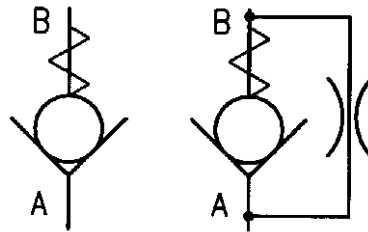


Check Valves, Size 04 ... 25

Plate-type, Screw-in Design

Series RVE ... 140 l/min, 350 bar (500 bar)



1 General

1.1 Product description

Series RVE units are screw-in check valves with mounting threads ranging from G 1/8" to G 1". For other thread forms, contact Bucher Hydraulics.

The valves prevent flow in the screw-in direction (B → A), with no leakage. In the opposite direction, there is a range of opening pressures from 0.1 to 2 bar.

The cavities are identical to those used by the RKVG valve (REG-02 cavity only) and RKVE valve (REG-01 & REG-02).

The units are spring-closed plate valves with hardened body, seat and valve plate. The sealing faces are diamond-lapped.

An external O-ring seals the leakage path between the valve and cavity wall. Note that the two types of cavity use different O-ring sizes!

A "metered check" function can be easily created by providing an orifice in the centre of the valve plate.

1.2 Advantages

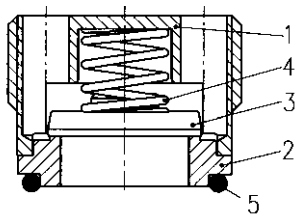
- High pressure rating
- Virtually zero leakage
- Compact construction
- Various opening pressures
- Particularly suitable for use as make-up check valves
- Option: metered flow in the no-flow direction through an orifice

2 Main characteristics

Designation	check valve / non-return valve
Design	guided plate design
Mounting method	screw-in cartridge
Size	nominal 4...25 mm. See Table in section 5, Dimensions
Dimensions	see Table in section 5, Dimensions
Mounting attitude	unrestricted
No-flow direction	B → A (see symbol)
Operating pressure range	... 350 bar (for 500 bar, contact Bucher Hydraulics)
Opening pressure range	0.1 2 bar for all sizes
Flow rate, Q max.	... 140 l/min
Fluid	HL and HLP hydraulic oils to DIN 51524
Temperature range	-30°C... +80°C
Viscosity range	10... 500 mm ² /s (cSt)
Min. fluid cleanliness	18/14 to ISO 4406 / CETOP RP70H, 8...9 to NAS 1638

For applications outside these parameters, please contact Bucher Hydraulics.

3 Schematic section

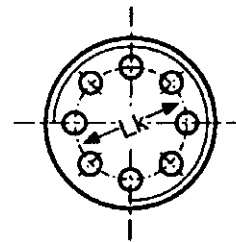
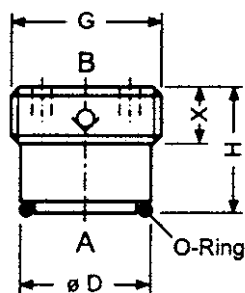


4 Components

Item	Qty.	Description
1	1	Valve body
2	1	Valve seat
3	1	Valve plate
4	1	Spring
5	1	O-ring

5 Dimensions

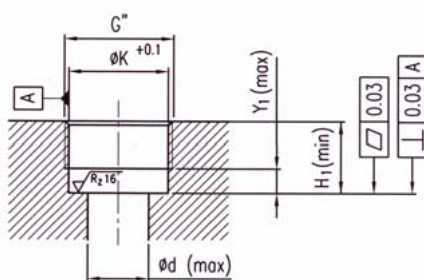
5.1 Valve



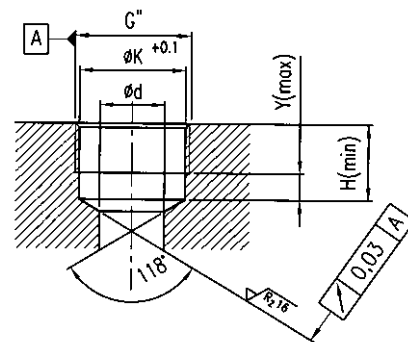
	Q Nom =Qmax (l/min)	G	ØD	H	X	O-ring for cavity type REG-01	O-ring for cavity type REG-02	Tightening torque (Nm)	Pin spanner Type
RVE-04-...	8	G1/8"	8.50	10.00	5.00	6.2 x 1.0	6.0 x 0.8	3	M-04
RVE-06-...	15	G1/4"	11.50	11.00	5.00	8.5 x 1.5	8.0 x 1.25	7	M-06
RVE-08-...	30	G3/8"	14.90	13.00	7.00	12.0 x 1.5	12.0 x 1.0	15	M-08
RVE-10-...	50	G1/2"	18.70	15.50	8.50	16.0 x 1.5	16.0 x 1.0	30	M-10
RVE-16-...	80	G3/4"	24.20	18.50	10.00	20.0 x 2.0	20.0 x 1.5	60	M-16/MKS-16
RVE-25-...	140	G1"	30.20	23.00	12.50	25.0 x 2.5	-	120	M-25/MKS-25

