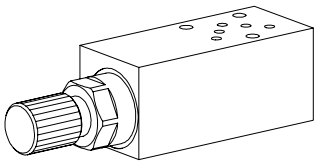
Back pressure valve
Sandwich construction

- **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

Back pressure valves in direct or pilot operated versions for sandwich mounting. Mounting interface acc. to Wandfluh standard. The valves are available in three types of adjustment, one of them being lockable, the others beig fixed. A cover is also available for key adjustment, see data sheet 2.0-50. Three pressure ranges are available for the pilot operated valves, four are available for the directly operated ones. The steel bodies are phosphate coated.

FUNCTION

When pressure reaches the setting of the back pressure valve main spool will open up the oil passage.

APPLICATION

Back pressure valves are applied where a back pressure in the outlet part of a cylinder or motor is necessairy to prevent uncontrolled movement. The fields of applications are in machine building, handling system and hydraulic power packs.

CONTENT

TYPE CODE

G ☐ ☐ S A04 - ☐ - ☐ # ☐

Back pressure 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				
Sandwich construction						
Mounting interface NG4-Mini						
Pressure relief in:	T	T				
	A and B	AB	A	A	B	B
Nominal pressure pilot operated:	p_N = 63 bar	63	Nominal pressure direct operated:	p_N = 63 bar	63	
	p_N = 160 bar	160		p_N = 210 bar	210	
	p_N = 350 bar	350	conical spool	p_N = 315 bar	315	
			control spool	p_N = 32 bar	32	
Design-Index (Subject to change)						

GENERAL SPECIFICATIONS

Nominal size	NG4-Mini acc. to Wandfluh standard
Denomination	Pilot- and direct operated pressure valve
Bauart	Sandwich construction
Mounting	3 holes for socket cap screws M5 or studs screws M5
Fastening torque	M_D= 5,5 Nm (qual. 8.8) for fixing screws M_D= 50 Nm for screw in cartridge
Connections	Threaded connection plates Multi-flange subplates Longitudial stacking system
Mounting position	any
Ambient temperature	-20…+50°C
Weight	Depending on the type of valves 1,140…2,230 kg

HYDRAULIC SPECIFICATIONS

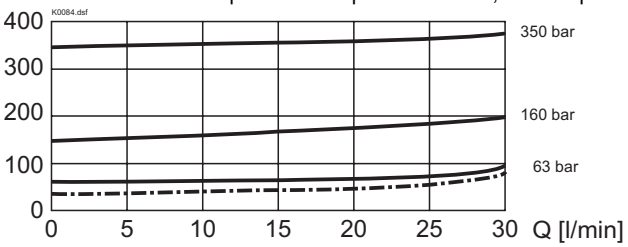
Fluid	Mineral oil, other fluid on request
Contamination efficiency	ISO 4406:1999, class 18/16/13 (Required filtration grade ß 6...10≥75) refer to data sheet 1.0-50/2
Viscosity range	12 mm²/s…320 mm²/s
Fluid temperature	-20…+70°C
Peak pressure	p_{max} = 400 bar p_{max} = 100 bar (Dir. op., control spool)
Nominal pressure	
pilot operated:	p_N = 63 bar, 160 bar, 350 bar
direct operated:	
conical spool	p_N = 63 bar, 210 bar, 315 bar
control spool	p_N = 32 bar
Minimal Pressure	see characteristics
Opening pressure over non-return valve	$p_ö$ = 2,2 bar
Max. Volume flow	
pilot- direct op. control spool	Q_{max} = 30 l/min
direct operated conical spool	Q_{max} = 25 l/min

For further hydraulic specifications refer to data sheets:
2.1-530 for cartridge M22x1,5 pilot operated
2.1-540 for cartridge M22x1,5 direct operated conical spool
2.1-542 for cartridge M22x1,5 direct operated control spool

CHARACTERISTICS oil viscosity υ = 30 mm²/s

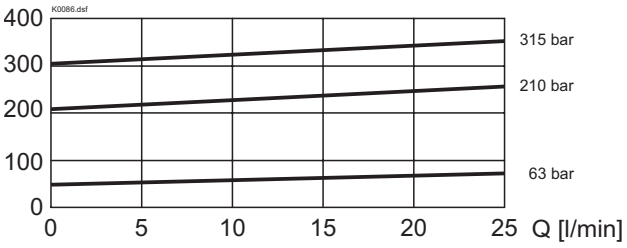
Pressure volume flow curve

p [bar] — pilot operated back pressure valves
-·-·- direct operated back pressure valves, control spool



