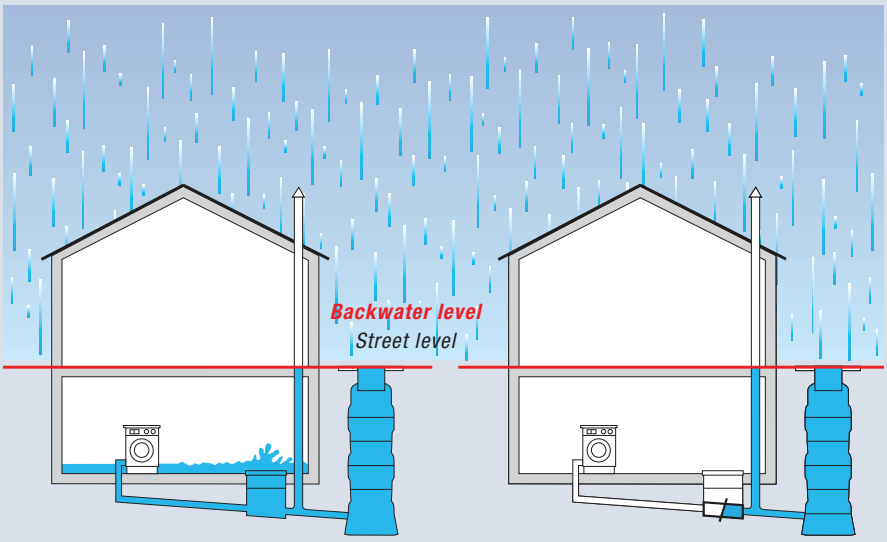
1 Backwater protection

What is backwater?

All the outlet pipes from drainage fixtures in buildings (washing machines, showers, toilets etc.) are connected to the sewer, forming a linked pipe system. If the wastewater cannot flow freely through the sewer e.g. after heavy rainfall or due to blockages in the sewer pipes, it is pushed back into the connected outlet pipes and can flood all the areas of the house which are below the backwater level, including any fixtures and furnishings etc.



Problem: Draining system without backwater protection

During heavy rain, the water level rises above the so-called backwater level. This term is usually used to mean street level. Rooms in the basement or cellar quickly become flooded.
Damage caused by ruined flooring, furniture or electric appliances, soaked household goods results in a great deal of hassle and costs for those living in the house.

Solution: Draining system with backwater protection

Draining systems such as floor drains, washing machines, sinks, showers or toilets which are below the backwater level have to be protected effectively and permanently against backwater. Wastewater that flows with gravity drainage to the sewer has to be protected by a backwater valve.
If the public sewer is higher than the drainage spot in the building, the wastewater must be pumped upwards via a fully automatic lifting station.

Backwater is always possible

For economic reasons, mixed public sewage systems often cannot be dimensioned in such a way that they can deal with extremely heavy rain without any problems. For this reason, flooding of the sewer and backwater in all connected pipes must be expected during heavy rain.

In addition, backwater can occur for the following reasons:

- Blockage, burst pipes or damage to the sewage system.
- Pump failure, if the drainage system is connected to a pumping station.
- High water levels in the recipient (stream or river), since rainwater cannot flow away easily from low ground.
- Pipe blockage or diversion due to repair work.
- Increased wastewater feed, for example when sewage systems are being rinsed, the fire brigade is in action or more pipes are connected to the sewage system than originally planned.

Heavy rainfalls more common

The problem of backwater has always existed, because for economic and technical reasons, sewage pipes are designed for average rainfall. This means the storm sewage pipe can fill up very quickly in the event of a cloudburst.

What is new is that meteorologists predict that heavy rainfalls will increase in future. The reason: global warming leads to more evaporation from the earth's surface. This fills rain clouds which then discharge torrential rain.

Specialist help is needed

At the end of the day, the building owner, home owner or renovators are out on their own. They have to protect their property from backwater, with or without insurance.

But what's the best way to do it? Who can assess the risk? What should they do? Who can they contact?

This is where specialist craftsmen are required. Backwater protection is a matter for professionals, not DIY specialists. For this reason, specialists must provide expert advice to home owners, building owners and renovators as to how they can best protect their properties from backwater.

The right product selection

The selection and use of backwater protection depends on several conditions. In particular, the wishes of the operator must be taken into account, as well as the drainage fixture itself, the position of the sewage channel, type of sewage and the respective regulations.

Black water or grey water?

Black water
wastewater with sewage

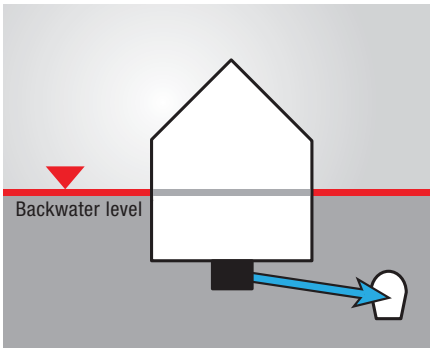
Grey water
wastewater without sewage

When choosing which product you require, the distinction between wastewater with sewage (black water) and wastewater without sewage (grey water) is extremely important. The decisive factor is always the type of wastewater that flows through the backwater protection towards the sewer. Wastewater without sewage means water coming from showers or washing machines, for example.

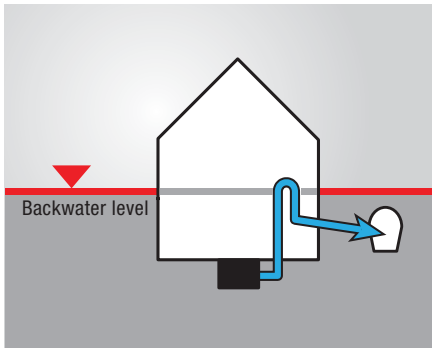
Wastewater with sewage is always involved whenever pipes are connected that transport water from urinals or toilets to the sewer.

Which type of wastewater is pushed back in the event of backwater (in other words from the sewer towards the backwater protection) is insignificant.

Gravity or no gravity?



- *Domestic wastewater is discharged with gravity drainage to the sewer*
  ▷ *backwater valves starting* ***page 22***



- *Public sewer is higher - wastewater must be lifted to the sewer via the backwater loop* ▷ *pumping stations starting* ***page 85***

Installation possibilities

Example for installation in an exposed wastewater pipe

Example for installation in a concrete slab/floor

Example for underground installation

Exposed installation

Ideal for the renovation of old buildings which are in danger of backwater - the low-cost, clean and standard-conform solution for retrofitting backwater units!
To avoid the complete wastewater pipes having to be rerouted in expensive construction work, we recommend installing the central backwater protection unit in the existing exposed wastewater pipe. This guarantees free access to the backwater unit for maintenance work and pipe cleaning.

Installation in a concrete floor

The convenient, practical and attractive-looking version for new buildings creates additional accommodation space in the basement. High land prices often force clients who build a house on a small plot of land to use rooms in the basement to maximise the accommodation area. In addition, toilets, showers or utility rooms are often located in the basement.
The backwater protection unit is installed concealed in the floor. The easy-to-install set with a cover that can be tiled over as required can be used with a wide range of different interior styles and trends - whether the room in question is a music room, home office or sauna and spa.
Covers with a drain function for additional surface draining in an emergency (e.g. if the basement is flooded during heavy rain) provide even more safety. A special sealing set protects the basement from water pressure from below.

Underground installation

Up to now, products protecting against water penetration have mainly been installed inside buildings. In the meantime, however, new methods are available. For this, an inspection chamber is installed in front of the building where the backwater flap is installed.
If wastewater occurrence increases, the correct backwater protection unit can always be retrofitted e.g. when older residential areas are expanded or extensions are built on houses to cope with increased demand. This means clients and the local authorities are always on the safe side.
Equally, pumps and sewage lifting stations which so far have taken up a lot of space in the basement can now be installed in the chamber. Outside the building, they run quietly and reliably, and are easy to service.

Standards and regulations

Which standards must be taken into account?

EN standards	Description
12056-1	Gravity drainage systems inside buildings and performance requirements
12056-4	Gravity drainage systems inside buildings. Wastewater lifting plants - layout and calculation.
752	Gravity drainage systems outside buildings.
13564-1	Anti-flooding devices for buildings - requirements
1253-5	Gullies for buildings - closures for light liquids

The six product types of EN 13564

Backwater valves for through pipes are an ideal technical and, in particular, financial alternative to lifting stations. The usage conditions set out in EN 12056-4 must be given. According to EN 13564-1, a distinction is made between six types of backwater valves:

Type 0: Backwater valve for use in horizontal pipes with single free hanging backwater flap.

Type 1: Backwater valve for use in horizontal pipes with one automatic closure and one emergency closure, whereby this emergency closure may be combined with the automatic closure.

Type 2: Backwater valve for use in horizontal pipes with two automatic closures and one emergency closure, whereby this emergency closure may be combined with one of the two automatic closures.

Type 3: Backwater valve for use in horizontal pipes with one automatic closure operated by external energy (electric, pneumatic or other) and one emergency closure which is independent of the automatic closure.

Type 4: Backwater valve installed in drain fittings or floor drains, with one automatic closure and one emergency closure, whereby this emergency closure may be combined with the automatic closure.

Type 5: Backwater valve installed in drain fittings or floor drains, with two automatic closures and one emergency closure, whereby this emergency closure may be combined with one of the automatic closures.

INFORMATION

Do you require more detailed information? Our Service Centre will be happy to help.

You can find your personal KESSEL contact on page 5 of this catalog!

Complete System Solution
In addition to individual backwater valves, KESSEL also offers other systems for backwater protection.

- Lifting and pumping stations for free standing and underground installation see chapter 3 “lifting stations”.
- Basement drains with backwater flaps or pump see chapter 4 “drains and channels”.

Individual Solutions
Thanks to the knowledge and possibilities in the field of polyethylene technology KESSEL is not only able to manufacture series products, but also special solutions in accordance with project-specific requirements.

References
Over the past decades, KESSEL products have proven themselves countless times in destinations all over the world. Scan the following QR code to directly view our list of references.

www.kessel.com/references

Scan this QR code to directly view the corresponding product video.

YouTube

Tried-and-trusted backwater protection re-defined

Premium backwater valves for wastewater with and without sewage. Backwater valves discharge wastewater via gravity to the sewer. When there is backwater from the sewer, the backwater flaps close motor-driven (***Pumpfix F*** and ***Staufix FKA*** version). In the case of ***Staufix SWA***, the free hanging backwater flap is closed by the backwater. ***Pumpfix F*** also pumps wastewater to the sewer against the backwater.

Pumpfix F
backwater valve with integrated pump

SELECTION CRITERIA

PREMIUM-BACKWATER VALVES

	Controlfix	*SWA*	*FKA*	*Pumpfix*
Installation in a concrete floor?	✓	✓	✓	✓
Exposed installation?	✓	✓	✓	✓
Central protection of several drains possible?		✓	✓	✓
For wastewater containing raw sewage?		✓*	✓	✓
For commercial apllication?				✓
Wastewater disposal during backwater event?				✓
Conversion (Upgrade)	✓	✓	✓	
Products see page	27	26	24	22

* Check your country's EN 13564 backwater valve requirements for what type of valve is certified for your situation.

Staufix FKA
motorised backwater valve

Staufix SWA
twin flap backwater valve

VARIABLE UPPER SECTION
Rotatable, tiltable and height adjustable

Staufix FKA
Art.# 84100S

PLUG & PLAY COMFORT CONTROL UNITS
with self-diagnosis system SDS and multilingual display (EN, DE, FR, IT, PL, NL) - can be connected without a qualified electrician.
TeleControl telemetric system for relaying full text messages to mobile phones available as accessory.

INSTALLATION IN WATERPROOF CONCRETE
Option, gasket set to prevent groundwater infiltration

COMPLETE SET VERSION
Removable inlet and outlet connections - also in ∅ 200

GRADIENT
Installation body with only 9 mm gradient.
Ideal for renovation work

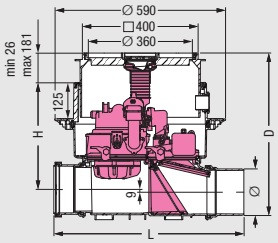
RETROFITTABLE
Every product in the *Staufix* Premium range can be retrofitted to a higher-level backwater unit up to *Pumpfix F* quite easily, depending on the situation.

STAINLESS STEEL FLAP
to keep rats and rodents out (available as accessory)

PROTECTION DURING CONSTRUCTION PHASE
thanks to freely suspended flap in the construction phase position

Pumpfix F Komfort — Installation in a concrete slab/floor

Illustration and dimensioned drawing	Article description	Outer diameter ∅ (mm)	Article #



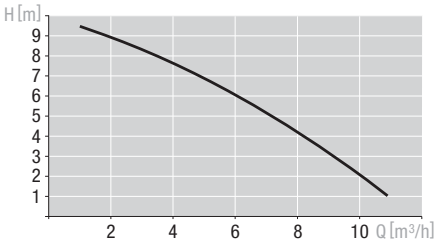
Installation area 750 x 750 mm

Backwater pumping station *Pumpfix F Komfort*
for wastewater with or without sewage
made of polymer, with telescopic upper section for continuous height- and level adjustment
For installation in a concrete slab/floor
for installation depth (D) from 486 - 640 mm
1 with recessed cover for on-site tiling and drain (X)
2 with black cover and drain (S)
With surface water tight cover plate class A 15 made of polymer and integrated floor drain. Installation kit with choice of cover.

