

Protection of drinking water



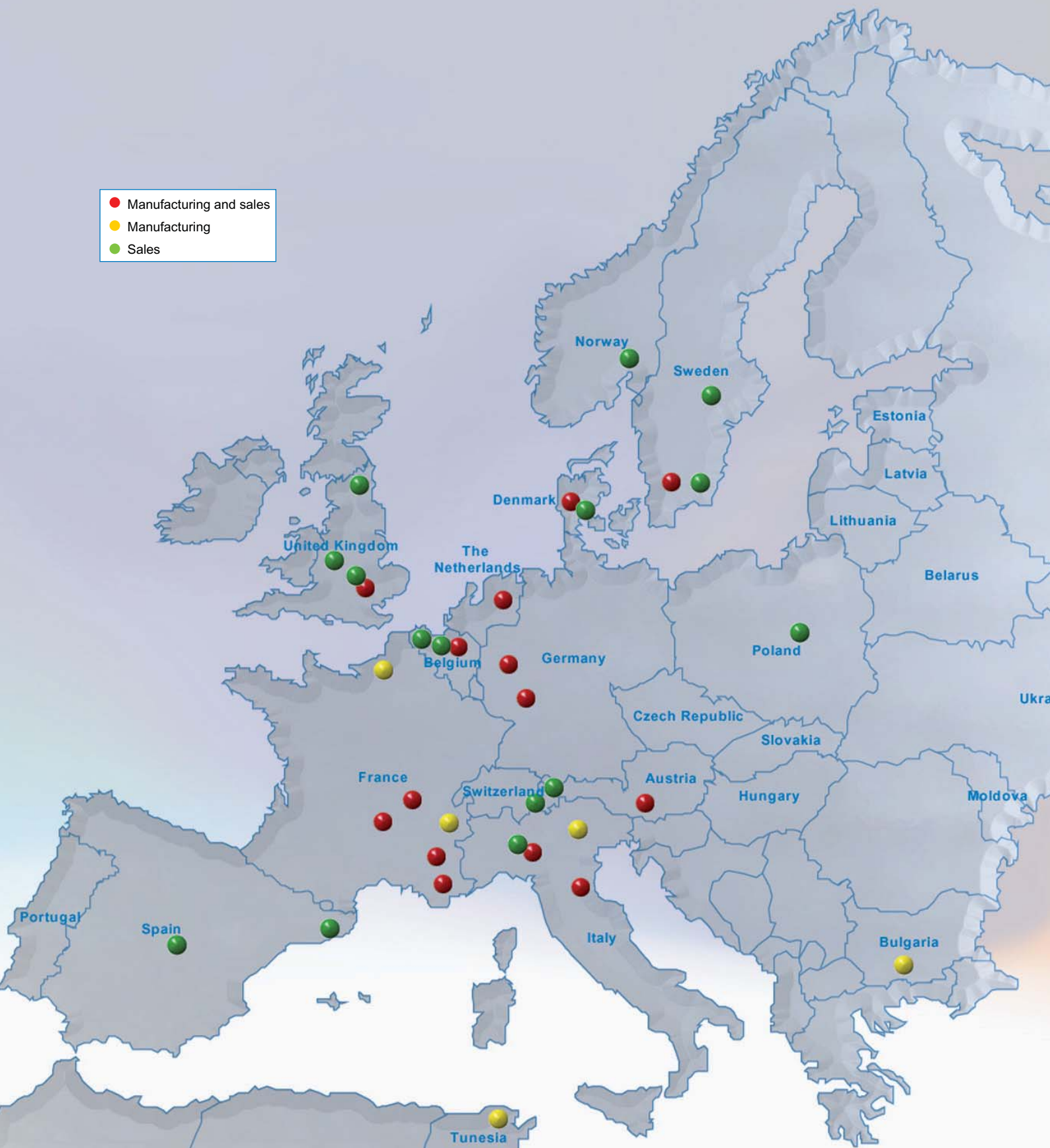
Modern and safe solutions
for our drinking water



A Division of Watts Water Technologies Inc.

OUR EUROPEAN PRESENCE

- Manufacturing and sales
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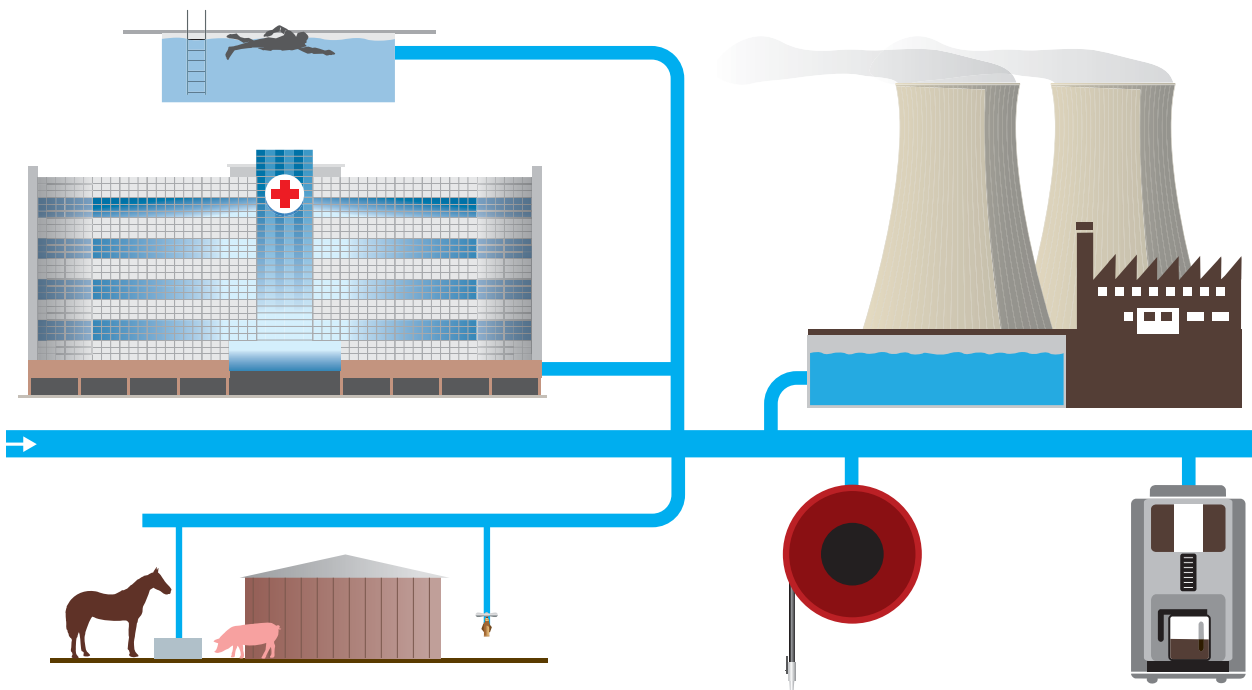
INTRODUCTION

Modern and safe solutions for our drinking water

Water is one of our most vital resources. It is therefore of utmost importance that we are able to guarantee the quality of our drinking water in the future as well.



We use and distribute our water for many purposes via a public water supply network that is becoming increasingly more complex. Consumers from all walks of life are connected to this network, which entails significant contamination risks for drinking water supply and distribution systems. This calls for innovative and watertight security solutions that meet today's demands. For this, Watts Industries is exactly what you're looking for.



Public water supply network with a large number of users.

The European Ministry of Health have issued regulations and acts providing local administrations and private individuals with preventive and control measures against pollution of drinking water.

There are two conditions which can give rise to a similar contamination:

- contact between non-drinkable water and drinking water
- risk of return of pollutants to the drinking water supply

The European standard EN 1717 is a protection method based on a classification of water into 5 liquids categories and a protection matrix which specifies the maximum level of protection for every protection device, providing the most adequate security.

Protection classes according to EN 1717.

This application may differ slightly from country to country.

Protection device			Can be used up to liquid class				
Family	Type	Description	1	2	3	4	5
A	B	Free outlet with non-circular overflow	X	●	●	●	●
B	A	Backflow preventer with different pressure zones, verifiable	●	●	●	●	-
C	A	Backflow preventer with different pressure zones, non-verifiable	●	●	●	-	-
D	A	In line anti-vacuum valve	O	O	O	-	-
E	A	Verifiable anti-pollution check valve	●	●	-	-	-
E	B	Non-verifiable anti-pollution check valve	only for certain domestic uses				
H	A	Anti-siphon aerator with check valve, for hose connection	●	●	O	-	-
H	D	Anti-siphon aerator with check valve, for hose connection	●	●	O	-	-

General comment: fittings with atmospheric aeration (e.g. AA, BA, CA, ...) may not be used if there is a risk of flooding.

- eliminates the risk or allowed as safety fitting
- does not eliminate the risk, not allowed as safety fitting
- O eliminates the risk only if $p = atm$
- X not applicable

Liquid classes *

Class	Definition	Examples
1	Water intended for human consumption, originating from a drinking water distribution system.	Drinking water, water under high pressure.
2	Liquid substance that does not pose a threat to human health. Liquid substance of which it is determined that it is suitable for human consumption, including water obtained from a drinking-water distribution system, and which may have undergone a change in taste, odour, colour or temperature (heating or cooling).	Cooled water, hot water, demineralised water, preparation of food, coffee, tea.
3	Liquid substance that can harm human health to a certain degree due to the presence of one or more toxic or highly toxic substances with an $LD_{50} > 200 \text{ mg/kg}^{**}$.	Rinsing water for dishes and cooking equipment, central heating water without additives, water in the toilet cistern, softened water.
3/4	(the limit between categories 3 and 4 is basically indicated by $LD_{50} = 200 \text{ mg/kg}^{**}$ body weight in accordance with EU Directive 93/92 of 23 04-1993)	Water with anti-corrosive agent, water with anti-freeze, water with detergents, water with disinfectants, water with cleaning products, water with coolant.
4	Liquid substance that poses a threat to human health due to the presence of one or more toxic or highly toxic substances with an $LD_{50} \leq 200 \text{ mg/kg}^{**}$, or due to radioactive, mutagenic or carcinogenic components.	Hydrazine, lindane, insecticides.
5	Liquid substance that poses a threat to human health due to the presence of pathogenic bacteria or viruses.	Rinsing water for dishes and cooking equipment, sewer and waste water, animal drinking water, swimming pool water.

* With regard to contact between drinking water and contamination, it is assumed that the connection is always permanent. This means that the situation Pc (Permanent/continuous) should always be assumed for the risk analysis method.

** LD = Lethal Dose

AB PROTECTION



AB Break Unit for drinking water

The Watts Break Unit for drinking water is a complete AB protection unit, where all parts that come into contact with the drinking water are made of corrosion-free metals. The use, among other things, of a stainless-steel reservoir ensures that the unit is suitable for drinking water applications.

Standardisation

The AB Break Unit is developed in accordance with EN 1717 and EN 13077.

Installation instructions

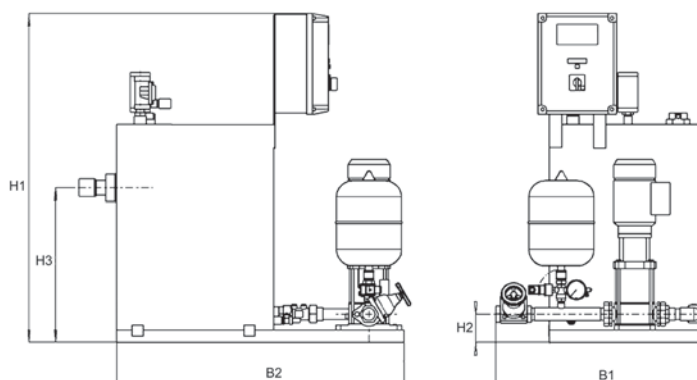
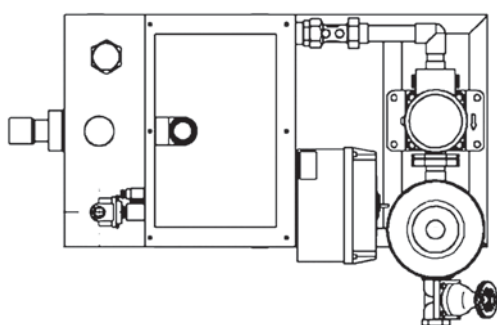
Install this Break Unit in accordance with EN 1717.

In the standard, a drinking water reservoir is considered to be the following: a storage tank for water incorporated and included in the drinking water system under atmospheric pressure, from which this water is again untreated, intended or partly intended for drinking water.

The system is controlled using relay controls with delayed runtime and a pressure switch with an adjustable operating pressure. Advanced controlling is possible by using a DP-Control® or Megacontrol®.

It is also possible to customise the system in accordance with the customer's wishes. Examples are:

- different voltages, protection classes and specifications for pumps, fittings and pipework;
- adjustment of the control systems and number of pumps.



Dimensions HUV1 DPV(M)E

Reservoir in	H1	H2	H3	B1	B2
stainless steel					
PN10 RVS 150 L	1,040	90	490	550	850
PN10 RVS 500 L	1,705	130	1,242	700	900
PN10 RVS 1000 L	1,703	130	1,242	680	1,450

Specifications AB Break Unit control panel (functions)

Thermal motor protection
Manual-0-automatic switch
Electrode relay for level control and dry-run protection
Fault indicator "thermally off" and "no water"
Adjustable float time

Material specifications AB Break Unit for drinking water

Pump	type DPV or DPV(M)E
Suction pipe	copper / brass
Pressure pipe	stainless steel 304
Storage tank	Stainless steel 316
Membrane tank	suitable for drinking water
Backflow prevention	the unit comes with a spring-loaded backflow prevention system

Technical specifications AB Break Unit for drinking water

Liquid temperature	up to 60 °C
Pump discharge head	depends on the selected pump
Pressure reference switch	30 kPa differential gap
Pressure class of entire system	PN 10



Break Unit type HUV1 DPV(M)E



Break Unit type HUV1 DPJ

AB protection AB HUV1 DPV(M)E and AB HUV1 DPJ

The AB HUV1 DPV(M)E and AB HUV1 DPJ Break Units are complete AB protection units for protecting the drinking water network against backflow of liquids up and including hazard class 5.

This protection unit with the highest risk-covering capacity ensures that a class 5 liquid can never come into contact with the water in the drinking water supply pipe.

Standardisation

The AB HUV1 DPV(M)E and AB HUV1 DPJ Break Units are developed in accordance with EN 1717 and EN 13077.

Installation instructions

Install the AB HUV1 DPV(M)E and AB HUV1 DPJ Break Units according to the EN 1717 page 19.

Advantages of Watts AB Break Units

- Available with both stainless-steel reservoir for drinking water use and a plastic HDPE reservoir for process water (type DPJ and DPV(M)E).
- Compact dimensions. Easy to use, also for mobile use.
- Standard reservoirs available with 50/150/175/250/400/500 or 1,000 litre volume.
- Apart from the standard range, it is also possible to supply a customer-specific AB Break Unit that further meets the specific wishes of the customer in terms of:
 - differing voltages;
 - pump specifications (see pump characteristic);
 - fittings;
 - pipework;
 - reservoirs with different volumes are available on request.

Structure/composition of AB HUV1 DPV(M)E

- plastic reservoir with plastic cover including inspection hatch;
- vertically installed centrifugal pump type DPV(M)E with normal suction, pressure controls and an adjustable float time;
- dry-run protection using electrode pins;
- overflow, (de-)aeration connection;
- filling and drain taps with hose coupling nut;
- expansion tank;
- pump comes with integrated backflow prevention system.

