 1,0     | 8              | 20                 | 30  |                 | x          | DC              |    |
| 108-050-0243 | 2           | 0,8                  | 1,0     | 10             | 20                 | 30  | x               |            | DC              | AC |
| 108-050-0109 | 3           | 1,0                  | 1,3     | 10             | 35                 | 60  | x               |            | DC              | AC |
| 108-050-0110 | 3           | 1,0                  | 1,3     | 10             | 35                 | 60  |                 |            | DC              | AC |
| 108-050-0126 | 3           | 1,0                  | 1,3     | 10             | 35                 | 60  |                 | x          | DC              | AC |
| 108-050-0111 | 4           | 1,3                  | 1,5     | 10             | 50                 | 75  | x               |            | DC              | AC |
| 108-050-0114 | 4           | 1,3                  | 1,5     | 10             | 50                 | 75  |                 |            | DC              | AC |
| 108-050-0127 | 4           | 1,3                  | 1,5     | 10             | 50                 | 75  |                 | x          | DC              | AC |
| 108-050-0122 | 5           | 1,5                  | 1,7     | 10             | 65                 | 90  | x               |            | DC              | AC |
| 108-050-0124 | 5           | 1,5                  | 1,7     | 10             | 65                 | 90  |                 |            | DC              | AC |
| 108-050-0130 | 5           | 1,5                  | 1,7     | 10             | 65                 | 90  |                 | x          | DC              | AC |
| 108-050-0116 | 6           | 1,3                  | 1,5     | 16             | 50                 | 75  | x               |            | DC              | AC |
| 108-050-0118 | 6           | 1,3                  | 1,5     | 16             | 50                 | 75  |                 |            | DC              | AC |
| 108-050-0125 | 6           | 1,7                  | 1,7     | 10             | 80                 | 90  |                 |            | DC              | AC |
| 108-050-0160 | 6           | 1,7                  | 1,7     | 10             | 80                 | 90  |                 | x          | DC              | AC |
| 108-050-0137 | 6           | 1,3                  | 1,5     | 16             | 50                 | 75  |                 | x          | DC              | AC |

\* qv flow rate at an inlet pressure of 6 bar (X = 1 bar) and 0 °C; flow rate detection in compliance with ISO 6358

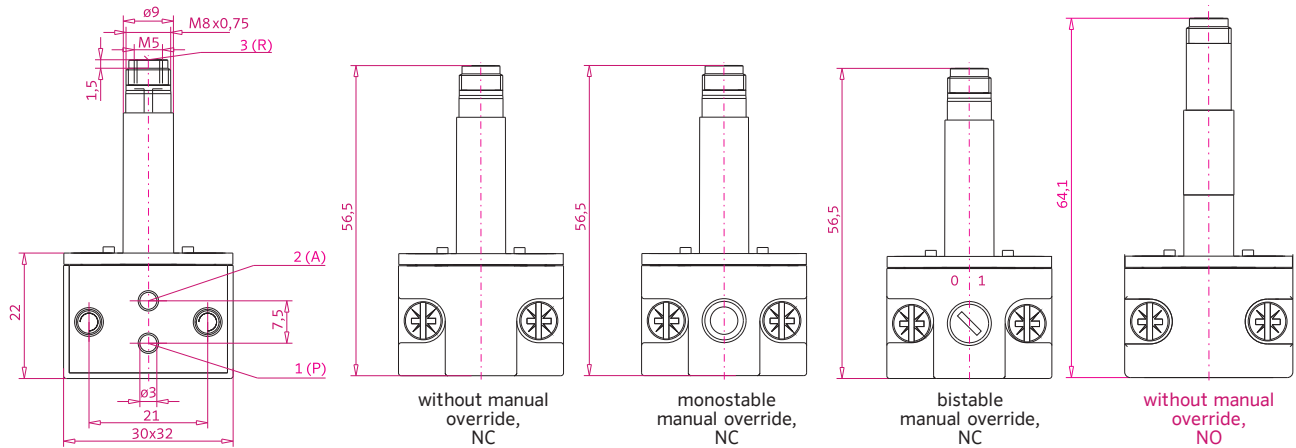
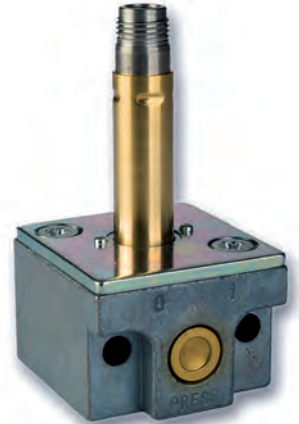
**Note:** Bistable manual override is a combination of the pushing/resetting function and the rotating/latching function.