Backwater pumping station according to EN 13564 Type 3 with pump (1kW/230V) and backwater valve, pump activates during backwater, suitable for wastewater with or without sewage. Plug-and-Play control unit with connection option to building management system and alarm, display for operating status and battery back-up, protection type IP 54, with integrated self diagnosis system SDS, motorized backwater flap, *Pumpfix F* body rated protection type IP 68 (3 m, 24 h).
Power cable length: 5 m (15 m available on request).

∅ **110** L: 642 mm H: 394 mm
∅ **125** L: 645 mm H: 387 mm
∅ **160** L: 656 mm H: 370 mm
∅ **200** L: 720 mm H: 348 mm

	Outer diameter ∅ (mm)	Article #
1 With recessed cover for on-site tiling and drain		
	∅ 110	**24100X**
	∅ 125	**24125X**
	∅ 160	**24150X**
	∅ 200*	**24200X**
2 With black cover and drain		
	∅ 110	**24100S**
	∅ 125	**24125S**
	∅ 160	**24150S**
	∅ 200*	**24200S**

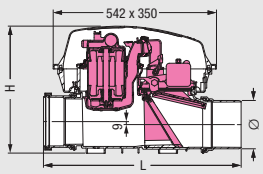


H[m] = Backwater height

Certification: Z-53.2-388

Accessories: Page 28 - 31

Pumpfix F Komfort — Installation in an exposed wastewater pipe

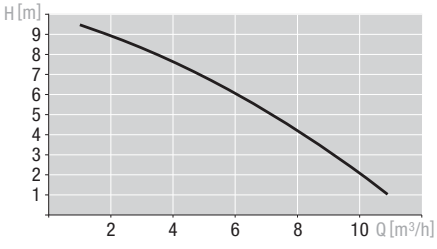


Backwater pumping station *Pumpfix F Komfort*
for wastewater with or without sewage
made of polymer
For installation
in an exposed wastewater pipe.
With protective cover.

Backwater pumping station according to EN 13564 Type 3 with pump (1kW/230V) and backwater valve, pump activates during backwater, suitable for wastewater with or without sewage. Plug-and-Play control unit with connection option to building management system and alarm, display for operating status and battery back-up, protection type IP 54, with integrated self diagnosis system SDS, motorized backwater flap, *Pumpfix F* body rated protection type IP 68 (3 m, 24 h).
Power cable length: 5 m (15 m available on request).

∅ **110** L: 642 mm H: 422 mm
∅ **125** L: 645 mm H: 422 mm
∅ **160** L: 656 mm H: 422 mm
∅ **200** L: 720 mm H: 422 mm

∅ 110	**24100**
∅ 125	**24125**
∅ 160	**24150**
∅ 200*	**24200**



H[m] = Backwater height

Certification: Z-53.2-388

Accessories: Page 28 - 31

* In-/Outlet ∅ 200, hydraulics corresponds to ∅ 160

Installation example *Pumpfix F Komfort*

① Backwater pumping station
② Control unit
③ Sealing gasket set

Pumpfix F pumps against backwater and discharges surface water. It protects drainage fixtures such as shower, sink, washing machine and outside steps down to the basement which are below the backwater level. The wastewater is discharged continually and without the use of energy to the sewer through gravity. In the event of backwater, reliable draining still takes place since the pump activates, macerates any solids and pumps the building's wastewater into the surcharged sewer. Control is by means of the Comfort control unit with self-diagnosis system SDS. The sealing gasket set Art. # 83023 makes installation in waterproof concrete possible.

Installation example *Pumpfix F Komfort*

① Backwater pumping station
② Control unit

Function and range of application are identical to the system described above. The installation of the *Pumpfix F* is even easier in this case if the wastewater pipe is routed exposed across the basement floor. The Comfort control unit with SDS is part of the scope of supply here, too, so that safe system operation is guaranteed at all times. A low-cost investment for backwater protection in the basement compared with the property and building damage caused by basements flooded by backwater.

Professional advantages

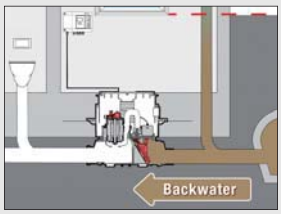
- **Plug & play Comfort control unit** with self-diagnosis system SDS for maximum safety.
- **Integrated drain function to drain surface water.**

- **Variable upper section** rotatable, tiltable and height adjustable
- **Installation in waterproof concrete.** Gasket set to prevent groundwater infiltration.

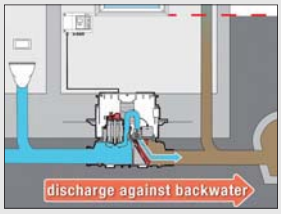
- Installation body with only 9 mm gradient. Ideal for renovation work.

- **Fully open pipe passage** with open backwater flap during normal conditions, flap is automatically closed with motor during backwater
- **Function**

Normal mode: Water drains with gravity



Backwater: Backwater flap is closed

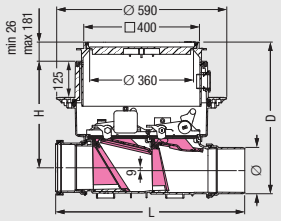


Disposal: Pump activates, wastewater is discharged

Scan this QR code to directly view the corresponding product video.
YouTube

Staufix FKA Komfort — Installation in a concrete slab/floor

Illustration and dimensioned drawing	Article description	Outer diameter ∅ (mm)	Article #



Installation area 750 x 750 mm

Backwater valve *Staufix FKA Komfort*
for wastewater with or without sewage
made of polymer, with telescopic upper section for continuous height- and level adjustment
For installation in a concrete slab/floor
for installation depth (D) from 486 - 640 mm
1 with recessed cover for on-site tiling (X)
2 with black cover (S)
With surface water tight cover plate class A 15 made of polymer. Installation kit with choice of cover.
Backwater valve according to EN 13564 Type 3 with two open flaps. Plug-and-Play control unit with connection option to building management system and alarm, protection type IP 54, with integrated self diagnosis system SDS, display for operating status and battery back-up, motor is rated protection Type IP 68 (3 m, 24 h).
Supply voltage/-frequency: 230 V AC/50 Hz.
Cable length: 5 m (15 m available on request).

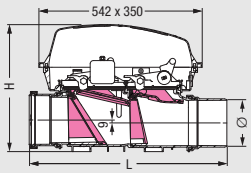
∅ **110** L: 642 mm H: 394 mm
∅ **125** L: 645 mm H: 387 mm
∅ **160** L: 656 mm H: 370 mm
∅ **200** L: 720 mm H: 348 mm

Outer diameter ∅ (mm)	Article #
1 With recessed cover for on-site tiling	
∅ 110	**84100X**
∅ 125	**84125X**
∅ 160	**84150X**
∅ 200*	**84200X**
2 With black cover	
∅ 110	**84100S**
∅ 125	**84125S**
∅ 160	**84150S**
∅ 200*	**84200S**

EN 13564 Type 3 F

Accessories: Page 28 - 31

Staufix FKA Komfort — Installation in an exposed wastewater pipe



Backwater valve *Staufix FKA Komfort*
for wastewater with or without sewage
made of polymer
For installation
in an exposed wastewater pipe.
With protective cover.
Backwater valve according to EN 13564 Type 3 with two open flaps. Plug-and-Play control unit with connection option to building management system and alarm, display for operating status and battery back-up, protection type IP 54, with integrated self diagnosis system SDS, display for operating status and battery back-up, motor is rated protection Type IP 68 (3 m, 24 h).
Supply voltage/-frequency: 230 V AC/50 Hz.
Cable length: 5 m (15 m available on request).

∅ **110** L: 642 mm H: 422 mm
∅ **125** L: 645 mm H: 422 mm
∅ **160** L: 656 mm H: 422 mm
∅ **200** L: 720 mm H: 422 mm

∅ 110	**84100**
∅ 125	**84125**
∅ 160	**84150**
∅ 200*	**84200**

EN 13564 Type 3 F

Accessories: Page 28 - 31

* In-/Outlet ∅ 200, hydraulics corresponds to ∅ 160

Installation example *Staufix FKA Komfort*

① Backwater valve
② Control unit
③ Sealing gasket set

Backwater valve *Staufix FKA* as central backwater protection for the simple and professional installation through the installation set provided. For toilets, showers, sinks and washing machines that are located in the basement. In the event of backwater from the sewer, the valve is sealed by a motor driven backwater flap and then opened again afterwards. Regular and automatic functional testing by the SDS system integrated in the control unit. The sealing gasket set Art. # 83023 makes installation in waterproof concrete possible.

Professional advantages

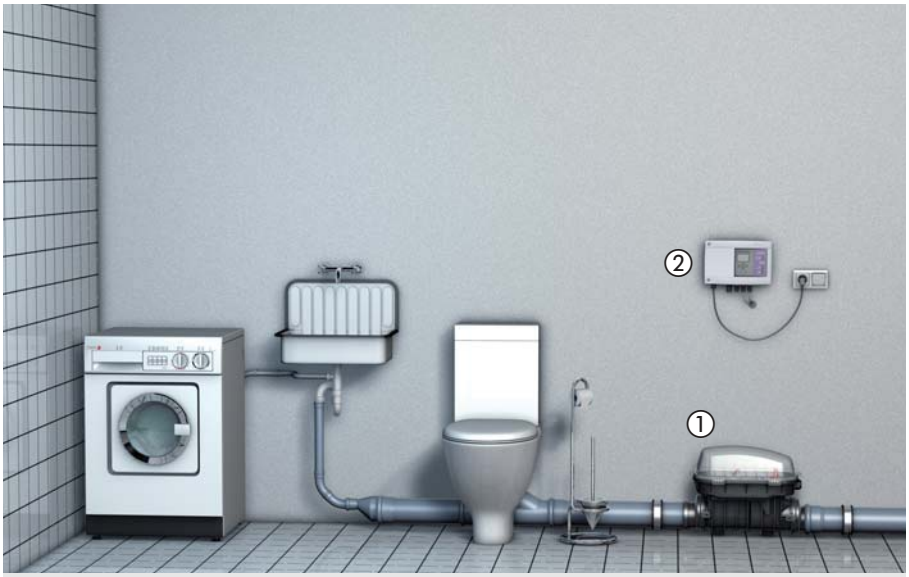
- **Plug & play Comfort control unit**
  with self-diagnosis system SDS
  for maximum safety.

- **Variable upper section**
  rotatable, tiltable and height adjustable
- **Installation in waterproof concrete.**
  Gasket set to prevent groundwater infiltration.

- **Backwater protection even during construction phase thanks to 3-stage flap**
  Freely suspended flap in the construction phase position.

Scan this QR code to directly view the corresponding product video.
YouTube

Installation example *Staufix FKA Komfort*



① Backwater valve
② Control unit

Function and range of application are identical to the system described above. Installation of the *Staufix FKA* is even easier in this case if the wastewater pipe is routed exposed across the basement floor. The Comfort control unit with SDS is part of the scope of supply here, too, so that safe system operation is guaranteed at all times.

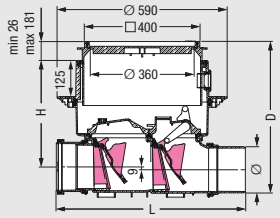
Professional advantages

- **Plug & play Comfort control unit**
  with self-diagnosis system SDS
  for maximum safety.

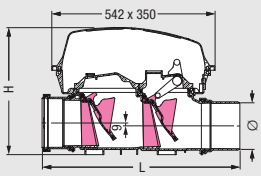
- Installation body with only 9 mm gradient.
  Ideal for renovation work.

- **Backwater protection even during construction phase thanks to 3-stage flap**
  Freely suspended flap in the construction phase position.

