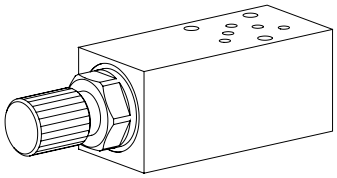
Pressure relief valve
Flange and sandwich construction

- **Pilot operated:** Q_{max} = 30 l/min
  $p_{N\ max}$ = 350 bar p_{max} = 400 bar
- **Direct operated:** Q_{max} = 30 / 25 l/min
  $p_{N\ max}$ = 32 / 315 bar p_{max} = 100 / 400 bar

NG4-Mini®



DESCRIPTION

Pilot and direct operated pressure reducing valves NG4-Mini. Flange and sandwich construction according to Wandfluh standard with 4 ports. Incorporated are proportional pressure relief 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.G 1/4“ 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. NG4 size valves are also generally used in stakking systems on power units. Mini 4 pressure regulating valves are used everywhere where lightweight, small hydraulic control systems are required.

TYPE CODE

B ☐ ☐ ☐ A 04 - ☐ - ☐ # ☐

Pressure relief valve			
Direct operation, conical spool		A	
direct operation, control spool		K	
Pilot operated		V	
Setting versions	Key	S	
	Control knob	D	
	Lock	K	
	Cover	A	
Flange design		F	
Sandwich design		S	
Mounting interface acc. to Wandfluh standard, NG4-Mini			
Type list / function	*Flange design*		*Sandwich design*
	P	P	P P
			A A
			B B
			A und B AB

Standard nominal pressure ranges	*Pilot operated*		*conical spool direct operated*		*control spool direct operated*	
	p_N= 63 bar	63	p_N= 63 bar	63	p_N= 32 bar	32
	p_N= 160 bar	160	p_N= 210 bar	210		
	p_N= 350 bar	350	p_N= 315 bar	315		

Design-Index (Subject to change)

GENERAL CHARACTERISTICS

Denomination	Pilot or direct operated pressure relief valve
Nominal size	NG4-Mini acc. to Wandfluh standard
Construction	Flange or sandwich construction
Type of mounting	3 fixing holes for socket head cap screws M5 or stud M5
Fastening torque	M_D = 5,5 Nm (quality 8.8) for fixing screws M_D = 50 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 (without screw-in-cartridges)	• Flange design m = 1,15 kg • Sandwich design P, A, B m = 0,96 kg • Sandwich design AB m = 1,24 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 ß 6...10≥75) see data sheet 1.0-50/2
Viscosity range	12 mm²/s ... 320 mm²/s
Peak pressure:	p_{max} = 400 bar p_{max} = 100 bar (direct operated control spool)
Maximum volume flow	
pilot, direct op. conical spool	Q_{max} = 30 l/min
direct operated control spool	Q_{max} = 25 l/min

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

CAUTION!
The performace data especially the **„pressure-flow-characteristic„** on the data sheets of the screw-in catridges refere to the screw-in cartridges only. The additional pressure drop of the flange body respectivly sandwich body must be taken into consideration.

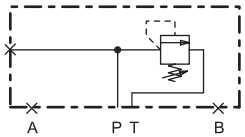
SCREW-IN CARTRIDGES INSTALLED

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

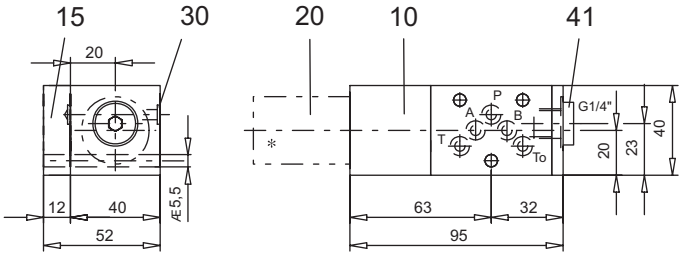
Type	*Designation*	*Data sheet no.*
B**V.**PM22	Pressure relief valve • pilot operated	2.1-530
B**A.**PM22	Pressure relief valve • pilot operated	2.1-540
B**K.**PM22	Pressure relief valvee • direct operated	2.1-542

TYPES/DIMENSIONS

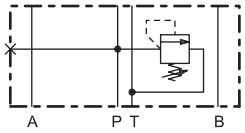
Flange construction
B..FA04-P



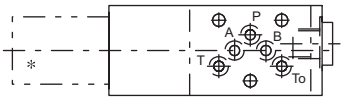
Flange construction



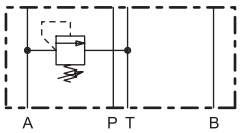
Sandwich construction
B..SA04-P



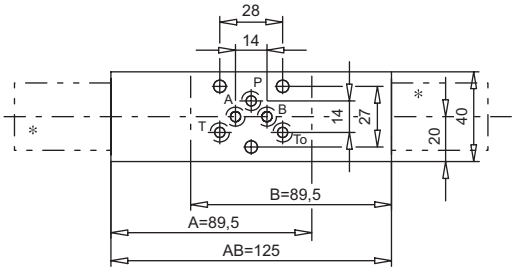
Sandwich construction in P



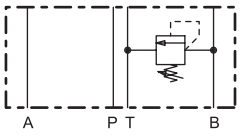
B..SA04-A



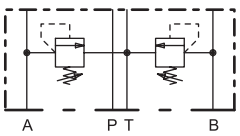
Sandwich construction in A, B or AB



B..SA04-B



B..SA04-AB



PARTS LIST

Position	Article	Description
10	130.3626 130.3625 130.3632 130.3633	Sandwich plate P Sandwich plate AB Sandwich plate A Sandwich plate B
15	173.1150	Blindplate BBP4 (only for flansch)
20	593.…	Pressure relief cartridge M22x1,5 to data sheet 2.1-530, 2.1-540, 2.1-542
30	160.2052	O-ring ID 5,28x1,78
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 1.0-100D