## VALVE SYSTEM CNOMO

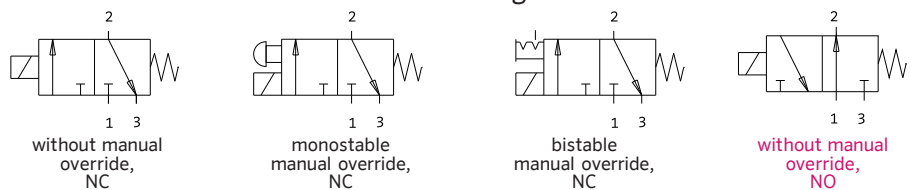
Height: 22 mm  
 Switching function: 3/2 way, 2/2 way possible with accessoires  
 De-energized state: NC (normally closed), NO (normally open)  
 Valve body: aluminium, coated

### General Data

Ambient temperature ..... - 10 °C to + 50 °C  
 Quality of medium according to ISO 8573-1 ..... compressed air class 4, 3, 4  
 Mounting position ..... any (preferably plunger in vertical direction)



### Pneumatic Diagram



## Technical Data Standard Versions

| Part No.     | Power Level | Nominal Orifice [mm] |         | Pressure [bar] | Flow Rate* [l/min] |     | Manual Override |            | Appropriate for |    |
|--------------|-------------|----------------------|---------|----------------|--------------------|-----|-----------------|------------|-----------------|----|
|              |             | inlet                | exhaust |                | 1-2                | 2-3 | bistable        | monostable |                 |    |
| 108-050-0189 | 1           | 0,8                  | 1,0     | 8              | 20                 | 30  | x               |            | DC              |    |
| 108-050-0201 | 1           | 0,8                  | 1,0     | 8              | 20                 | 30  |                 | x          | DC              |    |
| 108-050-0002 | 3           | 1,0                  | 1,3     | 10             | 35                 | 60  | x               |            | DC              | AC |
| 108-050-0242 | 3           | 1,0                  | 1,3     | 10             | 35                 | 60  |                 |            | DC              | AC |
| 108-050-0003 | 4           | 1,3                  | 1,5     | 10             | 50                 | 75  | x               |            | DC              | AC |
| 108-050-0023 | 4           | 1,3                  | 1,5     | 10             | 50                 | 75  |                 | x          | DC              | AC |
| 108-050-0004 | 5           | 1,5                  | 1,7     | 10             | 65                 | 90  | x               |            | DC              | AC |
| 108-050-0005 | 5           | 1,5                  | 1,7     | 10             | 65                 | 90  |                 |            | DC              | AC |
| 108-050-0007 | 5           | 1,5                  | 1,7     | 10             | 65                 | 90  |                 | x          | DC              | AC |
| 108-050-0135 | 5           | 1,0                  | 1,3     | 16             | 35                 | 60  |                 | x          | DC              | AC |
| 108-050-0006 | 6           | 1,7                  | 1,7     | 10             | 84                 | 94  |                 |            | DC              | AC |
| 108-050-0035 | 6           | 1,7                  | 1,7     | 10             | 84                 | 94  |                 | x          | DC              | AC |
| 108-050-0037 | 6           | 1,3                  | 1,5     | 16             | 50                 | 75  |                 | x          | DC              | AC |

\* qv flow rate at an inlet pressure of 6 bar (X = 1 bar) and 0 °C; flow rate detection in compliance with ISO 6358

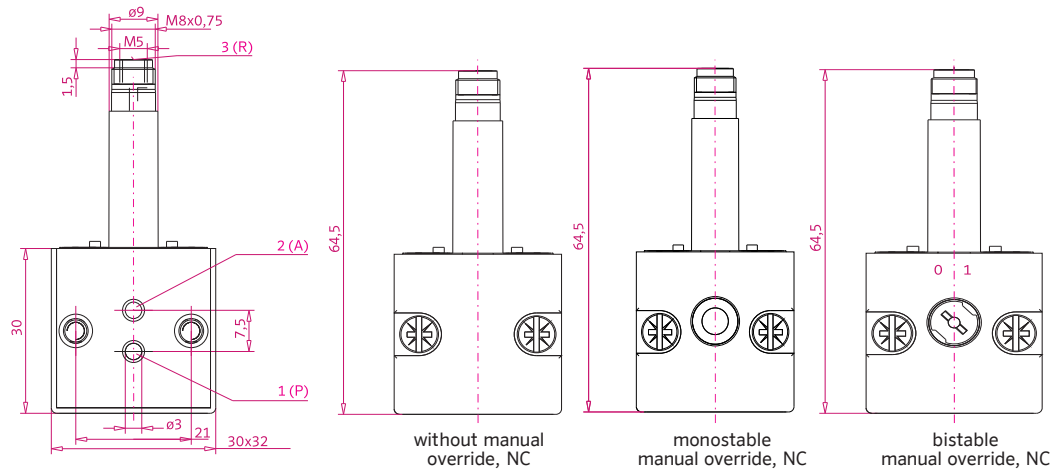
**Note:** Bistable manual override is a combination of the pushing/resetting function and the rotating/latching function.