Staufix SWA — Installation in a concrete slab/floor

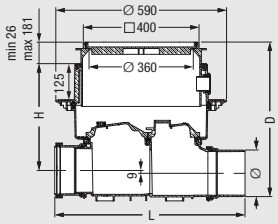
Illustration and dimensioned drawing	Article description	Outer diameter ∅ (mm)	Article #
	**Twin flap backwater valve *Staufix SWA*** **for wastewater** made of polymer, with telescopic upper section for continuous height- and level adjustment **For installation in a concrete slab/floor for installation depth (D) from 486 - 640 mm** **1 with recessed cover for on-site tiling (X)** **2 with black cover (S)** With surface water tight cover plate class A 15 made of polymer. Installation kit with choice of cover. Backwater flap valve according to EN 13564 Type 2 with two self-closing flaps, one of which can be locked by hand as an emergency closure. ∅ **110** L: 642 mm H: 394 mm ∅ **125** L: 645 mm H: 387 mm ∅ **160** L: 656 mm H: 370 mm ∅ **200** L: 720 mm H: 348 mm	**1 With recessed cover for on-site tiling** ∅ 110 ∅ 125 ∅ 160 ∅ 200*	 **73100.10X** **73125.10X** **73150.10X** **73200.10X**
 Installation area 750 x 750 mm		**2 With black cover** ∅ 110 ∅ 125 ∅ 160 ∅ 200*	 **73100.10S** **73125.10S** **73150.10S** **73200.10S**
	LGAI Type-tested and monitored CE **EN 13564 Type 2**		**Accessories: Page 28 - 31**

Staufix SWA — Installation in an exposed wastewater pipe

	**Twin flap backwater valve *Staufix SWA*** **for wastewater** made of polymer **For installation in an exposed wastewater pipe.** With protective cover. Backwater flap valve according to EN 13564 Type 2 with two self-closing flaps, one of which can be locked by hand as an emergency closure. ∅ **110** L: 642 mm H: 422 mm ∅ **125** L: 645 mm H: 422 mm ∅ **160** L: 656 mm H: 422 mm ∅ **200** L: 720 mm H: 422 mm	∅ 110 ∅ 125 ∅ 160 ∅ 200*	**73100.10** **73125.10** **73150.10** **73200.10**
			
	LGAI Type-tested and monitored CE **EN 13564 Type 2**		**Accessories: Page 28 - 31**

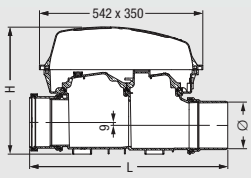
* In-/Outlet ∅ 200, hydraulics corresponds to ∅ 160

Controlfix — Installation in a concrete slab/floor

Illustration and dimensioned drawing	Article description	Outer diameter ∅ (mm)	Article #
	**Clean out *Controlfix*** **for wastewater** made of polymer, with telescopic upper section for continuous height- and level adjustment **For installation in a concrete slab/floor for installation depth (D) from 486 - 640 mm** **1 with recessed cover for on-site tiling (X)** **2 with black cover (S)** With surface water tight cover plate class A 15 made of polymer. Installation kit with choice of cover. ∅ **110** L: 642 mm H: 394 mm ∅ **125** L: 645 mm H: 387 mm ∅ **160** L: 656 mm H: 370 mm ∅ **200** L: 720 mm H: 348 mm	**1 With recessed cover for on-site tiling** ∅ 110 ∅ 125 ∅ 160 ∅ 200*	 **80100X** **80125X** **80150X** **80200X**
		**2 With black cover** ∅ 110 ∅ 125 ∅ 160 ∅ 200*	 **80100S** **80125S** **80150S** **80200S**
Installation area 750 x 750 mm			

Accessories: Page 28 - 31

Controlfix — Installation in an exposed wastewater pipe

Illustration and dimensioned drawing	Article description	Outer diameter ∅ (mm)	Article #
	**Clean out *Controlfix*** **for wastewater** made of polymer **For installation in an exposed wastewater pipe.** With protective cover. ∅ **110** L: 642 mm H: 422 mm ∅ **125** L: 645 mm H: 422 mm ∅ **160** L: 656 mm H: 422 mm ∅ **200** L: 720 mm H: 422 mm	∅ 110 ∅ 125 ∅ 160 ∅ 200*	**80100** **80125** **80150** **80200**
			

Accessories: Page 28 - 31

* In-/Outlet ∅ 200, hydraulics corresponds to ∅ 160

Pumpfix F / Staufix FKA / Staufix SWA — Accessories

Illustration	Article description	Outer diameter ∅ (mm)	Article #
For models made on or after Jan 2011 	1 **Cable extension for motor** 10 m cable length	-	**80 890**
	2 **Cable extension for probe** 10 m cable length	-	**80 889**
	3 **Cable extension for pump** 10 m cable length suitable for all versions *Pumpfix F*, *Staufix FKA*	-	**80 891**

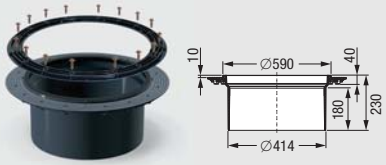
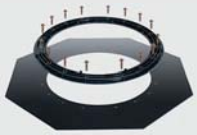
Explanation of cable extensions:

Cable length delivered 5 m	Extension to 15 m	Extension to 25 m
Backwater pumping station *Pumpfix F Komfort*	1 x **80 890** 2 x **80 889** 1 x **80 891**	2 x **80 890** 4 x **80 889** 2 x **80 891**
Backwater valve *Staufix FKA Komfort / Standard**	1 x **80 890** 1 x **80 889**	2 x **80 890** 2 x **80 889**

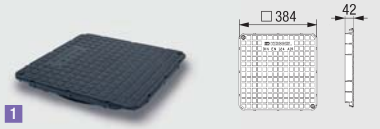
*) up to 2015

For models made on or after Jan 2011 	**Optical probe** Includes adaptor set 80 892, cable length: 5 m	-	**80 888**
	Cable extension set (for probe), 10 m	-	**80 889**
	Adaptor set for optical probe installation consisting of: Optical probe connector 90° (black) Optical probe connection 180° (red) Optical probe extension piece for *Pumpfix F / Staufix FKA* ∅ 125/160 (for Jan 2011 models and newer)	-	**80 892**
	**Audible alarm** Electronic audible alarm (continuous tone) with connection cable 20 m Minimum current consumption 5 - 25 mA, audible tone 4.7 KHz - 90 dB, large voltage range 6 - 24 V DC; Dimension ∅ 31 x 15 mm. **suitable for all control units with SDS function:** *Pumpfix F*, *Staufix FKA*	-	**20 162**
	Potential-free contact NEW **Clearance code for *Staufix FKA* and *Pumpfix F*** for Comfort control units from model year 2017	-	**80 077**

Pumpfix F / Staufix FKA / Staufix SWA / Controlfix Accessories

Illustration and dimensioned drawing	Article description	Outer diameter ∅ (mm)	Article #
	**Extension section with centre flange** with elastomer sealing sheet made of NK/SBR ∅ 800 mm, incl. screws For installation in a concrete floor.	-	**83075**
 When multiple extension sections are used make sure that access to valve is still possible!	**Extension section** **with flange and counter flange** for connection to an on-site sealing sheet made of polymer, incl. screws max. extension 140 mm For installation in a concrete floor.	-	**83073**
 When multiple extension sections are used make sure that access to valve is still possible!	**Extension section** made of polymer, max. extension 180 mm, incl. gasket For installation in a concrete floor.	-	**83070**
 Waterproof concrete installation tested by MFPA Leipzig UB 5.1/11-452-1	**Gasket set** **for installation in waterproof concrete** consisting of: **Counter flange** made of polymer, incl. screws, **elastomer waterproof membrane** in NK/SBR ∅ 800 mm For installation in a concrete floor.	-	**83023**

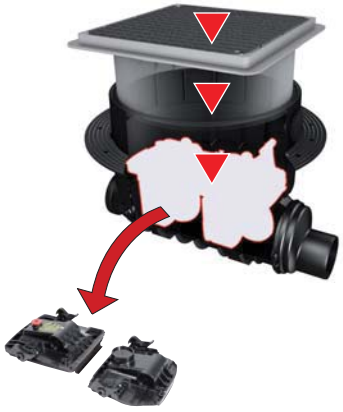
Pumpfix F / Staufix FKA / Staufix SWA / Controlfix — Accessories

Illustration and dimensioned drawing	Article description	Outer diameter ∅ (mm)	Article #
	**Inlet / Outlet** 1 **Spigot** 2 **Socket** **Removable inlets / outlets, can be mounted in various dimensions.** For use with all versions of the *Pumpfix F*, *Staufix FKA*, *Staufix SWA* and *Controlfix* for installation in a concrete slab/floor and in an exposed wastewater pipe.	∅ 110 ∅ 125 ∅ 160 ∅ 200* ∅ 110 ∅ 125 ∅ 160 ∅ 200*	**83 081** **83 082** **83 083** **83 084** **83 085** **83 086** **83 087** **83 088**
For models made on or after Jan 2011 	**Protective cover** for installation in an exposed wastewater pipe	-	**83 031**
For models made on or after Jan 2011  	**Cover plate, surface water tight** Class A 15 With drain ∅ 75, includes ***Multistop*** odour, foam, rodent and insect stop incl. gasket 1 **recessed for on-site tiling, grey,** for tile thicknesses of 18 mm 2 **with integrated grating, black** For installation in an concrete floor.	- -	**83 045** **83 046**
	***Multistop*** odour, foam, rodent and insect stop for article numbers: 83 045 and 83 046	-	**43 500**
	**Hair filter** made of polymer for article numbers: 83 045 and 83 046	-	**43 700**
 	**Cover plate, surface water tight** Class A 15 made of polymer, incl. gasket Art. # 173-145 1 **black** 2 **recessed for on-site tiling, grey,** for tile thicknesses of 18 mm For installation in an concrete floor.	- -	**83 050** **83 052**

* In-/Outlet ∅ 200, hydraulics corresponds to ∅ 160

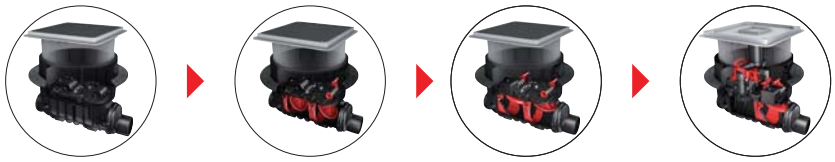
Pumpfix F / Staufix FKA / Staufix SWA — Accessories

Illustration and dimensioned drawing	Article description	Outer diameter ∅ (mm)	Article #
For models made on or after Jan 2011 	**Conversion kit *Pumpfix F*** With 5 m cable length 1 ***Pumpfix F Komfort*** incl. Komfort control unit with recessed cover for on-site tiling and drain, class A 15, incl. *Multistop* incl. gasket for installation in a concrete slab/floor 2 ***Pumpfix F Komfort*** incl. Komfort control unit for installation in an exposed wastewater pipe	∅ 110-200* ∅ 110-200*	**80 098** **80 097**
For models made on or after Jan 2011 	**Conversion kit *Staufix FKA Komfort*** With 5 m cable length incl. Komfort control unit for installation in a concrete slab/floor and in an exposed wastewater pipe	∅ 110-200*	**80 093**
For models made on or after Jan 2011 	**Conversion kit *Staufix SWA*** for installation in a concrete slab/floor and in an exposed wastewater pipe	∅ 110-200*	**80 091**



Simple retrofitting:

Within the complete series, all backwater protection components from **the drain body / clean out *Controlfix*** to the *Pumpfix F* backwater valve with integrated pump can be retrofitted easily later into the installed chamber, without tools being necessary.

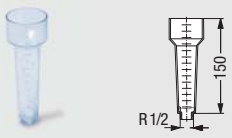


Clean out *Controlfix*

Twin flap backwater valve *Staufix SWA*

Backwater valve *Staufix FKA*

Backwater pumping station *Pumpfix F Komfort*-*Version*

For models made on or after Jan 2011 	**Rat protection flap** with stainless steel shield for *Staufix FKA Komfort* (with flap in pendulum position) and *Staufix SWA*	-	**80 037**
	**Testing funnel** with sealing gasket for servicing all *Staufix* backwater valves, suitable for ∅ 110, 125, 160	-	**70214**

* In-/Outlet ∅ 200, hydraulics corresponds to ∅ 160

Scan this QR code to directly view the corresponding product video.

YouTube

You can never
improve
the original.
You can't. We can.

The new *Staufix*.

Protects individual drainage fixtures such as shower, sink and washing machine below the backwater level.

NEW ! *Staufix ∅ 90 - 200*:
Now also for installation in a concrete slab/floor and as a *Staufix Control* version with optical and acoustic warning.

CE EN 13564

Staufix Control, installation in a concrete slab/floor and in an exposed wastewater pipe

Backwater valve ***Staufix*** ∅ **90 - 200**
for wastewater without sewage

NEW *Staufix Control*

Remote signal transmitter on a wireless basis in the lockable cover with optical and acoustic warning in the event of backwater.
Optional: 1. Additional remote signal transmitter on a wireless basis for forwarding an optical and acoustic alarm to residential rooms.
2. Wireless receiver as a switched socket - in the event of backwater the washing machine is automatically disconnected from the power supply.

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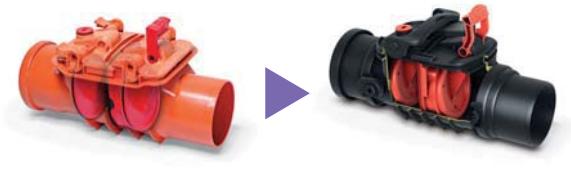
NEW FLEXIBLE INSTALLATION

Extension section with flange, counterflange made of stainless steel and elastomer waterproofing sheet optional for deeper installation in a concrete slab/floor - as protection against groundwater (for installation in waterproof concrete).

