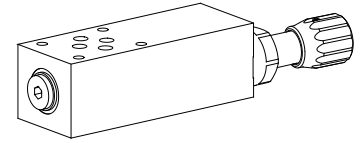


**Accumulator unloading valve
 Sandwich construction**

- 1-point adjustment
- Pilot operated
- $Q_{max} = 24 \text{ l/min}$
- $p_{max} = 400 \text{ bar}$
- $p_{Nmax} = 350 \text{ bar}$

NG6
 ISO 4401-03


DESCRIPTION

Sandwich type pilot operated accumulator unloading valve. Mounting interface acc. to ISO 4401-03. The valve is available with two types of setting, both interlockable. There are three pressure stages to choose from. The valve has an adjustable unloading point and a defined re-switching difference. The steel bodies of the sandwich valve are phosphate coated. Steel cartridge body and adjustment spindle galvanised to protect them against corrosion. The aluminium knob has a natural anodised finish. The quality of this product is reflected in the good performance data and design.

FUNCTION

If the P pressure exceeds the adjustable unloading point, the pilot spool is opening the pilot valve. A control flow starts to flow and the back end of the main spool is depressurised. The resultant pressure difference displaces the main spool towards the spring and the valve switches to unloading circulation. Because of the difference in section in the pilot area, the pilot flow is interrupted as soon as the pressure in the accumulator drops by 15% or 25% of the upper switching point. The pressures at the main spool are equilibrated and the spring displaces the main spool to the closed position. The pump can now build up the system pressure again as far as the unloading point and the cycle starts again.

APPLICATION

Accumulator loading valves are used in hydraulic systems with accumulators. They allow a low cost, energy saving system design in cases where the cylinder flow demand varies considerably or for retaining pressures over a period of time, e.g. for clamping processes. **Note:** An additional relief valve for system protection must be installed. Please refer to the set-up and connection example on page 2.

TYPE CODE

| | | | | | | | |
|---|------------|--------------------------|--------------------------|---------|--------------------------|---|--------------------------|
| | US | <input type="checkbox"/> | S | A06 - P | <input type="checkbox"/> | # | <input type="checkbox"/> |
| Accumulator unloading valve, pilot operated | | | | | | | |
| Type of adjustment | screw knob | <input type="checkbox"/> | <input type="checkbox"/> | | | | |
| | | <input type="checkbox"/> | <input type="checkbox"/> | | | | |
| Sandwich construction | | | | | | | |
| International standard interface ISO, NG6 | | | | | | | |
| Type list / function in P | | | | | | | |
| Pressure range p_N | 100 bar | <input type="checkbox"/> | <input type="checkbox"/> | | | | |
| | 160 bar | <input type="checkbox"/> | <input type="checkbox"/> | | | | |
| | 350 bar | <input type="checkbox"/> | <input type="checkbox"/> | | | | |
| Design-Index (Subject to change) | | | | | | | |

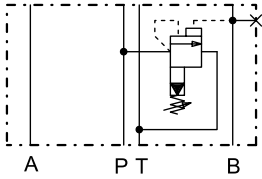
GENERAL SPECIFICATIONS

| | |
|---------------------|---|
| Description | Pilot operated accumulator unloading valve |
| Norminal size | NG6 according to ISO 4401-03 |
| Construction | Sandwich construction |
| Mounting | 4 holes for socket cap screw M5 or studs M5 |
| Connections | Connection plates Multi-station flange subplate Longitudinal stacking system |
| Mounting position | any |
| Ambient temperature | -20...+50 °C |
| Fastening torque | $M_D = 5,5 \text{ Nm}$ (Qual 8.8) for fixing screw $M_D = 50 \text{ Nm}$ for screw cartridge |
| Weight | $m = 1,7 \text{ kg}$ |