## VALVE SYSTEM CNOMO

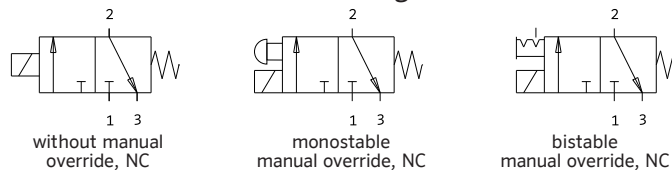
Height: 30 mm  
 Switching function: 3/2 way, 2/2 way possible with accessoires  
 De-energized state: NC (normally closed)  
 Valve body: plastics

### General Data

Ambient temperature ..... - 10 °C to + 50 °C  
 Quality of medium according to ISO 8573-1 ..... compressed air class 4, 3, 4  
 Mounting position ..... any (preferably plunger in vertical direction)  
 Sealing material ..... FPM (other sealing materials on request)



### Pneumatic Diagram





**Technical Data** Standard Version

| Part No.     | Power Level | Nominal Orifice [mm] |         | Pressure [bar] | Flow Rate* [l/min] |     | Manual Override |            | Appropriate for |    |
|--------------|-------------|----------------------|---------|----------------|--------------------|-----|-----------------|------------|-----------------|----|
|              |             | inlet                | exhaust |                | 1-2                | 2-3 | bistable        | monostable | DC              | AC |
| 108-050-0169 | 3           | 1,0                  | 1,3     | 10             | 35                 | 60  | x               |            | DC              | AC |

\* qv flow rate at an inlet pressure of 6 bar (X = 1 bar) and 0 °C; flow rate detection in compliance with ISO 6358

**Notes:**

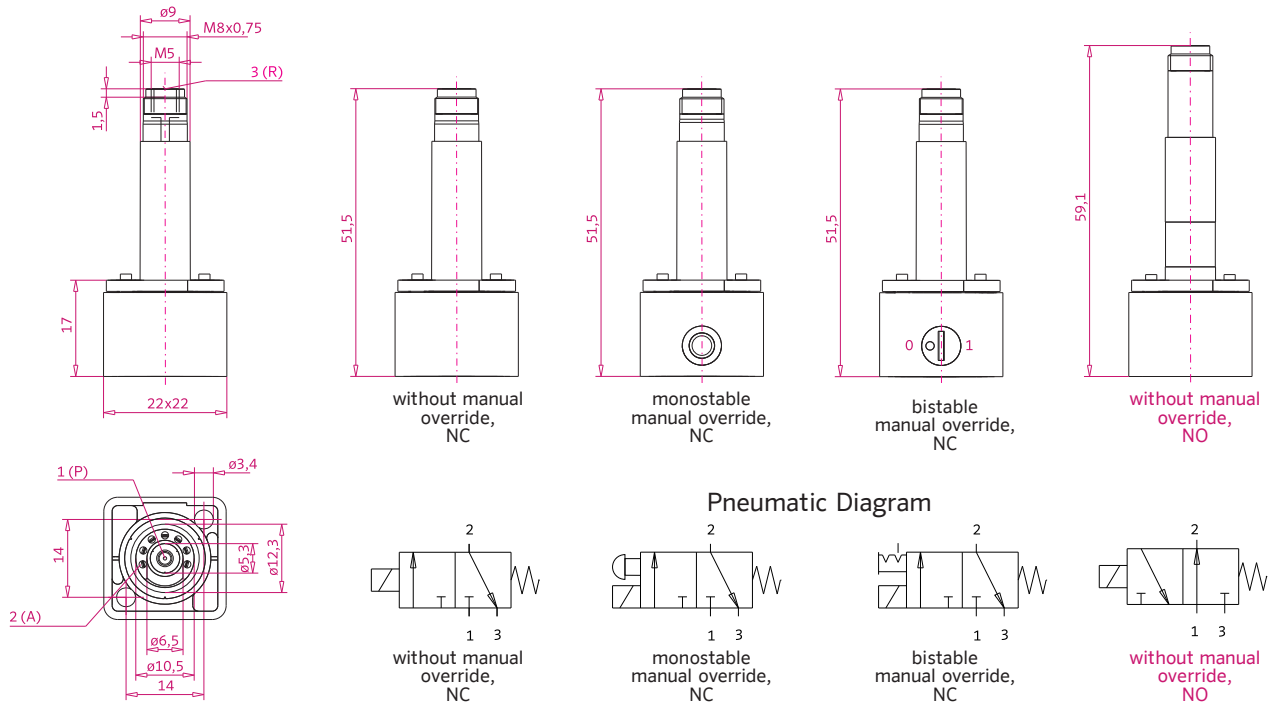
- Bistable manual override is a combination of the pushing/resetting function and the rotating/latching function.
- Switching function 3/2 way NO (normally open) on request

## VALVE SYSTEM KR

Switching function: 3/2 way  
 De-energized state: NC (normally closed), NO (normally open)  
 Gasket of the pneumatic interface: concentric O’rings (KR)  
 sealing material FPM  
 Valve body: plastics

### General Data

Ambient temperature ..... - 10 °C to + 50 °C  
 Quality of medium according to ISO 8573-1 ..... compressed air class 4, 3, 4  
 Mounting position ..... any (preferably plunger in vertical direction)



