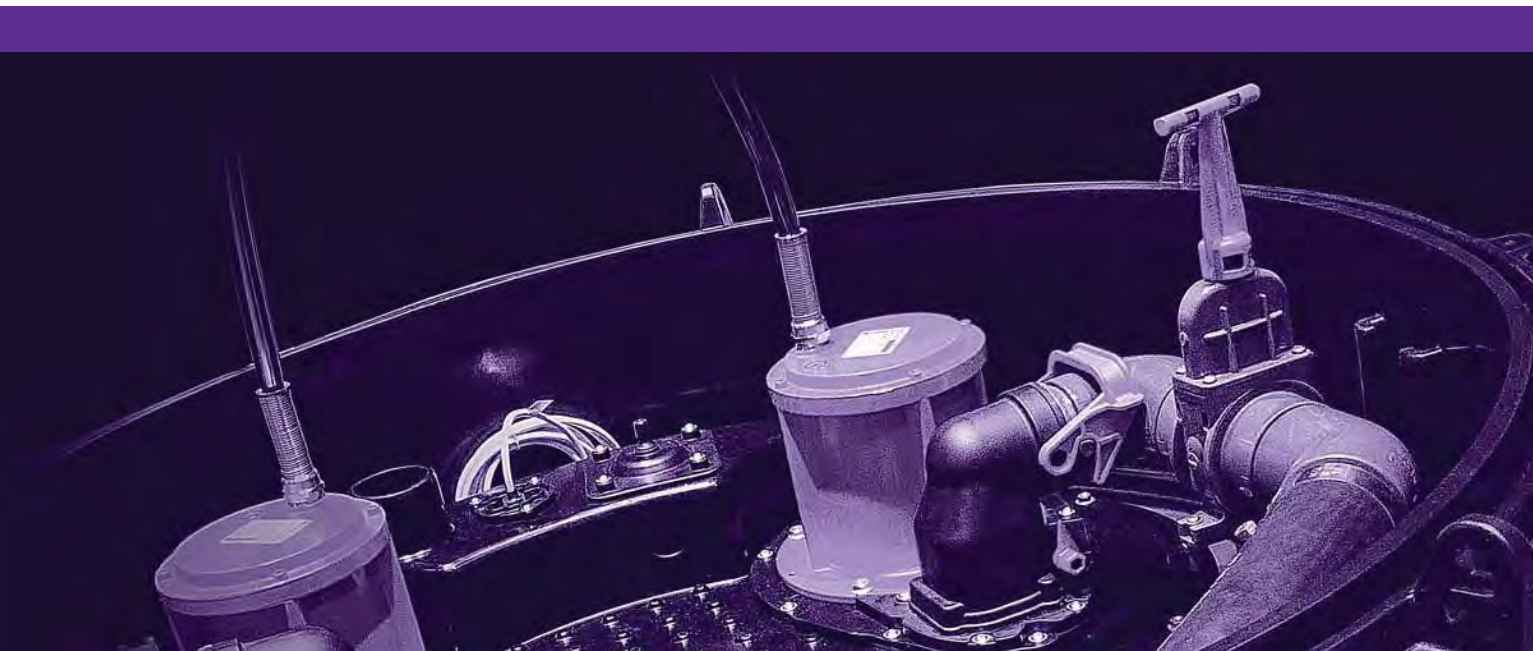




**KESSEL**

Leading in drainage



Catalogue **3.1**



Made in Germany

[www.kessel.com](http://www.kessel.com)



## KESSEL-Consultation and service

### How to contact us

Our Service Centre will be happy to help if you have any questions related to the products or services which we offer. To contact us, please select one of the following options:

#### Sales department

Northern Europe + Far East Tel. +49 84 56 27-310

Eastern Europe Tel. +49 84 56 27-189

Southern Europe Tel. +49 84 56 27-210

Western Europe + America Tel. +49 84 56 27-246

Middle East Tel. +49 84 56 27-341

Australia + New Zealand Tel. +49 84 56 27-210

Mail: [info@kessel.com](mailto:info@kessel.com) Fax +49 84 56 27-188

#### Technical support

Tel. +49 84 56 27-208 or +49 84 56 27-320

Mail: [info@kessel.com](mailto:info@kessel.com) Fax +49 84 56 27-188

#### After sales service

Tel. +49 84 56 27-462 Fax +49 84 56 27-173

Mail: [aftersales@kessel.com](mailto:aftersales@kessel.com)

### KESSEL-retail partners – products available immediately

Our retail partners sell and look after the most important KESSEL products.

Qualified specialists for sanitary installations or construction materials will be happy to provide their expert support and are sure to find a suitable drainage solution for you. In addition, well organised product presentations in retailers' showrooms provide detailed information about the different areas of application for drainage products.

To find a sales partner near you, visit the KESSEL website:

[www.kessel.com/contact](http://www.kessel.com/contact)



## The **KESSEL**-success story

### Drainage re-defined

KESSEL provides innovative problem solutions for the drainage of lands and buildings, from the initial idea to the product through to global sales – one-stop shopping for top quality that impresses retailers, planners and fitters alike. Behind the Lending think tank there are more than 450 employees representing the KESSEL brand and filling it with life.



### Breakthrough milestones of the drainage industry

**1972**

Where it all began - the original clean-out was the basis for the **Staufix** backwater valve product line

**1981**

Entrance into the pump technology branch: **UNIVA-Pumpfix** - the first fully automated basement drain

**1986**

Launch into the Environmental Protection segment with the **UNIVA Grease and Starch separators**

**1994**

Market introduction of the **new Komfort line of modular polyethylene inspection chambers**





## KESSEL – Worldwide sales and distribution

### Your partner on 5 Continents

Multiple sales office throughout Europe as well as fully established distribution networks on five continents insure the availability of KESSEL products.

The KESSEL headquarter is situated in Lenting, Bavaria, Germany.



### 2007

**Ecoguss** – the new composite material - the best alternative to cast iron

### 2011

World premiere of the **Ecolift**- the alternative to a standard lifting station with gravity sloped drainage

### 2013

Presentation of the new **Scada** wall drain, unique with LED lighting

### 2014

New grease separator **EasyClean** with functional design

### 2015

**Ecolift XL** hybrid lifting stations for industrial applications



# KESSEL-Individual Solutions

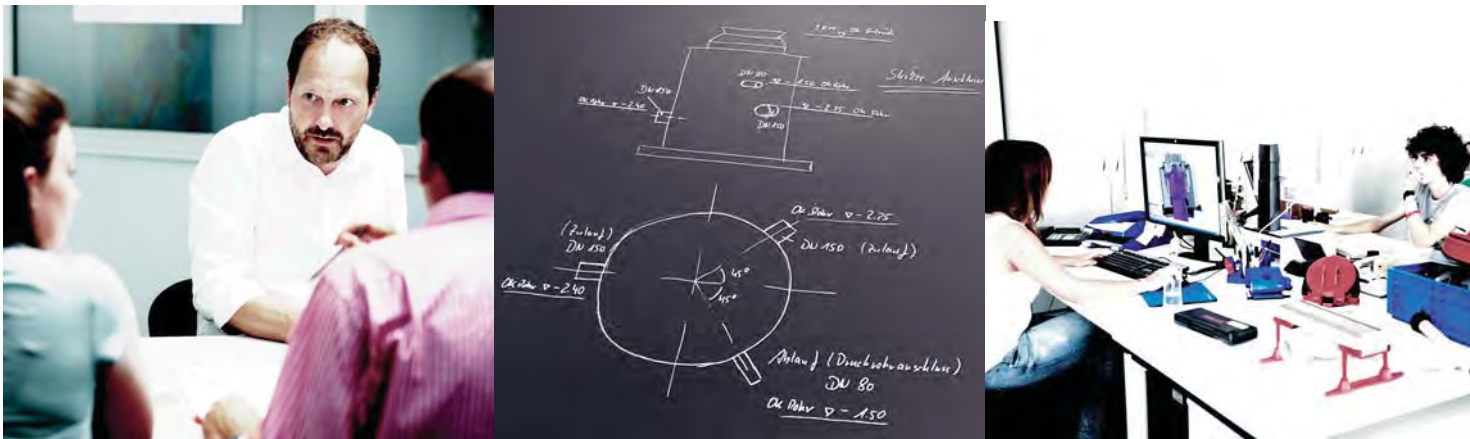
## We make everything possible

Today's building industry often demands customized solutions which are not available on an everyday basis.

Our team of professionally trained designers are experienced in specifying and designing custom drainage systems and work hand-in-hand with our own production team in manufacturing these systems. With decades of in-house experience and successful project work we have positioned ourselves as the leading manufacturer in this field.



## From the inquiry ...







... to delivery



## KESSEL-Education and professional development with the 3 level model



### E-Learning

#### 1. Introductory knowledge

##### E-Learning

##### Teaching of Introductory Knowledge

With this model, participants use the self-study principle to acquire basic knowledge of the field of drainage. The times and speed of the course is determined by the participant. With on-line interaction in the form of a test, the user can check if their knowledge is up to speed.

Information is available at  
[www.kessel.com/education](http://www.kessel.com/education)

Anyone wanting to be an expert in a certain field needs both theoretical and practical training. KESSEL offers you the opportunity to specifically enhance your know-how about drainage equipment in three stages and to learn what experts know.

### KESSEL-Customer Forum: World of drainage technology

Would you like to know where KESSEL products are installed and which drainage solutions we can offer you? In the world of drainage technology we present products in typical installation situations with multimedia support.





## On-site Training

## Webinar

### 2. Advanced

#### Webinar

#### Technical Training for advanced participants

This model includes on-line seminars concerning current topics in the field of drainage. Twelve times per year you will have the opportunity to view live internet presentations and to participate in a live 'chat' with a KESSEL instructor in order to have any questions you have answered.

Dates and Webinar topics are available at [www.kessel.com/education](http://www.kessel.com/education)

### 3. Experts

#### On-site Seminar

#### Expert Training and Workshops

Take advantage of our experienced instructors, the newest seminar topics and hands-on practical training. These seminars combine theoretical and practical experience to give the participants the highest level of knowledge and training. They can take place at our training centre in Lenting, Germany or on your own premises.

Find out more at [www.kessel.com/education](http://www.kessel.com/education)

### KESSEL-House of practice: How drainage works

In the KESSEL house of practice you can experience how our products work. Genuine products are installed on the various floors. Transparent pipes show which paths the water takes during drainage.



## KESSEL-Planning made easier

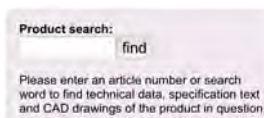
KESSEL offers a vast amount of tools and information on the internet to aid and simplify the engineer's daily drainage planning work load. Simply go to [www.kessel.com](http://www.kessel.com) to access the following information:

### Quick Search Option

By entering an article number or search word you can find technical data and specifications of a product in question.

- Access CAD product drawings.

Use the "Product search" function on [kessel.com](http://kessel.com):



- Access specification text
- Access installation and operation manuals
- Access product catalogue pages
- Access spare parts catalogue

### Product Videos

All KESSEL product videos are available in the 'Service & Download' section on the [www.kessel.com](http://www.kessel.com) internet site. Additionally you can scan in the QR-Code displayed in this catalogue to directly view our product videos on your mobile phone.



### "KESSEL INSIDE" newsletter

Would you like to be kept up to date on the new developments and trends in the drainage industry? Then the KESSEL-Newsletter is perfect for you. We will keep you regularly up to date about new products and services.

Register in the 'Service & Download' section on the [www.kessel.com](http://www.kessel.com) internet site!

### Find suitable spare parts online – the easy way



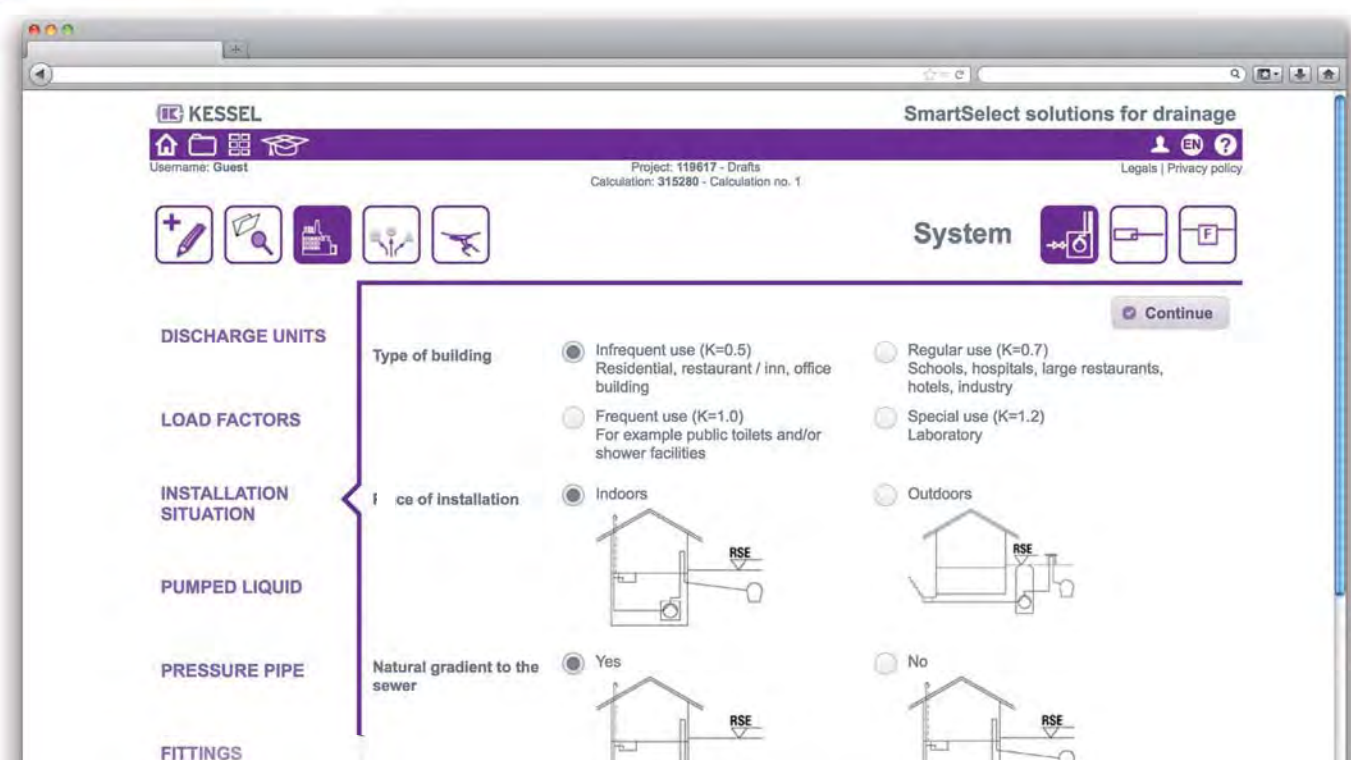
## SmartSelect – simply makes planning faster



SmartSelect is an efficient tool for configuring, designing and calculating drainage solutions. It significantly reduces planning effort.

SmartSelect provides registered users with a project management program which can be used to request and edit saved projects. Registration at [smartselect.kessel.com](http://smartselect.kessel.com) is free and takes only a few minutes!

- Lifting station selection program
- Grease separator selection program
- Floor drain water proofing selection program



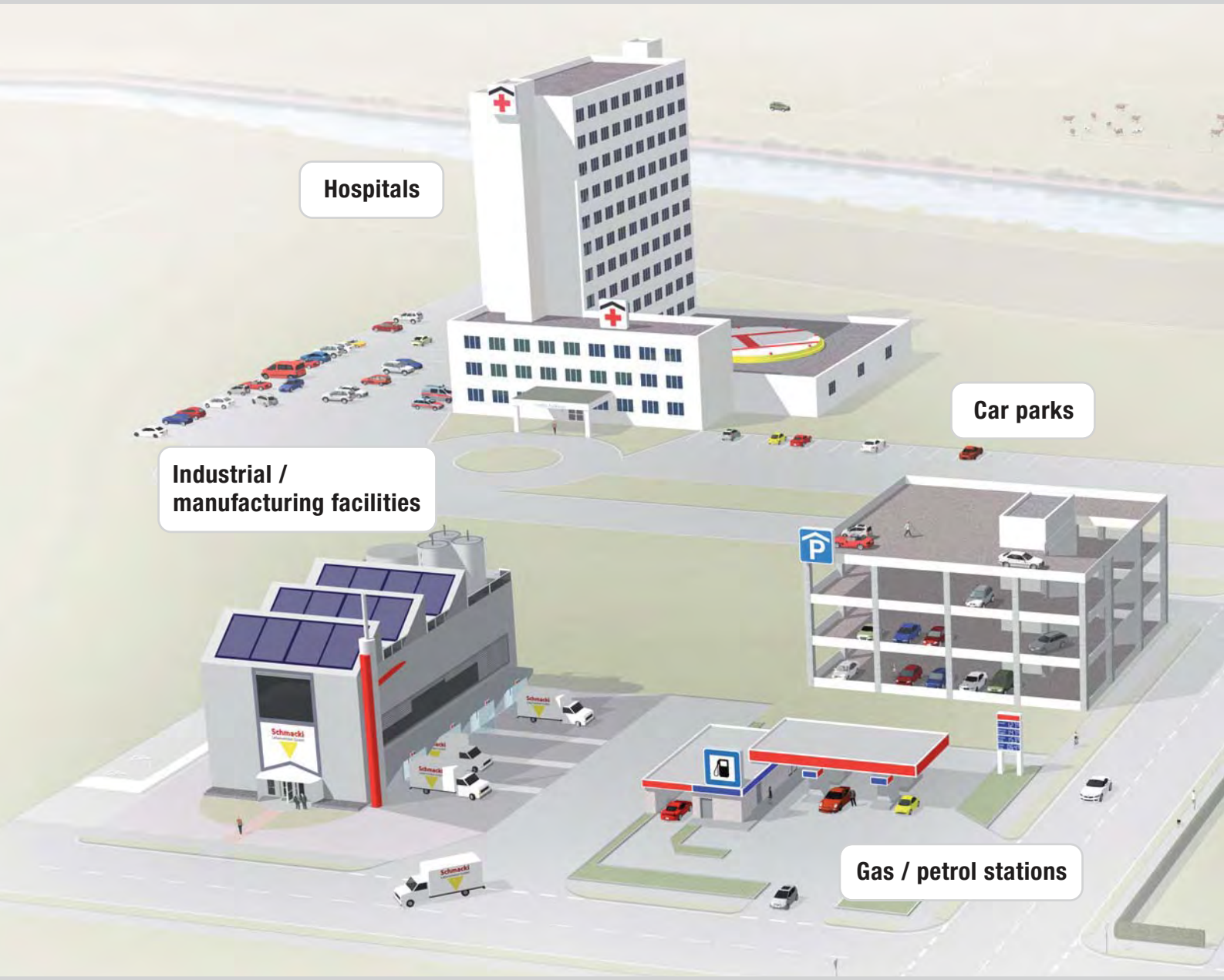
With our new spare parts catalogue we want to provide even better support for craftsmen carrying out repairs or conversion work. Ordering spare parts will be even easier for trade partners too. To make it easier to find the right spare part, every product is listed with its most important distinguishing features and a 3D illustration. The individual components are specified with the exact designation and part number.

Now, the product search at [www.kessel.com](http://www.kessel.com) not only provides simply the data sheet or CAD drawing for the respective product, the corresponding spare parts overview is online as well.

You can also download the complete catalogue from the KESSEL website.



# Complete range for backwater protection, wastewater discharge, wastewater treatment for commercial, communal and private wastewater disposal



**NEW:** Hybrid lifting station  
*Ecolift XL*



See page 64

**NEW:** *Aqualift F XL*  
Power Pumping  
Station



See page 110





**NEW:** Creative barrier-free bathroom draining – *Scada* wall drain



See page 194

**NEW:** Plug-and-play sewage lifting station *Minilift F* with macerator pump for wastewater disposal in a single toilet.



See page 82

## Overview of test seals and quality marks

### Test seals / quality marks for KESSEL products

- **LGA design tested and monitored**



A recognised independent testing institute ensures that the European standards and all further requirements are met.

- **SKZ test seal**



The quality seal testifies that the tested products have successfully passed through the testing, monitoring and certification stages.

- **SEG type approval certificate BVS 11 ATEX E 040 X**



Proof that a device complies with the ATEX product guideline 94/9/EC. For devices and protection systems for proper use in potentially explosive areas, e.g. pumping stations.

- **Ü-Mark**



Compliance certificate for national or international building products

- **CE-Mark**



Manufacturer's compliance certificate based on Guideline 93/42 EWG for European building products. National standards concerning installation and use must still be met.

- **Quality mark for high quality stainless steel**



AISI 304 or AISI 316L stainless steel meet all requirements for food production facilities and guarantee problem free functionality. KESSEL drain covers meet DIN 1253-1 requirements.

- **Red Dot design award**



The Red Dot Award is an international design competition and is awarded in the categories Product design and Communication design.

- **Dobrydesign award**



The "DobryDesign" award is bestowed by a Polish interior decorating magazine and honours particularly attractive items in various segments.

- **Polyethylene warranty**



KESSEL extends the warranty period for tanks beyond the statutory requirement to 20 years. This covers the water-tightness, usability and static safety of these components.

# Certification

## Management systems - sustainability firmly in place

Four central management systems contribute to anchoring the mission statement and basic handling principles of KESSEL AG within the company. In addition, they are major components for implementing sustainable company management.

KESSEL has established the following management systems

- **Quality Management**
- **Health & Safety Management**
- **Energy Management**
- **Environmental Protection Management**

Through the participation of a large number of employees who either work directly in quality teams or are indirectly involved through their day-to-day work, the management systems form an important basis to include sustainable issues in the company structures and make sure they are lived and breathed.

## KESSEL Certifications

### ISO 9001 is quality management...

The ISO 9001 is an international standard which sets guidelines and standards which manufacturers must meet. It serves to ensure that customers get the quality they are expecting. The standard refers to quality and reliability of the products and services delivered and has been at the heart of process orientation within the KESSEL AG for years.



### ISO 14001 is environment management...

Sustainable business is an act of common sense and responsibility for the future. The forward-looking, voluntary and systematic integration of environmental aspects in entrepreneurial decisions plays an important role here. Standard ISO 14001 provides a globally accepted basic for setting up an environment management system and specifies the principles according to which KESSEL AG acts.



### ISO 50001 is energy management...

The standard specifies the requirements for establishing, implementing, maintaining and improving an energy management system, whose purpose is to enable an organization to follow a systematic approach in achieving continual improvement of energy performance, including energy efficiency, energy security, energy use and consumption. The standard aims to help us continually reduce energy use, and therefore our energy costs and greenhouse gas emissions.



## Product standards for draining technology

EN <b>124</b>	<b>Load classes for upper sections and covers for traffic areas</b>	EN <b>752</b>	<b>Draining systems outside buildings</b>
EN <b>1253</b>	<b>Drains for buildings with volatile liquid traps</b>	EN <b>12056</b>	<b>Gravity drainage systems inside buildings</b>
EN <b>877</b>	<b>Cast iron pipes and fittings</b> their joints and accessories for the evacuation of water from buildings	EN <b>12566</b>	<b>Wastewater treatment systems</b> Application, dimensioning and execution
EN <b>12666-1</b>	<b>Plastics piping systems</b> for non-pressure underground drainage and sewerage - Polyethylene (PE)	EN <b>12050</b>	<b>Lifting stations for buildings</b> Lifting stations for wastewater with sewage or without sewage
EN <b>1852-1</b>	<b>Plastics piping systems</b> for non-pressure underground drainage and sewerage - Polypropylene (PP)	EN <b>13564</b>	<b>Backwater valves for buildings</b> Requirements, testing methods, quality monitoring
EN <b>1451-1</b>	<b>Plastics piping systems</b> for soil and waste discharge (low and high temperature) within the building structure - Polypropylene (PP)	EN <b>1825</b>	<b>Separator systems for greases</b> Basic construction, function and testing principles, dimensioning and installation
EN <b>1519-1</b>	<b>Plastics piping systems</b> for soil and waste discharge (low and high temperature) within the building structure - Polyethylene (PE)	EN <b>1401-1</b>	<b>Plastics piping systems</b> for non-pressure underground drainage and sewerage - Unplasticized polyvinyl chloride (PVC-U)
EN <b>1566-1</b>	<b>Plastics piping systems</b> for soil and waste discharge (low and high temperature) within the building structure - Chlorinated polyvinyl chloride (PVC-C)	EN <b>858</b>	<b>Separator systems for volatile liquids (oil and petrol)</b> Basic construction, function and testing principles, choice of nominal size, installation, operation and maintenance

DIN <b>4109</b>	<b>Sound protection in high-rise buildings</b> Requirements and proofs	DIN <b>4261</b>	<b>Wastewater treatment systems</b> Application, dimensioning and execution
DIN <b>16961</b>	<b>Pipes and fittings</b> made of thermoplastic materials with profiled walls and smooth inner walls	DIN <b>18195</b>	<b>Waterproofing of structures</b> Protecting structures from moisture and water
DIN <b>1986-100</b>	<b>Draining systems on for buildings and land.</b> In combination with EN 12056	DIN <b>1999-100</b>	<b>Separator systems for volatile liquids</b> In combination with EN 858
DIN <b>1999-101</b>	<b>Separator systems for volatile liquids</b> Increased requirements for biodiesel	DIN <b>4040-100</b>	<b>Separator systems for greases</b> Requirements and operation of separator systems in combination with EN 1825





## Program overview

<b>1 Backwater protection</b>	from page <b>19</b>
<b>2 Hybrid lifting stations</b>	from page <b>55</b>
<b>3 Lifting stations</b>	from page <b>75</b>
<b>4 Drains and channels</b>	from page <b>139</b>
<b>5 Separators</b>	from page <b>251</b>
<b>Quick-search index</b>	from page <b>301</b>

# Backwater protection





# 1 Backwater protection

## **Premium backwater valves** Page 24 – 35

with mechanical or motor-driven backwater flap and pump for draining wastewater with sewage, even during backwater.

## **Classic backwater valves** Page 36 – 43

with mechanical backwater flaps for protection against backwater.

## **Backwater valves in chamber for underground installation** Page 44 – 51

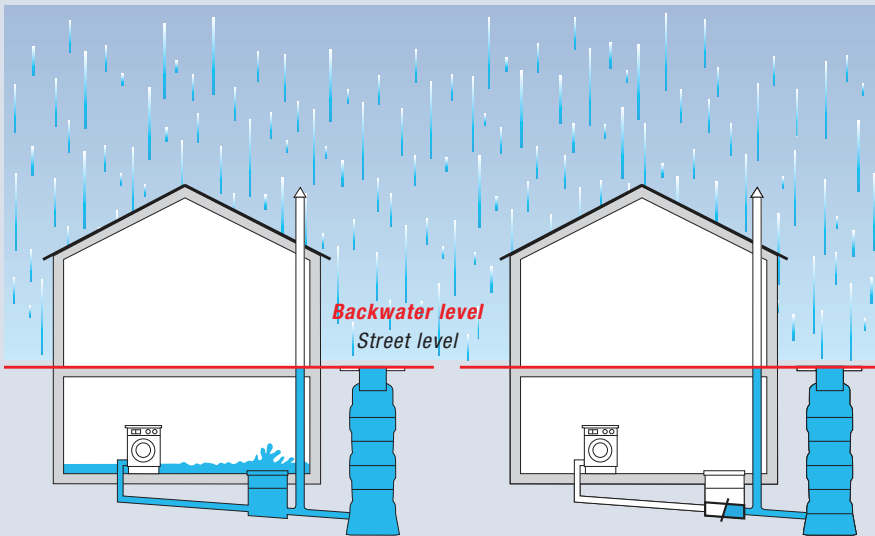
Frees up basement space by moving backwater protection to outside the house.

## **Individual Solutions** Page 52



# 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



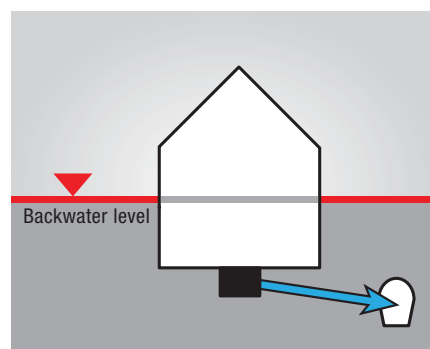
**Grey water**  
wastewater without sewage

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.

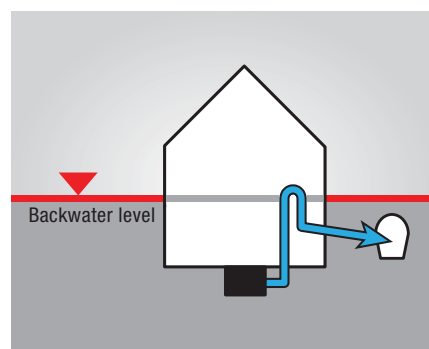
Wastewater with sewage is always involved whenever pipes are connected that transport water from urinals or toilets to the sewer.

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 28**



- Public sewer is higher - wastewater must be lifted to the sewer via the backwater loop  
▷ pumping stations starting **page 26**

# 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 3 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](http://www.kessel.com/references)



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



# 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

	<b>Controlfix</b>	<b>SWA</b>	<b>FKA</b>	<b>Pumpfix</b>
Installation in a concrete floor?	✓	✓	✓	✓
Exposed installation?	✓	✓	✓	✓
Central protection of several drains possible?		✓	✓	✓
For wastewater containing raw sewage?		✓*	✓	✓
For commercial application?				✓
Wastewater disposal during backwater event?				✓
Conversion (Upgrade)	✓	✓	✓	
Products see page	31	30	28	26

\* 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

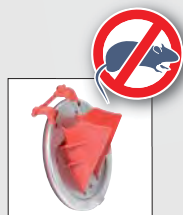
VARIABLE UPPER SECTION  
Rotatable, tiltable and height adjustable



**Staufix FKA**  
Art.# 84 100S

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

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



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



Ideal  
for  
waterproof  
concrete

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



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.

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


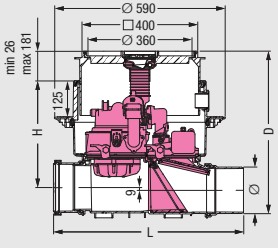
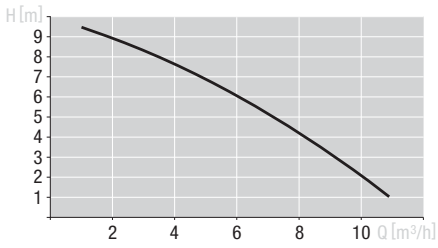


Backwater protection

1

## Pumpfix F Komfort Installation in a concrete slab/floor


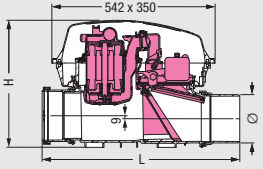
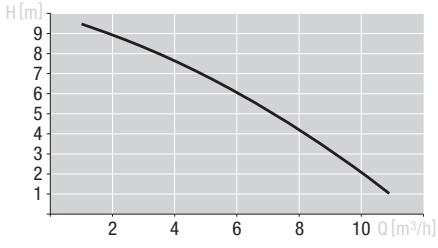
Products

Illustration and dimensioned drawing	Article description	Outer diameter Ø (mm)	Article #
  Installation area 750 x 750 mm	<p><b>Backwater pumping station <i>Pumpfix F Komfort</i> for wastewater with or without sewage</b> made of polymer, with telescopic upper section for continuous height- and level adjustment</p> <p><b>For installation in a concrete slab/floor for installation depth (D) from 486 - 640 mm</b></p> <p><b>1 with recessed cover for on-site tiling and drain (X)</b></p> <p><b>2 with black cover and drain (S)</b></p> <p>With surface water tight cover plate class A 15 made of polymer and integrated floor drain. Installation kit with choice of cover.</p> <p>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, <i>Pumpfix F</i> body rated protection type IP 68 (3 m, 24 h). Power cable length: 5 m (15 m available on request).</p> <p>                         Ø 110 L: 642 mm H: 394 mm                          Ø 125 L: 645 mm H: 387 mm                          Ø 160 L: 656 mm H: 370 mm                          Ø 200 L: 720 mm H: 348 mm                     </p>	<p><b>1</b></p> <ul style="list-style-type: none"> <li>Ø 110</li> <li>Ø 125</li> <li>Ø 160</li> <li>Ø 200*</li> </ul> <p><b>2</b></p> <ul style="list-style-type: none"> <li>Ø 110</li> <li>Ø 125</li> <li>Ø 160</li> <li>Ø 200*</li> </ul>	<p><b>24100X</b></p> <p><b>24125X</b></p> <p><b>24150X</b></p> <p><b>24200X</b></p> <p><b>24100S</b></p> <p><b>24125S</b></p> <p><b>24150S</b></p> <p><b>24200S</b></p>
	 H[m] = Backwater height	<p><b>+</b> Accessories: Page 32 - 35</p>	

 **Certification: Z-53.2-388**

## Pumpfix F Komfort Installation in an exposed wastewater pipe

Products

Illustration and dimensioned drawing	Article description	Outer diameter Ø (mm)	Article #
 	<p><b>Backwater pumping station <i>Pumpfix F Komfort</i> for wastewater with or without sewage</b> made of polymer</p> <p><b>For installation in an exposed wastewater pipe.</b> With protective cover.</p> <p>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, <i>Pumpfix F</i> body rated protection type IP 68 (3 m, 24 h). Power cable length: 5 m (15 m available on request).</p> <p>                         Ø 110 L: 642 mm H: 422 mm                          Ø 125 L: 645 mm H: 422 mm                          Ø 160 L: 656 mm H: 422 mm                          Ø 200 L: 720 mm H: 422 mm                     </p>	<ul style="list-style-type: none"> <li>Ø 110</li> <li>Ø 125</li> <li>Ø 160</li> <li>Ø 200*</li> </ul>	<p><b>24100</b></p> <p><b>24125</b></p> <p><b>24150</b></p> <p><b>24200</b></p>
	 H[m] = Backwater height	<p><b>+</b> Accessories: Page 32 - 35</p>	

 **Certification: Z-53.2-388**

# Backwater pumping stations for wastewater with or without sewage

## Installation example *Pumpfix F Komfort*



① Backwater pumping station                      ③ Sealing gasket set  
② Control unit

*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.



