Check valve type RE

Product documentation

Screw-in valve

Operating pressure p_{max}:	500 bar
Flow rate Q_{max}:	120 lpm

D 7555 R
11-2014-1.1

HAWE HYDRAULIK

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Contents

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 suctuion linde.

Screw-in valve

Features and benefits:

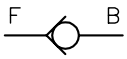
- Operating pressures max. up to 500 bar
- Easily machined mounting holes
- Sturdy
- Type RK, RB also available with different pre-load pressures

Intended applications:

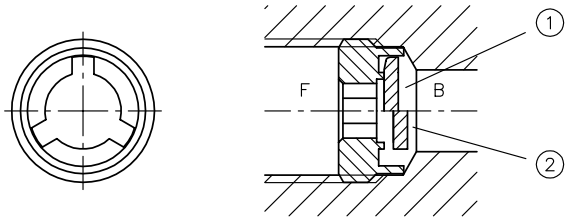
- General hydraulic systems
- Hydraulic pre-loading

2 Available versions, main data

Circuit symbol:



Section view:



1 Closed position
2 Open position

Order coding example:

RE 2 **RE 1**	**-G**

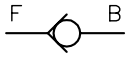
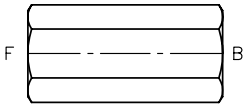
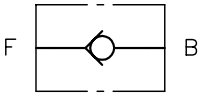
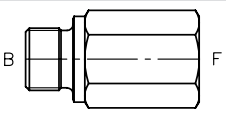
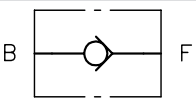
Version Table 2: Version

Basic type and size Table 1: Basic type and size

Table 1: Basic type and size

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

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 DIN EN ISO 228-1, (-UNF) or JIS B 2351-1.

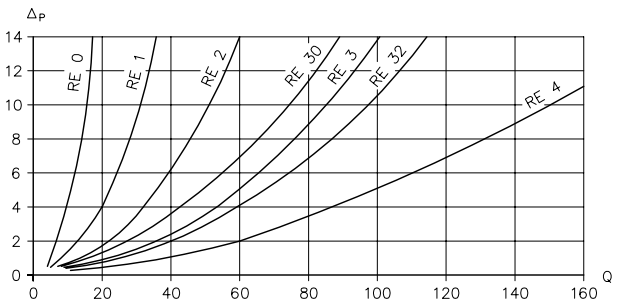
3 Parameters

General

Designation	Check valve
Design	Shim check valve, without spring
Model	Screw-in valve, housing version
Material	Balls made of rolling bearing steel Steel; hardened, ground functional inner parts
Installation position	As desired **Note** A short oil surge ensures the valve closes securely. This applies particularly in installation positions in which the plate does not fall onto the seat due to its inherent weight.
Flow direction	F → B Free flow
Hydraulic fluid	Hydraulic oil: according to Part 1 to 3; ISO VG 10 to 68 according to DIN ISO 3448 Viscosity limits: min. approx. 4, max. approx. 1500 mm²/s opt. operation approx. 10... 500 mm²/s. Also suitable for biologically degradable hydraulic fluids type HEPG (polyalkylene glycol) and HEES (synthetic ester) at operating temperatures up to approx. +70°C.
cleanliness level	**ISO 4406** 21/18/15...19/17/13
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

Oil viscosity approx. 50 mm²/s



Q flow rate (lpm); Δp flow resistance (bar)

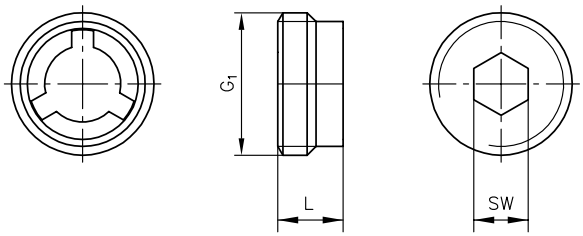
Weight

Screw-in valve	**Type**	
	RE 0	= 2 g
	RE 1	= 4 g
	RE 2	= 6 g
	RE 3, RE 30, RE 32	= 10 g
	RE 4	= 18 g
Housing version	**Type**	
	RE 0 - G	= 30 g
	RE 1 - G	= 75 g
	RE 2 - G	= 105 g
	RE 3 .. - G	= 160 g
	RE 4 - G	= 340 g
	RE 0 - F	= 30 g
	RE 1 - F	= 60 g
	RE 2 - F	= 85 g
	RE 3 .. - F	= 140 g
	RE 4 - F	= 300 g

4 Dimensions

All dimensions in mm, subject to change.

