



Backflow systems

Backflow stops

Backflow stops

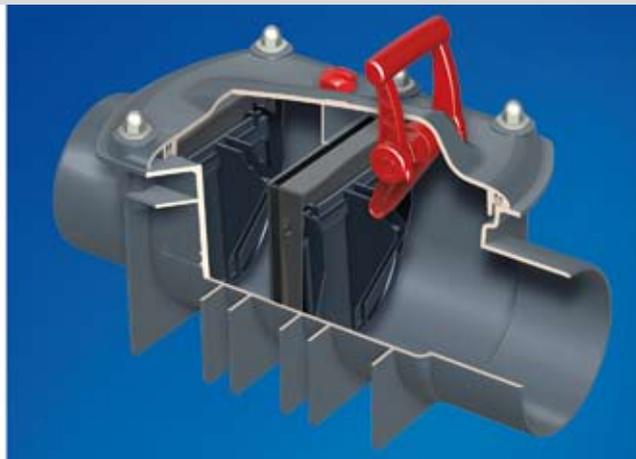
certified in accordance with EN 13564-1. When complying with certain preconditions, they protect drainage points below the backflow level against backflowing channel water. Small dimensions and a modular systems guarantee flexibility and uncomplicated refitting.

Fuel oil valve

Fuel oil valves

In accordance with EN 1253-5, fuel oil valves must be fitted in oil heating units or in areas in which the unscheduled discharge of light oils can be expected. The fuel oil valves are optionally available with a backflow safety valve in accordance with EN 13564.





Backflow systems ▶ Backflow stops

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Backflow systems
Backflow stops

Basics

How does a backflow develop?

Public combined and storm sewers are only designed for moderate rain events in many cases. According to EN 12056-4, they must be sized so that they can correctly drain any exceptional rain for purely economic reasons.

If the capacity of the manholes has been exceeded, the waste water follows the natural law of the communicating tubes, and flows back into the building.

Causes of backflow

In addition to heavy rain events and floods caused by the climate change, there are a variety of other reasons that can result in overloading the sewage system and can therefore result in backflow:

- Channel clogging
- Cross-section restriction, for example, due to root growth
- Operating failure in pumping stations
- Unscheduled discharge, for example during sewer flushing
- Increased waste water inflow through additional connections

Impacts of climate change

Researchers of the Max Planck Institute for Meteorology have observed an increase of floods in many rivers in western and southern Germany and neighboring countries since the middle of the 70s. Extreme flooding and heavy precipitation in Europe will continue to multiply over the long term due to climate change. The Oder River flood in 1997, the "millennium flood" in 2002 at the Elbe and their tributaries, or the great floods of 2005 in the Alps are only a few examples from the recent past.

River dams are constructed to protect areas from flooding. Paradoxically, these embankments, however, also contribute to an increased flood situation. Suddenly areas are affected that have never been threatened by backflow previously.

Consequences of backflow in the building

Backflowing waste water containing rainwater, domestic sewage and industrial wastewater. The ingredients, for example, are faeces from toilets, grease-containing waste water from kitchens or chemicals from cleaning agents and disinfectants. If backflow penetrates unprotected areas, there is a health hazard for people, for example, due to infectious diseases. In addition to physical damage (water damage to furnishings or building damage from moisture penetration of walls and foundations), you have to adjust to a huge cleaning process.

The role of municipalities

Municipalities need to ensure a safe operation of sewage systems, and usually also be liable for damage caused. However, this does not apply to "very unusual and rare catastrophic rains", said the Supreme Court. The reasons were stated as: "The strict liability for piping systems reach their limits in the economic capacity of municipalities". The additional costs would still have to be proportionate to the achievable protection. There is no set limit. However, it is clear that municipalities do not have to adjust to rain, "which is expected to be less frequent than once every 100 years." This ruling of May 2004 motivates more and more municipalities to dictate to the builders and home owners, that the responsibility for protection against backflow is on them.

Legal aspects for the homeowner

Regardless of the damage to private property, homeowners are also liable to their tenants. Therefore, the relevant standards require protecting sanitary objects below the backflow level to be protected by lifting plants (active backflow valves) or by backflow stops (passive backflow valves). Meanwhile, there are corresponding insurance offers, which cover the problem. However, if the structural measures provided as a requirement are not performed

correctly or not at all and maintenance according to standard cannot be demonstrated, the insurance company will generally reject the liability for water damages.

Warranty (BGB)

Warranty is the obligation of the contractor to stand up for a proper and contractual quality of work at the time of acceptance. These obligations are governed in §§ 633ff. of the Civil Code and in §13 VOB/B. The liability for installation defects and the liability for product defects must be distinguished.

If an installation defect is present, the installer alone is liable. Any means of recourse on the manufacturer are excluded in this case. Liability claims cannot be transferred to the client, if he, for example, wants to have a product installed for cost reasons, that does not meet the accepted state of the art.

Conclusion

Backflow into the property drainage system must be anticipated. In order to prevent this, drainage facilities must be protected effectively and permanently from the effects of the backflow below the backflow level. No safeguards or a lack of safeguards can have costly consequences for the owner and the contractor. Therefore, select the proper backflow safety valve (active / passive) for your drainage systems.

The backflow level



Backflow systems
Backflow stops

The backflow level is the highest level (water level) to which the waste water can rise in a drainage system.

The backflow level is defined by the local authorities (local statutes). If no information is available, the top edge of the street generally applies as connecting point (see red line).

All drainage objects below this level are at risk from backflow and must therefore be protected by suitable measures.

Planning references

General information

According to EN 12056-4, backflow must be expected in combined and storm sewers. Buildings and properties must therefore be protected effectively and permanently against backflow. Waste water lifting plants or backflow stops provide the necessary security. Great demands on the usability, durability and security must be placed on these components and systems.

Backflow stops protect individual drainage points by suitable installation parts, such as floor drains (e.g. Junior) or by continuous pipes (such as Triplex-K and Quatrix-K). Backflow stops for continuous pipes can be installed openly or in an on-site shaft. The shaft is provided with a cover.

If a backflow stop must be installed in an on-site base plate, the backflow system with a built in shaft can be used (e.g. Triplex-K and Quatrix-K with shaft system). If the base plate must be secured against pressing water, the shaft system can be equipped with the optional adjustable sealing flange.

Regulations:

Backflow protection for buildings calls for the attention to many standards:

EN 12056, Status 01/2001

Gravity drainage systems inside buildings,
 part 1:
 General design requirements
 part 2:
 Waste water facilities, planning and calculation
 part 4:
 Waste water lifting plants - planning and calculation
 part 5:
 Installation and testing, instructions for the operation and maintenance

EN 13564-1, Status 10/2002

Backflow stops for buildings – Requirements

EN 1253-5, Status 03/2004

Drains for buildings, drains with light-oil locks

DIN 1986-100, Status 05/2008

Drainage systems for buildings and properties, provisions in connection with EN 752 and 12056

The use of backflow safety valves is regulated as follows:

According to DIN 1986-100:2008-05, Chapter 13, drainage points below the backflow level must be secured by automatic waste water lifting plants with a backflow loop in accordance with EN 12056-4 against backflow from the channel (active backflow valve systems).

Under certain conditions, backflow valves according to EN 13564-1 can be used (passive backflow valves).

