

S A F E T Y A N D R E G U L A T I O N V A L V E S



Application technology

Planning ■
Application ■
Technique ■



Efficient building services

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Table of contents

Water technology

1

Filter technology

2

Pressure regulation

3

Safety devices

4

**Safety valves for potable
water heaters**

5

**Water treatment for heating
installations**

6

Heating valves

7



CERTIFICATE

SQ-9001BM6003

for a quality management system according to ISO 9001

The company



Hans Sasserath & Co. KG
Mühlenstraße 62, D-41352 Korschenbroich

has introduced a management system for

the distribution, construction, development, production and installation of safety and control valves for water supply and heating systems industrial application

and applies this management system. Compliance with the following standards was confirmed in a certification procedure:

DIN EN ISO 9001-2008 (December 2008)

Quality management systems; requirements

The application of the management system was demonstrated in a recertification procedure based on the above requirements. The system is subject to annual surveillance.

This certificate expires on 26 May 2013

01.06.2010 Sz A

[Signature]
date, issued by, sheet, head of certification body

DVGW CERT GmbH - von der TGA Trägergemeinschaft für Akkreditierung GmbH akkreditiert für die Zertifizierung von Managementsystemen nach DIN EN ISO 9001

DVGW CERT GmbH - accredited by TGA Trägergemeinschaft für Akkreditierung GmbH for conformity assessment of management systems according to EN ISO 9001



TGA-ZM-11-94-00

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Water technology

Technical information		Site	6
Water softening system	IT 4000	Site	9
Water Softener	IT 3000	Site	13
Water softener	LEX 1500	Site	17
Safe-T LS-module	2421	Site	21
Protect DFR	2420	Site	25
Protect FR	2420	Site	29
SYR-DOS Dosing Pump	1400	Site	33
Dosing Pump 3100	DP 1	Site	37
Dosing Pump 3100	DP 2	Site	41
MultiSafe KLS 3000	2400	Site	45
MultiSafe KS 3000	2402	Site	49
MultiSafe KS 6000	2402	Site	53
MultiSafe LS	2401	Site	57
POUmax-Filter	7315	Site	61
RESI	2600	Site	65

Water technology

Technical information

General

Potable water is one of the most valuable raw materials of the world. In the next years and decades, it will become more and more important to deal with this precious resource in an optimal way. Badly treated water – lime encrusted pipes, pipe breaks, germs and bacteria – cause many problems and high costs. For more than 60 years, the

SYR experts have been successfully developing innovative products for water, which represents our most important food. SYR proposes intelligent and safe solutions as regards „water technology“. The products are consistently designed for use with potable water and can be easily integrated in the installation.

Electrodynamic water treatment: protection against lime formation with the MultiSafe KS 3000

The MultiSafe KS 3000 offers safe protection against lime formation. The complex device works with chemicals-free electrodynamic water treatment. Its effectiveness is certified by one of the leading test institutes in Europe (DVGW in Germany). For the effectiveness of physical (non-chemical) water treatment devices, it is important to have a sufficient flow rate capacity, so that the appliance achieves full efficiency under all operating conditions.



MultiSafe KS 3000

Function

The MultiSafe KS 3000 works with a two-stage method for the protection against harmful scale deposits. In the first step, electrode pairs incite the lime to form crystals. The pole reversal between the electrode pairs and a particularly high flow velocity support the enrichment of potable water with crystals. The second step reinforces this process and the crystals are maintained in suspension. The lime crystals loose their

ability to adhere to pipe and tank walls and are flushed along with the water. Appliances and valves are protected and the drinking water quality remains unchanged. The management and diagnosis system equipped with consumption and service display monitors the installation.

Water technology

Technical information

Protection against water damages with the MultiSafe LS

The MultiSafe LS is the intelligent solution for the protection against pipe water damages. The electronic system permanently supervises the complete domestic installation according to adjustable parameters. In case of absence, the user can activate a vacation-supervision mode. The motor-actuated ball valve automatically isolates the installation in case of deviation from the set parameters. In addition, the MultiSafe is equipped with a convenient management and diagnosis system, which allows to display consumption and service data.



MultiSafe LS

The combined protection: MultiSafe KLS 3000

The MultiSafe KLS 3000 combines the functions of the MultiSafe KS 3000 and MultiSafe LS in a compact device. As a result, it offers the advantages of both devices and offers protection against lime formation and water damages.



MultiSafe KLS 3000

Wassertechnik

Technik-Info

Soft water with the IT 3000

The water softening system IT 3000 regulates the water hardness to an ideal value (for instance 8° dh), which makes the water noticeably soft and fulfils all requirements of healthy drinking water. The system offers the desired efficiency and comfort of a modern household.

Function

The ion exchange method allows to replace the hardness causing calcium and magnesium ions with sodium ions. The water flows through a porous ion exchange resin bed, which is composed of synthetic resin beads allowing the replacement of hardness causing calcium ions with sodium ions. The water becomes „soft“.

An integral blending valve „blends“ the water softened up to 0° dh with raw water to reach the desired value. After softening a large quantity of water, the resin becomes coated with magnesium and calcium. Depending on the water harness, the ion exchange resin is exhausted sooner or later and needs regeneration. Regeneration means removing the hardness components from the ion exchange resin. To recharge



IT 3000

the softener with sodium ions, the resin bed is backflushed with a salt brine solution. During a backflush the brine solution replaces the calcium and magnesium ions on the resin bed with sodium ions from the salt solution. The hardness components are directed to the sewer. The brine solution never gets in contact with potable water. To prevent microbiological growth, the water softening system undergoes automatic disinfection on a regular basis.

Protection of the heating system with the Water Softener for Heating Systems 3200

As a result of the high efficiency of modern heating installations, potable water is not always fully adequate to fill heating systems. Unsuitable filling water can cause silting-up as well as lime and corrosion deposits in modern heating systems.

These deposits impede the installation's functional safety and may have an effect on warranty claims against the manufacturer of the device. For these reasons, the current VDI Directive has been revised to set new requirements for the heating system's filling water.

The water softener for heating installations 3200 with an integrated water meter provides softened water for the heating system's primary filling and refilling and is suitable for permanent installation as well as mobile use.



Water Softener for heating systems 3200

Water softening system IT 4000

Ion exchange water softener



Field of application

The SYR water softener IT 4000 is designed to protect water pipes and water heaters against scaling that reduces the water flow and leads to a high energy consumption. The device preserves valves and appliances from damage, which prevents cost-intensive repair works. With partially softened water, the consumption of laundry detergents and household cleaners

is much lower than with non softened water. There are no restrictions on use according to DIN 1988 part 2, section 8.3.2. The water softener capacity is designed to allow for the partial softening of the overall amount of water used in one-family and apartment houses as well as of partial water quantities used for hot water, swimming pools, washing machines and dishwashers.

Design

The IT 4000's ion exchange resin is located in two separate containers. The regeneration of the exchange resin is divided into two consecutive cycles. During the regeneration process, both containers alternately provide for soft water. As a result, the consumer gets softened water any time even during the regeneration cycle. The IT 4000 is equipped with a touch-display, which allows to easily recall any kind of information. The regeneration

conforming with DIN EN 14743 and DIN 19636-100 meets the requirements of an economical use of salt. The water softener is disinfected on a regular basis to prevent any contamination. The regeneration is carried out automatically by means of wear-free ceramic discs. The regeneration process lasting maximally 36 minutes for both containers allows to draw off softened water any time due to the alternately operating resin containers.

IT 4000

Materials

The functional parts are made of high-quality synthetic material. The body and the internal synthetic parts are made of shock-resistant thermoplast and the rubber parts of ageing resistant elastomers. All other functional parts are made of a low-lead,

dezincification resistant gunmetal alloy and stainless steel. All materials used are state-of-the-art. All synthetic parts in contact with water meet the requirements of the German Public Health Office (KTW).

Installation

Use DN 20 - DN 32 flanges from the extensive Drufi flange program to mount the IT 4000. Install the water softener close to and downstream of the water metering device. To prevent malfunctions, mount a drinking water filter (system Drufi) upstream of the water softener to offer efficient protection.

The IT 4000's optimal (most efficient) service pressure is 3-5 bar. In the event of higher pressures, we recommend the installation of a pressure reducing valve. The water to be softened shall be clear, free from solid impurities as well as iron- and manganese-free (values within the **TVO** limits).

Thoroughly flush the pipe prior to installation. Mount the required drufi connection flanges in vertical or horizontal pipes without applying stresses. All electrical connections are pre-mounted in factory.

A (floor) drain is required for the safety overflow. A waste water connection is necessary to drain the flushed water. Do not lengthen the factory pre-mounted hoses.

Technical specifications

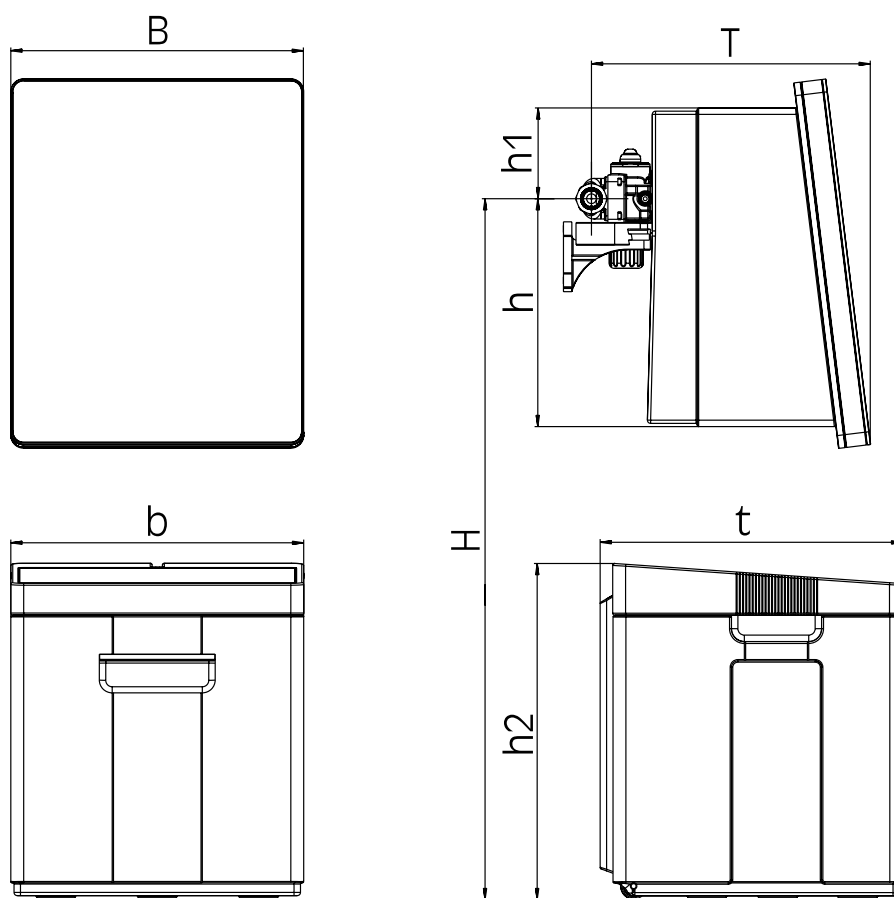
Inlet pressure:	10 bar
Service pressure:	min. 3 bar, max. 7 bar
Flow pressure at nominal flow rate downstream of the installation:	min. 2 bar
Service temperature:	max. 30 °C
Fluids:	potable water
Mounting position:	main axis, vertical
Nominal flow rate:	1-7 m³/h
Pressure loss at nominal flow rate:	0.9 bar
Power supply:	230 V / 50 Hz / 15 W
Nominal capacity:	0.9 mol
Capacity per kg of salt	5 mol
Salt stock:	40 kg
Serial number:	4000.00.000

Maintenance

As the water softener works automatically, the only thing to do is to refill salt on a regular basis, at the latest when the message „ Refill salt“ is displayed. The device has to be serviced at least once per year, in case

of collective installations, every six months. A maintenance contract between user and installer provides for safe and durable functionality.

IT 4000

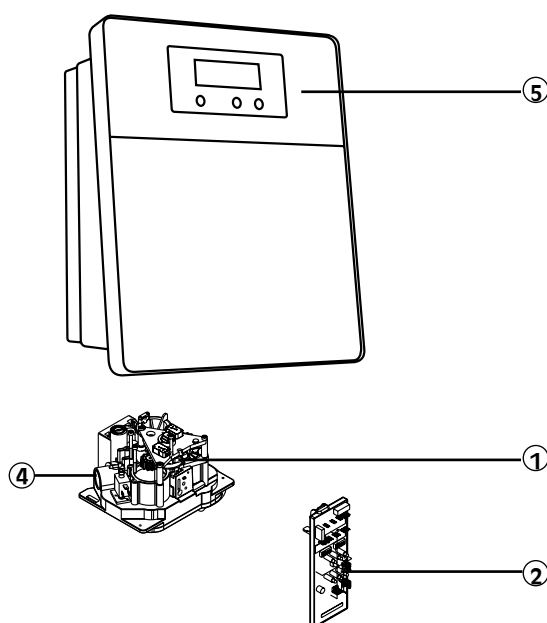


Nominal size		DN 20 - 32
Dimensions	T (mm)	433
	t (mm)	470
	B (mm)	455
	b (mm)	455
	H (mm)	980
	h (mm)	354
	h1 (mm)	141
	h2 (mm)	522

IT 4000

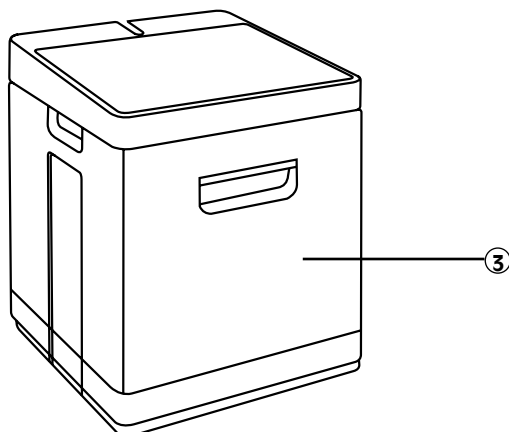
Components / Order numbers

- ①
Control unit
4000.00.900
- ②
Board
4000.00.901
- ③
Salt container
4000.00.903
- ④
Blending motor
4000.00.904
- ⑤
Operation tablet
4000.00.905



no pict.:

- **Power supply**
4000.00.902
- **Regenerating salt (25kg)**
3000.00.911
- **Titration test**
3000.00.913
- **Bypass valve**
1700.00.000
- **Maintenance kit**
3000.00.920



Combi flange
2315.00.071

Double connection flange (parallel flange)
2315.32.030 (DN 32)
2315.40.030 (DN 40)
2315.50.030 (DN 50)

Water Softener IT 3000

Ion exchange based softening system



Field of application

The SYR Water Softener type IT 3000 protects water pipes and water heaters against lime deposits, which impede the water flow and lead to an excessive energy consumption. By protecting the devices and valves, it prevents expensive repair works. With partially softened water, the consumption

of washing powder and detergents is by far lower than with non softened water. Under consideration of the calculated flow rate capacity, the IT 3000 ensures that partially softened water is available any time at any draw-off point.

Design

The IT 3000 is a system with two alternately running resin containers: the ion exchange resin is located in two separate containers. The ion exchange resin is regenerated in two consecutive cycles. During the regeneration, the two containers soften the water alternately, so that softened water is provided any time. A low quantity of salt is used for the rege-

neration process.

The softener has to be disinfected on a regular basis in order to prevent microbiological growth. The regeneration is carried out automatically by means of wear-resistant ceramic disks. The regeneration period lasts only 18 minutes for each container. Water can be drawn-off any time due to the alternately operating resin containers.

Water Softener IT 3000

Materials

The functional parts are made of high-quality synthetic material. The housing and the internal synthetic parts are made of shock-resistant thermoplast and the rubber parts of ageing-resistant elastomers. All remaining functional parts are made of a

low-lead, dezincification resistant gunmetal alloy or stainless steel. All used materials are in accordance with the laws of engineering. All synthetic parts getting into contact with water comply with the recommendations of the German Health Office (KTW).

Installation

Use a flange DN 20 - DN 32 from the extensive Drufi flange programme to install the IT 3000. Install the softening system behind the water meter. To efficiently prevent malfunctions, protect the softener by installing a potable water filter upstream (Drufi System).
The optimal service pressure for the IT 3000

lies between 3 and 5 bar, which allows the most efficient operation of the device. We recommend to install a pressure reducing valve in case of higher pressures. The water to be softened has to be clear, free of solid impurities as well as iron and manganese-free.

Thoroughly flush the pipe prior to installation. Mount the required Drufi connecting flanges in horizontal or vertical pipes without applying stresses. All electric connections are pre-installed in factory. A drain

(floor) is required for the safety overflow. A waste water drain connection is also required for the flush water. Do not extend the premounted hoses!

Technical specifications

Service pressure:	min. 3 bar, max. 7 bar
Service temperature:	max. 30 °C
Mounting position:	main axis vertical
Medium:	potable water
Flow rate:	1.7 m³/h
Pressure loss at nominal flow rate:	0.45 bar
Dynamic pressure downstream of the system:	min. 2 bar
Power supply:	230 V / 50 Hz
Power consumption:	15 W
Nominal capacity:	0.9 mol
Capacity per kg of salt:	5 mol
Salt stock:	40 kg
DVGW-Nº.:	NW-9151BQ0032
Serial number:	3000.00.000

Maintenance

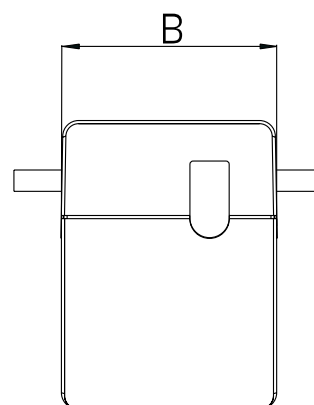
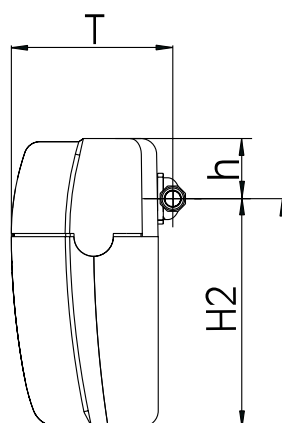
As the water softener works automatically, maintenance only consists of refilling salt on a regular basis, at the latest when the indicator „Salt re-filling required“ becomes visible in the salt container.

Maintenance works should be carried out at least every year and for joint systems every 6 months. A maintenance contract between user and installer provides durable and safe functionality.

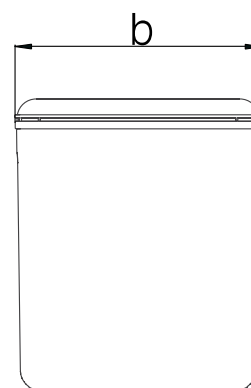
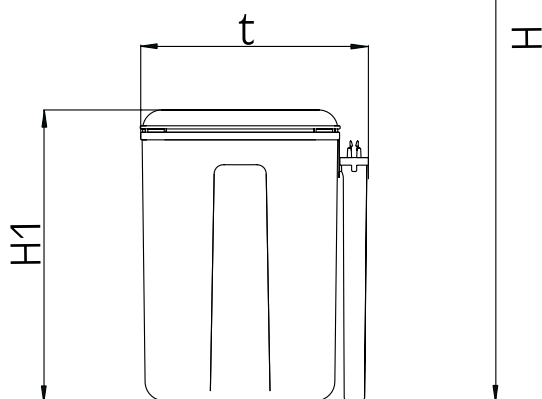
Water Softener IT 3000

1

Ion exchanger



Salt container



Connection flange not included in delivery

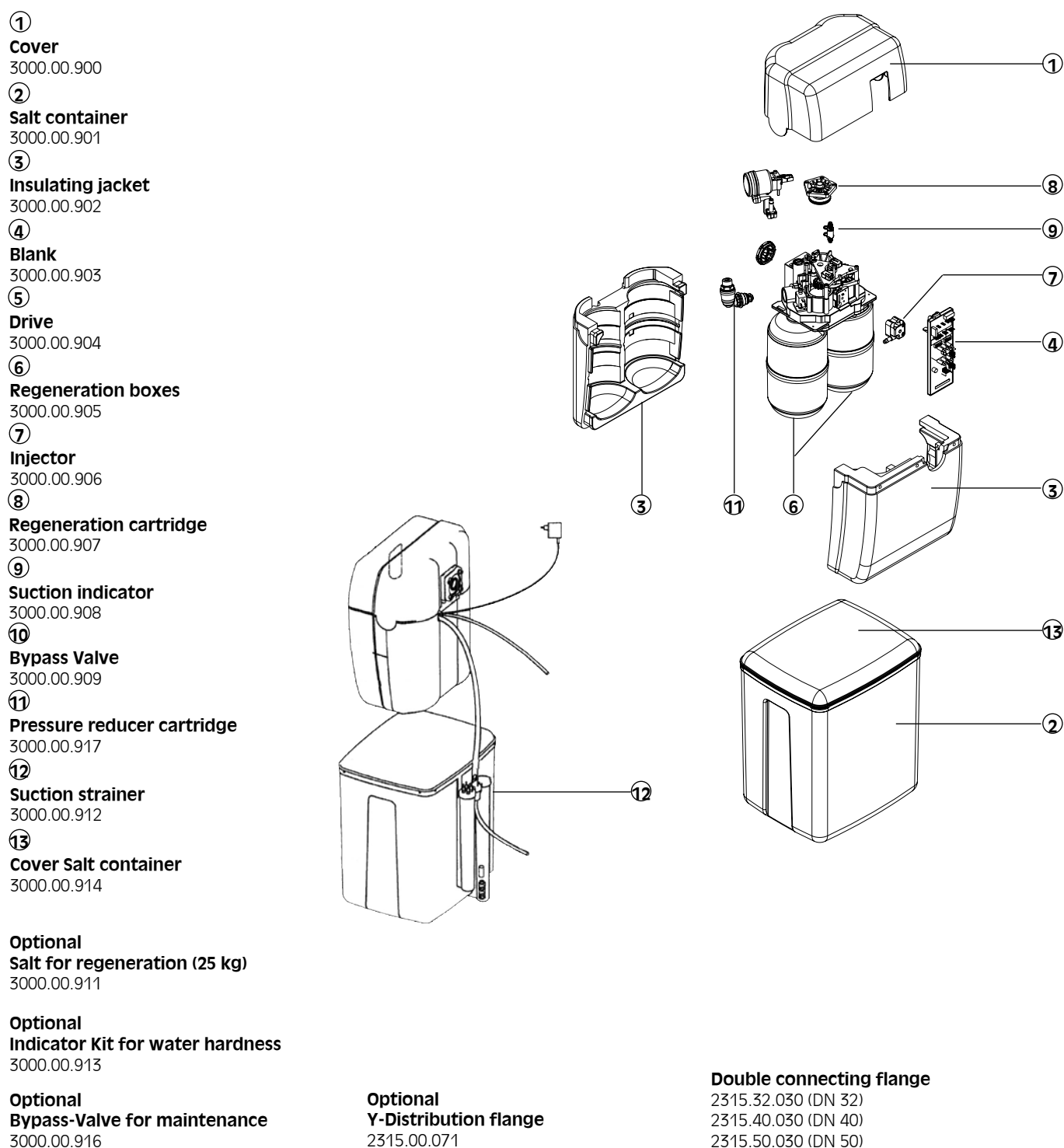
Length of hose for the connection to the salt container:
1.3m

Nominal size		DN 25
Dimensions	T (mm)	255
	t (mm)	390
	B (mm)	340
	b (mm)	390
	H (mm)	1100
	h (mm)	95
	H1 (mm)	465
	H2 (mm)	360

Accessory: Y-distribution flange: 2315.00.071
Double connection flange: 2315.00.070

Water Softener IT 3000

Components / Order numbers



Water softener LEX 1500

Ion exchange water softener



Field of application

The LEX water softener from SYR is designed to protect pipes and water heaters against limescale deposits that slow down the water flow and therefore increase energy consumption. The device preserves valves and appliances from damage, which prevents cost-intensive repair works. With partially softened water, the consumption of laundry detergents and household cleaners is much lower than

with non-softened water. There are no use restrictions according to the German standard DIN 1988 part 200. The water softener capacity is designed to allow for partial softening of the total amount of water used in one-family and apartment houses as well as of partial water quantities used for hot water, swimming pools, washing machines and dishwashers.

Design

The LEX water softener is a single-column ion exchange system. It is equipped with the Limex IQ control unit (easy entry and check of all parameters).

The water softener undergoes disinfection cycles on a regular basis to prevent microbial growth. The device is available with resin quantities of 10, 20 and 30 litres.

LEX 1500

Materials

The functional parts are made of high-quality synthetic material. The body and the internal synthetic parts are made of shock-resistant thermoplast and the rubber parts of ageing resistant elastomers. All other functional parts are made of a low-lead,

dezincification resistant gunmetal alloy and stainless steel. All materials used are state-of-the-art. All synthetic parts in contact with water meet the requirements of the German Public Health Office (KTW).

Installation

Use DN 20 - DN 32 flanges from the extensive Drufi flange program to mount the LEX water softener. A connection valve is included in the delivery. Install the water softener close to and downstream of the water metering device. To prevent malfunctions, mount a drinking water filter (Drufi system) upstream of the water softener to offer efficient protection. In the event of higher pressures, we recommend the installation of a pressure reducing valve. The water to be softened shall be clear, free from solid impurities as

well as iron- and manganese-free (values within the TVO limits). Thoroughly flush the pipe prior to installation. Mount the required Drufi connection flanges in vertical or horizontal pipes without applying stresses. All electrical connections are pre-mounted in factory. A (floor) drain is required for the safety overflow. A waste water connection is necessary to drain the flushed water. Do not lengthen the factory pre-mounted hoses.

Technical specifications

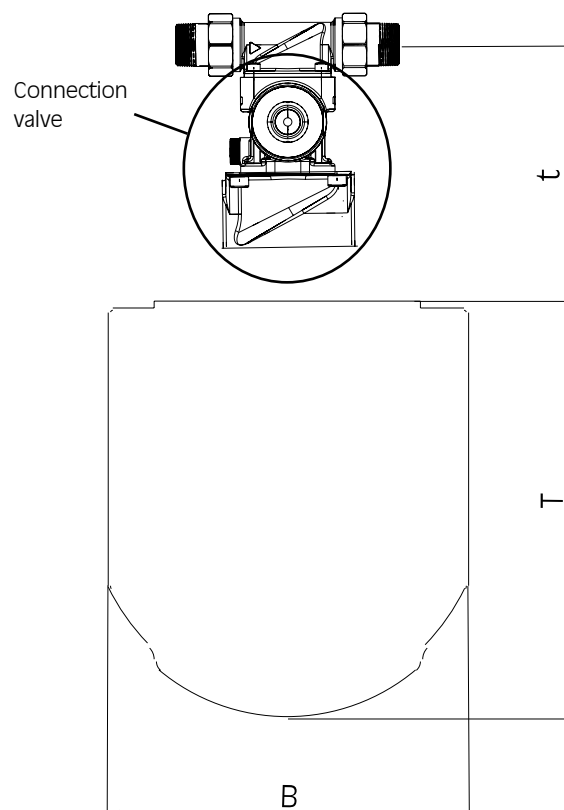
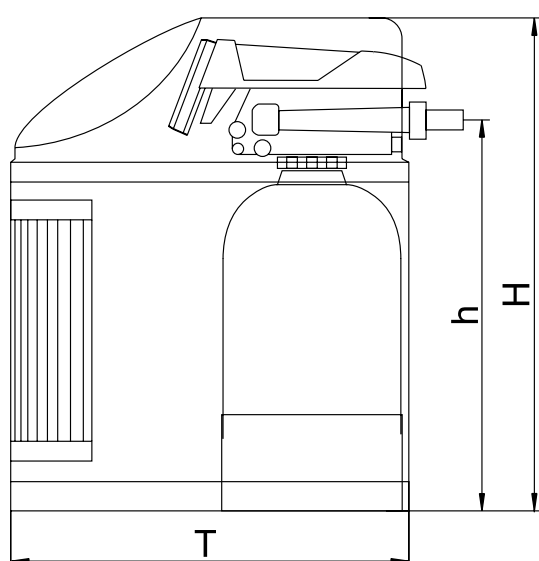
Service pressure:	min. 2 bar, max. 8 bar
Nominal pressure:	max. 10 bar
Service temperature:	max. 30 °C
Mounting position:	main axis: vertical
Type of fluid:	potable water
Flow rate LEX 10 / 20 / 30:	2,1 / 2,5 / 2,8 m³/h at 1,0 bar Δp
Storage saltcontainer LEX 10 / 20 / 30:	25 kg / 60 kg / 60 kg
Quantity of resin LEX 10 / 20 / 30:	10 / 20 / 30 Litre
Volume of exchange resin LEX 10 / 20 / 30:	25 / 51 / 77 m³ x °dH
Salt consumption per regeneration LEX 10 / 20 / 30:	ca. 0,8 kg / 1,6 kg / 2,4 kg
Power supply:	4 W / 230V / 50 Hz
Serial number:	1500 ...

Maintenance

As the water softener works automatically, the only thing to do is to refill salt on a regular basis. The device has to be serviced at least once per year, in case of

collective installations, every six months. A maintenance contract between user and installer provides for safe and durable functionality.

LEX 1500



Connection flange not included in the delivery!

Nominal size		LEX 10	LEX 20 / 30
Dimensions	H (mm)	860	1130
	h (mm)	730	970
	t (mm)	min. 300	min. 300
	T (mm)	600	600
	B (mm)	350	350

LEX 1500

Components / Order numbers

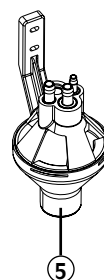
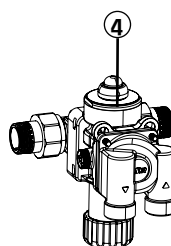
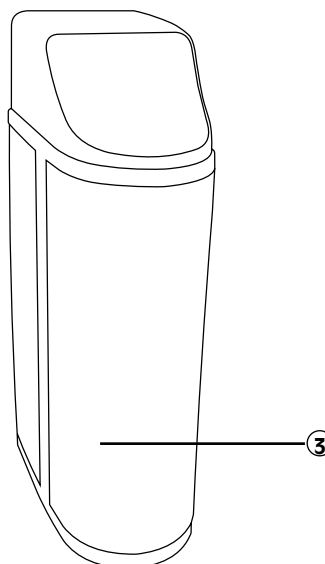
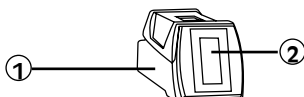
- ①
Control unit
LEX 10 1500.00.903
LEX 20 1500.00.920
LEX 30 1500.00.921

- ②
IQ-control
LEX 10 1500.00.906
LEX 20 1500.00.907
LEX 30 1500.00.908

- ③
Cabinet, with cover
LEX 10 1500.00.924
LEX 20/30 1500.00.925

- ④
Bypass valve
1700.00.001

- ⑤
Tundish, complete
0214.00.908



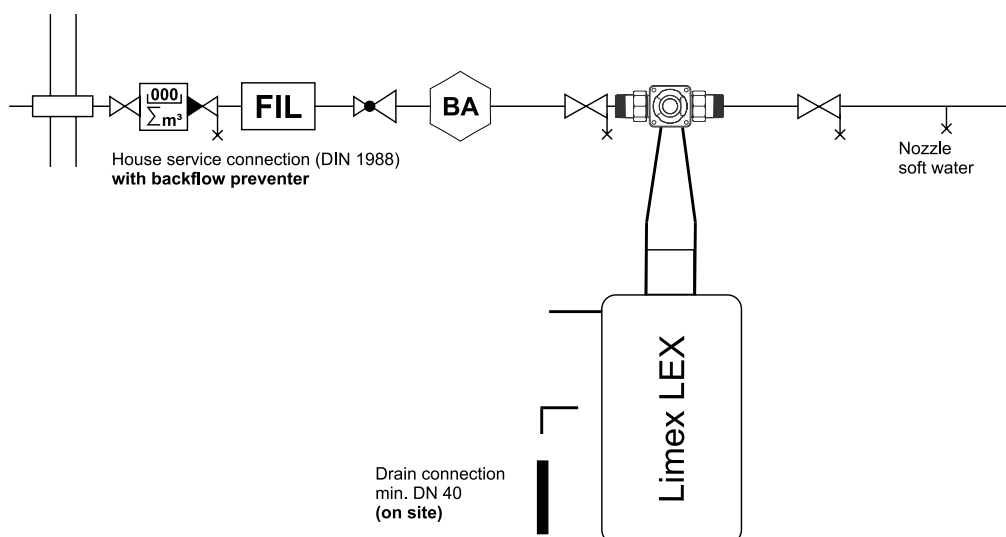
no figure

- Salt container**
LEX 10 1500.00.913
LEX 20/30 1500.00.901

- Sealing kit**
1500.00.904

- Hoses**
1500.00.905

Connection scheme



Safe-T LS-module 2421

Leakage detection module



1

Field of application

The SYR Safe-T LS module 2421 offers a leakage detection system according to VP 638 that permanently supervises the installation as soon as it is activated. The Safe-T LS module can be mounted on any flange of the SYR flange system up to DN

32. Any valve suited for the flange can be fitted onto the module. The Safe-T can also be used as stand-alone version. The covering cap required for that purpose is available as accessory.

Design

The Safe-T's monitoring electronic system is able to detect leakage. When the pre-programmed values are exceeded, the Safe-T isolates the whole installation. It also

offers a special vacation function ensuring an intensified supervision. All important function data can be individually set with the management and diagnosis system.

Safe-T LS-Modul 2421

Materials

The body is made of a high-quality low-lead brass alloy. The rubber parts are made of ageing-resistant elastomer. Non-rusting steel is used for all other functional parts.

All materials used are state-of-the-art. All synthetic parts getting into contact with water are approved by the German Public Health Office (KTW).

Installation

To install the Safe-T, use a flange DN 20 - DN 32 from the extensive Drufi flange program. Mount it either centrally downstream of the water metering device or locally to

protect a single line. The Safe-T can be used separately or in combination, for instance with a Drufi or the IT 3000.

Thoroughly flush the pipe prior to installation. Install the required Drufi connection flange under consideration of the direction

of flow either in vertical or horizontal pipes. Do not apply stresses. All electric connections are pre-installed in factory.

Technical specifications

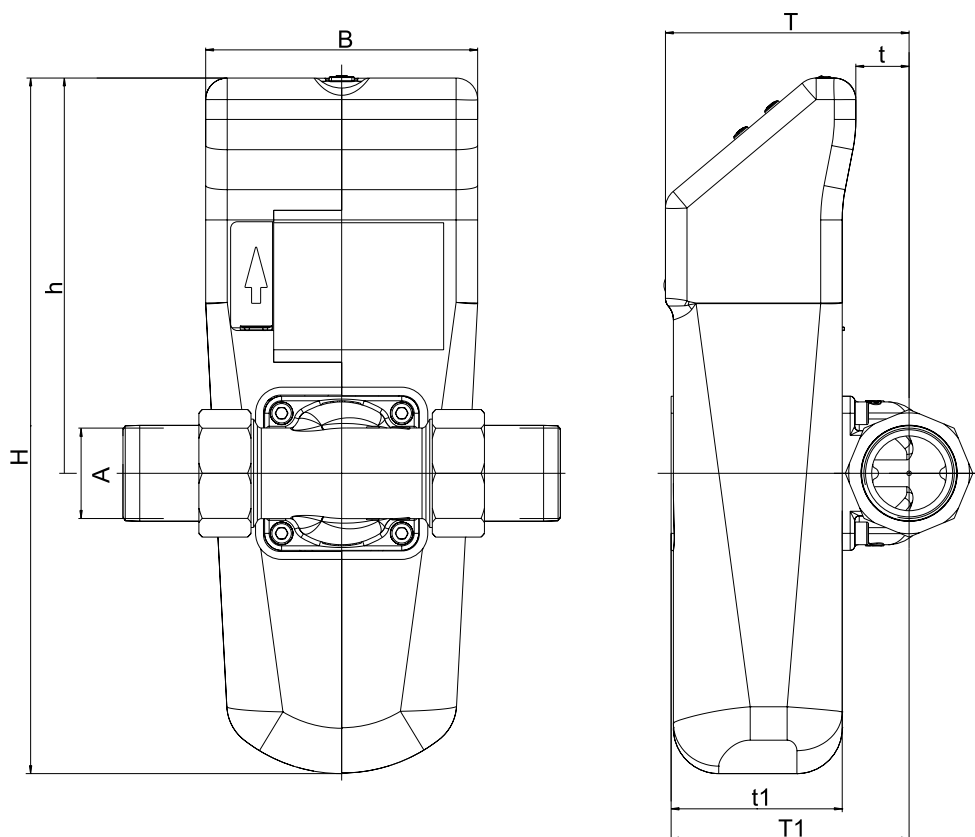
Operating temperature:	max. 30 °C
Ambient temperature:	10 - 60 °C
Nominal pressure:	16 bar
Mounting position:	Main axis: vertical
Medium:	Potable water
Type of protection:	IP 21
Batteries:	4 x LR06
Voltage, power pack:	9V DC
Load, external potential free contact:	IN 2: minimum 12V / 20 mA Out: maximum 24V / 2A
Flow rate:	DN 20: 2.0 m³/h at 0,2 bar Δp
	DN 25: 2,3 m³/h at 0,2 bar Δp
	DN 32: 2,5 m³/h at 0,2 bar Δp
	DN 20: 3,5 m³/h at 0,5 bar Δp
	DN 25: 3,8 m³/h at 0,5 bar Δp
	DN 32: 4,0 m³/h at 0,5 bar Δp
	DN 20: 5,2 m³/h at 1,0 bar Δp
	DN 25: 5,7 m³/h at 1,0 bar Δp
	DN 32: 6,0 m³/h at 1,0 bar Δp
Serial number:	2421.00.000

Maintenance

The Safe-T's design requires no

maintenance for correct operation.

Safe-T LS-Modul 2421



Nominal size		DN 20 - DN 32
Dimensions	A	R ¾" - 1 ¼"
	T (mm)	108
	t (mm)	24
	T1 (mm)	105
	t1 (mm)	76
	H (mm)	307
	H (mm)	174
	B (mm)	120

Safe-T LS-Modul 2421

Components / Order numbers

①
Covers

②
Emergency key

③
Control unit

④
Body

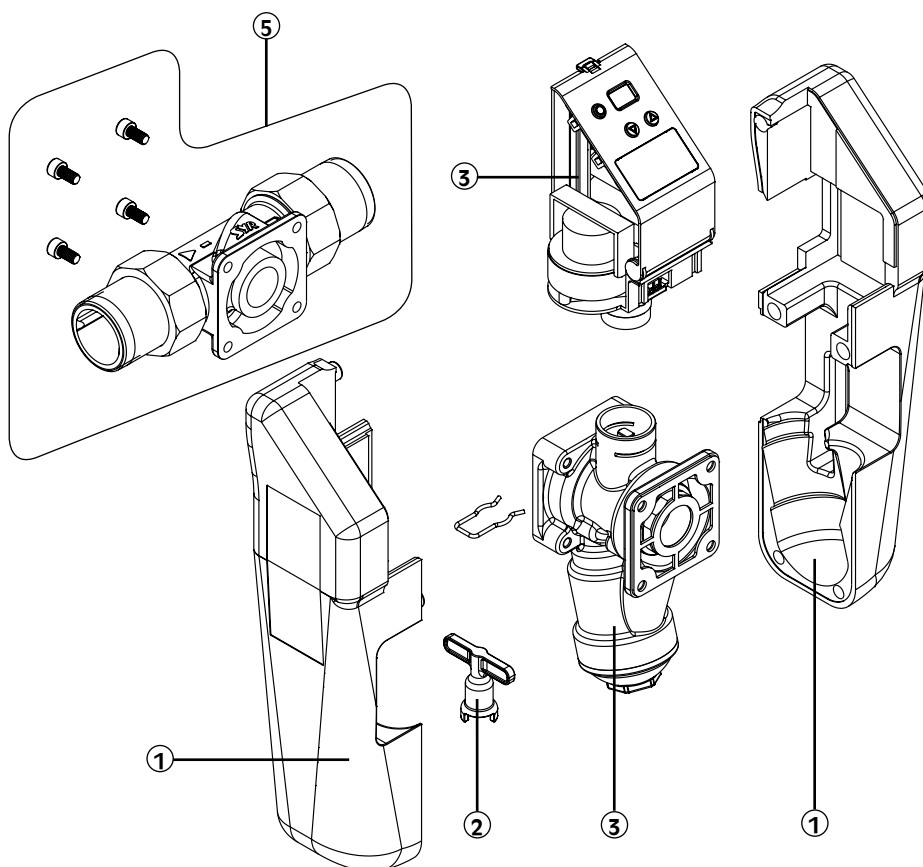
Accessories

⑤
Drufi universal flange

DN 20 2315.20.005
DN 25 2315.25.005
DN 32 2315.32.005

Covering cap (no pict.)
2320.00.901

Power pack (no pict.)
1100.00.900



Protect DFR 2420

Leakage protection with fully automatic backwash filter and pressure reducing valve



Field of application

The Protect DFR is specifically designed for domestic point of entry installations. It includes a highly effective anti-leakage function, a backwash filter in compliance with EN 13443-1, which is convertible into a fully automatic backwash system, and a pressure reducing valve in conformity with EN 1567. The Protect DFR is equipped with a tundish.

When connected to a DN 50-sized drain pipe, the tundish directs the backwash water into the sewer. The very compact design allows installation even in confined spaces. Use the DRUFI flange programme to install the device in horizontal or vertical pipes. The integral pressure reducing valve allows individual pressure settings.

Design

The Protect DFR consists of a backwash filter that is convertible into a fully automatic backwash system, a pressure reducer and an integral anti-leakage function. It is also equipped with a flange gasket and hexagonal socket screws for the flange installation and an assembly key for the hexagonal socket screws. The pressure reducing valve is factory-set to an outlet pressure of 4 bar. With the adjustment knob located on top

of the device, adjusting the outlet pressure within a range from 1.5 to 6 bar becomes very simple. The outlet pressure is permanently indicated in the display of the automatic system. The backwash interval can be selected within a range from one to 61 days. The modern microprocessor technology allows the automatic backwash system to remain maintenance free.

Protect DFR 2420

Materials

The filter cap is made of high-quality synthetic material, the internal plastic parts of shock-resistant thermoplast and the rubber parts of ageing resistant elastomers. The shut-off valves consist of high-quality ceramics. The body as well as all remaining functional parts are made of a low-lead,

dezincification-resistant gunmetal alloy and non-rusting steel. All materials used are state-of-the-art. The synthetic and elastomeric parts getting into contact with water designed for human consumption are approved by the German Public Health Office (KTW).

Installation

It is highly recommended to install filters to protect potable water installations against corrosion. Many applications also require pressure reducing valves. Both devices should be installed directly behind the water metering device and be readily accessible.

In the Protect DFR, the filter is installed upstream of the pressure reducing valve to ensure the protection of the latter. Make sure that the device is readily accessible and protect it against frost and humidity.

Thoroughly flush the pipe prior to installation. Use filtered water from the first onset of the potable water installation. For mounting the Protect DFR, use a flange allowing the perpendicular installation in vertical and horizontal pipes. Mount the corresponding

flange in the pipework without applying stresses. When making the connection to the filter body, use the four stainless steel screws and pull them pressure-tight crosswise by means of the key (enclosed in delivery).

Technical specifications

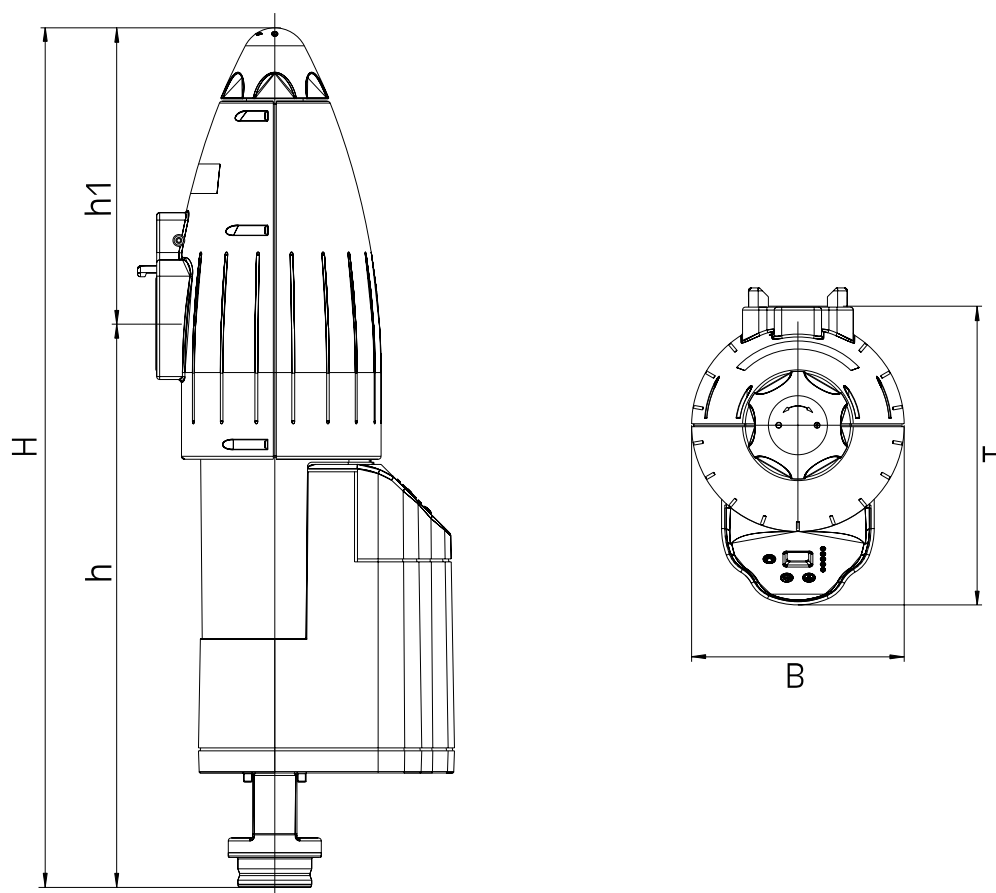
Operating pressure:	min. 2 bar, max. 16 bar
Operating temperature:	max. 30 °C
Mounting position:	Main axis vertical
Fluid:	Potable water
Mesh width:	lower: 90 µm, upper: 125 µm
Flow rate:	DN 20: 2.3 m³/h at 1.1 bar Δp DN 25: 3.6 m³/h at 1.1 bar Δp DN 32: 5.8 m³/h at 1.1 bar Δp
Power supply:	230 V / 50 Hz
Operating voltage / type of protection:	6,0 V DC / IP 21
Batteries / capacity:	4 x LR 06-AA / max. 8 W
Serial number:	2420...
	CE

Maintenance

When the automatic system is activated, the required backwash operation is carried out fully automatically by the Protect DFR.

The Protect DFR requires no maintenance apart from the occasional exchange of the buffer batteries.

Protect DFR 2420

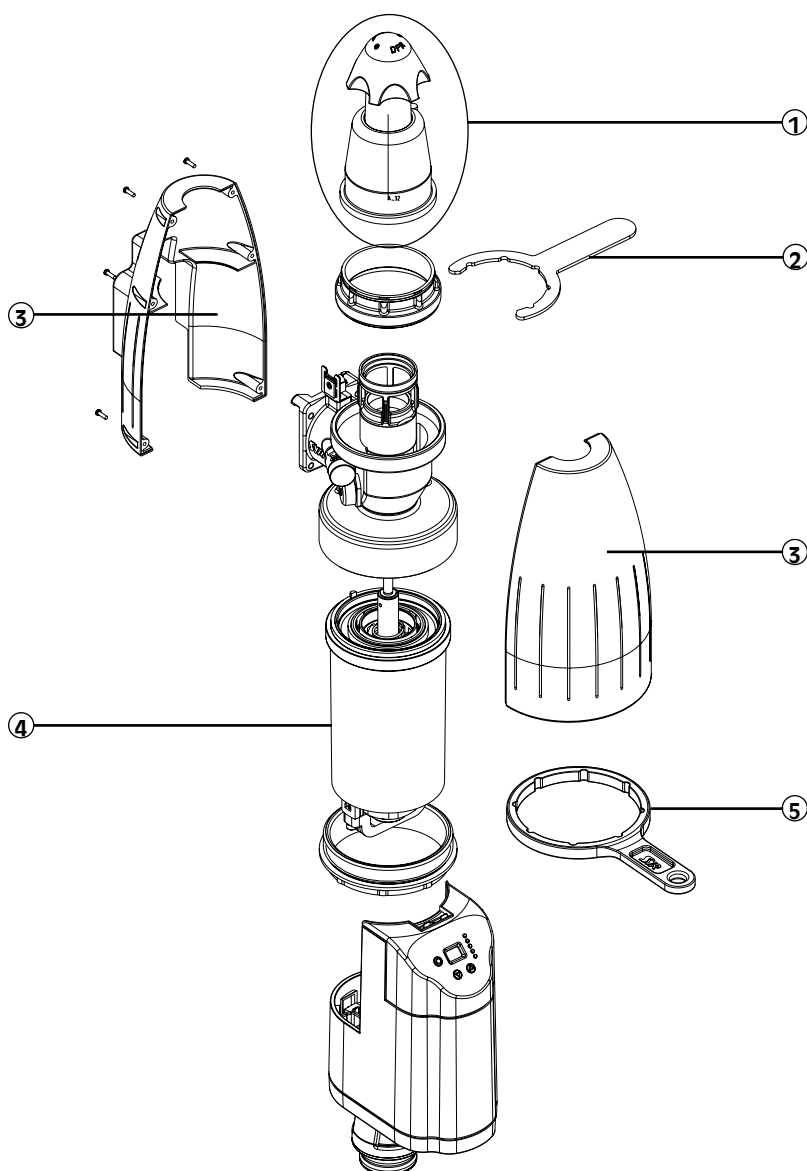


Nominal size		DN 20 - DN 32
		G ¾" - 1 ¼"
Dimensions	H (mm)	582
	h (mm)	381,5
	h1 (mm)	200,5
	T (mm)	202
	B (mm)	144

Protect DFR 2420

Components / Order numbers

- ①
Pressure reducer cartridge
2420.00.900
- ②
**Maintenance key
pressure reducing valve**
2420.00.903
- ③
Cover
2420.00.901
- ④
Filter cup, complete unit
2420.00.902
- ⑤
**Maintenance key
filter cup**
2420.00.905



Protect FR 2420

Leakage protection with fully automatic backwash filter



Field of application

The Protect FR is specifically designed for domestic point of entry installations. It includes a highly effective anti-leakage function and a backwash filter in compliance with EN 13443-1, which is convertible into a fully automatic backwash system. The Protect FR is equipped with a tundish.

When connected to a DN 50-sized drain pipe, the tundish directs the backwash water into the sewer. The very compact design allows installation even in confined spaces. Use the DRUFI flange programme to install the device in horizontal or vertical pipes.

Design

The Protect FR consists of a backwash filter that is convertible into a fully automatic backwash system and an integral anti-leakage function. It is also equipped with a flange gasket and hexagonal socket screws for the flange installation and an assembly key for

the hexagonal socket screws. The backwash interval can be selected within a range from one to 61 days. The modern microprocessor technology allows the automatic backwash system to remain maintenance free.

Protect FR 2420

Materials

The filter cap is made of high-quality synthetic material, the internal plastic parts of shock-resistant thermoplast and the rubber parts of ageing resistant elastomers. The shut-off valves consist of high-quality ceramics. The body as well as all remaining functional parts are made of a low-lead,

dezincification-resistant gunmetal alloy and non-rusting steel. All materials used are state-of-the-art. The synthetic and elastomeric parts getting into contact with water designed for human consumption are approved by the German Public Health Office (KTW).

Installation

It is highly recommended to install filters to protect potable water installations against corrosion. The device should be installed

directly behind the water metering device and be readily accessible. Protect the device against humidity and frost.

Thoroughly flush the pipe prior to installation. Use filtered water from the first onset of the potable water installation. For mounting the Protect FR, use a flange allowing the perpendicular installation in vertical and horizontal pipes. Mount the corresponding

flange in the pipework without applying stresses. When making the connection to the filter body, use the four stainless steel screws and pull them pressure-tight crosswise by means of the key (enclosed in delivery).

Technical specifications

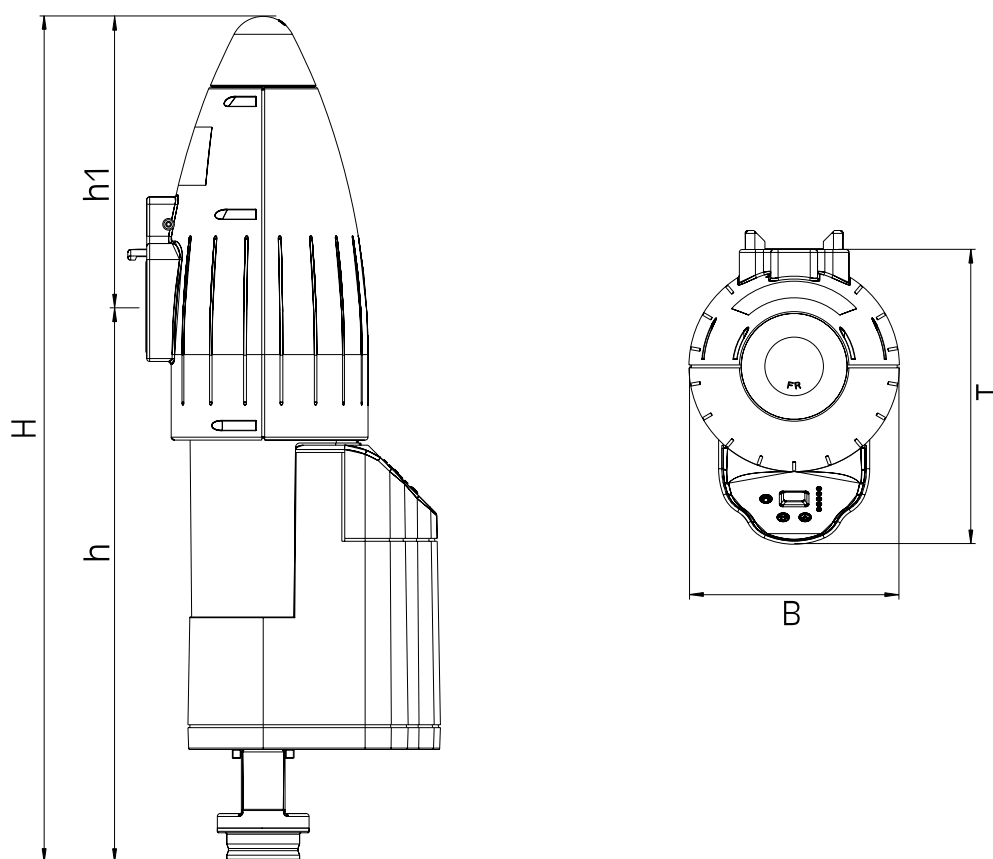
Operating pressure:	min. 2 bar, max. 16 bar
Operating temperature:	max. 30 °C
Mounting position:	Main axis vertical
Fluid:	Potable water
Mesh width:	lower: 90 µm, upper: 125 µm
Filter capacity:	DN 20: 3.0 m³/h at 0.2 bar Δp DN 25: 3.4 m³/h at 0.2 bar Δp DN 32: 3.8 m³/h at 0.2 bar Δp DN 20: 4.8 m³/h at 0.5 bar Δp DN 25: 5.5 m³/h at 0.5 bar Δp DN 32: 5.9 m³/h at 0.5 bar Δp
Valve capacity:	DN 20: 4.6 m³/h (Kvs-value) DN 25: 4.9 m³/h (Kvs-value) DN 32: 4.9 m³/h (Kvs-value)
Power supply:	230 V / 50 Hz
Operating voltage / type of protection:	6,0 V DC / IP 21
Battery / capacity:	4 x LR 06-AA / max. 8 W
Serial number:	2420...
	CE

Maintenance

When the automatic system is activated, the required backwash operation is carried out fully automatically by the Protect FR.

The Protect FR requires no maintenance apart from the occasional exchange of the buffer batteries.

Protect FR 2420

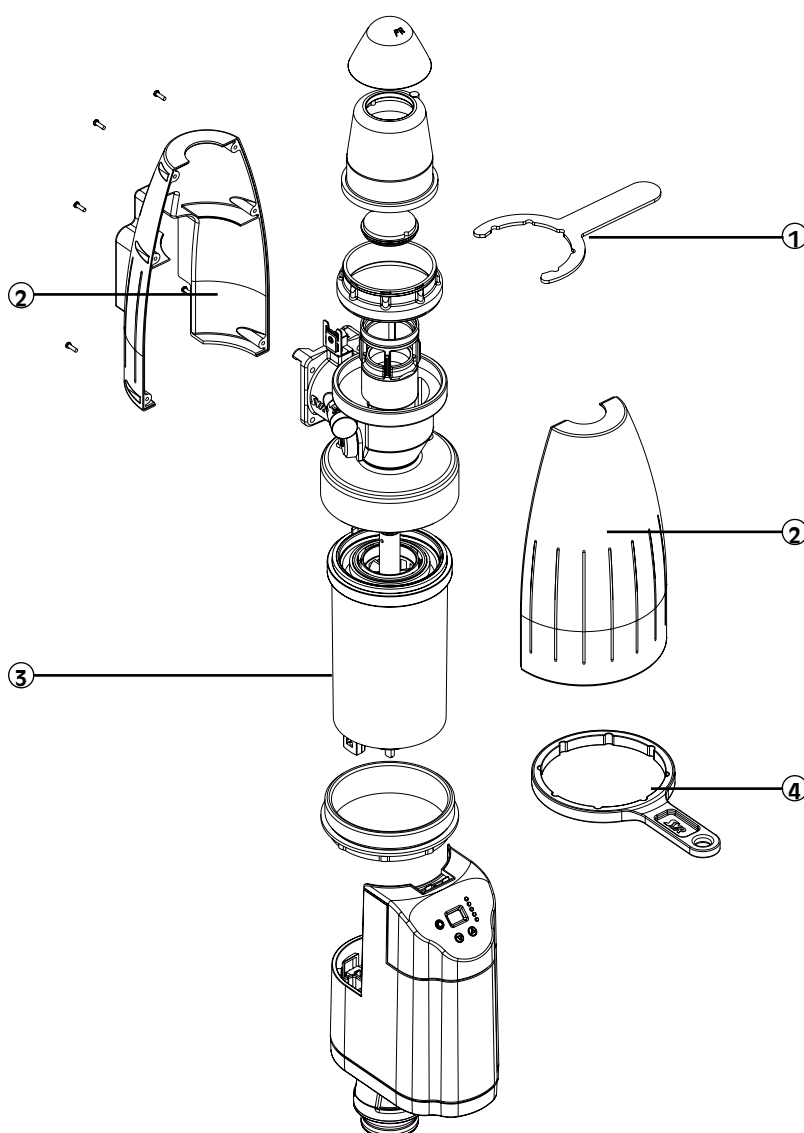


Nominal size		DN 20 - DN 32
		G ¾" - 1 ¼"
Dimension	H (mm)	582
	h (mm)	381,5
	h1 (mm)	200,5
	T (mm)	202
	B (mm)	144

Protect FR 2420

Components / Order numbers

- ①
**Maintenance key
pressure reducing valve**
2420.00.903
- ②
Cover
2420.00.901
- ③
Filter cup, complete unit
2420.00.902
- ④
**Maintenance key
filter cup**
2420.00.905



SYR-DOS Dosing Pump 1400

Addition of mineral solutions



Field of application

The dosing pump SYR DOS from SYR is designed to add mineral solutions to potable water. Mineral solutions prevent corrosion and scaling and increase the water's pH value; they are also used for example down-

stream of water softeners or for stabilizing the water hardness in copper or galvanised pipes as well as in mixed installations. The dosing system fulfils the requirements of the relevant German standard (DIN 19635).

Design

The dosing pump SYR DOS records the water flow with a water meter and determines the required amount of minerals accordingly; the minerals are released from the dosing dispensers and pumped into the pipe through a dosing hose. The range of mineral products includes solutions suitable for various applications (C: for copper pipes

downstream of water softeners; SW: for galvanised pipes and aggressive water with a water hardness 8,4 °dH; W: galvanised pipes for water hardness 8,4 - 14 °dH and mixed installations, respectively downstream of water softeners; H: for stabilizing the water hardness in the hardness ranges 14 °dH or higher.)

SYR DOS Dosing Pump 1400

Materials

The functional parts are made of high quality synthetic material. The body and the internal plastic parts are made of shock-resistant thermoplast and the rubber parts of ageing-resistant elastomers. All remaining functional parts are made of a low lead

dezincification resistant gunmetal alloy and stainless steel. All materials used are state-of-the-art. All synthetic parts getting into contact with water fulfil the requirements of Germany's Public Health Office (KTW).

Installation

Use a connecting set DN 20 – DN 32 (not included in delivery) to install the SYR DOS dosing pump. Connect the connection val-

ve directly into the pipe. The device cannot be operated without power supply.

Thoroughly flush the pipe prior to installation. Install the connection valve and the connection set in vertical or horizontal

pipes without applying stresses. All electrical connections are pre-mounted in factory.

Technical specifications

Nominal size:	DN 20 - DN 32
Inlet pressure:	10 bar
Operating temperature:	max. 30 °C
Fluid:	potable water
Container size:	6 Liter
Nominal flow rate:	4.0 m ³ /h
Pressure loss at nominal flow rate:	0.8 bar
Power supply:	230 V / 50 Hz
Dosing volume per filling:	8 - 80 m ³
Serial number:	1400.00.000

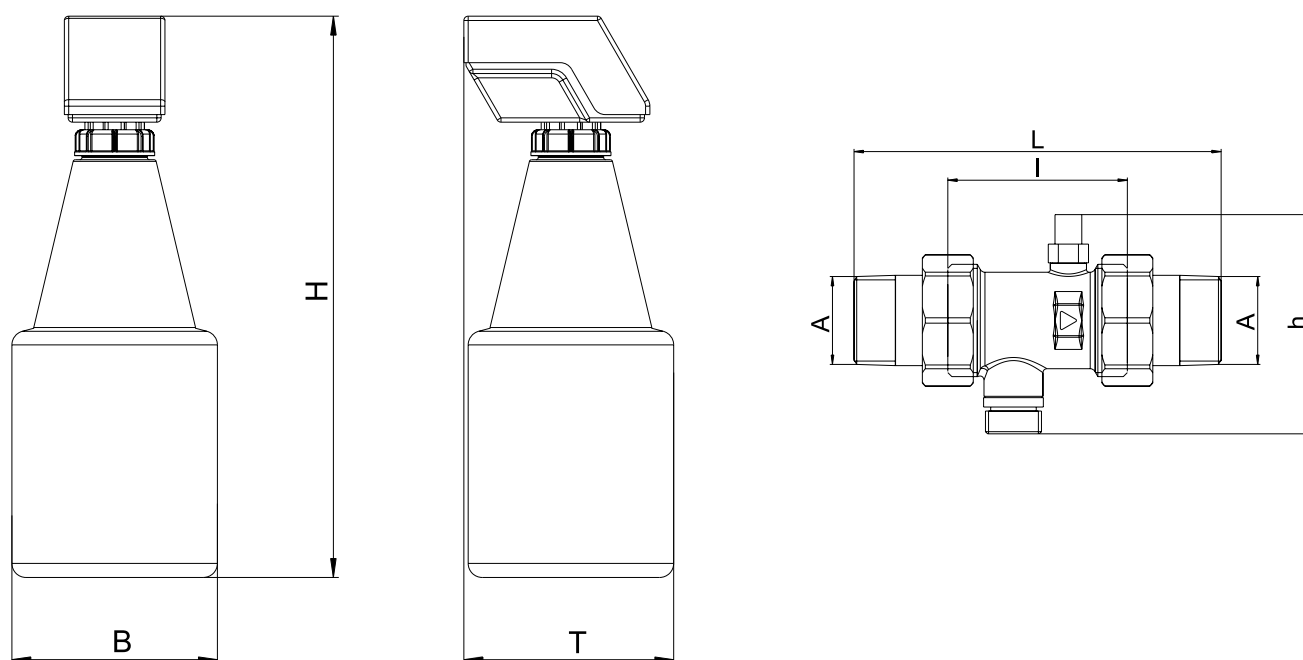
Maintenance

As the dosing pump operates automatically, only the empty mineral solution dispensers need to be replaced. The device should be serviced on a regular basis (EN 806 part 5).

It is recommended to conclude a service contract with a qualified installer to ensure durable and safe operation.

SYR DOS Dosing Pump 1400

1



Nominal size		DN 20	DN 25	DN 32
Dimensions	A	R ¾"	R 1"	R 1¼"
	H (mm)	530	530	530
	B (mm)	190	190	190
	T (mm)	195	195	195
	L (mm)	141	137	161
	l (mm)	67	67	67
	h (mm)	82	82	82

SYR DOS Dosing Pump 1400

Components / Order numbers

**①
Pump housing**

**②
Mineral solution**

Dosierlösung Typ C
6 Litre: 3100.00.900
25 Litre: 3100.00.904

Dosierlösung Typ SW
6 Litre: 3100.00.901
25 Liter: 3100.00.905

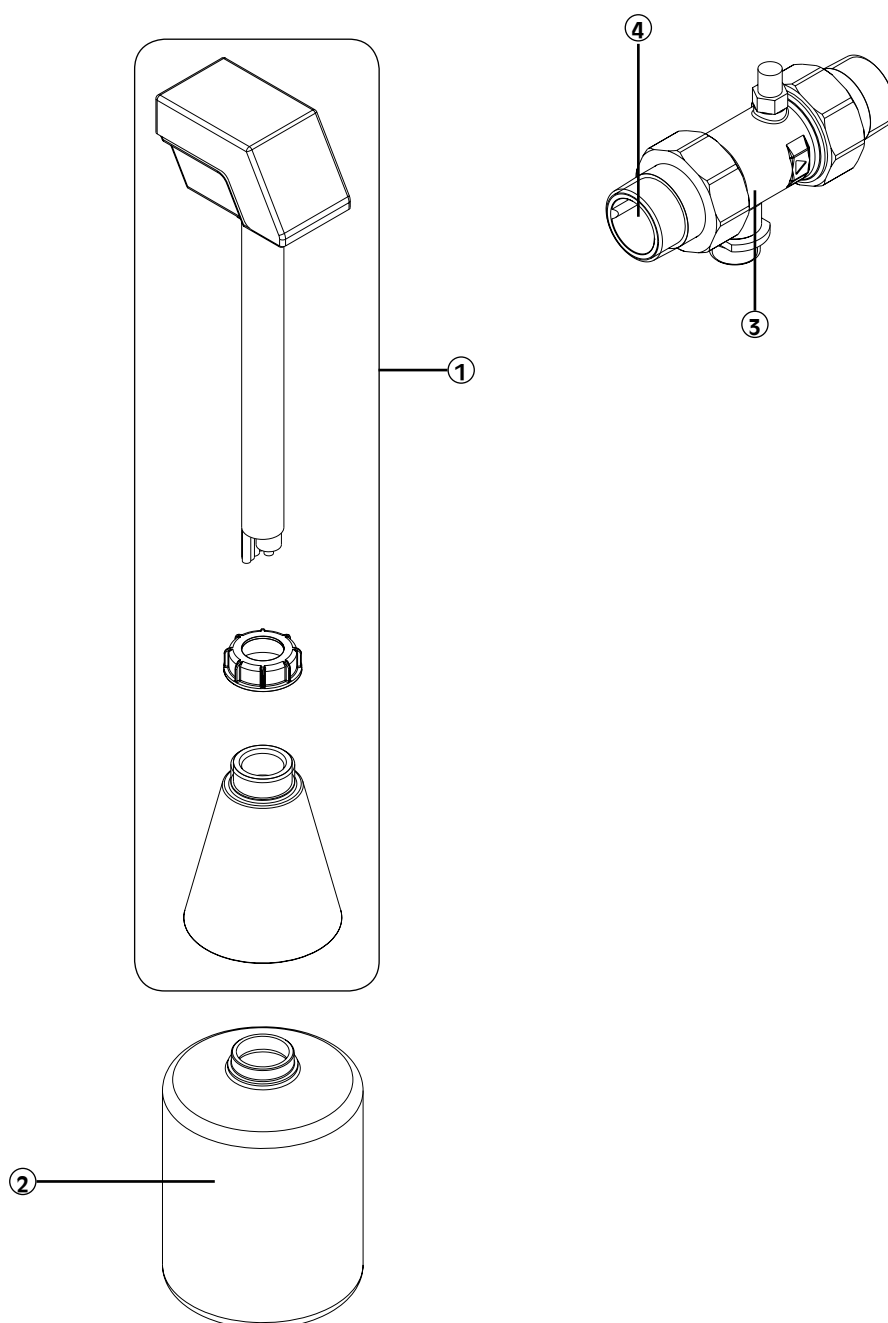
Dosierlösung Typ W
6 Litre: 3100.00.902
25 Liter: 3100.00.906

Dosierlösung Typ H
6 Litre: 3100.00.903
25 Liter: 3100.00.907

**③
Connection valve**

**④
Connection-Set**

0814.20.900	DN 20
0812.25.900	DN 25
0816.32.900	DN 32



Dosing Pump 3100 DP 1

Addition of mineral solutions



Field of application

The dosing system DP 1 from SYR is designed to add mineral solutions to potable water. Mineral solutions prevent corrosion and scaling and increase the water's pH value; they are also used for example down-

stream of water softeners or for stabilizing the water hardness in copper or galvanised pipes as well as in mixed installations. The dosing system fulfils the requirements of the relevant German standard (DIN 19635).

Design

The dosing system DP1 records the water flow with a water meter and determines the required amount of minerals accordingly; the minerals are released from the dosing dispensers and pumped into the pipe through a dosing hose. The range of mineral products includes solutions suitable for various applications (C: for copper

pipes downstream of water softeners; SW: for galvanised pipes and aggressive water of hardness range 1; W: galvanised pipes for water hardness ranges 1 + 2 and mixed installations, respectively downstream of water softeners; H: for stabilizing the water hardness in the hardness ranges 3 + 4.)

Dosing Pump 3100 DP 1

Materials

The functional parts are made of high quality synthetic material. The body and the internal plastic parts are made of shock-resistant thermoplast and the rubber parts of ageing-resistant elastomers. All remaining functional parts are made of a low lead

dezincification resistant gunmetal alloy and stainless steel. All materials used are state-of-the-art. All synthetic parts getting into contact with water fulfil the requirements of Germany's Public Health Office (KTW).

Installation

Use a DN 20 – DN 32 flange from the extensive Drufi flange programme to install the dosing system DP 1. Connect the dosing system DP 1 along with the water meter as a unit directly to the flange. When the pi-

pes' position is too high or too low, the DP 1 system can be mounted separately from the water metering unit. The device cannot be operated without power supply.

Thoroughly flush the pipe prior to installation. Install the required Drufi connection flanges in vertical or horizontal pipes wit-

hout applying stresses. All electrical connections are pre-mounted in factory.

Technical specifications

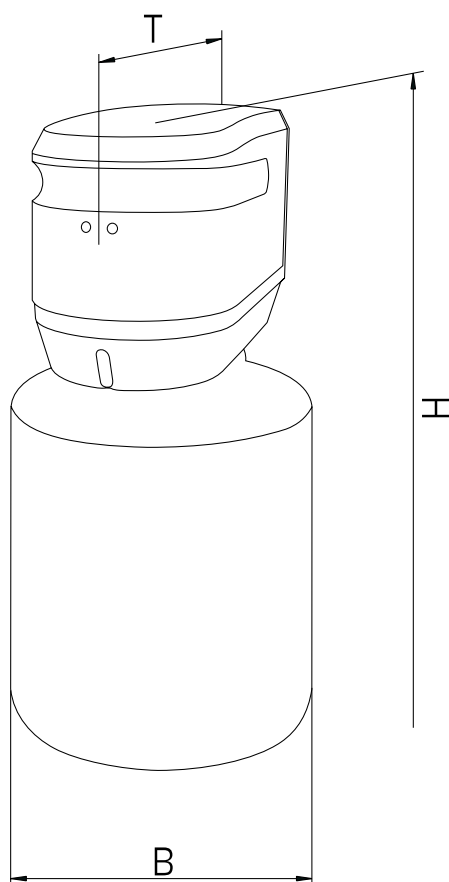
Inlet pressure:	10 bar
Operating pressure:	min. 1.5 bar, max. 10 bar
Operating temperature:	max. 30 °C
Fluid:	potable water
Mounting position:	main axis vertical
Nominal flow rate:	4.0 m ³ /h
Pressure loss at nominal flow rate:	0.7 bar
Power supply:	230 V / 50 Hz / 15 W
Dosing volume per filling:	48 - 80 m ³
Serial number:	3100.00.000

Maintenance

As the dosing pump operates automatically, only the empty mineral solution dispensers need to be replaced. The device should be serviced on a regular basis (EN 806 part 5).

It is recommended to conclude a service contract with a qualified installer to ensure durable and safe operation.

Dosing Pump 3100 DP 1



Nominal size		DN 20 - DN 32
Dimensions	T (mm)	240
	H (mm)	min. 590
	B (mm)	190

Dosing Pump 3100 DP 1

Components / Order numbers

①
Cover

②
Body of the pump

③
Dosing dispenser

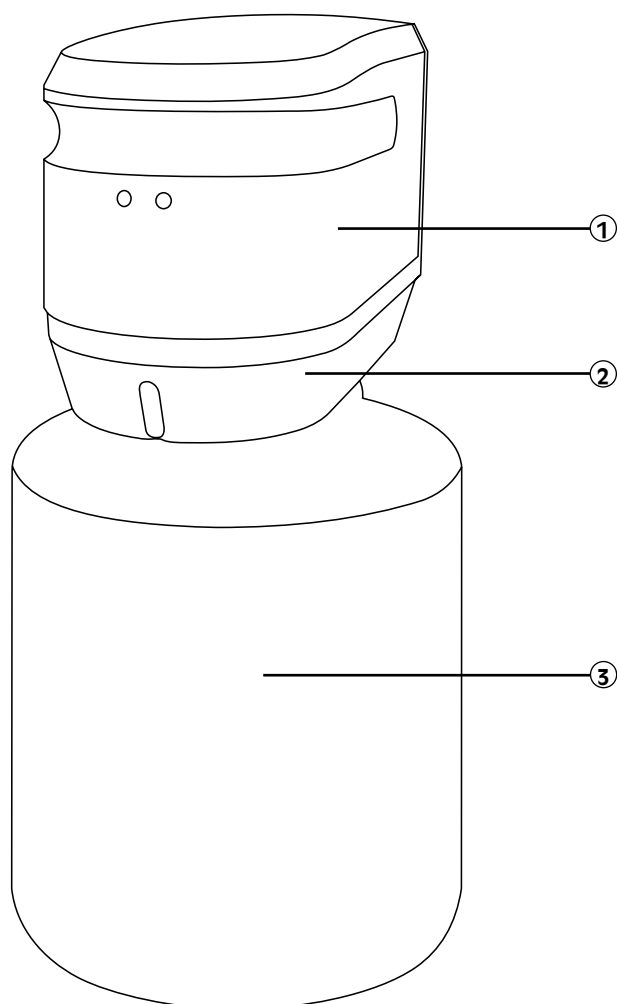
Mineral solutions, 6 Liter

Mineral solution type C
3100.00.900

Mineral solution type SW
3100.00.901

Mineral solution type W
3100.00.902

Mineral solution type H
3100.00.903



Dosing Pump 3100 DP 2

Addition of mineral solutions



Field of application

The dosing system DP 2 from SYR is designed to add mineral solutions to potable water. Mineral solutions prevent corrosion and scaling and increase the water's pH value; they are also used for example down-

stream of water softeners or for stabilizing the water hardness in copper or galvanised pipes as well as in mixed installations. The dosing system fulfils the requirements of the relevant German standard (DIN 19635).

Design

The dosing system DP 2 records the water flow with a water meter and determines the required amount of minerals accordingly; the minerals are released from the dosing dispensers and pumped into the pipe through a dosing hose. The range of mineral products includes solutions suitable for various applications (C: for copper

pipes downstream of water softeners; SW: for galvanised pipes and aggressive water of hardness range 1; W: galvanised pipes for water hardness ranges 1 + 2 and mixed installations, respectively downstream of water softeners; H: for stabilizing the water hardness in the hardness ranges 3 + 4.)

Dosing Pump 3100 DP 2

Materials

The functional parts are made of high quality synthetic material. The body and the internal plastic parts are made of shock-resistant thermoplast and the rubber parts of ageing-resistant elastomers. All remaining functional parts are made of a low lead

dezincification resistant gunmetal alloy and stainless steel. All materials used are state-of-the-art. All synthetic parts getting into contact with water fulfil the requirements of Germany's Public Health Office (KTW).

Installation

Use a DN 20 – DN 32 flange from the extensive Drufi flange programme to install the dosing system DP 2. The water meter unit has to be connected directly to the flange.

A too high or too low position of the pipes is no problem. The device cannot be operated without power supply.

Thoroughly flush the pipe prior to installation. Install the required Drufi connection flanges in vertical or horizontal pipes without

applying stresses. All electrical connections are pre-mounted in factory.

Technical specifications

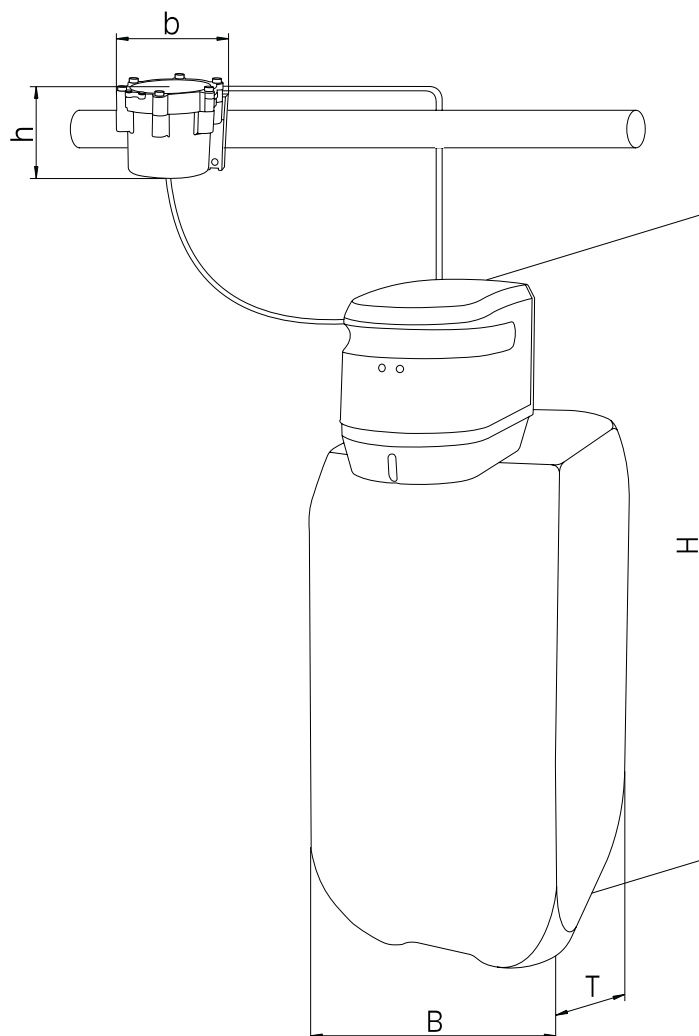
Inlet pressure:	10 bar
Operating pressure:	min. 1.5 bar, max. 10 bar
Operating temperature:	max. 30 °C
Fluid:	potable water
Mounting position:	main axis vertical
Nominal flow rate:	11.0 m³/h
Pressure loss at nominal flow rate:	0.8 bar
Power supply:	230 V / 50 Hz / 15 W
Dosing volume per filling:	200 - 330 m³
Serial number:	3100.00.001

Maintenance

As the dosing pump operates automatically, only the empty mineral solution dispensers need to be replaced. The device should be serviced on a regular basis (EN 806 part 5).

It is recommended to conclude a service contract with a qualified installer to ensure durable and safe operation.

Dosing Pump 3100 DP 2



Nominal size		DN 20 - DN 32
Dimensiones in mm	H (mm)	590
	B (mm)	260
	T (mm)	300
	h (mm)	105
	b (mm)	190

Dosing Pump 3100 DP 2

Components / Order numbers

①
Water meter unit

②
Cover

③
Body of the pump

④
Dosing dispenser

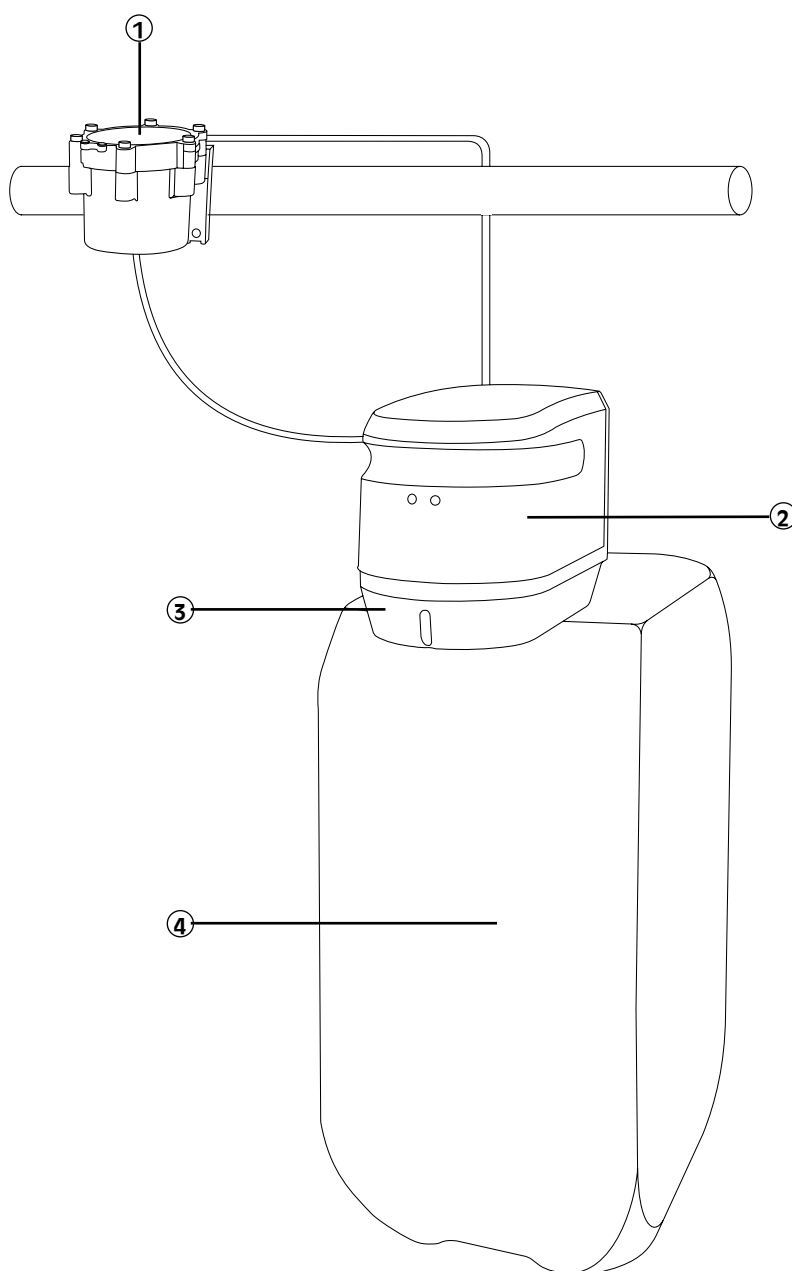
Mineral solutions, 25 Liter

Mineral solution type C
3100.00.904

Mineral solution type SW
3100.00.905

Mineral solution type W
3100.00.906

Mineral solution type H
3100.00.907



MultiSafe KLS 3000 2400

Combined protection against lime and leakage



Field of application

The SYR MultiSafe KLS 3000 offers all-round-safety for the domestic water installation. It combines function units for protection, monitoring and regulation. This combination device includes a module for protection against lime formation which is tested by an internationally recognised test institute (DVGW in Germany) as well as leakage protection and

a management and diagnosis system; in addition, it displays the water consumption and has a docking point for a SYR-Drufi-Filter and a further water treatment device. A message in the display indicates when service is due. These modules are controlled by the central processor unit of the MultiSafe.

Design

The electro-dynamic water treatment prevents the deposition of lime particles in the domestic water installation and on valves. The KLS 3000 plus type also offers protection against corrosion. The monitoring electronic system allows to recognise leakage. When

the pre-programmed values are exceeded, the system isolates the whole installation. The MultiSafe offers a vacation function for a tighter supervision. The management and diagnosis system allows individual setting of all important function data.

MultiSafe KLS 3000 2400

Materials

The body is made of a low-lead, dezincification resistant gunmetal alloy. The treatment unit is made of high-quality synthetic material, the covering cap and the internal synthetic parts are made of shock-resistant thermoplast and the rubber parts are made of ageing-resistant elastomers. All remaining function components are made of a low-lead, dezincification-resistant gunmetal alloy

or stainless steel. The ring seals are made of asbestos-free fibre. All materials are tested and certified by an internationally recognised test institute (DVGW in Germany). All synthetic parts coming into contact with water intended for human consumption comply with the recommendations of the German Public Health Office (KTW).

Installation

Use a flange DN 20 - DN 32 from the extensive Drufi Flange programme to mount the MultiSafe KLS 3000. A MultiSafe KLS 3000 is generally recommended in one-family houses or for the protection of a dwelling unit. It has to be

centrally installed behind the water meter in the pipe. When a Drufi is already mounted, there is no need to change the installation as the MultiSafe KLS 3000 includes a docking point for the Drufi.

Thoroughly flush the pipe prior to installation. Install the required Drufi connection flanges in vertical or horizontal pipes under consideration of the direction of flow and without applying stresses. All electric connections are pre-assembled in factory. Prior to installation,

ensure that there is a minimum distance between the bottom and the middle of the pipe of 450 mm. The MultiSafe is equipped with a holding device to be wall-mounted for a solid assembly.

Technical data

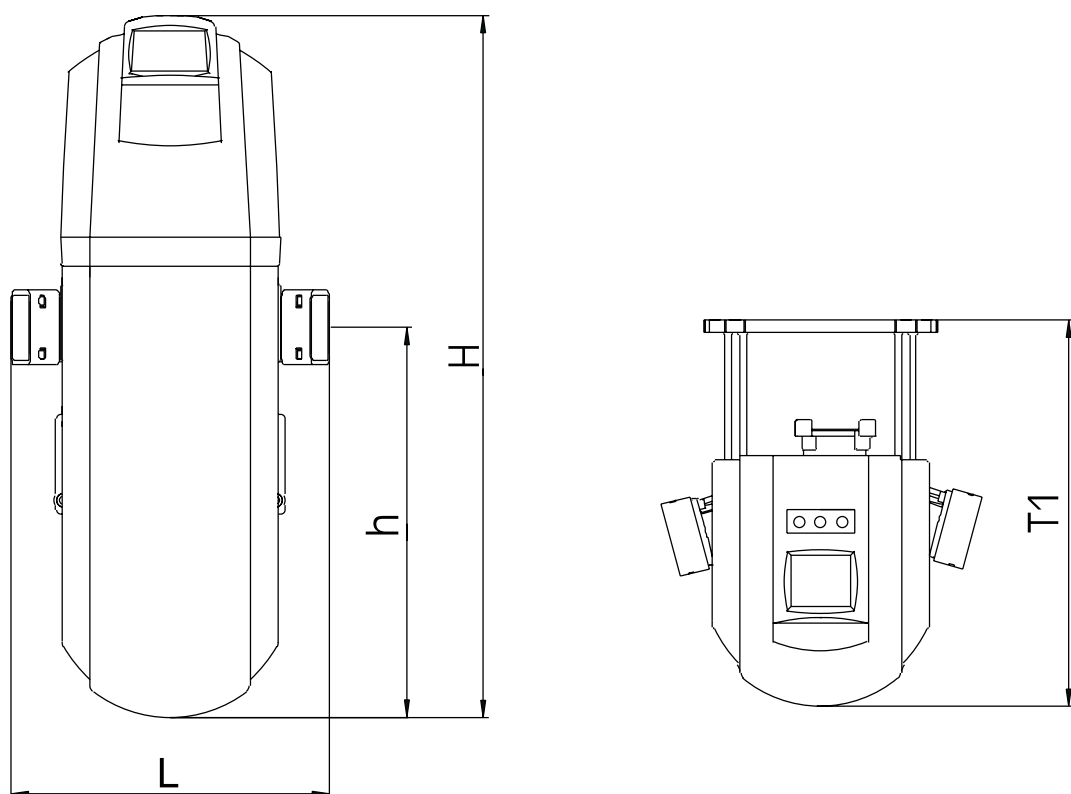
Operating pressure:	min. 2 bar, max. 10 bar
Operating temperature:	max. 30 °C
Mounting position:	main axis vertical
Fluid:	potable water
Flow rate:	3.0 m³/h
Pressure loss at nominal flow rate:	0.5 bar
Power supply:	230 V/ 50 Hz
Electric supply capacity:	max. 55 W
Capacity in Stand-By-status:	5 W
Protective system:	IP 21
Maintenance interval of treatment unit:	400 m³
Certification N° DVGW:	Anti-lime protection: DW-9191BM0239
Serial N°:	2400...
	CE

Maintenance

The treatment unit shall be exchanged after a water throughput of 400 m³ in order to main-

tain optimal effectiveness. The MultiSafe KLS 3000 displays a maintenance reminder.

MultiSafe KLS 3000 2400



Connection flange must be ordered separately. Please mention required size DN 20, 25 or 32.

Nominal size		DN 20 - DN 32
		G ¾ - G 1 ¼
Dimensions	H (mm)	700
	h (mm)	390
	L (mm)	318
	T (mm)	50 - 220
	T1 (mm)	345 - 490

Models

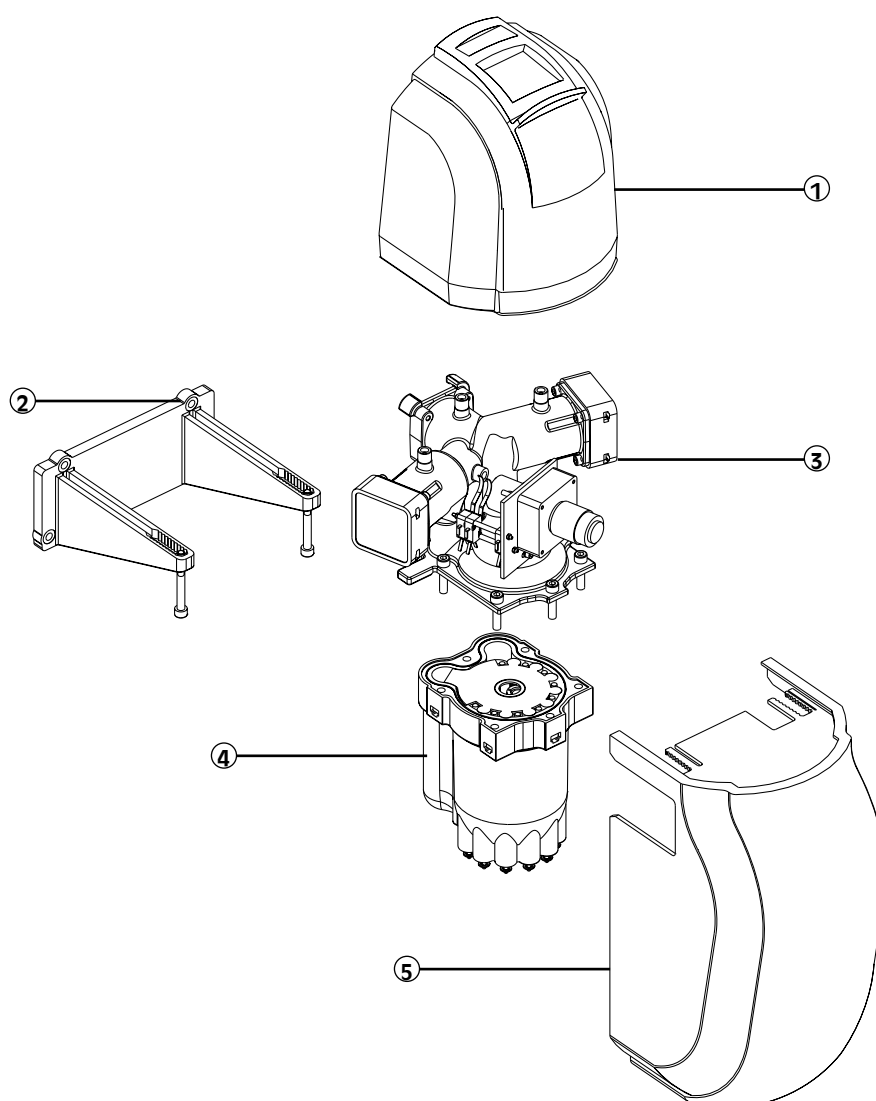
with protection against corrosion:
KLS 3000 plus: 2400.00.001

MultiSafe KLS 3000 2400

Components / Order numbers

- ①
Head part electronic system
- ②
Wall-mounted holding device
2400.00.906
- ③
Y-Flange
2400.00.904
- ④
Treatment unit
2400.00.914
- ⑤
Covering cap
2400.00.901

**Optional
Floor-Sensor**
2400.00.916



MultiSafe KS 3000 2402

Certified protection against lime formation



Field of application

The SYR MultiSafe KS 3000 offers all-round-safety for the domestic water installation. This combination device includes a module for protection against lime formation which is certified by an internationally recognised test institute (DVGW in Germany) and

a management and diagnosis system. It displays the water consumption. A message in the display indicates when service is due. These modules are controlled by the central processor unit of the MultiSafe.

Design

The electro-dynamic water treatment prevents the deposition of lime particles in the domestic water installation and on valves. The management and diagnosis system

allows individual setting of all important function data. The MultiSafe KS 3000 plus also offers protection against corrosion.

MultiSafe KS 3000 2402

Materials

The body is made of a low-lead, dezincification resistant gunmetal alloy. The treatment unit is made of high-quality synthetic material, the covering cap and the internal synthetic parts are made of shock-resistant thermoplast and the rubber parts are made of ageing-resistant elastomers. All remaining function components are made of a low-lead, dezincification-resistant gunmetal

alloy or stainless steel. The ring seals are made of asbestos-free fibre. All materials are tested and certified by an internationally recognised test institute (DVGW in Germany). All synthetic parts coming into contact with water intended for human consumption comply with the recommendations of the German Public Health Office (KTW).

Installation

Use a flange DN 20 - DN 32 from the extensive Drufi Flange programme to mount the MultiSafe KS 3000. A MultiSafe KS 3000 is generally recommended in one-family

houses or for the protection of a dwelling unit. It has to be centrally installed in the pipe behind the water meter.

Thoroughly flush the pipe prior to installation. Install the required Drufi connection flanges in vertical or horizontal pipes under consideration of the direction of flow and without applying stresses. All electric connections are pre-assembled in factory. Prior to installation, ensure that there is a mini-

mum distance between the bottom and the middle of the pipe of 450 mm. It is recommended to install a drinking water filter upstream in order to protect the MultiSafe.

Technical data

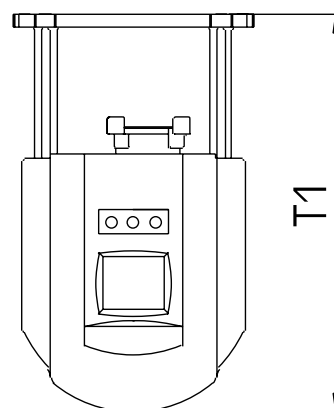
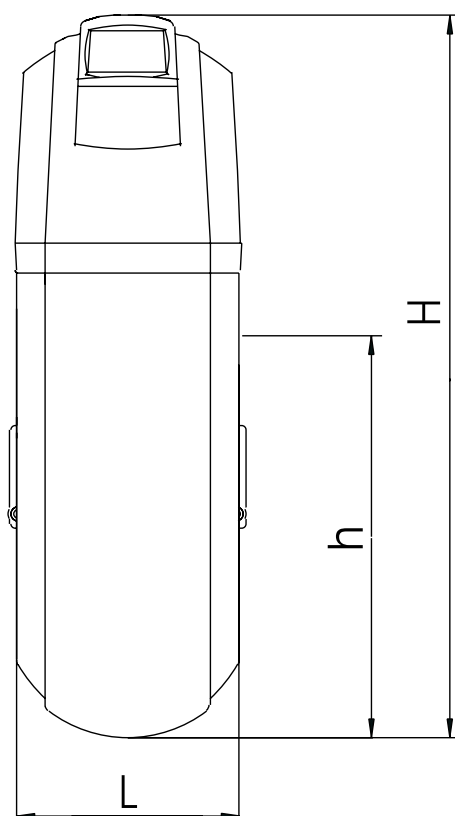
Operating pressure:	min. 2 bar, max. 10 bar
Operating temperature:	max. 30 °C
Mounting position:	main axis vertical
Fluids:	potable water
Flow rate:	3,0 m³/h
Pressure loss at nominal flow rate:	0.5 bar
Power supply:	230 V / 50 Hz
Electric supply capacity:	max. 55 W
Capacity in Stand-By.Status:	5 W
Protective system:	IP 21
Maintenance interval of treatment unit:	400 m³
DVGW-Certification N°:	Anti-lime protection: DW-9191BM0239
Serial N°:	2402...
	CE

Maintenance

The treatment unit shall be exchanged after a water throughput of 400 m³ in order to maintain optimal effectiveness. The Multi-

Safe KS 3000 displays a maintenance reminder.

MultSafe KS 3000 2402



Connection flange must be ordered separately. Please mention required size DN 20, 25 or 32.

Nominal size		DN 20 - DN 32
		G ¾ - G 1 ¼
Dimensions	H (mm)	700
	h (mm)	390
	L (mm)	215
	T (mm)	50 - 240
	T1 (mm)	345 - 535

Models

with protection against corrosion:
KS 3000 plus: 2402.00.001

MultiSafe KS 3000 2402

Components / Order numbers

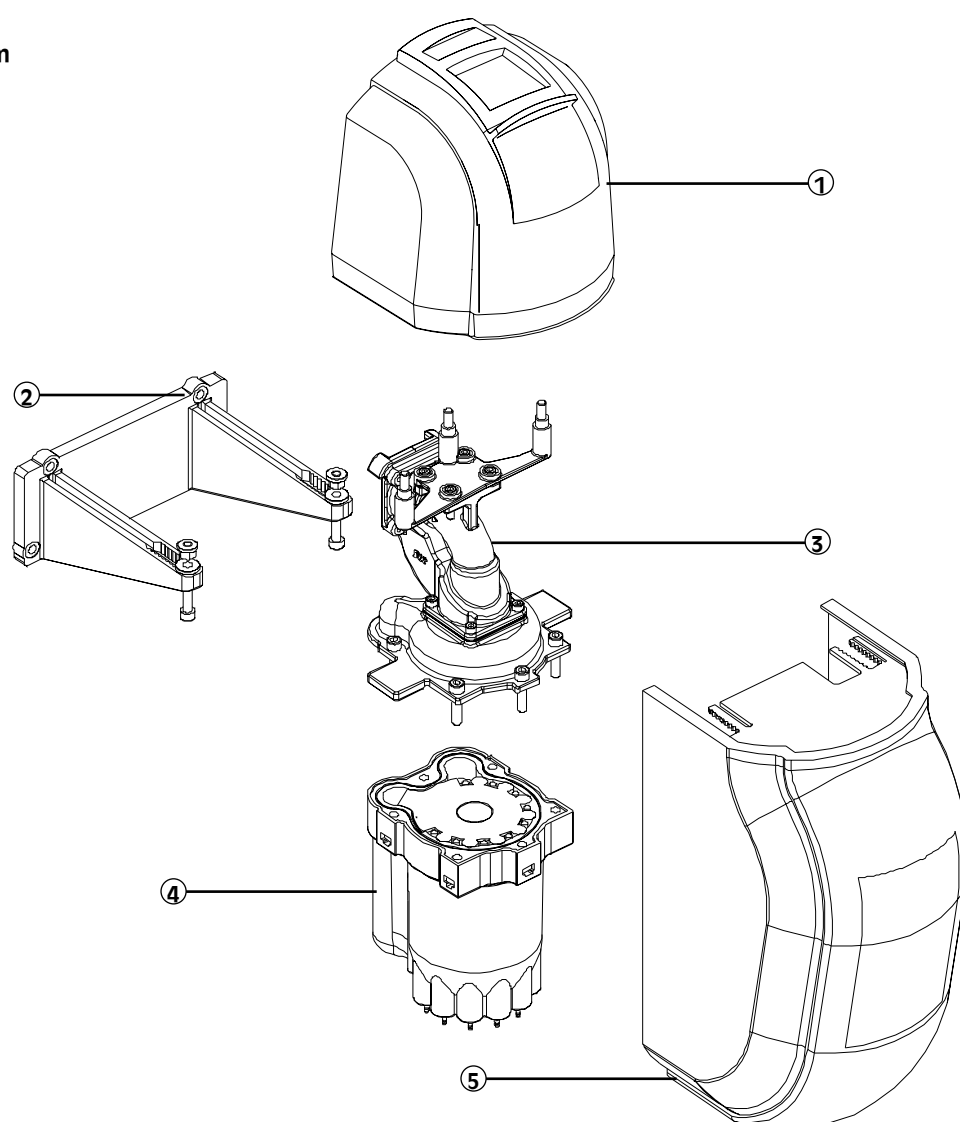
①
Head part of electronic system

②
Wall-mounted holding device
2400.00.906

③
Connecting flange

④
Treatment unit
2400.00.914

⑤
Covering cap
2402.00.901



MultiSafe KS 6000 2402

Certified protection against lime formation



Field of application

The SYR MultiSafe KS 6000 offers all-round-safety for the domestic water installation. This combination device includes a module for protection against lime formation which is certified by an internationally recognised test institute (DVGW in Germany) and

a management and diagnosis system. It displays the water consumption. A message in the display indicates when service is due. These modules are controlled by the central processor unit of the MultiSafe.

Design

The electro-dynamic water treatment prevents the deposition of lime particles in the domestic water installation and on valves. The management and diagnosis system

allows individual setting of all important function data. The MultiSafe KS 6000 plus also offers protection against corrosion.

MultiSafe KS 6000 2402

Materials

The body is made of a low-lead, dezincification resistant gunmetal alloy. The treatment unit is made of high-quality synthetic material, the covering cap and the internal synthetic parts are made of shock-resistant thermoplast and the rubber parts are made of ageing-resistant elastomers. All remaining function components are made of a low-lead, dezincification-resistant gunmetal

alloy or stainless steel. The ring seals are made of asbestos-free fibre. All materials are tested and certified by an internationally recognised test institute (DVGW in Germany). All synthetic parts coming into contact with water intended for human consumption comply with the recommendations of the German Public Health Office (KTW).

Installation

Use the included flange DN 40 - DN 50 to mount the MultiSafe KS 6000. A MultiSafe KS 6000 is generally recommended in two or

more-family houses or for the protection of a dwelling unit. It has to be centrally installed in the pipe behind the water meter.

Thoroughly flush the pipe prior to installation. Install the required Drufi connection flanges in vertical or horizontal pipes under consideration of the direction of flow and without applying stresses. All electric connections are pre-assembled in factory. Prior

to installation, ensure that there is a minimum distance between the bottom and the middle of the pipe of 450 mm. It is recommended to install a drinking water filter upstream in order to protect the MultiSafe.

Technical data

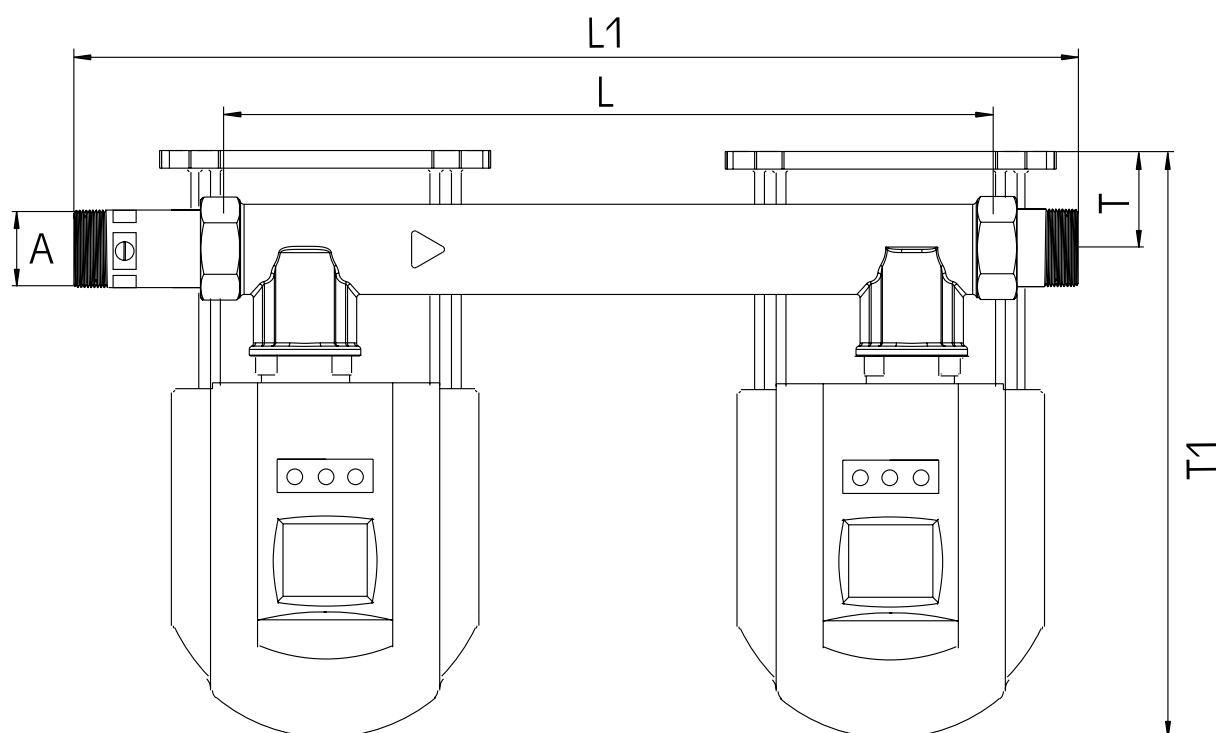
Operating pressure:	min. 2 bar, max. 10 bar
Operating temperature:	max. 30 °C
Mounting position:	main axis vertical
Fluids:	potable water
Flow rate:	DN 40 - DN 50: 6 m³/h
Pressure loss at nominal flow rate:	0.5 bar
Power supply:	230 V / 50 Hz
Electric supply capacity:	max. 55 W
Capacity in Stand-By-Status:	5 W
Protective system:	IP 21
Maintenance interval of treatment unit:	800 m³
DVGW-Certification N°:	Anti-lime protection: DW-9191BM0239
Serial N°:	2402...
	CE

Maintenance

The treatment unit shall be exchanged after a water throughput of 800 m³ in order to maintain optimal effectiveness. The Multi-

Safe KS 6000 displays a maintenance reminder.