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



## Professional advantages

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

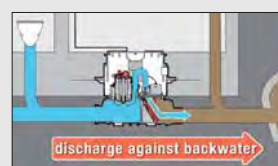
- Installation body with only 9 mm gradient. Ideal for renovation work.

- **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, pump activates, wastewater is discharged



# Motorised backwater valve for wastewater with or without sewage



Backwater protection

1

## Staufix FKA Komfort Installation in a concrete slab/floor

Products

Illustration and dimensioned drawing	Article description	Outer diameter Ø (mm)	Article #
<p>Installation area 750 x 750 mm</p>	<p><b>Backwater valve <i>Staufix FKA Komfort</i> for wastewater with or without sewage</b> made of polymer, with telescopic upper section for continuous height- and level adjustment</p> <p><b>For installation in a concrete slab/floor for installation depth (D) from 486 - 640 mm</b></p> <p><b>1 with recessed cover for on-site tiling (X)</b> <b>2 with black cover (S)</b></p> <p>With surface water tight cover plate class A 15 made of polymer. Installation kit with choice of cover.</p> <p>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).</p> <p>Ø <b>110</b> L: 642 mm H: 394 mm Ø <b>125</b> L: 645 mm H: 387 mm Ø <b>160</b> L: 656 mm H: 370 mm Ø <b>200</b> L: 720 mm H: 348 mm</p>	<p><b>1</b></p> <p>Ø 110 Ø 125 Ø 160 Ø 200*</p>	<p><b>84100X</b> <b>84125X</b> <b>84150X</b> <b>84200X</b></p>
		<p><b>2</b></p> <p>Ø 110 Ø 125 Ø 160 Ø 200*</p>	<p><b>84100S</b> <b>84125S</b> <b>84150S</b> <b>84200S</b></p>



Accessories: Page 32 - 35

## Staufix FKA Komfort Installation in an exposed wastewater pipe

Products

Illustration and dimensioned drawing	Article description	Outer diameter Ø (mm)	Article #
	<p><b>Backwater valve <i>Staufix FKA Komfort</i> for wastewater with or without sewage</b> made of polymer</p> <p><b>For installation in an exposed wastewater pipe.</b> With protective cover.</p> <p>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).</p> <p>Ø <b>110</b> L: 642 mm H: 422 mm Ø <b>125</b> L: 645 mm H: 422 mm Ø <b>160</b> L: 656 mm H: 422 mm Ø <b>200</b> L: 720 mm H: 422 mm</p>	<p>Ø 110 Ø 125 Ø 160 Ø 200*</p>	<p><b>84100</b> <b>84125</b> <b>84150</b> <b>84200</b></p>

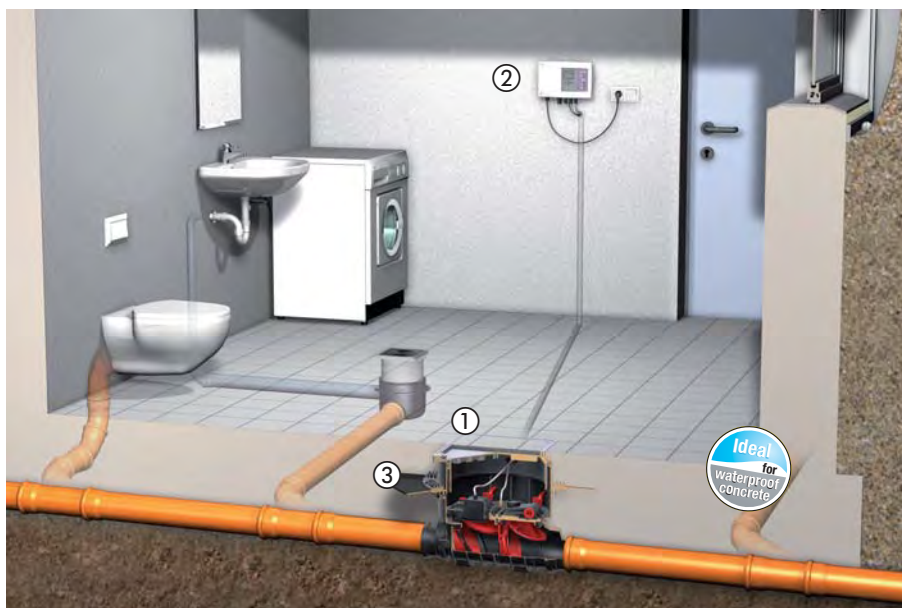


Accessories: Page 32 - 35



# Motorised backwater valve for wastewater with or without sewage

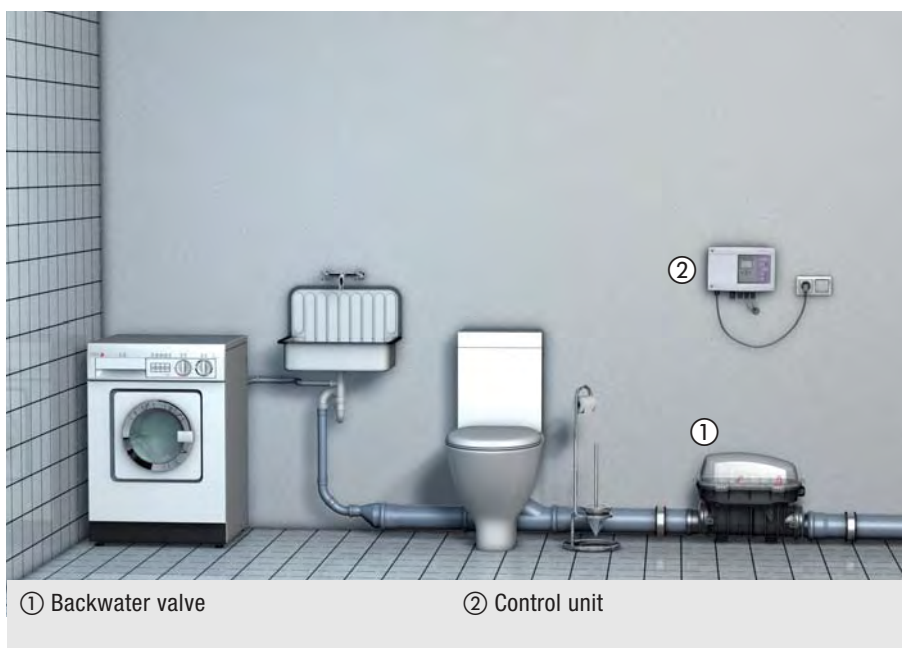
## Installation example *Staufix FKA Komfort*



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.

## 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.



- **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.



## 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.

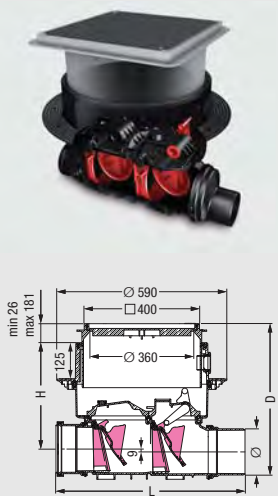




- **Backwater protection even during construction phase thanks to 3-stage flap**  
Freely suspended flap in the construction phase position.



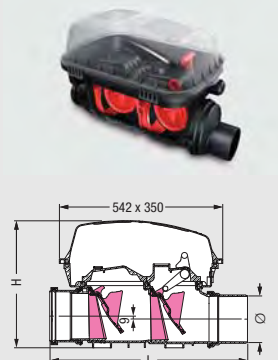


## Staufix SWA Installation in a concrete slab/floor

Products

Illustration and dimensioned drawing	Article description	Outer diameter Ø (mm)	Article #
 <p>Installation area 750 x 750 mm</p>	<p><b>Twin flap backwater valve <i>Staufix SWA</i> for wastewater</b> made of polymer, with telescopic upper section for continuous height- and level adjustment</p> <p><b>For installation in a concrete slab/floor for installation depth (D) from 486 - 640 mm</b></p> <p><b>1 with recessed cover for on-site tiling (X)</b> <b>2 with black cover (S)</b></p> <p>With surface water tight cover plate class A 15 made of polymer. Installation kit with choice of cover.</p> <p>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.</p> <p>Ø 110 L: 642 mm H: 394 mm Ø 125 L: 645 mm H: 387 mm Ø 160 L: 656 mm H: 370 mm Ø 200 L: 720 mm H: 348 mm</p> <p> EN 13564 Type 2</p>	<p><b>1</b> Ø 110 Ø 125 Ø 160 Ø 200*</p> <p><b>2</b> Ø 110 Ø 125 Ø 160 Ø 200*</p>	<p><b>73100.10X</b> <b>73125.10X</b> <b>73150.10X</b> <b>73200.10X</b></p> <p><b>73100.10S</b> <b>73125.10S</b> <b>73150.10S</b> <b>73200.10S</b></p> <p> <b>Accessories: Page 32 - 35</b></p>

## Staufix SWA Installation in an exposed wastewater pipe

Products

Illustration and dimensioned drawing	Article description	Outer diameter Ø (mm)	Article #
	<p><b>Twin flap backwater valve <i>Staufix SWA</i> for wastewater</b> made of polymer</p> <p><b>For installation in an exposed wastewater pipe.</b> With protective cover.</p> <p>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.</p> <p>Ø 110 L: 642 mm H: 422 mm Ø 125 L: 645 mm H: 422 mm Ø 160 L: 656 mm H: 422 mm Ø 200 L: 720 mm H: 422 mm</p> <p> EN 13564 Type 2</p>	<p>Ø 110 Ø 125 Ø 160 Ø 200*</p>	<p><b>73100.10</b> <b>73125.10</b> <b>73150.10</b> <b>73200.10</b></p> <p> <b>Accessories: Page 32 - 35</b></p>



**Controlfix** Installation in a concrete slab/floor

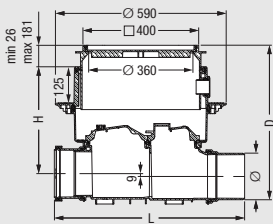
Products

Illustration and dimensioned drawing

Article description

Outer diameter  
Ø (mm)

Article #



Installation area 750 x 750 mm

**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.

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

1

2

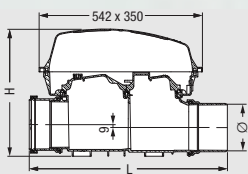
- Ø 110
- Ø 125
- Ø 160
- Ø 200\*
- Ø 110
- Ø 125
- Ø 160
- Ø 200\*

- 80100X
- 80125X
- 80150X
- 80200X
- 80100S
- 80125S
- 80150S
- 80200S

Accessories: Page 32 - 35

**Controlfix** Installation in an exposed wastewater pipe

Products



**Clean out Controlfix for wastewater**

made of polymer

**For installation in an exposed wastewater pipe. With protective cover.**





- Ø 110 L: 642 mm H: 422 mm
- Ø 125 L: 645 mm H: 422 mm
- Ø 160 L: 656 mm H: 422 mm
- Ø 200 L: 720 mm H: 422 mm

- Ø 110
- Ø 125
- Ø 160
- Ø 200\*

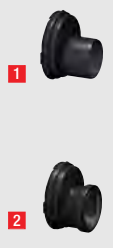

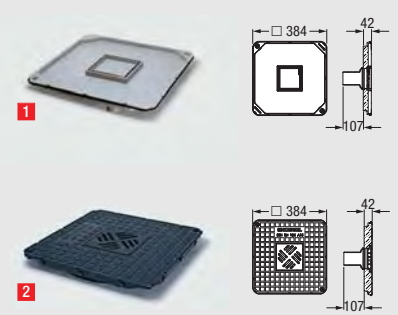


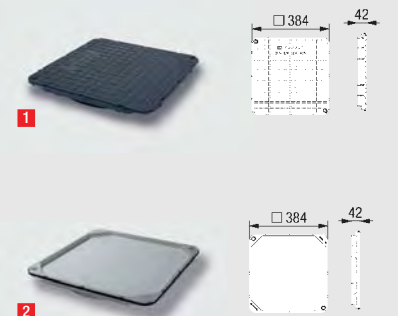
- 80100
- 80125
- 80150
- 80200

Accessories: Page 32 - 35





Pumpfix F / Staufix FKA / Staufix SWA			Accessories
Illustration	Article description	Outer diameter Ø (mm)	Article #
<p>For models made on or after Jan 2011</p> 	<p><b>Cable extension set 10 m</b></p> <p><input type="checkbox"/> <b>Pumpfix F Komfort</b></p> <ul style="list-style-type: none"> <li>- for pump</li> <li>- 2 x for probe</li> <li>- for motor</li> </ul> <p><input type="checkbox"/> <b>Staufix FKA Komfort</b></p> <ul style="list-style-type: none"> <li>- for probe</li> <li>- for motor</li> </ul>	- - - - -	<p><b>80 891</b></p> <p><b>80 889</b></p> <p><b>80 890</b></p> <p><b>80 889</b></p> <p><b>80 890</b></p>
<p>For models made on or after Jan 2011</p> 	<p><b>Optical probe</b> Includes adaptor set 80 892, cable length: 5 m</p> <p><b>Cable extension set</b> (for probe), 10 m</p> <p><b>Adaptor set</b> 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 Ø 125/160 (for Jan 2011 models and newer)</p>	- - -	<p><b>80 888</b></p> <p><b>80 889</b></p> <p><b>80 892</b></p>
	<p><b>Audible alarm</b> 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 Ø 31 x 15 mm.</p> <p><b>suitable for all control units with SDS function:</b> <i>Pumpfix F, Staufix FKA</i></p>	-	<b>20162</b>
	<p><b>Potential-free contact</b> Change-over contact 42 V / 0.5 A; Additional circuit board with a potential-free contact e.g. for connecting control unit to BMS (Building Management System).</p> <p><b>suitable for all control units with SDS function:</b> <i>Pumpfix F, Staufix FKA</i></p>	-	<b>80072</b>

Pumpfix F / Staufix FKA / Staufix SWA / Controlfix			Accessories
Illustration and dimensioned drawing	Article description	Outer diameter Ø (mm)	Article #
 <p><b>NEW</b></p> <p>Extension section with centre flange with elastomer sealing sheet made of NK/SBR Ø 800 mm, incl. screws For installation in an concrete floor.</p> <p>Dimensions: Ø458, 145.5, 224, Ø414, max. 191.7, 390.5</p>		-	<b>83 075</b>
 <p>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 an concrete floor.</p> <p>Dimensions: 10, Ø590, 40, 180, 230, Ø414</p> <p>When multiple extension sections are used make sure that access to valve is still possible!</p>		-	<b>83 073</b>
 <p>Extension section made of polymer, max. extension 180 mm, incl. gasket For installation in an concrete floor.</p> <p>Dimensions: Ø480, 150, 200, Ø414</p> <p>When multiple extension sections are used make sure that access to valve is still possible!</p>		-	<b>83 070</b>
 <p>Gasket set for installation in waterproof concrete consisting of: <b>Counter flange</b> made of polymer, incl. screws, <b>elastomer waterproof membrane</b> in NK/SBR Ø 800 mm For installation in an concrete floor.</p> <p>Waterproof concrete installation tested by MFPA Leipzig UB 5.1/11-452-1</p>		-	<b>83 023</b>

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



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



### 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.


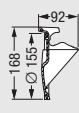

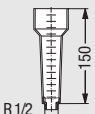


Clean out  
*Controlfix*

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  	<b>Rat protection flap</b> with stainless steel shield for <i>Staufix FKA Komfort</i> (with flap in pendulum position) and <i>Staufix SWA</i>	-	<b>80 037</b>
 	<b>Testing funnel</b> with sealing gasket for servicing all <i>Staufix</i> backwater valves, suitable for Ø 110, 125, 160	-	<b>70 214</b>



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



# 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** Ø 100 - 200  
for wastewater

## SELECTION CRITERIA

### BACKWATER VALVES *Staufix* Ø 50 - 200

<i>Staufix</i>	Art. # 71...	Art. # 72...	Art. # 73...	Ø 50 / Ø 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	38	38	38	40

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



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

**Pipe flaps** Ø 110 - 1000  
for wastewater without sewage

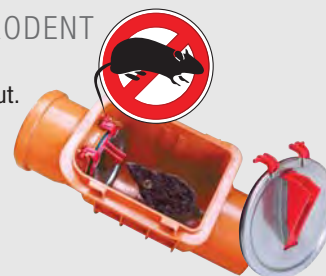
**TOOL FREE MAINTENANCE**  
cover unlocked and removed by hand.



**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).

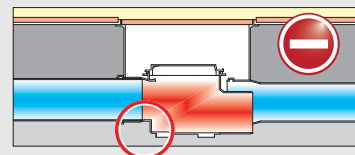


**CORROSION-FREE**  
All ABS construction -  
No more metal, no more rust.

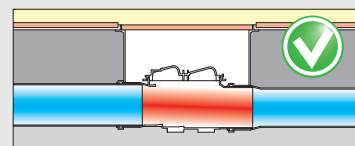


**2-COMPONENT PRODUCTION  
TECHNOLOGY**  
seals gaskets with valve. No more lost or  
improperly installed gaskets.

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

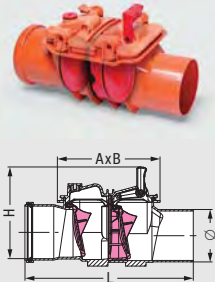

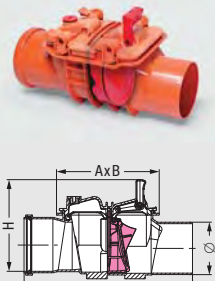

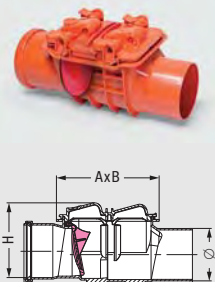

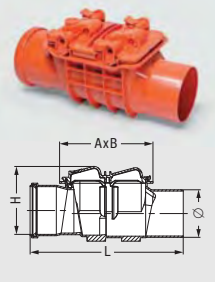


*Staufix* offers minimal drop between  
inlet/outlet (7 mm)







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

# Backwater valves for wastewater

## Installation example *Staufix*



*Staufix* 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. Installation in the concrete slab with upper section Art. # 32500 and two cover plates Art. # 30004 S or for installation in an exposed wastewater pipe.

## 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* 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.



## Staufix

## Accessories

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

# Backwater valves for wastewater without sewage



Backwater protection

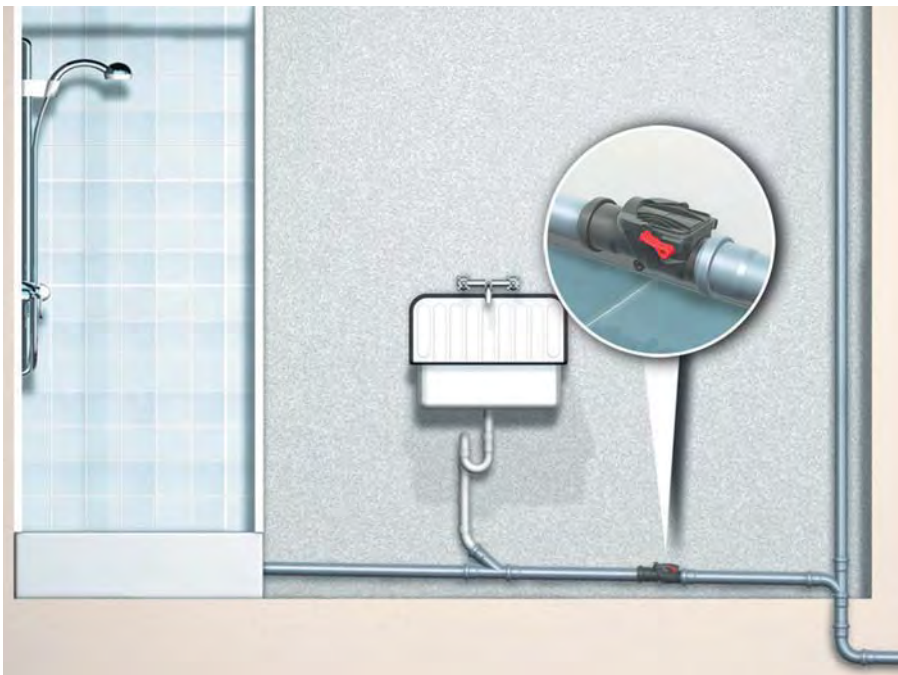
1

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



## Backwater valves for wastewater without sewage

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



Multiple applications . . . Ø 50 or Ø 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.**



# Backwater valves for wastewater without sewage



Backwater protection

1

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

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

\* 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

## Backwater valves for wastewater without sewage

### 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 without sewage.



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





**Complete chamber**  
made in one piece Ø 1000 mm

### Backwater chamber

with three open channel passages



**Komfort chamber**  
modular system Ø 800 / 1000 mm

### Clean out *Controllfix*

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.



**Complete chamber**  
made in one piece Ø 1000 mm

**Komfort chamber**  
modular system Ø 800 / 1000 mm


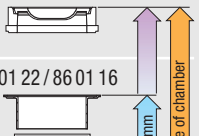
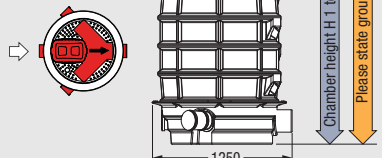








# Backwater inspection chambers for wastewater with sewage or wastewater without sewage

Backwater protection

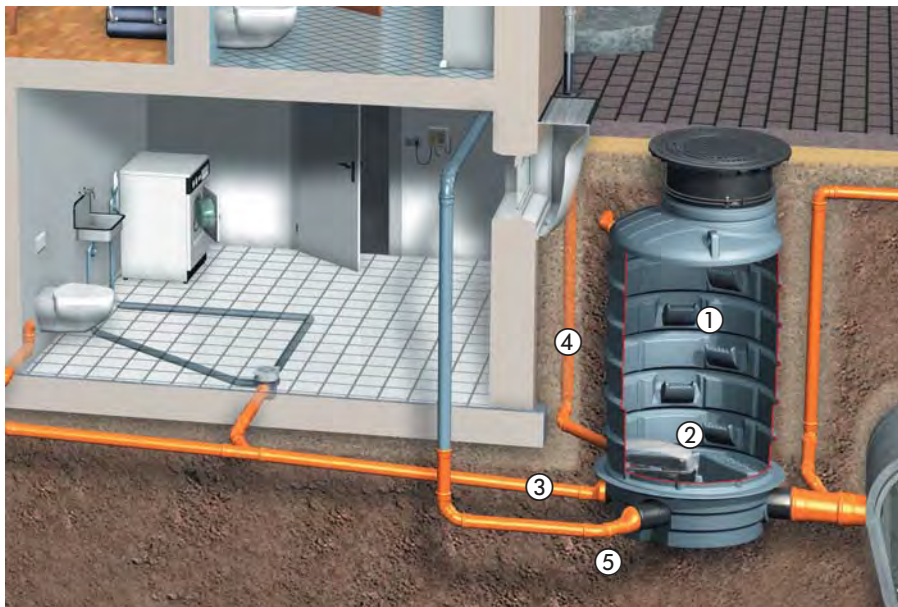
1

Backwater inspection chamber Ø 1000			Products
Illustration and dimensioned drawing	Article description	Chamber height	Article #
 <p><b>Standard cover on-site</b></p>  <p>Accessories: Art. # 86 01 22 / 86 01 16</p> <p><b>Inspection chamber</b> including 300 kg load class temporary construction debris cover</p>  <p>Chamber height H 1 to H 5 from 50 to 280 mm Please state groundwater level T above base of chamber</p> <p>1250</p>	<p><b>Backwater inspection chamber Ø 1000</b> 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).</p> <p>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 <i>Staufix SWA</i>, KESSEL <i>Staufix FKA</i> or KESSEL <i>Pumpfix F</i>.</p> <p><b>Outlet:</b></p> <p>1 Ø 160 mm spigot type outlet 2 Ø 200 mm spigot type outlet</p> <p>For connection to PVC pipe according to EN 1401-1 and PE-HD connections according to EN 12666-1.</p> <p><b>Handles groundwater depths up to 2000 mm</b></p> <p><b>Further accessories see page 50 - 51</b></p> <p><b>Distance from base of chamber to:</b> Base of inlet approx. 136 mm Base of outlet approx. 108 mm</p> <p> Certification no. Z-42.1-333</p>	<p>1 H1: 1180 mm H2: 1680 mm H3: 2180 mm H4: 2680 mm H5: 3180 mm</p> <p>2 H1: 1180 mm H2: 1680 mm H3: 2180 mm H4: 2680 mm H5: 3180 mm</p>	<p><b>88 10 05-DN 150</b> <b>88 15 05-DN 150</b> <b>88 20 05-DN 150</b> <b>88 25 05-DN 150</b> <b>88 30 05-DN 150</b></p> <p><b>88 10 05</b> <b>88 15 05</b> <b>88 20 05</b> <b>88 25 05</b> <b>88 30 05</b></p>

Conversion kit			Accessories
Illustration	Article description	Outer diameter Ø (mm)	Article #
<p>For models made on or after Jan 2011</p> 	<p><b>Conversion kit <i>Pumpfix F Komfort</i></b> With 15 m cable length, incl. Comfort control unit and connection for venting pipe For conversion to the inspection chamber with backwater pumping station <i>Pumpfix F</i>, for wastewater with or without sewage</p> <p><b>Cable extension set</b> for pump, motor and probe see page 32</p>	Ø 110-200	<b>80 102</b>
<p>For models made on or after Jan 2011</p> 	<p><b>Conversion kit <i>Staufix FKA Komfort</i></b> With 15 m cable length, incl. Comfort control unit and connection for venting pipe For conversion to the inspection chamber with backwater valve <i>Staufix FKA</i>, for wastewater with or without sewage</p> <p><b>Cable extension set</b> for motor and probe see page 32</p>	Ø 110-200	<b>80 104</b>
<p>For models made on or after Jan 2011</p> 	<p><b>Conversion kit <i>Staufix SWA</i></b> For conversion to the inspection chamber with backwater valve <i>Staufix SWA</i>, for wastewater without sewage</p>	Ø 110-200	<b>80 091</b>

## Backwater inspection chambers for wastewater with sewage or wastewater without sewage

### Installation example backwater inspection chamber Ø 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


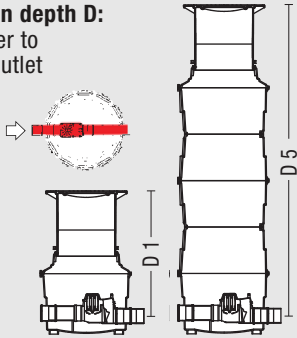
Further accessories starting page 50




- **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.

# Backwater inspection chambers for wastewater with sewage or wastewater without sewage

Backwater protection

1

Komfort inspection chamber Ø 800			Products	
Illustration and dimensioned drawing	Article description	Outer diameter Ø (mm)	Article # Class B	Article # Class D
 <p><b>Installation depth D:</b> Top of cover to centre of outlet</p>  <p><b>Delivery:</b> Inspection chamber in components (bottom parts stackable) for on-site assembly incl. assembly system.</p>	<p><b>Clean out <i>Controlfix</i> with Komfort inspection chamber Ø 800</b> Polyethylene construction For underground installation</p> <p><b>Installation depth (D) from ..... mm to ..... mm</b></p> <p><input type="checkbox"/> <b>Cover plate class B (Version B)</b> <input type="checkbox"/> <b>Cover plate class D (Version D)</b></p> <p>Water-tight, resistant to aggressive wastewater. Upper section made of polymer for continuous height and level adjustment. <b>Optional cover plate</b> class ..... in cast iron according to EN 124, surface water tight, incl. cover removal tool. <b>Continuous pipe Ø ..... with cleaning pipe according to EN 13564.</b> Inlets with flange, outlet with spigot end for PVC pipe according to EN 1401-1 and PE-HD pipe according to EN 12666-1.</p> <p><b>Conversion center inlet pipe to bottom inlet pipe:</b> Ø 110: Installation depth D + 55 mm Ø 125: Installation depth D + 62.5 mm Ø 160: Installation depth D + 80 mm Ø 200: on request</p> <p><b>Installation depth:</b> 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</p> <p><b>Handles groundwater depths up to 500 mm</b></p> <p><b>Further accessories see page 50 - 51</b></p>	<p><b>D1:</b> Ø 110 Ø 125 Ø 160</p> <p><b>D2:</b> Ø 110 Ø 125 Ø 160</p> <p><b>D3:</b> Ø 110 Ø 125 Ø 160</p> <p><b>D4:</b> Ø 110 Ø 125 Ø 160</p> <p><b>D5:</b> Ø 110 Ø 125 Ø 160</p>	<p><b>84 25 01 B</b> <b>84 25 02 B</b> <b>84 25 03 B</b></p> <p><b>84 25 11 B</b> <b>84 25 12 B</b> <b>84 25 13 B</b></p> <p><b>84 25 21 B</b> <b>84 25 22 B</b> <b>84 25 23 B</b></p> <p><b>84 25 31 B</b> <b>84 25 32 B</b> <b>84 25 33 B</b></p> <p><b>84 25 41 B</b> <b>84 25 42 B</b> <b>84 25 43 B</b></p>	<p><b>84 25 01 D</b> <b>84 25 02 D</b> <b>84 25 03 D</b></p> <p><b>84 25 11 D</b> <b>84 25 12 D</b> <b>84 25 13 D</b></p> <p><b>84 25 21 D</b> <b>84 25 22 D</b> <b>84 25 23 D</b></p> <p><b>84 25 31 D</b> <b>84 25 32 D</b> <b>84 25 33 D</b></p> <p><b>84 25 41 D</b> <b>84 25 42 D</b> <b>84 25 43 D</b></p>


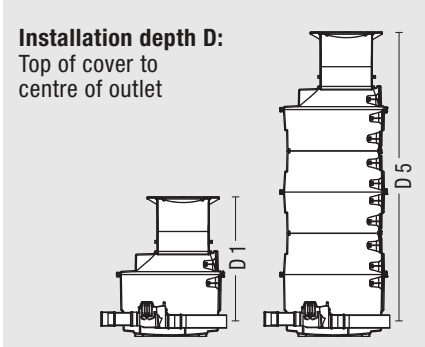
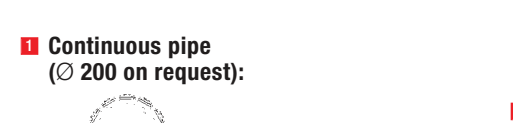
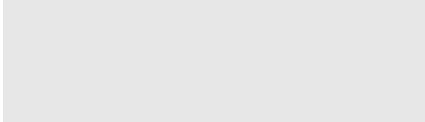

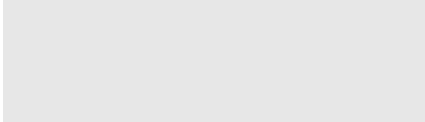

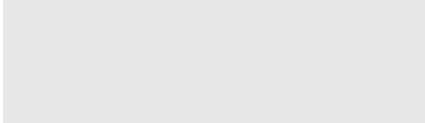

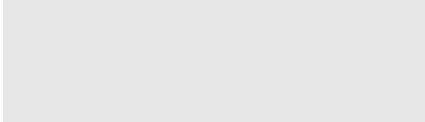

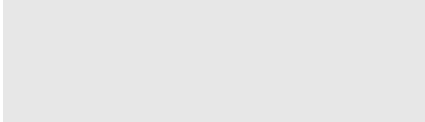

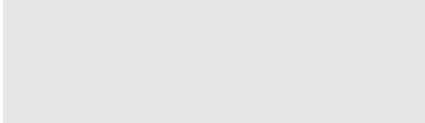
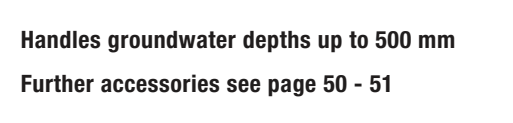
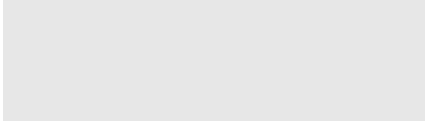
Conversion kit			Accessories	
Illustration	Article description	Outer diameter Ø (mm)	Article #	
<p>For models made on or after Jan 2011</p> 	<p><b>Conversion kit <i>Pumpfix F Komfort</i></b> With 15 m cable length, incl. Comfort control unit and connection for venting pipe For conversion <b>to the inspection chamber with backwater pumping station <i>Pumpfix F</i></b>, for wastewater with or without sewage</p> <p><b>Cable extension set</b> for pump, motor and probe see page 32</p>	Ø 110-200	<b>80 102</b>	
<p>For models made on or after Jan 2011</p> 	<p><b>Conversion kit <i>Staufix FKA Komfort</i></b> With 15 m cable length, incl. Comfort control unit and connection for venting pipe For conversion <b>to the inspection chamber with backwater valve <i>Staufix FKA</i></b>, for wastewater with or without sewage</p> <p><b>Cable extension set</b> for motor and probe see page 32</p>	Ø 110-200	<b>80 104</b>	
<p>For models made on or after Jan 2011</p> 	<p><b>Conversion kit <i>Staufix SWA</i></b> For conversion <b>to the inspection chamber with backwater valve <i>Staufix SWA</i></b>, for wastewater without sewage</p>	Ø 110-200	<b>80 091</b>	