The following criteria must be met for the installation of a backflow valve:

- The waste water can be discharged in a natural slope
- The rooms must be of negligible use, e.g., no significant property values or the health of residents may be affected when flooding the premises
- The user circle must be small. A toilet must be available above the backflow level
- The use of the drainage point can be waived during a backflow



Determining the proper backflow safety valve

The right product for the backflow protection is determined by the following selection criteria:

- Location of drainage point
- Utilization of the drainage point
- Type of waste water

Location of drainage point

Drainage points below the backflow level may be arranged higher or lower than the public sewer.

Position higher than public sewers

The drainage takes place in a natural slope via backflow safety valves and automatic backflow safety valves in accordance with EN 12056 or via waste water lifting plants to the public sewer.



Position lower than public sewers

The drainage to the public sewer can only be done via automatic waste water lifting plants.



Utilization of the drainage point

Backflow stops or waste water lifting plants must be selected according to the use of low-lying areas (e.g. private, public, industrial) and the comfort requirements

Private use

Backflow stops can be used in various areas of secondary use, such as basements, utility rooms, toilets, if the use of the drainage point can be waived at a backflow. In addition, the user group must be small, and a toilet above the backflow level must be available.

Public use

If drainage must be continuously guaranteed (for example, in-law units, in public toilets, in showers and washing areas of industrial plants), drainage must be done via waste water lifting plant.

Type of waste water

Waste water free of faeces (greywater), and waste water containing faeces (black water) should be differentiated. The waste water type, in the flow direction of which the backflow valve is drained, is decisive for the selection of the backflow valves.

Waste water free of faeces

Backflow stops of type 2,3 or 5 accordance with EN 13564 or floor drains with a pump in accordance with EN 12056 must be used for waste water from showers, washing machines and sinks.

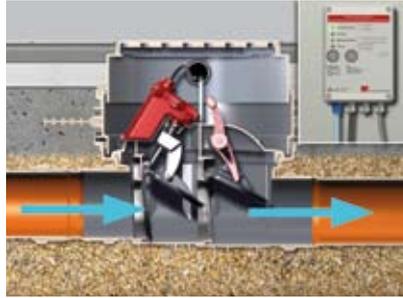
Waste water containing faeces

Backflow stops of type 3 (description "F") or waste water lifting plants according to EN 12056 must be used for waste water from toilets and urinals.

Caution! Risk of clogging!



Backflow stops with shuttle valves may not be used for waste water containing faeces, because there is a risk of a blockage due to depositing solids.



Valves are always open in the normal state of backflow stops for waste water containing faeces. The valves close automatically in case of a backflow.

Model descriptions of backflow safety valves according to EN 13564-1

Type	Use	Automatic stop	Emergency closure device	Application scope	Corresponds with the following products ACO
0	Horizontal line	1	0	Rainwater utilization system	Triplex-K-0
1	Horizontal line	1	1*	Rainwater utilization system	Triplex-K-1
2	Horizontal line	2	1*	Rainwater utilization system/ waste water free of faeces	Triplex-K-2
3	Horizontal line	1 (electric, pneumatic)	1	waste water free of faeces, waste water containing faeces labelled "F"	Quatrix-K
4	installed in floor drains	1	1*	waste water free of faeces	
5	installed in floor drains	2	1*	waste water free of faeces	Junior

* Emergency closure device can be combined with automatic closure device.

Installation principles for backflow valves



Wrong:

Drainage facilities, which are located above the backflow level, must not be passed through a backflow valve (lifting plant or backflow valve). In the case of backflow, any waste water accumulating above the backflow level could not be discharged. The waste water would first leak out from the lowest located drainage points below the backflow level and flood the basement according to the principle of the communicating pipes. If a lifting plant would be used, flooding would also occur during a power failure.



Correct:

All drainage facilities located above the backflow level must therefore be connected after a backflow stop (image right). The downpipe only fills to street level at a backflow, the waste water is prevented to push back to deeper located drainage facilities by the backflow valve and therefore escapes over the manhole cover.

Product advantages
The advantages of backflow valves Triplex-K and Quatrix-K in the shaft system
Extension pieces for recessed installation

If a backflow stop must be installed essentially deeper due to structural factors, the shaft systems of the ACO backflow valves can be easily upgraded with optionally available extension pieces for recessed installation. If necessary, even several extension pieces can be quickly assembled.


Sealing flange for pressing water

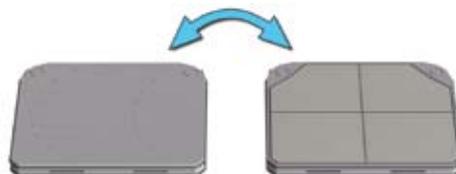
If the base plate must be secured against pressing water, the shaft system can be equipped with the optional sealing flange. This flange protects the basement reliably against moisture from the soil. The special feature: The flange is gradually height-adjustable and therefore provides a perfect adjustment to the central level of the on-site base plate.


Adaptation to tile grating and floor level

The final top section for Load class K 3 is infinitely height-adjustable and inclinable. Thus, the position of the cover to the floor level and the tile grating can be adjusted. A special adjusted locking system provides a secure hold.


Multi-option cover for customized requirements

The two sides of the cover can be used as desired. Thus, the solid side provides a plastic cover. However, if the cover with the tiles installed on-site form an optical unit, the cover can be easily turned over and the tiles can be glued in.



Double backflow stop Triplex-K-2 with shaft system

Backflow stop Triplex-K-2 Type2 corresponds with EN 13564. This product is specifically designed for the installation in the base plate. The backflow stop can be retrofitted with a sealing flange against water pressure.

The Triplex-K-2 is intended for use in waste water free of faeces. Only drainage facilities with waste water free of faeces can be connected, such as floor drains, showers or washing machines that are located below the backflow level.

Both valves oscillate during normal operations. When waste water is discharged, both valves open from the water pressure and the liquid can be discharged into the channel. In the case of a backflow, the waste water pushes into the pipe from the channel. The back valve is pressed against the sealing seat and prevents the waste water from penetrating the building. The second valve is used for safety to take over the sealing function in case of any soiling of the rear valve.

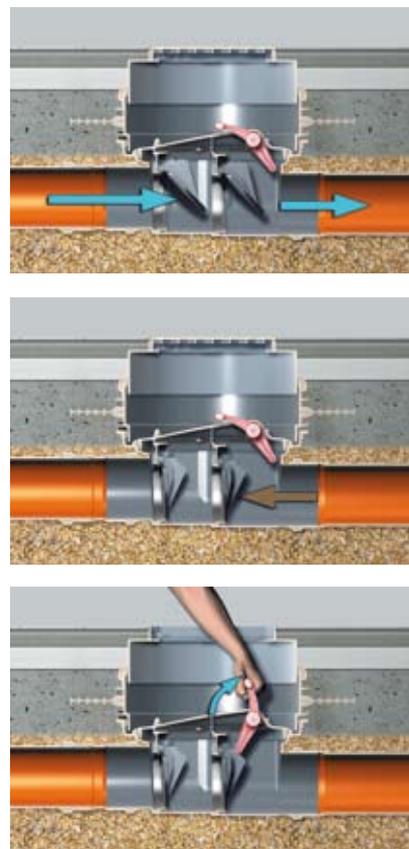
The Triplex-K-2 contains an additional emergency stop. It is integrated in the rear valve. It serves as an additional safeguard and can be operated by hand. The emergency stop can be easily operated effortlessly, the safe locking is indicated by an audible snap.

