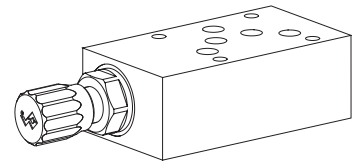


Pressure relief valve
Flange and sandwich construction

- **Pilot operated:** $Q_{max} = 100 \text{ l/min}$
 $p_N \text{ max} = 350 \text{ bar}$ $p_{max} = 400 \text{ bar}$
- **Direct operated:** $Q_{max} = 100 / 25 \text{ l/min}$
 $p_N \text{ max} = 32 / 315 \text{ bar}$ $p_{max} = 100 / 400 \text{ bar}$

NG10
ISO 4401-05


DESCRIPTION

Pilot operated pressure reducing valves NG10. Flange and sandwich construction according to ISO 4401-05 with 4 ports. Incorporated are proportional pressure reducing cartridges size M22x1,5 according to ISO 7789. The steel bodies for flange constructions and the bodies for sandwich constructions are phosphatized.

FUNCTION

When the set operating pressure has been reached, the spool opens and joins the protected line with the return to the tank T. G1/4" connection thread is provided (sealed) as standard for flange and sandwich designs with pressure relief in P. This enables connection to a pressure gauge.

APPLICATION

For relieving the operating pressure of a hydraulic system by diverting the flow of oil from the protected oil lines P, A or B to the return/tank line T. Flange and sandwich valves (vertical stacking) are particularly suitable for: machine tools and all types of handling systems. NG10 size valves are also generally used in stacking systems on power units.

TYPE CODE

| | |
|--|--|
| Pressure relief valve Direct operation, conical spool Direct operation, conical spool Pilot operated Type of adjustment Key Control knob Cover Flange design Sandwich design International standard interface ISO, NG10 Type list / function <i>Flange design</i> in P <input type="checkbox"/> P <i>Sandwich design</i> in P <input type="checkbox"/> P in A <input type="checkbox"/> A in B <input type="checkbox"/> B in A and B <input type="checkbox"/> AB Pressure range p_N <i>Pilot operated</i> 63 bar <input type="checkbox"/> 63 160 bar <input type="checkbox"/> 160 350 bar <input type="checkbox"/> 350 <i>conical spool, direct operated</i> 63 bar <input type="checkbox"/> 63 210 bar <input type="checkbox"/> 210 315 bar <input type="checkbox"/> 315 <i>control spool, direct operated</i> 32 bar <input type="checkbox"/> 32 | B <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> A 10 - <input type="checkbox"/> - <input type="checkbox"/> # <input type="checkbox"/> |
|--|--|

Design-Index (Subject to change)

GENERAL CHARACTERISTICS

| | | |
|-------------------------------|--|-----------------------|
| Denomination | Pilot or direct operated pressure relief valve | |
| Nominal size | NG10 acc. to ISO 4401-05 | |
| Construction | Flange or sandwich construction | |
| Type of mounting | 4 fixing holes for socket head cap screws M6 or stud M6 | |
| Fastening torque | $M_D = 9,5 \text{ Nm}$ (quality 8.8) for fixing screws $M_D = 50 \text{ Nm}$ for screw-in cartridge | |
| Type of connections | Thread- connection plates rows of flange plates and horizontal stacking system | |
| Installation position | any | |
| Ambient temperature | -20...+50 °C | |
| Weight | • Flange design | $m = 2,34 \text{ kg}$ |
| (without screw-in-cartridges) | • Sandwich design P, A, B | $m = 1,70 \text{ kg}$ |
| | • Sandwich design AB | $m = 1,94 \text{ kg}$ |

HYDRAULIC CHARACTERISTICS

| | |
|--------------------------------------|--|
| Hydraulic fluid | Mineral oils, other media on request |
| Max. permissible contamination level | ISO 4406:1999, classe 18/16/13 (Rec. filter gauge $\beta_{6...10} \geq 75$) see data sheet 1.0-50/2 |
| Viscosity range | 12 mm ² /s ... 320 m |
| Peak pressure: | $p_{max} = 400 \text{ bar}$ $p_{max} = 100 \text{ bar}$ (direct operated control spool) |
| Maximum volume flow | |
| pilot, direct op. conical spool | $Q_{max} = 100 \text{ l/min}$ |
| direct op. control spool | $Q_{max} = 25 \text{ l/min}$ |


REMARK!

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


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.

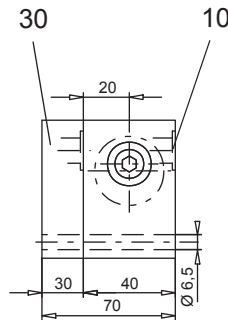
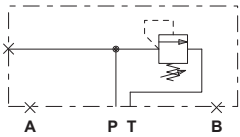
SCREW-IN CARTRIDGES INSTALLED

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

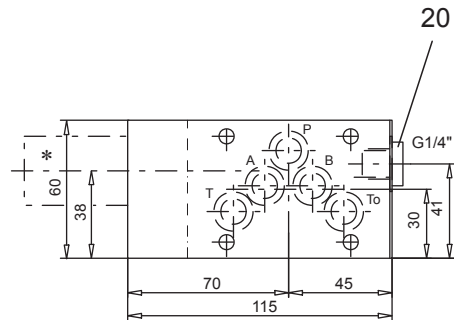
| Type | Designation | Data sheet no. |
|---------|--|----------------|
| BV.PM22 | Pressure relief valve • pilot operated | 2.1-530 |
| BA.PM22 | Pressure relief valve • direct operated | 2.1-540 |
| BK.PM22 | Pressure relief valve • direct operated | 2.1-542 |

TYPES / DIMENSIONS

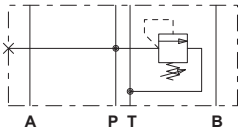
Flange construction
B..FA10-P



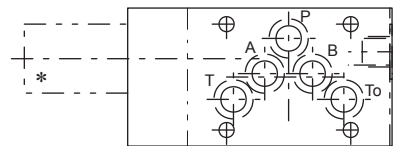
Flange construction



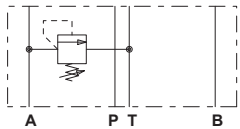
Sandwich construction
B..SA10-P



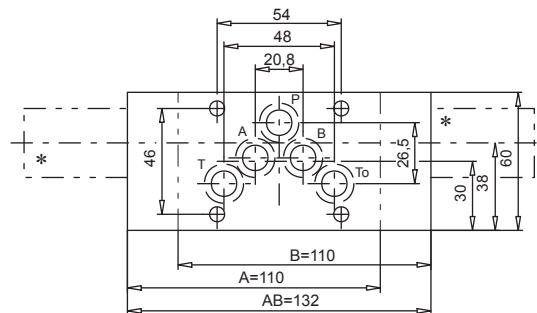
Sandwich construction in P



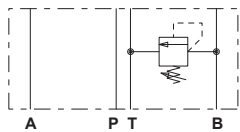
B..SA10-A



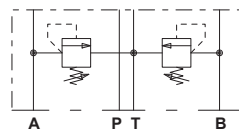
Sandwich construction in A, B or AB



B..SA10-B



B..SA10-AB


PARTS LIST

| Position | Article | Description |
|----------|----------|--|
| 10 | 160.2140 | O-ring ID 14,0x1,78 |
| 20 | 238.2406 | Plug VSTI G1/4"-ED (only for flange and sandwich plate P) |
| 30 | 173.4150 | Blindplate ABP10 (only for flansch) |

* The exterior dimensions of the cartridges can be obtained from the corresponding data sheets

Technical explanation see data sheet 1.0-100