## Technical Data Standard Versions

| Part No.     | Power Level | Nominal Orifice [mm] |         | Pressure [bar] | Flow Rate* [l/min] |     | Manual Override |            | Appropriate for |    |
|--------------|-------------|----------------------|---------|----------------|--------------------|-----|-----------------|------------|-----------------|----|
|              |             | inlet                | exhaust |                | 1-2                | 2-3 | bistable        | monostable |                 |    |
| 108-050-0188 | 1           | 0,8                  | 1,0     | 8              | 20                 | 30  |                 |            | DC              |    |
| 108-050-0196 | 1           | 0,6                  | 0,8     | 10             | 12                 | 22  | x               |            | DC              |    |
| 108-050-0208 | 1           | 0,8                  | 1,0     | 8              | 20                 | 30  | x               |            | DC              |    |
| 108-050-0008 | 3           | 1,0                  | 1,3     | 10             | 35                 | 54  | x               |            | DC              | AC |
| 108-050-0013 | 3           | 1,0                  | 1,3     | 10             | 35                 | 54  |                 |            | DC              | AC |
| 108-050-0078 | 3           | 1,0                  | 1,3     | 10             | 35                 | 54  |                 | x          | DC              | AC |
| 108-050-0009 | 4           | 1,3                  | 1,5     | 10             | 55                 | 70  | x               |            | DC              | AC |
| 108-050-0014 | 4           | 1,3                  | 1,5     | 10             | 55                 | 70  |                 |            | DC              | AC |
| 108-050-0072 | 4           | 1,3                  | 1,5     | 10             | 55                 | 70  |                 | x          | DC              | AC |
| 108-050-0012 | 5           | 1,5                  | 1,7     | 10             | 65                 | 80  | x               |            | DC              | AC |
| 108-050-0015 | 5           | 1,5                  | 1,7     | 10             | 65                 | 80  |                 |            | DC              | AC |
| 108-050-0063 | 5           | 1,5                  | 1,7     | 10             | 65                 | 80  |                 | x          | DC              | AC |

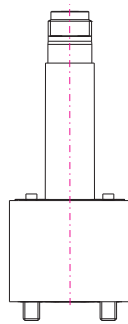
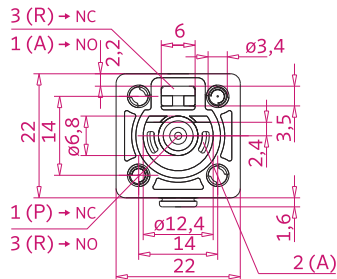
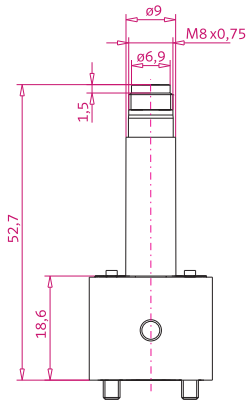
\* qv flow rate at an inlet pressure of 6 bar (X = 1 bar) and 0 °C; flow rate detection in compliance with ISO 6358

## VALVE SYSTEM GKR

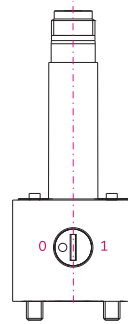
Switching function: 3/2 way  
 De-energized state: NC (normally closed), NO (normally open)  
 Gasket of the pneumatic interface: internal exhaust  
 sealing material FPM  
 Valve body: plastics

### General Data

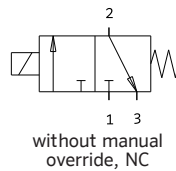
Ambient temperature ..... - 10 °C to + 50 °C  
 Quality of medium according to ISO 8573-1 ..... compressed air class 4, 3, 4  
 Mounting position ..... any (preferably plunger in vertical direction)



without manual  
override, NC

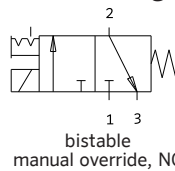


bistable  
manual override, NC

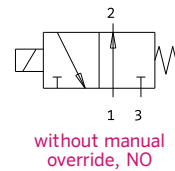


without manual  
override, NC

### Pneumatic Diagram



bistable  
manual override, NC



without manual  
override, NO

**Technical Data Standard Versions**

| Part No.     | Power Level | Nominal Orifice [mm] |         | Pressure [bar] | Flow Rate* [l/min] |     | Manual Override |            | Appropriate for |    |
|--------------|-------------|----------------------|---------|----------------|--------------------|-----|-----------------|------------|-----------------|----|
|              |             | inlet                | exhaust |                | 1-2                | 2-3 | bistable        | monostable | DC              | AC |
| 108-050-0099 | 3           | 1,0                  | 1,3     | 10             | 26                 | 42  | x               |            | DC              | AC |
| 108-050-0081 | 4           | 1,3                  | 1,5     | 10             | 48                 | 56  | x               |            | DC              | AC |