If the emergency stop is locked, no waste water can be discharged into the channel. It is absolutely essential to verify that, for example, the emergency stop is reopened after a holiday.

Product Benefits

Minimum drop of 12 mm is optimal in case of reconstructing

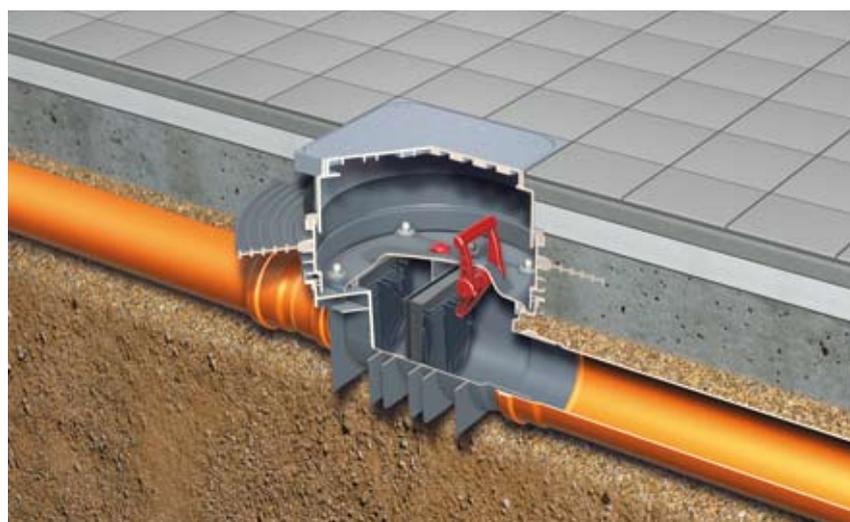
- Height-adjustable top section for a perfect adjustment to the floor level
- Alternatively with gradually adjustable sealing flange for flexible placement of the sealing level
- Easily retrofitted for an automatic faeces backflow



Installation example

Double backflow stop Triplex-K-2, DN 100 Type 2 according to EN 13564 for the installation in the base plate. The illustration shows

Triplex-K-2 with sealing flange accessories against water pressure.



Automatic faeces backflow system Quatrix-K with shaft system

The automatic faeces backflow Quatrix 3F-K type corresponds with EN 13564. This product is specifically designed for the installation in the base plate. The backflow stop can be equipped with a sealing flange against water pressure.

The automatic ACO backflow is intended for the use in automatic waste water containing faeces. Whenever a toilet is installed below the backflow level, it is necessary to use a backflow stop Type 3F. Both valves are open during the normal operating mode. If backflow is created from the channel side, the operating seal will automatically close. This is accomplished with a pneumatic / electric control unit. Once the waste water rises above the permitted filling level in the pipe, a signal is sent to the control unit by the resulting dynamic pressure (10 mbar). The control unit initiates the electric motor to close the operating seal valve. If the backflow situation is relieved, it is detected by the control unit and the valve automatically opens.

The connected drainage facilities cannot be used during the backflow phase. The backflow is displayed by a visual and audible signal. An integrated battery provides operation readiness for up to 24 hours at a power failure.

The Quatrix-K contains an additional emergency stop. It can be operated by hand.

Product Benefits

Minimum drop of 12 mm is optimal in case of reconstructing

- Height-adjustable top section for a perfect adjustment to the floor level
- Alternatively with gradually adjustable sealing flange for flexible placement of the sealing level
- Pneumatic measuring system for a trouble-free operation

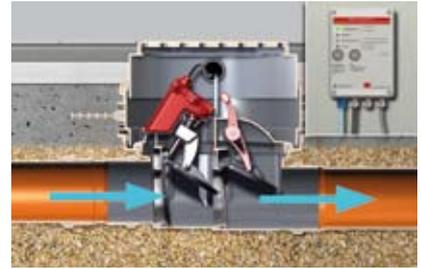


Figure 1: Operating seal valve and emergency stop valve are open, water is drained off.

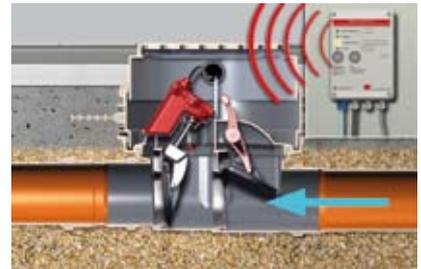


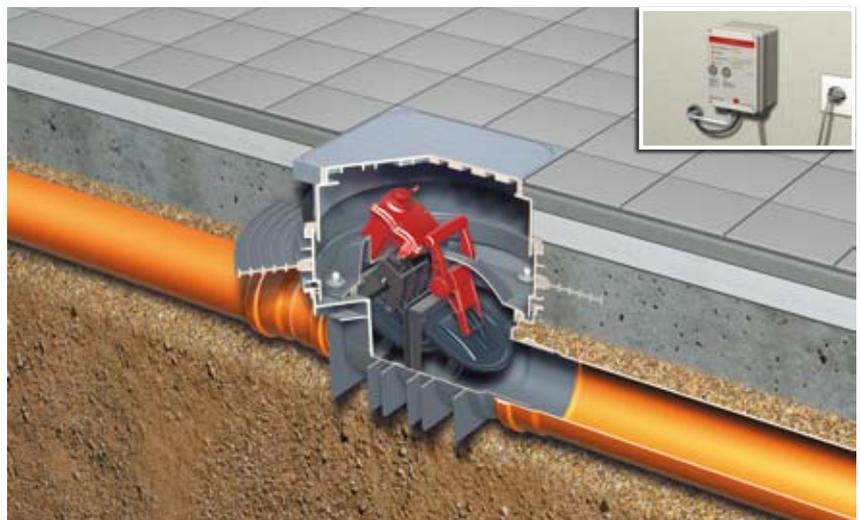
Figure 2: The operating seal closes automatically during a backflow. A visual and audible alarm will sound.



Figure 3: If necessary, the emergency stop can be locked manually.

Installation example

Automatic faeces backflow Quatrix-K, DN 100 Type 3F according to EN 13564 for installation in the base plate. The figure shows an automatic ACO faeces backflow with sealing flange accessories against water pressure.



Cellar drain Junior with backflow stop

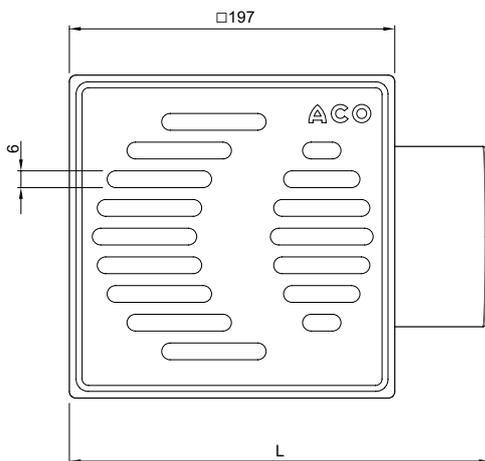
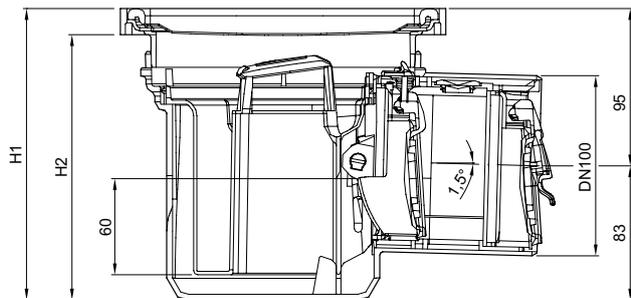
Product information

