## 1.9.4 Back Pressure Valves / Relief Valves for Low-Pressure Metering Pumps

**Back pressure valves are used to generate a constant back pressure to ensure precise metering and protect against over-metering or metering imprecision through free outlets and priming pressure on the suction side. They are also used in conjunction with pulsation dampers to generate low-pulsation metering. We recommend back pressure valves type DHV-RM with fluctuating back pressure and metering into vacuums.**

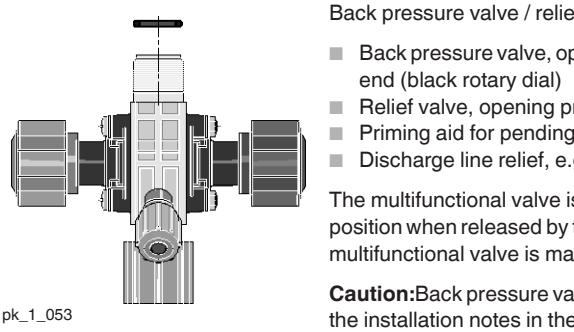
(Back Pressure Valves / Relief Valves for Motor Driven Metering Pumps see volume "Motor-driven and process metering pumps for all capacity ranges" page → 1-64)

The DHV listed below are designed for different applications. Please note the relevant notes for the different mountings.

**Important:** Back pressure valves cannot be used as absolutely leak-tight shut-off devices. Take appropriate precautions when handling hazardous media.

Relief valves are used to protect pumps, pipes and fittings from over pressure, in the event of incorrect operation or blockages in the bypass. In the event of a malfunction, the pump pumps back into the storage tank.

### Multifunctional Valve Type MFV-DK, PVDF



pk_1_053

Back pressure valve / relief valve for fitting directly on the pump's dosing head with the functions:

- Back pressure valve, opening pressure approx. 1.5 bar with free outlet or priming pressure at the suction end (black rotary dial)
- Relief valve, opening pressure approx. 6, 10 or 16 bar (red rotary dial)
- Priming aid for pending back pressure, no need to release discharge line
- Discharge line relief, e.g. prior to service work

The multifunctional valve is operated by free-moving rotary dials that automatically return to their original position when released by the operator. This means operation is possible even when access is difficult. The multifunctional valve is made of PVDF and can be used to meter almost any chemical.

**Caution:**Back pressure valves are not absolutely leak-tight shut-off devices! It is essential that you observe the installation notes in the operating instructions!

**Caution:** The bypass line should always be connected.

For hoses see page → 1-57.

| | |
|---|---|
| Valve body | PVDF |
| Diaphragm | PTFE- coated |
| Seal | FKM and EPDM (enclosed) |

| Type | Relief opening pressure* | Connection | Bypass connector | Order no. |
|---|---|---|---|---|
| **Size I** | 16 bar | 6-12 | 6/4 | 792011 |
| **Size I** | 10 bar | 6-12 | 6/4 | 791715 |
| **Size I** | 6 bar | 6-12 | 6/4 | 1005745 |
| **Size II** | 10 bar | 6-12 | 12/9 | 792203 |
| **Size II** | 6 bar | 6-12 | 12/9 | 740427 |
| **Size III** | 10 bar | DN 10 | 12/9 | 792215 |

* The relief opening pressure given above is the pressure at which the valve begins to open. The pressure can be up to 50% higher until the valve is fully open depending on the type of pump.

**Application: multifunctional valves**

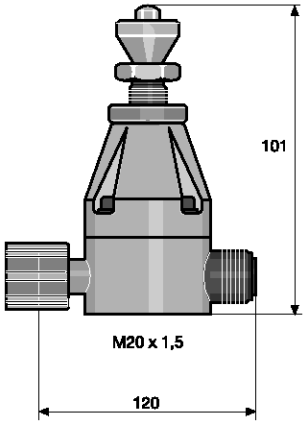
| | |
|---|---|
| Size I | ALPc 1001, 1002, 1004, 1008, 0708 |
| | Beta®, gamma/ L type 1000, 1601, 1602, 1604, 1605, 1005, 1008, 0708, 0413, 0220 |
| | gamma/ X type 1602, 1604, 1009, 0708, 0414, 0220 |
| | delta® type 1608, 1612 |
| Size II | ALPc 0417, 0230 |
| | Beta®, gamma/ L type 1605, 1008, 0713, 0420, 0232 |
| | gamma/ X type 1009, 0715, 0424, 0245 |
| | delta® type 1020, 0730 |
| Size III | delta® type 0450, 0280 |