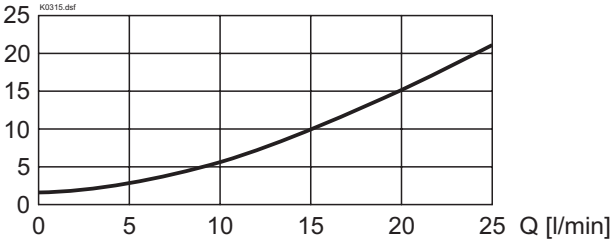
p = f (Q) Pressure volume flow curve
Direct operated conical spool, back pressure valve

p [bar]



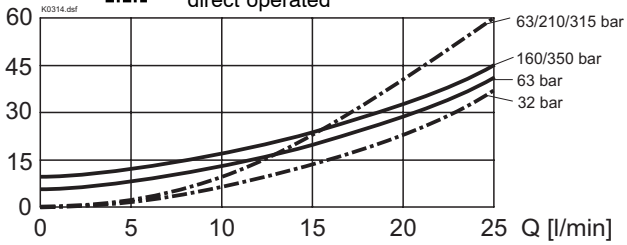
Δp = f (Q) Pressure drop-volume flow curve over non-return valve

Δp [bar]



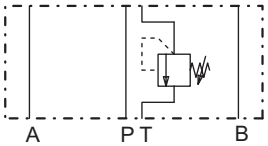
p_{min} = f (Q) Minimum adjustable pressure

p [bar] — pilot operated
-·-·- direct operated

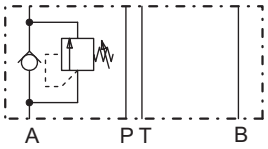


TYPE LIST / DIMENSIONS

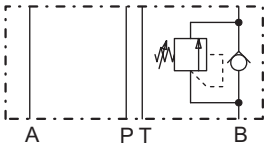
Sandwich construction
G..SA04-T



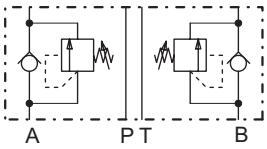
G..SA04-A

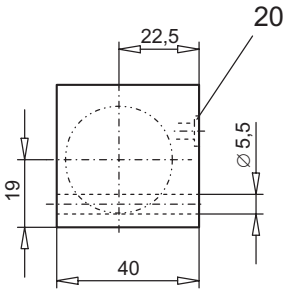


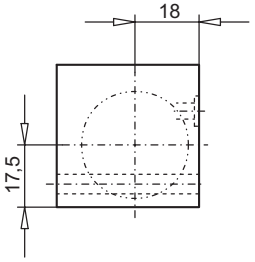
G..SA04-B

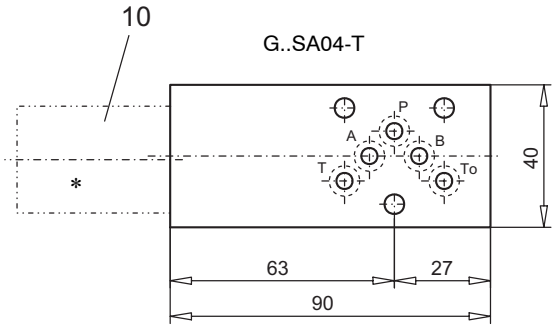


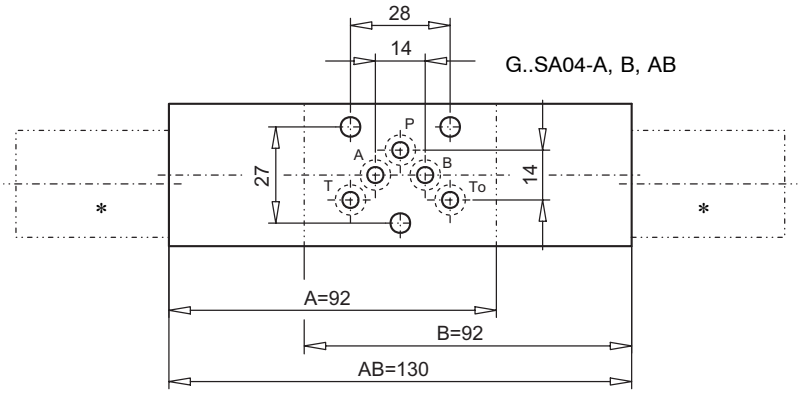
G..SA04-AB











* The exterior dimensions of the cartridges can be obtained from the corresponding data sheets 2.1-530, 2.1-540 and 2.1-542.

PARTS LIST

Position	Article	Description
10	593. …	Pressure relief cartridge M22x1,5 to data sheets 2.1-530, 2.1-540 and 2.1-542
20	160.2052	O-ring ID 5,28x1,78

Technical explanation see data sheet 1.0-100E