ACO product advantages

- Compact dimensions makes it ideally suited for renovation purposes
 - Revolving top section for optimal adaptation to tile pattern
 - With optional extension piece for more flexibly recessed installation
 - Fitting and removal of sludge bucket and backflow insert without tools
- With removable odour seal
 - Water trap: 60 mm
 - Shut-off unit with 2 backflow flaps
 - With 1 hand-operated emergency closure device
 - Revolving top section
 - Plastic
 - Frame dimensions: 197 x 197 mm
 - Slotted grating
 - Plastic
 - Load class K 3
 - Outlet sockets
 - DN 100
 - Socket inclination: 1,5°
 - Flow rate: 1.4 l/s
- Type 5 certified in accordance with EN 13564
 - Plastic
 - For waste water free of faeces
 - With removable sludge bucket

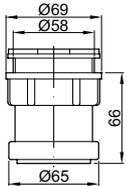
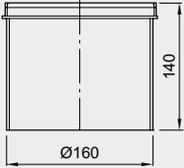
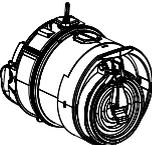


Ordering information



L [mm]	Dimensions		Recess [mm]	Weight [kg]	Article No.
	H1 [mm]	H2 [mm]			
255	178	162	250 x 400	1,2	2130.00.77

Accessories

	Designation	compatible with	Description	Article No.
	Inlet socket DN 50	<ul style="list-style-type: none"> ■ Cellar drain Junior with backflow stop ■ Cellar drain DN 100 ■ Sinkamat-K (free-standing installation) 	<ul style="list-style-type: none"> ■ Plastic ■ For lateral inlet ■ Customer-side fitting ■ Weight: 0.1 kg 	2410.00.04
	Plastic extension	<ul style="list-style-type: none"> ■ Cellar drain DN 100 ■ Cellar drain Junior with backflow stop 	<ul style="list-style-type: none"> ■ For deepened installation ■ Structure height: 130 mm ■ Weight: 0.2 kg 	2040.00.06
	Backflow unit	<ul style="list-style-type: none"> ■ Cellar drain Junior with backflow stop 	<ul style="list-style-type: none"> ■ Servicing equipment ■ With backflow safety valve DN 100 	2120.00.00
	Inspection pipe	<ul style="list-style-type: none"> ■ Backflow stops Triplex-K-2 ■ Black water automatic backflow stop Quatrix-K Type 3F ■ Cellar drain Junior with backflow stop ■ Fuel oil valves 	<ul style="list-style-type: none"> ■ Plastic ■ With sealing ring ■ For on-site maintenance check 	6010.00.15

Cleaning pipe Triplex-K, for exposed pipes

Product information

ACO product advantages

- Only 12 mm gradient
- Only 71 cm fitting opening without counter gradient
- Optimal for renovation purposes
- Suitable for mobile cameras

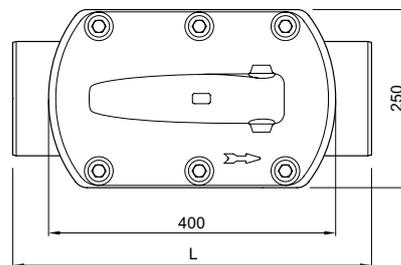
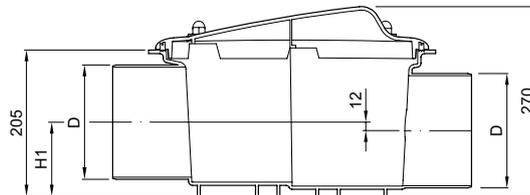
- Plastic
- For installation in exposed pipes
- Connecting pipe shaped as spigot
- Can be upgraded to type 0, 1, 2 and type 3F in accordance with EN 13564



Ordering information

Installation	Description	Nominal width	Weight	Article No.
			[kg]	
For installation in exposed pipes	■ Cleaning pipe for waste water containing faeces (black water) and waste water free of faeces (grey water)	DN 100	4,5	620352
		DN 150	4,5	620353

Dimensions



Nominal width	Dimensions		
	D [mm]	L [mm]	H1 [mm]
DN 100	110	460	79
DN 150	160	504	104

Cleaning pipe Triplex-K, with shaft system

Product information

ACO product advantages

- Only 12 mm gradient
- Only 71 cm fitting opening without counter gradient
- Optimal for renovation purposes
- Suitable for mobile cameras
- Optionally with a height-adjustable sealing flange for waterproof concrete

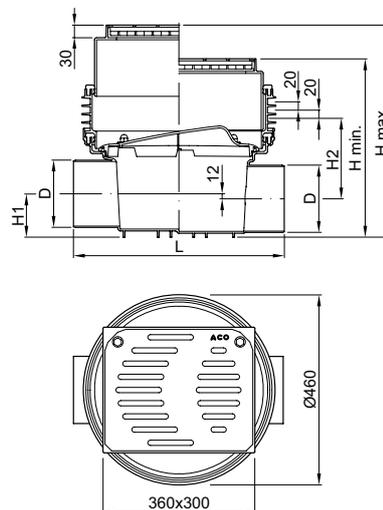
- Plastic
- For installation in the base plate
- Height-adjustable and revolving top section
- Reversible plate sealed to surface water for selectable surface
 - Load class K 3
- Connecting pipe shaped as spigot
- Can be upgraded to type 0, 1, 2 and type 3F in accordance with EN 13564



Ordering information

Installation	Description	Nominal width	Weight	Article No.
			[kg]	
For installation in the base plate	■ Cleaning pipe for waste water containing faeces (black water) and waste water free of faeces (grey water)	DN 100	11,9	620354
		DN 150	11,9	620355

Dimensions



Nominal width	Dimensions					
	D [mm]	L [mm]	H1 [mm]	H2 [mm]	H min [mm]	H max [mm]
DN 100	110	460	79	217	426	512
DN 150	160	504	104	192	426	512

Single backflow stops Triplex-K-0, for exposed pipes

Product information

ACO product advantages

- Only 12 mm gradient
- Only 71 cm fitting opening without counter gradient
- Optimal for renovation purposes
- Suitable for mobile cameras

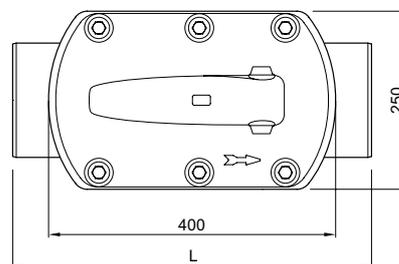
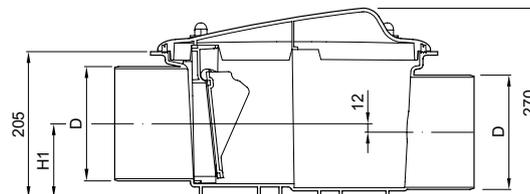
- Plastic
- For installation in exposed pipes
- Type 0 certified in accordance with EN 13564
- For rainwater
- With 1 self-closing backflow flap
- With a large cleaning and maintenance opening
- Connecting pipe shaped as spigot
- Can be upgraded to type 1, 2 and type 3F in accordance with EN 13564



