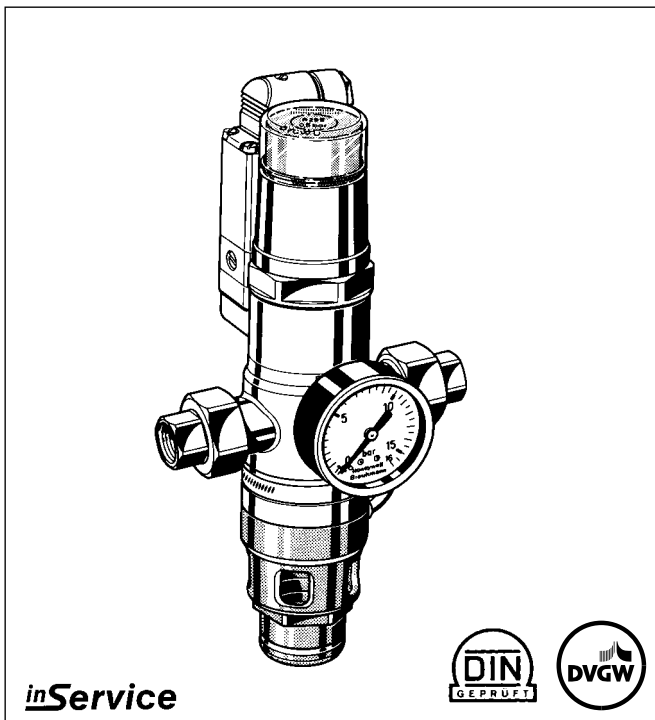


R 295 SA

Backflow preventer with union connectors, DIN type 2 for high risk protection, electrically actuated

Product specification sheet



Application

R 295 SA backflow preventers are suitable for the protection of drinking water systems as required by EN 1717 "The technical regulation of drinking water systems" and correspond to type 2 construction in those regulations. Their purpose is to protect systems against back pressure, back flow and back syphonage of non-potable water into the public water supply network.

R 295 SA backflow preventers can be used to provide protection up to and including liquid category 4 (toxic, very toxic, carcinogenic and radioactive substances).

Special Features

- DIN/DVGW approval in all connection sizes
- Optimum protection of the drinking water supply system
- Enhanced protection against back pressure, back flow and back syphonage into the water supply network
- Shut-off position visually indicated on the spring bonnet
- Compact construction
- Standardised discharge connection
- **inService** - maintenance and service without removal from the pipework
- Meets KTW requirements
- Reliable, tried and tested
- Low pressure drop

Range of Application

Medium	Cold Water
Inlet pressure	Maximum 16.0 bar

Technical Data

Installation position	Horizontal with spring bonnet upwards
Operating temperature	Up to 40 °C
Opening pressure	0.5, 1.0, 1.5 or 2.0 bar as required
Minimum inlet pressure	Opening pressure + 1.0 bar
Electrical connection	230 V~/ 50 Hz (special versions available on request)
Connection sizes	1/2" - 2"

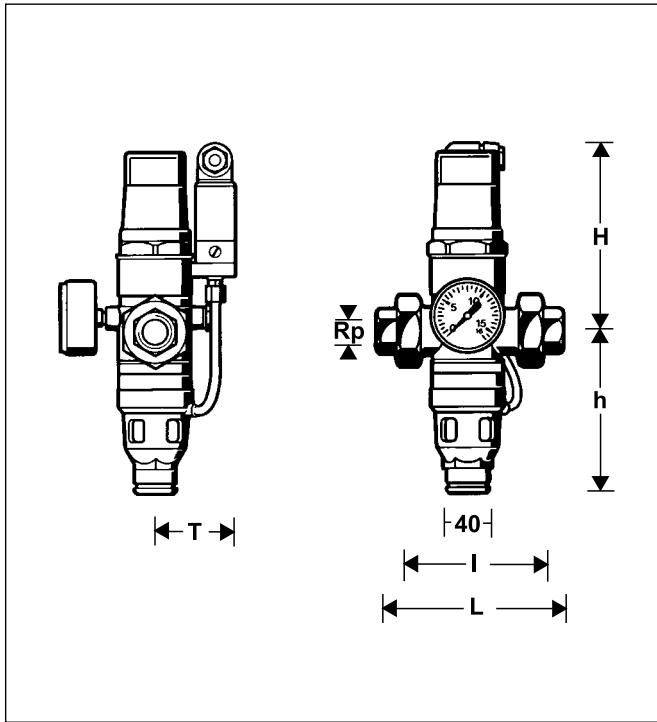
Construction

The backflow preventer comprises:

- Housing with pressure gauge
- Outlet non return valve
- Electrically actuated changeover valve
- Pressure shock damper
- Threaded union connectors
- Drain connection
- Spring bonnet
- Valve insert with spring
- Spindle guide with double 'O' ring seal

Materials

- Red bronze housing
- Brass union nuts
- Red bronze threaded union connectors (brass for 2")
- High grade synthetic material spring bonnet
- Brass changeover valve
- Stainless steel valve stem and spring
- High grade corrosion resistant synthetic material for other internal parts
- High grade synthetic material drain connection
- High grade synthetic material non return valve



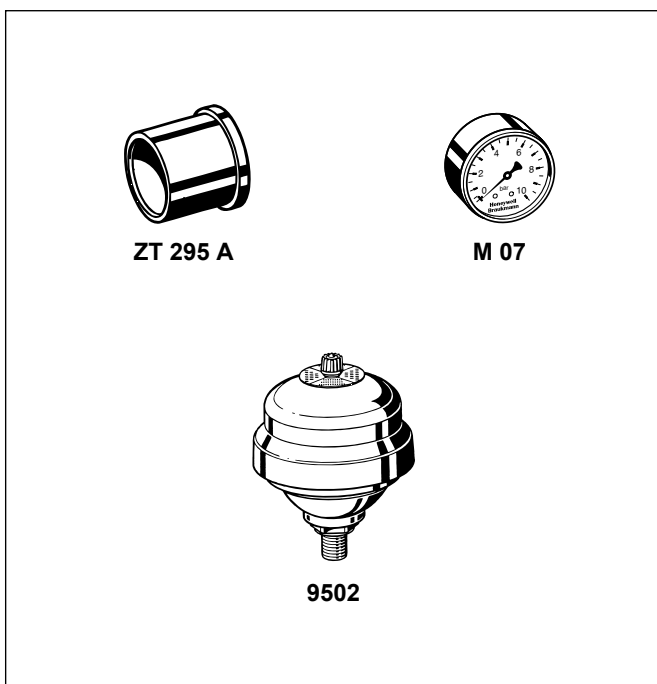
Method of Operation

When the electrically actuated changeover valve receives an electrical signal, for example from a pressure or flow switch or water level indicator, the backflow preventer is hydraulically changed over to the flow position. This occurs because the exposure of the upper part of the piston in the backflow preventer to atmospheric pressure is interrupted and the inlet pressure is then applied to it. This in turn pushes the piston so that it moves to the flow position. When the draw off stops, the signal operates the electronic actuator in the reverse direction. The upper side of the piston is then depressurised and the spring pushes the piston back to the shut-off position.

Options

- R 295 SA - ... A = With female threaded union connectors, 0.5 bar opening pressure
 - R 295 SA - ... B = With female threaded union connectors, 1.0 bar opening pressure (standard pattern)
 - R 295 SA - ... C = With female threaded union connectors, 1.5 bar opening pressure
 - R 295 SA - ... D = With female threaded union connectors, 1.5 bar opening pressure
- Connection size Special versions available on request

Connection sizes	Rp	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
Weight	(Approx. kg)	2.7	2.9	3.1	7.6	8.2	8.6
Dimensions	(mm)						
	L	151	153	159	216	228	241
	I	105	105	105	150	160	165
	H	160	162	162	232	231	224
	h	125	123	123	158	159	166
	T	72	72	72	90	90	90
Nominal flow rate	(m3/h)						
at Δp = 0.8 bar		4.0	5.4	7.6	11.6	16.1	24.1
kvs-value (full flow)		4.5	6	8	13	18	27
ξ value		4	7	10	10	12.5	14
Opening pressure		0.5, 1.0, 1.5 or 2.0 bar as required					
DIN/DVGW Approval No.		569 VE	570 VE	571 VE	572 VE	573 EV	574 VE