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

# Backwater inspection chambers for wastewater with sewage or wastewater without sewage

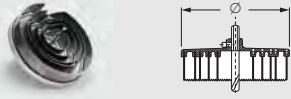
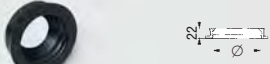







## Komfort inspection chamber Ø 1000

## Products

Illustration and dimensioned drawing	Article description	Outer diameter Ø (mm)	Article # Class B	Article # Class D
	<p><b>Clean out <i>Controlfix</i> with Komfort inspection chamber Ø 1000</b> Polyethylene construction For underground installation</p> <p><b>Installation depth (D) from ..... mm to ..... mm</b></p> <p><input type="checkbox"/> <b>Cover plate class B (Version B)</b> <input type="checkbox"/> <b>Cover plate class D (Version D)</b></p> <p>Inclusive integrated access steps, water-tight, resistant to aggressive wastewater. Upper section made of polymer for continuous height and level adjustment.</p> <p><b>Optional cover plate class ..... in cast iron according to EN 124, surface water tight, incl. cover removal tool. Continuous pipe Ø ..... with cleaning pipe according to EN 13564.</b> Inlets with flange, outlet with spigot end for PVC pipe according to EN 1401-1 and PE-HD pipe according to EN 12666-1.</p>	<p><b>1</b> D1: Ø 110 Ø 125 Ø 160</p> <p>D2: Ø 110 Ø 125 Ø 160</p> <p>D3: Ø 110 Ø 125 Ø 160</p> <p>D4: Ø 110 Ø 125 Ø 160</p> <p>D5: Ø 110 Ø 125 Ø 160</p>	<p><b>86 25 01 B</b> <b>86 25 02 B</b> <b>86 25 03 B</b></p> <p><b>86 25 11 B</b> <b>86 25 12 B</b> <b>86 25 13 B</b></p> <p><b>86 25 21 B</b> <b>86 25 22 B</b> <b>86 25 23 B</b></p> <p><b>86 25 31 B</b> <b>86 25 32 B</b> <b>86 25 33 B</b></p> <p><b>86 25 41 B</b> <b>86 25 42 B</b> <b>86 25 43 B</b></p>	<p><b>86 25 01 D</b> <b>86 25 02 D</b> <b>86 25 03 D</b></p> <p><b>86 25 11 D</b> <b>86 25 12 D</b> <b>86 25 13 D</b></p> <p><b>86 25 21 D</b> <b>86 25 22 D</b> <b>86 25 23 D</b></p> <p><b>86 25 31 D</b> <b>86 25 32 D</b> <b>86 25 33 D</b></p> <p><b>86 25 41 D</b> <b>86 25 42 D</b> <b>86 25 43 D</b></p>
<p><b>Installation depth D:</b> Top of cover to centre of outlet</p> 	<p><b>Conversion center inlet pipe to bottom inlet pipe:</b> Ø 110: Installation depth D + 55 mm Ø 125: Installation depth D + 62.5 mm Ø 160: Installation depth D + 80 mm Ø 200: on request</p> <p><b>Installation depth:</b> 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</p>	<p><b>2</b> D1: Ø 110 Ø 125 Ø 160</p> <p>D2: Ø 110 Ø 125 Ø 160</p> <p>D3: Ø 110 Ø 125 Ø 160</p> <p>D4: Ø 110 Ø 125 Ø 160</p> <p>D5: Ø 110 Ø 125 Ø 160</p>	<p><b>86 27 01 B</b> <b>86 27 02 B</b> <b>86 27 03 B</b></p> <p><b>86 27 11 B</b> <b>86 27 12 B</b> <b>86 27 13 B</b></p> <p><b>86 27 21 B</b> <b>86 27 22 B</b> <b>86 27 23 B</b></p> <p><b>86 27 31 B</b> <b>86 27 32 B</b> <b>86 27 33 B</b></p>	<p><b>86 27 01 D</b> <b>86 27 02 D</b> <b>86 27 03 D</b></p> <p><b>86 27 11 D</b> <b>86 27 12 D</b> <b>86 27 13 D</b></p> <p><b>86 27 21 D</b> <b>86 27 22 D</b> <b>86 27 23 D</b></p> <p><b>86 27 31 D</b> <b>86 27 32 D</b> <b>86 27 33 D</b></p>
<p><b>Delivery:</b> Inspection chamber in components (bottom parts stackable) for on-site assembly incl. assembly system.</p>	<p><b>1 Continuous pipe (Ø 200 on request):</b></p> 	<p><b>3</b> D1: Ø 110 Ø 125 Ø 160</p>	<p><b>86 28 01 B</b> <b>86 28 02 B</b> <b>86 28 03 B</b></p>	<p><b>86 28 01 D</b> <b>86 28 02 D</b> <b>86 28 03 D</b></p>
<p><b>2 One inlet in flow direction right 90°:</b></p> 	<p><b>2 One inlet in flow direction right 90°:</b></p> 	<p>D2: Ø 110 Ø 125 Ø 160</p>	<p><b>86 28 11 B</b> <b>86 28 12 B</b> <b>86 28 13 B</b></p>	<p><b>86 28 11 D</b> <b>86 28 12 D</b> <b>86 28 13 D</b></p>
<p><b>3 One inlet in flow direction left 90°:</b></p> 	<p><b>3 One inlet in flow direction left 90°:</b></p> 	<p>D3: Ø 110 Ø 125 Ø 160</p>	<p><b>86 28 21 B</b> <b>86 28 22 B</b> <b>86 28 23 B</b></p>	<p><b>86 28 21 D</b> <b>86 28 22 D</b> <b>86 28 23 D</b></p>
<p><b>4 Two inlets in flow direction left + right 90°:</b></p> 	<p><b>4 Two inlets in flow direction left + right 90°:</b></p> 	<p>D4: Ø 110 Ø 125 Ø 160</p>	<p><b>86 28 31 B</b> <b>86 28 32 B</b> <b>86 28 33 B</b></p>	<p><b>86 28 31 D</b> <b>86 28 32 D</b> <b>86 28 33 D</b></p>
<p><b>4 Two inlets in flow direction left + right 90°:</b></p> 	<p><b>4 Two inlets in flow direction left + right 90°:</b></p> 	<p>D1: Ø 110 Ø 125 Ø 160</p>	<p><b>86 29 01 B</b> <b>86 29 02 B</b> <b>86 29 03 B</b></p>	<p><b>86 29 01 D</b> <b>86 29 02 D</b> <b>86 29 03 D</b></p>
<p><b>4 Two inlets in flow direction left + right 90°:</b></p> 	<p><b>4 Two inlets in flow direction left + right 90°:</b></p> 	<p>D2: Ø 110 Ø 125 Ø 160</p>	<p><b>86 29 11 B</b> <b>86 29 12 B</b> <b>86 29 13 B</b></p>	<p><b>86 29 11 D</b> <b>86 29 12 D</b> <b>86 29 13 D</b></p>
<p><b>4 Two inlets in flow direction left + right 90°:</b></p> 	<p><b>4 Two inlets in flow direction left + right 90°:</b></p> 	<p>D3: Ø 110 Ø 125 Ø 160</p>	<p><b>86 29 21 B</b> <b>86 29 22 B</b> <b>86 29 23 B</b></p>	<p><b>86 29 21 D</b> <b>86 29 22 D</b> <b>86 29 23 D</b></p>
<p><b>4 Two inlets in flow direction left + right 90°:</b></p> 	<p><b>Handles groundwater depths up to 500 mm</b></p> <p><b>Further accessories see page 50 - 51</b></p> <p><b>Further installation depths (Ø 1000) up to a max. installation depth of 5 m can be individually created via the accessory parts, on request.</b></p>	<p>D4: Ø 110 Ø 125 Ø 160</p> <p>D5: Ø 110 Ø 125 Ø 160</p>	<p><b>86 29 31 B</b> <b>86 29 32 B</b> <b>86 29 33 B</b></p> <p><b>86 29 41 B</b> <b>86 29 42 B</b> <b>86 29 43 B</b></p>	<p><b>86 29 31 D</b> <b>86 29 32 D</b> <b>86 29 33 D</b></p> <p><b>86 29 41 D</b> <b>86 29 42 D</b> <b>86 29 43 D</b></p>



Backwater inspection chamber Ø 1000 / Komfort inspection chamber Ø 800/1000		Accessories	
Illustration and dimensioned drawing	Article description	Outer diameter Ø (mm)	Article #
	<b>Cover plate</b> <input type="checkbox"/> Plastic (max. 600 kg) <input type="checkbox"/> Class A/B in cast iron (12.5 to.)	- -	860 117 860 131
	<b>Cover plate in cast iron, surface water tight</b> <input type="checkbox"/> Class A/B (12.5 to.), locked <input type="checkbox"/> Class D (40 to.), locked	- -	860 133 860 136
	<b>Cover plate in cast iron with ventilation</b> <input type="checkbox"/> Class A/B (12.5 to.) <input type="checkbox"/> Class D (40 to.), locked	- -	860 135 860 137
	<b>Upper section made of polymer with clamping ring, telescopic height adjustable from 100 to 550 mm, for cover class A/B/D, locked</b>	-	860 121
	<b>Lip gasket</b> <input type="checkbox"/> for standard chamber <input type="checkbox"/> for Komfort chamber	Ø 600 Ø 600	860 116 860 114
	<b>Transition section</b> <b>1 System 800</b> Transition section 920 Transition section 790 corresponding gasket: top Art. # 840 112 bottem Art. # 840 113  <b>2 System 1000</b> Transition section 1070 Transition section 1200 corresponding gasket: top Art. # 860 112 bottem Art. # 860 113	Ø 920 Ø 790  Ø 1070 Ø 1200	840 102 840 104  860 102 860 103
	<b>Profiled gasket</b> <b>1 System 800</b> Profiled gasket 790 Profiled gasket 920  <b>2 System 1000</b> Profiled gasket 1070 Profiled gasket 1200	Ø 790 Ø 920  Ø 1094 Ø 1236	840 112 840 113  860 112 860 113
	<b>Extension section</b> <b>System 800</b> corresponding gasket: top Art. # 840 112 bottem Art. # 840 113  <b>System 1000</b> corresponding gasket: top Art. # 860 112 bottem Art. # 860 113	Ø 920  Ø 1200	840 101  860 101
	<b>Set of connecting wedges</b> <b>System 800: 8 pieces</b> <b>System 1000: 12 pieces</b>	- -	840 111 860 111

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

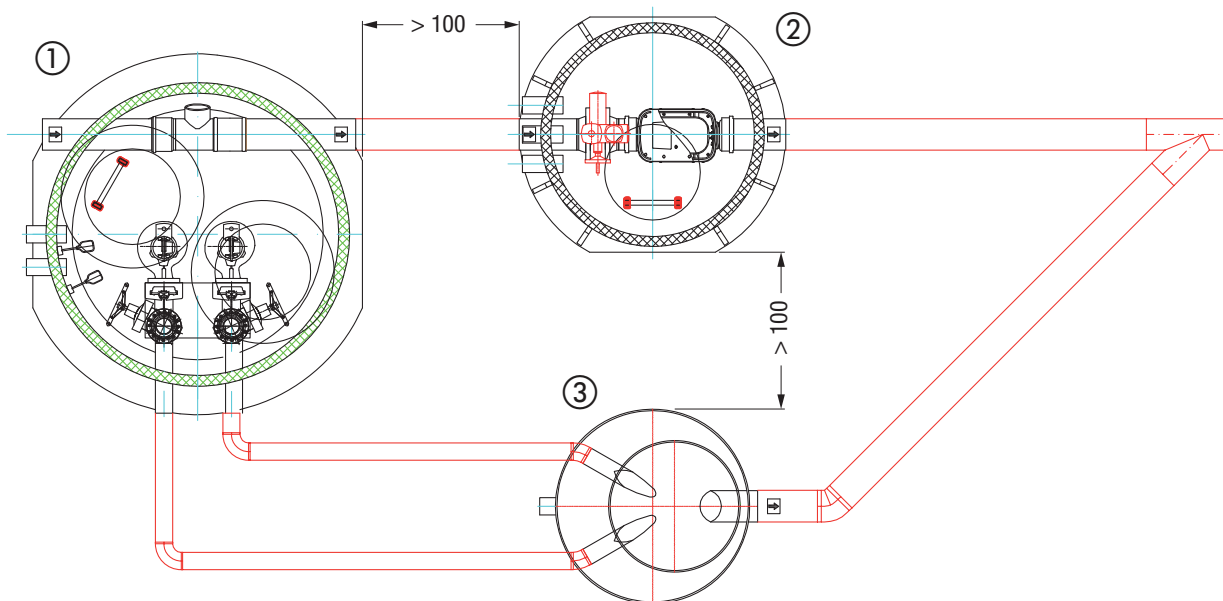
# Lifting stations

## Individual Solutions

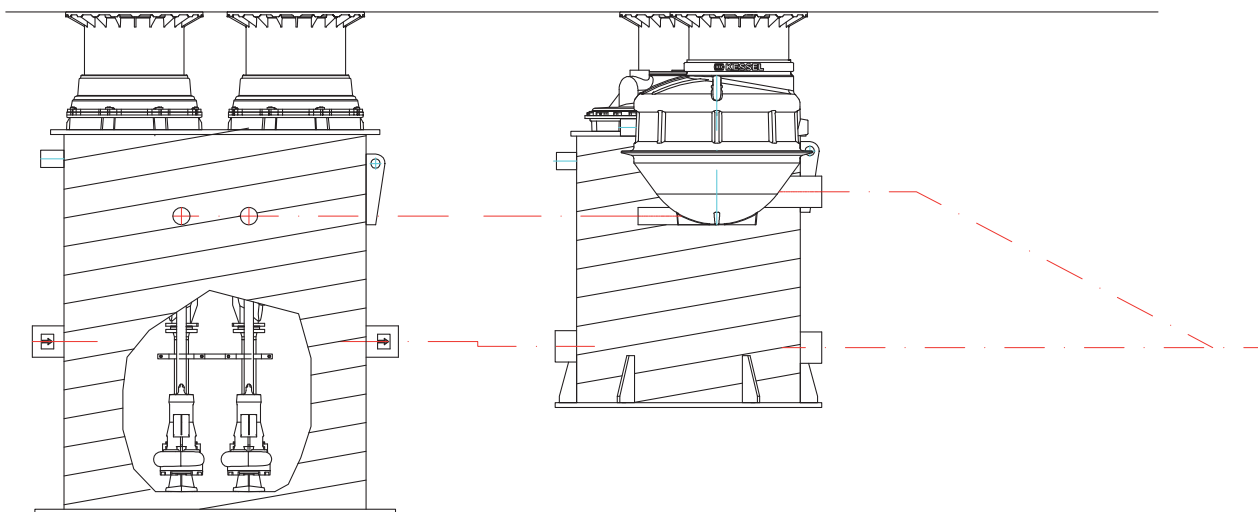
### Hybrid lifting station for sewage free wastewater and rainwater

Backwater protection

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 <i>FKA</i> backwater valve and electrical gate valve
3	Pressure reduction chamber







# Hybrid lifting stations





## 2 Hybrid lifting stations

### **Backwater pumping station** *Pumpfix F*

Page **58 – 63**

For private and commercial applications.  
For gravity-fed wastewater pipes within  
or outside buildings.

### **Backwater lifting station** *Ecolift XL* **NEW**

Page **64 – 72**

For private and commercial applications.  
For gravity-fed pipes within or outside  
buildings.



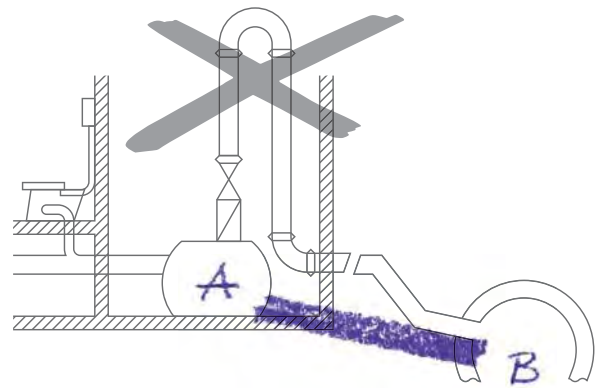


# Constant running of a standard lifting station even with gravity sloped drainage. Why?

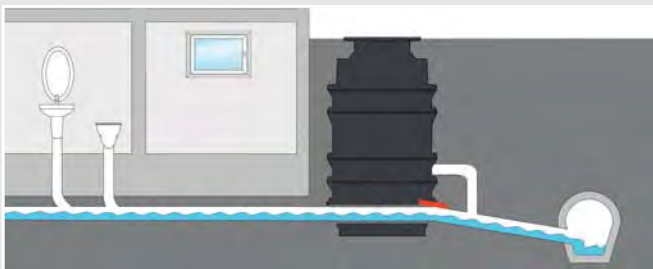
Hybrid lifting stations

Lifting stations are often installed as a safety measure even though gravity sloped drainage is available. The disadvantage is that these systems must pump every single litre of collected wastewater. This leads to constant operation of the pumps, high energy usage, wear and tear on the system as well as nuisance noise - with the new KESSEL Hybrid Lifting Station, all these problems are solved.

The **Pumpfix** and **Ecolift XL** Hybrid Lifting Stations offer safe and reliable protection against backwater and come into service only when necessary - during backwater. The **Pumpfix** (for domestic applications) and the **Ecolift XL** (for commercial / industrial applications) are the new ideal solutions for installation in gravity wastewater drainage systems - both for new construction and renovations.

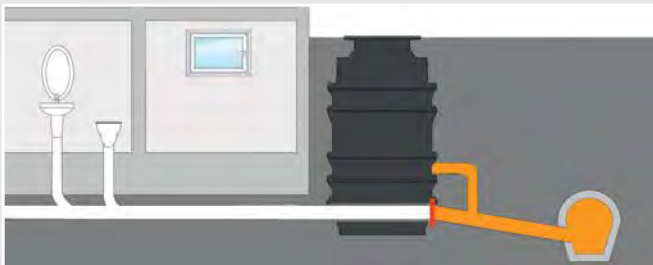


## Function



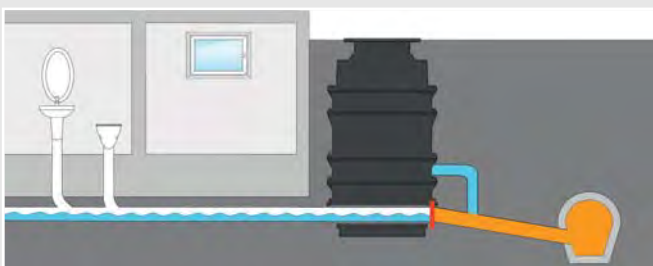
### Normal Mode:

- No pump operation
- No energy requirements
- No pumping noises
- Wastewater disposal even after power failure
- No interruption in operation even if pump fails



### Surcharged sewer:

- Motorized backwater flap(s) close to prevent backwater from entering building



### Wastewater disposal in an event of backwater:

- Wastewater is pumped into the sewer

# 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 backwater pumping 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

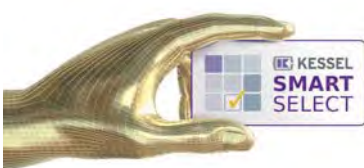
 The convenient, practical and attractive-looking version for new buildings creates additional accommodation space in the basement. High land prices often force clients who build a house on a small plot of land to use rooms in the basement to maximise the accommodation area. In addition, toilets, showers or utility rooms are often located in the basement. The backwater pumping 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 flaps and pumps are installed.

Outside the building, hybrid lifting stations run quietly and reliably, and are easy to service.



**SmartSelect** simply makes planning easier - calculation tool for lifting stations at [smartselect.kessel.com](http://smartselect.kessel.com)





**SmartSelect** simply makes planning easier - calculation tool for lifting stations at [smartselect.kessel.com](http://smartselect.kessel.com)



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



# Backwater valve and lifting station in one



Modern and cost-saving hybrid solution with innovative double function.

As inexpensive as a backwater valve, as safe as a lifting station. *Pumpfix F* uses the natural gradient to the sewer for wastewater disposal. Efficient and economical pump use only in the event of backwater or basement flooding (with underground installation). Wastewater drained via pressure pipe to the sewer.

With technical approval: Z-53.2-487

## Backwater pumping station *Pumpfix F*

Installation in the concrete slab/floor

### COVERS CAN BE INDIVIDUALLY TILED

No open pump sump or maintenance space required per EN 12056, Part 4 - means more living space



### VENTILATION

Integrated ventilation eliminates the requirement for costly roof ventilation pipes

### PUMP

Powerful macerating pump for wastewater containing sewage (WC connection)

### MOTOR

Automatically closes the backwater flap in the event of backwater

### FLAP

Closed backwater flap with integrated gasket provides secure and reliable protection during backwater

BODY WITH ONLY 9 MM GRADIENT  
Ideal for renovation work



9 mm



## Backwater pumping stations *Pumpfix F*

Installation in an exposed wastewater pipe

### INTEGRATED DRAIN FUNCTION TO DRAIN SURFACE WATER

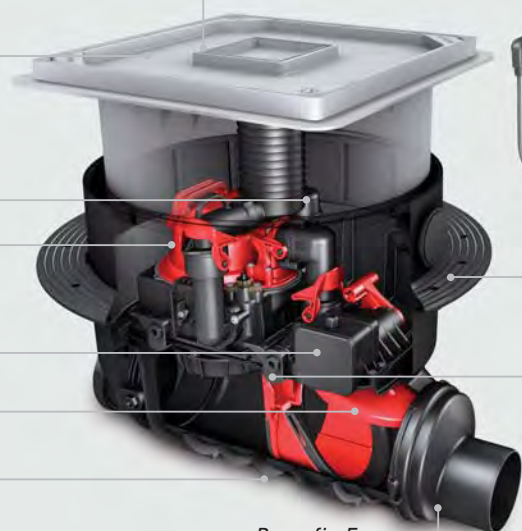
Continual drainage even in the event of a basement flooding



### 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.



*Pumpfix F*  
Art.# 24 100X

### NEW COMFORT VERSION FOR *Ecolift XL* AND *Pumpfix F*

with multilingual (EN, DE, FR, IT, PL, NL) digital display for operating state and servicing instructions as well as connection option for building management system

### FLEXIBLE INSTALLATION

More flexibility and reliability when installed in concrete slabs, new extension system with optional center located sealing flange for connection to waterproofing membranes



### REMOVABLE INLET/OUTLET CONNECTIONS - ALSO IN Ø 200

- Flange/spigot for customized connections
- Variable inlet and outlet sizes available

### FAST AND STRAIGHT - FORWARD SERVICING

- Tool free maintenance
- Backwater protection even during servicing phase





## Pumpfix F Komfort Installation in a concrete slab/floor

## Products

Illustration and dimensioned drawing	Article description	Outer diameter Ø (mm)	Article #
<p>Installation area 750 x 750 mm</p>	<p><b>Backwater pumping station <i>Pumpfix F Komfort</i> for wastewater with or without sewage</b> made of polymer, with telescopic upper section for continuous height- and level adjustment</p> <p><b>For installation in a concrete slab/floor for installation depth (D) from 486 - 640 mm</b></p> <p><b>1 with recessed cover for on-site tiling and drain (X)</b></p> <p><b>2 with black cover and drain (S)</b></p> <p>With surface water tight cover plate class A 15 made of polymer and integrated floor drain. Installation kit with choice of cover.</p> <p>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, <i>Pumpfix F</i> body rated protection type IP 68 (3 m, 24 h). Power cable length: 5 m (15 m available on request).</p> <p>                     Ø 110 L: 642 mm H: 394 mm                      Ø 125 L: 645 mm H: 387 mm                      Ø 160 L: 656 mm H: 370 mm                      Ø 200 L: 720 mm H: 348 mm                 </p>	<p><b>1</b></p> <p>Ø 110 Ø 125 Ø 160 Ø 200*</p> <p><b>2</b></p> <p>Ø 110 Ø 125 Ø 160 Ø 200*</p>	<p><b>24100X</b> <b>24125X</b> <b>24150X</b> <b>24200X</b></p> <p><b>24100S</b> <b>24125S</b> <b>24150S</b> <b>24200S</b></p>
	<p>H[m] = Backwater height</p> <p><b>+</b> Accessories: Page 62 - 63</p>		



Certification: Z-53.2-388



Accessories: Page 62 - 63

## Pumpfix F Komfort Installation in an exposed wastewater pipe

## Products

	<p><b>Backwater pumping station <i>Pumpfix F Komfort</i> for wastewater with or without sewage</b> made of polymer</p> <p><b>For installation in an exposed wastewater pipe.</b> With protective cover.</p> <p>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, <i>Pumpfix F</i> body rated protection type IP 68 (3 m, 24 h). Power cable length: 5 m (15 m available on request).</p> <p>                     Ø 110 L: 642 mm H: 422 mm                      Ø 125 L: 645 mm H: 422 mm                      Ø 160 L: 656 mm H: 422 mm                      Ø 200 L: 720 mm H: 422 mm                 </p>	<p>Ø 110 Ø 125 Ø 160 Ø 200*</p>	<p><b>24100</b> <b>24125</b> <b>24150</b> <b>24200</b></p>
	<p>H[m] = Backwater height</p> <p><b>+</b> Accessories: Page 62 - 63</p>		



Certification: Z-53.2-388



Accessories: Page 62 - 63



# Hybrid Lifting Stations for wastewater with or without sewage

## Installation example *Pumpfix F Komfort*



① Backwater pumping station      ③ Sealing gasket set  
② Control unit

*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.



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



## 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.

- **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, pump activates, wastewater is discharged



Pumpfix F		Accessories	
Illustration and dimensioned drawing	Article description	Outer diameter Ø (mm)	Article #
 	<b>Extension section with centre flange</b> with elastomer sealing sheet made of NK/SBR Ø 800 mm, incl. screws for article numbers: 24 100 X/S, 24 125 X/S, 24 150 X/S, 24 200 X/S	-	<b>83 075</b>
 	<b>Extension section with flange and counter flange</b> for connection to an on-site sealing sheet made of polymer, incl. screws max. extension 140 mm for article numbers: 24 100 X/S, 24 125 X/S, 24 150 X/S, 24 200 X/S	-	<b>83 073</b>
<p>When multiple extension sections are used make sure that access to valve is still possible!</p>			
 	<b>Extension section</b> made of polymer, max. extension 180 mm, incl. gasket for article numbers: 24 100 X/S, 24 125 X/S, 24 150 X/S, 24 200 X/S	-	<b>83 070</b>
<p>When multiple extension sections are used make sure that access to valve is still possible!</p>			
	<b>Gasket set for installation in waterproof concrete</b> consisting of: <b>Counter flange</b> made of polymer, incl. screws, <b>elastomer waterproof membrane</b> in NK/SBR Ø 800 mm for article numbers: 24 100 X/S, 24 125 X/S, 24 150 X/S, 24 200 X/S	-	<b>83 023</b>
<p>Waterproof concrete installation tested by MFPA Leipzig UB 5.1/11-452-1</p>			
	<b>Audible alarm</b> 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 Ø 31 x 15 mm. <b>suitable for all control units with SDS function</b>	-	<b>20 162</b>
	<b>Potential-free contact</b> Change-over contact 42 V / 0.5 A; Additional circuit board with a potential-free contact e.g. for connecting control unit to BMS (Building Management System). <b>suitable for all control units with SDS function</b>	-	<b>80 072</b>

Pumpfix F		Accessories	
Illustration and dimensioned drawing	Article description	Outer diameter Ø (mm)	Article #
	<p><b>Cover plate, surface water tight</b> Class A 15 With drain Ø 75, includes <b>Multistop</b> odour, foam, rodent and insect stop incl. gasket</p> <p><b>1 recessed for on-site tiling, grey,</b> for tile thicknesses of 18 mm</p> <p>for article numbers: 24 100 X, 24 125 X, 24 150 X, 24 200 X</p> <p><b>2 with integrated grating, black</b> for article numbers: 24 100 S, 24 125 S, 24 150 S, 24 200 S</p>	-	<b>83 045</b>
	<p><b>2 with integrated grating, black</b> for article numbers: 24 100 S, 24 125 S, 24 150 S, 24 200 S</p>	-	<b>83 046</b>
	<p><b>Multistop</b> odour, foam, rodent and insect stop for article numbers: 83 045 and 83 046</p>	-	<b>43 500</b>
	<p><b>Hair filter</b> made of polymer for article numbers: 83 045 and 83 046</p>	-	<b>43 700</b>
	<p><b>Upper section</b> made of polymer, max. extension 180 mm, height adjustable for article numbers: 24 100 X/S, 24 125 X/S, 24 150 X/S, 24 200 X/S</p>	-	<b>83 061</b>
	<p><b>Inlet / Outlet</b></p> <p><b>1 Spigot</b></p>	<p>Ø 110 Ø 125 Ø 160 Ø 200</p>	<p><b>83 081</b> <b>83 082</b> <b>83 083</b> <b>83 084</b></p>
	<p><b>2 Socket</b></p> <p><b>Removable inlets / outlets, can be mounted in various dimensions.</b></p>	<p>Ø 110 Ø 125 Ø 160 Ø 200</p>	<p><b>83 085</b> <b>83 086</b> <b>83 087</b> <b>83 088</b></p>
	<p><b>Cable extension set 10 m</b></p> <p><input type="checkbox"/> for pump</p> <p><input type="checkbox"/> for probe</p> <p><input type="checkbox"/> for motor</p> <p>A maximum of two cable extension sets can be connected</p> <p>for all versions for installation in a concrete slab/floor and in an exposed wastewater pipe</p>	-	<p><b>80 891</b> <b>80 889</b> <b>80 890</b></p>



**SmartSelect** simply makes planning easier - calculation tool for lifting stations at [smartselect.kessel.com](http://smartselect.kessel.com)



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



### Hybrid lifting station *Ecolift XL*

For free standing installation - Page 68

Hybrid lifting stations

2

# The new hybrid lifting station *Ecolift XL*



The hybrid lifting station *Ecolift XL* uses little power, runs without interruption and reduces pump wear and tear. *Ecolift XL* is also reliable, easy to install and economic.