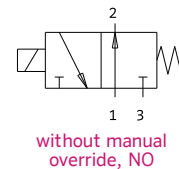
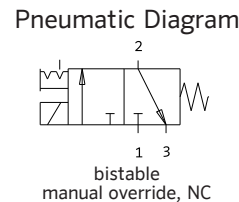
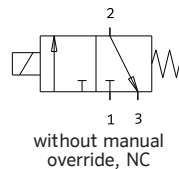
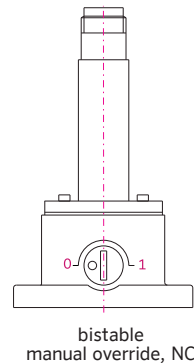
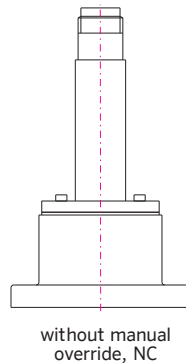
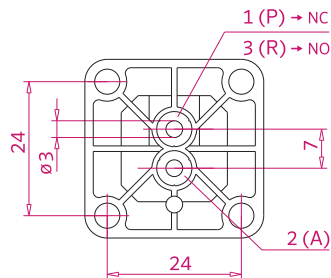
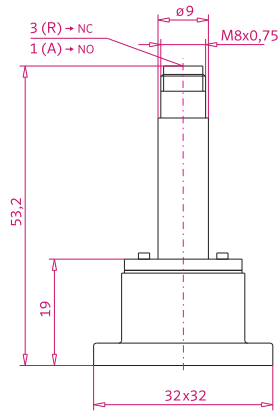
\* qv flow rate at an inlet pressure of 6 bar (X = 1 bar) and 0 °C; flow rate detection in compliance with ISO 6358

## VALVE SYSTEM FL

Switching function: 3/2 way  
 De-energized state: NC (normally closed), NO (normally open)  
 Gasket of the pneumatic interface: O'rings, asymmetrical (FL)  
 sealing material FPM  
 Valve body: plastics

### General Data

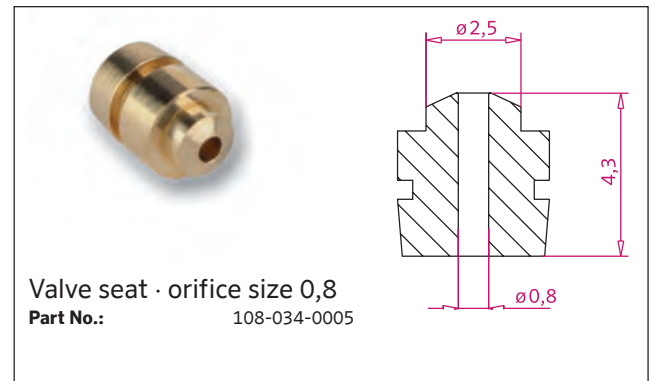
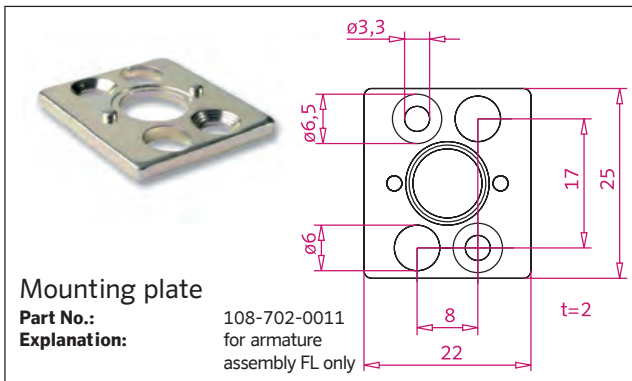
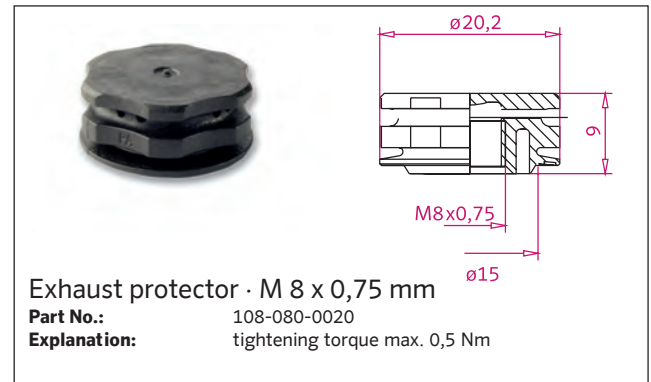
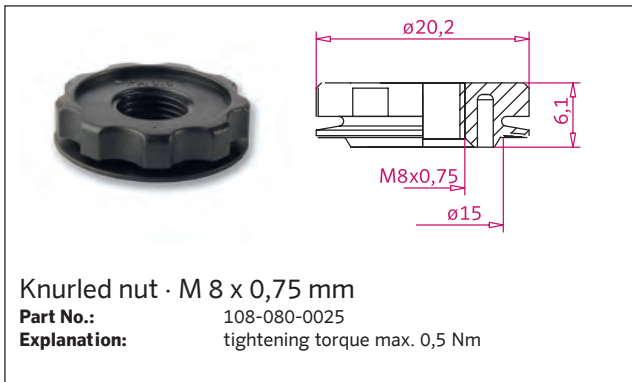
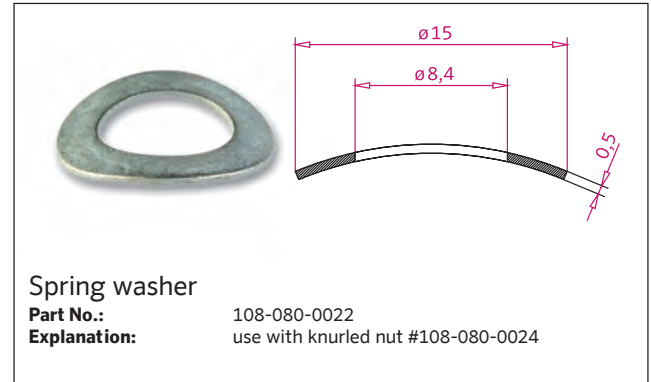
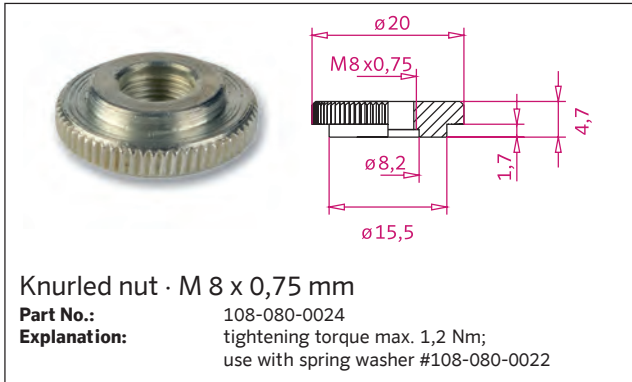
Ambient temperature ..... - 10 °C to + 50 °C  
 Quality of medium according to ISO 8573-1 ..... compressed air class 4, 3, 4  
 Mounting position ..... any (preferably plunger in vertical direction)