The original becomes black



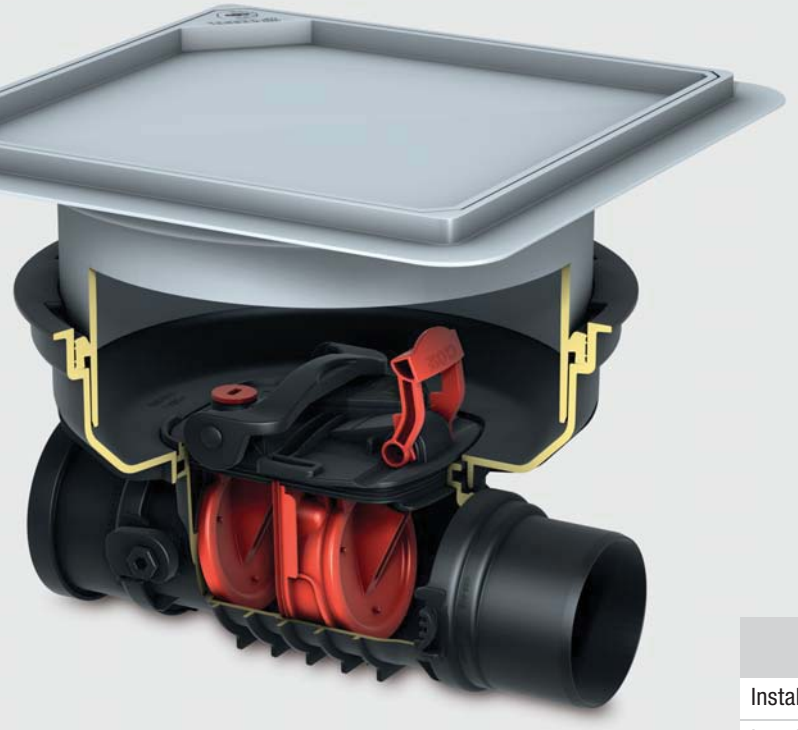
Staufix, installation in a concrete slab/floor and in an exposed wastewater pipe

NEW

Staufix FOR INSTALLATION IN A CONCRETE FLOOR

with vertically adjustable upper section with flange for shallow bed waterproofing layer with surface water tight cover plate in.

☐ black
☐ grey, tileable



NEW

CONNECTIONS

Removeable inlet/outlet connections in different sizes for customized connections.

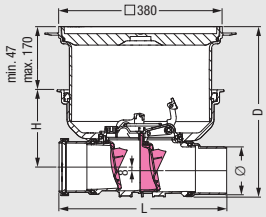
SAFETY

Also as version (R) with a backwater flap made of stainless steel, safe protection against rats and other rodents. Optional backwater flap available for retrofitting as rat protection.

	Article # 700...	Article # 720...	Article # 730...	Article # 770...
Installation in a concrete floor?	✓	✓	✓	✓
Installation in an exposed pipe?	✓	✓	✓	✓
Emergency closure?		✓	✓	✓
Visual and acoustic warning signal during backwater?				✓
Number of flaps		1	2	2
Type		Type 1	Type 2	Type 2
Products see page	36	36	35	34

Staufix Control — with visual and acoustic warning — Installation in a concrete slab/floor

Illustration and dimensioned drawing	Article description	Outer diameter Ø (mm)	Article #



Installation area 750 x 750 mm

***Staufix Control* twin flap backwater valve**
made of polymer,

With emergency closure,
for wastewater

☐ **with visual and acoustic warning in the event of backwater**

Installation in the concrete slab

1 **With two polymer flaps, with tileable cover (X),** class A 15

2 **With two polymer flaps, with black cover (S),** class A 15

3 **With tileable cover (XR),** class A 15, **one polymer flap and one stainless steel flap as rat protection**

4 **With black cover (SR),** class A 15, **one polymer flap and one stainless steel flap as rat protection**

Ø **90**	L: 389 mm	H: 179 mm
Ø **110**	L: 389 mm	H: 179 mm
Ø **125**	L: 515 mm	H: 222 mm
Ø **160**	L: 526 mm	H: 205 mm
Ø **200**	L: 590 mm	H: 185 mm

Installation depth (D):
Ø 90-110: 287 - 410 mm
Ø 125-200: 341 - 464 mm

Accessories:
Additional audible alarm for further visual and acoustic warning
See page 37 for article # **72 222**

EN 13564 Type 2

Outer diameter Ø (mm)	Article #
1 With two polymer flaps, with tileable cover	
Ø 90	**770 090.10 X**
Ø 110	**770 100.10 X**
Ø 125	**770 125.10 X**
Ø 160	**770 150.10 X**
Ø 200*	**770 200.10 X**
2 With two polymer flaps, with black cover	
Ø 90	**770 090.10 S**
Ø 110	**770 100.10 S**
Ø 125	**770 125.10 S**
Ø 160	**770 150.10 S**
Ø 200*	**770 200.10 S**
3 With tileable cover, one polymer flap and one stainless steel flap as rat protection	
Ø 90	**770 090.10 XR**
Ø 110	**770 100.10 XR**
Ø 125	**770 125.10 XR**
Ø 160	**770 150.10 XR**
Ø 200*	**770 200.10 XR**
4 With black cover, one polymer flap and one stainless steel flap as rat protection	
Ø 90	**770 090.10 SR**
Ø 110	**770 100.10 SR**
Ø 125	**770 125.10 SR**
Ø 160	**770 150.10 SR**
Ø 200*	**770 200.10 SR**

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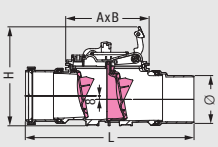
Staufix Control — with visual and acoustic warning — Installation in an exposed wastewater pipe

Illustration and dimensioned drawing	Article description	Outer diameter Ø (mm)	Article #



***Staufix Control* twin flap backwater valve**
made of polymer,

With emergency closure,
for wastewater

☐ **with visual and acoustic warning in the event of backwater**

1 **With two polymer flaps**

2 **With one polymer flap and one stainless steel flap as rat protection, (R)**

Ø **90**	L: 386	H: 230	AxB: 193 x 167 mm
Ø **110**	L: 389	H: 230	AxB: 193 x 167 mm
Ø **125**	L: 515	H: 306	AxB: 263 x 214 mm
Ø **160**	L: 526	H: 306	AxB: 263 x 214 mm
Ø **200**	L: 590	H: 306	AxB: 263 x 214 mm

See page 37 for **accessories**

EN 13564 Type 2

Outer diameter Ø (mm)	Article #
1 With two polymer flaps	
Ø 90	**770 090**
Ø 110	**770 100**
Ø 125	**770 125**
Ø 160	**770 150**
Ø 200*	**770 200**
2 With one polymer flap and one stainless steel flap as rat protection	
Ø 90	**770 090R**
Ø 110	**770 100R**
Ø 125	**770 125R**
Ø 160	**770 150R**
Ø 200*	**770 200R**

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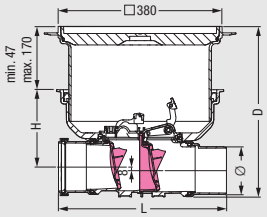
* In-/Outlet Ø 200, hydraulics corresponds to Ø 160

Staufix — Installation in a concrete slab/floorfloor



Installation area 750 x 750 mm

***Staufix* twin flap backwater valve**
made of polymer,

With emergency closure,
for wastewater

☐ **can be retrofitted on the *Staufix Control***

Installation in the concrete slab

1 **With two polymer flaps, with tileable cover (X),** class A 15

2 **With two polymer flaps, with black cover (S),** class A 15

3 **With tileable cover (XR),** class A 15, **one polymer flap and one stainless steel flap as rat protection**

4 **With black cover (SR),** class A 15, **one polymer flap and one stainless steel flap as rat protection**

Ø **90**	L: 389 mm	H: 179 mm
Ø **110**	L: 389 mm	H: 179 mm
Ø **125**	L: 515 mm	H: 222 mm
Ø **160**	L: 526 mm	H: 205 mm
Ø **200**	L: 590 mm	H: 185 mm

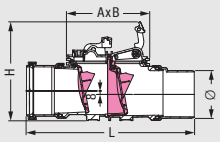
Installation depth (D)
Ø 90-110: 287 - 410 mm
Ø 125-200: 341 - 464 mm

See page 37 for **accessories**

EN 13564 Type 2

Outer diameter Ø (mm)	Article #
1 With two polymer flaps, with tileable cover	
Ø 90	**730 090.10 X**
Ø 110	**730 100.10 X**
Ø 125	**730 125.10 X**
Ø 160	**730 150.10 X**
Ø 200*	**730 200.10 X**
2 With two polymer flaps, with black cover	
Ø 90	**730 090.10 S**
Ø 110	**730 100.10 S**
Ø 125	**730 125.10 S**
Ø 160	**730 150.10 S**
Ø 200*	**730 200.10 S**
3 With tileable cover, one polymer flap and one stainless steel flap as rat protection	
Ø 90	**730 090.10 XR**
Ø 110	**730 100.10 XR**
Ø 125	**730 125.10 XR**
Ø 160	**730 150.10 XR**
Ø 200*	**730 120.10 XR**
4 With black cover, one polymer flap and one stainless steel flap as rat protection	
Ø 90	**730 090.10 SR**
Ø 110	**730 100.10 SR**
Ø 125	**730 125.10 SR**
Ø 160	**730 150.10 SR**
Ø 200*	**730 200.10 SR**

Staufix — Installation in an exposed wastewater pipe



***Staufix* twin flap backwater valve**
made of polymer,

With emergency closure,
for wastewater

☐ **can be retrofitted on the *Staufix Control***

Installation in an exposed wastewater pipe

1 **With two polymer flaps**

2 **With one polymer flap and one stainless steel flap as rat protection, (R)**

Ø **90**	L: 386	H: 230	AxB: 193 x 167 mm
Ø **110**	L: 389	H: 230	AxB: 193 x 167 mm
Ø **125**	L: 515	H: 306	AxB: 263 x 214 mm
Ø **160**	L: 526	H: 306	AxB: 263 x 214 mm
Ø **200**	L: 590	H: 306	AxB: 263 x 214 mm

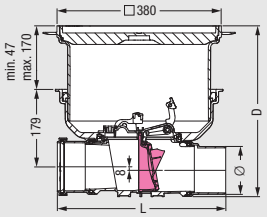
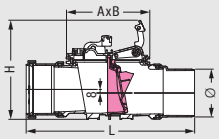
See page 37 for **accessories**

EN 13564 Type 2

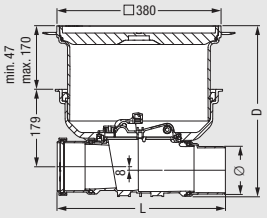
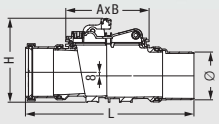
Outer diameter Ø (mm)	Article #
1 With two polymer flaps	
Ø 90	**730 090**
Ø 110	**730 100**
Ø 125	**730 125**
Ø 160	**730 150**
Ø 200*	**730 200**
2 With one polymer flap and one stainless steel flap as rat protection	
Ø 90	**730 090R**
Ø 110	**730 100R**
Ø 125	**730 125R**
Ø 160	**730 150R**
Ø 200*	**730 200R**

* In-/Outlet Ø 200, hydraulics corresponds to Ø 160

Staufix — Installation in a concrete slab/floor and in an exposed wastewater pipe

Illustration and dimensioned drawing	Article description	Outer diameter ∅ (mm)	Article #
  Installation area 750 x 750 mm	***Staufix* single flap backwater valve** made of polymer, **With emergency closure,** for wastewater ☐ **can be upgraded to *Staufix* Type 2** **Installation in the concrete slab** 1 **With one polymer flap, with tileable cover (X),** class A 15 2 **With one polymer flap, with black cover (S),** class A 15 ∅ **90** L: 389 mm H: 179 mm ∅ **110** L: 389 mm H: 179 mm ∅ **125** L: 515 mm H: 222 mm ∅ **160** L: 526 mm H: 205 mm ∅ **200** L: 590 mm H: 185 mm Installation depth (D) ∅ 90-110: 287 - 410 mm ∅ 125-200: 341 - 464 mm See page 37 for **accessories**	1 **With one polymer flap, with tileable cover** ∅ 90 ∅ 110 ∅ 125 ∅ 160 ∅ 200* 2 **With one polymer flap, with black cover** ∅ 90 ∅ 110 ∅ 125 ∅ 160 ∅ 200* **EN 13564 Type 1**	 **720 090.10 X** **720 100.10 X** **720 125.10 X** **720 150.10 X** **720 200.10 X** **720 090.10 S** **720 100.10 S** **720 125.10 S** **720 150.10 S** **720 200.10 S**
 	***Staufix* single flap backwater valve** made of polymer, **With emergency closure,** for wastewater ☐ **can be upgraded to *Staufix* Type 2** **Installation in an exposed wastewater pipe** ■ **With one polymer flap** ∅ **90** L: 386 H: 230 AxB: 193 x 167 mm ∅ **110** L: 389 H: 230 AxB: 193 x 167 mm ∅ **125** L: 515 H: 306 AxB: 263 x 214 mm ∅ **160** L: 526 H: 306 AxB: 263 x 214 mm ∅ **200** L: 590 H: 306 AxB: 263 x 214 mm See page 37 for **accessories**	∅ 90 ∅ 110 ∅ 125 ∅ 160 ∅ 200* **EN 13564 Type 1**	**720 090** **720 100** **720 125** **720 150** **720 200**