## ENGINEERING SYSTEM BASE

For indoor / free standing installation, for installation in a concrete floor, or outdoor underground installation in combination with the engineering systems chamber

## SAFETY / RELIABILITY

Pneumatic level sensing and alarm sensor offer twice the reliability

### INTEGRATED CLOSURE VALVE

With safety lock to prevent accidental closure

## PUMP PERFORMANCE

- Multiple pumps available with
- SPF 1500 (1.4 kW)
- SPF 3000 (3.2 kW)
- SPF 4500 (4.5 kW)



## GROUNDWATER RESISTANT

New chamber can handle up to 3000 mm of groundwater pressure

## SOUND / VIBRATION DECOUPLING

All active components and the outlet pressure pipe are sound decoupled from the chamber



Hybrid lifting station **Ecolift XL**  
For minimum installation depth - Page 66

Hybrid lifting station **Ecolift XL**  
For installation depths up to 5 m - Page 68

Certification  
Z-42.1-527

## ENGINEERING SYSTEMS CHAMBER

For use in combination with the *Ecolift XL* Hybrid Lifting Station for installation in the concrete slab or outdoors underground

**PRESSURE OUTLET CONNECTION**  
Quick-release, no tools required

**CHAMBER COVERS**  
Available in a stainless steel class A/L15 (tileable or not tileable) or in load classes B and D



**VERTICALLY ADJUSTABLE UPPER SECTION**  
Available with Ø 600 mm or Ø 800 mm diameter with optional waterproofing connection flange

**PRESSURE OUTLET**  
Ø 90 mm (OD)

**CONNECTION SYSTEM**  
The new chamber allows simple and fully watertight connections of the chamber components

**ADDITIONAL INLET CONNECTIONS**  
Three areas are available for easy on-site connection of conduit or ventilation pipes

**INLET / OUTLET**  
Standard size Ø 160 mm (OD)

**GROUNDWATER RESISTANCE**  
For installation in up to 3000 mm of groundwater

**MODULAR SYSTEM**  
Sectional chamber components available in 250 mm and 500 mm heights

**BACKWATER FLAP CLOSURE SYSTEM**  
Available with up to two motorized backwater flaps for maximum backwater protection

**HONEYCOMB CHAMBER DESIGN**  
Provides additional chamber strength and prevents buoyancy. Additional inlets up to size Ø 160 mm can be installed on-site







## Ecolift XL for minimum installation depth (680 - 1146 mm)

Products

Illustration and dimensioned drawing

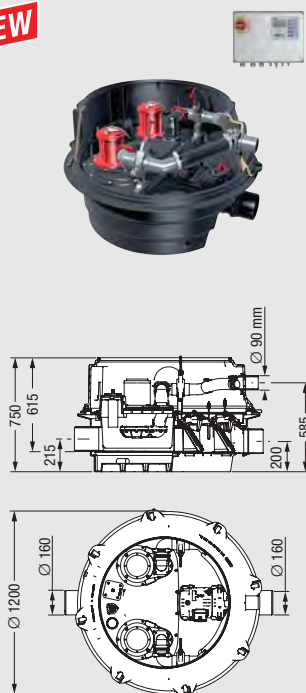
Article description

Voltage

Pump SPF

Article #

**NEW**



Certification: Z-53.2-493

**Engineering system base  
with welded cone Ø 800  
Backwater Lifting Station Ecolift XL Mono / Duo**

**for wastewater with or without sewage**

**For installation in a concrete slab or  
outdoor underground installation  
in combination with upper section**

**Handles groundwater depths up to 3000 mm**

Inlet / outlet Ø 160 mm

**Mono version with one SPF pump  
and Comfort Plus control unit**

**1** with one motor-driven backwater flap  
for **wastewater without sewage**

**2** with two motor-driven backwater flaps  
for **wastewater with sewage**

**Duo version with two SPF pumps  
and Comfort Plus control unit**

**3** with one motor-driven backwater flap  
for **wastewater without sewage**

**4** with two motor-driven backwater flaps  
for **wastewater with sewage**

The pressure pipe must be connected to a welded PE pipe;  
in the case of pump SPF 4500 this must be additional  
enclosed in a pressure relief chamber

**Upper sections / covers required (see below)**

**Mono versions**

<b>1</b>	400 V	1500-S3	<b>8741045</b>
	400 V	3000-S3	<b>8741046</b>
	400 V	4500-S3	<b>8741047</b>

<b>2</b>	400 V	1500-S3	<b>8741049</b>
	400 V	3000-S3	<b>8741050</b>
	400 V	4500-S3	<b>8741051</b>

**Duo versions**

<b>3</b>	400 V	1500-S1	<b>8741065</b>
	400 V	3000-S1	<b>8741066</b>
	400 V	4500-S1	<b>8741067</b>

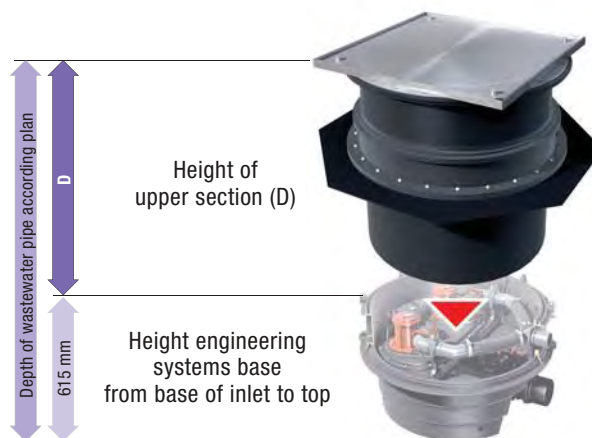
<b>4</b>	400 V	1500-S1	<b>8741073</b>
	400 V	3000-S1	<b>8741074</b>
	400 V	4500-S1	<b>8741075</b>

Hybrid lifting stations

2



**SmartSelect** simply makes planning  
easier - calculation tool for lifting  
stations at [smartselect.kessel.com](http://smartselect.kessel.com)



**To be ordered separately:**

**Upper section Ø 800 made of polymer,  
with covers:**

**made of stainless steel, square, class A/L 15**

**1** - tileable D: min. 65 - max. 314 mm

**2** - tileable D: min. 282 - max. 531 mm

**3** - stainless steel cover D: min. 50 - max. 299 mm

**4** - stainless steel cover D: min. 267 - max. 516 mm  
anti-slip

**made of stainless steel, square**

**5** class B D: min. 274 - max. 523 mm

**6** class D D: min. 274 - max. 523 mm

**Version:**

with waterproof flange

**8740175**

**8740176**

with waterproof flange

**8740177**

**8740178**

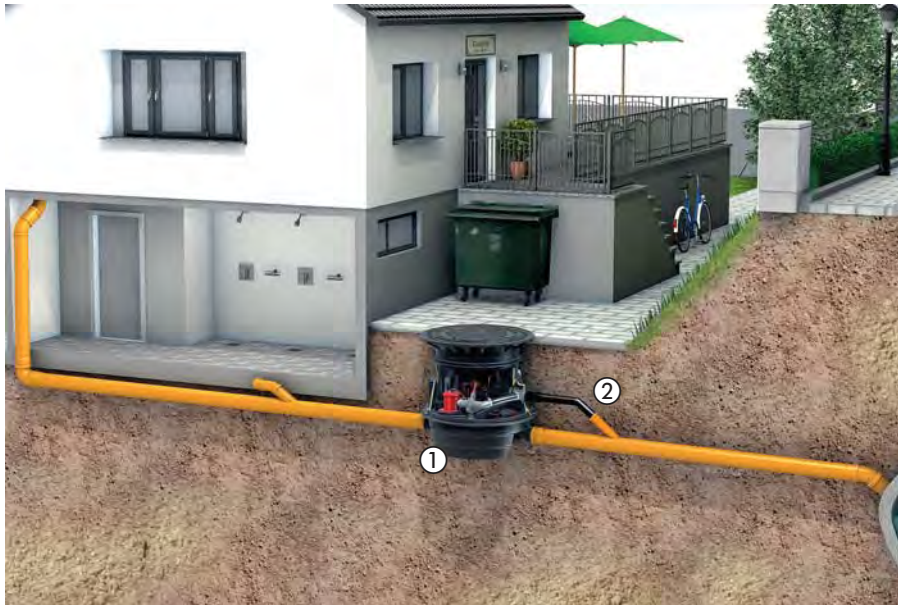
**8740179**

**8740180**

# Hybrid Lifting Stations for wastewater with or without sewage



## Underground installation outside buildings



- ① Hybrid lifting station
- ② Pressure pipe

The hybrid lifting station *Ecolift XL* is suitable for use in multi-family homes or commercial buildings. If installation in the concrete slab is not possible, it is possible to install the *Ecolift XL* outside the building. This allows rows of showers or sanitary facilities to be drained via the *Ecolift XL*, for example. If the ground level is below the backwater level, the whole building can be connected to the system.

## Professional advantages

- Pneumatic level sensing and alarm sensor offer twice the reliability
- Integrated closure valve with safety lock to prevent accidental closure
- Backwater flap closure system available with up to two motorized backwater flaps for maximum backwater protection.
- Quick-release pressure outlet connection, no tools required

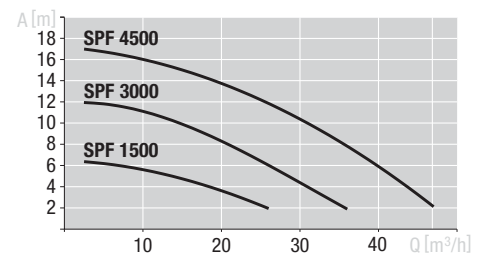


Scan this QR code to directly view the corresponding product video.



### Pump type:

- |  |  |
|--|--|
| <input type="checkbox"/> <b>SPF 1500-S3</b> 50 % power on duration           | <input type="checkbox"/> <b>SPF 4500-S3</b> 50 % power on duration           |
| <input type="checkbox"/> <b>SPF 1500-S1</b> continuous duty (e.g. rainwater) | <input type="checkbox"/> <b>SPF 4500-S1</b> continuous duty (e.g. rainwater) |
| Pumping capacity: max. 25 m <sup>3</sup> /h<br>Pumping height: max. 6.5 m    | Pumping capacity: max. 41 m <sup>3</sup> /h<br>Pumping height: max. 17 m     |
| <input type="checkbox"/> <b>SPF 3000-S3</b> 50 % power on duration           |  |
| <input type="checkbox"/> <b>SPF 3000-S1</b> continuous duty (e.g. rainwater) |  |
| Pumping capacity: max. 36 m <sup>3</sup> /h<br>Pumping height: max. 12 m     |  |





## Ecolift XL for installation depth up to 5 m / for free standing installation

Products

Illustration and dimensioned drawing

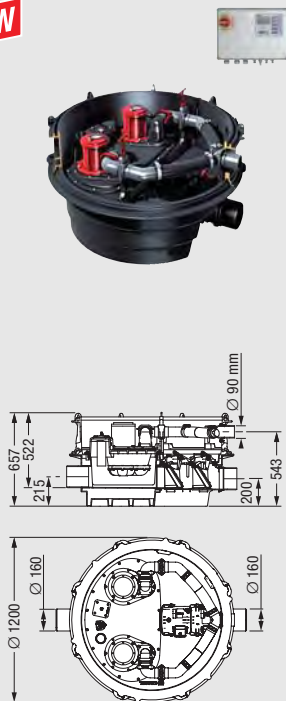
Article description

Voltage

Pump SPF

Article #

**NEW**



Certification: Z-53.2-493

**Engineering system base with welded chamber ring**  
**Backwater Lifting Station Ecolift XL Mono / Duo**  
for wastewater with or without sewage  
For free standing installation, outdoor underground installation, or installation in a concrete floor in combination with an engineering system chamber  
Inlet / outlet  $\varnothing$  160 mm

- Mono version with one SPF pump and Comfort Plus control unit**
  - 1** with one motor-driven backwater flap for **wastewater without sewage**
  - 2** with two motor-driven backwater flaps for **wastewater with sewage**
- Duo version with two SPF pumps and Comfort Plus control unit**
  - 3** with one motor-driven backwater flap for **wastewater without sewage**
  - 4** with two motor-driven backwater flaps for **wastewater with sewage**

The pressure pipe must be connected to a welded PE pipe; in the case of pump SPF 4500 this must be additional enclosed in a pressure relief chamber

**Mono versions**

<b>1</b>	400 V	1500-S3	<b>8741007</b>
	400 V	3000-S3	<b>8741008</b>
	400 V	4500-S3	<b>8741009</b>

<b>2</b>	400 V	1500-S3	<b>8741011</b>
	400 V	3000-S3	<b>8741012</b>
	400 V	4500-S3	<b>8741013</b>

**Duo versions**

<b>3</b>	400 V	1500-S1	<b>8741027</b>
	400 V	3000-S1	<b>8741028</b>
	400 V	4500-S1	<b>8741029</b>

<b>4</b>	400 V	1500-S1	<b>8741035</b>
	400 V	3000-S1	<b>8741036</b>
	400 V	4500-S1	<b>8741037</b>

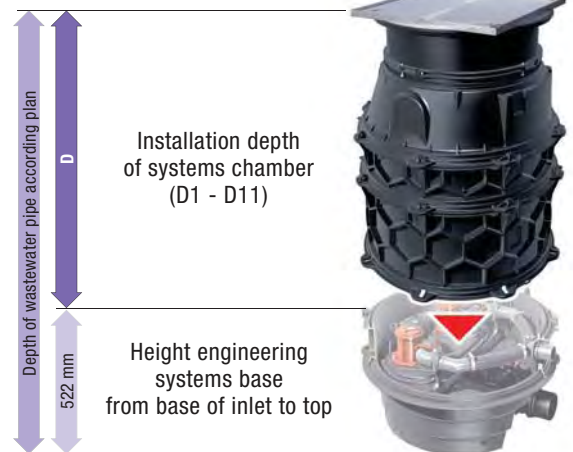
Hybrid lifting stations

2

### Free standing installation

### Underground installation

**SmartSelect** simply makes planning easier - calculation tool for lifting stations at [smartselect.kessel.com](http://smartselect.kessel.com)



**To be ordered separately:**

**System chamber**

- for **underground installation** (article see page 70-71)
- for **installation in a concrete slab** (article see page 71)

**Total installation depth = 522 + D**

**In compliance with EN 13598 Part 2**  
Certification: Z-42.1-527



# Hybrid Lifting Stations for wastewater with or without sewage



## Ecolift XL for installation depth up to 5 m



- ① Hybrid lifting station
- ② Engineering chamber
- ③ Pressure pipe
- ④ Pressure relief chamber

The hybrid lifting station *Ecolift XL* is suitable for underground installation and has been integrated into a newly designed, standard-conform polymer chamber for this application case. The wastewater collected is routed through the *Ecolift XL* and only pumped via the pressure pipe in the event of backwater. Where hybrid lifting stations with SPF 4500 pump are used we recommend routing the pressure pipe through a pressure relief chamber.

## Ecolift XL for free standing installation



- ① Grease separator
- ② Hybrid lifting station
- ③ Pressure pipe

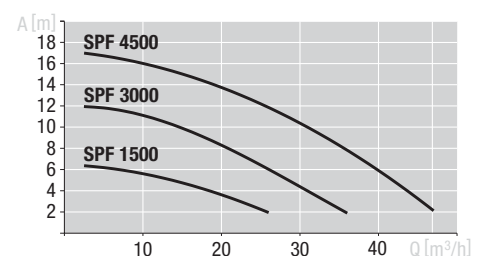
The hybrid lifting station *Ecolift XL* is suitable for applications where significant wastewater occurs. This is the case where grease separators are in use, for example, with large quantities of wastewater usually being pumped out of the kitchen via classic double lifting stations into the sewer. The new hybrid lifting station *Ecolift XL* for free-standing installation, on the other hand, uses natural gradient in normal operation and only pumps the wastewater into the sewer when backwater has occurred.

## Professional advantages

- Pneumatic level sensing and alarm sensor offer twice the reliability
- Integrated closure valve with safety lock to prevent accidental closure
- Backwater flap closure system available with up to two motorized backwater flaps for maximum backwater protection.
- Quick-release pressure outlet connection, no tools required



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



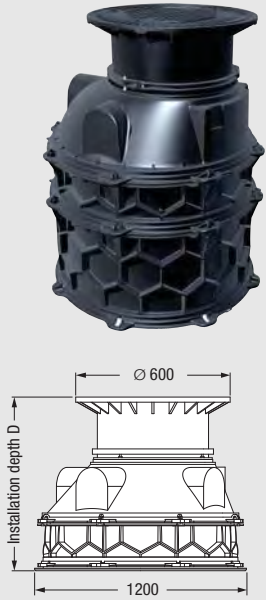

### Pump type:

- |   |   |
|---|---|
| <input type="checkbox"/> SPF 1500-S3 50 % power on duration           | <input type="checkbox"/> SPF 4500-S3 50 % power on duration           |
| <input type="checkbox"/> SPF 1500-S1 continuous duty (e.g. rainwater) | <input type="checkbox"/> SPF 4500-S1 continuous duty (e.g. rainwater) |
| Pumping capacity: max. 25 m³/h  | Pumping capacity: max. 41 m³/h  |
| Pumping height: max. 6.5 m  | Pumping height: max. 17 m   |
- 
- |   |   |
|---|---|
| <input type="checkbox"/> SPF 3000-S3 50 % power on duration | <input type="checkbox"/> SPF 3000-S1 continuous duty (e.g. rainwater) |
| Pumping capacity: max. 36 m³/h                              | Pumping height: max. 12 m   |



# Hybrid Lifting Stations for wastewater with or without sewage


## System chambers Ø 1000 with access opening Ø 600 / Ø 800 mm Products

Illustration and dimensioned drawing	Article description	Installation depth mm	Article #	
<p><b>NEW</b></p> <p><b>For underground installation</b></p>  <p>Illustration shows <b>1</b></p>	<p><b>Engineering system chamber for combination with the engineering system base <i>Ecolift XL</i></b> made of polyethylene</p> <p><input type="checkbox"/> with access opening Ø 600 mm</p> <hr/> <p><b>Upper section with round cover, made of cast iron</b></p> <p><b>1</b> Class A/B</p> <p><b>2</b> Class D</p> <hr/> <p><input type="checkbox"/> with access opening Ø 800 mm</p> <hr/> <p><b>Upper section with round cover, made of stainless steel</b></p> <p><b>3</b> Class K 3</p> <hr/> <p><b>Upper section with square cover, made of stainless steel</b></p> <p><b>4</b> Class B</p> <p><b>5</b> Class D</p>	<p><b>1</b> D 4: 1130 - 1379</p> <p>D 5: 1380 - 1629</p> <p>D 6: 1630 - 1879</p> <p>D 7: 1880 - 2129</p> <p>D 8: 2130 - 2379</p> <p>D 9: 2380 - 2629</p> <p>D 10: 2630 - 2879</p> <p>D 11: 2880 - 3129</p>	<p><b>874 00 18</b></p> <p><b>874 00 24</b></p> <p><b>874 00 30</b></p> <p><b>874 00 36</b></p> <p><b>874 00 42</b></p> <p><b>874 00 48</b></p> <p><b>874 00 54</b></p> <p><b>874 00 60</b></p>	
			<p><b>2</b> D 4: 1130 - 1379</p> <p>D 5: 1380 - 1629</p> <p>D 6: 1630 - 1879</p> <p>D 7: 1880 - 2129</p> <p>D 8: 2130 - 2379</p> <p>D 9: 2380 - 2629</p> <p>D 10: 2630 - 2879</p> <p>D 11: 2880 - 3129</p>	<p><b>874 00 19</b></p> <p><b>874 00 25</b></p> <p><b>874 00 31</b></p> <p><b>874 00 37</b></p> <p><b>874 00 43</b></p> <p><b>874 00 49</b></p> <p><b>874 00 55</b></p> <p><b>874 00 61</b></p>
			<p><b>3</b> D 1: 375 - 624</p> <p>D 2: 625 - 874</p> <p>D 3: 875 - 1124</p> <p>D 4: 1125 - 1374</p> <p>D 5: 1375 - 1624</p> <p>D 6: 1625 - 1874</p> <p>D 7: 1875 - 2124</p> <p>D 8: 2125 - 2374</p> <p>D 9: 2375 - 2624</p> <p>D 10: 2625 - 2874</p> <p>D 11: 2875 - 3124</p>	<p><b>874 01 22</b></p> <p><b>874 01 23</b></p> <p><b>874 01 24</b></p> <p><b>874 01 25</b></p> <p><b>874 01 26</b></p> <p><b>874 01 27</b></p> <p><b>874 01 28</b></p> <p><b>874 01 29</b></p> <p><b>874 01 30</b></p> <p><b>874 01 31</b></p> <p><b>874 01 32</b></p>
		<p><b>Covers surface water tight</b></p>		
		<div style="border: 1px solid black; border-radius: 15px; padding: 5px; display: inline-block;">                 Other installation depths on request             </div>		
			<p><b>4</b> D 1: 620 - 869</p> <p>D 2: 870 - 1119</p> <p>D 3: 1120 - 1369</p>	<p><b>874 01 41</b></p> <p><b>874 01 42</b></p> <p><b>874 01 43</b></p>
		<p><b>Handles groundwater depths up to 3000 mm</b></p> <p><b>Delivered as individual elements</b></p> <p><b>Removable access aid article # 860 126 on request</b></p>	<p><b>5</b> D 1: 620 - 869</p> <p>D 2: 870 - 1119</p> <p>D 3: 1120 - 1369</p>	<p><b>874 01 58</b></p> <p><b>874 01 59</b></p> <p><b>874 01 60</b></p>
	<p><b>For underground installation</b></p>  <p>Illustration shows <b>4</b></p>	<p><b>In compliance with EN 13598 Part 2</b> <b>Certification: Z-42.1-527</b></p>		

# Hybrid Lifting Stations for wastewater with or without sewage

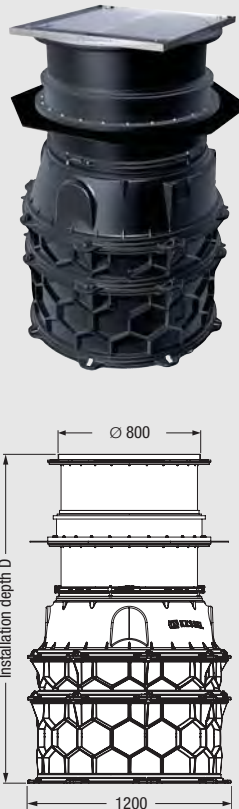
## System chambers Ø 1000 with access opening Ø 800 mm










## Products





Illustration and dimensioned drawing	Article description	Installation depth mm	Article #
<p><b>NEW</b></p> <p><b>For underground installation</b></p> 	<p><b>Engineering system chamber for combination with the engineering system base <i>Ecolift XL</i></b> made of polyethylene</p> <p><input type="checkbox"/> with access opening Ø 800 mm</p> <hr/> <p><b>Upper section with square cover, made of stainless steel</b></p> <p><b>1</b> Class A/L 15, not tileable, non-slip</p> <p><b>2</b> Class A/L 15, tileable</p> <p><b>Covers surface water tight</b></p> <div style="border: 1px solid black; border-radius: 15px; padding: 5px; margin: 10px 0;"> <p>Upper sections for access openings Ø 800 mm with class B / D covers and other installation depths on request</p> </div> <p><b>Handles groundwater depths up to 3000 mm</b> <b>Delivered as individual elements</b> <b>Removable access aid article # 860 126 on request</b></p> <p><b>In compliance with EN 13598 Part 2</b> <b>Certification: Z-42.1-527</b></p>	<p><b>1</b></p> <p>D 1: 396 - 645 D 2: 646 - 895 D 3: 896 - 1145 D 4: 1146 - 1395 D 5: 1396 - 1645 D 6: 1646 - 1895 D 7: 1896 - 2145 D 8: 2146 - 2395 D 9: 2396 - 2645 D 10: 2646 - 2895 D 11: 2896 - 3145</p> <p><b>2</b></p> <p>D 1: 411 - 660 D 2: 661 - 910 D 3: 911 - 1160 D 4: 1161 - 1410 D 5: 1411 - 1660 D 6: 1661 - 1910 D 7: 1911 - 2160 D 8: 2161 - 2410 D 9: 2411 - 2660 D 10: 2661 - 2910 D 11: 2911 - 3160</p>	<p><b>874 00 04</b> <b>874 00 10</b> <b>874 00 16</b> <b>874 00 22</b> <b>874 00 28</b> <b>874 00 34</b> <b>874 00 40</b> <b>874 00 46</b> <b>874 00 52</b> <b>874 00 58</b> <b>874 00 64</b></p> <p><b>874 00 02</b> <b>874 00 08</b> <b>874 00 14</b> <b>874 00 20</b> <b>874 00 26</b> <b>874 00 32</b> <b>874 00 38</b> <b>874 00 44</b> <b>874 00 50</b> <b>874 00 56</b> <b>874 00 62</b></p>

## System chambers Ø 1000 with access opening Ø 800 mm

## Products

Illustration and dimensioned drawing	Article description	Installation depth mm	Article #
<p><b>For installation in a concrete slab</b></p> 	<p><b>Engineering system chamber for combination with the engineering system base <i>Ecolift XL</i></b> made of polyethylene</p> <p><b>Version for waterproof concrete with flange and counter flange</b></p> <p><input type="checkbox"/> with access opening Ø 800 mm</p> <hr/> <p><b>Upper section with cover, square made of stainless steel, class A/L 15</b></p> <p><b>1</b> Cover tileable</p> <p><b>2</b> Cover not tileable, non-slip</p> <div style="border: 1px solid black; border-radius: 15px; padding: 5px; margin: 10px 0;"> <p>Upper sections with covers class B / D on request</p> </div> <p><b>Handles groundwater depths up to 3000 mm</b> <b>Delivered as individual elements</b> <b>Removable access aid article # 860 126 on request</b></p> <p><b>In compliance with EN 13598 Part 2</b> <b>Certification: Z-42.1-527</b></p>	<p><b>1</b></p> <p>D 1: 628 - 877 D 2: 878 - 1127 D 3: 1128 - 1377 D 4: 1378 - 1627 D 5: 1628 - 1877</p> <p><b>2</b></p> <p>D 1: 613 - 862 D 2: 863 - 1112 D 3: 1113 - 1362 D 4: 1363 - 1612 D 5: 1613 - 1862</p>	<p><b>874 00 03</b> <b>874 00 09</b> <b>874 00 15</b> <b>874 00 21</b> <b>874 00 27</b></p> <p><b>874 00 05</b> <b>874 00 11</b> <b>874 00 17</b> <b>874 00 23</b> <b>874 00 29</b></p>

<i>Ecolift XL</i>		Accessories		
Illustration and dimensioned drawing	Article description	Outer diameter Ø (mm)	Article #	
	<b>Extension section</b> for engineering systems chamber, without gasket and connecting wedges, H = 500 mm	-	<b>680 371</b>	
	<b>Access aid</b> , 2 pieces needed	-	<b>680 376</b>	
	<b>Extension section</b> for engineering systems chamber, without gasket and connecting wedges, H = 250 mm	-	<b>680 370</b>	
	<b>Access aid</b> , 1 piece needed	-	<b>680 376</b>	
	<b>Set of connecting wedges</b> 10 pieces	-	<b>680 373</b>	
	<b>Profiled gasket</b> for extension section	-	<b>680 125</b>	
	<b>1 Cable extension for motor</b> 10 m cable length	-	<b>80 890</b>	
	<b>2 Cable extension for probe</b> 10 m cable length	-	<b>80 889</b>	
	<b>Cable attachment set for the engineering systems chamber</b>	-	<b>28 706</b>	
	<b>Note: Cable extensions <i>Ecolift XL</i></b>			
		max. extension	Mono-version	
	Backwater lifting station <i>Ecolift XL</i> (400 V) with one motorized flap	<b>1</b> 25 m <b>2</b> 25 m	1 x motor 2 x probe	1 x motor 2 x probe
	Backwater lifting station <i>Ecolift XL</i> (400 V) with two motorized flaps	<b>1</b> 25 m <b>2</b> 25 m	2 x motor 3 x probe	2 x motor 3 x probe
Note: 400 V extension on-site through qualified electrician				
	<b>TeleControl telemetric system</b> for connection to KESSEL Comfort control units 230 Volt and 400 Volt. Relaying of full text messages to up to three mobile phones. Without SIM card.	-	<b>28 792</b>	
	<b>TeleControl antenna booster</b> incl. 2.5 m cable to improve reception. With magnetic base.	-	<b>28 793</b>	
	<b>Antenna booster extension cable</b> cable length 2.5 m	-	<b>28 794</b>	
	<b>Audible alarm</b> <input type="checkbox"/> 20 m cable length suitable for all control units with SDS function	-	<b>20162</b>	

Ecolift XL			Accessories																					
Illustration and dimensioned drawing	Article description	Outer diameter Ø (mm)	Article #																					
	<b>Kiosk for control unit</b> for installation of control units, modems, heatings, warning beacon outside of buildings	1 - 2 - 3 - 4 -	97 716 97 714 97 723 97 724																					
	<table border="1"> <thead> <tr> <th>Height over all</th> <th>Height over ground level</th> <th>Width / depth</th> <th></th> </tr> </thead> <tbody> <tr> <td>1 1740 mm</td> <td>870 mm</td> <td>460/320 mm</td> <td>for control unit, heating, warning beacon</td> </tr> <tr> <td>2 1740 mm</td> <td>870 mm</td> <td>590/320 mm</td> <td>for heating and pressure pipe</td> </tr> <tr> <td>3 1740 mm</td> <td>870 mm</td> <td>785/320 mm</td> <td>for control unit, Modem, heating, warning beacon</td> </tr> <tr> <td>4 1740 mm</td> <td>870 mm</td> <td>1115/320 mm</td> <td>for control unit, Modem, heating, warning beacon and pressure pipe</td> </tr> </tbody> </table>	Height over all	Height over ground level	Width / depth		1 1740 mm	870 mm	460/320 mm	for control unit, heating, warning beacon	2 1740 mm	870 mm	590/320 mm	for heating and pressure pipe	3 1740 mm	870 mm	785/320 mm	for control unit, Modem, heating, warning beacon	4 1740 mm	870 mm	1115/320 mm	for control unit, Modem, heating, warning beacon and pressure pipe			
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Pre-wired switch cabinets on request																								
	<b>Warning beacon</b> for the additional visual display of faults, for installation on the outdoor control cabinet, with switching unit for connection to the control unit	-	97 715																					
	<b>Thermostat / Hygrostat</b> as an additional module for installation in the outdoor kiosk to reduce condensation	-	97 713																					
	<b>Compressor set</b> for use in combination with lifting station and pumping stations with pressure control: <input type="checkbox"/> prevents soiling, avoids the formation of condensate in the pressure hose, makes operation of systems possible with pressure hose lengths > 10 m, incl. T-piece connection, incl. 10 m pressure hose	-	28 048																					



# Wastewater lifting stations





## 3 Wastewater lifting stations

### Lifting stations for wastewater containing raw sewage

for free standing installation and for installation in a concrete floor Page **80 – 97**  
for underground installation Page **108 – 125**

### Lifting stations for wastewater without sewage

Complete range for free-standing installation and for installation in a concrete floor Page **98 – 107**  
for underground installation Page **122 – 125**

### Submersible pumps Page **126 – 127**

for fixed or mobile use, for residential, commercial, public and industrial applications

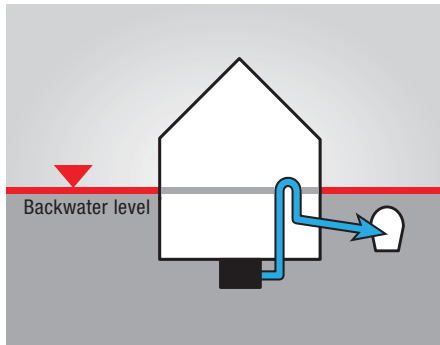
### Warning and control units Page **128 – 132**

Convenient monitoring and control of lifting stations and pumps

### Individual Solutions Page **133 – 137**

# Water flows upwards?

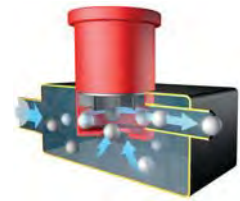
It often happens that wastewater cannot be drained with gravity because the sewer is higher than the drainage point in the basement. In this case a lifting station or pump must be used. Lifting stations pump the wastewater via pressure pipes into the sewer.



■ If the sewer is higher than the drainage point in the basement, a lifting station has to be used

## The appropriate lifting station

**Particle size:** The particle size of a pump specifies how many millimetres of free passage through the pump are available. According to the construction and testing regulations (EN 12050-2) for wastewater lifting stations for wastewater without sewage (grey water), the maximum solids size (particle size) in the overall system is 10 mm, for wastewater with sewage (black water) it is 40 mm (EN 12050-1).



## Different product lines are available for the two different types of wastewater

**For wastewater with sewage**



When it comes to draining toilets and urinals, sewage lifting stations must be used. The lifting stations of the **Aqualift F** series are available for installation in the interior or exterior of buildings. All lifting stations are also available as twin stations.



**For wastewater without sewage**

Household wastewater from washing machines, showers or bathtubs. The lifting stations **Aqualift S** and **Minilift** can be used for these drainage purposes.

## Non-chokable or macerator pumps?

The reliable function depends on selecting the appropriate lifting station and also on the technically correct installation of the lifting station. KESSEL offers two types of pumps. Non-chokable pumps and macerator pumps. Each of these pumps has special properties.



Non-chokable pumps have a large free space inside the pump housing. As a consequence, solid and long fibrous, high consistency substances, such as sanitary towels, textiles etc., can pass through the pump housing easily. It is often necessary to expend more energy to achieve an efficient pump output.



Macerator pumps are especially suitable for long fibres and where solid bodies can be comminuted, even larger sizes. This allows the wastewater to be transported reliably through small pressure pipes even over long distances (pressure drainage).



**Explosion protection:** Accidents or spills could result in hazardous liquids entering the lifting station which could result in an explosion risk environment. If the possibility is real, an ATEX explosion protected pumping system should be used.



# Installation options



■ *Example for installation in an exposed wastewater pipe*




■ *Example for installation in a concrete slab/floor*




■ *Example for underground installation*


## Exposed installation

 Free-standing lifting stations can be installed very easily and without a great deal of expenditure, and are suitable for single-family homes all the way up to larger commercial / industrial applications. Smaller systems can easily be placed in an existing basement room. Larger systems are better installed in a separate utility room.

## Installation in a concrete floor

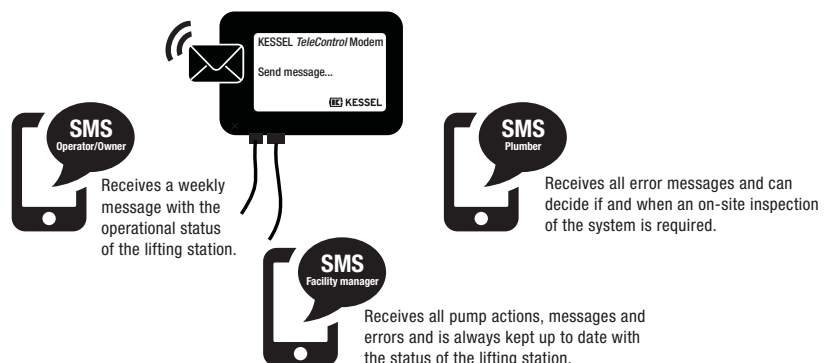
 The use of basements to provide further space for accommodation is becoming increasingly important. Frequently, toilets, showers or washing facilities are located in the basement. For such applications, KESSEL supplies lifting stations for installation in concrete floors. These lifting stations simply disappear in the ground and offer another special advantage. The drain integrated in the cover can drain away all surface water. Even in the event of a pipe burst or leak, the pump discharges water continually over the backwater level.

## Underground installation

 Installing lifting stations within a building often wastes valuable living space as well as potentially causing operational noise. New solutions are available giving the home owner decisive advantages. Often the correct choice is to move the lifting station outdoors - freeing up living space, eliminating operation noise as well as making access for servicing companies more convenient. Depending on the requirements KESSEL offers single or twin pump systems and various chamber diameters based on the size of the pumps required.

## Telemetric system

The KESSEL *TeleControl* system allows pump activity, messages or errors to be sent via a GSM interface to up to three mobile phones. This keeps the pump operator informed about the current operational status of the lifting station and allows quick reaction time if required.