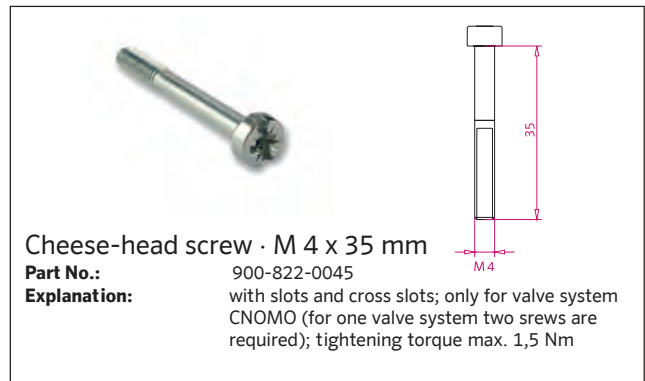
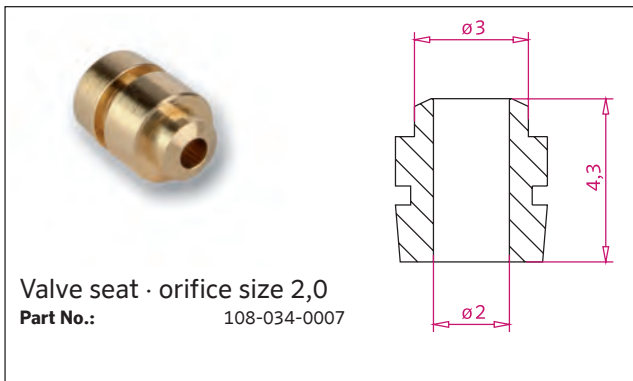
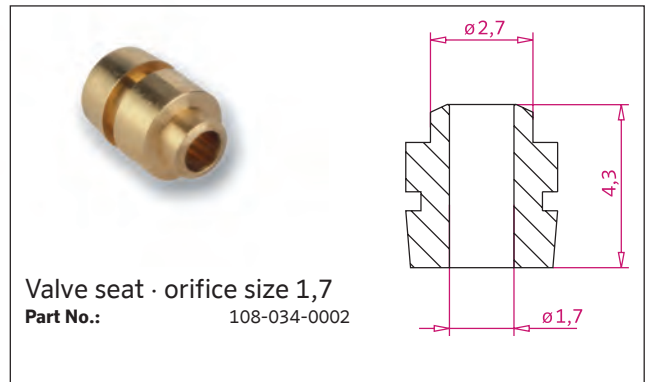
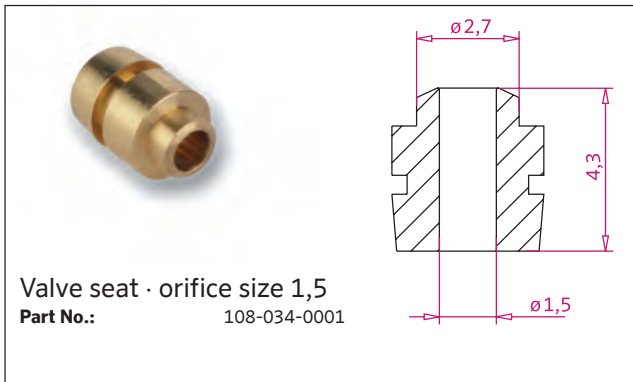
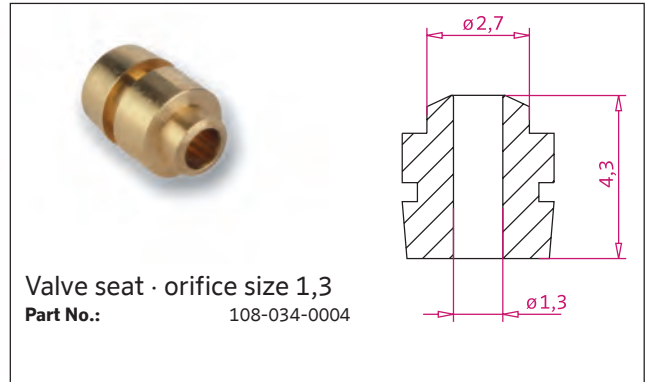
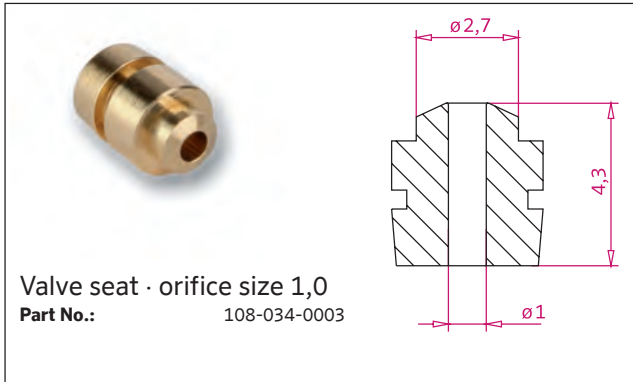
**Technical Data Standard Versions**