Accessories

ZT 295 A Soldered union connectors (pack of 2)

- ZT 295 A - 1/2" (for 15 mm Ø pipe)
- ZT 295 A - 3/4" (for 22 mm Ø pipe)
- ZT 295 A - 1" (for 28 mm Ø pipe)
- ZT 295 A - 1 1/4" (for 35 mm Ø pipe)
- ZT 295 A - 1 1/2" (for 42 mm Ø pipe)
- ZT 295 A - 2" (for 54 mm Ø pipe)

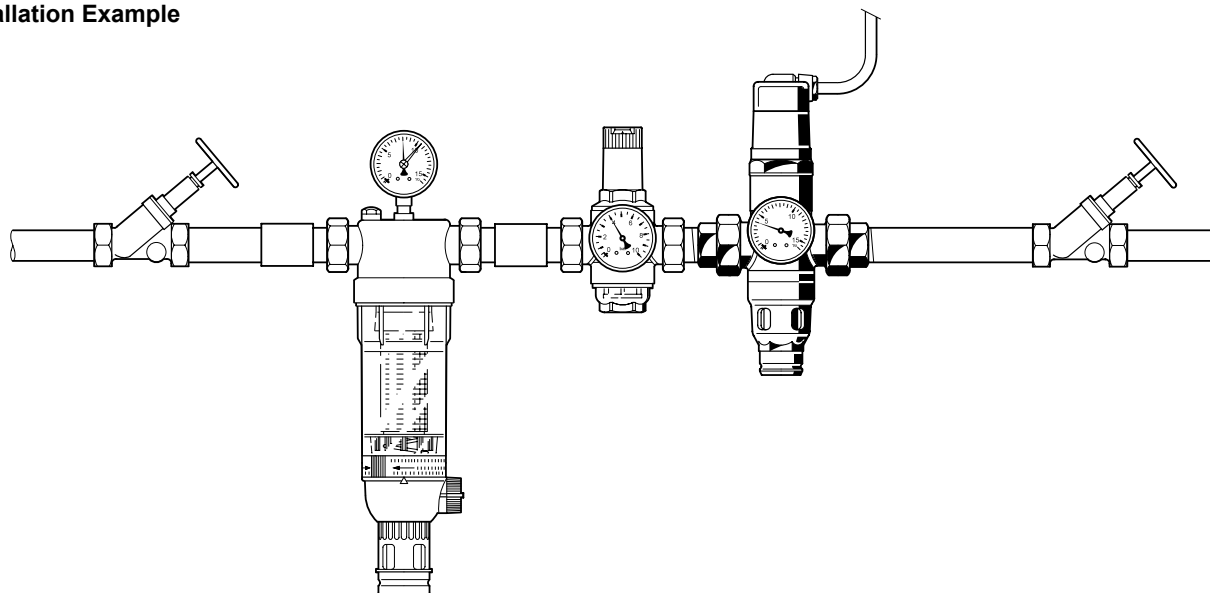
M 07 Pressure gauge

Housing 63 mm Ø, rear connection G 1/4"
 Range: 0 - 4 bar, 0 - 10 bar, 0 - 16 bar, 0 - 25 bar
 Please indicate upper value of pressure range when ordering

9502 Pressure shock damper

Diameter: 85 mm
 Bottom connection G 1/4"

Installation Example



Installation Guidelines

- Fit isolating valves
 - With isolating valves, *inService* is possible – maintenance and service without removal from the pipework
- Install in horizontal pipework with spring bonnet upwards.
 - This orientation ensures optimum performance
- Ensure good access
 - So that pressure gauge can be easily seen
 - Simplifies maintenance and inspection
- Fit a strainer upstream of the backflow preventer
 - To protect the backflow preventer from dirt
- No further unprotected mains water supply may be connected downstream of the backflow preventer.
- The backflow preventer must not be fitted in any areas or ducts where poisonous gases or vapours may be present or where flooding can occur.
- If pressure shock is anticipated in the outlet side of the backflow preventer, a pressure shock damper or expansion vessel must be fitted on the system downstream of the backflow preventer