MultSafe KS 6000 2402



Nominal size		DN 40	DN 50
	A	G 1 ½	G 2
Dimensions	I (mm)	480	480
	L (mm)	607,5	631
	T (mm)	60-190	60-190
	T1 (mm)	400-530	400-530

Models

with protection against corrosion:
KS 6000 plus

MultiSafe KS 6000 2402

Components / Order numbers

①
Head part of electronic system

②
Fittings

DN 40: 0814.40.900
DN 50: 0814.50.900

③
Connecting flange

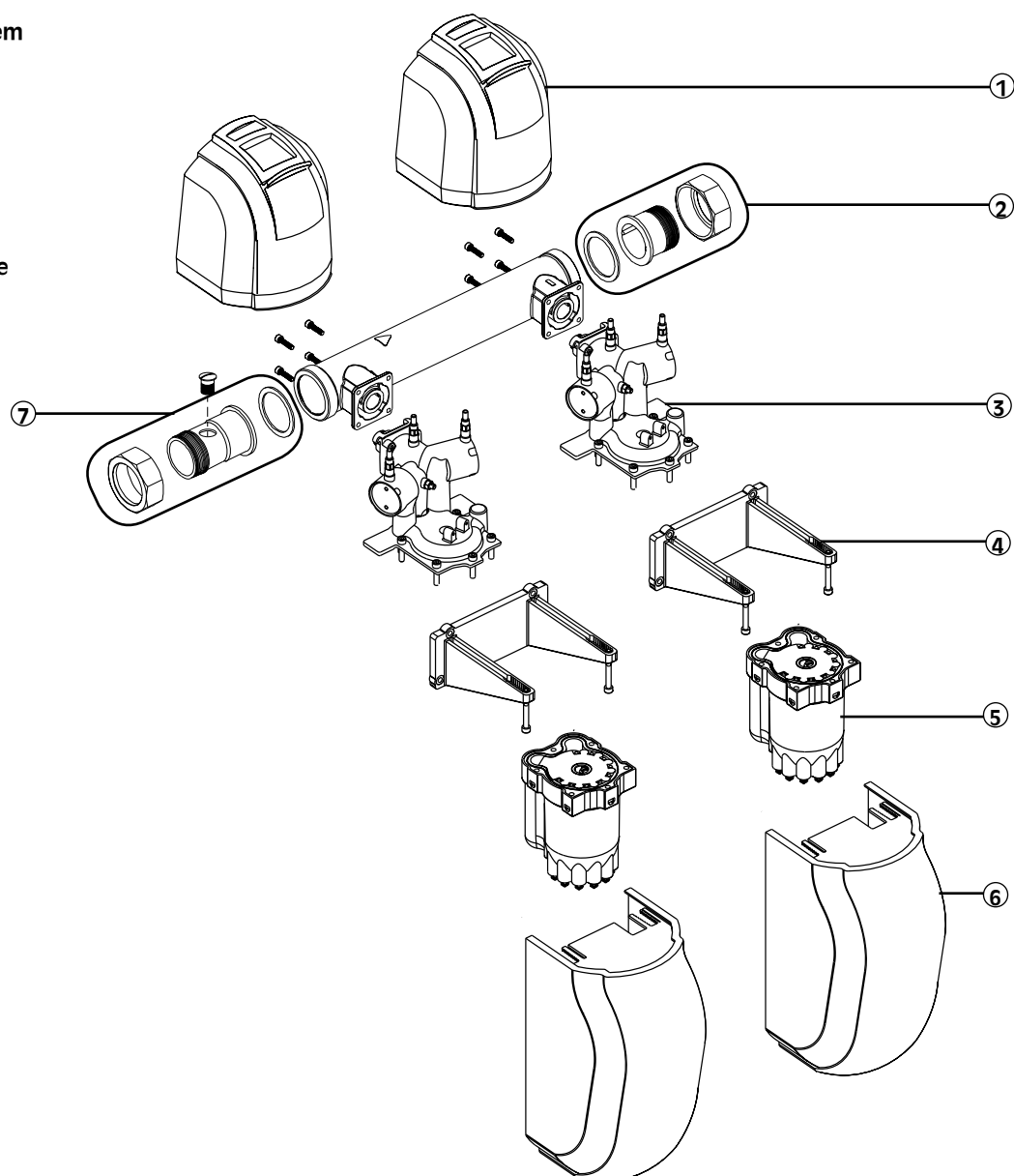
④
Wall-mounted holding device
2400.00.906

⑤
Treatment unit
2400.00.914

⑥
Covering cap
2402.00.901

⑦
**Connection fittings with
check valve**

DN 40: 0814.40.901
DN 50: 0814.50.901



MultiSafe LS 2401

Protection against leakage



Field of application

The monitoring and regulating system of the SYR MultiSafe LS offers safety for the domestic water installation. This compact device includes a module for leakage protection and a management and diagnosis system. In addition, it displays the water

consumption and has a docking point for the SYR Drufi-Filter and a further water treatment device. A message in the display indicates when service is due. These modules are controlled by the central processor unit of the MultiSafe.

Design

The monitoring electronic system of the MultiSafe LS allows to recognise leakage. When the pre-programmed values are exceeded, it isolates the whole installation. The MultiSafe also offers a vacation function

for an intensified supervision. The management and diagnosis system allows individual setting of all important function data.

MultiSafe LS 2401

Materials

The body is made of a low-lead, dezincification resistant gunmetal alloy. The covering cap and the internal synthetic parts are made of shock-resistant thermoplast and the rubber parts are made of ageing-resistant elastomers. All remaining function components are made of a low-lead, dezincification-resistant gunmetal alloy or stainless steel. The ring seals are made of

asbestos-free fibre. All materials are tested and certified by an internationally recognised test institute (DVGW in Germany). All synthetic parts coming into contact with water intended for human consumption comply with the recommendations of the German Public Health Office (KTW).

Installation

Use a flange DN 20 - DN 32 from the extensive Drufi Flange programme to mount the MultiSafe LS. A MultiSafe LS is generally recommended in one-family houses or for the protection of a dwelling unit. It has to be centrally installed in the pipe behind the

water meter. When a Drufi is already mounted, there is no need to change the installation as the MultiSafe LS includes a docking point for the Drufi.

Thoroughly flush the pipe prior to installation. Install the required Drufi connection flanges in vertical or horizontal pipes under consideration of the direction of flow and without applying stresses. All electric connections are pre-assembled in factory. Prior to installation, ensure that there is a

minimum distance between the bottom and the middle of the pipe of 450 mm. The MultiSafe is equipped with a holding device to be wall-mounted for a solid assembly.

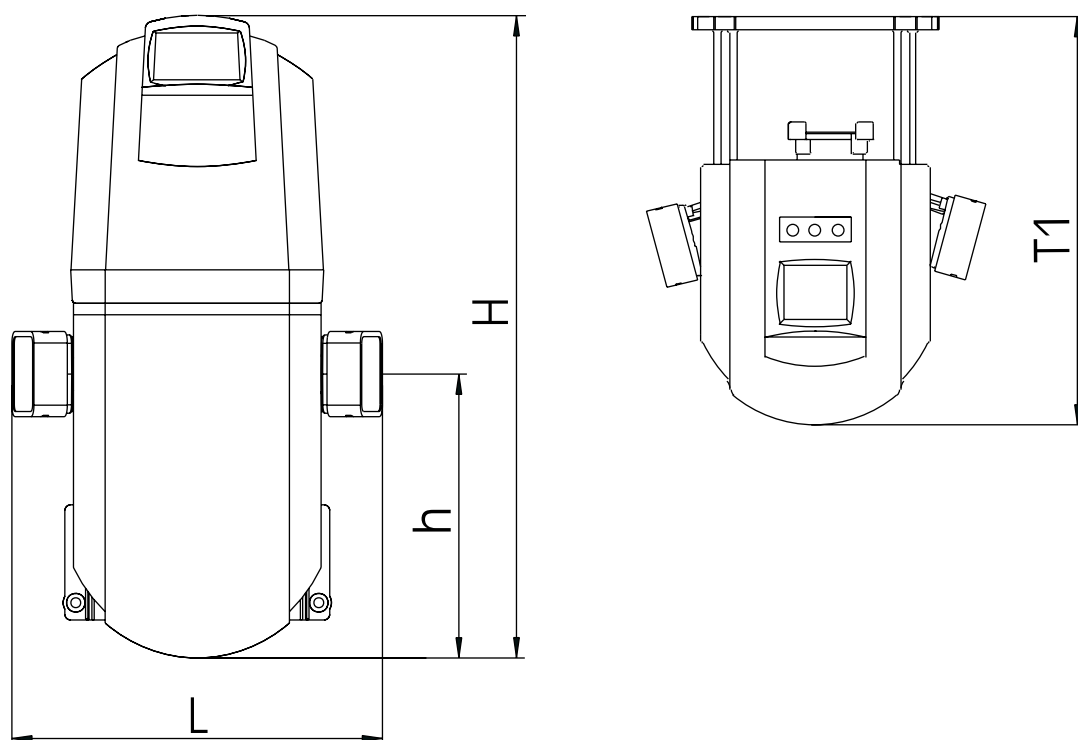
Technical data

Operating pressure:	min. 2 bar, max. 10 bar
Operating temperature:	max. 30 °C
Mounting position:	main axis vertical
Fluids:	potable water
Flow rate:	3.5 m³/h
Pressure loss at nominal flow rate:	0.5 bar
Power supply:	230 V / 50 Hz
Electric supply capacity:	max. 55 W
Capacity in Stand-By-Status:	5 W
Protective system:	IP 21
Serial N°:	2401.00.000
	CE

Maintenance

No maintenance is required for the operation of the MultiSafe type LS.

MultiSafe LS 2401



Connection flange must be ordered separately. Please mention required size DN 20, 25 or 32.

Nominal size		DN 20 - DN 32
		G ¾ - G 1 ¼
Dimensions	H (mm)	700
	h (mm)	390
	L (mm)	215
	T (mm)	50 - 240
	T1 (mm)	345 - 535

MultiSafe LS 2401

Components / Order numbers

①
Head part of electronic system

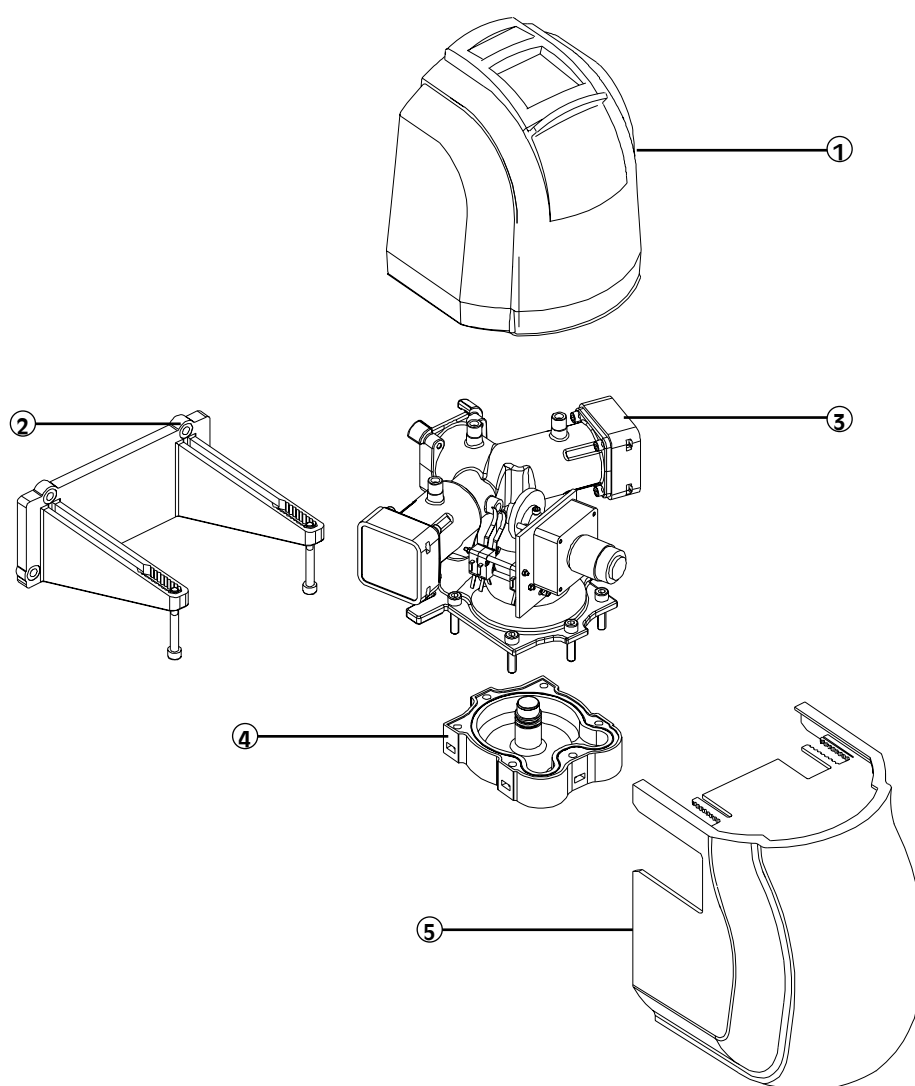
②
Wall-mounted holding device
2400.00.906

③
Y-Flange
2400.00.904

④
Cover
2400.00.909

⑤
Covering cap
2401.00.900

**Optional
Floor-Sensor**
2400.00.916



POUmax-Filter 7315

3-in-1 backwash filter for potable water



Field of application

The POUmax filter (**P**oint-**o**f-**U**se) offers protection against impurities, colour alterations, odours and microorganisms as well as as possible harmful residues, directly at the draw-off point (for instance under the sink).

The POUmax combines a fine mesh filter, an activated carbon filter and an anti-bacteria filter in one single device. The filter is designed for manual backwash, which allows a longer service life.

Design

The POUmax filter includes a draw-off valve to draw off water directly, a 3-in-1-cart-

ridge, a wall bracket and all screws and dowels required to mount the filter.

POU-Filter 7315

Materials

The functional parts are made of high quality synthetic material. The body and internal synthetic parts are made of shock-resistant thermoplast and the rubber parts of ageing

resistant elastomers. Non-rusting steel is used for all remaining functional parts. The materials used are state-of-the-art.

Installation

The POUmax filter is particularly suitable for the assembly under the sink. When the draw-off valve is installed for instance on

the sink or tabletop, filtered water can be drawn off easily.

Thoroughly flush the pipe prior to installation. Install the POUmax filter by means of the wall bracket below the sink or upstream of a special tap under consideration of the direction of flow. Provide for enough space

under the filter for a receptacle collecting the backwashed water. Place the draw-off valve in the 11.5 mm bore in the table top or sink and fix it.

Technical specifications

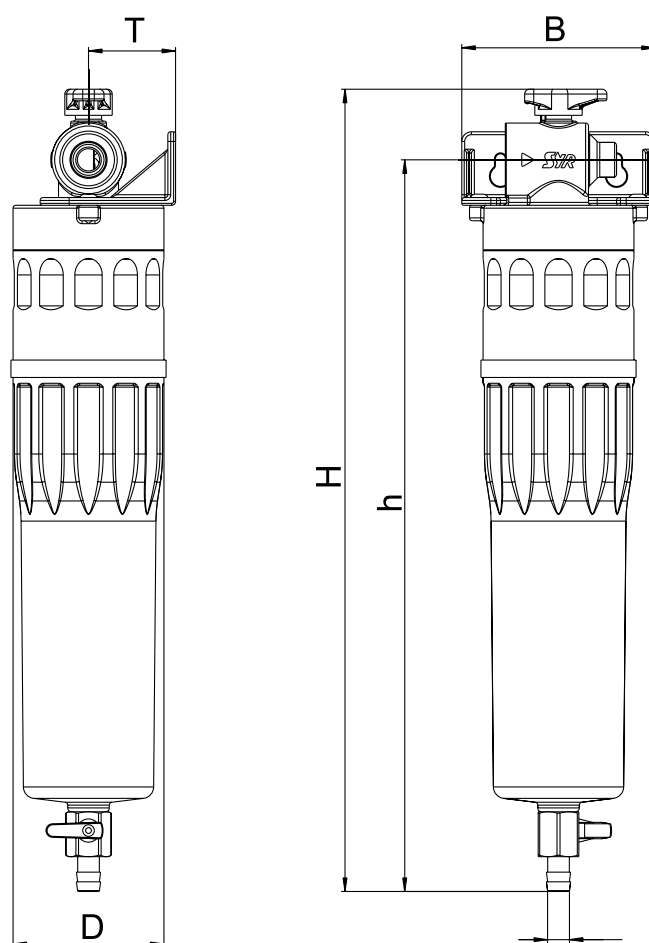
Inlet pressure:	min. 2 bar, max. 10 bar
Operating temperature:	max. 30°C
Medium:	potable water
Mounting position:	main axis vertical with horizontal connecting flange
Nominal flow rate:	200 litres/h at ΔP 1,0 bar
Capacity:	ca. 7500 litres
Serial number:	7315 ...

Maintenance

The filter is backwashable and can be cleaned any time or according the amount of accumulated impurities by manual operati-

on of the ball valve.
Exchange the cartridge unit when the maximum capacity is reached.

POU-Filter 7315



Observe the minimum distance of about 10 cm between the ball valve and the bottom to allow maintenance works!

Nominal size		DN 10
Dimensions in mm	H (mm)	415
	h (mm)	378
	T (mm)	45
	B (mm)	100
	D (mm)	75
	d (mm)	11

POU-Filter 7315

Components / Order numbers

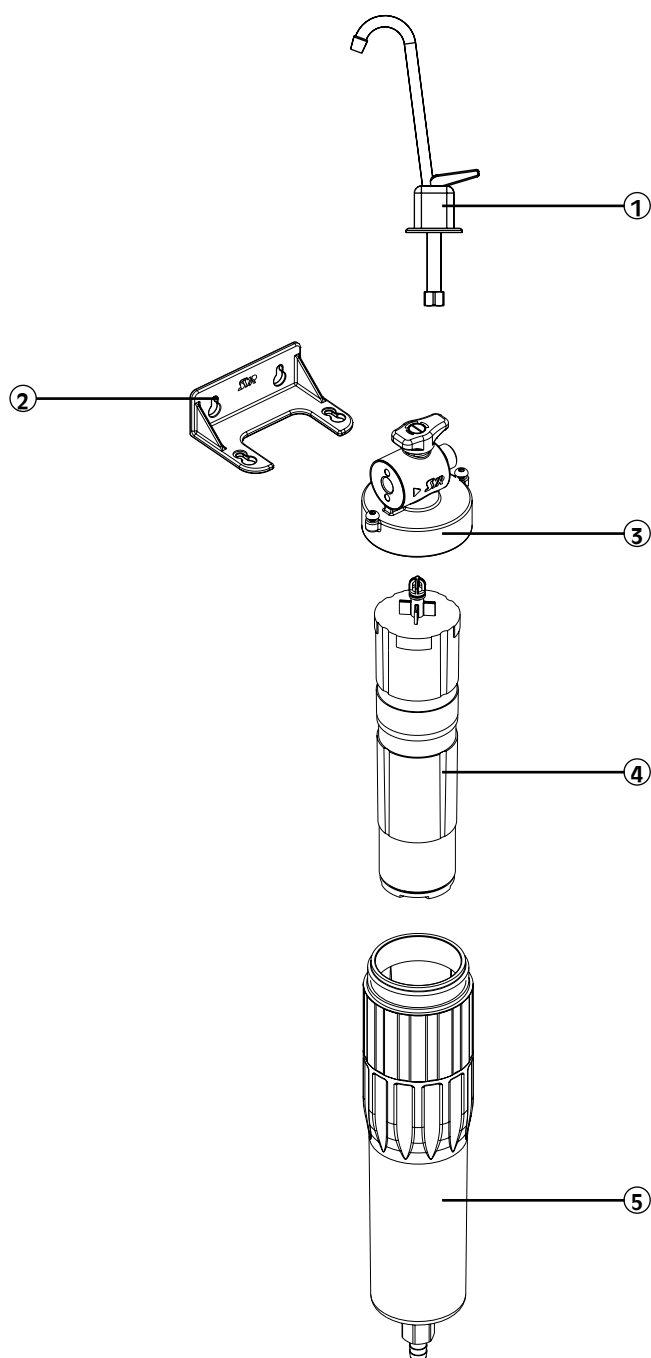
①
Draw-off valve
7315.00.907

②
Wall bracket

③
Valve body

④
Cartridge unit
7315.00.910

⑤
Filter cap



RESI 2600

Safety and regulation centre



1

Field of application

SYR RESI is a very compact safety and regulation centre. It includes all required components for the point-of-entry water installation, for the distribution of various supply lines with automatic isolation and drain, the standard-conforming installation of the water heater

and the automatic filling of the heating installation. Its compact design allows a quick and space-saving installation even in confined spaces. The remote control integrated in RESI allows to make all settings and to actuate all functional parts.

Design

The SYR RESI device includes all required components for the domestic water installation with a supply pipe and four controllable distributing lines. It combines protecting, monitoring and regulating function units. The basic module includes a fully automatic backwash filter with a pressure regulating valve, leakage protection for the whole domestic installation (with up to 16 additional floor sensors as an option), a lime protection module certified by an internationally recognised test institute (DVGW) (optional) and fully electronic shut-off valves with drain.

The basic module can be extended with separate module, which are controlled by the central processing unit of the RESI.

The Module consists of a hydraulic protection of the water heater with an expansion vessel (up to 380 L water heater volume) (module 1), automatic filling of the heating system in compliance with EN 1717 with leakage protection system (module 2), a connecting module for water treatment with bypass valve and special connecting pipes (Module 3) and a frost sensor (module 4).

RESI 2600

Materials

The functional parts are made of a low-lead, dezincification resistant gunmetal alloy. The automatic filling valve (BA Filling-Combi) is made of high quality brass. The potable water filter and the treatment unit of the lime protection module are made of high quality synthetic material, the cover and the

internal synthetic components are made of shock resistant thermoplast and the rubber parts of ageing resistant elastomer. All used materials are state-of-the-art. All synthetic parts coming into contact with water fulfil the requirements of the German Health Office (KTW).

Installation

The installation of the SYR RESI device is generally recommended in single family houses. Its compact design also allows the installation in buildings without cellar. Install RESI in the

pipe behind the water metering system. The installer only needs to connect the device and the four distributing lines and to make the connection to the sewer.

Thoroughly flush the pipe prior to installation. The supplied assembly template simplifies the installation. RESI is delivered with an adjustable wall bracket for a stable and safe installation. The sewer connection is designed with a trap.

The device requires a 230V power supply and only needs to be plugged in. The connections for the four distributing lines are made with a gasket and allow the integration in various pipe systems.

Technical specifications

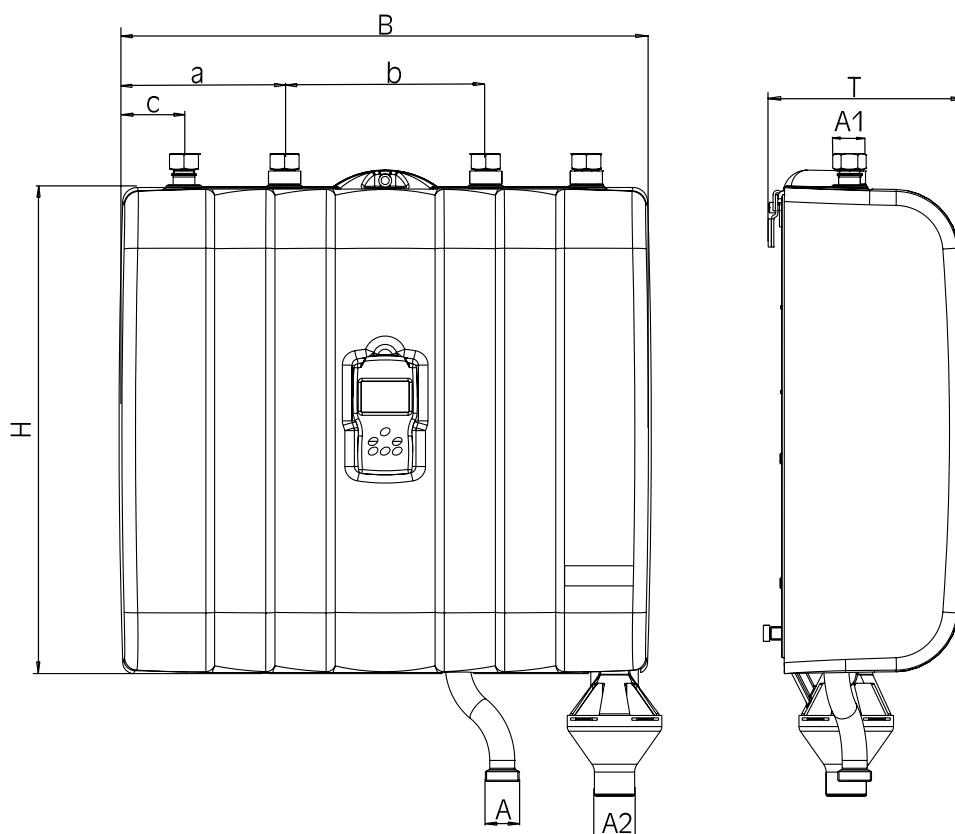
Service pressure:	min. 3 bar, max. 16 bar
Service temperature:	max. 30 °C
Fluid:	potable water
Flow rate capacity:	3.0 m³/h
Pressure loss at nominal flow rate:	1.2 bar
Power requirements:	230 V / 50 Hz
Power consumption:	max. 55 W
Power consumption in stand-by service:	5 W
Type of protection:	IP 21
Serial number:	2600...

Maintenance

The treatment unit of the optional lime protection module needs to be exchanged after a consumption of 400 m³ to preserve optimal functionality. Maintenance works should be

carried out annually on all remaining components. We recommend to conclude an annual service agreement between user and installer.

RESI 2600



Nominal size	DN 32
Dimensions	
A	G 1 1/4"
A 1	G 1"
A 2	DN 50
H (mm)	604
B (mm)	661
L (mm)	420
T (mm)	241
a (mm)	205,5
b (mm)	250
c (mm)	80,5

Models:

RESI Modules:	
- Basis Module:	2600.00.002
- Module 1 (hydraulic protection of the water heater)	2600.00.003
- Module 2 (filling of heating system)	2600.00.004
- Module 3 (water treatment)	2600.00.006
- Module 4 (frost sensor)	2600.00.007

Accessories:

Frost sensor:	2600.00.910
Floor sensor:	2600.00.909

RESI 2600

Components / Order numbers

①
Basic module
2600.00.002

②
**Module 1 hydraulic protec-
tion of the water heater**
2600.00.003

③
**Module 2 filling of heating
system**
2600.00.004

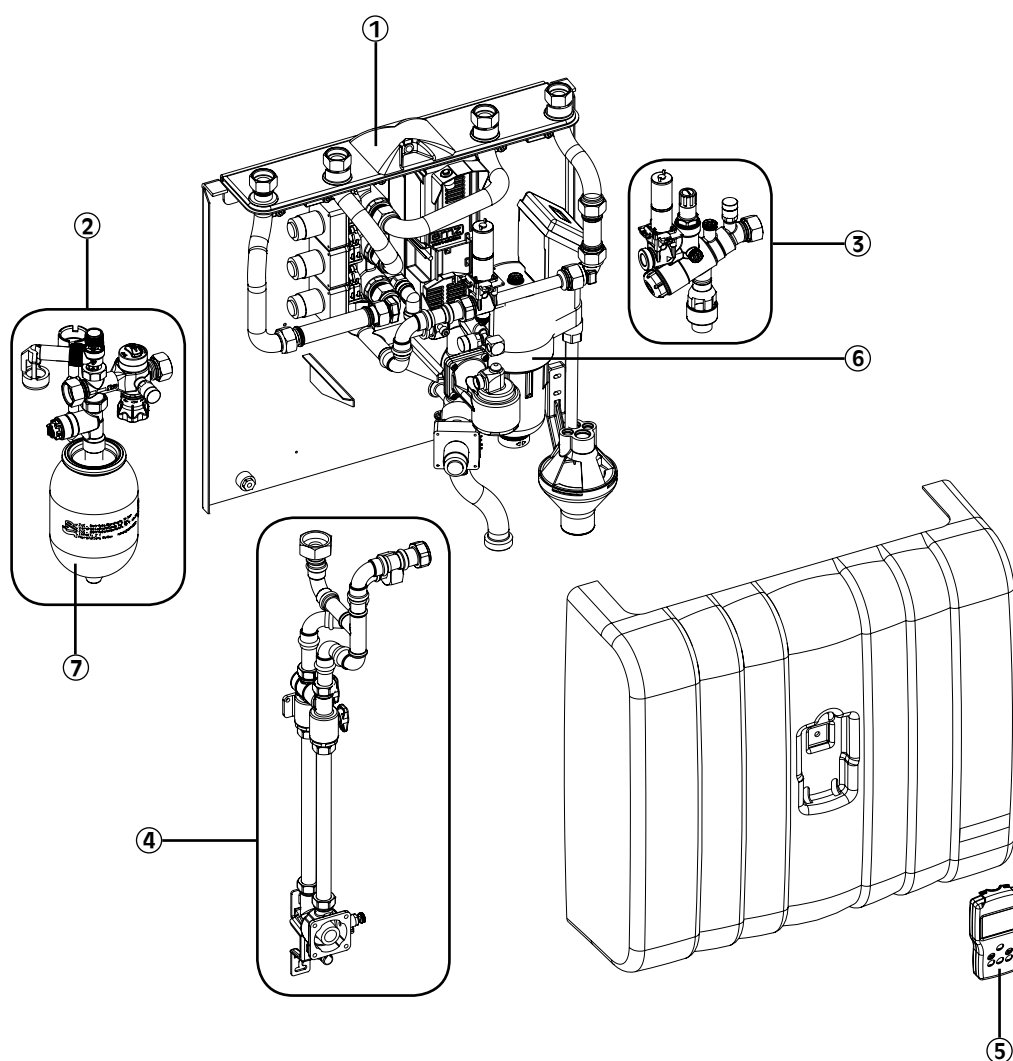
④
Module 3 water treatment
2600.00.006

Modul 4 frost sensor (no fig.)
2600.00.007

⑤
Controller
2600.00.901

⑥
Automat. Backwashfilter
2600.00.903

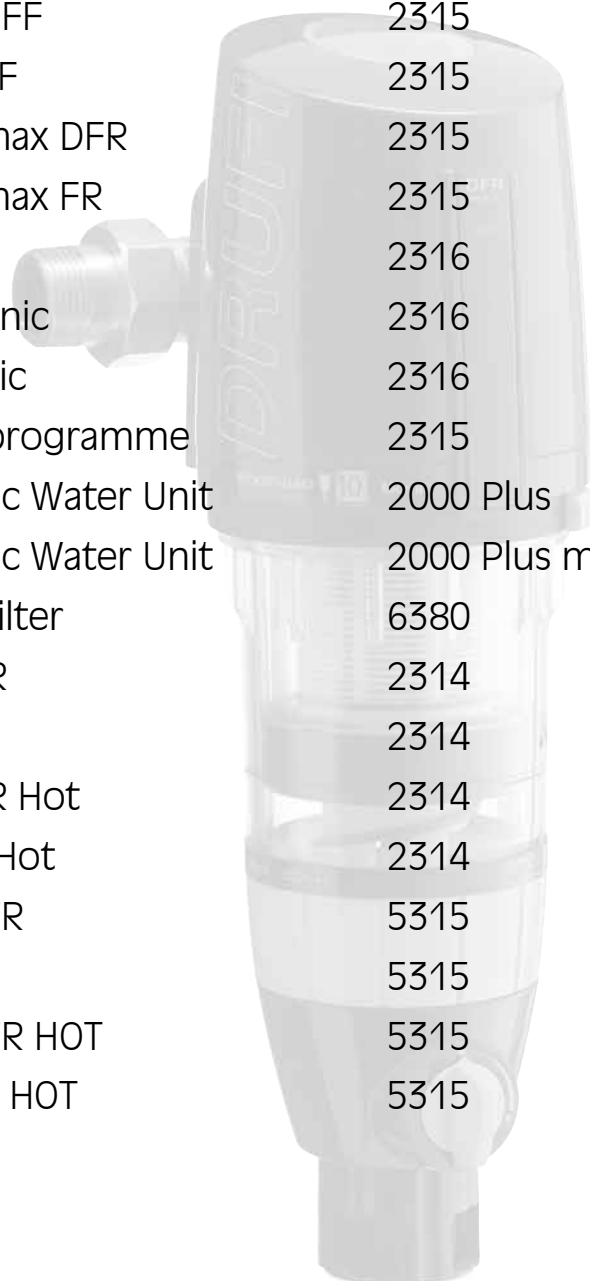
⑦
Expansion-Vessel
2600.00.914



Details of further spare parts: see instructions for use and installation of the device

Filter technology

Technical Information		Site	70
Drufi+ DFR	2315	Site	73
Drufi+ FR	2315	Site	77
Drufi+ DFF	2315	Site	81
Drufi+ FF	2315	Site	85
Drufi+ max DFR	2315	Site	89
Drufi+ max FR	2315	Site	93
RSA	2316	Site	97
DrufiTronic	2316	Site	101
SYRTronic	2316	Site	105
Flange programme	2315	Site	109
Domestic Water Unit	2000 Plus	Site	113
Domestic Water Unit	2000 Plus max	Site	117
Flange filter	6380	Site	121
Duo DFR	2314	Site	125
Duo FR	2314	Site	129
Duo DFR Hot	2314	Site	133
Duo FR Hot	2314	Site	137
Ratio DFR	5315	Site	141
Ratio FR	5315	Site	145
Ratio DFR HOT	5315	Site	149
Ratio FR HOT	5315	Site	153



Filter technology

Technical Information

It is recommended to equip potable water installations with filters for the protection against corrosion. In case of metallic pipes, it is recommended to install a filter direct-

ly behind the water meter in the potable water system (fig. 1). Synthetic pipes should also be protected by a filter.

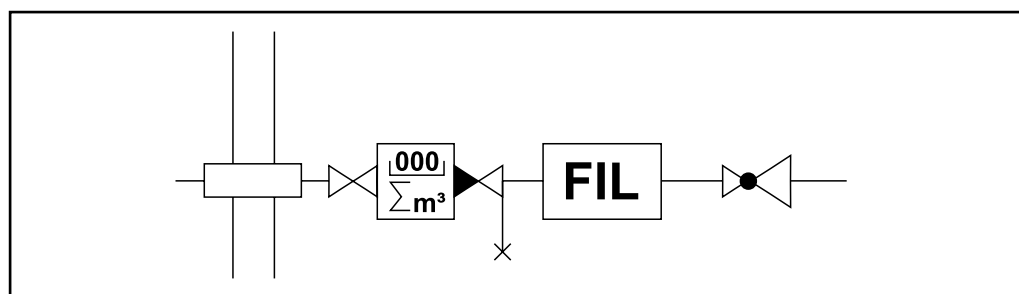


Fig. 1: domestic point of entry

As no installation is entirely made of synthetics without any metallic components requiring protection, it is generally recommended to install a filter in synthetic material pipes. It is unavoidable that small solid particles like rust particles or grains of sand get into the domestic installation along with the supplied potable water. These particles are corrosion products and encrustations that scaled off from the pipe walls and are brought along with the potable water from the public network on the way to the customer that is often many kilometres long. Such particles can cause corrosion damages like localised corrosion, clog showerheads and aerators or cause valves to malfunction. These particles may cause the formation of corrosion inducing elements, especially in

new domestic installations where the metallic pipe surfaces have no patina yet. These impurities depositing in the pipes prevent fresh oxygenous water from reaching the metal surfaces covered with particles. The locally diverging oxygen content of the potable water causes an electrochemical potential difference or a small local element, which leads to a local dissolution of the pipe material. This results in the dangerous local corrosion. This type of corrosion is dangerous, as the damage often occurs after a few months only. Filters need to be serviced on a regular basis for hygienic reasons. It is highly recommended that the installer informs the user about the considerable importance of regular maintenance.

Filter technology

Technical Information

Dimensions

Select the filter size in accordance with the peak flow rate. In general, the connection dimensions of the filters correspond with the determined pipe diameters of the domestic piping system. However, it has to be verified that the calculated peak flow rate \dot{V}_s does not exceed the maximum nominal flow rate of the filter. The nominal flow rate that has been calculated with a pressure loss of 200 mbar has to be clearly indicated on the filter by the manufacturer. The formula on the right allows calculating the pressure loss of the filter for each determined peak flow rate \dot{V}_s .

Formel:
$$P_{Fil} = P_g \cdot \frac{\dot{V}_s^2}{\dot{V}_g^2}$$

P_{Fil} = Pressure loss of the filter at peak flow rate

\dot{V}_g = Nominal flow rate of the filter in l/s

P_g = Pressure loss of the filter at nominal flow rate (200 mbar)

\dot{V}_s = Peak flow rate l/s

Experience has shown that the pressure loss of the filter increases between the maintenance intervals and reaches approximately the double value, which should already be considered at the planning stage.

Effectiveness

The effectiveness of a filter as a protection against corrosion can be measured with its capacity to retain corrosion relevant substances. A relevant criterion is therefore the mesh width, not in the sense of an optically measurable mesh width or pore size but in the sense of the results of practical tests determining the percentage of retained sediments in the filter. Two mesh widths

were determined in these tests. The lower mesh width corresponds to the grain size of a substance in μm , which is retained by this filter with a percentage by mass of 10 %. The upper mesh width corresponds to the grain size of a substance in μm , which is retained by this filter with a percentage by mass of 90 %.

Cleaning

There are currently two different cleaning methods for the filter inserts that have determined the filter construction.

1. Automatic cleaning by backwashing – backwashable filters
2. Exchange of filter insert – non backwashable filters.

Independently of the method, during the cleaning process, neither deposited substances nor other impurities are allowed to get into the potable water system. This means for the backwash filter that filtered water can be drawn off even during the backwashing process.

Filter technology

Technical Information

Backwashable filter

Potable water flows through the filter insert in reverse direction in order to flush out and drain the particles retained in the filter. Advantages: the filter backwash is simple and absolutely hygienic. The quick, unproblematic and cost-saving backwash operation can be carried out by the user himself. As an option, backwashing can be triggered automatically, which allows maintenance on a regular basis without intervention by the user. There is no interruption of the potable water supply. Backwashing should be carried out every two months at the latest.



Drufi DFR

Non backwashable filter

For cleaning the filter insert has to be exchanged; the reuse of manually cleaned filter inserts is not admissible for hygienic reasons. The disposable filter insert having a considerably bigger surface than the backwash filter can be used up to 6 months (according to water conditions) but should be serviced every 6 months at the latest. The filter inserts are easy to exchange without tools and without hygienic impairment of the potable water.



Drufi DFF

Drufi+ DFR 2315

Semi-automatic backwash filter with pressure reducing valve



2

Field of application

SYR Drufi+ DFR is a valve combination specially designed for installation at the domestic point of entry. It includes a semi-automatic backwash filter and a pressure reducing valve in accordance with the European standard EN 1567. The Drufi+ DFR has undergone acoustic testing and is suited for installation in residential buildings. When connected to a drain pipe of nominal size

DN 50, the tundish leads the backwash water into the sewage system. The integrated construction form results in a compact unit, so that installation is possible even in confined spaces. Use the Drufi flange programme for installation in the pipe. The flanges can be mounted in vertical and horizontal pipework. The integral pressure reducing valve allows individual pressure setting.

Design

The Drufi+ DFR is composed of a mechanical semi-automatic backwash filter. It also includes a flange seal, hexagon socket screws for the flange assembly and an assembly key for the hexagon socket screws. The pressure reducer insert is factory-set

to an outlet pressure of 4 bar, the external adjustment ring allowing individual pressure setting ranging between 1.5 and 6 bar. The Drufi+ DFR is also equipped with an outlet pressure manometer.

Drufi+ DFR 2315

Materials

The filter cap is made of high-quality synthetic material. The body and the internal synthetic parts are made of shock-resistant thermoplast, the rubber parts of ageing-resistant elastomer. All remaining functional parts are made of a low-lead dezincification resistant gunmetal alloy or stainless steel.

The ring seals are made of asbestos-free fibre. All materials are tested and certified by an internationally recognised test institute in Germany (DVGW). All synthetic components getting in contact with water designed for human consumption are approved by the German Public Health Office (KTW).

Installation

It is recommended to install a filter in a drinking water system to protect it against corrosion and many applications require pressure reducing valves. Both valves shall be installed directly behind the water meter.

ring system and be easily accessible. In the Drufi+ DFR, the filter is located upstream of the pressure reducing valve in order to protect the latter.

Thoroughly flush the pipework prior to installation. Use filtered water from the first onset of the drinking water installation. Always use a flange to mount the Drufi+ DFR, which allows installation in vertical and horizontal pipes. The main axis of the

filter has to be vertical. Install the suitable flange in the pipework without applying stresses. Attach it to the filter body with 4 stainless steel screws; pull them pressure-tight crosswise with the key included in the delivery.

Technical Data

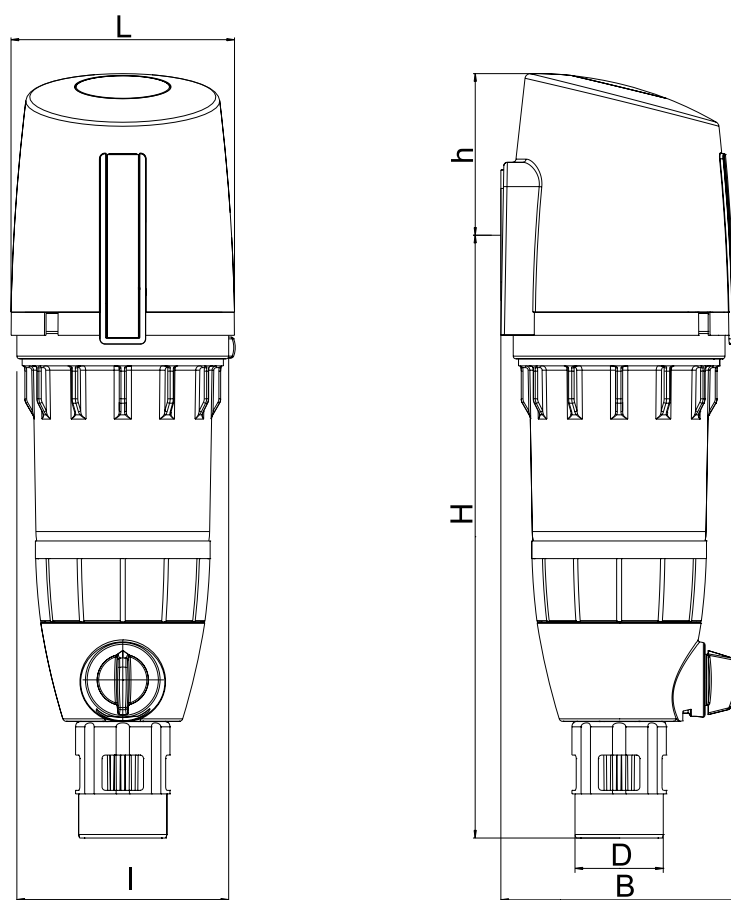
Operating pressure:	min. 2 bar, max. 16 bar
Operating temperature:	max. 30 °C
Mounting position:	main axis vertical
Fluid:	potable water
Mesh width:	90 µm
Flow rate capacity:	DN 20: 2,3 m³/h at 1,1 bar Δp
	DN 25: 3,6 m³/h at 1,1 bar Δp
	DN 32: 5,8 m³/h at 1,1 bar Δp
Serial number:	2315.00.080

Maintenance

When the flow rate is reduced due to increased pressure loss, but every 2 months at the latest, the filter needs to be serviced by backwashing. The backwash system is semi-automatic. Open and close the ball valve to trigger the automatic backwash operation of the complete filter. Even during backwashing, the device continues to supply filtered water into the potable water system. When the filter has been

exchanged, set the maintenance indicator by means of the slide to the month of the next backwash operation. Use the adjustment ring to set the pressure reducing valve at static pressure to the desired pressure ranging between 1.5 and 6 bar. The Drufi+ DFR can be retrofitted with an automatic backwash system to become a fully automatic backwash filter.

Drufi+ DFR 2315



Nominal size		DN 20 - DN 32
Dimensions	A	G 3/4" - 1 1/4"
	H (mm)	341,5
	h (mm)	92
	L (mm)	127
	I (mm)	120
	D (mm)	50
	B (mm)	135

Accessories

Automatic backwash system: 2316.00.080

Drufi+ DFR 2315

Components / Order numbers

Cover

2315.01.919

Clip

2315.01.910

Pressure gauge

2315.01.920

Valve body

2315.01.918

Filter insert

2315.00.930

Pressure reducer cartridge

2315.01.925

Spring

2315.00.961

Filter cap

2315.01.914

O-Ring filter cap

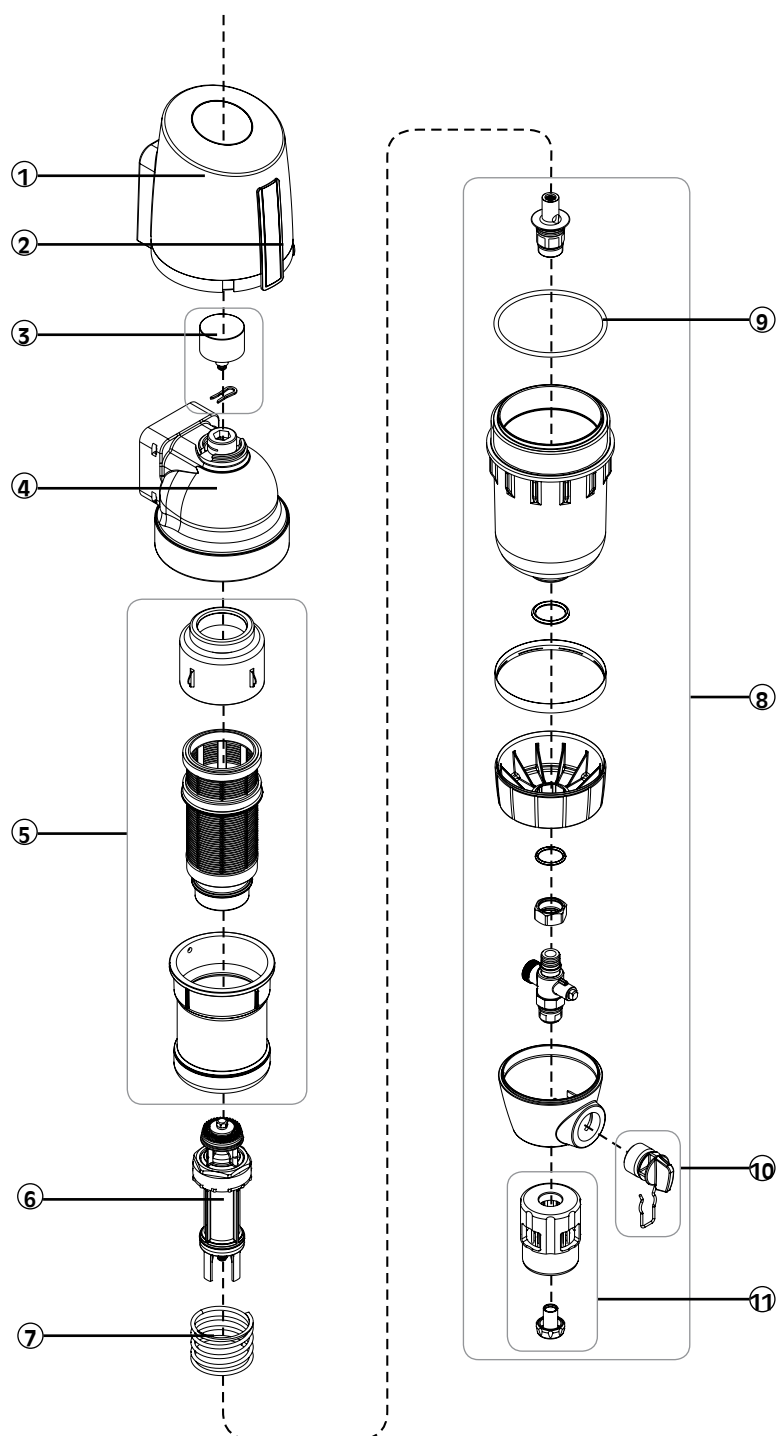
2315.01.922

Knob

2315.01.923

Tundish

2315.01.921



Drufi+ FR 2315

Semi-automatic backwash filter



2

Field of application

SYR Drufi+ FR is a valve combination specially designed for installation at the domestic point of entry with a semi-automatic backwash filter. The Drufi+ FR has undergone acoustic testing and is suited for installation in residential buildings. When connected to a drain pipe of nominal size DN 50, the tundish leads the backwash water into the sewage system.

The integrated construction form results in a compact unit, so that installation is possible even in confined spaces. Use the Drufi flange programme for installation in the pipe. The flanges can be mounted in vertical and horizontal pipework. The integral pressure reducing valve allows individual pressure setting.

Design

The Drufi+ FR is composed of a mechanical semi-automatic backwash filter. It also includes a flange seal, hexagon socket screws for

the flange assembly and an assembly key for the hexagon socket screws.

Drufi+ FR 2315

Materials

The filter cap is made of high-quality synthetic material. The body and the internal synthetic parts are made of shock-resistant thermoplast, the rubber parts of ageing-resistant elastomer. All remaining functional parts are made of a low-lead dezincification resistant gunmetal alloy or stainless steel.

The ring seals are made of asbestos-free fibre. All materials are tested and certified by an internationally recognised test institute in Germany (DVGW). All synthetic components getting in contact with water designed for human consumption are approved by the German Public Health Office (KTW).

Installation

It is recommended to install a filter in a drinking water system to protect it against corrosion and many applications require pressure reducing valves. Both valves shall be installed directly behind the water meter.

ring system and be easily accessible. In the Drufi+ DFR, the filter is located upstream of the pressure reducing valve in order to protect the latter.

Thoroughly flush the pipework prior to installation. Use filtered water from the first onset of the drinking water installation. Always use a flange to mount the Drufi+ DFR, which allows installation in vertical and horizontal pipes. The main axis of the

filter has to be vertical. Install the suitable flange in the pipework without applying stresses. Attach it to the filter body with 4 stainless steel screws; pull them pressure-tight crosswise with the key included in the delivery.

Technical Data

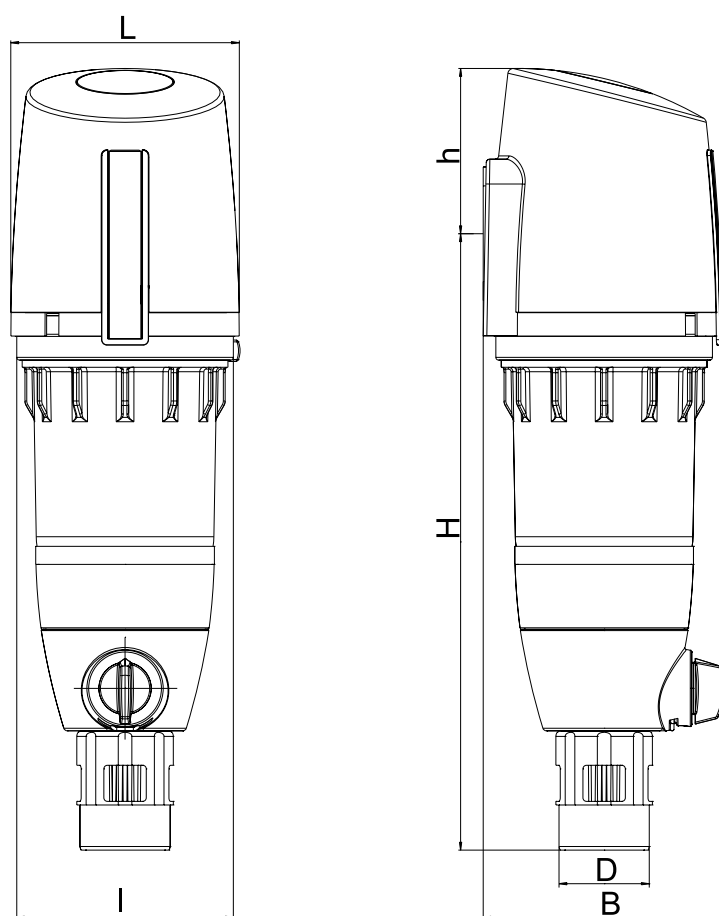
Operating pressure:	min. 2 bar, max. 16 bar
Operating temperature:	max. 30 °C
Mounting position:	main axis vertical
Fluid:	potable water
Mesh width:	90 µm
ABP-No.:	P-IX 6951/I
Flow rate capacity:	DN 20: 3,0 m³/h at 0.2 bar Δp
	DN 25: 3,8 m³/h at 0.2 bar Δp
	DN 32: 3,9 m³/h at 0.2 bar Δp
	DN 20: 4,9 m³/h at 0.5 bar Δp
	DN 25: 6,1 m³/h at 0.5 bar Δp
	DN 32: 6,3 m³/h at 0.5 bar Δp
Serial number:	2315.00.081

Maintenance

When the flow rate is reduced due to increased pressure loss, but every 2 months at the latest, the filter needs to be serviced by backwashing. The backwash system is semi-automatic. Open and close the ball valve to trigger the automatic backwash operation of the complete filter. Even during backwashing, the

device continues to supply filtered water into the potable water system. When the filter has been exchanged, set the maintenance indicator by means of the slide to the month of the next backwash operation. The Drufi+ DFR can be retrofitted with an automatic backwash system to become a fully automatic backwash filter.

Drufi+ FR 2315



Nominal size		DN 20 - DN 32
Dimensions	A	G 3/4" - 1 1/4"
	H (mm)	341,5
	h (mm)	92
	L (mm)	127
	I (mm)	120
	D (mm)	50
	B (mm)	135

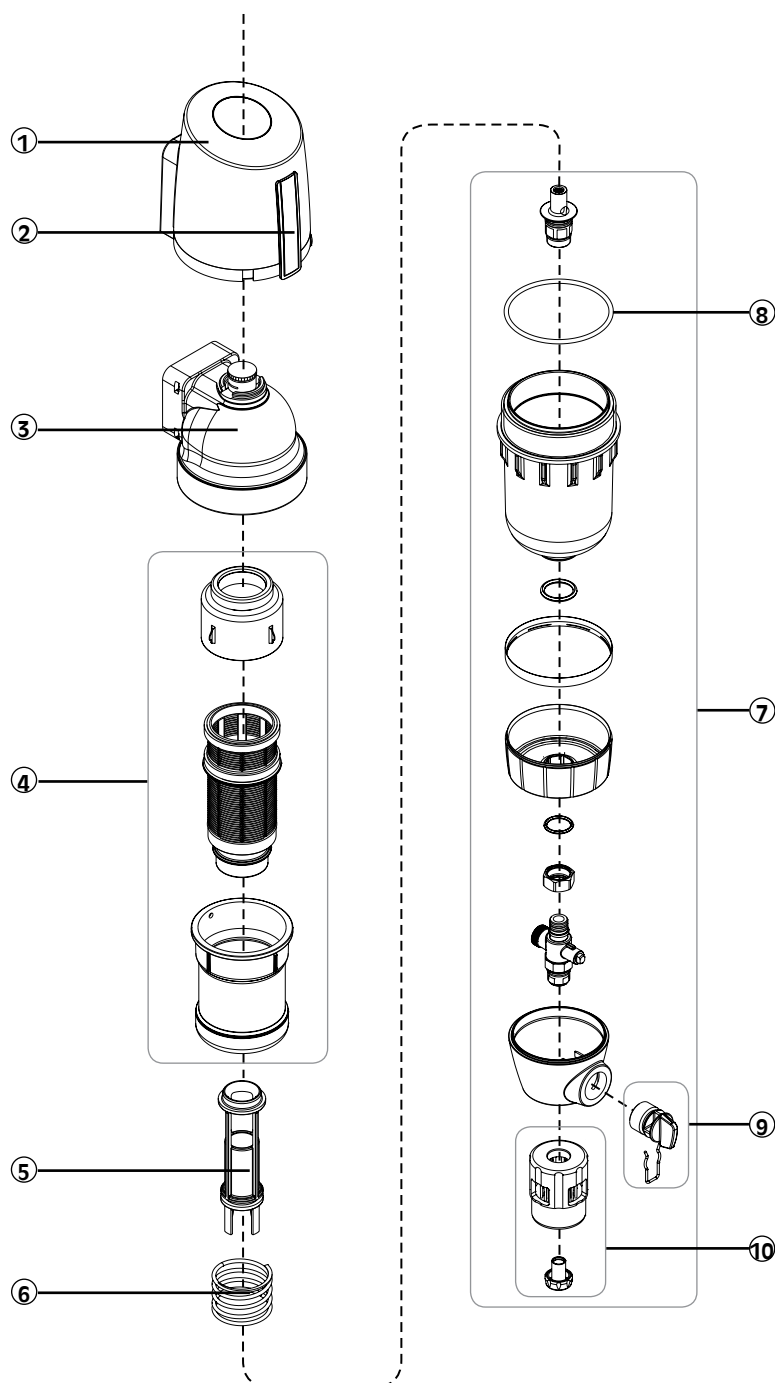
Accessories

Automatic backwash system: 2316.00.080

Drufi+ FR 2315

Components / Order numbers

- ①
Cover
2315.01.919
- ②
Clip
2315.01.910
- ③
Valve body
2315.00.929
- ④
Filter insert
2315.00.930
- ⑤
Supporting part
2315.00.932
- ⑥
Spring
2315.00.961
- ⑦
Filter cap
2315.01.915
- ⑧
O-Ring filter cap
2315.01.922
- ⑨
Knob
2315.01.923
- ⑩
Tundish
2315.01.921



Drufi+ DFF 2315

Cartridge filter with pressure reducing valve and Memoryclip



Field of application

SYR Drufi+ DFF is a valve combination specially designed for installation at the domestic point of entry. It includes a cartridge filter and a pressure reducing valve in accordance with the European standard EN 1567. The Drufi+ DFF has undergone acoustic testing and is suited for installation in residential buildings.

The integrated construction form results in a compact unit, so that installation is possible even in confined spaces. Use the Drufi flange programme for installation in the pipe. The flanges can be mounted in vertical and horizontal pipe-work. The integral pressure reducing valve allows water-saving pressure setting.

Design

The Drufi+ DFF is composed of a cartridge filter with filtering elements made of synthetic material. It also includes a flange seal, hexagon socket screws for the flange assembly, an assembly key for the hexagon socket screws and a filter cap key for the

filter maintenance. The pressure reducer insert is factory-set to an outlet pressure of 4 bar, the external adjustment ring allowing individual pressure setting ranging between 1.5 and 6 bar. The Drufi+ DFF is also equipped with an outlet pressure manometer.

Drufi+ DFF 2315

Materials

The filter cap is made of high-quality synthetic material. The body and the internal synthetic parts are made of shock-resistant thermoplast, the rubber parts of ageing-resistant elastomer. All remaining functional parts are made of a low-lead dezincification resistant gunmetal alloy or stainless steel.

The ring seals are made of asbestos-free fibre. All materials are tested and certified by an internationally recognised test institute in Germany (DVGW). All synthetic components getting in contact with water designed for human consumption are approved by the German Public Health Office (KTW).

Installation

It is recommended to install a filter in a drinking water system to protect it against corrosion and many applications require pressure reducing valves. Both valves shall be installed directly behind the water meter.

ring system and be easily accessible. In the Drufi+ DFF, the filter is located upstream of the pressure reducing valve in order to protect the latter.

Thoroughly flush the pipework prior to installation. Use filtered water from the first onset of the drinking water installation. Always use a flange to mount the Drufi+ DFF, which allows installation in vertical and horizontal pipes. The main axis of the

filter has to be vertical. Install the suitable flange in the pipework without applying stresses. Attach it to the filter body with 4 stainless steel screws; pull them pressure-tight crosswise with the key included in the delivery.

Technical data

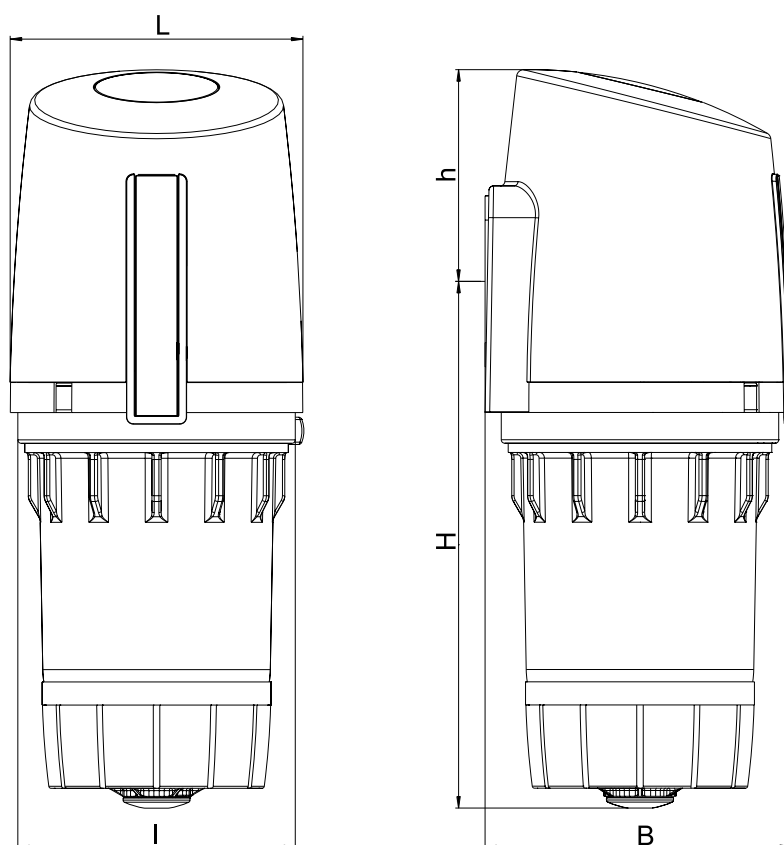
Operating pressure:	min. 2 bar, max. 16 bar
Operating temperature:	max. 30 °C
Mounting position:	main axis vertical
Fluid:	potable water
Mesh width:	90 µm
ABP-No.:	P-IX 6952/I
Flow rate capacity:	DN 20: 2.3 m³/h at 1.1 bar Δp
	DN 25: 3.6 m³/h at 1.1 bar Δp
	DN 32: 5,8 m³/h at 1.1 bar Δp
Serial number:	2315.00.082

Maintenance

Make a visual inspection every 2 months to check if impurities have accumulated on the filter material. When the flow rate is reduced due to increased pressure loss, but every 6 months at the latest, cartridge maintenance is due and the filter material has to be exchanged. When the filter has been exchanged, set the maintenance indi-

cator by means of the slide to the month of the next maintenance interval. No special tools are required for the filter exchange. A filter cap key designed to loosen the filter cap is included in the delivery. Use the adjustment ring to set the pressure reducing valve at static pressure to the desired pressure range between 1.5 and 6 bar.

Drufi+ DFF 2315

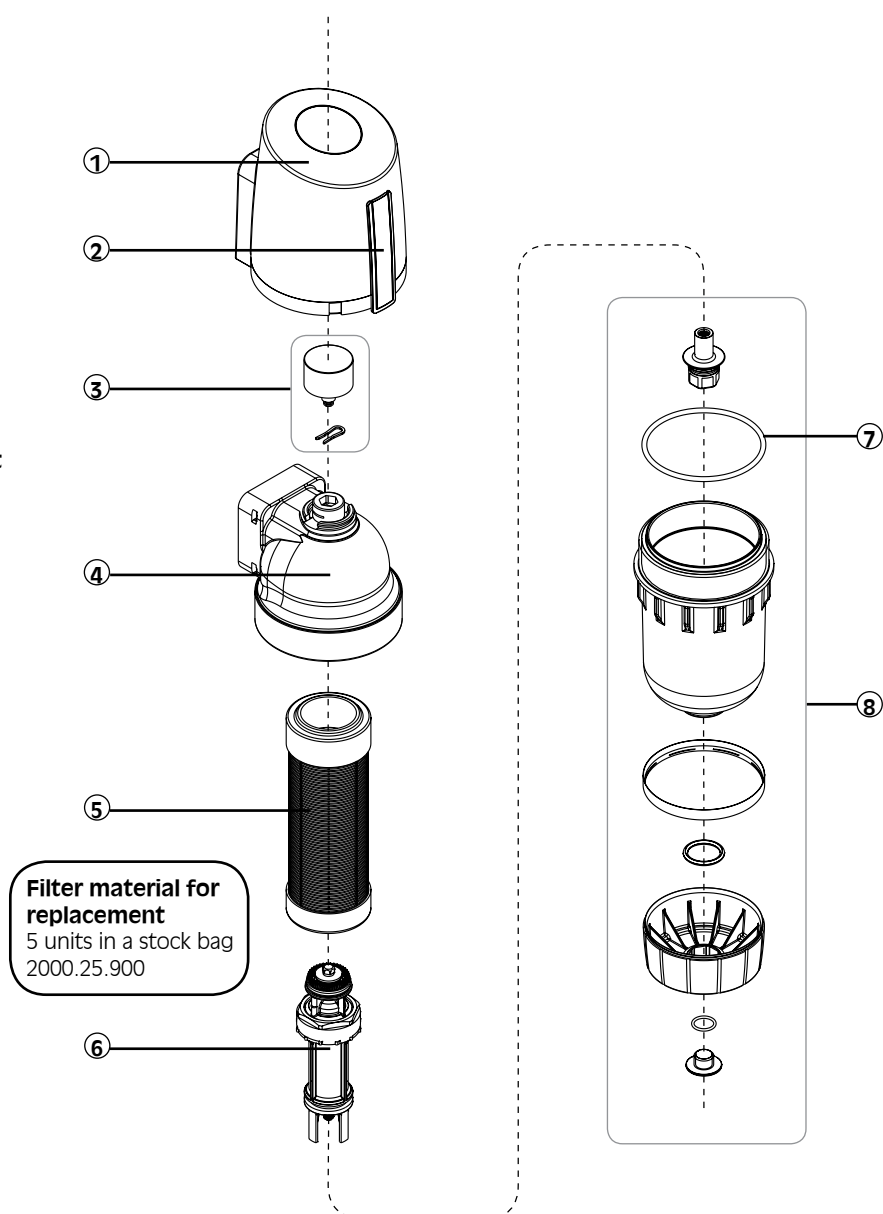


Nominal size		DN 20 - DN 32
Dimensions	A	G 3/4" - 1 1/4"
	H (mm)	228
	h (mm)	92
	L (mm)	127
	I (mm)	120
	B (mm)	135

Drufi+ DFF 2315

Components / Order numbers

- ①
Cover
2315.01.919
- ②
Clip
2315.01.910
- ③
Pressure gauge
2315.01.920
- ④
Valve body
2315.01.918
- ⑤
**Filter material for replacement
(5 pieces)**
2000.25.900
- ⑥
Pressure reducer cartridge
2315.01.925
- ⑦
O-Ring filter cap
2315.01.922
- ⑦
Filter cap
2315.01.916



Drufi+ FF 2315

Cartridge filter



2

Field of application

SYR Drufi+ FF is a valve combination specially designed for installation at the domestic point of entry with a cartridge filter. The Drufi+ FF has undergone acoustic testing and is suited for installation in residential buildings.

The integrated construction form results in a compact unit, so that installation is possible even in confined spaces. Use the Drufi flange programme for installation in the pipe. The flanges can be mounted in vertical and horizontal pipework.

Design

The Drufi+ FF is composed of a cartridge filter with filtering elements made of synthetic material. It also includes a flange seal, hexagon socket screws for the flange

assembly, an assembly key for the hexagon socket screws and a filter cap key for the filter maintenance.

Drufi+ FF 2315

Materials

The filter cap is made of high-quality synthetic material. The body and the internal synthetic parts are made of shock-resistant thermoplast, the rubber parts of ageing-resistant elastomer. All remaining functional parts are made of a low-lead dezincification resistant gunmetal alloy or stainless steel.

The ring seals are made of asbestos-free fibre. All materials are tested and certified by an internationally recognised test institute in Germany (DVGW). All synthetic components getting in contact with water designed for human consumption are approved by the German Public Health Office (KTW).

Installation

It is recommended to install a filter in a drinking water system to protect it against corrosion and many applications require pressure reducing valves. Both valves shall be installed directly behind the water

metering system and be easily accessible. In the Drufi+ FF, the filter is located upstream of the pressure reducing valve in order to protect the latter.

Thoroughly flush the pipework prior to installation. Use filtered water from the first onset of the drinking water installation. Always use a flange to mount the Drufi+ FF, which allows installation in vertical and horizontal pipes. The main axis of the

filter has to be vertical. Install the suitable flange in the pipework without applying stresses. Attach it to the filter body with 4 stainless steel screws; pull them pressure-tight crosswise with the key included in the delivery.

Technical Data

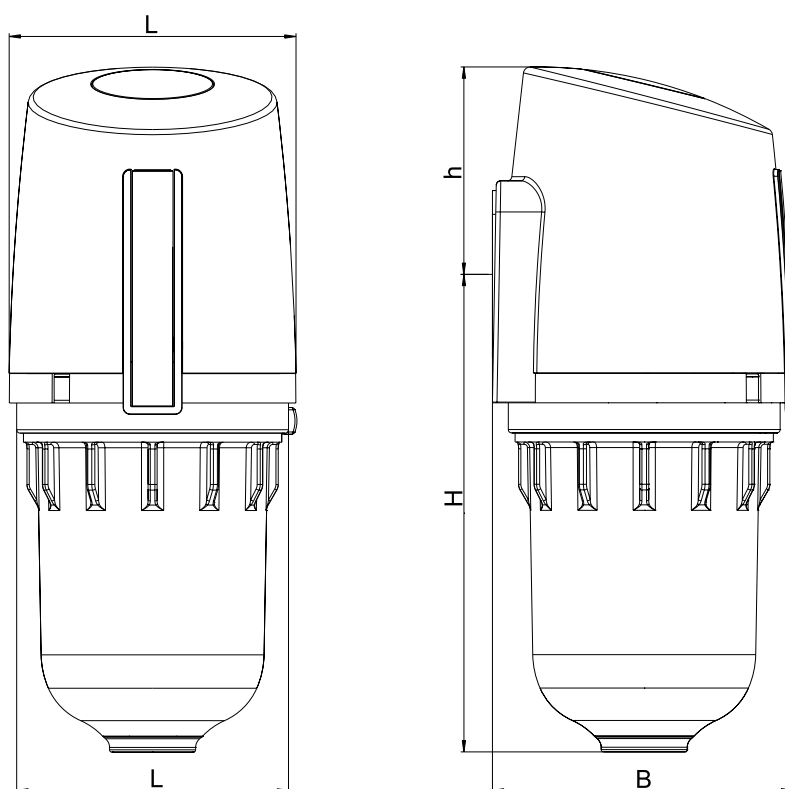
Operating pressure:	min. 2 bar, max. 16 bar
Operating temperature:	max. 30 °C
Mounting position:	main axis vertical
Fluid:	potable water
Mesh width:	90 µm
ABP-No.:	P-IX 6952/I
Flow rate capacity:	DN 20: 3,0 m³/h at 0.2 bar Δp
	DN 25: 3,8 m³/h at 0.2 bar Δp
	DN 32: 3,9 m³/h at 0.2 bar Δp
	DN 20: 4,9 m³/h at 0.5 bar Δp
	DN 25: 6,1 m³/h at 0.5 bar Δp
	DN 32: 6,3 m³/h at 0.5 bar Δp
Serial number:	2315.00.083

Maintenance

Make a visual inspection every 2 months to check if impurities have accumulated on the filter material. When the flow rate is reduced due to increased pressure loss, but every 6 months at the latest, cartridge maintenance is due and the filter material has to be exchanged. When the filter has

been exchanged, set the maintenance indicator by means of the slide to the month of the next maintenance interval. No special tools are required for the filter exchange. A filter cap key designed to loosen the filter cap is included in the delivery.

Drufi+ FF 2315

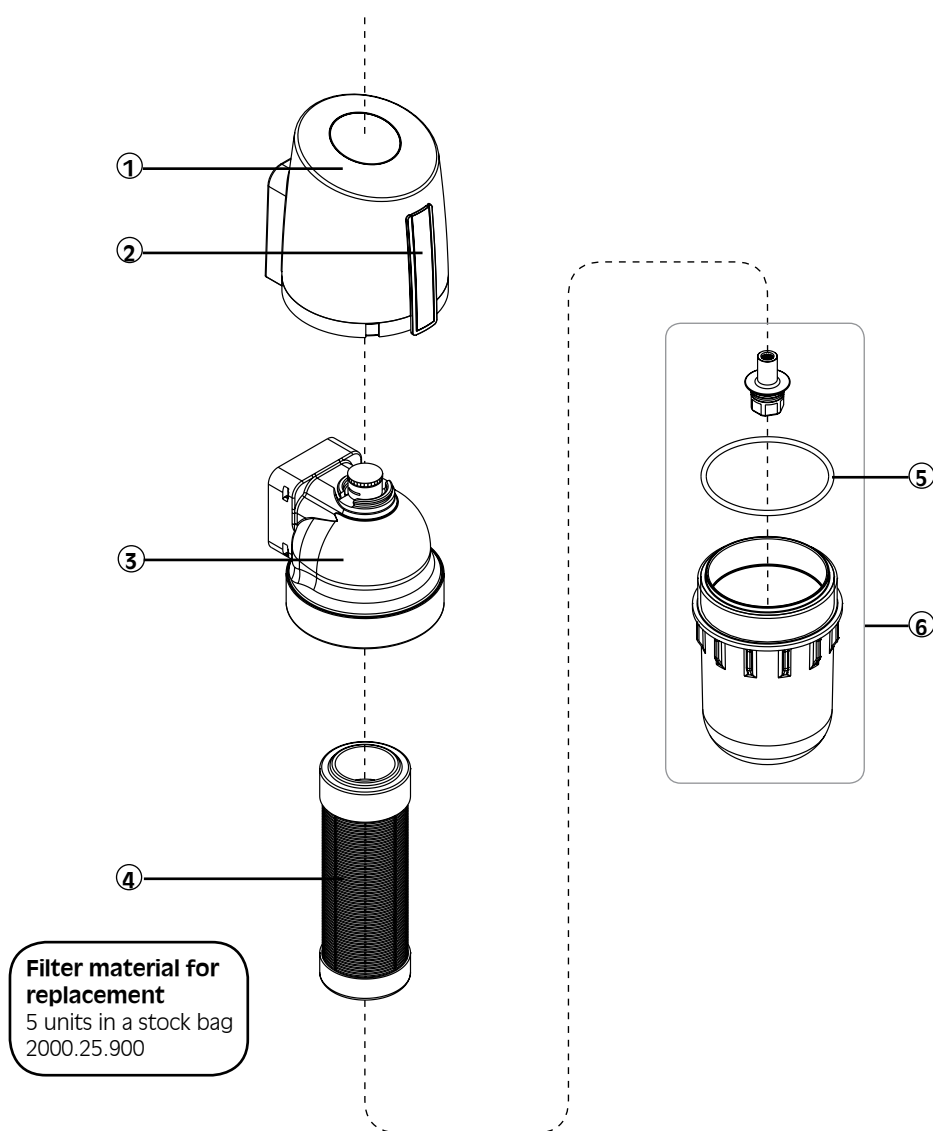


Nominal size		DN 20 - DN 32
Dimensions	A	G 3/4" - 1 1/4"
	H (mm)	211
	h (mm)	92
	L (mm)	127
	I (mm)	120
	B (mm)	133

Drufi+ FF 2315

Components / Order numbers

- ①
Cover
2315.01.919
- ②
Clip
2315.01.910
- ③
Valve body
2315.00.929
- ④
**Filter material for replacement
(5 pieces)**
2000.25.900
- ⑤
O-Ring filter cap
2315.01.922
- ⑥
Filter cap
2315.01.917



Drufi+ max DFR 2315

Semi-automatic backwash filter with pressure reducing valve DN 32 - DN 50



2

Field of application

SYR Drufi+ max DFR is a valve combination specially designed for installation at the domestic point of entry. It includes a semi-automatic backwash filter and a pressure reducing valve in accordance with the European standard EN 1567. The integrated construction form results in a compact unit, so

that installation is possible even in confined spaces. Use the Drufi+ max universal flange (order separately) for installation in the pipe. This flange can be mounted in vertical and horizontal pipework. The ball valve is supplied with a tundish for the connection of a synthetic pipe of DN 50.

Design

The Drufi+ max DFR is composed of a mechanical semi-automatic backwash filter made of stainless steel. It also includes a flange seal, hexagon socket screws for the flange assembly and an assembly key for the hexagon socket screws. The pres-

sure reducing valve is factory-set to 4 bar and the external adjustment knob allows individual pressure setting between 1.5 and 6 bar. Manometers for inlet and outlet pressure are also included in the delivery.

Drufi+ max DFR 2315

Materials

The filter cap is made of high-quality synthetic material. The body and the internal synthetic parts are made of shock-resistant thermoplast, the rubber parts of ageing-resistant elastomer. All remaining functional parts are made of a low-lead dezincification resistant gunmetal alloy or stainless steel.

The ring seals are made of asbestos-free fibre. All materials are tested and certified by an internationally recognised test institute in Germany (DVGW). All synthetic components getting in contact with water designed for human consumption are approved by the German Public Health Office (KTW).

Installation

It is recommended to install a filter in a drinking water system for the protection against corrosion and many applications require pressure reducing valves. Both valves shall be installed directly behind the water

metering system and be easily accessible. In the Drufi+ max DFR, the filter is installed upstream of the pressure reducing valve in order to protect the latter.

Thoroughly flush the pipework prior to installation. Use filtered water from the first onset of the drinking water installation. Always use a universal flange to mount the Drufi+ max DFR, which allows installation in vertical and horizontal pipes. The main

axis of the filter has to be vertical. Install the suitable flange in the pipework without applying stresses. Attach it to the filter body with 4 stainless steel screws; pull them pressure-tight crosswise with the key included in the delivery.

Technical data

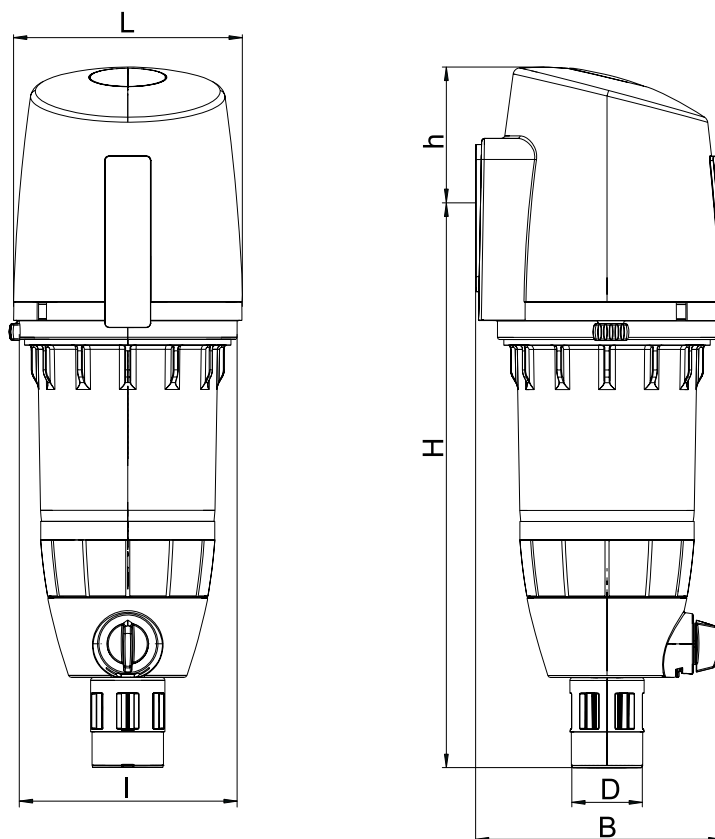
Operating pressure:	min. 2 bar, max. 16 bar
Operating temperature:	max. 30 °C
Mounting position:	main axis vertical
Fluid:	potable water
Mesh width:	90 µm (lower); 125 µm (upper)
Flow rate:	DN 32: 5.8 m³/h at 1.1 bar Δp
	DN 40: 9.1 m³/h at 1.1 bar Δp
	DN 50: 14.0 m³/h at 1.1 bar Δp
Serial number:	2315.00.045

Maintenance

When the flow rate is reduced due to increased pressure loss, but every 6 months at the latest, the filter needs to be serviced by backwashing. The backwash system of the Drufi max DFR is semi-automatic. Open and close the ball valve to trigger the automatic backwash operation of the complete

filter. Even during backwashing, the device continues to supply filtered water into the potable water system. The Drufi max DFR can be retrofitted with the automatic backwash system RSA (2316.00.081) to become a fully automatic backwash filter.

Drufi +max DFR 2315



Connection flange is not included in the delivery

Nominal size	DN 32 - DN 50	
Dimensions in mm	L (mm)	159,6
	I (mm)	153,4
	H (mm)	384,5
	h (mm)	105,7
	D (mm)	50
	B (mm)	172,3

Accessories

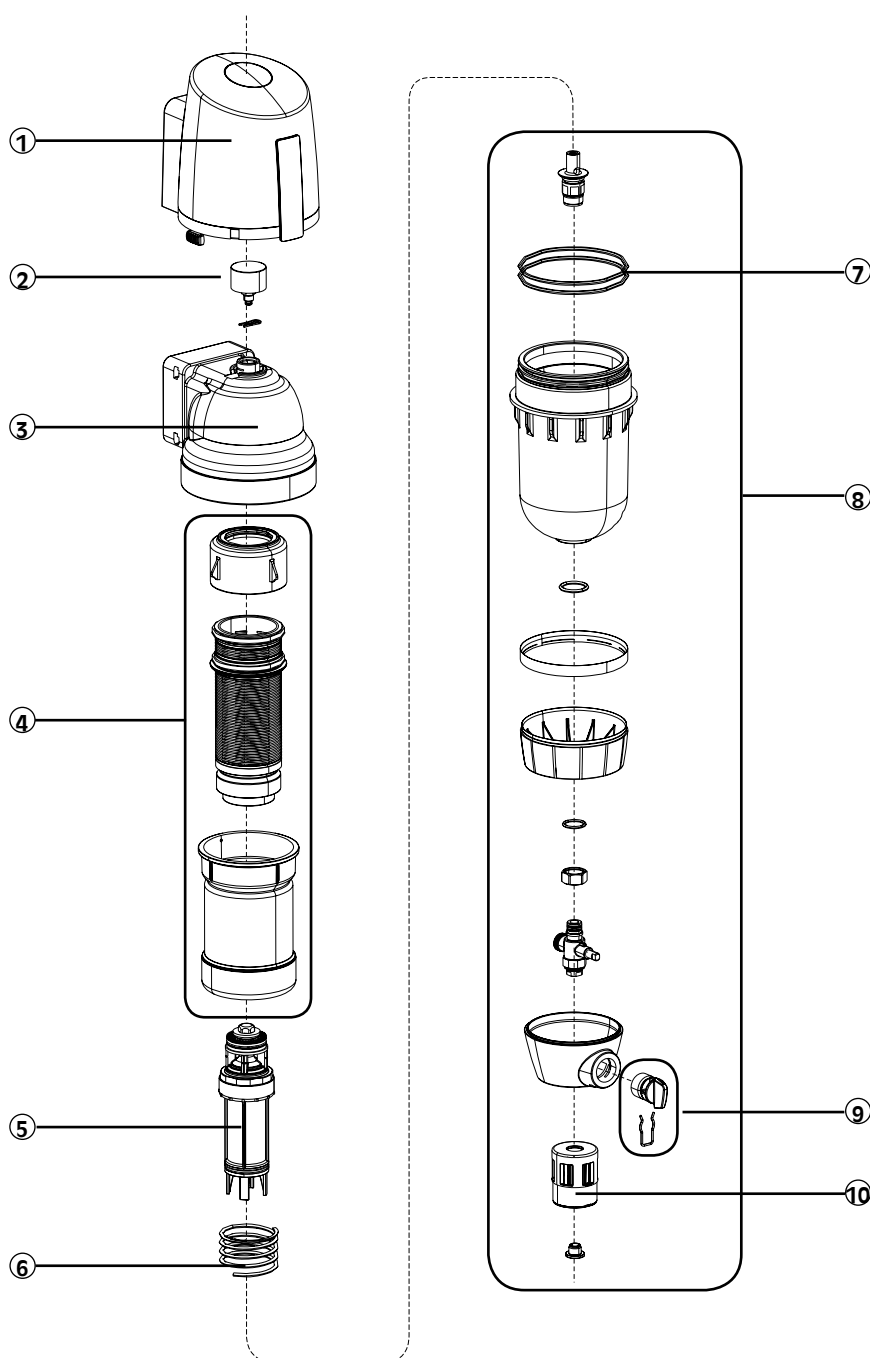
Universal flange Drufi max: DN 32: 2315.32.015
DN 40: 2315.40.005
DN 50: 2315.50.005

Automatic backwash system RSA: 2316.00.081

Drufi+ max DFR 2315

Components / Order numbers

- ① **Protectting cap**
2315.01.928
- ② **Manometer**
0-10 bar
2315.01.930
- ③ **Valve body**
2315.01.931
- ④ **Filter**
2315.01.932
- ⑤ **Pressure reducer cartridge**
2315.01.934
- ⑥ **Spring**
2315.01.935
- ⑦ **O-Ring**
2315.01.940
- ⑧ **Filter cap**
2315.01.936
- ⑨ **Knob, complete**
2315.01.941
- ⑩ **Tundish, complete**
2315.01.943



Drufi+ max FR 2315

Semi-automatic backwash filter DN 32 - DN 50



2

Field of application

SYR Drufi+ max FR is a compact semi-automatic backwash filter specially designed for installation at the domestic point of entry. The construction form results in a compact unit, so that installation is possible even in confined spaces. Use the Drufi+ max univer-

sal flange (order separately) for installation in the pipe. This flange can be mounted in vertical and horizontal pipework. The ball valve is supplied with a tundish for the connection of a synthetic pipe of DN 50.

Design

The Drufi+ max FR is composed of a mechanical semi-automatic backwash filter made of stainless steel. It also includes a flange

seal, hexagon socket screws for the flange assembly and an assembly key for the hexagon socket screws.

Drufi+ max FR 2315

Materials

The filter cap is made of high-quality synthetic material. The body and the internal synthetic parts are made of shock-resistant thermoplast, the rubber parts of ageing-resistant elastomer. All remaining functional parts are made of a low-lead dezincification resistant gunmetal alloy or stainless steel.

The ring seals are made of asbestos-free fibre. All materials are tested and certified by an internationally recognised test institute in Germany (DVGW). All synthetic components getting in contact with water designed for human consumption are approved by the German Public Health Office (KTW).

Installation

It is recommended to install a filter in a drinking water system for the protection against corrosion. System components and appliances located downstream should also

be protected by a filter. Install the Drufi+ max FR directly behind the water metering system and ensure that it is easily accessible.

Thoroughly flush the pipework prior to installation. Use filtered water from the first onset of the drinking water installation. Always use a universal flange to mount the Drufi+ max FR, which allows installation in vertical and horizontal pipes. The main axis

of the filter has to be vertical. Install the suitable flange in the pipework without applying stresses. Attach it to the filter body with 4 stainless steel screws; pull them pressure-tight crosswise with the key included in the delivery.

Technical data

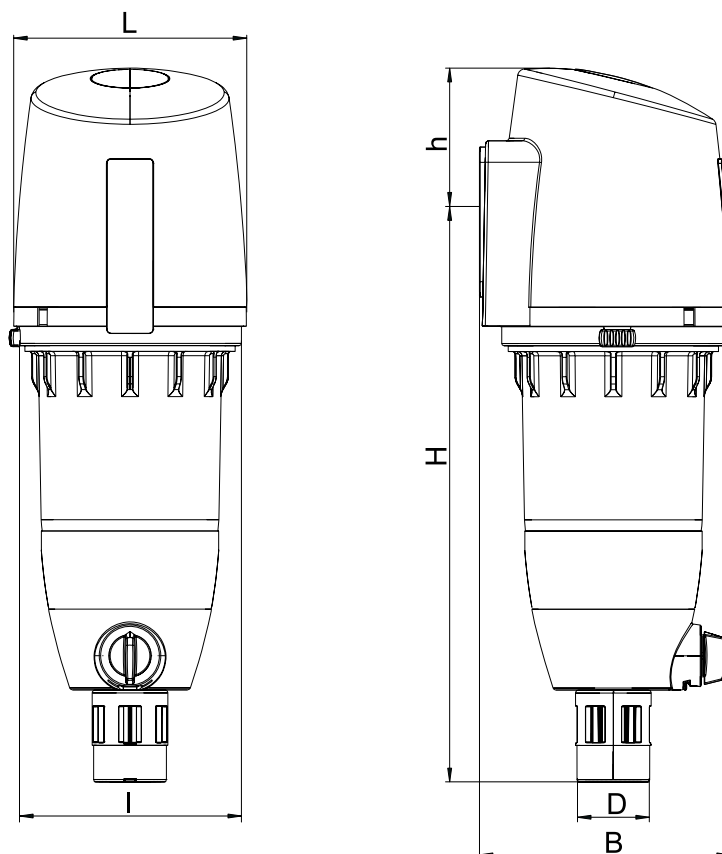
Operating pressure:	min. 2 bar, max. 16 bar
Operating temperature:	max. 30°C
Mounting position:	main axis vertical
Fluid:	potable water
Mesh width:	90 µm (lower); 125 µm (upper)
Flow rate:	DN 32: 8.4 m³/h at 0.2 bar Δp
	DN 40: 9.0 m³/h at 0.2 bar Δp
	DN 50: 9.2 m³/h at 0.2 bar Δp
	DN 32: 13.0 m³/h at 0.5 bar Δp
	DN 40: 14.5 m³/h at 0.5 bar Δp
	DN 50: 15.0 m³/h at 0.5 bar Δp
Serial number:	2315.00.046

Maintenance

When the flow rate is reduced due to increased pressure loss, but every 6 months at the latest, the filter needs to be serviced by backwashing. The backwash system of the Drufi+ max FR is semi-automatic. Open and close the ball valve to trigger the automatic back-

wash operation of the complete filter. Even during backwashing, the device continues to supply filtered water into the potable water system. The Drufi+ max FR can be retrofitted with the automatic backwash system RSA (2316.00.081) to become a fully automatic backwash filter.

Drufi +max FR 2315



**Connection flange not included
in the delivery**

Nominal size		DN 32
Dimensions in mm		
	L (mm)	159,6
	I (mm)	153,4
	H (mm)	384,5
	h (mm)	105,7
	T (mm)	50
	D (mm)	172,3

Accessories

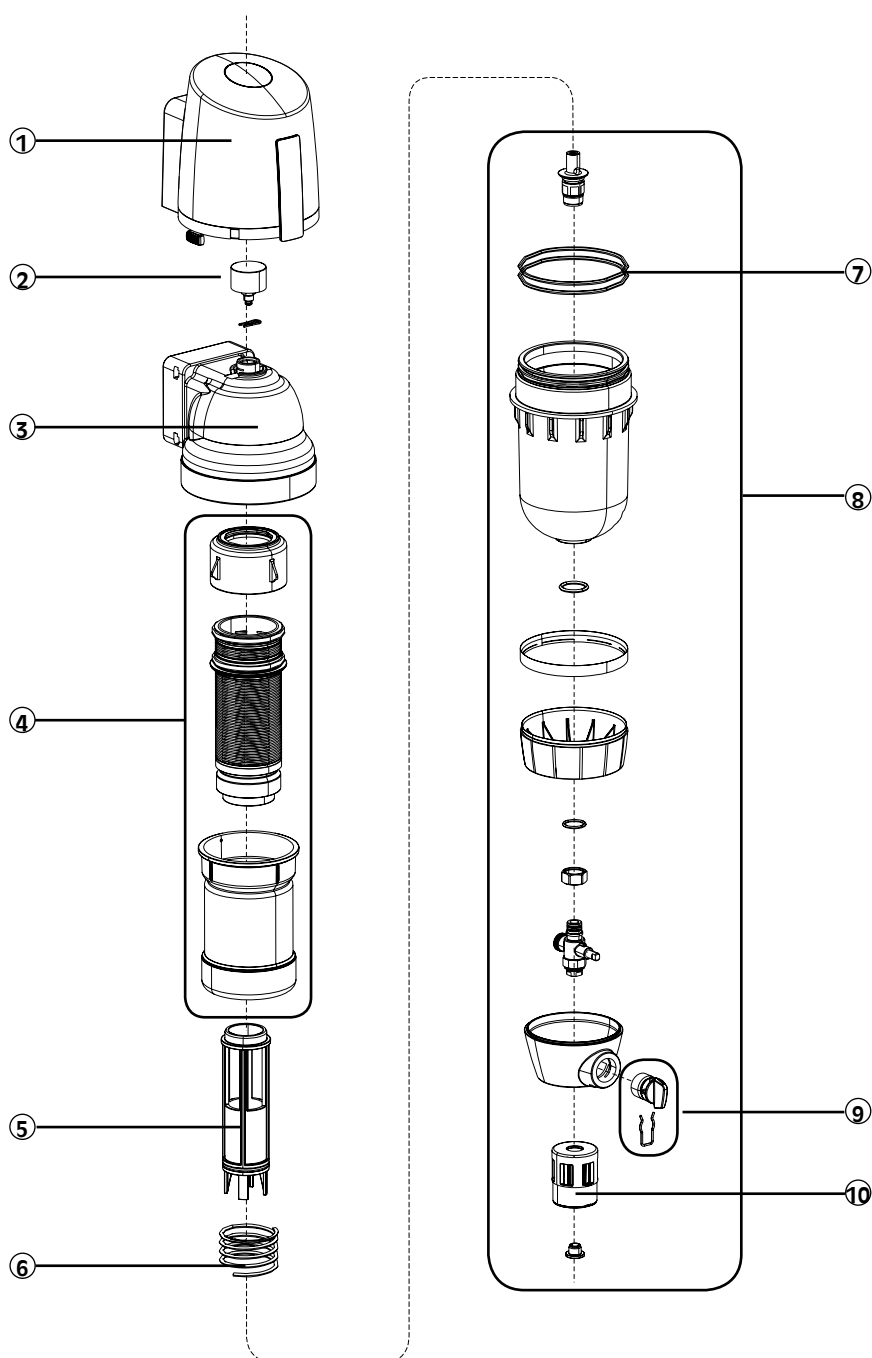
Universal flange Drufi max: DN 32: 2315.32.015
DN 40: 2315.40.005
DN 50: 2315.50.005

Automatic backwash system RSA: 2316.00.081

Drufi+ max FR 2315

Components / Order numbers

- ① **Protecting cap**
2315.01.928
- ② **Manometer**
0-10 bar
2315.01.930
- ③ **Valve body**
2315.01.931
- ④ **Filter**
2315.01.932
- ⑤ **Supporting part**
2315.01.933
- ⑥ **Spring**
2315.01.935
- ⑦ **O-Ring**
2315.01.940
- ⑧ **Filter cap**
2315.01.937
- ⑨ **Knob, complete**
2315.01.941
- ⑩ **Tundish, complete**
2315.01.943



RSA 2316

Automatic backwash system for Drufi+, Drufi+ max and Flangefilter 6380



2

Field of application

The RSA is a fully automatic electronic backwash system for the backwashable Drufi+-, Drufi+ max-models, domestic water units from 2011, domestic water units max from 2013 and Flangefilter 6380. It is very easy to operate and fulfils the highest safety

standards.

The Drufi+ DFR / FR, Drufi+ max DFR / FR, the domestic water units and the Flangefilter 6380 can be easily retrofitted with the RSA, which turns them into fully automatic backwash filters.

Design

The RSA allows individual adjustment of the interval time of the backwash operation in a range between one hour and 52 weeks according to the respective water quality. No tools are required for the assembly. It is

exchanged against the backwash knob. The RSA is delivered as battery-powered system off the line. A mains plug (2316.00.905) is available for external power supply about 230V / 50 Hz.

RSA 2316

Materials

The body is made of robust ABS synthetic material.

Installation

A drain connection DN 50 is required

The RSA is mounted instead of the back-wash knob

Technical data

Power supply:	230V / 50Hz
Type of protection:	IP 21
Ambient temperature:	10 - 60°C
Batteries:	4 x LR 06-AA
Capacity:	max. 2,5 W
Serial number:	2316.00.081

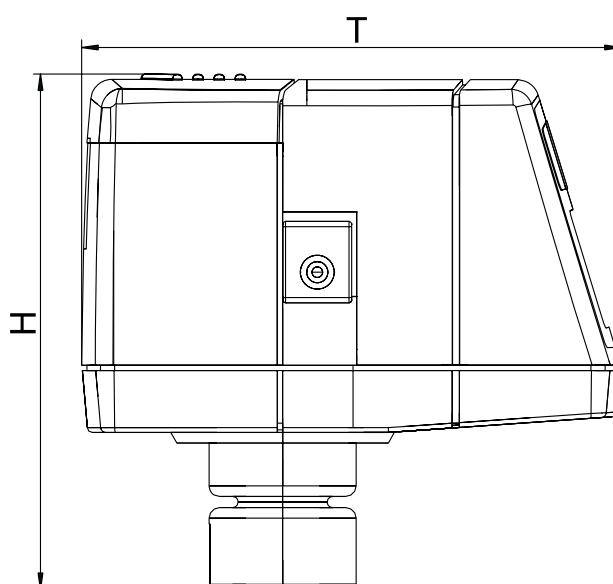
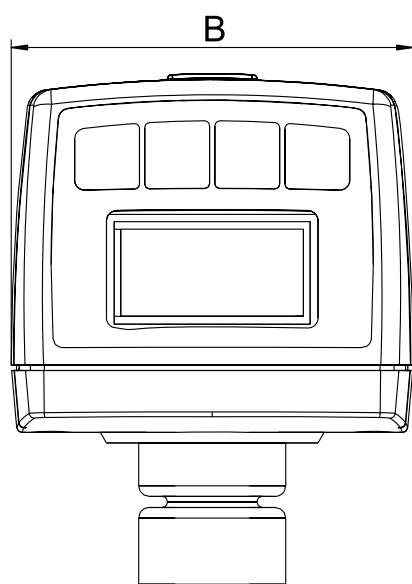
Maintenance

In normal operation the display is in stand-by-mode in order to save energy. Every time a key is pressed, the display is switched on and the basic menu appears: all functions can be controlled and various parameters

can be changed. The RSA requires no special maintenance, except from occasional battery replacement.

When the battery capacity is too low, the SYRTronic triggers no backwash operation.

RSA 2316



2

Dimensions

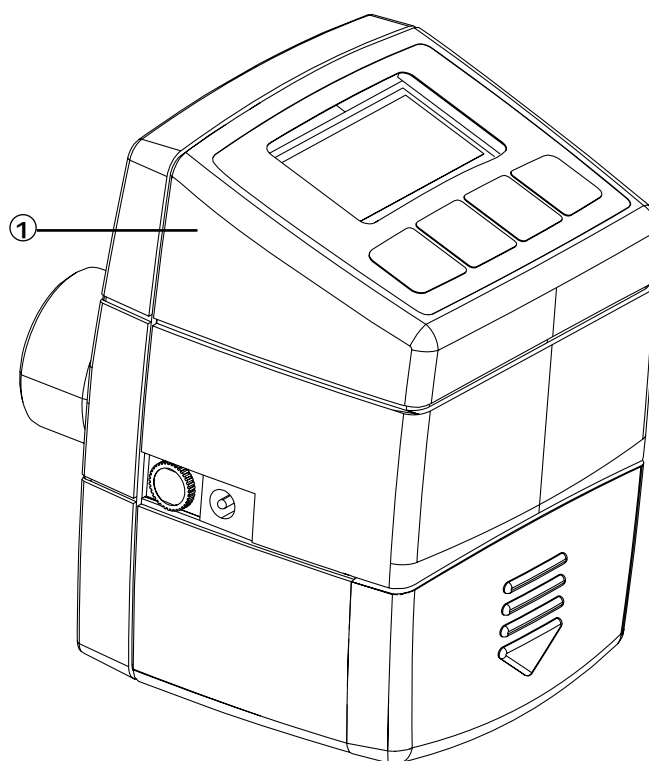
H (mm)	69
B (mm)	76
T (mm)	102

RSA 2316

Components / Order numbers

①
Control unit

no picture
Power cable
2316.00.905



DrufiTronic 2316

Automatic backwash system for Drufi



2

Field of application

SYR DrufiTronic is a fully automatic electronic backwash system for the Drufi types DFR, FR and HWS2000 plus with drain ring up to 2011. It is very easy to operate and fulfils the highest safety standards.

The Drufi DFR, FR and HWS 2000 plus can be easily retrofitted with the DrufiTronic, which turns them into fully automatic backwash filters.

Design

The DrufiTronic allows individual adjustment of the interval time of the backwash operation in a range between one hour and 61 days according to the respective water quality. No tools are required for the assembly. The modern microprocessor makes the DrufiTronic maintenance-free. The DrufiTronic is delivered as battery-powered system off the line. A mains plug (2316.00.904) is

available for external power supply. The automatic backwash system can also be centrally controlled via the MultiSafe KLS and LS. The connecting cable 2316.00.903 is required for that option. An external pulse input (for instance differential pressure switch) is another option for which the connecting cable 2316.00.902 is required.

DrufiTronic 2316

Installation

The DrufiTronic is operative immediately as it is battery-powered. When installing, ensure that the product is easily accessible and

protected against humidity. A 230 V plug is required for the external power supply.

Remove the adjustment knob of the ball valve and click the DrufiTronic into place on the Drufi by means of the clutch disc

included in the delivery. If the Drufi is not supplied yet with a drain connection, install the latter on the tundish of the DrufiTronic.

Technical data

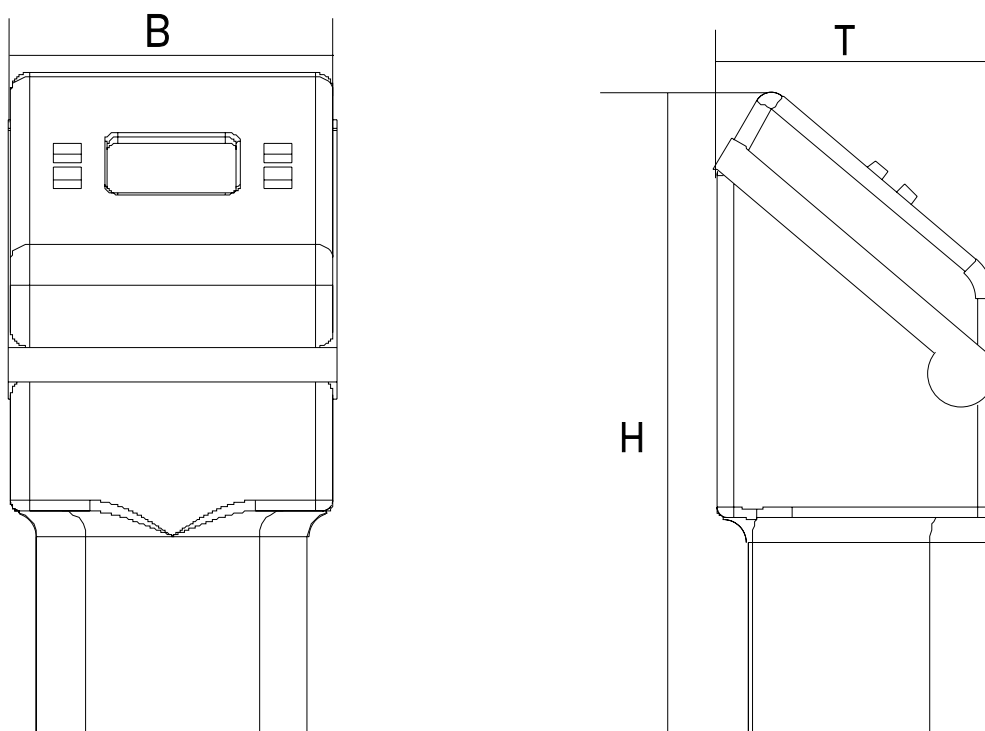
Operating voltage:	6.0 V DC
Type of protection:	IP 21
Ambient temperature:	0 - 40 °C
Batteries:	4 x LR 06-AA
Capacity:	max. 8 W
Serial number:	2316.00.050

Maintenance

In normal operation the display is in stand-by-mode in order to save energy. Every time a key is pressed, the display is switched on and the basic menu appears: all functions can be controlled and various parameters can be changed. The DrufiTronic requires no special maintenance, except

from occasional battery replacement. An acoustic signal and a message in the display inform the user when the battery capacity is too low. When the battery capacity is too low, the DrufiTronic triggers no backwash operation.

DrufiTronic 2316



2

Dimensions in mm

H (mm)	198
T (mm)	83
B (mm)	94

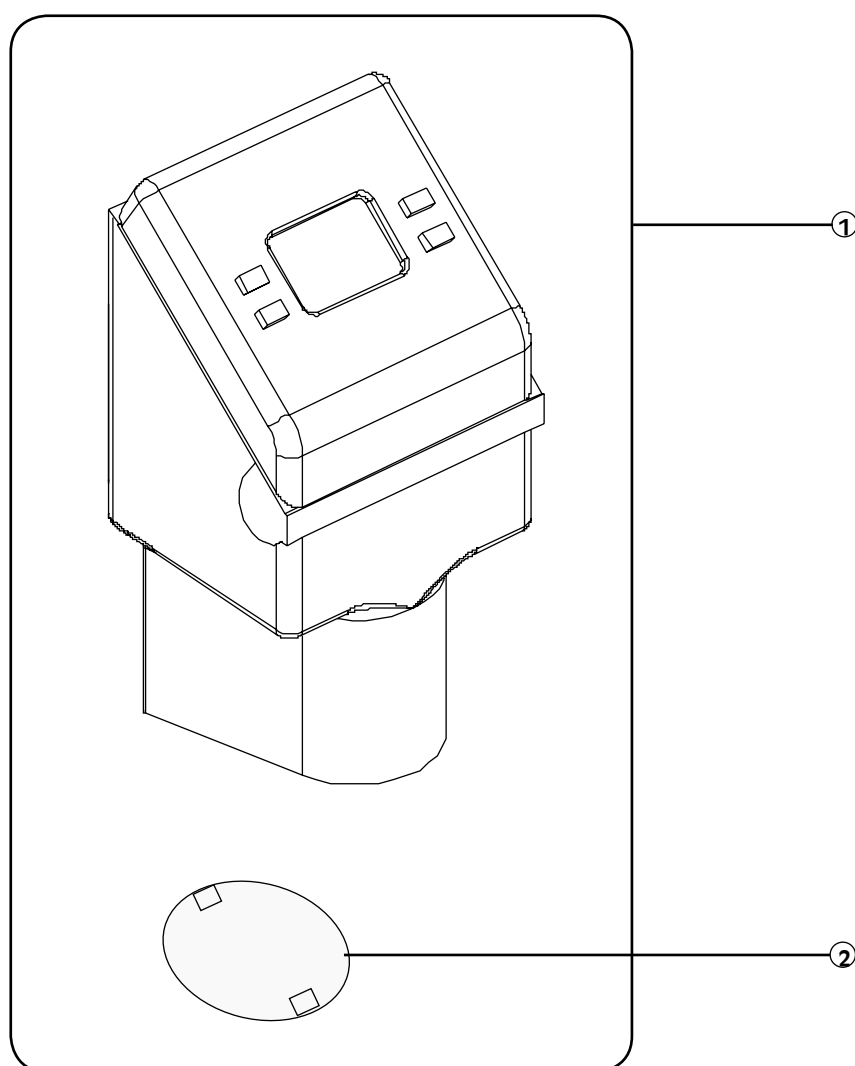
Accessories

Mains plug:	2316.00.904
Connection cable MultiSafe:	2316.00.903
Connection cable external pulse input:	2316.00.902

DrufiTronic 2316

Components / Order numbers

- ①
DrufiTronic
2316.00.050
- ②
Clutch disc



SYRTronic 2316

Automatic backwash system for Drufi's without drain ring, Drufi max and HWS 2000 max



2

Field of application

SYR DrufiTronic is a fully automatic electronic backwash system for the DrufiClassic types without drain ring until 2005, Drufi-max and HWS2000 plus max. It is very easy to operate and fulfils the highest safety

standards.

