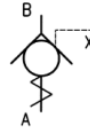


- Pilot-operated check valve size 1 ... size 5
- Plate-type, Screw-in design
- up to 80 l/min, 350 bar (500 bar on request)



## Description

Series ERVH units are screw-in pilot-operated check valves with mounting threads from G 1/4" to G 1".

The valves prevent flow against the screw-in direction A→B (see symbol). In the opposite direction, the opening pressure is 1 bar.

The valve can be opened against the no-flow direction, by a pilot pressure at X.

The units are plate valves with hardened and diamond-lapped seat and valve plate.

An external o-ring with back-up ring seals the leakage path between the valve and cavity wall.

Advantages:

- virtually leak-free
- high pressure rating
- compact construction

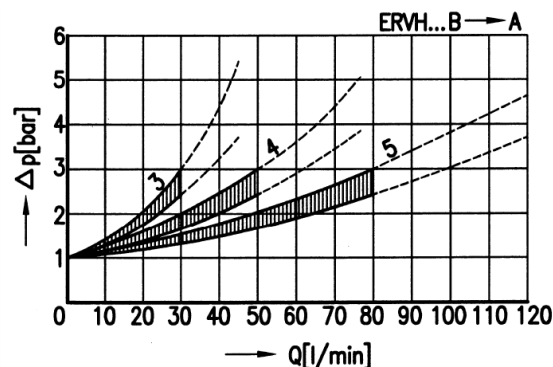
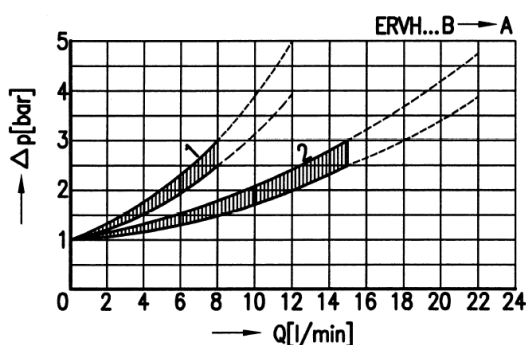
## Technical Data

General Specifications	ERVH
Design:	plate design
Mounting method:	screw-in cartridge
Size:	nominal 1 ... 5 (see table Dimensions)
Mounting position:	unrestricted

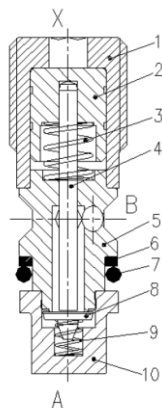
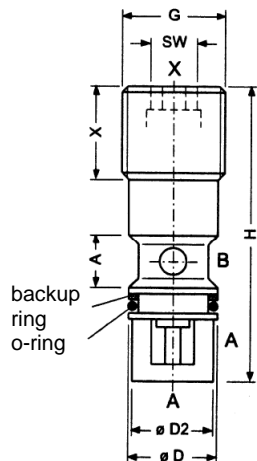
Hydraulic Characteristics	
No-flow direction:	A → B (see symbol)
Max. pressure:	350 bar (500 bar on request)
Max. flow:	80 l/min
Opening area ratio:	i (see table)
Fluid:	hydraulic oils HL and HLP according DIN 51524
Temperature range:	-30°C ... + 80°C
Viscosity range:	10 ... 500 mm <sup>2</sup> /s (cSt)
Min. fluid cleanliness	18/14 to ISO 4406 / CETOP RP70H 8 ... 9 to NAS 1638

## Characteristics

oil viscosity 33 mm<sup>2</sup>/s (cSt)



**Dimensions**

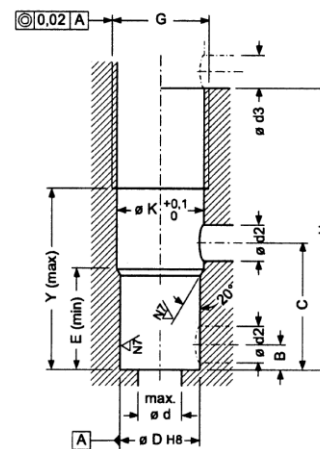


Item	Qty.	Description
1	1	Screw-in bush
2	1	Pilot piston
3	1	Piston spring
4	1	Push pin
5	1	Valve seat
6	1	Back-up ring
7	1	O-ring
8	1	Valve plate
9	1	Valve spring
10	1	Valve body