Staufix — Clean out

Illustration and dimensioned drawing	Article description	Outer diameter ∅ (mm)	Article #
  Installation area 750 x 750 mm	***Staufix* clean out** made of polymer for wastewater **Installation in the concrete slab** 1 **With tileable cover (X),** class A 15 2 **With black cover (S),** class A 15 ∅ **90** L: 389 mm H: 179 mm ∅ **110** L: 389 mm H: 179 mm ∅ **125** L: 515 mm H: 222 mm ∅ **160** L: 526 mm H: 205 mm ∅ **200** L: 590 mm H: 185 mm Installation depth (D) ∅ 90-110: 287 - 410 mm ∅ 125-200: 341 - 464 mm Installation area 750 x 750 mm	1 **With tileable cover** ∅ 90 ∅ 110 ∅ 125 ∅ 160 ∅ 200* 2 **With black cover** ∅ 90 ∅ 110 ∅ 125 ∅ 160 ∅ 200*	 **700 090.10 X** **700 100.10 X** **700 125.10 X** **700 150.10 X** **700 200.10 X** **700 090.10 S** **700 100.10 S** **700 125.10 S** **700 150.10 S** **700 200.10 S**
 	***Staufix* clean out** made of polymer for wastewater **Installation in an exposed wastewater pipe** ∅ **90** L: 386 H: 230 AxB: 193 x 167 mm ∅ **110** L: 389 H: 230 AxB: 193 x 167 mm ∅ **125** L: 515 H: 306 AxB: 263 x 214 mm ∅ **160** L: 526 H: 306 AxB: 263 x 214 mm ∅ **200** L: 590 H: 306 AxB: 263 x 214 mm	∅ 90 ∅ 110 ∅ 125 ∅ 160 ∅ 200*	**700 090** **700 100** **700 125** **700 150** **700 200**

* In-/Outlet ∅ 200, hydraulics corresponds to ∅ 160

Installation example *Staufix Control*

① Backwater valve ② Extension section

The new *Staufix* series can easily be installed in the concrete slab. The extension section with sealing flange also permits installation in waterproof concrete. The *Staufix Control* is equipped with an optical and acoustic alarm and in conjunction with a wireless receiver can deactivate the washing machine in the event of backwater.

Professional advantages

- **Tool-free servicing**
- **Everything made of polymer material - corrosion-free**
- **Backwater flap** made of stainless steel to keep rats and rodents out
- **Perfect for renovation**
  Other valves with large drops are difficult to install. *Staufix* offers minimal drop between inlet/outlet (7 mm).
- Can be **retrofitted/converted** after installation.

Scan this QR code to directly view the corresponding product video.
YouTube

Accessories - *Staufix*

Extension section

for deeper installation with flange
incl. sealing, max. extension: 147 mm

suitable for installation
in the concrete slab/floor.

In case of deeper installation ensure maintenance capability!

Art. # **830 070**

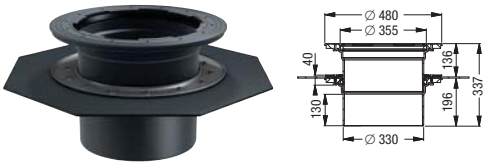
Extension section

for deeper installation with flange and counter flange made of stainless steel
for connection to an on-site membrane
incl. sealing, max. extension: 147 mm

suitable for installation
in the concrete slab/floor.

In case of deeper installation ensure maintenance capability!

Art. # **830 073**



Extension section

with flange
for installation in waterproof concrete
incl. sealing set, consisting of:
Counter flange made of stainless steel, incl. screws
Elastomer waterproofing membrane made of NK/SBR Ø 700 mm max. extension: 294 mm. Completely assembled.

suitable for installation
in the concrete slab/floor.

Art. # **830 075**

Spigot

removable fitting mountable on both sides and in different dimensions

Ø **90**	Art. # **83 090**	Ø **125**	Art. # **83 082**
Ø **100**	Art. # **830 200**	Ø **160**	Art. # **83 083**
Ø **110**	Art. # **830 100**	Ø **200**	Art. # **83 084**

Socket

removable fitting mountable on both sides and in different dimensions

Ø **90**	Art. # **83 091**	Ø **125**	Art. # **83 086**
Ø **100**	Art. # **830 202**	Ø **160**	Art. # **83 087**
Ø **110**	Art. # **830 101**	Ø **200**	Art. # **83 088**

Radio-based audible alarm

for forwarding a visual and acoustic signal in the event of backwater,

suitable for the *Staufix Control*

Art. # **72 222**

Radio receiver as switched socket

for deactivating connected loads in the event of backwater (e. g. washing machine)

Art. # **72 223**

Rodent protection flap

as rat protection, made of stainless steel

suitable for Art. # 720..., 730... and 770...

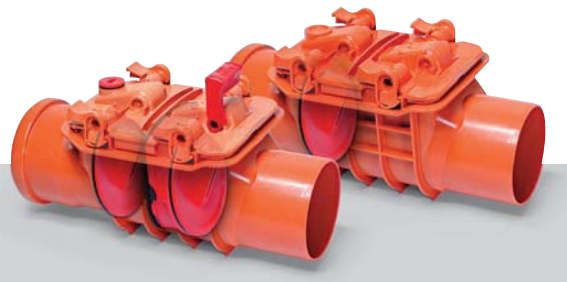
Ø **90-110**	Art. # **70 233**
Ø **125-200**	Art. # **70 234**

Scan this QR code to directly view the corresponding product video.

YouTube

Staufix - the successful original

The original from KESSEL keeps water and rodents out of the basement.
Protects individual drainage fixtures such as shower, sink and washing machine below the backwater level.



Backwater valves ***Staufix Basic*** ∅ **100 - 200**
for wastewater

SELECTION CRITERIA

BACKWATER VALVES *Staufix* ∅ 50 - 200

Staufix	**Art.# 71...**	**Art.# 72...**	**Art.# 73...**	***∅ 50 / ∅ 75***
Installation in a concrete floor?	✓	✓	✓	
Installation in an exposed pipe?	✓	✓	✓	✓
Protection of individual draining elements?				✓
Central protection of several drains possible?	✓	✓	✓	
Emergency closure		✓	✓	✓
Number of flaps	1	1	2	2
For wastewater containing raw sewage?		✓*	✓*	
Type	Type 0	Type 1	Type 2	Type 2
Products see page	40	40	40	42

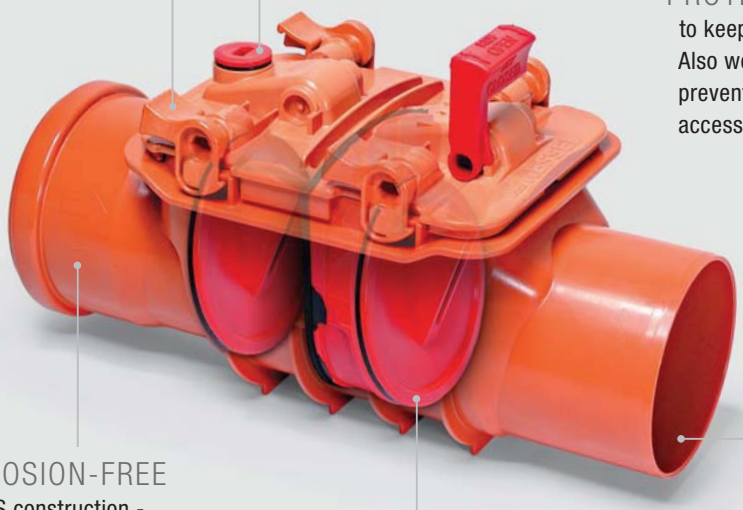
* Check your country's EN 13564 backwater valve requirements for what type of valve is certified for your situation.

Backwater valves ***Staufix ∅ 50 / ∅ 75, Staufix Siphon ∅ 50***
for wastewater without sewage

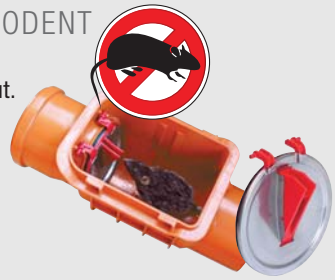
Pipe flaps ∅ 110 - 1000
for wastewater without sewage

TOOL FREE MAINTENANCE
cover unlocked and removed by hand.

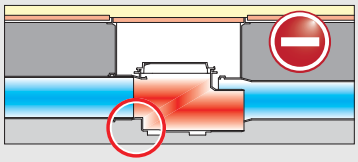
PRESSURE TEST
Quick and easy. Remove plug, screw on funnel…and test!



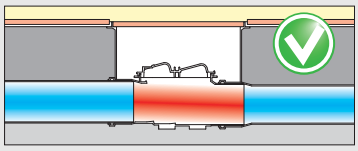
STAINLESS STEEL RODENT PROTECTION FLAP
to keep rats and rodents out. Also works as a backwater preventer (available as accessory).



PERFECT FOR RENOVATION
Other valves with large drops are difficult to install



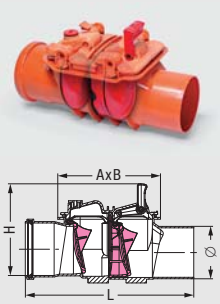
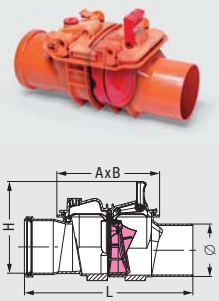
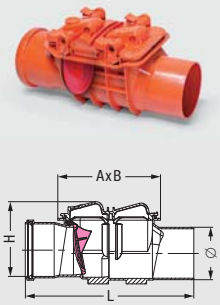
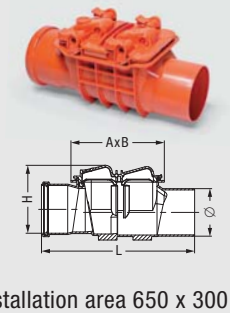
Staufix Basic offers minimal drop between inlet/outlet (7 mm)



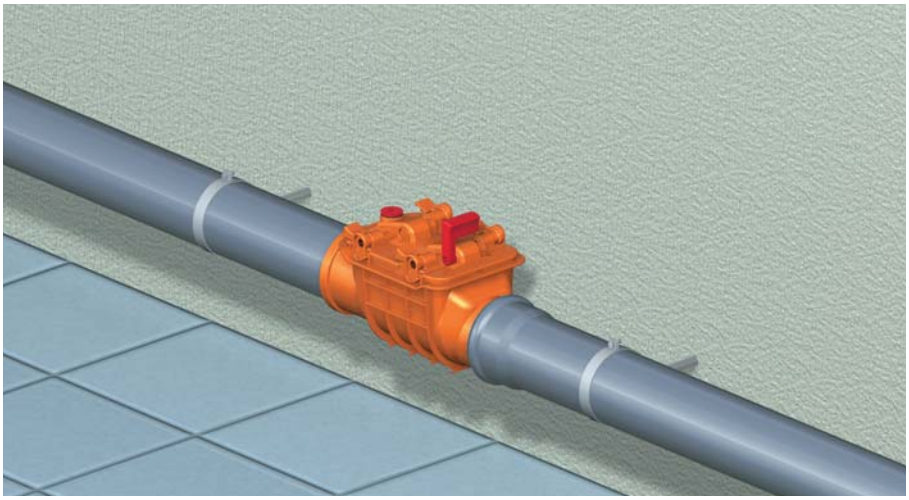
CORROSION-FREE
All ABS construction -
No more metal, no more rust.

2-COMPONENT PRODUCTION TECHNOLOGY
seals gaskets with valve. No more lost or improperly installed gaskets.