The DrufiClassic DFR, FR, Drufi max and HWS 2000 plus max can be easily retrofitted with the DrufiTronic, which turns them into fully automatic backwash filters.

Design

The SYRTronic allows individual adjustment of the interval time of the backwash operation in a range between one hour and 61 days according to the respective water quality. No tools are required for the assembly. The modern microprocessor makes the SYRTronic maintenance-free. A 1m stainless steel hose connects the filter to the backwash control system. The SYRTronic is delivered as battery-powered system

off the line. A mains plug (2316.00.904) is available for external power supply about 230V / 50 Hz. The automatic backwash system can also be centrally controlled via the MultiSafe KLS and LS. The connecting cable 2316.00.903 is required for that option. An external pulse input (for instance differential pressure switch) is another option for which the connecting cable 2316.00.902 is required.

SYRTronic 2316

Installation

The body is made of robust ABS synthetic material. The hose is made of stainless steel.

Fasten the SYRTronic on the wall close to the filter. A drain connection and a connection to the power mains are required. Use

exclusively the enclosed armoured hose to connect the control system to the filter.

Technical data

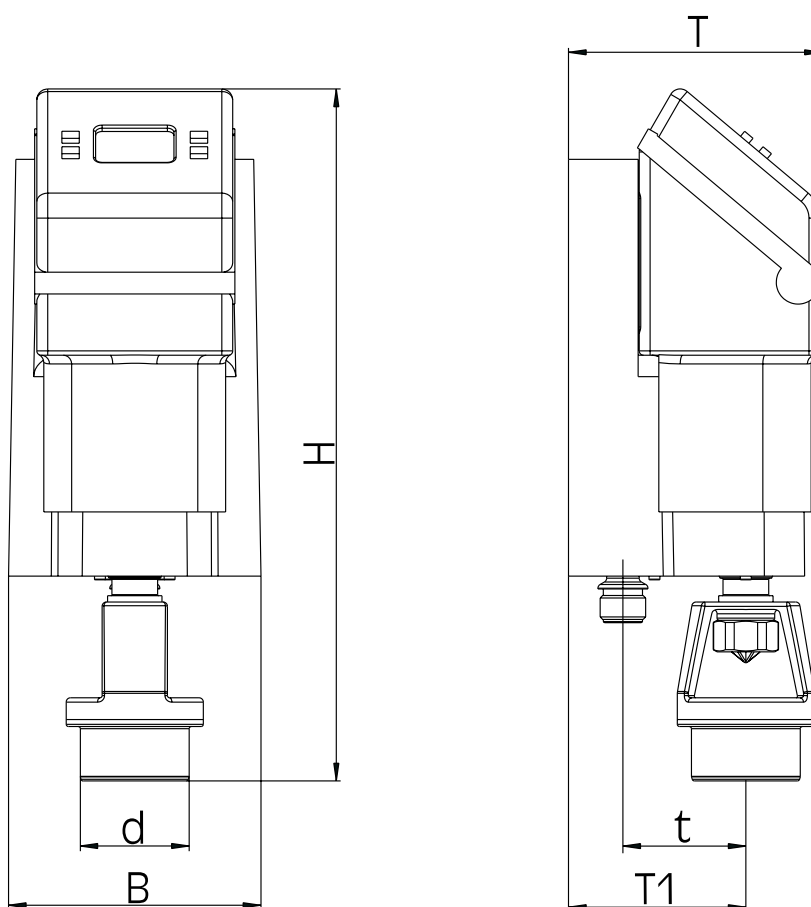
Operating voltage:	6.0 V DC
Type of protection:	IP 21
Ambient temperature:	0 - 40 °C
Batteries:	4 x LR 06-AA
Capacity:	max. 8 W
Serial number:	2316.00.050

Maintenance

In normal operation the display is in stand-by-mode in order to save energy. Every time a key is pressed, the display is switched on and the basic menu appears: all functions can be controlled and various parameters can be changed. The SYRTronic requires no special maintenance, except

from occasional battery replacement. An acoustic signal and a message in the display inform the user when the battery capacity is too low. When the battery capacity is too low, the SYRTronic triggers no backwash operation.

SYRTronic 2316



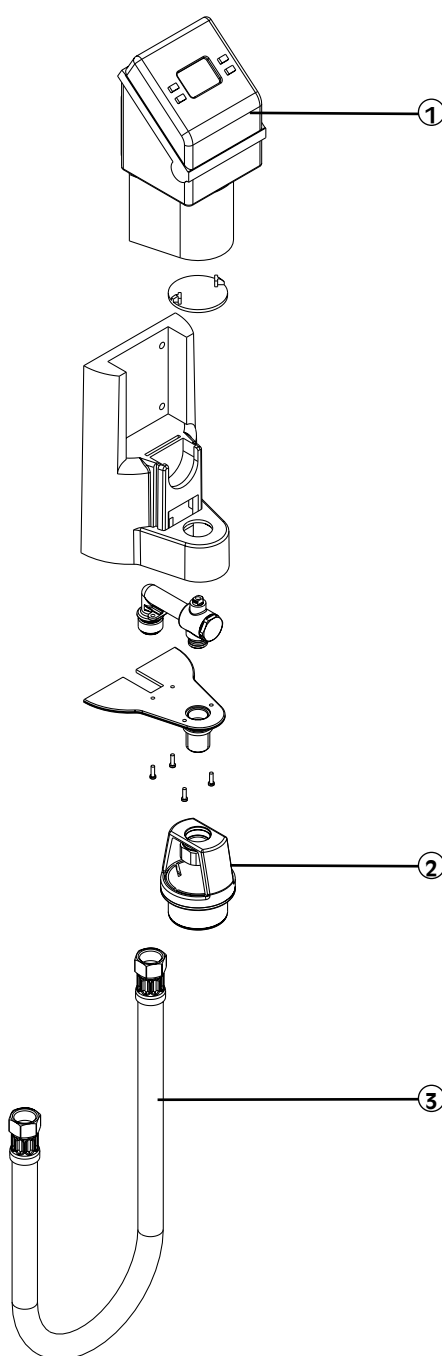
Dimensions in mm

H (mm)	318
T (mm)	116,5
T1 (mm)	81,5
t (mm)	56,5
B (mm)	116
d (mm)	50

SYRTronic 2316

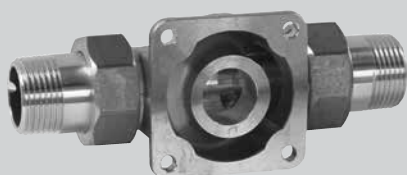
Components / Order numbers

- ①
Control unit
- ②
Tundish DN 50
- ③
Armoured hose 1m
2316.00.900

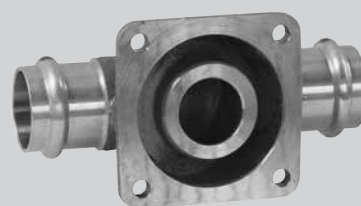


Flange programme 2315

Connection modules for all Drufi and MultiSafe types



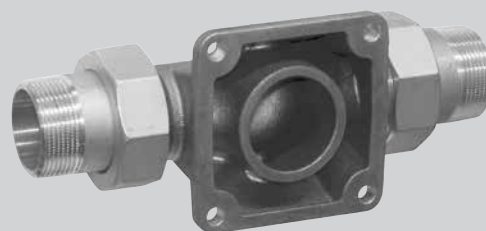
Universal-Flange



Press-Flange



HWS-Flange



Max-Universal-Flange

Field of application

The extensive SYR flange programme is used to mount the Drufi filter series and the various MultiSafe types at the point of

entry of domestic water installations. All flanges can be mounted in horizontal and vertical pipes.

Design

The **universal flange** is the classical connection flange; it is available in the sizes DN 20, 25 and 32. The standard universal flange which is equipped with threaded unions on both sides (external threads) is also available with soldered unions on demand. All unions are made with a gasket. The **HWS-flange 2000** turns the Drufi into a complete domestic water unit. It includes a check valve, an isolating valve with a drain device and a

test port to verify functionality of the check valve. In addition, it has two connections for inlet and outlet pressure manometers. The **compression flange** is equipped with compression fittings on both sides. The **max universal flange** consists of low-lead dezincification resistant gunmetal alloy and is laid out for Drufi+ max, Domestic water union max filter and the LEX-T Unit in the sizes DN 32, 40 and 50.

Flange programme

2315

Materials

The universal flange is made of a high-quality, low-lead brass alloy and the universal flange with additional outlets, the HWS-

flange, the compression flange and the max universal flange are made of a low-lead, dezincification resistant gunmetal alloy.

Installation

Install all SYR-connection flanges directly behind the water metering system. Installation is possible in vertical and horizontal pipes,

however the HWS-flange 2000 shall only be mounted in vertical pipes with the direction of flow from below upwards.

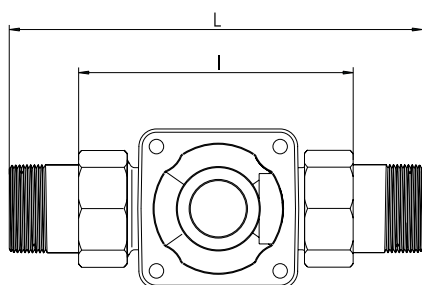
Thoroughly flush the pipe prior to installation. Install the suitable flange under consideration of the mounting position (see arrow on the body). Install the device directly behind the water metering system in

potable water installations without applying stresses. Ensure that the main axis of the flange is vertical for the subsequent connection of the valve.

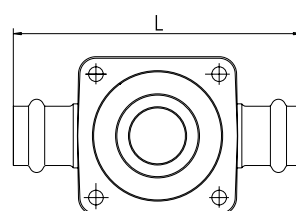
Technical data

Operating pressure:	max 16 bar
Operating temperature:	max. 30 °C
Mounting position:	any
Fluids:	potable water
Serial numbers:	2315...Type Universal + Compression 2000...Type HWS

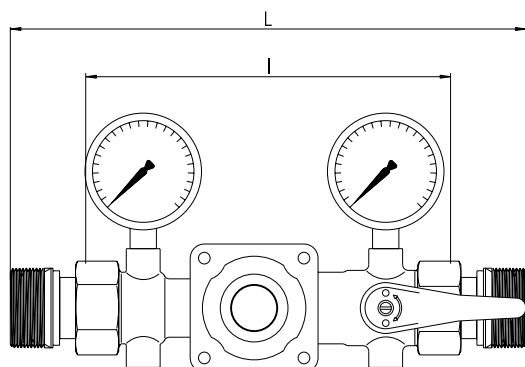
Flange programme 2315



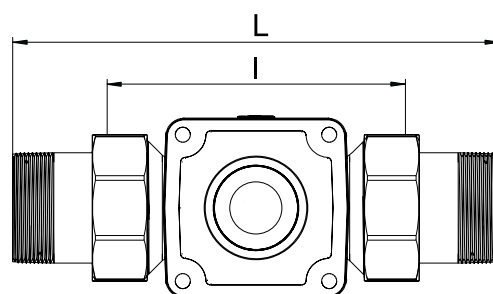
Universal Flange



Compression Flange



HWS Flange 2000 (Manometer: Accessories)



Max Universal Flansch

Nominal size			DN 20	DN 25	DN 32	DN 40	DN 50	
			A	R ¾"	R 1"	R 1 ¼"	R 1 ½"	R 2"
Dimensions	Universal Flange	I (mm)	90	100	105	-	-	
		L (mm)	158	174	191	-	-	
	* L1 with soldering	*L1 (mm)	132	148	163	-	-	
	HWS Flange 2000	I (mm)	180	180	180	-	-	
		L (mm)	254	254	274	-	-	
	* L1 with soldering	*L1 (mm)	230	228	284	-	-	
	Press Flange	L (mm)	124	128	128	-	-	
	Max-Universal Flange	I (mm)	-	-	130	150	150	
		L (mm)	-	-	220	240	265	
	* L1 with soldering	*L1 (mm)	-	-	188	216	229	

Accessories

for HWS-Flansch 2000: Manometer 0-10 bar: 2000.00.906
Manometer 0-25 bar: 2000.00.907

for max universal flange: Manometer 0-25 bar: 2000.00.907

Flange programme 2315

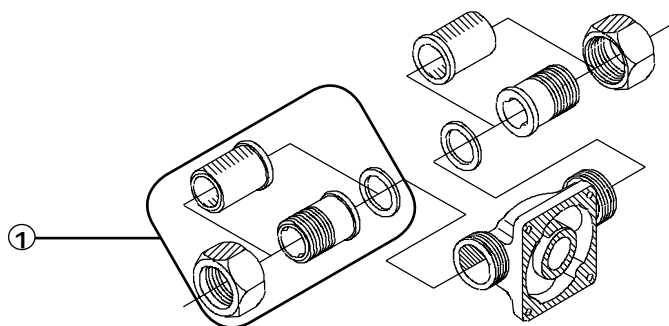
Components / Order numbers

①

Unions

incl. captive nut,
middle piece and seal

DN 20 Gewinde	0812.20.900
DN 20 Löt	0813.20.900
DN 25 Gewinde	0812.25.900
DN 25 Löt	0813.25.900
DN 32 Gewinde	0812.32.900
DN 32 Löt	0813.32.900



Universal Flange

②

Unions

incl. captive nut,
middle piece and seal

DN 20 Gewinde	0814.20.900
DN 20 Löt	0815.20.900
DN 25 Gewinde	0812.25.900
DN 25 Löt	0813.25.900
DN 32 Gewinde	0816.32.900
DN 32 Löt	0817.32.900

③

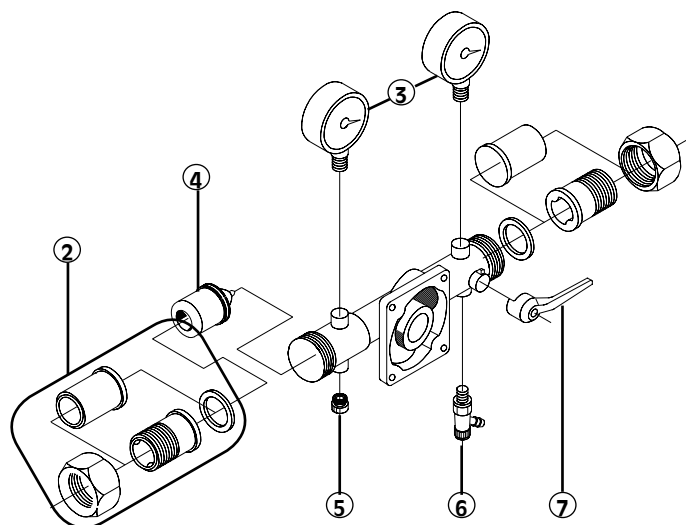
Manometer (Accessories)

2000.00.906 (10 bar)
2000.00.907 (25 bar)

④

Check valve

2000.00.910



HWS- Flange 2000

⑤

Manometer plug

0828.08.000

⑥

Drain plug

2315.00.920

⑦

Isolating valve

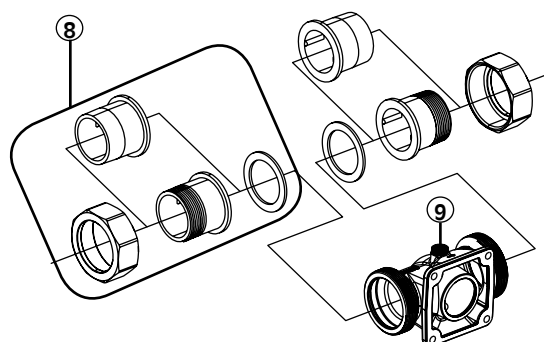
2000.00.917

⑧

Unions

incl. captive nut,
middle piece and seal

DN 32 Gewinde	0812.32.900
DN 32 Löt	0813.32.900
DN 40 Gewinde	0812.40.900
DN 40 Löt	0813.40.900
DN 50 Gewinde	0812.50.900
DN 50 Löt	0813.50.900



Max Universal Flange

⑨

Manometer plug

0828.08.000

Domestic Water Unit 2000 Plus

Complete valves combination for installation at the domestic point of entry, DN 20 - 32



Field of application

The domestic water unit 2000 Plus is a valves combination composed of a check valve with a test port, a backwash filter and a pressure reducing valve in accordance with EN 1567. It considerably simplifies the installation of domestic water systems. In addition, the domestic water unit 2000 Plus includes an isolating ball valve for maintenance. Inlet and outlet pressure manometers are included in the

delivery. The integrated construction form results in a compact unit, so that installation is possible even in confined spaces. The square surface on the connection flange allows to install the valve in horizontal and vertical pipes (vertical installation only with flow direction upwards). The domestic water unit 2000 Plus has undergone acoustic testing and is suitable for installation in residential buildings.

Design

The domestic water unit 2000 plus is composed of a removable check valve integrated in the flange and a mechanical semi-automatic backwash filter. The filter is made of stainless steel. The pressure reducer insert that is factory-set to an outlet pressure of 4 bar can be adjusted to a pressure ranging between

1.5 and 6 bar by means of the external adjustment knob. The delivery includes 2 pressure gauges for pressure control, hexagon socket screws with the corresponding assembly key and a seal for the flange connection; the latter is supplied with threaded unions (soldered unions available on request).

Domestic Water Unit 2000 Plus

Materials

The flange body is made of a low-lead, de-zincification resistant gunmetal alloy. The filter cap is made of high-quality transparent synthetic material; the housing and internal synthetic components are made of shock-resistant thermoplast. The rubber parts are made of ageing resistant elastomer and all remaining functional parts of high quality,

low-lead brass or stainless steel. All materials are tested and certified by an internationally recognised test institute in Germany (DVGW). All synthetic components getting in contact with water designed for human consumption are approved by the German Public Health Office (KTW).

Installation

The mounting position can be vertical or horizontal. Install the flange directly behind the water meter; the check valve integrated

in the union ensures the protection of the potable water installation.

Thoroughly flush the pipe prior to installation. Install the flange in the pipe under consideration of the direction of flow (arrow on the body) without applying stresses; the main axis has to be vertical. The domestic water

unit 2000 Plus requires a distance of 400 mm between the middle of the pipe and the bottom. Use the hexagon socket screws to pull the backwash filter pressure-tight.

Technical data

Operating pressure:	min. 2 bar, max. 16 bar
Operating temperature:	max. 30 °C
Mounting position:	main axis vertical
Fluid:	potable water
Mesh width:	90 µm (lower), 125 µm (upper)
Flow rate capacity:	DN 20: 2.3 m³/h at 1.1 bar Δp
	DN 25: 3.6 m³/h at 1.1 bar Δp
	DN 32: 5.8 m³/h at 1.1 bar Δp
Serial number:	2000...

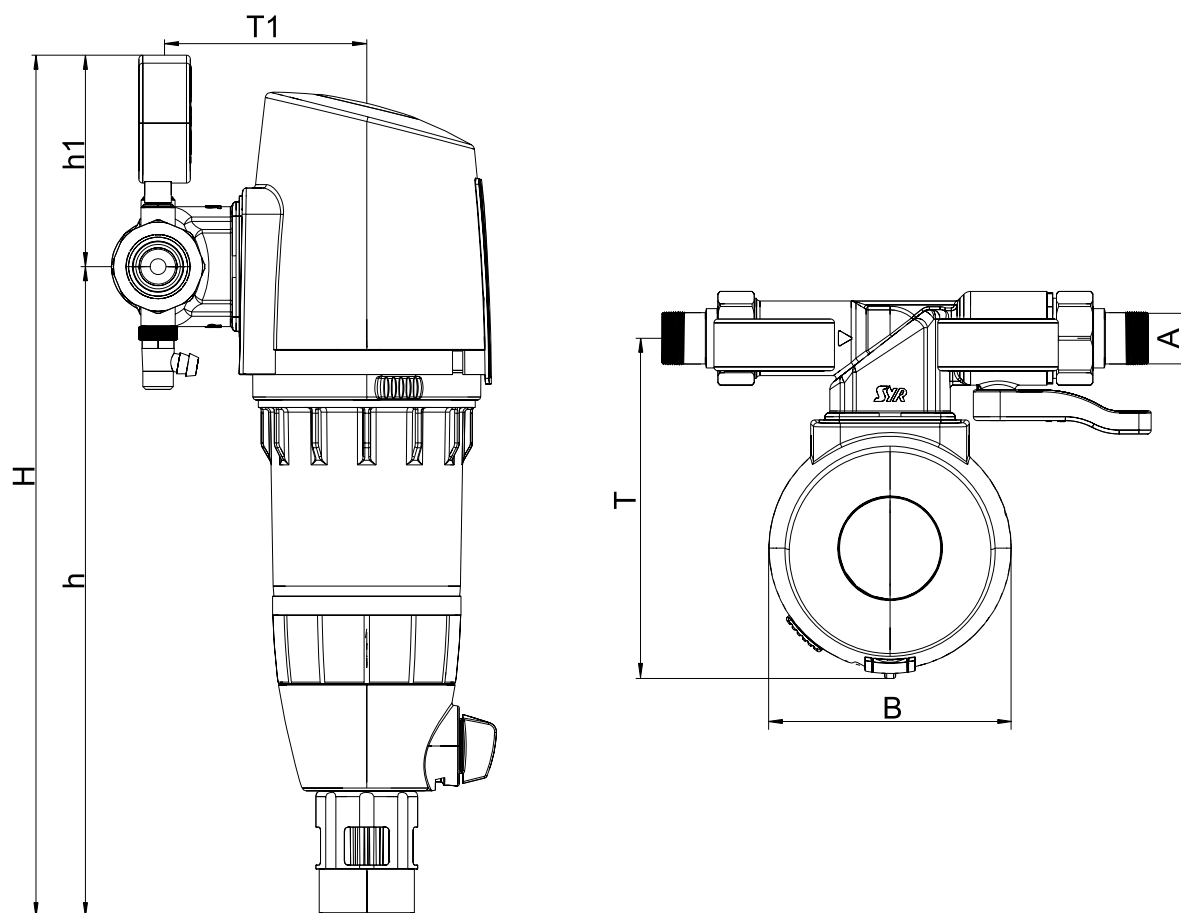
Maintenance

When the flow rate is reduced due to increased pressure loss, but every 6 months at the latest, the filter needs to be serviced by backwashing.

The backwash system is semi-automatic. Open and close the ball valve to trigger the automatic backwash operation of the complete filter. Even during backwashing, the device continues to supply filtered water into the potable water system. When

the filter has been exchanged, press the Memoryclip so that the electronic system starts again to count out the maintenance interval. Use the adjustment ring to set the pressure reducing valve at static pressure to the desired pressure ranging between 1.5 and 6 bar. The Domestic water unit can be retrofitted with the automatic backwash system RSA (2316.00.081) to become a fully automatic backwash filter.

Domestic Water Unit 2000 Plus



Nennweite		DN 20	DN 25	DN 32
	A	G ¾"	G 1"	G 1 ¼"
Baumaße	H (mm)	354	354	354
	h (mm)	249	249	249
	h1 (mm)	105	105	105
	L (mm)	254	254	274
	I (mm)	180	180	180
	T (mm)	208	208	208
	T1 (mm)	98	98	98
	B (mm)	160	160	160

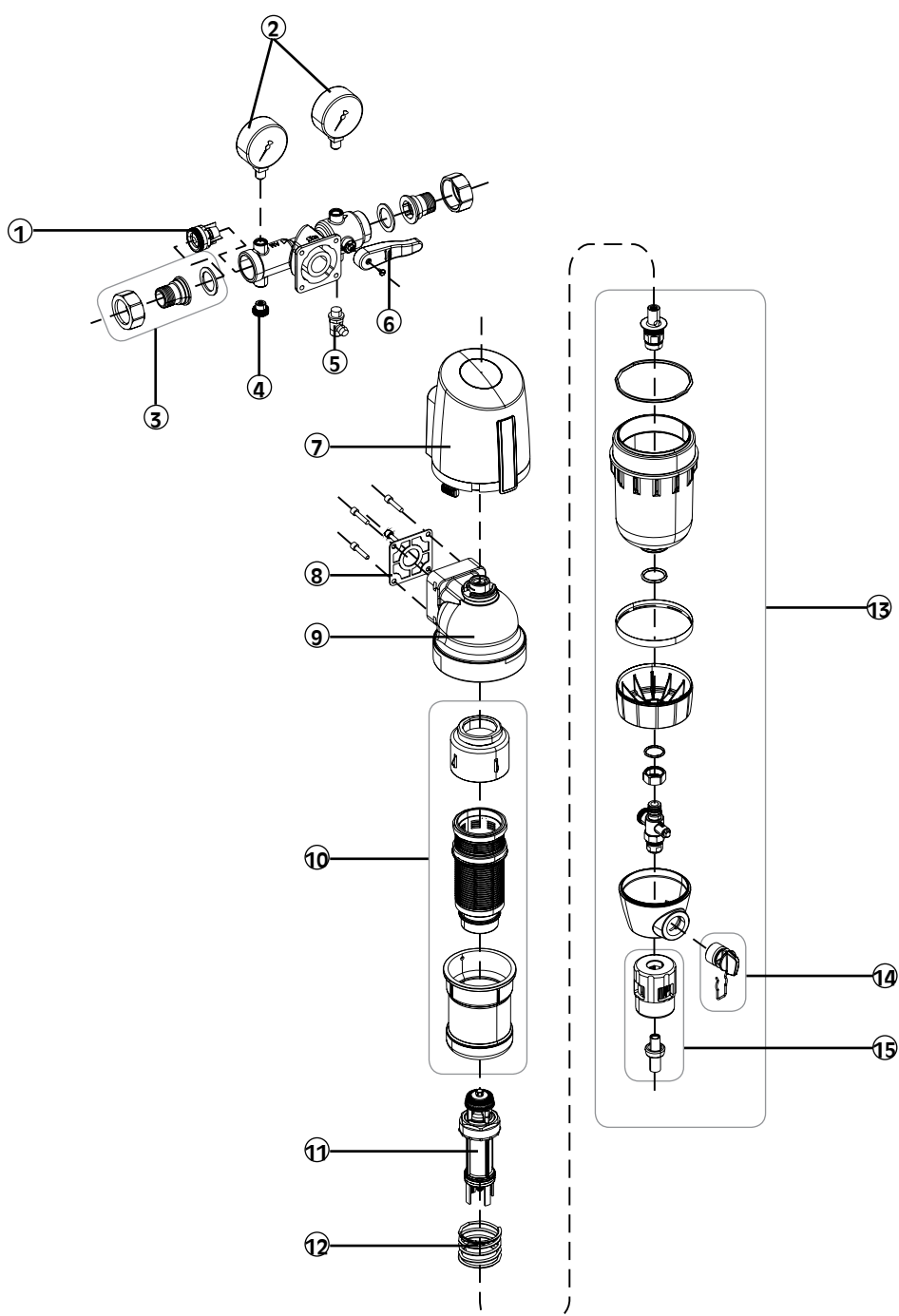
Accessories

DrufiTronic automatic backwash control system 2316.00.081
Filter 20 µm: 2315.01.965

Domestic Water Unit 2000 Plus

Components / Order numbers

- ① **Check valve**
2000.00.921
- ② **Manometer**
2000.00.906 (10 bar)
2000.00.907 (25 bar)
- ③ **Unions**
DN 20 Gewinde: 0814.20.900
DN 20 Löt: 0815.20.900
DN 25 Gewinde: 0812.25.900
DN 25 Löt: 0813.25.900
DN 32 Gewinde: 0816.32.900
DN 32 Löt: 0817.32.900
- ④ **Manometer plug**
0828.08.000
- ⑤ **Drain**
2315.00.920
- ⑥ **Isolating handle**
2000.00.920
- ⑦ **Protecting cap**
2315.01.919
- ⑧ **Sealing kit, incl. screws and key**
2315.00.931
- ⑨ **Valve body**
2315.01.918
- ⑩ **Filter**
2315.00.930 (90 µm)
2315.01.965 (20 µm)
- ⑪ **Pressure reducer cartridge**
2315.01.925
- ⑫ **Spring**
2315.00.961
- ⑬ **Filter cap, complete**
2315.01.914
- ⑭ **Knob, complete**
2315.01.923
- ⑮ **Tundish, complete**
2315.01.921



Domestic Water Unit 2000 Plus max

Complete valves combination for installation at the domestic point of entry, DN 40 and DN 50



2

Field of application

The domestic water unit 2000 Plus max is a valves combination composed of a check valve with a test port, a backwash filter and a pressure reducing valve in accordance with EN 1567. It considerably simplifies the installation of domestic water systems. Inlet and outlet pressure manometers are

included in the delivery. The integrated construction form results in a compact unit, so that installation is possible even in confined spaces. The square surface on the connection flange allows to install the valve in horizontal and vertical pipes (vertical installation only with flow direction upwards).

Design

The domestic water unit 2000 plus max is composed of a removable check valve integrated in the flange and a mechanical semi-automatic backwash filter. The filter is made of stainless steel. The pressure reducer insert that is factory-set to an outlet pressure of 4 bar can be adjusted to a pressure ranging between 1.5 and 6 bar by

means of the adjustment ring. The delivery includes 2 pressure gauges for pressure control, hexagon socket screws with the corresponding assembly key and a seal for the flange connection; the latter is supplied with threaded unions (soldered unions available on request).

Domestic Water Unit 2000 Plus max

Materials

The flange body is made of a low-lead, de-zincification resistant gunmetal alloy. The filter cap is made of high-quality transparent synthetic material; the housing and internal synthetic components are made of shock-resistant thermoplast. The rubber parts are made of ageing resistant elastomer and all remaining functional parts of high quality,

low-lead brass or stainless steel. All materials are tested and certified by an internationally recognised test institute in Germany (DVGW). All synthetic components getting in contact with water designed for human consumption are approved by the German Public Health Office (KTW).

Installation

The mounting position can be vertical or horizontal. Install the flange directly behind the water meter; the check valve in the

inlet coupling ensures the protection of the potable water installation.

Thoroughly flush the pipe prior to installation. Install the flange in the pipe under consideration of the direction of flow (arrow on the body) without applying stresses; the main axis has to be vertical. The dome-

stic water unit 2000 Plus max requires a distance of 600 mm between the middle of the pipe and the bottom. Use the hexagon socket screws to pull the backwash filter pressure-tight.

Technical data

Operating pressure:	min. 2 bar, max. 16 bar
Operating temperature:	max. 30 °C
Fluid:	potable water
Mesh width:	90 µm (lower), 125µm (upper)
Mounting position:	Connection axis horizontal or vertical, filter facing downwards
Flow rate:	DN 40: 9.1 m³/h, at 1.1 bar Δp DN 50: 14.0 m³/h, at 1.1 bar Δp
Serial number:	2000...

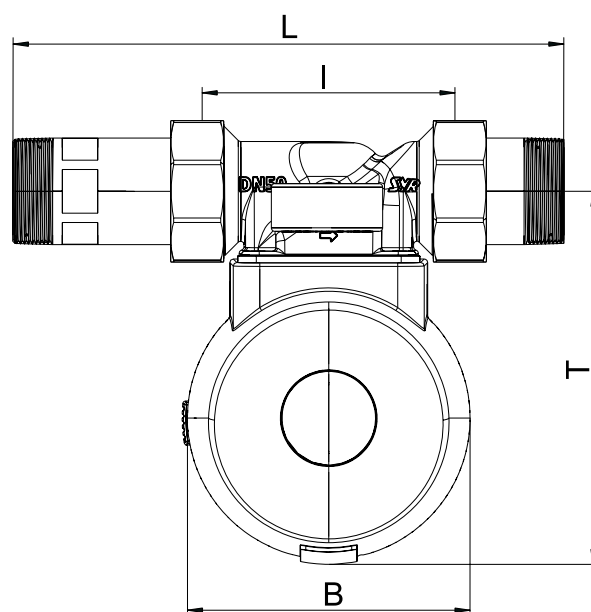
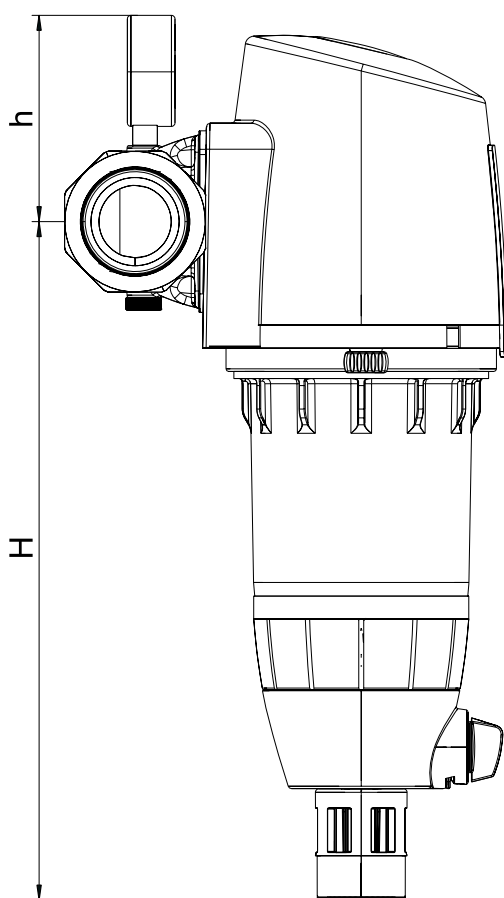
Maintenance

When the flow rate is reduced due to increased pressure loss, but every 6 months at the latest, the filter needs to be serviced by backwashing. Fully automatic backwashing is possible with the automatic backwash system RSA (2316.00.081), which

offers more safety and convenience. The outlet pressure can be adjusted by means of the adjustment ring in the middle of the filter cap. Verify functionality of the check valve once per year. It can be removed from the connection flange.

Domestic Water Unit 2000 Plus max

2



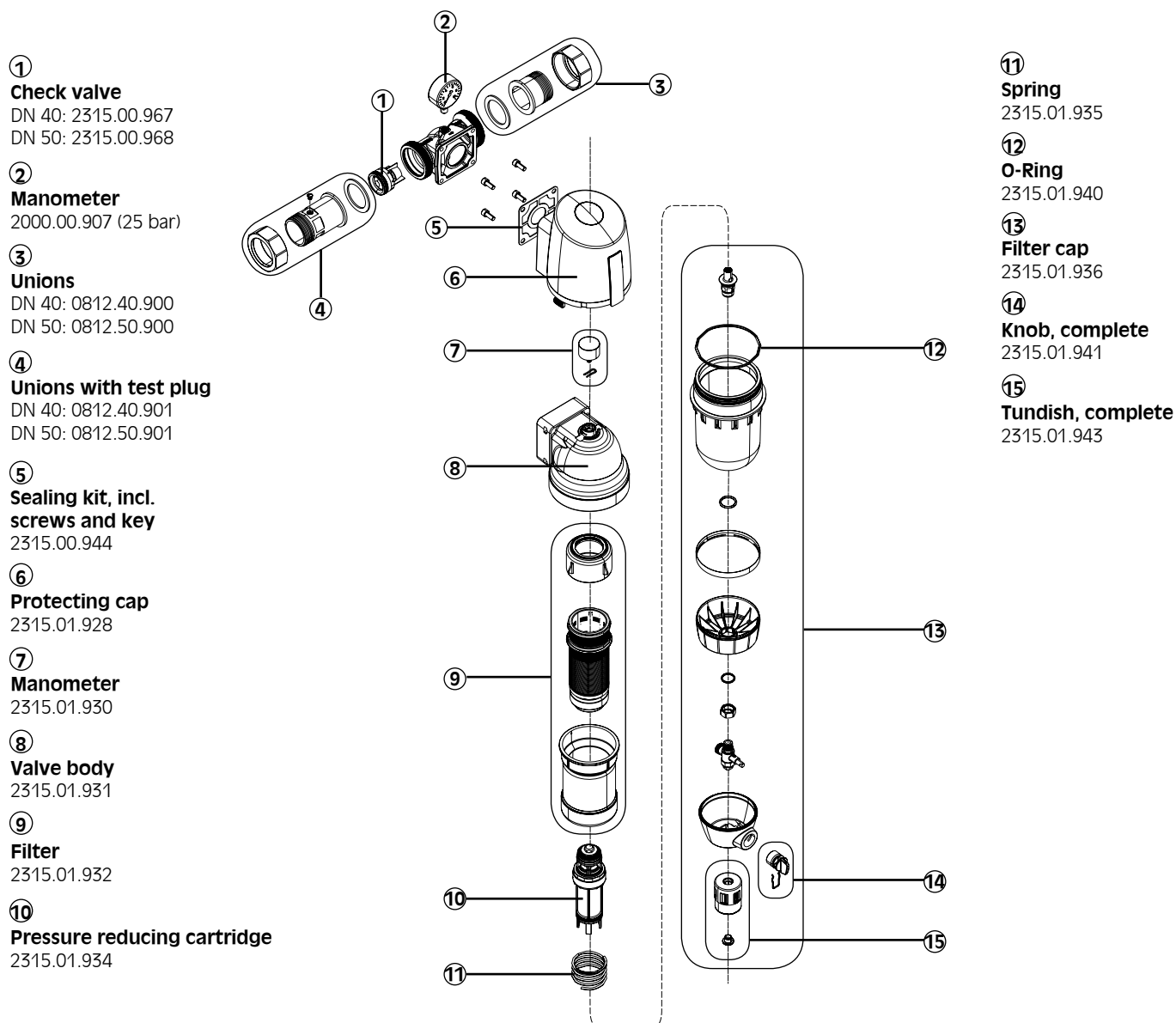
Nennweite		DN 40	DN 50
Baumaße	A	G 1 ½	G 2
	L (mm)	281	311
	I (mm)	150	150
	H (mm)	405	405
	h (mm)	110	110
	T (mm)	237	237
	B (mm)	163	163

Accessories

SYRTronic automatic backwash control system 2316.00.081

Domestic Water Unit 2000 Plus max

Components / Order numbers



Flange filter 6380

Backwash filter made of gunmetal with flange connection



Field of application

The flange filter 6380 is a semi-automatic backwash filter complying with the German standard DIN 13443-1, which is intended for industrial and commercial installations. It is

predominantly designed for potable water systems and protects downstream valves and machines against dirt. The filter is not suitable for self-supplying installations.

Design

The flange filter consists of a mechanical semi-automatic backwash filter made of stainless steel. Upstream and downstream pressure gauges can be connected to the flange filter. It is equipped with a rotatable

maintenance indicator. The filter can be retrofitted with a differential pressure switch (6380.00.901) and an automatic backwash system (2316.00.030).

Flange filter 6380

Materials

The body and the assembly nut are made of a low-lead dezincification-resistant gunmetal alloy. All materials are tested and approved by internationally recognised test institutes in Germany (DVGW and TZW). All synthetic parts getting into contact with water are approved by the German Public

Health Office (KTW). Especially the corrosion resistance is guaranteed for all materials used. All rubber parts are made of ageing-resistant elastomer. The diaphragm is reinforced and the highly resistant screw cap is made of glass-fibre reinforced synthetic material.

Installation

The connection size depends on the required flow rate. The device can be mounted either in vertical or horizontal

position. The filter has to be installed directly behind the water meter.

Thoroughly rinse the pipe prior to installation. Mount the flange filter under consideration of the direction of flow (see arrow on the body) without applying stresses. Rotate the filter's lower part until

the backwash knob and the ring-shaped maintenance indicator become visible. A minimum distance of 310 mm between the tundish's lower edge and the bottom is required for disassembling the filter cap.

Technical specifications

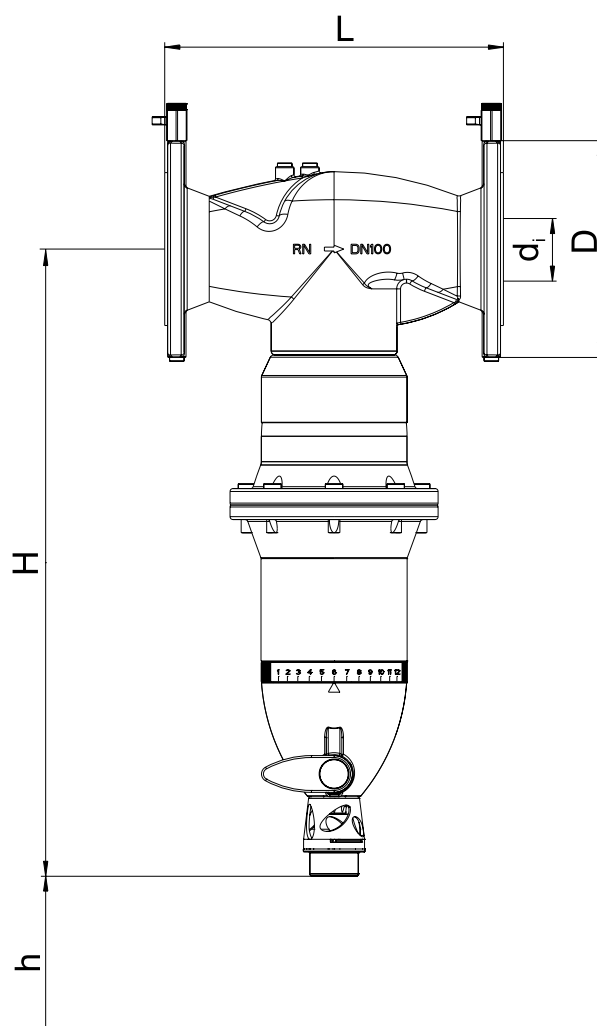
Service pressure:	min. 2 bar, max. 16 bar
Service temperature:	max. 30 °C
Mounting position:	main axis: vertical
Medium:	potable water
Mesh width:	90 µm
Flow rate:	DN 65: 25 m³/h at 0.2 bar Δp
	DN 80: 27 m³/h at 0.2 bar Δp
	DN 100: 33 m³/h at 0.2 bar Δp
	DN 65: 40 m³/h at 0.5 bar Δp
	DN 80: 46 m³/h at 0.5 bar Δp
	DN 100: 56 m³/h at 0.5 bar Δp
Serial number:	6380 ...

Maintenance

When the flow rate is reduced due to increased pressure loss, but every 2 months at the latest, the filter has to be serviced by backwashing. As a reminder of the next service, set the maintenance indicator

below the filter to the required date. This backwash operation can be carried out automatically when retrofitting the device with the automatic backwash system, which is battery-powered and easy to install.

Flange filter 6380

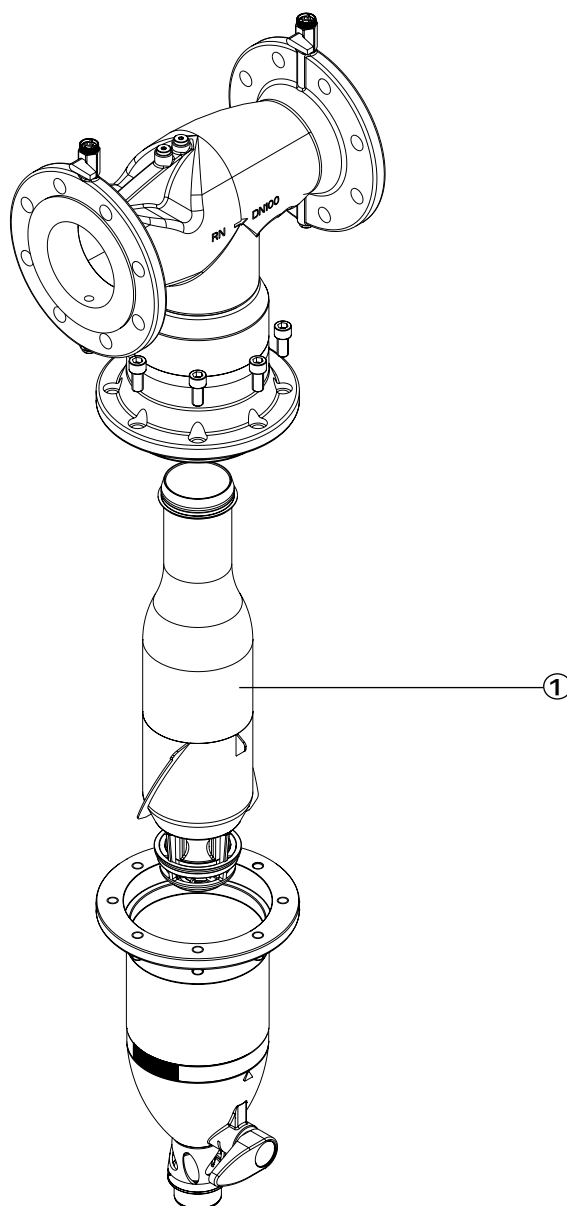


Nominal size		DN 65	DN 80	DN 100
Dimensions in mm	L (mm)	290	310	350
	H (mm)	648	648	648
	h (mm)	at least 310 mm		
	D (mm)	185	200	224
	d _i (mm)	67	80	100

Flange filter 6380

Components / Order numbers

- ①
Filter element
6380.00.900



Duo DFR 2314

Manual Backwash Filter with pressure reducing valve



Field of application

The Duo DFR is the starter model of the SYR filter programme. It is designed as filtering valve for potable water installations, which is to be mounted with the fully rotatable integrated connection flange. The Duo DFR

functions in any mounting position. Its very compact construction form also allows to protect single appliances (dish washers, water heaters, etc..).

Design

The manual backwash filter Duo DFR is available in the connection sizes DN 20 - DN 25. The integral pressure reducing valve

protects the installation against overpressure and water hammers. The cascade-shaped filter insert is made of synthetic material.

Duo DFR 2314

Materials

The filter cap is made of shock-resistant synthetic material and the filter insert of synthetic material. The ring seals are made of asbestos-free fibre. All materials used are state-of-the-art. The synthetic and

elastomeric parts getting into contact with water designed for human consumption are approved by the German Public Health Office (KTW).

Installation

It is highly recommended to install filters to protect potable water installations against corrosion. When used at the domestic

point of entry, the Duo DFR filter should be installed directly behind the water metering device and be readily accessible.

Thoroughly flush the pipe prior to installation. Use filtered water from the first onset of the potable water installation. The main axis of the filter has to be in ver-

tical position. Install the filter under consideration of the direction of flow (arrow on the body) in the pipework without applying stresses.

Technical specifications

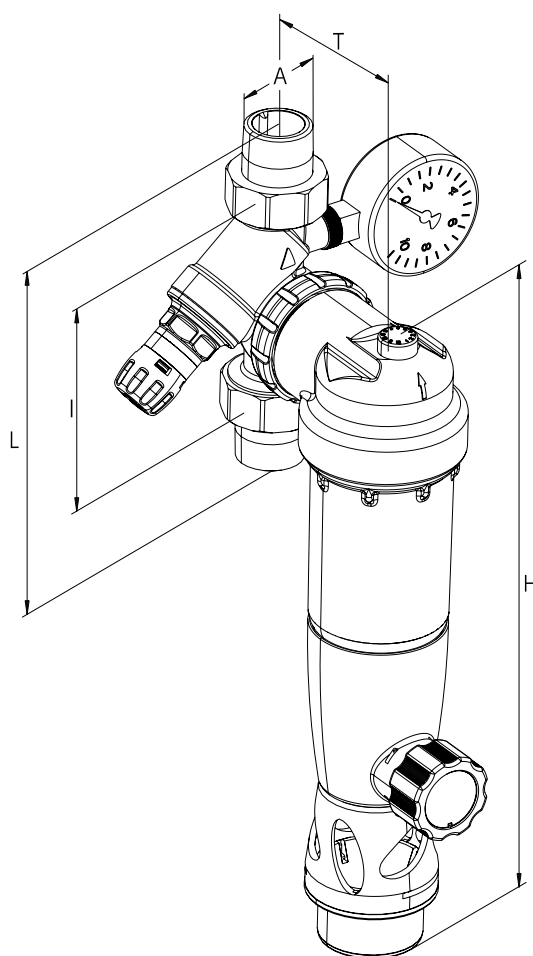
Operating pressure:	min. 2 bar, max. 16 bar
Operating temperature:	max. 30 °C
Mounting position:	any, main axis of filter vertical
Fluid:	potable water
Mesh width:	lower: 90 µm, upper: 125 µm
Flow rate:	DN 20: 2.3 m³/h at 1.1 bar Δp
ABP-No.:	DN 20: P-IX 6738/I
DVGW-Nr.:	NW-9311BR0129
Serial number:	2314 ...

Maintenance

A maintenance indicator positioned on top of the filter indicates when service is due. The filter should be backwashed every two months at the latest. Servicing the Duo DFR requires no special tools. To service the filter, open the ball valve and turn the lower

part of the filter 2 to 3 times to the left or to right. Close the ball valve again. Even during backwashing, the device continues to supply filtered water into the potable water system.

Duo DFR 2314



Nominal size		DN 20	DN 20
	A	R ¾"	R 1"
Dimensions in mm	H (mm)	330	330
	L (mm)	172	180
	I (mm)	110	110
	T (mm)	90	90

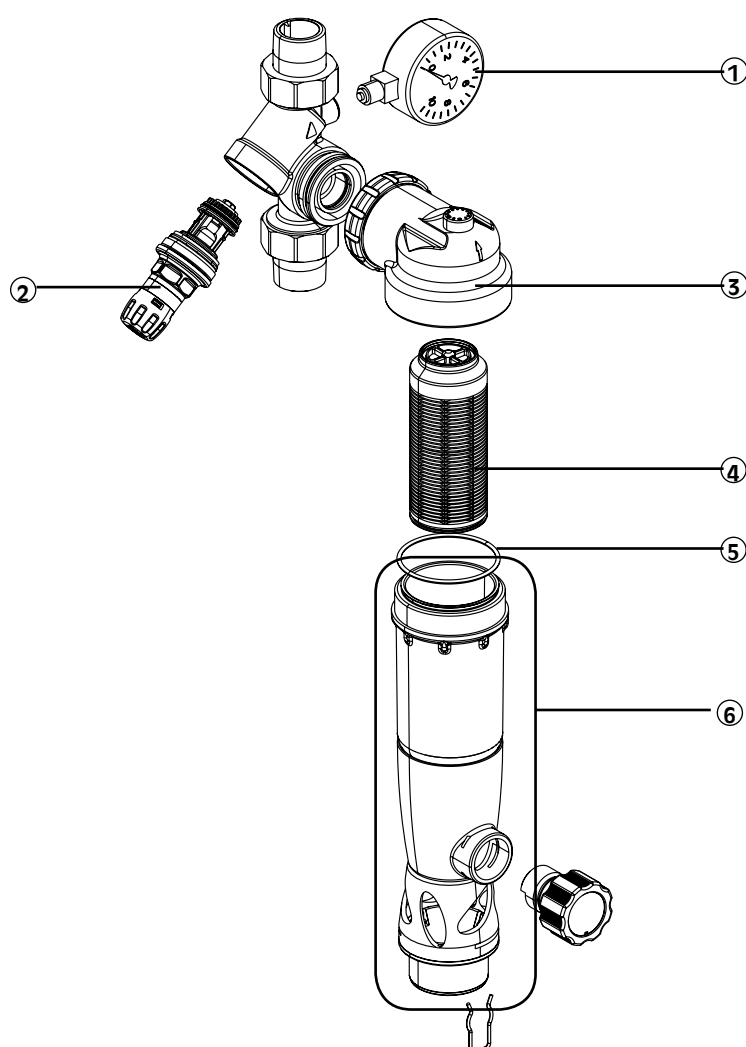
Duo DFR 2314

Components / Order numbers

- ①
Pressure gauge
0-10 bar
2000.00.906
- ②
Pressure reducer cartridge
0312.20.928
- ③
Valve body
2350.00.901
- ④
Filter
2350.00.903
- ⑤
O-Ring
2350.00.907
- ⑥
Filter cap
2314.00.904

no pict..

- Mounting key**
2350.00.906



Duo FR 2314

Manual Backwash Filter



2

Field of application

The Duo FR is the starter model of the SYR filter programme. It is a filtering valve for potable water installations, which is to be mounted with the fully rotatable integrated connection flange. The Duo FR functions

in any mounting position. Its very compact construction form also allows to protect single appliances (dish washers, water heaters etc..).

Design

The manual backwash filter Duo FR is available in the connection sizes DN 20 - DN 25.

The cascade-shaped filter insert is made of synthetic material.

Duo FR 2314

Materials

The filter cap is made of shock-resistant synthetic material and the filter insert of synthetic material. The ring seals are made of asbestos-free fibre. All materials used are state-of-the-art. The synthetic and

elastomeric parts getting into contact with water designed for human consumption are approved by the German Public Health Office (KTW).

Installation

It is highly recommended to install filters to protect potable water installations against corrosion. When used at the domestic

point of entry, the Duo FR filter should be installed directly behind the water metering device and be readily accessible.

Thoroughly flush the pipe prior to installation. Use filtered water from the first onset of the potable water installation. The main axis of the filter has to be in ver-

tical position. Install the filter under consideration of the direction of flow (arrow on the body) in the pipework without applying stresses.

Technical specifications

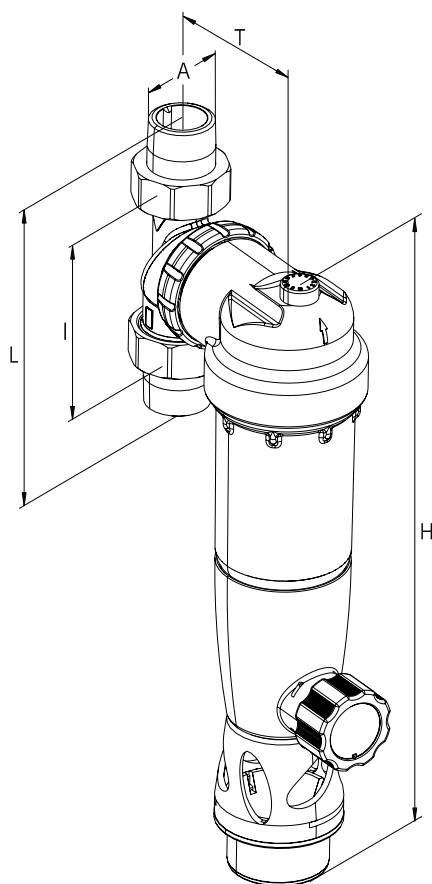
Operating pressure:	min. 2 bar, max. 16 bar
Operating temperature:	max. 30°C
Mounting position:	any, main axis of filter vertical
Fluid:	potable water
Mesh width:	lower: 90 µm, upper: 125 µm
Flow rate:	DN 20: 1.8 m³/h at 0.2 bar Δp
	DN 25: 2.3 m³/h at 0.2 bar Δp
	DN 20: 2.7 m³/h at 0.5 bar Δp
	DN 25: 3.6 m³/h at 0.5 bar Δp
ABP-Nr.:	DN 20 + DN 25: P-IX 6737/I
DVGW-Nr.:	NW-9301BR0130
Serial number:	2314 ...

Maintenance

A maintenance indicator positioned on top of the filter indicates when service is due. The filter should be backwashed every two months at the latest. Servicing the Duo FR requires no special tools. To service the filter, open the ball valve and turn the lower

part of the filter 2 to 3 times to the left or to right. Close the ball valve again. Even during backwashing, the device continues to supply filtered water into the potable water system.

Duo FR 2314



2

Nominal size		DN 20	DN 25
Dimensions in mm	A	G ¾"	G 1"
	H (mm)	330	330
	L (mm)	172	180
	I (mm)	110	110
	T (mm)	85	85

Duo FR 2314

Components / Order numbers

①
Valve body
2350.00.901

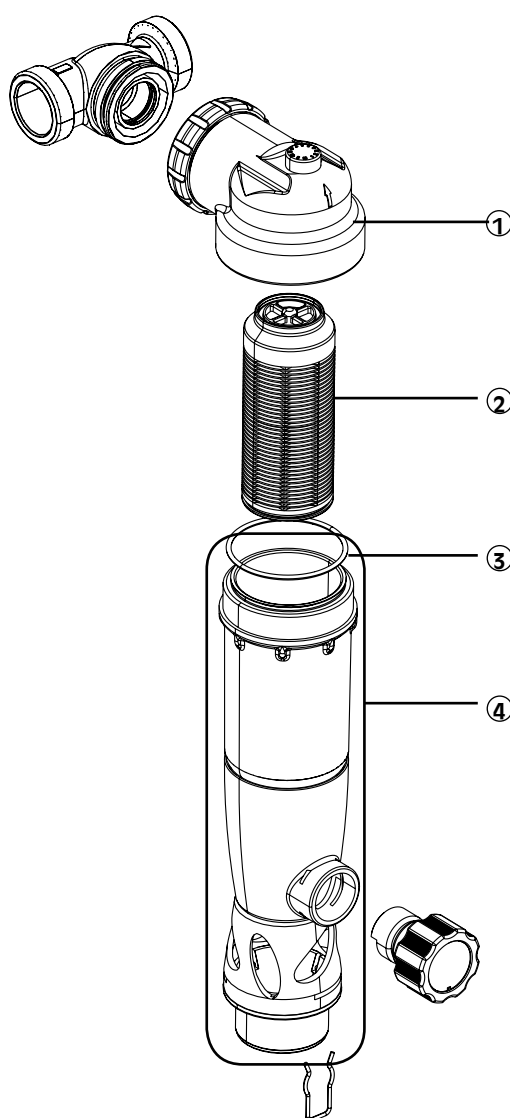
②
Filter
2350.00.903

③
O-Ring
2350.00.907

④
Filter cap
2350.00.904

no pict..

Mounting key
2350.00.906



Duo DFR Hot 2314

Manual Backwash Filter with pressure reducing valve



2

Field of application

The Duo DFR is the starter model of the SYR filter programme. It is designed as filtering valve for potable and hot water installations, which is to be mounted with the fully rotatable integrated connection flange. The Duo

DFR functions in any mounting position. Its very compact construction form also allows to protect single appliances (dish washers, water heaters, etc..).

Design

The manual backwash filter Duo DFR is available in the connection sizes DN 20 - DN 25. The integral pressure reducing valve protects the installation against overpressu-

re and water hammers. The cascade-shaped filter insert is made of synthetic material.

Duo DFR Hot 2314

Materials

The filter cap is made of shock-resistant synthetic material and the filter insert of synthetic material. The ring seals are made of asbestos-free fibre. All materials used are state-of-the-art. The synthetic and

elastomeric parts getting into contact with water designed for human consumption are approved by the German Public Health Office (KTW).

Installation

It is highly recommended to install filters to protect potable water installations against corrosion. When used at the domestic

point of entry, the Duo DFR filter should be installed directly behind the water metering device and be readily accessible.

Thoroughly flush the pipe prior to installation. Use filtered water from the first onset of the potable water installation. The main axis of the filter has to be in ver-

tical position. Install the filter under consideration of the direction of flow (arrow on the body) in the pipework without applying stresses.

Technical specifications

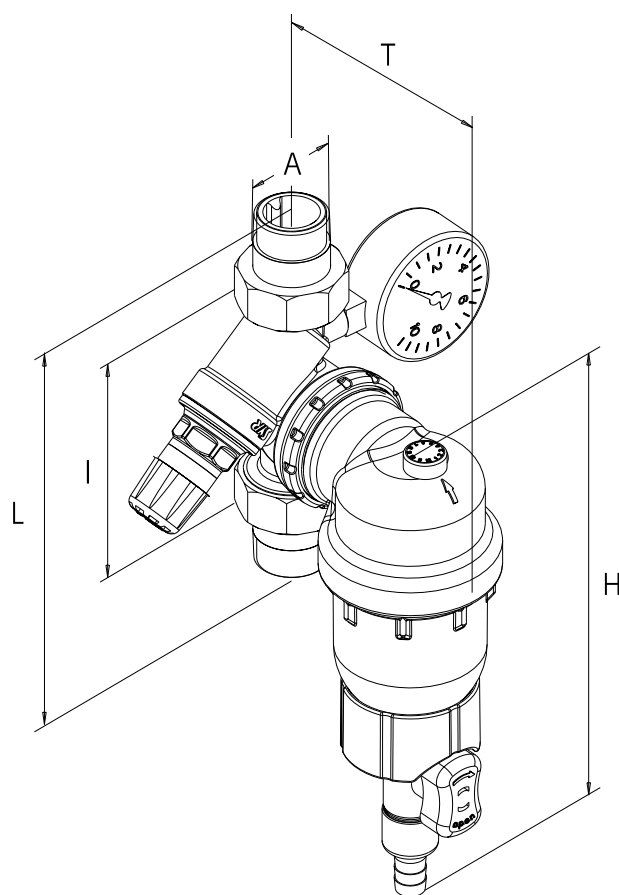
Operating pressure:	min. 2 bar, max. 16 bar
Operating temperature:	max. 80 °C
Mounting position:	any, main axis of filter vertical
Fluid:	potable water
Mesh width:	lower: 90 µm, upper: 125 µm
Flow rate:	DN 20: 2.3 m³/h at 1.1 bar Δp
Serial number:	2314 ...

Maintenance

A maintenance indicator positioned on top of the filter indicates when service is due. The filter should be backwashed every two months at the latest. Servicing the Duo DFR requires no special tools. To service the filter, open the ball valve and turn the lower

part of the filter 2 to 3 times to the left or to right. Close the ball valve again. Even during backwashing, the device continues to supply filtered water into the potable water system.

Duo DFR Hot 2314

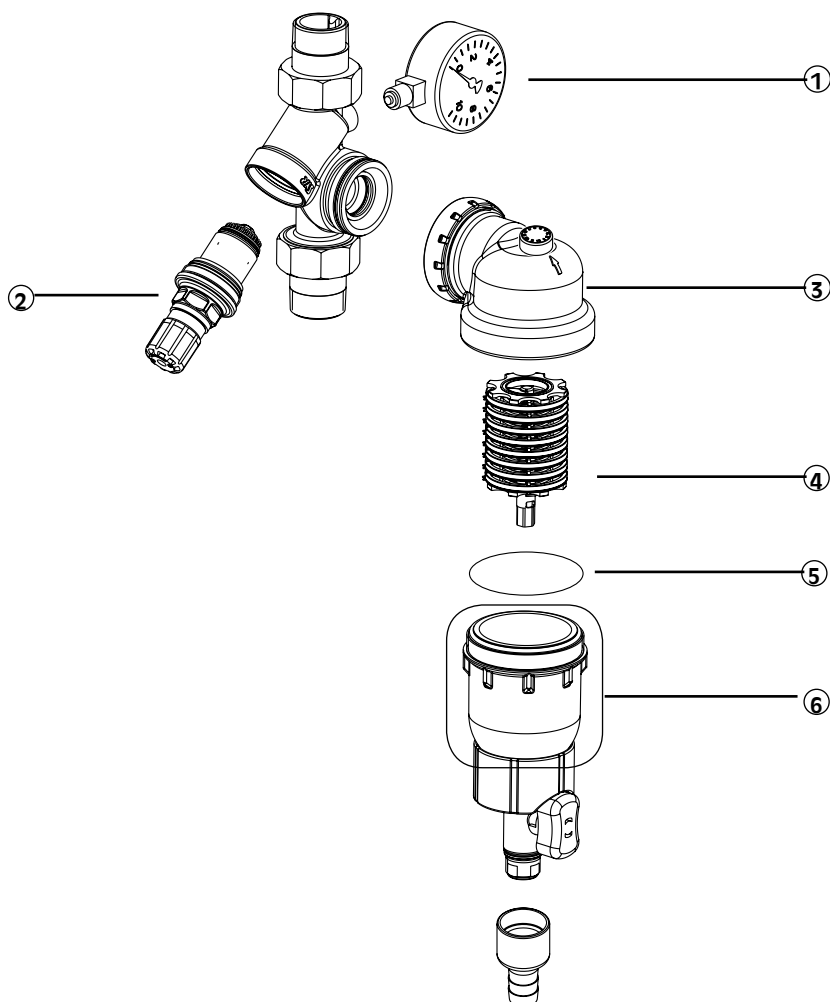


Nominal size		DN 20	DN 20
	A	R ¾"	R 1"
Dimensions in mm	H (mm)	229	229
	L (mm)	185	185
	I (mm)	110	110
	T (mm)	120	120

Duo DFR Hot 2314

Components / Order numbers

- ①
Pressure gauge
0-10 bar
2314.00.907
- ②
Pressure reducer cartridge
0315.20.910
- ③
Valve body
– 03 / 2006 2314.00.906
04 / 2006 – 2314.00.909
- ④
Filter
2340.00.900
- ⑤
O-Ring
2340.00.903
- ⑥
Filter cap
2314.00.905



Duo FR Hot 2314

Manual Backwash Filter



2

Field of application

The Duo FR is the starter model of the SYR filter programme. It is a filtering valve for potable and hot water installations, which is to be mounted with the fully rotatable integrated connection flange. The Duo FR

functions in any mounting position. Its very compact construction form also allows to protect single appliances (dish washers, water heaters etc..).

Design

The manual backwash filter Duo FR is available in the connection sizes DN 20 - DN 25.

The cascade-shaped filter insert is made of synthetic material.

Duo FR Hot 2314

Materials

The filter cap is made of shock-resistant synthetic material and the filter insert of synthetic material. The ring seals are made of asbestos-free fibre. All materials used are state-of-the-art. The synthetic and

elastomeric parts getting into contact with water designed for human consumption are approved by the German Public Health Office (KTW).

Installation

It is highly recommended to install filters to protect potable and hot water installations against corrosion. When used at the dome-

stic point of entry, the Duo FR filter should be installed directly behind the water metering device and be readily accessible.

Thoroughly flush the pipe prior to installation. Use filtered water from the first onset of the potable or hot water installation. The main axis of the filter has to be in vertical

position. Install the filter under consideration of the direction of flow (arrow on the body) in the pipework without applying stresses.

Technical specifications

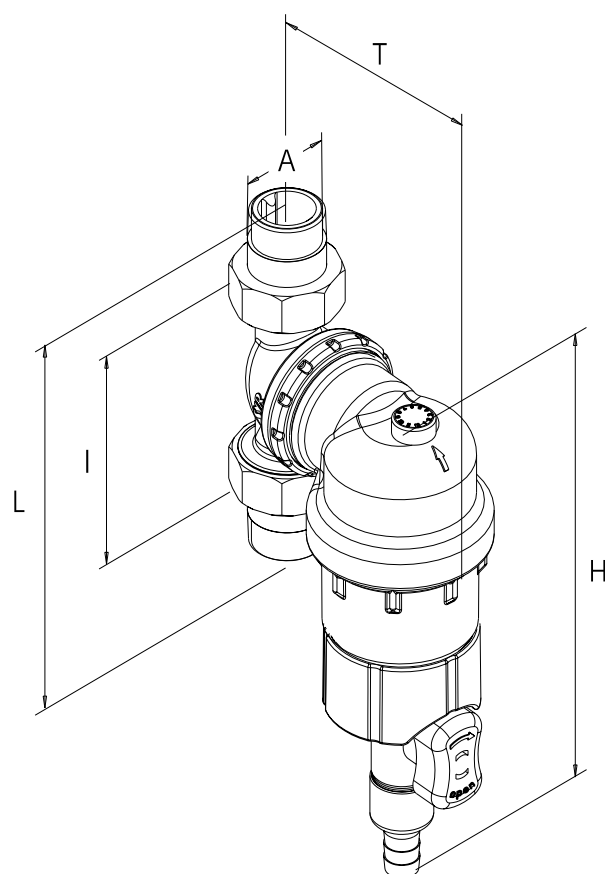
Operating pressure:	min. 2 bar, max. 16 bar
Operating temperature:	max. 80°C
Mounting position:	any, main axis of filter vertical
Fluid:	potable water
Mesh width:	lower: 90 µm, upper: 125 µm
Flow rate:	DN 20: 1.8 m³/h at 0.2 bar Δp
	DN 25: 2.3 m³/h at 0.2 bar Δp
	DN 20: 2.7 m³/h at 0.5 bar Δp
	DN 25: 3.6 m³/h at 0.5 bar Δp
Serial number:	2314 ...

Maintenance

A maintenance indicator positioned on top of the filter indicates when service is due. The filter should be backwashed every two months at the latest. Servicing the Duo FR requires no special tools. To service the filter, open the ball valve and turn the lower

part of the filter 2 to 3 times to the left or to right. Close the ball valve again. Even during backwashing, the device continues to supply filtered water into the potable water system.

Duo FR Hot 2314

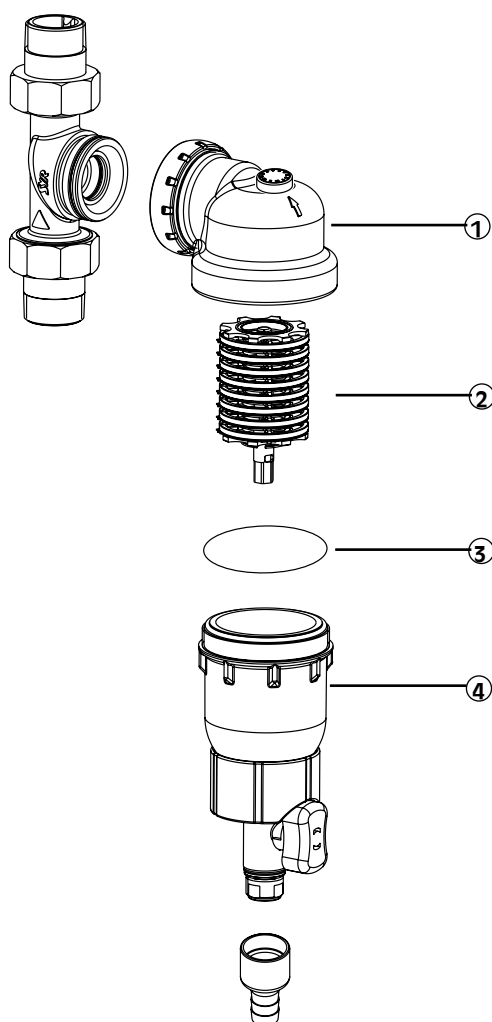


Nominal size		DN 20	DN 25
	A	R ¾"	R 1"
Dimensions in mm	H (mm)	229	229
	L (mm)	185	185
	I (mm)	110	110
	T (mm)	120	120

Duo FR Hot 2314

Components / Order numbers

- ①
Valve body
2314.00.906
- ②
Filter
2340.00.900
- ③
O-Ring
2314.00.903
- ④
Filter cap
2314.00.905



Ratio DFR 5315

Manual Backwash Filter with pressure reducing valve



2

Field of application

The Ratio DFR is a compact filter of the SYR filter programme. It is designed as filtering valve for potable water installations. The integrated pressure reducing valve protects

against excess supply pressure. Its very compact construction form also allows to protect single appliances (dish washers, water heaters, etc..).

Design

The manual backwash filter Ratio DFR is available in the connection sizes DN 15 - DN 25. The integral pressure reducing valve

protects the installation against overpressure and water hammers. The cascade-shaped filter insert is made of stainless steel.

Ratio DFR 5315

Materials

The filter cap is made of shock-resistant synthetic material and the filter insert of stainless steel. The ring seals are made of asbestos-free fibre. All materials used are state-of-the-art. The synthetic and ela-

stomeric parts getting into contact with water designed for human consumption are approved by the German Public Health Office (KTW).

Installation

It is highly recommended to install filters to protect potable water installations against corrosion. When used at the domestic point

of entry, the Ratio DFR filter should be installed directly behind the water metering device and be readily accessible.

Thoroughly flush the pipe prior to installation. Use filtered water from the first onset of the potable water installation. The main axis of the filter has to be in vertical posi-

on. Install the filter under consideration of the direction of flow (arrow on the body) in the pipework without applying stresses.

Technical specifications

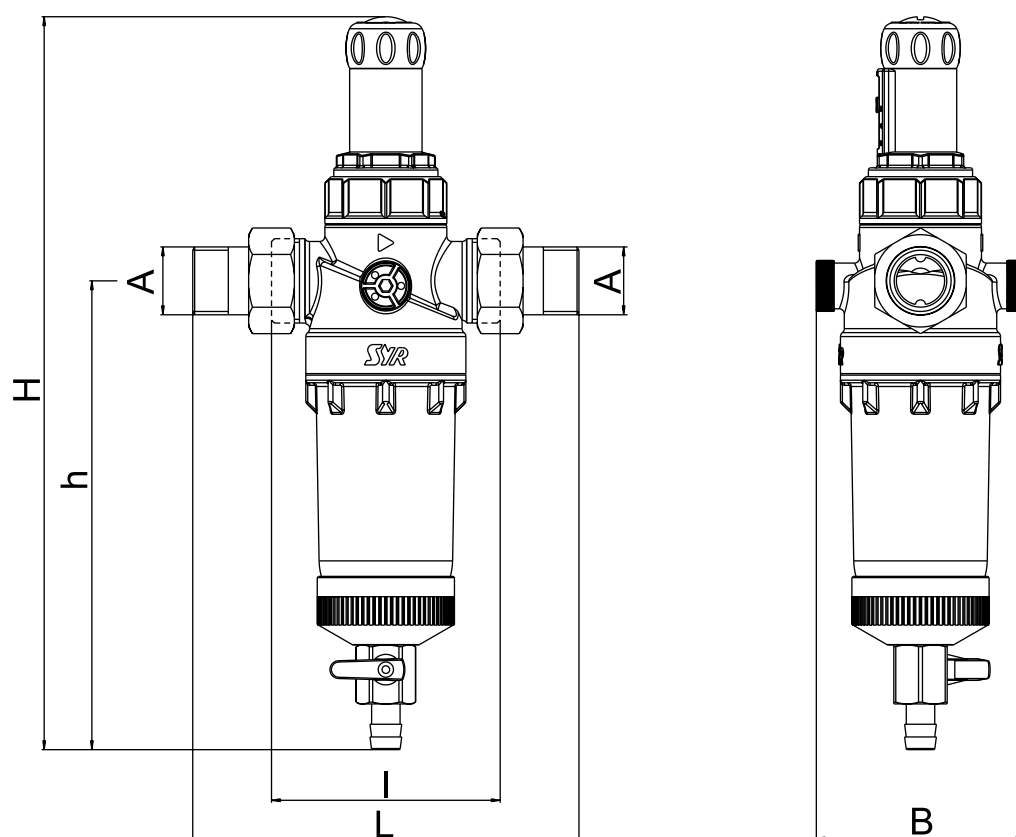
Operating pressure:	min. 2 bar, max. 16 bar
Operating temperature:	max. 30 °C
Mounting position:	Main axis vertical
Fluid:	potable water
Mesh width:	90 µm
Flow rate:	DN 15: 1,3 m³/h at 1,1 bar Δp
	DN 20: 2,3 m³/h at 1,1 bar Δp
	DN 25: 2,3 m³/h at 1,1 bar Δp
Serial number:	5315 ...

Maintenance

The filter should be backwashed every 6 months at the latest. Servicing the Ratio DFR only requires a service-key. To backwash the filter, open the ball valve and turn the lower part of the filter 2 to 3 times

to the left or to right. Close the ball valve again. Even during backwashing, the device continues to supply filtered water into the potable water system.

Ratio DFR 5315



Nominal size		DN 15	DN 20	DN 25
	A	G 1/2"	G 3/4"	G 1"
Dimensions in mm	H (mm)	288,5	288,5	288,5
	h (mm)	184,5	184,5	184,5
	L (mm)	136	152	170
	I (mm)	80	90	100
	B (mm)	82	82	82

Ratio DFR 5315

Components / Order numbers

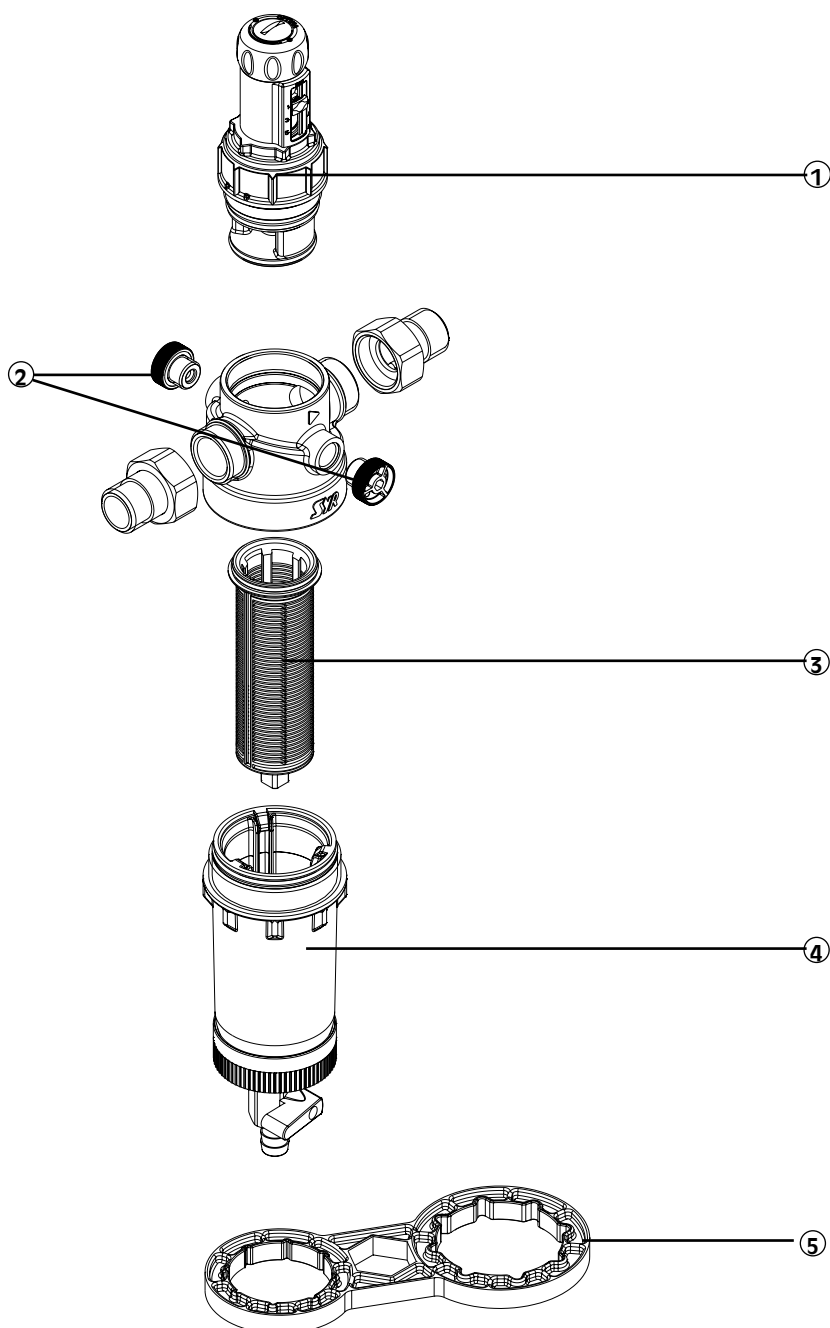
①
Pressure reducer cartridge
5315.00.900

②
Plug
0828.08.000

③
Filter
5315.00.903

④
Filter cap complete
5315.00.904

⑤
Service key
5315.00.902



Ratio FR 5315

Manual Backwash Filter



2

Field of application

The Ratio FR is a compact filter of the SYR filter programme. It is designed as filtering valve for potable water installations. Its very

compact construction form also allows to protect single appliances (dish washers, water heaters, etc..).

Design

The manual backwash filter Ratio FR is available in the connection sizes DN 15 - DN

25. The cascade-shaped filter insert is made of stainless steel.

Ratio FR 5315

Materials

The filter cap is made of shock-resistant synthetic material and the filter insert of stainless steel. The ring seals are made of asbestos-free fibre. All materials used are state-of-the-art. The synthetic and ela-

stomeric parts getting into contact with water designed for human consumption are approved by the German Public Health Office (KTW).

Installation

It is highly recommended to install filters to protect potable water installations against corrosion. When used at the domestic

point of entry, the Ratio FR filter should be installed directly behind the water metering device and be readily accessible.

Thoroughly flush the pipe prior to installation. Use filtered water from the first onset of the potable water installation. The main axis of the filter has to be in vertical posi-

on. Install the filter under consideration of the direction of flow (arrow on the body) in the pipework without applying stresses.

Technical specifications

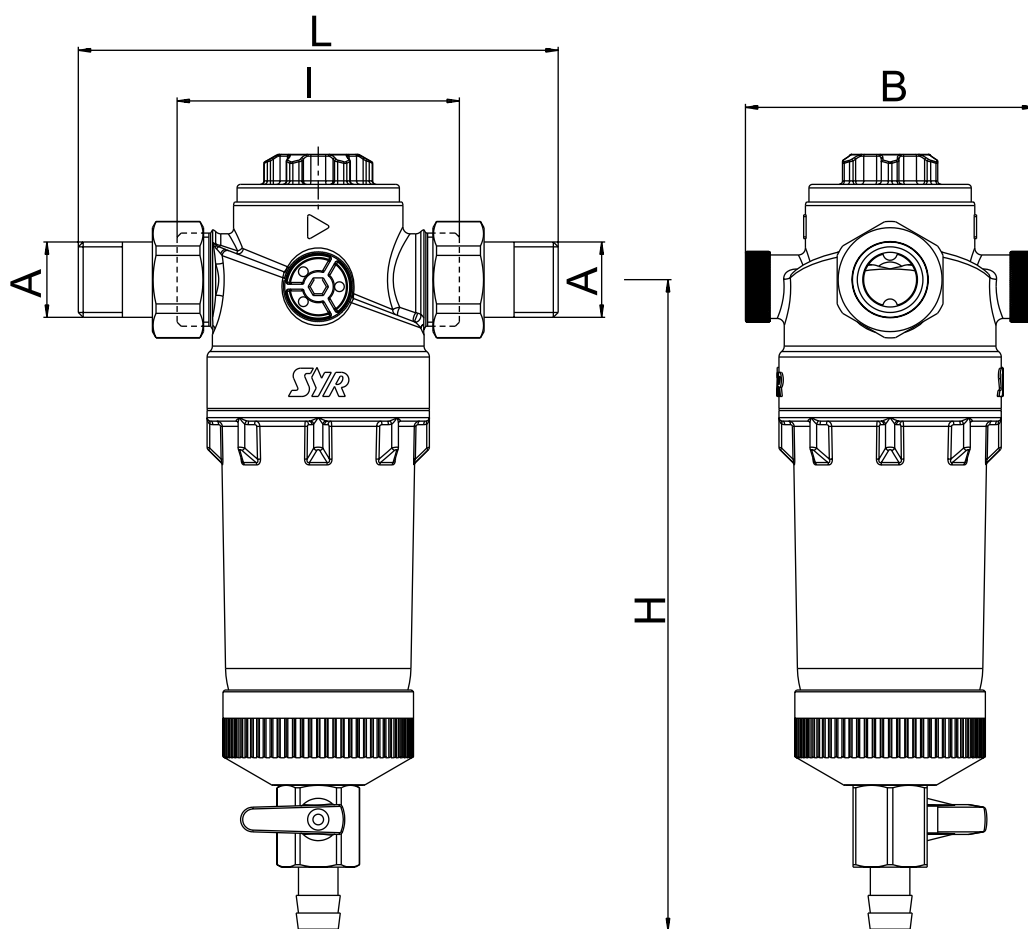
Operating pressure:	min. 2 bar, max. 16 bar
Operating temperature:	max. 30 °C
Mounting position:	Main axis vertical
Fluid:	potable water
Mesh width:	90 µm
Flow rate:	DN 15: 2,0 m³/h at 0,2 bar Δp
	DN 20: 2,3 m³/h at 0,2 bar Δp
	DN 25: 3,0 m³/h at 0,2 bar Δp
	DN 15: 3,4 m³/h at 0,5 bar Δp
	DN 20: 4,4 m³/h at 0,5 bar Δp
	DN 25: 5,2 m³/h at 0,5 bar Δp
Serial number:	5315 ...

Maintenance

The filter should be backwashed every 6 months at the latest. Servicing the Ratio FR only requires a service-key. To backwash the filter, open the ball valve and turn the lower part of the filter 2 to 3 times to the left or

to right. Close the ball valve again. Even during backwashing, the device continues to supply filtered water into the potable water system.

Ratio FR 5315

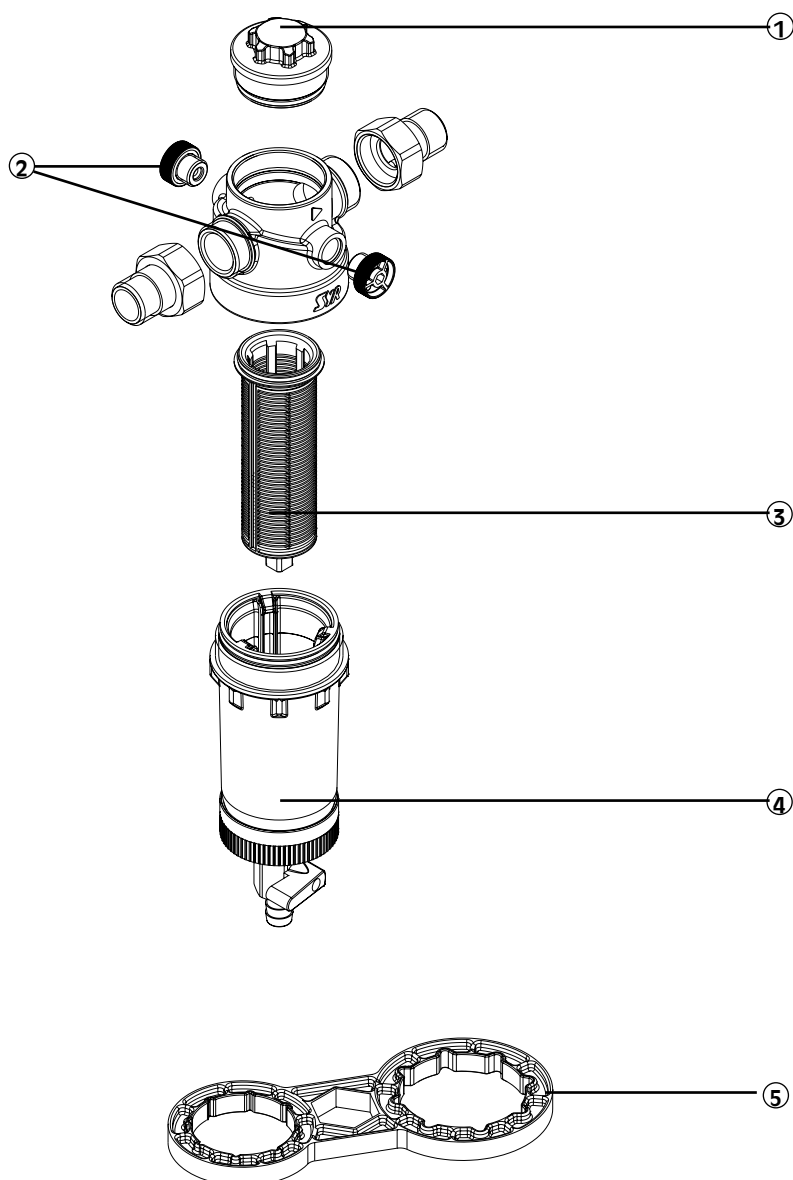


Nominal size		DN 15	DN 20	DN 25
	A	G 1/2"	G 3/4"	G 1"
Dimensions in mm	H (mm)	184,5	184,5	184,5
	L (mm)	136	152	170
	I (mm)	80	90	100
	B (mm)	82	82	82

Ratio FR 5315

Components / Order numbers

- ①
Plug
5315.00.901
- ②
Gauge-Plug
0828.08.000
- ③
Filter
5315.00.903
- ④
Filter cap complete
5315.00.904
- ⑤
Service key
5315.00.902



Ratio DFR HOT 5315

Manual Backwash Filter with pressure reducing valve



2

Field of application

The Ratio DFR HOT is a compact filter of the SYR filter programme. It is designed as filtering valve for potable water installations. The integrated pressure reducing valve

protects against excess supply pressure. Its very compact construction form also allows to protect single appliances (dish washers, water heaters, etc..).

Design

The manual backwash filter Ratio DFR HOT is available in the connection sizes DN 15 - DN 25. The integral pressure reducing valve

protects the installation against overpressure and water hammers. The cascade-shaped filter insert is made of stainless steel.

Ratio DFR HOT 5315

Materials

The filter cap is made of shock-resistant synthetic material and the filter insert of stainless steel. The ring seals are made of asbestos-free fibre. All materials used are state-of-the-art. The synthetic and ela-

stomeric parts getting into contact with water designed for human consumption are approved by the German Public Health Office (KTW).

Installation

It is highly recommended to install filters to protect potable water installations against corrosion. When used at the domestic point

of entry, the Ratio DFR HOT filter should be installed directly behind the water metering device and be readily accessible.

Thoroughly flush the pipe prior to installation. Use filtered water from the first onset of the potable water installation. The main axis of the filter has to be in vertical posi-

on. Install the filter under consideration of the direction of flow (arrow on the body) in the pipework without applying stresses.

Technical specifications

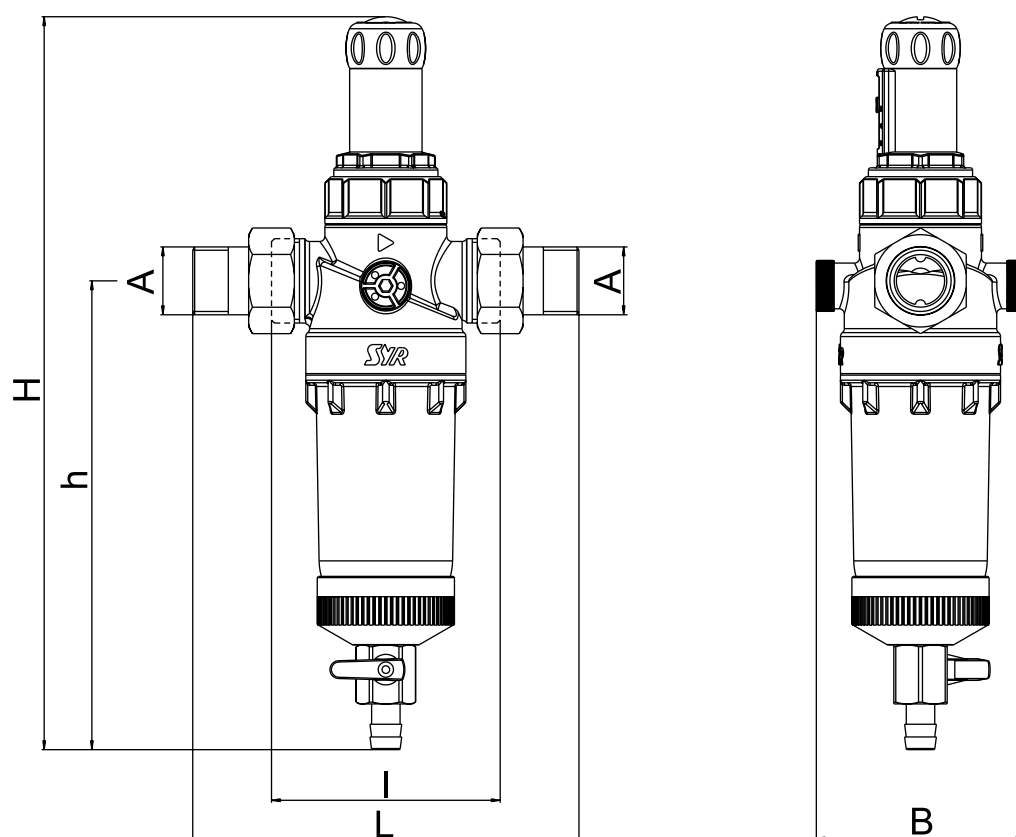
Operating pressure:	min. 2 bar, max. 16 bar
Operating temperature:	max. 80 °C
Mounting position:	Main axis vertical
Fluid:	potable water
Mesh width:	90 µm
Flow rate:	DN 15: 1,3 m³/h at 1,1 bar Δp
	DN 20: 2,3 m³/h at 1,1 bar Δp
	DN 25: 2,3 m³/h at 1,1 bar Δp
Serial number:	5315 ...

Maintenance

The filter should be backwashed every 6 months at the latest. Servicing the Ratio DFR only requires a service-key. To backwash the filter, open the ball valve and turn the lower part of the filter 2 to 3 times

to the left or to right. Close the ball valve again. Even during backwashing, the device continues to supply filtered water into the potable water system.

Ratio DFR HOT 5315



Nominal size		DN 15	DN 20	DN 25
	A	G ½"	G ¾"	G 1"
Dimensions in mm	H (mm)	288,5	288,5	288,5
	h (mm)	184,5	184,5	184,5
	L (mm)	136	152	170
	I (mm)	80	90	100
	B (mm)	82	82	82

Ratio DFR HOT 5315

Components / Order numbers

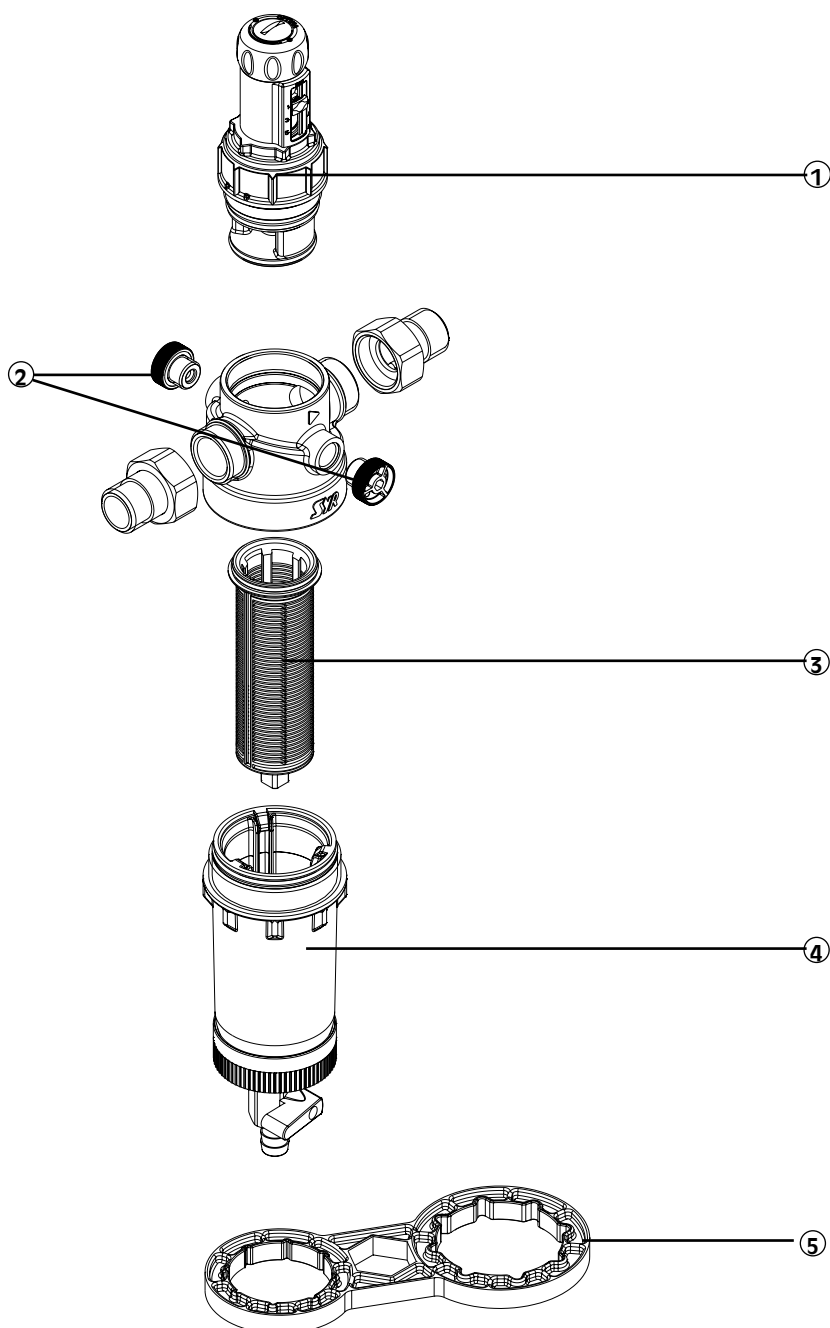
①
Pressure reducer cartridge
5315.00.905

②
Plug
0828.08.000

③
Filter
5315.00.903

④
Filter cap complete
5315.00.908

⑤
Service key
5315.00.902



Ratio FR HOT 5315

Manual Backwash Filter



2

Field of application

The Ratio FR HOT is a compact filter of the SYR filter programme. It is designed as filtering valve for potable water installations. Its

very compact construction form also allows to protect single appliances (dish washers, water heaters, etc..).

Design

The manual backwash filter Ratio FR HOT is available in the connection sizes DN 15 - DN

25. The cascade-shaped filter insert is made of stainless steel.

Ratio FR HOT 5315

Materials

The filter cap is made of shock-resistant synthetic material and the filter insert of stainless steel. The ring seals are made of asbestos-free fibre. All materials used are state-of-the-art. The synthetic and ela-

stomeric parts getting into contact with water designed for human consumption are approved by the German Public Health Office (KTW).

Installation

It is highly recommended to install filters to protect potable water installations against corrosion. When used at the domestic point

of entry, the Ratio FR HOT filter should be installed directly behind the water metering device and be readily accessible.

Thoroughly flush the pipe prior to installation. Use filtered water from the first onset of the potable water installation. The main axis of the filter has to be in vertical posi-

on. Install the filter under consideration of the direction of flow (arrow on the body) in the pipework without applying stresses.

Technical specifications

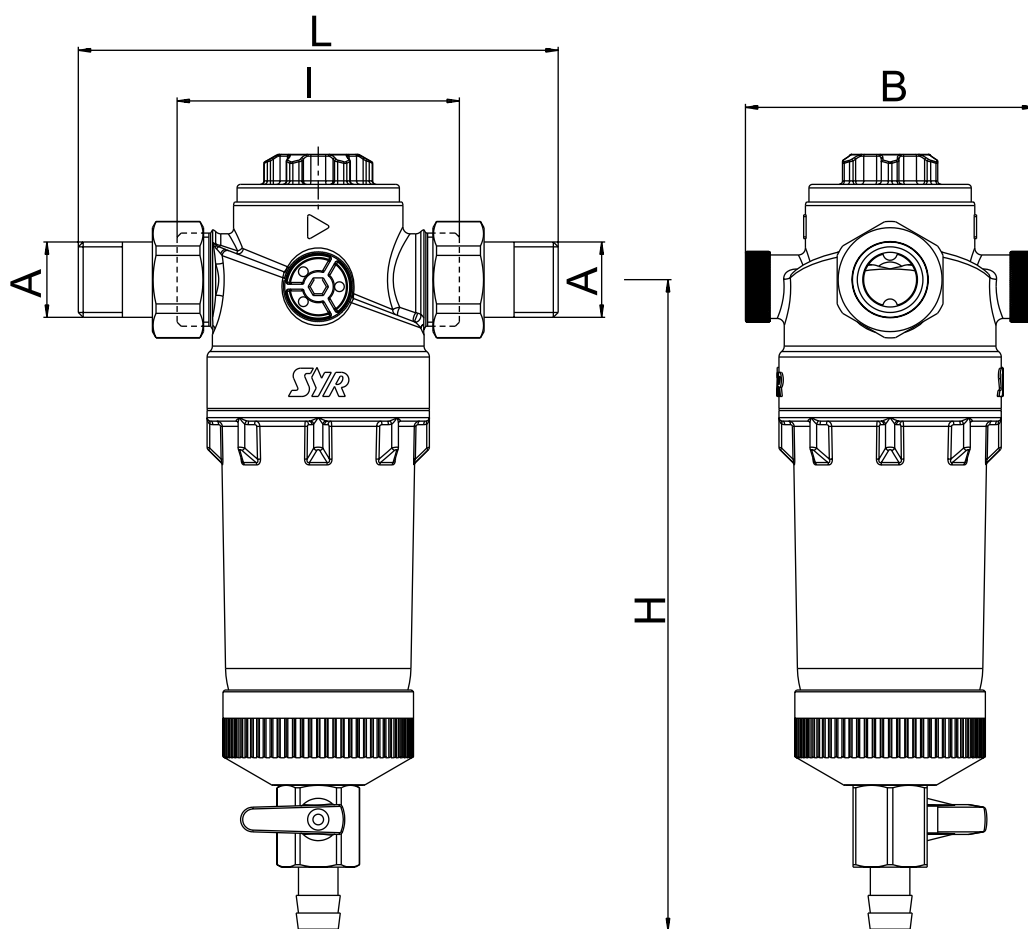
Operating pressure:	min. 2 bar, max. 16 bar
Operating temperature:	max. 80 °C
Mounting position:	Main axis vertical
Fluid:	potable water
Mesh width:	90 µm
Flow rate:	DN 15: 2,0 m³/h at 0,2 bar Δp
	DN 20: 2,3 m³/h at 0,2 bar Δp
	DN 25: 3,0 m³/h at 0,2 bar Δp
	DN 15: 3,4 m³/h at 0,5 bar Δp
	DN 20: 4,4 m³/h at 0,5 bar Δp
	DN 25: 5,2 m³/h at 0,5 bar Δp
Serial number:	5315 ...

Maintenance

The filter should be backwashed every two months at the latest. Servicing the Ratio FR only requires a service-key. To backwash the filter, open the ball valve and turn the lower part of the filter 2 to 3 times to the left or

to right. Close the ball valve again. Even during backwashing, the device continues to supply filtered water into the potable water system.

Ratio FR HOT 5315

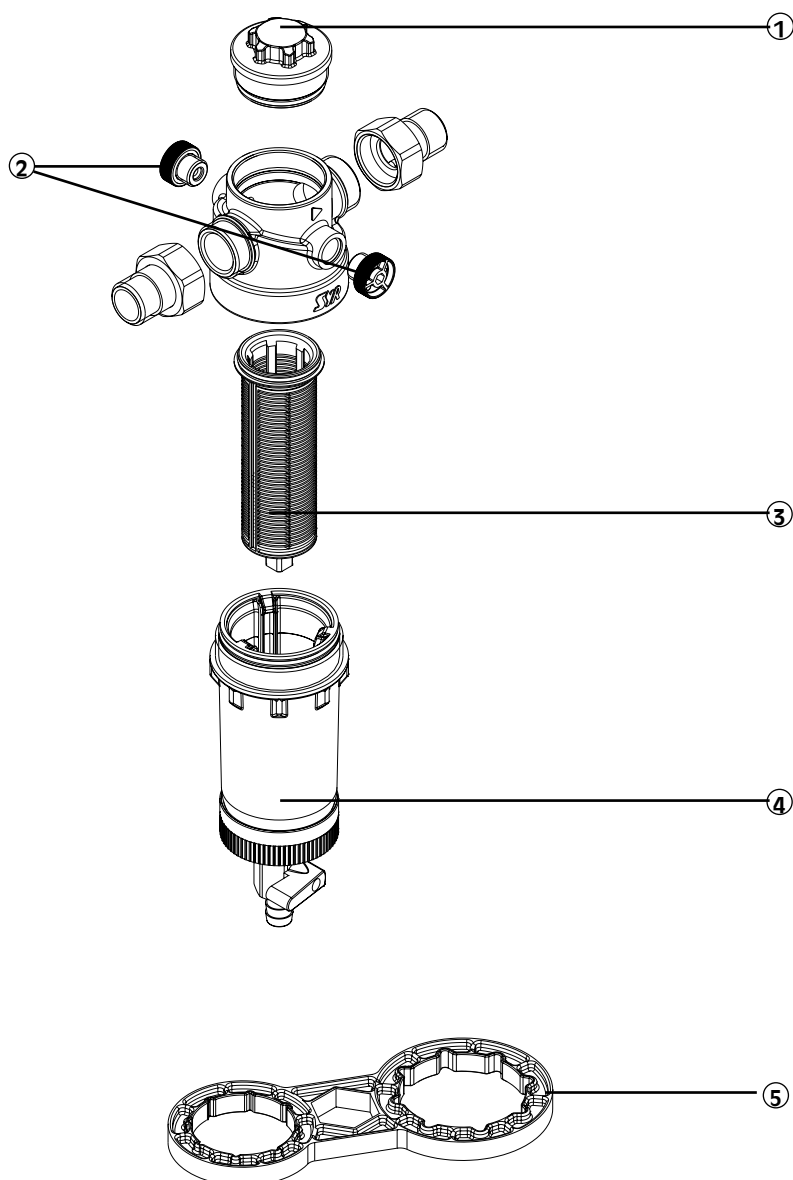


Nominal size		DN 15	DN 20	DN 25
	A	G 1/2"	G 3/4"	G 1"
Dimensions in mm	H (mm)	184,5	184,5	184,5
	L (mm)	136	152	170
	I (mm)	80	90	100
	B (mm)	82	82	82

Ratio FR HOT 5315

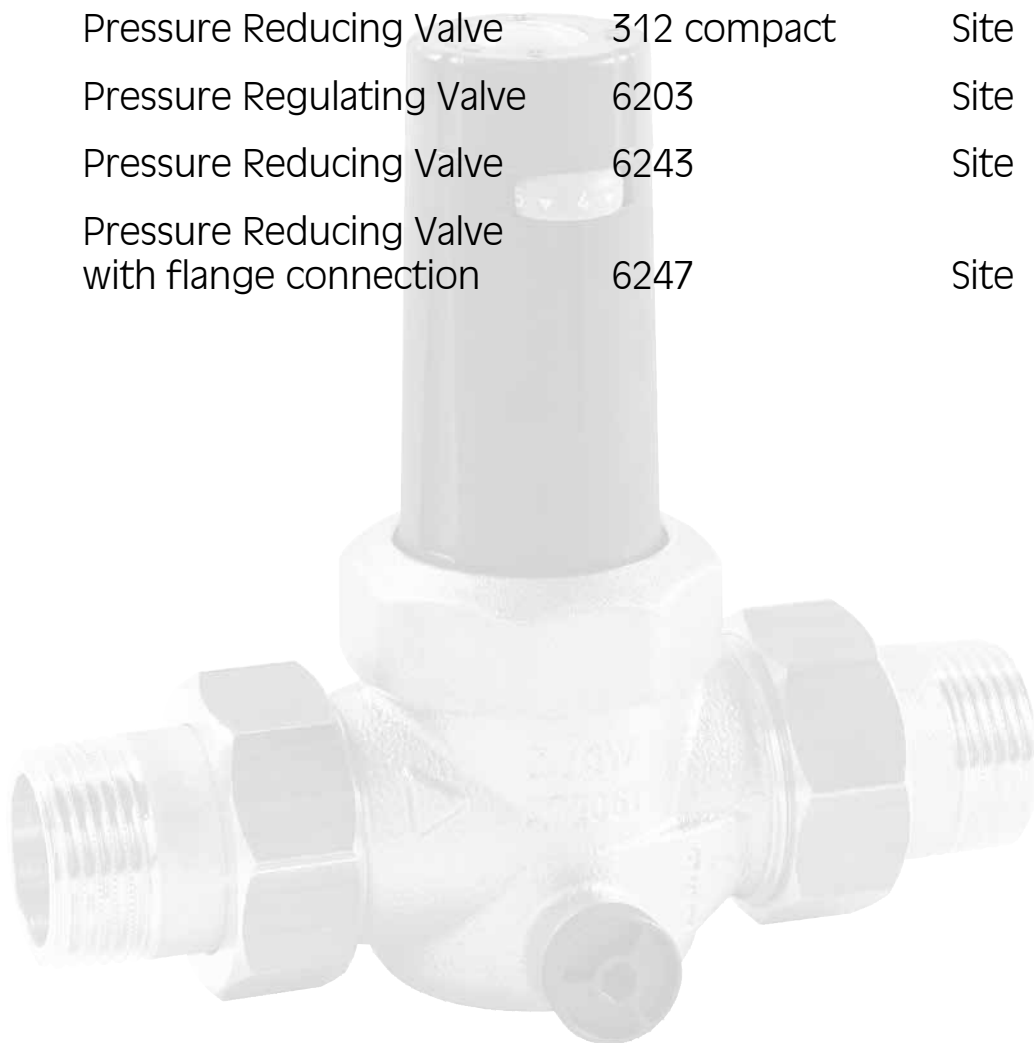
Components / Order numbers

- ①
Plug
5315.00.901
- ②
Gauge-Plug
0828.08.000
- ③
Filter
5315.00.903
- ④
Filter cap complete
5315.00.906
- ⑤
Service key
5315.00.902



Pressure regulation

Technical information		Site 158
Pressure Reducing Valve	315	Site 163
Pressure Reducing Valve	315 AB	Site 167
Pressure reducing valve	315.2	Site 171
Pressure Reducing Valve	312 Euro plus	Site 175
Pressure Reducing Valve	312 compact	Site 179
Pressure Regulating Valve	6203	Site 183
Pressure Reducing Valve	6243	Site 187
Pressure Reducing Valve with flange connection	6247	Site 191



Pressure regulation

Technical information

Definition of pressure reducing valves

Pressure reducing valves reduce the inlet pressure to the admissible outlet pressure and maintain it within the admissible limits independently of the flow rate. Irregular or fluctuating inlet pressures have no considerable influence on the outlet pressure and the flow rate, as long as they are at least 1

bar higher than the set outlet pressure. Pressure reducing valves are designed for an inlet service pressure of 16 bar (special version 25 bar). The outlet pressure has an adjustment range between 1.5 and 6 bar (special settings up to 8 bar).