Technical specifications AB HUV1 DPV(M)E and HUV1 DPJ

Liquid temperature	type DPV(M)E up to 60 °C type DPJ up to 45 °C
Pump discharge head	depends on the selected pump
Pressure reference switch	30 kPa differential gap
Pressure class of entire unit	PN 10
Pressure connection	22 mm
Drinking water supply pipe	½" male
Overflow	40 mm PVC
Filling/drain tap	½" (x 15 mm hose)
Hose on filling/drain tap	15 mm
Input voltage	230 V AC
Reservoir volume	depends on the capacity

Material specifications AB HUV1 DPV(M)E and HUV1 DPJ

All parts in contact with drinking water	corrosion-free materials
Reservoir	HDPE (process water) SS (drinking water)
Reservoir cover + inspection hatch	HDPE

Technical specifications AB HUV1 DPV(M)E and HUV1 DPJ control panel (functions)

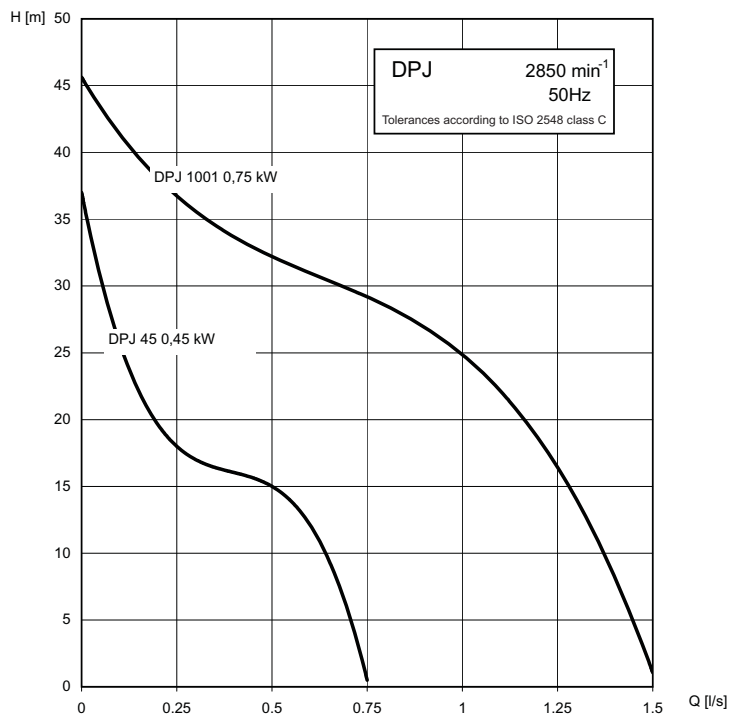
Thermal motor protection	
Manual-0-automatic switch	
Level control and dry-run protection	type DPV(M)E: electrode relays type DPJ: float switch
Fault indication "thermally off" and "no water"	
Adjustable float time	

AB PROTECTION

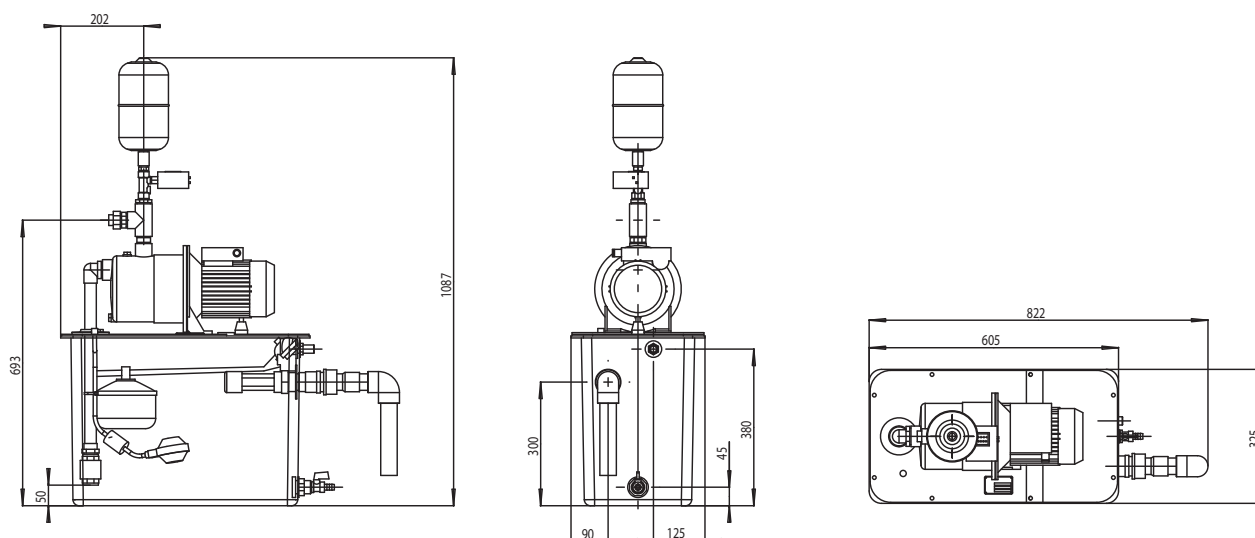
AB protection AB HUV1 DPJ

The AB protection device AB HUV1 DPJ is specially developed for use with small flow rates and low pressure. Due to its compact dimensions, this unit is also very easy to use and can be used as a mobile system. This AB Break Unit can be used, e.g. for drinking water for cattle or poultry and animals, garden spraying and irrigation, water for use in laboratories, car washes, launderettes and swimming pools.

DPJ1001 and DPJ45 pump curve



Dimensions HUV1 DPJ 1001



Technical specifications AB HUV1 DPJ

Pressure	max. 440 Kpa
Capacity	max. 4.7 m ³ /uur

Materiaalspecificaties AB HUV1 DPJ

All parts in contact with drinking water	corrosion-free materials
Reservoir	plastic
Reservoir cover + inspection hatch	SS, epoxy-coated

AB HUV1 DPJ article numbers

Article number	Type	Pump type	Material	Connection	Nominal oper. pressure	Reservoir reservoir	Control/ supply voltage	Reservoir volume (litres)
310100002	HUV1 DPJ 45	DPJ45	Cu	22 mm	PN 10	polyester	direct control	50
310100003	HUV1 DPJ1001	DPJ1001	Cu	22 mm	PN 10	polyester	direct control	50

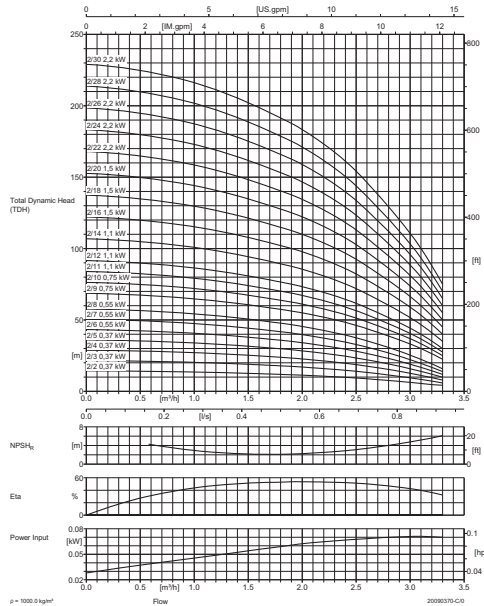
AB protection AB HUV1 DPV(M)E

The AB HUV1 DPV(M)E is specially developed for applications where higher capacities and/or functionalities are required. This protective device can therefore be used, for example, in industry and non residential building.

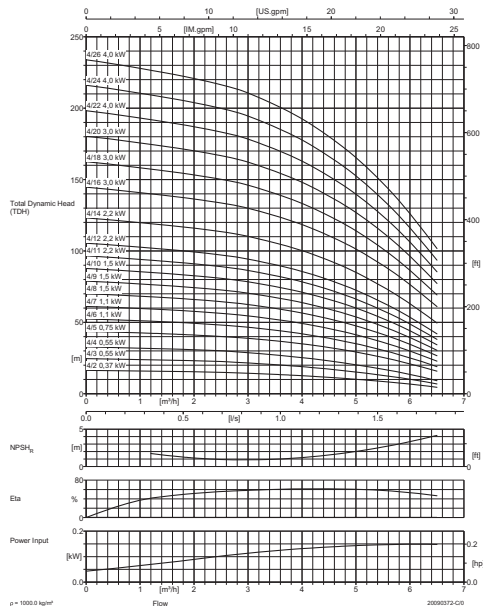
Advantages

- compact dimensions due to modular construction;
- capacities: see pump curve.
Differing models available on request;
- favourable pricing.

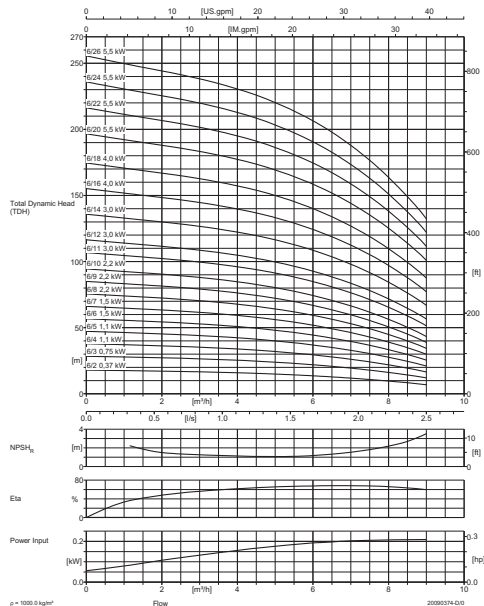
AB DPV(M)E 2 B pump curve



AB DPV(M)E 4 B pump curve



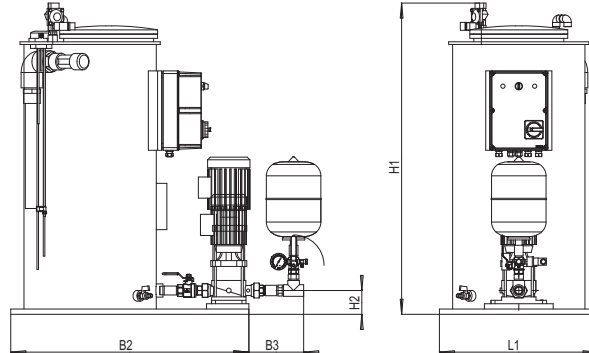
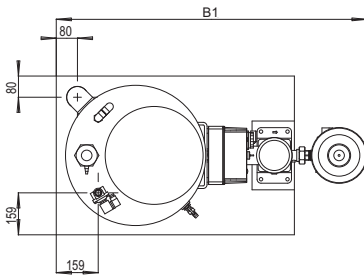
AB DPV(M)E 6 B pump curve



Graphs according to:
DIN 2548 class C
50 Hz 2850 min⁻¹

AB PROTECTION

Dimensions HUV1 DPV(M)E


Technical specifications AB HUV1 DPV(M)E
in HDPE and stainless steel

Ambient temperature	+4 to 50 °C
Liquid temperature	+4 to 60 °C
Max. operating pressure	600 kPa
Min. inlet pressure	50 kPa
Max. inlet pressure	800 kPa (on magnetic valve)
Working pressure	PN 10

Different models in terms of size and supply voltage available on request.

Dimensions of HUV1 DPV(M)E

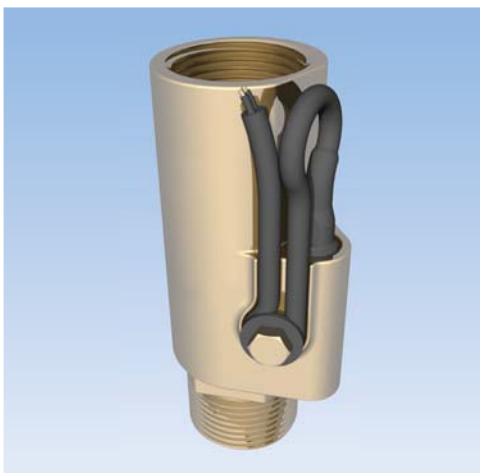
Reservoir in HDPE	L1	H1	H2	B1	B2	B3
PN 10 HDPE 175 l	600	1,176	90	1174	900	207
PN 10 HDPE 250 l	600	1,676	90	1174	900	207
PN 10 HDPE 400 l	700	1,676	90	1262	1000	190
PN 10 HDPE 500 l	700	2,026	90	1262	1000	190

Material specifications AB HUV1 DPV(M)E in HDPE and SS

All parts in contact with drinking water	corrosion-free materials
Reservoir	stainless steel
Reservoir cover + inspection hatch	epoxy-coated steel

Article numbers AB HUV1 DPV(M)E

Article number	Type	Pump type	Material	Connection	Nominal oper. pressure	Reservoir material	Control/supply voltage	Reservoir volume (litres)
310100004	HUV 1 DPV(M)E 2/2 B	DPV(M)E 2/2 B	SS	G1	PN 10	HDPE	DOL 3 x 400 +N 50 Hz	175
310100005	HUV 1 DPV(M)E 2/3 B	DPV(M)E 2/3 B	SS	G1	PN 10	HDPE	DOL 3 x 400 +N 50 Hz	175
310100014	HUV 1 DPV(M)E 2/2 B	DPV(M)E 2/2 B	brass	G1	PN 10	AISI 316	EP-DOL 3 x 400 +N 50 Hz	150
310100015	HUV 1 DPV(M)E 2/3 B	DPV(M)E 2/3 B	brass	G1	PN 10	AISI 316	EP-DOL 3 x 400 +N 50 Hz	150
310100008	HUV 1 DPV(M)E 4/2 B	DPV(M)E 4/2 B	SS	G1	PN 10	HDPE	DOL 3 x 400 +N 50 Hz	250
310100009	HUV 1 DPV(M)E 4/3 B	DPV(M)E 4/3 B	SS	G1	PN 10	HDPE	DOL 3 x 400 +N 50 Hz	250
310100018	HUV 1 DPV(M)E 4/2 B	DPV(M)E 4/2 B	brass	G1	PN 10	AISI 316	DOL 3 x 400 +N 50 Hz	150
310100019	HUV 1 DPV(M)E 4/3 B	DPV(M)E 4/3 B	brass	G1	PN 10	AISI 316	DOL 3 x 400 +N 50 Hz	150



Water Flow Detector

In order to meet the standard laid down in the Dutch ISSO 55.1 and 55.2, flow must be present at least 30 times per 24 hours when using an AB Break Unit and the average temperature must be measured over 24 hours. The Water Flow Detector detects the refreshing of the water by registering the loading of the membrane tank. If the Water Flow Detector does not register any or enough flow within the period set and/or the average temperature over 24 hours rises above 25 °C, the Water Flow Detector will toggle two potential-free changeover contacts. The signal generated can be converted into any fault signal or the system can automatically shut down.

BA BS & BA BM: the new standard in BA drinking water protection

The BA 009 and BA 909 backflow prevention devices from Watts Industries are used to protect the drinking water system and the distribution network from contamination by backflow of liquids in hazard class 4, as defined in EN 1717.

In order to meet the revised European and Dutch regulations and product specifications in this field, Watts Industries introduced the BA BS backflow prevention devices with sizes DN6, DN8 and DN10 in 2007. The BA BS unit is specially developed for use with small flow rates. With the newly developed BA BM units with sizes DN15 to DN50, Watts Industries has completed its range in the field of backflow prevention devices that meet the requirements stated in the European standards EN 1717 and EN 12729, which relate to the protection of drinking water systems to prevent backflow.

11



The old BA 009



The new BA BM



Advantages for you

Compact and lightweight

The BA BM range is clearly different from the current generation of BA back flow preventers in terms of construction, dimensions and weight.

