BIERI
SWISS HYDRAULICS

Pressure relief valves	Type BV700
NG 6 up to 700 bar	up to 25 l/min

Features
- Direct operated valve
- High degree of pressure stability
- Safe operation
- Precise pressure adjustment
- Porting NG 6 according to DIN 24340
- Maximum pressure setting with lock nut

Application
- as cartridge
- as modular valve with one or two cartridges

Pressure relief valves are direct operated seated valves with dumping piston. They are used to limit the pressure in a hydraulic system.

Technical data

Hydraulic fluid	Mineral oil according to DIN 51524 (other fluids on request)
Fluid temperature range	NBR: -30 to 80 °C FPM: -20 to 80 °C
Ambient temperature range	-30 to 50 °C
Viscosity range	5 to 400 mm^2/s
Porting	NG 6 according to DIN 24340 / ISO 4401 / CETOP RP 121 H
Operating pressure max. connection P, A, B	700 bar
Pressure admissible max. connection T	350 bar
Flow rate max.	25 l/min
Filtration	according to NAS 1638, class 6 or ISO/DIN 4406 15/12
Weight	see dimension drawings
Material / surface treatment	Housing: steel blued Cartridge: steel-corrosion resistant Adjusting knob: plastic

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Function and design
The valve consist of a cartridge (1), seat (2), taper (3) with dampening piston (4), spring (5), adjusting spindle (6) and lock nut (7).

The system pressure can be set to the required pressure via the adjusting spindle.

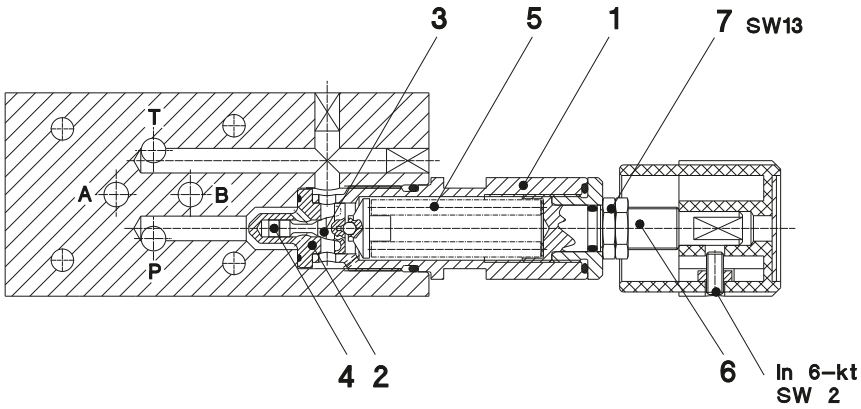
The spring pushes the taper onto the valve seat. The system pressure in the P-line acts on the taper.

If the pressure raises above the set pressure via the spring the taper opens and the hydraulic medium flows from port P to tank.

Because the pressure limitation in a system is a dynamic event the taper is fitted with a damping piston.

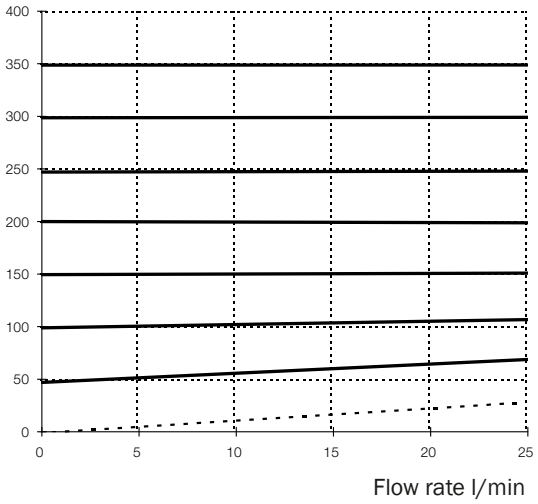
This piston dampens the movement during opening and closing of the taper and therefore a stable pressure limitation is achieved.