5.2 Cavity

5.2.1 Cavity type REG-01



5.2.2 Cavity type REG-02

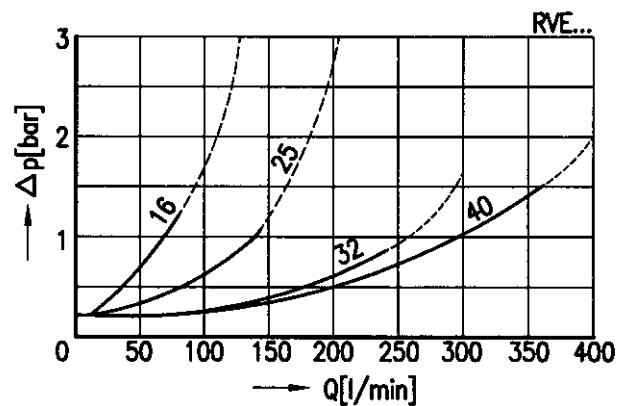
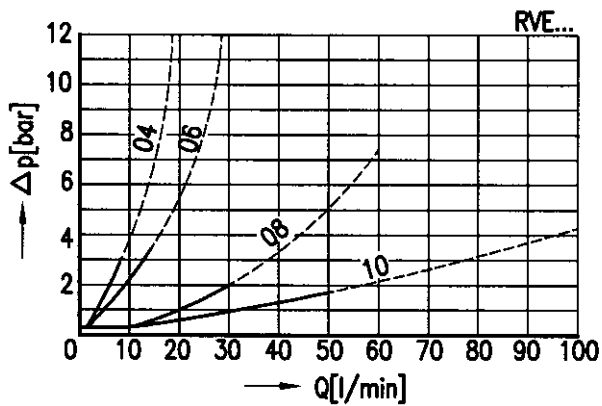


	G	ØK	Ød	Y ₁	H ₁
RVE-04-...	G1/8"	8.70	4	4	10.0
RVE-06-...	G1/4"	11.75	6	5	11.0
RVE-08-...	G3/8"	15.25	8	5	13.0
RVE-10-...	G1/2"	19.00	11	6	15.5
RVE-16-...	G3/4"	24.50	15	7	18.5
RVE-25-...	G1"	30.50	20	10	23.0