Smaller pressure loss

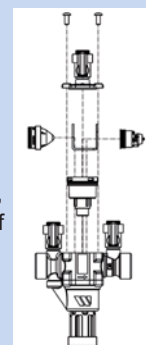
By using state-of-the-art design technology, such as EFD, the best possible flow has been achieved inside the device, resulting in a smaller pressure drop, far below the EN 12729 standard. Advantages:

- more pressure and comfort at the draw-off point;
- lower energy consumption.

Time gain and cost saving during maintenance due to modular construction

Below are a few of the advantages:

- Easy handling and mounting on site thanks to the low weight and the compactness of the unit.
- Faster installation because each unit has already been tested at the factory, where the specific function of each module is assessed.
- Fast and efficient maintenance and replacement on site, because the first and second check valves and the relief valve have a modular design.
- No loose components that get lost or are incorrectly installed.
- Time gain during annual inspection (use the TK9A inspection set for this).
- Less risk of Legionella infection thanks to the absence of stagnant water in the device.



Complete

The new BA BM range is also available as a complete BA protection unit, including tundish, strainer and two stop valves in a single package. As a result, you the user will have all the components required for installation, which saves valuable time and money.

BA PROTECTION



BA protection BA BS DN6 - DN10

The BA BS backflow prevention device is specially designed for low flow rate applications. The BA BS, for example, is highly suitable for dentists' chairs and soap dispensers.

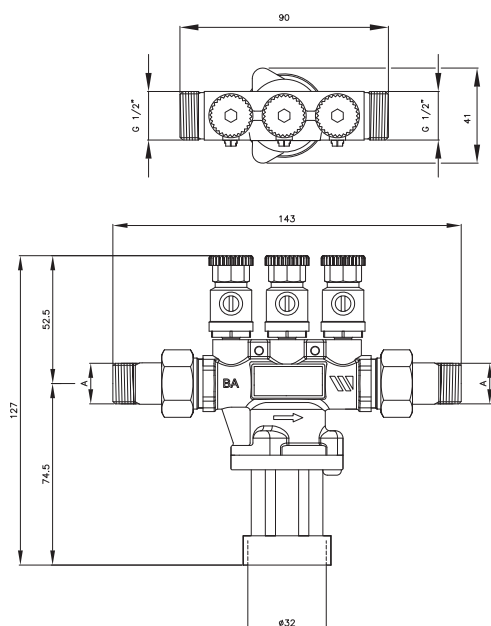
Standardisation

The BA BS is developed in accordance with EN 1717 and EN 12729.

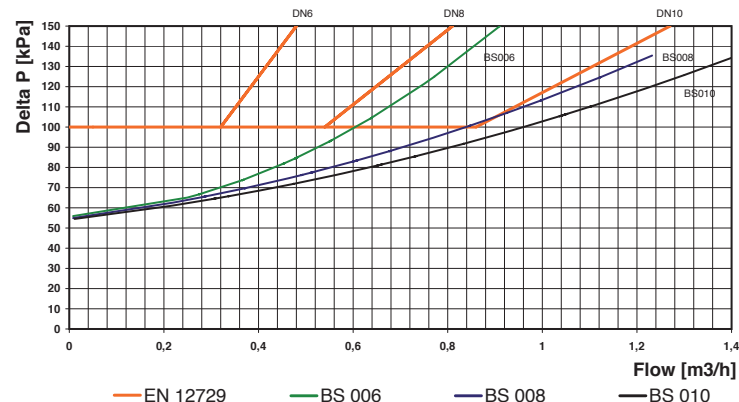
Installation instructions

Install the BA BS according to EN1717.

Dimensions BA BS



BA BS pressure loss curve



Article numbers BA BS

Type BS	DN	Device	Unit*
BA BS 006	6	405006010	405006311
BA BS 008	8	405008010	405008311
BA BS 010	10	405010010	405010311

* BA BS including funnel, filter and two valves

Approvals (device) BA BS

Kiwa, WRAS, NF, Belgacqua, Sitac, DVGW, SVGW, SINTEF

Material specifications BA BS

Body	brass
Relief valve body	plastic
Seal	rubber
Tundish	plastic
Connections	brass

Technical specifications BA BS

Max. system pressure	PN 10 (10 bar)
Nom. operating temperature	65 °C
Peak temperature	90 °C for 1 hour per day



BA protection BA BM DN15 - DN50

The new BA BM range has been developed in addition to the BA BS range in order to meet the new European regulations and product specifications for backflow prevention devices to protect drinking water systems from backflow of liquids in hazard class 4, as defined in EN 1717.

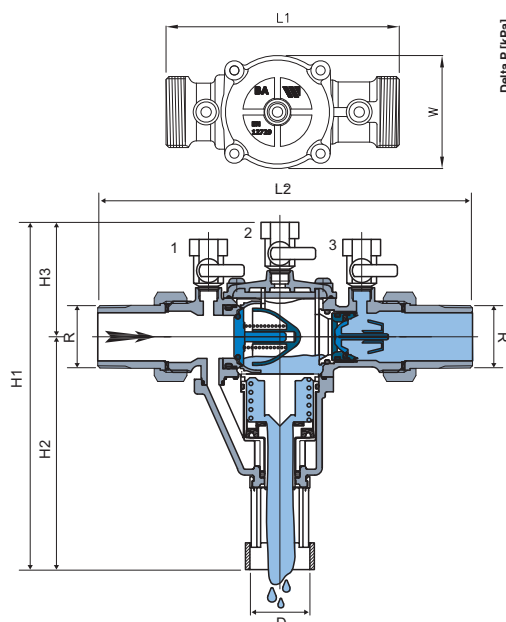
Standardisation

The BA BM is developed in accordance with EN 1717 and EN 12729.

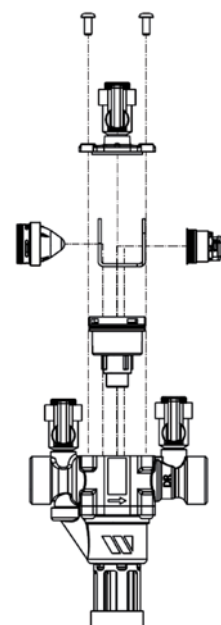
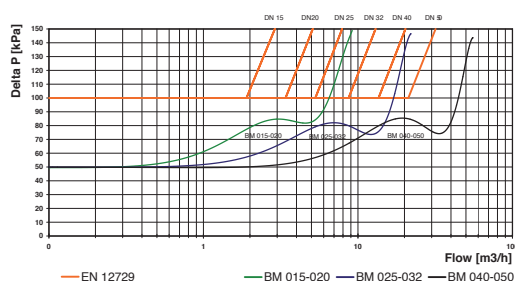
Installation instructions

Install the BA BM according to EN 1717.

Dimensions BA BM



Pressure loss curve BA BM



BA BM	Dimension	Unit	015	020	025	032	040	050
Connections (male)	R	BSPT	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
Connection for tundish (female)	D	mm	32	32	40	40	50	50
Overall length excl. connections	L1	mm	122	122	157	157	220	220
Overall length incl. connections	L2	mm	201	201	252	252	336	336
Height	H1	mm	168,5	168,5	238	238	303,5	303,5
Height	H2	mm	103	103	156	156	202,5	202,5
Height	H3	mm	65,5	65,5	82	82	101	101
Width	W	mm	53	53	76	76	115	115
Weight, incl. connections and tundish	L	kg (+/-)	1,2	1,2	2,7	2,7	6,5	6,5

Article numbers BA BM

Type BM	DN	Device	Unit*
BA BM 015	15	405015310	405015311
BA BM 020	20	405020310	405020311
BA BM 025	25	405025310	405025311
BA BM 032	32	405032310	405032311
BA BM 040	40	405040310	405040311
BA BM 050	50	405050310	405050311

* including tundish, strainer and 2 stop valves

Material specifications BA BM

Housing	brass
Relief valve housing	plastic
1st and 2nd check valve module	plastic
Seal	rubber
Funnel	plastic
Straight couplings	brass

Technical specifications BA BM

Max. system pressure	PN 10 (10 bar)
Nom. operating temperature	65 °C
Peak temperature	90 °C for 1 hour per day

Approvals (device) BA BM

Kiwa, WRAS, DVGW, NF, Belgacqua, UNI, Sitac, SVGW, SINTEF, ETA

BA PROTECTION



BA protection device BA 4760 DN60/65 - DN250 flanged

The BA 4760 backflow protection device is composed of 2 in series valves with an intermediate chamber provided with a relief valve. The BA valve maintains a reduced pressure in this chamber. Even in case of backpressure on the outlet side and pollution of both check valves, the BA device will prevent polluted fluids from flowing back. The relief valve will open and will create an atmospheric separation between potable water- and user network.

Exchangeable main components

First, second and relief valve can be exchanged without much efforts, providing an easy maintenance.

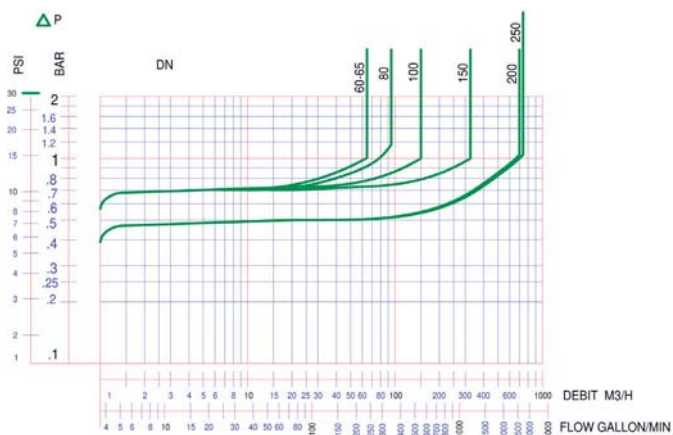
Standardisation

The BA 4760 is developed in accordance with EN 1717 and EN 12729.

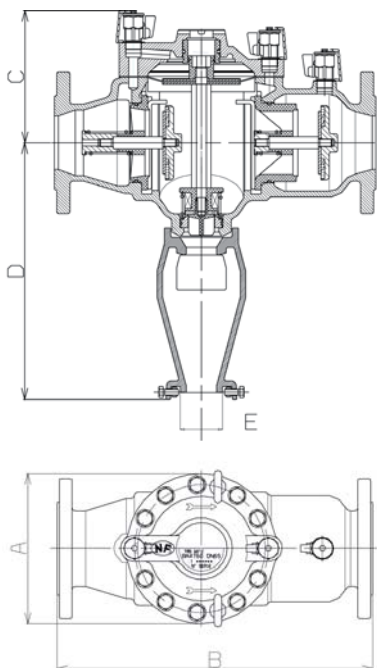
Installation instructions

Install the BA 4760 in accordance with EN1717. A BA device should be mounted with strainer and 2 shut-off valves to enable a periodic functional testing.

Pressure loss curves BA 4760



Dimensions BA 4760



Sylax lug type butterfly valve

Article number	Type
600011686	Sylax lug DN65
600011691	Sylax lug DN80
600011696	Sylax lug DN100
600028006	Sylax lug DN150
600041489	Sylax lug DN200
600041490	Sylax lug DN250



Y333P strainer with relief valve

Article number	Type
600003282	Y333P DN65
600003283	Y333P DN80
600003284	Y333P DN100
600003286	Y333P DN150
600003287	Y333P DN200
600003288	Y333P DN250



Material specifications BA 4760

Body	cast iron with epoxy coating
Flange bore	according to DIN 2532
Check valve seats	plastic
Seals	rubber
Relief valve seat	stainless steel
Funnel	cast iron

Technical specifications BA 4760

Max. system pressure	PN 10 (10 bar)
Max. operating temp.	65 °C

Article numbers and dimensions BA 4760

Article number	Type	Connection	A	B	C	D	E	F	Weight
600003486	BA 4760 DN60-65	2 1/2"	185	356	155	326	63	180	26
600003097	BA 4760 DN80	3"	200	440	173	337	63	200	33
600003098	BA 4760 DN100	4"	220	530	201	434	80	255	65
600003400	BA 4760 DN150	6"	285	630	230	456	80	310	92
600003401	BA 4760 DN200	8"	340	763	272	499	80	390	150
600003402	BA 4760 DN250	10"	395	763	272	499	80	390	161

Approvals BA 4760

Belgaqua, Kiwa, NF, UNI, WRAS



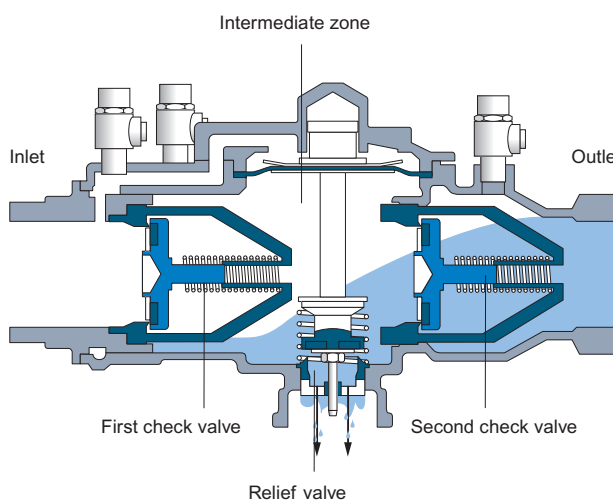
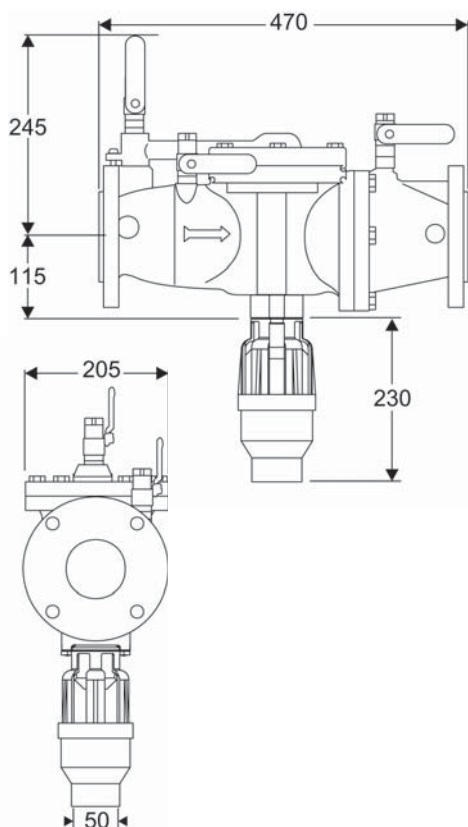
Flanged BA protection device BA 009 DN65 and DN80

The BA 009 protection device consists of two check valves in series with a chamber in between containing a relief valve. The device functions on the basis of maintaining a reduced pressure in this intermediate zone (see picture). Even if a counterpressure exists on the outlet side and both check valves are contaminated, the unit will still prevent the backflow of dirty water. The relief valve will in this case open and create an atmospheric separation between drinking water and user network. This situation is shown in the picture.

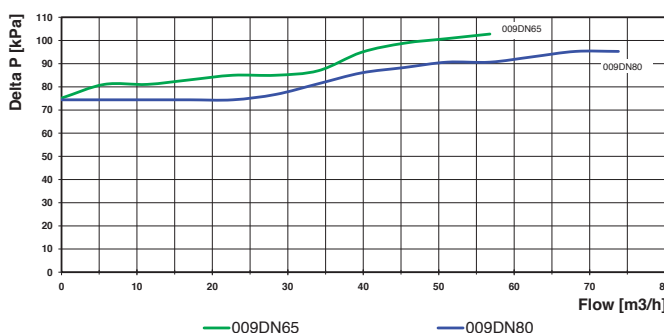
Dismountable check valves

The first check valve, the second check valve and the relief valve are easy to dismount, which makes it easy to perform maintenance.