Ordering information

Installation	Description	Nominal width	Weight	Article No.
			[kg]	
For installation in exposed pipes	■ Type 0. suitable for rainwater utilization plant in accordance with EN 13564	DN 100	4,9	620356
		DN 150	4,9	620357

Dimensions



Nominal width	Dimensions		
	D [mm]	L [mm]	H1 [mm]
DN 100	110	460	79
DN 150	160	504	104

Single backflow stops Triplex-K-0, with shaft system

Product information

ACO product advantages

- Only 12 mm gradient
- Only 71 cm fitting opening without counter gradient
- Optimal for renovation purposes
- Suitable for mobile cameras
- Optionally with a height-adjustable sealing flange for waterproof concrete

- Plastic
- For installation in the base plate
- Type 0 certified in accordance with EN 13564

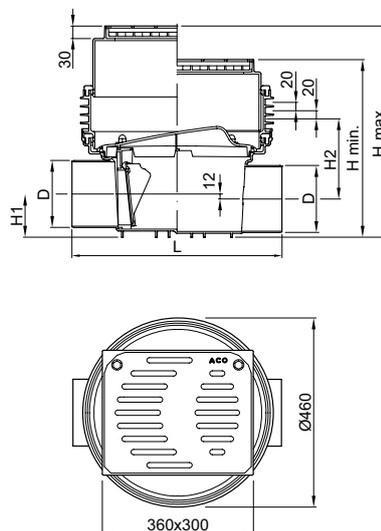
- For rainwater
- With 1 self-closing backflow flap
- With a large cleaning and maintenance opening
- Height-adjustable and revolving top section
- Reversible plate sealed to surface water for selectable surface
 - Load class K 3
- Connecting pipe shaped as spigot
- Can be upgraded to type 1, 2 and type 3F in accordance with EN 13564



Ordering information

Installation	Description	Nominal width	Weight	Article No.
			[kg]	
For installation in the base plate	■ Type 0, suitable for rainwater utilization plant in accordance with EN 13564	DN 100	12,3	620358
		DN 150	12,3	620359

Dimensions



Nominal width	Dimensions					
	D	L	H1	H2	H min	H max
	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
DN 100	110	460	79	217	426	512
DN 150	160	504	104	192	426	512

Single backflow stops Triplex-K-1, for exposed pipes

Product information

ACO product advantages

- Only 12 mm gradient
- Only 71 cm fitting opening without counter gradient
- Optimal for renovation purposes
- Suitable for mobile cameras

- Plastic
- For installation in exposed pipes

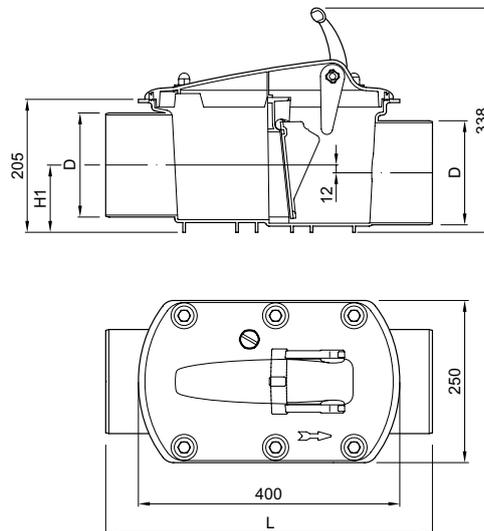
- Type 1 certified in accordance with EN 13564
- For rainwater
- With 1 self-closing backflow flap
 - Self-activating closure device (combined with emergency closure device)
- With a large cleaning and maintenance opening
- Connecting pipe shaped as spigot
- Can be upgraded to type 2 and type 3F in accordance with EN 13564



Ordering information

Installation	Description	Nominal width	Weight	Article No.
			[kg]	
For installation in exposed pipes	■ Type 1. suitable for rainwater utilization plant in accordance with EN 13564	DN 100	4,9	620360
		DN 150	4,9	620361

Dimensions



Nominal width	Dimensions		
	D [mm]	L [mm]	H1 [mm]
DN 100	110	460	79
DN 150	160	504	104

Single backflow stops Triplex-K-1, with shaft system

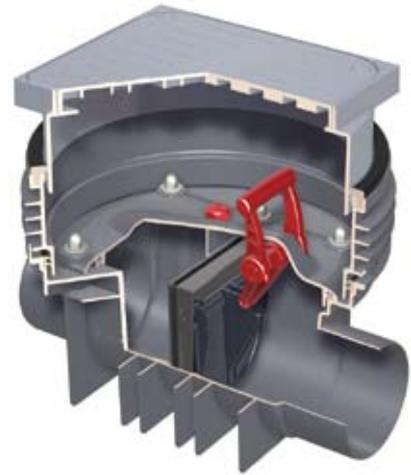
Product information

ACO product advantages

- Only 12 mm gradient
- Only 71 cm fitting opening without counter gradient
- Optimal for renovation purposes
- Suitable for mobile cameras
- Optionally with a height-adjustable sealing flange for waterproof concrete

- Plastic
- For installation in the base plate
- Type 1 certified in accordance with EN 13564

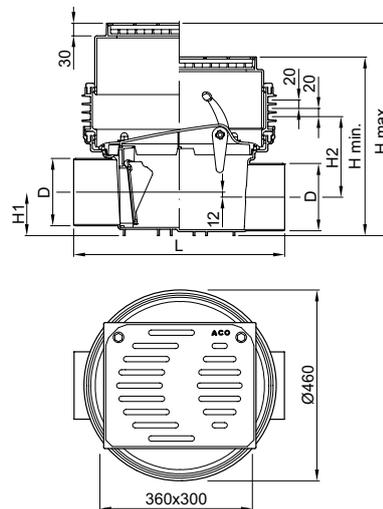
- For rainwater
- With 1 self-closing backflow flap
 - Self-activating closure device (combined with emergency closure device)
- With a large cleaning and maintenance opening
- Height-adjustable and revolving top section
- Reversible plate sealed to surface water for selectable surface
 - Load class K 3
- Connecting pipe shaped as spigot
- Can be upgraded to type 2 and type 3F in accordance with EN 13564



Ordering information

Installation	Description	Nominal width	Weight	Article No.
			[kg]	
For installation in the base plate	■ Type 1. suitable for rainwater utilization plant in accordance with EN 13564	DN 100	12,3	620362
		DN 150	12,3	620363

Dimensions



Nominal width	Dimensions					
	D [mm]	L [mm]	H1 [mm]	H2 [mm]	H min [mm]	H max [mm]
DN 100	110	460	79	217	426	512
DN 150	160	504	104	192	426	512

Double backflow stops Triplex-K-2, for exposed pipes

Product information

ACO product advantages

- Only 12 mm gradient
- Only 71 cm fitting opening without counter gradient
- Optimal for renovation purposes
- Suitable for mobile cameras

