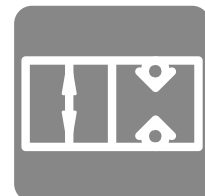
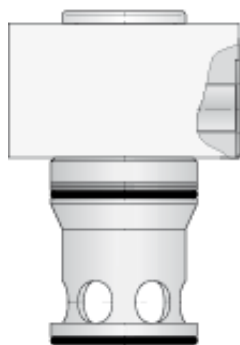


2/2-way directional seated valve type CVK, CVS, CVD

operating pressure p_{max}

350 bar



Product characteristics

Directional seated valves are a type of directional valve. As cone valves they are tightly sealed without leakage in the closed state.

The directional seated valves type CVK, CVS and CVD are 2/2-way cartridge valves.

Type CVK is designed as a piston valve.

Type CVS is designed as a seated valve.

Type CVD is designed as a seated valve with damping pin.

Features and benefits:

- two basic positions (opened and closed), several intermediate positions possible
- for assembly into special housings or control blocks
- control cover for mounting of the cartridge valve
- totally pressure controlled via control pressure at port X

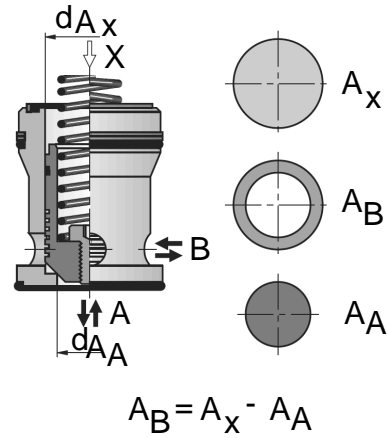
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Principle

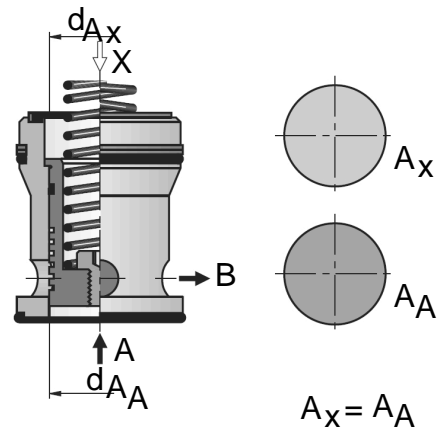
2/2-way cartridge valve in seat valve design

The position of the piston depends on the resulting force ratio. In "closed" direction, spring force and control pressure are admitted to seat area A_X . In "open" direction, the operating pressure affects seat surface A_A and the pressure affects annular surface A_B . When the valve cone is open - by pressure relief at X - bidirectional flow through ports A and B can take place. When the piston is closed - port X is pressurized - main ports A and B are sealed from each other.



2/2-way cartridge valve in piston design

For the piston design the sealing only takes place via piston clearance. Leakage occurs among ports A and B. A further contrast to the poppet design is the surface equality of A_A and A_X .



Technical data

General

type	poppet or piston valve
design	cartridge valve
weight	E10: 0.03 kg E16: 0.08 kg E32: 0.25 kg E40: 0.65 kg E50: 1.10 kg
ambient temperature	-30 to +50 °C
mounting position	arbitrary