Dimensions BA 009 DN65 and DN80



Pressure loss curves BA 009 DN65 and DN80



Sylax lug type butterfly valve

Article number	Type
600011686	Sylax lug DN65
600011691	Sylax lug DN80



Y333P strainer with relief valve

Article number	Type
600003282	Y333P DN65
600003283	Y333P DN80



Article numbers BA 009 DN65 and DN80

Article number	Type	Weight in kg
406065000	BA 009 DN65	39,0
406080000	BA 009 DN80	39,5

Approvals BA 009 DN65 en DN80 (device)

Belgqua, Kiwa

Material specifications BA 009 DN65 and DN80

Body	cast iron with epoxy coating
Flange bore	according to EN1092-2 / DIN 2532
Check valve seats	plastic
Seals	rubber
Relief valve seat	stainless steel

Technical specifications BA 009 DN65 and DN80

Max. system pressure	PN 10 (10 bar)
Nom. operating temperature	60 °C

BA PROTECTION

16



BA protection device BA 909 DN20

hot water version

BA 909 backflow prevention device with aeration of the intermediate zone.

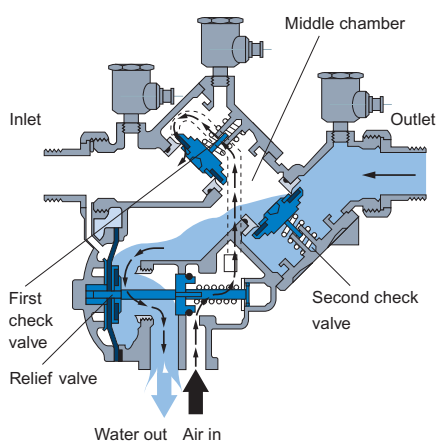
Basic principle

The BA 909 functions on the basis of maintaining a pressure level in the middle chamber (reduced pressure zone) which lies below the pressure on the inlet side of the device.

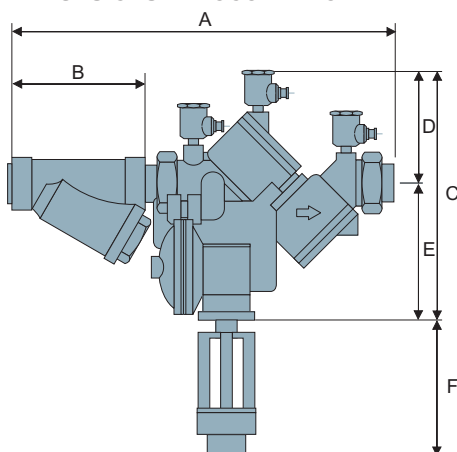
The picture on the left presents an overview of the most serious situation that may occur in practice, namely:

- backpressure is present on the outlet side;
- back siphoning is created on the inlet side;
- both check valves are unable to close completely due to dirt.

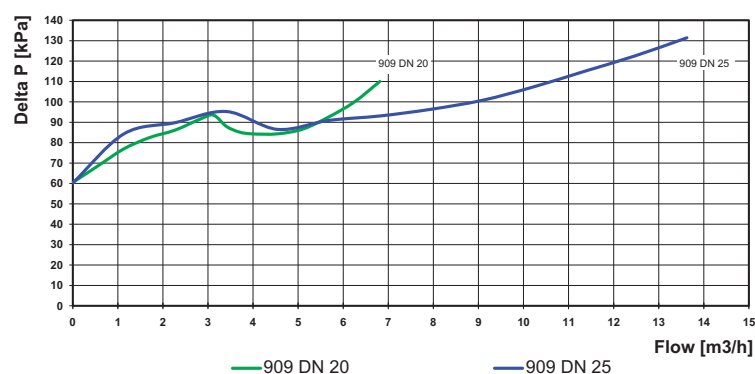
In this situation, a negative pressure may also be created in the middle chamber, as a result of which the water flowing back is not or hardly discharged. If this water were to reach the first check valve, it may even be drawn back into the water mains network. It is therefore crucially important to prevent the occurrence of negative pressure in the middle chamber. The BA 909 achieves this by letting air into the chamber via a separate channel that enters at the top of the chamber.



Dimensions BA 909 DN20



Pressure loss curves BA 909 DN20



Article numbers and installation dimensions BA 909 DN20

Hot water	Type	Connection	Dimensions						Width mm	Weight kg
			mm	mm	mm	mm	mm	mm		
401020010	BA 909 DN20	3/4"	342	95	221	102	119	441	98	6.7

Material specifications BA 909 DN20

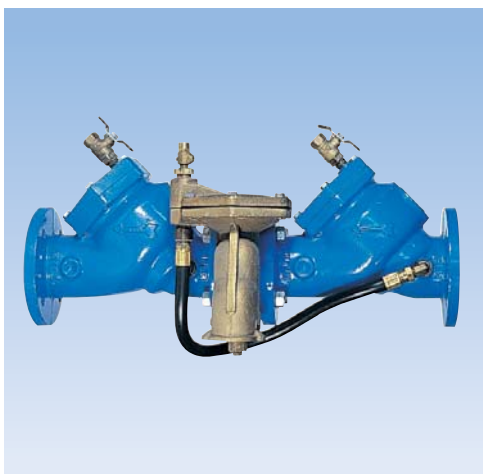
Body	bronze
Check valve seats	plastic
Seals	rubber
Test valves	bronze
Tundish	plastic

Technical specifications BA 909 DN20

Max. system pressure	PN10 (10 bar)
Max. temperature	90 °C (hot water model)

Approvals BA 909 DN20

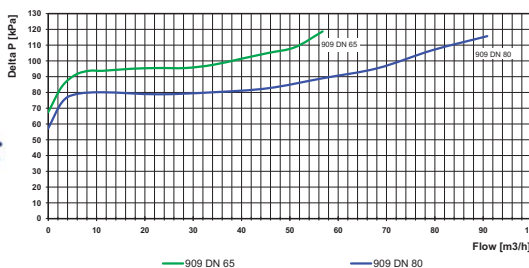
Kiwa



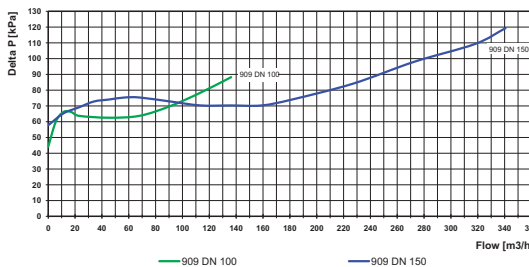
BA protection device BA 909 DN65 - DN250 with flanges

The BA 909 backflow prevention device with aeration of the intermediate chamber offers full protection for the water mains network from the risk of back siphoning or back pressure of contaminated water. Partly because of the presence of the aeration channel, the protective function of the BA 909 based on the so-called air in/water out principle could be called optimal.

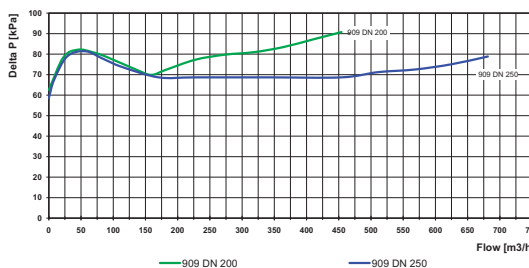
Pressure loss curves BA 909 DN65 and DN80



Pressure loss curves BA 909 DN100 and DN150



Pressure loss curves BA 909 DN200 and DN250



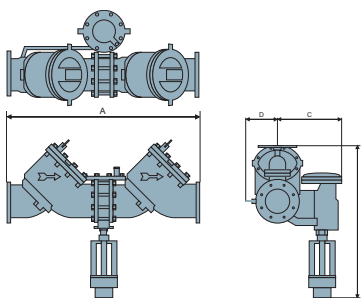
Vlinderklep Sylax lug type

Artikelnummer	Type
600011686	Sylax lug DN65
600011691	Sylax lug DN80
600011696	Sylax lug DN100
600028006	Sylax lug DN150
600041489	Sylax lug DN200
600041490	Sylax lug DN250



Filter Y333P met aftapkraan

Artikelnummer	Type
600003282	Y333P DN65
600003283	Y333P DN80
600003284	Y333P DN100
600003286	Y333P DN150
600003287	Y333P DN200
600003288	Y333P DN250



Article numbers and installation dimensions BA 909 DN65 - DN250

Article number	Type	Dimensions				Weight kg	Model	Flanges Number of bolts thread	Bolt pitch circle	Diameter of bolt holes
		mm A	mm B	mm C	mm D					
402065000	BA 909 DN65	675	541	229	102	51	cast iron	4 x M 16	145	18
402080000	BA 909 DN80	675	541	229	127	51	cast iron	8 x M 16	160	18
402100000	BA 909 DN100	940	648	346	152	111	cast iron	8 x M 16	180	18
402150000	BA 909 DN150	1.130	775	346	241	211	cast iron	8 x M 20	240	22
403200000	BA 909 DN200	1.403	973	470	267	379	cast iron	8 x M 20	298	22
403250000	BA 909 DN250	1.715	248	470	298	565	cast iron	12 x M 20	356	22

Flange bore according to DIN 2532.

Dimensions subject to change.

Material specifications BA 909 DN65 - 250

Body	cast iron with epoxy coat
Check valve seats	plastic
Test valves	bronze
Relief valve	bronze
Relief valve guide	plastic
Tundish	plastic

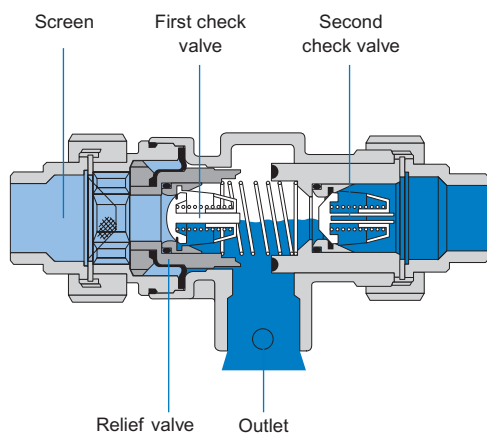
Technical specifications BA 909 DN65 - 250

Max. system pressure	PN 10 (10 bar)
Max. operating temperature	45 °C
Peak temperature	60 °C (for 1 hour per day)

Approvals BA 909 DN65 - 250

Belgaqua, KIWA, SVGW

CA PROTECTION



CA protection device CA 9C DN15 - DN20

The Watts CA 9C offers simple and efficient protection from contamination of the drinking water network. This protection device prevents backflow of contaminated water into the drinking water supply system (fluid class 3). The CA 9C has a double check valve construction with an intermediate relief valve and protects both in the event of back siphoning as well as back pressure. The CA 9C is specially developed for smaller connections to the water mains.

Standardisation

The CA 9C protection device is developed in accordance with EN 1717 and EN 14367 (CAa).

Installation instructions

Install the CA 9C protection device according to EN 1717.

Inspection

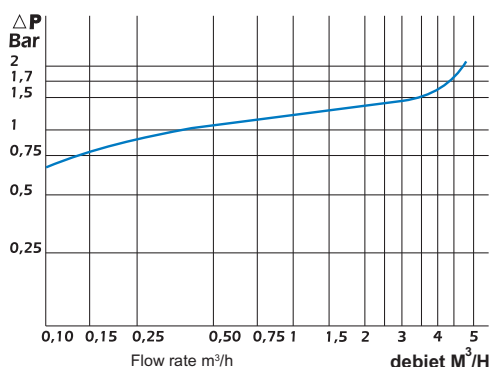
According to national norms, the correct functioning of a CA backflow prevention device must be tested periodically.

Functional testing

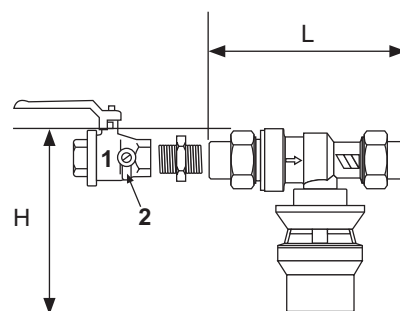
Provided that the CA9C is installed as a unit, it is possible to check the correct functioning of the CA 9C.

The integrated sieve on the inlet side of the unit makes sure that the check valves and relief valve are protected from unnecessary dirt. A shut-off valve (1) with a drain tap (2) must be installed before the CA 9C. The relief opening must be connected to a drainpipe using the supplied tundish.

Dimensions CA 9C DN15 and DN20



Pressure loss curve CA 9C DN15 and DN20



Article numbers and installation dimensions CA 9C

Article number	Article connection	L mm	H mm	Weight kg
407015290	CA 9C ½" F x F*	121	129	0.59
407020290	CA 9C ¾" F x F*	151	129	0.66

* device is supplied with tundish

Approvals CA 9C

Belgaqua, Kiwa, NF, WRAS

Material specifications CA 9C

Body	brass (DZR)
Spring	stainless steel
Seal	rubber
Tundish	plastic

Technical specifications CA 9C

Nominal diameter	DN15, DN20
Connection	F ½", ¾"
Operating pressure	PN 10
Max. temperature	65 °C
Inside diameter of tundish	Ø 40



CA protection device CA 2096 DN15 - DN20

The CA unit offers a complete and controllable protection against backflow of contaminated water (fluid class 3) into the drinking water supply system.

The CA unit has a double check valve construction with an intermediate relief valve with a build-in sieve, completed with 2 ball valves and a drain tap on the first ball valve.

Standardisation

The CA unit is developed in accordance with EN1717 and EN14367 (CAa).

Installation instructions

Install the CA protection device according to EN 1717.

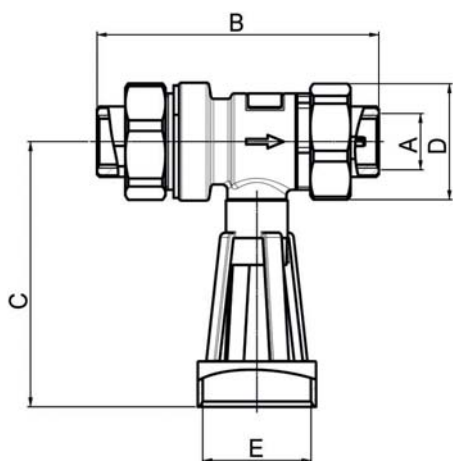
The unit should be installed horizontally with the relief valve opening pointed downwards. This opening should be connected to a drain.

The valve must not be liable to flooding.

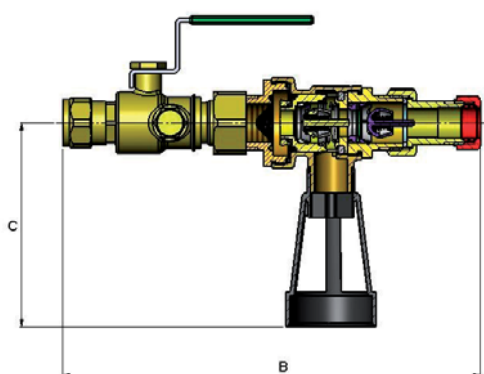
Functional testing

A CA device should be checked on its functioning periodically, in accordance with national standards.