Field of application

Pressure reducing valves are usually required when the static pressure exceeds 5 bar at the draw-off points (even temporary). They limit the service overpressure in the pipes, when the highest possible static pressure at any point of the potable water system can reach or exceeds the highest admissible service overpressure of the installation, or when appliances or devices are connected that can only be submitted to a minor pressure. In installations with downstream diaphragm pressure relief valves, for instance potable water heaters, the set outlet pressure of the pressure reducing valve shall not exceed 80% of the pressure relief valves. Example: when the response pressure of the pressure relief valve amounts for instance to 6 bar, the set outlet pressure of the pressure reducing valve shall not exceed 4.8 bar.



SYR-pressure reducing valve 315

Pressure reducing valves are also necessary for the supply of high-rises with a single pressure increasing pump, when several pressure zones are required. In this case, pressure reducing valves are installed either in the ascending pipe of each pressure zone or in the floor pipes. The special design of the pressure reducing valve allows considerable water saving. The formula on the left allows to calculate the proportional saving with different water pressures.

Example for calculation of water consumption:

$$V = p \cdot k_v \cdot 1000$$

$$V = \text{Water consumption (l/h)}$$

$$p = \text{Service pressure upstream of draw-off point (bar)}$$

$$k_v = \text{Valve coefficient} = 1$$

$$\begin{array}{ll} p = 6 \text{ bar} & p = 4 \text{ bar} \\ V = 2449 \text{ l/h} & V = 2000 \text{ l/h} \end{array}$$

With a pressure of 4 bar, about 18% less water is required than with 6 bar!

Pressure regulation

Technical information

Installation

Pressure regulating valves are usually installed in the cold water pipe behind the water metering system and downstream of the filter. For pressure setting and maintenance, isolating valves have to be installed upstream and downstream of the pressure reducing valve. The SYR pressure reducing valves fulfil the highest acoustic requirements in Europe, so that they cause no noise annoyance even in domestic installations in which noise could possibly be

generated in living rooms, sleeping rooms and workrooms.

To exclude flow turbulences, a straight line of at least five times the nominal size should be integrated at the outlet of the pressure reducing valve to allow stabilisation. If such a straight line is not installed, it can sometimes result in extreme noise, as the flow turbulences can retroactively generate so-called sympathetic vibrations in the pressure reducing system.

Prevention of pressure bridges

A pressure bridge is an undesired hydraulic connection between a pipe with higher pressure and a part of the system with reduced pressure.

The most common pressure bridge is the connection between non-reduced cold water pressure and reduced hot water pressure in case of non- central location of the pressure reducing valve upstream of the potable water heater. Within the potable

water installation there can be a connection between a hot and a cold water line, for instance with a thermal mixing valve or other draw-off valves (for example single control valves, etc.).

To prevent cold water from getting in the hot water pipe, for instance with thermostatical mixing valves, the latter are equipped on both inlets with check valves.

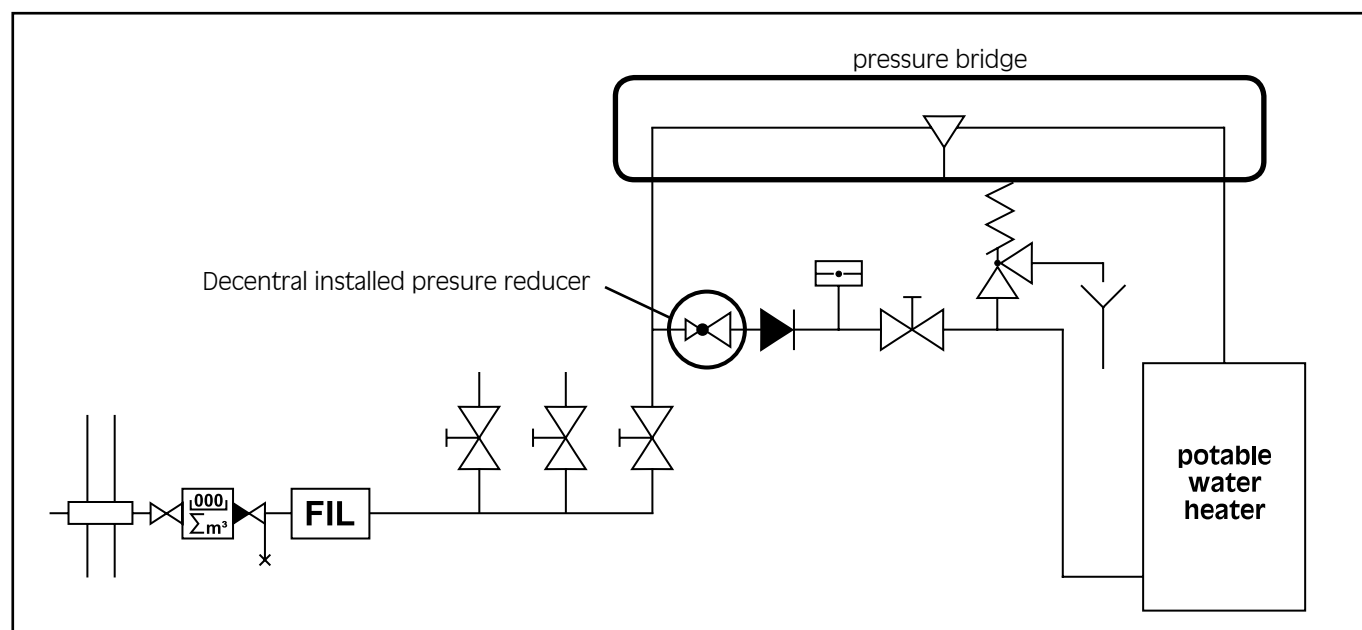


Fig. 1: Pressure bridge from cold water to hot water

Pressure regulation

Technical information

When the check valve integrated in the inlet of the hot water connection is untight, the cold water pressure can spread to the hot water lines. When the cold water pressure exceeds the response pressure of the pressure relief valve integrated upstream of the potable water heater, the diaphragm pressure relief valve drips constantly. This possibly occurs only at night, when the pressure rises in the supply network due to low consumption. However, the pressure gauge on the pressure reducer upstream of the potable water heater usually indicates the increased pressure; indeed, it is very rare that even a correctly installed check valve behind the pressure reducer closes tightly. However, the pressure reducing valve does not let any pressure through in the reverse flow direction, as long as the outlet pressure exceeds the set downstream pressure; as a result, the pressure reducing valve works like a check valve that closes absolutely tight.

When the pressure reducing valve is centrally installed directly behind the water meter, the phenomenon mentioned above cannot occur, as the cold and hot water systems are submitted to the same pressure. However, when a draw-off point is installed upstream of the pressure reducing valve, for a garage or garden, the same phenomenon (backflow of heated water in the cold water system) can occur even with central siting of the pressure reducing valve, when a connection is made for instance between a mixing valve and the potable water heater. Please note that with a centrally located pressure reducing valve the set downstream pressure can rise up to the response pressure of the diaphragm pressure relief valve due to the expansion of hot water. As a result, this pressure increase can take place even with a centrally located pressure reducing valve, when the pressure bridge described above occurs in reverse direction.

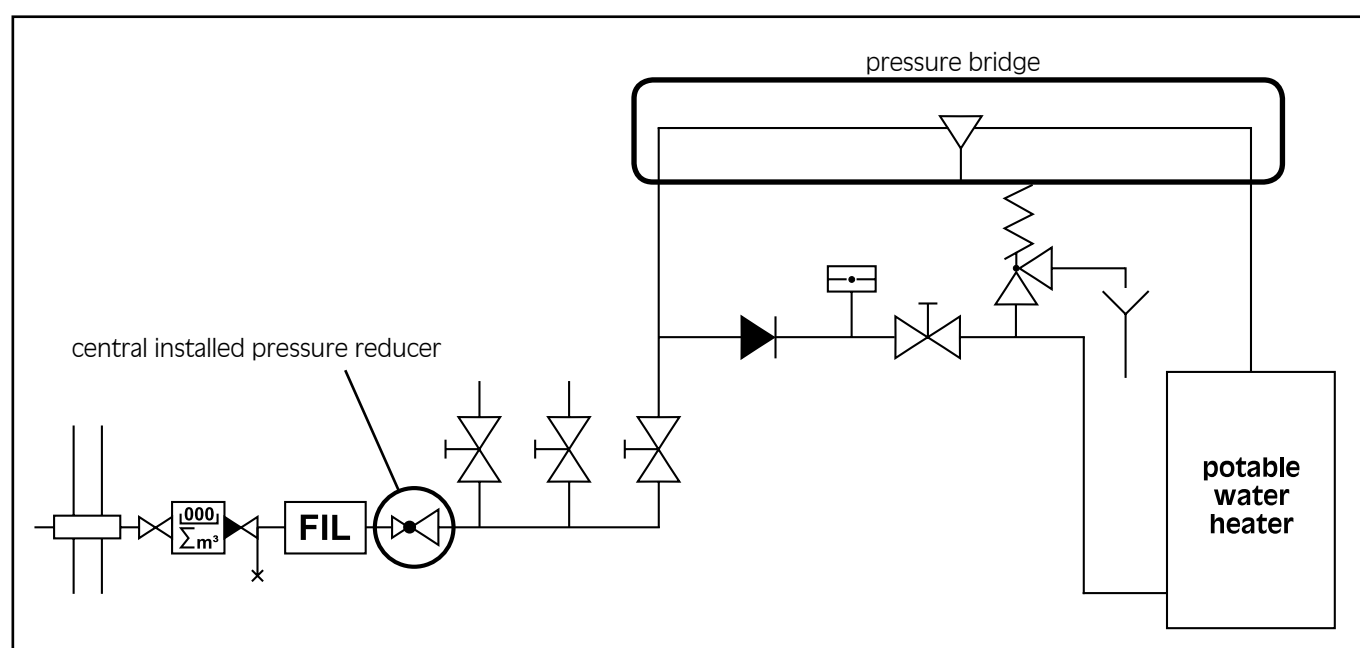


Fig. 2: Pressure bridge from hot water to cold water when the potable water heater heats up

Pressure regulation

Technical information

Selection of nominal size

Pressure reducing valves should not be dimensioned according to the nominal size of the pipes. The peak flow rate occurring at the point of use determines the dimension. Use the values in the tables 1a and 1b

to select the nominal size and ensure that the real maximum flow rate is as close as possible to the values in the tables without exceeding them.

Table 1a

Nominal sizes of pressure reducing valves for installations fulfilling the highest European acoustic requirements (for instance for residential buildings).

Nominal size DN	Peak flow rate	
	l/s	m³/h
15	0.5	1.8
20	0.5	1.9
25	1.3	4.7
32	2.0	7.2
40	2.3	8.3
50	3.6	13.0

Table 1b

Nominal sizes of pressure reducing valves for installations with lower acoustic requirements (for instance for industrial and commercial applications)

Nominal size DN	Peak flow rate	
	l/s	m³/h
15	0.5	1.8
20	0.9	3.3
25	1.5	5.4
32	2.4	8.6
40	3.8	13.7
50	5.9	21.2

The pressure loss occurring at the calculated peak flow rate and the selection of the correct setting pressure form further de-

cisive criteria for the optimal function and safety of a pressure reducing valve.

Pressure regulation

Technical information

European product standard EN 1567

The new European standard EN 1567 determines dimensions, materials, test requirements and test methods and forms a compromise worked out over many years by the member states. As a result, some national product requirements could not

be integrated in the standard, so that the manometer connecting piece and the integral strainer are no longer compulsory. However, we recommend to include these important function units for best functionality and safety.

Pressure Reducing Valve 315

made of gunmetal with outlet pressure indicator



Bild 1

Field of application

The pressure reducing valve type 315 is predominantly used in the drinking water supply and fulfils the requirements of the European Standard EN 1567. Under consideration of its specifications it also protects industrial and commercial installations against excess supply pressure. The pressure reducing valve type 315 protects water-

supplying installations; it compensates and optimises upstream pressure variations and therefore it effectively prevents damages that can be caused by pressure increase. Furthermore, it economically and ecologically reduces the water consumption. The type 315 meets the highest European acoustic protection requirements.

Design

The pressure reducing valve type 315 is equipped with an outlet pressure indicator (see figure 1) that displays the set pressure. As a result, an additional pressure gauge is not necessary. The spring cap is rotatable by 360°, so that the pressure indicator is always visible. The pressure reducing valve type 315 complies with the European Standard EN 1567 and fulfils the highest acoustic protection requirements up to DN 32. The

pressure reducing valve type 315 is equipped with a spring-relieved single-seat valve and a coaxially positioned strainer (mesh width: 0.25 mm). The operational parts of the system are placed in a cartridge; this complete unit can be exchanged without disassembling the whole valve and without using special tools; the outlet pressure setting remains unchanged. The special cartridge design allows any mounting position.

Pressure Reducing Valve 315

Materials

The materials used for the SYR pressure reducing valve type 315 comply with the high requirements of European Standards. All synthetic parts getting in contact with water are approved by the German Public Health Office (KTW). The corrosion resistance in particular is guaranteed for all used

materials. The body is made of a low-lead dezincification resistant gunmetal alloy. All rubber parts are made of ageing resistant elastomer. The diaphragm is reinforced and the high resistance of the screw cap is due to the glass fibre reinforced synthetic material.

Installation

The connection size depends on the required flow rate capacity. When choosing a pressure reducing valve, it has to be taken into consideration that a pressure drop of 1.3 bar occurs at maximum flow rate. This is the difference between the static and dynamic pressure on the outlet of the pressure reducing valve. When a defined flow rate is

required for a determined draw-off point, the setting of the pressure reducer has to be calculated beforehand. A pressure reducing valve works without auxiliary energy with very little adjustment forces. Therefore it reacts sensitively to impurities. A filter installed upstream effectively protects the pressure reducing valve type 315.

Thoroughly rinse the pipe prior to installation. Install the SYR pressure reducing valve type 315 in the pipe under consideration of the flow direction (see arrow on the body)

without applying stresses. Afterwards, turn the head part without loosening the captive nut, so that the green outlet pressure indicator becomes visible.

Technical data

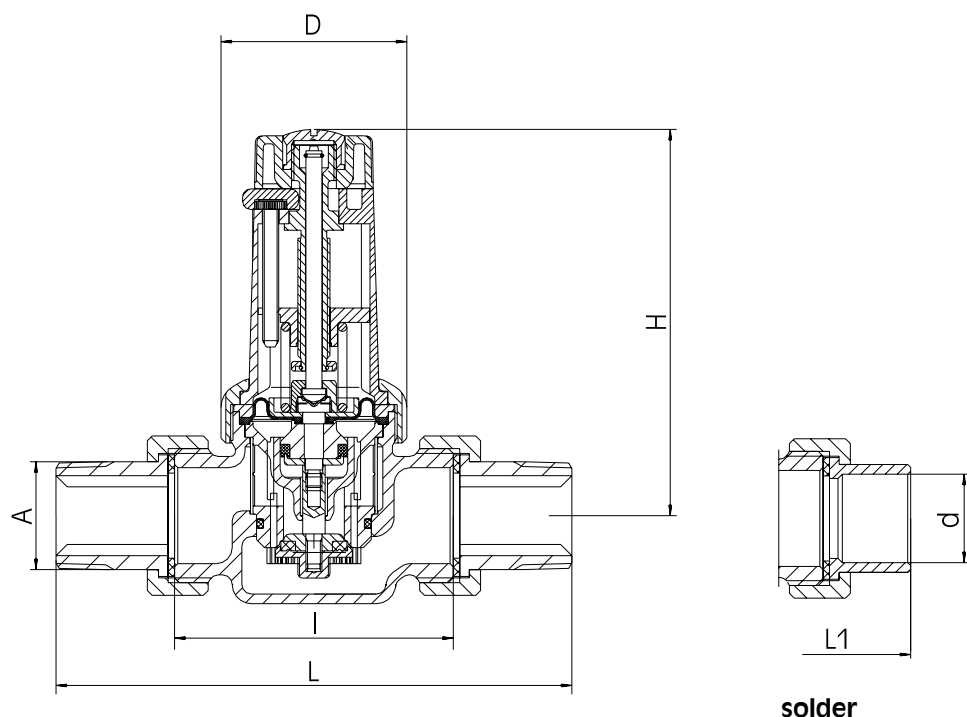
Inlet pressure:	max. 25 bar
Outlet pressure:	1.5 - 6 bar (factory-set to 4 bar)
Operating temperature:	max. 30 °C
Mounting position:	any
Fluid:	Water, compressed air, neutral non-adhesive fluids, neutral gases
Acoustic protection approval number:	DN 15-25 P-IX 7635/I, DN 32 P-IX 7729/I
DVGW-number:	NW-6330AT2061
Serial number:	0315...

Maintenance

The pressure has to be set at static pressure. For doing so, loosen the safety screw in the adjustment handle. The requested pressure is set with a flick of the wrist. With the well-contrived combined adjustment-display handle, the pressure reducer not only ensures an optimal pressure but also allows to read the set pressure without an additional pressure gauge. To reduce the outlet pressure, turn the adjustment handle in the direction of the minus symbol (–), to

increase it, turn the adjustment handle in the direction of the plus symbol (+). It is recommended to carry out maintenance works on a regular basis to ensure a durable function. The perfected design of the cartridge system allows to disassemble the operational part of the pressure reducing valve without having to disassemble the whole valve and without using special tools.

Pressure Reducing Valve 315



solder

Nominal size		DN 15	DN 20	DN 25	DN 32	DN 40	DN 50
Dimensions in mm	A	G ½	G ¾	G 1	G 1 ¼	G 1 ½	G 2
	L (mm)	132	143	161	190	220	255
	L1 (mm)	106	117	135	170	205	240
	I (mm)	75	75	87	105	130	140
	H (mm)	123	123	121	176	176	180
	D (mm)	58	58	58	SW 75	SW 75	SW 75
Flow rate capacity in m³/h (at 2m/s)	Residential buildings according to DIN EN 1567	1.3	2.3	3.6	5.8	9.1	14
Flow rate capacity in m³/h (at 3m/s)	industrial / commercial installations	1.8	3.3	5.4	8.6	13.7	21.2

Accessory

Manometer: type 11

Pressure Reducing Valve 315

Components /order numbers

①

Pressure reducer cartridge with outlet pressure indicator

DN 15+20	0315.20.904
DN 25	0315.25.904
DN 32-50	0315.32.902

②

Threaded union and seal

DN 15	0812.15.900
DN 20	0812.20.900
DN 25	0812.25.900
DN 32	0812.32.900
DN 40	0812.40.900
DN 50	0812.50.900

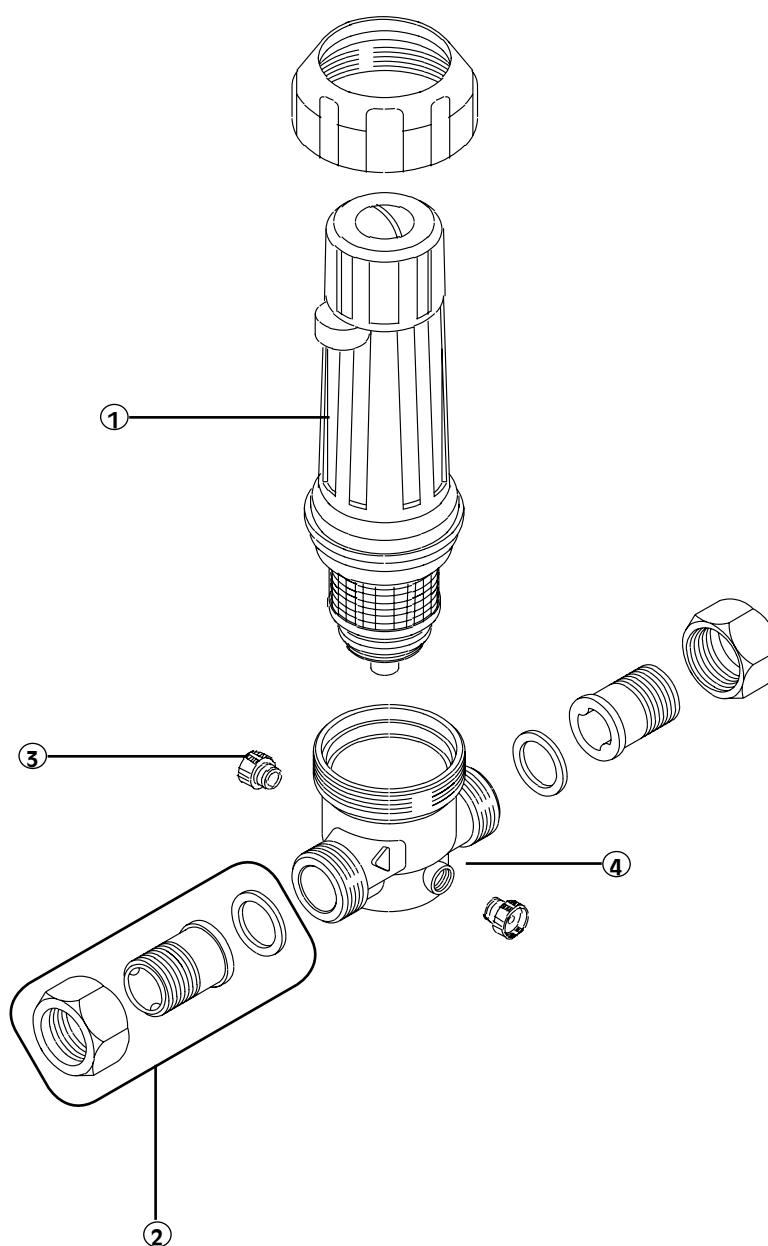
③

Manometer plug

0828.08.000

④

Body



Pressure Reducing Valve 315 AB

made of gunmetal with outlet pressure indicator



Bild 1

Field of application

The pressure reducing valve type 315 AB is predominantly used in the drinking water supply and fulfils the requirements of the European Standard EN 1567. Under consideration of its specifications it also protects industrial and commercial installations against excess supply pressure. The pressure reducing valve type 315 AB protects water-

supplying installations; it compensates and optimises upstream pressure variations and therefore it effectively prevents damages that can be caused by pressure increase. Furthermore, it economically and ecologically reduces the water consumption. The type 315 AB meets the highest European acoustic protection requirements.

Design

The pressure reducing valve type 315 AB is equipped with an outlet pressure indicator (see figure 1) that displays the set pressure. As a result, an additional pressure gauge is not necessary. The spring cap is rotatable by 360°, so that the pressure indicator is always visible. The pressure reducing valve type 315 complies with the European Standard EN 1567 and fulfils the highest acoustic protection requirements up to DN 32. The pressure-

reducing valve type 315 AB is equipped with a spring-relieved single-seat valve and a coaxially positioned strainer (mesh width: 0.25 mm). The operational parts of the system are placed in a cartridge; this complete unit can be exchanged without disassembling the whole valve and without using special tools; the outlet pressure setting remains unchanged. The special cartridge design allows any mounting position.

Pressure Reducing Valve 315 AB

Materials

The materials used for the SYR pressure reducing valve type 315 AB comply with the high requirements of European Standards. All synthetic parts getting in contact with water are approved by the German Public Health Office (KTW). The corrosion resistance in particular is guaranteed for all used

materials. The body is made of a low-lead dezincification resistant gunmetal alloy. All rubber parts are made of ageing resistant elastomer. The diaphragm is reinforced and the high resistance of the screw cap is due to the glass fibre reinforced synthetic material.

Installation

The connection size depends on the required flow rate capacity. When choosing a pressure reducing valve, it has to be taken into consideration that a pressure drop of 1.3 bar occurs at maximum flow rate. This is the difference between the static and dynamic pressure on the outlet of the pressure reducing valve. When a defined flow rate is

required for a determined draw-off point, the setting of the pressure reducer has to be calculated beforehand. A pressure reducing valve works without auxiliary energy with very little adjustment forces. Therefore it reacts sensitively to impurities. A filter installed upstream effectively protects the pressure reducing valve type 315 AB.

Thoroughly rinse the pipe prior to installation. Install the SYR pressure reducing valve type 315 AB in the pipe under consideration of the flow direction (see arrow on the

body) without applying stresses. Afterwards, turn the head part without loosening the captive nut, so that the green outlet pressure indicator becomes visible.

Technical data

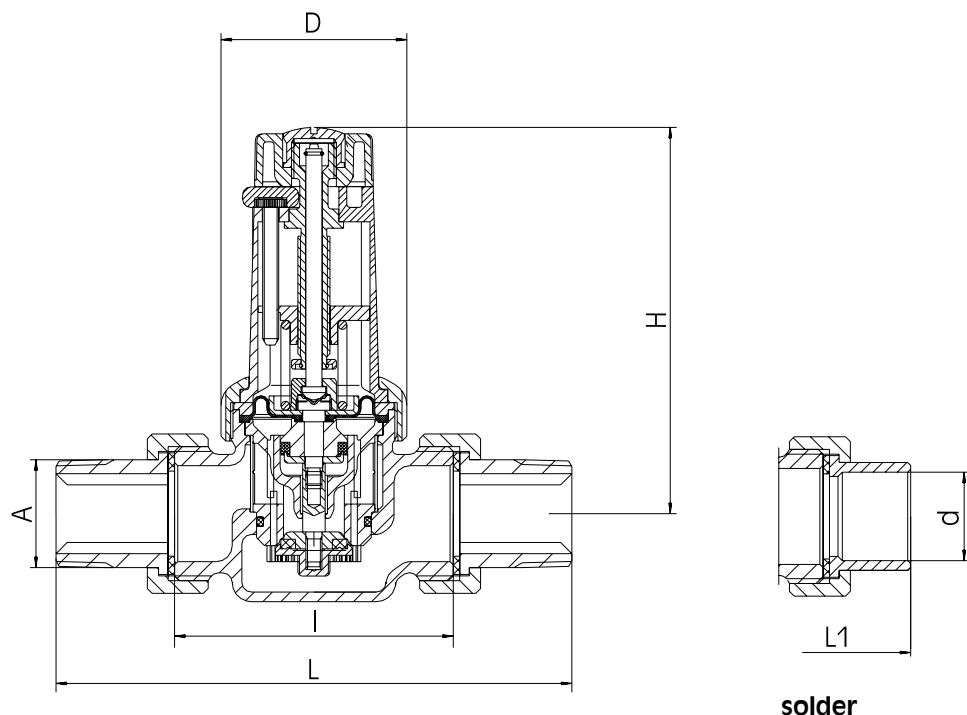
Inlet pressure:	max. 25 bar
Outlet pressure:	1.5 - 6 bar (factory-set to 4 bar)
Operating temperature:	max. 30 °C
Mounting position:	any
Fluid:	Water, compressed air, neutral non-adhesive fluids, neutral gases
Acoustic protection approval number:	DN 15-25 P-IX 7635/I, DN 32 P-IX 7729/I
DVGW-number:	NW-6330AT2061
Serial number:	0315...

Maintenance

The pressure has to be set at static pressure. For doing so, loosen the safety screw in the adjustment handle. The requested pressure is set with a flick of the wrist. With the well-contrived combined adjustment-display handle, the pressure reducer not only ensures an optimal pressure but also allows to read the set pressure without an additional pressure gauge. To reduce the outlet pressure, turn the adjustment handle in the direction of the minus symbol (–), to

increase it, turn the adjustment handle in the direction of the plus symbol (+). It is recommended to carry out maintenance works on a regular basis to ensure a durable function. The perfected design of the cartridge system allows to disassemble the operational part of the pressure reducing valve without having to disassemble the whole valve and without using special tools.

Pressure Reducing Valve 315 AB



solder

Nominal size		DN 15	DN 20	DN 25	DN 32	DN 40	DN 50
Dimensions in mm	A	G ½	G ¾	G 1	G 1 ¼	G 1 ½	G 2
	L (mm)	140	160	175	190	220	255
	L1 (mm)	112	132	148	170	205	240
	I (mm)	80	90	100	105	130	140
	H (mm)	123	123	121	176	176	180
	D (mm)	58	58	58	SW 75	SW 75	SW 75
Flow rate capacity in m³/h (at 2m/s)	Residential buildings according to DIN EN 1567	1.3	2.3	3.6	5.8	9.1	14
Flow rate capacity in m³/h (at 3m/s)	industrial / commercial installations	1.8	3.3	5.4	8.6	13.7	21.2

Accessory

Manometer: type 11

Pressure Reducing Valve 315 AB

Components /order numbers

①

Pressure reducer cartridge with outlet pressure indicator

DN 15+20	0315.20.904
DN 25	0315.25.904
DN 32-50	0315.32.902

②

Threaded union and seal

DN 15	0812.15.900
DN 20	0812.20.900
DN 25	0812.25.900
DN 32	0812.32.900
DN 40	0812.40.900
DN 50	0812.50.900

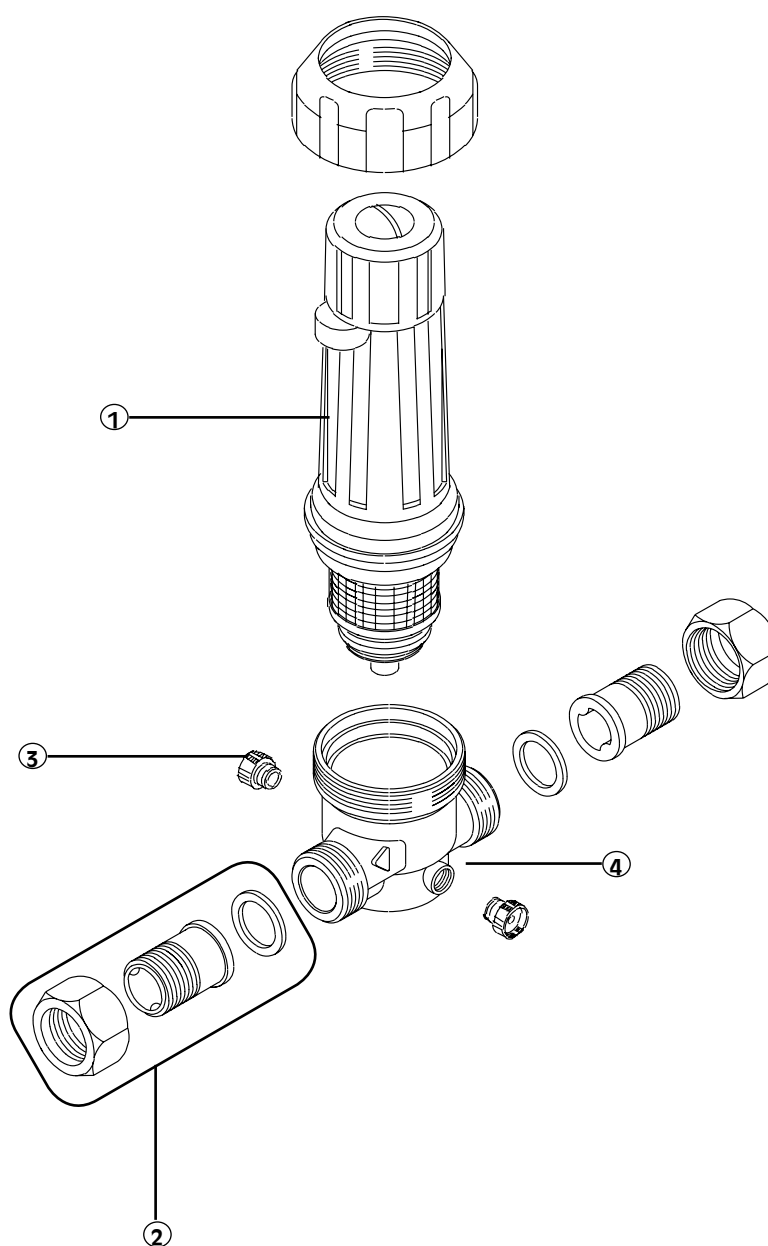
③

Manometer plug

0828.08.000

④

Body



Pressure reducing valve 315.2

made of hot-pressed brass with outlet pressure indicator

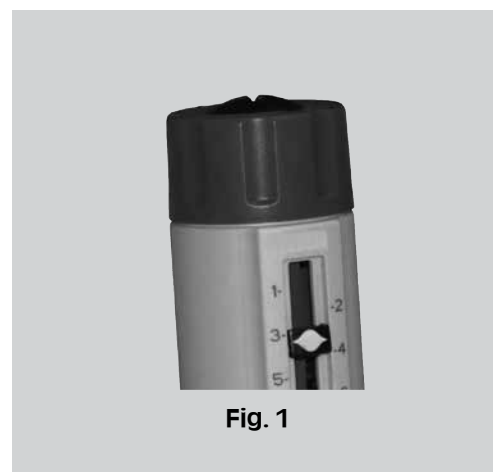


Fig. 1

Field of application

The pressure reducing valve type 315.2 is predominantly used in potable water installations in accordance with EN 806-2. Under consideration of its specifications, it also protects industrial and commercial installations against excess supply pressure. The pressure reducing valve type 315.2 protects water-supplying installations by

compensating and optimising upstream pressure variations and therefore it effectively prevents damage that can be caused by pressure increase. Furthermore, it economically and ecologically reduces the water consumption. The type 315.2 meets the highest European acoustic protection requirements.

Design

The pressure reducing valve type 315.2 is equipped with an outlet pressure indicator (see figure 1) that displays the set pressure. An additional pressure gauge is not necessary. The spring cap is rotatable by 360°, so that the pressure indicator is always visible. The pressure reducing valve type 315.2 complies with the European Standard EN 1567 and fulfils the DVGW requirements from DN 15 to DN 50 as well as the highest acoustic protection requirements up to DN

32. The pressure reducing valve type 315.2 is equipped with a spring-relieved single-seat valve and a coaxially positioned strainer (mesh width: 0.25 mm). The operational parts of the system are placed in a cartridge that can be exchanged without disassembling the whole valve and without using special tools; the outlet pressure setting remains unchanged. The special cartridge design allows for any mounting position.

Pressure reducing valve 315.2

Materials

The materials used for the SYR pressure reducing valve type 315.2 comply with the high requirements of European Standards. All synthetic parts getting into contact with water are approved by the German Public Health Office (KTW). The corrosion resistance in particular is guaranteed for all

used materials. The body is made of high quality hot-pressed brass. All rubber parts are made of ageing resistant elastomer. The diaphragm is reinforced and the high resistance of the screw cap is due to the glass fibre reinforced synthetic material.

Installation

The connection size depends on the required flow rate capacity. When choosing a pressure reducing valve, consider that a pressure drop of 1.1 bar occurs at maximum flow rate. This is the difference between the static and dynamic pressure at the outlet of the pressure reducing valve. When a specific flow rate is required for

a particular draw-off point, calculate the setting of the pressure reducer beforehand. A pressure reducing valve works without auxiliary energy with very little adjustment forces. Therefore, it reacts sensitively to impurities. A filter installed upstream effectively protects the pressure reducing valve type 315.2.

Thoroughly flush the pipe prior to installation. Mount the SYR pressure reducing valve type 315.2 in the pipe under consideration of the direction of flow (see arrow on the body) without applying

stresses. Afterwards, turn the head part without loosening the captive nut until the green outlet pressure indicator becomes visible.

Technical specifications

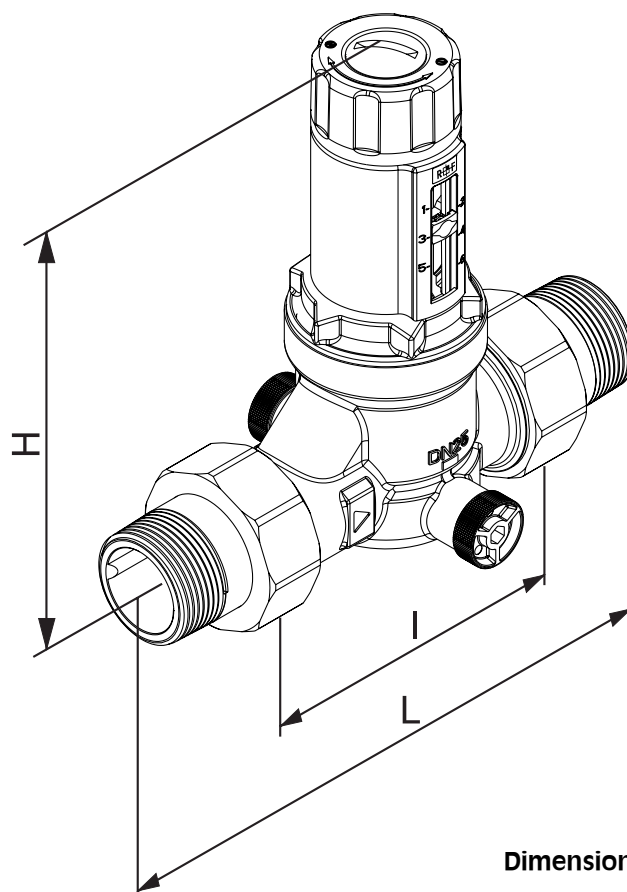
Inlet pressure:	max. 25 bar
Outlet pressure:	1.5 - 6 bar (factory set to 4 bar)
Service temperature:	max. 30 °C
Mounting position:	any
Medium:	water, compressed air, neutral non-adhesive fluids, neutral gases
Serial number:	0315...

Maintenance

The pressure has to be set at static pressure. Proceed as follows: loosen the safety screw in the adjustment knob. The requested pressure is set with a flick of the wrist. With the well-contrived outlet pressure indicator, the pressure reducer not only ensures the optimal pressure but also allows for reading the set pressure without an additional pressure gauge. To reduce the outlet pressure, turn the adjustment

knob in the direction of the minus symbol (–), to increase it, turn the adjustment knob in the direction of the plus symbol (+). It is recommended to carry out maintenance works on a regular basis to ensure durable functionality. The perfected design of the cartridge system allows to disassemble the pressure reducer's operational part without removing the whole valve and without using special tools.

Pressure reducing valve 315.2



Soldered union

Dimensions without threaded union like D06F.

Nominal size		DN 15	DN 20	DN 25	DN 32	DN 40	DN 50
	A	G ½	G ¾	G 1	G 1 ¼	G 1 ½	G 2
Dimensions in mm	L (mm)	140	160	175	190	220	255
	I (mm)	80	90	100	105	130	140
	H (mm)	107	107	132	194	194	187
Peak flow rate in m³/h (at 2m/s)	Residential buildings according to EN 1567	1,3	2,3	3,6	5,8	9,1	14
Peak flow rate in m³/h (at 3m/s)	Industrial/commercial buildings according to EN 806-2	1,8	3,3	5,4	8,6	13,7	21,2

Accessories

Pressure gauge: Type 11

Pressure reducing valve 315.2

Components / Order numbers

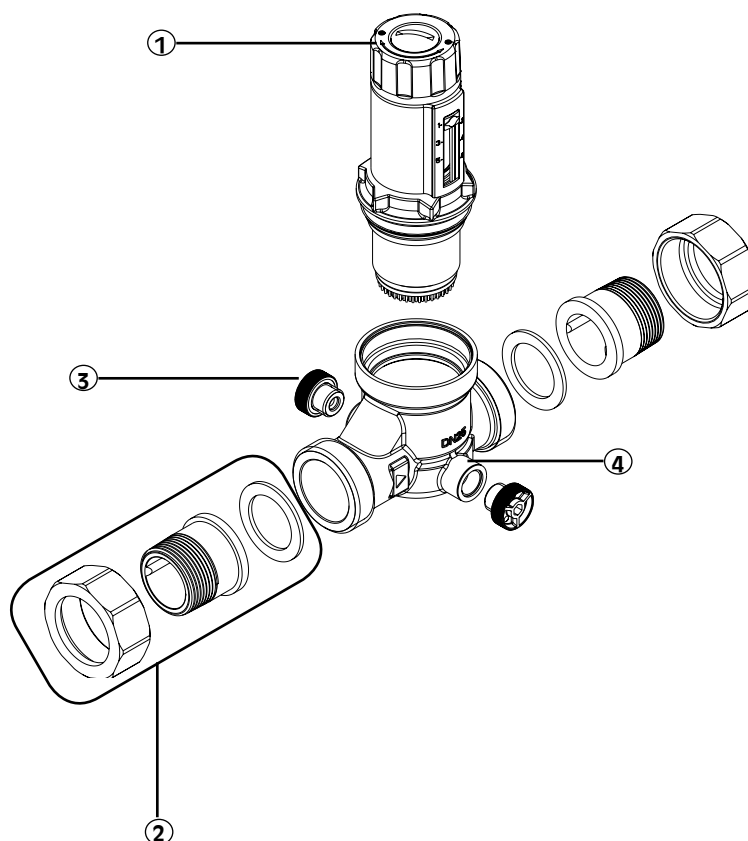
①
**Pressure reducer cartridge
with outlet pressure indicator**

②
Threaded union
composed of:
captive nut, union piece,
seal

DN 15	0812.15.900
DN 20	0812.20.900
DN 25	0812.25.900
DN 32	0812.32.900
DN 40	0812.40.900
DN 50	0812.50.900

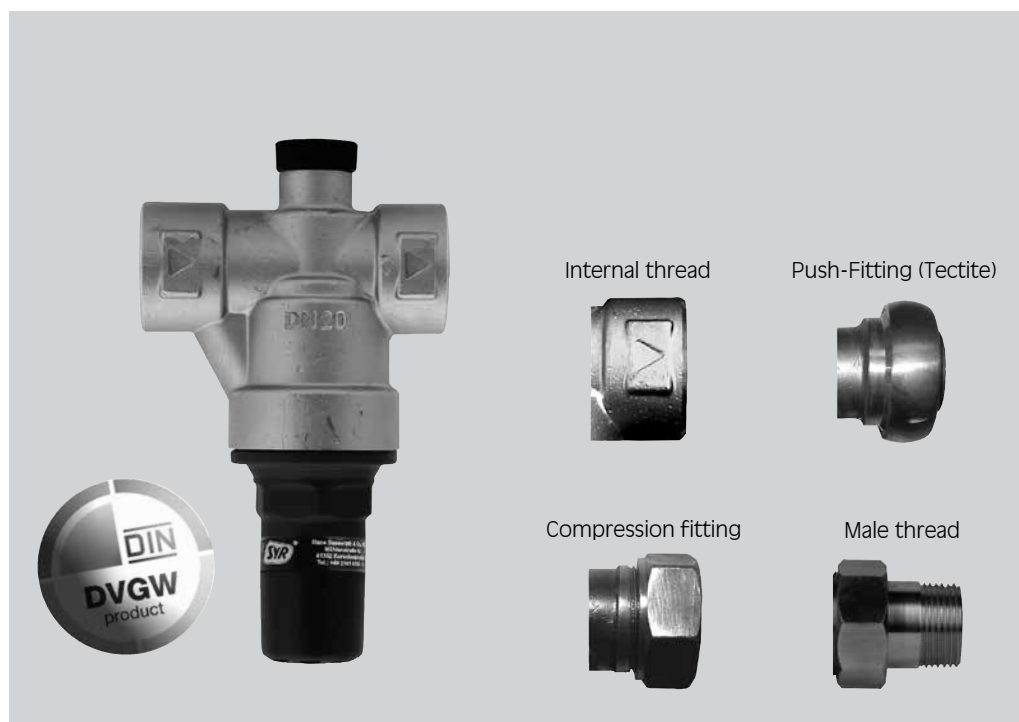
③
Pressure gauge plug
0828.08.000

④
Body



Pressure Reducing Valve type 312 Euro plus

Compact Pressure Reducing Valve



Field of application

The Pressure Reducing Valve type 312 Euro plus, which complies with the European Standard EN 1567 is predominantly used in the field of potable water installations. It also protects industrial and commercial installations against excess supply pressure according to its specifications. The Pressure

Reducing Valve type 312 Euro plus protects water supply systems by compensating and optimising upstream pressure variations, which effectively prevents damages that can result from pressure increase. In addition, it economically and ecologically reduces water consumption.

Design

The Pressure Reducing Valve type 312 Euro plus is equipped with a spring-relieved single seat valve and a coaxially positioned strainer (mesh width: 0.25 mm). The operational parts of the system are placed in a cartridge, which can be exchanged without disassembling the device and without using

special tools. The outlet pressure remains unchanged. The special cartridge design allows any mounting position. The Pressure Reducing Valve type 312 Euro plus meets the requirements of the European Standard EN 1567.

Pressure Reducing Valve type 312 Euro plus

Materials

The materials used for the SYR Pressure Reducing Valve type 312 Euro plus comply with the high requirements of European Standards. All parts getting into contact with water are approved by the German Public Health Office (KTW). The corrosion resistance is guaranteed for all used materi-

als. The body is made of a high-quality, low-lead brass alloy. All rubber parts are made of ageing-resistant elastomer. Reinforced diaphragm. The high-resistant screw cap is made of glass fibre reinforced synthetic material.

Installation

The connection size depends on the required flow rate capacity. When selecting a Pressure Reducing Valve, it is important to consider that a pressure drop of 1.1 bar occurs at maximum flow rate. This is the difference between the static and dynamic pressure on the outlet of the Pressure Reducing Valve. When a defined flow rate is required at a specific draw-off point, the

setting of the pressure reducer has to be calculated beforehand. A Pressure Reducing Valve works without auxiliary energy with very little adjustment forces. Therefore, it reacts sensitively to impurities. A filter installed upstream effectively protects the Pressure Reducing Valve type 312 Euro plus (EN 13443-1).

Thoroughly flush the pipe prior to installation. Install the SYR Pressure Reducing Valve type 312 Euro plus in the pipe under consi-

deration of the direction of flow (see arrow on the body) without applying stresses.

Technical specifications

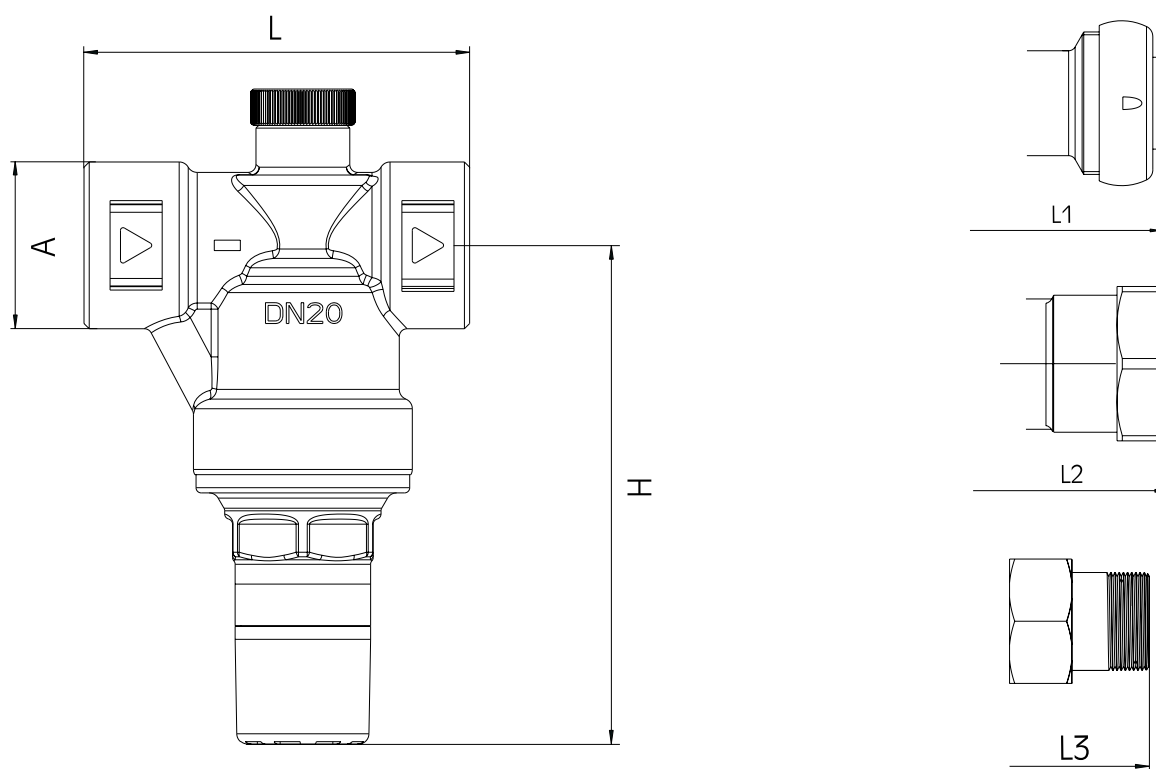
Inlet pressure:	max. 16 bar
Outlet pressure:	adjustment range: 1.5 - 5.5 bar or with preset and sealed cartridge
Operating temperature:	max. 30 °C / max. 80°C available on request
Mounting position:	any
Fluid:	Water, compressed air, neutral gases
Acoustic protection approval number:	P-IX 6736/I
Certification:	NW-6330BR0050
Serial number:	0312...

Maintenance

The pressure has to be set at static pressure. Lift the adjustment knob and turn it to set the desired pressure. To reduce the outlet pressure, turn the adjustment knob in the direction of the minus symbol (-) and to increase it, turn the adjustment knob in the direction of the plus symbol (+). Let the adjustment knob click into its original

position. It is recommended to carry out maintenance works on a regular basis to ensure perfect functionality. The perfected design of the cartridge system allows to disassemble the functional part of the pressure reducer without having to disassemble the whole device and without using special tools.

Pressure Reducing Valve type 312 Euro plus



Male thread, Compression- and Push-fittings 15 and 22 mm optionally available for connection sizes DN 15 and DN 20.

Nominal size		DN 10	DN 15	DN 20
Dimensions in mm	A	G ¼"	G ½"	G ¾"
	L (mm)	64	72	74
	L1 (mm)	–	88	100
	L2 (mm)	–	86	88
	L3 (mm)	–	74	80
	H (mm)	100	97	97
Flow rate capacity in m³/h (at 2m/s)	Residential buildings according to DIN EN 1567	0.56	1.3	2.3
Flow rate capacity in m³/h (at 3m/s)	industrial / commercial installations	0.85	1.8	3.3

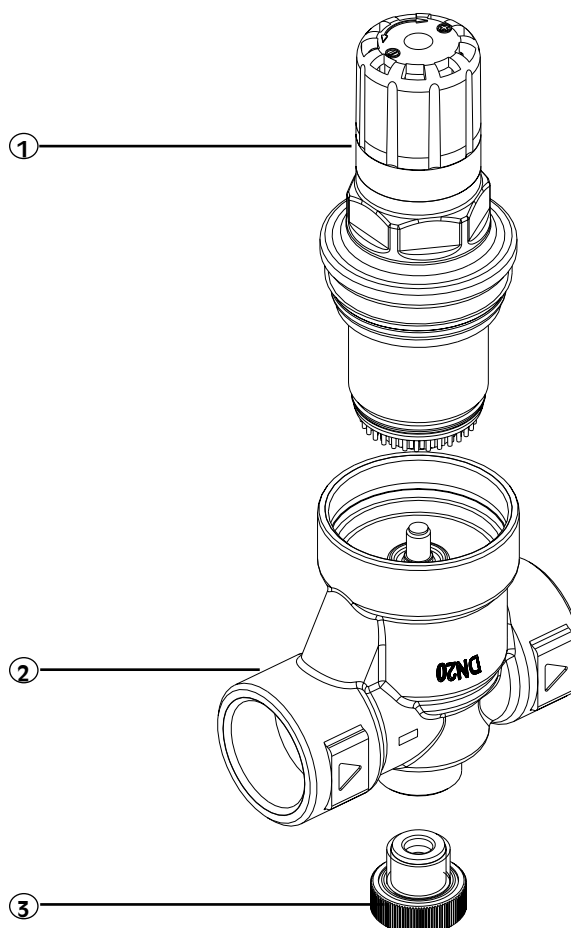
Accessory

Manometer: Type 11

Pressure Reducing Valve type 312 Euro plus

Components / Order numbers

- ①
**Pressure reducer cartridge
adjustable**
DN 8 - 20 0312.20.927
- ②
Body
- ③
Manometer plug
0828.08.000



Pressure Reducing Valve 312 compact

Compact pressure reducing valve



3

Field of application

In accordance with its specifications the pressure reducing valve type 312 compact that complies with the European Standard EN 1567 protects industrial and commercial installations against excess supply pressure. It is predominantly used to reduce pressure upstream of apparatuses like drink vending machines, dosing apparatuses, washing machines, high-pressure cleaners and laboratory

equipment. The pressure reducing valve type 312 protects water-supplying installations; it compensates and optimises upstream pressure variations and therefore effectively prevents any damages that can be caused by pressure increase. Furthermore, it economically and ecologically reduces the water consumption.

Design

The pressure reducing valve type 312 compact is equipped with a spring-relieved single-seated valve and a coaxially positioned strainer (mesh width: 0.25 mm). The operational parts of the system are placed in a cartridge; this

complete unit can be exchanged without disassembling the valve and without using special tools; the outlet pressure setting remains unchanged. The special cartridge design allows any mounting position.

Pressure Reducing Valve 312 compact

Materials

The materials used for the SYR pressure reducing valve type 312 compact comply with the high requirements of European Standards. All parts getting in contact with water are approved by the German Public Health Office (KTW). The corrosion resistance in particular is guaranteed for all used materials. The body

is made of a low-lead dezincification resistant gunmetal alloy. All rubber parts are made of ageing resistant elastomer. The diaphragm is reinforced and the high resistance of the screw cap is due to glass fibre reinforced synthetic material.

Installation

The connection size depends on the required flow rate capacity. When choosing a pressure reducing valve, it has to be taken into consideration that a pressure drop of 1.1 bar occurs at maximum flow rate. This is the difference between the static and dynamic pressure on the outlet of the pressure reducing valve. When a defined flow rate is required for a

determined draw-off point, the setting of the pressure reducer has to be calculated beforehand. A pressure reducing valve works without auxiliary energy with very little adjustment forces. Therefore it reacts sensitively to impurities. A filter installed upstream effectively protects the pressure reducing valve type 312 compact.

Thoroughly rinse the pipe prior to installation. Install the SYR pressure reducing valve type 312 compact in the pipe under consideration

of the flow direction (see arrow on the body) without applying stresses.

Technical data

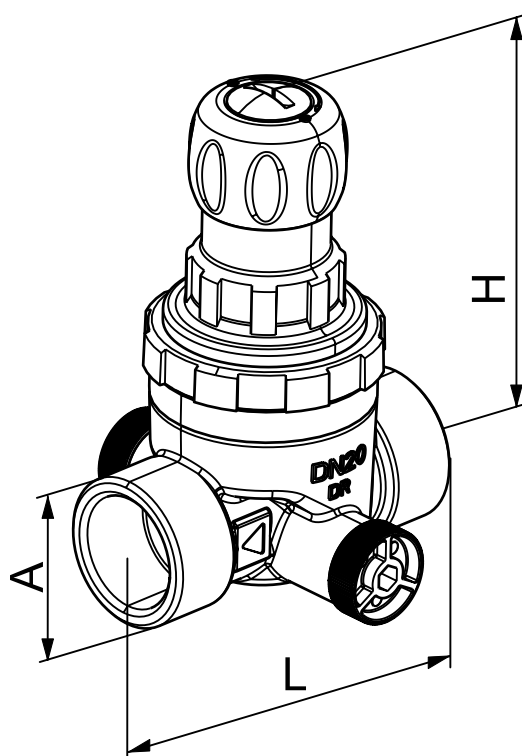
Inlet pressure:	max. 16 bar
Outlet pressure:	1,5 - 6 bar (factory-set to 4 bar)
Operating temperature:	max. 45°C
Mounting position:	any
Fluid:	Water, compressed air, neutral gases, neutral non-aggressive or non-adhesive fluids
Serial number:	0312...

Maintenance

The pressure has to be set at static pressure. For doing so, loosen the safety screw in the adjustment handle and the requested pressure is set with a flick of the wrist. To reduce the outlet pressure, turn the adjustment handle in the direction of the minus symbol (-), to increase it, turn the adjustment handle in the direction of the plus symbol (+). It is recom-

mended to carry out maintenance works on a regular basis to ensure a durable function. The perfected design of the cartridge system allows to disassemble the operational part of the pressure reducer without having to disassemble the whole valve and without using special tools.

Pressure Reducing Valve 312 compact



Nominal size		DN 15	DN 20	Comp. fitting	Comp. fitting
	A	G ½	G ¾	15 mm	22 mm
Dimensions in mm	L (mm)	72	76	62	65
	H (mm)	92	92	92	92
Flow rate capacity in m³/h (at 2m/s)	Residential buildings according to DIN EN 1567	1.3	2.3	1.3	2.3
Flow rate capacity in m³/h (at 3m/s)	industrial / commercial installations	1.8	3.3	1.8	3.3

Accessory

Manometer: type 11

Pressure Reducing Valve 312 compact

Components / Order numbers

①

Pressure reducer cartridge

DN 10+15 0312.15.900

DN 20 0312.20.909

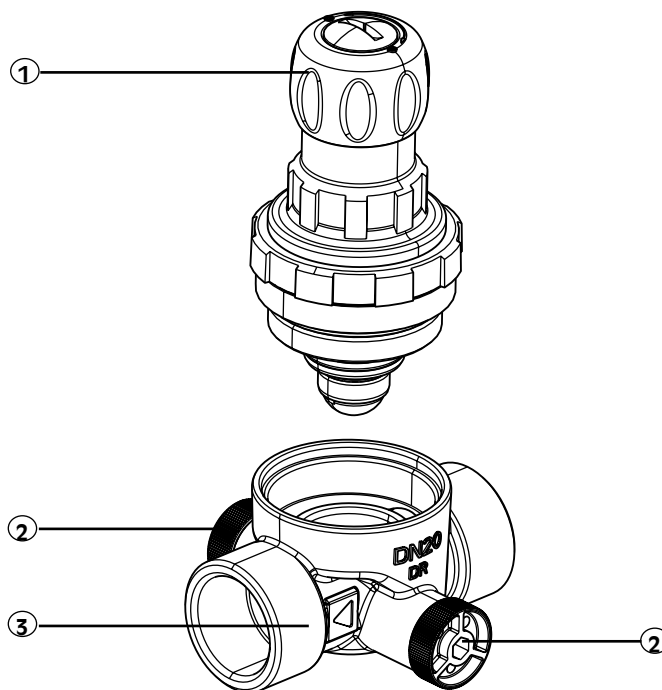
②

Manometer plug

0828.08.000

③

Body



Pressure Regulating Valve 6203

Proportionally operating pressure regulating valve for industrial applications



Field of application

The SYR pressure regulating valve type 6203 is used to regulate the pressure in industrial installations and apparatuses with media in accordance with the given specifications. As proportionally working pressure regulating valve, it prevents an excessive pressure in-

crease in the system located upstream by opening in proportion to the rising pressure. The design of the pressure regulating valve type 6203 allows to install it in drain or return pipes of longer size where back pressures can occur.

Design

The pressure regulating valve type 6203 is designed as a proportionally operating diaphragm controlled valve. It is equipped with an outlet pressure indicator that displays the set pressure. As a result, an additional pressure gauge is not necessary. The spring cap is rotatable by 360°, so that the pressure indicator is always visible. The pressure regulating valve type 6203 is equipped with a

coaxially arranged strainer (mesh width: 0.25 mm). The operational parts of the system are placed in a car-tridge; this complete unit can be exchanged without disassembling the whole valve and without using special tools; when disassembling the cartridge the outlet pressure setting remains unchanged. The special car-tridge design allows any mounting position.

Pressure Regulating Valve 6203

Materials

The body and the captive nut are made of a low-lead dezincification resistant gunmetal alloy. All rubber parts are made of ageing resistant elastomer. The diaphragm is reinforced and the high resistance of the screw

cap is due to glass fibre reinforced synthetic material. The sealing elements are made of heat and ageing resistant elastomer. The spring is made of corrosion protected spring steel wire.

Installation

The connection size depends on the required flow rate capacity. A pressure regulating valve works without auxiliary energy with very little adjustment forces and therefore it re-

acts sensitively to impurities. A filter installed upstream effectively protects the pressure regulating valve type 6203.

Thoroughly rinse the pipe prior to installation. Install the SYR pressure regulating valve type in the pipe under consideration of the flow direction (see arrow on the body) with-

out applying stresses. Afterwards, turn the head part without loosening the captive nut, so that the green outlet pressure indicator becomes visible.

Technical data

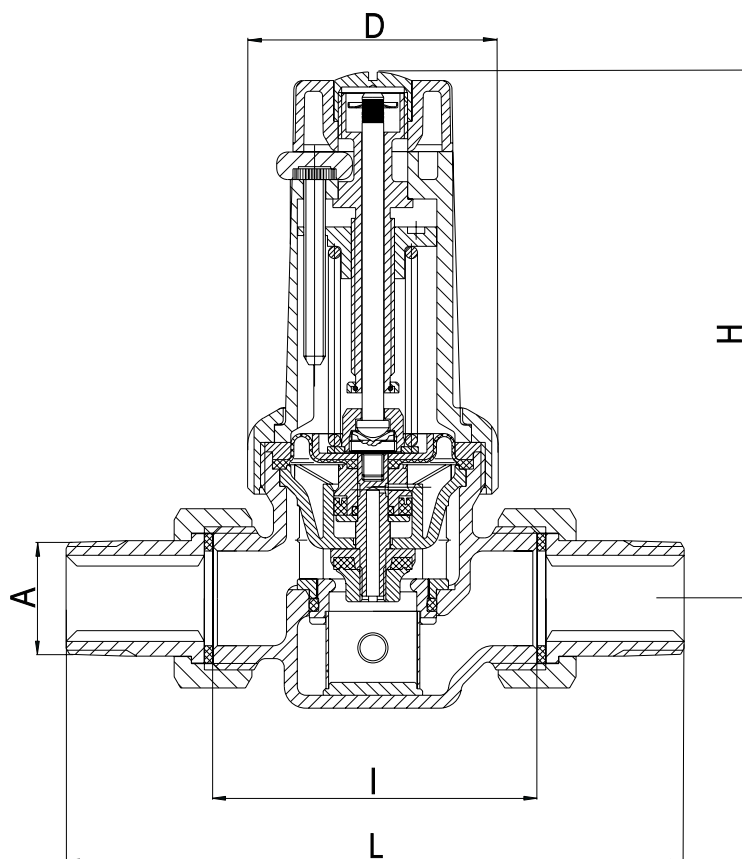
Operating overpressure:	max. 25 bar
Outlet pressure:	type 6203.1: 1.5 bis 5 bar type 6203.2: 5 - 8 bar
Operating temperature:	max. 110°C
Mounting position:	any
Fluid:	water, compressed air, neutral fluids, oil-free air, neutral gases
Certification:	CE 0085
Serial number:	6203...

Maintenance

Depending on the use, the valve can be adjusted to the opening pressure or to a desired system pressure occurring at maximum flow rate. For doing so, loosen the safety screw in the adjustment handle. The requested pressure is set with a flick of the wrist. With the well-contrived combined adjustment-display handle, the pressure regulating valve not only ensures an optimal pressure but also allows to read the set pressure without an additional pressure gauge. To reduce the

outlet pressure, turn the adjustment handle in the direction of the minus symbol (-), to increase it, turn the adjustment handle in the direction of the plus symbol (+). According to the operating conditions, it is necessary to carry out maintenance works on a regular basis. The perfected design of the cartridge system allows to exchange and service the operational part of the pressure regulating valve without having to disassemble the whole valve and without using special tools.

Pressure Regulating Valve 6203



Nominal size		DN 15	DN 20	DN 25	DN 32
	A	G ½	G ¾	G 1	G 1 ¼
Dimensions in mm	L (mm)	132	143	161	190
	I (mm)	75	75	87	105
	H (mm)	123	123	121	176
	D (mm)	58	58	58	KW* 75

* Key width

Pressure Regulating Valve 6203

Components / Order numbers

①

Cartridge of pressure regulating valve with outlet pressure indicator

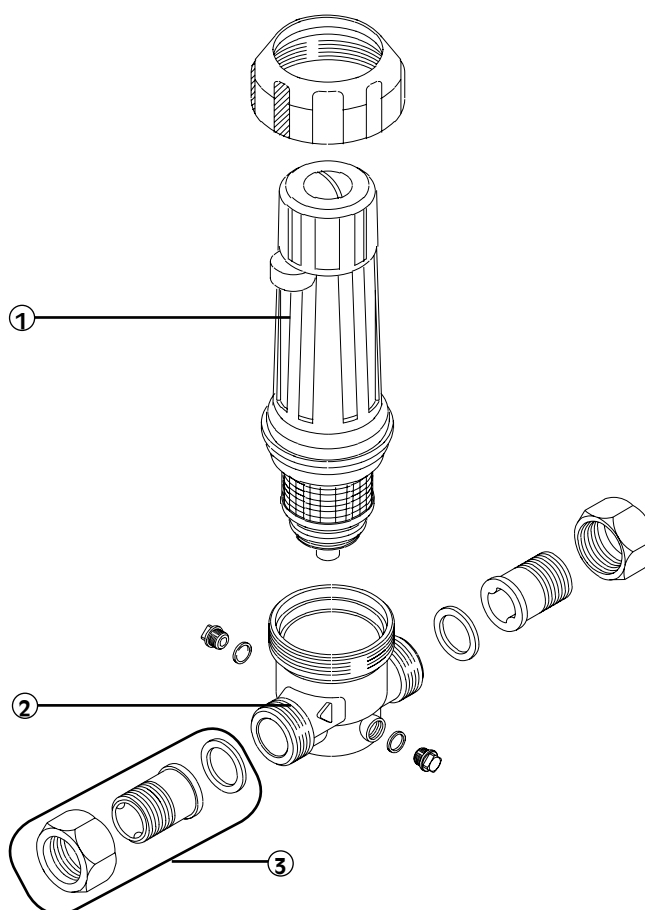
②

Body

③

Threaded union and seal

DN 15	0812.15.900
DN 20	0812.20.900
DN 25	0812.25.900



Pressure Reducing Valve 6243

Pressure reducing valve made of gunmetal for industrial applications



3

Field of application

The SYR pressure reducing valve type 6243 is used to regulate the pressure in industrial systems and apparatuses with media as given in the specifications. The pressure

reducing valve regulates the pressure in the downstream part of the installation by closing in case of pressure increase.

Design

The pressure reducing valve type 6243 is designed as spring-relieved single-seated valve with a coaxially arranged strainer (mesh width: 0.25 mm). It is equipped with an outlet pressure indicator that displays the set pressure. As a result, an additional pressure gauge is not necessary. The spring cap is rotatable by 360°, so that the pressure indi-

cator is always visible. The operational parts of the system are placed in a cartridge; this complete unit can be exchanged without disassembling the whole valve and without using special tools; when disassembling the cartridge the outlet pressure setting remains unchanged. The special cartridge design allows any mounting position.

Pressure Reducing Valve 6243

Materials

The body and the captive nut are made of a low-lead dezincification resistant gunmetal alloy. All rubber parts are made of ageing resistant elastomer. The diaphragm is reinforced and the high resistance of the screw

cap is due to glass fibre reinforced synthetic material. The sealing elements are made of heat and ageing resistant elastomer. The spring is made of corrosion protected spring steel wire.

Installation

The connection size depends on the required flow rate capacity. A pressure reducing valve works without auxiliary energy with very little adjustment forces and therefore it reacts sensitively to impurities. A filter installed upstream effectively protects the pressure reducing valve type 6243. Thoroughly rinse the pipe prior to

installation. Install the SYR pressure reducing valve in the pipe under consideration of the flow direction (see arrow on the body) without applying stresses. Afterwards, turn the head part without loosening the captive nut, so that the green outlet pressure indicator becomes visible.

Technical data

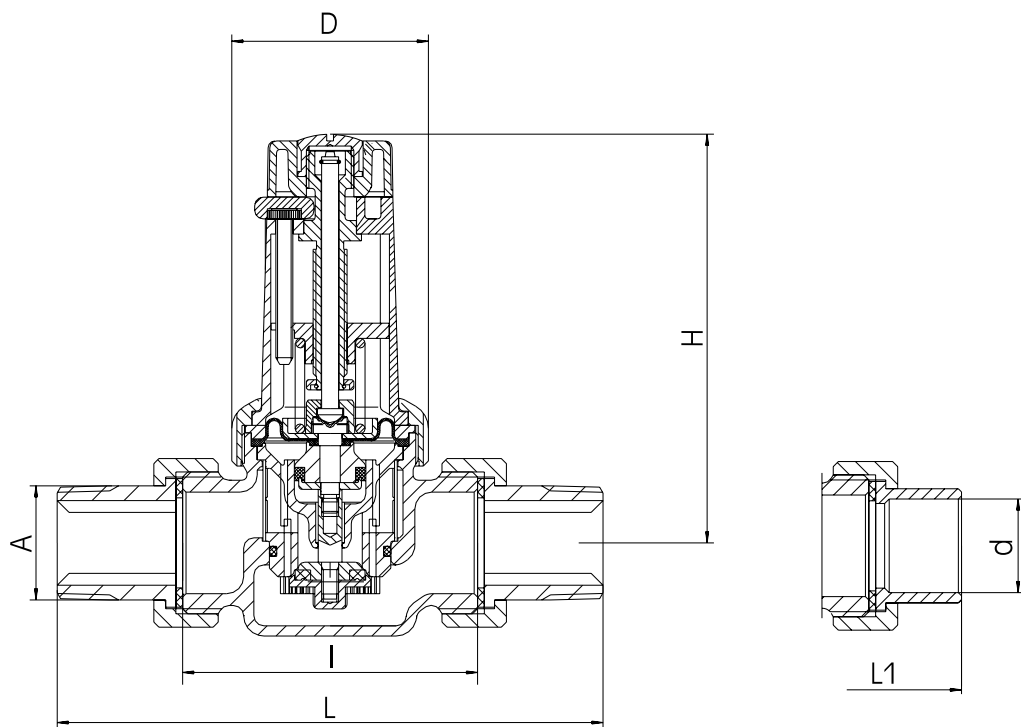
Operating overpressure:	max. 25 bar
Outlet pressure:	type 6203.1: 1.5 bis 5 bar type 6203.2: 5 - 8 bar
Operating temperature:	max. 110°C
Mounting position:	any
Fluid:	water, compressed air, neutral fluids, oil-free air, neutral gases
Serial number:	6243...

Maintenance

The inlet pressure available has to be at least one bar higher than the desired outlet pressure. For the adjustment, all draw-off valves on the outlet side have to be closed. For doing so, loosen the safety screw in the adjustment knob. The requested pressure is set with a flick of the wrist. With the well-contrived combined adjustment-display handle, the pressure reducer not only ensures an optimal pressure but also allows to read the set pressure without an additional pressure gauge. To reduce the

outlet pressure, turn the adjustment handle in the direction of the minus symbol (-), to increase it, turn the adjustment handle in the direction of the plus symbol (+). It is recommended to carry out maintenance works on a regular basis to ensure a durable function. The perfected design of the cartridge system allows to disassemble the operational part of the pressure reducing valve without having to disassemble the whole valve and without using special tools.

Pressure Reducing Valve 6243



Nominal size		DN 15	DN 20	DN 25	DN 32	DN 40	DN 50
	A	G 1/2"	G 3/4"	G 1"	G 1 1/4"	G 1 1/2"	G 2"
Dimensions in mm	L (mm)	132	143	161	190	220	255
	L1 (mm)	106	117	135	170	205	240
	I (mm)	75	75	87	105	130	140
	H (mm)	123	123	121	176	176	180
	D (mm)	58	58	58	KW* 75	KW* 75	KW* 75
Flow rate capacity in m³/h (at 2m/s)	Residential buildings according to DIN EN 1567	1.3	2.3	3.6	5.8	9.1	14
Flow rate capacity in m³/h (at 3m/s)	industrial / commercial installations	1.8	3.3	5.4	8.6	13.7	21.2

* Key width

Accessory

Manometer 0011.08.000

Pressure Reducing Valve 6243

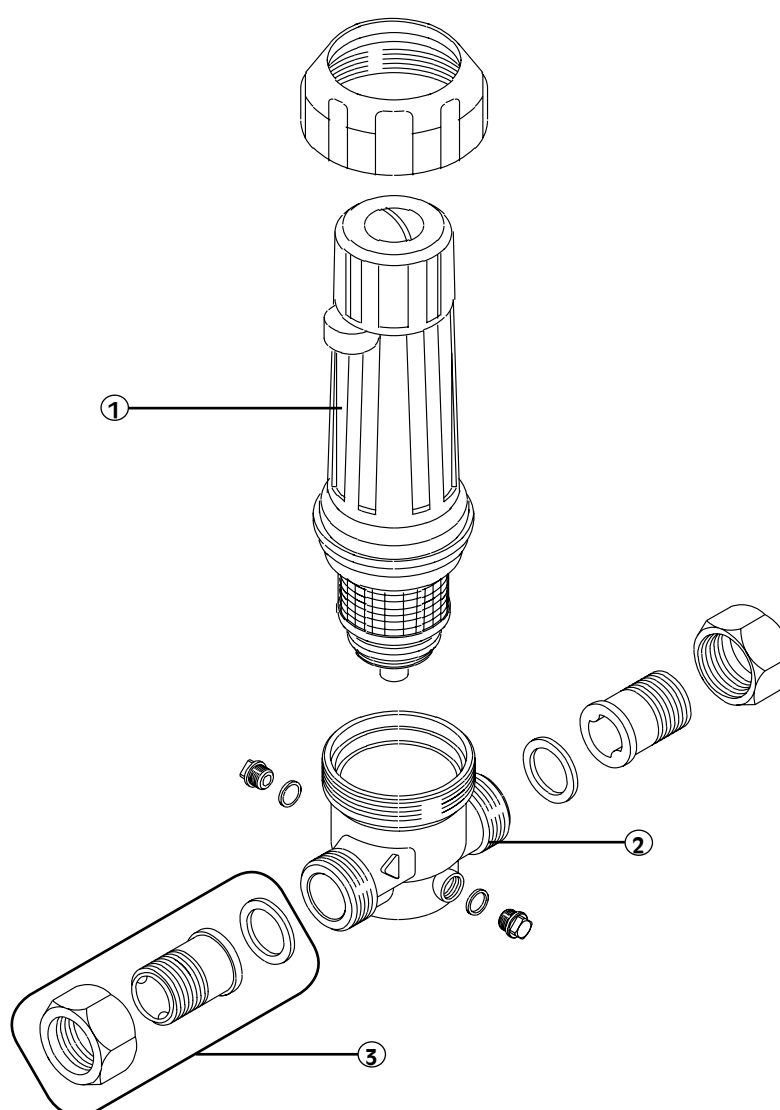
Components / Order numbers

①
**Pressure reducer cartridge
with outlet pressure indicator**

②
Body

③
Threaded union and seal

DN 15	0812.15.900
DN 20	0812.20.900
DN 25	0812.25.900
DN 32	0812.32.900
DN 40	0812.40.900
DN 50	0812.50.900



Pressure Reducing Valve with flange connection 6247

made of gun metal with flange connection and outlet pressure indicator



3

Field of application

The pressure reducing valve with flange connection type 6247 protects in compliance with its specifications industrial and commercial installations against excess supply pressure. It is predominantly used in the drinking water supply and fulfils the requirements of the European Standard

EN 1567. The pressure reducing valve with flange connection type 6247 protects water-supplying installations; it compensates and optimises upstream pressure variations and therefore effectively prevents damages that can be caused by pressure increase.

Design

The pressure reducing valve with flange connection type 6247 is equipped with one pressure reducer cartridge and designed with a flange connection. The pressure reducer cartridge is equipped with a spring-relieved single-seat valve and a coaxially positioned strainer (mesh width: 0.6 mm). The operational parts of the system are placed in a cartridge; this complete unit can be ex-

changed without disassembling the whole valve and without using special tools; the outlet pressure setting remains unchanged. The special cartridge design allows any mounting position. The pressure reducing valve with flange connection type 6247 is also equipped with connection facilities for upstream or downstream pressure gauges.

Pressure Reducing Valve with flange connection 6247

Materials

The body and the captive nut are made of a low-lead dezincification resistant gunmetal alloy. All materials are tested and approved by DVGW, an internationally recognised test institute. All synthetic parts getting into contact with water are approved by the German Public Health Office (KTW). The cor-

rosion resistance in particular is guaranteed for all used materials. All rubber parts are made of ageing resistant elastomer. The diaphragm is reinforced and the high resistance of the screw cap is due to glass fibre reinforced synthetic material.

Installation

The connection size depends on the required flow rate capacity. When choosing a pressure reducing valve, it needs to be considered that a pressure drop of 1.3 bar occurs at maximum flow rate. This is the difference between the static and dynamic pressure at the outlet of the pressure reducing valve. When a specific flow rate is required for a particular draw-off point, the

setting of the pressure reducer has to be calculated beforehand. A pressure reducing valve works without auxiliary energy with very little adjustment forces. Therefore it reacts sensitively to impurities. A filter installed upstream effectively protects the pressure reducing valve with flange connection type 6247.

Thoroughly flush the pipe prior to installation. Install the pressure reducing valve with flange connection type 6247 in the pipe under consideration of the direction of flow direction (see arrow on the body; do not

apply stresses. Afterwards, turn the head part without loosening the captive nut, so that the green outlet pressure indicator becomes visible.

Technical specifications

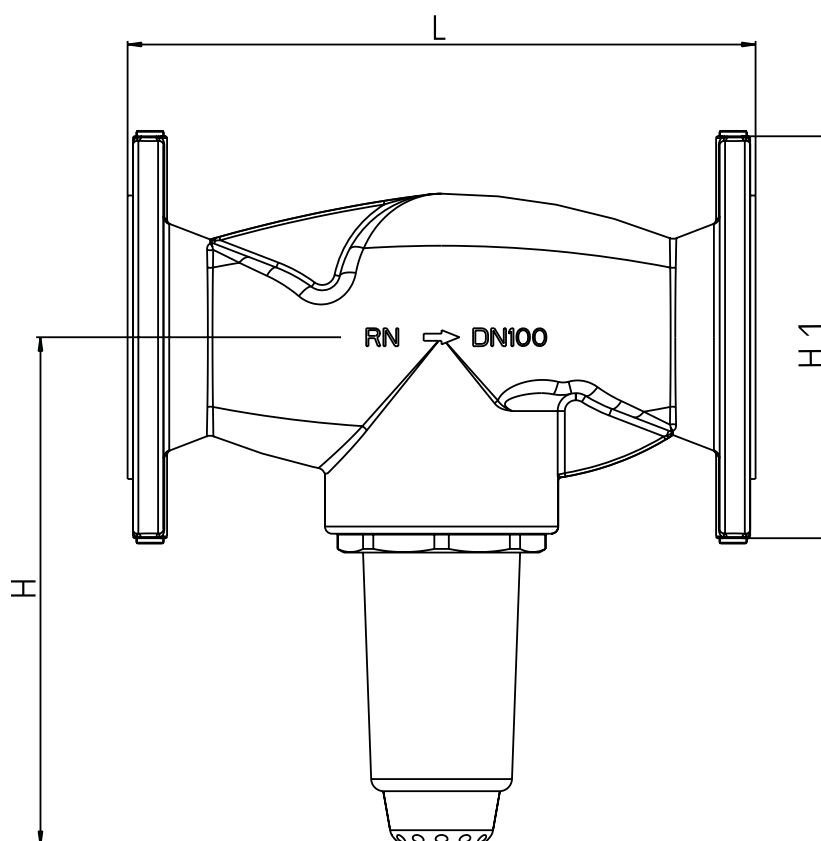
Inlet pressure:	max. 16 bar
Outlet pressure:	1.5 - 6 bar (factory-set to 4 bar)
Operating temperature:	max. 30 °C
Mounting position:	any
Fluid:	Water, compressed air, neutral non-adhesive fluids, neutral gases
Serial number:	6247...

Maintenance

The pressure has to be set at static pressure. Remove the cap at the upper end of the cartridge. Use a spanner of size 19 to adjust the pressure. Turn the adjustment screw in the direction of the minus symbol (-) to reduce the outlet pressure; to increase it, turn the adjustment screw in the direction of the plus symbol (+). The pressure reducing valve with flange connection is factory-set to 4 bar. This meets the require-

ments of most applications and saves time and money on the installation spot. It is recommended to carry out maintenance works on a regular basis to ensure durable functionality. The perfected design of the cartridge system allows to disassemble the operational part of the pressure reducing valve without having to disassemble the whole valve and without using special tools.

Pressure Reducing Valve with flange connection 6247



Nominal size		DN 65	DN 80	DN 100
Dimensions in mm	L (mm)	290	310	350
	H (mm)	283	283	283
	H1 (mm)	185	200	220
Flow rate capacity in m ³ /h (at 2m/s)	Residential buildings according to DIN EN 1567	24	36	56

Accessories

Pressure gauge

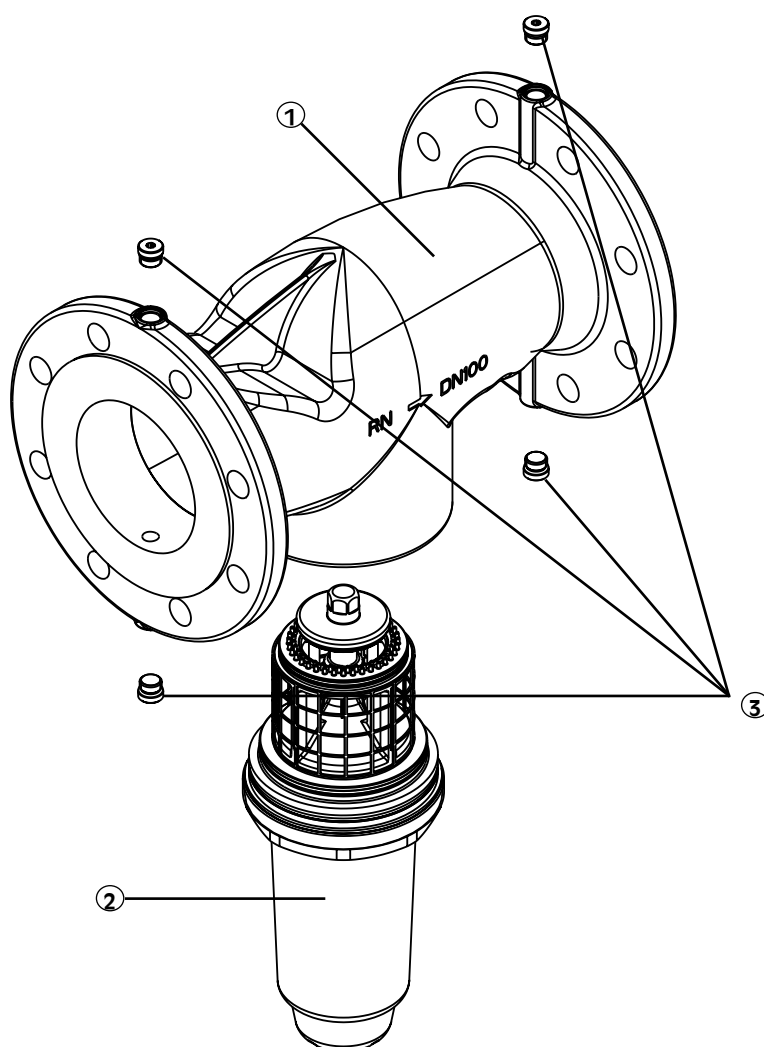
0 - 10 bar: 2000.00.906

0 - 25 bar: 2000.00.907

Pressure Reducing Valve with flange connection 6247

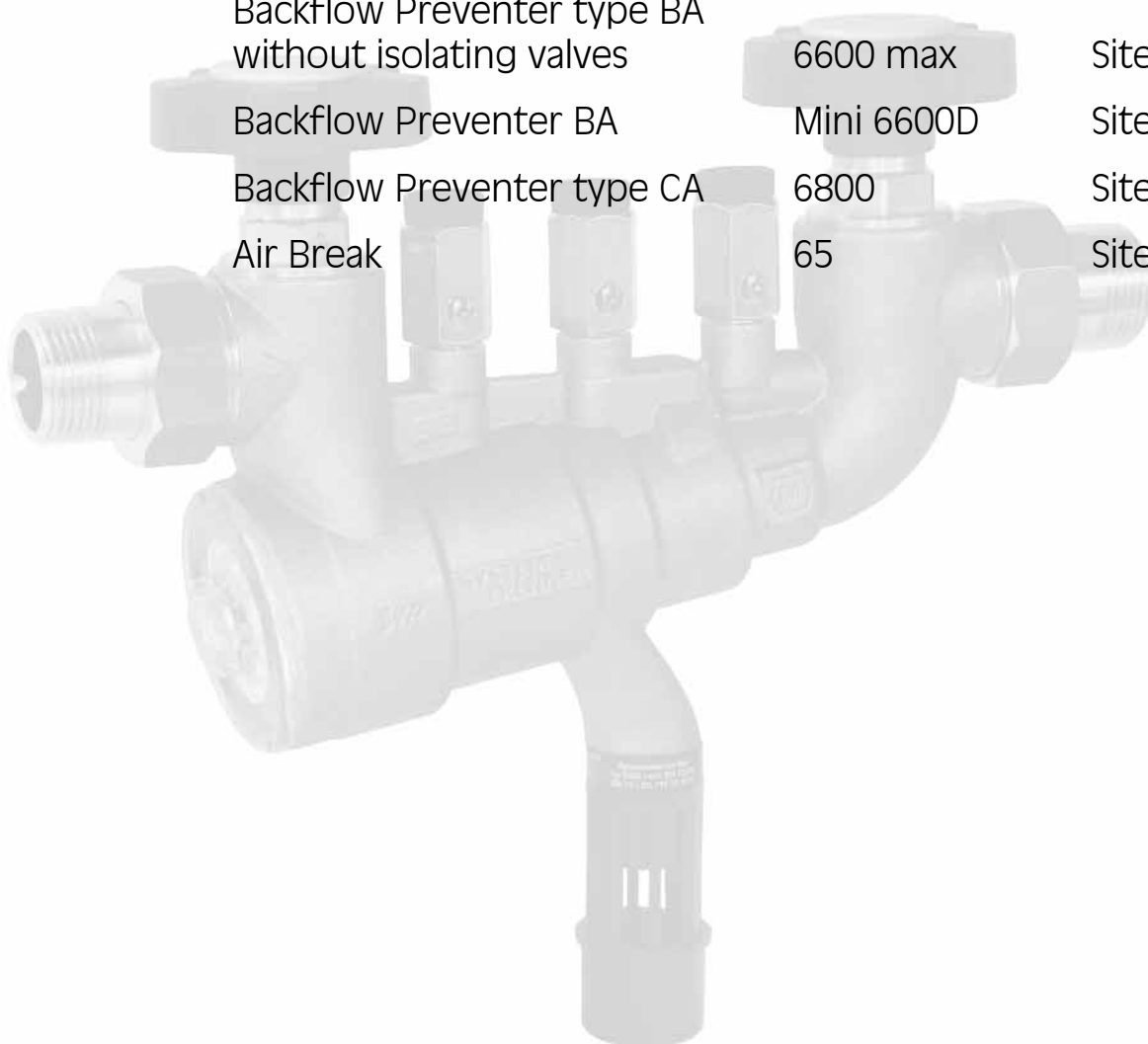
Components / Order numbers

- ①
Body
- ②
Pressure reducer cartridge
DN 65 - 100
6247.50.903
- ③
Manometer plug
0828.08.000



Safety devices

Technical information		Site 196
Backflow Preventer type BA with isolating valves	6600	Site 201
Backflow Preventer type BA without isolating valves	6600	Site 205
Backflow Preventer type BA with isolating valves	6600 max	Site 209
Backflow Preventer type BA without isolating valves	6600 max	Site 213
Backflow Preventer BA	Mini 6600D	Site 217
Backflow Preventer type CA	6800	Site 221
Air Break	65	Site 225



Safety devices

Technical information

The European standard EN 1717 regulates the „protection against pollution of potable water installations and general requirements of devices to prevent pollution by backflow“. It was published in May 2001. Basically, a protection level of higher quality than the prescriptions in EN 1717 can be applied without infringing the recognised

technical rules. The European Standard EN 1717 works with five risk categories, which are designated as fluid categories (see table).

The SYR Backflow Preventer ensures optimal protection against backflow, backpressure and backsiphonage up to the indicated fluid category.

Fluid category: safety devices and cor- responding fluid cate- gories

Safety institution		Category of fluids				
		1	2	3	4	5
AA	Unrestricted air gap	*	●	●	●	●
AB	Air gap with overflow non-circular (unrestricted)	*	●	●	●	●
AC	Air gap with submerged feed incorporating air inlet plus overflow	*	●	●	-	-
AD	Air gap with injector	*	●	●	●	●
AF	Air gap with overflow circular (restricted)	*	●	●	●	-
AG	Air gap with overflow tested by vacuum measurement	*	●	●	-	-
BA	Backflow preventer with controllable reduced pressure zones	●	●	●	●	-
CA	Backflow preventer with different non controllable pressure zones	●	●	●	-	-
DA	In line anti-vacuum valve	○	○	○	-	-
DB	Pipe interrupter with atmospheric vent and moving element	○	○	○	○	-
DC	Pipe interrupter with permanent atmospheric vent	○	○	○	○	○
EA	Controllable anti-pollution check-valve	●	●	-	-	-
EB	Non controllable anti-pollution check-valve	Only for certain domestic uses (see clause 6)				
EC	Controllable anti-pollution double check-valve	●	●	-	-	-
ED	Non controllable anti-pollution double check-valve	Only for certain domestic uses (see clause 6)				
GA	Mechanical disconnecter direct actuated	●	●	●	-	-
GB	Mechanical disconnecter hydraulic actuated	●	●	●	●	-
HA	Hose union backflow preventer	●	●	○	-	-
HB	Shower hose union anti-vacuum valve	○	○	-	-	-
HC	Automatic diverter	Only for certain domestic uses (see clause 6)				
HD	Hose union anti-vacuum valve combined with a check-valve	●	●	○	-	-
LA	Pressurized air inlet valve	○	○	-	-	-
LB	Pressurized air inlet valve combined with a check-valve located down-stream	●	●	○	-	-
General remarks:		Units with an atmospheric vent may not be installed where it is liable to flooding (for example AA, BA, CA, GA, GB, ...).				
●		Covers the risk				
○		Covers the risk only if p = atm				
-		does not cover the risk				
*		is not applicable				

Safety devices

Technical information

Backflow Preventer type BA



SYR-Backflow Preventer type BA

The Backflow Preventer type BA is a backflow preventer with controllable pressure zones. It offers optimal safety for installations with fluids up to category 4 in compliance with the European Standard EN 1717. Category 4 stands for fluids, which

are carriers of one or several noxious and particularly noxious substances and/or mutagenic and carcinogenic substances (for instance insecticides) and therefore represent a health hazard for humans.

Function

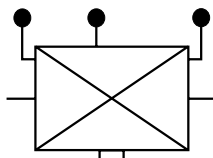

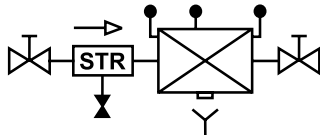
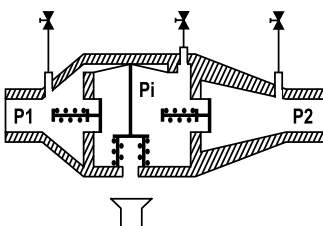
The BA Backflow Preventer is designed as a 3 pressures zones system. This system was initially used in the USA and in English-speaking countries. On principle, the Backflow Preventer is composed of two consecutive check valves, which are equipped with an intermediate pressure zone that can be vented to the atmosphere. The venting device is controlled by the differential pressure between the first and second pressure

zone. In case of pressure loss, at the latest when the differential pressure between the first and second pressure zone has dropped to 0.14 bar, for instance when a check valve is not tight, the discharge valve opens the venting device, which ensures the disconnection. A useful indicator allows quick and easy verification of the Backflow Preventer's status.

Safety devices

Technical information

Requirements set by EN 1717 for type BA

Family	Controllable Disconnection	B
TYPE	Backflow preventer with controllable reduced pressure zones	A
<div></div> <div>figure A.25 Protection device Graphic symbol</div>	<div></div> <div>figure A.26 Protection unit Symbol</div>	<div></div> <div>figure A.27 Protection unit Graphic symbol</div>
<div></div> <div>figure A.28 Design principle</div>	<div>Definition</div> <p>The specific characteristics of the „BA“ device are as follows:</p> <ul style="list-style-type: none">- $p_1 - p_i > 14 \text{ kPa}$ (140 mbar);- connection of the intermediate pressure zone (p_i) to the atmosphere when $p_1 - p_i \geq 14 \text{ kPa}$ (140 mbar);- disconnection by venting the intermediate pressure zone p_1 to the atmosphere when p_1 will be up to 14 kPa (140 mbar);- a minimum set discharge flow (backflow rate);- devices that allow verification in every zone of the disconnection and the sealing of the protection devices (obturators, discharge valves).	
<div>Product requirements</div> <p>The protection device shall conform to the national standard transposing the European Standard as available.</p>		
<div>Installation requirements</div> <ul style="list-style-type: none">- the device shall be readily accessible;- it shall not be installed in locations liable to flooding;- it shall be installed in an aerated enviroment (unpolluted atmosphere);- the drain shall be capable of taking the discharge;- it shall be protected against frost or excessive temperature;- it shall be installed horizontally, with the discharge valve opening downwards. Pressure taps shall make it possible to carry out inspection test without difficulty;- it can be installed only for potential backflows not exceeding the discharge capacity of the protection device.		

Safety devices

Technical information

Backflow Preventer type CA



SYR-Backflow Preventer type CA

The Backflow Preventer type CA is a back-flow preventer with different non-controlable pressure zones. It ensures the protection of installations up to the fluid category 3 in compliance with the European Standard EN 1717. Category 3 stands for fluids, which are carriers of one or several less noxious

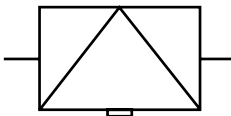

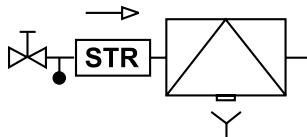
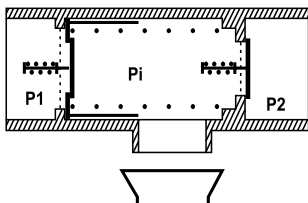
substances (for instance heated water) and therefore represent a health hazard for humans.

The main field of application for this device is the filling of heating installations. A useful indicator allows quick and easy verification of the Backflow Preventer's status.

Safety devices

Technical information

Requirements set by EN 1717 for type CA

Family	Non controllable disconnection	C
TYP	Backflow preventer with different non-controllable pressure zones	A
 <p>figure A.29 Protection device Graphic symbol</p>	 <p>figure A.30 Protection unit Symbol</p>	 <p>figure A.31 Protection unit Graphic symbol</p>
 <p>figure A.32 Design principle</p>	<p><u>Definition</u></p> <p>The „CA“ is divided into three zones:</p> <ul style="list-style-type: none">- one upstream zone p_1;- one intermediate zone (p_i not measurable) vented to the atmosphere;- one downstream zone p_2 <p>The device provides disconnection by venting the intermediate pressure zone to the atmosphere when the difference of pressure between the intermediate zone and the upstream zone is less than 10% of the upstream pressure ($p_i - p_1 < 10\% p_1$).</p> <p>It ensures a discharge flow (backflow rate) through the intermediate zone, at least equal to the given discharge flow rate.</p> <p>Means for the control of the protection device are not included.</p>	
<p><u>Product requirements</u></p> <p>The protection device shall conform to the national standard transposing the European Standard as available.</p>		
<p><u>Installation requirements</u></p> <ul style="list-style-type: none">- the device shall be readily accessible;- it shall not be installed in locations liable to flooding;- it shall be installed in an aerated environment (unpolluted atmosphere);- the drain shall be capable of taking the discharge;- it shall be protected against frost or excessive temperature.		

Backflow Preventer type BA 6600

Controllable Backflow Preventer with isolating valves



4

Field of application

The SYR Backflow Preventer type BA is a compact safety valve in compliance with the European standard EN 1717 (Protection against pollution of potable water installations and general requirements for devices to prevent pollution by backflow), group B (three pressure zones system). It is in conformity with type BA described in EN 1717

and therefore it can be used as a protective device up to fluid category 4 (included). Its task is to prevent back-siphonage or backflow of non-drinking water into the public potable water system. The Backflow Preventer type BA covers numerous application possibilities (for instance printing, chemical and food industry, laboratories and medical technology).

Design

The Backflow Preventer type BA includes all components determined in the European standard EN 1717 and is designed as 3-pressure zones-system with controllable upstream/ intermediate and downstream pressure zones. In addition, it includes two isolating valves and an integral strainer. The ball valves on top of each of the three pressure zones are used in combination with a test kit to verify functionality by pressure measurement. The Backflow Preventer is

composed of 2 consecutive check valves with an intermediate pressure zone that can be vented to the atmosphere. When no water is drawn off, both check valves are open and the discharge valve is closed. In case of back-siphonage, the inlet pressure drops. The discharge valve opens at the latest when the differential pressure between upstream and intermediate pressure zone has dropped to 0.14 bar.

Backflow Preventer type BA 6600

Materials

The body is made of low-lead dezincification resistant gunmetal alloy. The internal parts are made of high-quality corrosion resistant synthetic materials or stainless steel. All materials are tested and approved by DVGW. All syn-

thetic parts getting in contact with drinking water intended for human consumption are approved by the German Public Health Office (KTW). The discharge outlet on the valve is made of high-quality synthetic material.

Installation

Permanent access to the valve has to be provided and it shall not be mounted in rooms liable to flooding, frost or high temperatures. The installation should only be carried out in an well-ventilated environment. The connected discharge device must be able to collect the discharge volume. The Backflow Preventer type BA has to be installed in horizontal position with the discharge valve (tundish

connection) facing downwards.

The test ports should be easily accessible. For a perfect function, it is recommended to locate a drinking water filter upstream. Thoroughly rinse the pipe prior to the installation. Install the Backflow Preventer type BA in horizontal position in the pipe under consideration of the flow direction without applying stresses.

Technical data

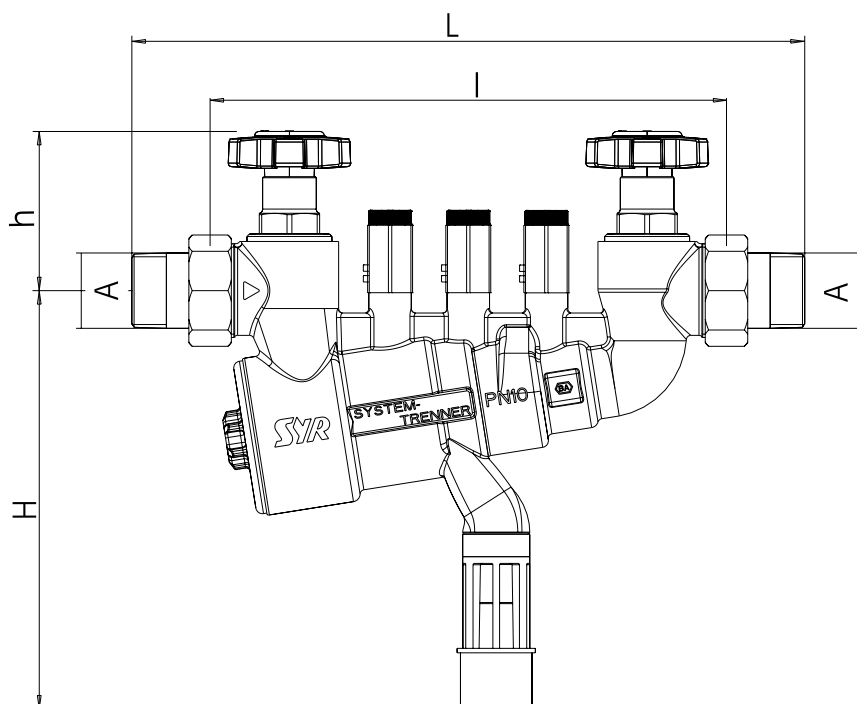
Operating pressure:	max. 10 bar
Operating temperature:	max. 65°C
Mounting position:	horizontal, tundish facing downwards
Fluid:	Drinking water
Flow rate capacity:	DN 15: 1.75 m ³ /h at 1.5 bar Δp DN 20: 4.10 m ³ /h at 1.5 bar Δp DN 25: 5.70 m ³ /h at 1.5 bar Δp
Serial number:	6600...

Maintenance

According to EN 1717, the Backflow Preventer type BA has to be serviced on a regular basis. Therefore maintenance agreements between user and installer are useful. The proper function has to be verified after the first service year and then periodically in accordance with the operating conditions, but

every two years at the latest. The ball valves on top of each pressure zone are used in combination with a test kit to verify functionality. This Backflow Preventer type BA is designed with a cartridge system which makes the maintenance easy and unproblematic.

Backflow Preventer type BA 6600



4

Nominal size		DN 15	DN 20	DN 25
	A	R 1/2"	R 3/4"	R 1"
Dimension in mm	L (mm)	223	293	301
	I (mm)	167	231	231
	H (mm)	132.2	187	187
	h (mm)	56.2	58.4	81.4

Accessories

Test kit: electronic pressure measurement device for inspection and maintenance.
6600.00.902

Backflow Preventer type BA 6600

Components / Order numbers

①
Ball valve
6600.00.904

②
Tundish
6600.00.927

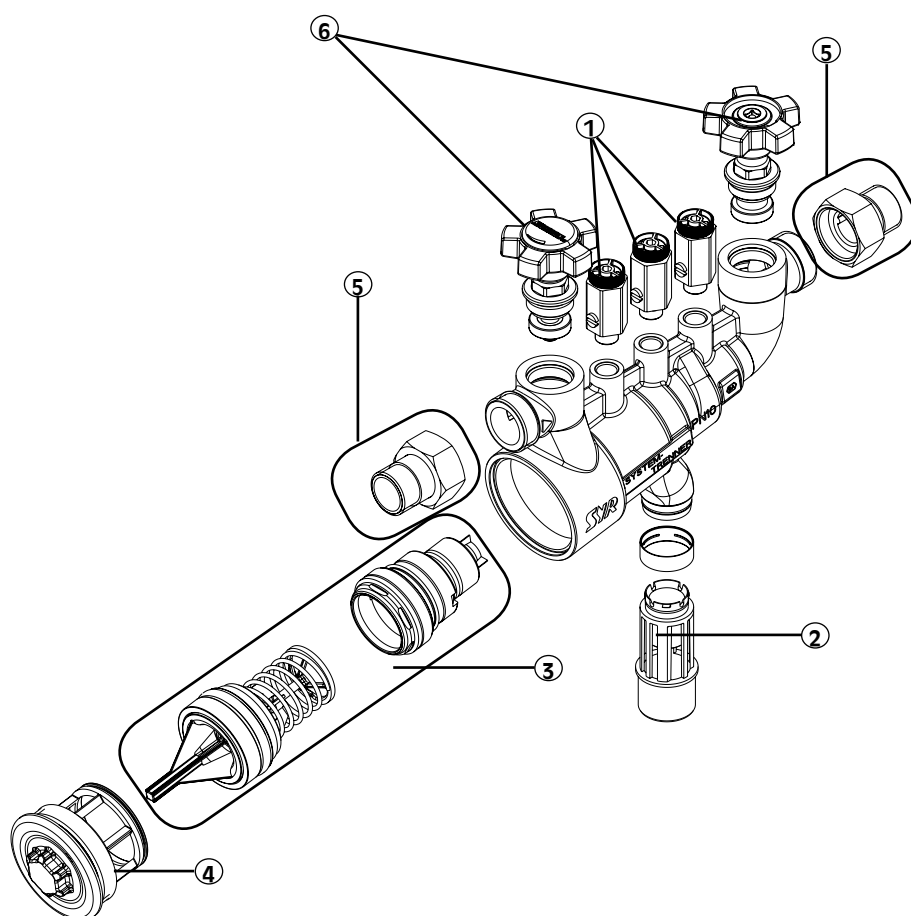
③
Cartridge
DN 15 6600.00.938
DN 20/25 6600.00.923

④
Plug
DN 15 6600.00.936
DN 20/25 6600.00.925

⑤
Union connection
DN 15 6600.00.928
DN 20 6600.00.929
DN 25 6600.00.930

⑥
Isolating valve
DN 15 6600.00.931
DN 20 6600.00.932
DN 25 6600.00.933

not illustrated
Service key for
BA cartridge
6600.00.908



Backflow Preventer type BA 6600

Controllable Backflow Preventer



4

Field of application

The SYR Backflow Preventer type BA is a compact safety valve in compliance with the European standard EN 1717 (Protection against pollution of potable water installations and general requirements for devices to prevent pollution by backflow), group B (three pressure zones system). It is in conformity with type BA described in EN 1717

and therefore it can be used as a protective device up to fluid category 4 (included). Its task is to prevent back-siphonage or backflow of non-drinking water into the public potable water system. The Backflow Preventer type BA covers numerous application possibilities (for instance printing, chemical and food industry, laboratories and medical technology).

Design

The Backflow Preventer type BA includes all components determined in the European standard EN 1717 and is designed as 3-pressure zones-system with controllable upstream/ intermediate and downstream pressure zones. In addition, it includes an integral strainer. The ball valves on top of each of the three pressure zones are used in combination with a test kit to verify functionality by pressure measurement. The Backflow

Preventer is composed of 2 consecutive check valves with an intermediate pressure zone that can be vented to the atmosphere. When no water is drawn off, both check valves are open and the discharge valve is closed. In case of back-siphonage, the inlet pressure drops. The discharge valve opens at the latest when the differential pressure between upstream and intermediate pressure zone has dropped to 0.14 bar.

Backflow Preventer type BA 6600

Materials

The body is made of low-lead dezincification resistant gunmetal alloy. The internal parts are made of high-quality corrosion resistant synthetic materials or stainless steel. All materials are tested and approved by DVGW. All syn-

thetic parts getting in contact with drinking water intended for human consumption are approved by the German Public Health Office (KTW). The discharge outlet on the valve is made of high-quality synthetic material.

Installation

Permanent access to the valve has to be provided and it shall not be mounted in rooms liable to flooding, frost or high temperatures. The installation should only be carried out in an well-ventilated environment. The connected discharge device must be able to collect the discharge volume. The Backflow Preventer type BA has to be installed in horizontal position with the discharge valve (tundish

connection) facing downwards.

