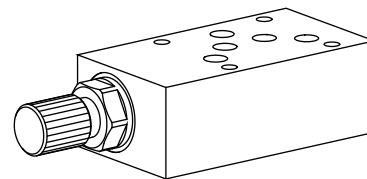


Pressure relief valve
Flange and sandwich construction

- **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			B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	A 010 - <input type="checkbox"/>	- <input type="checkbox"/>	# <input type="checkbox"/>
Direct operation, conical spool		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
direct operation, control spool		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pilot operated		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Types of adjustment:	Key	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Control knob	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Lock	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Cover	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Flange design		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sandwich design		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
International standard interface ISO, NG10									
Type list / function	<i>Flange design</i>	<i>Sandwich design</i>							
	P <input type="checkbox"/>	P <input type="checkbox"/>							
		A <input type="checkbox"/>							
		B <input type="checkbox"/>							
		A und B <input type="checkbox"/>							
Standard nominal pressure ranges	<i>Pilot operated</i>	<i>conical spool direct operated</i>	<i>control spool direct operated</i>						
	$p_N = 63 \text{ bar}$ <input type="checkbox"/>	$p_N = 63 \text{ bar}$ <input type="checkbox"/>	$p_N = 32 \text{ bar}$ <input type="checkbox"/>						
	$p_N = 160 \text{ bar}$ <input type="checkbox"/>	$p_N = 210 \text{ bar}$ <input type="checkbox"/>							
	$p_N = 350 \text{ bar}$ <input type="checkbox"/>	$p_N = 315 \text{ bar}$ <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 $m = 2,34 \text{ kg}$ • Sandwich design P, A, B $m = 1,70 \text{ kg}$ • Sandwich design AB $m = 1,94 \text{ kg}$
(without screw-in-cartridges)	

HYDRAULIC CHARACTERISTICS

Hydraulic fluid	Mineral oils, other media on request
Max. permissible contamination level	ISO 4406:1999, classe 18/16/13 (Rec. filter gauge $\beta_{0.5} \geq 75$) 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

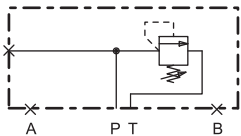
The following screw-in cartridges are used in either the flange body or the sandwich body:

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

TYPES/DIMENSIONS

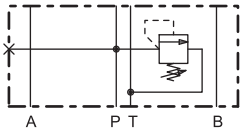
Flange construction

B..FA10-P

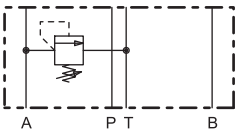


Sandwich construction

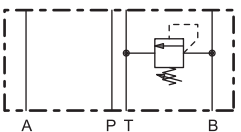
B..SA10-P



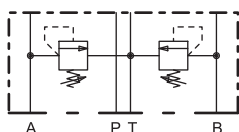
B..SA10-A



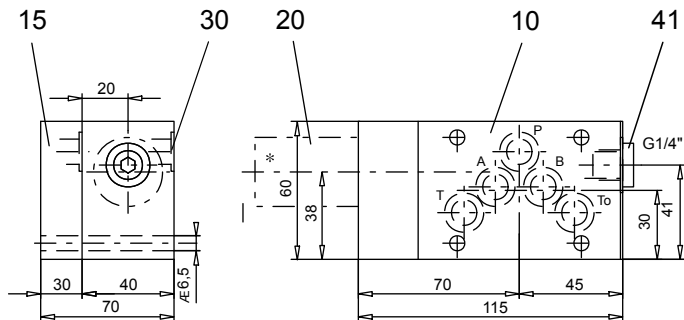
B..SA10-B



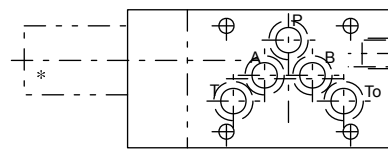
B..SA10-AB



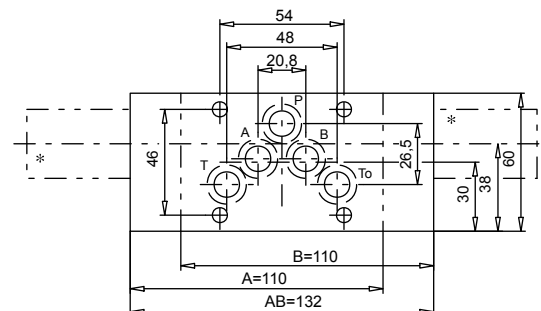
Flange construction



Sandwich construction in P



Sandwich construction in A, B or AB


PARTS LIST

Position	Article	Description
10	136.3621 136.3622 136.3629 136.3630	Sandwich plate P Sandwich plate AB Sandwich plate A Sandwich plate B
15	173.4150	Blindplate ABP10 (only for flansch)
20	593....	Pressure relief cartridge M22x1,5 to data sheet 2.1-530, 2.1-540, 2.1-542
30	160.2140	O-ring ID 14,0x1,78
41	238.2406	Plug VSTI G1/4"-ED (only for flange and sandwich plate P)

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

Technical explanation see data sheet 1.0-100