	$Q_{Nom.} = Q_{max}$ (l/min)	G	øD	øD <sub>2</sub>	H	A	B	X	SW	Tightening torque (Nm)	o-ring (1 pce)	Back-up ring PTFE (1 pce)
ERVH-1	8	G1/4"	11,0	10,5	38,0	5,0	4,0	12,0	4	10	7,65 x 1,78	8,1 x 11,0
ERVH-2	15	G3/8"	14,0	13,5	43,0	7,0	4,0	12,5	6	20	10,82 x 1,78	11,1 x 14,0
ERVH-3	30	G1/2"	18,0	17,5	51,0	10,0	5,0	14,0	8	40	14,00 x 1,78	15,1 x 18,0
ERVH-4	50	G3/4"	23,5	23,0	59,0	12,0	6,0	17,0	10	80	20,35 x 1,78	20,6 x 23,5
ERVH-5	80	G1"	29,5	29,0	70,0	16,0	7,0	19,0	14	160	26,70 x 1,78	26,6 x 29,5

**Cavity**

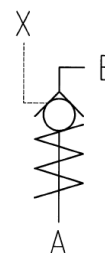
	øK	ød	ød <sub>2</sub>	ød <sub>3</sub>	C	E	Y
ERVH-1	11,75	8,0	5,0	3,0	17,50	15,05	25,0
ERVH-2	15,25	11,0	6,0	3,0	20,50	16,75	29,0
ERVH-3	19,00	15,0	9,0	3,0	24,50	18,40	36,0
ERVH-4	24,50	20,0	11,0	4,0	27,50	19,90	41,0
ERVH-5	30,50	26,0	14,0	4,0	32,50	23,40	50,0



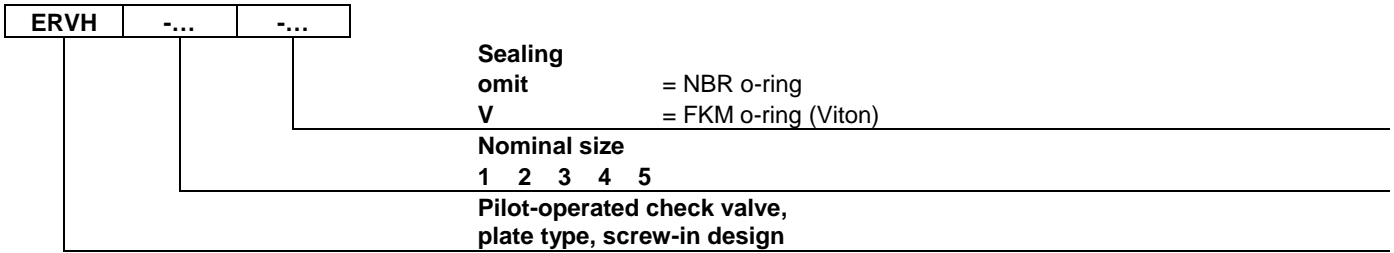
**Pilot pressure X**

	i
ERVH-1	3,7
ERVH-2	3,0
ERVH-3	3,0
ERVH-4	3,0
ERVH-5	3,0

$$\text{Minimum pilot pressure} = \frac{\text{Load pressure in A} - \text{back pressure in B}}{\text{opening area ratio } i} + 3 + \text{back pressure in B}$$



**Type code**



**Options on request:**

- with metric or UNF thread
- special materials
- customised design

**Ordering example**

- Pilot-operated check valve, plate type, screw-in design
- Nominal size 1, G 1/4"

**Type code**

ERVH-1

**Design and installation notes**

The installation dimensions and tolerances must be maintained.

Use the specified tightening torque when fitting the valve. Special fitting tools (pin spanners) are available.

Referring to the free-flow direction, nozzles and orifices must not be situated directly before the check valve.

When fitting the valve, take particular care to ensure that:

- the valve is firmly seated on the sealing surface
- valve components are not deformed by the use of excessive force

**Application notes**

The maximum operating pressure must not be exceeded and any pressure peaks must be taken into consideration.

The specified nominal flow rate must not be exceeded. In applications such as accumulator circuits, where sudden pressure can be applied to the valve in the free-flow direction, ensure that the specified flow ratings are not exceeded.

Buyers bear the sole responsibility for ensuring that the selected products are suitable for their applications. Buyers normally establish this by undertaking qualification programs on test stands, or evaluating the performance of prototype machines or systems.