The test ports should be easily accessible. For a perfect function, it is recommended to locate a drinking water filter upstream. Thoroughly rinse the pipe prior to the installation. Install the Backflow Preventer type BA in horizontal position in the pipe under consideration of the flow direction without applying stresses.

Technical data

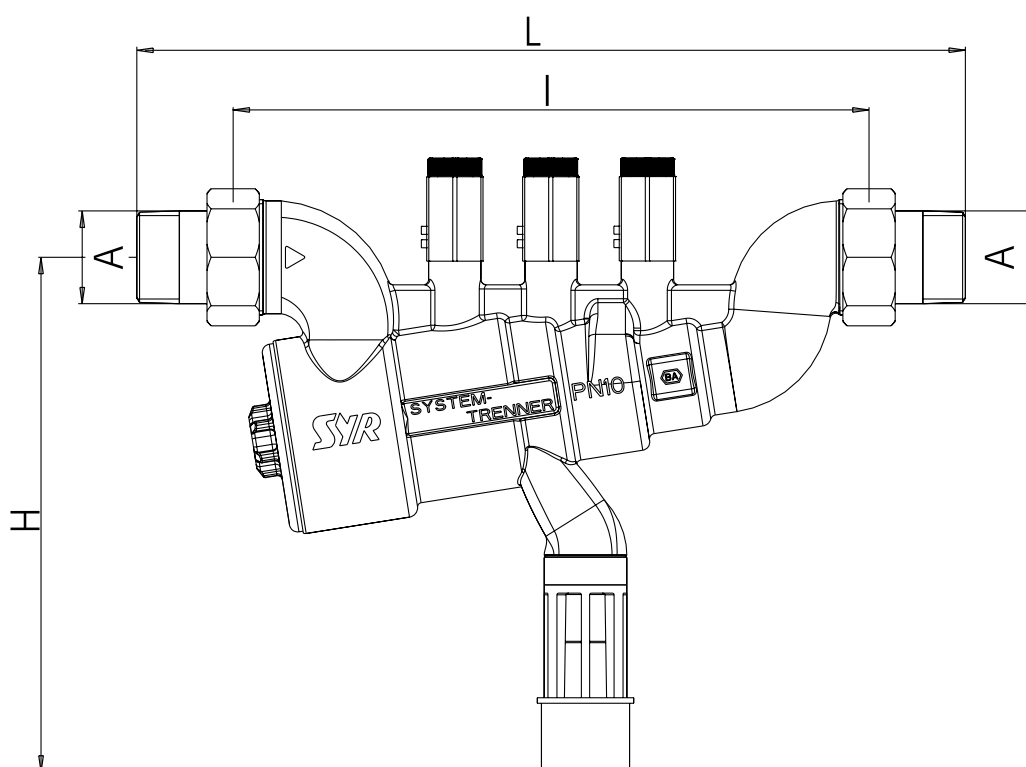
Operating pressure:	max. 10 bar
Operating temperature:	max. 65°C
Mounting position:	horizontal, tundish facing downwards
Fluid:	Drinking water
Flow rate capacity:	DN 15: 2.9 m ³ /h at 1.5 bar Δp DN 20: 5.1 m ³ /h at 1.5 bar Δp DN 25: 7.9 m ³ /h at 1.5 bar Δp
Serial number:	6600...

Maintenance

According to EN 1717, the Backflow Preventer type BA has to be serviced on a regular basis. Therefore maintenance agreements between user and installer are useful. The proper function has to be verified after the first service year and then periodically in accordance with the operating conditions, but

every two years at the latest. The ball valves on top of each pressure zone are used in combination with a test kit to verify functionality. This Backflow Preventer type BA is designed with a cartridge system which makes the maintenance easy and unproblematic.

Backflow Preventer type BA 6600



4

Noninal size		DN 15	DN 20	DN 25
	A	R 1/2"	R 3/4"	R 1"
Dimensions	L (mm)	223	293	301
	I (mm)	167	231	231
	H (mm)	132.2	187	187

Accessories

Test kit: electronic pressure measurement device
for inspection and maintenance.
6600.00.902

Backflow Preventer type BA 6600

Components / Order numbers

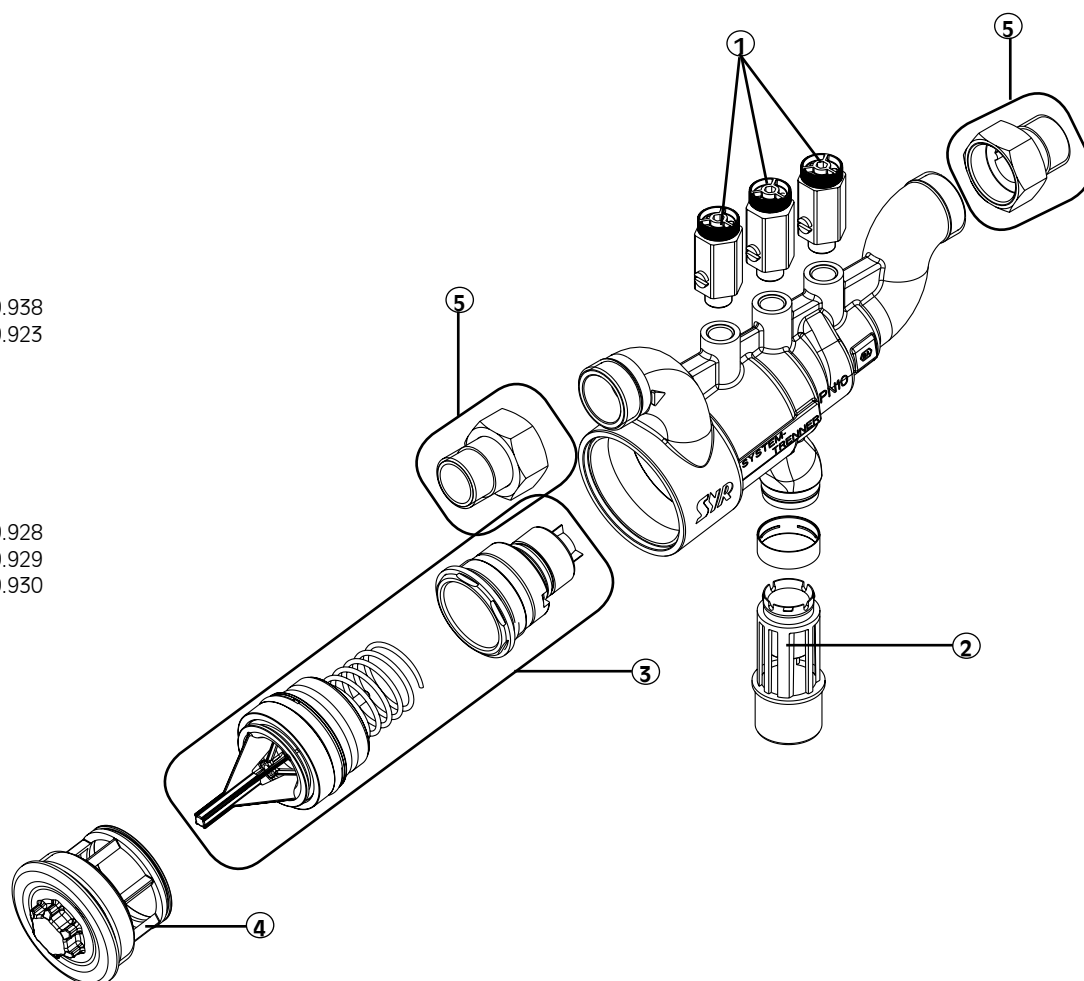
①
Ball valve
6600.00.904

②
Tundish
6600.00.903

③
Cartridge
DN 15 6600.00.938
DN 20/25 6600.00.923

④
Plug
6600.00.907

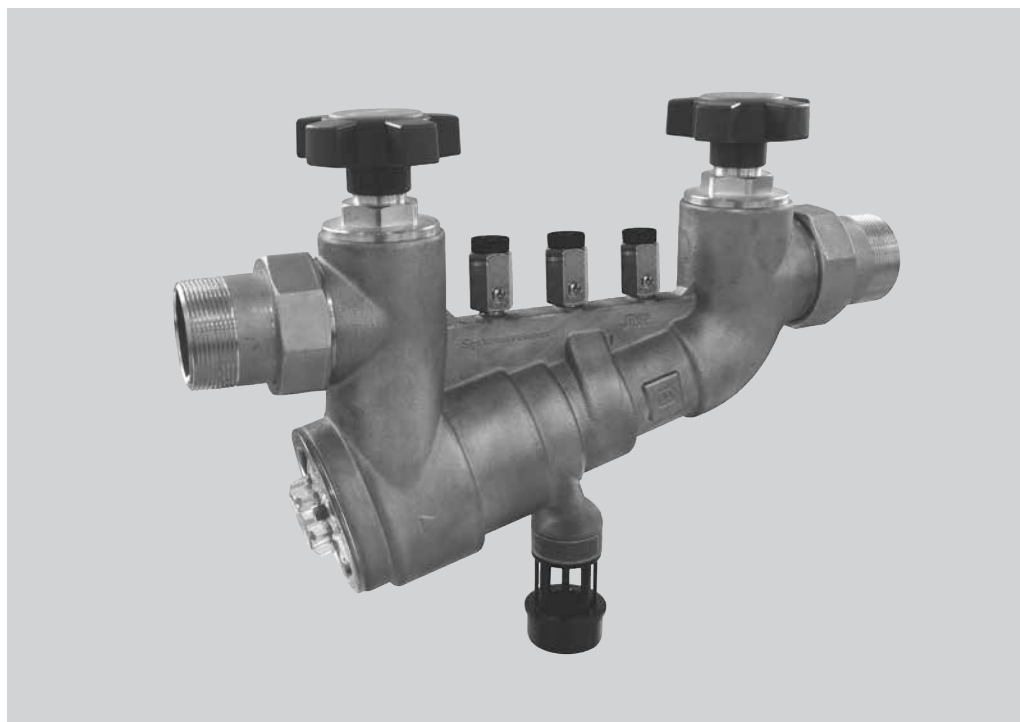
⑤
Union connection
DN 15 6600.00.928
DN 20 6600.00.929
DN 25 6600.00.930



not illustrated
Service key for
BA cartridge
6600.00.908

Backflow Preventer type BA 6600 max

Controllable Backflow Preventer with isolating valves



4

Field of application

The SYR Backflow Preventer type BA is a compact safety valve in compliance with the European standard EN 1717 (Protection against pollution of potable water installations and general requirements for devices to prevent pollution by backflow), group B (three pressure zones system). It is in conformity with type BA described in EN 1717

and therefore it can be used as a protective device up to fluid category 4 (included). Its task is to prevent back-siphonage or backflow of non-drinking water into the public potable water system. The Backflow Preventer type BA covers numerous application possibilities (for instance printing, chemical and food industry, laboratories and medical technology).

Design

The Backflow Preventer type BA includes all components determined in the European standard EN 1717 and is designed as 3-pressure zones-system with controllable upstream/ intermediate and downstream pressure zones. In addition, it includes two isolating valves and an integral strainer. The ball valves on top of each of the three pressure zones are used in combination with a test kit to verify functionality by pressure measurement. The Backflow Preventer is

composed of 2 consecutive check valves with an intermediate pressure zone that can be vented to the atmosphere. When no water is drawn off, both check valves are open and the discharge valve is closed. In case of back-siphonage, the inlet pressure drops. The discharge valve opens at the latest when the differential pressure between upstream and intermediate pressure zone has dropped to 0.14 bar.

Backflow Preventer type BA 6600 max

Materials

The body is made of low-lead dezincification resistant gunmetal alloy. The internal parts are made of high-quality corrosion resistant synthetic materials or stainless steel. All materials are tested and approved by DVGW. All synthetic parts getting in contact with drinking

water intended for human consumption are approved by the German Public Health Office (KTW). The discharge outlet on the valve is made of high-quality synthetic material.

Installation

Permanent access to the valve has to be provided and it shall not be mounted in rooms liable to flooding, frost or high temperatures. The installation should only be carried out in an well-ventilated environment. The connected discharge device must be able to collect the discharge volume. The Backflow Preventer type BA has to be installed in horizontal position with the discharge valve (tundish

connection) facing downwards.

The test ports should be easily accessible. For a perfect function, it is recommended to locate a drinking water filter upstream. Thoroughly rinse the pipe prior to the installation. Install the Backflow Preventer type BA in horizontal position in the pipe under consideration of the flow direction without applying stresses.

Technical data

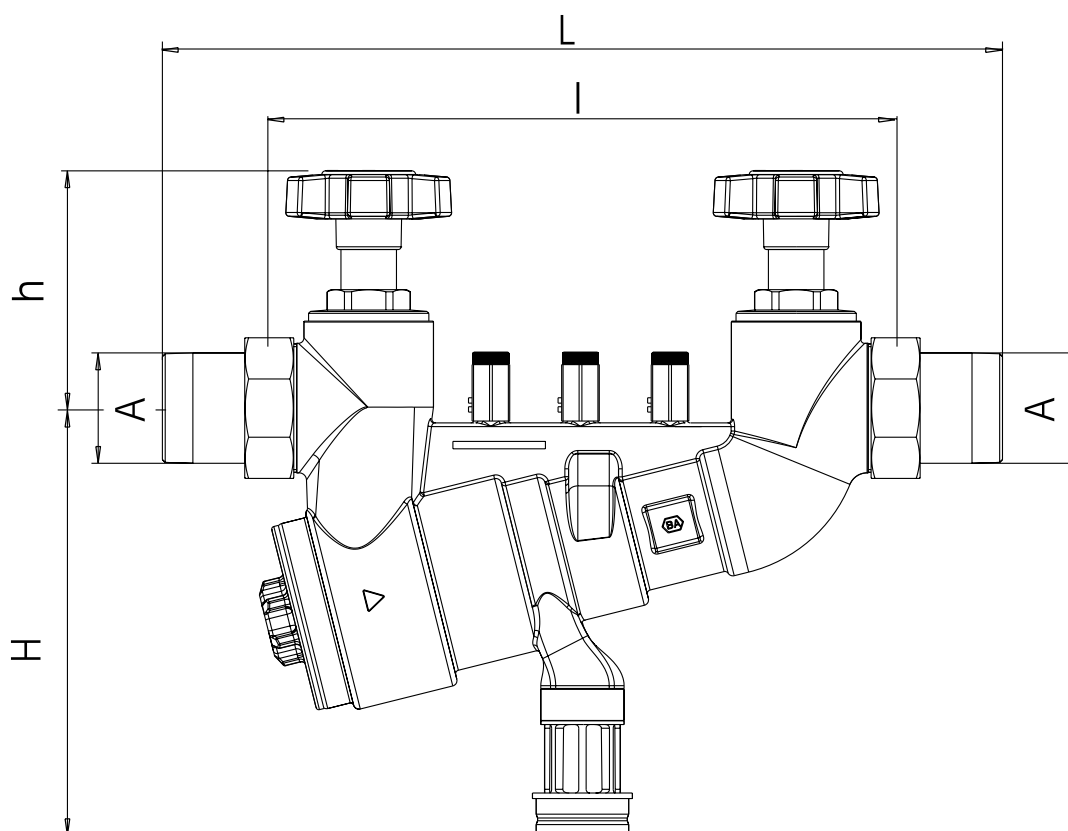
Operating pressure:	max. 10 bar
Operating temperature:	max. 65°C
Mounting position:	horizontal, tundish facing downwards
Fluid:	Drinking water
Flow rate capacity:	DN 32: 8.0 m ³ /h at 1.5 bar Δp DN 40: 13.0 m ³ /h at 1.5 bar Δp DN 50: 21.2 m ³ /h at 1.5 bar Δp
Serial number:	6600...

Maintenance

According to EN 1717, the Backflow Preventer type BA has to be serviced on a regular basis. Therefore maintenance agreements between user and installer are useful. The proper function has to be verified after the first service year and then periodically in accordance with the operating conditions, but

every two years at the latest. The ball valves on top of each pressure zone are used in combination with a test kit to verify functionality. This Backflow Preventer type BA is designed with a cartridge system which makes the maintenance easy and unproblematic.

Backflow Preventer type BA 6600 max



4

Nominal size		DN 32	DN 40	DN 50
	A	R 1¼"	R 1½"	R 2"
Dimensions	L (mm)	432	436	454
	I (mm)	340	340	340
	H (mm)	231	231	231
	h (mm)	128	128	128

Accessories

Test kit: electronic pressure measurement device
for inspection and maintenance.
6600.00.902

Backflow Preventer type BA 6600 max

Components / Order numbers

①
Ball valve
6600.00.912

②
Tundish
6600.50.900

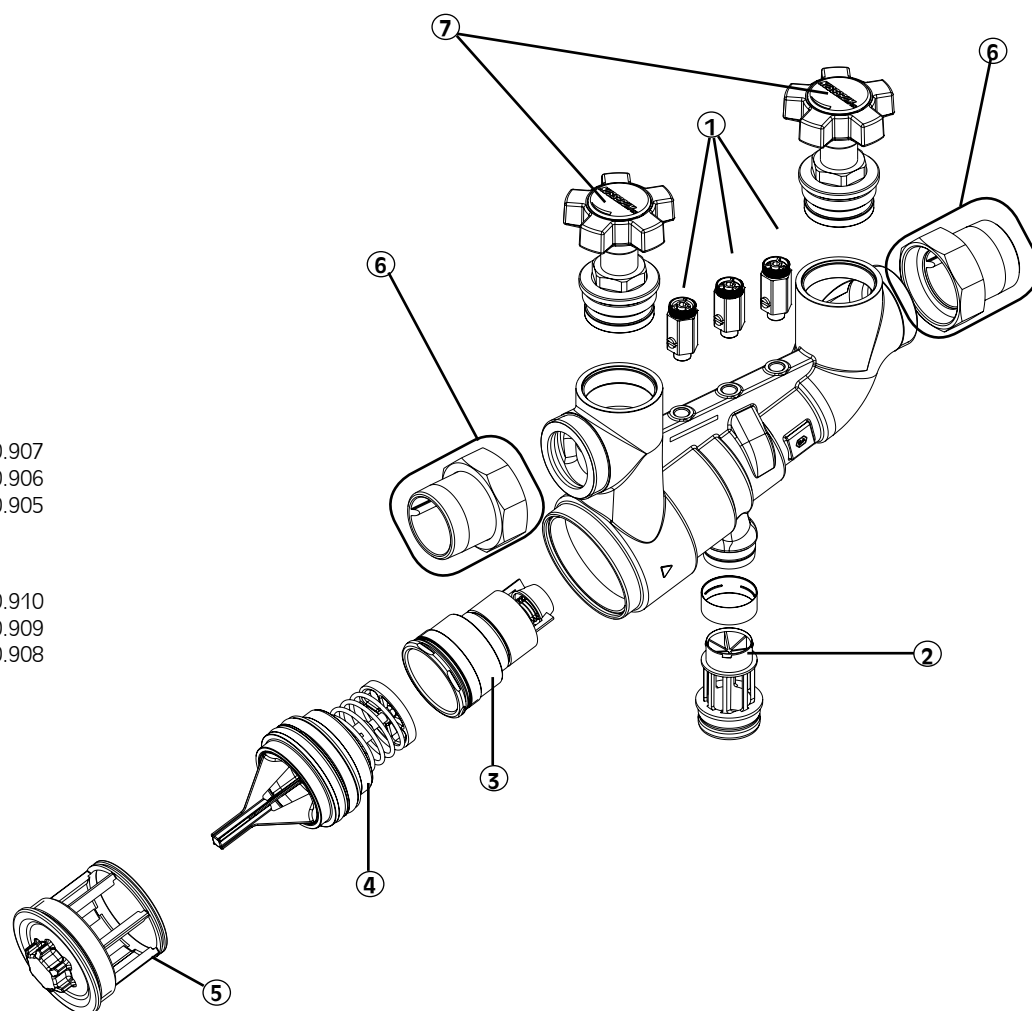
③
Cartridge
6600.50.901

④
Hub
6600.50.902

⑤
Plug
6600.50.903

⑥
Union connection
R 1¼": 6600.50.907
R 1½": 6600.50.906
R 2": 6600.50.905

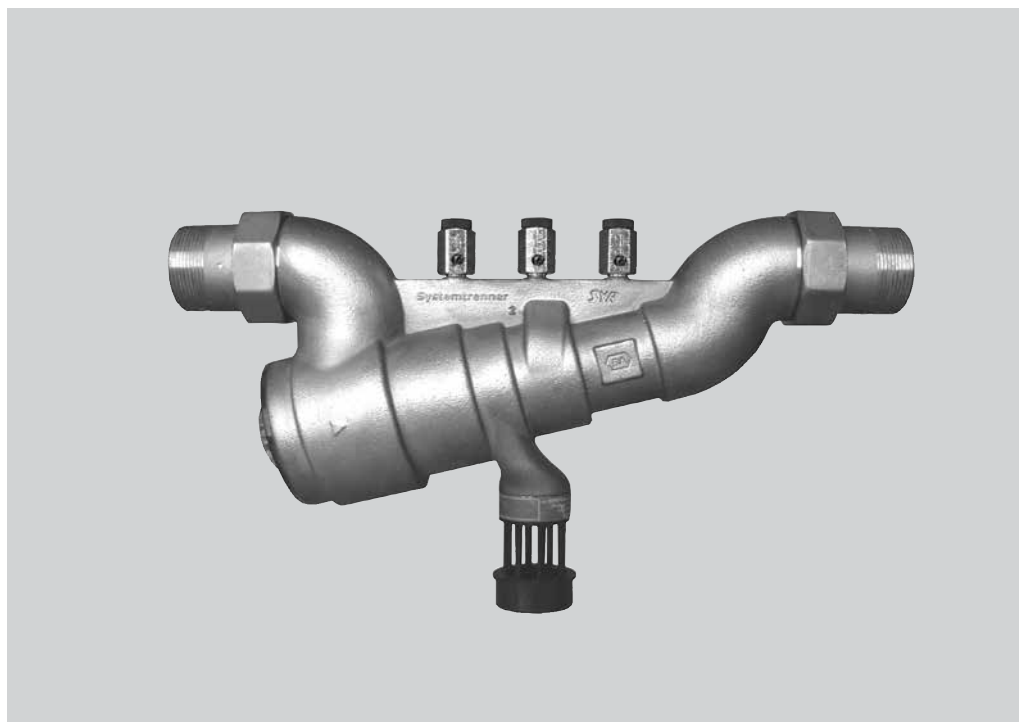
⑦
Isolating valve
R 1¼": 6600.50.910
R 1½": 6600.50.909
R 2": 6600.50.908



not illustrated
Service key for
BA cartridge
6600.00.908

Backflow Preventer type BA 6600 max

Controllable Backflow Preventer



4

Field of application

The SYR Backflow Preventer type BA is a compact safety valve in compliance with the European standard EN 1717 (Protection against pollution of potable water installations and general requirements for devices to prevent pollution by backflow), group B (three pressure zones system). It is in conformity with type BA described in EN 1717

and therefore it can be used as a protective device up to fluid category 4 (included). Its task is to prevent back-siphonage or backflow of non-drinking water into the public potable water system. The Backflow Preventer type BA covers numerous application possibilities (for instance printing, chemical and food industry, laboratories and medical technology).

Design

The Backflow Preventer type BA includes all components determined in the European standard EN 1717 and is designed as 3-pressure zones-system with controllable upstream/ intermediate and downstream pressure zones. In addition, it includes an integral strainer. The ball valves on top of each of the three pressure zones are used in combination with a test kit to verify functionality by pressure measurement. The Backflow Preventer

is composed of 2 consecutive check valves with an intermediate pressure zone that can be vented to the atmosphere. When no water is drawn off, both check valves are open and the discharge valve is closed. In case of back-siphonage, the inlet pressure drops. The discharge valve opens at the latest when the differential pressure between upstream and intermediate pressure zone has dropped to 0.14 bar.

Backflow Preventer type BA 6600 max

Materials

The body is made of low-lead dezincification resistant gunmetal alloy. The internal parts are made of high-quality corrosion resistant synthetic materials or stainless steel. All materials are tested and approved by DVGW. All syn-

thetic parts getting in contact with drinking water intended for human consumption are approved by the German Public Health Office (KTW). The discharge outlet on the valve is made of high-quality synthetic material.

Installation

Permanent access to the valve has to be provided and it shall not be mounted in rooms liable to flooding, frost or high temperatures. The installation should only be carried out in an well-ventilated environment. The connected discharge device must be able to collect the discharge volume. The Backflow Preventer type BA has to be installed in horizontal position with the discharge valve (tundish

connection) facing downwards.

The test ports should be easily accessible. For a perfect function, it is recommended to locate a drinking water filter upstream. Thoroughly rinse the pipe prior to the installation. Install the Backflow Preventer type BA in horizontal position in the pipe under consideration of the flow direction without applying stresses.

Technical data

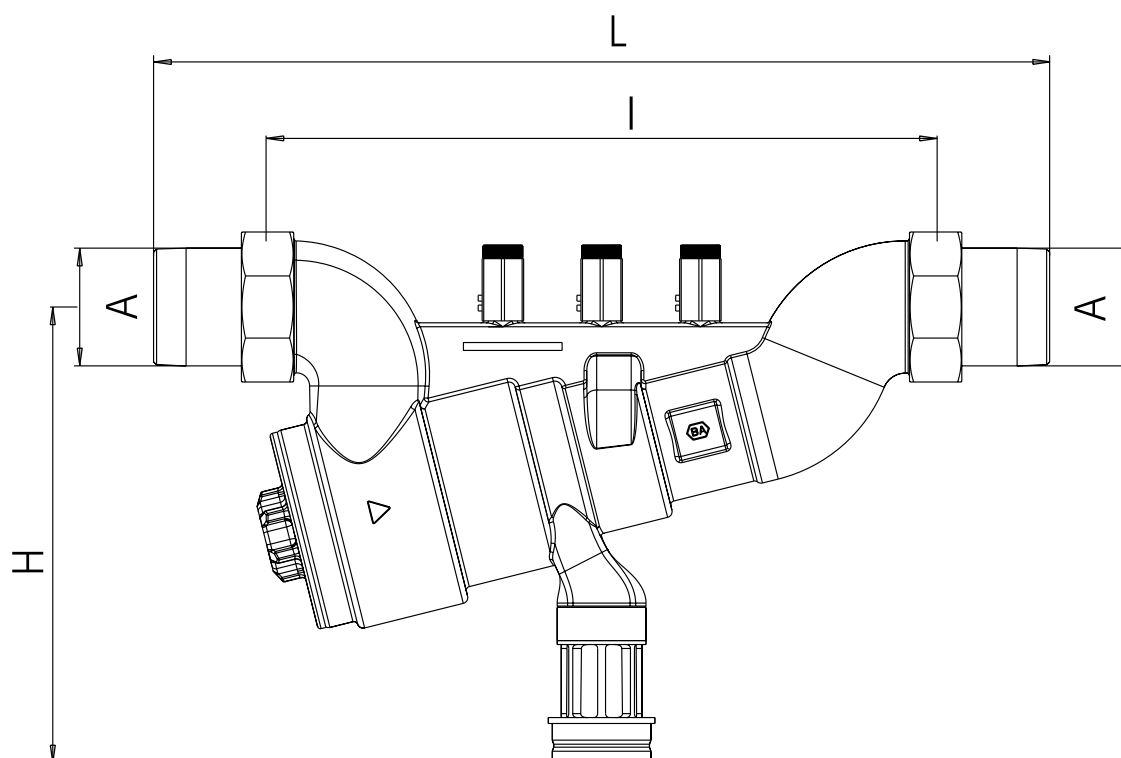
Operating pressure:	max. 10 bar
Operating temperature:	max. 65°C
Mounting position:	horizontal, tundish facing downwards
Fluid:	Drinking water
Flow rate capacity:	DN 32: 13.0 m ³ /h at 1.5 bar Δp DN 40: 20.3 m ³ /h at 1.5 bar Δp DN 50: 31.8 m ³ /h at 1.5 bar Δp
Serial number:	6600...

Maintenance

According to EN 1717, the Backflow Preventer type BA has to be serviced on a regular basis. Therefore maintenance agreements between user and installer are useful. The proper function has to be verified after the first service year and then periodically in accordance with the operating conditions, but

every two years at the latest. The ball valves on top of each pressure zone are used in combination with a test kit to verify functionality. This Backflow Preventer type BA is designed with a cartridge system which makes the maintenance easy and unproblematic.

Backflow Preventer type BA 6600 max



4

Nominal size		DN 32	DN 40	DN 50
	A	R 1¼"	R 1½"	R 2"
Dimensions	L (mm)	432	436	454
	I (mm)	340	340	340
	H (mm)	231	231	231
	h (mm)	128	128	128

Accessories

Test kit: electronic pressure measurement device
for inspection and maintenance.
6600.00.902

Backflow Preventer type BA 6600 max

Components / Order numbers

①
Ball valve
6600.00.912

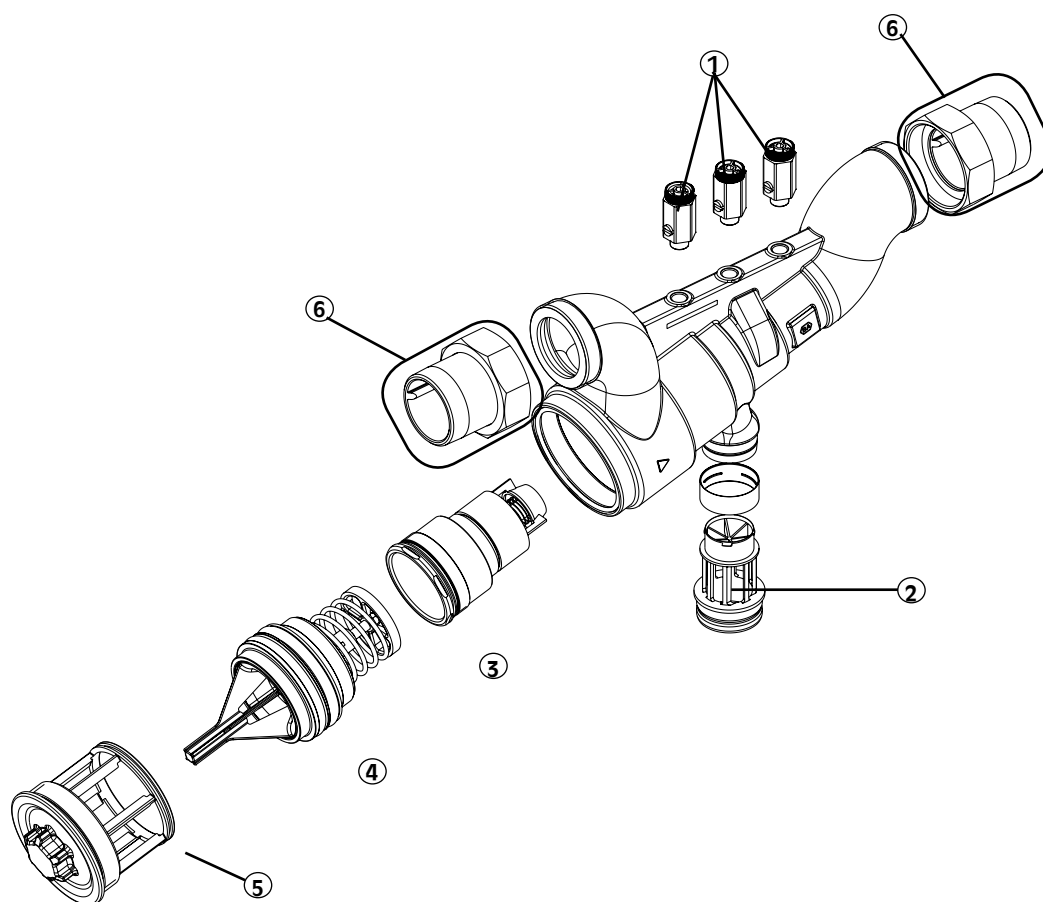
②
Tundish
6600.50.900

③
Cartridge
6600.50.901

④
Hub
6600.50.902

⑤
Plug
6600.50.903

⑥
Union connection
R 1¼": 6600.50.907
R 1½": 6600.50.906
R 2": 6600.50.905



not illustrated
Service key for
BA cartridge
6600.00.908

Backflow Preventer BA Mini 6600D

Controllable Backflow Preventer with isolating valves



4

Field of application

The SYR Backflow Preventer type BA Mini is a compact safety valve in compliance with the European standard EN 1717 (Protection against pollution of potable water installations and general requirements for devices to prevent pollution by backflow), group B (three pressure zones system). It is in conformity with type BA described in EN 1717

and therefore it can be used as a protective device up to fluid category 4 (included). Its task is to prevent back-siphonage or backflow of non-drinking water into the public potable water system. The Backflow Preventer type BA covers numerous application possibilities (for instance printing, chemical and food industry, laboratories and medical technology).

Design

The Backflow Preventer type BA Mini includes all components determined in the European standard EN 1717 and is designed as 3-pressure zones-system with controllable upstream/ intermediate and downstream pressure zones. In addition, it includes two isolating valves and an integral strainer. The ball valves on top of each of the three pressure zones are used in combination with a test kit to verify functionality by pressure measurement. The Backflow Preventer is

composed of 2 consecutive check valves with an intermediate pressure zone that can be vented to the atmosphere. When no water is drawn off, both check valves are open and the discharge valve is closed. In case of back-siphonage, the inlet pressure drops. The discharge valve opens at the latest when the differential pressure between upstream and intermediate pressure zone has dropped to 0.14 bar.

Backflow Preventer BA Mini 6600D

Materials

The body is made of a high-quality, low-lead brass alloy and high-quality synthetic material. The internal parts are made of high-quality corrosion resistant synthetic materials or stainless steel. All materials are tested and approved by DVGW. All synthetic

parts getting in contact with drinking water intended for human consumption are approved by the German Public Health Office (KTW). The discharge outlet on the valve is made of high-quality synthetic material.

Installation

Permanent access to the valve has to be provided and it shall not be mounted in rooms liable to flooding, frost or high temperatures. The installation should only be carried out in an well-ventilated environment. The connected discharge device must be able to collect the discharge volume. The Backflow Preventer type BA has to be installed in horizontal position with the discharge valve (tundish

connection) facing downwards.

The test ports should be easily accessible. For a perfect function, it is recommended to locate a drinking water filter upstream. Thoroughly rinse the pipe prior to the installation. Install the Backflow Preventer type BA in horizontal position in the pipe under consideration of the flow direction without applying stresses.

Technical data

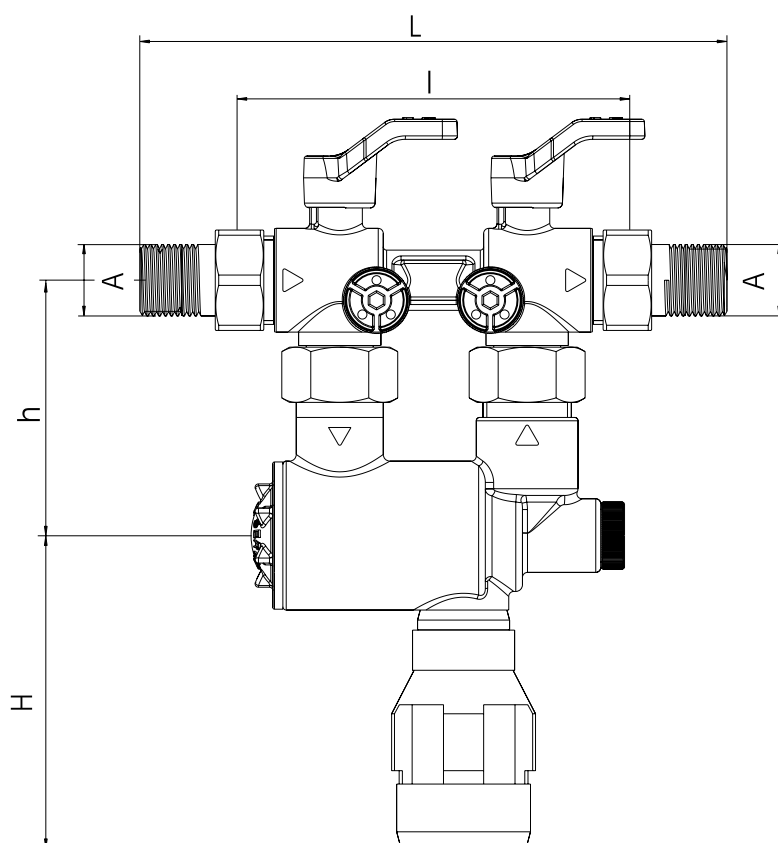
Operating pressure:	max. 10 bar
Operating temperature:	max. 65°C
Mounting position:	horizontal, tundish facing downwards
Fluid:	Drinking water
Flow rate capacity:	DN 15: 2.0 m³/h at 1.5 bar Δp
Serial number:	6600...

Maintenance

According to EN 1717, the Backflow Preventer type BA has to be serviced on a regular basis. Therefore maintenance agreements between user and installer are useful. The proper function has to be verified after the first service year and then periodically in accordance with the operating conditions, but

every two years at the latest. The ball valves on top of each pressure zone are used in combination with a test kit to verify functionality. This Backflow Preventer type BA is designed with a cartridge system which makes the maintenance easy and unproblematic.

Backflow Preventer BA Mini 6600D



Nominal size		DN 15	DN 15
	A	R 1/2"	R 3/4"
Dimensions	L (mm)	175	175
	l (mm)	117	117
	H (mm)	93.5	93.5
	h (mm)	76	76

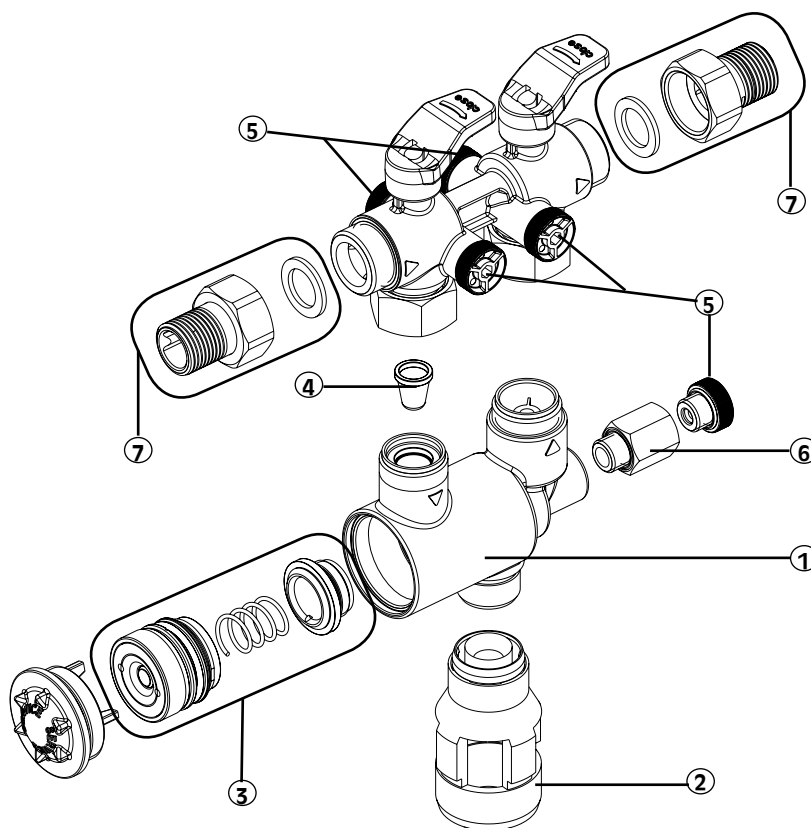
Accessories

Test kit: electronic pressure measurement device
for inspection and maintenance.
6600.00.902

Backflow Preventer BA Mini 6600D

Components / Order numbers

- ①
Body
synthetic: 6600.00.919
metal: 6600.00.920
- ②
Tundish
6600.00.903
- ③
Cartridge
6600.00.921
- ④
Strainer
6600.00.922
- ⑤
Manometer plug
0828.08.000
- ⑥
Adapter (only synthetic-Version)
6600.00.918
- ⑦
Union connection
R 1½": 0812.15.900
R ¾": 0816.20.900



Backflow Preventer type CA 6800

Non-controllable Backflow Preventer with different pressure zones - type CA



Field of application

The SYR backflow preventer type CA is a compact safety valve in compliance with the European standard EN 1717 (Protection against pollution of potable water installations and general requirements of devices to prevent pollution by backflow), group C (three zones system). It is in conformity with the installation type CA described in EN 1717 and therefore it can be used as a protective device up to

the fluid category 3 (included). Its task is to prevent back-siphonage or backflow of non-drinking water into the public potable water system. The backflow preventer type CA is mainly used to fill heating installations without inhibitors and allows to permanently connect the filling device of the heating installation to the drinking water system.

Design

The backflow preventer type CA includes all components determined in the European standard EN 1717 and is divided into 3 zones: an upstream pressure zone, a non-measurable intermediate pressure zone (venting to the atmosphere) and a downstream pressure zone. The backflow preventer CA provides disconnection by venting the intermediate

pressure zone to the atmosphere, when the pressure difference between intermediate and upstream pressure zone is below 10% of the upstream pressure. The volume that can be discharged through the intermediate pressure zone is at least equivalent to the determined volume of the inlet flow rate.

Backflow Preventer type CA 6800

Materials

The body is made of a high-quality low-lead brass alloy. The internal parts are made of high-quality corrosion resistant synthetic materials or stainless steel. All materials are tested and approved by DVGW. All synthetic

parts getting in contact with drinking water are approved by the German Public Health Office (KTW). The discharge outlet on the valve is made of high-quality synthetic material.

Installation

Permanent access to the valve has to be provided and it shall not be mounted in rooms where flooding, frost or high temperatures are possible. The installation should only be carried out in a well-ventilated environment. The connected discharge device must be able

to collect the discharged volume. The backflow preventer type CA has to be installed in horizontal position with the discharge valve (tundish connection) facing downwards. For a perfect function, it is recommended to locate a drinking water filter upstream.

Thoroughly rinse the pipe prior to the installation. Install the backflow preventer type CA in horizontal position in the pipe un-der

consideration of the flow direction without applying stresses.

Technical data

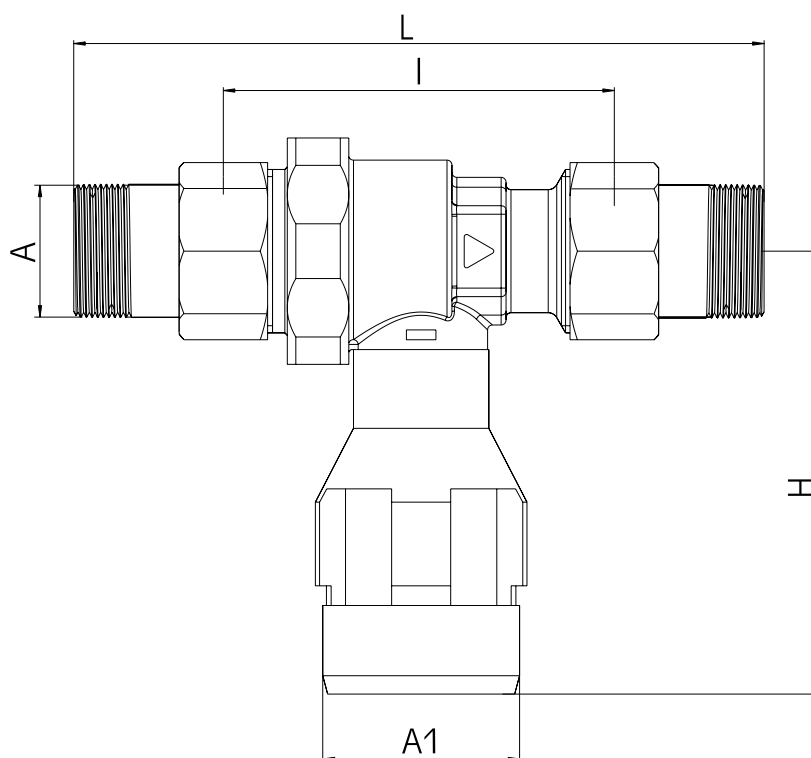
Operating pressure:	max. 10 bar
Operating temperature:	max. 65°C
Mounting position:	horizontal, tundish facing downwards
Media:	Drinking water
Flow rate:	DN 15: 2.0 m³/h bei 1.7 bar Δp DN 20: 3.2 m³/h bei 1.7 bar Δp
DVGW-Number:	DW-6307BR0497
Acoustic protection approval number:	P-IX 7998/I
Serial-Nr.:	6800...

Maintenance

According to EN 1717, the backflow preventer type CA has to be serviced on a regular basis. Therefore maintenance agreements between user and installer are useful. The proper function has to be verified after the first service year and then periodically in ac-

cor-dance with the operating conditions, but every two years at the latest. This backflow preventer type CA is designed with a cartridge system which makes the maintenance easy and unproblematic.

Backflow Preventer type CA 6800



Nominal size		DN 15	DN 20
	A	G ½	G ¾
Dimensions	L (mm)	137.5	147.5
	I (mm)	79.5	79.5
	H (mm)	90	90
	A1 (mm)	40	40

Backflow Preventer type CA 6800

Components / Order numbers

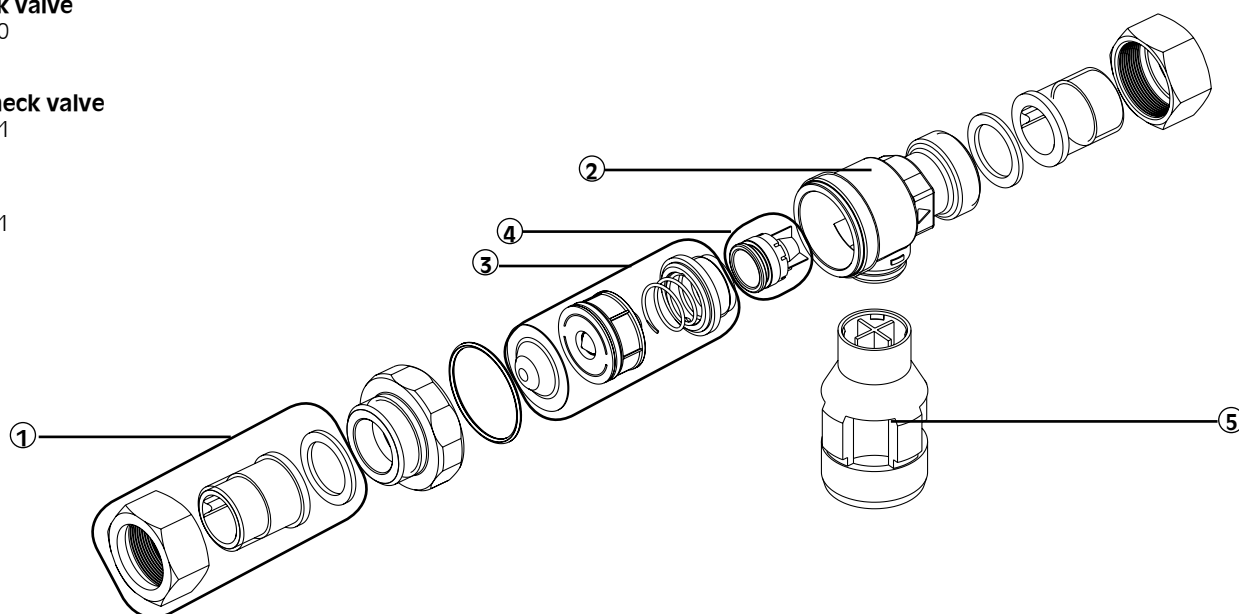
①
Threated union and seal
DN 15: 0814.15.900
DN 20: 0814.20.900

②
Body

③
First check valve
6800.00.900

④
Second check valve
0702.20.901

⑤
Tundish
6800.00.901



Air Break 65



4

Field of application

The SYR Air Break type 0065 compensates negative pressure in pipe systems and prevents backsiphonage of water into the potable water system. Backsiphonage may occur in case of vacuum in the pipe system and when the latter gets in contact with water outside of this system, for instance by means of a hose. In case of vacuum, the

Air Break allows air to enter into the potable water system. The Air Break allows air to escape from a pipe only when the pipe system is not under pressure, for instance when a new pipe is being filled.

When a real air vent is required, we recommend to install the automatic air vent type 0062.

Design

The SYR Air Break is a vacuum breaker without drain of dripping water. It works with a spring-loaded valve. The water pressure closes the ventilation valve, which obstructs the air inlet port. In case of negative pressure, the spring force opens the valve seat and clears the air inlet port, which prevents

backsiphonage of non potable water into the installation. The compression fittings allow an easy connection to the installation. The colour of the valve cap facilitates the distinction between cold and hot water applications: red for hot water and green for cold water.

Air Break 65

Materials

Housing and union made of high quality, low-lead brass alloy. Remaining components made of ageing and hot water resi-

stant synthetic materials, approved by the German Health Office (KTW) for use with potable water.

Installation

Install in ascending pipes. It is recommended to mount the Air Break at the highest vertical point of a pipe distribution system within each floor. It is important that no stop valve can isolate

the part of the pipe in which the vacuum breaker is installed. Mount the device above the highest possible water level with a minimum distance of 150 mm to the branch pipe.

Technical data

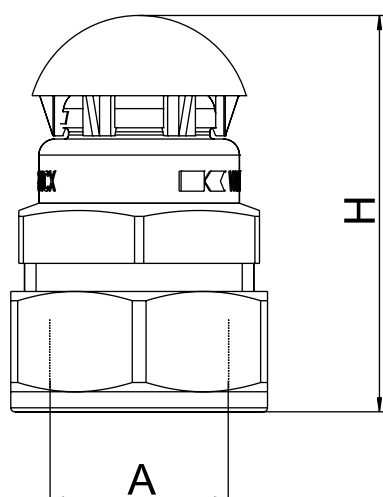
Inlet pressure:	max. 16 bar
Connection size:	compression fittings 15 and 22 mm
Fluid:	water
Operating Temperature:	max. 60 °C
Serial-Nr.:	0065...

Maintenance

To inspect the device, isolate the water supply at the first upstream isolating valve. If the water left in the piping can still be drained, the device works. When impurities have accumulated in the device, disassemble the valve and clean it with clear

water. The integral check valve cannot be removed for safety reasons. When impurities adhering to the sealing elements cannot be removed or in case of damaged sealing elements, it is recommended to exchange the Air Break.

Air Break 65



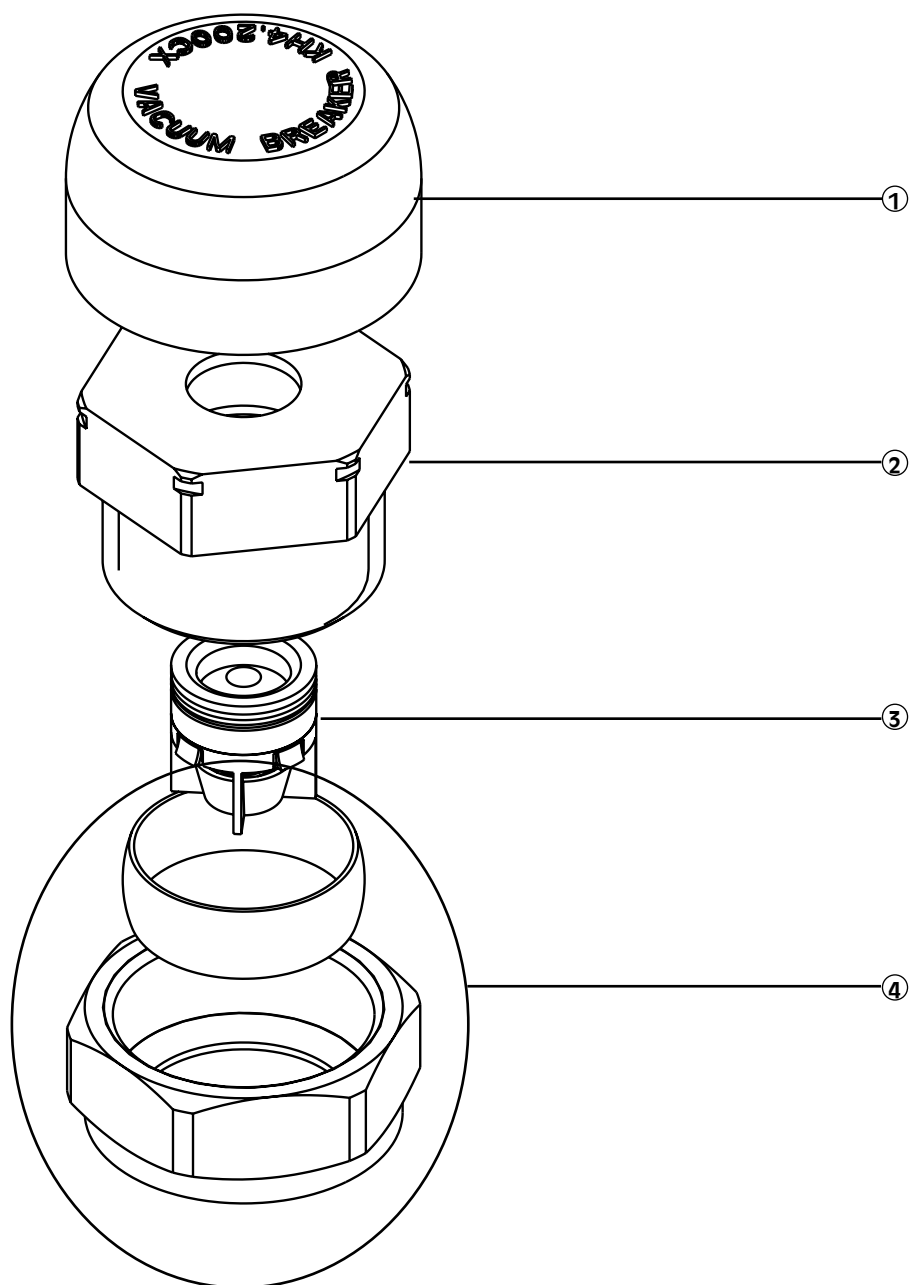
4

Nominal size	Compression fitting		
	A (mm)	15	22
Dimensions	H (mm)	46.3	147.5

Air Break 65

Components / Order numbers

- ①
Cap
- ②
Body
- ③
Check valve
- ④
Fitting (15 or 22 mm)



Safety valves for potable water heaters

Technical information		Site 230
Safety Center	4807	Site 237
SYRobloc-Safety Group	24	Site 241
SYRobloc-Safety Group	25	Site 245
Safety Group with non return	34	Site 249
Safety Assembly	322	Site 253
Safety Assembly	323	Site 257
Safety Assembly	324	Site 261
Safety Group for Warm Water Heaters	0330	Site 265
Pressure Relief Valve	2115	Site 269
Pressure Relief Valve stainless steel	2115	Site 273
Exchange Cartridge	2116	Site 277
Pressure Relief Valve	2117	Site 281
Thermostatic Mixing Valve	702 Safe	Site 285
T&P Valve	2303	Site 289

Safety valves for potable water heaters

Technical information

Definition

A diaphragm pressure relief valve opens automatically to prevent pressure from exceeding the service pressure and closes

automatically when the pressure has been reduced.



SYR Diaphragm pressure relief valve type 2115

Pressure relief valves for the protection of unvented (pressurised) potable water heaters

Each unvented (pressurised) potable water heater should be equipped with at least one diaphragm pressure relief valve. Instant water heaters with a nominal volume below 3 litres are the exception to the rule. Only spring-loaded diaphragm pressure relief valves should be used up to a nominal volume of 5000 litres. In case of unvented potable

water heaters with a nominal volume of more than 5000 litres and/or a heating capacity of more than 250 kW, the pressure relief valve has to be selected in accordance with the manufacturer's instructions. Table 1 determines the nominal size of pressure relief valves.

Safety valves for potable water heaters

Technical information

Tabelle 1: Nominal sizes of pressure relief valves for unvented potable water heaters

Nominal volume l	Size of valve DN min.	Heating capacity kW max.
up to 200	15	75
from 201 to 1000	20	150
from 1001 to 5000	25	250

Installation

Observe the following rules for the installation of diaphragm pressure relief valves: The pressure relief valves shall be installed in the cold water pipe. There shall be no isolating valves, narrowings or strainers between the pressure relief valve and the potable water heater.

The pressure relief valves have to be sited close to the potable water heater and be readily accessible. The nominal size of the feed pipe of the valve has to be at least equal to the connection dimension of the potable water heater.

The installation height of the pressure relief valve has to allow mounting the relief pipe with continuous incline. It is recommended to locate the pressure relief valve above the potable water heater, so that it can be exchanged without having to drain the latter.

Observe the following rules for the connection of the relief pipe:

The correct installation must ensure that persons are not endangered by escaping water when the pressure relief valves discharge. For this reason, each pressure relief valve requires a relief pipe, which is made of heat and sufficiently corrosion resistant material and is protected against frost.

The relief pipe that must have at least the diameter of the valve outlet has to end

within a building 20 to 40 mm over a drain device or a tundish and has to be readily accessible. It shall not include more than two bends and have a length of maximally 2 meters. When more bends or a length exceeding 2 meters are necessary, the relief pipe must be one size larger. More than 3 bends and a length exceeding 4 meters are not admissible.

A label with the inscription: „When heating, water has to escape from the relief pipe for safety reasons! Do not obturate!“ has to be placed close to the drain pipe.

The drain pipe connected to the tundish must have at least the double cross-section of the relief pipe.

Observe the following rules for the response pressure of pressure relief valves: The pressure relief valves are factory-set. The response pressure of the pressure relief valve has to be equal or lower than the admissible service overpressure of the potable water heater.

The maximum pressure in the cold water pipe must be at least 20% below the response pressure of the pressure relief pipe (see table 2). When the maximum pressure in the cold water pipe exceeds these 20%, a pressure reducing valve has to be installed.

Safety valves for potable water heaters

Technical information

Table 2: Examples for selection of response pressure

Admissible service pressure of potable water heater bar	Response pressure of pressure relief valve bar	Max. pressure in cold water pipe bar
6	6	4,8
8	8	6,4
10	10	8,0

Each diaphragm pressure relief valve has to be marked permanently with the manufacturer's logo, approval number, nominal size (with letter W for potable water or F for fluids) and the set pressure. Figure 1 shows a typical example of a marking plate.

Diaphragm pressure relief valves are sealed by the manufacturer. Changing the set pressure without destroying the cap for lead seal is impossible. The pressure relief

valve loses its approval in case of visible manipulation.



Fig. 1

The necessity to install a pressure reducing valve in the potable water system upstream of the potable water heater is justified inter alia by the way the valves work. Diaphragm safety valves work within an admissible tolerance of + 10% and - 20% of the response pressure. This means that when the service overpressure exceeds 10% of the response pressure, they have to be fully open and

when the service pressure drops to less than 20% of the response pressure, they have to be fully closed. A pressure relief valve with a response pressure of 6 bar can no longer close in case of a permanent service pressure in the cold water pipe of approximately 5 bar - this results in a continuous loss of water and energy.

Safety valves for potable water heaters

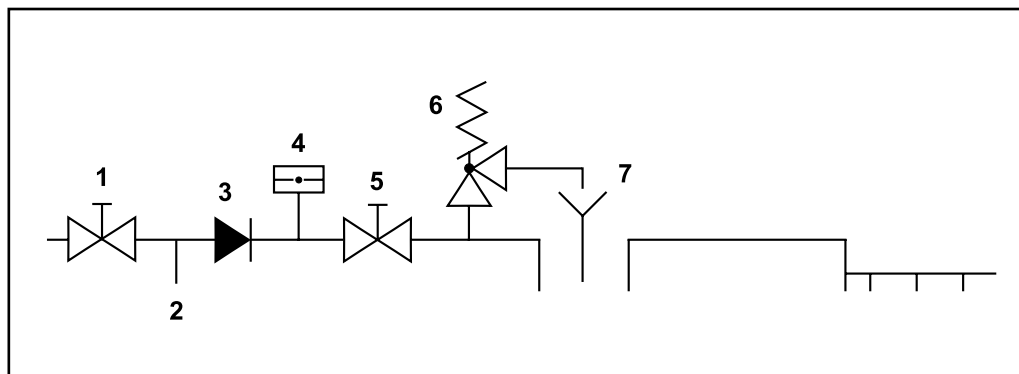
Technical information

Safety groups for potable water heaters

Unvented (pressurised) potable water heaters up to 10 litres only require a diaphragm pressure relief valve to ensure the protection. For unvented potable water heaters from 10 to 1000 litres, an approved safety group should be installed that includes the

following components: an isolating valve, a test port, a check valve, a manometer connection, a second isolating valve, a diaphragm pressure relief valve and a tundish.

- 1 = Isolating valve
- 2 = Test port
- 3 = Check valve
- 4 = Manometer connection
- 5 = 2nd isolating valve
- 6 = Diaphragm pressure relief valve
- 7 = Tundish



Installation scheme

Fig. 1



SYR Safety group SYRobloc Type 24 DN 20

Fig. 2

Safety valves for potable water heaters

Technical information

A check valve has to be installed in the cold water pipe independently of the type of heating of the potable water heater. In case of unvented (pressurised) potable water heaters, it is indispensable to install an isolating valve upstream and downstream close to the check valve in order to test and exchange the latter. Potable water heaters up to 200 litres do not require a second check valve. A test device is needed between the first isolating valve and the check valve. The

check valve protects the upstream piping and technical appliances against the back-flow of heated water.

The additional safety equipment for potable water heaters in combination with the diaphragm pressure relief valve (dealt with in previous chapter) is internationally designated as „safety group for protection of unvented (pressurised) potable water heaters“. Figure 2 illustrates a safety group designed as a unit.

European product standard EN 1488

EN 1488 is the new European product standard for safety groups for expansion water. It determines dimensions, materials, performance requirements as well as test methods. EN 1488 is the first product standard to define requirements for safety groups. Beforehand, the separate function

units of a safety group had to fulfil various test requirements. Like all European standards set up recently, EN 1488 forms a compromise between the various member states; in order to maintain a high quality level, some additional requirements should be met.

Anti-Legionella diaphragm expansion vessels

The installation of diaphragm expansion vessels in the potable water installation is not compulsory. However, these devices allow considerable water and energy saving and are state-of-the-art. Only Anti-Legionella diaphragm expansion vessels should be installed. Long stagnation periods can decisively impair the potable water quality in the pipework and appliances due to high concentrations of dissolving pipe materials and microbiological growth, so that requirements applicable to potable water

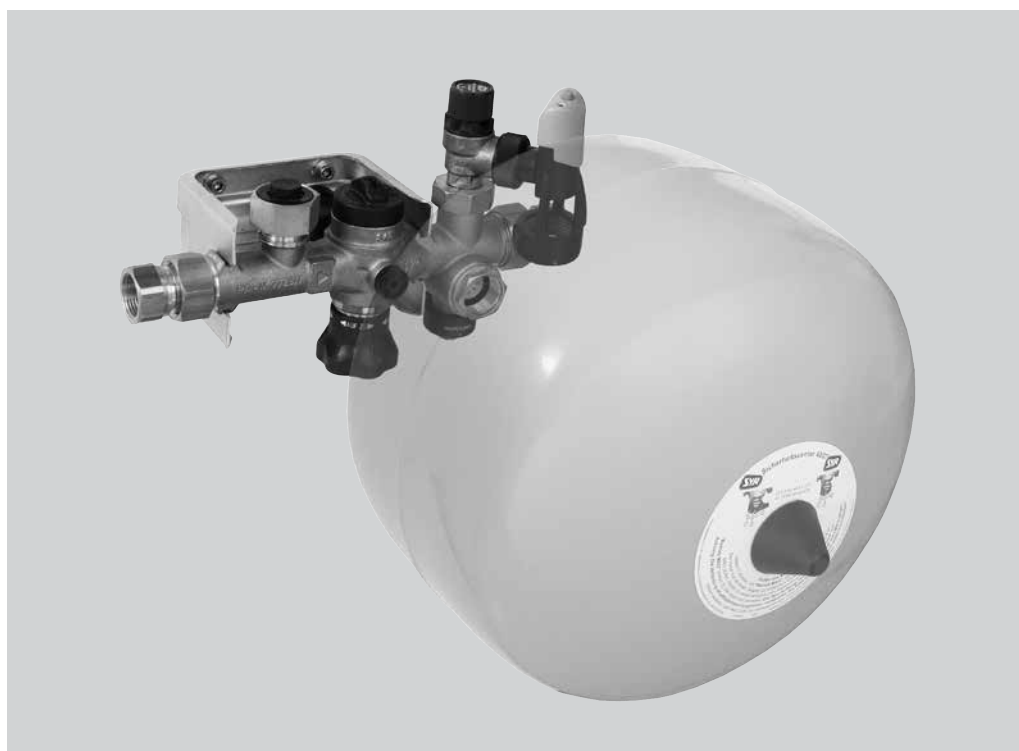
are no longer fulfilled. To ensure the quality of potable water, diaphragm expansion vessels in the potable water installation have to fulfil higher requirements than in heating installations. To protect the potable water quality, the Anti-Legionella function, the corrosion resistance and the hygienic safeness should be submitted to tests. An isolating valve with a drain possibility should be provided for the maintenance of the diaphragm expansion vessel.

Safety valves for potable water heaters

Technical information

Anti-Legionella function	The diaphragm expansion vessel for the potable water installation should ensure the Anti-Legionella function independently of the pre-filled gas pressure and even in case of malfunction. For this reason, the expansion vessels are designed with a forced Anti-Legionella function. The pre-filled gas pressure should be verifiable.
Corrosion protection of components in contact with water	The protection against corrosion is provided by the selection of corrosion resistant materials and coatings. The components not coming in contact with water shall have a sufficient corrosion protection.
Hygienic safeness	The non-metallic components in contact with water (internal wall, coating and diaphragm) have to meet national hygienic prescriptions.

Figure 3 shows a safety group designed as unit in combination with an Anti-Legionella expansion vessel.



SYR Safety Center type 4807

Fig. 3

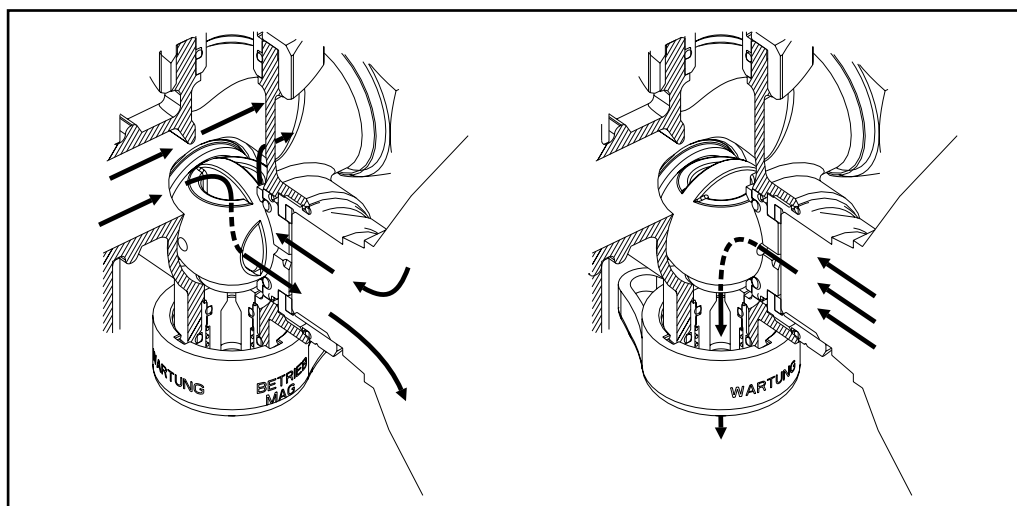
Safety valves for potable water heaters

Technical information

Functioning principle of the Anti-Legionella diaphragm expansion vessel

The vessel is filled with nitrogen. The pre-filled gas pressure is preset in factory. When the device is delivered, the diaphragm clings to the vessel wall. When the temperature and pressure rise in the installation, the diaphragm expansion vessel collects the expansion water generated by the heating process of the potable water heater. The

diaphragm bulges and presses the nitrogen together. To achieve high effectiveness of the diaphragm expansion vessel, the pre-filled gas pressure should be set as follows: pre-filled gas pressure diaphragm expansion vessel = static pressure of installation - 0.2 bar.



Functioning principle of an Anti-Legionella valve

Operation

The water flows with approximately 15% of the flow rate in the diaphragm expansion vessel and is drawn out of the vessel by va-

cuum formation along with the remaining flow rate.

Maintenance

The diaphragm expansion vessel can be isolated and disassembled without interrupting the service of the potable water heater.

The water can flow out of the drain valve of the diaphragm expansion vessel through small bores of the isolating ball valve.

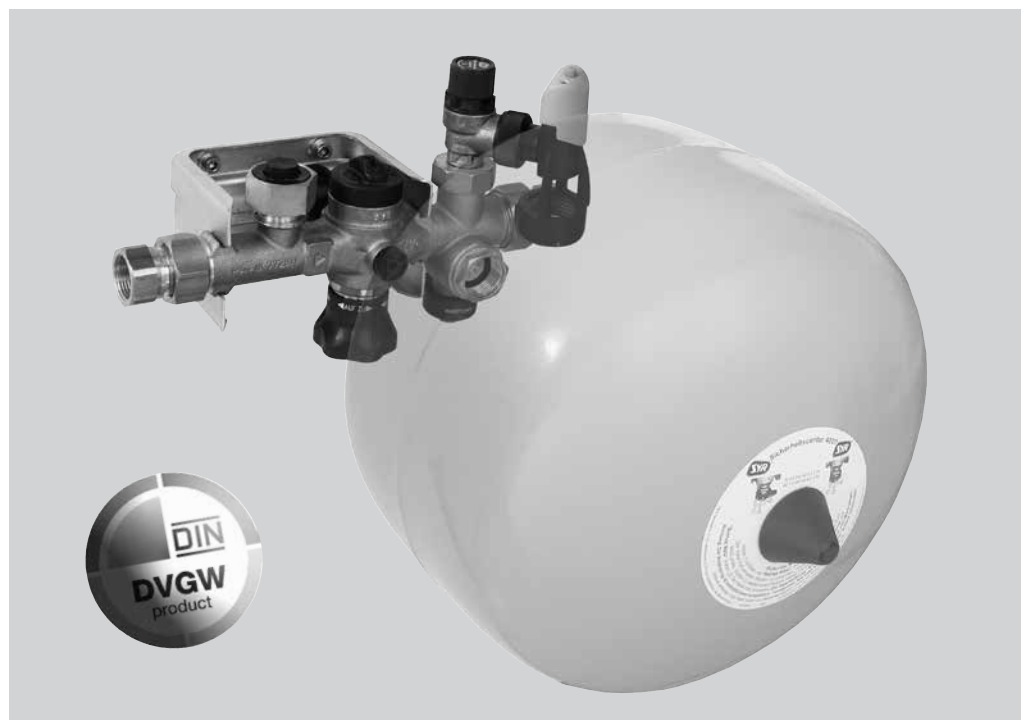
Installation

Install the diaphragm expansion vessel in the cold water pipe. To ensure a constant static pressure in the installation, install a pressure reducing valve behind the water metering system. For maintenance and verification of the pre-filled gas pressure,

install an isolating valve that is protected against unintentional closing and is equipped with a drain possibility. There should be no isolating valves, narrowings or strainers between the connection of the pressure relief valve and the potable water heater.

Safety Center 4807

Safety group for potable water heaters with expansion vessel



Field of application

The SYR Safety Center 4807 ensures the protection of unvented (pressurised) potable water heaters up to a maximum of 560 l. It includes in a compact unit all components required for the point of entry equipment

of potable water heaters, as well as an Anti-Legionella valve with an integrated isolating valve and an Anti-Legionella diaphragm expansion vessel with a nominal volume of 12 l or 18 l.

Design

The Safety Center 4807 includes a connection for an additional cold water user, a double isolating system with an integral test port for the check valve, a check valve, a pressure relief valve with stainless steel seat and tundish, an Anti-Legionella valve with integral isolating valve for the diaphragm expansion vessel as well as an assembly plate with a screwed connection for the adjustment of the distance to the wall. The special design of the group allows the installation as angle or in-line type in horizontal and vertical pipes. The diaphragm

pressure relief valve can be rotated by 360° to adapt the device to various assembly conditions. The assembly plate allows a safe and time-saving installation. The enclosed exchange cartridges (8 + 10 bar) for the pressure relief valve cover the different potable water heater volumes and maximum service pressures. Using the integrated system check it can be quickly retrieved if the safety valve has dropped and what maintenance is required. The Safety Center 4807 fulfils the highest acoustic requirements.

Safety Center 4807

Materials

The body is made of a low-lead dezincification resistant gunmetal alloy. All spare parts are made of stainless steel; all pressure submitted synthetic parts of glass fibre reinforced synthetic material. The diaphragm and the sealing rings are made of heat and ageing resistant elastomeric synthetic material. The springs are made of corrosion resistant spring steel wire or stainless steel.

The expansion vessel is made of coated steel and the diaphragm of NBR. All materials are tested and certified by an internationally recognised test institute in Germany (DVGW). All synthetic components getting in contact with water designed for human consumption are approved by the German Public Health Office (KTW).

Installation

Install the Safety Center 4807 close to the potable water heater or near the domestic point of entry. It is possible to combine the device with the DRUFI and the distribution modules. The domestic installation should be equipped with a filter and a pressure reducing valve. The set outlet pressure shall not exceed 80 % of the opening pressure of the pressure relief valve. The assembly

plate renders the installer's work very easy: the time-consuming installation with the distance to be met between the wall and the diaphragm expansion vessel and the complicated mounting of the latter with brackets and fixtures are no longer required. All directions of flow are possible as a result of the various mounting options.

Thoroughly flush the pipe prior to installation. Install the device without applying stresses. With the assembly plate included in the delivery, the distance to the wall is of 80 mm. This distance can be adjusted in a range between 80 and 95 mm by means of a screwed connection. The tundish of the

pressure relief valve has a 20 mm telescopic extension. To extend the drain line, it is also possible to use a copper pipe (22 mm) instead of the tundish. The exchange cartridges available as accessories can be easily replaced with the enclosed assembly key.

Technical data

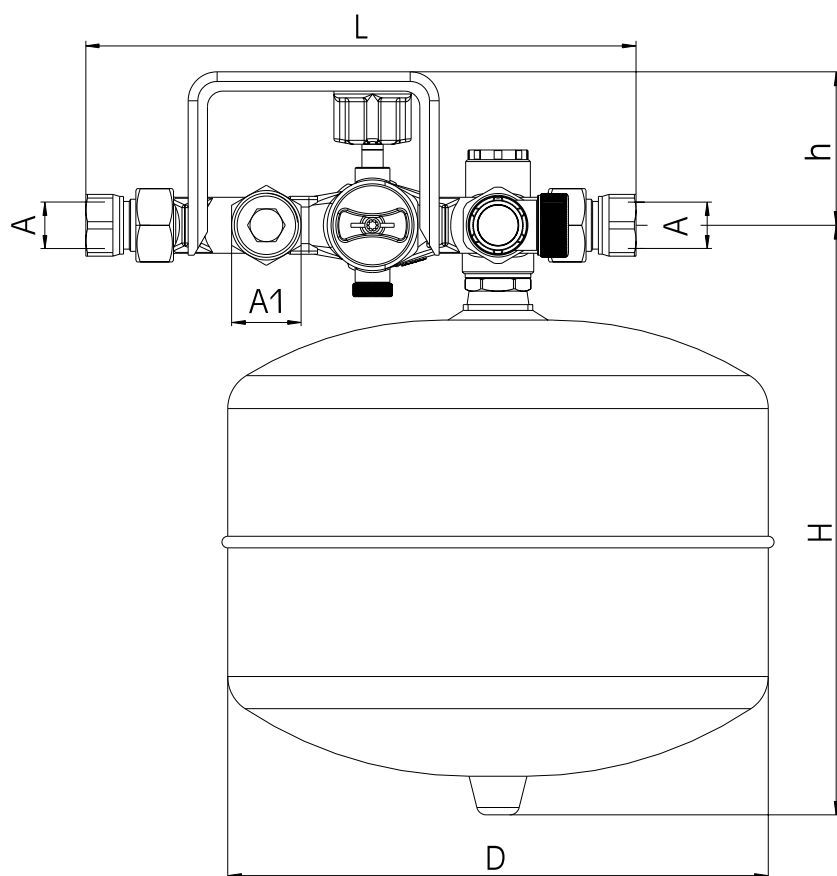
Inlet pressure:	max. 80 % of opening point of pressure relief valve
Service temperature:	max. 30 °C inlet temperature
Fluid:	potable water
Opening pressure:	6, 8 or 10 bar possible with enclosed exchange cartridges
Mounting position:	any
Flow rate:	1.9 m ³ /h bei 0.2 bar Δp 4.5 m ³ /h bei 1.0 bar Δp
Acoustic approval:	PA-IX 7728/I
Certified by DVGW:	NW-6160AT2654
Serial number:	4807...

Maintenance

The pre-filled gas pressure in the diaphragm expansion vessel should be set at 0.2 bar below the static pressure of the installation. It is recommended to carry out maintenance works on the components on a regular basis in order to ensure the durable operation of the Safety Centre 4807. The

pre-filled gas pressure in the diaphragm expansion vessel and the functionality of the check valve should be controlled once per year. The pressure relief valve can be lifted by means of the rotatable knob. The design of the device allows easy maintenance or repair of all components.

Safety Center 4807



Nominal size				DN 20		
				A	G ¾"	
				A1	G 1"	
Dimensions in mm				L (mm)	285	
				h (mm)	80-90 (changable)	
				H (mm)	305 (12 litre MAG), 385 (18 litre MAG)	
				D (mm)	280	
Nominal volume of expansion vessel				12 litre	18 litre	
opening pressure of pressure relief valve				6 bar	8 bar	10 bar
max. potable water heater volume				200 l	310 l	380 l
					300 l	460 l
						560 l

Accessories

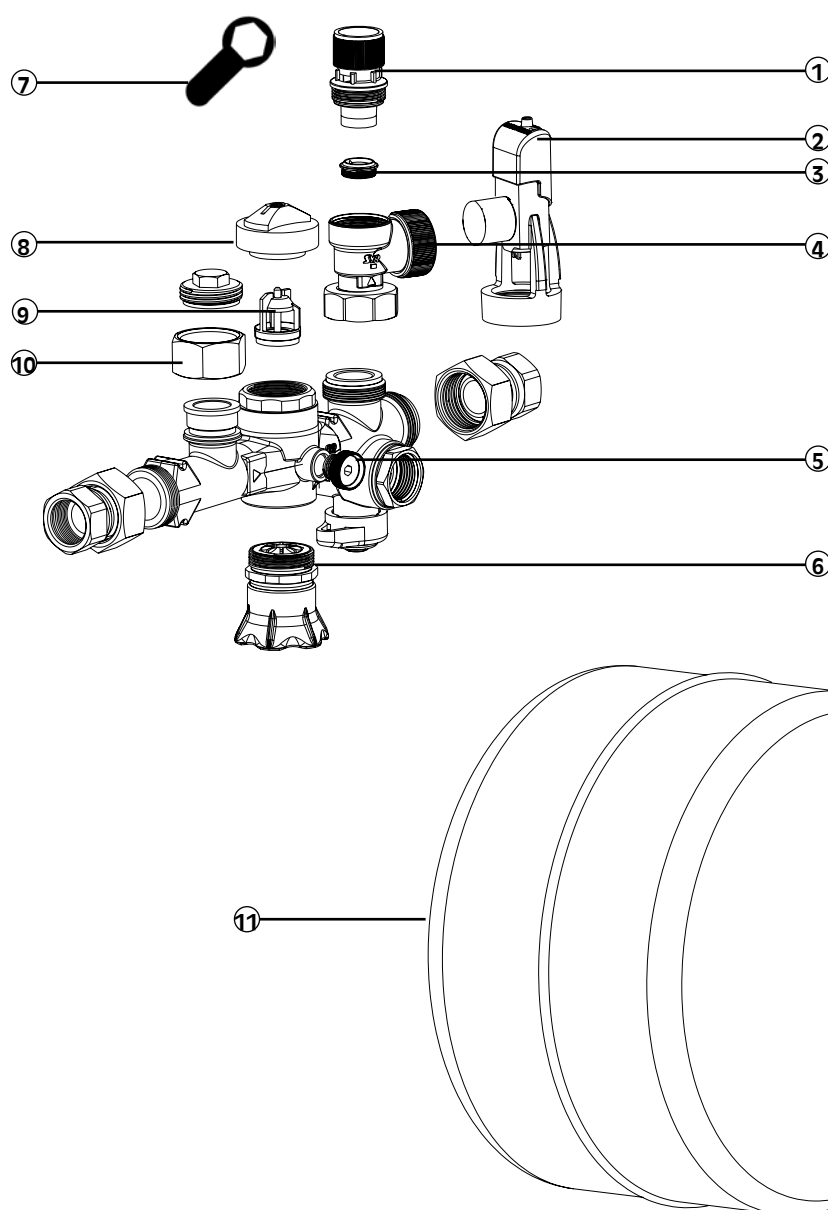
Manometer with angle connection: 4807.00.900

Tester of gas pressure for diaphragm expansion vessel: 4807.00.905

Safety Center 4807

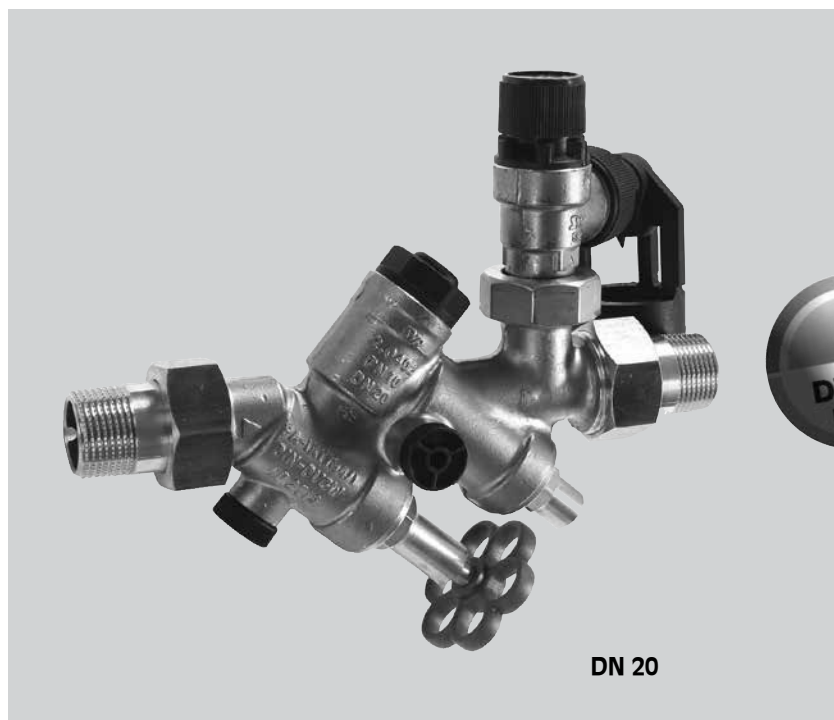
Components / Order numbers

- ①
Exchange cartridge
6 bar 2116.20.060
8 bar 2116.20.061
10 bar 2116.20.062
- ②
Tundish fwth Systemcheck
4807.00.922
- ③
Stainless steel seat
4807.00.907
- ④
Diaphragm pressure relief valve
6 bar 2115.20.050
8 bar 2115.20.051
10 bar 2115.20.052
- ⑤
Manometer plug
0828.08.000
- ⑥
Double isolating valve
4807.00.903
- ⑦
Assembly key for cartridge exchange
max. Anzugsmoment 15 Nm
4807.00.906
- ⑧
Maintenance cap
4807.00.904
- ⑨
Check valve
4807.00.902
- ⑩
Plug
4807.00.908
- ⑪
Diaphragm expansion vessel
12 Liter 4807.00.901
18 Liter 4807.00.909



SYRobloc-Safety Group 24

for water heaters, with wear-resistant stainless steel seat



Field of application

The SYRobloc-Safety Group type 24 optimally protects pressurised water heaters against excess pressure according to international standards. It also fulfils the highest European acoustic requirements. It includes

all necessary components in a compact form. The pressure relief valve protects the water heater located downstream; the check valve prevents the backflow of heated drinking water.

Design

The SYRobloc Safety Group type 24 is composed of a shut-off valve, a check valve with a test port (DN 20 model supplied with a 2nd shut-off valve), a manometer connection, a diaphragm pressure relief valve as well as a drain tundish with a pipe interrup-

ter that prevents back-siphonnage of drain water. The diaphragm pressure relief valve with a wear-resistant stainless steel seat is very simple to exchange; a screw connection allows to rotate it by 360° in order to adapt to various installation conditions.

SYRobloc-Safety Group 24

Materials

All materials used for the SYRobloc-Safety Group type 24 fulfil the highest requirements of international standards. All synthetic components getting in contact with water are approved by the German Public Health Office (KTW). The corrosion resistance in particular is guaranteed for all materi-

als. The body, internal parts and unions are made of a high-quality low-lead brass alloy. The spring cap of the pressure relief valve is made of glass fibre reinforced synthetic material; the spring of the pressure relief valve is made of spring steel wire and the spring of the check valve of stainless steel.

Installation

The opening pressure of the pressure relief valve shall not exceed the admissible operating pressure of the water heater. The dimensioning of the safety group depends on the volume and heating capacity of the water heater (ref. table). SYRobloc 24 is

used when the supply pressure does not exceed 80% of the opening pressure of the pressure relief valve. If the supply pressure is higher, install SYRobloc type 25 equipped with a pressure reducing valve.

Always install the SYRobloc-Safety Group upstream of the water heater under consideration of the direction of flow; it has to be fitted without applying stresses in the cold water pipe that has been thoroughly flushed beforehand. The particular design of the group allows to install it in angle or in-line way in horizontal and - provided the direction of flow runs upwards - also in vertical pipes.

There shall be no shut-off valves, narrowings or strainers between the pressure relief valve and the water heater. Install the

safety group above the water heater to ensure that the group is readily accessible in order to facilitate servicing and maintenance works. When the safety group is installed as mentioned above, the pressure relief valve can be easily exchanged without having to drain the water heater beforehand. When particular installation conditions do not allow fitting the group that way, use the soldering connection set (accessories) to extend the connection pipe to the pressure relief valve.

Technical data

Inlet pressure:	max. 80 % of opening point of pressure relief valve
Service temperature:	max. 30 °C inlet temperature
Fluid:	potable water
Opening pressure:	6, 8 or 10 bar possible with enclosed exchange cartridges
Mounting position:	any
Flow rate:	DN 15: 2.0 m³/h bei Δp 1.0 bar DN 20: 4.0 m³/h bei Δp 1.0 bar
ABP-Number:	PA-IX 1794/I
DVGW-Number:	DVGW NW-6311AP2713
Serial number:	0024...

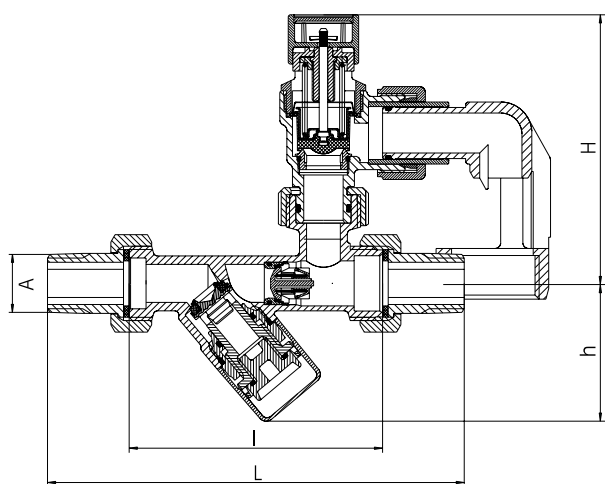
Maintenance

It is recommended for a durable function of the SYRobloc Safety Group to carry out maintenance works on a regular basis. The seat and sealing of the pressure relief valve can be cleaned without altering the pressure setting. The exchange of the stainless

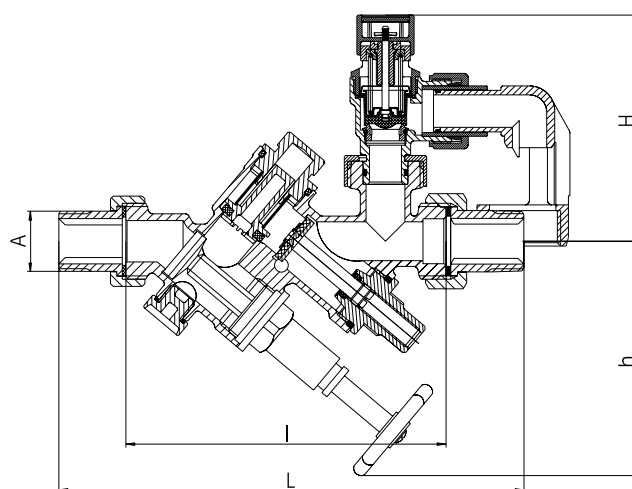
steel seat is very simple. The nominal size DN 20 allows the exchange of the check valve without having to drain the water heater. The exchangeable pressure relief valve 2115.1 can be replaced without disassembling the whole group from the pipe.

SYRobloc-Safety Group

24



DN 15



DN 20

Nominal size		DN 15	DN 20
Dimensions	A	G 1/2"	G 3/4"
	L (mm)	147 160	205 230
	I (mm)	90	140
	H (mm)	90	100
	h (mm)	50	115
max. potable water heater volume	(l)	200	1000
Heating capacity	(Kw)	max. 75	max. 150

Accessories

Manometer: Type 11
Soldering connection set:
DN 15: 0024.15.905
DN 20: 0024.20.906

SYRobloc-Safety Group

24

Components / Order numbers

① Exchangeable pressure relief valve 2115.1

2115.15.018 6 bar
2115.15.019 8 bar
2115.15.020 10 bar

② Manometer plug

0828.08.000

③ Shutt-off valve

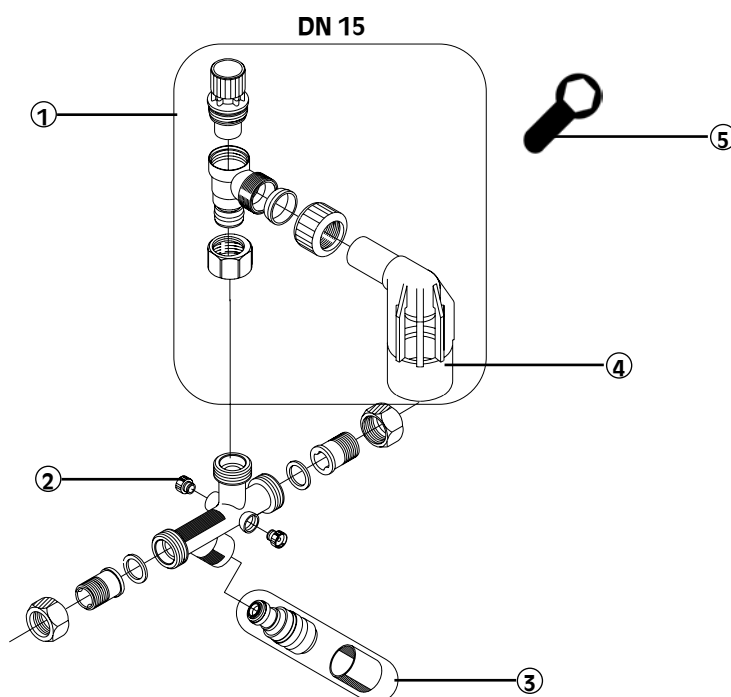
0024.15.900

④ Tundish

0214.00.902

⑤ Assembly key for exchangeable head part

4807.00.906
max. torque 15Nm



① Exchangeable pressure relief valve 2115.1

2115.20.015 6 bar
2115.20.016 8 bar
2115.20.017 10 bar

② Manometer plug

0828.08.000

③ 1st shut-off valve

0024.20.903

④ 2nd shut-off valve

0024.20.902

⑤ Tundish

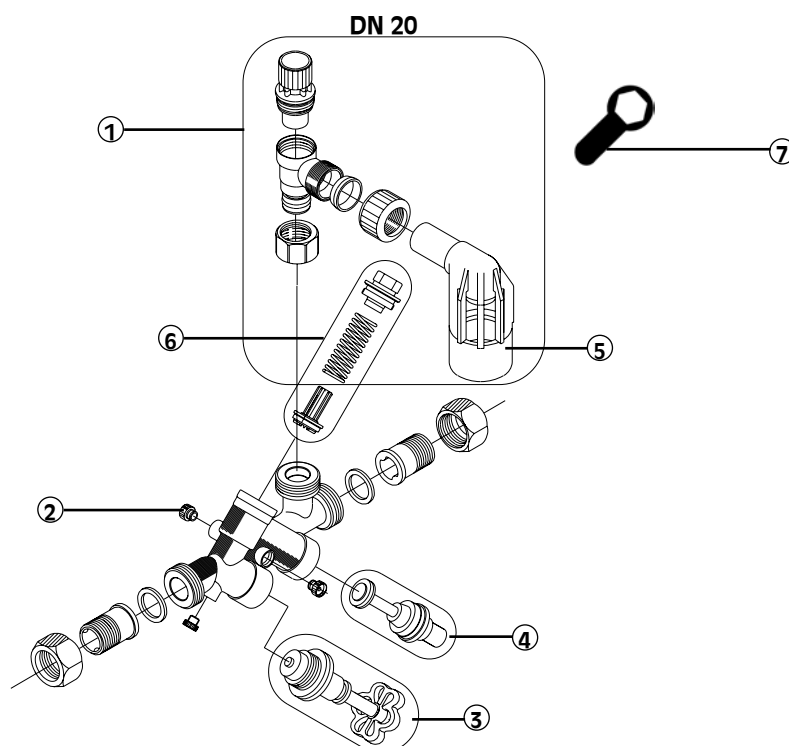
0214.00.902

⑥ Check valve

0024.20.901

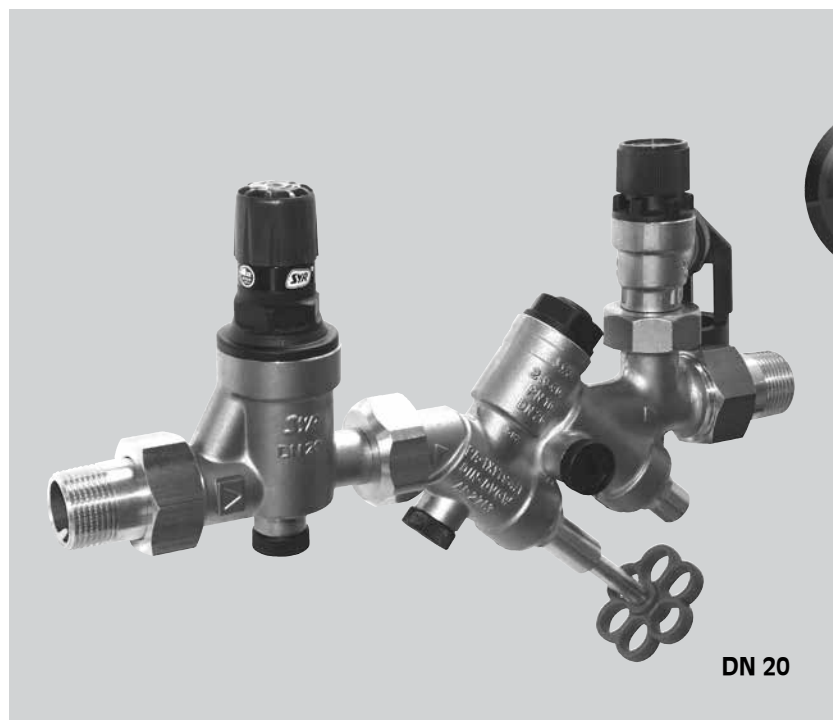
⑦ Assembly key for exchangeable head part

4807.00.906
max. torque 15 Nm



SYRobloc-Safety Group 25

for water heaters, with pressure reducing valve and wear-resistant stainless steel seat



Field of application

The SYRobloc-Safety Group type 25 optimally protects pressurised (unvented) water heaters against excess pressure according to international standards. It also fulfils the highest European acoustic requirements. It includes all necessary components in a compact form. The pressure relief valve

protects the water heater located downstream; the check valve prevents the back-flow of heated drinking water. In addition, a pressure reducing valve located upstream regulates the required system pressure.

Design

The SYRobloc Safety Group type 25 is composed of a pressure reducing valve, a shut-off valve, a check valve with a test port (DN 20 supplied with 2nd shut-off valve), a manometer connection, a diaphragm pressure relief valve as well as a drain tundish with a pipe interrupter that pre-

vents back-siphonnage of drain water. The diaphragm pressure relief valve with a wear-resistant stainless steel seat is very simple to exchange; a screw connection allows to rotate it by 360° in order to adapt to various installation conditions.

SYRobloc-Safety Group 25

Materials

All materials used for the SYRobloc-Safety Group type 25 fulfil the highest requirements of international standards. All synthetic components getting in contact with water are approved by the German Public Health Office (KTW). The corrosion resistance in particular is guaranteed for all materials. The body, internal parts and unions are made of high-quality low-lead brass alloy. The spring cap of the pressure relief valve

is made of glass fibre reinforced synthetic material; the spring of the pressure relief valve is made of spring steel wire and the spring of the check valve of stainless steel. All rubber parts in the pressure reducing valve are made of ageing-resistant elastomers and the screw cap of glass fibre reinforced synthetic material. Reinforced diaphragm.

Installation

The opening pressure of the pressure relief valve shall not exceed the permissible operating pressure of the drinking water heater. The dimensioning of the safety group depends on the volume and heating

capacity of the water heater (ref. table). SYRobloc 25 is used when the supply pressure exceeds 80% of the opening pressure of the pressure relief valve. The pressure reducing valve reduces the inlet pressure.

Always install the SYRobloc-Safety Group upstream of the water heater under consideration of the direction of flow; it has to be fitted without applying stresses in the cold water pipe that has been thoroughly flushed beforehand. The particular design of the group allows to install it in angle or in-line way in horizontal and - provided the direction of flow runs upwards - also in vertical pipes. There shall be no shut-off valves, narrowings or strainers between the pressure relief valve and the water heater. Install the

safety group above the water heater to ensure that the group is readily accessible in order to facilitate servicing and maintenance works. When the safety group is installed as mentioned above, the pressure relief valve can be easily exchanged without having to drain the water heater beforehand. When particular installation conditions do not allow fitting the group that way, use the soldering connection set (accessories) to extend the connection pipe to the pressure relief valve.

Technical data

Inlet pressure (pressure reducing valve):	10 bar according EN 1488
Inlet pressure:	16 bar
Service temperature:	max. 30 °C inlet temperature
Fluid:	potable water
Opening pressure:	6, 8 or 10 bar
Mounting position:	any
ABP-Number:	P-IX 6736/I (PRV), PA-IX 1794/I
DVGW-Number:	NW-6330BR0050 (PRV); DVGW NW-6311AP2713 (SG)
Serial number:	0024...

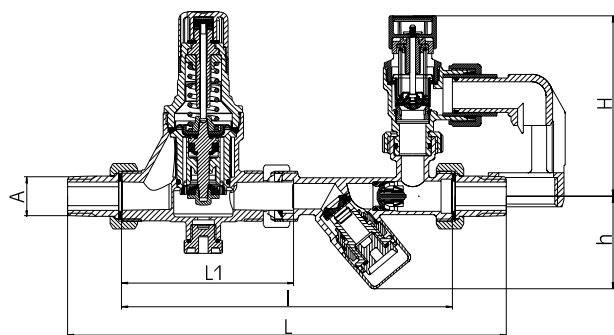
Maintenance

It is recommended for a durable function of the SYRobloc Safety Group to carry out maintenance works on a regular basis. The seat and sealing of the pressure relief valve can be cleaned without altering the pressure. The stainless steel seat is very simple to exchange. The nominal size DN 20 allows the exchange of the check valve without

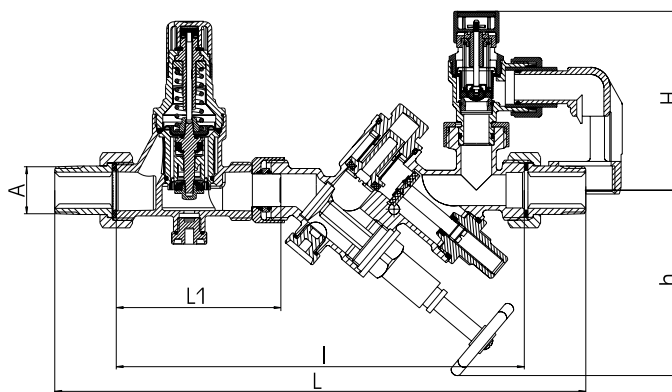
having to drain the water heater. The exchangeable pressure relief valve 2115.1 can be replaced without having to disassemble the whole group from the pipe. The maintenance of the pressure reducer cartridge can be carried out when mounted and without special tools.

SYRobloc-Safety Group

25



DN 15



DN 20

Nominal size		DN 15		DN 20	
Dimensions in mm	A	R 1/2"		R 3/4"	
		1/2"	3/4"	3/4"	1"
	L (mm)	232	247	290	310
	L1 (mm)	91		91	
	I (mm)	175		225	
	H (mm)	90		100	
	h (mm)	50		115	
max. potable water heater volume	(l)	200		1000	
Heating capacity	(Kw)	max. 75		max. 150	

Accessories

Manometer: Type 11
Soldering connection set:
DN 15: 0024.15.905
DN 20: 0024.20.906

SYRobloc-Safety Group

25

Components / Order numbers

- ① **Exchangeable pressure relief valve 2115.1**
2115.15.018 6 bar
2115.15.019 8 bar
2115.15.020 10 bar

- ② **Manometer plug**
0828.08.000

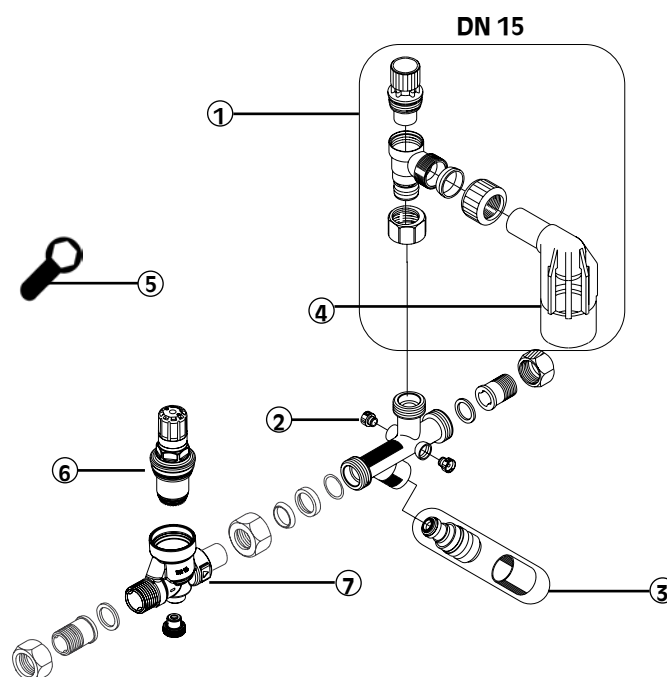
- ③ **Shut-off valve**
0024.15.900

- ④ **Tundish**
0214.00.902

- ⑤ **Assembly key for head part exchange**
4807.00.906
max. torque 15 Nm

- ⑥ **Pressure reducer cartridge**
0312.20-927

- ⑦ **Pressure reducing valve, complete**
0315.15.009



- ① **Exchangeable pressure relief valve 2115.1**
2115.20.015 6 bar
2115.20.016 8 bar
2115.20.017 10 bar

- ② **Manometer plug**
0828.08.000

- ③ **1st shut-off valve**
0024.20.903

- ④ **2nd shut-off valve**
0024.20.902

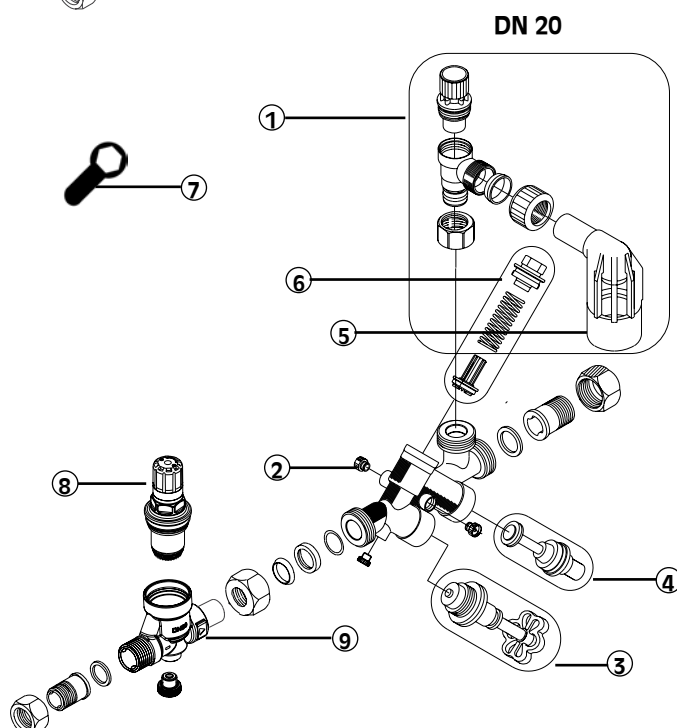
- ⑤ **Tundish**
0214.00.902

- ⑥ **Check valve**
0024.20.901

- ⑦ **Assembly key for head part exchange**
4807.00.906
max. torque 15 Nm

- ⑧ **Pressure reducer cartridge**
0312.20.927

- ⑨ **Pressure reducing valve, complete**
0315.20.005



Safety Group with non return 0034

safety group to protect unvented water heaters



Field of application

The small and compact Safety Group type 34 is used to protect unvented electrically heated usually wall-mounted potable water heaters with a maximum volume of up to 200 L. It is a reliable and well-designed compact valve in the form of an in-line model. The protection is ensured by a safety valve and a check valve.

The safety valve protects the downstream potable water heater by automatic opening, which prevents the pressure from exceeding the admissible operating pressure. The check valve prevents the backflow of heated potable water into the supply line.

Design

The operational parts in the pressure relief valves are protected against direct contact with the fluid (protection against corrosion). The pressure relief valves can be lifted by

means of a rotatable handle. Cleaning the seat and the seal after having removed the head part will not have changed the opening pressure.

Safety Group with non return 0034

Materials

The body is chrome-plated and made of a high-quality low-lead brass alloy; the spring cap, the diaphragm and other internal parts

are made of heat and ageing resistant elastomeric synthetic material and the spring of corrosion resistant spring steel wire.

Installation

We recommend to install the safety group 0034 vertically with the inlet connections facing downwards. The length of the supply pipe shall not exceed 1 m, bends are not admissible and its nominal size must be the size of the valve inlet. Position the valve at the highest point of the heat-generating device or in the safety pipe close to the heat-generating device. There shall be no isolating valves, strainers or similar devices in the supply pipe. The diameter of the relief pipe must be at least equal to the nominal size of the valve outlet. The relief pipe has to be installed with continuous incline. It can maximally include 2 bends and have a length of 2 meters. When a length exceeding 2 m is necessary, the pipe

must be one size larger. Caution: more than 3 bends and a length exceeding 4 meters are not admissible. The outlet of the relief pipe must be free from obstruction, controllable and positioned in such a way that persons are not endangered by steam relief. When the relief pipe ends over a tundish, it is indispensable that its drain pipe has at least the double cross section of the valve inlet. Free access to the pressure relief valve must be provided. Thoroughly flush the pipe prior to installation. Install the pressure relief valve under consideration of the flow direction (see arrow on the body) in compliance with the instructions.