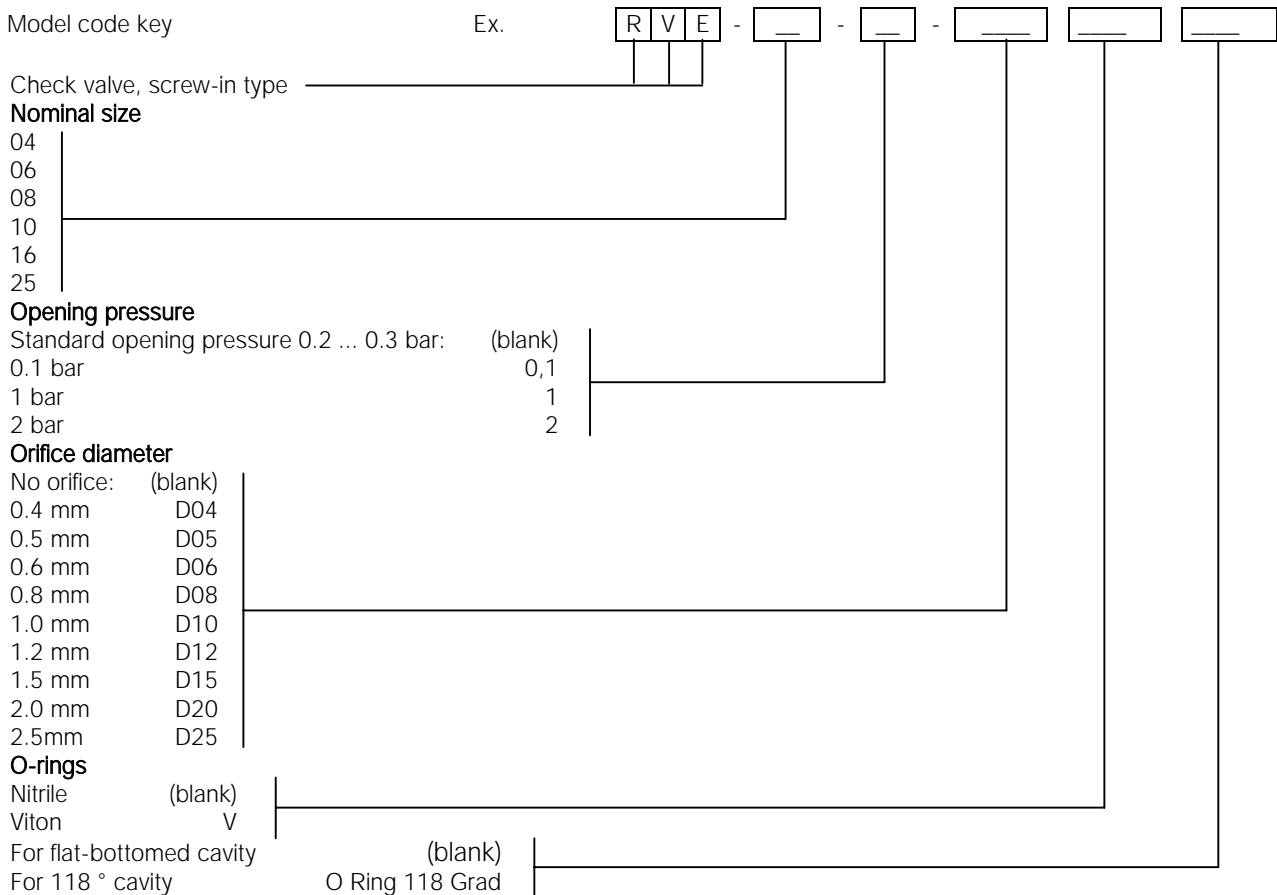
	G	ØK	Ød	Y	H
RVE-04-...	G1/8"	8.70	6.0	2.5	10.0
RVE-06-...	G1/4"	11.75	8.0	3.0	11.0
RVE-08-...	G3/8"	15.25	11.5	3.5	13.0
RVE-10-...	G1/2"	19.00	15.5	4.0	15.5
RVE-16-...	G3/4"	24.50	20.0	7.5	18.5

6 Performance graphs

measured with oil viscosity 33 mm²/s (cSt)



7 Ordering details



Contact Bucher Hydraulics for further advice on:

- valves with metric or UNF threads
- other opening pressures
- other orifice diameters
- special materials
- customised designs

8 Design and installation notes

The installation dimensions and tolerances must be maintained.

We offer form tools for hire or sale.

Referring to the free-flow direction, nozzles and orifices must not be situated directly before the check valve (see Data Sheet 170-P-059000-E-00).

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

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

Recommendation: before installing the valve, fit the O-ring in the cavity.

Use the specified tightening torque when fitting the valve.

Special fitting tools (pin spanners) are available for sale.

9 Application notes

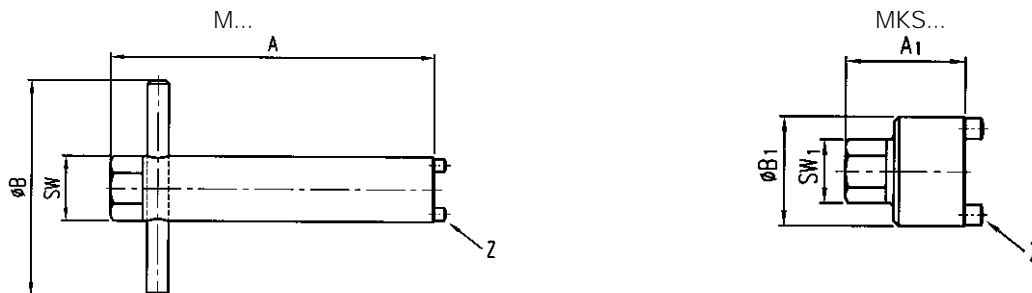
The maximum operating pressure must not be exceeded and any pressure peaks must be taken into consideration.

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. In dynamic accumulator circuits, use the internally damped RKVE valves.

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 by evaluating the performance of prototype machines or systems.

10 Pin spanners



	A	A ₁	ØB	ØB ₁	SW (A/F)	SW ₁ (A/F)	Z (dia.)
M04	90	-	11	-	7	-	3
M06	105	-	12	-	10	-	3
M08	120	-	18	-	13	-	4
M10	135	-	18	-	17	-	4
M16/MKS16	150	35	22	24	22	14	4
M25/MKS25	150	37	22	30	27	19	3

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We reserve the right of modification without prior notice.