

Check valve type RE

Product documentation



Screw-in valve

Operating pressure p_{\max} : 500 bar

Flow rate Q_{\max} : 120 lpm



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1 Overview of check valves type RE

Check valves are a type of non-return valve. They block the oil flow in one direction and open in the opposite direction. In the closed state they have zero leakage.

The check valve type RE can be screwed in. Type RE is a plate valve without a spring.

Type RE is suitable for isolating pressurising loads or as a foot valve for a pump intake line.

Features and benefits:

- Operating pressures up to 700 bar
- Easily machined mounting holes
- Sturdy

Intended applications:

- General hydraulic systems
- Hydraulic pre-loading



Figure 1: Screw-in valve

2 Available versions, main data

Order coding example:

RE 2	
RE 1	-G

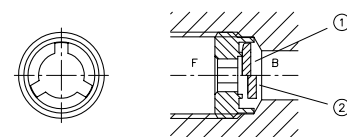
Version Table 2 Version

Basic type and size Table 1 Basic type and size

Circuit symbol:



Section view:



- 1 Closed position
- 2 Open position

Table 1 Basic type and size

Basic type and size	Volumetric flow Q_p (lpm)	Pressure p_{max} (bar)	Thread
RE 0	12	500	G 1/8 A (BSPP)
RE 1	25	500	G 1/4 A (BSPP)
RE 2	40	500	G 3/8 A (BSPP)
RE 3	80	450	G 1/2 A (BSPP)
RE 30 RE 32	80	450	M 20x1.5 M 22x1.5
RE 4	120	400	G 3/4 A (BSPP)

Table 2 Versions

Model	Description	View	Circuit symbol
No designation	Screw-in valve		
G	Pipe connection on both sides		
F	Tapped journal on one side		



Note

Thread in accordance with ISO 228/1 (BSPP) (-UNF) or JIS B 2351(0)

3 Parameters

3.1 General

Designation	Check valves
Design	Shim check valve, without spring
Model	Screw-in valve, housing version
Material	Steel; hardened, ground functional inner parts
Installation position	As desired
	<p>i Note A short oil surge ensures the valve closes securely. This statement applies particularly in installation positions in which the plate does not fall onto the seat due to its inherent weight.</p>
Flow direction	F → B free flow
Hydraulic fluid	Hydraulic oil conforming DIN 51 524 part 1 to 3; ISO VG 10 to 68 conforming DIN 51 519 Viscosity limits: min. approx. 4, max. approx. 1500 mm ² /s opt. operation approx. 10... 500 mm ² /s. Also suitable are biologically degradable pressure fluids types HEPG (Poly-alkylenglycol) and HEES (Synth. Ester) at service temperatures up to approx. +70°C.
cleanliness level	ISO 4406 <u>21/18/15...19/17/13</u>
Temperatures	Ambient: approx. -40 ... +80°C, Fluid: -25 ... +80°C, Note the viscosity range! Permissible temperature during start: -40°C (observe start-viscosity!), as long as the service temperature is at least 20K higher for the following operation. Biologically degradable pressure fluids: Observe manufacturer's specifications. By consideration of the compatibility with seal material not over +70°C.

Characteristic curves

Viscosity during measurements
approx. 50 mm²/s

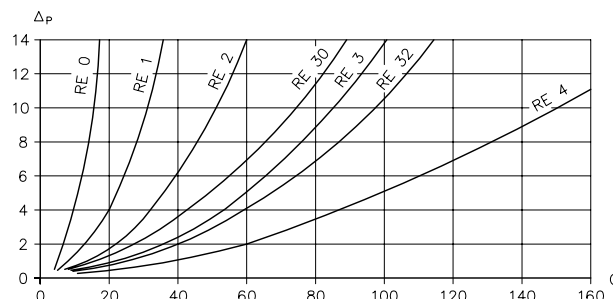


Figure 2: Q volumetric flow (lpm); Δp flow resistance (bar)

Weight**Screw-in valve**

Type RE 0	= approx. 2 g
Type RE 1	= approx. 4 g
Type RE 2	= approx. 6 g
Type RE 3, RE 30, RE 32	= approx. 10 g
Type RE 4	= approx. 18 g

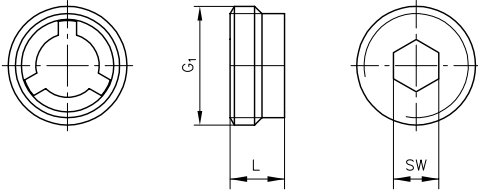
Housing version

Type RE 0 - G	= approx. 30 g
Type RE 1 - G	= approx. 75 g
Type RE 2 - G	= approx. 105 g
Type RE 3 .. - G	= approx. 160 g
Type RE 4 - G	= approx. 340 g
Type RE 0 - F	= approx. 30 g
Type RE 1 - F	= approx. 60 g
Type RE 2 - F	= approx. 85 g
Type RE 3 .. - F	= approx. 140 g
Type RE 4 - F	= approx. 300 g

4 Dimensions

All dimensions in mm, subject to change.