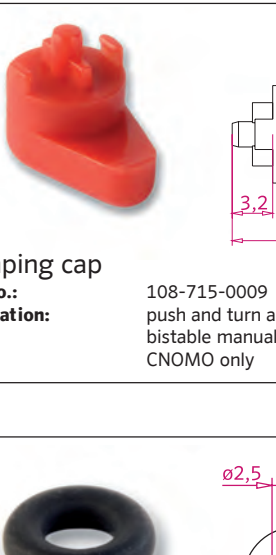
| Part No.     | Power Level | Nominal Orifice [mm] |         | Pressure [bar] | Flow Rate* [l/min] |     | Manual Override |         | Appropriate for |    |
|--------------|-------------|----------------------|---------|----------------|--------------------|-----|-----------------|---------|-----------------|----|
|              |             | inlet                | exhaust |                | 1-2                | 2-3 | bistable        | without | DC              | AC |
| 108-050-0044 | 3           | 1,0                  | 1,3     | 10             | 25                 | 58  | x               |         | DC              | AC |
| 108-050-0045 | 4           | 1,3                  | 1,5     | 10             | 52                 | 80  | x               |         | DC              | AC |
| 108-050-0046 | 5           | 1,5                  | 1,7     | 10             | 64                 | 88  | x               |         | DC              | AC |
| 108-050-0047 | 5           | 1,5                  | 1,7     | 10             | 64                 | 88  |                 | x       | DC              | AC |

\* qv flow rate at an inlet pressure of 6 bar (X = 1 bar) and 0 °C; flow rate detection in compliance with ISO 6358






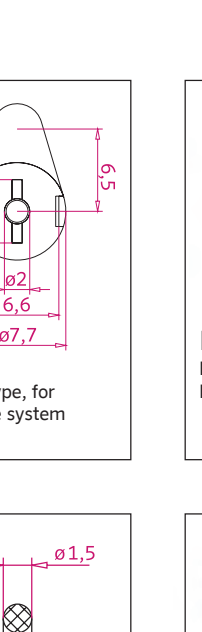




**Clamping cap**  
**Part No.:** 108-715-0009  
**Explanation:** push and turn actuation, clip-on type, for bistable manual override; for valve system CNOMO only



**Push cap**  
**Part No.:** 108-715-0010  
**Explanation:** push and turn actuation, clip-on type, for monostable manual override; for valve system CNOMO only



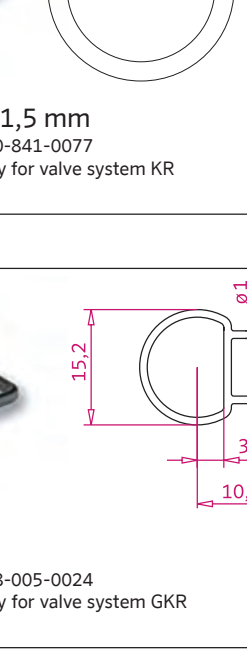
**O'ring FPM · 2,5 x 1,5 mm**  
**Part No.:** 900-841-0065  
**Explanation:** only for valve systems KR and GKR