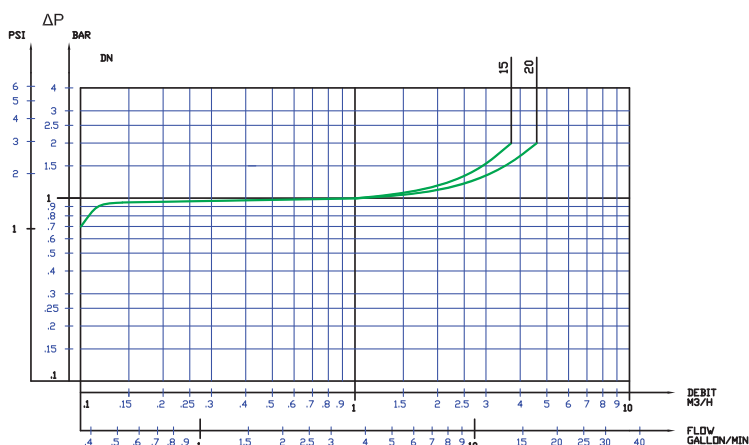
Dimensions CA 2096



Dimensions CA 2096 unit



Pressure loss curves CA 2096



Material specifications CA 2096

Body	Brass (DZR)
Spring	Stainless steel
Seal	rubber
Tundish	plastic

Technical specifications CA 2096

Nominal diameter	DN15, DN20
Connection	F 1/2", 3/4"
Operating pressure	PN10
Nom. pressure	65 °C
Peak temperature	90 °C during 1 hour a day
Inside diameter of tundish	Ø 40

Article numbers and dimensions CA 2096 (unit)

Article nr.	Type	Connection	DN	A inch	B mm	C mm	D mm	E mm	W kg
407015295	CA 2096 unit	1/2" compr.	15	1/2	202	99			0,85
407020295	CA 2096 unit	3/4" compr.	20	3/4	204	99			1,08
407015296	CA 2096	1/2" F	15	1/2	105	99	44	40	0,6
407020296	CA 2096	3/4" F	20	3/4	105	99	44	40	0,6

Approvals CA 2096

Kiwa, NF, ACS, Belgaqua

CA PROTECTION



CA protection device CAB DN6 - DN10

The highly compact, non-verifiable backflow prevention device CAB with pressure difference zones to protect drinking water systems from backflow of contaminated drinking water (liquid class 3) caused by back siphoning as well as back pressure. The CAB has a double check valve construction with an intermediate relief valve.

The CAB is specially developed for (re)filling central heating systems with small flow rates. It is mainly intended as a built-in OEM unit for central heating boilers with a maximum capacity of 70 kW or as protection in (automatic) central heating boiler filling systems with a maximum capacity of ≤ 45 kW or ≤ 70 kW, depending on national regulations and requirements.

Standardisation

The CAB protection device is developed in accordance with EN 1717 and EN 14367 (CAB).

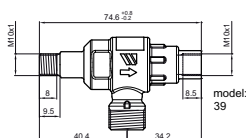
Functional testing

The correct functioning of a CA protection device must be tested periodically.

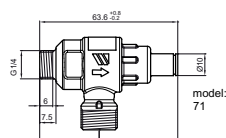
Installation in OEM applications

The must be installed between two valves. The integrated sieve on the inlet side of the device ensures that the check valves and relief valve are protected from contamination. The six basic models are available with different kits for installation in central heating boilers, including shut-off valves and specified connecting pieces (please contact Watts Industries for examples).

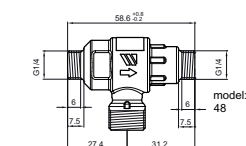
Dimensions CAB



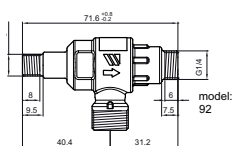
Model 30839



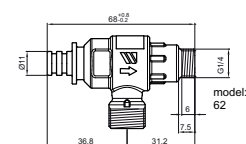
Model 30871



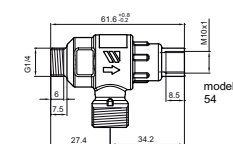
Model 30848



Model 30892



Model 30862

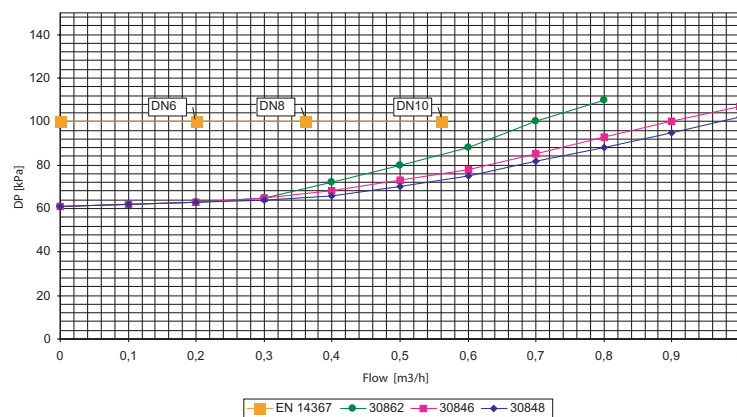


Model 30854

Examples of CAB installation kits



Pressure loss curve CAB



Material specifications CAB

Body	brass
Spring	stainless steel
Check valves	plastic
Seals	rubber

Approvals CAB

NF
Belgaqua
Kiwa

Technical specifications CAB

Medium	drinking water
Nominal diameter	DN6 - DN10
Nom. operating temperature	65 °C
Peak temperature	90 °C for 1 hour per day
Max. system pressure	1,000 kPa (10 bar)



DA protection device DA 288A(C) DN10 - DN65

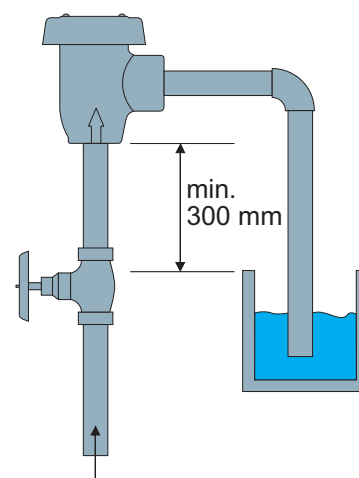
Anti-siphon vacuum breakers prevent contamination of the drinking water network due to back siphoning of dirty water.

Advantages

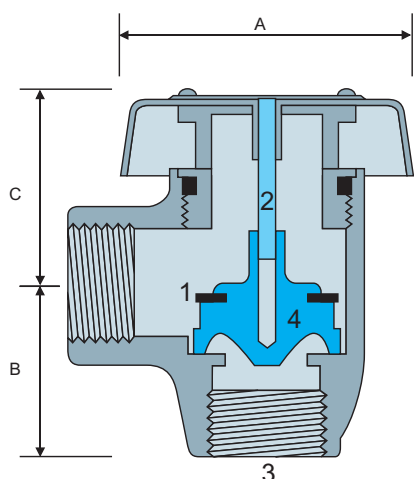
Due to its small size, the DA 288A(C) is also highly suitable for use with small flow rates, for example in laboratory equipment. The use of special materials also makes this anti-siphon vacuum breaker suitable for temperatures of up to 85°C. The large, streamlined diameter ensures maximum flow and minimum pressure loss. The lightweight valve prevents spillage for all flow capacities.

Installation instructions

- Install the DA 288A(C) according to the EN 1717.
- The DA must be installed after the shut-off valve and must not be under pressure all the time.
- No shut-off devices may be installed downstream from the DA.
- The DA 288A(C) must be mounted in an accessible location, to allow the correct performance of inspections and maintenance and to prevent water leaks from causing nuisance.



Dimensions DA 288A(C) DN10 - DN65



Material specifications DA 288A(C)

Body	bronze
Seals	silicone

Technical specifications DA 288A(C)

Max. pressure	9 bar
Max. temperature	85 °C

Article numbers and installation dimensions DA 288A(C)

	Type	Connection	Model	A mm	B mm	C mm	Weight kg
422010000	DA 288A(C)	3/8"	chrome-plated bronze	43	27	30	0,17
422015000	DA 288A(C)	1/2"	chrome-plated bronze	51	30	37	0,23
422020000	DA 288A(C)	3/4"	chrome-plated bronze	57	38	41	0,51
422025000	DA 288A(C)	1"	chrome-plated bronze	73	43	54	0,80
421032000	DA 288A	1 1/4"	bronze	73	46	54	0,97
421040000	DA 288A	1 1/2"	bronze	92	56	62	1,64
421050000	DA 288A	2"	bronze	105	64	73	2,38
421065000	DA 288A	2 1/2"	bronze	162	76	111	7,26

EA & EB PROTECTION


EA & EB brass check valves
DN10 - DN50

Watts Industries brass check valves prevent the backflow of drinking water or water of unknown quality up to hazard class 2. The draining and checking option allows you to check the functioning and the leak-tightness without disassembling the check valve. The brass check valves can be used both in indoor systems and in other applications.

Design

The check valve consists of:

- brass body with draining and test ports;
- if required with nuts and connection unions;
- plastic check valve module;
- lip-seal sealing principle;
- split valve stem.

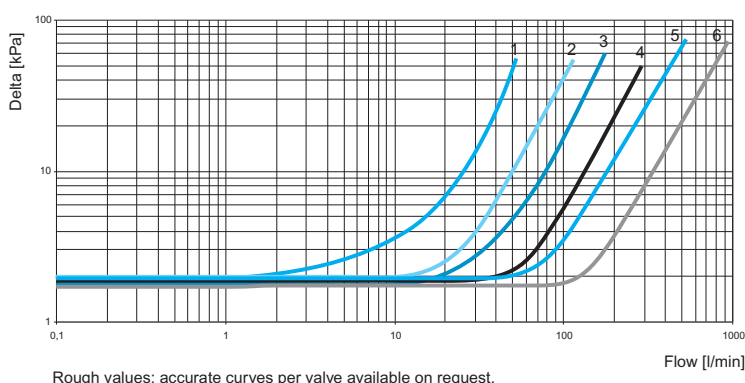
Standardisation

The verifiable EA check valves have been developed in accordance with EN 1717 and meet EN 13959.

Installation instructions

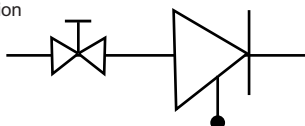
Install the EA check valves according to EN 1717.

Pressure loss curve brass check valves

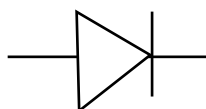


Line no.	Check valve type			
1	BB015	KF015		
2	BB020	KF020	S015	WF015
3	BB025	KF025	S020	WF020
4	BB032		S025	WF025
			S032	WF032
5	BB040		S040	WF040
6	BB050		S050	WF050

EA protection



EB protection



Installation

Install the EA protection device after cleaning the pipework in the prescribed manner. Install the EA protection device in front of the hazardous device. This prevents dirty water from flowing back into the drinking water system.

In accordance with the installation instructions of EN 1717, a shut-off valve must be installed in front of the EA protection device.

Material specifications EA & EB

Body	brass
Plugs	brass or plastic
Nuts	brass
Connection units	brass
Check valve	plastic
Seal	rubber
Compression spring	stainless steel

Technical specifications EA & EB

Size range	DN15 - DN50
Connection sizes	½" to 3" or 15 mm to 67 mm
Checking studs	¼"
Operating temperature	65 °C (max. 90 °C for 1 hour/day)
Operating pressure	PN 10
Peak pressure	1,600 kPa (16 bar)



Article number	Type	Nominal width DN	Connection sizes Inlet x outlet	Total length mm	Approvals	ifBt- reference	Weight kg
MU Male x female, chrome-plated							
240015165		15	½" x ½"	47	Kiwa/Belgaqua		0,10
240020165		20	¾" x ¾"	56	Kiwa/Belgaqua		0,17
S Male x male thread on body							
220015162		15	¾" x ¾"	66	Kiwa/Belgaqua/DVGW/NF	P-IX724/I	0,12
220020162		20	1" x 1"	77	Kiwa/Belgaqua/DVGW/NF	P-IX724/I	0,17
220025160		25	1¼" x 1¼"	80	Kiwa/Belgaqua/DVGW/NF	P-IX724/I	0,37
220032162		32	1½" x 1½"	90	Kiwa/Belgaqua/DVGW/NF	P-IX724/I	0,55
220040162		40	2" x 2"	100	Kiwa/Belgaqua/DVGW/NF		0,84
220050162		50	2½" x 2½"	115	Kiwa/Belgaqua/DVGW/NF		1,21
PS Soldered connection unions							
221015162		15	connection unions Ø 15	97	Kiwa/Belgaqua/DVGW	P-IX724/I	0,24
221020162		20	connection unions Ø 22	120	Kiwa/Belgaqua/DVGW	P-IX724/I	0,35
221025160		25	connection unions Ø 28	128	Kiwa/Belgaqua/DVGW	P-IX724/I	0,67
221032162		32	connection unions Ø 35	148	Kiwa/Belgaqua/DVGW	P-IX724/I	0,95
221040162		40	connection unions Ø 42	166	Kiwa/Belgaqua/DVGW		1,51
221050162		50	connection unions Ø 54	199	Kiwa/Belgaqua/DVGW		2,27
PU Male x female							
223015162		15	½" x ½"	137	Kiwa/Belgaqua/DVGW	P-IX724/I	0,30
223020162		20	¾" x ¾"	156	Kiwa/Belgaqua/DVGW	P-IX724/I	0,44
223025160		25	1" x 1"	169	Kiwa/Belgaqua/DVGW	P-IX724/I	0,78
223032162		32	1¼" x 1¼"	185	Kiwa/Belgaqua/DVGW	P-IX724/I	1,17
223040162		40	1½" x 1½"	202	Kiwa/Belgaqua/DVGW		1,74
223050162		50	2" x 2"	241	Kiwa/Belgaqua/DVGW		2,65
PI Female x female							
222010162		10	⅜" x ⅜"	101	Kiwa/Belgaqua/DVGW	P-IX724/I	0,27
222015162		15	½" x ½"	120	Kiwa/Belgaqua/DVGW	P-IX724/I	0,30
222020160		20	¾" x ¾"	120	Kiwa/Belgaqua/DVGW	P-IX724/I	0,44
222025160		25	1" x 1"	124	Kiwa/Belgaqua/DVGW	P-IX724/I	0,67
222032162		32	1¼" x 1¼"	160	Kiwa/Belgaqua/DVGW	P-IX724/I	1,23
222040162		40	1½" x 1½"	187	Kiwa/Belgaqua/DVGW		1,85
222050162		50	2" x 2"	187	Kiwa/Belgaqua/DVGW		2,46
W Male x female							
210025161		25	1¼" x 1¼"	90	Kiwa/DVGW/Belgaqua		0,38
210032162		32	1½" x 1½"	95	Kiwa/DVGW/Belgaqua		0,60
210040162		40	2" x 2"	105	Kiwa/DVGW/Belgaqua		0,92
WF Nut x male							
250015160		15	¾" x ¾"	88	Kiwa/Belgaqua/NF		0,16
250020160		20	1" x 1"	92	Kiwa/Belgaqua/NF		0,25
250025160		25	1¼" x 1¼"	113	Kiwa/Belgaqua/NF		0,43
250032161		32	1½" x 1½"	115	Kiwa/Belgaqua/NF		0,60
250040161		40	2" x 2"	120	Kiwa/Belgaqua/NF		0,85
WF Nut x male, chrome							
250015165		15	¾" x ¾"	88	Kiwa/Belgaqua/NF		0,16
WH Nut x male							
251015160		15	¾" x ¾"	60 x 40	Kiwa/Belgaqua/NF		0,22
251020160		20	1" x 1"	67 x 48	Kiwa/Belgaqua/NF		0,31
KF Compression fitting							
226015160		15	for pipe size 15 mm	90	Kiwa/Belgaqua		0,16
226020160		20	for pipe size 22 mm	89	Kiwa/Belgaqua		0,22
226025160		25	for pipe size 28 mm	92	Kiwa/Belgaqua		0,35