To achieve a good pressure adjustment and p-Q characteristic over the entire operation range the pressure range was split into two. A flat p-Q curve is achieved by clever deflection of the flow, hence using the dynamic energy of the flow.



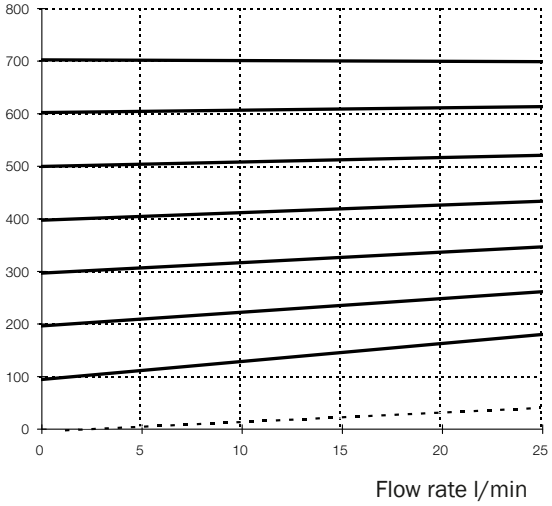
Characteristics of modular valves
measured at ν = 32 mm²/s, T = 40 °C

Setting pressure



... = min. setting pressure
max. setting pressure 350 bar

Setting pressure



... = min. setting pressure
max. setting pressure 700 bar

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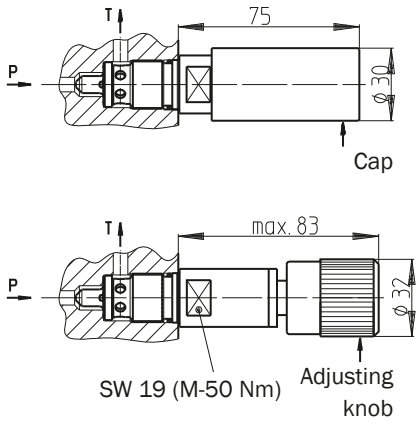
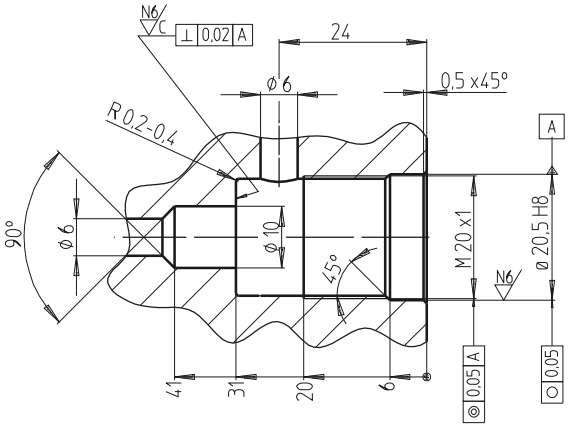
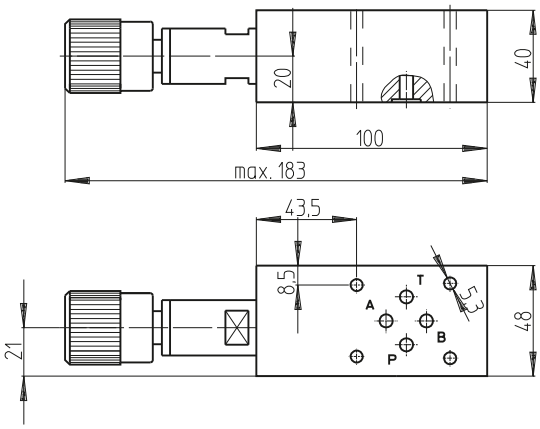
Cartridge
350 bar / 700 bar
Design revision A
Weight 0,2 kg