Technical data

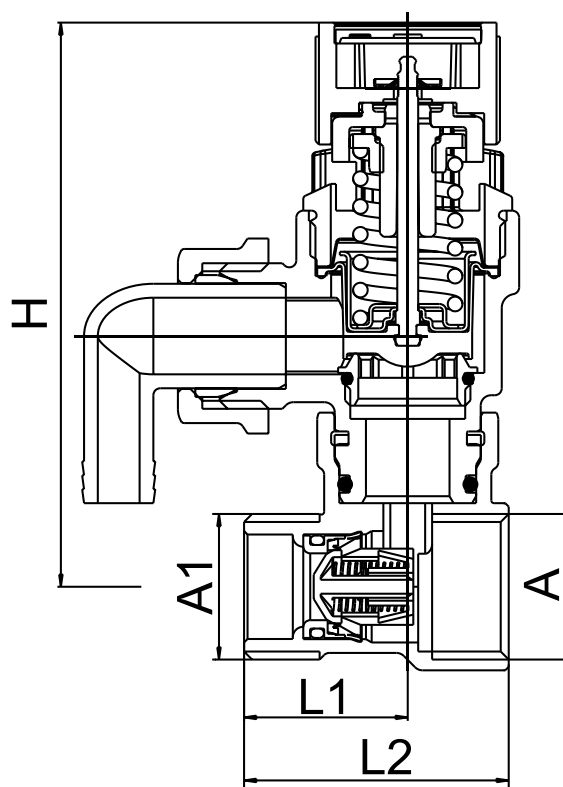
Connection size:	DN 15 and DN 20
Opening pressure:	6, 8 and 10 bar
Fluids:	water, other neutral non-adhesive fluids
Operating temperature:	max. 90 °C
Serial number:	0034 ...

Maintenance

The correct function of the pressure relief valve should be checked by qualified personnel at initial operation and then once a year: turn the lifting handle in the direction of the arrow until you hear a click. Afterwards, the valve has to be closed tight. Should the valve drip constantly, it is very likely that impurities have built up in the seat. Depressurise the system to carry out service works: isolate the cold

water supply and drain the hot water pipes. Then, maintenance works on the valve can be carried out. To clean the valve seat and seal, unscrew the head part. After cleaning, refit the head part; the opening pressure remains unchanged after this operation. In case of repair or service, you can order a separate exchange cartridge under article no. 2116.20....

Safety Group with non return 0034



Nominal size		DN 15	DN 20
	A	G 1/2"	G 3/4"
	A1	G 1/2"	G 3/4"
Dimensions in mm	H (mm)	81	81
	L1 (mm)	23,5	23,5
	L2 (mm)	38	38

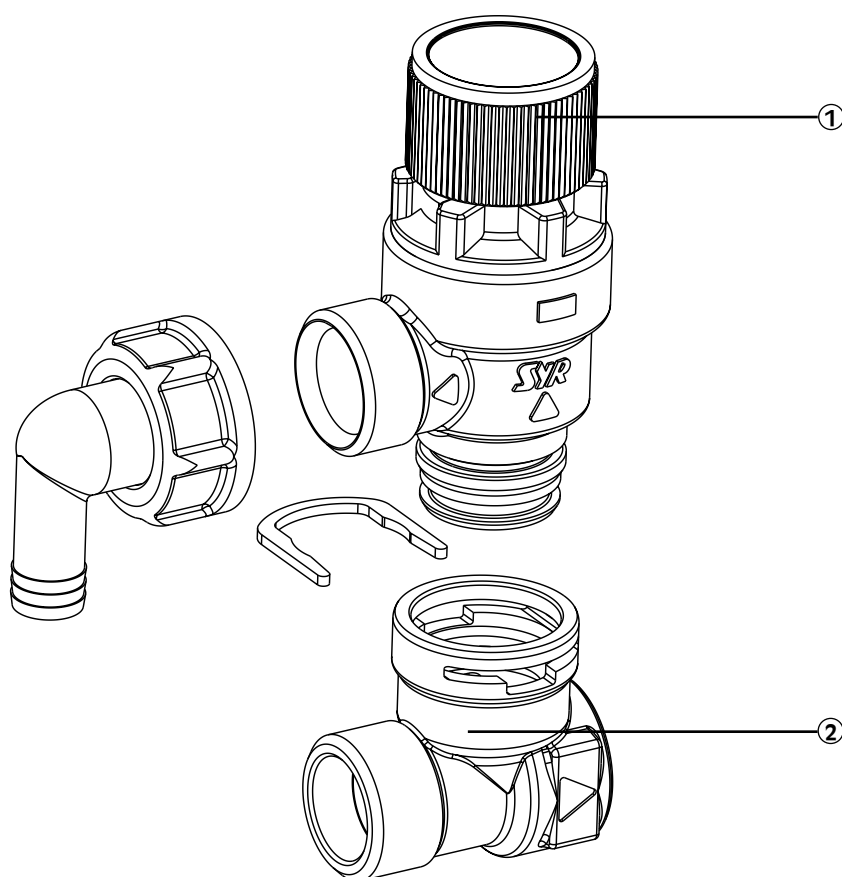
Inlet -> male threads ; Outlet -> female threads

Safety Group with non return 0034

Components / Order numbers

①
Valve body

②
Service cartridge
2116.20.006



Safety Assembly 322

for electric storage water heaters up to 10 l, with stainless steel seat



Field of application

The safety assembly type 322 protects un-vented (pressurised) electric wall-mounted water heaters up to a volume of 10 l. This streamline-shaped compact valve includes all components required for protection, such as isolating valve and diaphragm pressure relief valve. The pressure relief valve protects the downstream water heater by

automatic opening, which prevents the pressure from exceeding the admissible service pressure. The safety assembly type 322 is a robust model with a stainless steel seat, which is also suitable for aggressive water conditions. The isolation of the device can also be used as a flow limiting valve.

Design

The safety assembly type 322 is made of a high mirror finished chrome-plated brass housing. The safety assembly type 322.1 including a tested pressure relief valve, a wear resistant stainless steel seat, an isolating valve, a manometer plug and chrome-plated

connection accessories is also supplied with a siphon to collect expansion water. The SYR module system allows easy maintenance or exchange of all components of the safety assembly type 322.

Safety Assembly 322

Materials

The body, internal components, plug and unions of the safety assembly type 322 are made of a high quality low-lead brass alloy. The seat of the pressure relief valve is made of wear-resistant stainless steel. The isolating knob and the siphon are made of high quality synthetic material. The diaphragm of the pressure relief valve and all sealing elements are made of heat and ageing resistant elastomeric synthetic material. The

spring of the pressure relief valve is made of corrosion resistant spring steel wire. The connecting tubes are made of chrome-plated copper. All materials are tested and certified by an internationally recognised test institute in Germany (DVGW). All synthetic components getting in contact with water designed for human consumption are approved by the German Public Health Office (KTW).

Installation

Install the safety assembly type 322 in the cold water pipe upstream of the water heater according to specifications. Install a filter upstream at the domestic point of entry in order to ensure durable functionality of the device. The safety assembly should be readily accessible to simplify maintenance works.

Due to heat expansion water can drip from the drain pipe for safety reasons when the water heater is heating. Do not shut off! Follow the manufacturers' indications for the water heater when installing the safety assembly type 322.

Thoroughly flush the pipe prior to installation. Install the safety assembly type 322 in the cold water supply line according to manufacturers' indications. Use the con-

necting pipes included in the delivery for connection with the potable water heater. Do not apply stresses. Make sure that the union is correctly positioned.

Technical data

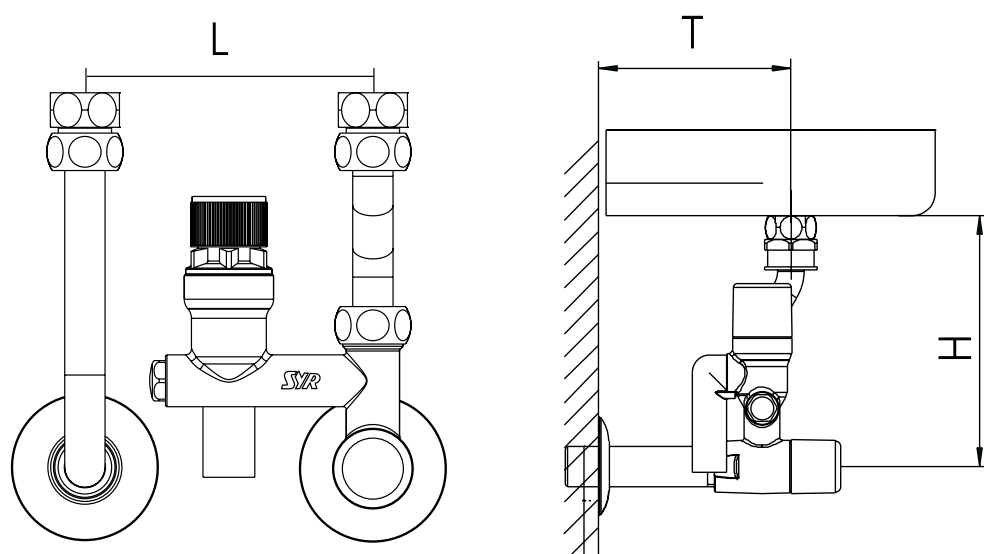
Inlet pressure:	max. 16 bar
Service pressure:	max. 20 % below set pressure of pressure relief valve
Standard setting:	322: 7 bar, 322.1: 10 bar
Operating temperature:	max. 30 °C (inlet temperature)
Fluid:	potable water
Components approval number:	TÜV-SV-10-545-DN-W-p
Certified by DVGW:	NW-6311AU2210
Acoustic testing:	PA-IX 7722/I
Serial number:	0322...

Maintenance

It is recommended to carry out maintenance works on a regular basis for durable functionality of the safety assembly type 322. The diaphragm pressure relief valve can be lifted by means of the rotatable knob. The supply line can be isolated by means of the stop valve in the safety assembly for maintenance works on the downstream

system (incl. pressure relief valve). Unscrew the head part for cleaning the seat and seal of the pressure relief valve; the opening pressure remains unchanged. Use the exchange cartridge type 2116 for repair of the pressure relief valve. The stainless steel seat can also be replaced, if required.

Safety Assembly 322



Nominal size		DN 15
		G ½"
Dimensions in mm	L (mm)	100
	T (mm)	70 - 100
	H (mm)	100 - 120

Models

Typ 322: without siphon
Typ 322.1: with siphon

Accessories

Manometer: 0010.08.500

Safety Assembly 322

Components / Order numbers

①
Warm water connection
0323.15.900

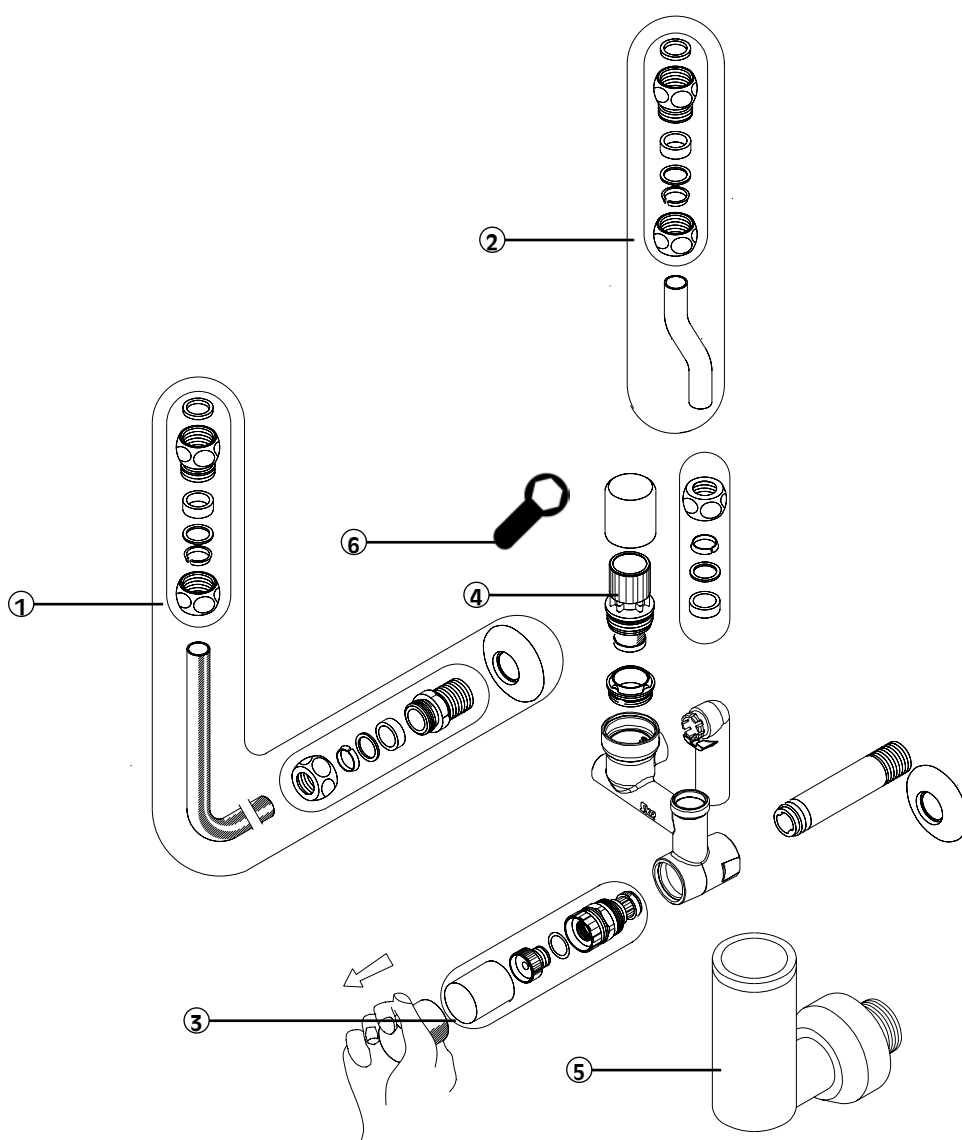
②
Cold water connection
0323.15.901

③
Isolating unit
0323.15.906

④
Exchange cartridge
2116.20.006

⑤
Siphon
(only 322.1)
0319.25.900

⑥
Assembly key for exchange
of head part
4807.00.906
max. torque 15Nm



Safety Assembly 323

for electric storage water heaters up to 200 l, with stainless steel seat



Field of application

The safety assembly type 323 protects unvented (pressurised) electric wall-mounted water heaters up to a volume of 200 l. This streamline-shaped compact valve includes all components required for protection, such as isolating valve, check valve and diaphragm pressure relief valve. The pressure relief valve protects the downstream water heater by automatic opening, which prevents the pressure from exceeding the admissible service pressure. The check valve

prevents the backflow of heated drinking water.

The safety assembly type 323 is a robust model with a stainless steel seat, which is also suitable for aggressive water conditions. The isolation of the device can also be used as a flow limiting valve. When the water heater works at temperatures above 60°C, use the safety assembly type 323.3 (with thermostatic mixing valve).

Design

The safety assembly type 323 is made of a high mirror finished chrome-plated brass housing. The safety assembly type 323 includes a tested pressure relief valve, a wear resistant stainless steel seat, an isolating valve, a manometer plug, a check valve, a test port, a siphon with cover plate and chro-

me-plated connection accessories. The SYR module system allows easy maintenance or exchange of all components of the safety assembly type 323. The device can be retro-fitted with the pressure reducing valve 314 and the thermostatic mixing valve 703.

Safety Assembly 323

Materials

The body, internal components, plug and unions of the safety assembly type 323 are made of a high quality low-lead brass alloy. The seat of the pressure relief valve is made of wear-resistant stainless steel. The isolating knob, check valve and siphon are made of high quality synthetic material. The diaphragm of the pressure relief valve and all sealing elements are made of heat and ageing resistant elastomeric synthetic

material. The spring of the pressure relief valve is made of corrosion resistant spring steel wire. The connecting tubes are made of chrome-plated copper. All materials are tested and certified by an internationally recognised test institute in Germany (DVGW). All synthetic components getting in contact with water designed for human consumption are approved by the German Public Health Office (KTW).

Installation

Install the safety assembly type 323 in the cold water pipe upstream of the water heater according to specifications. Install a filter upstream at the domestic point of entry in order to ensure durable functionality of the device. The safety assembly should be readily accessible to simplify maintenance works.

Due to heat expansion water can drip from the drain pipe for safety reasons when the water heater is heating. Do not shut off! Follow the manufacturers' indications for the water heater when installing the safety assembly type 323.

Thoroughly flush the pipe prior to installation. Install the safety assembly type 323 in the cold water supply line according to manufacturers' indications. Use the con-

necting pipes included in the delivery for connection with the water heater. Do not apply stresses. Make sure that the union is correctly positioned.

Technical data

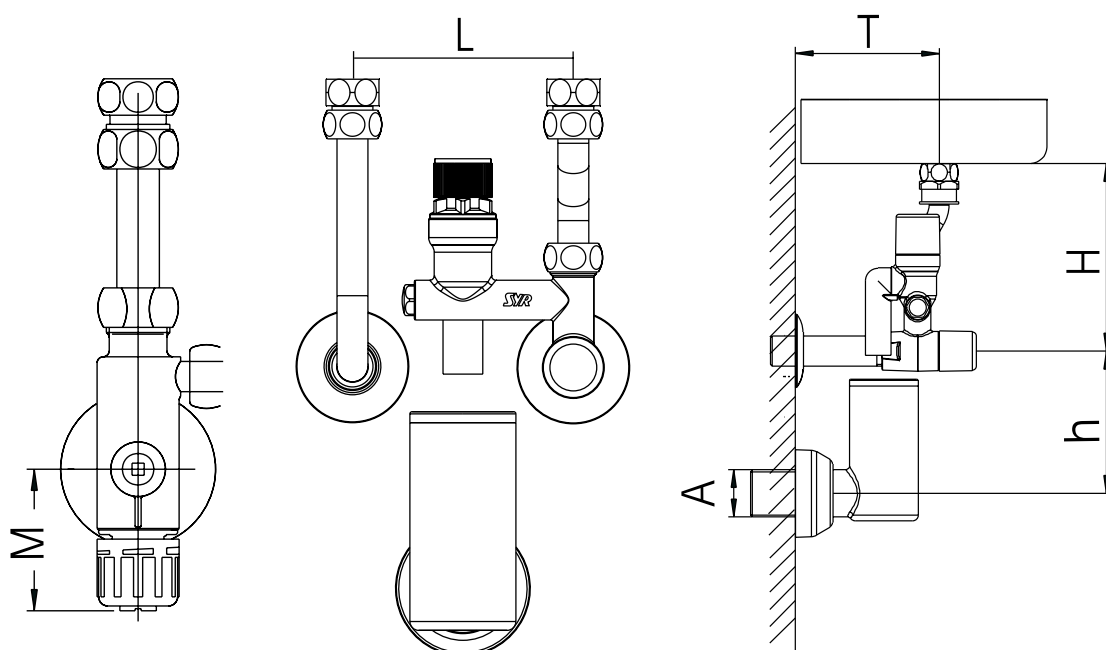
Inlet pressure:	max. 16 bar
Service pressure:	max. 20 % below set pressure of pressure relief valve
Standard setting:	323: 6 bar, 323.1: 7 bar
Operating temperature:	max. 30 °C (inlet temperature)
Regulation range of mixing valve (323.3):	40 °C - 60°C
Fluid:	potable water
Components approval number:	TÜV-SV-10-545-DN-W-p
Certified by DVGW:	NW-6311AU2210
Acoustic testing:	PA-IX 7722/I
Serial number:	0323...

Maintenance

It is recommended to carry out maintenance works on a regular basis for durable functionality of the safety assembly type 323. The diaphragm pressure relief valve can be lifted by means of the rotatable knob. The supply line can be isolated by means of the stop valve in the safety assembly for maintenance works on the downstream

system (incl. pressure relief valve). Unscrew the head part for cleaning the seat and seal of the pressure relief valve; the opening pressure remains unchanged. Use the exchange cartridge type 2116 for repair of the pressure relief valve. The stainless steel seat can also be replaced, if required.

Safety Assembly 323



Mixing valve (only 323.3)

Nominal size		DN 15
Dimensions	A	G 1/2"
	L (mm)	G 1"
	T (mm)	100
	H (mm)	70 - 100
	h (mm)	100 - 120
	h (mm)	100
	M (mm)	80

Models

Type 323: opening pressure 6bar
 Type 323.1: opening pressure 7 bar
 Type 323.3: opening pressure 6 bar with thermostatic mixing valve

Accessories

Manometer: 0010.08.500
 Thermostatic mixing valve: Type 703

Safety Assembly 323

Components / Order numbers

①
Warm water connection
0323.15.900

②
Cold water connection
0323.15.901

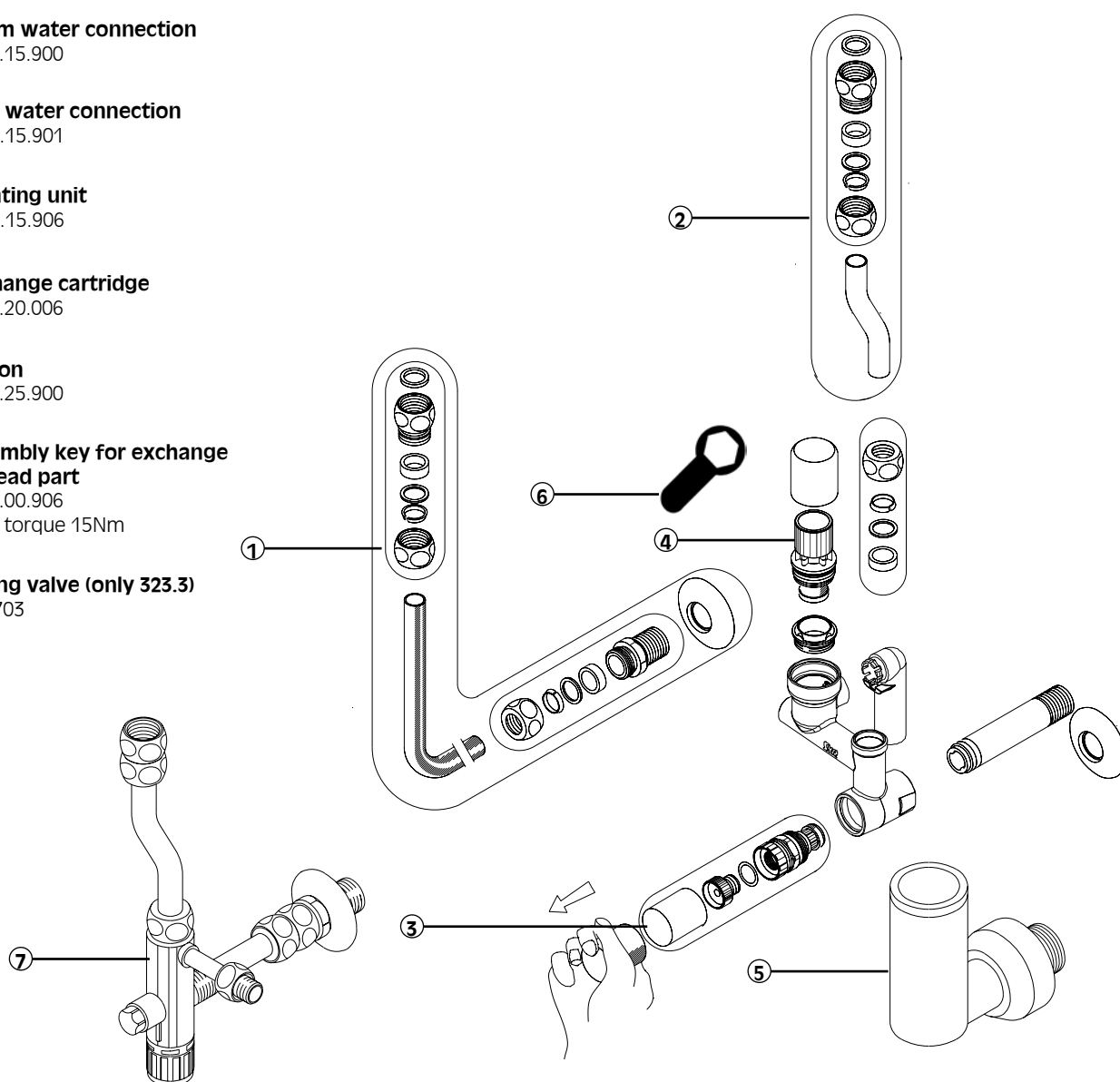
③
Isolating unit
0323.15.906

④
Exchange cartridge
2116.20.006

⑤
Siphon
0319.25.900

⑥
**Assembly key for exchange
of head part**
4807.00.906
max. torque 15Nm

⑦
Mixing valve (only 323.3)
Typ 703



Safety Assembly 324

for electric storage water heaters up to 200 l, with PRV and stainless steel seat



Field of application

The safety assembly type 324 protects unvented (pressurised) electric wall-mounted water heaters up to a volume of 200 l. This streamline-shaped compact valve includes all components required for protection, such as isolating valve, check valve and diaphragm pressure relief valve. The pressure relief valve protects the downstream water heater by automatic opening, which prevents the pressure from exceeding the admissible service pressure. The check valve prevents the backflow of heated drinking water. In addition, the safety assembly type 324 includes a pressure reducing valve loca-

ted upstream, which reduces excessive inlet pressures to the required system pressure. When the inlet pressure is unstable, there is no uncontrolled dripping of the pressure relief valve.

The safety assembly type 324 is a robust model with a stainless steel seat, which is also suitable for aggressive water conditions. The isolation of the device can also be used as a flow limiting valve. When the water heater works at temperatures above 60°C, use the safety assembly type 324.3 (with thermostatic mixing valve).

Design

The safety assembly type 324 is made of a high mirror finished chrome-plated brass housing. The safety assembly type 324 includes a tested pressure relief valve, a wear resistant stainless steel seat, an isolating valve, a manometer plug, a check valve, a test port, a pressure reducing valve, a

siphon with cover plate and chrome-plated connection accessories. The SYR module system allows easy maintenance or exchange of all components of the safety assembly type 324. The device can be retrofitted with the thermostatic mixing valve 703.

Safety Assembly 324

Materials

The body, internal components, plug and unions of the safety assembly type 324 are made of a high quality low-lead brass alloy. The seat of the pressure relief valve is made of wear-resistant stainless steel. The isolating knob, check valve and siphon are made of high quality synthetic material. Glass fibre reinforced spring cap. The diaphragm of the pressure relief valve and all sealing elements are made of heat and ageing resistant elastomeric synthetic material. The

spring of the pressure relief valve is made of corrosion resistant spring steel wire. The connecting tubes are made of chrome-plated copper. All materials are tested and certified by an internationally recognised test institute in Germany (DVGW). All synthetic components getting in contact with water designed for human consumption are approved by the German Public Health Office (KTW).

Installation

Install the safety assembly type 324 in the cold water pipe upstream of the water heater according to specifications. Install a filter upstream at the domestic point of entry in order to ensure durable functionality of the device. The safety assembly should be readily accessible to simplify maintenance

works. Due to expansion water can drip from the drain pipe for safety reasons when the water heater is heating. Do not shut off! Follow the manufacturers' indications for the water heater when installing the safety assembly type 324.

Thoroughly flush the pipe prior to installation. Install the safety assembly type 324 in the cold water supply line according to manufacturers' indications. Use the con-

necting pipes included in the delivery for connection with the water heater. Do not apply stresses. Make sure that the union is correctly positioned.

Technical data

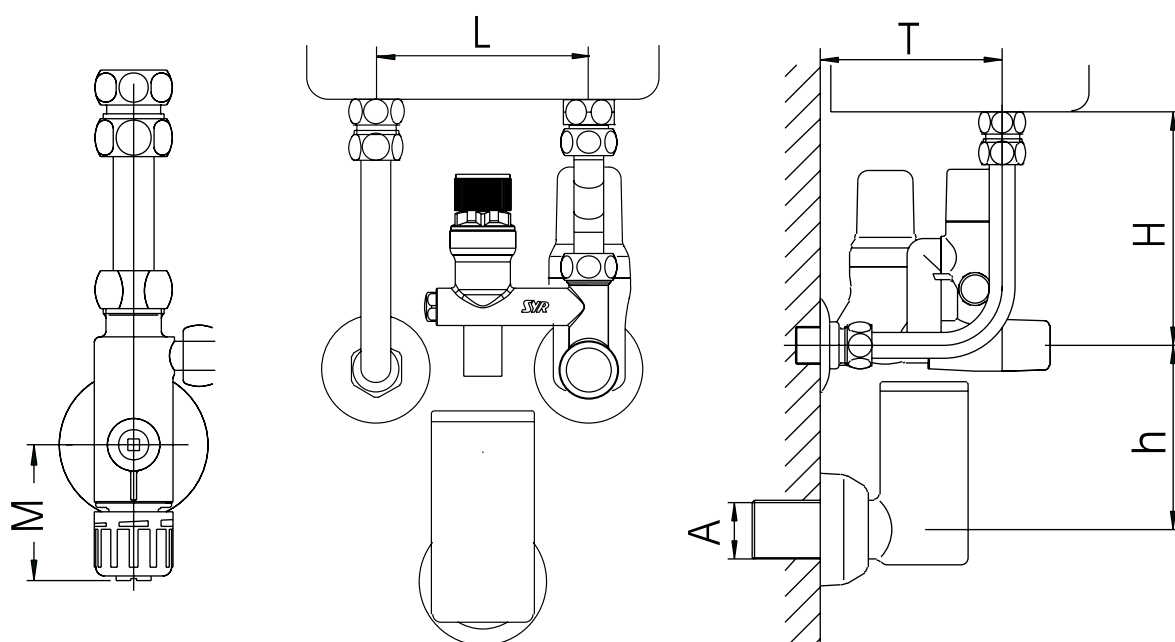
Inlet pressure:	max. 16 bar
Outlet pressure:	1.5 - 5 bar, adjustable
Factory setting of pressure reducer:	4 bar
Service pressure:	max. 20 % below set pressure of pressure relief valve
Standard setting of pressure relief valve:	6 bar
Operating temperature:	max. 30 °C (inlet temperature)
Regulation range of mixing valve (324.3):	40 °C - 60°C
Fluid:	potable water
Components approval number:	TÜV-SV-10-545-DN-W-p
Certified by DVGW:	NW-6330AT2061(DM)+NW-6311AU2210(SG)
Acoustic testing:	PA-IX 7636/(PRV)+PA-IX 7722/(SG)
Serial number:	0324...

Maintenance

It is recommended to carry out maintenance works on a regular basis for durable functionality of the safety assembly type 324. The diaphragm pressure relief valve can be lifted by means of the rotatable knob. The supply line can be isolated by means of the stop valve in the safety assembly for maintenance works on the downstream system (incl. pressure relief valve). Unscrew

the head part for cleaning the seat and seal of the pressure relief valve; the opening pressure remains unchanged. Use the exchange cartridge type 2116 for repair of the pressure relief valve. The stainless steel seat can also be replaced, if required. The pressure reducer cartridge can be cleaned or exchanged without having to disassemble the whole device from the pipe.

Safety Assembly 324



Mixing valve (only 324.3)

Nominal size		DN 15
		G ½
	A	G 1
Dimensions in mm	L (mm)	100
	T (mm)	70 - 100
	H (mm)	100 - 120
	h (mm)	100
	M (mm)	80

Models

Type 324: opening pressure 6 bar
Type 324.3: opening pressure 6 bar with thermostatical mixing valve type 703

Accessories

Manometer: 0010.08.500

Safety Assembly 324

Components / Order numbers

①
Warm water connection
0323.15.900

②
Cold water connection
0323.15.901

③
Isolating unit
0323.15.906

④
Exchange cartridge
2116.20.006

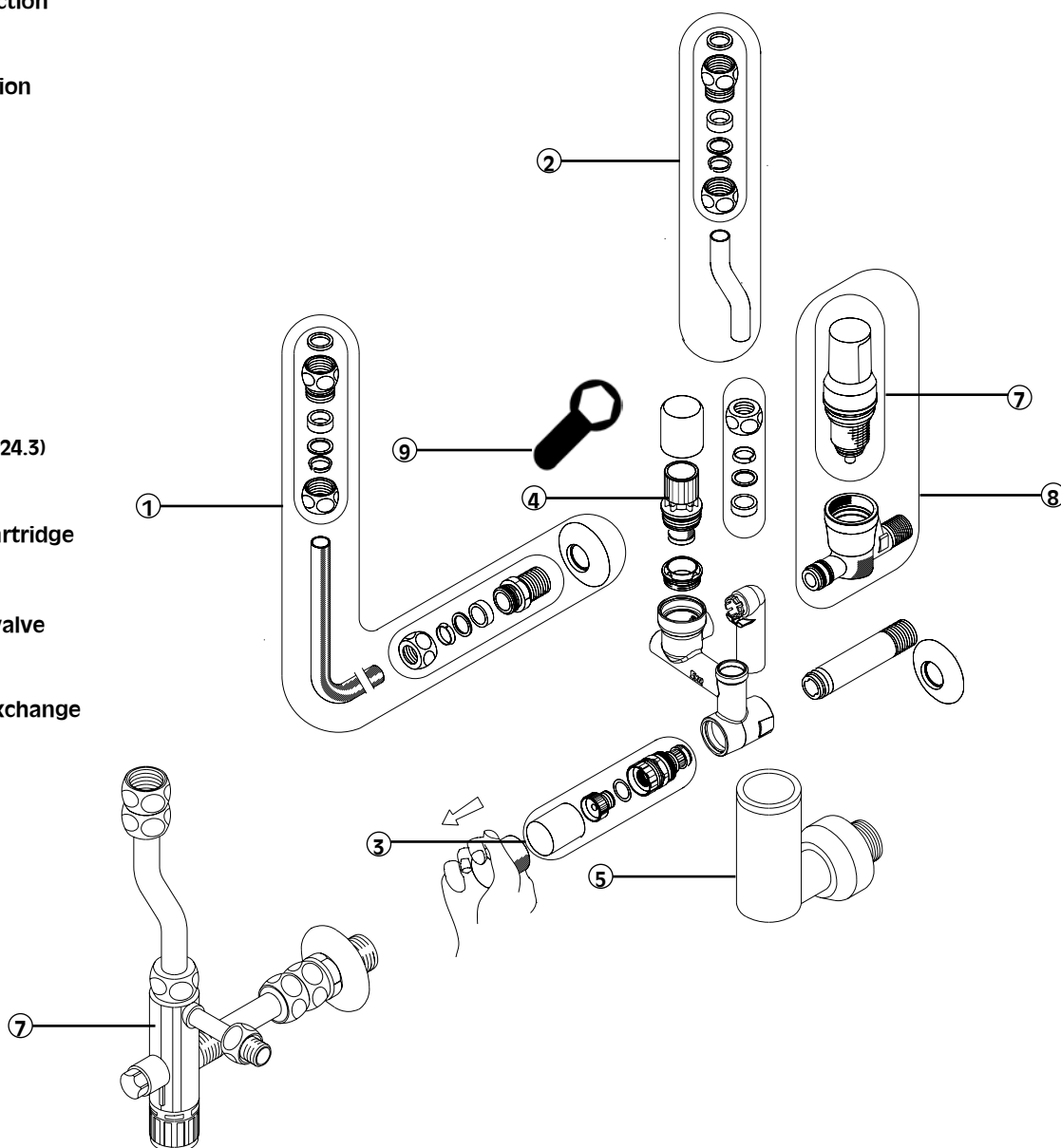
⑤
Siphon
0319.25.900

⑥
Mixing valve (only 324.3)
Type 703

⑦
Pressure reducer cartridge
0314.15.902

⑧
Pressure reducing valve
0314.15.004

⑨
**Assembly key for exchange
of head part**
4807.00.906
max. torque 15 Nm



Safety Group for Warm Water Heaters 0330

for pressure resistant water heaters up to 10 kW



Field of application

The safety group type 0330 is designed for the optimal protection against excess pressure in unvented water heaters in compliance with NF EN 1487. This compact device includes all components required by the standard NF EN

1487 for the equipment of water heaters. The pressure relief valve protects the downstream installation. The check valve prevents the backflow of heated potable water.

Design

The safety group type 0330 includes an isolating valve, a check valve with test port, a diaphragm pressure relief valve as well as a rotatable tundish with a pipe interrupter, which prevents the back-siphonage of drain water. The special siphon allows to drain the

water resulting from excess pressure without spillage. The diaphragm pressure relief valve, which is simple to exchange, is equipped with a stainless steel seat to ensure wear and corrosion resistance.

Safety Group for Warm Water Heaters 0330

Materials

All materials used in the safety group type 0330 comply with the high requirements of the NF EN 1487 standard. The synthetic materials getting into contact with potable water fulfil the ACS requirements (Attestation de Conformité Sanitaire). All materials are corrosion resistant. The body, internal

components and unions are made of a high-quality low lead alloy. The spring cap of the pressure relief valve is made of glass fibre reinforced synthetic material; the spring of the corrosion resistant pressure relief valve is made of spring steel wire and the spring of the check valve of stainless steel.

Installation

The response pressure of the safety group shall not exceed the admissible service pressure of the water heater. The safety group type 0330 is used when the supply pressure does not exceed 75% of the response pressure of the pressure relief valve. When the supply pressure exceeds this value, the pressure reducing valve available as accessory needs

to be installed. In case of uncertain pressure conditions, we recommend the safety group, which includes a pressure reducing valve. It is normal that water leaks during the heating process; the volume of this drain water can amount to approximately 3% of the water heater capacity.

Always mount the safety group upstream of the water heater under consideration of the direction of flow; it has to be fitted without applying stresses in the cold water supply pipe, which has been thoroughly flushed beforehand. The special design of the group allows the installation in vertical or horizontal position. There shall be no isolating valve, narrowing or strainer between the pressure relief valve and the water heater. The safety group should be readily accessible to simplify maintenance works. Connect the siphon included in the delivery to the tundish of the diaphragm pressure relief valve by means of the adaptor. It is rotatable and allows optimal

fixing and positioning when being installed. The special design prevents the spillage of overpressure water. If necessary, a Teflon-Isolator (available as accessory) can be installed for the protection against overvoltage. Mount the pipe interrupter so that it prevents any stoppage. Follow the sanitary prescriptions. Only qualified personnel is authorized to install and to service the device. Follow the maintenance indications! The special packaging secures the device for transport. Should the packaging or the product be seriously damaged, do not install. The warranty does not cover malfunctions of the group caused by the accumulation of impurities.

Technical specifications

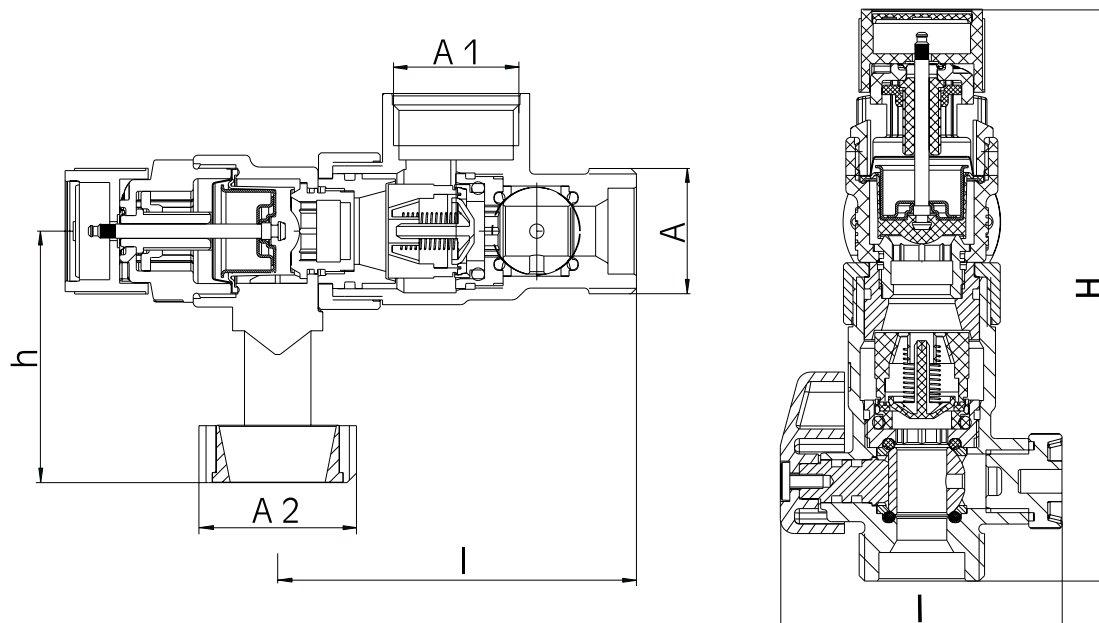
Fluids:	potable water
Service pressure:	5.25 bar (25% below the response pressure of the pressure relief valve)
Response pressure:	factory set to 7 bar
Service temperature:	max. 95°C
Flow rate:	3.5 m ³ /h accord. to NF EN 1487 for DN 20
Serial number:	0330...

Maintenance

It is recommended to carry out maintenance works on a regular basis in order to ensure perfect functionality of the safety group. The seat and seal can be cleaned without altering the pressure. The function test and, if required, the check valve exchange can be

done any time; first close the integrated ball valve. The check valve becomes accessible by loosening the fitting of the tundish and of the pressure relief valve. Actuate the pressure relief valve and the isolating valve at least once per month.

Safety Group for Warm Water Heaters 0330

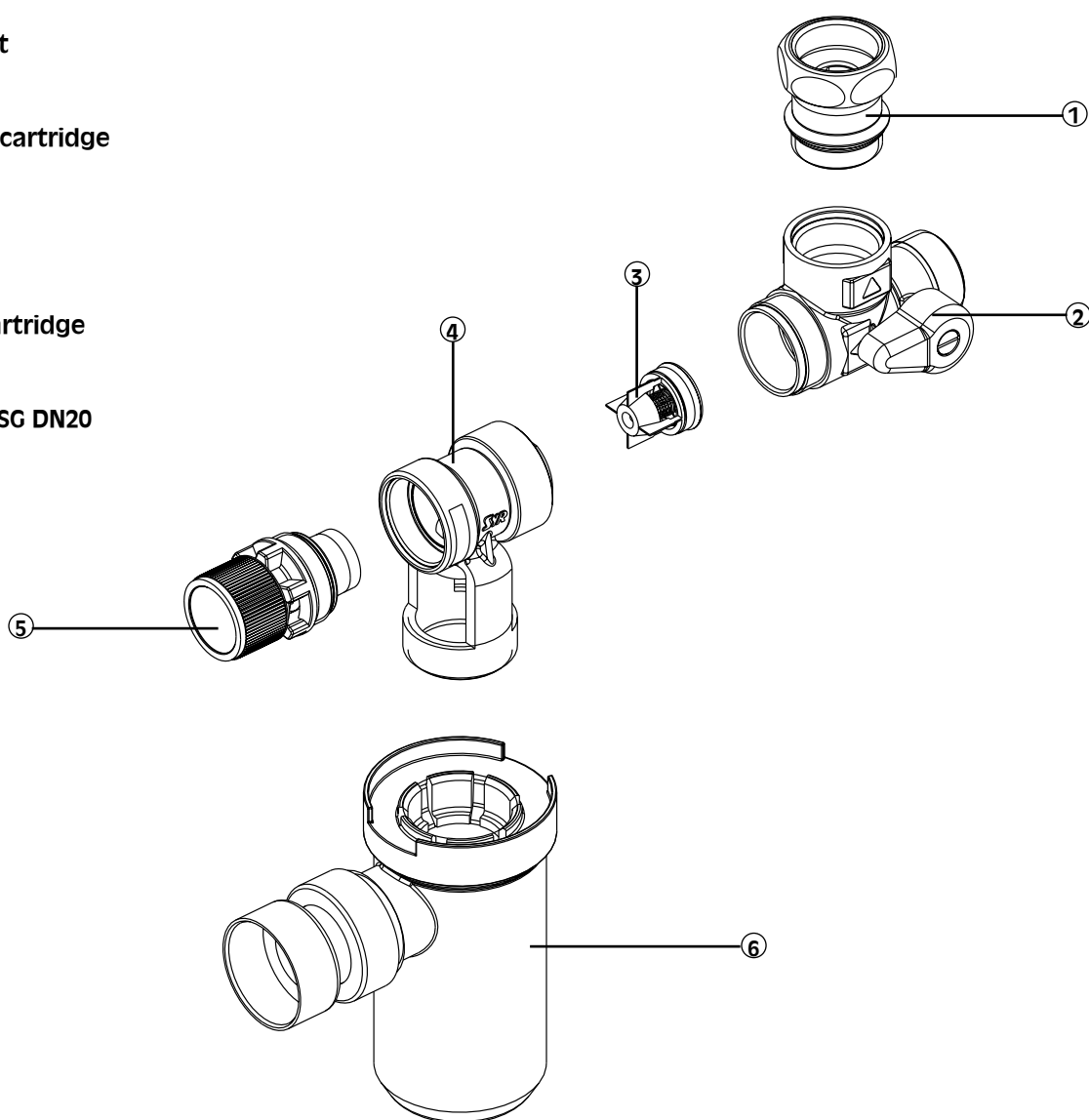


Nominal size		DN 20
Dimensions in mm	A	G 3/4"
	A 1	G 3/4"
	A 2	G 1"
	L (mm)	120
	I (mm)	76
	H (mm)	59
	h (mm)	53

Safety Group for Warm Water Heaters 0330

Components / Order numbers

- ①
Accessory I SG DN20
0330.20.900
- ②
Isolating unit
0330.20.902
- ③
Check valve cartridge
0330.20.904
- ④
Body
0330.20.903
- ⑤
Exchange cartridge
0330.20.905
- ⑥
Accessory II SG DN20
0330.20.901



Pressure Relief Valve 2115

for unvented (pressurised) water heaters



Field of application

The pressure relief valve type 2115 is designed to protect pressurised fluid systems against overpressurisation in unvented (pressurised) water heaters. The connection size has to be determined in accordance with the heating capacity of the heat-generating device to be protected as given in the table. The relief capacity is

indicated in the table. The opening pressure of the pressure relief valve indicated on the black seal pressed in the lifting handle of the valve has to be at least 20 % below the highest permissible operating pressure of the system to be protected. The pressure relief valve type 2115 is suitable for use in solar heating systems.

Design

The operational parts in the pressure relief valve type 2115 are protected against direct contact with the medium (protection

against corrosion). The pressure relief valve can be lifted by means of the rotatable handle.

Pressure Relief Valve 2115

Materials

The body and the internal parts are made of a high-quality low-lead brass alloy (DN 15 - DN 32) or a dezincification resistant low-lead gunmetal alloy (DN 40 - DN 50); the spring cap is made of high-quality glass

fibre reinforced synthetic material or zinc die-casting. The diaphragm and the seat are made of heat and ageing resistant elastomeric synthetic material and the spring of corrosion protected spring steel wire.

Installation

The pressure relief valve type 2115 has to be installed in the cold-water inlet of the water heater. To avoid draining the water heater when the valve is serviced, it should be placed above the top surface of the water heater. There shall be no isolating valves, strainers or similar devices between the pressure relief valve and the water heater. The enclosed adhesive label with the inscription: „When heating, water has to escape from the relief pipe for safety reasons! Do not obturate!“ has to be placed close to the valve in a visible position. The diameter of the relief pipe must be at least equal to the nominal size of the valve outlet. The relief pipe has to be installed

with continuous incline. It can maximally include 2 bends and have a length of 2 meters. When a length exceeding 2 m is necessary, the pipe must be one size larger. Caution: more than 3 bends and a length exceeding 4 meters are not admissible. The outlet of the relief pipe must be free from obstruction, controllable and positioned in such a way that persons are not endangered. The relief pipe has to end in a drain device or over a tundish within the building. When the relief pipe ends over a tundish, it is indispensable that its drain pipe has at least the double cross section of the valve inlet.

Thoroughly rinse the pipe prior to installation. Install the pressure relief valve under consideration of the flow direction (see

arrow on the body) in compliance with the instructions.

Technical data

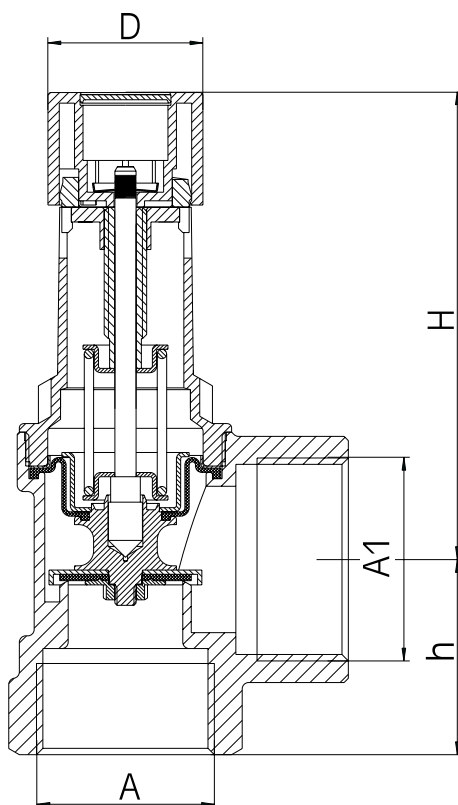
Operating temperature:	max. 110 °C
Opening pressure:	4 - 10 bar
Standard setting:	6, 8, 10 bar
Mounting position:	preferably main axis vertical, inlet connection pieces facing downwards
Components approval number:	TÜV-SV-10-545-DN-W-N-p
Fluids:	water, neutral non adhesive fluids
Serial number:	2115...
	C € 0085

Maintenance

It is recommended to service the device on a regular basis. The correct function of the pressure relief valve should be checked by qualified personnel at initial operation and then once a year: turn the lifting handle in the direction of the arrow until you hear a click. Afterwards, the valve has to be closed tight. Should the valve drip constantly, it is very likely that impurities have built up in the seat.

To clean the valve seat and seal, unscrew the head part. The seat seal is exchangeable for valves with a connection size of DN 40 or more. After cleaning, refit the head part; the opening pressure remains unchanged after this operation. Pressure relief valves DN 15 and DN 20 with a damaged valve seat can be repaired by means of the exchange cartridge 2116, which makes them equivalent to a new valve.

Pressure Relief Valve 2115



Nominal size		DN 15	DN 20	DN 25	DN 32	DN 40	DN 50
Dimensions in mm	A	R 1/2"	R 3/4"	R 1"	R 1 1/4"	R 1 1/2"	R 2"
	A 1	R 3/4"	R 1"	R 1 1/4"	R 1 1/2"	R 2"	R 2 1/2"
	H (mm)	50	52	79	110	176	195
	h (mm)	28	34	40	46	55	66
	D (mm)	31	31	49	51	75	75
Capacity of unvented (pressurized) water heaters	l	up to 200	201-1000	1001-5000	> 5001		
Heating capacity	max. kW	75	150	250			
Opening pressure	bar	max. relief capacity m³/h					
	4	2.8	3	9.5	14.3	19.2	27.7
	4,5	3	3.2	10.1	15.1	20.4	29.3
	5	3.1	3.4	10.6	16	21.5	30.9
	5,5	3.3	3.6	11.1	16.1	22.5	32.4
	6	3.4	3.7	11.6	17.5	24.2	35.9
	7	3.7	4	12.6	18.9	26.5	39.9
	8	4	4.3	13.4	20.2	28.6	43.9
	9	4.2	4.6	14.3	21.4	30.5	47.3
	10	4.4	4.8	15	22.6	33.2	51.7

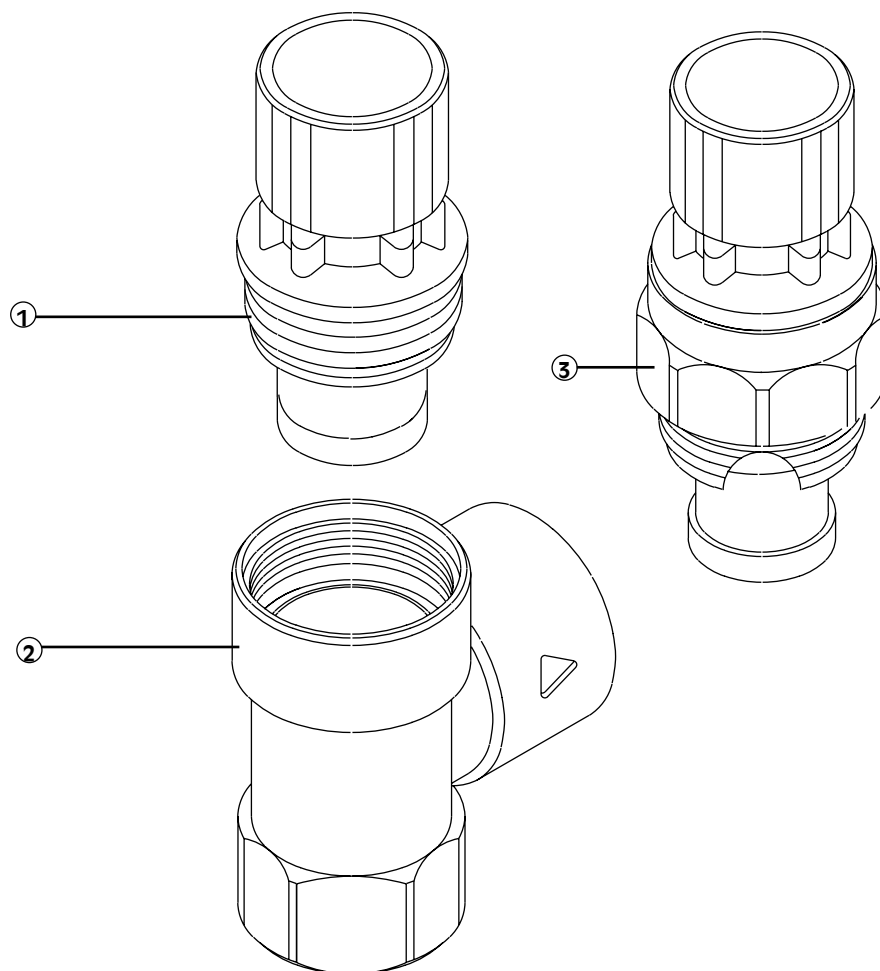
Pressure Relief Valve 2115

Components / Order numbers

①
Head part

②
Body

③
Exchangeable cartridge 2116
DN 15+DN 20: 6.0 bar: 2116.20.000
DN 15+DN 20: 8.0 bar: 2116.20.001
DN 15+DN 20:10.0 bar: 2116.20.002



Pressure Relief Valve 2115 stainless steel

with **stainless steel seat** DN 15 + DN 20 for unvented (pressurised) water heaters



Field of application

The pressure relief valve type 2115 stainless steel in sizes DN 15 and DN 20 is designed to protect pressurised fluid systems against overpressurisation. It is predominantly used for unvented (pressurised) water heaters. The connection size has to be determined in accordance with the heating capacity of the heat-generating device to be protected as given in the table. The relief capacity is indicated in the table.

The opening pressure of the pressure relief valve indicated on the black seal pressed in the lifting handle of the valve has to be at least 20 % below the highest permissible operating pressure of the system to be protected.

The pressure relief valve type 2115 stainless steel is suitable for use in solar heating systems.

Design

The operational parts in the pressure relief valve type 2115 stainless steel are protected against direct contact with the medium

(protection against corrosion). The pressure relief valve 2115 stainless steel can be lifted by means of the rotatable handle.

Pressure Relief Valve 2115 stainless steel

Materials

The body and the internal parts are made of a high-quality low-lead brass alloy; the spring cap is made of high-quality glass fibre reinforced synthetic material. The diaphragm and the seat are made of

heat and ageing resistant elastomeric synthetic material and the spring of corrosion protected spring steel wire. The valve seat is made of high-quality stainless steel.

Installation

The pressure relief valve type 2115 stainless steel has to be installed in the cold water inlet of the water heater. To avoid draining the water heater when the valve is serviced, it should be placed above the top surface of the water heater. There shall be no isolating valves, strainers or similar devices between the pressure relief valve and the water heater.

The enclosed adhesive label with the inscription: „When heating, water has to escape from the relief pipe for safety reasons! Do not obturate!“ has to be placed close to the valve in a visible position.

The diameter of the relief pipe must be at least equal to the nominal size of the valve

outlet. The relief pipe has to be installed with continuous incline. It can maximally include 2 bends and have a length of 2 meters. When a length exceeding 2 m is necessary, the pipe must be one size larger. Caution: more than 3 bends and a length exceeding 4 meters are not admissible. The outlet of the relief pipe must be free from obstruction, controllable and positioned in such a way that persons are not endangered. The relief pipe has to end in a drain device or over a tundish within the building. When the relief pipe ends over a tundish, it is indispensable that its drain pipe has at least the double cross section of the valve inlet.

Thoroughly rinse the pipe prior to installation. Install the pressure relief valve under consideration of the flow direction (see

arrow on the body) in compliance with the instructions.

Technical data

Operating temperature:	max. 110 °C
Opening pressure:	4 - 10 bar
Standard setting:	6, 8, 10 bar
Mounting position:	preferably main axis vertical, inlet connection pieces facing downwards
Components approval number:	TÜV-SV-10-545-DN-W-N-p
Fluids:	water, neutral non adhesive fluids
Serial number:	2115 stainless steel ...
	CE 0085

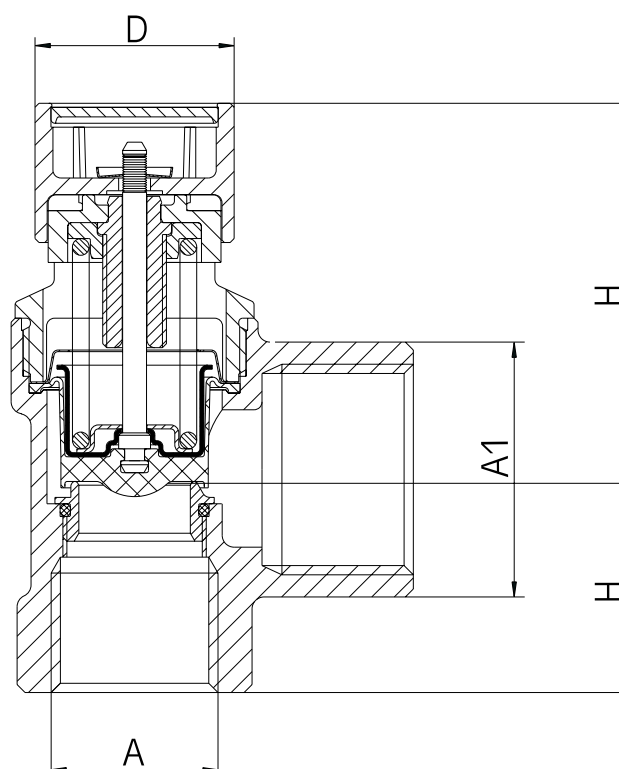
Maintenance

It is recommended to service the device on a regular basis.

The correct function of the pressure relief valve should be checked by qualified personnel at initial operation and then once a year: turn the lifting handle in the direction of the arrow until you hear a click. Afterwards, the valve has to be closed tight.

Should the valve drip constantly, it is very likely that impurities have built up in the seat. To clean the valve seat and seal, unscrew the head part. After cleaning, refit the head part; the opening pressure remains unchanged. If required, the stainless steel seat of the pressure relief valve type 2115 stainless steel can be exchanged.

Pressure Relief Valve 2115 stainless steel



Nominal size		DN 15	DN 20
Dimensions in mm	A	R 1/2"	R 3/4"
	A 1	R 3/4"	R 1"
	H (mm)	50	52
	h (mm)	28	34
	D (mm)	31	31
Capacity of unvented (pressurized) water heaters		up to 200	201-1000
Heating capacity		max. kW	150
Opening pressure	bar	max. relief capacity m ³ /h	
	4	2.8	3
	4.5	3	3.2
	5	3.1	3.4
	5.5	3.3	3.6
	6	3.4	3.7
	7	3.7	4
	8	4	4.3
	9	4.2	4.6
	10	4.4	4.8

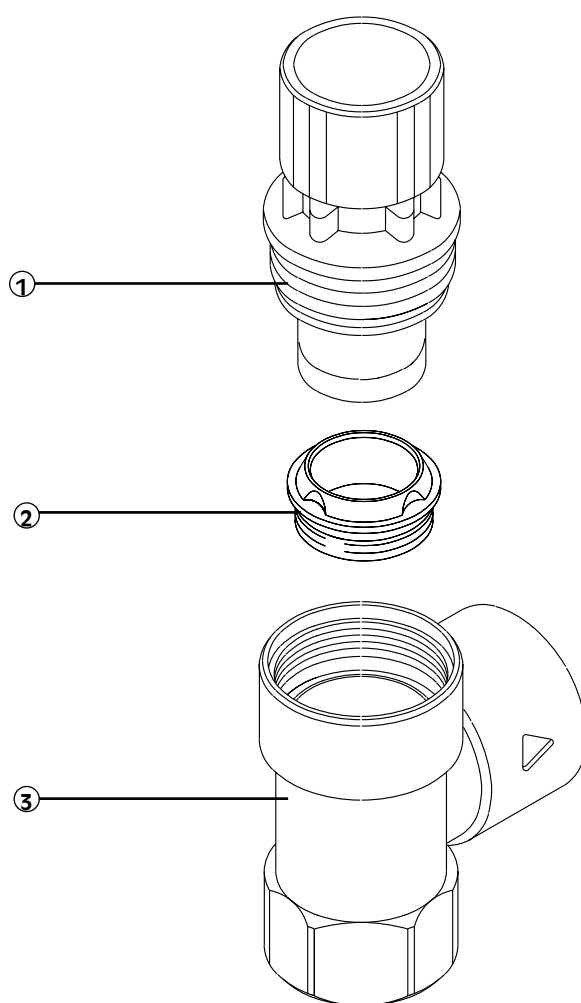
Pressure Relief Valve 2115 stainless steel

Components / Order numbers

①
Head part

②
Stainless steel seat
4807.00.907
(no fig.): tool for exchange
4807.00.911

③
Body



Exchange Cartridge 2116

for SYR pressure relief valves and safety groups DN 15 + DN 20



Field of application

The field of application of the exchange cartridge type 2116 is to repair pressure relief valves type 2115, sizes DN 15 and DN 20 as well as pressure relief valves in the SYRobloc safety groups type 24 and 25 and safety groups type 322 to 324. It can

be used for all applications of the original valves.

The installation of the exchange cartridge has no negative effect on the operating performance.

Design

The operational parts in the exchange cartridge type 2116 are protected against direct contact with the medium (protection against corrosion). The exchange cartridge

can be lifted by means of the rotatable handle. After being disassembled, the seat and the seal can be cleaned; the opening pressure remains unchanged.

Exchange Cartridge 2116

Materials

The body made of a high-quality low-lead brass alloy is also available as chromium-plated model. The spring cap is made of glass fibre reinforced synthetic material, the

diaphragm and the seals are made of heat and ageing resistant elastomeric synthetic material and the spring of corrosion protected spring steel wire.

Installation

Should the pressure relief valve have become unserviceable - indicated by constant dripping -, unscrew the head part and replace it with the exchange cartridge.

Ensure that the opening pressure of the exchange cartridge does not exceed the maximum admissible operating pressure of the installation.

Before disassembling the original head part, de-pressurise or drain the installation. Clean the valve seat before mounting the exchange cartridge. The exchange cartridge

is positioned with the metallic side directly on the valve seat and therefore has to be tightened with an adequate tool after being screwed in.

Technical data

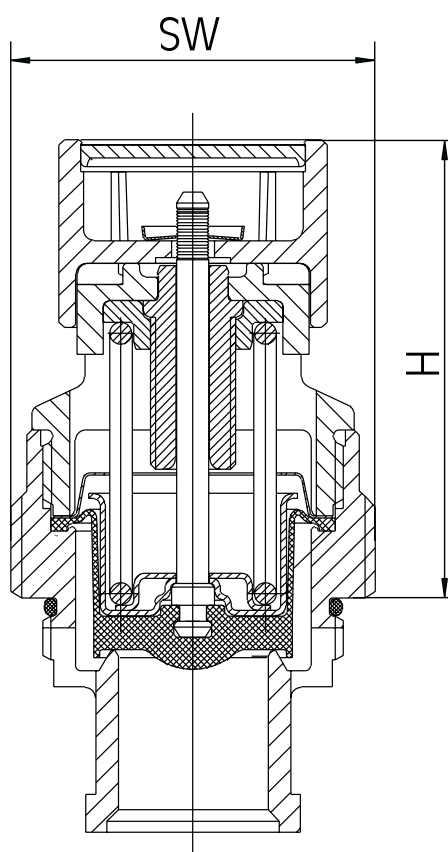
Operating temperature:	max. 110 °C
Opening pressure:	4 - 10 bar
Mounting position:	like original valve
Componen approval number:	TÜV-SV-10-545-DN-W-N-P
Fluids:	water, neutral non-adhesive fluids
Serial number:	2116...
	CE 0085

Maintenance

It is recommended to service the device on a regular basis. The correct function should be checked by qualified personnel at initial operation and

then once a year: turn the lifting handle in the direction of the arrow until you hear a click. Afterwards, the valve has to be closed tight.

Exchange Cartridge 2116



Nominal size	DN 15	
	A	G 1/2"
Dimensions in mm	H (mm)	44
	Kw*	32

* Kw = Key width

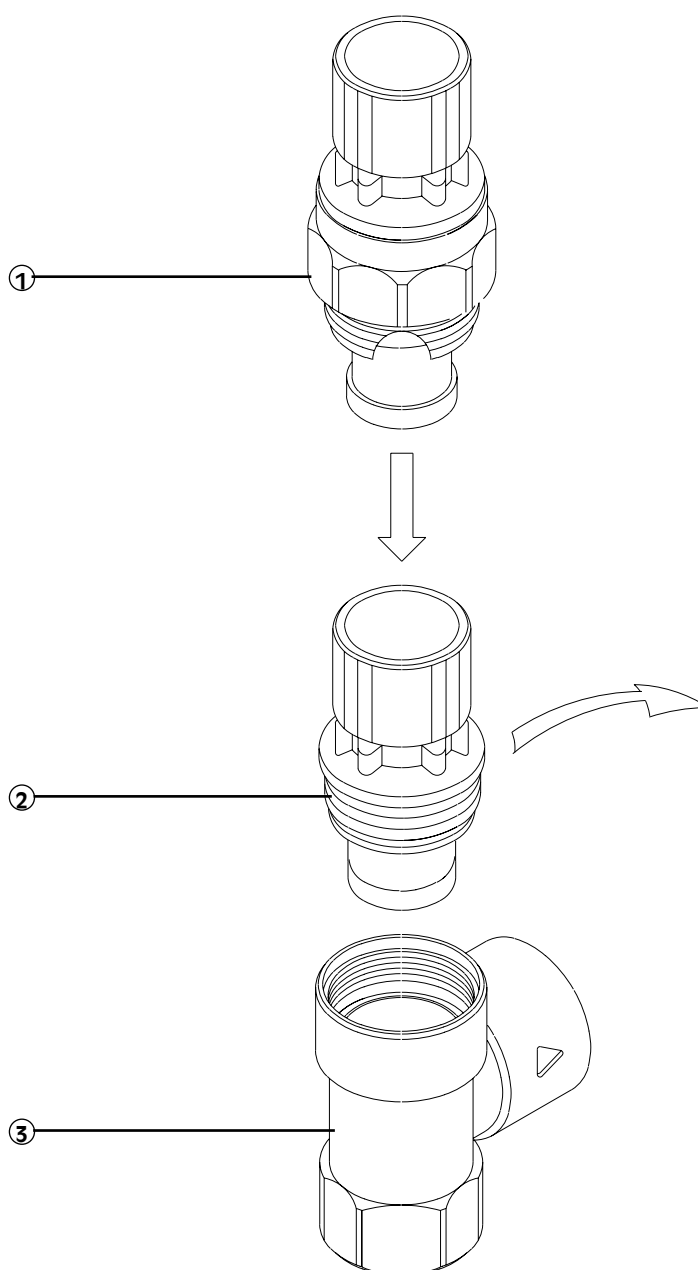
Exchange Cartridge 2116

Components / Order numbers

- ①
Exchange cartridge 2116
DN 15 + DN 20
brass alloy:
6 bar: 2116.20.000
8 bar: 2116.20.001
10 bar: 2116.20.002
chromium-plated:
6 bar: 2116.20.006
7 bar: 2116.20.011
8 bar: 2116.20.007
10 bar: 2116.20.008

②
Disassembled head part

③
Valve body



Pressure Relief Valve 2117

for unvented (pressurised) water heaters



Field of application

The pressure relief valve type 2115 is designed to protect pressurised fluid systems against overpressurisation in unvented (pressurised) water heaters. The connection size has to be determined in accordance with the heating capacity of the heat-generating device to be protected.

The opening pressure of the pressure relief valve indicated on the black seal pressed in the lifting handle of the valve has to be at least 20 % below the highest permissible operating pressure of the system to be protected.

Design

The operational parts in the pressure relief valve type 2117 are protected against direct contact with the medium (protection

against corrosion). The pressure relief valve can be lifted by means of the rotatable handle.

Pressure Relief Valve 2117

Materials

The body and the internal parts are made of a high-quality low-lead brass alloy (DN 15 - DN 32) or a dezincification resistant low-lead gunmetal alloy (DN 40 - DN 50); the spring cap is made of high-quality glass

fibre reinforced synthetic material or zinc die-casting. The diaphragm and the seat are made of heat and ageing resistant elastomeric synthetic material and the spring of corrosion protected spring steel wire.

Installation

The pressure relief valve type 2117 has to be installed in the cold-water inlet of the water heater. To avoid draining the water heater when the valve is serviced, it should be placed above the top surface of the water heater. There shall be no isolating valves, strainers or similar devices between the pressure relief valve and the water heater. The enclosed adhesive label with the inscription: „When heating, water has to escape from the relief pipe for safety reasons! Do not obturate!“ has to be placed close to the valve in a visible position. The diameter of the relief pipe must be at least equal to the nominal size of the valve outlet. The relief pipe has to be installed

with continuous incline. It can maximally include 2 bends and have a length of 2 meters. When a length exceeding 2 m is necessary, the pipe must be one size larger. Caution: more than 3 bends and a length exceeding 4 meters are not admissible. The outlet of the relief pipe must be free from obstruction, controllable and positioned in such a way that persons are not endangered. The relief pipe has to end in a drain device or over a tundish within the building. When the relief pipe ends over a tundish, it is indispensable that its drain pipe has at least the double cross section of the valve inlet.

Thoroughly rinse the pipe prior to installation. Install the pressure relief valve under consideration of the flow direction (see

arrow on the body) in compliance with the instructions.

Technical data

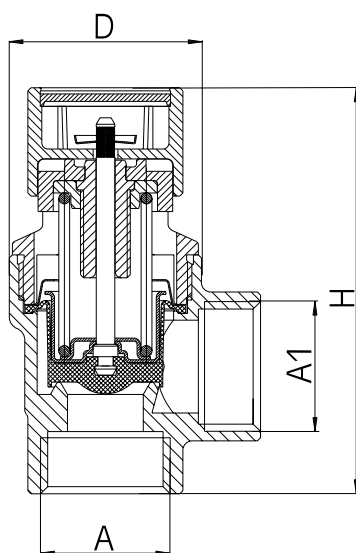
Opening pressure:	4 - 10 bar
Standard setting:	6, 8, 10 bar
Mounting position:	preferably main axis vertical, inlet connection pieces facing downwards
Components approval number:	TÜV-SV-10-545-DN-W-N-p
Media:	water, neutral non adhesive fluids
Serial number:	2117...

Maintenance

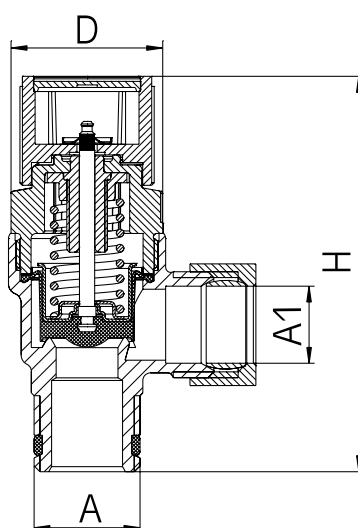
It is recommended to service the device on a regular basis. The correct function of the pressure relief valve should be checked by qualified personnel at initial operation and then once a year: turn the lifting handle in the direction of the arrow until you hear a click. Afterwards, the valve has to be closed tight. Should the valve drip constantly, it is very likely that impurities have built up in the seat.

To clean the valve seat and seal, unscrew the head part. The seat seal is exchangeable for valves with a connection size of DN 40 or more. After cleaning, refit the head part; the opening pressure remains unchanged after this operation. Pressure relief valves DN 15 and DN 20 with a damaged valve seat can be repaired by means of the exchange cartridge 2116, which makes them equivalent to a new valve.

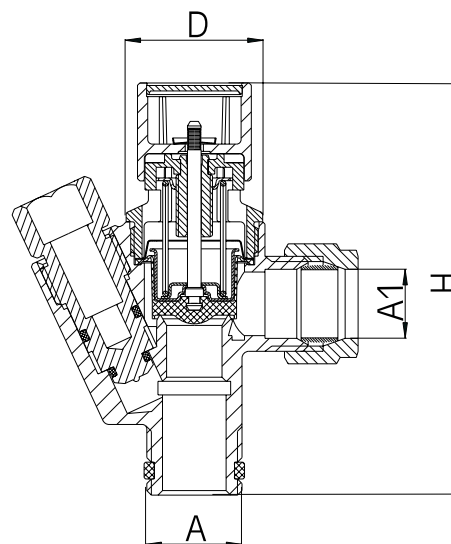
Pressure Relief Valve 2117



2117



2117.11



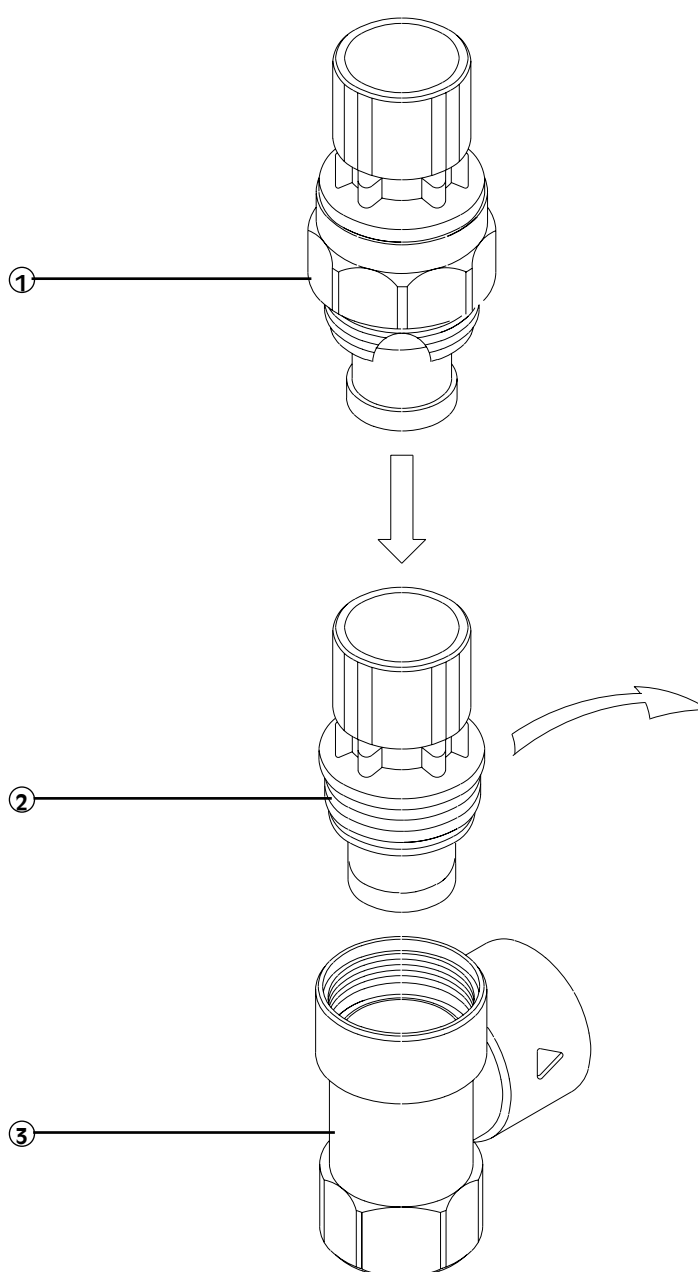
2117.4

Nominal size		2117		2117.4		2117.11	
		DN 15	DN 20	DN 15	DN 15	DN 20	
Dimensions in mm	A	½" female	¾" female	½" male	½" male	¾" male	
	A1	½" female	¾" female	15 mm compr. fitting	15 mm compr. fitting	22 mm compr. fitting	
	H (mm)	64	75	79	79	79	
	D (mm)	31	31	31	31	31	

Pressure Relief Valve 2117

Components / Order numbers

- ①
Exchange cartridge 2116
- ②
Disassembled head part
- ③
Valve body



Thermostatic Mixing Valve 702 Safe

with protection against scalding



Field of application

The thermostatic mixing valve type 702 Safe is used for the central and local regulation of the water temperature in potable water supply installations. It is the optimal solution for kindergarten, retirement homes, swimming pools, public buildings etc. Corrosion and sediments are reduced as it is installed directly at the hot water outlet of potable

water heaters that operate at high temperatures for capacity or system inherent reasons. In addition, the operation with a reduced draw-off temperature is more economic. The thermostatic mixing valve type 702 Safe can also limit the return temperature in heating installations or underfloor heating systems.

Design

This device works as a proportionally operating thermostatic mixing valve with a thermoelement. The body (nickel-plated) supplied with threaded unions on all sides (soldered unions available on request) is removable along with the thermostatic element. The integral scalding protection (in compliance with European Standards) automatically stops the incoming hot water

when the cold water supply is interrupted. The check valves installed in both cold and hot water inlets prevent any incorrect circulation. The integral strainers protect the function parts against impurities originating from the supply network. When the mixing valve is installed in a system with a circulation pump, it is recommended to have a time or temperature controlled pump.

Thermostatic Mixing Valve 702 Safe

Materials

The body and internal parts are made of a high quality low-lead brass alloy and glass fibre reinforced synthetic material; the adjustment knob is also made of high quality

synthetic material. The spring is made of corrosion resistant spring steel wire and the sealing elements of heat resistant elastomeric synthetic material.

Installation

Install the mixing valve in any mounting position. Follow the connection instructions

in the user's manual.

Thoroughly flush the pipes prior to installation. It is recommended to install a filter at the domestic point of entry to ensure a durable and correct operation. Install the

device in the pipe without applying stresses. The cold water inlet is marked with „C“ and the hot water inlet with „H“.

Technical data

Operating pressure:	max. 10 bar
Inlet temperature, hot water (PWH):	max. 90 °C
Inlet temperature, cold water:	max. 25 °C
Temperature setting range:	40 - 60°C
Factory-set temperature:	43 °C
Flow rate:	2,9 m³/h at Δp 0,5 bar
Mounting position:	any
Fluid:	water
Serial number:	0702...

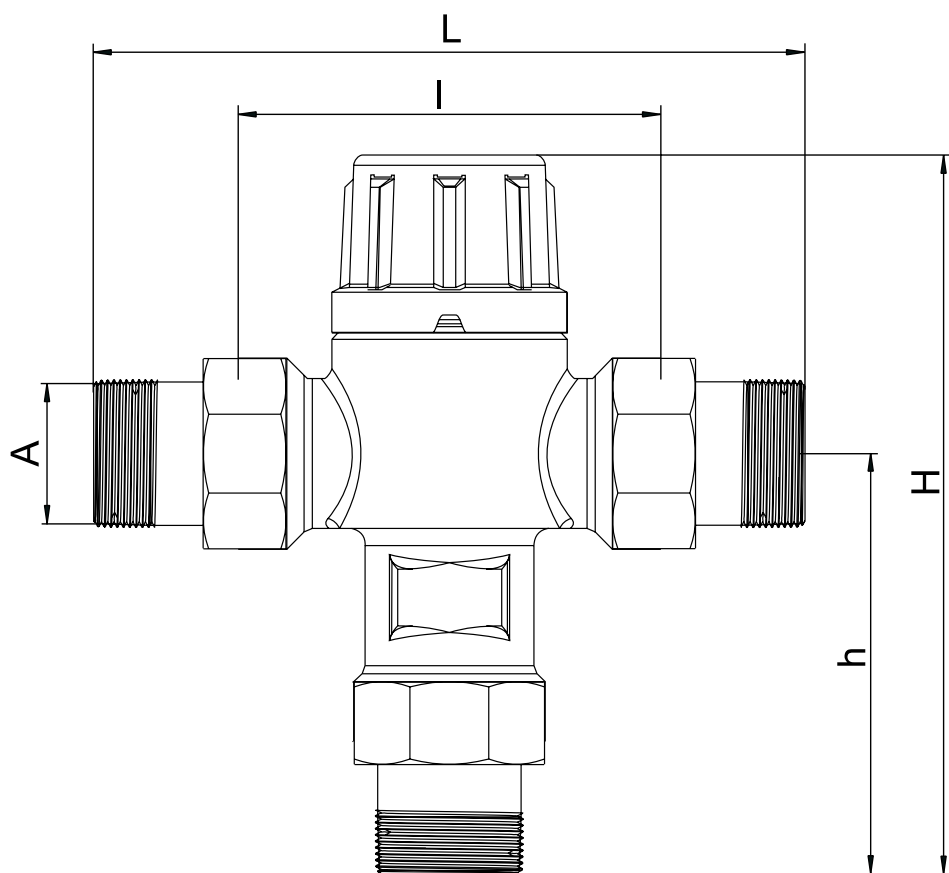
* the inlet temperature hot water (PWH) must be at least 10 K higher than the setting in the control range

Maintenance

Remove the blue cap to adjust the desired temperature. The key included in the delivery allows to easily regulate the temperature with open draw-off valve and both hot and cold water inlets fully turned on. Turn anti-

clockwise to increase the temperature and clockwise to decrease it. No particular maintenance is required under normal operating circumstances.

Thermostatic Mixing Valve 702 Safe

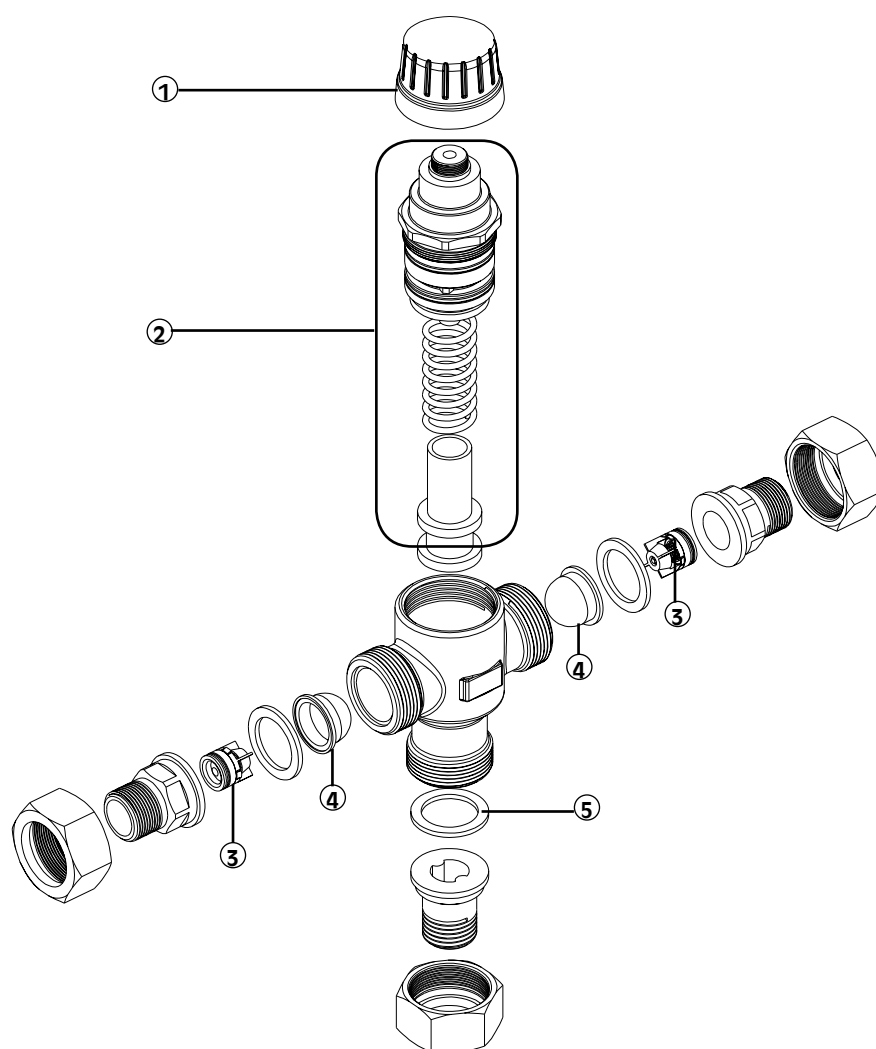


Nominal size		DN 15	DN 20
	A	G ½"	G ¾"
Dimensions in mm	H (mm)	147	148
	h (mm)	50	50
	L (mm)	143	146
	I (mm)	78	78

Thermostatic Mixing Valve 702 Safe

Components / Order numbers

- ①
Cap
- ②
Thermoelement, spring and control piston
- ③
Check valve
DN 15: 0702.15.901
DN 20: 0702.20.901
- ④
Strainer
0702.00.901
- ⑤
Sealing kit (3 units)
0702.00.900



T&P Valve 2303

Temperature and pressure relief valve with stainless steel seat for hot water storage tanks



Field of application

The temperature and pressure relief valve (T&P Valve) type 2303 is used as a safety valve to reduce excess pressure stemming from overheated water and normal water pressure. This valve prevents pressure from

causing a tank to rupture or explode due to high pressures. The T&P Valve is used for unvented hot water tanks and hot water storage tanks.

Design

The operational parts in the T&P Valve type 2303 are protected against direct contact with the medium (protection against corro-

sion). The valve can be lifted by means of the rotatable handle. It can be ordered with a $\frac{3}{4}$ " male or female inlet.

T&P Valve 2303

Materials

The body is made of low-lead dezincification resistant gunmetal alloy; the spring cap is made of high-quality glass fibre reinforced synthetic material. The diaphragm is made of heat and ageing resistant elastomeric

synthetic material and the spring of corrosion resistant spring steel wire. The valve seat is made of high quality stainless steel to avoid erosion.

Installation

It is essential that T&P Valves should be fitted in accordance with the following guidelines:

The T&P Valve must be installed so that the temperature-sensing probe is directly immersed in the hottest water i.e. in the top six inches or top 20% of the capacity of the tank/vessel.

Do not apply a wrench on any other surface than those spanner flats provided on the body when fitting the T&P Valve. As an alternative to a wrench, temporary screw a 300mm pipe into the T&P Valve's outflow. Drain lines should run to a safe place of

disposal i.e. outside or drain.

It should have the same diameter than the valves outflow and be pitched with a downward slope.

Have limited elbows preferably less than 4. On completion of the installation a pressure test of the system should be conducted at 1.5 times the normal operating pressure. For this purpose the P&T Valve should be removed.

Do not leave the relief valve in place for the test and isolate the discharge line. This will cause damage to the valve and is therefore strictly forbidden.

Technical data

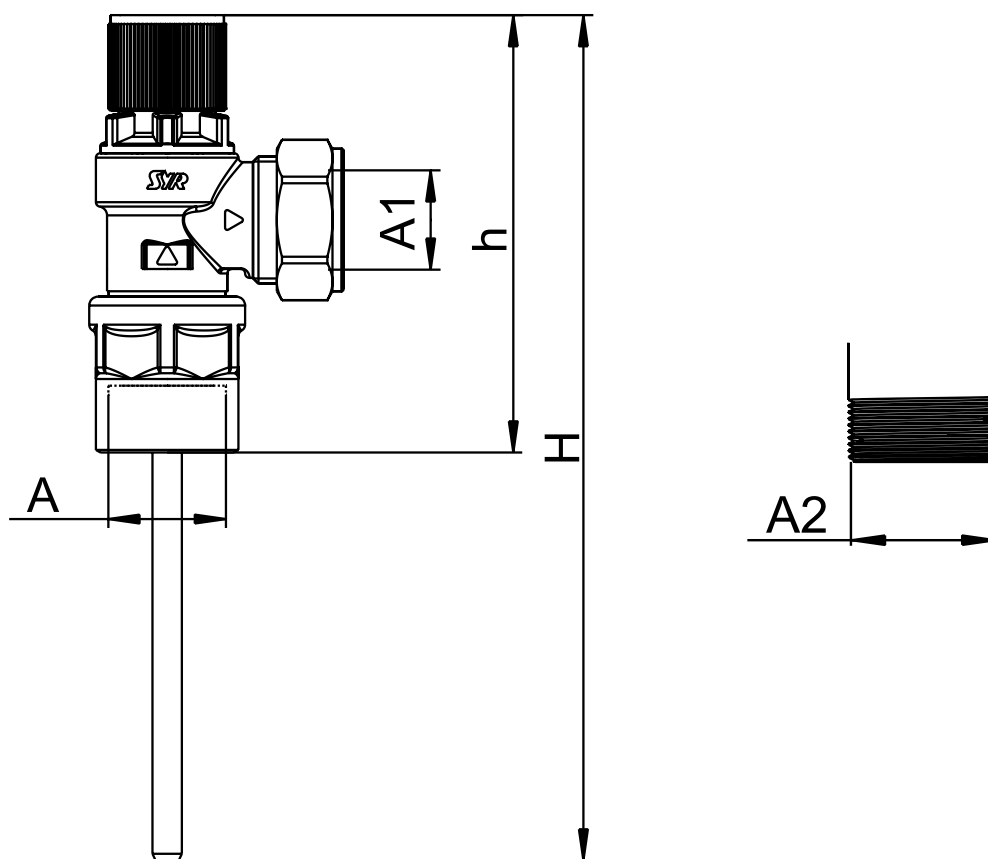
Available Set pressure:	3 - 10 bar (other settings on request)
Mounting position:	any; discharge opening facing downwards
Fluid:	potable water
Connection size:	DN 15 - 50
Set temperature:	93 - 98 °C
Discharge Rating:	Valve DN 15 = 10 KW water tanks; Valve DN 20 = 25 KW water tanks
Serial-Nr.:	2303 ...

Maintenance

When the system is in operation a plumber should check the valve's operation annually. Should the T&P Valve drip constantly the most likely cause is that the valve's seat has been clogged. Depressurise the system to carry out service works: isolate the cold water supply and drain the hot water pipes. Then, maintenance works on the valve can be carried out.

To clean the valve, unscrew the cap and the seat can easily be cleaned. After cleaning, refit the cap into the seat and screw tightly. This cleaning process will not have altered the response pressure. Whenever the valve's seat gets damage due to aggressive water, the exchangeable cartridge can be replaced with the appropriate replacement.

T&P Valve 2303

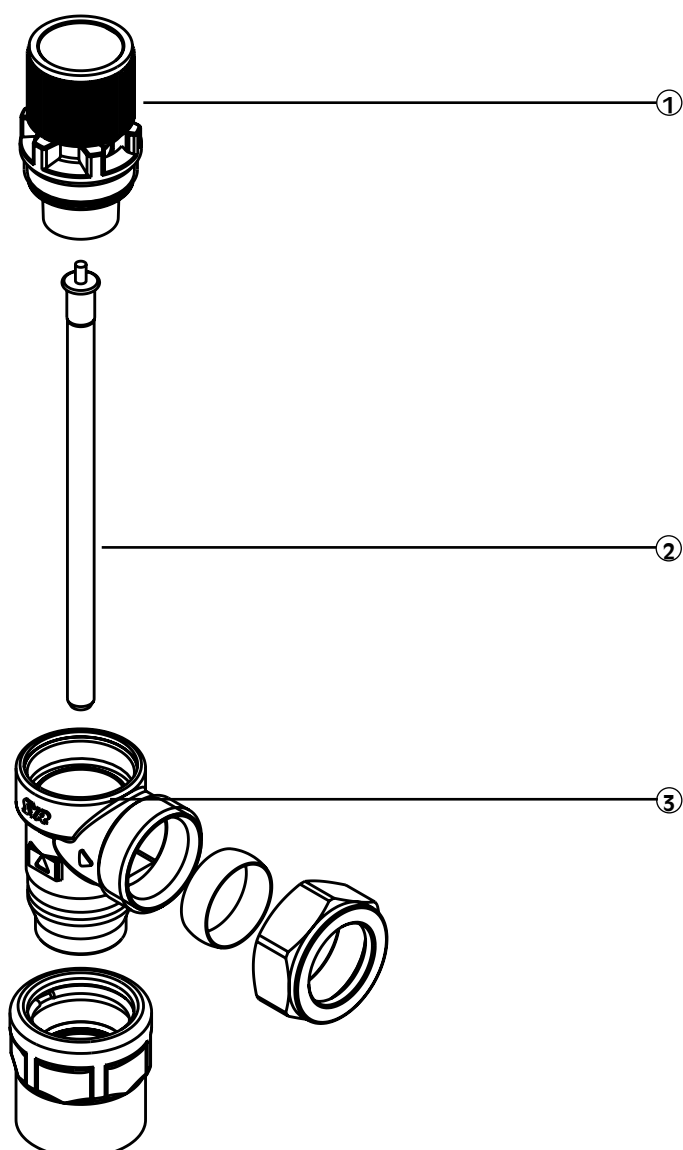


Nominal size	DN 20	
	A	¾" female
	A 1	22 mm compression fitting
	A 2	¾" male
Dimensions in mm	H (mm)	190
	h (mm)	98

T&P Valve 2303

Components / Order numbers

- ①
Head part
- ②
Probe
- ③
Body



Water treatment for heating systems

Connecting Center	3200	Site 295
HeatingCentre Plus	3228	Site 299
Mobile filling device	3200	Site 303
Fill-Caddy Water softening	3200	Site 307
Fill-Caddy Demineralization	3200	Site 311
FillDOS	3220	Site 315



Connecting Center 3200



Field of application

The SYR Connecting-Center 3200 is a connecting module used for filling the heating installation with soft and demineralized water.

Relevant for the method is the refillable water softener or demineralization cartridge.

Design

The cartridges are refillable and available for 4, 6, 7 and 14 Litres. The Connecting-Center is equipped with an inlet and outlet ball valve, integrated blending valve which

can be changed from water softening to demineralization, digital Capacity-control with remaining capacity display and a wall bracket.

Connecting Center 3200

Materials

Body, internal parts and isolating valve are made of high-quality, low-lead brass alloy or stainless steel. Seals are made of elasto-

meric synthetic material (hot-water and ageing-resistant). The springs are made of corrosion-resistant spring steel wire.

Installation

Install the connecting center before the heating installation. Do not install the device in rooms liable to humidity or frost. Fit the center to the wall bracket. Mount the

cartridges from below to the connecting center. The 14 Litre-cartridges contain a pedestal (included in delivery).

Install the connecting centre horizontally in the pipe under consideration of the direc-

tion of flow and without applying stresses.

Technical data

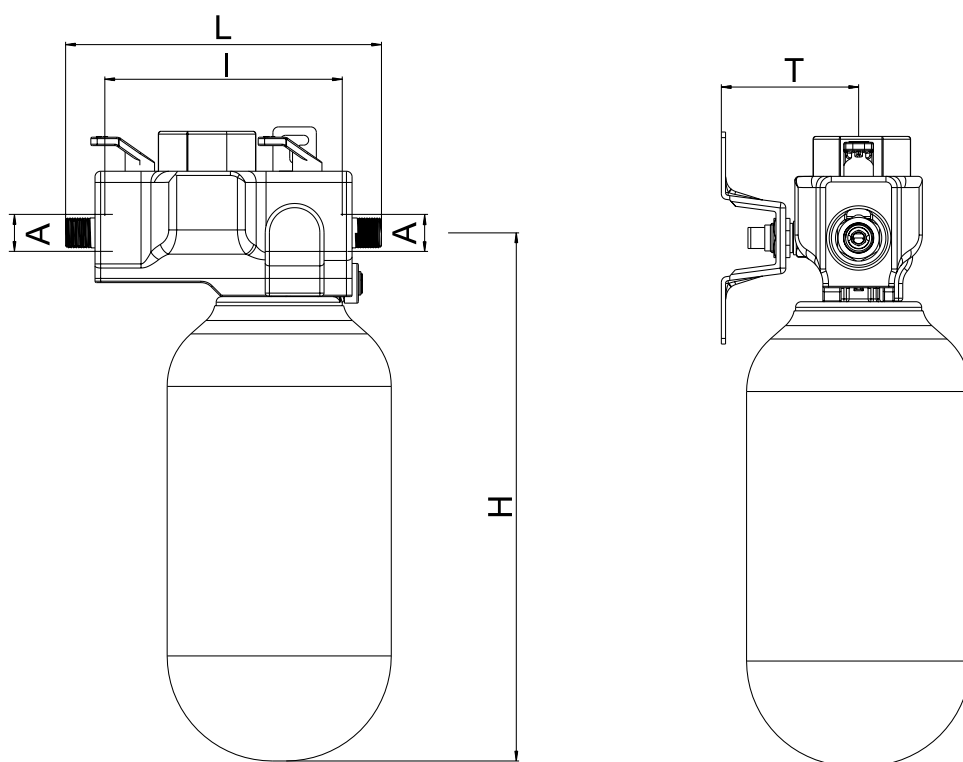
Operating pressure:	max. 6 bar
Operating temperature:	max. 30 °C
Mounting position:	Main axis horizontal
Medium:	potable water
Flow rate capacity:	0,5 m ³ /h
Serial number:	3200.15.010

Maintenance

The connecting centre automatically reports an exhausted cartridge. Just refill the cartridge with the refill resin. Pay attention

to order the appropriate resin and size of the cartridge.

Connecting Center 3200



Nominal size		DN 15
Dimensions	A	R ¾"
	L (mm)	226
	l (mm)	170
	H (mm)	377 (4 Litres), 509 (6 Litres), 585 (7 Litres), 1016 (14 Litres)
	T (mm)	90 - 105

Connecting Center 3200

Components / Order numbers

①
Connection-Center
3200.15.010

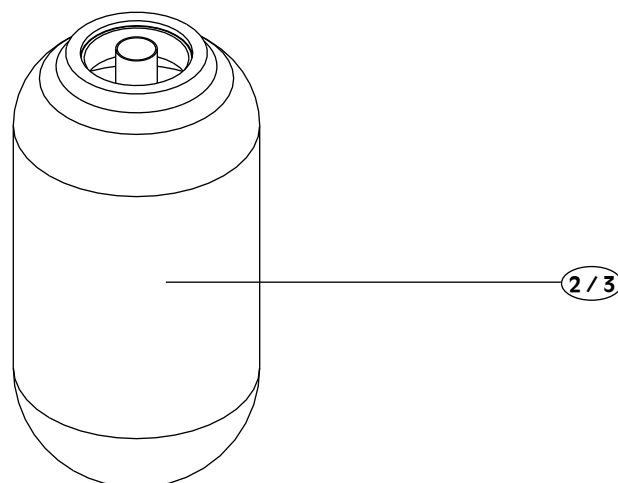
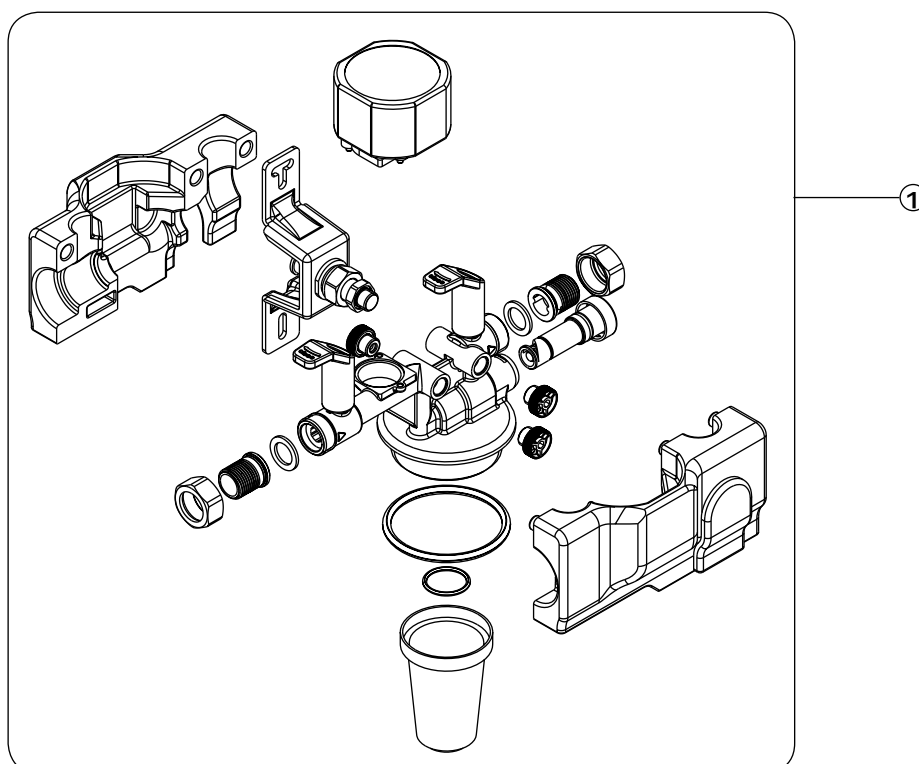
②
Cartridge for water softener for heating systems (pre-filled)
4 Liter 3200.00.001
6 Liter 3200.00.002
7 Liter 3200.00.003
14 Liter 3200.00.004

③
Cartridge for demineralization for heating systems (pre-filled)
4 Liter 3200.00.011
6 Liter 3200.00.012
7 Liter 3200.00.013
14 Liter 3200.00.014

Refill resin for water softener for heating systems (no. pict.)
4 Liter 3200.00.904
6 Liter 3200.00.905
7 Liter 3200.00.906
14 Liter = 2 x 7 Liter

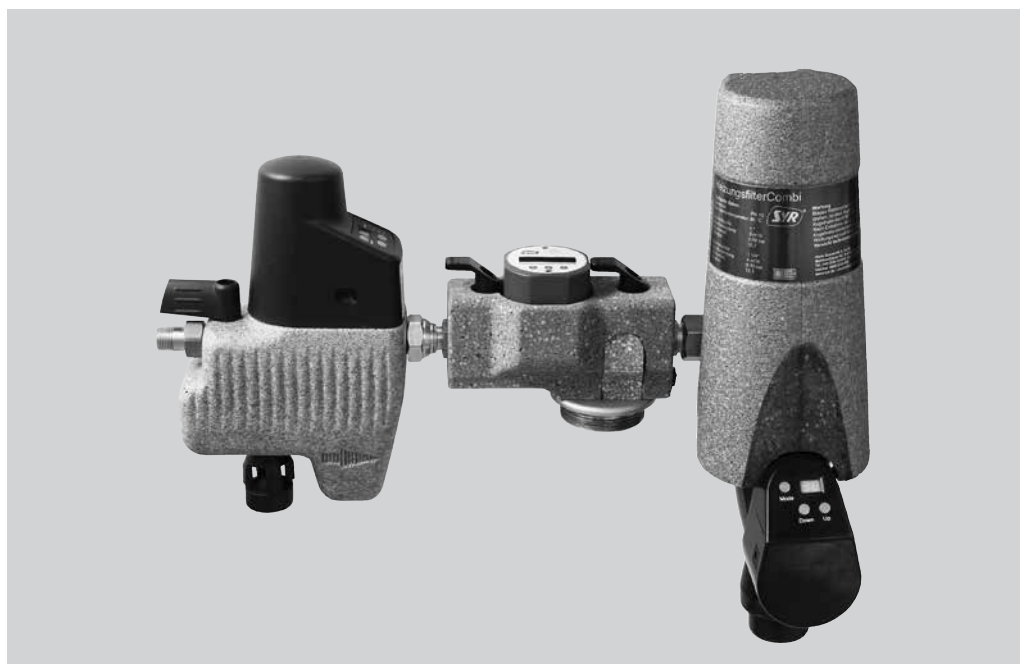
Refill resin for demineralization for heating systems (no. pict.)
4 Liter 3200.00.914
6 Liter 3200.00.915
7 Liter 3200.00.916
14 Liter = 2 x 7 Liter

Adapter to increase the des pH-Value (no. pict.)
3200.15.906



HeatingCentre Plus 3228

Valves combination consisting of Filling station, Connecting Centre & Heating filter



Field of application

The SYR Heating-Centre plus is a specially designed valves combination consisting of a heating-filter, fully automatic filling station and the connecting center for water softener and demineralization cartridges. The SYR Heating-Centre 3228 is used in heating circuits for filtration, venting and automatic filling and refilling of the heating installation. This high-performance filter combination removes coarse-grained and fine-grained impurities (for instance rust particles) that can lead to mal-function of the control and regulating systems; likewise, it eliminates annoying and corrosive gases (for

instance nitrogen and oxygen). Use the SYR Heating-Filter-Flange to install the device. The Heating-Centre is permanently connected to the heating installation in accordance with the European Standard EN1717. When the supply pressure falls below the pressure in the heating installation during the filling operation, the integral Backflow Preventer BA prevents the backflow of heating water into the potable water pipe. The Heating-Centre also allows the permanent connection of heating installations with inhibitors (anti-corrosion products and antifreezer) to the potable water system.

Design

The Heating-Centre consists of a body with a mechanical backwash filter and it is equipped with an independently operating micro-bubbles separator including a vent. The integral BA filling station consists of an isolating valve, a pressure reducer, a pressure gauge, a Backflow Preventer BA, leakage protection

and a drain connection. The connection centre consists of 2 isolating valves, digital capacity control and a blending valve that is switchable for softening and demineralization. (Hexagon socket screws with a fitting assembly key are included in the delivery).

HeatingCentre Plus 3228

Material

Body, internal parts and isolating valve are made of high-quality, low-lead brass alloy or stainless steel. Seals are made of elastomeric synthetic material (hot-water and ageing-

resistant). The springs are made of corrosion-resistant spring steel wire. The Heating-Filter is supplied with a thermal covering.

Installation

Install the SYR Heating-Centre plus vertically in the radiator supply pipe or return pipe. Do not install the device in rooms liable to humidity or frost. Leave at least 400 mm of free space below the Heating Filter in order to ensure perfect backwashing. The Heating Filter-Flange included in the delivery allows the installation in different mounting

positions. With the Heating-Centre, there is no need to connect a hose for the filling operation. When connecting the filling device, observe the European Standard EN 1717. We recommend to install a potable water filter upstream in order to ensure consistent functionality.

Install the Heating-Centre-Flange horizontally or vertically in the pipe under consideration of the direction of flow and without

applying stresses. The main axis has to be in vertical position.