Staufix Basic — Installation in an exposed wastewater pipe

Illustration and dimensioned drawing	Article description	Outer diameter ∅ (mm)	Article #
 Illustration shows 1 Installation area 650 x 300 mm	**Twin flap backwater valve *Staufix Basic*** made of polymer, ∅… **with emergency closure** **1 with two polymer flaps** **2 with one polymer flap and one stainless steel rodent protection flap (version R)** Twin flaps, self-closing, one of which can be locked by hand as an emergency closure. Inlet/outlet for connection to PVC pipe according to EN 1566-1. ∅ **110** L: 355 H: 180+25 AxB: 205 x 155 mm ∅ **125** L: 405 H: 240+40 AxB: 270 x 200 mm ∅ **160** L: 450 H: 240+40 AxB: 270 x 200 mm ∅ **200** L: 530 H: 278+50 AxB: 353 x 248 mm CE **EN 13564 Type 2**	**1 With two polymer flaps** ∅ 110 ∅ 125 ∅ 160 ∅ 200 **2 With two polymer flaps and one stainless steel rodent protection flap** ∅ 110 ∅ 125 ∅ 160	 **73100** **73125** **73150** **73200** **73100R** **73125R** **73150R**
 Illustration shows 1 Installation area 650 x 300 mm	**Single flap backwater valve *Staufix Basic*** made of polymer, ∅… **with emergency closure** **1 with one polymer flap** **2 with one stainless steel rodent protection flap (version R)** Self-closing flap, can be locked by hand as an emergency closure. Inlet/outlet for connection to PVC pipe according to EN 1566-1. ∅ **100** L: 355 H: 180+25 AxB: 205 x 155 mm ∅ **110** L: 355 H: 180+25 AxB: 205 x 155 mm ∅ **125** L: 405 H: 240+40 AxB: 270 x 200 mm ∅ **160** L: 450 H: 240+40 AxB: 270 x 200 mm ∅ **200** L: 530 H: 278+50 AxB: 353 x 248 mm CE **EN 13564 Type 1**	**1 With one polymer flap** ∅ 100 ∅ 110 ∅ 125 ∅ 160 ∅ 200 **2 With one stainless steel rodent protection flap** ∅ 110 ∅ 125 ∅ 160	 **77100** **72100** **72125** **72150** **72200** **72100R** **72125R** **72150R**
 Installation area 650 x 300 mm	**Single flap backwater valve *Staufix Basic*** made of polymer, ∅… **without emergency closure** ☐ **with one polymer flap** Self-closing flap. Inlet/outlet for connection to PVC pipe according to EN 1566-1. ∅ **100** L: 355 H: 170 A x B: 205 x 155 mm ∅ **110** L: 355 H: 170 A x B: 205 x 155 mm ∅ **125** L: 405 H: 230 A x B: 270 x 200 mm ∅ **160** L: 450 H: 230 A x B: 270 x 200 mm ∅ **200** L: 530 H: 278 A x B: 353 x 248 mm CE **EN 13564 Type 0**	∅ 100 ∅ 110 ∅ 125 ∅ 160 ∅ 200	**76100** **71100** **71125** **71150** **71200**
 Installation area 650 x 300 mm	**Clean out *Staufix Basic*** made of polymer, ∅… upgradable to all *Staufix* model backwater valves ∅ **110** L: 355 H: 170 A x B: 205 x 155 mm ∅ **125** L: 405 H: 230 A x B: 270 x 200 mm ∅ **160** L: 450 H: 230 A x B: 270 x 200 mm ∅ **200** L: 530 H: 278 A x B: 353 x 248 mm	∅ 110 ∅ 125 ∅ 160 ∅ 200	**70100** **70125** **70150** **70200**

Installation example *Staufix Basic*



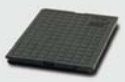
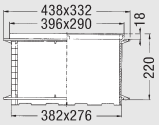
Staufix Basic twin flap backwater valve - the classical item in the KESSEL backwater range and the successful original. The current model is made of ABS, completely corrosion-free and can be serviced without tools. Protects individual drainage fixtures such as shower, sink and washing machine below the backwater level.

Professional advantages

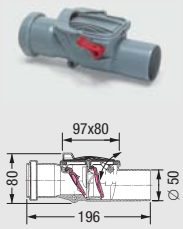
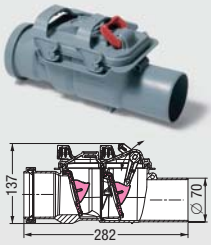
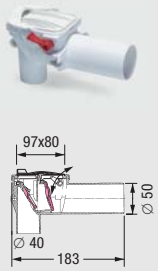
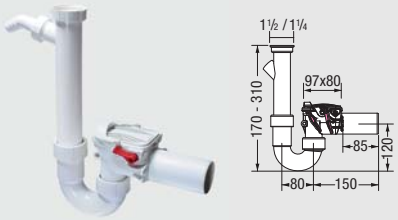
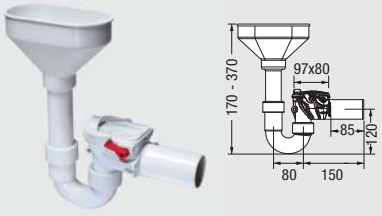
- **Tool-free servicing**
- **Everything made of polymer material - corrosion-free**
- **Backwater flap** made of stainless steel to keep rats and vermin out
- **Perfect for renovation**
  Other valves with large drops are difficult to install. *Staufix Basic* offers minimal drop between inlet/outlet (7 mm).
- Can be **retrofitted/converted** after installation

Scan this QR code to directly view the corresponding product video.
YouTube

Staufix Basic Accessories

Illustration and dimensioned drawing	Article description	Outer diameter ∅ (mm)	Article #
	**Cover plate, class L 15** ☐ **black**	-	**30004 S**
 	**Upper section** Height = 220 mm for article numbers: 70 100, 70 125, 70 150, 70 200, 71 100, 71 125, 71 150, 71 200, 72 100, 72 125, 72 150, 72 200, 72 100 R, 72 125 R, 72 150 R, 73 100, 73 125, 73 150, 73 200, 73 100 R, 73 125 R, 73 150 R	-	**32500**
	**Conversion kit** The *Staufix Basic* clean out body can be converted to a ***Staufix Basic*** **twin flap backwater valve by means of two backwater flaps 1 , the insert flap housing 2 and the lockable cover 3 .** **Please note:** 2x backwater flap 70 205 and the lockable cover are required for the ∅ 200 version.	**3 Lockable cover incl. emergency closure and sealing gasket:** ∅ 110 ∅ 125 ∅ 160 ∅ 200	 **70261** **70262** **70262** **70203**
	**Conversion kit** The *Staufix Basic* clean out body can be converted to a ***Staufix Basic*** **single flap backwater valve with emergency closure by means of the backwater flap 1 , insert flap housing 2 and the lockable cover 3 .**	**2 Insert flap housing:** ∅ 110 ∅ 125 ∅ 160 ∅ 200	 **70241** **70242** **70242** **70205**
For *Staufix Basic* from 04/2005 	**Conversion kit** The *Staufix Basic* clean out body can be converted to a ***Staufix Basic*** **single flap backwater valve by means of a backwater flap 1 .**	**1 Backwater flap:** ∅ 110 ∅ 125 ∅ 160 ∅ 200	 **70231** **70232** **70232** **70205**
	**Stainless steel rodent protection flap** for article numbers: 70 100, 70 125, 70 150, 71 100, 71 125, 71 150 72 100, 72 125, 72 150, 73 100, 73 125, 73 150	∅ 110 ∅ 125 ∅ 160	**70233** **70234** **70234**

Staufix ∅ 50 / Staufix ∅ 75 / Staufix Siphon ∅ 50

Illustration and dimensioned drawing	Article description	Outer diameter ∅ (mm)	Article #
	**Twin flap backwater valve *Staufix ∅ 50*** made of polymer **for exposed wastewater pipes** Twin flaps, self-closing, one of which can be locked by hand as an emergency closure. Inlet/outlet for connection to HT-pipe according to EN 1451-1. CE **EN 13564 Type 2**	∅ 50	**73050**
	**Twin flap backwater valve *Staufix ∅ 75*** made of polymer **for exposed wastewater pipes** Twin flaps, self-closing, one of which can be locked by hand as an emergency closure. Inlet/outlet for connection to HT-pipe according to EN 1451-1. CE **EN 13564 Type 2**	∅ 75	**73070**
	**Twin flap backwater valve *Staufix Siphon ∅ 50*** made of polymer **for washing stand siphons** Twin flaps, self-closing, one of which can be locked by hand as an emergency closure, incl. wall attachment, inlet connection ∅ 40 (1 ½ inch) at pipe odour trap. Outlet ∅ 50 for connection to HT-pipe according to EN 1451-1. CE **EN 13564 Type 5**	∅ 50	**73051**
	**Twin flap backwater valve *Staufix Siphon ∅ 50*** made of polymer **Model with pipe odour trap and washing machine connection** Twin flaps, self-closing, one of which can be locked by hand as an emergency closure, incl. wall attachment, outlet ∅ 50 for connection to HT-pipe according to EN 1451-1. CE **EN 13564 Type 5**	∅ 50	**73052**
	**Twin flap backwater valve *Staufix Siphon ∅ 50*** made of polymer **Model with pipe odour trap and inlet funnel, ideal for the emergency overflow of heating systems** Two flaps, self-closing, one of which can be locked by hand as an emergency closure, incl. wall attachment. Outlet ∅ 50 for connection to an HT-pipe according to EN 1451-1. CE **EN 13564 Type 5**	∅ 50	**73053**

Installation example *Staufix ∅ 50 / ∅ 75 / Staufix Siphon ∅ 50*

Multiple applications . . . ∅ 50 or ∅ 75 exposed drainage pipe

... washbasins with odour traps

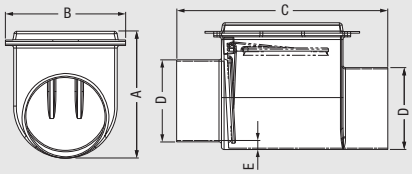
... washbasins with odour traps and washing machine connection

... furnace condensation overflow

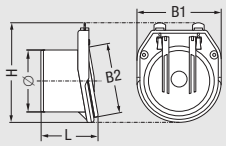
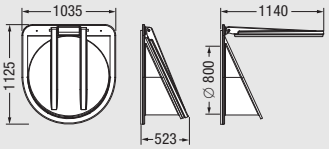
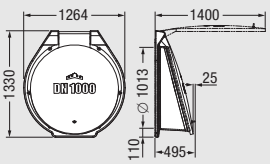
Professional advantages

- **Preventative backwater protection** in new construction - also excellent for renovation.
- Unique twin flap system **according to Norm.**
- **Quick and problem free installation.**
- **Prevents flooding from additional wastewater drainage pipes connected to same drainage system.**
- **Easy maintenance and service with tool free finger clips.**
- **Complete polymer construction** - no more rust.
- **Also usable for rodent protection.**

Multitube

Illustration and dimensioned drawing	Article description	Outer diameter ∅ (mm)	Article #
  Illustration shows article # 71 400	***Multitube* single flap backwater valve** made of polymer for installation in ab exposed wastewater pipe, flap self-closing. Dimensions in mm: ∅ **260** A: 485 B: 455 C: 730 D: 260 E: 60 ∅ **320** A: 490 B: 470 C: 825 D: 320 E: 35 ∅ **410** A: 600 B: 610 C: 900 D: 410 E: 30 ∅ **515** A: 730 B: 700 C: 1230 D: 515 E: 40 with connection couplings* Connection couplings allow connection to pipes with the following outer diameters: ∅ **260**: 250 - 275 mm ∅ **320**: 310 - 335 mm ∅ **410**: 385 - 410 mm ∅ **515**: 495 - 525 mm	∅ 260 ∅ 320 ∅ 410 ∅ 515	**71 250** **71 300** **71 400** **71 500**

Pipe flaps

Illustration and dimensioned drawing	Article description		Outer diameter ∅ (mm)	Article #
  	**Pipe flap valve** made of polymer Flap self-closing. Inlet/outlet for connection to PVC pipe according to EN 1451-1. ∅ **110** L: 120 mm ∅ **125** L: 136 mm ∅ **160** L: 142 mm ∅ **200** L: 170 mm		∅ 110 ∅ 125 ∅ 160 ∅ 200	**79 100** **79 125** **79 150** **79 200**
1   Illustration shows ∅ 250, ∅ 315	**Pipe flap valve** made of polymer For use as an end piece. Flap self-closing. Dimensions in mm: ∅ **250** H: 400 L: 220 B1: 345 B2: 280 ∅ **315** H: 450 L: 225 B1: 400 B2: 410 without connection coupling, connection according to EN 1451-1 ∅ **405** H: 420 L: 295 B1: 417 B2: 417 ∅ **506** H: 528 L: 320 B1: 522 B2: 522 ∅ **638** H: 659 L: 345 B1: 655 B2: 655 with connection coupling* Connection couplings allow connection to pipes with the following outer diameters: ∅ **400**: 385 - 410 mm ∅ **500**: 495 - 525 mm ∅ **600**: 605 - 638 mm ∅ **800** - ∅ **1000** -	1 2 3	∅ 250 ∅ 315 ∅ 405 ∅ 506 ∅ 638 ∅ 800** ∅ 1000**	**79 250** **79 300** **79 400** **79 500** **79 600** **79 800** **79 1000**
 Illustration shows ∅ 800				
2  				
3  				

* With connection couplings it is possible to connect pipes of different diameters. Connection couplings are necessary where the difference in outer diameter is > 12 mm. Rights reserved for technical changes
** For wall installation

Installation example *Multitube*

Multitube single flap backwater valve for safe backwater protection. For use downstream from cisterns which are connected separately to a rainwater sewer or run into a recipient.

Pipe flap valve for the public, municipal and industrial sector. For safe protection against backwater, additional protection against rats, mice, frogs or vermin. For use downstream from cisterns which are connected separately to a rainwater sewer or run into a recipient and for seepage or pond systems.