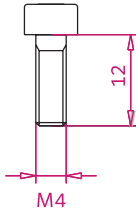
**O'ring FPM · 11,5 x 1,5 mm**  
**Part No.:** 900-841-0077  
**Explanation:** only for valve system KR



**Cheese-head screw · M 3 x 18 mm**  
**Part No.:** 900-822-0037  
**Explanation:** slotted and with cross recess, tightening torque max. 0,5 Nm; for valve system KR only

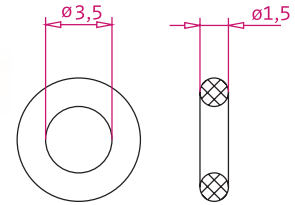


**Gasket FPM**  
**Part No.:** 108-005-0024  
**Explanation:** only for valve system GKR



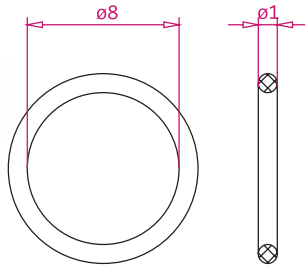
Cheese-head screw · M 4 x 12 mm

**Part No.:** 900-822-0041  
**Explanation:** tightening torque max. 0,7 Nm ;  
 for valve system FL only; for one valve system  
 two screws are required



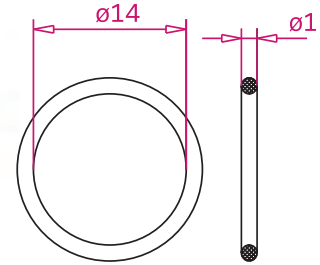
O'ring FPM · 3,5 x 1,5 mm

**Part No.:** 900-841-0068  
**Explanation:** only for valve system FL



O'ring FPM · 8,0 x 1,0 mm

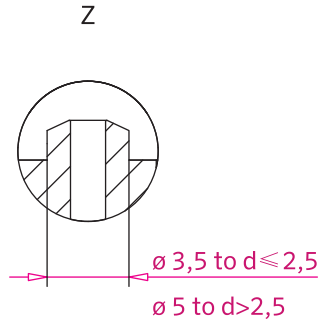
**Part No.:** 900-841-0077  
**Explanation:** to obtain IP 67; for one valve system two  
 O'rings are required



O'ring FPM · 14,0 x 1,0 mm

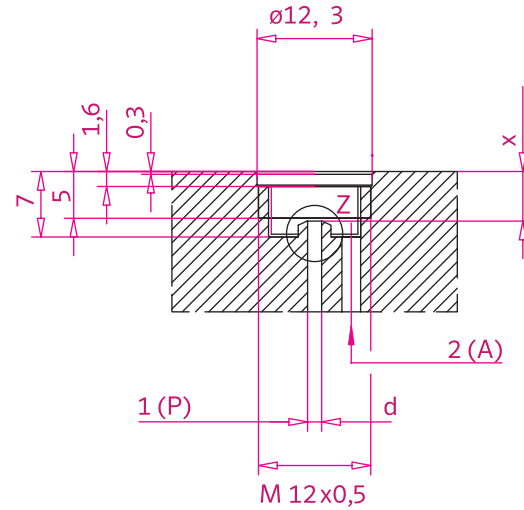
**Part No.:** 900-841-0082  
**Explanation:** to obtain IP 67; for one valve system one O'ring  
 is required

## PNEUMATIC CONNECTION SOLENOID OPERATOR

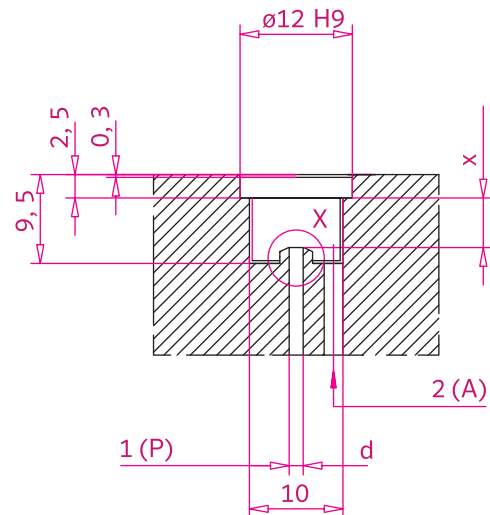


| d   | x    |      |
|-----|------|------|
|     |      |      |
| 0,6 | 5,00 | 5,20 |
| 0,8 | 5,05 | 5,25 |
| 1,0 | 5,10 | 5,30 |
| 1,3 | 5,15 | 5,30 |
| 1,5 | 5,20 | 5,30 |
| 1,7 | 5,25 | 5,30 |
| 2,0 | 5,30 | -    |
| 2,5 | 5,40 | -    |
| 3,0 | 5,50 | -    |
| 3,5 | 5,60 | -    |

**Thread Version with O'ring Seal**



**Flange Version with O'ring Seal**



**Note:**

Specifications regarding the characteristic of the customer interface are available at *nass magnet* on request.