# General information and standards

## Level sensors / probes and alarm probes

Level sensors and probes measure the level of the pumping medium in the collecting tank of a lifting station and trigger the pumping process of one or several pumps from a specified filling level onward. If the level in the collecting tank continues to rise, an acoustic warning signal can be given via an alarm probe (which also measures the level of the pumping medium).



### Pressure sensor

The closed air volume within a pressure sensor is compressed by a rising water level in the collecting tank of a lifting station. The resulting difference in air pressure is measured by a pressure sensor in the control unit and used to regulate the starting and stopping of the lifting station pumping process. Pneumatic level measurement is a straightforward and low-cost method of level measurement, but does have disadvantages when the system is used irregularly, when wastewater is extremely greasy or when pressure hoses are very long or condensate in the pressure hose impedes measurement.



### Conductance probe

A conductance probe uses AC voltage and measures whether there is any conductive fluid between two measuring points. If there is, current flows and the control unit triggers the pumping process. Thus a conductance probe is a simple and low-cost method of level measurement. It only works with conductive fluids, however, and cannot be used for the pumping of rainwater or condensate.



### Float switch

Float switches are switching devices which are actuated by a float which swims on the surface of the pumping medium.

If the water level rises within the collecting tank, the switching device is triggered via the change in level of the float, and the lifting station pump is activated.

Float switches are a simple and proven type of level measurement. They have some weaknesses when heavily soiled wastewater is to be pumped, since material becomes deposited on the float and can interfere with level measurement.



### Hydrostatic sensor

With this method of hydrostatic pressure measurement, the water pressure is measured using a semiconductor and the downstream electronics generate an analogue signal from this. The pumps are activated from a specified level onward.

A hydrostatic sensor can be used to measure different levels. This makes it possible to measure both the alarm level and pumping level and save on a second probe. However, such hydrostatic sensors usually cost more than other level probes.



### Optical probe

In addition to the level sensors described above, an optical probe can be used as an alarm probe. If the sensor surface becomes wet, the refraction angle of an infrared signal changes, signalling that the alarm level has been reached.

The optical probe is ideal as an alarm probe since it works reliably even if it has not been in use for a long time. An alarm can be triggered by mistake, however, when the wastewater is warm (dripping condensate) or heavily foaming.

## INFORMATION

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

You can find your personal KESSEL contact on page 3 of this catalog!

### Complete System Solution

In addition to individual lifting and pumping station, KESSEL also offers other systems the drainage of buildings. Do you have a natural gradient to the sewer?

- World innovation *Ecolift* - the alternative to a standard lifting station with gravity sloped drainage see chapter 2 "hybrid lifting systems".
- Backwater valves for interior and underground installation see chapter 1 "backwater valves".

### 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](http://www.kessel.com/references)

## Which standards must be taken into account?

EN 12056 Gravity drainage systems inside buildings	EN 1253-5 Drains for buildings with volatile liquid traps
EN 752 Drainage systems outside buildings	
EN 13564 Backwater valves for buildings	EN 12050 Lifting stations for buildings

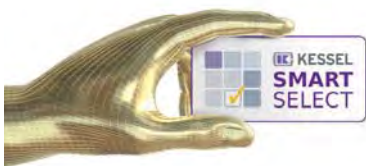
# Selection criteria - lifting stations

## FOR WASTEWATER CONTAINING RAW SEWAGE

	<i>Minilift F</i>	<i>Aqualift F Compact</i>	<i>Aqualift F</i>	<i>Aqualift F XL</i>	<i>Aqualift F</i> Ø 600	<i>AP 501</i> Ø 800/1000	<i>Aqualift F</i> Ø 1000
Interior installation	✓	✓	✓	✓			
Exterior installation			✓		✓	✓	✓
Input power	0.3 kW	1 kW	1.4 - 3 kW	1.4 - 5 kW	1 kW	1.1 - 1.25 kW	1.3 - 1.9 kW
Max. pumping height	6 m	9 m	16 m	27 m	9 m	12 m	28 m
Pressure pipe diameter	28-34 mm	40 mm	110 mm	110 mm	40 mm	63/90 mm	63/90 mm
Pump	Macerator	Macerator	Impeller	Impeller	Macerator	Impeller	Impeller
Products see page	82	82 - 85	88 - 89	90 - 93	116 - 117	118 - 119	120 - 121

## FOR WASTEWATER WITHOUT SEWAGE

	<i>Minilift</i>	<i>Aqualift S</i>	<i>Aqualift S</i> Ø 600	<i>Aqualift S</i> Ø 1000	<i>Ecolift XL *</i>
Interior installation	✓	✓			✓
Exterior installation			✓	✓	✓
Input power	300 W	500 W	500 or 1000 W	500 or 1000 W	1.4 - 4.5 kW
Max. pumping height	5 m	7 m	9 m	9 m	17 m
Pressure pipe diameter	40 mm	40 mm	40 mm	40 mm	90 mm
Pump	Impeller	Impeller	Impeller	Impeller	Impeller
Products see page	104 - 107	100 - 103	122 - 123	124 - 125	64 - 72



**SmartSelect** simply makes planning easier - calculation tool for lifting stations at [smartselect.kessel.com](http://smartselect.kessel.com)



**SmartSelect** simply makes planning easier - calculation tool for lifting stations at [smartselect.kessel.com](http://smartselect.kessel.com)



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



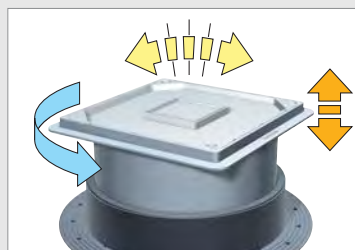
Single- / Twin station  
40 liter tank volume

# Compact and powerful lifting stations

Wastewater lifting stations  
***Aqualift F Compact***  
for installation in a concrete floor

## CHAMBER READY FOR UNDERGROUND INSTALLATION

The telescopic upper section makes flexible adaptation to the required installation depth possible. Upper section can be turned, tilted and freely height-adjusted.



## RETROFITTING

Mono systems can be retrofitted and converted into duo systems, even after installation

## INSTALLATION IN WATERPROOF CONCRETE

The compression seal flange in connection with the gasket set guarantees safe sealing against groundwater when the *Aqualift F Compact* is installed in waterproof concrete.



Suitable for use in industrial and residential applications.

Installed in the concrete slab / floor, the lifting station is almost invisible thanks to the tilable cover.

With technical approval: Z-53.2-484



**Single station**  
40 liter tank volume

**Twin station**  
40 liter tank volume

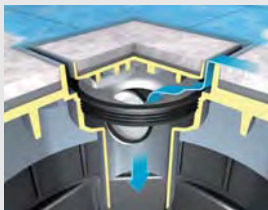


**Lifting station**  
for wastewater disposal in a single toilet

**NEW**

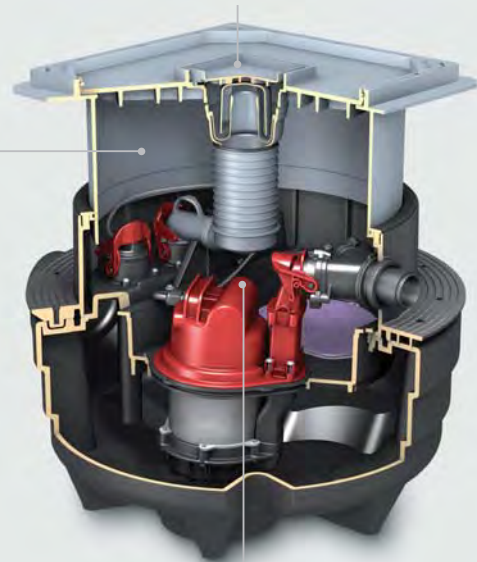
Wastewater lifting stations  
**Aqualift F Compact**  
for free standing installation

Small lifting station **Minilift F**  
for free-standing installation in frost protected rooms



**INTEGRATED DRAIN FUNCTION**

The drain contained in the cover drains all surface water. Even in the event of a pipe burst or flooding, the pump discharges water out of the house and into the sewer.



Art.# 28701-C



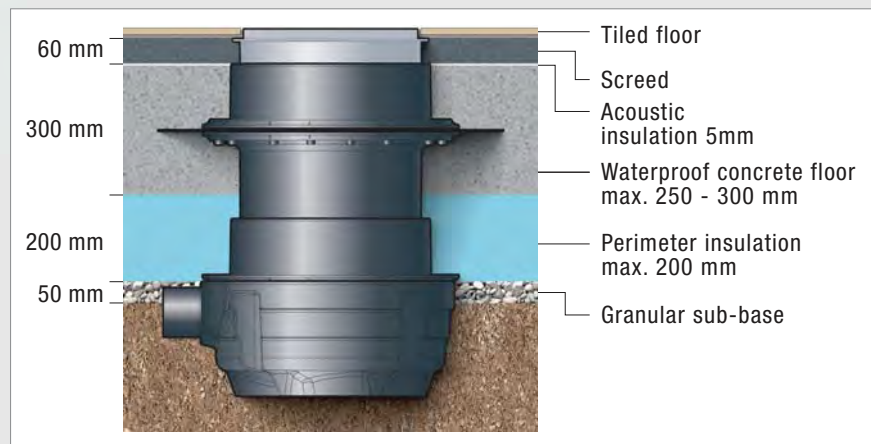
**MAXIMUM SAFETY THANKS TO CONTROL UNIT WITH SDS**

The intelligent control unit with integrated self-diagnosis system SDS and battery buffering continually monitors all electric functions and keeps an electronic operating log which can be read out. If the pump is at a standstill for longer periods, it is automatically activated briefly once a week.

**ACCESSORY**

Telemetric system *TeleControl* available as accessory

**THERMAL INSULATION BELOW THE FLOOR (PERIMETER INSULATION)**



**TOOL FREE PUMP REMOVAL**



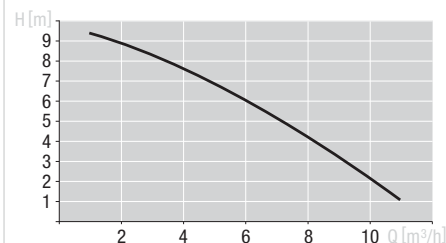




## Aqualift F Compact Mono Installation in a concrete slab/floor

Products

Illustration and dimensioned drawing	Article description	Input power	Voltage	Article #
<p>Illustration shows   Installation area 800 x 800 mm</p>	<p><b>Lifting station Aqualift F Compact Mono / Duo for installation in a concrete slab/floor, with recessed cover for on-site tiling and drain</b> Installation depth (D) 490 to 600 mm With odour trap, sealing water height 50 mm With lateral inlet <math>\varnothing</math> 110</p> <p><b>With telescopic upper section</b> for free height and level adjustment, recessed cover for on-site tiling, made of polymer class A15, with moisture protective sealing flange.</p> <p><b>1 Aqualift F Compact Mono with one removable pump</b>, pressure sensor controlled, with integrated backwater flap</p> <p><b>2 Aqualift F Compact Duo with two removable pumps</b>, pressure sensor controlled, with integrated backwater flap</p> <p><b>With SDS control unit (self-diagnosis system)</b> for fully automatic pump control, splashwater-protected (IP 54), wall mounted. Pressure connection: 1½ inch outer thread or pressure pipe <math>\varnothing</math> 40 mm for PVC glued connection or pressure pipe set (accessories Art. # 28 040) Pumping height: max. 9.5 m, <math>Q_{max} = 10.9 \text{ m}^3/\text{h}</math> Voltage: 230 V ~ 50 Hz. Power cable: 5 m. A ventilation pipe must be provided for on site.</p>	<b>1</b> 1.0 kW	230 V	<b>28 701-C</b>
			<b>2</b> 1.0 kW	230 V
<p>Illustration shows   Installation area 700 x 700 mm Certification no. Z-53.2-484</p>	<p><b>Lifting station Aqualift F Compact Mono / Duo for free-standing installation</b> With lateral inlet <math>\varnothing</math> 110</p> <p><b>1 Aqualift F Compact Mono with one removable pump</b>, pressure sensor controlled, with integrated backwater flap</p> <p><b>2 Aqualift F Compact Duo with two removable pumps</b>, pressure sensor controlled, with integrated backwater flap</p> <p><b>With SDS control unit (self-diagnosis system)</b> for fully automatic pump control, splashwater-protected (IP 54), wall mounted. Pressure connection: 1½ inch outer thread or pressure pipe <math>\varnothing</math> 40 mm for PVC glued connection or pressure pipe set (accessories Art. # 28 040) Pumping height: max. 9.5 m, <math>Q_{max} = 10.9 \text{ m}^3/\text{h}</math> Voltage: 230 V ~ 50 Hz. Power cable: 5 m. A ventilation pipe must be provided for on site.</p> <p> EN 12050-1 (max 2 WC connections)</p>	<b>1</b> 1.0 kW	230 V	<b>28 711-C</b>
			<b>2</b> 1.0 kW	230 V



Type	SPZ 1000
Current type	Alternating current
Voltage	230 V
Current	4.9 A
Motor rating P1/P2	1080 W / 620 W
RPM	2800 min <sup>-1</sup>
Motor protection	integrated
Operating mode	S3 - 30%

## Minilift F for free-standing installation

Products

<p><b>NEW</b></p> <p>Small lifting station <b>Minilift F</b> made of polymer for free-standing installation in frost protected rooms</p> <p>Plug-and-play sewage lifting station with chopping device for wastewater disposal in a single toilet.</p> <p><b>For free-standing set-up</b></p> <p>With pneumatic level control, with activated carbon filter, with dry room monitoring</p> <p>EN 12050-3</p>	<p>-</p> <p>230 V</p> <p><b>28 520</b></p>						
	<table border="1"> <caption>Performance data for Minilift F</caption> <thead> <tr> <th>Flow rate Q [m³/h]</th> <th>Pumping height H [m]</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>5.5</td> </tr> <tr> <td>6</td> <td>1.5</td> </tr> </tbody> </table>	Flow rate Q [m³/h]	Pumping height H [m]	0	5.5	6	1.5
Flow rate Q [m³/h]	Pumping height H [m]						
0	5.5						
6	1.5						

## Lifting stations for wastewater with or without sewage

### Installation example *Aqualift F Compact*



- ① Lifting station
- ② Pressure pipe set (Art. # 28 040)
- ③ Extension section
- ④ Gasket set
- ⑤ Control unit

The wastewater lifting station *Aqualift F Compact* takes over the complete basement drainage and pumps wastewater reliably and completely automatically through the pressure pipe set via the backwater level to the higher-level sewage system. The system is delivered as a ready-to-install chamber which can be installed in waterproof concrete with the aid of the extension section and sealing gasket set. Control is by means of the Comfort control unit with self-diagnosis system SDS. Installation in the concrete slab/floor makes the *Aqualift F Compact* the modern alternative to a “pump sump”.

### Installation example *Aqualift F Compact*



- ① Lifting station
- ② Control unit

The wastewater lifting station *Aqualift F Compact* takes over the complete basement drainage and pumps wastewater with and without sewage reliably and completely automatically via the backwater level to the higher-level sewage system. Control is by means of the Comfort control unit with self-diagnosis system SDS. Its compact design makes the system ideal for renovation work.

### Professional advantages

- **Plug & play Comfort control unit** with self-diagnosis system SDS for maximum safety.
- **Integrated drain function** to drain surface water. Continual drainage even in the event of incoming flood water or a pipe burst.
- **Variable upper section** rotatable, tiltable and height adjustable
- **Installation in waterproof concrete.** Gasket set (Art. # 83 023) to prevent groundwater infiltration.
- **Elegant optical appearance even for basement rooms which are used as living accommodation:** The modern alternative to a pump chamber.
- **TeleControl telemetric system** Relaying of full text messages to up to three mobile phones.
- **Chamber ready to be installed,** recessed installation in the concrete slab/floor possible with extension section.



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



### Professional advantages

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

- **Ideal for later installation,** including for renovation work, and for installation in an existing pump sump.
  - **Space-saving** Compact lifting station - base area only 70 x 70 cm.
  - **Ready for connection** Assembled ready for connection with horizontal or vertical pressure outlet.
  - **Additional inlets** Possible connection of additional inlets directly on site.

Aqualift F Compact		Accessories	
Illustration and dimensioned drawing	Article description	Outer diameter Ø (mm)	Article #
<p>For models made on or after Jan 2011</p> 	<p><b>Cover plate, surface water tight</b> Class A 15 With drain Ø 75, includes <b>Multistop</b> odour, foam, rodent and insect stop incl. gasket</p> <p><b>1</b> recessed for on-site tiling, grey, for tile thicknesses of 18 mm</p> <p><b>2</b> with integrated grating, black</p> <p>for article numbers: 28 701-C, 28 704-C</p>	-	<b>83 045</b>
	<p><b>Hair filter</b> made of polymer for article numbers: 83 045 and 83 046</p>	-	<b>43 700</b>
	<p><b>Cover plate, surface water tight</b> Class A 15 made of polymer, incl. gasket Art. # 173-145</p> <p><b>1</b> black Ventilation always required when in use!</p> <p><b>2</b> recessed for on-site tiling, grey, for tile thicknesses of 18 mm Ventilation always required when in use!</p> <p>for article numbers: 28 701-C, 28 704-C</p>	-	<b>83 050</b>  <b>83 052</b>
	<p><b>Upper section</b> made of polymer, max. extension 180 mm, height adjustable for article numbers: 28 701-C, 28 704-C</p>	-	<b>83 061</b>
	<p><b>Transition section Ø 110 / 75</b> Ø 110 socket / Ø 75 spigot can be used as an upper section, incl. gasket for article numbers: 28 701-C, 28 704-C, 28 711-C, 28 743-C</p>	Ø 75/110	<b>27 602</b>
<p><b>NEW</b></p> 	<p><b>Extension section with centre flange</b> with elastomer sealing sheet made of NK/SBR Ø 800 mm, incl. screws for article numbers: 28 701-C, 28 704-C</p>	-	<b>83 075</b>
 <p>When multiple extension sections are used make sure that access to valve is still possible!</p>	<p><b>Extension section with flange and counter flange</b> for connection to an on-site sealing sheet made of polymer, incl. screws max. extension 140 mm for article numbers: 28 701-C, 28 704-C</p>	-	<b>83 073</b>

Aqualift F Compact			Accessories
Illustration and dimensioned drawing	Article description	Outer diameter Ø (mm)	Article #
 <p>When multiple extension sections are used make sure that access to valve is still possible!</p>	<p><b>Extension section</b> made of polymer, max. extension 180 mm, incl. gasket for article numbers: 28 701-C, 28 704-C</p>	-	<b>83 070</b>
 <p>Waterproof concrete installation tested by MFPA Leipzig UB 5.1/11-452-1</p>	<p><b>Gasket set for installation in waterproof concrete</b> Consisting of: <b>Counter flange</b> made of polymer, incl. screws, <b>elastomer waterproof membrane</b> in NK/SBR Ø 800 mm for article numbers: 28 701-C, 28 704-C</p>	-	<b>83 023</b>
	<p><b>Pressure pipe set</b> Incl. 5 m pressure pipe hose Ø 40 for article numbers: 28 701-C, 28 704-C, 28 711-C, 28 743-C</p>	Ø 40	<b>28 040</b>
	<p><b>Audible alarm</b> <input type="checkbox"/> <b>20 m cable length</b> <b>suitable for all control units</b></p>	-	<b>20 162</b>
	<p><b>Potential-free contact</b> <b>suitable for all control units 230 V:</b> Wastewater station <i>Aqualift F</i>, Wastewater station <i>Aqualift F Compact</i>, Lifting station <i>Aqualift F Mono</i> 230 V</p>	-	<b>80 072</b>
	<p><b>Compressor set</b> for use in combination with lifting stations and pumping stations with pressure control: <input type="checkbox"/> prevents soiling, compensates leaks, avoids condensate forming in the pressure hose, makes operation of systems possible with pressure hose lengths &gt; 10 m, including connection T-piece, including 10 m pressure hose.</p>	-	<b>28 048</b>
	<p><b>Retrofit kit alarm float switch for lifting stations Aqualift F Compact</b> Can be combined with 230 V Comfort control units. Comprises a float switch, float switch bracket and 5 m connection cable.</p>	-	<b>28 016</b>
	<p><b>TeleControl telemetric system</b> for connection to KESSEL Comfort control units 230 Volt and 400 Volt. Relaying of full text messages to up to three mobile phones. Without SIM card.</p>	-	<b>28 792</b>
	<p><b>TeleControl antenna booster</b> for <i>TeleControl</i> telemetric system incl. 2.5 m cable to improve reception. With magnetic base.</p>	-	<b>28 793</b>
	<p><b>Antenna booster extension cable</b> cable length 2.5 m</p>	-	<b>28 794</b>





SmartSelect simply makes planning easier - calculation tool for lifting stations at [smartselect.kessel.com](http://smartselect.kessel.com)

# Powerful *Aqualift F / XL* lifting stations



For industrial, municipal and private use. All the components of the **XL** lifting stations have been designed as a modular system. It comprises three tank sizes with volumes of 200, 300 and 450 litres. The pumps are available in versions from 1.400 to 5.500 Watts. The tanks fit through standard size 800 doors.



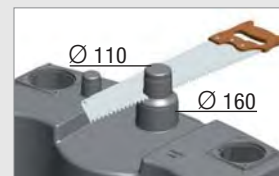
50 liter tank volume

120 liter tank volume

Lifting stations ***Aqualift F*** for single-family homes, apartment blocks or small scale industrial use

## INLET CONNECTION

Size  $\varnothing$  110 mm or  $\varnothing$  160 mm selected on-site.



## PRESSURE SENSOR

Pressure sensor controlled pump with non-chokable impeller.

## ODOUR-TIGHT

100 % odour-tight access cover

## ADDITIONAL INLETS

$\varnothing$  50 mm to  $\varnothing$  200 mm inlets can be easily installed on-site.





200 liter tank volume



300 liter tank volume



450 liter tank volume

### Lifting stations *Aqualift F XL* for industrial / high volume wastewater disposal

#### CLOSURE VALVE

Polymer or cast iron closure valves available as accessory.

#### COMFORT CONTROL UNIT

with multilingual digital display (EN, DE, FR, IT, PL, NL) showing current operational status, settings and logbook.

*TeleControl* telemetric system available as accessory.



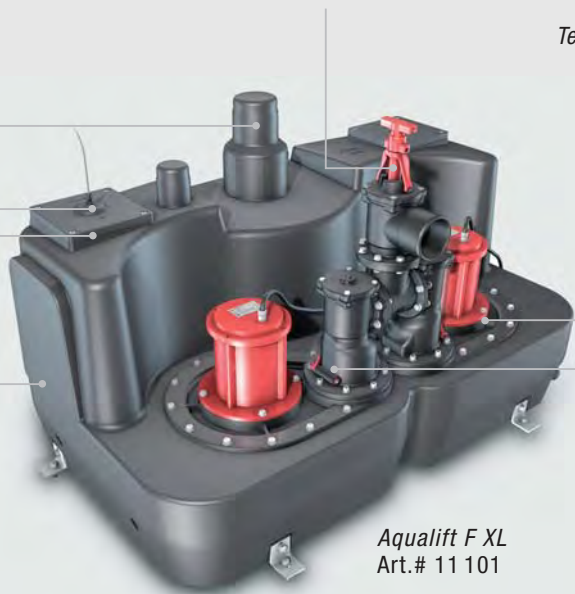
#### S1-PUMPS

S1 continuous duty pumps for heavy flow applications (rainwater) with 1400 to 4500 Watts.

#### TANK BASE

integrated sloped base directs wastewater to pump intake and prevents dirt being deposited.

#### INTEGRATED NON-RETURN VALVE




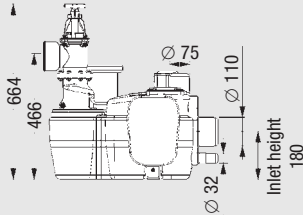
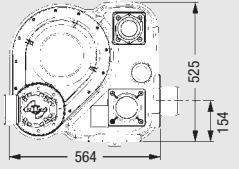

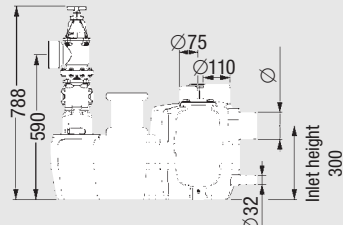
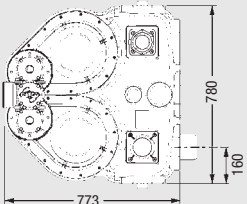
*Aqualift F XL*  
Art.# 11 101

#### COMPACT DIMENSIONED BODIES

offer large storage capacities but still allow access through 800 mm wide doorways.





Aqualift F Mono 50 liters		Products		
Illustration and dimensioned drawing	Article description	Voltage	SPF	Article #
 <p>Illustration shows Art. # 28 646-C</p>   <p>Illustration shows Art. # 28 648-C</p>	<p><b>Lifting station Aqualift F Mono</b> for free-standing installation in frost-free rooms</p> <p><b>Tank volume: 50 liters</b> <b>Pump volume: 20 liters</b></p> <p>Consisting of: <b>Polyethylene storage chamber</b> with clean-out opening. Connection for inlet <math>\varnothing</math> 110 (inlet height 180 mm) and ventilation <math>\varnothing</math> 75, connection coupling for manual diaphragm pump <math>\varnothing</math> 32.</p> <p>Pressure sensor controlled <b>wastewater pump</b> with non-chokable impeller to pump wastewater with or without sewage (open channel passage 40 mm). Pump is rated submersible (IP 68), pump cable length 5 m.</p> <p><b>Vertical / horizontal outlet</b> with integrated non-return valve, connection coupling <math>\varnothing</math> 110 with hose section</p> <p><b>1 without closure valve (vertical pressure outlet)</b> <b>2 with closure valve (horizontal pressure outlet)</b></p> <p>Comfort control unit with mains power ON / OFF switch and multilingual digital display (EN, DE, FR, IT, PL, NL) showing current operational status, settings and logbook; control unit is splash proof (IP 54), wall mounted, voltage 230 / 400 V at 50 Hz. With potential-free contact.</p> <p>S1 continuous duty pumps available upon request Total weight approx. 44 kg.</p>	<p><b>1</b> 230 V 400 V 400 V</p> <p><b>2</b> 230 V 400 V 400 V</p>	<p>1400-S3 1500-S3 3000-S3</p> <p>1400-S3 1500-S3 3000-S3</p>	<p><b>28 646-C</b> <b>28 751</b> <b>28 752</b></p> <p><b>28 648-C</b> <b>28 753</b> <b>28 754</b></p>
	<p>CE EN 12050-1</p>			
Aqualift F Duo 120 liters		Products		
 <p>Illustration shows Art. # 28 628-C</p>   <p>Illustration shows Art. # 28 629-C</p>	<p><b>Lifting station Aqualift F Duo</b> for free-standing installation in frost-free rooms</p> <p><b>Tank volume: 120 liters</b> <b>Pump volume: 50 liters</b></p> <p>Consisting of: <b>Polyethylene storage chamber</b> with clean-out opening. Connection for inlet <math>\varnothing</math> 110 (inlet height 300 mm) and ventilation <math>\varnothing</math> 75, connection coupling for manual diaphragm pump <math>\varnothing</math> 32.</p> <p>Pressure sensor controlled <b>twin wastewater pumps</b> with non-chokable impeller to pump wastewater with or without sewage (open channel passage 40 mm). Pump is rated submersible (IP 68), pump cable length 5 m.</p> <p><b>Vertical/ horizontal outlet</b> with integrated non-return valve, connection coupling <math>\varnothing</math> 110 with hose section</p> <p><b>1 without closure valve (vertical pressure outlet)</b> <b>2 with closure valve (horizontal pressure outlet)</b></p> <p>Comfort control unit with mains power ON / OFF switch and multilingual digital display (EN, DE, FR, IT, PL, NL) showing current operational status, settings and logbook; control unit is splash proof (IP 54), wall mounted, voltage 230 / 400 V at 50 Hz. With potential-free contact.</p> <p>S1 continuous duty pumps available upon request Total weight approx. 84 kg.</p>	<p><b>1</b> 230 V 400 V 400 V</p> <p><b>2</b> 230 V 400 V 400 V</p>	<p>1400-S3 1500-S3 3000-S3</p> <p>1400-S3 1500-S3 3000-S3</p>	<p><b>28 628-C</b> <b>28 764</b> <b>28 765</b></p> <p><b>28 629-C</b> <b>28 766</b> <b>28 767</b></p>
	<p>CE EN 12050-1</p>			

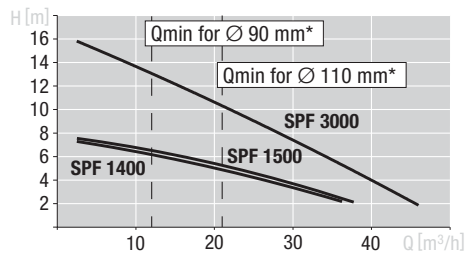
# Lifting stations for wastewater with or without sewage

## Installation example *Aqualift F*



① Lifting station                      ② Pressure pipe

The lifting station *Aqualift F* is ideal for free-standing installation in frost-protected areas. The compact and powerful lifting station with control unit disposes of wastewater with or without sewage reliably and fully automatically through the pressure pipe to the higher-level sewage system.



\* according to EN 12056-4

Type	SPF 1400	SPF 1500	SPF 3000
Input Power (P1)	1.6 kW	1.4 kW	3.2 kW
Power (P2)	1.1 kW	1.1 kW	2.7 kW
Voltage	230 V	400 V	400 V
Frequency	50 Hz	50 Hz	50 Hz
Amperage	7.3 A	2.7 A	5.4 A
Fuses	16 A surge-proof	3 x 16 A surge-proof	3 x 16 A surge-proof
Cable connections	5 m Length, 3 x 1.0 mm <sup>2</sup>	5 m Length, 7 x 1.5 mm <sup>2</sup>	5 m Length, 7 x 1.5 mm <sup>2</sup>
Media temperature	40°C	40°C	40°C
Weight (Pump)	23 kg	24 kg	24 kg
Protection	IP 68	IP 68	IP 68
Operating mode	S3 50 % power on duration	S3 50 % power on duration	S3 50 % power on duration
Rpm	1.370	1.415	2.845

## Professional advantages

### Quality and reliability are our strengths:

- **Space-saving installation** thanks to the possibility of inlet connection  $\varnothing$  110 from above and simple routing of the pressure pipe in the corner of the room.
- **Simple connect-and-go connection** with horizontal or vertical pressure outlet
- **Easy to retrofit** with the suitable closure valve.
- Variable connection possibilities for further inlets directly on site.



### Comfort control unit

- User friendly navigation in multi-line display
- With self-diagnosis system SDS and memory function for the next service
- Displays current operational status
- Simple setting of parameters relevant for the function
- Operating hours counter
- Optional forwarding of alarm and general fault signals via a GSM interface
- Multilingual display (EN, DE, FR, IT, PL, NL)





## Aqualift F XL 200 liters

## Products

Illustration and dimensioned drawing

Article description

Voltage

SPF

Article #



Illustration shows Art. # 11 096

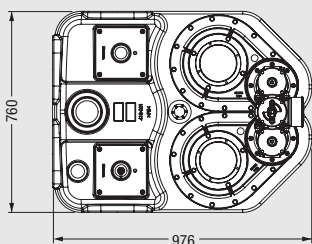
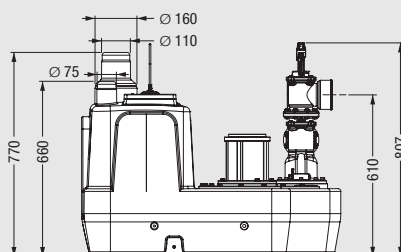
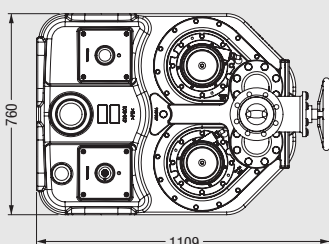
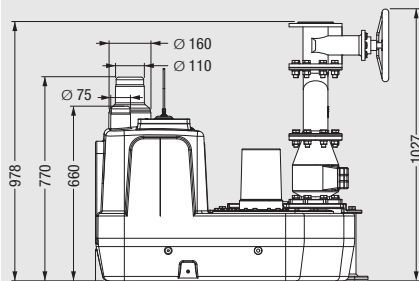


Illustration shows Art. # 11 075



### Lifting station *Aqualift F XL* for free standing installation Tank volume: 200 liters Pump volume: 120 liters

Lifting station with one/two SPF pumps for wastewater with or without sewage for free-standing installation in frost-free rooms

Consisting of:

**Polyethylene storage chamber** with clean-out opening. Spigots for vertical inlet  $\varnothing$  110 mm/160 mm, ventilation  $\varnothing$  75 mm and for manual diaphragm pump  $\varnothing$  32 mm. Horizontal inlet  $\varnothing$  50 mm to  $\varnothing$  200 mm by sawing.

Pressure sensor controlled **single / twin wastewater pump** with non-chokable impeller to pump wastewater with or without sewage (open channel passage 40 mm). Pump is rated submersible (IP 68), pump cable length 5 m.

Operating mode: S1 or S3

**Vertical/ horizontal outlet** with integrated non-return valve, with/without closure valve (provided loose), with hose section or flange.

