

For constant pressure and high levels of safety

Shutoff, back-pressure and pressure relief valves



Constant pressure and high levels of safety

Back-pressure and pressure-relief valves are fittings for dosing systems. Depending on the task involved, they are used to increase the dosing accuracy or to protect the system against excess pressure. If the delivery pressure is higher than the dosing pressure, dosing without a back-pressure valve is not possible.

With the dosing of fluids, back-pressure valves generate a defined back pressure on the pressure side of a dosing pump.

This is required in the following cases:

- Strongly fluctuating pressure. Exact dosing results are impossible without a back-pressure valve.
- The pressure on the suction side is higher than on the pressure side.
- Dosing in a pressureless line is required.

Pressure relief valves have an important safety function for protecting the dosing pump and the associated pipes and fittings. The dosing pump can generate a pressure that is many times the rated one.

Various reasons, e.g. soiling or operating errors can result in blocked pressure lines. At an appropriate pressure, a pressure relief valve opens a bypass line and protects the system in this way from damage caused by over-pressure.

A shutoff valve (A) enables the dosing system to separate the non-return valve from the pressurized system.

The shutoff valve enables the maintenance of the non-return valve after separation from the system and should be closed before longer down times because the leak-free nature of the non-return valve could be restricted through soiling particles or wear.

Functions

- Output range from 75 – 1500 l/h, up to 250 bar
- Deployment in a potentially explosive atmosphere is possible (spring-loaded seat valve DN6 200 bar and DN10 250 bar)
- Assembly in any installation location (only spring-loaded seat valves must be installed vertically)
- Installation of a pressure-relief valve with return to the dosing tank possible

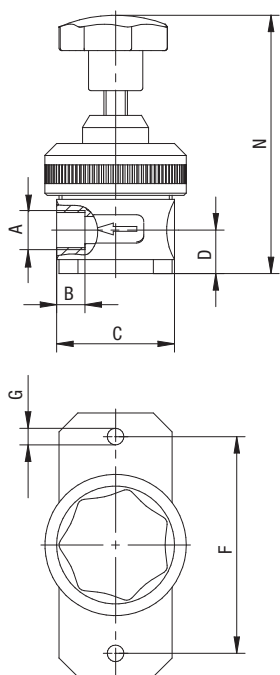
Technical data

| Valve type | Nominal width | Nominal pressure | Nominal flow | max. temperature |
|---|---------------|------------------|--|--|
| Diaphragm shut-off valve | DN6 | PN16 | 75 l/h | PVC: 35 °C PP-GF, PVDF and stainless steel: 50 °C |
| | DN10 | PN10 | 200 l/h | |
| | DN15 | | 500 l/h | |
| Needle shutoff valve | DN6 | PN200 | 75 l/h | Stainless steel: 120 °C |
| | DN10 | | 200 l/h | |
| Back-pressure and pressure-relief valve (Diaphragm valve with spring loading) | DN6 | PN16 | 75 l/h | PVC: 35 °C PP-GF, PVDF and stainless steel: 50 °C |
| | DN10 | PN10 | 200 l/h | PVC: 35 °C PP, PVDF and stainless steel: 50 °C |
| | DN15 | | 500 l/h | |
| | DN25 | PN10 (PN16) | 850 l/h | PP, stainless steel 50 °C |
| | DN32 | | 1400 l/h | |
| | DN40 | | 2250 l/h | |
| | DN50 | | 3600 l/h | |
| DN65 | 5000 l/h | | | |
| Pressure-relief valve (spring-loaded seat valve) | DN6 | PN200 | 40 l/h | Stainless steel: 120 °C |
| | DN10 | PN250 | 480 l/h (10 bar) 1500 l/h (100 bar) | Stainless steel: 280 °C |

Dimensions

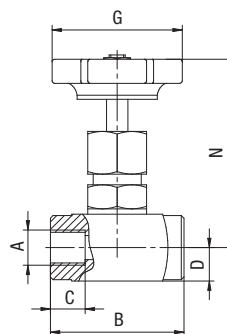
Diaphragm shutoff valve DN6, DN10, DN15

All dimensions in mm



Needle shutoff valve DN6, DN10

All dimensions in mm



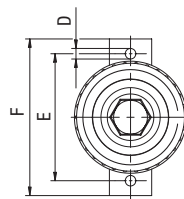
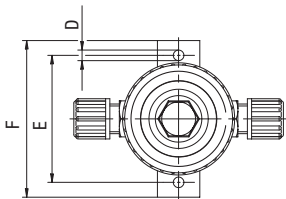
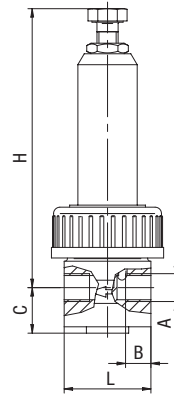
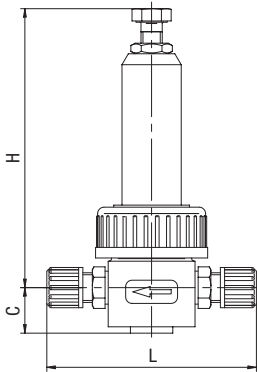
| Nominal width | A | B | C | D | N | F | Ø G |
|---------------|------|----|----|----|-----|------|-----|
| DN6 | G1/4 | 10 | 40 | 23 | 102 | 46.5 | 4.5 |
| DN10 | G3/8 | 12 | 55 | 19 | 107 | 72 | 7 |
| DN15 | G1/2 | 16 | 75 | 22 | 102 | 92 | 7 |

| Nominal width | A | B | C | D | N | Ø G |
|---------------|------|----|----|------|--------------|-----|
| DN6 | G1/4 | 50 | 12 | 12.5 | max. 87.5 | 50 |
| DN10 | G3/8 | 57 | 15 | | | |