For material design PP, PV, NP, TT

# 1.9 Hydraulic/Mechanical Installation Accessories

## Back Pressure Valve Type DHV-S-DK, 0-10 bar Adjustable






pk_1_129

Adjustable back pressure valve for fitting directly onto the dosing head to generate a constant back pressure. For accurate metering with a free outlet and with priming pressure on the suction side.

**Caution:** Back pressure valves are not absolutely leak-tight shut-off devices! It is essential that you observe the installation notes in the operating instructions!

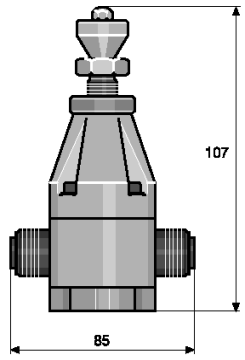
**Applications:** Metering pump alpha, Beta®, gamma/ X, Pneumados b, EXtronic® and delta®

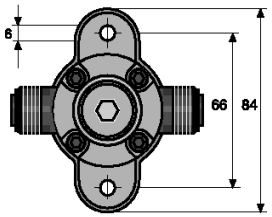
| Type | Adjustable pressure | Connection | Material | Order no. |
|---|---|---|---|---|
| **DHV-S-DK** | 0 – 10 bar | 6 to 12 mm | PP/EPDM | 302320 |
| **DHV-S-DK** | 0 – 10 bar | 6 to 12 mm | PC/FKM* | 302321 |
| **DHV-S-DK** | 0 – 10 bar | 6 to 12 mm | TT/PTFE | 302322 |
| **DHV-S-DK** | 0 – 10 bar | 6 mm | SS | 1003793 |
| **DHV-S-DK** | 0 – 10 bar | 8 mm | SS | 1003795 |
| **DHV-S-DK** | 0 – 10 bar | 12 mm | SS | 1003797 |

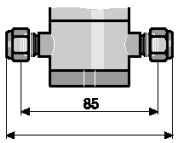
* **Caution:** The product contains adhesive joints with Tangit. Please note the resistance of Tangit adhesive.

## Back Pressure Valve / Relief Valve Type DHV-S-DL, 0-10 bar Adjustable






pk_1_054

Adjustable back pressure valve for installation in the metering line to generate a constant back pressure for precise metering with a free outlet and with priming pressure on the suction side

When used as a back pressure valve in long lines to avoid resonance vibrations: Install at the end of the metering line or select a set pressure greater than the line pressure loss

Only use in conjunction with pulsation damper with a free outlet and short metering line. Use type DHV-U for use with a pulsation damper at back pressure or long lines.

**Caution:** Back pressure valves are not absolutely leak-tight shut-off devices! It is essential that you observe the installation notes in the operating instructions!

**Applications:** Metering pumps alpha, Beta® , gamma/ X, Pneumados b, EXtronic® and delta®

(Back Pressure Valves / Relief Valves for Motor Driven Metering Pumps see volume "Motor-driven and process metering pumps for all capacity ranges" page → 1-64)

| Type | Adjustable pressure | Connection | Material | Order no. |
|---|---|---|---|---|
| **DHV-S-DL** | 0 – 10 bar | 6 to 12 mm | PP | 302323 |
| **DHV-S-DL** | 0 – 10 bar | 6 to 12 mm | PC/FKM* | 302324 |
| **DHV-S-DL** | 0 – 10 bar | 6 to 12 mm | TT | 302325 |
| **DHV-S-DL** | 0 – 10 bar | 6 mm | SS | 302326 |
| **DHV-S-DL** | 0 – 10 bar | 8 mm | SS | 302327 |
| **DHV-S-DL** | 0 – 10 bar | 12 mm | SS | 302328 |

Order 2 connecting kits in the required hose size separately for the connection.

* **Please note:** The product contains connections bonded with Tangit. Always note the durability of Tangit adhesive.

(Connection Kits for Low-Pressure Metering Pumps see page → 1-75)