EA PROTECTION



Article number	Type	Diameter inch	Ø mm	Inlet x outlet connection sizes	Total length mm	Approvals	Weight kg
BB Female x female							
260015120			15	½" x ½"	66	Kiwa/Belgaqua/NF	0,13
260020120			20	¾" x ¾"	76	Kiwa/Belgaqua/NF	0,20
260025120			25	1" x 1"	91	Kiwa/Belgaqua/NF	0,35
260032120			32	1¼" x 1¼"	111	Kiwa/Belgaqua/NF	0,60
260040120			40	1½" x 1½"	121	Kiwa/Belgaqua/NF	0,80
260050120			50	2" x 2"	151	Kiwa/Belgaqua/NF	1,50

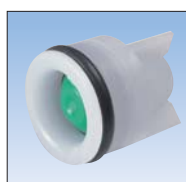
EB PROTECTION



Article number	Type	Diameter inch	Ø mm	Inlet x outlet connection sizes	Total length mm	Approvals	Weight kg
NN Male x female, chrome-plated							
230015165		½"	15	½" x ½"	28	Kiwa/Belgaqua	0,05
230020165		¾"	20	¾" x ¾"	33	Kiwa/Belgaqua	0,10
NR Female x male, chrome-plated							
235015165		½"	15	½" x ½"	30	Kiwa/Belgaqua	0,05
235020165		¾"	20	¾" x ¾"	36	Kiwa/Belgaqua	0,09
W Female x male							
210015160			15	¾" x ¾"	50	Kiwa/Belgaqua/DVGW	0,13
211020160		short	20	1" x 1"	54	Kiwa/Belgaqua/DVGW	0,18
214020160		long	20	1" x 1"	75	Kiwa	0,24

EB PLASTIC CHECK VALVES DN8 - DN250

Watts Industries can also supply a very wide range of plastic EB check valves:



CO - series



CO - series



TO - series



CS - series



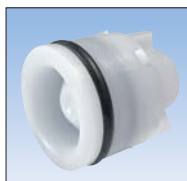
CS - series



WI - series



FI - series



O - series



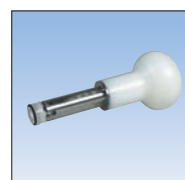
WM - Series



FO - series



IW - series


Auxiliary mounting
tools

For more information about these plastic check valves, please refer to the brochure 'Watts Plastic check valves'.



EA protection EA CC and EA CC 55.1 DN15 - DN25

The EA CC 55.1 is a fully integrated EA protection unit with special functions, aimed at simple checking and time gain. The replacement or cleaning of a dirty check valve now requires nothing more than a few simple actions. For the DN15 and DN20, a valve has also been integrated on the outlet side in addition to the valve on the inlet side. Furthermore a pressure gauge and inspection tap. As a result, the pipe behind the EA CC 55.1 is prevented from emptying when work is being carried out. The DN25 with a 28 mm compression coupling is specially designed for installation in front of a fire hose reel. Due to the fact that a valve is already present in front of the reel, the EA CC 55.1 DN25 only comes with a closing valve on the inlet side. Depending on the application, it is also possible to order a basic model (type CC) without the pressure gauge or inspection tap.

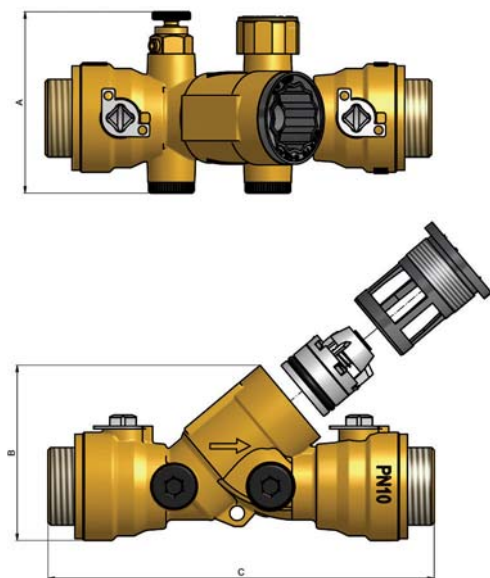
Standardisation

The EA CC 55.1 has been developed in accordance with EN 1717 and EN 13959.

Installation instructions

Install the EA CC 55.1 according to EN 1717.

Dimensions EA CC and EA CC 55.1



Material specifications EA CC and EA CC 55.1

Body	brass
Check valve	plastic
Check valve seal	rubber
Test valve	brass
Ball valve	stainless steel
Pressure gauge	brass

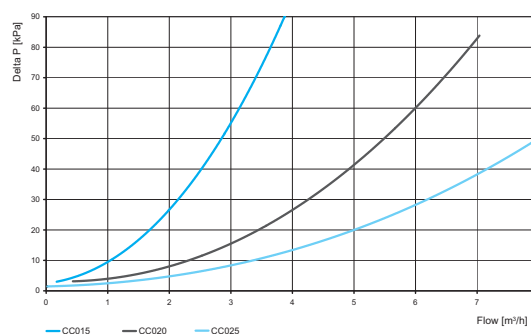
Technical specifications EA CC and EA CC 55.1

Operating pressure	PN 10
Nom. operating temp.	65 °C
Peak temperature	90 °C for 1 hour/day (pressure gauge: max. 70 °C)
Nominal diameter	DN15 - DN20 - DN25
Connection	15 compr - 22 compr - 28 compr

Advantages of this protection device:

- easy to install;
- quick verification of the unit;
- easy to clean;
- replacement of plastic check valve without removing the unit and without emptying of the pipe behind the unit;
- standard Watts plastic check valve type IO with all European certificates for potable water application;
- the EA CC has special holes for sealing after installation or supervision.

Pressure loss curves EA CC and EA CC 55.1 DN15 - DN25



Article numbers EA CC and EA CC 55.1 revision kit and multitool

		DN	
228015250	revision kit	15	
228020250	revision kit	20	
228025250	revision kit	25	
901200802	multitool	15-20-25	

Dimensions EA CC and EA CC 55.1A

		B	C
EA CC 55.1 DN15	65	60	140
EA CC 55.1 DN20	70	65	160
EA CC 55.1 DN25	75	78	155

Article numbers EA CC and EA CC 55.1 Type

	Type	DN	Connection
228015200	EA CC 55.1	15	15 compr.
228020200	EA CC 55.1	20	22 compr.
228025200	EA CC 55.1	25	28 compr.
228015201	EA CC	15	15 compr.
228020201	EA CC	20	22 compr.
228025201	EA CC	25	28 compr.

Approvals EA CC and EA CC 55.1

Kiwa

EA PROTECTION



Standards

The EA CC Basic is developed conform the EN1717 and the EN13959.

Installation instructions

Install the EA valve in accordance with National Standards.

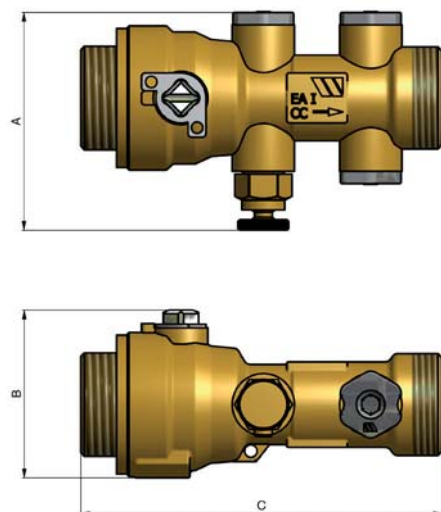
EA protection EA CC Basic

The EA CC Basic is a complete EA protection unit, with an integrated closing valve and a test cock at the supply side. The CC Basic can be used in all places where EA protection is required.

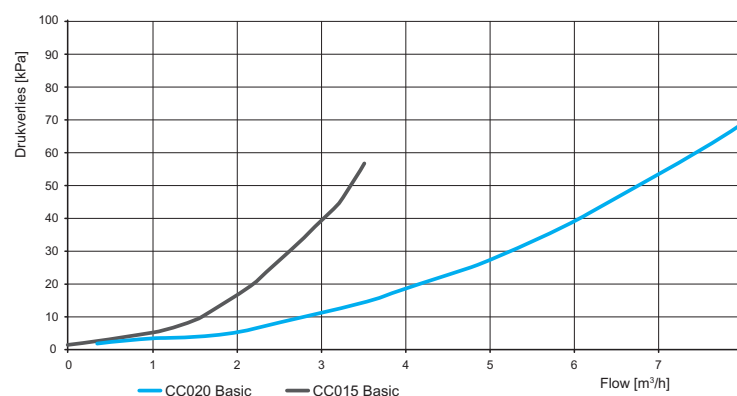
In order to prevent an unauthorized closing of a closing valve at an EA device, the CC Basic is not supplied with a handle on the closing valve. The closing valve can easily be operated with a normal wrench or with the well-known EA CC multi tool. Besides that, the CC Basic is provided with locking eyes to seal of the device in the required position

Advantages of this protection unit:

- Easy to install;
- Short build-in length;
- An easy verification of the unit;
- Kiwa certified;
- Inexpensive;
- Integrated shut-off valve at the inlet side;
- With tab at the inlet side;
- Protected against unauthorized use;
- Provided with sealing eyes.



Pressure loss curve CC015-CC020 Basic



Material specifications CC Basic	
Body	brass
Check valve	plastic
Check valve seal	rubber
Test valve	brass
Ball valve	chrome-plated brass

Technical specifications CC Basic	
Operating pressure	PN 10
Nom. operating temp.	65 °C
Peak temperature	90 °C for 1 hour/day
Nominal diameter	DN15 - DN20
Connection	15 compr - 22 compr

Dimensions EA CC Basic	A	B	C
CC55.1 DN15 BASIC	61	38	90
CC55.1 DN20 BASIC	61	47	101

Article numbers EA CC Basic	Type	DN	Connection
228015240	EA CC Basic	15	15 mm compr
228020240	EA CC Basic	20	22 mm compr
228015242	EA CC Basic with handle	15	15 mm compr
228020242	EA CC Basic with handle	20	22 mm compr

Approvals EA CC Basic

Kiwa



EA protection EA FC DN65 - DN250

This flanged, verifiable check valve has been developed for installation as a backflow prevention device (according to EN 1717:EA) in drinking water systems and various sanitary applications. This unit can also be used in distribution networks and pump systems.

Advantages of the FC check valve:

- construction and functioning according to national requirements and European standard EN13959;
- compact outside diameter;
- standardised construction length;
- unique check valve module for quick and easy replacement;
- prevents 'loose' components from getting lost or being refitted incorrectly;
- low pressure drop;
- available from DN65 (DN60) up to DN250, nominal operating pressure 16 bar;
- including 2 test valves to test proper functionality.

Standardisation

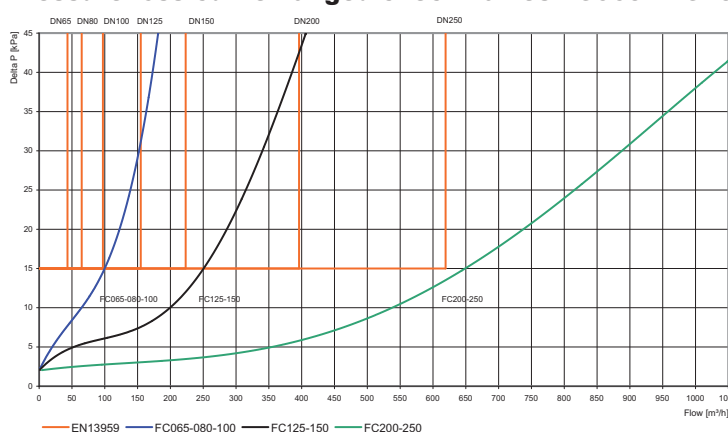
The EA FC has been developed in accordance with EN 1717.

Installation instructions

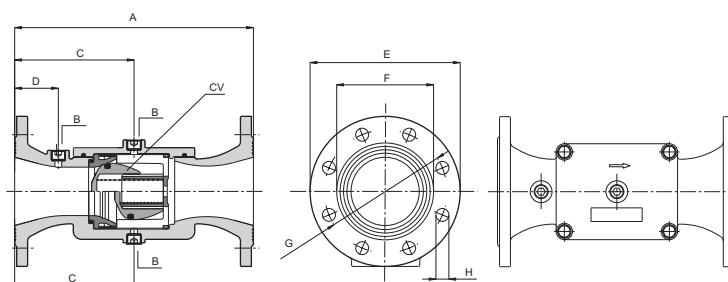
Install the EA FC according to EN 1717.



Pressure loss curve flanged check valves FC065 - FC250



Dimensions EA FC



Article numbers EA FC Type	DN	CV	A	B	C	D	E	F	G	H	Weight in kg
308065361	FC065 (60) 65	CS100	290	G1/2	145	37,5	185	118	(135) 145*	4 x 19	13,6
308080361	FC080	80	CS100	310	G1/2	155	44	200	132	160	14,8
308100361	FC100	100	CS100	350	G1/2	175	64	220	156	180	18,3
308150361	FC150	150	CS150	480	G1/2	240	87	285	211	240	35,6
308200361	FC200	200	CS250	600	G1/2	300	71	340	266	295	77,2
308250361	FC250	250	CS250	730	G1/2	365	102	405	319	355	94,5

* FC065 is provided with slotted holes

Material and technical specifications EA FC

Body/cover	nodular cast iron, epoxy-coated
Plastic parts	PPO / PP
Rubber parts	NBR
Max. temperature	65 °C

Approvals EA FC

According to the new European standard EN 13959

DN65 (60) - DN100	Belgaqua, DVGW, Kiwa, NF, WRAS
DN150	Kiwa, WRAS, other certificates on request
DN200 - DN250	Kiwa, WRAS, other certificates on request

402 VALVE



Non-return valve 402 DN40 – DN500

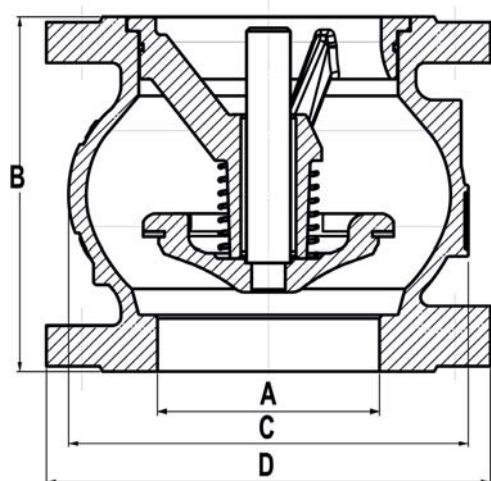
The 402 non-return valve is a compact and robust valve for clear fluids and is suitable for many applications such as potable water extraction, water distribution, general networks and pump sets. The 402 is especially suitable for installations with a high risk of water hammer.