Bore dimension

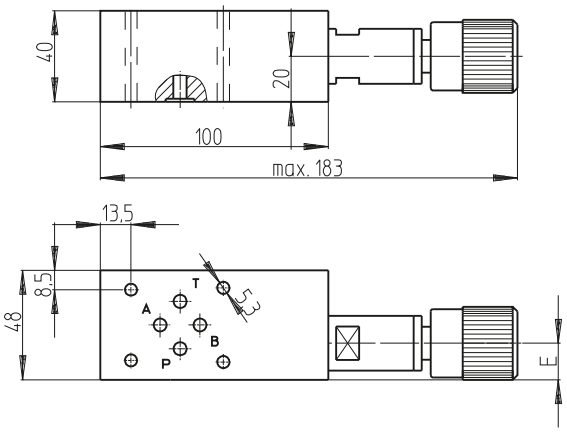


DV700-6-A- ...
Design revision A
Weight 1,6 kg



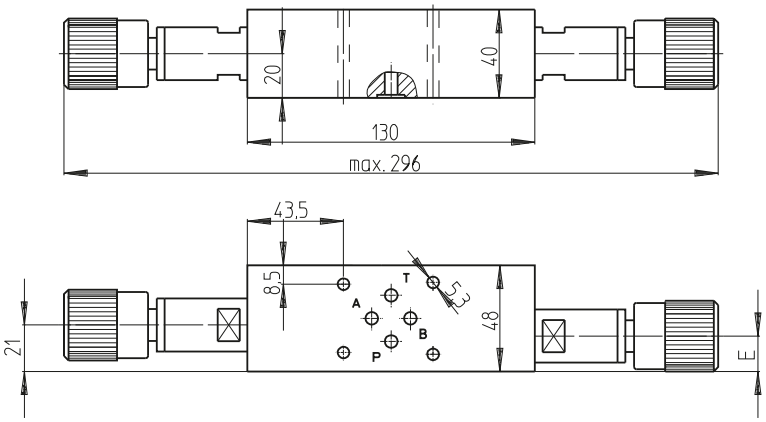
DV700-6-P- ...
DV700-6-B- ...
Design revision A
Weight 1,6 kg

DV700-6-P- ... Dimension E = 16 mm
DV700-6-B ... Dimension E = 21 mm



DV700-6-A- ...
Design revision A
Weight 1,6 kg

DV700-6-PA-... Dimension E = 16 mm
DV700-6-AB-... Dimension E = 21 mm



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Ordering code: Example

DV	700	-	350	-	P	-	350	-	P	-			00

Pressure relief valve

Type BV700

Size 6

Pressure relief

E Cartridge
Modular subplate
from - to:
P P - T
A A - T
B B - T
AB A - T and B - T
PA P - T and A - T

max. setting valve

350 bar
700 bar

Seals

P (NBR)
V (FPM)

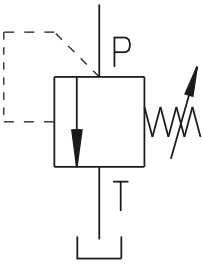
Special design
01 ... 99
(00 for standard)

Part index
Please leave it blank
(small letters a-z; different letters not effect interchangeability)

Design revision (AS)
see dimension drawings
(capital letters A-Z; identical letters equal same connecting dimensions)

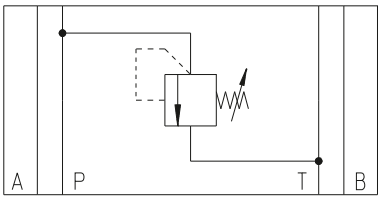
Symbols

Cartridge



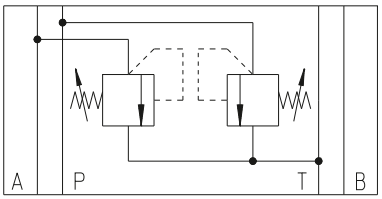
Modular valve
P – T
A – T
B – T

Symbol P – T



P – T / A – T
A – T / B – T

Symbol P – T / A – T



Accessories

For each valve the following is included:

4 pieces O-Rings 9,25 x 1,78 mm
90 °ShA part no. 900195
Adjusting knob mounted

Cap in addition
Tie polts / fixation screws and subplates
see technical data sheet AP / RP

Operating instructions see BA-BV700

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