- Plastic
- For installation in exposed pipes

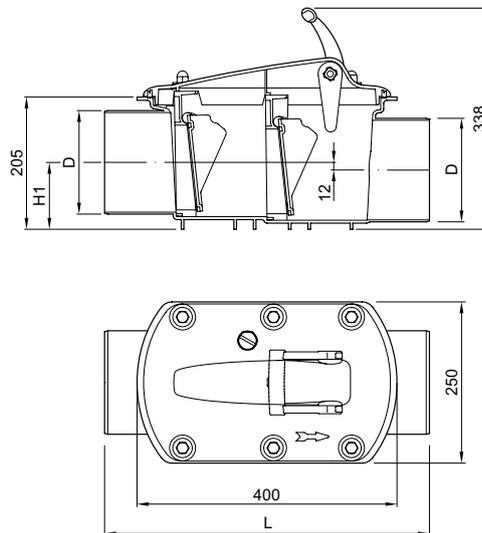
- Type 2 certified in accordance with EN 13564
- For waste water free of faeces
- With 2 self-closing backflow flaps
 - Self-activating closure device
 - Emergency closure device
- With a large cleaning and maintenance opening and an inspection pipe
- Connecting pipe shaped as spigot
- Can be upgraded to type 3F in accordance with EN 13564



Ordering information

Installation	Description	Nominal width	Weight	Article No.
			[kg]	
For installation in exposed pipes	■ Type 2, suitable for water free of faeces (grey water) in accordance with EN 13564	DN 100	5,1	620364
		DN 150	5,1	620365

Dimensions



Nominal width	Dimensions		
	D [mm]	L [mm]	H1 [mm]
DN 100	110	460	79
DN 150	160	504	104

Double backflow stops Triplex-K-2, with shaft system

Product information

ACO product advantages

- Only 12 mm gradient
- Only 71 cm fitting opening without counter gradient
- Optimal for renovation purposes
- Suitable for mobile cameras
- Optionally with a height-adjustable sealing flange for waterproof concrete

- Plastic
- For installation in the base plate
- Type 2 certified in accordance with EN 13564

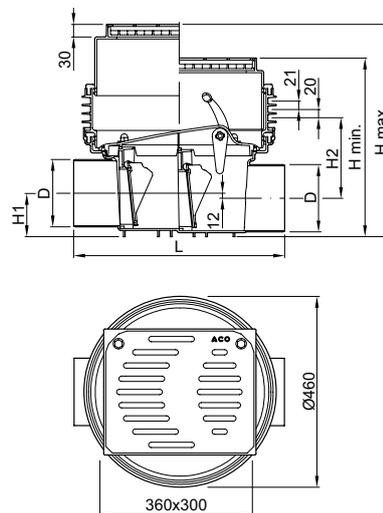
- For waste water free of faeces
- With 2 self-closing backflow flaps
 - Self-activating closure device
 - Emergency closure device
- With a large cleaning and maintenance opening and an inspection pipe
- Height-adjustable and revolving top section
- Reversible plate sealed to surface water for selectable surface
 - Load class: K 3
- Connecting pipe shaped as spigot
- Can be upgraded to type 3F in accordance with EN 13564



Ordering information

Installation	Description	Nominal width	Weight [kg]	Article No.
For installation in the base plate	■ Type 2, suitable for water free of faeces (grey water) in accordance with EN 13564	DN 100	12,7	620366
		DN 150	12,7	620367

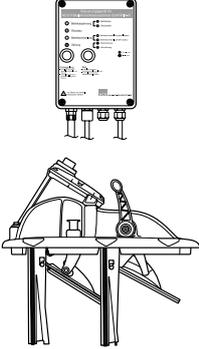
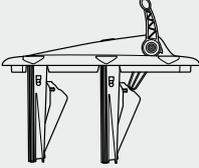
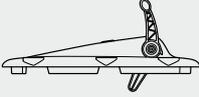
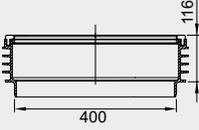
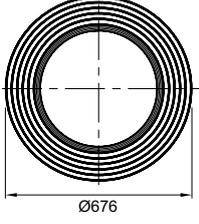
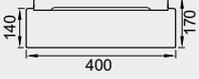
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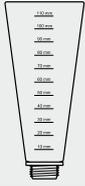


Nominal width	Dimensions					
	D [mm]	L [mm]	H1 [mm]	H2 [mm]	H min [mm]	H max [mm]
DN 100	110	460	79	217	426	512
DN 150	160	504	104	192	426	512

Backflow systems
Backflow stops

Accessories

	Designation	compatible with	Description	Article No.
	Conversion set	<ul style="list-style-type: none"> ■ Cleaning pipe Triplex-K ■ Single backflow stops Triplex-K-0 Type 0 ■ Single backflow stops Triplex-K-1 Type 1 ■ Double backflow stops Triplex-K-2 Type 2 	<ul style="list-style-type: none"> ■ Upgrade to backflow stop Quatrix-K, type 3F in accordance with EN 13564 	620372
	Conversion set	<ul style="list-style-type: none"> ■ Cleaning pipe Triplex-K ■ Single backflow stops Triplex-K-0 Type 0 ■ Single backflow stops Triplex-K-1 Type 1 	<ul style="list-style-type: none"> ■ Upgrade to backflow stop Triplex-K-2, type 2 in accordance with EN 13564 	620373
	Backflow stop flap with insert piece	<ul style="list-style-type: none"> ■ Single backflow stops Triplex-K-0 Type 0 ■ Single backflow stops Triplex-K-1 Type 1 ■ Double backflow stops Triplex-K-2 Type 2 		620378
	Locking cover	<ul style="list-style-type: none"> ■ Single backflow stops Triplex-K-1 Type 1 ■ Double backflow stops Triplex-K-2 Type 2 	<ul style="list-style-type: none"> ■ With seal rubber 	620379
	Locking cover	<ul style="list-style-type: none"> ■ Cleaning pipe Triplex-K ■ Single backflow stops Triplex-K-0 Type 0 	<ul style="list-style-type: none"> ■ With seal rubber 	620380
	Extension piece	<ul style="list-style-type: none"> ■ Backflow stops and Cleaning pipes for installation in the base plate 	<ul style="list-style-type: none"> ■ With lip seal ■ Incremental increase by 116 mm 	620381
	Sealing flange	<ul style="list-style-type: none"> ■ Backflow stops and Cleaning pipes for installation in the base plate ■ Sinkamat-K (underground) 	<ul style="list-style-type: none"> ■ For installation in waterproof concrete □ Maximum groundwater level: 3 m 	620382
	Top section	<ul style="list-style-type: none"> ■ Backflow stops and Cleaning pipes for installation in the base plate 		620383

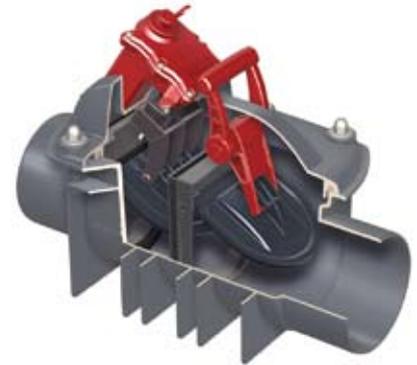
	Designation	compatible with	Description	Article No.
	Reversible cover plate	<ul style="list-style-type: none"> ■ Backflow stops and Cleaning pipes for installation in the base plate 		620384
	Inspection pipe	<ul style="list-style-type: none"> ■ Backflow stops Triplex-K-2 ■ Black water automatic backflow stop Quatrix-K Type 3F ■ Cellar drain Junior with backflow stop ■ Fuel oil valves 	<ul style="list-style-type: none"> ■ Plastic ■ With sealing ring ■ For on-site maintenance check 	6010.00.15
	Seal rubber	<ul style="list-style-type: none"> ■ Cleaning pipes ■ Backflow stops <ul style="list-style-type: none"> □ Triplex-K series □ Quatrix-K Type 3F 	<ul style="list-style-type: none"> ■ Seal rubber for housing cover 	620454