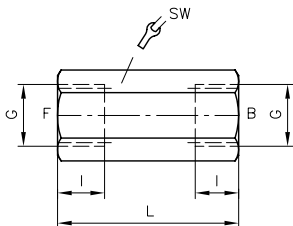
Screw-in valve



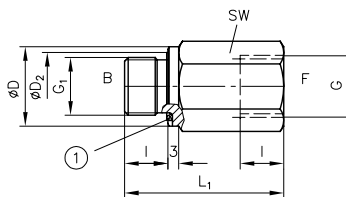
Type	G ₁	L	SW	Tightening torque ±20% (Nm)
RE 0	G 1/8 A (BSPP)	5	4	10
RE 1	G 1/4 A (BSPP)	6	5	15
RE 2	G 3/8 A (BSPP)	7	8	20
RE 3	G 1/2 A (BSPP)	7,5	10	35
RE 30	M 20x1.5	7,5	10	35
RE 32	M 22x1.5	7,5	10	35
RE 4	G 3/4 A (BSPP)	9	12	40

Housing version

Type RE ... G



Type RE ... F

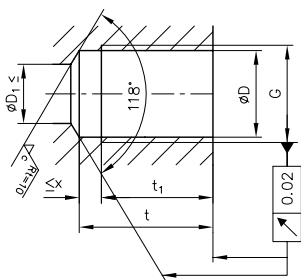


1 Fitting seal

For RE 1 F with fitting seal G 1/4 NBR, all others with cutting edge.

Type	G	G ₁	∅D	∅D ₂	L	L ₁	l	SW	Tightening torque (Nm)
RE 0	G 1/8 (BSPP)	G 1/8 A (BSPP)	14	12,5	30	28	8	14	20
RE 1	G 1/4 (BSPP)	G 1/4 A (BSPP)	19	--	--	43	--	19	40
RE 2	G 3/8 (BSPP)	G 3/8 A (BSPP)	22	20,5	50	44	12	22	80
RE 3	G 1/2 (BSPP)	G 1/2 A (BSPP)	26	24	56	52	14	27	150
RE 30	M 20x1.5	M 20x1.5	25	24	56	52	14	27	150
RE 32	M 22x1.5	M 22x1.5	27	26	56	52	14	30	150
RE 4	G 3/4 (BSPP)	G 3/4 A (BSPP)	32	30	65	60	16	36	200

4.1 Creating the mounting hole



Type	G	∅D	∅D ₁	t	t ₁	x
RE 0	G 1/8 (BSPP)	8.7	5.5	15	13	2
RE 1	G 1/4 (BSPP)	11.8	7.5	19.5	17	2.5
RE 2	G 3/8 (BSPP)	15.3	11	21	18	3
RE 3	G 1/2 (BSPP)	19	14	23	20	3
RE 30	M 20x1.5	18.5	14	23	20	3
RE 32	M 22x1.5	20.5	15	23	20	3
RE 4	G 3/4 (BSPP)	24.5	18	26.5	23	3.5

5.1 Designated use

This fluid-power product has been designed, manufactured and tested acc. to standards and regulations generally applicable in the European Union and left the plant in a safe and fault-free condition.

To maintain this condition and ensure safe operation, operators must observe the information and warnings in this documentation.

This fluid-power product must be installed and integrated in a hydraulic system by a qualified staff who is familiar with and observes the general engineering principles and relevant applicable regulations and standards.

In addition, application-specific features of the system or installation location must be taken into account if relevant.

This product may only be used within oil-hydraulic systems.

The product must be operated within the specified data. This documentation contains the technical parameters for various product versions.

**Note**

Non-compliance will void any warranty claims made against HAWE Hydraulik.

5.2 Assembly information

The hydraulic accumulator must be integrated in the system via state of the art connection components (screw fittings, hoses, pipes, etc.). The hydraulic system must be shut down as a precautionary measure prior to dismantling; this applies in particular to systems with hydraulic accumulators.

5.2.1 Creating the mounting hole

See description in [Chapter 4, "Dimensions"](#).

5.3 Operating instructions

Product, pressure and/or flow settings

All statements in this documentation must be observed for all product, pressure and/or flow settings on or in the hydraulic system.

Filtering and purity of the hydraulic fluid

Soiling in the fine range, e.g. abraded material and dust, or in the macro range, e.g. chips, rubber particles from hoses and seals, can cause significant malfunctions in a hydraulic system. It is also to be noted that new hydraulic fluid "from the drum" does not necessarily meet the highest purity requirements.

Pay attention to the purity of the hydraulic fluid in order to maintain faultless operation (also see cleanliness level in [Chapter 3, "Parameters"](#)).

5.4 Maintenance information

This product is largely maintenance-free.

Conduct a visual inspection to check the hydraulic connections for damage at regular intervals, but at least once per year. If external leaks are found, shut down and remedy.

Check the device surfaces for dust deposits at regular intervals (but at least annually) and clean the device if required.

Further information

- Restrictor check valve type BE - Screw-in valve: D 7555 B
- Check valve type RC: D 6969 R
- Check valve type RK and RB: D 7445
- Check valve type CRK, CRB and CRH: D 7712