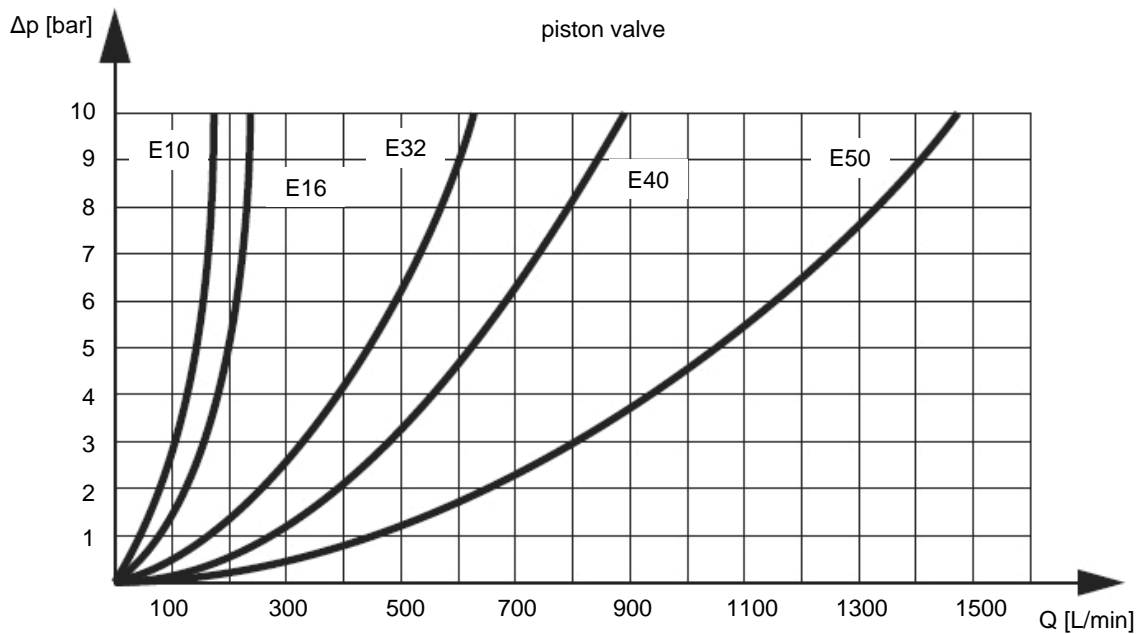
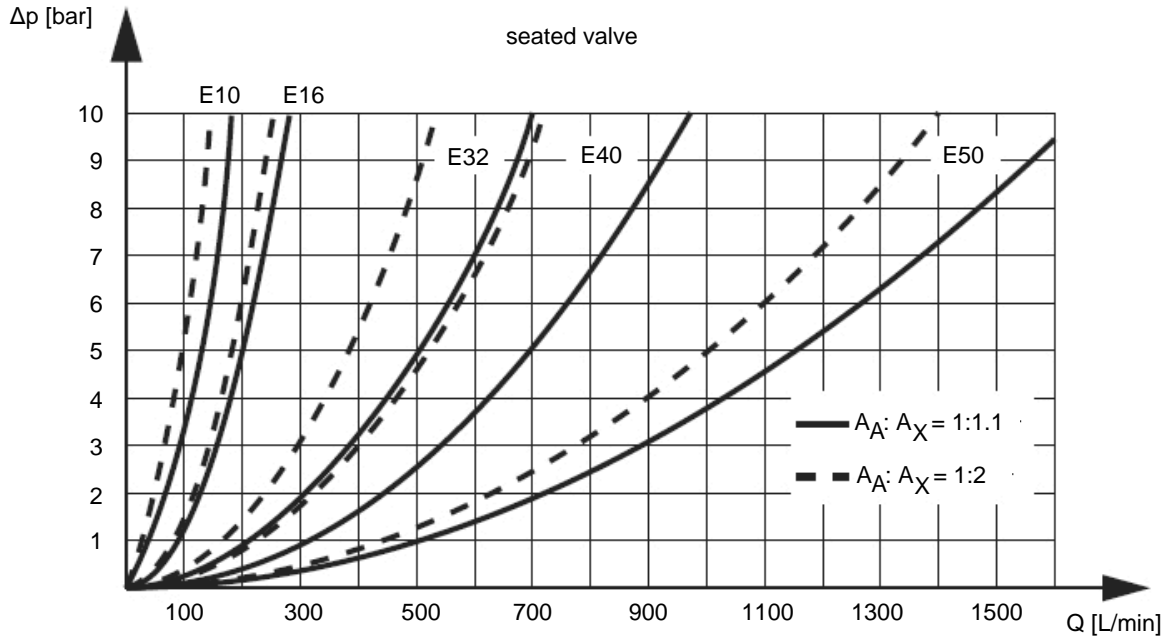
Hydraulic parameters

Hydraulic fluid: mineral oil according to DIN 51524, other media on request

max. operating pressure	350 bar
temperature of hydraulic fluid	-25 to +70 °C
viscosity	10-600 mm ² /s
permissible degree of pollution	max. class 22/19/16 according ISO 4406
filter recommendation	filter retention rate $\beta_{25} > 75$

Characteristic lines

measured at +50 °C temperature of hydraulic fluid, without closing spring, viscosity 35 mm²/s, tolerance ±5 %