Black water automatic backflow stop Quatrix-K, for exposed pipes

Product information

ACO product advantages

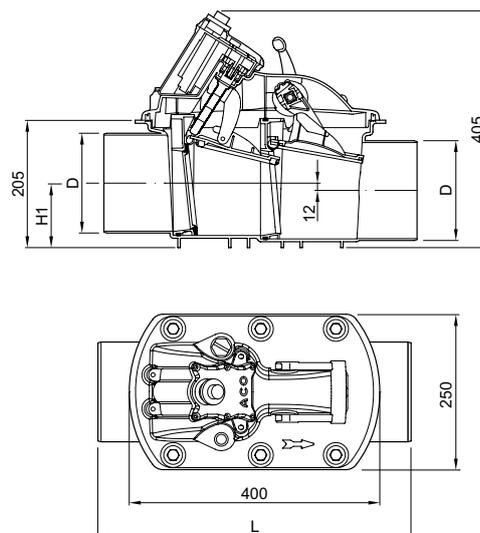
- Only 12 mm gradient
 - Only 71 cm fitting opening without counter gradient
 - Optimal for renovation purposes
 - Suitable for mobile cameras
 - Pneumatic measuring system for malfunction-free operation
- Plastic
 - For installation in exposed pipes
 - Type 3F certified in accordance with EN 13564
 - With a double backflow safety valve
- With 1 automatic operating seal
 - With 1 hand-operated emergency gate
 - With a large cleaning and maintenance opening and an inspection pipe
 - With a plug-in, electrical control unit IP 56 with an integrated 4 week self-monitoring function
 - With a visual and acoustic backflow signal
 - With emergency power supply via a long-life backup battery
 - With dry contact for remote signalling
 - Flood-proof motor IP 68 (3 m, 24 h)
 - Cable length: 5 m (extension to 15 m possible)
 - Connecting pipe shaped as spigot



Ordering information

Installation	Description	Nominal width	Weight [kg]	Article No.
For installation in exposed pipes	■ Type 3F, suitable for water containing faeces (black water) and water not containing faeces (grey water) in accordance with EN 13564	DN 100	9,1	620368
		DN 150	9,1	620369

Dimensions



Nominal width	D	Dimensions	
		L	H1
	[mm]	[mm]	[mm]
DN 100	110	460	79
DN 150	160	504	104

Black water automatic backflow stop Quatrix-K, with shaft system

Product information

ACO product advantages

- Only 12 mm gradient
- Only 71 cm fitting opening without counter gradient
- Optimal for renovation purposes
- Suitable for mobile cameras
- Optionally with a height-adjustable sealing flange for waterproof concrete
- Pneumatic measuring system for malfunction-free operation

- Plastic
- For installation in the base plate
- Type 3F certified in accordance with EN 13564
- With a double backflow safety valve
 - With 1 automatic operating seal
 - With 1 hand-operated emergency gate

- With a large cleaning and maintenance opening and an inspection pipe
- With a plug-in, electrical control unit IP 56 with an integrated 4 week self-monitoring function
- With a visual and acoustic backflow signal
- With emergency power supply via a long-life backup battery
- With dry contact for remote signalling
- Flood-proof motor IP 68 (3 m, 24 h)
- Cable length: 5 m (extension to 15 m possible)
- Height-adjustable and revolving top section
- Reversible plate sealed to surface water for selectable surface
 - Load class: K 3
- Connecting pipe shaped as spigot

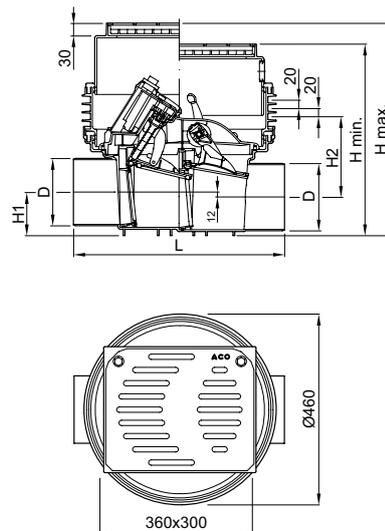


Backflow systems
Backflow stops

Ordering information

Installation	Description	Nominal width	Weight [kg]	Article No.
For installation in the base plate	■ Type 3F, suitable for water containing faeces (black water) and water not containing faeces (grey water) in accordance with EN 13564	DN 100	15,4	620370
		DN 150	15,4	620371

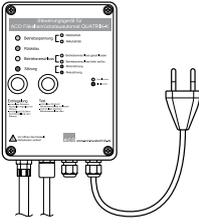
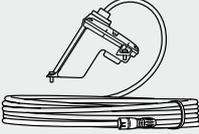
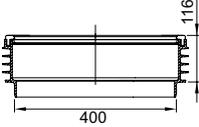
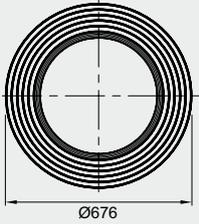
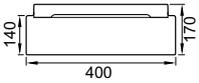
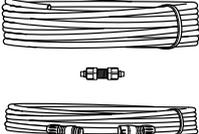
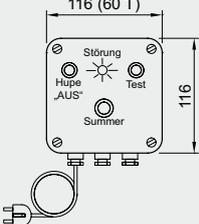
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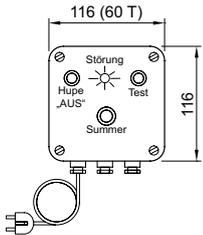


Nominal width	D	Dimensions				
		L	H1	H2	H min	H max
	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
DN 100	110	460	79	217	460	512
DN 150	160	504	104	192	460	512