Professional advantages

- **Fully compatible** with sea water and fresh water environments.
- **Low weight** for ease of installation yet with high mechanical strength.
- **Simple design** without counter-weight – Good watertightness.
- **Seals at a low level** of back pressure.
- **Low maintenance.**

Stop backwater before it reaches the building

Do not let wastewater get into the house at all. For this purpose, an inspection chamber housing the backwater protection is installed outside the building. This backwater flap protects the main drainage pipe, which is used to drain water from drains at risk of backwater only.

RETROFIT CONVERSION KITS

KESSEL Backwater Inspection Chambers are shipped including the *Controlfix* clean-out. This chamber can be used as a sewer inspection / access point or the chamber can be upgraded to three different types of backwater valves using a KESSEL conversion kit. The following conversion kits are available:

Conversion kit *Pumpfix F*
Motorized backwater valve with pump and Comfort control unit. Discharges wastewater containing raw sewage even during backwater!

Conversion kit *Staufix FKA*
Motorized backwater valve with Comfort control unit for wastewater containing raw sewage.

Conversion kit *Staufix SWA*
Twin flap backwater valve for wastewater.

Complete chamber
made in one piece ∅ 1000 mm

Backwater chamber
with three open channel passages

Komfort chamber
modular system ∅ 800 / 1000 mm

Clean out *Controlfix*
with closed passage channel

SYSTEM ADVANTAGES / INSTALLATION

CONVENIENCE
More safety and additional living space in the basement.
No operational noises in the building.

INSTALLATION
Straightforward installation thanks to low weight of the chamber parts

and variable upper sections for adaptation to the ground level.

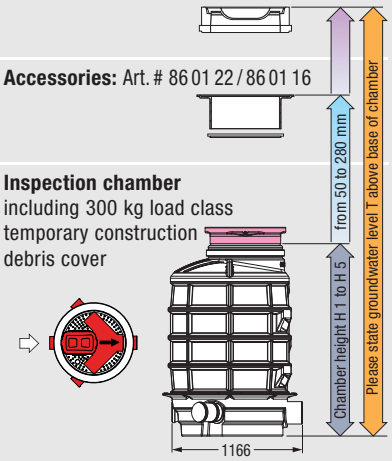
Covers in various load classes - can also be driven over.

FLEXIBILITY
Further pipes can be connected.

SAFETY
Material is crack- and impact-resistant.
Permanently watertight and root-proof.

20-year guarantee for PE material.

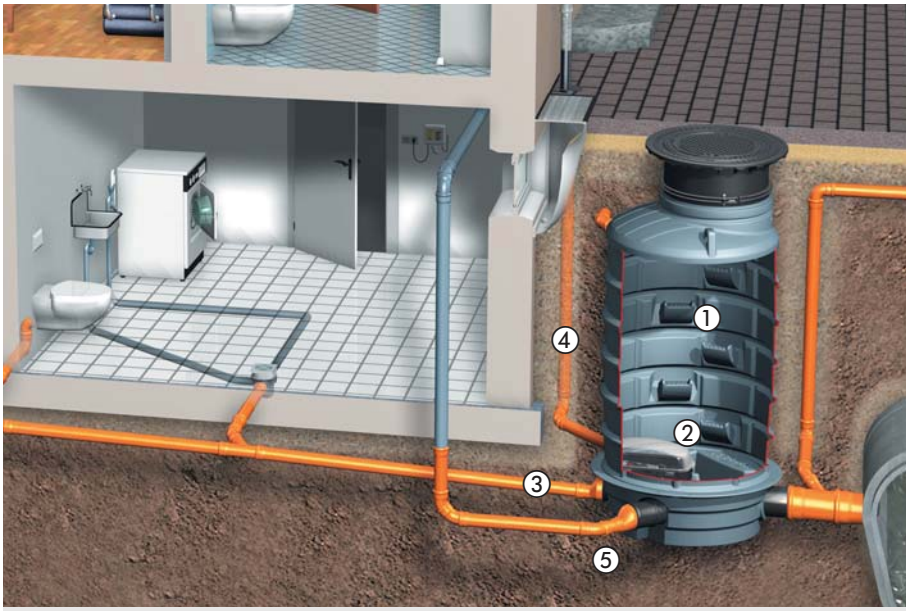
Backwater inspection chamber ∅ 1000

Illustration and dimensioned drawing	Article description	Chamber height	Article #
 **Standard cover** on-site **Accessories:** Art.# 86 01 22 / 86 01 16 **Inspection chamber** including 300 kg load class temporary construction debris cover 	**Backwater inspection chamber ∅ 1000** Polyethylene construction For underground installation Monolithic design, with open continuous channel and clean out, with integrated access steps, watertight, resistant to aggressive wastewater, with telescopic height-adjustable protective cover made of polymer for use during the construction period (can be used as a cover in green areas). Triple 160 mm hub type gasketed inlets (left and right inlets with open channel passage through chamber, center hub inlet connected to housing for insertion of KESSEL backwater valve). Available backwater valve options - KESSEL *Staufix SWA*, KESSEL *Staufix FKA* or KESSEL *Pumpfix F*. **Outlet:** 1 ∅ 160 mm spigot type outlet 2 ∅ 200 mm spigot type outlet For connection to PVC pipe according to EN 1401-1 and PE-HD connections according to EN 12666-1. **Handles groundwater depths up to 2000 mm** **Cable piping gasket set** see page 53 **Further accessories see page 52 - 53** **Distance from base of chamber to:** Base of inlet approx. 136 mm Base of outlet approx. 108 mm **Certification no. Z-42.1-333**	1 H1: 1180 mm H2: 1680 mm H3: 2180 mm H4: 2680 mm H5: 3180 mm 2 H1: 1180 mm H2: 1680 mm H3: 2180 mm H4: 2680 mm H5: 3180 mm	**88 10 05-DN 150** **88 15 05-DN 150** **88 20 05-DN 150** **88 25 05-DN 150** **88 30 05-DN 150** **88 10 05** **88 15 05** **88 20 05** **88 25 05** **88 30 05**

Conversion kit — Accessories

Illustration	Article description	Outer diameter ∅ (mm)	Article #
For models made on or after Jan 2011 	**Conversion kit *Pumpfix F Komfort*** With 15 m cable length, incl. Comfort control unit and connection for venting pipe For conversion **to the inspection chamber with backwater pumping station *Pumpfix F***, for wastewater with or without sewage **Cable extension set** for pump, motor and probe see page 28	∅ 110-200	**80 102**
For models made on or after Jan 2011 	**Conversion kit *Staufix FKA Komfort*** With 15 m cable length, incl. Comfort control unit and connection for venting pipe For conversion **to the inspection chamber with backwater valve *Staufix FKA***, for wastewater with or without sewage **Cable extension set** for motor and probe see page 28	∅ 110-200	**80 104**
For models made on or after Jan 2011 	**Conversion kit *Staufix SWA*** For conversion **to the inspection chamber with backwater valve *Staufix SWA***, for wastewater	∅ 110-200	**80 091**

Installation example **backwater inspection chamber ∅ 1000**



① Backwater chamber
② Clean out
③ Basement drains
④ Roof drains
⑤ Basement drainage

The KESSEL backwater chamber has a special cleaning opening as standard, for the use of KESSEL backwater valves as accessories - either during installation or at a later date. The wastewater from the building flows backwater-proof and gravity fed to the chamber and then to the sewer.
Three standard connections for basement drains, roof drains and basement drainage are included. Cover for garden installation is included in the scope of supply, further upper sections and covers of the classes A/B/D are available.

Professional advantages

- **Variable upper section**
  inclinable and height adjustable upper sections available as accessory.

Upper section with cover plate

Upper section for standard bearing ring

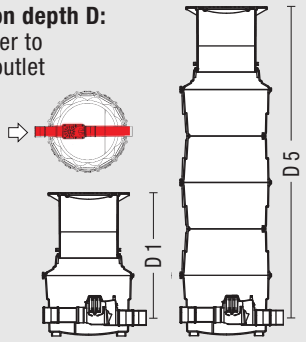
Further accessories starting page 52

- **Simple to assemble** with light-weight inspection chamber components and easy connection technique.
- **Long-term reliability** with an absolute water-tight inspection chamber system which is resistant to sedimentary deposits and aggressive media as well as root infiltration.

Komfort inspection chamber ∅ 800

Illustration and dimensioned drawing	Article description	Outer diameter ∅ (mm)	Article # Class B	Article # Class D
	**Clean out *Controlfix* with Komfort inspection chamber ∅ 800** Polyethylene construction For underground installation **Installation depth (D) from ..... mm to ..... mm** ☐ **Cover plate class B (Version B)** ☐ **Cover plate class D (Version D)** Water-tight, resistant to aggressive wastewater. Upper section made of polymer for continuous height and level adjustment. **Cover plate** class ..... in cast iron according to EN 124, surface water tight, incl. cover removal tool. **Continuous pipe ∅ ..... with cleaning pipe according to EN 13564.** Inlets with flange, outlet with spigot end for PVC pipe according to EN 1401-1 and PE-HD pipe according to EN 12666-1. **Conversion center inlet pipe to bottom inlet pipe:** ∅ 110: Installation depth D + 55 mm ∅ 125: Installation depth D + 62.5 mm ∅ 160: Installation depth D + 80 mm ∅ 200: on request **Installation depth: D 1:** 770 - 1270 mm **D 2:** 1270 - 1770 mm **D 3:** 1770 - 2270 mm **D 4:** 2270 - 2770 mm **D 5:** 2770 - 3270 mm **Handles groundwater depths up to 500 mm** **Cable piping gasket set** see page 53 **Further accessories see page 52 - 53**	**D1:** ∅ 110 ∅ 125 ∅ 160 **D2:** ∅ 110 ∅ 125 ∅ 160 **D3:** ∅ 110 ∅ 125 ∅ 160 **D4:** ∅ 110 ∅ 125 ∅ 160 **D5:** ∅ 110 ∅ 125 ∅ 160	**84 25 01 B** **84 25 02 B** **84 25 03 B** **84 25 11 B** **84 25 12 B** **84 25 13 B** **84 25 21 B** **84 25 22 B** **84 25 23 B** **84 25 31 B** **84 25 32 B** **84 25 33 B** **84 25 41 B** **84 25 42 B** **84 25 43 B**	**84 25 01 D** **84 25 02 D** **84 25 03 D** **84 25 11 D** **84 25 12 D** **84 25 13 D** **84 25 21 D** **84 25 22 D** **84 25 23 D** **84 25 31 D** **84 25 32 D** **84 25 33 D** **84 25 41 D** **84 25 42 D** **84 25 43 D**

Installation depth D:
Top of cover to centre of outlet



Delivery:
Inspection chamber in components (bottom parts stackable) for on-site assembly incl. assembly system.

Conversion kit

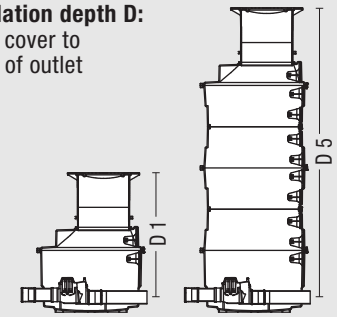
Accessories

Illustration	Article description	Outer diameter ∅ (mm)	Article #
For models made on or after Jan 2011 	**Conversion kit *Pumpfix F Komfort*** With 15 m cable length, incl. Comfort control unit and connection for venting pipe For conversion **to the inspection chamber with backwater pumping station *Pumpfix F***, for wastewater with or without sewage **Cable extension set** for pump, motor and probe see page 28	∅ 110-200	**80 102**
For models made on or after Jan 2011 	**Conversion kit *Staufix FKA Komfort*** With 15 m cable length, incl. Comfort control unit and connection for venting pipe For conversion **to the inspection chamber with backwater valve *Staufix FKA***, for wastewater with or without sewage **Cable extension set** for motor and probe see page 28	∅ 110-200	**80 104**
For models made on or after Jan 2011 	**Conversion kit *Staufix SWA*** For conversion **to the inspection chamber with backwater valve *Staufix SWA***, for wastewater	∅ 110-200	**80 091**

Conduit piping is to be installed to enable subsequent retrofitting (Set Art. # 85 410).

Komfort inspection chamber ∅ 1000

Installation depth D:
Top of cover to centre of outlet



Delivery:
Inspection chamber in components (bottom parts stackable) for on-site assembly incl. assembly system.

Clean out *Controlfix*
with Komfort inspection chamber ∅ 1000
Polyethylene construction

For underground installation

Installation depth (D) from ..... mm to ..... mm

☐ **Cover plate class B (Version B)**

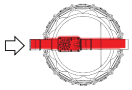
☐ **Cover plate class D (Version D)**

Inclusive integrated access steps, water-tight, resistant to aggressive wastewater. Upper section made of polymer for continuous height and level adjustment.
Cover plate class ..... in cast iron according to EN 124, surface water tight, incl. cover removal tool. **Continuous pipe ∅ ..... with cleaning pipe according to EN 13564.**
Inlets with flange, outlet with spigot end for PVC pipe according to EN 1401-1 and PE-HD pipe according to EN 12666-1.