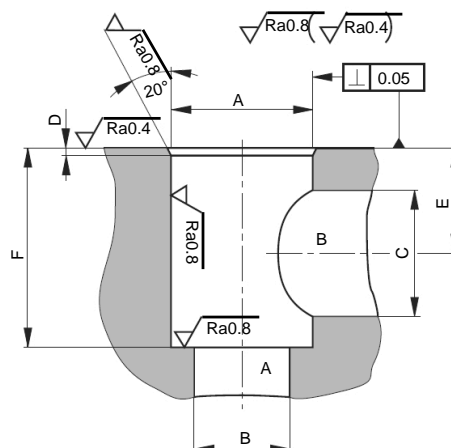


Dimensions and connections

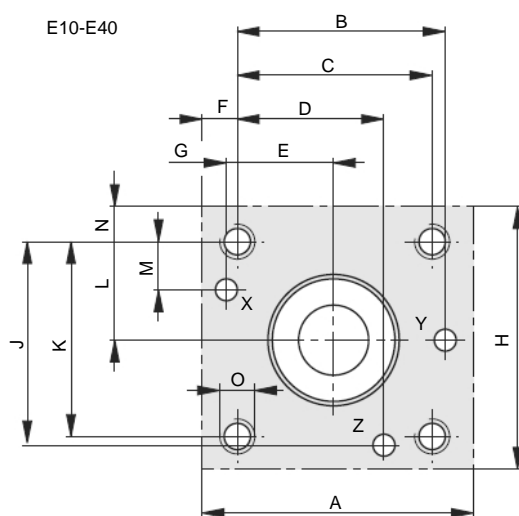
Dimensions are given in mm.

Mounting space

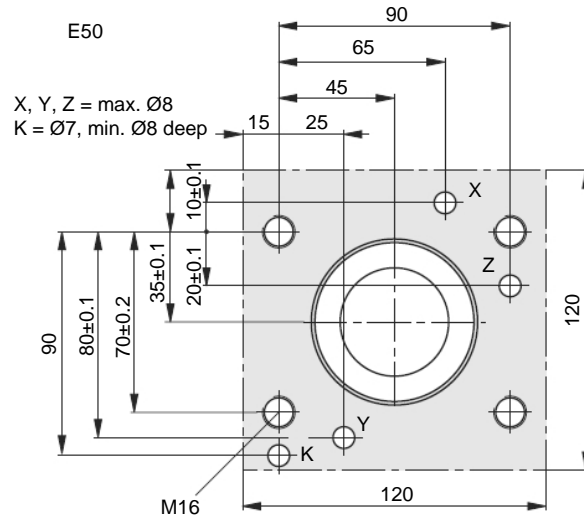
	E10	E16	E32	E40	E50
A	∅20H8	∅28H8	∅38.1H8	∅50H8	∅62H8
B	∅10	∅16	∅25	∅32	∅42
C _{max}	∅14	∅20	∅33	∅40	∅50
D	2	2	2	2	2
E	15+0.5	20+0.5	29+0.5	36+0.5	48+0.5
F	25+0.05	34+0.05	50.8+0.05	62+0.05	80+0.05



Drilling pattern for control covers



	E10-E32	E40
A	62	90
B	47.25±0.1	64±0.1
C	44.5±0.2	60±0.2
D	33.25±0.1	45±0.1
E	22.25±0.1	30±0.1
F	7.75	15
G	1.75±0.1	2±0.1
H	60	80
J	46.25±0.1	62±0.1
K	44.5±0.2	60±0.2
L	22.25±0.1	30±0.1
M	11.25±0.1	15±0.1
N	7.75	10
O	M8	M10
X,Y,Z	max. ∅4	max. ∅6



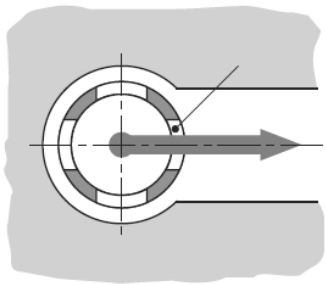
X = preferable pilot oil inlet

Y = pilot oil outlet

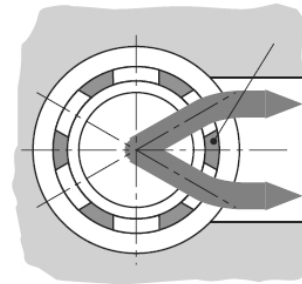
Z = pilot oil inlet

K = bore for positioning pin (size E50 only)

Preferred installation for minimal pressure drop



port X and outlet aligned



web Y and outlet aligned

Order information

Type code

CV	S	E32	A	08	C	D
						piston type
						surface ratio $A_A : A_X^*$
						orifice diameter
						opening pressure A - B
						size
						design
						type

design

K		piston valve, surface ratio $A_A:A_X = 1:1$
S		seated valve, see surface ratio
D		seated valve with cushioning piston, surface ratio $A_A:A_X = 1:2$

size

E10	
E16	
E32	see mounting space (further sizes on request)
E40	
E50	

opening pressure A - B

A	~1.5 bar
B	~2.5 bar
C	without spring

orifice diameter

00	closed
06	0.6 mm
08	0.8 mm
10	1.0 mm
12	1.2 mm
14	1.4 mm

surface ratio $A_A : A_x^*$

A	1 : 1.1
C	1 : 2

*data not available for CVK_ and CVD_

piston type*

_	normal version for symbols see type
D	sealing at piston (only in connection with opening pressure ~2.5 bar, version B)

*data not available for CVK_ and CVD_

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