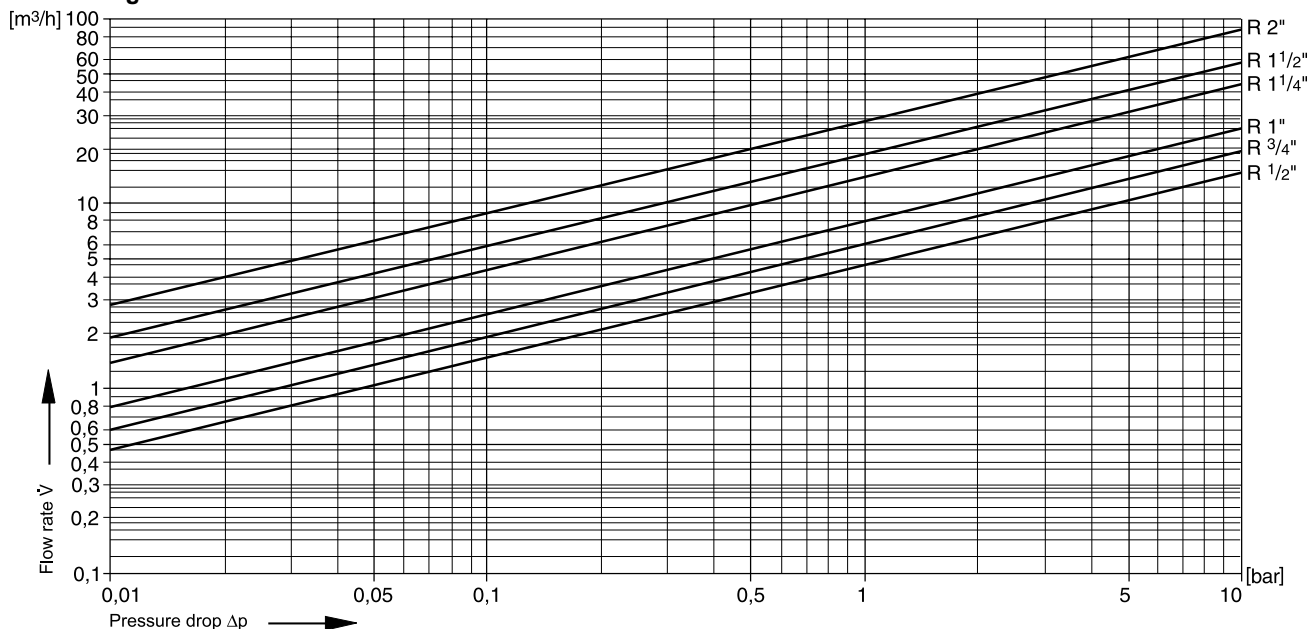
Typical Applications

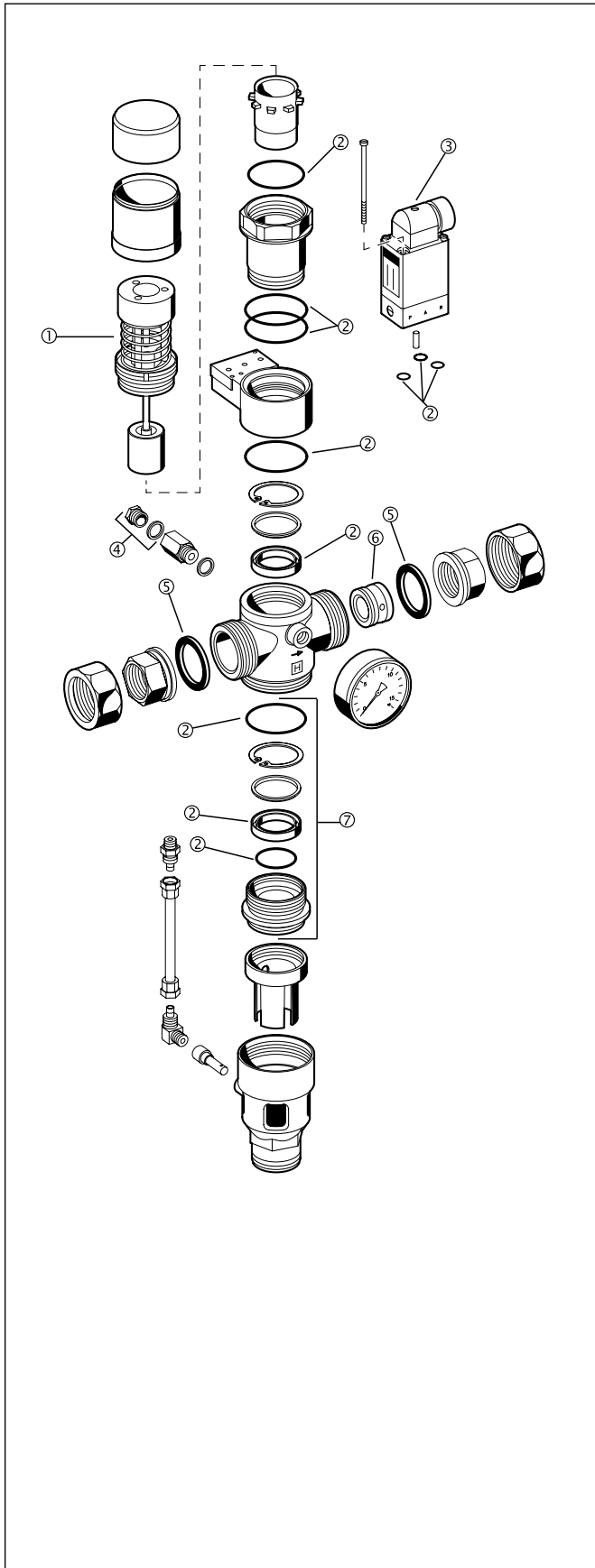
R 295 SA backflow preventers are best suited for commercial and industrial applications. However they can also be used for installations in buildings within the scope of their specification.

The following are some typical uses:

- Chemical admixture plants
- Chemical cleaning plants
- Softening and deacidification plant without DVGW approval. Regeneration with or without acids and alkalines. Disinfection with Formalin.
- Electroplating baths
- Automatic drink vending machines
- Hot water boilers, automatic pressure boilers
- Heating system filling assemblies without DVGW approval. Water with or without inhibitors.

kvs-value Diagram





Spare Parts R 295 SA Backflow Preventers

Description	Nominal size	Part number	