HYDRAULIC SPECIFICATIONS

| | |
|--------------------------|--|
| Fluid | Mineral oil, other fluid on request |
| Contamination efficiency | ISO 4406:1999, class 18/16/13 (Required filtration grade $\beta_{6...10} \geq 75$) refer to data sheet 1.0-50/2 |
| Viscosity range | 12 mm ² /s...320 mm ² /s |
| Fluid temperature | -20...+70 °C |
| Peak pressure | $p_{max} = 400 \text{ bar}$ |
| Norminal pressure | $p_N = 100 \text{ bar}$, $p_N = 160 \text{ bar}$, $p_N = 350 \text{ bar}$ |
| Minimum pressure | $p_{min} = 50 \text{ bar}$ for $p_N 160 / 350 \text{ bar}$ $p_{min} = 25 \text{ bar}$ for $p_N 100 \text{ bar}$ |
| Diff. unloading/loading | $15 \pm 3\%$ for $p_N = 160 / 350 \text{ bar}$ $25 \pm 3\%$ for $p_N = 100 \text{ bar}$ |
| Volume flow | $Q_{min} = 1...24 \text{ l/min}$ (over 24 l/min on request) |
| Leakage volume flow | Maximum 4 drops/min in accumulator operation P - T |

For further hydraulic characteristics refer to data sheet: 2.1-548

SYMBOL

REMARK!

Detailed performance data and additional hydraulic specifications may be drawn from the data sheets of the corresponding installed pressure relief cartridge.

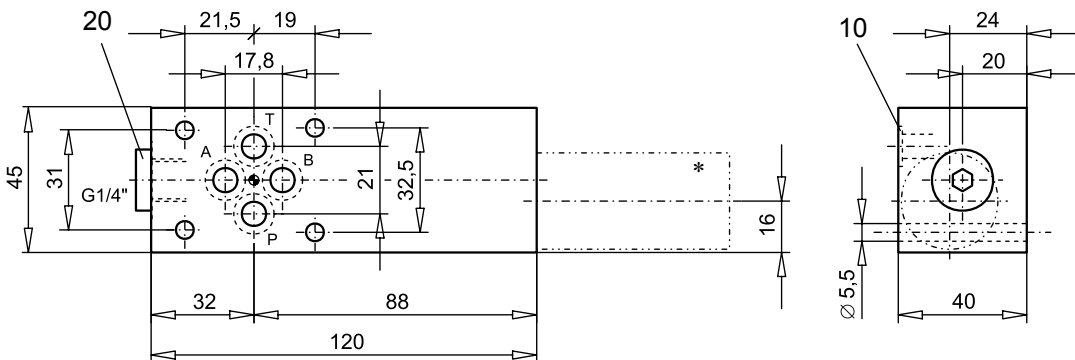
SCREW-IN CARTRIDGES INSTALLED

The following screw-in cartridges are used in the sandwich body:

| Type | Designation | Data sheet no. |
|---------|---|----------------|
| US.PM22 | Accumulator unloading valve • pilot operated | 2.1-548 |

CAUTION!


The performance data especially the „**pressure-flow-characteristic**„, on the data sheets of the screw-in cartridges refer to the screw-in cartridges only. The additional pressure drop of the flange body respectively sandwich body must be taken into consideration.

DIMENSIONS


* The exterior dimensions of the cartridge can be obtained from the corresponding data sheet 2.1-548

PARTS LIST

| Position | Article | Description |
|----------|----------|---------------------|
| 10 | 160.2093 | O-ring ID 9,25x1,78 |
| 20 | 238.2406 | Plug VSTI G1/4\"-ED |

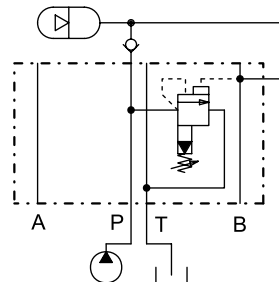
SET-UP AND CONNECTION EXAMPLES

Unloading point adjusted at 100 bar (OS)

Differential value 15 %

Loading point: (US) = OS minus 15 % = 85 bar

Gas side of accumulator loaded upto max. 90 % of US = 76 bar



Technical explanation see data sheet 1.0-100