Technical Data

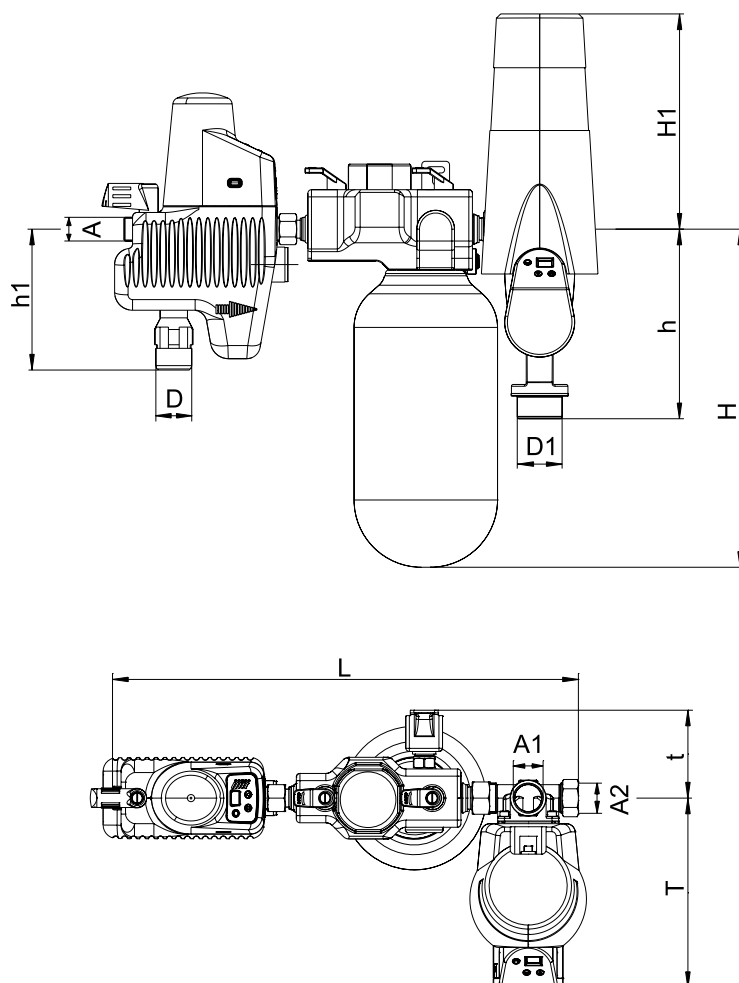
Operating pressure:	1,5 - 6 bar
Operating temperature:	Filling station: Inlet 30°C; Outlet: 65°C Filter: 90°C
Mounting position:	Main axis vertical
Fluids:	BA filling station: Water Filter: Heating water
Min. pressure for backwashing:	1,5 bar
Outlet pressure:	0,5 - 5 bar
Factory set::	1,5 bar
Flow rate capacity:	0,5 m³/h
Serial number:	3228...

Maintenance

When a heating installation is retrofitted with the Heating-Centre, the filtration should be operated every two weeks until the back-wash water has become clear. Afterwards, one backwash operation per year during the heating season will be sufficient. The filling station automatically refills the heating circuit in order to maintain the operating pressure of the installation during the

backwash operation. The Pressure Reducing Valve of the BA filling station is factory-set to 1.5 bar. To change the pressure setting, just use the interface with the display of the filling station. As the operational parts are integrated in a cartridge system, maintenance work on the pressure reducer cartridge can be carried out without having to drain the installation.

HeatingCentre Plus 3228



Nominal size		DN 25	DN 32
Dimensions	A	R ¾"	R ¾"
	A1	R 1"	R 1"
	A 2	R 1"	R 1¼"
	D (mm)	40	40
	D1 (mm)	50	50
	T (mm)	211	211
	t (mm)	90 - 105	90 - 105
	L (mm)	520	520
	H (mm)	377 (4 liter), 509 (6 liter), 585 (7 liter), 1016 (14 liter)	
	H1 (mm)	240	240
	h (mm)	211	211
	h1 (mm)	157	157

HeatingCentre Plus 3228

Components / Order numbers

①

Connecting center
3200.15.010

②

**Cartridge water softener
(already filled)**

4 Liter 3200.00.001
6 Liter 3200.00.002
7 Liter 3200.00.003
14 Liter 3200.00.004

③

**Cartridge demineralization
(already filled)**

4 Liter 3200.00.011
6 Liter 3200.00.012
7 Liter 3200.00.013
14 Liter 3200.00.014

④

Filling-station

⑤

Heating-filter

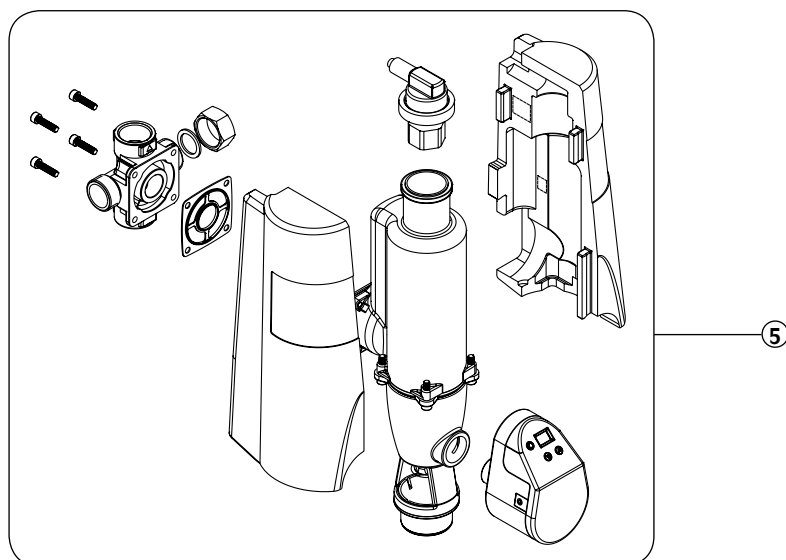
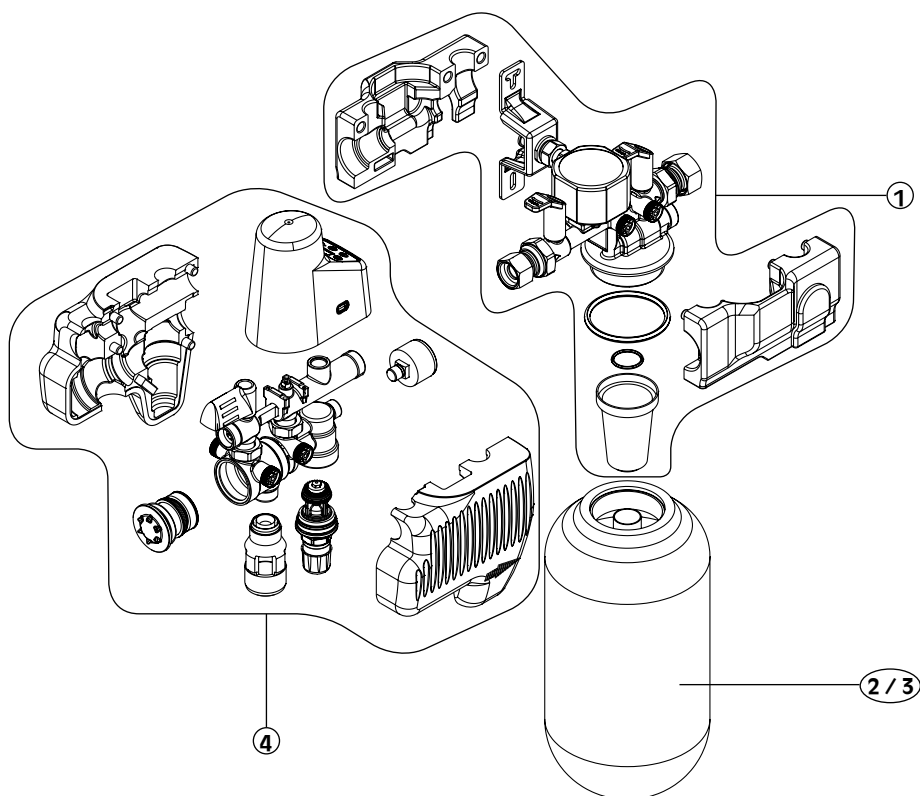
**Exchange-granules forwa-
ter softener (no picture)**

4 Liter 3200.00.904
6 Liter 3200.00.905
7 Liter 3200.00.906
14 Liter = 2 x 7 Liter

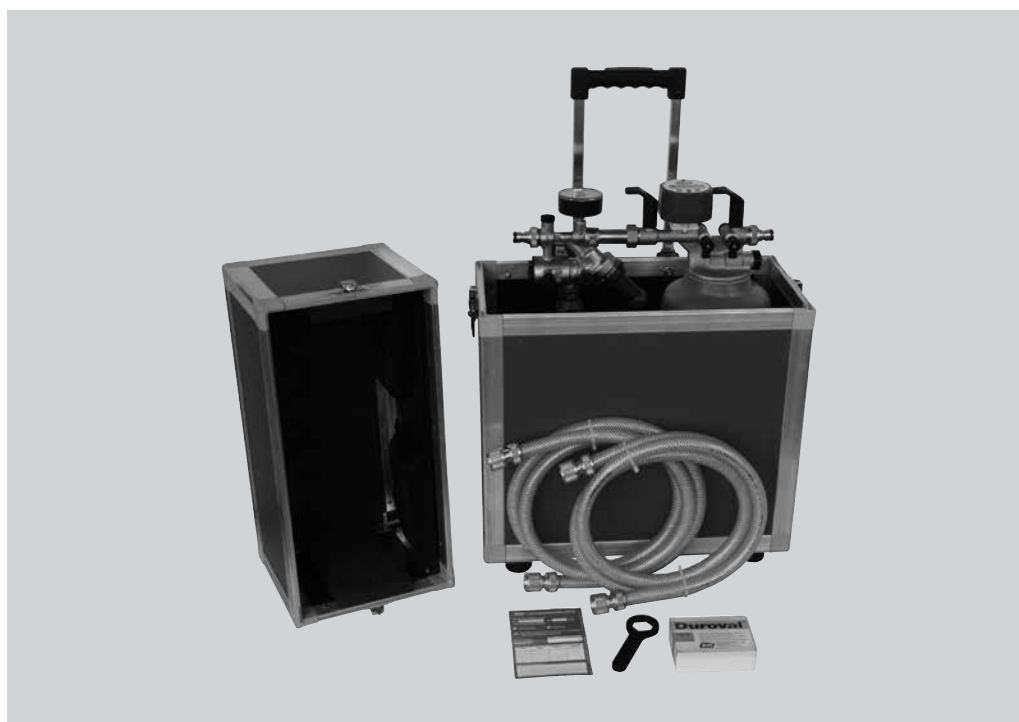
**Exchange-granules
forDemineralization(no
picture)**

4 Liter 3200.00.914
6 Liter 3200.00.915
7 Liter 3200.00.916
14 Liter = 2 x 7 Liter

**Adapter for pH-
increase(no picture)**
3200.15.906



Mobile filling device 3200



Field of application

SYR's filling device 3200 is designed for the mobile filling of heating systems with softened or fully demineralized water (VDI

2035/I). It includes all components required for a standard-conforming filling process.

Design

The mobile filling device 3200 from SYR includes a Euro Filling-Combi, type BA with an integrated BA backflow preventer and a pressure reducing valve, a connection center 3200 from SYR with a digital capacity control, a 4 liters cartridge to soften or fully demineralize water, an exchange granulate

(only with the mobile filling device for full demineralization), two connection hoses (2m), a water hardness measuring device and a service report. The connection center can be converted from water softening to full demineralization.

Mobile filling device 3200

Materials

The functional parts are made of high-quality synthetic material. The body and internal synthetic parts are made of shock-resistant thermoplast and the rubber parts of ageing-resistant elastomer. All

remaining functional parts are made of a dezincification-resistant brass alloy and stainless steel. The materials used are state-of-the-art.

Installation

Install the BA Euro Filling-Combi and the connection center 3200 upstream of the heating system by means of the enclosed hoses under consideration of the correct

direction of flow. Screw the respective cartridges from below to the connection center.

Use only potable water when filling the

system.

Technical specifications

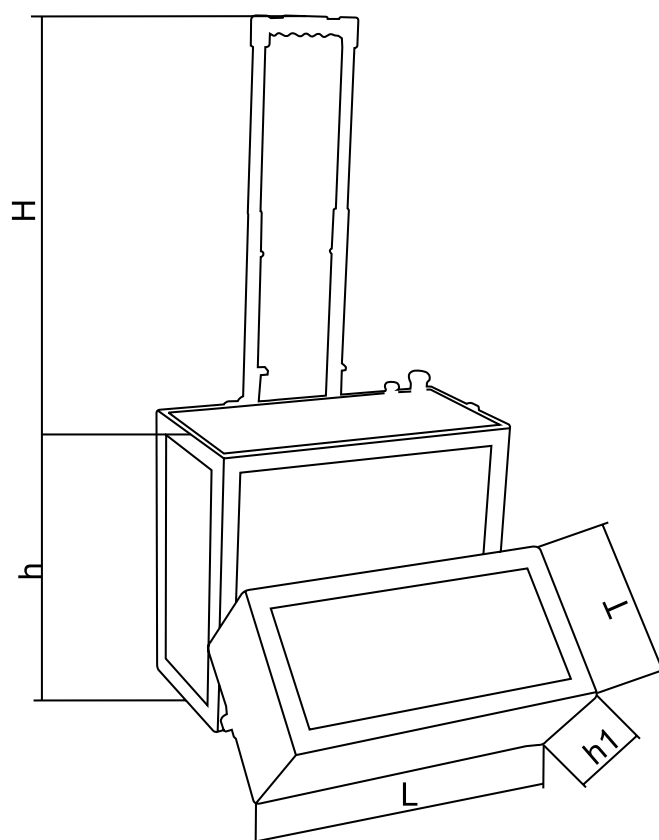
Operating pressure:	max. 6 bar
Operating temperature:	max. 30 °C (connection center) max. 30 °C (inlet) - BA Euro Filling-Combi max. 65 °C (outlet) - BA Euro Filling-Combi
Mounting position:	Main axis: vertical
Medium:	Potable water
Outlet pressure:	1.5 - 5 bar
Flow rate:	0.5 m ³ /h
Serial number:	3200 ...

Maintenance

The connection center produces an automatic signal when a cartridge is used up, in which case the latter only has to be refilled. As the functional parts are designed as cartridge system, the pressure reducer cartridge can be serviced and repaired without having to drain the system. Service

the pressure reducing valve on a regular basis. The BA backflow preventer has to be serviced once per year. As each pressure zone is equipped with connections for ball valves, use the relevant accessories (maintenance kit art. 6600.00.902) to make the functional test of the device.

Mobile filling device 3200



Nominal size

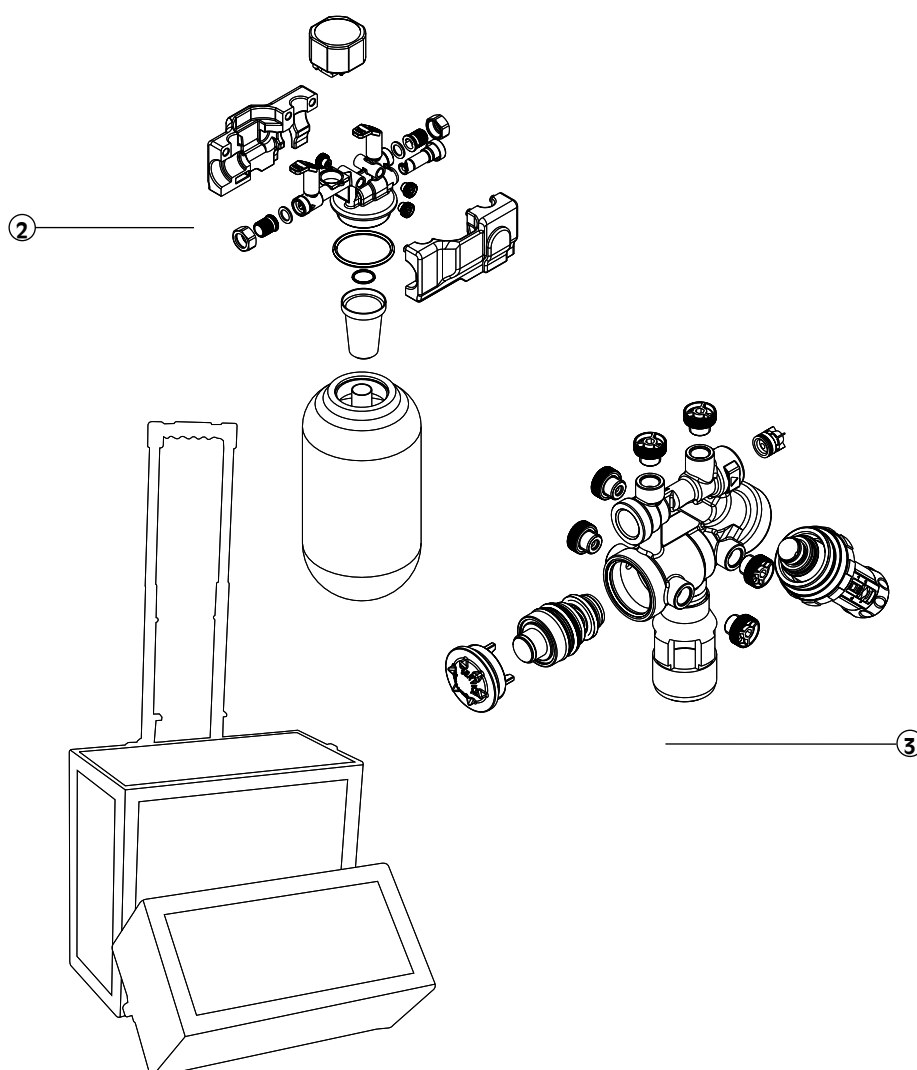
Dimensions

H (mm)	390
h (mm)	400
h1 (mm)	170
L (mm)	450
T (mm)	230
(Kg)	16

Mobile filling device 3200

Components / Order numbers

- ①
Trolley case
- ②
Connection center 3200
- ③
Euro Filling-Combi type BA 6628
6628.00.919



Fill-Caddy Water softening 3200



Field of application

SYR's Fill-Caddy 3200 is designed for the mobile filling of large heating plants with softened water (VDI 2035/I). It includes

all components required for a standard-conforming filling process.

Design

The Fill-Caddy 3200 from SYR includes a Euro Filling-Combi, type BA with an integrated BA backflow preventer and a pressure reducing valve, a backwashable pre-filter a connection center 3200 from

SYR with a digital capacity control, an already filled 30 liters cartridge to soften water, two connection hoses (4m) with a quick couplings system, a water hardness measuring device and a service report.

Fill-Caddy Water softening 3200

Materials

The functional parts are made of high-quality synthetic material. The body and internal synthetic parts are made of shock-resistant thermoplast and the rubber parts of ageing-resistant elastomer. All

remaining functional parts are made of a dezincification-resistant brass alloy and stainless steel. The materials used are state-of-the-art.

Installation

Install the BA Euro Filling-Combi and the connection center 3200 upstream of the heating system by means of the enclosed

hoses under consideration of the correct direction of flow.

Use only potable water when filling the

system.

Technical specifications

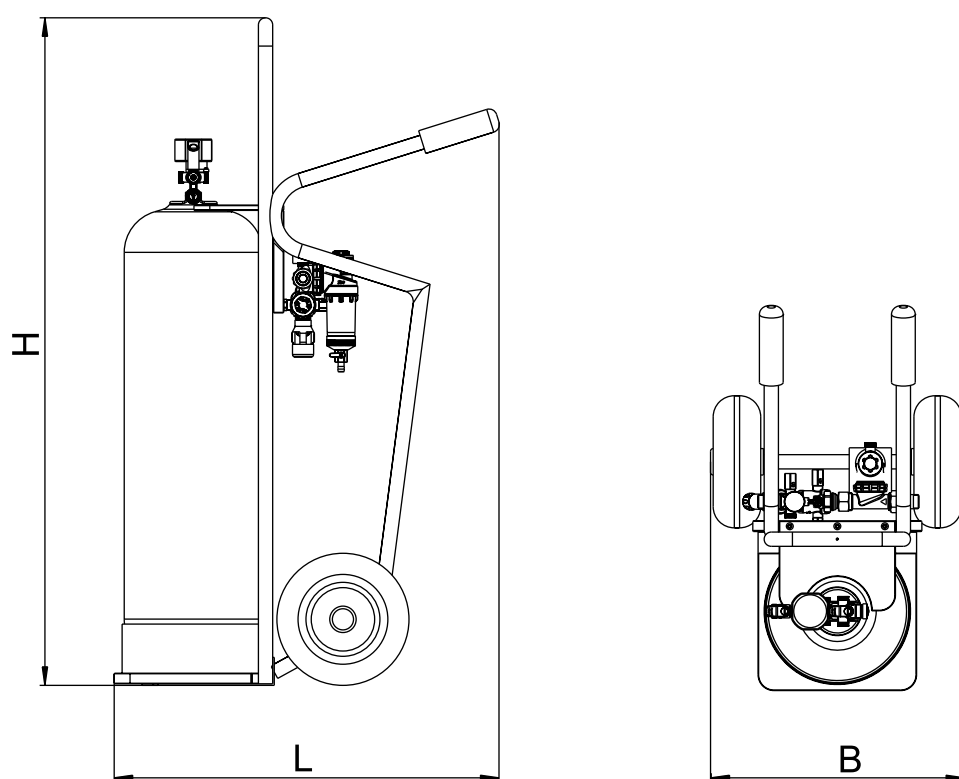
Operating pressure:	Pre-Filter: max. 16 bar BA Euro Filling-Combi: 10 bar Connecting center: 6 bar
Operating temperature:	Pre-Filter: max. 30 °C BA Euro Filling-Combi: max. 30 °C (inlet) BA Euro Filling-Combi: max. 65 °C (outlet) Connection center: max. 30 °C
Medium:	Potable water
Cartridge-Volume	30 Litre
Capacity:	109.200 Litre x °dH
Serial number:	3200.15.030

Maintenance

The connection center produces an automatic signal when a cartridge is used up, in which case the latter only has to be refilled. As the functional parts are designed as cartridge system, the pressure reducer cartridge can be serviced and repaired without having to drain the system. Service the pressure reducing valve on a regular basis. The filter needs to be serviced every

6 months or when the flow rate is reduced due to increased pressure loss. The BA backflow preventer has to be serviced once per year. As each pressure zone is equipped with connections for ball valves, use the relevant accessories (maintenance kit art. 6600.00.902) to make the functional test of the device.

Fill-Caddy Water softening 3200



Nominal size

Dimensions

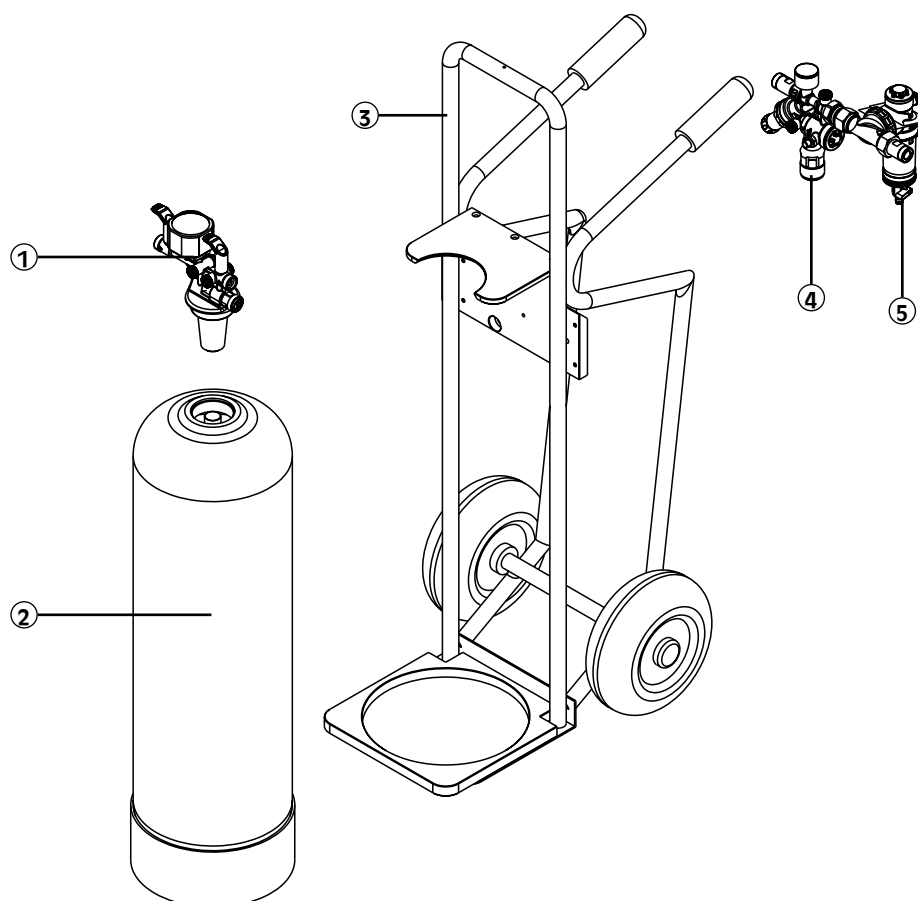
H (mm)	1300
L (mm)	600
B (mm)	570

Fill-Caddy Water softening 3200

Components / Order numbers

- ①
Connecting center
3200.15.010
- ②
Cartridge (already filled)
30 Liter
- ③
Sack Trolley
- ④
BA Euro Filling-Combi
6628.00.919
- ⑤
Pre-Filter

no figure
**water hardness measuring
device**
3000.00.913



Fill-Caddy Demineralization 3200



Field of application

SYR's Fill-Caddy 3200 is designed for the mobile filling of large heating plants with fully demineralized water (VDI 2035/I). It

includes all components required for a standard-conforming filling process.

Design

The Fill-Caddy 3200 from SYR includes a Euro Filling-Combi, type BA with an integrated BA backflow preventer and a pressure reducing valve, a backwashable pre-filter a connection center 3200 from SYR with a digital capacity control, an

already filled 30 liters cartridge to fully demineralize water, two connection hoses (4m) with a quick couplings system, a water hardness measuring device and a service report.

Fill-Caddy Demineralization 3200

Materials

The functional parts are made of high-quality synthetic material. The body and internal synthetic parts are made of shock-resistant thermoplast and the rubber parts of ageing-resistant elastomer. All

remaining functional parts are made of a dezincification-resistant brass alloy and stainless steel. The materials used are state-of-the-art.

Installation

Install the BA Euro Filling-Combi and the connection center 3200 upstream of the heating system by means of the enclosed

hoses under consideration of the correct direction of flow.

Use only potable water when filling the

system.

Technical specifications

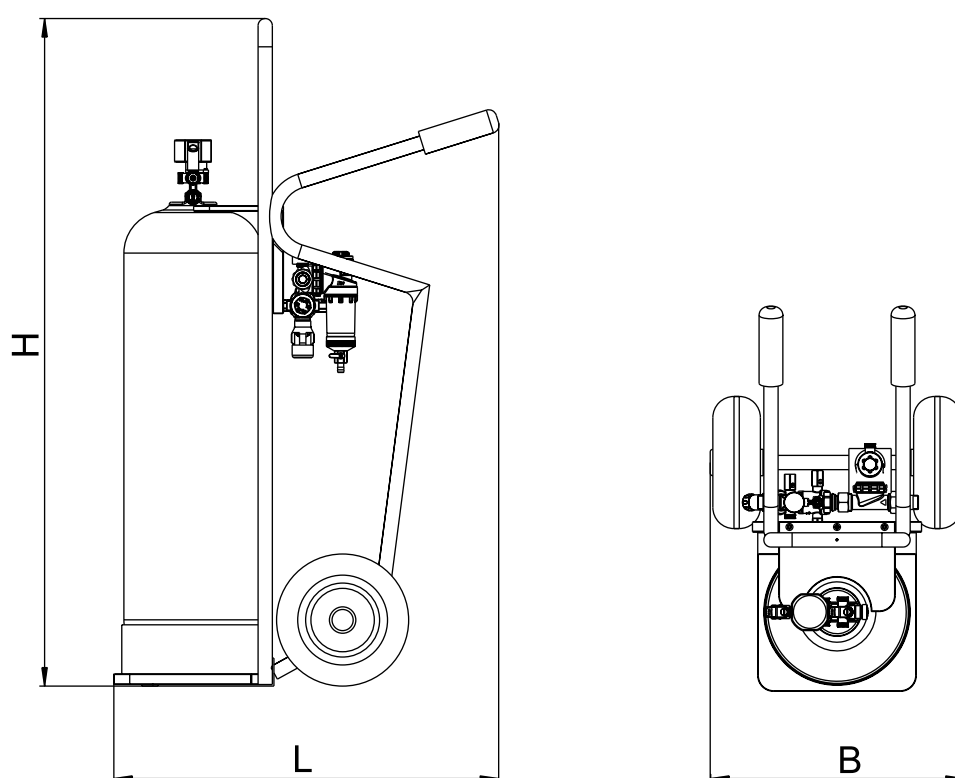
Operating pressure:	Pre-Filter: max. 16 bar BA Euro Filling-Combi: 10 bar Connecting center: 6 bar
Operating temperature:	Pre-Filter: max. 30 °C BA Euro Filling-Combi: max. 30 °C (inlet) BA Euro Filling-Combi: max. 65 °C (outlet) Connection center: max. 30 °C
Medium:	Potable water
Cartridge-Volume	30 Litre
Capacity:	37.500 Litre x °dH
Serial number:	3200.15.031

Maintenance

The connection center produces an automatic signal when a cartridge is used up, in which case the latter only has to be refilled. As the functional parts are designed as cartridge system, the pressure reducer cartridge can be serviced and repaired without having to drain the system. Service the pressure reducing valve on a regular basis. The filter needs to be serviced every

6 months or when the flow rate is reduced due to increased pressure loss. The BA backflow preventer has to be serviced once per year. As each pressure zone is equipped with connections for ball valves, use the relevant accessories (maintenance kit art. 6600.00.902) to make the functional test of the device.

Fill-Caddy Demineralization 3200



Nominal size

Dimensions

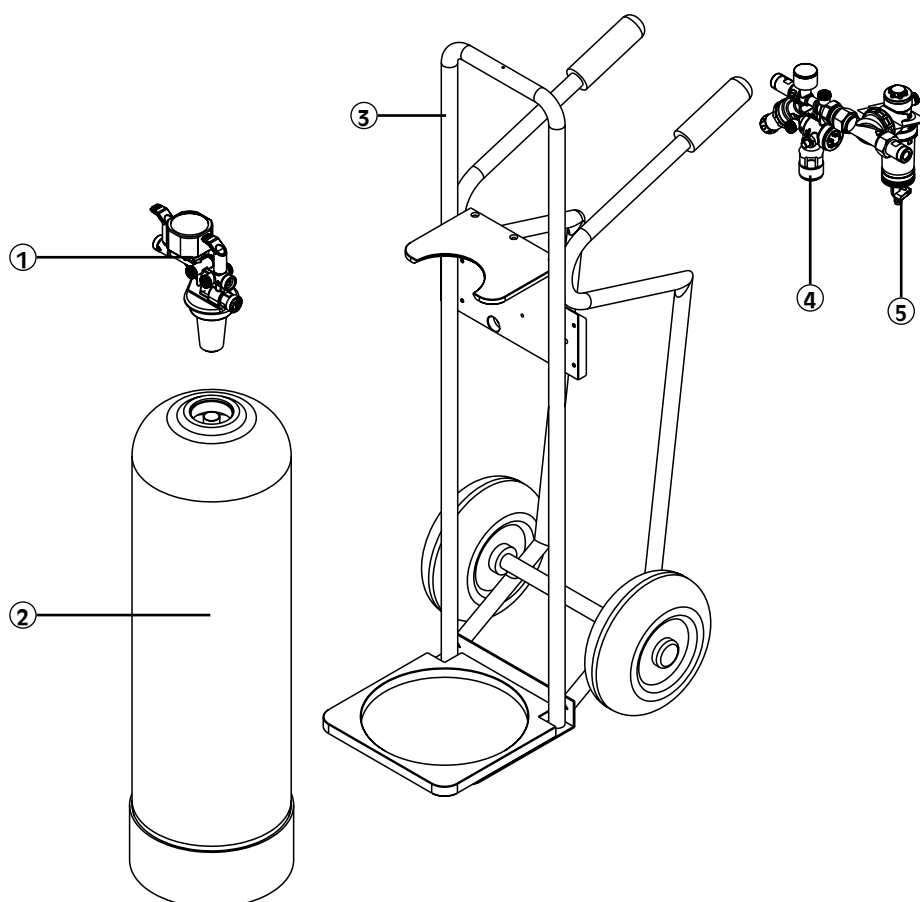
H (mm)	1300
L (mm)	600
B (mm)	570

Fill-Caddy Demineralization 3200

Components / Order numbers

- ①
Connecting center
3200.15.010
- ②
Cartridge (already filled)
30 Liter
- ③
Sack Trolley
- ④
BA Euro Filling-Combi
6628.00.919
- ⑤
Pre-Filter

no figure
conductivity measuring
device
3200.15.905



FiILDOS 3220

Filling pump for heating inhibitors



Field of application

The SYR FiILDOS 3220 is a dosing pump used for simple filling of heating systems with appropriate inhibitors (e.g. FillSafe

plus 3220.00.001 or pH value increase 3220.00.010).

Design

The SYR FiILDOS 3220 consisting out of the pump head, a connection hose, a connecting piece $\frac{1}{4}$ " for connection to the connection center 3200 and a shaft (SW 6) for operating a cordless screwdriver. With this

screwdriver the inhibitor is pumped into the heating system. Furthermore, there is a adapter $\frac{1}{4}$ " to $\frac{3}{4}$ " with a changeover to a commercial drain valve and an empty 2-liter container for various inhibitors.

Filidos 3220

Materials

The functional parts are made of high-quality synthetic material. The body and internal synthetic parts are made of shock-resistant thermoplast and the rubber parts of ageing-resistant elastomer. All

remaining functional parts are made of a dezincification-resistant brass alloy and stainless steel. The materials used are state-of-the-art.

Installation

The corresponding inhibitor (accessories) is supplied in a 2 liter container, which is screwed at the pump head and pumped

into the heating system using a cordless screwdriver.

The filling pump is screwed via the connecting piece into a 1/4" connection (e.g. on the output side manometer plug of the SYR connection center). If there is no possible

connection to a 1/4" port, you can use the included adapter from 1/4" to 3/4" flat seal (e.g. for a drain valve).

Technical specifications

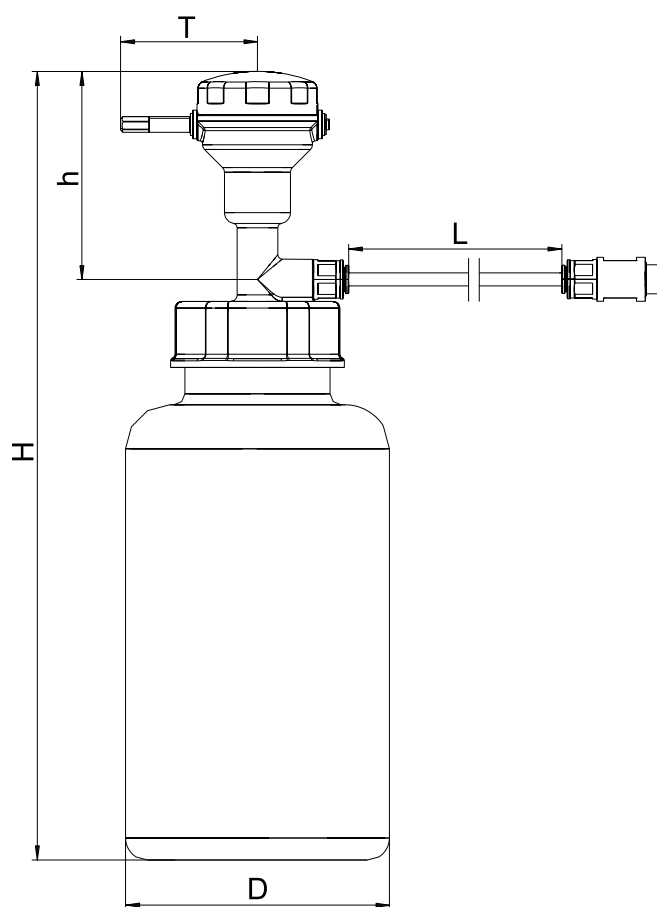
operating pressure:	max. 10 bar
Fluid:	anti-corrosion fluid, water, non- adhesive fluids (Attention: not suitable for sealant)
Rotation speed:	max. 500 U/min
Connecting size shaft:	1/4" Bit support
Volume container:	max. 2 Liter
Connecting size canister thread (nach DIN 61):	ø outside: 65,2 mm ø core: 61,8 mm
Serial number:	3220.00.000

Maintenance

Basically the pump is maintenance-free. Only the o-rings of the pump head should

be replaced at regular intervals.

FILIDOS 3220



Nominal size

Dimensions

H (mm)	355
h (mm)	95
T (mm)	63
D (mm)	120
L (mm)	200

FilIDOS 3220

Components / Order numbers

①
Pump head

②
Connecting piece

③
Hose, 2m

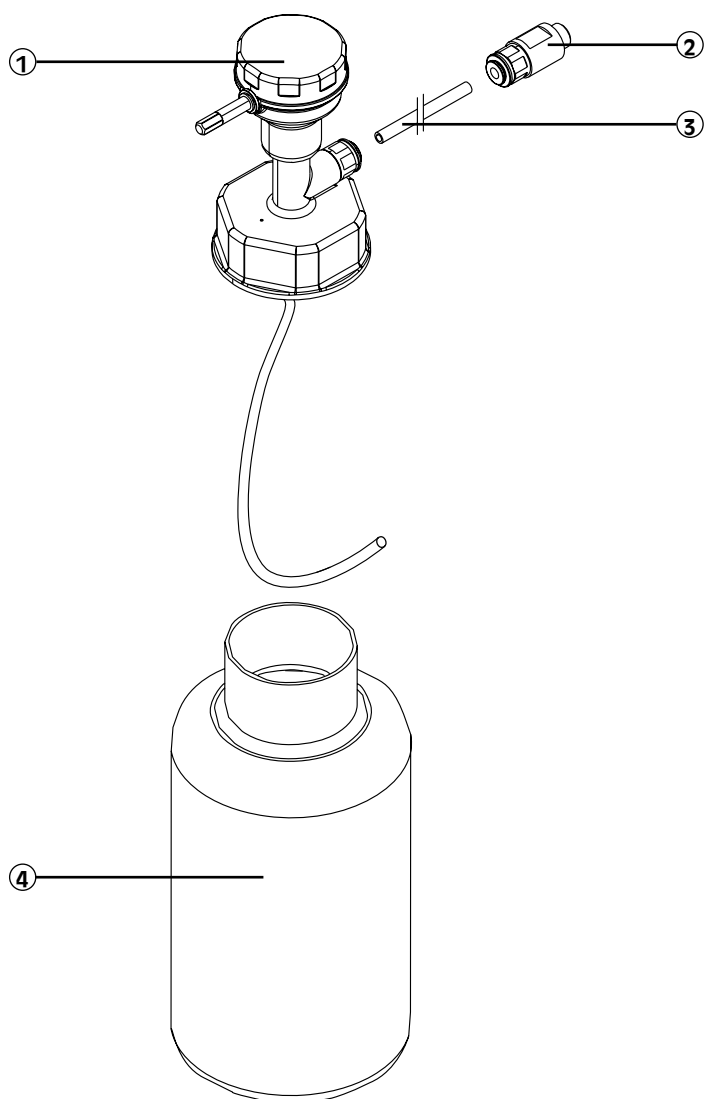
④
Accessories
FillSafe plus 3220, 2 Litre
3220.00.010

Accessories
pH-value increase, 2 Litre
3220.00.001

o. Abb.
Reducing fitting 1/4" / 3/4"

o. Abb.
6 O-Rings for pump head

o. Abb.
Molybdenum measuring device
3220.00.900



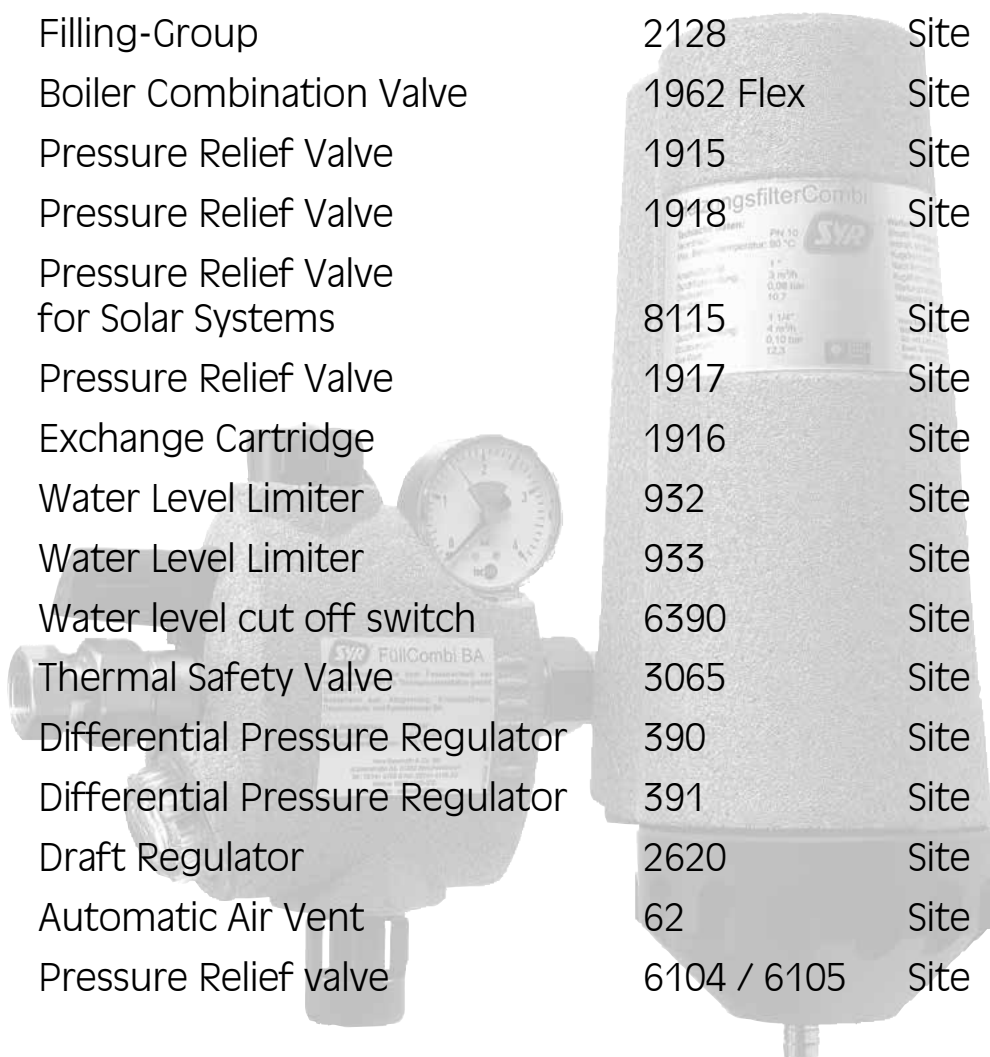
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Notice

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Valves for heating installations

Heating-Centre	3328	Site 323
Heating-Filter-Combi	3315	Site 327
BA-Filling-Combi	6628	Site 331
Euro CA FillingCombi with isolating valve	6827	Site 335
Euro CA FillingCombi	6827	Site 339
Filling-Group	2128	Site 343
Boiler Combination Valve	1962 Flex	Site 347
Pressure Relief Valve	1915	Site 351
Pressure Relief Valve	1918	Site 355
Pressure Relief Valve for Solar Systems	8115	Site 359
Pressure Relief Valve	1917	Site 363
Exchange Cartridge	1916	Site 367
Water Level Limiter	932	Site 371
Water Level Limiter	933	Site 375
Water level cut off switch	6390	Site 379
Thermal Safety Valve	3065	Site 383
Differential Pressure Regulator	390	Site 387
Differential Pressure Regulator	391	Site 391
Draft Regulator	2620	Site 395
Automatic Air Vent	62	Site 399
Pressure Relief valve	6104 / 6105	Site 403



Heating-Centre 3328

Valves combination consisting of Heating Filter Combi and BA-Filling-Combi



Field of application

The SYR Heating-Centre is a specially designed valves combination consisting of the SYR Heating-Filter-Combi and the SYR BA-Filling-Combi. The SYR Heating-Centre 3328 is used in heating circuits for filtration, venting and automatic filling and refilling of the heating installation. This high-performance filter combination removes coarse-grained and fine-grained impurities (for instance rust particles) that can lead to mal-function of the control and regulating systems; likewise, it eliminates annoying and corrosive gases (for instance nitrogen and oxygen). Use the

SYR Heating-Filter-Flange to install the device. The Heating-Centre is permanently connected to the heating installation in accordance with the European Standard EN1717. When the supply pressure falls below the pressure in the heating installation during the filling operation, the integral Backflow Preventer BA prevents the backflow of heating water into the potable water pipe. The Heating-Centre also allows the permanent connection of heating installations with inhibitors (anti-corrosion products and antifreezer) to the potable water system.

Design

The Heating-Centre consists of a body with a mechanical backwash filter and it is equipped with an independently operating micro-bubbles separator including a vent. The integral BA-Filling-Combi consists of an isolating valve,

a pressure reducer, a pressure gauge, a Backflow Preventer BA and a drain connection. (Hexagon socket screws with a fitting assembly key are included in the delivery).

Heating-Centre 3328

Materials

Body, internal parts and isolating valve are made of high-quality, low-lead brass alloy or stainless steel. Seals are made of elastomeric synthetic material (hot-water and ageing-

resistant). The springs are made of corrosion-resistant spring steel wire. The Heating-Filter is supplied with a thermal covering.

Installation

Install the SYR Heating-Centre vertically in the radiator supply pipe or return pipe. Do not install the device in rooms liable to humidity or frost. Leave at least 400 mm of free space below the Heating Filter in order to ensure perfect backwashing. The Heating Filter-Flange included in the delivery allows the

installation in different mounting positions. With the Heating-Centre, there is no need to connect a hose for the filling operation. When connecting the filling device, observe the European Standard EN 1717. We recommend to install a potable water filter upstream in order to ensure consistent functionality.

Install the Heating-Centre-Flange horizontally or vertically in the pipe under consideration of the direction of flow and without applying

stresses. The main axis has to be in vertical position.

Technical data

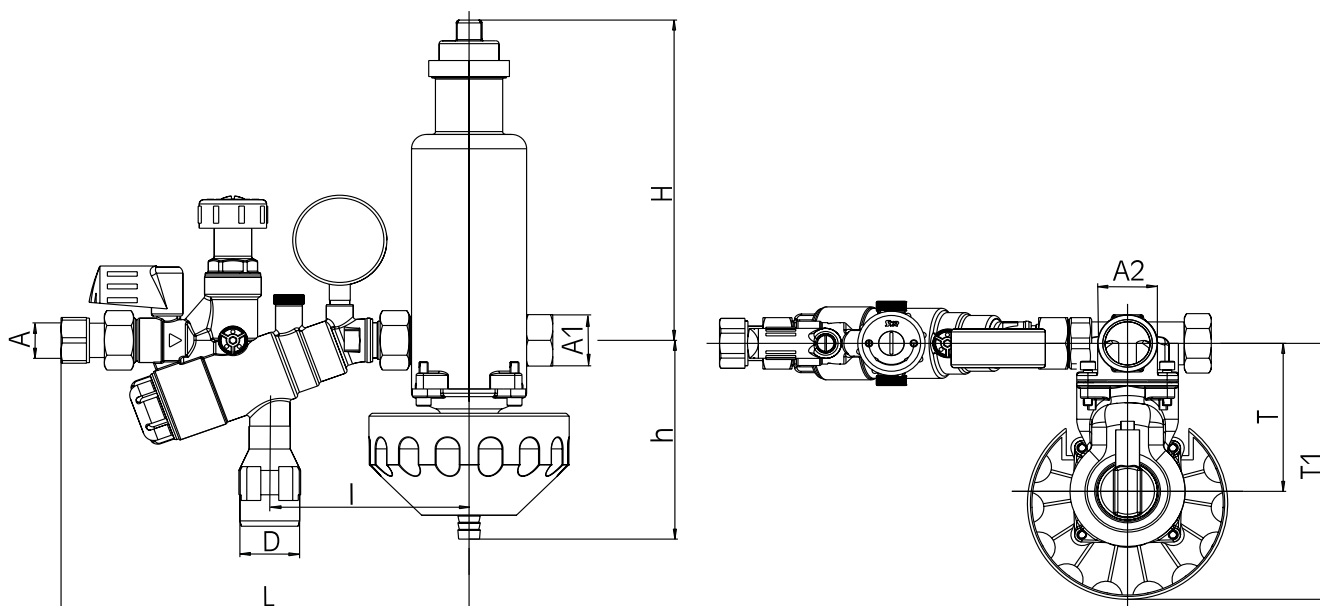
Fluids:	BA-Filling-Combi: Water Filter: Heating water
Operating pressure:	1.5 – 10 bar
Operating temperature:	Filter: max. 90 °C BA-Filling-Combi: Inlet: max 30 °C Outlet: max 65 °C
Mounting position:	Main axis vertical
Flow rate capacity/ pressure loss	DN 25: 3m ³ /h, 0,08 bar DN 32: 4m ³ /h, 0,10 bar
Volume at Δp 1,0 bar in m ³ /h:	DN 25: 10.7, DN 32: 12.3
Outlet pressure:	0.5 bar – 4 bar Factory setting: 1.5 bar
Min. pressure for backwashing:	1.5 bar
DVGW-Number BA-Filling-Combi:	DW-6305BP0084
Serial number:	3328...

Maintenance

When a heating installation is retrofitted with the Heating-Centre, the filtration should be operated every two weeks until the backwash water has become clear. Afterwards, one backwash operation per year during the heating season will be sufficient. The filling device automatically refills the heating circuit in order to maintain the operating pressure of the installation during the backwash operation. The Pressure Reducing Valve of the BA-Filling-Combi is factory-set to 1.5

bar. To change the pressure setting, loosen the safety screw on top of the adjustment knob. To reduce the outlet pressure, turn the adjustment knob in the direction of the minus symbol (-), to increase it, turn the adjustment knob in the direction of the plus symbol (+). As the operational parts are integrated in a cartridge system, maintenance work on the pressure reducer cartridge can be carried out without having to drain the installation.

Heating-Centre 3328



Ref. Heating-Filter-Combi 3315 for other dimensions
of the Heating- Filter-Flange

Fig.: without thermal covering

Nominal size		DN 25	DN 32
	A	R ¾"	R ¾"
	A 1	DN 25	DN 25
	A 2	R 1"	R 1 ¼"
Dimensions in mm	D (mm)	40	40
	L (mm)	273	273
	I (mm)	133	133
	H (mm)	224	224
	h (mm)	139	139
	T (mm)	104	104
	T 1 (mm)	179	179

Models:

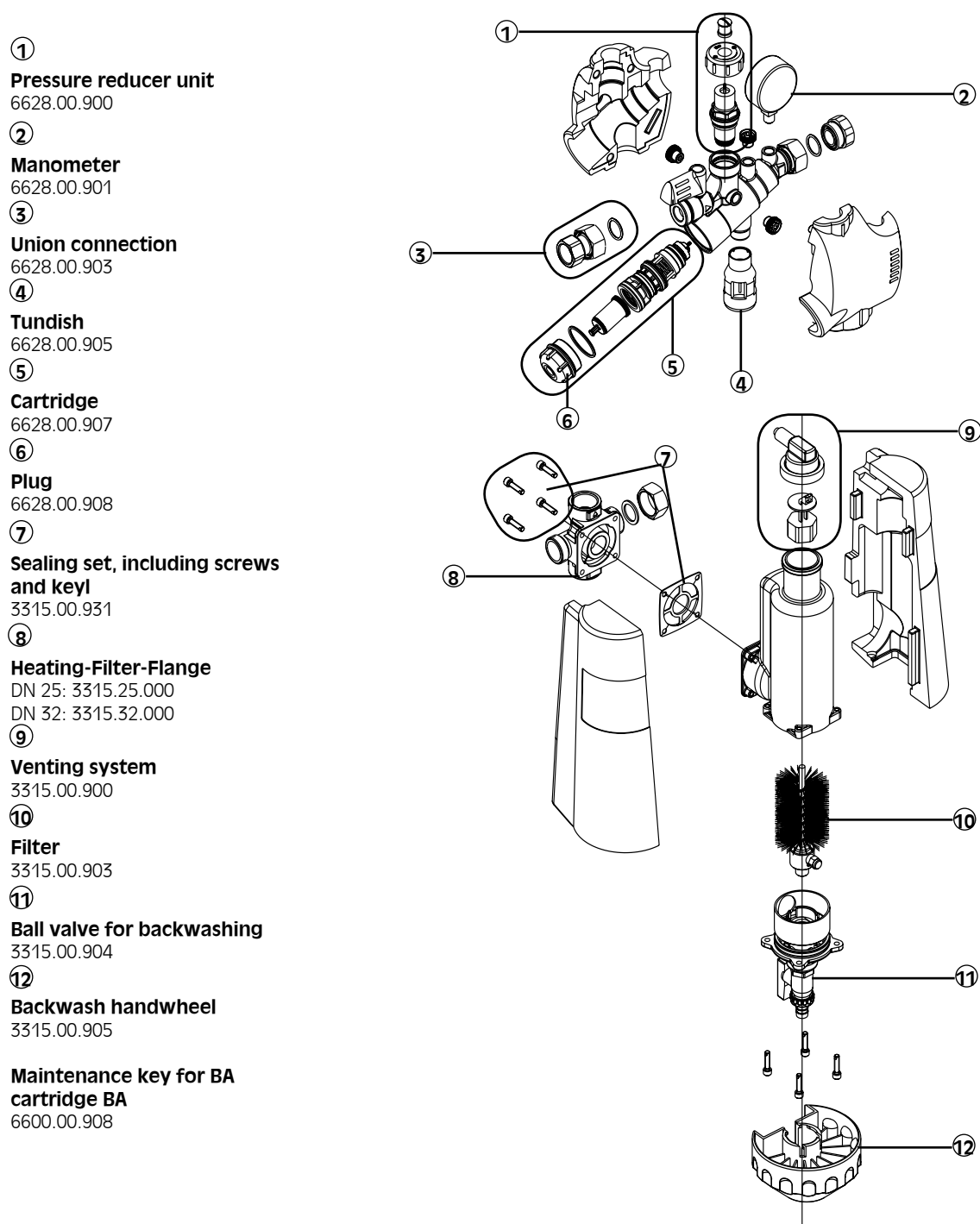
with Heating-Filter-Flange DN 25: 3328.25.000
with Heating-Filter-Flange DN 32: 3328.32.000

Accessories:

Test kit: electronic pressure measurement device
for inspection and maintenance: 6600.00.902
Maintenance key for BA cartridge: 6600.00.908

Heating-Centre 3328

Components / Order numbers



Heating-Filter-Combi 3315

Backwash filter with automatic venting system for heating installations



Field of application

The SYR Heating-Filter-Combi type 3315 is used in heating circuits for filtration and venting. This high-performance filter combination removes coarse-grained and fine-grained impurities (for instance rust particles) that can lead to malfunction of

the control and regulating systems; likewise it eliminates annoying and corrosive gases (for instance nitrogen and oxygen). Use the Heating-Filter-Flange listed under „Accessory“ to install the device in the pipe.

Design

The SYR Heating-Filter-Combi includes a mechanical backwash filter housing and is equipped with an automatic microbubbles

separator and a venting valve. Hexagon socket screws with a fitting assembly key for the flange assembly are included.

Heating-Filter-Combi 3315

Materials

The body and internal parts, isolating valve and seal are respectively made of a high-quality, low-lead brass alloy, stainless steel and elastomeric synthetic material (hot

water and ageing resistant). The Heating-Filter-Combi is covered with a thermal protection.

Installation

Install the Heating-Filter-Combi vertically in the radiator supply pipe or return pipe. Do not install the device in rooms liable to humidity or frost. Leave at least 400 mm of free space below the Heating-Filter-Combi in order to ensure perfect backwashing. When backwashed, the filter is thoroughly rinsed from the top downwards. For an

effective backwash operation, a potable water connection in conformity with EN 1717 needs to be installed on the Heating-Filter-Flange allowing the connection of a manual or automatic device for filling the heating system. We recommend to use the SYR Filling-Combi BA 6628.

Install the device with the Heating-Filter-Flange (to order separately). This flange is suitable for horizontal as well as vertical pipe. Install the Heating-Filter-Flange under

consideration of the flow direction without applying stresses. The main axis has to be in vertical position.

Technical data

Fluids:	Water, heating water
Operating pressure:	max. 10 bar
Operating temperature:	max. 90 °C
Mounting position:	Main axis vertical
Flow rate capacity/ pressure loss:	DN 25: 3 m³/h, 0,08 bar DN 32: 4m³/h, 0,10 bar
Volume at Δp 1,0 bar in m³/h:	DN 25: 10.7, DN 32: 12.3
Min. pressure for backwashing:	1.5 bar
Serial number:	3315...

Maintenance

When a heating installation is retrofitted with the Heating-Center, the filtration should be operated every two weeks until the backwash water has become clear. Afterwards, one backwash operation per year

during the heating season will be sufficient. The backwash water should be drained with an adequate hose or in a bucket until all impurities are removed from the filter (approximately 3 Liters).

Heating-Filter-Combi 3315

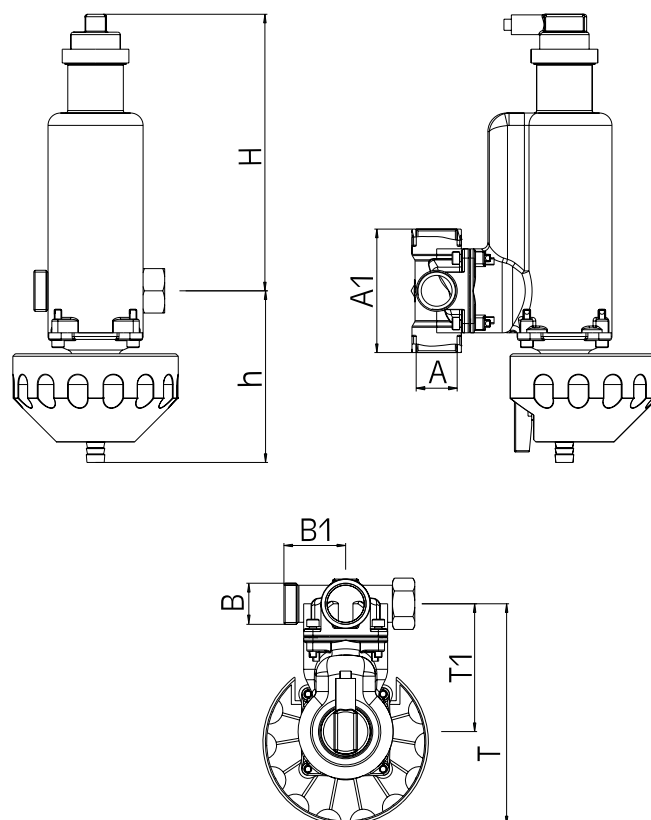


Fig.: without thermal protection

Heating- Filter- Flange not included in delivery

Nennweite		DN 25	DN 32
	A	DN 25	DN 32
	B	R 1"	R 1"
Baumaße	A 1 (mm)	100	110
	B 1 (mm)	50	50
	H (mm)	224	224
	h (mm)	139	139
	T (mm)	104	104
	T 1 (mm)	179	179

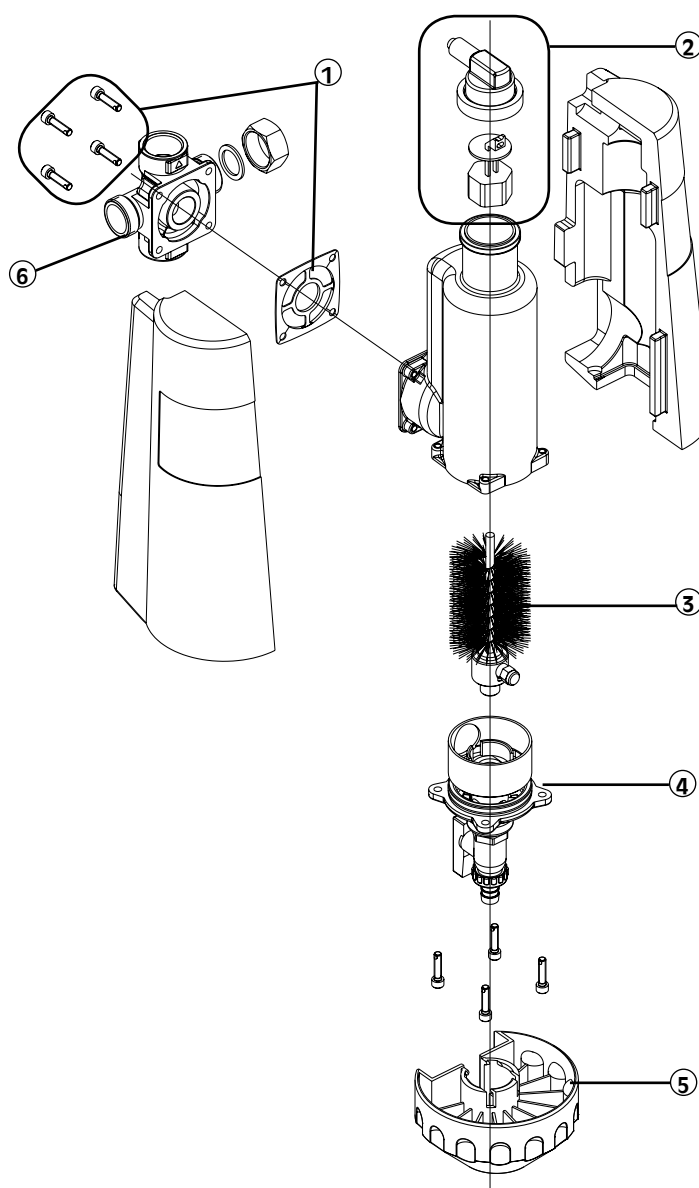
Accessory:

Heating-Filter-Flange DN 25:	3315.25.000
Heating-Filter-Flange DN 32:	3315.32.000
BA-Filling-Combi DN 20:	6628.20.000

Heating-Filter-Combi 3315

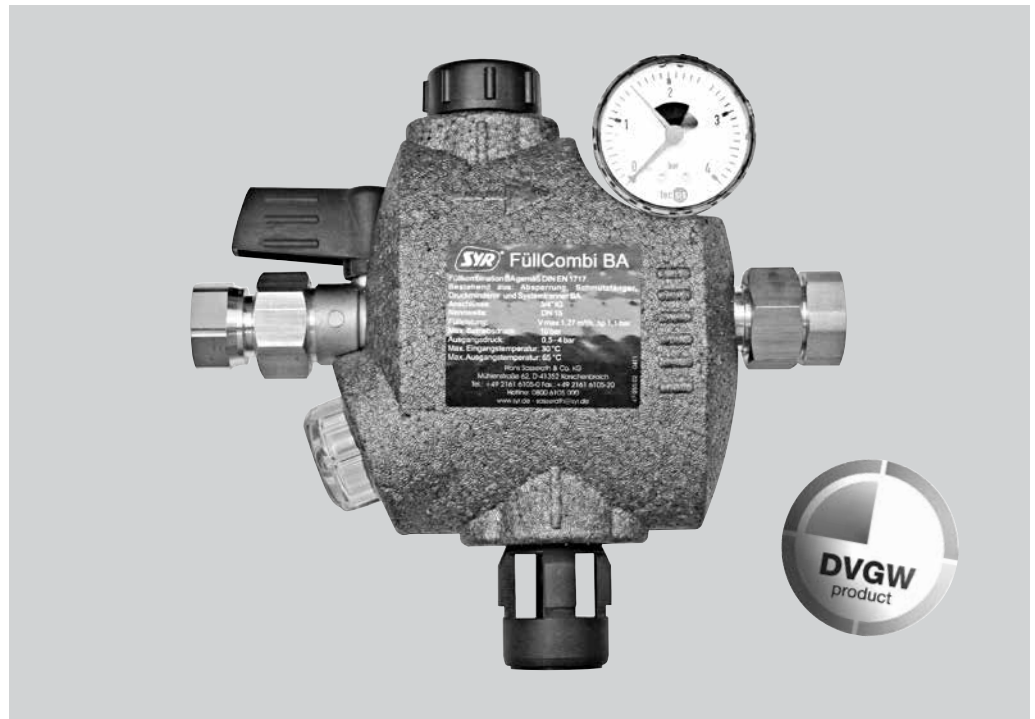
Components / Order numbers

- ①
**Sealing kit,
screws and key included**
3315.00.931
- ②
Vent
3315.00.900
- ③
Filter/Microbubbles separator
3315.00.903
- ④
Ball valve for backwashing
3315.00.904
- ⑤
Backwash handwheel
3315.00.905
- ⑥
Heating-Filter-Flange
Accessory



BA-Filling-Combi 6628

with permanent connection for automatic filling of heating installations according to EN 1717



Field of application

The BA-Filling-Combi 6628 automatically fills and refills central heating installations. It is permanently connected to the potable water pipe as stipulated by EN 1717. When the supply pressure falls below the pressure of the heating installation during the filling operation, the integral BA backflow preventer prevents the backflow of heating water into the potable water pipe. Even heating water

with inhibitors (anti-corrosion products and antifreezer) can be permanently connected to the potable water system by means of the BA-Filling-Combi, which makes the laborious hose connection unnecessary. When the system is filled, the isolating valve of the BA-Filling-Combi should be closed again.

Design

The BA-Filling-Combi 6628 includes an isolating valve, a pressure reducing valve, a pressure gauge, a BA backflow preventer and

a drain connection, i.e. all the components required to fill a heating installation in conformity with European Standards.

BA-Filling-Combi 6628

Materials

The body is made of dezincification-resistant brass, the screw caps of high-quality glass fibre reinforced synthetic material and the rubber parts of ageing-resistant elastomer. The diaphragm is reinforced by means of

polyamide. The springs are made of corrosion protected spring steel wire, all other parts of stainless steel 1.4305 or dezincification-resistant brass. The stainless steel strainer has a mesh width of 0.25 mm.

Installation

The BA-Filling-Combi is permanently connected to the heating installation. Free access to the device must be provided permanently and it shall not be installed in locations liable to flooding or frost. The connected drain device must be able to collect the drained volume. No hose needs to be connected anymore for the filling operation. When connecting the filling device, observe EN 1717. We recommend to install a drinking water filter upstream in

order to ensure the perfect function of the valve.

Thoroughly rinse the pipe prior to installation. Install the BA-Filling-Combi horizontally in the heating pipe under consideration of the direction of flow and without applying stresses. When installing the connection line, ensure that water cannot stagnate. The BA-Filling-Combi is suitable for direct connection to the flange of the SYR heating filter.

Technical data

Connection size:	DN 20
Inlet pressure:	max. 10 bar
Outlet pressure:	0.5 – 4 bar
Factory setting:	1.5 bar
Fluids:	Potable water
Filling capacity:	1,35 m ³ /h at 1,5 bar Δp
Operating temperature:	max. 30 °C (inlet side) max. 60°C (outlet side)
Mounting position:	Horizontal, tundish connection downwards
DVGW number:	DW-6305BP0084
Serial number:	6628.20.000

Maintenance

The pressure reducing valve of the BA-Filling-Combi is factory-set to 1.5 bar. To adjust the pressure, loosen the safety screw in the adjustment handle. To reduce the outlet pressure, turn the adjustment handle in the direction of the minus symbol (–), to increase it, turn the adjustment handle in the direction of the plus symbol (+). The perfected design of the cartridge system allows to carry out repair and maintenance

works on the pressure reducer cartridge without having to drain the installation. EN 1717 prescribes maintenance works on the BA backflow preventer on a regular basis. The connections for ball valves available in each pressure zone allow testing the function of the valve with the corresponding accessories (service kit number 6600.00.902).

BA-Filling-Combi 6628

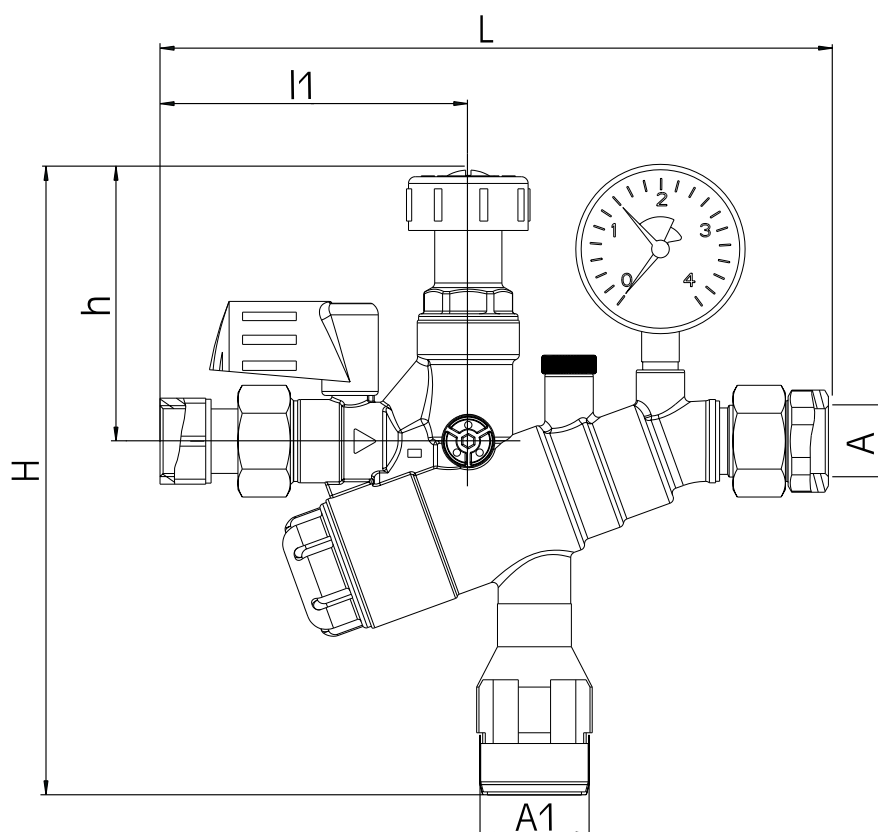


Fig.: without thermal covering

Nominal size	DN 20	
	A	R ¾"
Dimensions in mm	L (mm)	249
	H (mm)	230
	A 1	40
	h (mm)	101
	l1 (mm)	140

Accessory:

Test kit: electronic pressure measurement
device for inspection and maintenance:
Service key for BA cartridge:

6600.00.902
6600.00.908

BA-Filling-Combi 6628

Components / Order numbers

①
Pressure reducer unit
6628.00.900

②
Manometer
6628.00.901

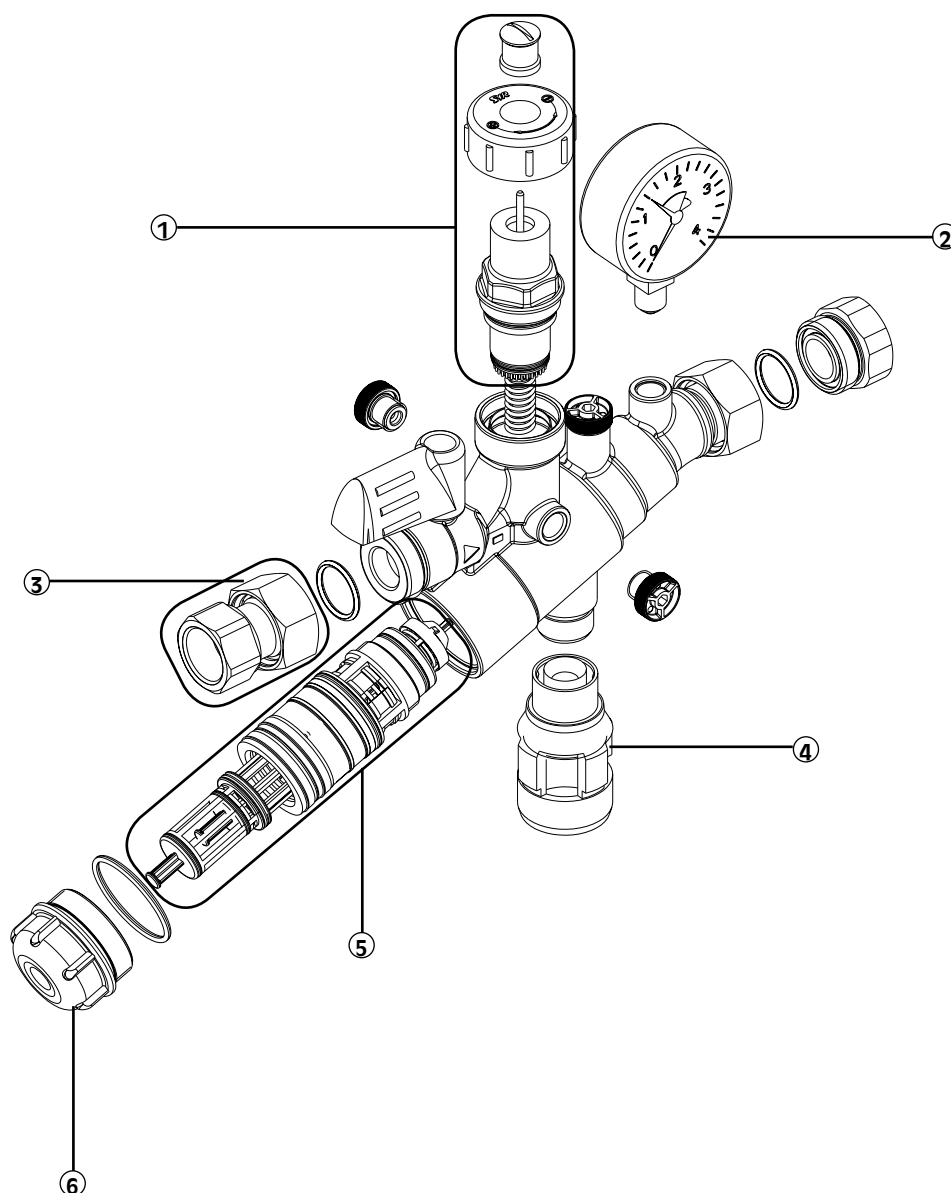
③
Union
6628.00.903

④
Tundish
6628.00.905

⑤
Cartridge
6628.00.907

⑥
Plug
6628.00.907

Accessory:
**Service key for BA cart-
ridge**
6600.00.908



Euro CA FillingCombi 6827 - with isolating valve

with permanent connection for automatic filling of unvented (pressurised) systems according to EN 1717



Field of application

The Euro CA FillingCombi 6827 automatically fills and refills unvented (pressurised) systems. It is permanently connected to the potable water pipe as stipulated by EN 1717 and provides protection up to the fluid all components required to fill unvented and vented systems in conformity with Euro-

pean Standards category 3. When the supply pressure falls below the system pressure during the filling operation, the integral CA backflow preventer (class „a“) prevents the backflow of non potable water into the potable water pipe.

Design

The Euro CA FillingCombi 6827 consists of a pressure reducing valve, a CA backflow preventer, an isolating valve and a drain

connection. It includes all components required to fill unvented and vented systems in conformity with European Standards.

Euro CA FillingCombi 6827 - with isolating valve

Materials

The body is made of dezincification-resistant brass. The diaphragm is reinforced by means of polyamide. The springs are made of corrosion protected spring steel wire, all other parts of stainless steel or dezinci-

fication-resistant brass. The stainless steel strainer has a mesh width of 0.25 mm. All synthetic parts getting into contact with water comply with the recommendations of the German Health Office (KTW).

Installation

The Euro CA FillingCombi is permanently connected to the unvented system. Free access to the device must be provided permanently and it shall not be installed in locations liable to flooding or frost. The connected drain device must be able to

collect the drained volume. The connection of a hose is no longer needed to fill the system. When connecting the filling device, observe EN 1717. We recommend to install a drinking water filter upstream in order to ensure durable functionality of the valve.

Thoroughly rinse the pipe prior to installation. Install the Euro CA FillingCombi in the system under consideration of the direction of flow and without applying stresses. Make

sure that the tundish faces downwards. When installing the connection line, ensure that water cannot stagnate.

Technical specifications

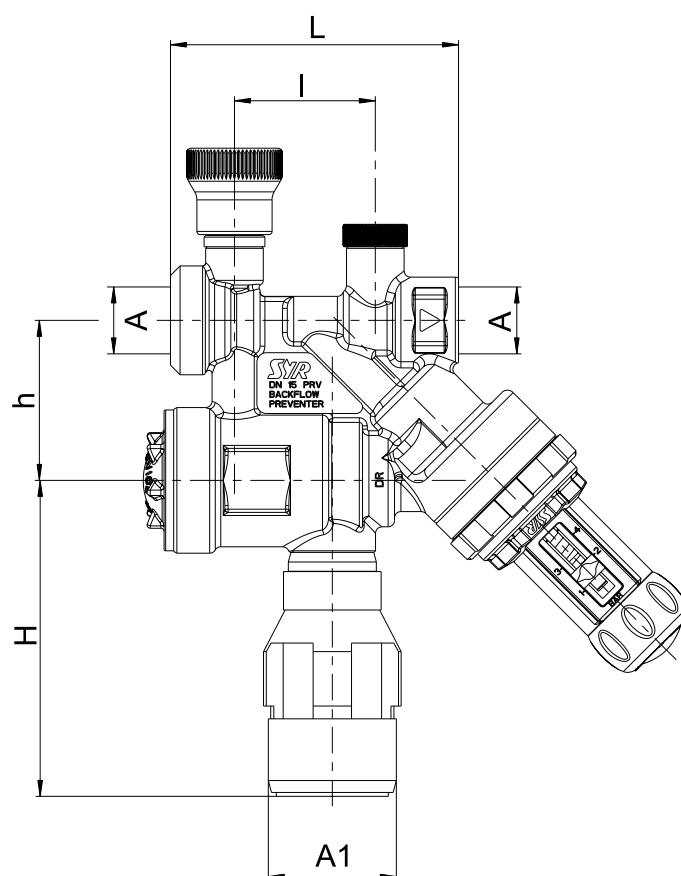
Connection size:	DN 15
Inlet pressure:	max. 10 bar
Outlet pressure:	1.5 – 5 bar
Factory setting:	1.5 bar
Fluids:	Potable water
Filling capacity:	1,35 m³/h at 1,5 bar Δp
Operating temperature:	max. 30 °C (inlet side) max. 80°C (outlet side)
Mounting position:	Horizontal, tundish connection downwards
Filling capacity:	1,3 m³/h at Δp 1,5 bar
Serial number:	6827 ...

Maintenance

The pressure has to be set at static pressure. For doing so, loosen the safety screw in the adjustment handle. The requested pressure is set with a flick of the wrist. With the well-contrived combined adjustment-display handle, the pressure reducer not only ensures an optimal pressure but also allows to read the set pressure without an

additional pressure gauge. To reduce the outlet pressure, turn the adjustment handle in the direction of the minus symbol (–), to increase it, turn the adjustment handle in the direction of the plus symbol (+). It is recommended to carry out maintenance works on a regular basis to ensure a durable function.

Euro CA FillingCombi 6827 - with isolating valve

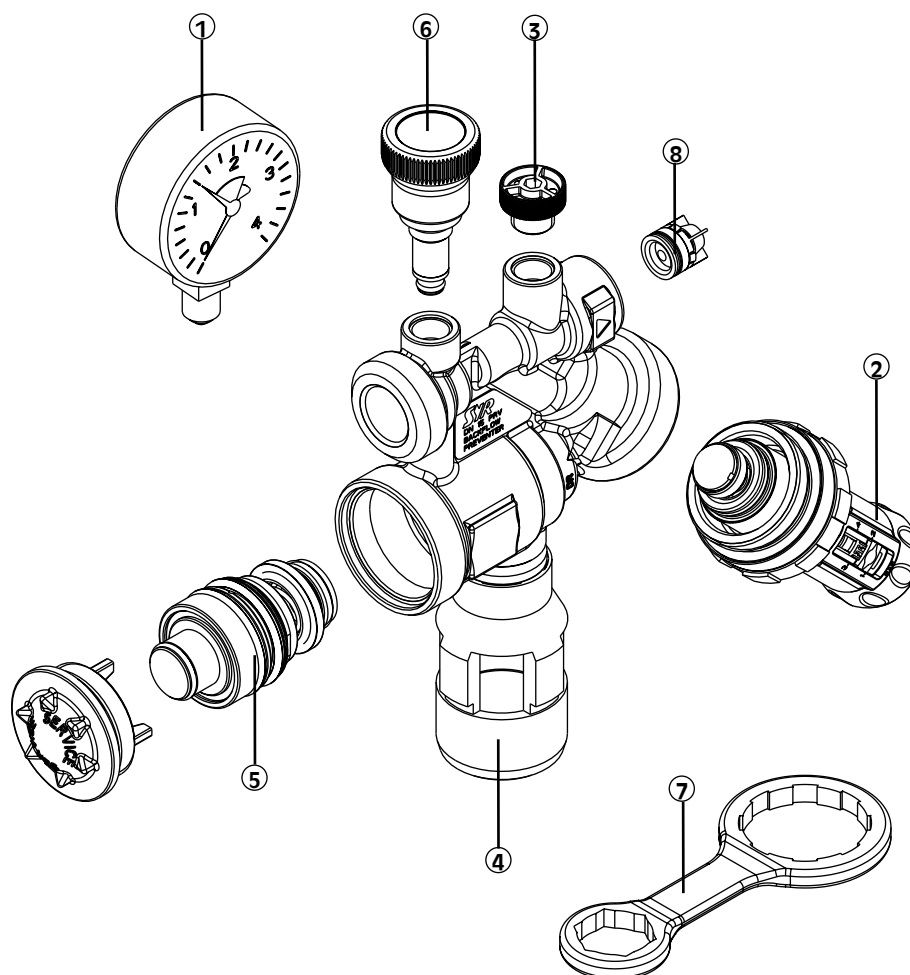


Nominal size		DN 10
Dimensions	A	R ½"
	A1	40 mm
	L (mm)	90
	I (mm)	44
	H (mm)	99
	h (mm)	50

Euro CA FillingCombi 6827 - with isolating valve

Components / Order numbers

- ①
Gauge
6828.00.901
- ②
**Full cartridge Pressure
reducing valve**
2328.15.905
- ③
gauge port plug
0828.08.000
- ④
Tundish
6628.00.905
- ⑤
**CA cartridge - strainer
integrated**
6827.15.900
- ⑥
Isolating valve
- ⑦
Key
2328.15.906
- ⑧
Additional check valve



Euro CA FillingCombi 6827

with permanent connection for automatic filling of unvented (pressurised) systems according to EN 1717



Field of application

The Euro CA FillingCombi 6827 automatically fills and refills unvented (pressurised) systems. It is permanently connected to the potable water pipe as stipulated by EN 1717 and provides protection up to the fluid all components required to fill unvented and vented systems in conformity with Euro-

pean Standards category 3. When the supply pressure falls below the system pressure during the filling operation, the integral CA backflow preventer (class „a“) prevents the backflow of non potable water into the potable water pipe.

Design

The Euro CA FillingCombi 6827 consists of a pressure reducing valve, a CA backflow preventer and a drain connection. It includes all

components required to fill unvented and vented systems in conformity with European Standards.

Euro CA FillingCombi 6827

Materials

The body is made of dezincification-resistant brass. The diaphragm is reinforced by means of polyamide. The springs are made of corrosion protected spring steel wire, all other parts of stainless steel or dezinci-

fication-resistant brass. The stainless steel strainer has a mesh width of 0.25 mm. All synthetic parts getting into contact with water comply with the recommendations of the German Health Office (KTW).

Installation

The Euro CA FillingCombi is permanently connected to the unvented system. Free access to the device must be provided permanently and it shall not be installed in locations liable to flooding or frost. The connected drain device must be able to

collect the drained volume. The connection of a hose is no longer needed to fill the system. When connecting the filling device, observe EN 1717. We recommend to install a drinking water filter upstream in order to ensure durable functionality of the valve.

Thoroughly rinse the pipe prior to installation. Install the Euro CA FillingCombi in the system under consideration of the direction of flow and without applying stresses. Make

sure that the tundish faces downwards. When installing the connection line, ensure that water cannot stagnate.

Technical specifications

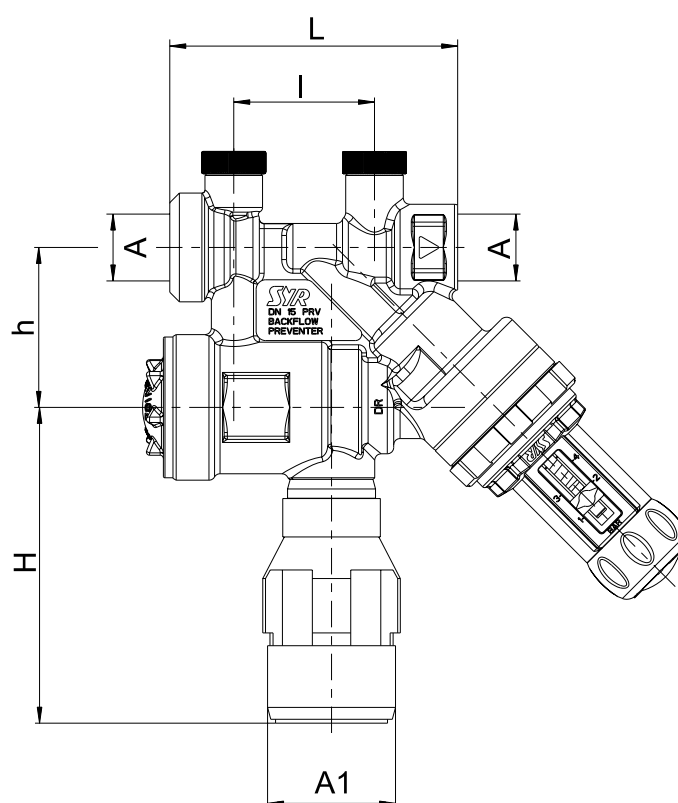
Connection size:	DN 15
Inlet pressure:	max. 10 bar
Outlet pressure:	1.5 – 5 bar
Factory setting:	1.5 bar
Fluids:	Potable water
Filling capacity:	1,35 m³/h at 1,5 bar Δp
Operating temperature:	max. 30 °C (inlet side) max. 80°C (outlet side)
Mounting position:	Horizontal, tundish connection downwards
Filling capacity:	1,3 m³/h at Δp 1,5 bar
Serial number:	6827 ...

Maintenance

The pressure has to be set at static pressure. For doing so, loosen the safety screw in the adjustment handle. The requested pressure is set with a flick of the wrist. With the well-contrived combined adjustment-display handle, the pressure reducer not only ensures an optimal pressure but also allows to read the set pressure without an

additional pressure gauge. To reduce the outlet pressure, turn the adjustment handle in the direction of the minus symbol (–), to increase it, turn the adjustment handle in the direction of the plus symbol (+). It is recommended to carry out maintenance works on a regular basis to ensure a durable function.

Euro CA FillingCombi 6827

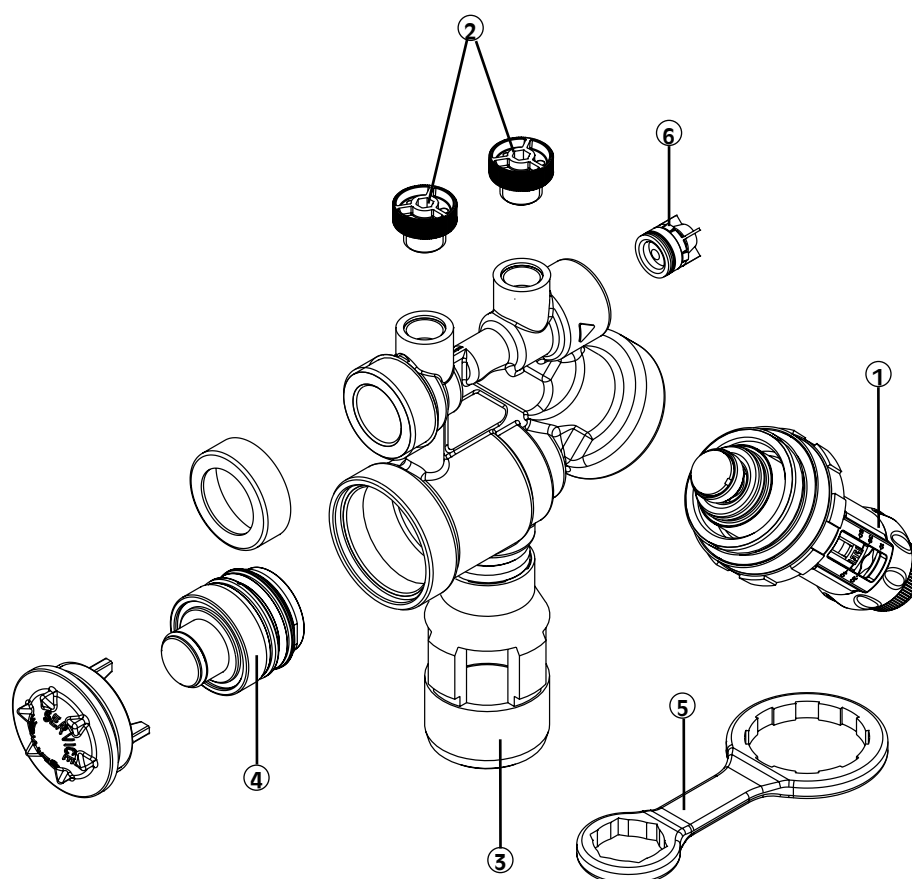


Nennweite		DN 10
	A	R ½"
	A1	40 mm
Baumaße	L (mm)	90
	I (mm)	44
	H (mm)	99
	h (mm)	50

Euro CA FillingCombi 6827

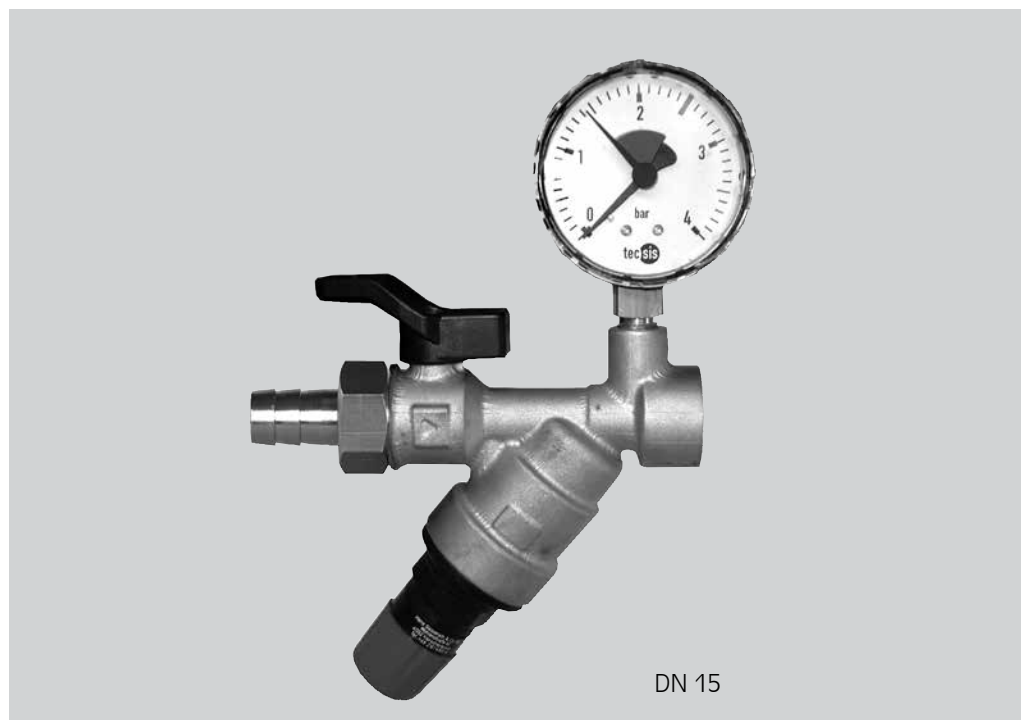
Components / Order numbers

- ①
**Full cartridge Pressure
reducing valve**
2328.15.905
- ②
gauge port plug
0828.08.000
- ③
Tundish
6628.00.905
- ④
**CA cartridge - strainer
integrated**
6827.15.900
- ⑤
Key
2328.15.906
- ⑥
Additional check valve



Filling-Group 2128

Compact valve for filling of heating installations



Field of application

The Filling-Group type 2128 is designed to automatically fill and refill central heating installations. The Filling-Group is permanently connected to the heating installation. The connection to the potable water system is made with a hose. When the supply pres-

sure falls below the pressure of the heating installation during the filling operation, the integral check valve prevents the backflow of heating water into the potable water system.

Design

The Filling-Group type 2128 consists of a hose connection, an adjustable pressure reducing valve, an isolating valve and a check

valve. It includes all components necessary to fill a heating installation as set by European Standards.

Filling-Group 2128

Materials

The body is made of dezincification-resistant brass (DN 15) or high-quality, low-lead gunmetal alloy (DN 20). The rubber parts of ageing-resistant elastomer. The diaphragm is reinforced with polyamide. The spring

is made of corrosion-resistant spring steel wire and all other parts are made of stainless steel or dezincification-resistant brass. The strainer is made of stainless steel and has a mesh width of 0.25 mm.

Installation

The Filling-Group has to be permanently connected to the heating installation. For the filling operation, connect it to the po-

table water pipe with a hose. Remove this hose connection after the filling operation.

The connection of the Filling-Group to the potable water system is exclusively foreseen for the filling operation. When the filling

operation is finished, isolate the supply line and remove the hose connection.

Technical Data

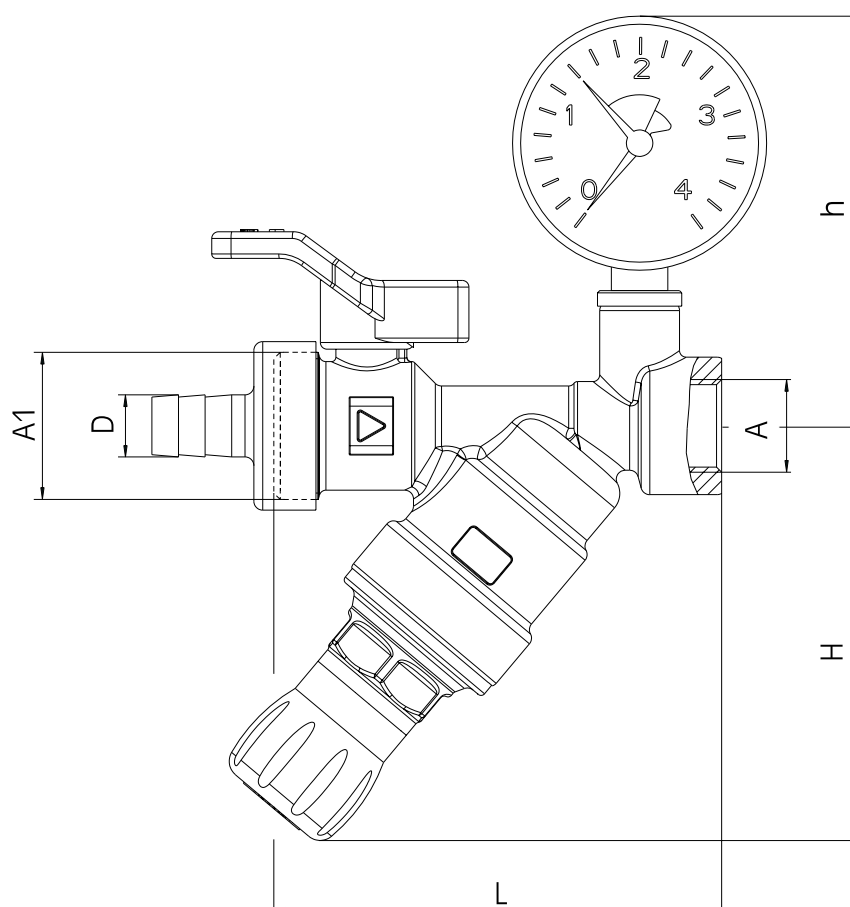
Manometer connection:	G 1/4"
Inlet pressure:	max. 16 bar
Outlet pressure:	1,0 - 5,0 bar
Factory setting:	1.5 bar
Fluid:	Potable water
Operating temperature:	max. 30 °C (inlet), max. 80°C (outlet)
Mounting position:	Any
Serial number:	2128...

Maintenance

The pressure reducing valve of the Filling-Group is factory-set to 1.5 bar. To adjust the pressure, pull the knob on top of the pressure reducing cartridge. To reduce the outlet pressure, turn the knob in the direction of the minus symbol (-), to increase

it, turn the adjustment knob in the direction of the plus symbol (+). After pressure adjusting push the knob back. The integral check valve allows to carry out maintenance works on the pressure reducer cartridge without having to drain the installation.

Filling-Group 2128



Nominal size		DN 15	DN 20
	A	G 1/2"	G 3/4"
	A1	G 3/4"	G 3/4"
Dimensions in mm	L (mm)	101	101
	H (mm)	93,5	93,5
	h (mm)	102,5	102,5
	d (mm)	14	21

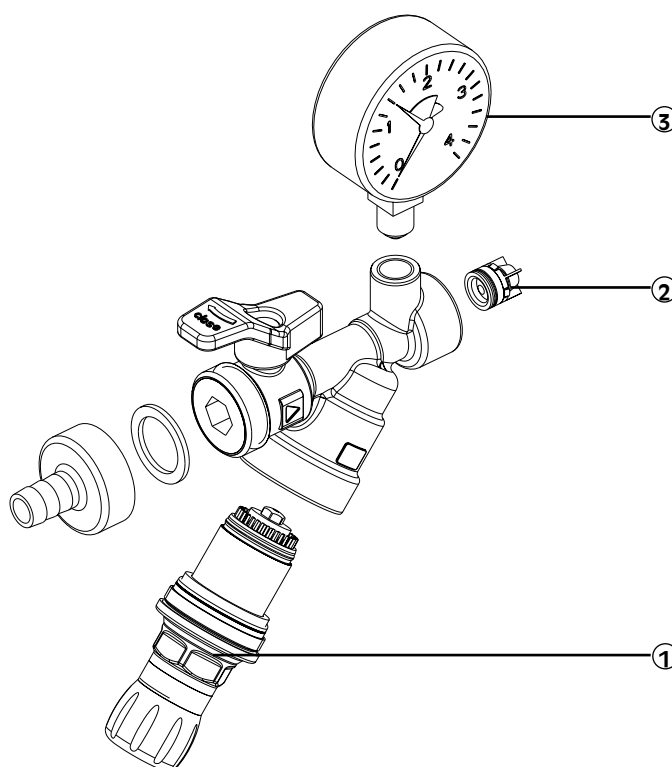
Accessory

Manometer 6628.00.901

Filling-Group 2128

Components / Order numbers

- ①
Pressure reducer cartridge
0312.15.933
- ②
Check valve
0312.10.901
- ③
Manometer (optional)
6628.00.901



Boiler Combination Valve 1962 Flex

with pressure relief valve, automatic air-vent and pressure gauge



Field of application

The boiler combination valve 1962 Flex is used to vent and protect heating systems against excess pressure. It can be used as equipment part with safety function according to the pressure equipment directive 97/23/EG for fired or otherwise heated pressure vessels for generating steam or hot water in compliance with Art. 3 section 1.2 up to category IV. The connection size depends on the heating capa-

city of the heat generator to be protected (boiler). Consider the maximally admissible service pressure of the system and the maximum opening pressure of the pressure relief valve. The system is vented automatically. The pressure gauge is positioned at the side of the boiler combination valve (range 0-4 bar, with red indicator).

Design

The boiler combination valve type 1962 Flex is a combination of a diaphragm pressure relief valve, an automatic vent, a pressure gauge and a CFC-free insulation cover. The diaphragm pressure relief valve is supplied

with an upstream seat seal separated from the diaphragm. The rotatable knob allows to lift it. Remove the head part to clean the seat and seal; the opening pressure remains unchanged.

Boiler Combination Valve 1962

Materials

The body is made of a high quality low-lead brass alloy; the spring cap of zinc diecasting. The diaphragm and seal are made of heat and

ageing resistant elastomeric synthetic material; the spring is made of corrosion resistant spring steel wire.

Installation

Install the boiler combination valve 1962 Flex directly on the boiler or close to it in vertical position. The supply line shall not exceed 1 m and has to be mounted without bends in the nominal size of the valve inlet. Position the combination valve at the highest point of the heat-generating device or in the radiator supply line close to the heat generator. There shall be no isolating valves, strainers or similar devices in the supply line.

The diameter of the relief pipe must be at least equal to the nominal size of the valve outlet. The relief pipe has to be installed with continuous incline. It can include maximally 2

bends and have a length of 2 meters. When a length exceeding 2 m is required, the pipe must be one size larger. Caution: more than 3 bends and a length of 4 meters are not admissible. The outlet of the relief pipe shall be controllable and positioned in such a way that persons are not endangered. When the relief pipe ends over a tundish, it is indispensable that its drain pipe has at least the double cross section of the valve inlet. The pressure relief valve has to be located in the heating room and should be readily accessible. The connection is made with an internal thread.

Thoroughly flush the pipe prior to installation. Install the boiler combination valve type 1962 Flex under consideration of the mounting

position (see arrow on the body) according to installation instructions. Afterwards, mount the insulation cover.

Technical data

Operating temperature:	-10 °C to 120°C
Opening pressure:	2.5 or 3 bar
Mounting position:	Main axis vertical, inlet connection pieces facing downwards
Pressure gauge connection:	G 1/4"
Fluids:	Water, neutral non adhesive liquids, fluids of group 2
Component approval:	TÜV-SV-10-525-H-P-p
Serial number:	1962...
	CE 0085

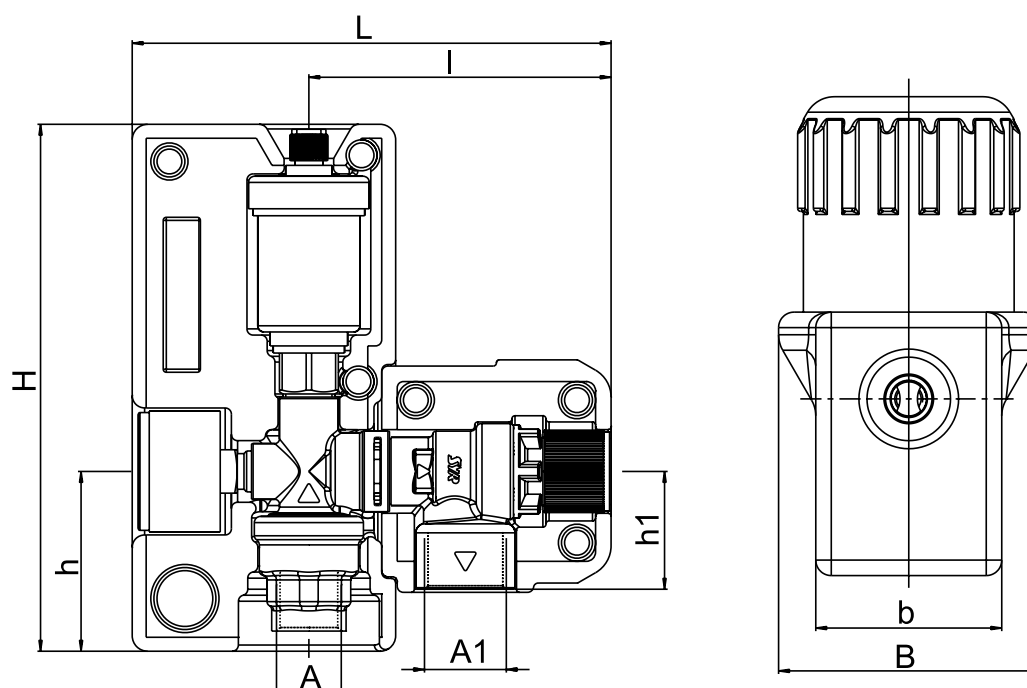
Maintenance

The rotatable knob actuates and lifts the pressure relief valve. The correct function of the pressure relief valve should be checked at initial operation and then on a regular basis: turn the lifting knob in the direction of the arrow until you hear a click. Afterwards, the valve has to be closed tight. Should the valve drip constantly, clean the valve seat and seal; the opening pressure remains unchanged. If cleaning remains unsuccessful, replace the

head part with the exchange cartridge 1916 (DN 15 only), which will seal damaged seats so that the valve remains operative.

The automatic air vent and the pressure gauge can be serviced without draining the heating system, when the isolating valve on the underside of the device is closed prior to disassembly. The air vent of the group works fully automatically.

Boiler Combination Valve 1962

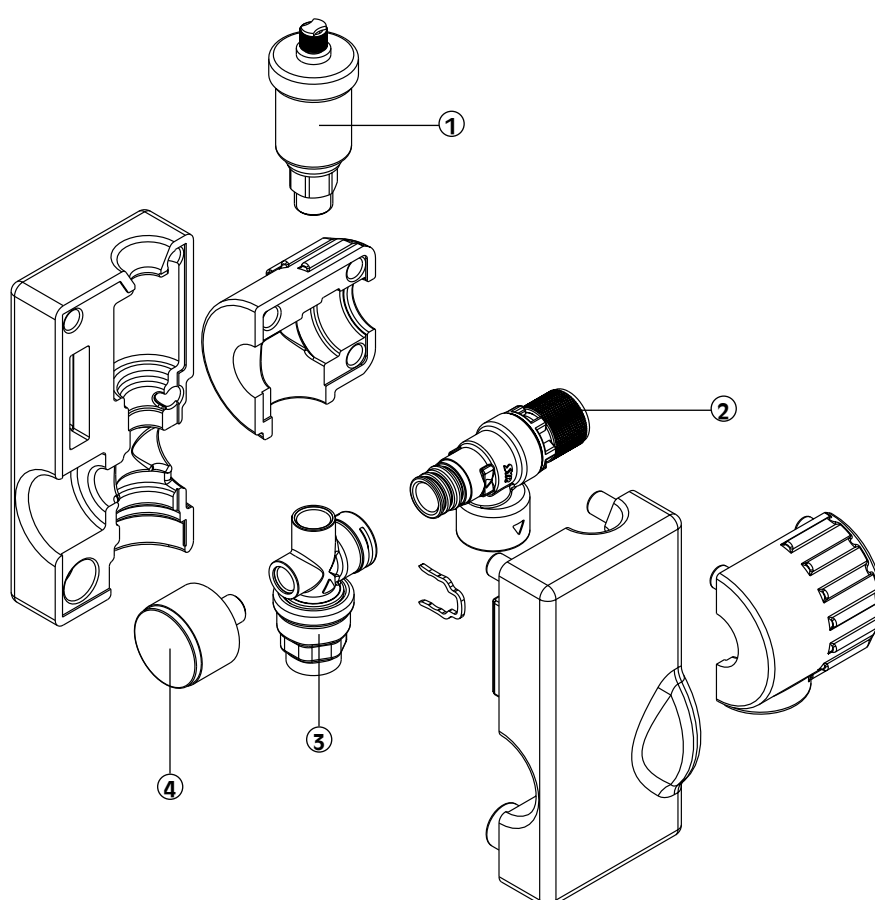


Nominal size		DN 15	DN 20	DN 25
	A	G 1/2"	G 3/4"	G 1"
	A 1	G 3/4"	G 3/4" / G 1"	G 3/4" / G 1"
	max. heating capacity of heat generating device (kw)	50	50 / 100	50 / 100
Dimensions	L (mm)	154,5	154,5	160,5
	I (mm)	97,5	97,5	103,5
	H (mm)	170	170	170
	h (mm)	58	58	58
	h1 (mm)	38	38	42
	B (mm)	84	84	84
	b (mm)	60	60	60

Boiler Combination Valve 1962

Components / Order numbers

- ①
Head part of air vent
1962.00.908
- ②
Exchange cartridge
DN 15 2,5 bar: 1962.00.904
DN 15 3,0 bar: 1962.00.905
- ③
Body
- ④
Manometer
6628.00.914



Pressure Relief Valve 1915

for heating installations



Field of application

The pressure relief valve type 1915 is designed to protect heating installations against excess pressure. The connection size has to be determined in accordance with the heating capacity of the heat-generating device to be protected. The highest admissible operating pressure of the installation and the resulting maximum opening pressure of the pressure relief valve shall be observed. For systems with a heating capacity exceeding the values in the table, observe the following rule: 3 pressure relief valves

per heat-generating device are admissible. The pressure relief valve type 1915 can be used as safety component in compliance with the Pressure Equipment Directive 97/23/EG for directly or indirectly heated pressure tanks designed to generate steam or hot water according to Art. 3 section 1.2 up to category IV.