Conversion center inlet pipe to bottom inlet pipe:
∅ 110: Installation depth D + 55 mm
∅ 125: Installation depth D + 62.5 mm
∅ 160: Installation depth D + 80 mm
∅ 200: on request

Installation depth: **D 1:** 950 - 1450 mm
D 2: 1450 - 1950 mm
D 3: 1950 - 2450 mm
D 4: 2450 - 2950 mm
D 5: 2950 - 3450 mm

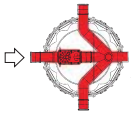
1 Continuous pipe (∅ 200 on request):



2 One inlet in flow direction right 90°:

3 One inlet in flow direction left 90°:

4 Two inlets in flow direction left + right 90°:



Handles groundwater depths up to 500 mm

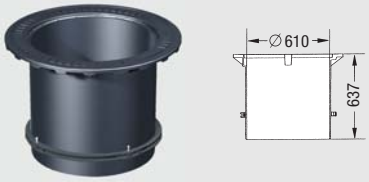
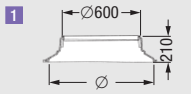
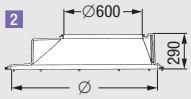
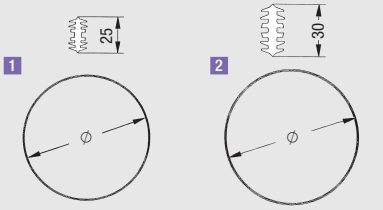
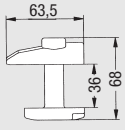
Cable piping gasket set see page 53

Further accessories see page 52 - 53

Further installation depths (∅ 1000) up to a max. installation depth of 5 m can be individually created via the accessory parts, on request.

	Outer diameter ∅ (mm)	Article # Class B	Article # Class D
1	**D1:** ∅ 110	**86 25 01 B**	**86 25 01 D**
	∅ 125	**86 25 02 B**	**86 25 02 D**
	∅ 160	**86 25 03 B**	**86 25 03 D**
	D2: ∅ 110	**86 25 11 B**	**86 25 11 D**
	∅ 125	**86 25 12 B**	**86 25 12 D**
	∅ 160	**86 25 13 B**	**86 25 13 D**
	D3: ∅ 110	**86 25 21 B**	**86 25 21 D**
	∅ 125	**86 25 22 B**	**86 25 22 D**
	∅ 160	**86 25 23 B**	**86 25 23 D**
	D4: ∅ 110	**86 25 31 B**	**86 25 31 D**
	∅ 125	**86 25 32 B**	**86 25 32 D**
	∅ 160	**86 25 33 B**	**86 25 33 D**
	D5: ∅ 110	**86 25 41 B**	**86 25 41 D**
	∅ 125	**86 25 42 B**	**86 25 42 D**
	∅ 160	**86 25 43 B**	**86 25 43 D**
2	**D1:** ∅ 110	**86 27 01 B**	**86 27 01 D**
	∅ 125	**86 27 02 B**	**86 27 02 D**
	∅ 160	**86 27 03 B**	**86 27 03 D**
	D2: ∅ 110	**86 27 11 B**	**86 27 11 D**
	∅ 125	**86 27 12 B**	**86 27 12 D**
	∅ 160	**86 27 13 B**	**86 27 13 D**
	D3: ∅ 110	**86 27 21 B**	**86 27 21 D**
	∅ 125	**86 27 22 B**	**86 27 22 D**
	∅ 160	**86 27 23 B**	**86 27 23 D**
	D4: ∅ 110	**86 27 31 B**	**86 27 31 D**
	∅ 125	**86 27 32 B**	**86 27 32 D**
	∅ 160	**86 27 33 B**	**86 27 33 D**
	D5: ∅ 110	**86 27 41 B**	**86 27 41 D**
	∅ 125	**86 27 42 B**	**86 27 42 D**
	∅ 160	**86 27 43 B**	**86 27 43 D**
3	**D1:** ∅ 110	**86 28 01 B**	**86 28 01 D**
	∅ 125	**86 28 02 B**	**86 28 02 D**
	∅ 160	**86 28 03 B**	**86 28 03 D**
	D2: ∅ 110	**86 28 11 B**	**86 28 11 D**
	∅ 125	**86 28 12 B**	**86 28 12 D**
	∅ 160	**86 28 13 B**	**86 28 13 D**
	D3: ∅ 110	**86 28 21 B**	**86 28 21 D**
	∅ 125	**86 28 22 B**	**86 28 22 D**
	∅ 160	**86 28 23 B**	**86 28 23 D**
	D4: ∅ 110	**86 28 31 B**	**86 28 31 D**
	∅ 125	**86 28 32 B**	**86 28 32 D**
	∅ 160	**86 28 33 B**	**86 28 33 D**
	D5: ∅ 110	**86 28 41 B**	**86 28 41 D**
	∅ 125	**86 28 42 B**	**86 28 42 D**
	∅ 160	**86 28 43 B**	**86 28 43 D**
4	**D1:** ∅ 110	**86 29 01 B**	**86 29 01 D**
	∅ 125	**86 29 02 B**	**86 29 02 D**
	∅ 160	**86 29 03 B**	**86 29 03 D**
	D2: ∅ 110	**86 29 11 B**	**86 29 11 D**
	∅ 125	**86 29 12 B**	**86 29 12 D**
	∅ 160	**86 29 13 B**	**86 29 13 D**
	D3: ∅ 110	**86 29 21 B**	**86 29 21 D**
	∅ 125	**86 29 22 B**	**86 29 22 D**
	∅ 160	**86 29 23 B**	**86 29 23 D**
	D4: ∅ 110	**86 29 31 B**	**86 29 31 D**
	∅ 125	**86 29 32 B**	**86 29 32 D**
	∅ 160	**86 29 33 B**	**86 29 33 D**
	D5: ∅ 110	**86 29 41 B**	**86 29 41 D**
	∅ 125	**86 29 42 B**	**86 29 42 D**
	∅ 160	**86 29 43 B**	**86 29 43 D**

Backwater inspection chamber ∅ 1000 / Komfort inspection chamber ∅ 800/1000 — Accessories

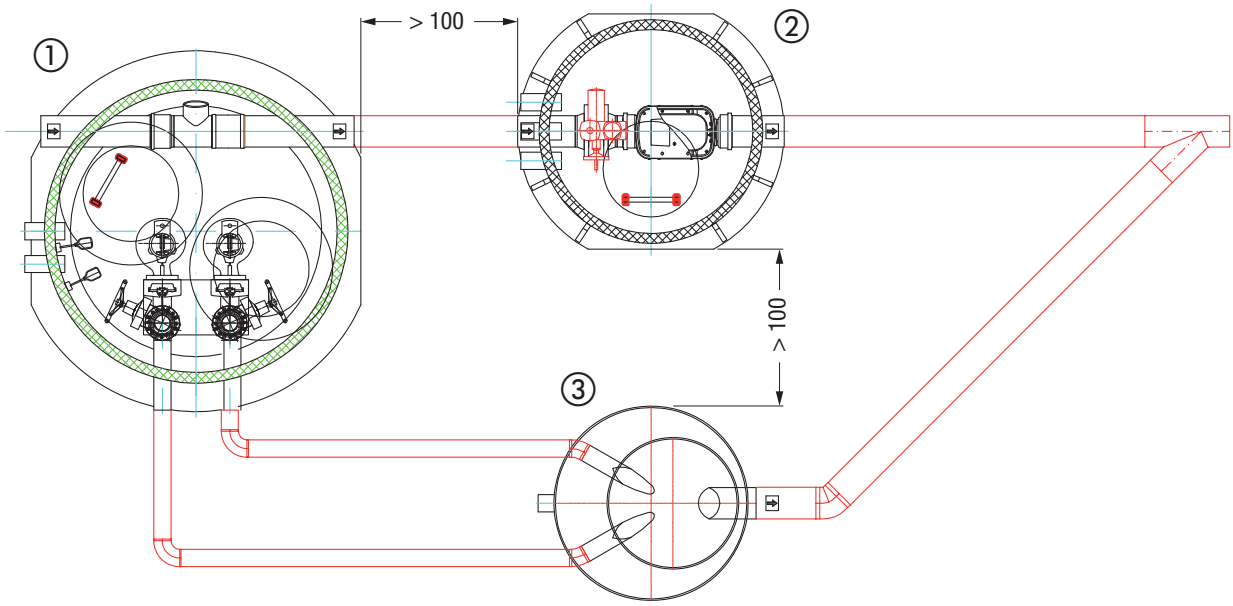
Illustration and dimensioned drawing	Article description	Outer diameter ∅ (mm)	Article #
	**Cover plate** ☐ **Plastic (max. 600 kg)** ☐ **Class A/B in cast iron (12.5 to.)**	- -	**860 117** **860 131**
	**Cover plate** in cast iron, surface water tight ☐ **Class A/B (12.5 to.), locked** ☐ **Class D (40 to.), locked**	- -	**860 133** **860 136**
	**Cover plate** in cast iron with ventilation ☐ **Class A/B (12.5 to.)** ☐ **Class D (40 to.), locked**	- -	**860 135** **860 137**
	**Upper section** made of polymer with clamping ring, telescopic height adjustable from 100 to 550 mm, for cover class A/B/D, locked ☐ **with recesses for a sludge bucket** ☐ **without holders for sludge buckets,** suitable for cover plate with ventilation	- -	**860 120** **860 121**
	**Lip gasket** ☐ for standard chamber ☐ for Komfort chamber	∅ 600 ∅ 600	**860 116** **860 114**
  	**Transition section** 1 **System 800** **Transition section 920** **Transition section 790** corresponding gasket: top Art. # 840 112 bottom Art. # 840 113 2 **System 1000** **Transition section 1070** **Transition section 1200** corresponding gasket: top Art. # 860 112 bottom Art. # 860 113	∅ 920 ∅ 790 ∅ 1070 ∅ 1200	**840 102** **840 104** **860 102** **860 103**
	**Profiled gasket** 1 **System 800** **Profiled gasket 790** **Profiled gasket 920** 2 **System 1000** **Profiled gasket 1070** **Profiled gasket 1200**	∅ 790 ∅ 920 ∅ 1094 ∅ 1236	**840 112** **840 113** **860 112** **860 113**
	**Extension section** **System 1000** corresponding gasket: top Art. # 860 112 bottom Art. # 860 113	∅ 1200	**860 101**
	**Set of connecting wedges** **System 800:** 8 pieces **System 1000:** 12 pieces	- -	**840 111** **860 111**

Backwater inspection chamber ∅ 1000 / Komfort inspection chamber ∅ 800/1000 — Accessories

Illustration and dimensioned drawing	Article description	Outer diameter ∅ (mm)	Article #
	**Hole saw** ☐ ∅ **50, 75, 110, 125, 160** ☐ ∅ **200**[1)] ☐ ∅ **250**[1)] [1)] Use a drill with at least 1000 W	- - -	**50 100** **50 102** **50 103**
	**Pipe sealing gasket** (EPDM) Use KESSEL hole saw when drilling,	∅ 110 ∅ 125 ∅ 160 ∅ 200 ∅ 250	**850 117** **850 118** **850 119** **182-875** **182-879**
	**Cable piping gasket set** ①Pipe sealing gasket ②PVC-collar plug ③Twin flange ∅ 110 ④HT-collar plug ⑤Cable connections ⑥Retaining clip with screws for backwater inspection chambers ∅ 1000 and clean out *Controlfix* with Komfort inspection chamber System ∅ 800 and ∅ 1000	∅ 110	**85 410**
	**Spreader clamp** for standard chamber system ∅ 1000 For fixing an on-site interior drop pipe ∅ 110 or ∅ 160 for backwater inspection chambers ∅ 1000	∅ 110 ∅ 160	**860 123** **860 124**
	**Thermal insulation** for insertion in telescopic upper sections Art.# 860 120, 860 121, 860 122, 860 125	-	**860 189**
	**Access steps** with hand rail and sleeve (pre-fitted)	-	**860 126**
	**Embedded step** with drilling template. The embedded step can be fitted to the upper section (Art. # 860 120, 860 121, 860 122) in the factory at an additional charge.	-	**860 109**
	**Upper section** made of polymer for standard bearing ring / concrete/cast covers, class A/B/D can be assembled with standard concrete rings ☐ telescopically height adjustable **from 50 to 280 mm** ☐ telescopically height adjustable **from 50 to 550 mm**	- -	**860 122** **860 125**
	**Locking and removal key** for chamber cover	-	**915 595**

Hybrid lifting station for sewage free wastewater and rainwater

During regular conditions the wastewater flows via gravity into the sewer. In the case of backwater, the motorized backwater flap of the *Staufix FKA* closes automatically and prevents wastewater from the flooded sewer from entering the building. Additionally, an electrically operated gate valve can be added to the system as a back-up pipe closure. While the backwater flap (and optional gate valve) are closed, wastewater flowing from the building overflow into a collection chamber equipped with powerful submersible pumps which will pump the building's wastewater into a pressure reduction chamber.



1	Pumping chamber with overflow system
2	Chamber with *FKA* backwater valve and electrical gate valve
3	Pressure reduction chamber