#### Single pump lifting stations:

- 1 without closure valve (vertical pressure outlet)
- 2 with plastic closure valve (horizontal pressure outlet  $\varnothing$  110)
- 3 with cast iron closure valve

#### Twin pump lifting stations:

- 4 without closure valve (vertical pressure outlet)
- 5 with plastic closure valve (horizontal pressure outlet  $\varnothing$  110)
- 6 with cast iron closure valve (vertical pressure outlet DN 80)

**Comfort control unit** with mains power ON / OFF switch and multilingual digital display (EN, DE, FR, IT, PL, NL) showing current operational status, settings and logbook; control unit is splash proof (IP 54), wall mounted, voltage 230 V or 400 V at 50 Hz. With potential-free/BMS contact (optional at 230 V).

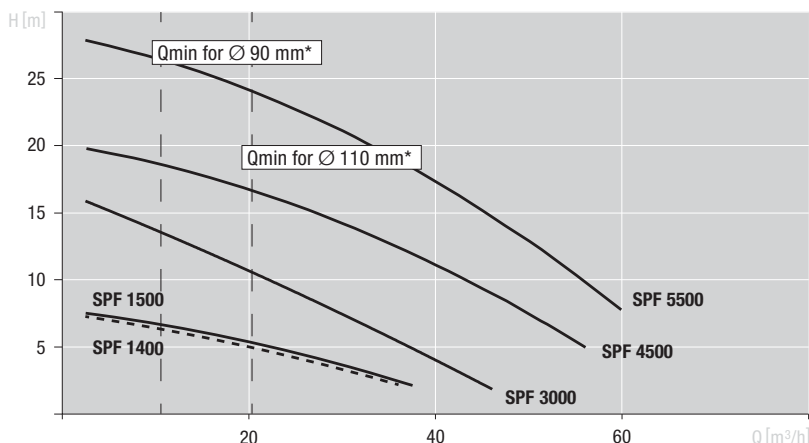
#### Single pump lifting stations:

1	230 V	1400-S3	11 000
2	230 V	1400-S3	11 002
1	400 V	1500-S3	11 018
2	400 V	1500-S3	11 020
1	400 V	3000-S3	11 036
2	400 V	3000-S3	11 038
1	400 V	4500-S3	11 059
3	400 V	4500-S3	11 061
1	400 V	5500-S3	11 072
3	400 V	5500-S3	11 074

#### Twin pump lifting stations:

4	230 V	1400-S1	11 085
5	230 V	1400-S1	11 086
4	400 V	1500-S1	11 095
5	400 V	1500-S1	11 096
4	400 V	3000-S1	11 105
5	400 V	3000-S1	11 106
6	400 V	3000-S1	11 108
4	400 V	4500-S1	11 120
6	400 V	4500-S1	11 121
4	400 V	5500-S3	11 073
6	400 V	5500-S3	11 075

CE EN 12050-1





## Aqualift F XL 300 liters

Products

Illustration and dimensioned drawing

Article description

Voltage

SPF

Article #



Illustration shows Art. # 11 101

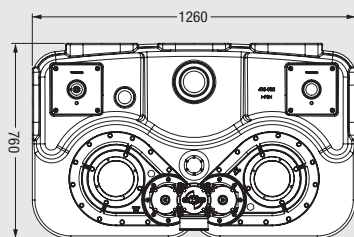
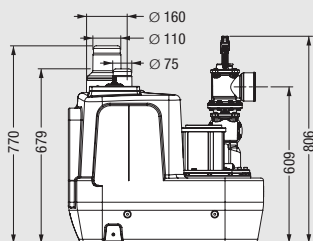
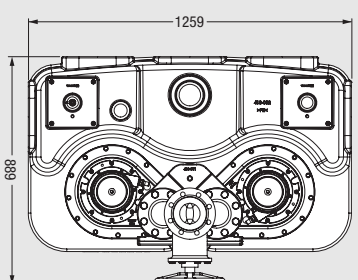
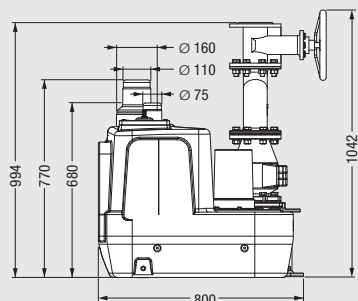


Illustration shows Art. # 11 113



### Lifting station **Aqualift F XL** for free standing installation Tank volume: 300 liters Pump volume: 175 liters

Twin station with two SPF pumps for wastewater with or without sewage for free-standing installation in frost-free rooms

Consisting of:

**Polyethylene storage chamber** with clean-out opening. Spigots for vertical inlet  $\varnothing$  110 mm/160 mm, ventilation  $\varnothing$  75 mm and for manual diaphragm pump  $\varnothing$  32 mm. Horizontal inlet  $\varnothing$  50 mm to  $\varnothing$  200 mm by sawing.

Pressure sensor controlled **single / twin wastewater pumps** with non-chokable impeller to pump wastewater with or without sewage (open channel passage 40 mm). Pump is rated submersible (IP 68), pump cable length 5 m.

Operating mode: S1 or S3

**Vertical/ horizontal outlet** with integrated non-return valve, with/without closure valve (provided loose), with hose section or flange.

#### Single pump lifting stations:

- 1 without closure valve (vertical pressure outlet)
- 2 with plastic closure valve (horizontal pressure outlet  $\varnothing$  110)
- 3 with cast iron closure valve

#### Twin pump lifting stations:

- 4 without closure valve (vertical pressure outlet)
- 5 with plastic closure valve (horizontal pressure outlet  $\varnothing$  110)
- 6 with cast iron closure valve (vertical pressure outlet DN 80)

**Comfort control unit** with mains power ON / OFF switch and multilingual digital display (EN, DE, FR, IT, PL, NL) showing current operational status, settings and logbook; control unit is splash proof (IP 54), wall mounted, voltage 230 V or 400 V at 50 Hz. With potential-free/BMS contact (optional at 230 V).

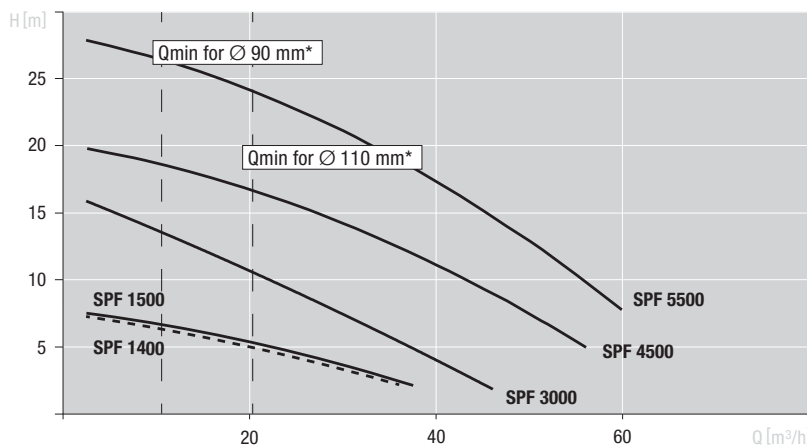
CE EN 12050-1

#### Single pump lifting stations:

1	230 V	1400-S3	11 009
2	230 V	1400-S3	11 011
1	400 V	1500-S3	11 027
2	400 V	1500-S3	11 029
1	400 V	3000-S3	11 045
2	400 V	3000-S3	11 047
1	400 V	4500-S3	11 064
3	400 V	4500-S3	11 066
1	400 V	5500-S3	11 077
3	400 V	5500-S3	11 079

#### Twin pump lifting stations:

4	230 V	1400-S1	11 090
5	230 V	1400-S1	11 091
4	400 V	1500-S1	11 100
5	400 V	1500-S1	11 101
4	400 V	3000-S1	11 110
5	400 V	3000-S1	11 111
6	400 V	3000-S1	11 113
4	400 V	4500-S1	11 123
6	400 V	4500-S1	11 124
4	400 V	5500-S3	11 078
6	400 V	5500-S3	11 080





## Aqualift F XL 450 liters

Products

Illustration and dimensioned drawing

Article description

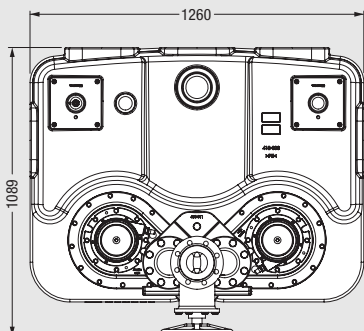
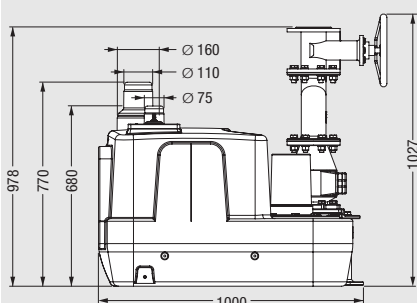
Voltage

SPF

Article #



Illustration shows Art. # 11 127



**Lifting station Aqualift F XL for free standing installation**  
**Tank volume: 450 liters**  
**Pump volume: 250 liters**

Twin station with two SPF pumps for wastewater with or without sewage for free-standing installation in frost-free rooms

Consisting of:

**Polyethylene storage chamber**, with air pressure level detector, clean-out opening. Spigots for vertical inlet  $\varnothing$  110 mm/160 mm, ventilation  $\varnothing$  75 mm and for manual diaphragm pump  $\varnothing$  32 mm. Horizontal inlet  $\varnothing$  50 mm to  $\varnothing$  200 mm by sawing.

Pressure sensor controlled **twin wastewater pumps** with non-chokable impeller to pump wastewater with or without sewage (open channel passage 40 mm). Pump is rated submersible (IP 68), pump cable length 5 m.

Operating mode: S1 or S3

**Vertical/ horizontal outlet** with integrated non-return valve, with/without closure valve (provided loose), with hose section or flange.

- 4** without closure valve (vertical pressure outlet)
- 5** with plastic closure valve (horizontal pressure outlet  $\varnothing$  110)
- 6** with cast iron closure valve (vertical pressure outlet DN 80)

**Comfort control unit with** mains power ON / OFF switch and multilingual digital display (EN, DE, FR, IT, PL, NL) showing current operational status, settings and logbook; control unit is splash proof (IP 54), wall mounted, voltage 400 V at 50 Hz. With potential-free/BMS contact.

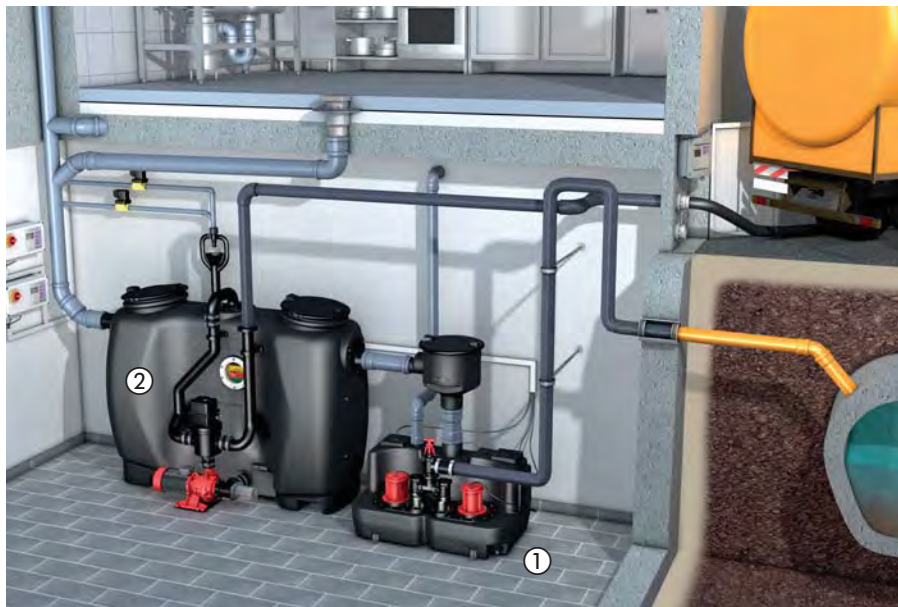
EN 12050-1

**Twin pump lifting stations:**

<b>4</b>	400 V	3000-S1	<b>11 115</b>
<b>5</b>	400 V	3000-S1	<b>11 116</b>
<b>6</b>	400 V	3000-S1	<b>11 118</b>
<b>4</b>	400 V	4500-S1	<b>11 126</b>
<b>6</b>	400 V	4500-S1	<b>11 127</b>
<b>4</b>	400 V	5500-S3	<b>11 082</b>
<b>6</b>	400 V	5500-S3	<b>11 083</b>

# Lifting stations for wastewater with or without sewage

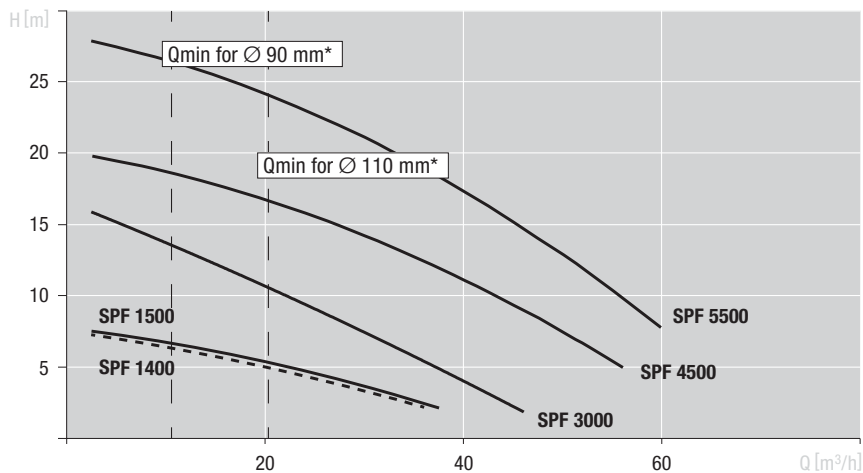
## Installation example *Aqualift F XL*



① Lifting station

② Grease separator *EasyClean*

The wastewater is pumped by the *Aqualift F XL* lifting station fully automatically upwards via the backwater loop to the sewage system. A greater pumping capacity if more wastewater occurs is guaranteed by a second pump switching on automatically. Long pump service life thanks to alternating operation. The lifting stations of the *Aqualift F XL* series are particularly suitable for industrial and municipal applications, such as downstream from a grease separator.

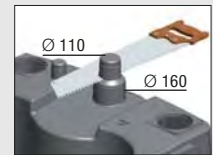


\* according to EN 12056-4

Type	SPF 1400	SPF 1500	SPF 3000	SPF 4500	SPF 5500
Input Power (P1)	1.6 kW	1.4 kW	3.2 kW	4.5 kW	5.7 kW
Power (P2)	1.1 kW	1.1 kW	2.7 kW	3.7 kW	4.7 kW
Voltage	230 V	400 V	400 V	400 V	400 V
Amperage	7.3 A	2.7 A	5.4 A	7.5 A	9.1 A
Operating mode S1: 100 % S3: 30 % / 50% power on duration	S1 / S3 50%	S1 / S3 50%	S1 / S3	S1 / S3 50%	S3 30%
Weight	99 kg	98 kg	188 kg	189 kg	211 kg

## Professional advantages

- **Inlet connection**  
Size Ø 110 mm or  
Ø 160 mm selected  
on-site



- **Additional inlet connections on-site**  
Inlets from size  
Ø 50 mm to  
Ø 200 mm  
inlets can be easily installed.



- **Polymer gate closure valves and fittings for SPF 1400, 1500, 3000 models.**  
**Cast iron gate closure valves and fittings for SPF 4500 and 5500 models.**

Cast iron systems also available for other pump models where excessive return pressures are expected

- **Compact dimensioned bodies** offer large storage capacities but still allow access through 800 mm wide doorways.







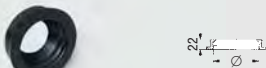
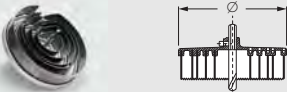
- **Single or Twin Pump Lifting Stations**  
Includes digital display control unit and non-return valve.









### Comfort control unit





- User friendly navigation in multi-line display
- With self-diagnosis system SDS and memory function for the next service
- Displays current operational status
- Simple setting of parameters relevant for the function
- Operating hours counter
- Optional forwarding of alarm and general fault signals via a GSM interface
- Multilingual display (EN, DE, FR, IT, PL, NL)



Aqualift F / Aqualift F XL / Aqualift F Duo XXL			Accessories
Illustration and dimensioned drawing	Article description	Outer diameter Ø (mm)	Article #
	<b>Audible alarm</b> <input type="checkbox"/> 20 m cable length suitable for all control units	-	<b>20162</b>
	<b>Potential-free contact</b> suitable for all control units 230 V: Wastewater station <i>Aqualift F</i> , Lifting station <i>Aqualift F Mono</i> 230 V	-	<b>80072</b>
	<b>Compressor set</b> for use in combination with lifting stations and pumping stations with pressure control: <input type="checkbox"/> prevents soiling, compensates leaks, avoids condensate forming in the pressure hose, makes operation of systems possible with pressure hose lengths > 10 m, including connection T-piece, including 10 m pressure hose.	-	<b>28 048</b>
	<b>Closure valve</b> for all lifting stations <i>Aqualift F</i>	Ø 110	<b>28 683</b>
	<b>Closure valve made of polymer</b> for installation on inlet side (no pressure) for all lifting stations <i>Aqualift F</i>	Ø 110 Ø 160	<b>28 698</b> <b>28 699</b>
	<b>Manual diaphragm pump 1½ inch</b> for manually pumping wastewater. With a ball valve on inlet and outlet side	1½ inch	<b>28 680</b>
	<b>Sound absorption</b> sound-absorbing underlay mat (10 mm thick) <input type="checkbox"/> for lifting stations <i>Aqualift F Mono</i>	-	<b>28 692</b>
	<input type="checkbox"/> for lifting stations <i>Aqualift F Duo</i>	-	<b>28 693</b>
	<b>Pipe sealing gasket</b> (EPDM) Use KESSEL hole saw when drilling. for lifting stations <i>Aqualift F</i>	Ø 50 Ø 75 Ø 110 Ø 125 Ø 160 Ø 200	<b>850 114</b> <b>850 116</b> <b>850 117</b> <b>850 118</b> <b>850 119</b> <b>850 123</b>
	<b>Hole saw</b> for drilling lateral surfaces for inlets and outlets Ø 50, 75, 110, 125 and 160 (Saw blade holder Ø = 190 mm)	-	<b>50 100</b>
	Ø 200 (Use a drill with at least 1000 W)	-	<b>50 102</b>

Aqualift F XL			Accessories
Illustration	Article description	Outer diameter Ø (mm)	Article #
	<p><b>Alarm float switch upgrade set for Aqualift F XL lifting station</b></p> <p>For use with 230 V and 400 V Comfort control units. Consists of float switch, support plate, cover and 5 meter connection cable.</p>	-	<b>28 014</b>
	<p><b>Alarm float switch upgrade set for Aqualift F and F Duo lifting stations</b></p> <p>For use with 230 V and 400 V Comfort control units. Consists of float switch, support plate, cover and 5 meter connection cable.</p>	-	<b>28 015</b>
	<p><b>TeleControl telemetric system</b></p> <p>for connection to KESSEL Comfort control units 230 Volt and 400 Volt. Relaying of full text messages to up to three mobile phones. Without SIM card.</p>	-	<b>28 792</b>
	<p><b>TeleControl antenna booster</b></p> <p>for TeleControl telemetric system incl. 2.5 m cable to improve reception. With magnetic base.</p>	-	<b>28 793</b>
	<p><b>Antenna booster extension cable</b></p> <p>cable length 2.5 m</p>	-	<b>28 794</b>
	<p><b>Backflow preventer</b></p> <p>in cast iron</p> <p>with DN 80 flange according to DIN 2501; Backflow preventer with flap and flap opening lever</p>	DN 80	<b>28 021</b>
	<p><b>Flange adaptor from DN 80 to DN 100</b></p> <p>in PE, flanges according to DIN 2501</p> <p>For use with PE and SML pressure pipes, includes two gaskets</p>	-	<b>28 018</b>
	<p><b>Cast iron connection adaptor</b></p> <p>for connection from Aqualift F XL to on-site pressure pipe DN 80 (OD 90 mm) DN 100 (OD 110 mm)</p> <p>For use with PE and SML pressure pipes, with DIN 2501 flange, includes single gasket</p>	Ø 90 Ø 110	<b>28 067</b> <b>28 020</b>

Aqualift F XL			Accessories
Illustration	Article description	Outer diameter Ø (mm)	Article #
	<p><b>Flexible pressure pipe connection</b> Length – 200 mm</p> <p><input type="checkbox"/> <b>for PE and SML pipe connections</b> For use with KESSEL <i>Aqualift F, Aqualift F XL</i> lifting stations</p> <p><input type="checkbox"/> <b>for cast iron pipe connections</b> For use with KESSEL <i>Aqualift F XL</i> lifting stations</p>	<p>Ø 90 Ø 110</p> <p>Ø 100 Ø 120</p>	<p><b>28 662</b> <b>28 663</b></p> <p><b>28 664</b> <b>28 665</b></p>
	<p><b>Flange adaptor from DN 80 to DN 100</b> in cast iron</p> <p>Flange according to DIN 2501</p> <p>For use with cast iron pressure pipes</p>	-	<b>28 068</b>
	<p><b>Cast iron connection adaptor</b> in cast iron</p> <p>For connection from <i>Aqualift F XL</i> to on-site pressure pipe DN 80 (OD 98 mm) DN 100 (OD 118 mm)</p> <p>For use with cast iron pressure pipes, with DIN 2501 flange PN 16, includes single gasket</p>	<p>Ø 98 Ø 118</p>	<p><b>28 069</b> <b>28 072</b></p>
	<p><b>Gate closure valve</b> in cast iron</p> <p>With DN 80 flange according to DIN 2501, gate closure valve including closure wheel</p>	DN 80	<b>28 041</b>
	<p><b>Y-Coupling</b> in cast iron</p> <p>With DN 80 (OD 80 mm) flange according to DIN 2501, Y-coupling for use with <i>Aqualift F XL</i> twin pump lifting stations</p>	Ø 80	<b>28 042</b>
	<p><b>Sealing gasket (rubber)</b> according to DIN 2501</p> <p>For pressure pipe connections</p>	<p>DN 80 DN 100</p>	<p><b>28 043</b> <b>28 044</b></p>

Aqualift F XL			Accessories
Illustration	Article description	Outer diameter Ø (mm)	Article #
	<b>Closure valve in PE</b> vertical, DN 90, for the pressure pipe of KESSEL lifting stations with plastic fitting	Ø 90	<b>28 715</b>
	<b>Closure valve with flange adaptor in PE</b> vertical, DN 90, for the pressure pipe of KESSEL lifting stations with plastic fitting, with screwed flange adapter	Ø 90	<b>28 716</b>
	<b>Flange adaptor DN 80 in PE</b> from KESSEL fitting to standard flange DN 80	DN 80	<b>28 714</b>
	<b>Connection flange in PE</b> for KESSEL plastic fittings	Ø 90 Ø 110	<b>28 713</b> <b>28 712</b>





**SmartSelect** simply makes planning easier - calculation tool for lifting stations at [smartselect.kessel.com](http://smartselect.kessel.com)



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



# The hygienic alternative to a pump sump

Lifting stations

3



**Aqualift S** lifting stations for installation in a concrete slab / floor dispose of penetrating high water or surface water resulting from burst pipes through fully automatic pump control.

**Aqualift S** lifting stations for free-standing installation are particularly suitable for connection to grease separator systems.

**Minilift** lifting stations - compact lifting stations for renovation work.



Single or twin pump lifting stations with additional surface drainage

Lifting stations **Aqualift S** for installation in a concrete slab/floor

## Aqualift S INSTALLATION IN THE CONCRETE SLAB/FLOOR

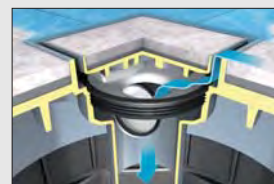
Installation set with integrated drain function for drainage of surface water.

### INSTALLATION

Telescopic upper section with shallow waterproofing flange, recessed cover for on-site tiling and integrated drain function

### ADDITIONAL SAFETY

Odour, foam, rodent and insect stop  
*Multistop* available as accessory



### CONNECTIONS

Connection of optional inlets to drain body of Ø 110, above the compression flange and in the extension section up to Ø 75.



### FLEXIBLE INSTALLATION

New extension section with central flange, counter-flange and elastomer waterproofing sheet optional - as protection against water load for installation in waterproof concrete.



**Twin pump system**  
for connection downstream from small grease separator systems



**Single pump systems**  
Ideal for renovation work

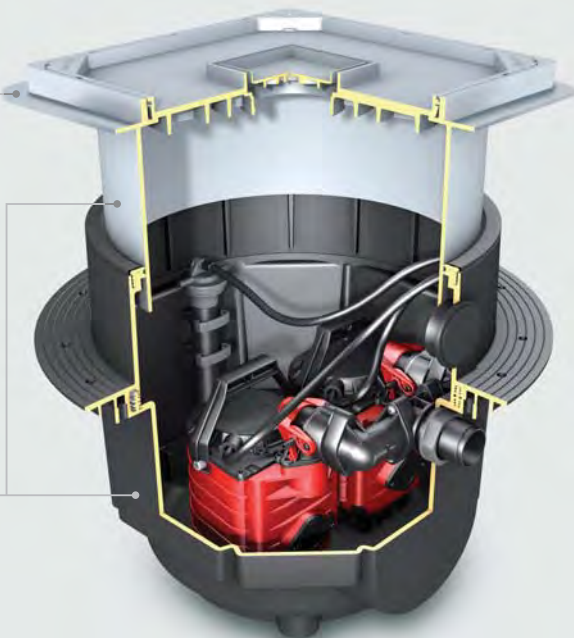


Lifting station **Aqualift S**  
for free-standing installation

Lifting stations **Minilift**  
for free-standing installation /  
installation in concrete slab/floor

**OPTICAL APPEARANCE**

Elegant optical appearance even for cellar rooms which are used as living accommodation: The up-to-date alternative to the pump chamber.



**SELF-DIAGNOSIS SYSTEM SDS**



Plug-and-play 230 Volt control units with self-diagnosis system SDS. Comfort version with menu navigation in six languages with multi-line display. Chapter „Modems and control units“ see page 128

**Aqualift S FREE STANDING INSTALLATION**

Particularly suitable as a lifting station for connection to small grease separator systems (with maximum pumping height of 3 m).

**SNAP CLOSURE**

Pump removal without tool thanks to “one-handed snap closure”, also suitable for mobile use.

**CONNECTIONS**

Connection of further inlets  $\varnothing$  50 and  $\varnothing$  75.

**Minilift**

The mobile *Minilift* lifting station for free-standing installation fits under any sink; a washing machine, shower or other inlets can all be connected at the same time.

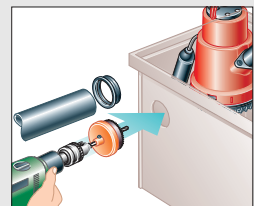
**CLEANING AND MAINTENANCE**

Pump removal without tool thanks to “one-handed snap closure”, also suitable for mobile use.



**FURTHER INLETS**

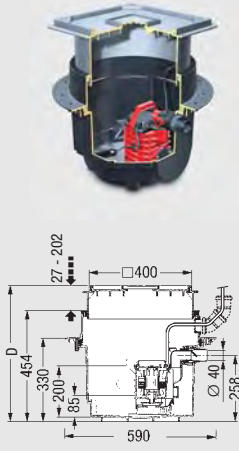


Connection of further inlets  $\varnothing$  50 and  $\varnothing$  75 directly on site.








**Aqualift S** Installation in a concrete slab/floor

Products

Illustration and dimensioned drawing	Article description	Outer diameter Ø (mm)	Article #
 <p>Installation area 700 x 700 mm</p>	<p><b>Lifting station Aqualift S for wastewater without sewage, made of polymer</b></p> <p>For installation in a concrete slab/floor, Installation depth (D) 481 mm to 656 mm</p> <p>With telescopic upper section for continuous height and level adjustment, recessed cover for on-site tiling, made of polymer, class A 15, with moisture protective sealing flange, <b>with removable, float switch controlled pump</b> and integrated backwater flap.</p> <p>Pressure connection: 1½ inch outer thread, Pressure pipe Ø 40 mm for PVC glued connection or pressure pipe set.</p> <p>max. pumping height: 8 m Voltage: 230 V ~ 50 Hz Input power: 0.48 kW Pump on level: 200 mm Pump off level: 85 mm Max. particle size: 10 mm Power cable: 5 m Weight: ca. 19 kg</p> <p><b>Optional:</b> Hair filter page 106</p>   <p>EN 12050-2</p>	<p>Ø 40</p>	<p><b>28 500</b></p> <div style="border: 1px solid black; border-radius: 15px; padding: 5px; text-align: center;"> <p>Version with powerful <i>GTF 1000</i> pump on request <a href="mailto:individual@kessel.de">individual@kessel.de</a></p> </div>

**Aqualift S Tronic / Aqualift S Duo** Installation in a concrete slab/floor

Products

 <p>Illustration shows Art. # 28 530-C</p> <p>Installation area 700 x 700 mm</p>	<p><b>Lifting station Aqualift S Tronic / Aqualift S Duo for wastewater without sewage, made of polymer</b></p> <p>For installation in a concrete slab/floor, Installation depth (D) 481 mm to 656 mm</p> <p>With telescopic upper section for continuous height and level adjustment, recessed cover for on-site tiling, made of polymer, class A 15, with moisture protective sealing flange, integrated backwater flap.</p> <p>Pressure connection: 1½ inch outer thread, Pressure pipe Ø 40 mm for PVC glued connection or pressure pipe set.</p> <p>Max. particle size: 10 mm. max. pumping height: 7 m. Voltage: 230 V ~ 50 Hz.</p> <hr/> <p><b>Aqualift S Tronic with removable, pressure sensor controlled pump, optical alarm probe,</b></p> <p>Input power: 0.48 kW. Power cable: 5 m. Weight: approx. 19 kg.</p> <hr/> <p><b>Aqualift S Duo with two removable, pressure sensor controlled pumps,</b></p> <p>Input power: 2 x 0.48 kW. Power cable: 5 m. Weight: approx. 26 kg.</p> <p><b>Comfort control unit</b> with multilingual digital display (EN, DE, FR, IT, PL, NL) showing current operational status, settings and logbook, IP 54 splash proof control unit housing, for wall mounting, operational voltage - 230 V DC, with potential free contact (BMS) connections.</p> <p><b>Optional:</b> Audible alarm page 107 Hair filter page 106</p>   <p>EN 12050-2</p>	<p>Ø 40</p> <p>Ø 40</p>	<p><b>28 550-C</b></p> <p><b>28 530-C</b></p>
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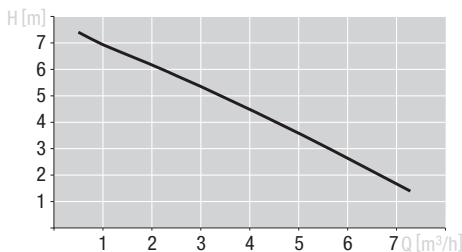
# Lifting stations for wastewater without sewage

## Installation example *Aqualift S*



- ① Lifting station *Aqualift S*
- ② Pressure pipe set (Art. # 28 040)
- ③ Integrated drain
- ④ Gasket set
- ⑤ Control unit

The lifting station *Aqualift S* pumps wastewater without sewage through the pressure pipe set upwards via the backwater loop to the sewage system. In addition, surface water can be drained via the integrated drain following a burst pipe or high water penetration and be disposed of by the pump. The ready-to-install chamber can also be installed in waterproof concrete with the aid of the sealing gasket set. The system is controlled by means of the control unit provided.

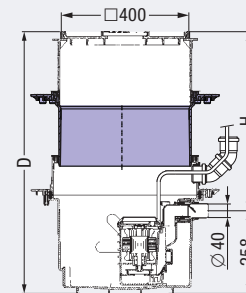


Current type	Voltage	Current	Power P <sub>1</sub> / P <sub>2</sub>	RPM	Motor protection	Plug
Alternating current	230 V	2.12 A	480 W / 320 W	2800 min <sup>-1</sup>	integrated	Schuko 5 m cable

## Professional advantages

- **Chamber ready to be installed**, recessed installation in the concrete slab/floor possible with extension section.

**D max. = 800 mm  
from 661 - 836 mm**



**Extension section Art. # 83 071**

**H = 468 - 648 mm**

- **Integrated drain function** to drain surface water. Continual drainage even in the event of incoming flood water or a pipe burst.
- **Variable upper section** rotatable, tiltable and height adjustable
- **Installation in waterproof concrete.** Gasket set (Art. # 83 023) to prevent groundwater infiltration.
- **Elegant optical appearance even for basement rooms which are used as living accommodation:** The up-to-date alternative to the pump chamber.
- **Optional safety** Cover with drain and *Multistop* odour, foam and rodent trap optional.