Dimensions

Back-pressure and pressure-relief valve DN6, DN10, DN15 (spring-loaded diaphragm valve)

All dimensions in mm



Plastic version

Stainless steel version

| Nominal width | Material | A | B | C | D | E | F | H | L |
|---------------|------------------|-------------|----|------|-----------|-----|-----|-----------|-----|
| DN6 | Plastic | - | - | 21.5 | 5 | 60 | 71 | 125 – 140 | 140 |
| | Stainless steel* | - | - | | | | | | 100 |
| | Stainless steel | G1/4 | 12 | | | | | | 41 |
| DN10 | Plastic | G3/8 | 12 | 18.5 | 7 | 92 | 112 | 125 – 150 | 50 |
| | | Grommet Ø13 | - | | | | | | 128 |
| | | Ø20 | 16 | | | | | | 90 |
| | Stainless steel | G3/8 | 18 | | | 49 | | | |
| | | G1/2 | 18 | | | 107 | | | |
| DN15 | Plastic | G1/2 | 17 | 21 | 7 | 92 | 112 | 130 – 160 | 70 |
| | | Grommet Ø16 | - | | | | | | 156 |
| | | Ø20 | 16 | | | | | | 112 |
| | | Ø25 | 19 | | | | | | 120 |
| | Stainless steel | G1/2 | 25 | 18 | 140 – 165 | 74 | | | |
| | | G3/4 | 25 | | | 130 | | | |

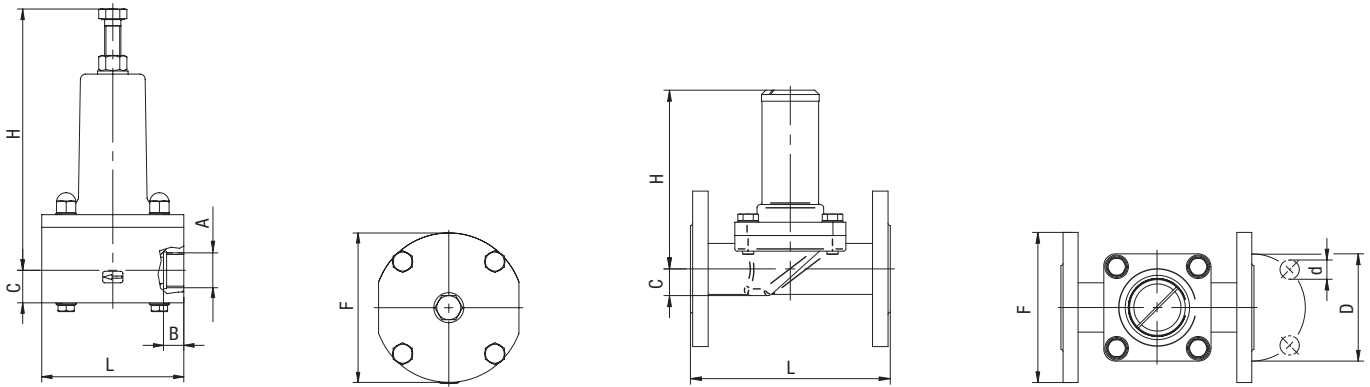
* with hose clamp connection in PVDF

Back-pressure valves are also available in combination with pressure-relief valves or shutoff valves.

Dimensions

Back-pressure and pressure-relief valves DN25, DN32, DN40, DN50, DN65 (spring-loaded diaphragm valves)

All dimensions in mm

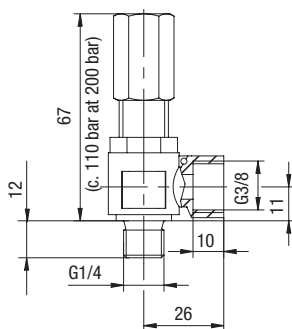


| Nominal width | Material | A | B | C | D | d | F | H | L |
|---------------|-----------------|--------|----|----|-----|----|-----|-----------|-----|
| DN25 | Plastic | G1 | 20 | 32 | - | - | 149 | 220 – 255 | 140 |
| | | Ø 32 | 22 | | | | | | 200 |
| | | Ø 40 | 32 | | | | | | 220 |
| | Stainless steel | G1 | 30 | 22 | | | | | 140 |
| DN32 | Plastic | G1 1/4 | 22 | 31 | - | - | 149 | 220 – 255 | 140 |
| | Stainless steel | DN32 | - | 24 | 100 | 18 | 140 | 160 | 200 |
| DN40 | Plastic | G1 1/2 | 22 | 38 | - | - | 159 | 240 – 270 | 152 |
| | Stainless steel | DN40 | - | 30 | 110 | 18 | 150 | 180 | 235 |
| DN50 | Plastic | G2 | 27 | 38 | - | - | 170 | 240 – 270 | 156 |
| | Stainless steel | DN50 | - | 38 | 125 | 18 | 165 | 185 | 260 |
| DN65 | Plastic | G2 1/2 | 28 | 46 | - | - | 190 | 260 – 295 | 172 |

Dimensions

Pressure-relief valve DN6 (spring-loaded seat valve)

All dimensions in mm



Pressure-relief valve DN 10 (spring-loaded seat valve)

All dimensions in mm