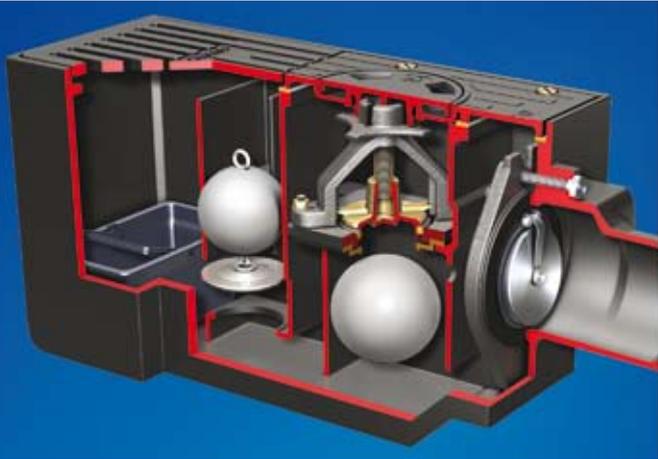


Accessories

	Designation	compatible with	Description	Article No.
	Operating seal flap with insert piece	<ul style="list-style-type: none"> Automatic faeces backflow systems Quatrix-K Type 3F 		620374
	Emergency closure flap with insert piece	<ul style="list-style-type: none"> Automatic faeces backflow systems Quatrix-K Type 3F 		620375
	Control unit	<ul style="list-style-type: none"> Automatic faeces backflow systems Quatrix-K Type 3F 	<ul style="list-style-type: none"> Plug in IP 56 	620376
	Drive motor	<ul style="list-style-type: none"> Automatic faeces backflow systems Quatrix-K Type 3F 	<ul style="list-style-type: none"> With 5 m conductor 	620377
	Extension piece	<ul style="list-style-type: none"> Backflow stops and Cleaning pipes for installation in the base plate 	<ul style="list-style-type: none"> With lip seal Incremental increase by 116 mm 	620381
	Sealing flange	<ul style="list-style-type: none"> Backflow stops and Cleaning pipes for installation in the base plate Sinkamat-K (underground) 	<ul style="list-style-type: none"> For installation in waterproof concrete Maximum groundwater level: 3 m 	620382
	Top section	<ul style="list-style-type: none"> Backflow stops and Cleaning pipes for installation in the base plate 		620383
	Reversible cover plate	<ul style="list-style-type: none"> Backflow stops and Cleaning pipes for installation in the base plate 		620384
	Extension set	<ul style="list-style-type: none"> Automatic faeces backflow systems Quatrix-K Type 3F 	<ul style="list-style-type: none"> Consisting of <ul style="list-style-type: none"> Pressure hose (10 m) Mains cable and plug For cable blank pipe DN 40 Angles and bends ≤ 45° 	620438
	Signal device (network dependent)	<ul style="list-style-type: none"> Automatic faeces backflow systems Quatrix-K Type 3F Sinkamat-S/-Z Muli polyethylene duo Muli polyethylene S mono/duo All Multi-Pro waste water lifting plants Suspension plant mono/duo 	<ul style="list-style-type: none"> Visual and acoustic Network dependent Without pickup With dry contact for fault signal level With 1 m connecting cable and angled three-wire plug 	0159.12.30

	Designation	compatible with	Description	Article No.
	Signal device (network independent)	<ul style="list-style-type: none"> ■ Automatic faeces backflow systems Quatrix-K Type 3F ■ Sinkamat-S/-Z ■ Muli polyethylene S mono/duo ■ All Multi-Pro waste water lifting plants ■ Suspension plant mono/duo 	<ul style="list-style-type: none"> ■ Visual and acoustic ■ Self-charging ■ Without pickup ■ With dry contact for fault signal level ■ With acoustic deletion ■ With 1 m connecting cable and angled three-wire plug 	0159.12.31
	Inspection pipe	<ul style="list-style-type: none"> ■ Backflow stops Triplex-K-2 ■ Black water automatic backflow stop Quatrix-K Type 3F ■ Cellar drain Junior with backflow stop ■ Fuel oil valves 	<ul style="list-style-type: none"> ■ Plastic ■ With sealing ring ■ For on-site maintenance check 	6010.00.15
	Seal rubber	<ul style="list-style-type: none"> ■ Cleaning pipes ■ Backflow stops <ul style="list-style-type: none"> □ Triplex-K series □ Quatrix-K Type 3F 	<ul style="list-style-type: none"> ■ Seal rubber for housing cover 	620454





Backflow systems ▶ Fuel oil valve

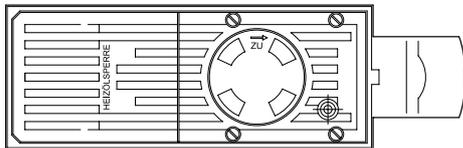
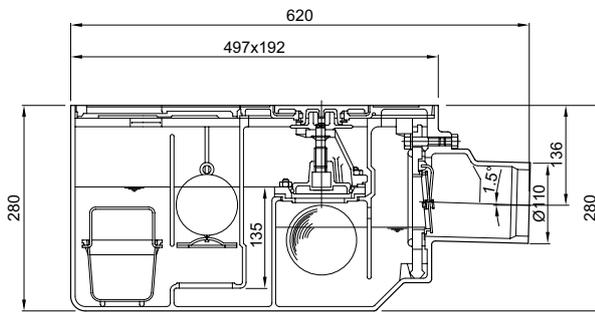
Fuel oil valve

Cast iron

	Page
Fuel oil valve with backflow stop	236
Fuel oil valve without backflow stop	237
Accessories	238

With backflow stop
Product information
ACO product advantages

- With backflow stop
 - Building materials class: A1
 - Load class: L 15
- Cast iron fuel oil valve DN 100
 - For installation in the base plate
 - Certified in accordance with EN 1253-5
 - Slotted grating/grating cover
- Load class: L 15
 - With odour seal
 - Water trap: 135 mm
 - With plastic sludge bucket
 - With float for light oil stop (density: 0.95 g/cm³)
 - Max. storage capacity: 4 l
 - Type 2 backflow stop certified in accordance with EN 13564
 - Flow rate: 1.7 l/s


Ordering information


Nominal width	Description	Weight [kg]	Article No.
DN 100	<ul style="list-style-type: none"> ■ With float for light oil stop (density: 0.95/cm³) ■ With backflow stop type 2 	42,5	6763.00.00

Without backflow stop

Product information

ACO product advantages

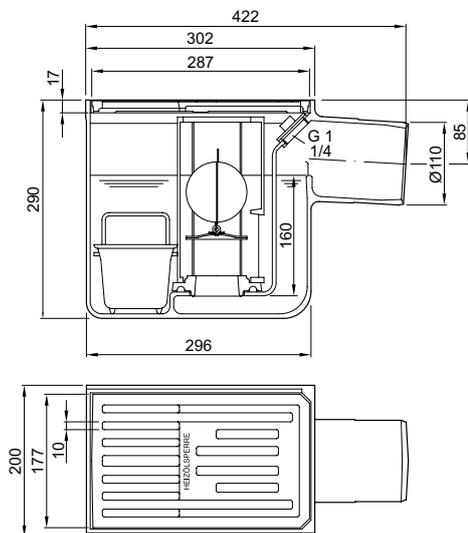
- Building materials class: A1
- Load class: L 15

- Cast iron fuel oil valve DN 100
- For installation in the base plate
- Certified in accordance with EN 1253-5
- Slotted grating/grating cover

- Load class: L 15
- With odour seal
- Water trap: 160 mm
- With plastic sludge bucket
- With float for light oil stop (density: 0.95 g/cm³)
- Max. storage capacity: 4 l
- Flow rate: 1.7 l/s



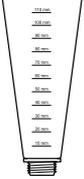
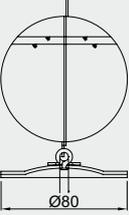
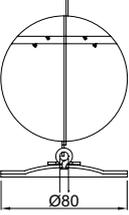
Ordering information



Nominal width	Description	Weight [kg]	Article No.
DN 100	■ With float for light oil stop (density: 0.95/cm ³)	22,5	6760.00.00

Backflow systems
Fuel oil valve

Accessories

	Designation	compatible with	Description	Article No.
	Inspection pipe	<ul style="list-style-type: none"> ■ Backflow stops Triplex-K-2 ■ Black water automatic backflow stop Quatrix-K Type 3F ■ Cellar drain Junior with backflow stop ■ Fuel oil valves 	<ul style="list-style-type: none"> ■ Plastic ■ With sealing ring ■ For on-site maintenance check 	6010.00.15
	Float	<ul style="list-style-type: none"> ■ Fuel oil valves 	<ul style="list-style-type: none"> ■ Density: 0.85 g/m³ 	6760.00.15
	Float	<ul style="list-style-type: none"> ■ Fuel oil valves 	<ul style="list-style-type: none"> ■ Density: 0.95 g/m³ 	6760.00.90