### Comfort control unit

- User friendly navigation in multi-line display
- With self-diagnosis system SDS and memory function for the next service
- Displays current operational status
- Simple setting of the parameters relevant for the function
- Operating hours counter
- Optional forwarding of alarm and general fault signals via a GSM interface
- Multilingual display (EN, DE, FR, IT, PL, NL)



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









**Aqualift S** for free-standing installation

Products

Illustration and dimensioned drawing	Article description	Outer diameter Ø (mm)	Article #
	<p><b>Twin lifting station Aqualift S</b>  <b>made of polymer for free-standing installation</b>  <b>With twin removable, pressure sensor controlled pumps</b>, integrated backwater flap,                      Inlet Ø 110, ventilation connection Ø 75 (incl. pipe sealing gasket),  <b>Comfort control unit</b> with multilingual digital display (EN, DE, FR, IT, PL, NL) showing current operational status, settings and logbook, IP 54 splash proof control unit housing, for wall mounting, operational voltage - 230 V DC, with potential free contact (BMS) connections.</p> <p>Pressure connection: 1½ inch outer thread or pressure pipe Ø 40 mm for PVC glued connection.                      Inlet height: 530 mm                      Total height: 720 mm, Ø 500 mm                      Voltage: 230 V ~ 50 Hz                      Max. chamber size: 55 l                      max. pumping height: 8 m                      Input power: 2 x 0.48 kW                      Power cable: 5 m                      Weight: ca. 25 kg</p> <p>Ideal for connection downstream from small grease separator systems.</p> <p>  EN 12050-2</p>	<p>Ø 40</p>	<p><b>28 541-C</b></p> <div style="border: 1px solid black; border-radius: 15px; padding: 10px; text-align: center;"> <p>Version with powerful <i>GTF 1000</i> pump on request  <a href="mailto:individual@kessel.de">individual@kessel.de</a></p> </div>

# Lifting stations for wastewater without sewage

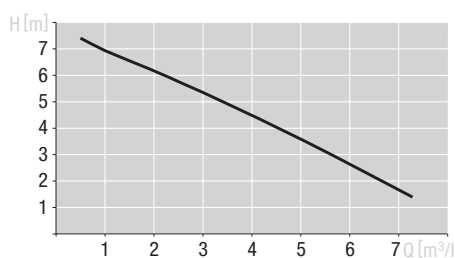
## Installation example *Aqualift S*



① Lifting station *Aqualift S*

② Grease separator *EasyClean*

The *Aqualift S* lifting station is particularly suitable for connection to grease separator systems of the nominal sizes NS 1 - NS 4. A greater pumping capacity if more wastewater occurs is guaranteed by a second pump switching on automatically. Monitoring and control of the system are managed by the Comfort control unit.



Current type	Voltage	Current	Power P <sub>1</sub> / P <sub>2</sub>	RPM	Motor protection	Plug
Alternating current	230 V	2.12 A	480 W / 320 W	2800 min <sup>-1</sup>	integrated	Schuko 5 m cable

## Professional advantages

- **Connection of several inlets**  
Alongside the standard inlet Ø 110, further inlets (Ø 50, Ø 75) can be connected following scoring using a hole saw (Art. # 50 101).
- **Long pump service life** thanks to alternating operation.
- **Particularly suitable as a lifting station connected downstream from grease separator systems** (nominal size 1, 2 and 4 with maximum pumping height of 3 m). The second pump is switched on automatically where there is increased wastewater occurrence.



230 Volt

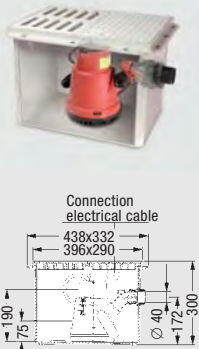


### Comfort control unit

- User friendly navigation in multi-line display
- With self-diagnosis system SDS and memory function for the next service
- Displays current operational status
- Simple setting of the parameters relevant for the function
- Operating hours counter
- Optional forwarding of alarm and general fault signals via a GSM interface
- Multilingual display (EN, DE, FR, IT, PL, NL)






**Minilift** Installation in a concrete slab/floor

Products

Illustration and dimensioned drawing	Article description	Outer diameter Ø (mm)	Article #
 <p>Installation area 500 x 400 mm</p>	<p><b>Lifting station <i>Minilift</i></b> <b>made of polymer for underground installation</b> With removable, float switch controlled pump, backwater flap, grating and cover plate class L 15. Pressure connection: 1½ inch outer thread, Pressure pipe Ø 40 mm for PVC glued connection or pressure pipe set.</p> <p>Pumping height: 6.2 m Voltage: 230 V ~ 50 Hz Input power: 0.34 kW Power cable: 5 m Max. particle size: 10 mm Pump on level: 180 mm Pump off level: 80 mm</p> <p>  EN 12050-2</p>	<p>Ø 40</p>	<p>28 570</p> <div style="border: 1px solid black; border-radius: 15px; padding: 10px; text-align: center;"> <p>Version with powerful <i>KTP 500</i> pump on request <a href="mailto:individual@kessel.de">individual@kessel.de</a></p> </div>

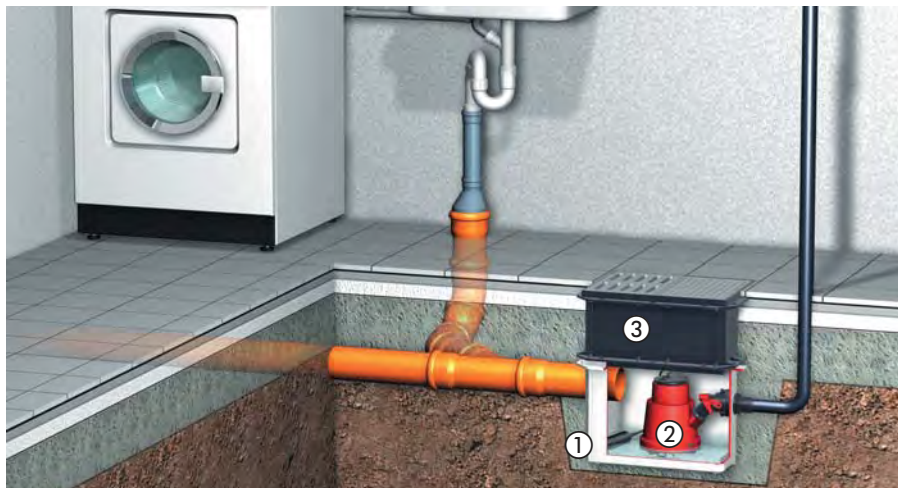
**Minilift** for free-standing installation

Products

Illustration and dimensioned drawing	Article description	Outer diameter Ø (mm)	Article #
	<p><b>Lifting station <i>Minilift</i></b> <b>made of polymer for free-standing installation</b> With removable, float switch controlled pump and backwater flap. Pressure connection: 1½ inch outer thread or pressure pipe Ø 40 mm for PVC glued connection</p> <p>Pumping height: 6.2 m Voltage: 230 V ~ 50 Hz Input power: 0.34 kW Power cable: 5 m Max. particle size: 10 mm Pump on level: 180 mm Pump off level: 80 mm</p> <p>With activated charcoal filter</p> <p>  EN 12050-2</p>	<p>Ø 40</p>	<p>28 560</p> <div style="border: 1px solid black; border-radius: 15px; padding: 10px; text-align: center;"> <p>Version with powerful <i>KTP 500</i> or <i>GTF 1000</i> pump on request <a href="mailto:individual@kessel.de">individual@kessel.de</a></p> </div>

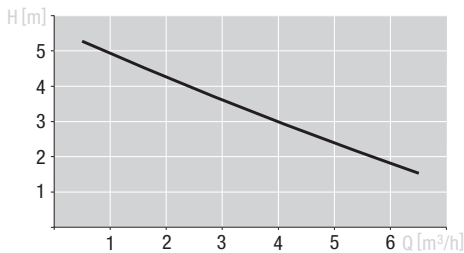
# Lifting stations for wastewater without sewage

## Installation example *Minilift*



① Lifting station      ② Wastewater pump      ③ Extension section (Art. # 32 500)

The lifting station *Minilift* is made up of a chamber for installation in the concrete slab/floor, a 300 W wastewater pump, a closed cover plate and a slotted cover. The chamber can be concreted in directly during foundation work or inserted into a recess later and then connected. Any installation depths can be realised using the extension section.



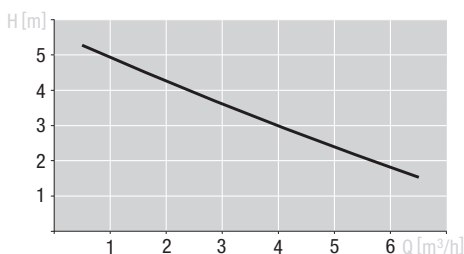
Current type	Voltage	Current	RPM	Motor protection	Plug
Alternating current	230 V	2.27 A	2800 min <sup>-1</sup>	integrated	Schuko 5 m cable

## Installation example *Minilift*



① Lifting station      ② Wastewater pump

The *Minilift* lifting station fits easily underneath any washbasin; it can also be connected to a washing machine, shower or other inlets. The station is equipped with a 300 W wastewater pump with a float control. The pressure pipe can be a PVC pipe Ø 40 mm. It is also possible using a screw connection 1 1/2 inch to connect the pressure pipe to the lifting station.



Current type	Voltage	Current	RPM	Motor protection	Plug
Alternating current	230 V	2.27 A	2800 min <sup>-1</sup>	integrated	Schuko 5 m cable

## Professional advantages

- **Chamber ready to be installed**, recessed installation in the concrete slab/floor possible with extension section (Art. # 32 500).
- **Integrated drain function** to drain surface water. Continual drainage even in the event of incoming flood water or a pipe burst.
- **Tool-free pump removal**  
The "one-hand snap closure" feature means that no tools are required to remove the pump for cleaning and maintenance.

## Professional advantages

- **Space-saving**  
The compact dimensions of the *Minilift* lifting station allow problem-free installation under a standard sink.
- **Tool-free pump removal**  
The "one-hand snap closure" feature means that no tools are required to remove the pump for cleaning and maintenance.
- **Connection of further inlets**  
Alongside the standard inlet in the cover, inlets can be attached at the side through the pre-scored areas.
- **Ventilation**  
No further ventilation pipes are required thanks to the integrated activated carbon filter.



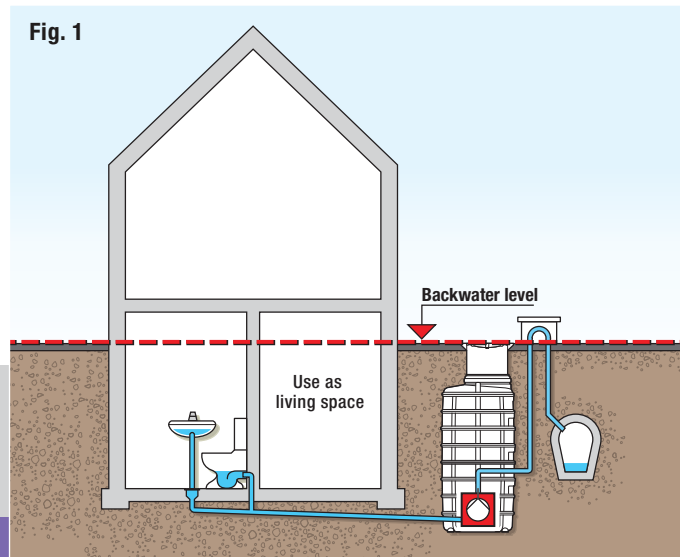
Aqualift S		Accessories	
Illustration and dimensioned drawing	Article description	Outer diameter Ø (mm)	Article #
	<p><b>Cover plate, surface water tight</b> Class A 15 With drain Ø 75, incl. gasket</p> <p><input type="checkbox"/> <b>recessed for on-site tiling, grey,</b> for tile thicknesses of 18 mm</p> <p>for article numbers: 28 500, 28 550-C, 28 530-C</p>	-	<b>83 055</b>
	<p><b>Odour trap</b> 50 mm seal water height For cover plate Art. # 83 055. Ventilation always required when in use!</p> <p>for article numbers: 28 500, 28 550-C, 28 530-C</p>	-	<b>47 200</b>
<p>For models made on or after Jan 2011</p> 	<p><b>Cover plate, surface water tight</b> Class A 15 With drain Ø 75, includes <b>Multistop</b> odour, foam, rodent and insect stop incl. gasket</p>	-	<b>83 045</b>
	<p><b>1 recessed for on-site tiling, grey,</b> for tile thicknesses of 18 mm</p> <p><b>2 with integrated grating, black</b></p> <p>for article numbers: 28 500, 28 550-C, 28 530-C</p>	-	<b>83 046</b>
	<p><b>Hair filter</b> made of polymer for article numbers: 83 045 and 83 046</p>	-	<b>43 700</b>
	<p><b>Upper section</b> made of polymer, max. extension 180 mm, height adjustable for article numbers: 28 500, 28 550-C, 28 530-C</p>	-	<b>83 061</b>
	<p><b>Cover plate, surface water tight</b> Class A 15 made of polymer, incl. gasket Art. # 173-145</p> <p><input type="checkbox"/> <b>black</b> Ventilation always required when in use!</p>	-	<b>83 050</b>
	<p><input type="checkbox"/> <b>recessed for on-site tiling, grey,</b> for tile thicknesses of 18 mm Ventilation always required when in use!</p>	-	<b>83 052</b>
	<p><input type="checkbox"/> <b>with integrated grating, black</b></p> <p>for article numbers: 28 500, 28 550-C, 28 530-C</p>	-	<b>83 053</b>
<p><b>NEW</b></p> 	<p><b>Extension section with centre flange</b> with elastomer sealing sheet made of NK/SBR Ø 800 mm, incl. screws for article numbers: 28 500, 28 550-C, 28 530-C</p>	-	<b>83 075</b>
	<p><b>Extension section with flange and counter flange</b> for connection to an on-site sealing sheet made of polymer, incl. screws max. extension 140 mm</p> <p>for article numbers: 28 500, 28 550-C, 28 530-C</p>	-	<b>83 073</b>
<p>When multiple extension sections are used make sure that access to valve is still possible!</p> 	<p><b>Extension section</b> made of polymer, max. extension 180 mm, incl. gasket for article numbers: 28 500, 28 550-C, 28 530-C</p> <p>When multiple extension sections are used make sure that access is still possible!</p>	-	<b>83 070</b>

Aqualift S / Minilift			Accessories
Illustration and dimensioned drawing	Article description	Outer diameter Ø (mm)	Article #
 <p>Waterproof concrete installation tested by MFPA Leipzig UB 5.1/11-452-1</p>	<p><b>Gasket set for installation in waterproof concrete</b></p> <p>Consisting of:  <b>Counter flange</b> made of polymer, incl. screws,  <b>elastomer waterproof membrane</b>                      in NK/SBR Ø 800 mm</p> <p>for article numbers: 28 500, 28 550-C, 28 530-C</p>	-	<b>83 023</b>
	<p><b>Cover plate Class A 15</b></p> <p><input type="checkbox"/> grey  <input type="checkbox"/> black</p> <p>for article numbers: 28 570</p>	-	<b>30 003 W</b> <b>30 003 S</b>
	<p><b>Cover with grating Class A 15</b></p> <p><input type="checkbox"/> grey  <input type="checkbox"/> black</p> <p>for article numbers: 28 570</p>	-	<b>30 001 W</b> <b>30 001 S</b>
	<p><b>Extension section</b> made of polymer</p> <p>Height = 220 mm for deep installation</p> <p>for article numbers: 28 570</p>	-	<b>32 500</b>
	<p><b>Alarm</b></p> <p><input type="checkbox"/> with electrode probe  <input type="checkbox"/> with optical probe</p> <p>for article numbers: 28 500</p>	-	<b>20 220</b> <b>20 221</b>
	<p><b>Audible alarm</b></p> <p><input type="checkbox"/> 20 m cable length</p> <p>suitable for all control units with SDS function:  <b>Aqualift S Tronic</b></p>	-	<b>20 162</b>
	<p><b>Potential-free contact</b></p> <p>suitable for all control units with SDS function:  <b>Aqualift S Tronic</b></p>	-	<b>80 072</b>
	<p><b>Pressure pipe set</b></p> <p>incl. 5 m pressure pipe hose Ø 40</p> <p>for article numbers: 28 500, 28 550-C, 28 530-C</p>	Ø 40	<b>28 040</b>
	<p><b>Hole saw Ø 50, 75, 110</b></p> <p>(Saw blade holder Ø = 145 mm)</p>	-	<b>50 101</b>
	<p><b>Hole saw Ø 50, 75, 110, 125 and 160</b></p> <p>(Saw blade holder Ø = 190 mm)</p>	-	<b>50 100</b>
	<p><b>Pipe sealing gasket (EPDM)</b></p> <p>Use KESSEL hole saw when drilling.</p> <p>for article numbers:                      28 500, 28 550-C, 28 530-C, 28 560, 28 541-C</p>	Ø 50 Ø 75 Ø 110 Ø 125 Ø 160	<b>850 114</b> <b>850 116</b> <b>850 117</b> <b>850 118</b> <b>850 119</b>
	<p><b>Cable extension set (for probe)</b> 10 m cable length</p>	-	<b>80 889</b>
	<p><b>Cable extension set (for pump)</b> 10 m cable length</p> <p><b>Note: Cable extensions Aqualift S</b></p> <p>Article # 28 550: 1 x optical probe, 1 x pump                      Article # 28 530: 1 x optical probe, 2 x pump                      Article # 28 541: 1 x optical probe, 2 x pump</p>	-	<b>80 891</b>



**SmartSelect** simply makes planning easier - calculation tool for lifting stations at [smartselect.kessel.com](http://smartselect.kessel.com)

# Pumping stations for underground installation



Lifting station outside the building in the KESSEL system chamber

## SYSTEM ADVANTAGES / INSTALLATION

### CONVENIENCE

Expensive living or useful space is not lost. No pump noises in the building. No odour pollution and soiling in the building (Fig. 1).

### SAFETY

High pumping volume and additional reserve volume if the system should fail e.g. in the event of a power cut. 20-year guarantee for PE material.



### CONTROL UNITS

Plug-and-play control units with self-diagnosis system SDS and monthly self-test. Comfort version with multi-line display for operating state and maintenance instructions (Fig. 2).

### INSTALLATION

Straightforward installation thanks to low weight of the individual chamber parts with safe fastening technology (Fig. 3) and variable upper section for adaptation to the ground level (Fig. 4).



Installing lifting stations within the home often wastes valuable living/storage space as well as potentially causing nuisance operational noise. New solutions are now available giving the home/building owner decisive advantages.







Chamber system Ø 1000 mm

### Aqualift F XL

for wastewater with or without sewage



Chamber systems Ø 600 / 800 / 1000 mm

### Aqualift F

for wastewater with or without sewage



Chamber systems Ø 600 / 1000 mm

### Aqualift S

for wastewater without sewage

## SELECTION CRITERIA

### LIFTING / PUMPING STATIONS

	<b>Aqualift F XL</b> Ø 1000 mm	<b>Aqualift F</b> Ø 600 mm	<b>Aqualift F</b> Ø 800/1000 mm	<b>Aqualift F</b> Ø 1000 mm	<b>Aqualift S</b> Ø 600 mm	<b>Aqualift S</b> Ø 1000 mm
Wastewater	with sewage	with sewage	with sewage	with sewage	without sewage	without sewage
Pump	SPF 1400 - 4500	SPZ 1000	AP 501	TPF	KTP 500 / GTF 1000	KTP 500 / GTF 1000
Power (P2)	1.1 - 3.7 kW	0.6 kW	0.75 kW	1.3 / 1.9 kW	0.3 / 0.7 kW	0.3 / 0.7 kW
Pumping height	7 / 20 m	9 m	11 m	15 / 30 m	7 / 9 m	7 / 9 m
Pressure pipe connection Ø	90 mm	40 mm	63 / 90 mm	63 / 90 mm	40 mm	40 mm
Installation depth	800 - 5000 mm	800 - 2250 mm	1480 - 3130 mm	1630 - 5130 mm	800 - 2250 mm	1630 - 5130 mm
ATEX*	-	-	-	✓	-	-
Products see page	110 - 115	116 - 117	118 - 119	120 - 121	122 - 123	124 - 125

\* The product is suitable for installation in potentially explosive atmospheres





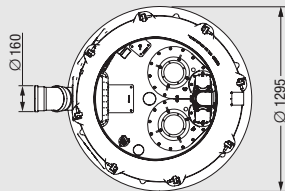
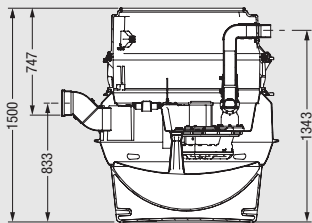


**Aqualift F XL for minimum installation depth**

**Products**

Illustration and dimensioned drawing	Article description	Voltage	Pump SPF	Article #
--------------------------------------	---------------------	---------	----------	-----------

**NEW**



Approval pending

**Engineering systems base**  
 with welded on chamber ring and tapered section  $\varnothing$  800 mm for minimum installation depth  
**Aqualift F XL Mono / Duo pumping station**

for wastewater with sewage and wastewater without sewage

**Tank volume approx. 335 liter**  
**Pumping volume approx. 160 liter**

**For installation in a concrete slab or outdoor underground installation in combination with an upper section**

**Handles groundwater depth up to 3000 mm**

Inlet  $\varnothing$  160 mm / pressure pipe connection  $\varnothing$  80 mm

**1 Mono version with one SPF pump with Comfort control unit**  
 including backflow preventer and closure valve on pressure pipe side

**2 Duo version with two SPF pumps with Comfort control unit**  
 including backflow preventer and closure valve on pressure pipe side

Welded PE pipe is to be used for the pressure pipe

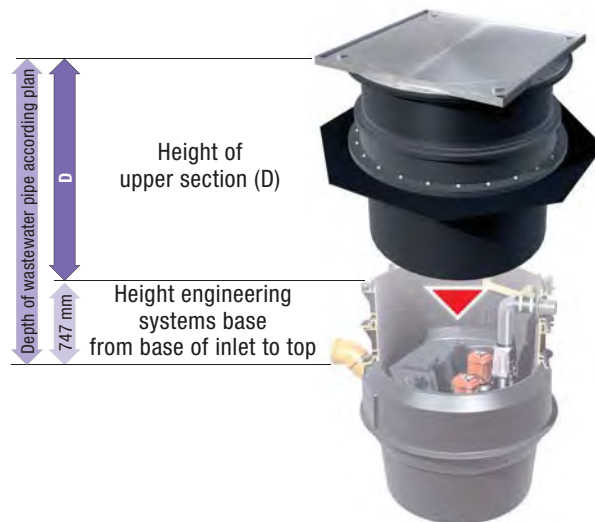
**See below for upper sections / covers required**

**Mono versions**

<b>1</b>	230 V	1400-S3	<b>874 20 12</b>
	400 V	1500-S3	<b>874 20 13</b>
	400 V	3000-S3	<b>874 20 14</b>
	400 V	4500-S3	<b>874 20 15</b>

**Duo versions**

<b>2</b>	230 V	1400-S3	<b>874 20 16</b>
	400 V	1500-S3	<b>874 20 17</b>
	400 V	3000-S3	<b>874 20 18</b>
	400 V	4500-S3	<b>874 20 19</b>
	230 V	1400-S1	<b>874 20 20</b>
	400 V	1500-S1	<b>874 20 21</b>
	400 V	3000-S1	<b>874 20 22</b>
	400 V	4500-S1	<b>874 20 23</b>



Lifting stations

3



**SmartSelect** simply makes planning easier - calculation tool for lifting stations at [smartselect.kessel.com](http://smartselect.kessel.com)

**Illustration**

**Article description**

**Type**

**Article #**



**To be ordered separately:**  
**Upper sections  $\varnothing$  800 mm made of plastic with covers:**

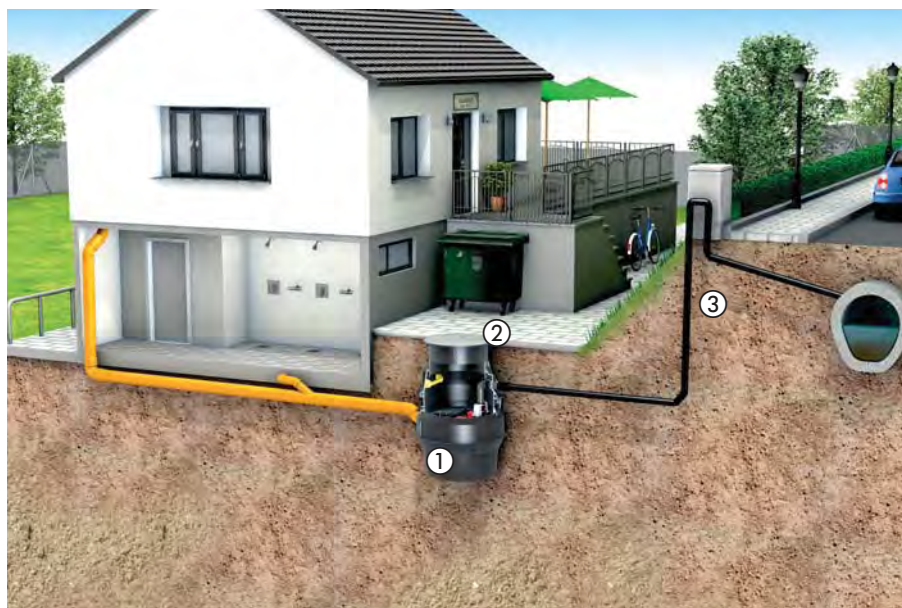
- made of stainless steel, square, class A/L 15
- 1 - tileable** D: min. 65 - max. 314 mm
- 2 - tileable** D: min. 282 - max. 531 mm
- 3 - non-tileable** D: min. 50 - max. 299 mm
- 4 - non-tileable** D: min. 267 - max. 516 mm Slip-resistant

- made of stainless steel, square
- 5 class B** D: min. 274 - max. 523 mm
- 6 class D** D: min. 274 - max. 523 mm

<b>1</b>	without watertight flange	<b>874 01 75</b>
<b>2</b>	with watertight flange	<b>874 01 76</b>
<b>3</b>	without watertight flange	<b>874 01 77</b>
<b>4</b>	with watertight flange	<b>874 01 78</b>
<b>5</b>	without watertight flange	<b>874 01 79</b>
<b>6</b>	without watertight flange	<b>874 01 80</b>



## Underground installation outside buildings



① Pumping station *Aqualift F XL*      ③ Pressure pipe  
② Engineering systems chamber

*Aqualift F XL* disposes of large quantities of wastewater and is thus suitable not only for the classical application case of residential buildings, but also for commercial and industrial applications. The pumping station is available as a Mono or Duo station for wastewater with or without sewage. The tank volume is 335 litres, the maximum pumping volume is approx. 160 litres. *Aqualift F XL* is equipped with pneumatic level measurement and an alarm sensor. The pumping station is suitable for installation in the ground or in concrete floors. The engineering chamber is suitable for installation in groundwater up to 3000 mm. It is made up of modular chamber rings which are available in heights of 250 mm and 500 mm.

## Professional advantages

- Control units with self-diagnosis system SDS for monitoring pump and battery buffering with monthly self-test. Comfort version with multi-line display for operating state and maintenance instruction as well as user-friendly menu guidance in six languages.
- Pneumatic level measurement and an alarm sensor for double safety
- With inlet 2 x 45° elbow Ø 160
- 2 additional pre-scored areas Ø 50 x Ø 200
- 100 % airtight screwed cleaning opening
- Tank floor resistant to groundwater depths up to 3000 mm
- Fitting with integrated backwater preventer and aeration device for simple bleeding of the pressure pipe
- Closure valve with safety hoop to prevent unintentional closing
- Pumps (Mono/Duo) in different capacity classes
- High pumping volume approx. 160 litres

### Pump type:

- SPF 1400-S3** 50 %
- SPF 1400-S1** for continuous duty (e.g. rainwater)

Pumping capacity: max. 38 m<sup>3</sup>/h  
Pumping height: max. 7 m

- SPF 1500-S3** 50 %
- SPF 1500-S1** for continuous duty (e.g. rainwater)

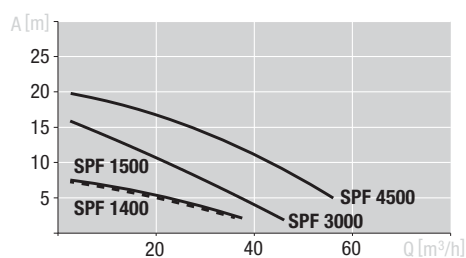
Pumping capacity: max. 40 m<sup>3</sup>/h  
Pumping height: max. 8 m

- SPF 3000-S3** 50 %
- SPF 3000-S1** for continuous duty (e.g. rainwater)

Pumping capacity: max. 47 m<sup>3</sup>/h  
Pumping height: max. 16 m

- SPF 4500-S3** 50 %
- SPF 4500-S1** for continuous duty (e.g. rainwater)

Pumping capacity: max. 55 m<sup>3</sup>/h  
Pumping height: max. 20 m





## Aqualift F XL for installation depth up to 5 m

Products

Illustration and dimensioned drawing

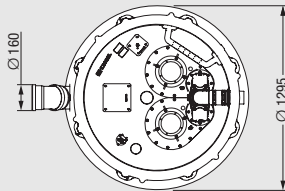
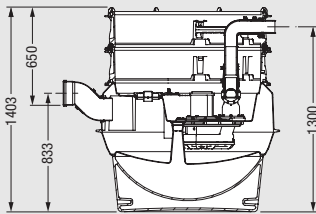
Article description

Voltage

Pump SPF

Article #

**NEW**



Approval pending

### Engineering systems base

- with welded on chamber ring for installation depth up to 5 m  
**Aqualift F XL Mono / Duo pumping station**

for wastewater with sewage and wastewater without sewage

Tank volume approx. 335 liter  
Pumping volume approx. 160 liter

For installation in a concrete slab and for outdoor underground installation in combination with system chamber

Handles groundwater depth up to 3000 mm

Inlet  $\varnothing$  160 / discharge outlet  $\varnothing$  80 mm

- 1 Mono version with one SPF pump with Comfort control unit**  
including backflow preventer closure valve on pressure pipe side

- 2 Duo version with two SPF pumps with Comfort control unit**  
including backflow preventer and closure valve on pressure pipe side

Welded PE pipe is to be used for the pressure pipe

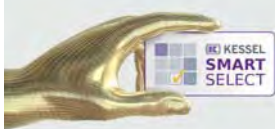
See below for details of system chamber required

### Mono versions

<b>1</b>	230 V	1400-S3	<b>874 20 00</b>
	400 V	1500-S3	<b>874 20 01</b>
	400 V	3000-S3	<b>874 20 02</b>
	400 V	4500-S3	<b>874 20 03</b>

### Duo versions

<b>2</b>	230 V	1400-S3	<b>874 20 04</b>
	400 V	1500-S3	<b>874 20 05</b>
	400 V	3000-S3	<b>874 20 06</b>
	400 V	4500-S3	<b>874 20 07</b>
	230 V	1400-S1	<b>874 20 08</b>
	400 V	1500-S1	<b>874 20 09</b>
	400 V	3000-S1	<b>874 20 10</b>
	400 V	4500-S1	<b>874 20 11</b>



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### To be ordered separately:

#### System chambers

- for installation in the ground  
(For order items see page 114)
- for installation in a concrete slab  
(For order items see page 115)

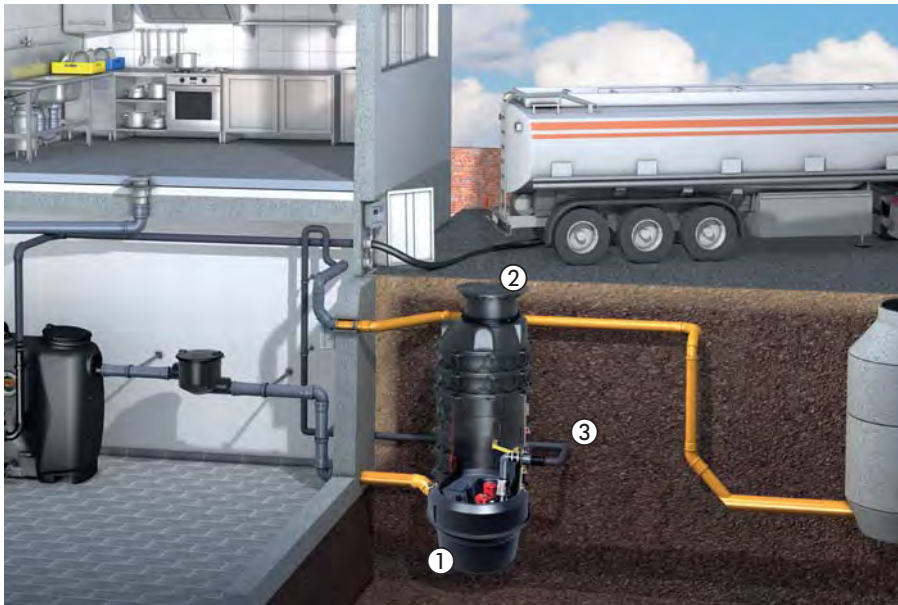
Approval Z-42.1-527

## Underground installation





## Underground installation outside buildings



① Pumping station  
② Engineering systems chamber  
③ Pressure pipe

*Aqualift F XL* disposes of large quantities of wastewater and is thus suitable not only for the classical application case of residential buildings, but also for commercial and industrial applications. The pumping station is available as a Mono or Duo station for wastewater with or without sewage. The tank volume is 335 litres, the maximum pumping volume is approx. 160 litres. *Aqualift F XL* is equipped with pneumatic level measurement and an alarm sensor. The pumping station is suitable for installation in the ground or in concrete floors. The engineering chamber is suitable for installation in groundwater up to 3000 mm. It is made up of modular chamber rings which are available in heights of 250 mm and 500 mm.