The pressure relief valve type 1915 is available with 2,5 and 3 bar as standard, or as 6115 series with pressure setting to customers request, example 7 bar.

Design

The operational parts in the pressure relief valve type 1915 are protected against direct contact with the medium (protection against corrosion). The pressure relief valve

can be lifted by means of the rotatable handle. Cleaning the seat and the seal after having removed the head part does not change the opening pressure.

Pressure Relief Valve 1915

Materials

The body is made of a high-quality low-lead brass alloy (DN 15 - DN 32) or a dezincification resistant low-lead gunmetal alloy (DN 40 - DN 50); the spring cap, the diaphragm

and other internal parts are made of heat and ageing resistant elastomeric synthetic material and the spring of corrosion protected spring steel wire.

Installation

Install the pressure relief valve type 1915 vertically with the inlet connections facing downwards. The length of the supply pipe shall not exceed 1 m, bends are not admissible and its nominal size must be the size of the valve inlet. Position the valve at the highest point of the heat-generating device or in the radiator supply line close to the heat-generating device. There shall be no isolating valves, strainers or similar devices in the supply pipe. The diameter of the relief pipe must be at least equal to the nominal size of the valve outlet. The relief pipe has to be installed with continuous incline. It can maximally

include 2 bends and have a length of 2 meters. When a length exceeding 2 m is necessary, the pipe must be one size larger. Caution: more than 3 bends and a length exceeding 4 meters are not admissible. The outlet of the relief pipe must be free from obstruction, controllable and positioned in such a way that persons are not endangered. When the relief pipe ends over a tundish, it is indispensable that its drain pipe has at least the double cross section of the valve inlet. Free access to the pressure relief valve must be provided; it has to be located in the boiler room.

Thoroughly rinse the pipe prior to installation. Install the pressure relief valve under consideration of the flow direction (see

arrow on the body) in compliance with the instructions.

Technical data

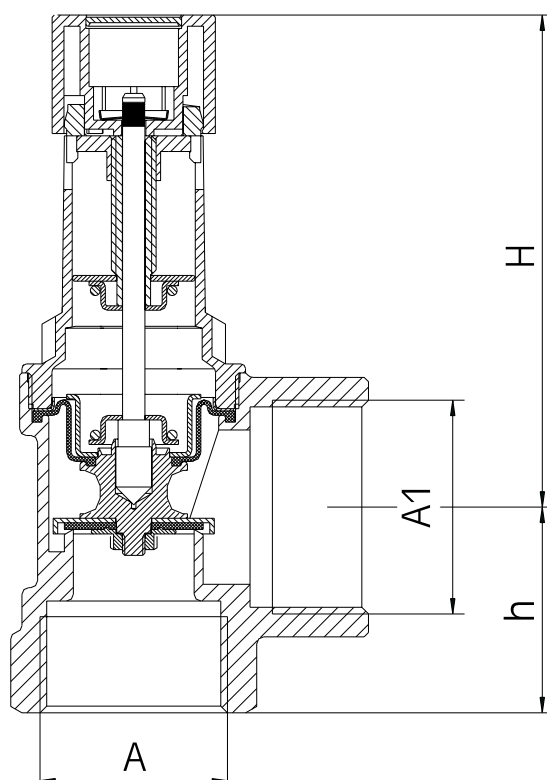
Operating temperature:	-10 °C to max. 120°C
Opening pressure:	1.5 - 5 bar
Standard setting:	2.5 and 3 bar
Mounting position:	Main axis vertical, inlet connections facing downwards
Component approval number:	TÜV-SV-10-525-H-P-p
Fluids:	Water; neutral non-adhesive fluids
Serial number:	1915 ...
	CE 0085

Maintenance

The correct function of the pressure relief valve should be checked by qualified personnel at initial operation and then once a year: turn the lifting handle in the direction of the arrow until you hear a click. Afterwards, the valve has to be closed tight. Should the valve drip constantly, it is very likely that impurities have built up in the seat. To clean the valve seat and seal, unscrew

the head part. The seat seal is exchangeable for valves with a connection size of DN 40 or more. After cleaning, refit the head part; the opening pressure remains unchanged after this operation. Pressure relief valves DN 15 with a damaged valve seat can be repaired by means of the exchange cartridge 1916, which makes them equivalent to a new valve.

Pressure Relief Valve 1915

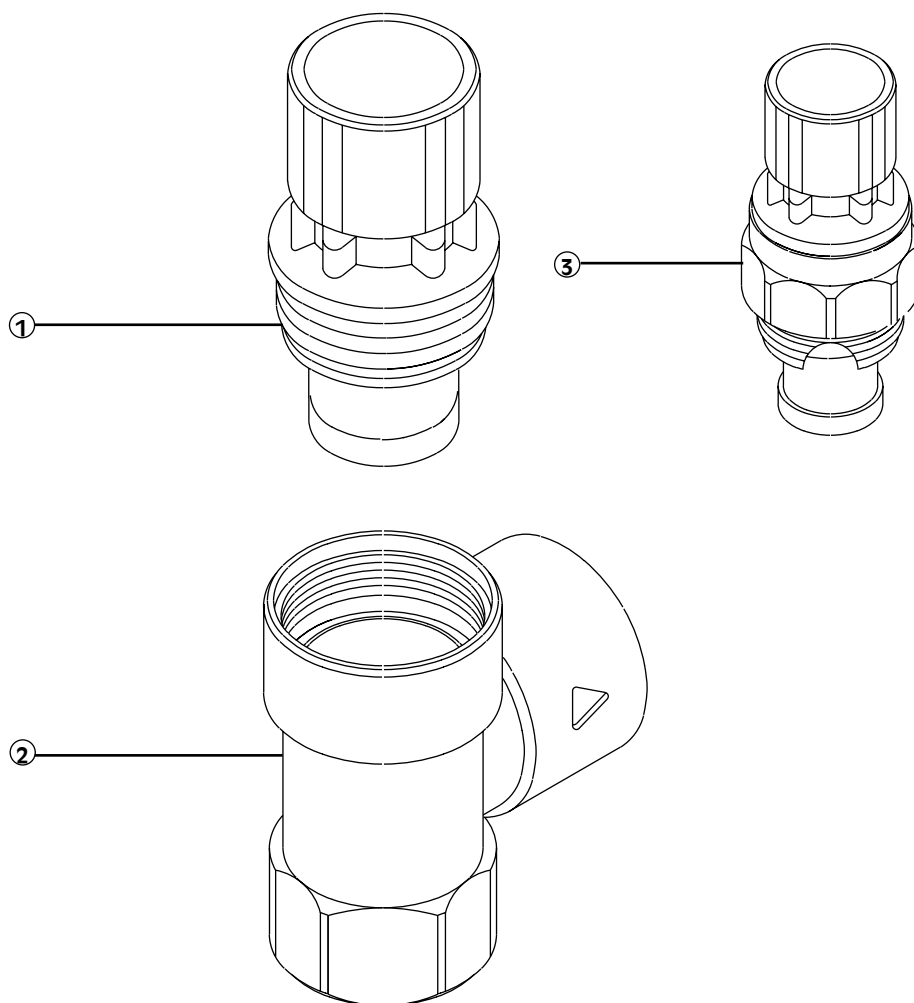


Nominal size		DN 15	DN 20	DN 25	DN 32	DN 40	DN 50
Dimension in mm	A	R 1 1/2"	R 3/4"	R 1"	R 1 1/4"	R 1 1/2"	R 2"
	A 1	R 3/4"	R 1"	R 1 1/4"	R 1 1/2"	R 2"	R 2 1/2"
	H (mm)	50	52	79	110	176	195
	h (mm)	28	34	40	46	55	66
Opening pressure (bar)		max heating capacity og the heat generating device (kw)					
1,5		36	72	144	252	433	650
2		43	86	172	302	518	778
2,5		50	100	200	350	600	900
3		56	112	224	395	678	1017
4		70	140	280	490	840	1260
5		84	168	336	588	1008	1512

Pressure Relief Valve 1915

Components / Order numbers

- ①
Head part
- ②
Body
- ③
Exchange cartridge 1916
DN 15 2.5 bar: 1916.15.000
DN 15 3.0 bar: 1916.15.001



Pressure Relief Valve 1918

for heating installations



Field of application

The pressure relief valve type 1918 is designed to protect unvented (pressurised) heating installations against excess pressure. The connection size has to be determined in accordance with the heating capacity of the heat-generating device to be protected. The

highest admissible operating pressure of the installation and the resulting maximum opening pressure of the pressure relief valve shall be observed. Note: 3 pressure relief valves per heat-generating device are admissible.

Design

The operational parts in the pressure relief valve type 1918 are protected against direct contact with the medium (protection against corrosion). The pressure relief valve can be lifted by means of the rotatable handle. Cleaning the seat and the seal after having removed the head part does not change the

opening pressure. Available in DN 15 only. The connection and relief sides have the same cross-section. The particularity of this valve is the integrated manometer connection plug. The corresponding pressure gauge is enclosed in the delivery.

Pressure Relief Valve 1918

Materials

The body is made of a high-quality low-lead brass alloy; the spring cap, the diaphragm and other internal parts are made of heat

and ageing resistant elastomeric synthetic material and the spring of corrosion resistant spring steel wire.

Installation

Install the pressure relief valve type 1918 vertically with the inlet connections facing downwards. The length of the supply pipe shall not exceed 1 m, bends are not admissible and its nominal size must be the size of the valve inlet. Position the valve at the highest point of the heat-generating device or in the radiator supply line close to the heat-generating device. There shall be no isolating valves, strainers or similar devices in the supply pipe. The diameter of the relief pipe must be at least equal to the nominal size of the valve outlet. The relief pipe has to be installed with continuous incline. It can maximally include 2 bends and have a length of 2 meters. When a length exceeding 2 m is necessary, the pipe

must be one size larger. Caution: more than 3 bends and a length exceeding 4 meters are not admissible. The outlet of the relief pipe must be free from obstruction, controllable and positioned in such a way that persons are not endangered. When the relief pipe ends over a tundish, it is indispensable that its drain pipe has at least the double cross section of the valve inlet. Free access to the pressure relief valve must be provided; it has to be located in the boiler room. Thoroughly flush the pipe prior to installation. Install the pressure relief valve under consideration of the flow direction (see arrow on the body) in compliance with the instructions.

Technical data

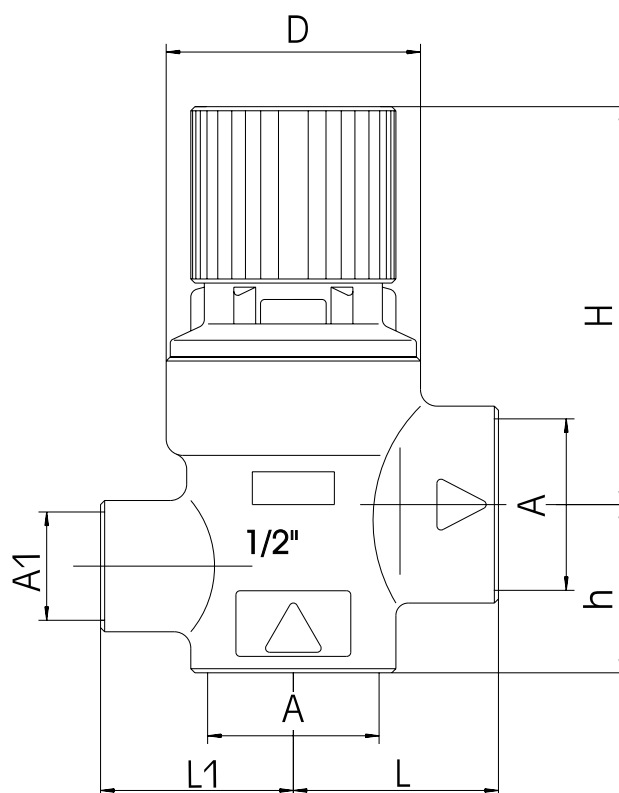
Response pressure:	2,5 to 3 bar (other upon request)
Capacity hot water storage tank:	max. 200 l
Fluid:	Water; neutral non-adhesive fluids
Connection size:	DN 15, female thread
Operating Temperature:	-10 °C to max. 140 °C
Serial-Nr.:	1918 ...

Maintenance

The correct function of the pressure relief valve should be checked by qualified personnel at initial operation and then once a year: turn the lifting handle in the direction of the arrow until you hear a click. Afterwards, the valve has to be closed tight. Should the valve drip constantly, it is very likely that impurities have built up in the seat. To clean the valve seat and

seal, unscrew the head part. After cleaning, refit the head part; the opening pressure remains unchanged after this operation. Pressure relief valves DN 15 with a damaged valve seat can be repaired by means of the exchange cartridge 1916, which makes them equivalent to a new valve.

Pressure Relief Valve 1918



Nominal size		DN 10
	A	G 1/2"
	A1	G 1/4"
Dimensions in mm	D (mm)	31
	L (mm)	25
	L1(mm)	23,5
	H (mm)	48,5
	h (mm)	20,5

Pressure Relief Valve 1918

Components / Order numbers

①

Exchange cartridge 1916

DN 15 2,5 bar: 1916.15.000

DN 15 3,0 bar: 1916.00.901

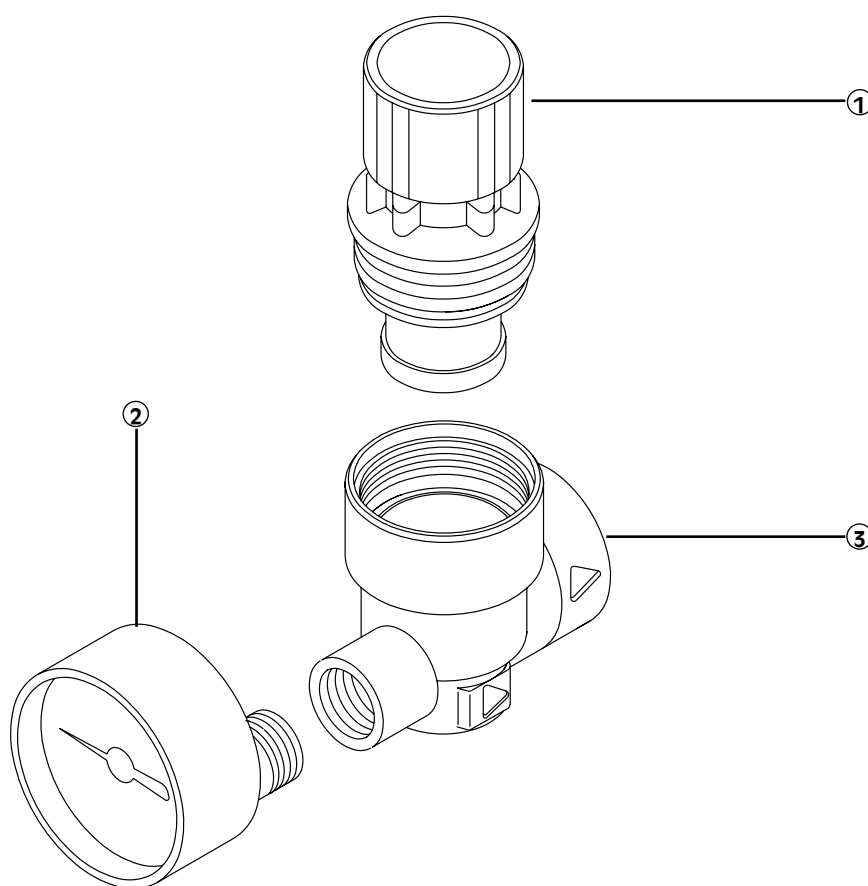
②

Manometer

1962.00.901

③

Body



Pressure Relief Valve for Solar Systems 8115

for the protection of solar collectors and for special applications



Field of application

The pressure relief valve type 8115 is used as a protection for solar heating systems. It can be used for the protection of other hy-

draulic systems as well. The table indicates the required connection size in accordance with the collector size.

Design

The operational parts in the pressure relief valve type 8115 are protected against direct contact with the medium (protection

against corrosion). The pressure relief valve 8115 can be lifted by means of the rotatable handle.

Pressure Relief Valve for Solar Systems 8115

Materials

The body is made of high-quality low-lead brass; the spring cap is made of zinc die-casting. The diaphragm and the seat are

made of heat and ageing resistant synthetic material and the spring of corrosion protected spring steel wire.

Installation

There shall be no obturators or narrows in the connecting pipe between the solar collector group and the pressure relief valve. Pipe bends shall have a bend diameter of at least 3xD (pipe diameter) in the centre line of the pipe. There is no restriction for intrinsically safe installations as regards the length of the connecting pipe. An adequate arrangement of the connecting pipe should prevent the formation of dirt within the pipe. The relief pipe of the pressure relief valve shall not freeze up and the accumulation of water in it shall

be prevented. The outlets of the relief pipe have to be located in such way that the heat transfer medium coming out of the pressure relief valve can be drained under visual control and without presenting any danger.

When antifreezer is added to the water and the boiling point of the antifreezer is above the boiling point of the water, the relief and drain pipes shall end in an open container that is capable of holding the complete volume of the collectors.

Thoroughly rinse the pipe prior to installation. Install the pressure relief valve under consideration of the flow direction (see

arrow on the body) in compliance with the instructions.

Technical data

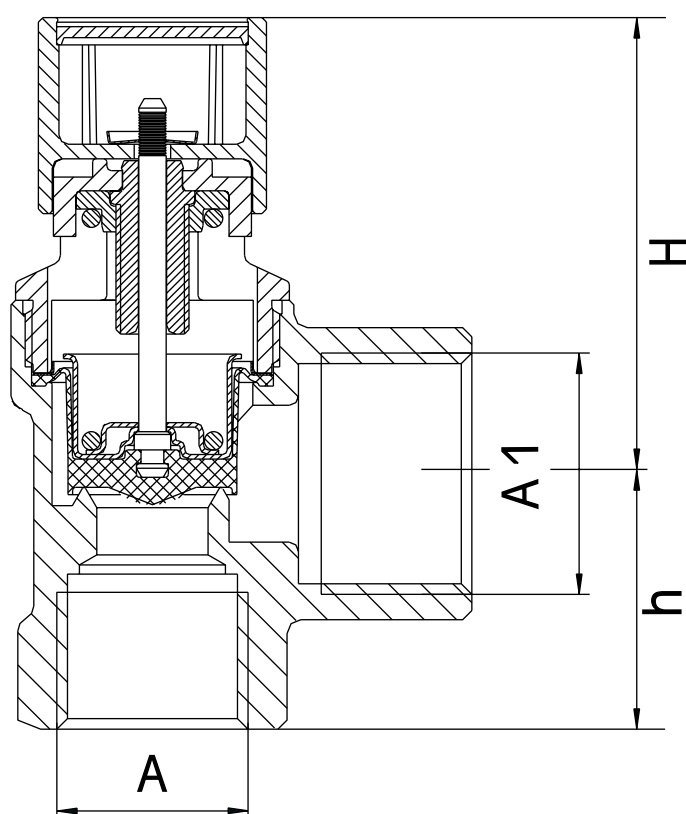
Operating temperature:	max. 160 °C
Opening pressure:	2.5 bar, 3.0 bar, 4 bar and 6 bar
Mounting position:	Preferably main axis vertical, inlet connection pieces facing downwards
Fluids:	Water, neutral non-adhesive fluids, blend of glycol and water up to a mixture ratio of 1 : 1
Components approval number:	TÜV-SV-10-1127-SOL-50-p
Serial number:	8115...
	CE 0085

Maintenance

The correct function of the pressure relief valve should be checked by qualified personnel at initial operation: turn the lifting handle in the direction of the arrow until you hear a click. Afterwards, the valve has to be closed tight. Should the valve drip

constantly, it is very likely that impurities have built up in the seat. To clean the valve seat and seal, unscrew the head part. After cleaning, refit the head part; the opening pressure remains unchanged after this operation.

Pressure Relief Valve for Solar Systems 8115



Nominal size		DN 15	DN 20
	A	R 1/2"	R 3/4"
	A 1	R 3/4"	R 1"
Dimensions in mm	H (mm)	50	52
	h (mm)	28	34
Size of Collector	m ²	bis 50	bis 100

Designs

Special sizes up to DN 50 on request

Pressure Relief Valve for Solar Systems 8115

Components / Order numbers

①

Head part

DN 15:

2,5 bar: 8115.15.000

3,0 bar: 8115.15.001

4,0 bar: 8115.15.002

6,0 bar: 8115.15.003

DN 20:

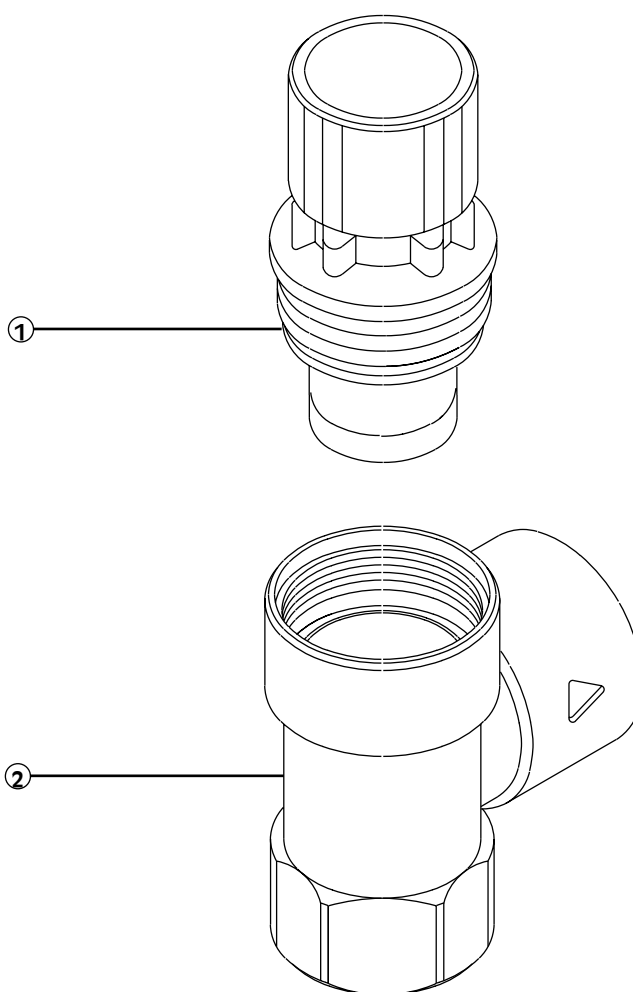
2,5 bar: 8115.20.000

3,0 bar: 8115.20.001

6,0 bar: 8115.20.002

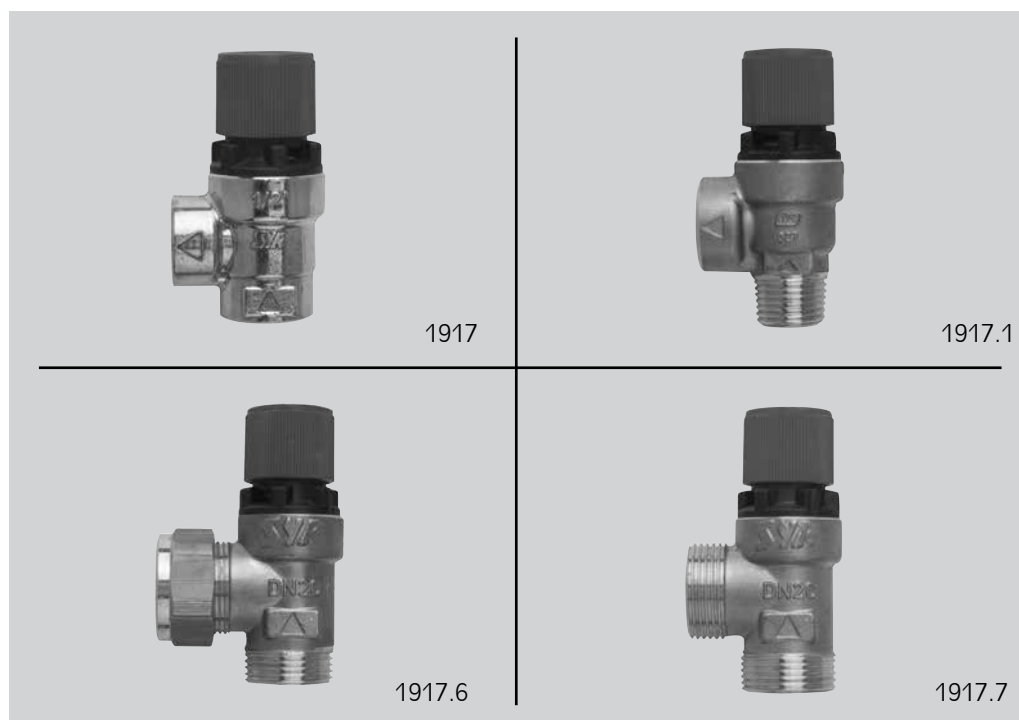
②

Body



Pressure Relief Valve 1917

for heating installations



Field of application

The pressure relief valve type 1917 is designed to protect closed-circuit heating installations against excess pressure. The connection size has to be determined in accordance with the heating capacity of the heat-generating device to be protected. The highest admissible operating pressure of the installation and the resulting maximum opening pressure of the pressure relief valve shall be observed. For systems with a heating capacity exceeding the va-

lues in the table, observe the following rule: 3 pressure relief valves per heat-generating device are admissible.

The pressure relief valve type 1917 can be used as safety component in compliance with the Pressure Equipment Directive 97/23/EC for directly or indirectly heated pressure tanks designed to generate steam or hot water according to Art. 3 section 1.2 up to category IV.

Design

The operational parts in the pressure relief valve type 1917 are protected against direct contact with the medium (protection against corrosion). The pressure relief valve can be lifted by means of the rotatable handle. Cleaning the seat and the seal after

having removed the head part does not change the opening pressure.

This product exists in various models with different connection sizes and connection types as specified in the following table: (1917; 1917.1; 1917.6 and 1917.7).

Pressure Relief Valve 1917

Materials

The body is made of a high-quality low-lead brass alloy; the spring cap, the diaphragm and other internal parts are made of heat

and ageing resistant elastomeric synthetic material and the spring of corrosion protected spring steel wire.

Installation

Install the pressure relief valve type 1917 vertically with the inlet connections facing downwards. The length of the supply pipe shall not exceed 1 m, bends are not admissible and its nominal size must be the size of the valve inlet. Position the valve at the highest point of the heat-generating device or in the radiator supply line close to the heat-generating device. There shall be no isolating valves, strainers or similar devices in the supply pipe.

The diameter of the relief pipe must be at least equal to the nominal size of the valve outlet. The relief pipe has to be installed with continuous incline. It can maximally

include 2 bends and have a length of 2 meters. When a length exceeding 2 m is necessary, the pipe must be one size larger. Caution: more than 3 bends and a length exceeding 4 meters are not admissible. The outlet of the relief pipe must be free from obstruction, controllable and positioned in such a way that persons are not endangered. When the relief pipe ends over a tundish, it is indispensable that its drain pipe has at least the double cross section of the valve inlet. Free access to the pressure relief valve must be provided; it has to be located in the boiler room.

Thoroughly rinse the pipe prior to installation. Install the pressure relief valve under consideration of the flow direction (see

arrow on the body) in compliance with the instructions.

Technical data

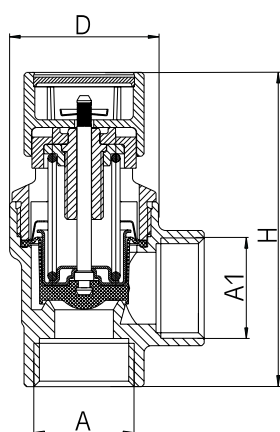
Operating temperature:	-10 °C to max. 120°C
Opening pressure:	1.5 - 3.0 bar
Standard setting:	2.5 and 3 bar
Mounting position:	Main axis vertical, inlet connections facing downwards
Media:	Water; neutral non-adhesive fluids;
Connection sizes and connection types:	as specified in table on next page
Serial number:	1917...

Maintenance

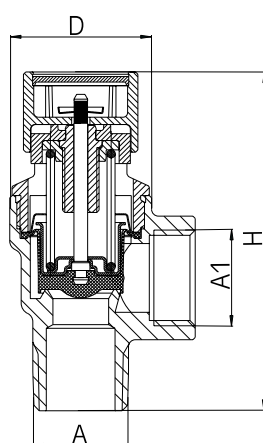
The correct function of the pressure relief valve should be checked by qualified personnel at initial operation and then once a year: turn the lifting handle in the direction of the arrow until you hear a click. Afterwards, the valve has to be closed tight. Should the valve drip constantly, it is very likely that impurities have built up in the

seat. To clean the valve seat and seal, unscrew the head part. After cleaning, refit the head part; the opening pressure remains unchanged after this operation. Pressure relief valves DN 15 with a damaged valve seat can be repaired by means of the exchange cartridge 1916, which makes them equivalent to a new valve.

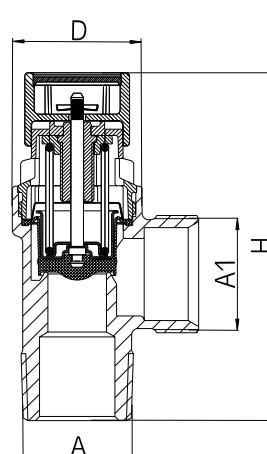
Pressure Relief Valve 1917



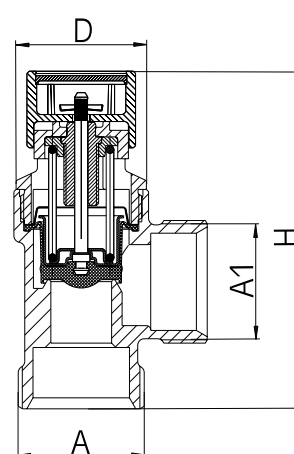
1917



1917.1



1917.6



1917.7

Nominal size		1917		1917.1	1917.6	1917.7
Dimensions in mm	A	DN 15 female	DN 20 female	DN 15 male	DN 20 male	DN 20 male
	A1	DN 15 female	DN 20 female	DN 15 female	22 mm Comp.	DN 20 male
	D (mm)	31	31	31	28	30
	H (mm)	49	52	49	48	48
	h (mm)	19	27	29	35	29

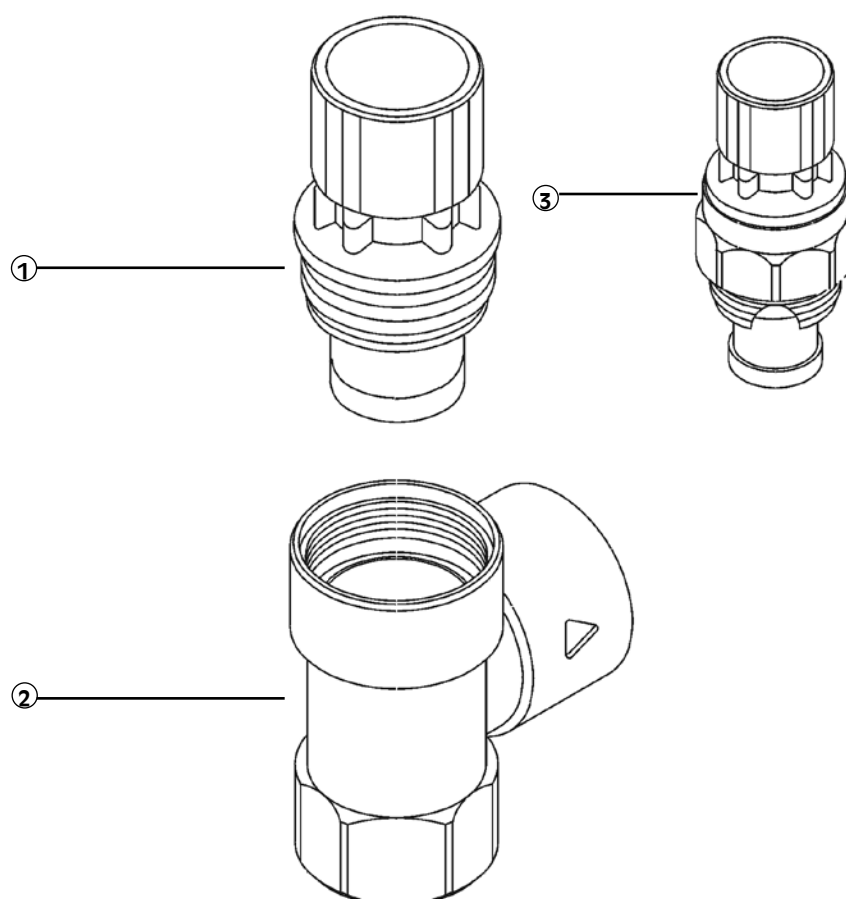
Pressure Relief Valve 1917

Components / Order numbers

①
Head part

②
Body

③
Exchange cartridge 1916
DN 15 2.5 bar: 1916.15.000
DN 15 3.0 bar: 1916.15.001



Exchange Cartridge 1916

for SYR pressure relief valve type 1915 DN 15 - 2.5 and 3 bar



Field of application

The field of application of the exchange cartridge type 1916 is to repair pressure relief valves type 1915, size DN 15. It can be used for all admissible applications of the original valves. The exchange cartridge type 1916 can be used as a safety component in compliance with the Pressure Equipment Directive 97/23/EG for directly or indirectly

heated pressurised tanks with danger of overheating designed to generate steam or hot water according to Art. 3 section 1.2 up to category IV.

The installation of the exchange cartridge has no negative effect on the operating performance.

Design

The operational parts in the exchange cartridge type 1916 are protected against direct contact with the medium (protection against corrosion). The exchange cartridge

can be lifted by means of the rotatable handle. Cleaning the seat and the seal after having removed the head part does not change the opening pressure.

Exchange Cartridge 1916

Materials

The body is made of a high-quality low-lead brass alloy; the spring cap is made of zinc diecasting, the diaphragm and seals of heat

and ageing resistant elastomeric synthetic material and the spring of corrosion protected spring steel wire.

Installation

Should the pressure relief valve have become unserviceable - indicated by constant dripping -, unscrew the head part and replace it with the exchange cartridge.

Ensure that the opening pressure of the exchange cartridge does not exceed the maximum admissible operating pressure of the installation.

Before disassembling the original head part, de-pressurise or drain the installation. Clean the valve seat before mounting the exchange cartridge. The exchange cartridge

is positioned with the metallic side directly on the valve seat and therefore has to be tightened with an adequate tool after being screwed in.

Technical data

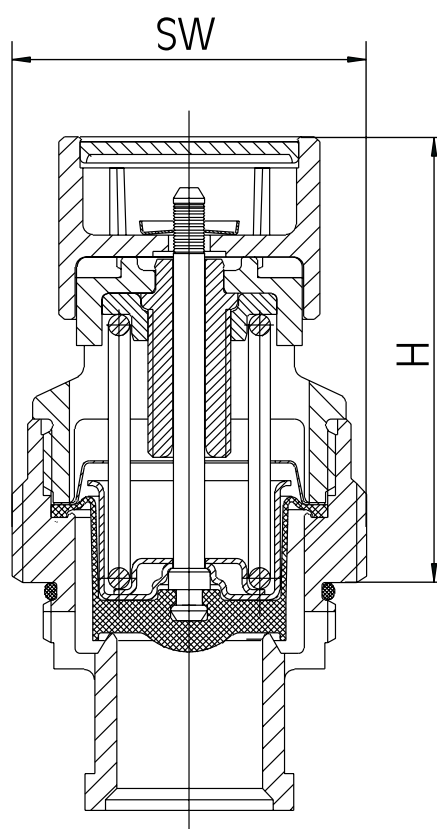
Opening pressure:	Standard setting 2.5 or 3 bar
Fluids:	Water; neutral non-adhesive fluids
Operating temperature:	-10 °C up to max. 120°C
Mounting position:	Like original valve
Component approval number:	TÜV-SV-10-525-H-P-p
Serial number:	1916...
	CE 0085

Maintenance

The correct function should be checked by qualified personnel at initial operation and then on a regular basis: turn the lifting

handle in the direction of the arrow until you hear a click. Afterwards, the valve has to be closed tight.

Exchange Cartridge 1916

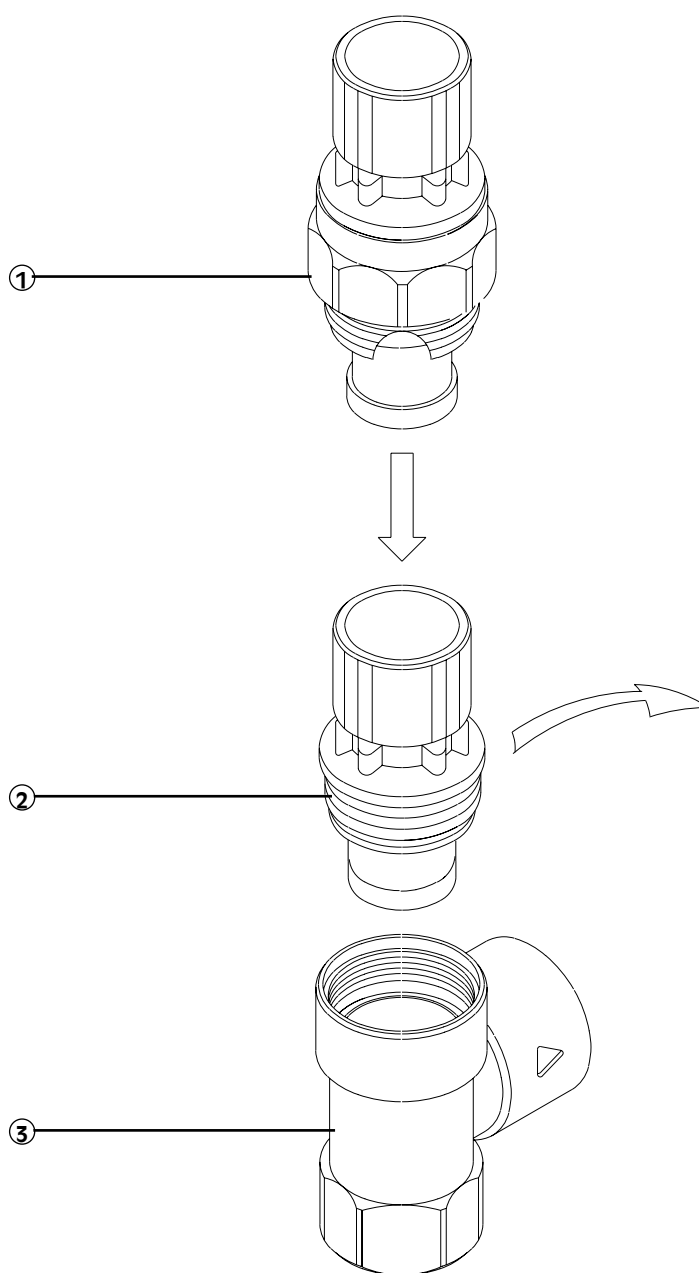


Nominal size	DN 15
	G 1/2"
Dimensions in mm	H (mm)
	SW
	44
	32

Exchange Cartridge 1916

Components / Order numbers

- ①
Exchange cartridge 1916
DN 15 2.5 bar: 1916.15.000
DN 15 3.0 bar: 1916.15.001
- ②
Disassembled head part
- ③
Valve body



Water Level Limiter 932

Protection against insufficient water level in boilers



CE 0085

Field of application

The water level limiter type 932 protects boilers in heating installations against dry-heating resulting from an insufficient water level. The installation of such a device is highly recommended for safety reasons.

The water level limiter type 932 can also be used for any device, which operates with water level dependent electric switches and requires a test possibility without lowering the water level.

Design

The water level limiter type 932 is designed with magnetic transmission of the float movement to a microswitch; it allows testing without lowering the water level. The electric switch unit is rotatable by 360° and can be exchanged without draining the installation. The water level limiter type 932

isolates the system after cutting the burner off. When the malfunction is eliminated, reconnect the system by means of the unlock key on the water level limiter. Another type with a compacter construction form is available as special model 932.5.

Water Level Limiter 932

Materials

The nipple, the test sensor, the magnetic glide sleeve and the internal parts are made of a high quality low-lead brass alloy. The float is made of a heat and pressure resistant special glass and the switch unit body of synthetic material. All brass and copper


parts in contact with water are nickel-plated. The sealing elements are made of heat and ageing resistant elastomeric synthetic material. The electric connection is made with a hardwired cable H 05 VV-F 4G 0.75 mm², length 2.5 m.

Installation

Screw the water level limiter type 932 in the pre-installed connection piece (DN 50) on the boiler. When installing, imperatively ensure that the float is not damaged. The electric connection has to be made by an electrician in compliance with the prescriptions of the local power supply company under consideration of the circuit diagram and

the cable designation. After the installation, fill and vent the system. Afterwards, vent the water level limiter separately: loosen the gland packing on the test sensor until water comes out; then, re-tighten. To start up the installation, pull the test sensor upwards to the stop; then, press the unlock key.

Technical data

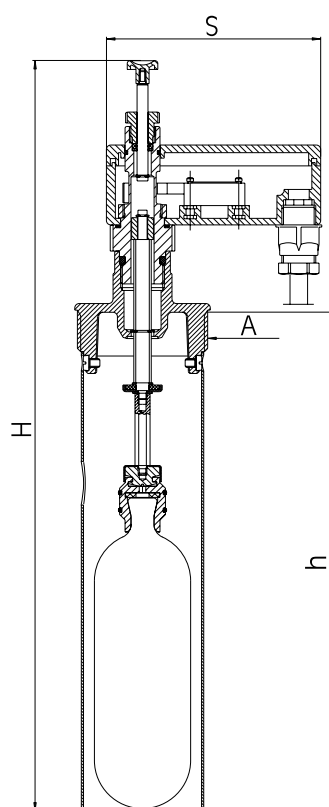
Operating overpressure:	max. 10 bar
Operating temperature:	max. 120 °C
Service temperature:	max. 70°C
Type of protection:	IP 65
Microswitch:	On-off switch, single pole
Mounting position:	Main axis vertical
Capacity:	10 (4) A / 250 Volt
Component approval:	TÜV - HWB - 12-206
VDE-Nr.:	139223 
Serial number:	0932...
	C € 0085

Maintenance

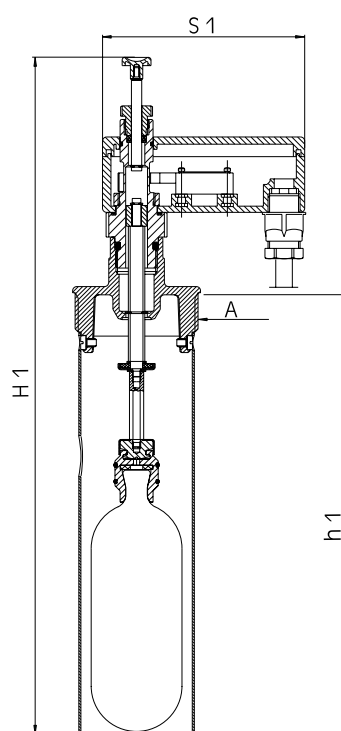
The device requires no regular maintenance. However, it should be unlocked manually once per year in order to test

functionality. All components can be exchanged separately. The switch unit can be exchanged without draining the installation.

Water Level Limiter 932



932.1



932.5

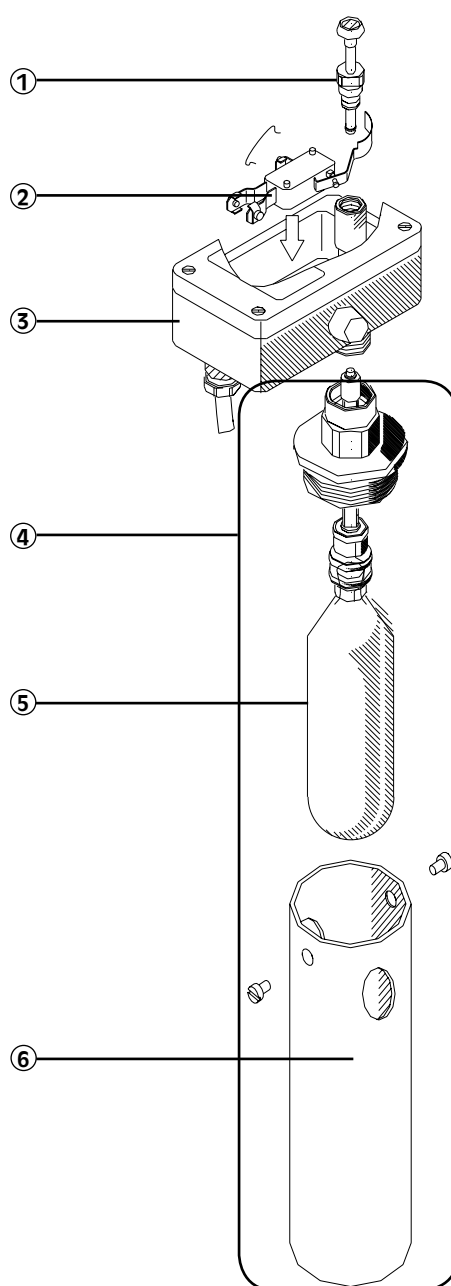
Nominal size		DN 50
Dimensions in mm	A	G 2"
	H (mm)	343
	h (mm)	229
	S (mm)	64 x 98
	H 1 (mm)	247
	h 1 (mm)	150
	S 1 (mm)	64 x 98

Models: Type 932.1 standard construction form
Type 932.5 compact construction form

Water Level Limiter 932

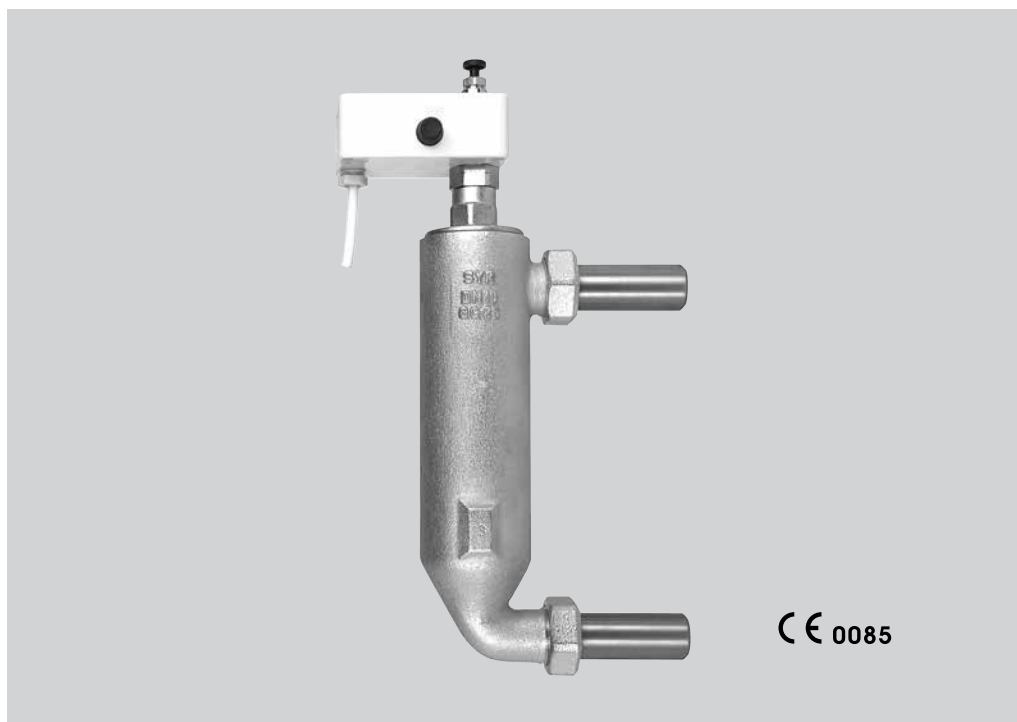
Components / Order numbers

- ①
Test sensor
0933.20.911
0932.50.904 (932.5)
- ②
Microswitch
0933.20.912
- ③
Switch unit
0932.50.900
0932.50.905 (932.5)
- ④
Complete float device
0932.50.901
0932.50.903 (932.5)
- ⑤
Glass float
0933.20.906
0932.50.906 (932.5)
- ⑥
**Immersion sleeve with
screws**
0932.50.906



Water Level Limiter 933

Protection against insufficient water level, for installation in pipes



Field of application

The water level limiter type 933 protects boilers in heating installations against dry-heating resulting from an insufficient water level. The installation of such a device is highly recommended for safety reasons.

The water level limiter type 933 can also be used for any device, which operates with water level dependent electric switches and requires a test possibility without lowering the water level.

Design

The water level limiter type 933 is designed with magnetic transmission of the float movement to a microswitch; it allows testing without lowering the water level. The electric switch unit is rotatable by 360° and can be exchanged without draining the installation. Two models of the water level limiter type 933 are available: type 933.1 isolates

the system after cutting the burner off. When the malfunction is eliminated, re-connect the system by means of the unlock key on the water level limiter. Type 933.2 does not isolate the system after cutting the burner off; therefore, the following electric circuit will have to provide the isolation.

Water Level Limiter 933

Materials

The nipple, the test sensor, the magnetic glide sleeve and the internal parts are made of a high quality low-lead brass alloy. The float is made of a heat and pressure resistant special glass and the switch unit body of synthetic material. All brass and copper parts in contact with water are nickel-plated.

The sealing elements are made of heat and ageing resistant elastomeric synthetic material. The housing and the captive nut are made of malleable cast iron. The electric connection is made with a hardwired cable H 05 VV-F 4G 0.75 mm², length 2.5 m.

Installation


Install the water level limiter type 933 as external appliance in parallel to the radiator

supply line of the boiler.

Screw the water level limiter type 933 in the pre-installed connection piece (DN 20) in the radiator supply line of the boiler. When installing, imperatively ensure that the float is not damaged. The electric connection has to be made by an electrician in compliance with the prescriptions of the local power supply company under consideration of the circuit diagram and the cable designa-

tion. After the installation, fill and vent the system. Afterwards, vent the water level limiter separately: loosen the gland packing on the test sensor until water comes out; then, re-tighten. To start up the installation, pull the test sensor (only with type 933.1) upwards to the stop; then, press the unlock key.

Technical data

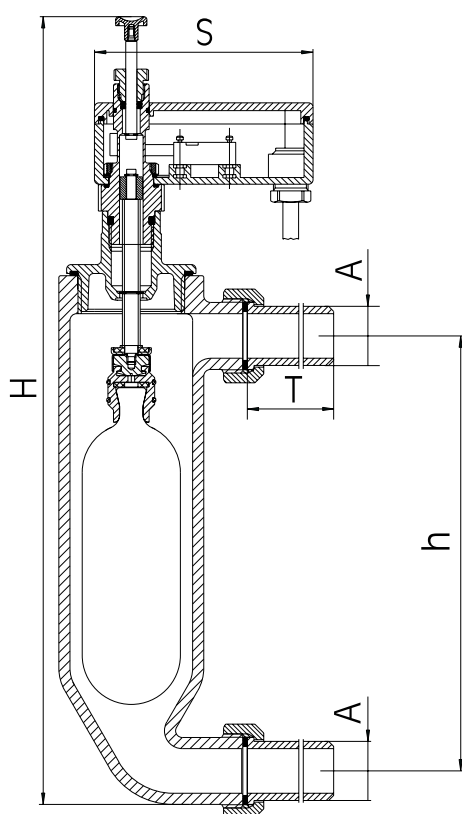
Operating overpressure:	max. 10 bar
Operating temperature:	max. 120 °C
Service temperature:	max. 70 °C
Type of protection:	IP 65
Microswitch:	On-off switch, single pole
Mounting position:	Main axis vertical
Capacity:	10 (4) A / 250 Volt
Component approval:	TÜV - HWB - 12-190
VDE-Nr.:	139223 
Serial number:	0933...
	CE 0085

Maintenance

The device requires no regular maintenance. However, it should be unlocked manually once per year in order to test functiona-

lity. All components can be exchanged separately. The switch unit can be exchanged without draining the installation.

Water Level Limiter



Nominal size		DN 20
Dimensions in mm	A	20 mm
	H (mm)	370
	h (mm)	195
	S (mm)	64 x 98
	T (mm)	70

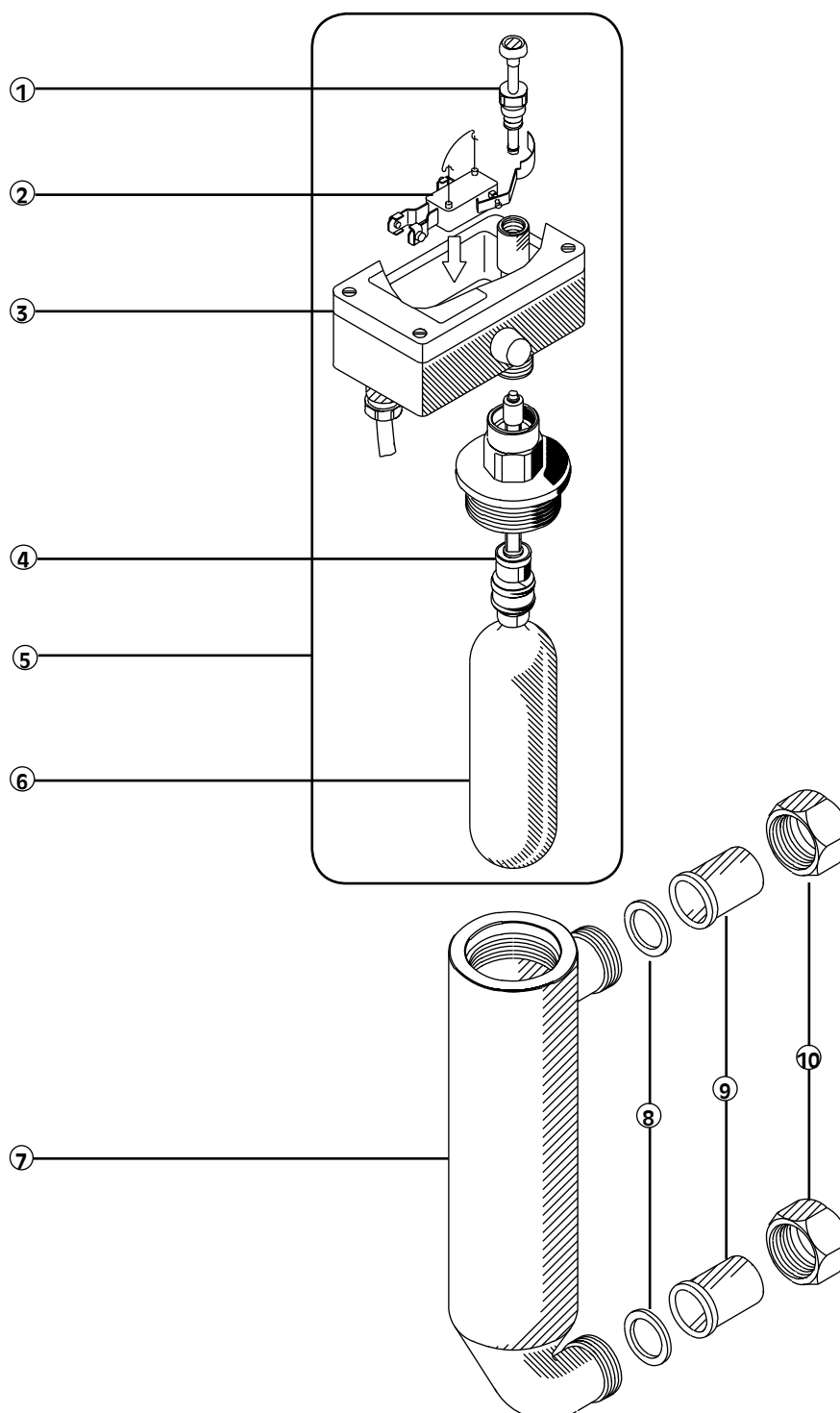
Models

Type 933.1 with isolation
Type 933.2 without isolation

Water Level Limiter 933

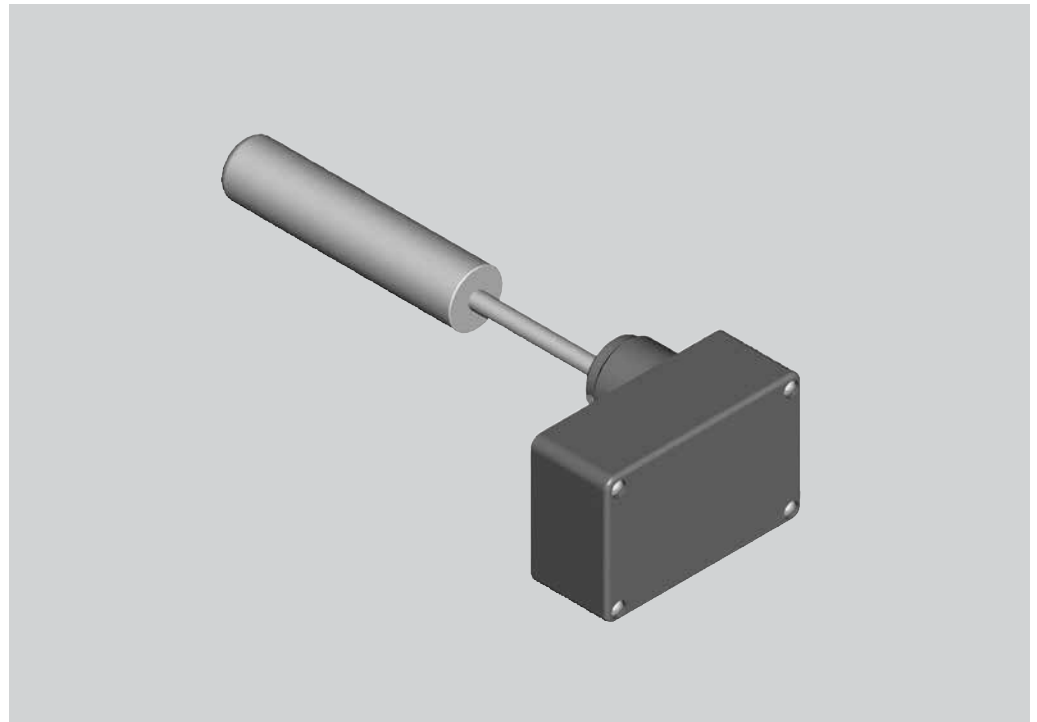
Components / Order numbers

- ① **Test sensor**
0933.20.911
- ② **Microswitch**
0933.20.912
- ③ **Complete switch unit**
0933.20.904
- ④ **Complete float**
0933.20.910
- ⑤ **Valve without housing**
0933.20.900
- ⑥ **Glass float**
0933.20.906
- ⑦ **Housing**
- ⑧ **Seal**
- ⑨ **Socket**
- ⑩ **Captive nut**



Water level cut off switch 6390

Protection against insufficient water level in applications



Field of application

The water level cut off switch type 6390 protects applications against an insufficient water level. The installation of such a device is highly recommended for safety reasons. The water level cut off switch can also be

used for any device, which operates with water level dependent electric switches and requires a test possibility without lowering the water level.

Design

The water level cut off switch Type 6390 is designed with magnetic transmission of the float movement to a microswitch. The electric switch unit is rotatable by 360° and can

be exchanged without draining the installation. The water level cut off switch isolates the system after cutting the burner off. .

Water level cut off switch 6390

Materials

The nipple, the magnetic glide sleeve and the internal parts are made of a high quality low-lead brass alloy. The float and the switch unit body are made of synthetic material. All brass and copper parts in contact with water are nickel-plated. The sealing

elements are made of heat and ageing resistant elastomeric synthetic material. The electric connection is made with a hardwired cable H 05 VV-F 4G 0.75 mm², length 2.5 m.

Installation

Screw the water level cut off switch in the pre-installed connection piece (DN 50) on the application. When installing, imperatively ensure that the float is not damaged. The electric connection has to be made by an

electrician in compliance with the prescriptions of the local power supply company under consideration of the circuit diagram and the cable designation.

Technical data

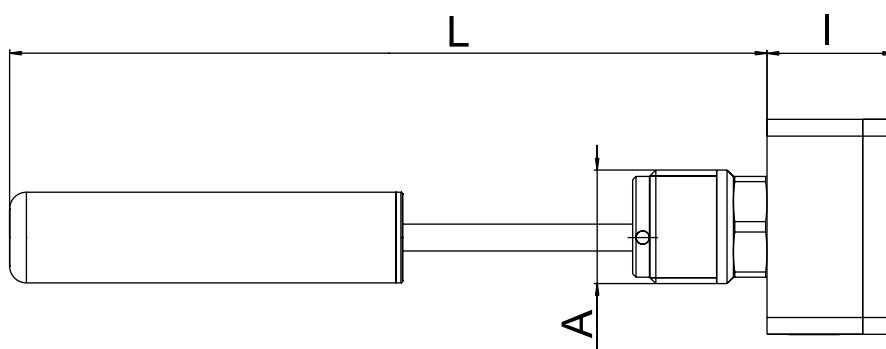
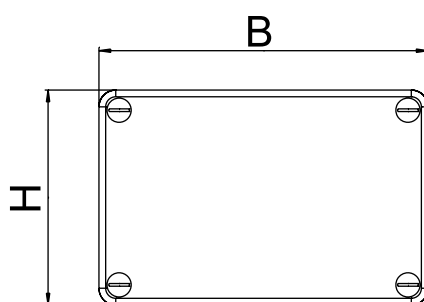
Operating overpressure:	max. 10 bar
Operating temperature:	max. 100 °C
Type of protection:	IP 65
Microswitch:	On-off switch, single pole
Mounting position:	Main axis horizontal
Capacity:	10 (4) A / 250 Volt
Serial number:	6390 ...

Maintenance

The device requires no regular maintenance. However, it should be unlocked manually once per year in order to test

functionality. All components can be exchanged separately. The switch unit can be exchanged without draining the installation.

Water level cut off switch 6390

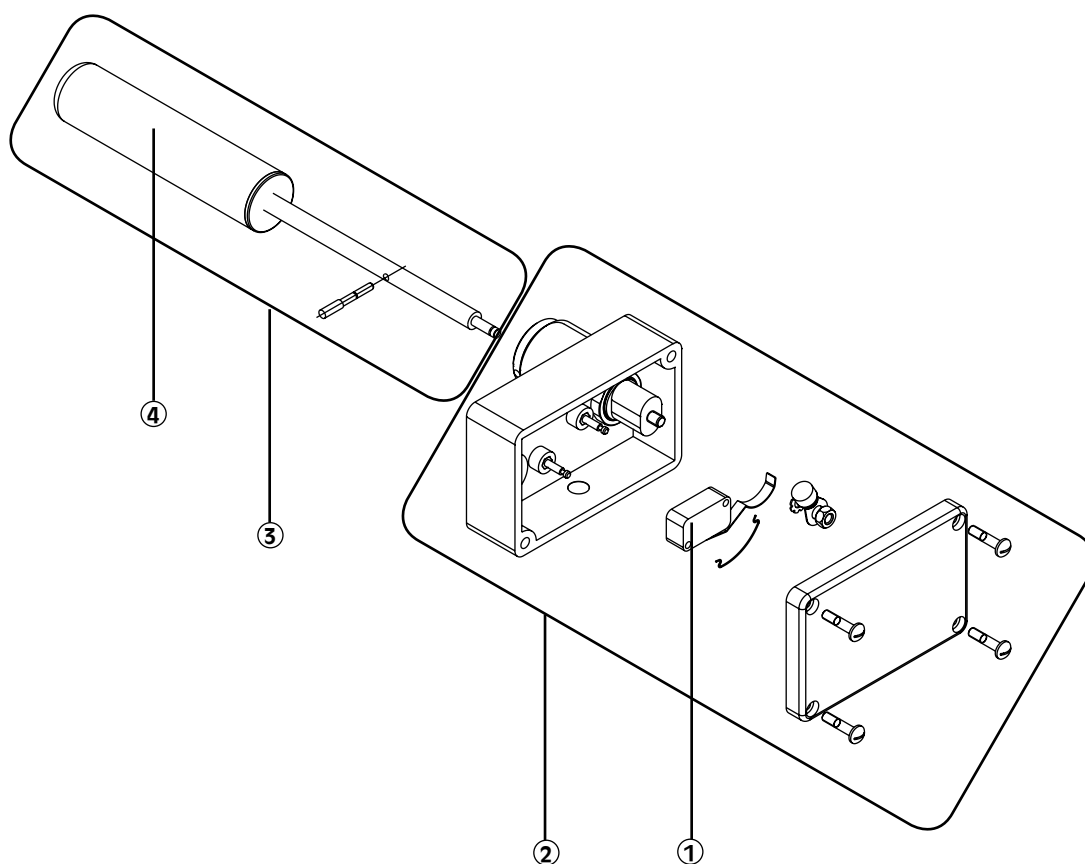


Nominal size		DN 50
Dimensions in mm	A	R 1"
	H (mm)	64
	B (mm)	98
	L (mm)	225,5
	L (mm)	38

Water level cut off switch 6390

Components / Order numbers

- ①
Microswitch
0933.20.912
- ②
Switch unit
- ③
Complete float device
- ④
Float



Thermal Safety Valve 3065

Safety valves for solid fuel fired boilers



CE 0085

Field of application

The SYR thermal safety valve type 3065 prevents excess temperatures in solid fuel fired boilers in water-based closed circuit heating systems. Heating capacities of up to a maximum of 100 kW are allowed for

theses systems. It is indispensable to install a thermal safety valve in systems in which the heat-generating device is equipped with a water heater.

Design

The thermal safety valve type 3065 is a pressure-relieved single-seated valve that opens in case of rising temperature. It is controlled by means of two independent temperature transmitters. The thermal safety valve is liftable. Cleaning the seat and seal does

not change the temperature setting. The compact temperature transmitter can be removed to facilitate the assembly of the valve. A metal hose coating prevents any damages on the capillary tubes from the sensor to the transmitter.

Thermal Safety Valve 3065

Materials

Body, inner parts, cap, immersion sleeve and union are made of a high quality low-lead brass alloy. Valve and immersion sleeve are nickel-plated. Piston and temperature transmitter are made of heat resistant syn-

thetic material, spring of stainless steel. All seals are made of heat and ageing resistant elastomeric synthetic material. Capillary tubes and temperature sensor are made of copper.

Installation

Install the thermal safety valve preferably in the cold water inlet of the safety heat exchanger. This type of installation protects the valve against impurities due to lime scale deposits or similar effects. Install the valve in the warm water outlet only in case of older boiler models where the protec-

tion is provided by an integrated potable water heater without temperature control. The boiler is indirectly cooled down by the cold water flowing into the potable water heater, which prevents the temperature from exceeding the admissible maximum of 115°C.

Thoroughly flush the pipe prior to installation. Install the valve without applying stresses. It is recommended to install a potable water filter in order to ensure perfect and durable functionality. The correct

positioning of the valve and a thorough check of the surrounding system prevent malfunctions. The correct positioning of the immersion sleeve in the boiler is of particular importance.

Technical data

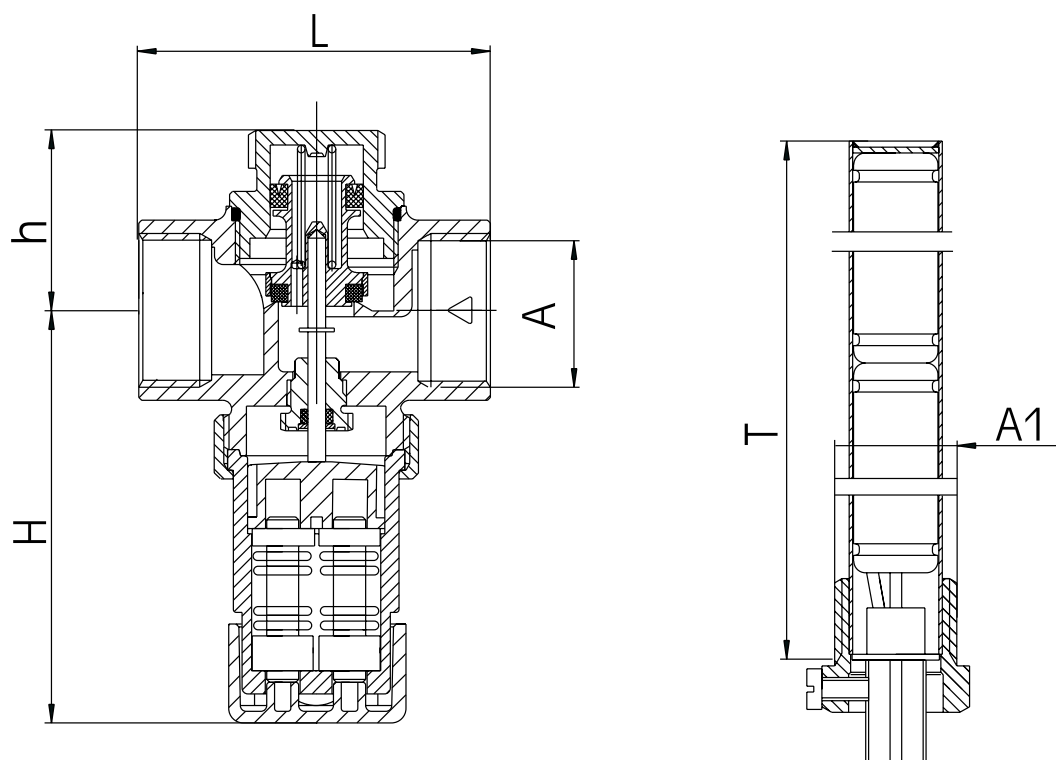
Operating overpressure:	max. 10 bar
Operating temperature:	max. 125 °C
Opening temperature:	95 °C, special model: 55°C
Mounting position:	Any
Length of capillary tube:	1.3 m, special model: 5 m
Approval number:	Th 797 08
Serial number:	3065...
	CE 0085

Maintenance

Should the thermal safety valve drip constantly, it is generally due to impurities. When impurities have damaged the seal, the piston can be exchanged separately.

The disassembly of the valve for maintenance or repair is not required due to the separate positioning of the components within the thermal safety device.

Thermal Safety Valve 3065

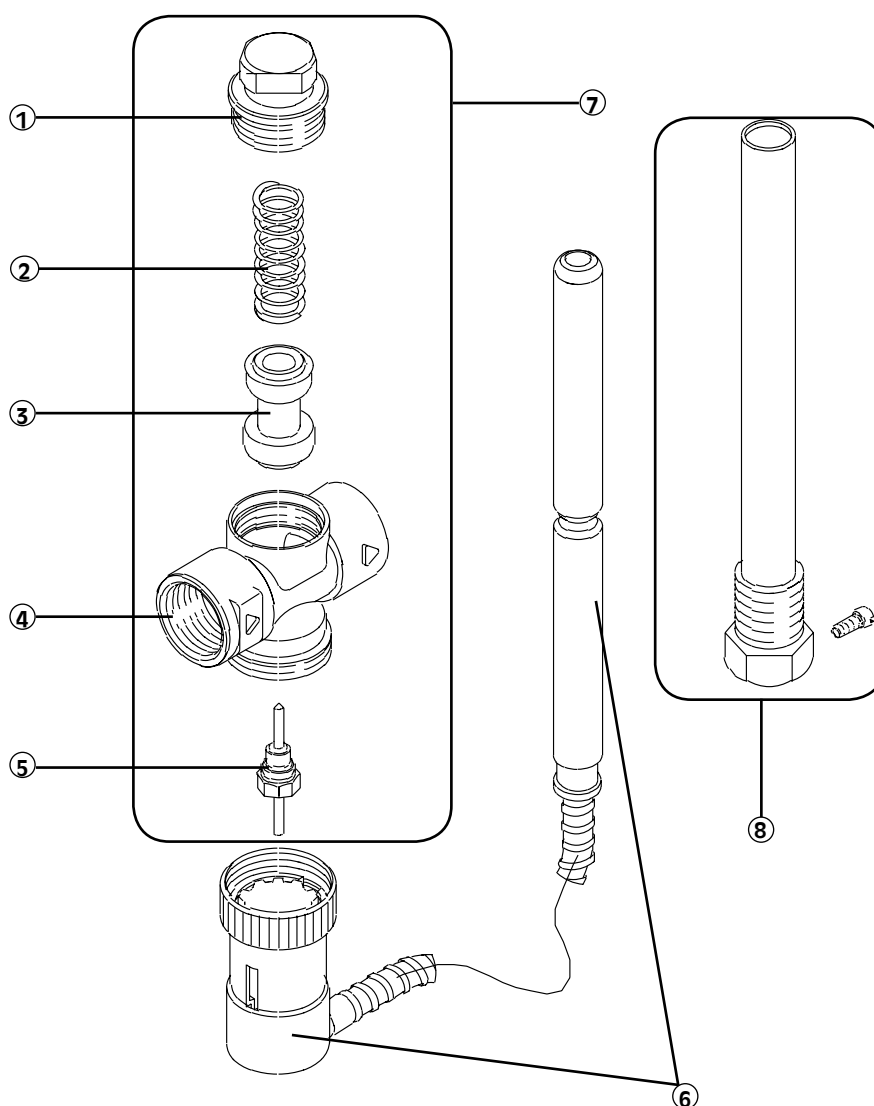


Nominal size		DN 20
Dimensions in mm	A	G ¾"
	L (mm)	60
	H (mm)	70
	h (mm)	31
	T (mm)	150
	A1	½"

Thermal Safety Valve 3065

Components / Order numbers

- ① **Screw cap**
3065.20.909
- ② **Spring**
3065.20.918
- ③ **Piston**
3065.20.921
- ④ **Body**
3065.20.919
- ⑤ **Stuffing box**
3065.20.911
- ⑥ **Temperature probe**
3065.20.903
- ⑦ **Body complete**
3065.20.920
- ⑧ **Immersion sleeve**
3065.20.902



Differential Pressure Regulator 390

Angle type



Field of application

The differential pressure regulator type 390 stabilises the rate of circulating water as well as the differential pressure in pumped central heating installations that regulate the room temperature by means of thermostatic radiator or zone valves. The differential pressure regulator type 390 can also be used for district heating systems. The circulating water quantity fluctuates between zero and the maximum value according to the heat requirement and as a result the pump pressure varies according to the pump specifications; the differential pressure regulator type 390 reduces both phenomena to a minimum. With the system load and the circulation rate being reduced, the differential pressure increases accor-

ding to the pump specifications up to the opening pressure of the differential pressure regulator. Then, the latter maintains a defined circulating water quantity in the boiler circuit and prevents the differential pressure from rising to the maximum pump pressure. Advantages: for boilers with low water content, the risk of possible overheating of the heating chamber is eliminated. An additional boiler circulation pump is no longer required. In steel boilers, the mixing effect prevents low-temperature corrosion that results from excessively cold return water. As the differential pressure can only rise insignificantly above the required pressure, the regulating valves and the pump no longer generate annoying noise.

Differential Pressure Regulator 390

Design

The differential pressure regulator type 390 operates as a proportional by-pass valve. Additional control lines are not required as a result of the internal balance of the static pressure. The factory-set opening pressure

can be adjusted on a spindle by means of a lockable turning handle. In general, it is not necessary to re-adjust the system. A visible lift indicator allows to control functionality.

Materials

The body, cap, internal components and unions are made of a high quality low-lead brass alloy. The spring is made of corrosion

resistant spring steel wire. The diaphragm and sealing rings are made of heat resistant elastomeric synthetic material.

Installation

Install the differential pressure regulator type 390 behind the heating pump with a by-pass line between the radiator supply

line and the return line. The installation can be horizontal or vertical.

Thoroughly flush the pipe prior to installation. Install the differential pressure regulator in the pipe without applying stresses under

consideration of the direction of flow. The valve should be readily accessible to facilitate service and setting.

Technical data

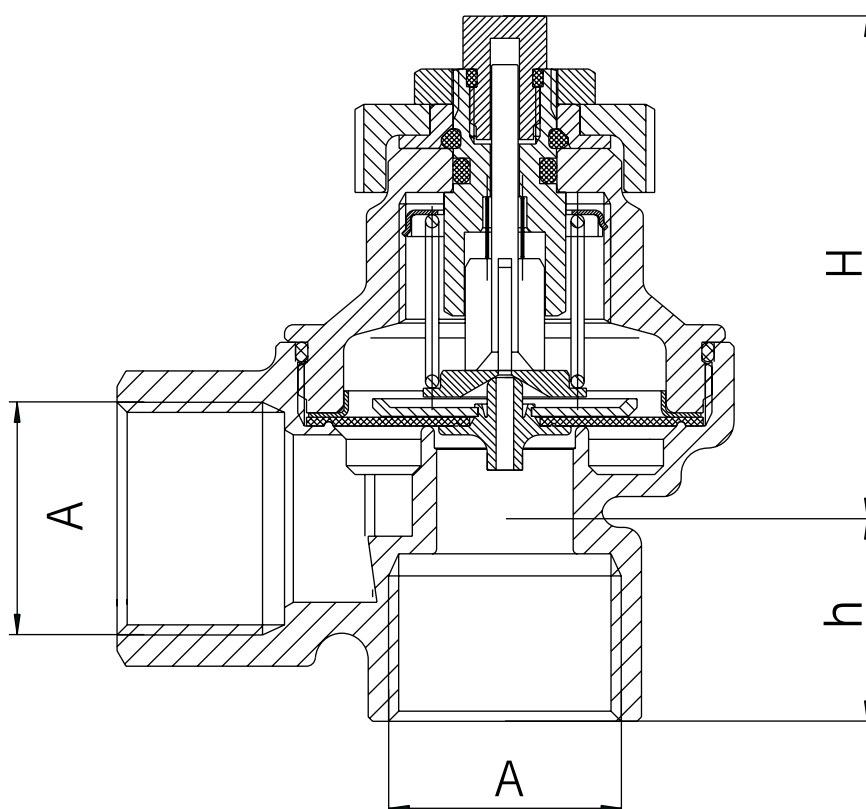
Operating pressure:	max. 10 bar
Operating temperature:	max. 120 °C
Differential pressure:	Adjustable 0.05 - 0.7 bar, factory-set to 0.2 bar
Mounting position:	Any
Fluids:	Water
Serial number:	Serial number:

Maintenance

To adjust the pressure regulator type 390, loosen the fixing nut on the adjustment handle. To set the desired pressure, simply turn the handle to the desired value. The in-

tegral lift indicator allows to control functionality. Re-tighten the fixing nut. The seal of the adjustment spindle can be exchanged without draining the installation.

Differential Pressure Regulator 390

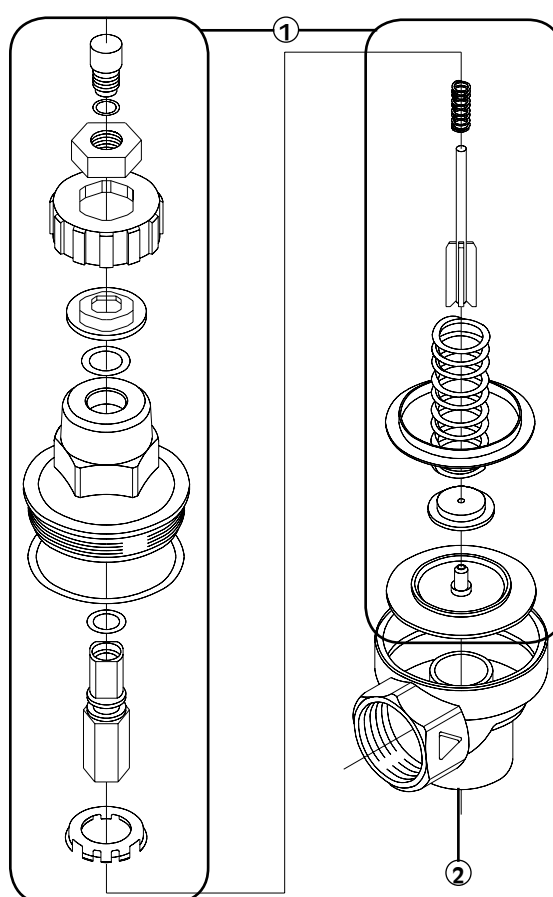


Nominal size		DN 20	DN 25
	A	G ¾"	G 1"
Dimensions	H (mm)	72	110
	h (mm)	23	30

Differential Pressure Regulator 390

Components / Order numbers

- ①
Screw cap unit
DN 20 0390.20.900
DN 25 0390.25.900
- ②
Body



Differential Pressure Regulator 391

In-line type



Field of application

The differential pressure regulator type 391 stabilises the rate of circulating water as well as the differential pressure in pumped central heating installations that regulate the room temperature by means of thermostatic radiator or zone valves. The differential pressure regulator type 391 can also be used for district heating systems. The circulating water quantity fluctuates between zero and the maximum value according to the heat requirement and as a result the pump pressure varies according to the pump specifications; the differential pressure regulator type 391 reduces both phenomena to a minimum. With the system load and the circulation rate being reduced, the differential pressure increases according

to the pump specifications up to the opening pressure of the differential pressure regulator. Then, the latter maintains a defined circulating water quantity in the boiler circuit and prevents the differential pressure from rising to the maximum pump pressure. Advantages: for boilers with low water content, the risk of possible overheating of the heating chamber is eliminated. An additional boiler circulation pump is no longer required. In steel boilers, the mixing effect prevents low-temperature corrosion that results from excessively cold return water. As the differential pressure can only rise insignificantly above the required pressure, the regulating valves and the pump no longer generate annoying noise.

Differential Pressure Regulator 391

Design

The differential pressure regulator type 391 operates as a proportional by-pass valve. Additional control lines are not required as a result of the internal balance of the static pressure. The factory-set opening pressure

can be adjusted on a spindle by means of a lockable turning handle. In general, it is not necessary to re-adjust the system. A visible lift indicator allows to control functionality.

Materials

The body, cap, internal components and unions are made of a high quality low-lead brass alloy. The spring is made of corrosion resistant

spring steel wire. The diaphragm and sealing rings are made of heat resistant elastomeric synthetic material.

Installation

Install the differential pressure regulator type 391 behind the heating pump with a by-pass line between the radiator supply line and the

return line. The installation can be horizontal or vertical.

Thoroughly flush the pipe prior to installation. Install the differential pressure regulator in the pipe without applying stresses under

consideration of the direction of flow. The valve should be readily accessible to facilitate service and setting.

Technical data

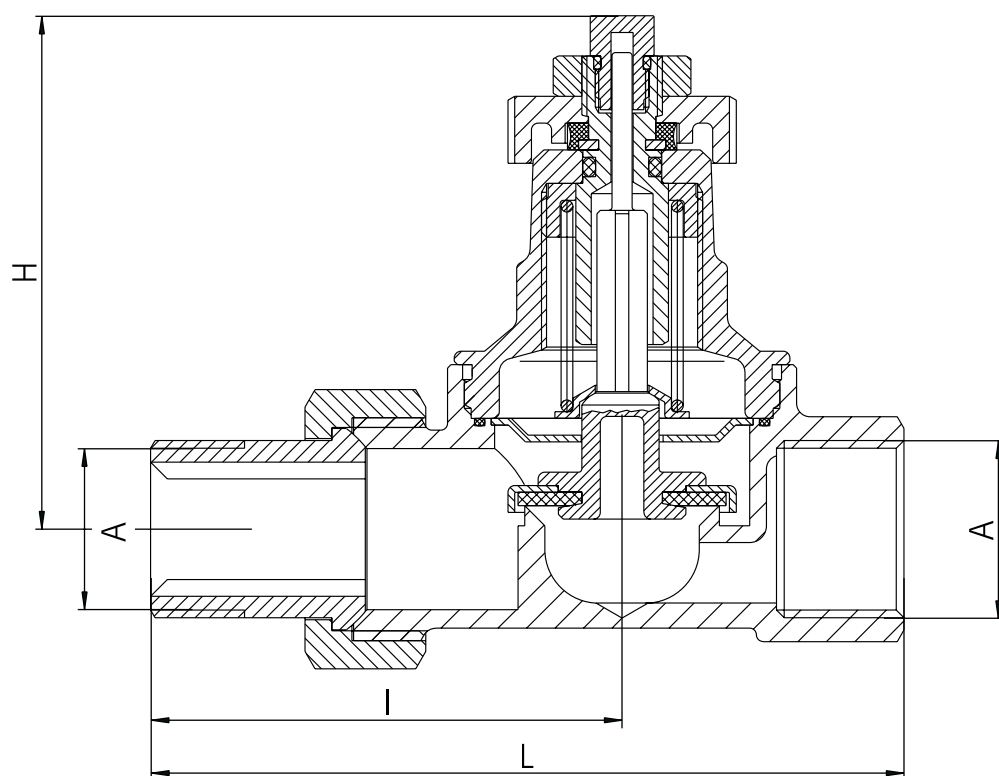
Operating pressure:	max. 10 bar
Operating temperature:	max. 120 °C
Differential pressure:	Adjustable 0.05 - 0.7 bar, factory-set to 0.2 bar
Mounting position:	Any
Fluid:	Water
Serial number:	0391.20.000

Maintenance

To adjust the pressure regulator type 391, loosen the fixing nut on the adjustment handle. To set the desired pressure, simply turn the handle to the desired value. The in-

tegral lift indicator allows to control functionality. Re-tighten the fixing nut. The seal of the adjustment spindle can be exchanged without draining the installation.

Differential Pressure Regulator 391



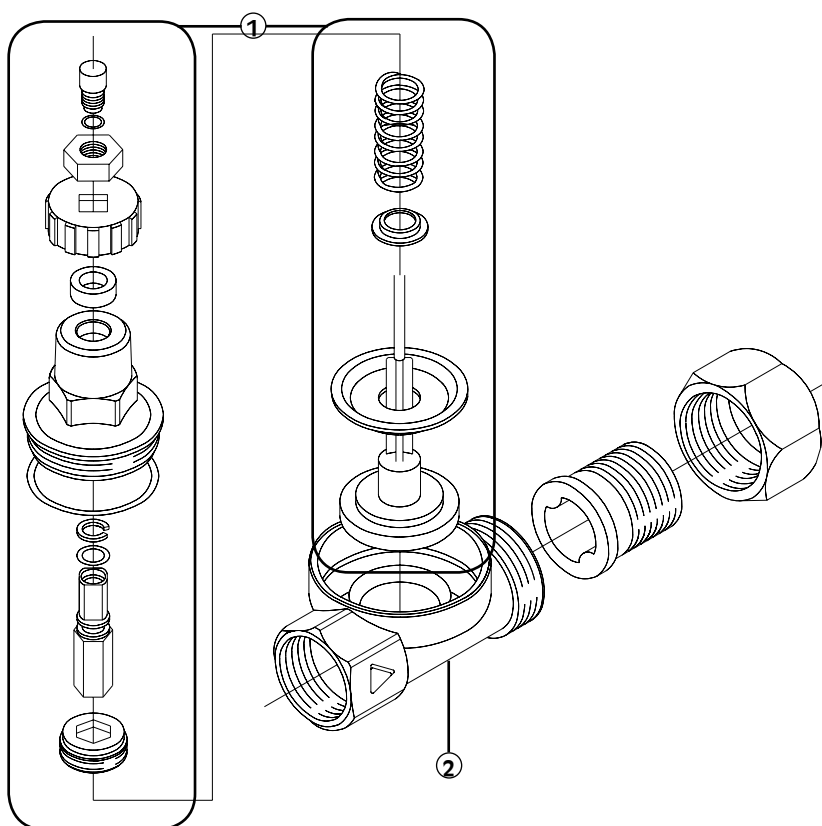
Nominal size	DN 20	
	A	G 3/4"
Dimensions in mm	H (mm)	76
	L (mm)	112
	I (mm)	42

Differential Pressure Regulator 391

Components / Order numbers

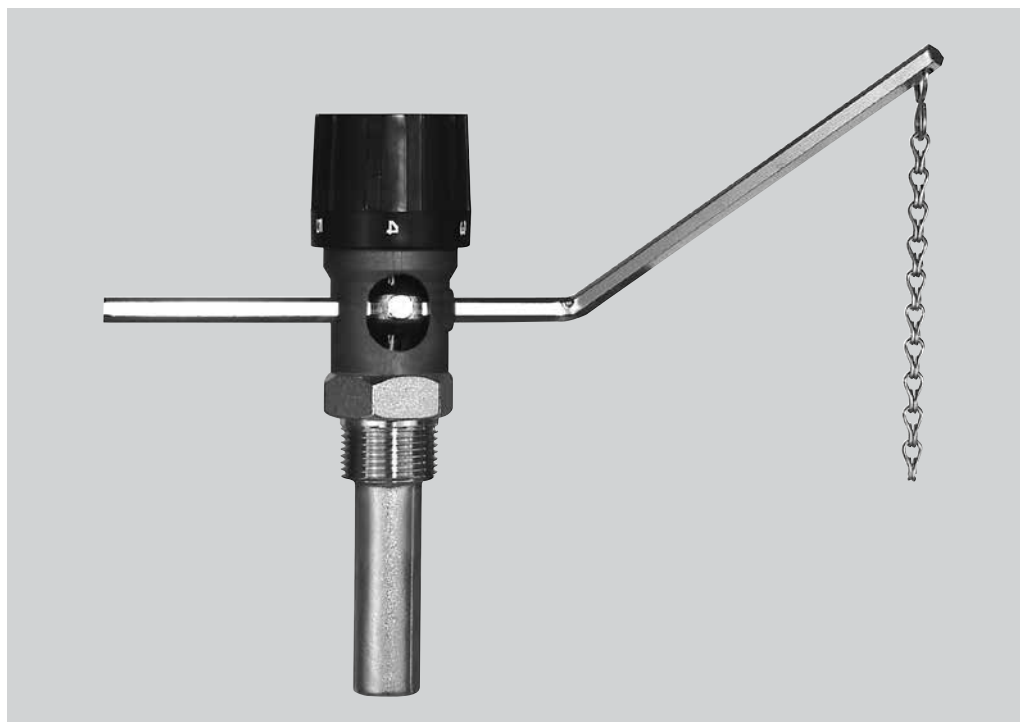
①
Screw cap unit
DN 20
0391.20.900

②
Body



Draft Regulator 2620

Regulating valve for solid fuel fired boilers



Field of application

The SYR draft regulator type 2620 regulates the temperature for solid fuel fired boilers in heating systems. The draft regulator type 2620 regulates the temperature by opening

and closing the damper in dependence of the deviation from the required temperature.

Design

The damper is actuated by the thermostatically controlled draft regulator. The rated temperature is adjustable by means of an

insulated adjustment knob. The thermoelement is located outside the water and can be exchanged without draining the system.

Draft Regulator 2620

Materials

The immersion sleeve and the head part are made of a high quality low-lead brass alloy. The internal components are made of a high quality brass alloy or stainless steel.

The lever fixture and the chain are made of corrosion resistant steel. The adjustment knob is made of synthetic material resisting to very high temperatures.

Installation

Screw the draft regulator type 2620 in the inlet connection piece located in the upper part of the boiler. Depending on the boiler type, it can be installed with the main axis either in vertical or horizontal position. The adjustment knob has a double dial gra-

duction to facilitate the adjustment. When installed in horizontal position, the point of reference is the marking on the head part (shall face upwards); when installed in vertical position, it is the lever (shall face to the front) designed for mounting the draw rod.

Screw the draft regulator type 2620 with hemp or sealing tape in the corresponding connection piece of the boiler. For initial adjustment, heat the boiler to any temperature in the setting range of the regulator.

Set the temperature on the draft regulator and shorten the chain so that the damper just closes. Afterwards, the draft regulator can be adjusted to any temperature in the setting range.

Technical data

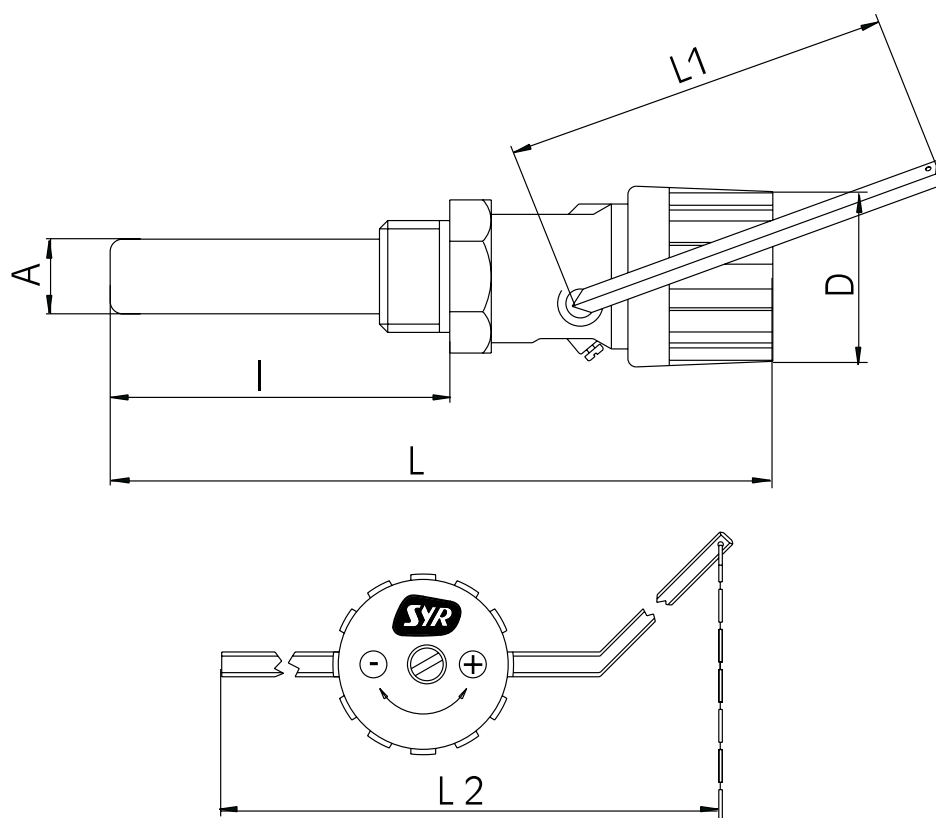
Service overpressure (immersion sleeve):	max. 3.5 bar
Service temperature:	max. 110 °C
Setting range:	40 - 100 °C
Mounting position:	Horizontal or vertical
Actuating force:	max. 8 N
Lift:	60 mm
Serial number:	2620.20.000

Maintenance

The draft regulator requires no maintenance. Should it nevertheless become necessary to exchange the thermoelement, the system does not need to be drained.

Unscrew the head part of the regulator, remove the thermoelement with a suitable tool and exchange it.

Draft Regulator 2620

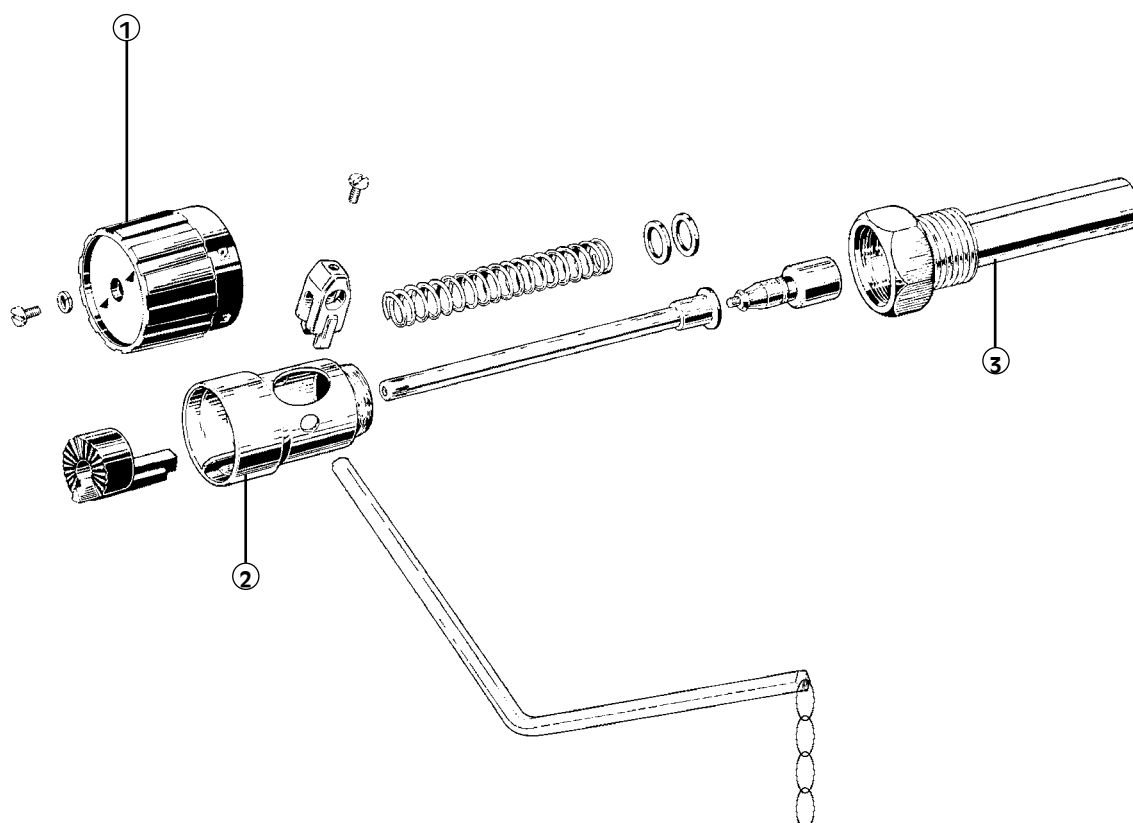


Nominal size		DN 20
Dimensions in mm	A	G 3/4"
	L (mm)	185
	I (mm)	70
	L1 (mm)	110 (175)
	L2 (mm)	200
	D (mm)	41

Draft Regulator 2620

Components / Order numbers

- ①
Adjustment knob
- ②
Body
- ③
Immersion sleeve



Automatic Air Vent 62

Automatic air vent for heating installations



Field of application

The air vent type 62 automatically aerates and de-aerates liquid-filled systems.

It is specially used for water heating systems.

Design

Manufactured as non-porous all-metal model, the air vent type 62 is equipped with a cover that can be unscrewed, an own isolating valve and a float made of synthe-

tic material. The float opens the aeration/de-aeration valve according to the water level in the automatic air vent.

Automatic Air Vent 62

Materials

The body, the cover of the automatic air vent, the internal parts, the isolating valve and sealing elements are made of a high-

quality, low-lead brass alloy or stainless steel or elastomeric hot water and ageing resistant synthetic material.

Installation

Install the automatic air vent 62 imperatively in vertical position at the highest points of the system as well as at any point where air may collect. Likewise, it is advisable to install it in the radiator supply line on the pressure side of the pump. For doing so, it is recommended to extend the pipe at the connec-

tion. Do not remove the valve cap from the air vent to prevent dirt particles from entering and causing the automatic air vent to malfunction. Undoing the cap with two turns provides sufficient cross section to ensure perfect functioning.

Thoroughly flush the pipe prior to installation in order to prevent dirt particles from accumulating in the sealing area of the air vent. Furthermore, the lower part of the enclosed isolating valve should be

immersed in an adequately wide free cross-section in the pipe to ensure perfect functioning. The dimensioning of the supply pipe should be at least DN 15.

Technical data

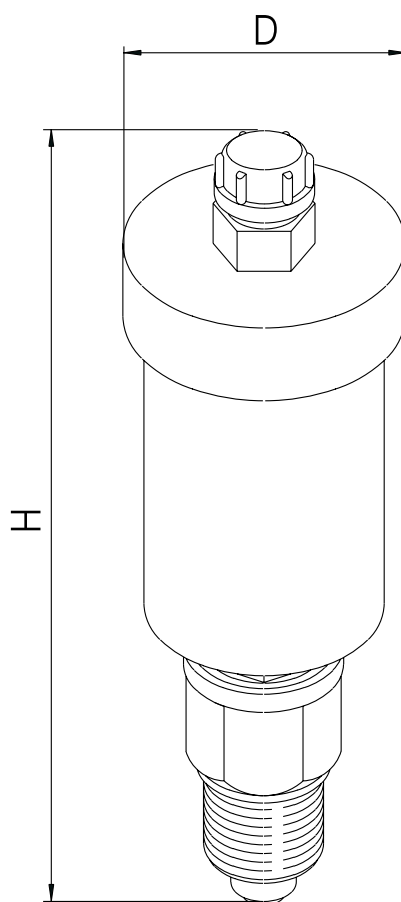
Fluid:	Water
Operating temperature:	max. 110 °C
Operating pressure:	10 bar
Mounting position:	Vertical
Pipe connection:	3/8" AG
Serial number:	0062.10.001

Maintenance

Should the air vent have become untight due to dirt particles, the enclosed isolating valve allows to remove it without any problem, even when the system is pressurised. For cleaning, unscrew the cover of the air

vent after the disassembly to get access to the seat sealing area. In case of deterioration, the automatic air vent should be completely removed and replaced by a new one.

Automatic Air Vent 62

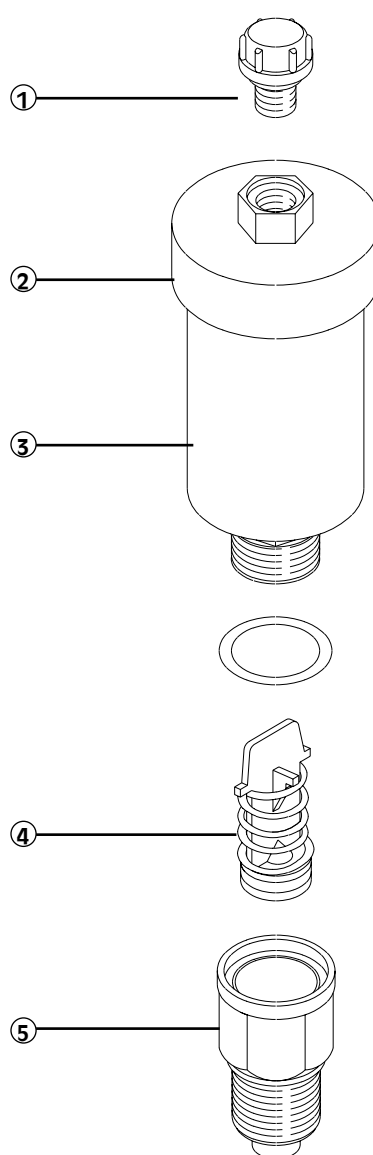


Nominal size	DN 10	
	A	G 3/8"
Dimensions in mm	H (mm)	101
	D (mm)	38

Automatic Air Vent 62

Components / Order numbers

- ① Valve cap
- ② Body cover
- ③ Body
- ④ Isolating valve
- ⑤ Fitting



Pressure Relief valve 6104 / 6105

for industrial applications



Type 6104

Field of application

The pressure relief valves type 6104/ 6105 are used as protection against overpressure for devices and systems working with air, neutral gases or steam. They are designed

for industrial applications such as coffee dispensers, steamers, bakeries, food industry, cleaners etc.

Design

The operational parts in the pressure relief valves type 6104/6105 are protected against direct contact with the medium (protection against corrosion). The pressure relief valves can be lifted by means of a rotatable handle or a lever depending on the model. Cleaning the seat and the seal after having

removed the head part does not change the opening pressure.

This product exists in various models: 6104 with lever or rotatable handle and 6105 only with rotatable handle. They are designed in different connection sizes and connection types as specified in the following table.

Pressure Relief Valve

6104 / 6105

Materials

The body is made of a high-quality low-lead brass alloy; the spring cap, the diaphragm and other internal parts are made of heat

and ageing resistant elastomeric synthetic material and the spring of corrosion protected spring steel wire.

Installation

Install the pressure relief valves type 6104 /6105 vertically with the inlet connections facing downwards. The length of the supply pipe shall not exceed 1 m, bends are not admissible and its nominal size must be the size of the valve inlet. Position the valve at the highest point of the heat-generating device or in the safety pipe close to the heat-generating device. There shall be no isolating valves, strainers or similar devices in the supply pipe.

The diameter of the relief pipe must be at least equal to the nominal size of the valve outlet. The relief pipe has to be installed

Thoroughly rinse the pipe prior to installation. Install the pressure relief valve under consideration of the flow direction (see

with continuous incline. It can maximally include 2 bends and have a length of 2 meters. When a length exceeding 2 m is necessary, the pipe must be one size larger. Caution: more than 3 bends and a length exceeding 4 meters are not admissible. The outlet of the relief pipe must be free from obstruction, controllable and positioned in such a way that persons are not endangered by steam relief. When the relief pipe ends over a tundish, it is indispensable that its drain pipe has at least the double cross section of the valve inlet. Free access to the pressure relief valve must be provided.

arrow on the body) in compliance with the instructions.

Technical data

Operating temperature:	-10 °C to max. 120°C
Opening pressure:	0.5 - 4 bar
Pressure setting:	individual setting, only
Mounting position:	Main axis vertical, inlet connections facing downwards
Media:	steam; neutral non-adhesive fluids
Component approval no:	TÜV-SV-08-754-d-D/G-p
Serial number:	6104/6105...

Maintenance

The correct function of the pressure relief valve should be checked by qualified personnel at initial operation and then once a year: turn the lifting handle in the direction of the arrow until you hear a click (for the model equipped with a lever: lift the lever, check the relief and close it again). After-

wards, the valve has to be closed tight. Should the valve drip constantly, it is very likely that impurities have built up in the seat. To clean the valve seat and seal, unscrew the head part. After cleaning, refit the head part; the opening pressure remains unchanged after this operation.

Important instructions regarding the operation and maintenance of potable water installations

To ensure perfect operation, the installer has to inform the user about the correct handling of the potable water installation.

The installer should set up a starting-up report and a delivery receipt to be signed by the user. The documents and use instructions of the devices integrated in the installation have to be handed over to

the user. It is highly recommended to make maintenance contracts between the installer and user, which represent the best legal protection for the installer.

Filters

All backwashable filters have to be serviced every two months and the non-back-washable filters every six months. The intervals can be shorter, for example in case of a

decreasing flow rate. Renouncing to use a filter or disregarding the maintenance instructions can release the insurer from his liability to recourse.

Pressure reducing valves

To inspect a pressure reducing valve, first isolate the supply pipe. To diminish the pipe pressure, open a downstream draw-off point and close it again, before opening the supply pipe. Watch the pressure reducing valve for a period of 10 minutes to check whether the set pressure remains constant. A pressure increase is due to accumulated dirt or damage.

It is advisable to carry out a flow rate test. Open a draw-off point at correctly set pressure. General rule: in case of a pressure drop of more than one bar, the pressure reducing valve needs to be serviced (probably due to impurities). Inspect the device once per year.

Pressure relief valves

Inspect the pressure relief valves every 6 months. It is advisable to verify functionality by activating the lifting function. Check whether the valve closes again after the lifting operation and whether the water is

completely drained off. It is also advisable to switch on the potable water heater and to test whether the pressure relief valve drains off the expansion water.

Check valves

The functionality of check valves should be verified once per year. Isolate the supply pipe and open the test device of the check

valve. There shall be no backflow of water from the filled downstream installation.

406

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Check valves

The functionality of check valves should be verified once per year. Isolate the supply pipe and open the test device of the check

valve. There shall be no backflow of water from the filled downstream installation.

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The SYR philosophy: On the basis of consistent research and development work, we turn domestic water installations with our innovative ideas into well-thought out and perfectly matching systems. Easy to install, long service life, more comfort, less water consumption, more safety. All these elements combined result in a system offering modern and trouble-free solutions, which is beneficial for the installer and the customer alike.



Drufi+ DFR



Limex IQ LEX 1500



PRV 315



Duo DFR



Safety Valve 1915



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Safety Group 324



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