① Valve insert complete	0.5 bar	1/2" - 1" R 295 SAA - 1A 1 1/4" - 2" R 295 SAA - 2A	
	1.0 bar	1/2" - 1" R 295 SAA - 1B 1 1/4" - 2" R 295 SAA - 2B	
	1.5 bar	1/2" - 1" R 295 SAA - 1C 1 1/4" - 2" R 295 SAA - 2C	
	2.0 bar	1/2" - 1" R 295 SAA - 1D 1 1/4" - 2" R 295 SAA - 2D	
	② Seal ring set	1/2" - 1"	0901015
		1 1/4" - 2"	0901016
③ Changeover valve	1/2" - 2"	0901407	
④ Hexagonal plug with seal ring (pack of 5)	1/2" - 2"	S 06 M - 1/4	
⑤ Union seal ring	1/2"	5351200	
	3/4"	5351300	
	1"	5166300	
	1 1/4"	5162900	
	1 1/2"	5163000	
	2"	5163100	
⑥ Non return valve	1/2"	RV 282 E - 3/4A	
	3/4"	RV 282 E - 1A	
	1"	RV 282 E - 1A	
	1 1/4"	RV 276 - 1 1/4	
	1 1/2"	RV 276 - 1 1/2	
	2"	RV 276 - 2	
⑦ Drain connector	1/2" - 1"	0901340	
	1 1/4" - 2"	0901341	

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