Advantages of the 402 non-return valve:

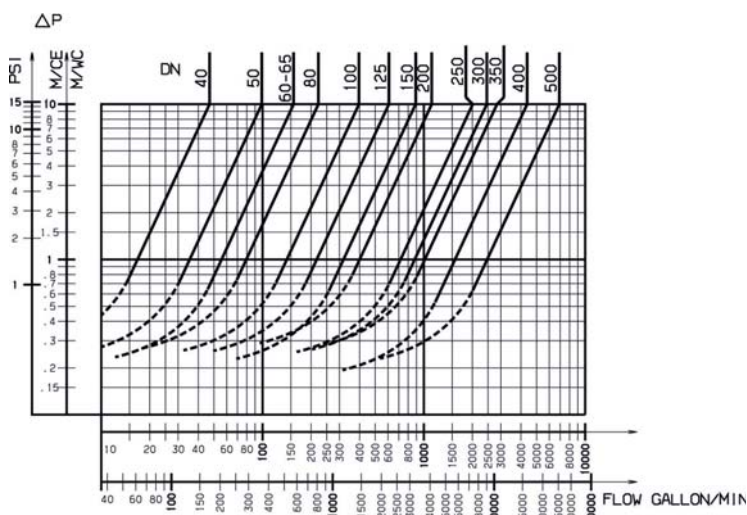
- Operates in any position;
- Minimum pressure loss;
- Silent, leak tightness, compact;
- Exceptional robustness;
- Does not generate water hammer;
- Cutouts for cable passage for underwater pumps until DN100;
- Closing system with long back axial guiding for reduced displacement;
- Ensured sealing due to flat sealing ring;
- Spring loaded.

This valve is also available as foot valve (type 302).

Dimensions 402



Pressure loss curve 402



Material specifications 402

Body	cast iron with epoxy coating
Flange connections	according to EN 1092-2
Valve seats	cast iron with bronze guiding
Seals	rubber

Technical specifications 402

Max. system pressure	PN10 (10 bar) (PN16 on request)
Min. operating temp.	-10 °C
Max. operating temp	100 °C

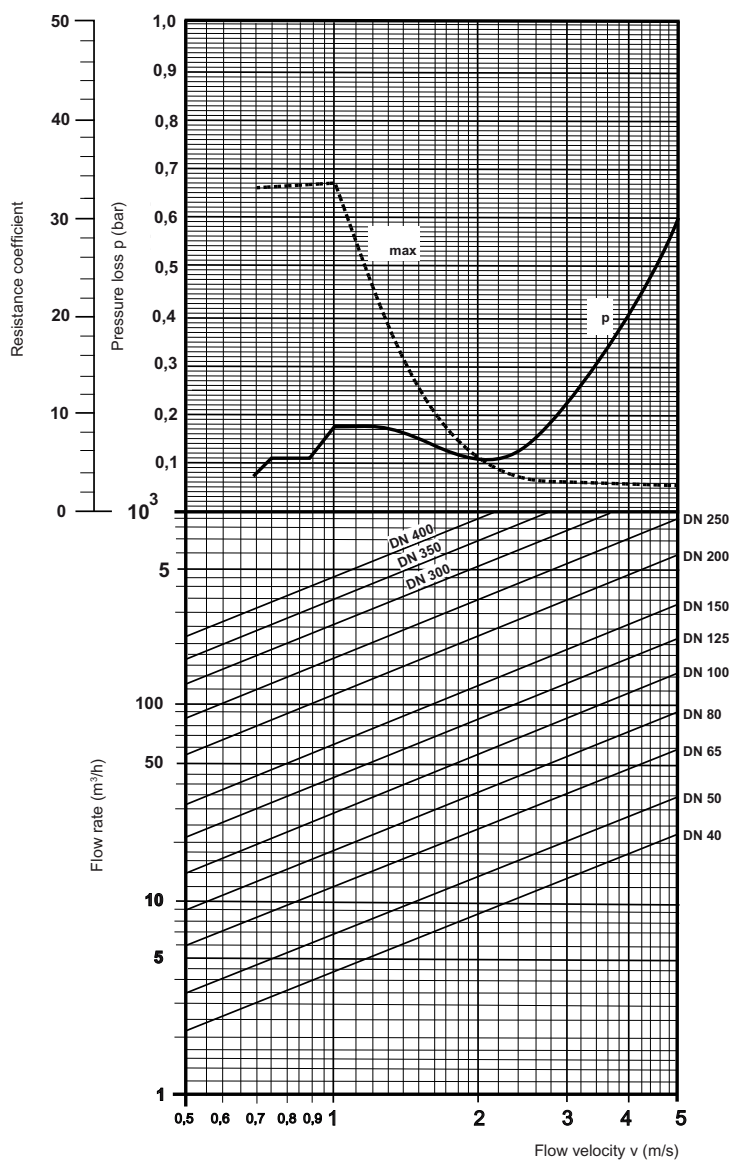
Article numbers and dimensions 402

Metric dimensions and dimensions in feet							
	Type	Connection	A	B	C	D	Weight
			mm	mm	mm	mm	kg
600002281	402 DN40	1 ½"	40	85	80	150	4,2
600002282	402 DN50	2"	50	100	97	165	5,8
600002283	402 DN65	2 ½"	65	120	125	185	8,1
600002284	402 DN80	3"	80	140	150	200	10,2
600002285	402 DN100	4"	100	170	187	220	14,2
600002286	402 DN125	5"	125	200	220	250	24
600002227	402 DN150	6"	150	230	250	285	32
600002229	402 DN200	8"	200	289	340	340	53
600002230	402 DN250	10"	250	354	420	405	94
600002231	402 DN300	12"	300	396	490	460	140
600002232	402 DN350	14"	350	473	586	533	225
600002233	402 DN400	16"	400	560	680	597	312
600002235	402 DN500	20"	500	750	880	670	540

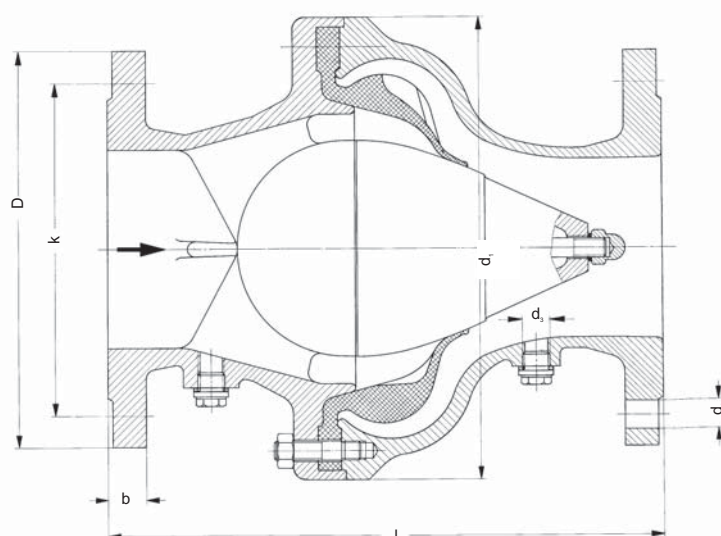
SILENT HYDROSTOP CHECK VALVE

**Silent Hydrostop check valve
DN40 - DN400**

The Silent Hydrostop is used in water distribution systems to prevent backflow of contaminated water. Apart from this application, the Silent Hydrostop can also be used as a process check valve in industrial installations. Due to its construction without moving parts, this check valve operates almost silently and has a noise-reducing effect.

Pressure loss curve Silent Hydrostop


SILENT HYDROSTOP CHECK VALVE



Dimensions and weights Silent Hydrostop

Nominal diameter	DN	40	50	65	80	100	125	150	200	250	300	350	400
Construction dimensions	l	180	200	240	260	300	350	400	500	600	700	800	900
	d1	150	175	220	220	292	292	292	374	446	550	645	720
	d3 (thread)	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	1/2	1/2	3/4	3/4
Flange dimensions	PN 10	D	150	165	185	200	220	250	285	340	400	455	505
according to EN 1092-2	k	110	125	145	160	180	210	240	295	350	400	460	515
	Holes	4	4	4	8	8	8	8	8	12	12	16	16
	d2	18	18	18	18	18	18	22	22	22	22	22	26
	b	18	20	20	22	24	26	26	26	28	28	30	32
	PN 16	D	150	165	185	200	220	250	285	340	400	455	—
	k	110	125	145	160	180	210	240	295	355	410	—	—
	Holes	4	4	4	8	8	8	8	12	12	12	—	—
	d2	18	18	18	18	18	18	22	22	22	26	—	—
	b	18	20	20	22	24	26	26	30	32	32	—	—
Net weight	kg approx.	9	13	18	22	34	42	46	84	127	208	280	390
Required space	m³ approx.	0,005	0,007	0,010	0,014	0,016	0,035	0,040	0,080	0,130	0,235	0,365	0,510

Article numbers Silent Hydrostop

329040100	DN40	PN 10
329050100	DN50	PN 10
329065100	DN65	PN 10
329080100	DN80	PN 10
329100100	DN100	PN 10
329125100	DN125	PN 10
329150100	DN150	PN 10
329200100	DN200	PN 10
329200160	DN200	PN 16
329250100	DN250	PN 10
329250160	DN250	PN 16
329300100	DN300	PN 10
329300160	DN300	PN 16
329350100	DN350	PN 10
329400100	DN400	PN 10

Technical specifications Silent Hydrostop

Nominal diameter	DN40 to DN400
Operating pressure	PN 10 / PN 16
Max. temperature	90 °C (EPDM) (optional NBR: 60 °C)

Material specifications Silent Hydrostop

Body	cast iron GG25
Diaphragm	EPDM (* option: NBR)
Coating	epoxy coating (0 - 60 °C)/Rilsan (0 - 90 °C)

* available on request

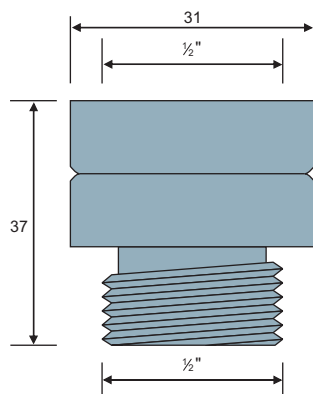


HA protection HA S8C DN10 – DN15

Anti-siphon device with atmospheric vent, among other things, for hand showers and taps for hose connections that are mounted behind the shut-off valve and therefore not constantly under pressure.

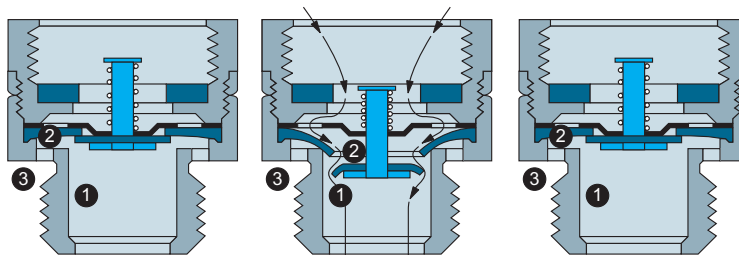
31

Dimensions HA S8C DN15



(dimensions subject to change)

Functioning HA S8C



HA S8C in closed position. Valve 1 closes onto membrane 2. The openings 3 to the atmosphere are open.

Before the flow starts, the openings 3 are closed. Only then valve 1 opens.

Due to the loss of pressure in the network, valve 1 tightly closes onto membrane 2, which prevents backflow. The openings 3 are opened.

Material specifications HA S8C

Finish Chrome-plated brass (polished)

Article numbers HA S8C

Article numbers HA S8C	Type	DN	Model
423010001	HA S8C	10	chrome-plated brass
423015000	HA S8C	15	chrome-plated brass

Technical specifications HA S8C

Max. pressure	10 bar
Max. temperature	60 °C

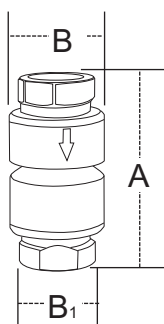
HD PROTECTION



HD protection HD N9 and HD NLF9 DN10

Double check valves with atmospheric vents with intermediate atmospheric connection. These check valves prevent backflow due to back siphoning of contaminated water in the drinking water network and are suitable, among other things, for laboratory taps. The HD N9/NLF9 must be installed vertically.

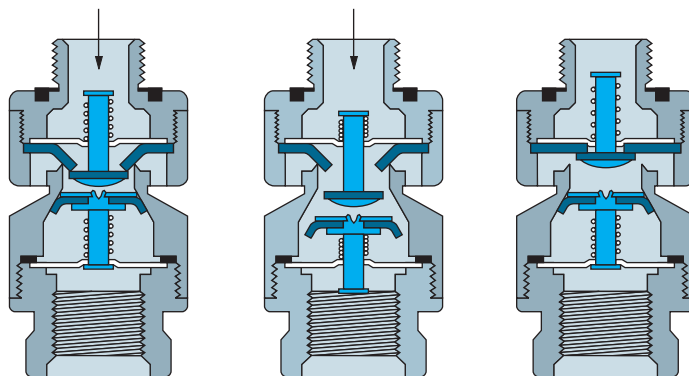
The construction is identical to that of the HA S8C, only a second check valve is installed on the outlet side. The HD N9 is suitable for mounting under continuous pressure. The HD NLF9 is suitable for mounting downstream of the shut-off valve. The downstream piping, which is not under constant pressure, must be flexible and detachable.



Installation dimensions and weight N9

	DN	A in mm	B in mm	B1 inch	kg
N9C	1/4"	60	32	1	0,17
N9C	3/8"	60	32	1	0,17
N9	1/4"	60	32	1	0,17
N9	3/8"	60	32	1	0,17

Functioning HD N9 and HD NLF9

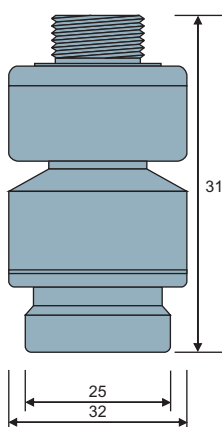


1. Static state, no flow.

2. Flow, both valves are open.

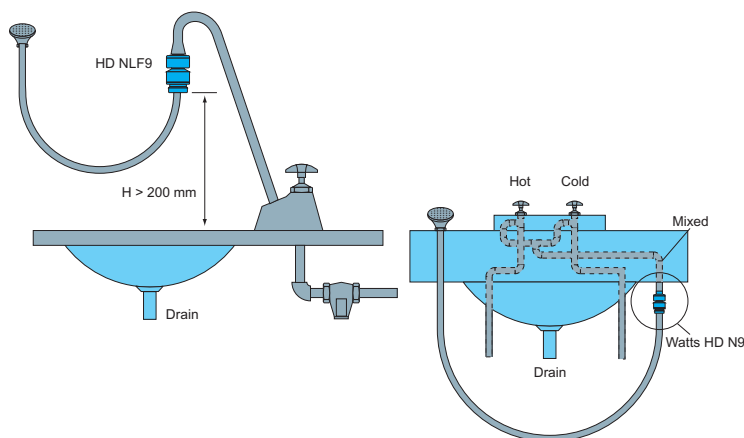
3. Back siphoning, both valves are closed.

Dimensions HD NLF9



(dimensions subject to change)

Installation examples HD N9 and HD NLF9



Technical specifications HD N9 and HD NLF9

Max. pressure	10 bar
Max. temperature	60 °C

Article numbers and material specifications HD N9 en HD NLF9

Article number	Type	DN	Model
409003000	HD N9	10	brass 3/8" female x 3/8" female
409003005	HD N9C	10	chrome-plated brass 3/8" female x 3/8" female
409003001	HD NLF9	10	chrome-plated brass 3/8" female x 3/8" male



Tundish BA BM

Tundish in accordance with EN 1717 for BA BM backflow prevention devices.

Article numbers BA BM tundish

Article numbers	Type
416020310	BA BM tundish DN15 - 20
416032310	BA BM tundish DN25 - 32
416050310	BA BM tundish DN40 - 50



Tundish BA 009 and BA 909

Tundish in accordance with EN 1717 for BA 009 and BA 909 backflow prevention devices.