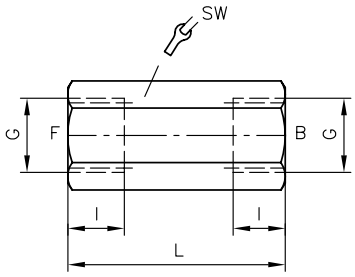
Screw-in valve



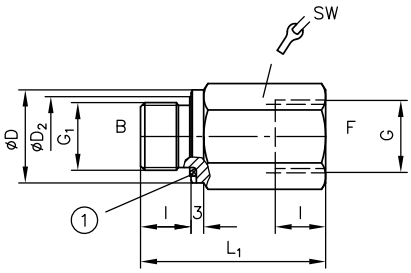
Type	G_1	L	SW	Tightening torque ±20% (Nm)
RE 0	G 1/8 A (BSPP)	5	4	10
RE 1	G 1/4 A (BSPP)	6	5	15
RE 2	G 3/8 A (BSPP)	7	8	20
RE 3	G 1/2 A (BSPP)	7.5	10	35
RE 30	M 20x1.5	7.5	10	35
RE 32	M 22x1.5	7.5	10	35
RE 4	G 3/4 A (BSPP)	9	12	40

Housing version

RE ... G



RE ... F

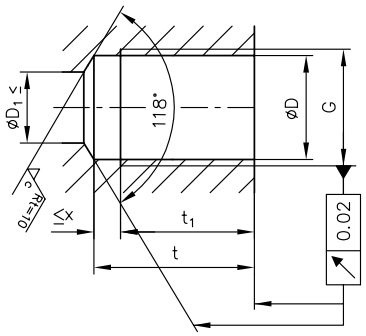


1 Fitting seal

For RE 1 F with fitting seal G 1/4 (BSPP) 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 Assembly, operation and maintenance recommendations

5.1 Intended use

This valve is exclusively intended for hydraulic applications (fluid engineering).

The valve demands high technical safety standards and regulations for fluid engineering and electrical engineering.

The user must observe the safety measures and warnings in this documentation.

Essential requirements for the product to function correctly and safely:

- All information in this documentation must be observed. This applies in particular to all safety measures and warnings.
- The product must only be assembled and put into operation by qualified personnel.
- The product must only be operated within the specified technical parameters. The technical parameters are described in detail in this documentation.
- The operating and maintenance manual of the specific complete system must also always be observed.

☑ If the product can no longer be operated safely:

1. Remove the product from operation and mark it accordingly

✓ It is then not permissible to continue using or operating the product

5.2 Assembly information

The product must only be installed in the complete system with standard and compliant connection components (screw fittings, hoses, pipes, etc.).

The hydraulic power pack must be shut down correctly prior to dismounting; this applies in particular to power packs with hydraulic accumulators.

Danger
Risk to life caused by sudden movement of the hydraulic drives when dismantled incorrectly!
Risk of serious injury or death.

- Depressurise the hydraulic system.
- Perform safety measures in preparation for maintenance.

5.2.1 Creating the mounting hole

See description in Chapter 4, "Dimensions".

5.3 Operating instructions

Product configuration and setting the pressure and flow rate

The statements and technical parameters in this documentation must be strictly observed.
The instructions for the complete technical system must also always be followed.

Note

- Read the documentation carefully before usage.
- The documentation must be accessible to the operating and maintenance staff at all times.
- Keep documentation up to date after every addition or update.

Purity and filtering of the hydraulic fluid

Fine contamination can significantly impair the function of the hydraulic component. Contamination can cause irreparable damage.

Examples of fine contamination include:

- Metal chips
- Rubber particles from hoses and seals
- Dirt due to assembly and maintenance
- Mechanical debris
- Chemical ageing of the hydraulic fluid

Note
Fresh hydraulic fluid from the drum does not always have the highest degree of purity. Under some circumstances the fresh hydraulic fluid must be filtered before use.

Adhere to the cleanliness level 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 at regular intervals, but at least once per year, to check if the hydraulic connections are damaged. If external leakages are found, shut down and repair the system.

Clean the device surface of dust deposits and dirt at regular intervals, but at least once per year.

Further information

Additional versions

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

HAWE Hydraulik SE
Streitfeldstraße 25 | 81673 München | Postfach 80 08 04 | 81608 München | Germany
Tel +49 89 379100-1000 | Fax +49 89 379100-91000 | info@hawe.de | www.hawe.com