Article number BA 009 tundish

Article number BA 009 tundish	Type
416015201	BA 009 tundish DN15
416020201	BA 009 tundish DN20 - 25
416032201	BA 009 tundish DN32 - 80

Article number BA 909 tundish

Article number BA 909 tundish	Type
416020201	BA 909 tundish DN20 - 25
416032201	BA 909 tundish DN32 - 80
416100201	BA 909 tundish DN100 - 250

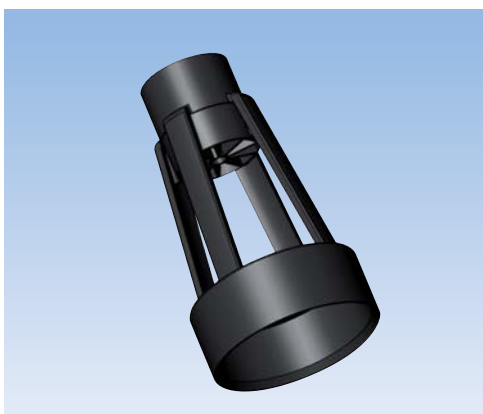


Tundish CA 9C

Tundish in accordance with EN 1717 for CA 9C backflow prevention devices.

Article number tundish CA 9C

Article number tundish CA 9C	Type
416200000	CA 9C tundish DN15-20



Tundish CA

Tundish in accordance with EN 1717 for CA backflow prevention devices.

Article number tundish CA

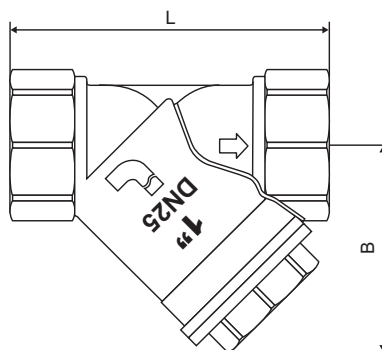
Article number tundish CA	Type
417015201	CA tundish DN15-20

STRAINERS



Strainer SMY DN10 - DN50

This SMY strainer is suitable for drinking water.



Material specifications strainer SMY DN10 - DN50

Body	brass
Cover	brass
Strainer screen	stainless steel

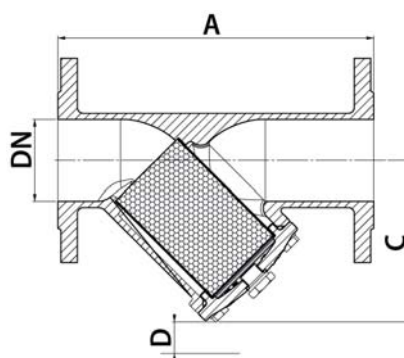
Specifications filter SMY DN10 - DN50

Article number	DN	L	B	Mesh size	Weight
			mm	mm	per mm
900566210	10	55	40	0,40	135
900566215	15	58	40	0,40	145
900566220	20	70	48	0,40	225
900566225	25	87	56	0,40	420
900566232	32	96	64	0,50	605
900566240	40	106	73	0,50	825
900566250	50	126	89	0,50	1,325



Flanged strainer Y333 DN40 - DN400

This flanged strainer is suitable for potable and municipal water as well as neutral fluids.



Material specifications flanged strainer Y333 DN40 - DN400

Body	GJL Cast iron with epoxy coating (DN40 to DN50) GJS Ductile iron with epoxy coating (DN60 to DN400)
Strainer	stainless steel

Technische specificaties filter Y333 geflensd DN40 t/m DN400

Max. systeemdruk	PN10 of PN16
Max. werktemperatuur	100 °C
Filtratie Ø	DN40-50: 500 microns, DN65: 800 microns, DN80-200 : 1250 microns, DN250-400 : 1600 microns

Deksel geleverd met stop G ½" (DN40 tot 150) en G ¾" (DN200 tot DN400)

Flanged strainer Y333 DN40 - DN400

Article number	connection	Ø	PN	A	C	D	Mesh	Screen Weight
				mm	mm	mm	mm	kg
900566248	1"	40	16	200	130	35	0,50	6,5
900566258	2"	50	16	230	145	50	0,50	8,5
900566268	2 ½"	65	16	290	192	65	0,80	11
900566289	3"	80	16	310	159	75	1,25	13,5
900566308	4"	100	16	350	187	90	1,25	18
900566358	6"	150	16	480	326	145	1,25	43
900566408	8"	200	10	600	403	220	1,25	83
900566458	10"	250	10	730	472	200	1,60	112
900566508	12"	300	10	850	508	250	1,60	160
900566558	14"	350	10	980	587	315	1,60	297
900066608	16"	400	10	1100	658	370	1,60	406

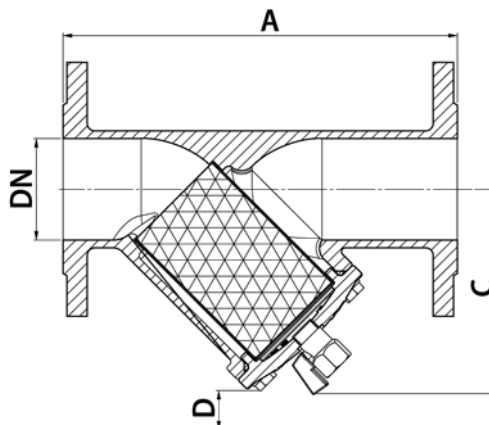
Approvals flanged strainer Y333 DN40 - DN400

WRAS (except DN350 - 400)



Flanged strainer Y333P DN40 - DN400

This strainer is used for potable water to protect pumps, control valves and taps from polluting. The strainer Y33P comes with a drain tap, making it easy and efficient to maintain.



Material specifications flanged strainer Y333P DN40 - DN400

Body	GJL Cast iron with epoxy coating (DN40 to DN50) GJS Ductile iron with epoxy coating (DN60 to DN400)
Strainer	stainless steel
Drain cock	brass ½"

Technical specifications flanged strainer Y333P DN40 - DN400

Max. system pressure	PN10 of PN16
Max. operating temp.	100 °C
Filtration Ø	DN40-50: 500 microns, DN65: 800 microns, DN80-200 : 1250 microns, DN250-400 : 1600 microns

Cover delivered with plug G ½" (DN40 - DN150) and G ¾" (DN200 - DN400)

Flanged strainer Y333P DN40 - DN400

Article number	connection	Ø	PN	A mm	C mm	D mm	Screen Mesh mm	Weight kg
600003280	1	40	16	200	130	35	0,50	6,5
600003281	2	50	16	230	145	50	0,50	8,5
600003282	2 ½*	65	16	290	137	65	0,80	9,8
600003283	3**	80	16	310	159	75	1,25	13,5
600003284	4	100	16	350	187	90	1,25	18
600003285	5	125	16	400	249	125	1,25	27,5
600003286	6	150	16	480	301	170	1,25	43
600003287	8	200	10	600	403	220	1,25	83
600003288	10	250	10	730	472	200	1,60	112
600003289	12	300	10	850	508	250	1,60	160
600003788	14	350	10	980	587	315	1,60	297
600003791	16	400	10	1100	658	370	1,60	406

* Double drilling DN 65 / DN60

** Double drilling: 4 and 8 holes

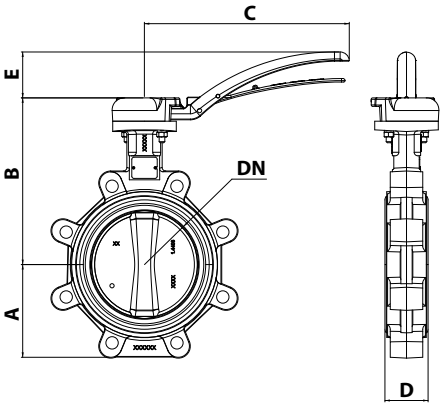
Approvals flanged strainer Y333 DN40 - DN400

WRAS (except DN350 - DN400)

BUTTERFLY VALVES



Sylax lug

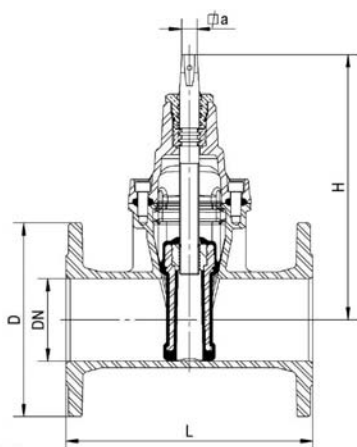
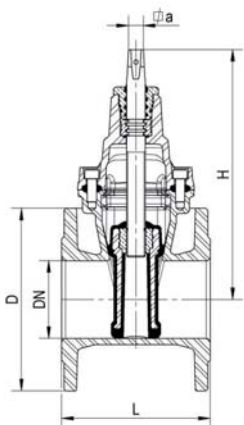


Approvals butterfly valve Sylax lug type DN50 - DN300

Kiwa, NF, ATA

Specifications butterfly valve Sylax lug type DN50 - DN300

Article number	connection	A	B	C	D	E	Weight kg
	DN	PN	mm	mm	mm	mm	
600028008	50	62	169	200	43	45	3,7
600011686	65	70	178	200	46	45	4,2
600011691	80	89	184	200	46	45	5,1
600011696	100	106	208	200	52	45	7,6
600028007	125	120	223	290	56	65	10,2
600028006	150	131	236	290	56	65	11,7
600041489	200	164	293	450	60	86	23,0
600041490	250	200	318	450	68	86	30,0
600041491	300	235	343	450	78	86	32,2



Gate valve F4 short build-in length for potable water

Epoxy coated $\geq 250 \mu\text{m}$.
Replaceable EPDM seals.
Spindle SS420.
Max. working temperature 70°C .
Also available with SS303 or SS316 spindle.
Also available with NBR seals.

Specifications gate valve F4 with short build-in length for potable water

Article number	DN	PN	D mm	L mm	H mm	ϕa	Rotations open/close	Weight kg
310725014	40	16	150	140	203	110Ø - 4 x 19Ø	14.1 12.5	7.5
310725024	50	16	165	150	235	125Ø - 4 x 19Ø	14.1 12.5	9.5
310725044	65	16	185	170	250	145Ø - 4 x 19Ø	17.1 13.0	11.9
310725054	80	16	200	180	290	160Ø - 8 x 19Ø	17.1 16.0	16.2
310725064	100	16	220	190	325	180Ø - 8 x 19Ø	19.1 20.0	20.0
310725074	125	16	250	200	362	210Ø - 8 x 19Ø	19.1 25.0	24.8
310725084	150	16	285	210	425	240Ø - 8 x 23Ø	19.1 30.0	33.0
310725094	200	10	340	230	505	295Ø - 8 x 23Ø	24.1 33.5	50.0
310725114	250	10	400	250	595	350Ø - 12 x 23Ø	27.1 41.5	72.0
310725134	300	10	455	270	670	400Ø - 12 x 23Ø	27.1 50.0	102.2
310725154	350	10	505	290	940	460Ø - 16 x 23Ø	32.1 57.0	217.0
310725174	400	10	565	310	940	515Ø - 16 x 28Ø	32.1 57.0	235.4
310725194	450	10	615	330	1120	565Ø - 20 x 28Ø	32.1 62.5	385.0
310725214	500	10	670	350	1120	620Ø - 20 x 28Ø	32.1 62.5	409.0

Approvals gate valve F4 with short build-in length for potable water

Kiwa

Gate valve F5 long build-in length for potable water

Epoxy coated $\geq 250 \mu\text{m}$.
Replaceable EPDM seals.
Spindle SS420.
Max. working temperature 70°C .
Also available with SS303 or SS316 spindle.
Also available with NBR seals.

Specifications gate valve F5 with long build-in length for potable water

Article number	DN	PN	D mm	L mm	H mm	ϕa	Rotations open/dicht	Weight kg
310712014	40	16	150	240	203	110Ø - 4 x 19Ø	14.1 12.5	8.1
310712024	50	16	165	250	235	125Ø - 4 x 19Ø	14.1 12.5	10.3
310712044	65	16	185	270	250	145Ø - 4 x 19Ø	17.1 13.0	12.8
310712054	80	16	200	280	290	160Ø - 8 x 19Ø	17.1 16.0	17.4
310712064	100	16	220	300	325	180Ø - 8 x 19Ø	19.1 20.0	21.6
310712074	125	16	250	325	362	210Ø - 8 x 19Ø	19.1 25.0	26.9
310712084	150	16	285	350	425	240Ø - 8 x 23Ø	19.1 30.0	36.8
310712094	200	10	340	400	505	295Ø - 8 x 23Ø	24.1 33.5	56.5
310712104	250	10	400	450	595	350Ø - 12 x 23Ø	27.1 41.5	79.2
310712114	300	10	455	500	670	400Ø - 12 x 23Ø	27.1 50.0	114.8
310712124	350	10	505	550	940	460Ø - 16 x 23Ø	32.1 57.0	254.0
310712134	400	10	565	600	940	515Ø - 16 x 28Ø	32.1 57.0	277.0
310712144	450	10	615	650	1120	565Ø - 20 x 28Ø	32.1 62.5	448.0
310712154	500	10	670	700	1120	620Ø - 20 x 28Ø	32.1 62.5	482.0
310712164	600	10	780	800	1290	725Ø - 20 x 31Ø	41.1 60.0	594.0

Approvals gate valve F5 with short build-in length for potable water

Kiwa

INSPECTION SETS FOR BA BACKFLOW PREVENTION DEVICES


TK 9A analogue inspection set

Analogue inspection set for the mandatory annual inspection of the BA backflow prevention device.

Article number TK 9A inspection set	Type
418000000	TK 9A

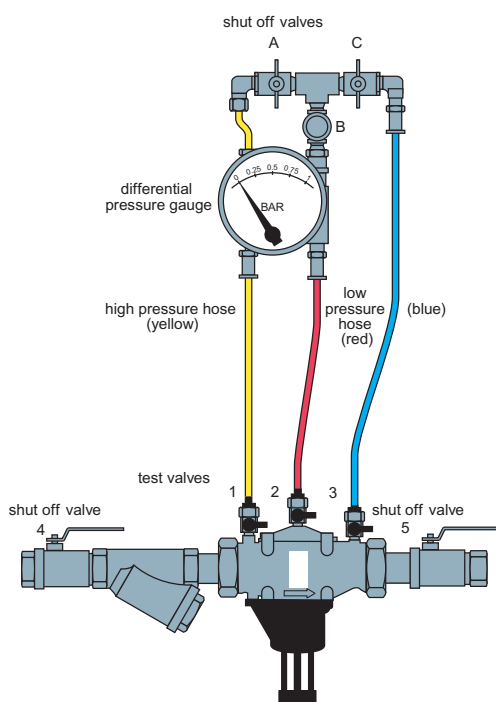
Article number TK 9A and TK 99D adaptors	Type
419180139	adaptors for BA BM DN15 - DN50


TK 99D digital inspection set

Digital inspection set for the mandatory annual inspection of the BA backflow prevention device.

Article number TK 99D inspection set	Type
418000002	TK 99D

Article number TK 9A and TK 99D adaptors	Type
419180139	adaptors for BA BM DN15 - DN50



Product range Watts Industries

- System Disconnectors
- Backflow Protection Devices
- Check Valves
- Safety Units
- Safety Relief Valves
- Pressure Reducing Valves
- Automatic Control Valves
- Butterfly Valves
- Shut-Off Valves
- Measuring Gauges
- Temperature Control
- Expansion Vessels
- Process Switches
- Fuel Products
- Gas Products
- Electronic Controls
- Installation Protection Products
- Radiator Valves
- System Products
- Manifolds and Fittings



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