## Professional advantages

- Control units with self-diagnosis system SDS for monitoring pump and battery buffering with monthly self-test. Comfort version with multi-line display for operating state and maintenance instruction as well as user-friendly menu guidance in six languages.
- Pneumatic level measurement and an alarm sensor for double safety
- With inlet 2 x 45° elbow Ø 160
- 2 additional pre-scored areas Ø 50 x Ø 200
- 100 % airtight screwed cleaning opening
- Tank floor resistant to groundwater depths up to 3000 mm
- Fitting with integrated backwater preventer and aeration device for simple bleeding of the pressure pipe
- Closure valve with safety hoop to prevent unintentional closing
- Pumps (Mono/Duo) in different capacity classes
- High pumping volume approx. 160 litres

### Pump type:

- SPF 1400-S3** 50 %
- SPF 1400-S1** for continuous duty (e.g. rainwater)

Pumping capacity: max. 38 m<sup>3</sup>/h  
Pumping height: max. 7 m

- SPF 1500-S3** 50 %
- SPF 1500-S1** for continuous duty (e.g. rainwater)

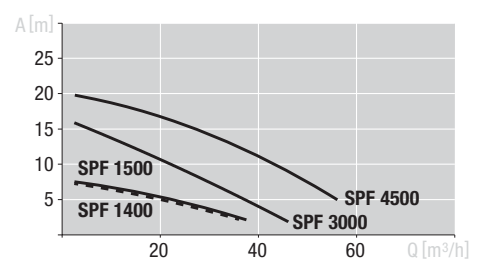
Pumping capacity: max. 40 m<sup>3</sup>/h  
Pumping height: max. 8 m

- SPF 3000-S3** 50 %
- SPF 3000-S1** for continuous duty (e.g. rainwater)

Pumping capacity: max. 47 m<sup>3</sup>/h  
Pumping height: max. 16 m

- SPF 4500-S3** 50 %
- SPF 4500-S1** for continuous duty (e.g. rainwater)

Pumping capacity: max. 55 m<sup>3</sup>/h  
Pumping height: max. 20 m

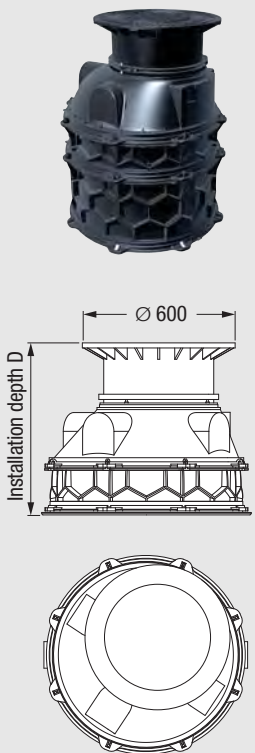
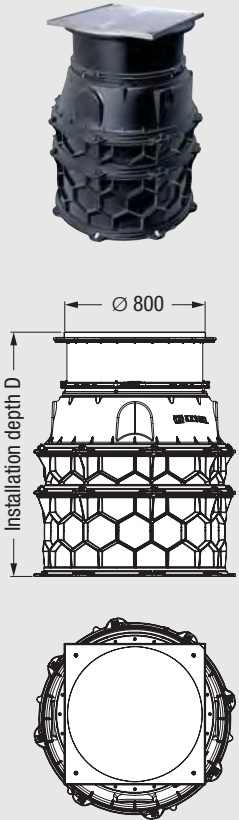




# Pumping stations for wastewater with or without sewage

## Engineering systems chamber $\varnothing$ 1000 mm for outdoor underground installation

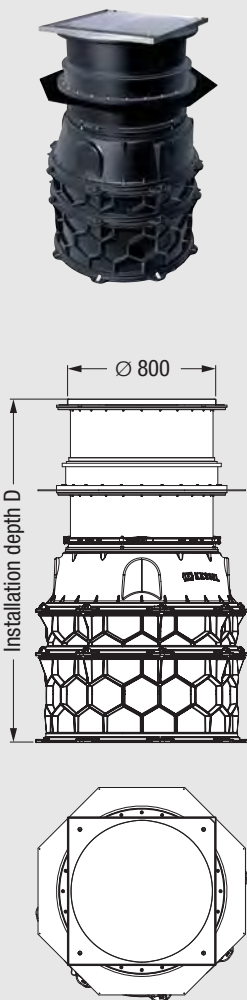
## Products

Illustration and dimensioned drawing	Article description	Installation depth mm	Article #
<p><b>NEW</b></p> 	<p><b>Engineering systems chamber for combination with <i>Aqualift F XL</i> systems base for outdoor underground installation</b></p> <p>made of polyethylene</p> <p><input type="checkbox"/> with access opening <math>\varnothing</math> 600 mm</p> <hr/> <p><b>Upper section with cover, round</b></p> <p><b>1</b> made of cast iron, class A/B</p> <p><b>2</b> made of cast iron, class D</p> <p><input type="checkbox"/> with access opening <math>\varnothing</math> 800 mm</p> <hr/> <p><b>Upper section with cover, round</b></p> <p><b>3</b> made of stainless steel, class K 3</p> <div style="border: 1px solid black; border-radius: 15px; padding: 5px; margin-top: 10px;"> <p>Upper sections for access openings <math>\varnothing</math> 800 mm with class B / D covers and other installation depths on request</p> </div> <p><b>According to EN 13598 Part 2 Approval Z-42.1-527</b></p>	<p><b>1</b></p> <p>D 4: 1130 - 1379 D 5: 1380 - 1629 D 6: 1630 - 1879 D 7: 1880 - 2129 D 8: 2130 - 2379 D 9: 2380 - 2629 D 10: 2630 - 2879 D 11: 2880 - 3129</p> <p><b>2</b></p> <p>D 4: 1130 - 1379 D 5: 1380 - 1629 D 6: 1630 - 1879 D 7: 1880 - 2129 D 8: 2130 - 2379 D 9: 2380 - 2629 D 10: 2630 - 2879 D 11: 2880 - 3129</p> <p><b>3</b></p> <p>D 1: 375 - 624 D 2: 625 - 874 D 3: 875 - 1124 D 4: 1125 - 1374 D 5: 1375 - 1624 D 6: 1625 - 1874 D 7: 1875 - 2124 D 8: 2125 - 2374 D 9: 2375 - 2624 D 10: 2625 - 2874 D 11: 2875 - 3124</p>	<p>874 00 18 874 00 24 874 00 30 874 00 36 874 00 42 874 00 48 874 00 54 874 00 60</p> <p>874 00 19 874 00 25 874 00 31 874 00 37 874 00 43 874 00 49 874 00 55 874 00 61</p> <p>874 01 22 874 01 23 874 01 24 874 01 25 874 01 26 874 01 27 874 01 28 874 01 29 874 01 30 874 01 31 874 01 32</p>
	<p><b>Engineering systems chamber for combination with <i>Aqualift F XL</i> systems base for outdoor underground installation</b></p> <p>made of polyethylene</p> <p><input type="checkbox"/> with access opening <math>\varnothing</math> 800 mm</p> <hr/> <p><b>Upper section with cover, square</b></p> <p><b>1</b> made of stainless steel, class A/L 15, non-tileable anti-slip</p> <p><b>2</b> made of stainless steel, class A/L 15, tileable</p> <p><b>Covers resistant to surface water</b></p> <p><b>Handles groundwater depth up to 3000 mm</b></p> <p><b>Delivered as individual elements</b></p> <p><b>Removable access aid art. no. 860 126 on request</b></p> <div style="border: 1px solid black; border-radius: 15px; padding: 5px; margin-top: 10px;"> <p>Upper sections for access openings <math>\varnothing</math> 800 mm with class B / D covers and other installation depths on request</p> </div> <p><b>According to EN 13598 Part 2 Approval Z-42.1-527</b></p>	<p><b>1</b></p> <p>D 1: 396 - 645 D 2: 646 - 895 D 3: 896 - 1145 D 4: 1146 - 1395 D 5: 1396 - 1645 D 6: 1646 - 1895 D 7: 1896 - 2145 D 8: 2146 - 2395 D 9: 2396 - 2645 D 10: 2646 - 2895 D 11: 2896 - 3145</p> <p><b>2</b></p> <p>D 1: 411 - 660 D 2: 661 - 910 D 3: 911 - 1160 D 4: 1161 - 1410 D 5: 1411 - 1660 D 6: 1661 - 1910 D 7: 1911 - 2160 D 8: 2161 - 2410 D 9: 2411 - 2660 D 10: 2661 - 2910 D 11: 2911 - 3160</p>	<p>874 00 04 874 00 10 874 00 16 874 00 22 874 00 28 874 00 34 874 00 40 874 00 46 874 00 52 874 00 58 874 00 64</p> <p>874 00 02 874 00 08 874 00 14 874 00 20 874 00 26 874 00 32 874 00 38 874 00 44 874 00 50 874 00 56 874 00 62</p>

# Pumping stations for wastewater with or without sewage

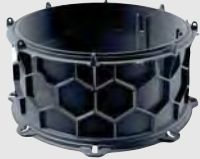



## Engineering systems chamber Ø 1000 mm for installation in a concrete slab

## Products

Illustration and dimensioned drawing	Article description	Installation depth mm	Article #
<p><b>NEW</b></p> 	<p><b>Engineering systems base for combination with the Aqualift F XL systems base for installation in the concrete slab made of polyethylene</b>  <b>Waterproof concrete version with flange and counter flange</b></p> <p><input type="checkbox"/> with access opening Ø 800 mm</p> <p><b>1</b> Upper section with cover, square made of stainless steel, class A/L 15  <b>Tileable cover</b></p> <p><b>2</b> Upper section with cover, square made of stainless steel, class A/L 15, slip-resistant  <b>Non-tileable cover</b></p> <p style="border: 1px solid black; border-radius: 15px; padding: 5px; display: inline-block;">Upper sections with covers class B / D on request</p> <p><b>Handles groundwater depth up to 3000 mm</b></p> <p><b>Delivered as individual elements</b></p> <p><b>Mobile access aid Art. No. 860 126 on request</b></p> <p><b>According to EN 13598 Part 2 Approval Z-42.1-527</b></p>	<p><b>1</b></p> <p>D 1: 628 - 877  D 2: 878 - 1127  D 3: 1128 - 1377  D 4: 1378 - 1627  D 5: 1628 - 1877</p> <p><b>2</b></p> <p>D 1: 613 - 862  D 2: 863 - 1112  D 3: 1113 - 1362  D 4: 1363 - 1612  D 5: 1613 - 1862</p>	<p><b>874 00 03</b>  <b>874 00 09</b>  <b>874 00 15</b>  <b>874 00 21</b>  <b>874 00 27</b></p> <p><b>874 00 05</b>  <b>874 00 11</b>  <b>874 00 17</b>  <b>874 00 23</b>  <b>874 00 29</b></p>

## Engineering systems chamber Ø 1000 mm

## Accessories

Illustration	Article description	Outer diameter Ø (mm)	Article #
	<p><b>Extension section</b>  for engineering systems chamber, without gasket and connecting wedges, H = 500 mm</p> <p><b>Access aid, 2 pieces needed</b></p>	<p>-</p> <p>-</p>	<p><b>680 371</b></p> <p><b>680 376</b></p>
	<p><b>Extension section</b>  for engineering systems chamber, without gasket and connecting wedges, H = 250 mm</p> <p><b>Access aid, 1 piece needed</b></p>	<p>-</p> <p>-</p>	<p><b>680 370</b></p> <p><b>680 376</b></p>
	<p><b>Set of connecting wedges</b>  10 pieces</p>	<p>-</p>	<p><b>680 373</b></p>
	<p><b>Profiled gasket</b></p>	<p>-</p>	<p><b>680 125</b></p>



**Aqualift F Ø 600**

**Products**

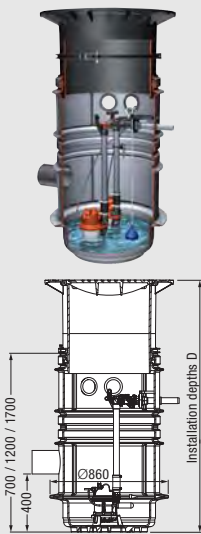
Illustration and dimensioned drawing

Article description

Installation depths

Article # Class B

Article # Class D



**Installation depths (D):**

<b>D 1</b>	800 - 1250 mm
<b>D 2</b>	1300 - 1750 mm
<b>D 3</b>	1800 - 2250 mm

**Pumping station Aqualift F with macerating / cutting pumps in inspection chamber system Ø 600 in PE-LLD Single station/twin station**

for wastewater with or without sewage

**For underground installation**

**1** SPZ 1000 float switch controlled, removable pump, plug in ready (230 V / 50Hz)

**2** SPZ 1000 pressure sensor controlled, removable pump, IP 54 SDS control unit (230 V / 50Hz)

**3** SPZ 1000 pressure sensor controlled, removable twin pumps, IP 54 SDS control unit (230 V / 50Hz)

Cover plate class A/B (Version B)

Cover plate class D (Version D)

Resistant to aggressive media, upper section made of polymer, vertically adjustable, cover class A/B, D in cast iron according to EN 124.

Groundwater resistant. Inlet Ø 160, connection for pipe gasket for Ø 110 according to EN 1401 and EN 12666-1 - each for ventilation or conduit pipe.

**Note:** Consider frost free depth of pressure pipe.

Pressure pipe Ø 40 mm outside diameter for PVC glue connection, with integrated non-return flap.

Current: 230 V ~ 50 Hz. Power cable length: 10 m.

For installations without explosion proof requirements

**Handles groundwater depths up to 2000 mm**

**1** D1:  
D2:  
D3:

**827 710 B**  
**827 720 B**  
**827 730 B**

**827 710 D**  
**827 720 D**  
**827 730 D**

**2** D1:  
D2:  
D3:

**827 711 B**  
**827 721 B**  
**827 731 B**

**827 711 D**  
**827 721 D**  
**827 731 D**

**3** D1:  
D2:  
D3:

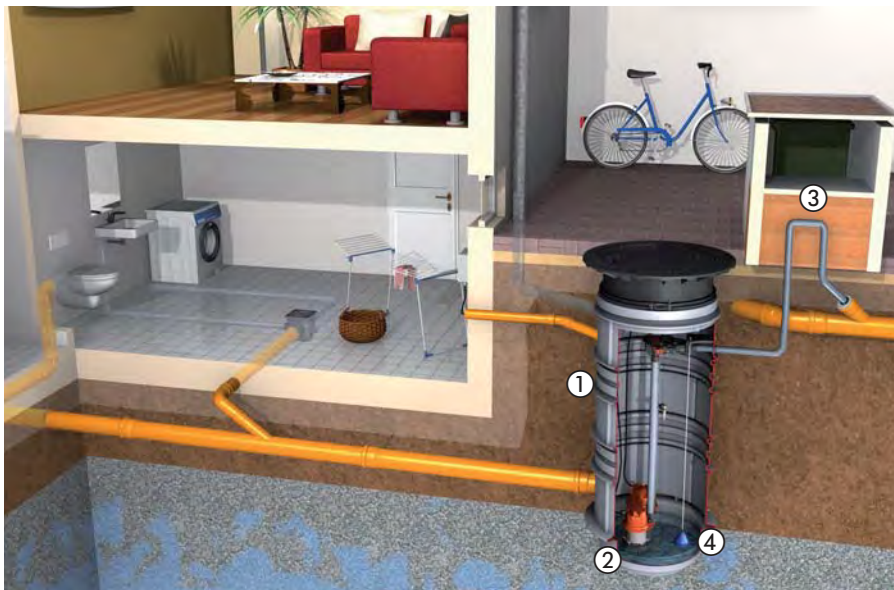
**826 711 B**  
**826 721 B**  
**826 731 B**

**826 711 D**  
**826 721 D**  
**826 731 D**

EN 12050 (max 2 WC connections)

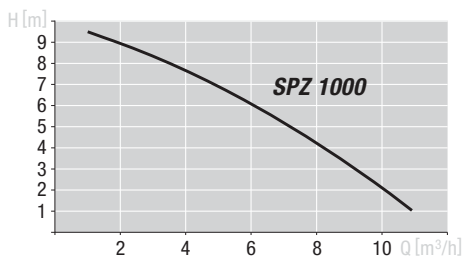
## Pumping stations for wastewater with or without sewage

### Installation example pumping station *Aqualift F* Ø 600



- ① Pumping station
- ② Pump
- ③ Pressure pipe
- ④ Pressure sensor

The pumping station *Aqualift F* Ø 600 can be used for the draining of wastewater with or without sewage below the backwater level, as backwater protection for separator systems and for draining basement apartments or driveways. The wastewater flows with natural gradient to the collecting chamber and is pumped by the integrated pumps *SPZ 1000* via the backwater loop to a higher-level sewage channel. The pressure pipe should always be laid frost-free. A control unit takes over the fully automatic pump control from within the building. Float switches or a pressure sensor are available as level sensors.



Type	<i>SPZ 1000</i>
Current type	Alternating current
Voltage	230 V
Current	4.9 A
Power P1/P2	1080 W / 620 W
RPM	2800 min <sup>-1</sup>
Motor protection	integrated
Operating mode	S3 - 30 %

### Professional advantages

- Inexpensive complete system
- For draining wastewater with or without sewage
- For backwater protection connected to a separator
- **Simple to assemble** with light-weight inspection chamber components and easy connection technique.
- **Quick to mount** with a high level of pre-fabrication **and easy connection** using fixed couplings for inlet and pressure pipe and bores with lip gaskets for ventilation and cable piping.
- **Variable upper section** inclinable and height adjustable from 100 to 600 mm.
- **Tool-free pump removal**  
The “one-hand snap closure” feature means that no tools are required to remove the pump for cleaning and maintenance.





**Aqualift F** Ø 800 / 1000

Products

Illustration and dimensioned drawing

Article description

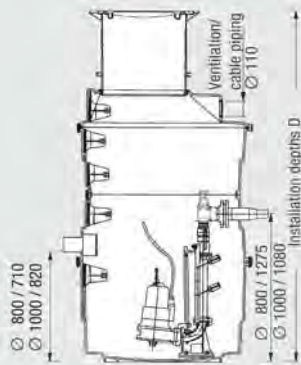
Installation depths

Voltage

Article #  
Class B

Article #  
Class D

**NEW**



Installation depths (D)	
Ø 800	
D 1	1480 - 1980 mm
D 2	1980 - 2480 mm
D 3	2480 - 2980 mm

Installation depths (D)	
Ø 1000	
D 1	1630 - 2130 mm
D 2	2130 - 2630 mm
D 3	2630 - 3130 mm

**Pumping station Aqualift F (AP 501) in Komfort inspection chamber system**  
Ø 800 / 1000 in PE-HD  
**Single station/twin station**  
for wastewater with or without sewage  
**For underground installation**

- 1 AP 501 with removable, float switch controlled pump, plug in ready (230 V power connection)**
- 2 AP 501 Tronic with removable, float switch controlled pump, 3 floats (OFF, ON, ALARM) with control unit (IP 54), operating voltage 230 or 400 V DC at 50 Hz, with potential-free contact**
- 3 AP 501 Duo with twin removable, float switch controlled pump, 4 floats (OFF, ON 1, ON 2, ALARM), with control unit (IP 54, operating voltage 230 or 400 V DC at 50 Hz, with potential-free contact**

- Cover plate class A/B (Version B)
- Cover plate class D (Version D)

**Inspection chamber system KESSEL**  
Ø 800 / 1000 in PE-HD water-tight, resistant to aggressive media, upper section made of polymer, continuous height and level adjustment, cover class A/B, D in cast iron according to EN 124. Groundwater resistant. Inlet Ø 160, connection for pipe seal for Ø 110 according to EN 1401 for ventilation pipes and cable piping respectively, pumping volume approx. 150 l

**Pressure pipe** ready mounted with backwater flap, closure valve and float switch for level control with cable length 10 m, pressure pipe connection PE-HD Ø 63 mm and Ø 90 mm.

**Submersible pump AP 501**

Single or twin submersible pump(s) 0.75 kW (without explosion protection), with non-chokable impeller to pump wastewater with or without sewage, submersible (IP 68), electrical cable length 10 m.

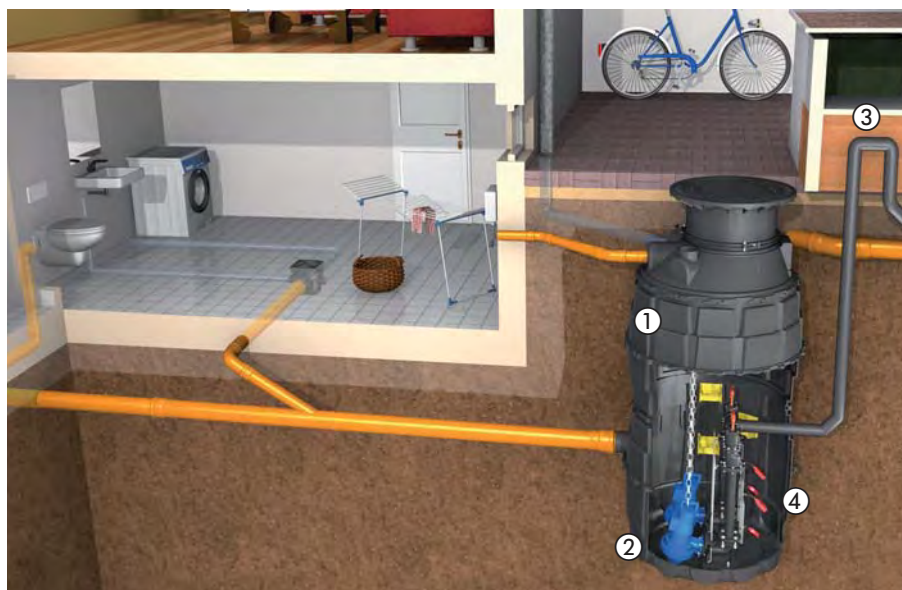
For installations without explosion proof requirements

**Handles groundwater depths up to 500 mm**

Installation depths	Voltage	Article # Class B	Article # Class D
<b>Komfort inspection chamber system Ø 800</b>			
<b>1</b> D1:	230 V	<b>800-HA1-501B</b>	<b>800-HA1-501D</b>
D2:	230 V	<b>800-HA2-501B</b>	<b>800-HA2-501D</b>
D3:	230 V	<b>800-HA3-501B</b>	<b>800-HA3-501D</b>
<b>2</b> D1:	230 V	<b>800-HA1-531B</b>	<b>800-HA1-531D</b>
D2:	230 V	<b>800-HA2-531B</b>	<b>800-HA2-531D</b>
D3:	230 V	<b>800-HA3-531B</b>	<b>800-HA3-531D</b>
D1:	400 V	<b>800-HA1-511B</b>	<b>800-HA1-511D</b>
D2:	400 V	<b>800-HA2-511B</b>	<b>800-HA2-511D</b>
D3:	400 V	<b>800-HA3-511B</b>	<b>800-HA3-511D</b>
<b>Komfort inspection chamber system Ø 1000</b>			
<b>3</b> D1:	230 V	<b>1000-HA1-541B</b>	<b>1000-HA1-541D</b>
D2:	230 V	<b>1000-HA2-541B</b>	<b>1000-HA2-541D</b>
D3:	230 V	<b>1000-HA3-541B</b>	<b>1000-HA3-541D</b>
D1:	400 V	<b>1000-HA1-521B</b>	<b>1000-HA1-521D</b>
D2:	400 V	<b>1000-HA2-521B</b>	<b>1000-HA2-521D</b>
D3:	400 V	<b>1000-HA3-521B</b>	<b>1000-HA3-521D</b>

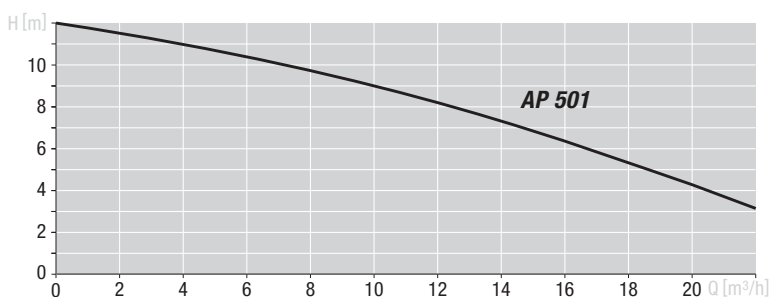
## Pumping stations for wastewater with or without sewage

### Installation example pumping station *Aqualift F* Ø 800 / 1000



- ① Pumping station                      ③ Pressure pipe  
② Pump                                      ④ Float switch

The pumping station *Aqualift F* can be used for the draining of wastewater with or without sewage below the backwater level, as backwater protection for separator systems and for draining basement apartments or driveways. The wastewater flows with natural gradient to the Komfort chamber Ø 800 or 1000 and is pumped by the integrated pumps AP 501 to a higher-level sewage channel. The pressure pipe should always be laid frost-free. A control unit takes over the fully automatic pump control from within the building. Float switches are used as level and alarm sensors.



Type	Power	Input power	Current	Voltage	Cable length	Protection
Mono, Tronic, Duo	0.75 kW	1.25 kW	6 A	230 V at 50 Hz	10 m	IP 68; without explosion protection
Tronic, Duo	0.75 kW	1.1 kW	2.8 A	400 V at 50 Hz	10 m	IP 68; without explosion protection

### Professional advantages

- Inexpensive complete system
- For draining wastewater with or without sewage. For backwater protection connected to a separator
- For draining basements, yards or driveways
- **Variable upper section** inclinable and height adjustable from 100 to 600 mm
- **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.
- **Fully automated operation** with an electrical control unit with manual, off and automatic mode, optical and audible warning and alarm notification, detailed operation and warning display, integrated pump rotation check, anti-blocking function, variable pump on and pump off settings.
- **More output**  
System with stronger pumps available on request



**Aqualift F Ø 1000**

**Products**

Illustration and dimensioned drawing

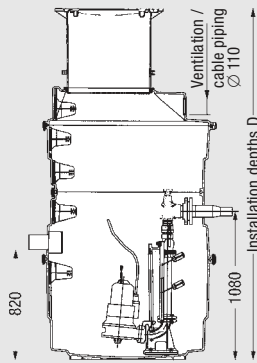
Article description

Pumping capacity

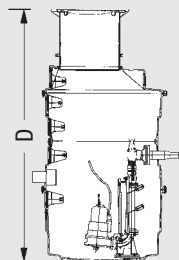
Pressure pipe\*

Article # Class B

Article # Class D



Installation depths (D):	
D 1	1630 - 2130 mm
D 2	2130 - 2630 mm
D 3	2630 - 3130 mm
D 4	3130 - 3630 mm
D 5	3630 - 4130 mm
D 6	4130 - 4630 mm
D 7	4630 - 5130 mm



**Pumping station Aqualift F in Komfort inspection chamber system Ø 1000 in PE-HD**  
**Single station/twin station**  
for wastewater with or without sewage  
**For underground installation**

**1** Single station

**2** Twin station

Cover plate class A/B (Version B)

Cover plate class D (Version D)

Including access steps, water-tight, resistant to aggressive media, upper section made of polymer, continuous height and level adjustment, cover class A/B, D in cast iron according to EN 124, inlet Ø 160, cable conduit connection Ø 110 according to EN 1401 and EN 12666-1 for ventilation pipes and cable piping respectively.  
Installation depth from 1.5 to 5 m (see table), Pumping volume approx. 180 liters.

**Pressure pipe** ready mounted with backwater flap, closure valve. Single station with three float switches, twin station with four float switches for level control with cable length 10 m, pressure pipe connection PE-HD Ø 63 and Ø 90.

**Submersible pump**

**TPF 1.3 KE / TPF 1.9 KE**  
explosion-proof, with macerating blades for pumping wastewater with or without sewage, submersible (IP 68), electrical cable length 10 m.

**Electric control unit** for fully automated pump operation, control unit is splash proof (IP 54), for wall mounting in dry, frost-free areas, PTB certification for installation in explosion risk areas, voltage 400 V at 50 Hz.

With potential-free contact.

**Handles groundwater depths up to 500 mm**  
(greater groundwater resistance on request)

**Explosive proof**

**Accessories** see page 130 - 132

\*) Ø 90 by sawing off

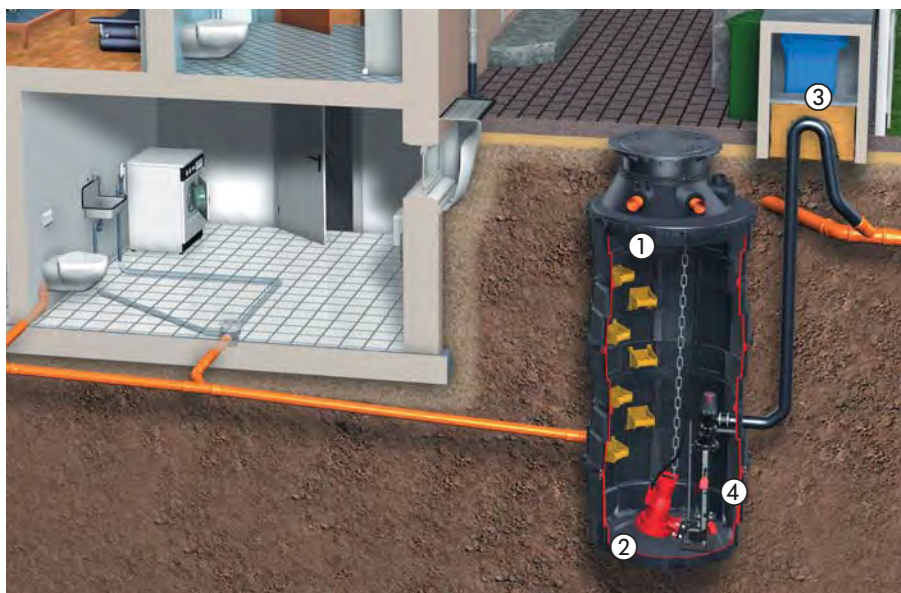
Optional  
**400 Volt Comfort control unit Art. # 860 000**

1.3 kW	D1: 63/90	865 610 B	865 610 D
1.3 kW	D2: 63/90	865 620 B	865 620 D
1.3 kW	D3: 63/90	865 630 B	865 630 D
1.3 kW	D4: 63/90	865 640 B	865 640 D
1.3 kW	D5: 63/90	865 650 B	865 650 D
1.3 kW	D6: 63/90	865 660 B	865 660 D
1.3 kW	D7: 63/90	865 670 B	865 670 D
1.9 kW	D1: 63/90	865 710 B	865 710 D
1.9 kW	D2: 63/90	865 720 B	865 720 D
1.9 kW	D3: 63/90	865 730 B	865 730 D
1.9 kW	D4: 63/90	865 740 B	865 740 D
1.9 kW	D5: 63/90	865 750 B	865 750 D
1.9 kW	D6: 63/90	865 760 B	865 760 D
1.9 kW	D7: 63/90	865 770 B	865 770 D
1.3 kW	D1: 63/90	864 610 B	864 610 D
1.3 kW	D2: 63/90	864 620 B	864 620 D
1.3 kW	D3: 63/90	864 630 B	864 630 D
1.3 kW	D4: 63/90	864 640 B	864 640 D
1.3 kW	D5: 63/90	864 650 B	864 650 D
1.3 kW	D6: 63/90	864 660 B	864 660 D
1.3 kW	D7: 63/90	864 670 B	864 670 D
1.9 kW	D1: 63/90	864 710 B	864 710 D
1.9 kW	D2: 63/90	864 720 B	864 720 D
1.9 kW	D3: 63/90	864 730 B	864 730 D
1.9 kW	D4: 63/90	864 740 B	864 740 D
1.9 kW	D5: 63/90	864 750 B	864 750 D
1.9 kW	D6: 63/90	864 760 B	864 760 D
1.9 kW	D7: 63/90	864 770 B	864 770 D



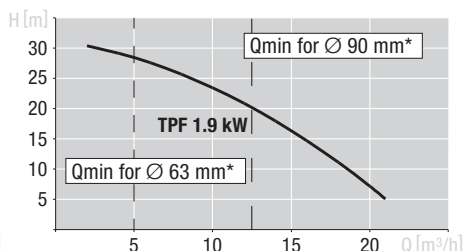
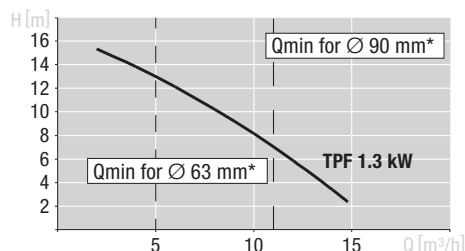
# Pumping stations for wastewater with or without sewage

## Installation example pumping station *Aqualift F* Ø 1000



- ① Pumping station
- ② Pump
- ③ Pressure pipe
- ④ Float switches


Domestic wastewater flows with natural gradient to the pumping station and is pumped by the integrated TPF macerator pump over long distances (pressure pipe) into the sewer. The pressure pipe should always be laid frost-free. A control unit takes over the fully automatic pump control from within the building. Float switches are used as level sensors. The system complies with the ATEX product directive and is suitable for installation in potentially explosive atmospheres.



\* according to EN 12056-4

Pump type	TPF 1.3 KE	Pump type	TPF 1.9 KE
Power (P2)	1.3 kW	Power (P2)	1.9 kW
Input power (P1)	1.75 kW	Input power (P1)	2.6 kW
Amperage	3.5 A	Amperage	4.5 A
Fuses	3 x 16 A surge-proof	Fuses	3 x 16 A surge-proof
Voltage	400 V at 50 HZ	Voltage	400 V at 50 HZ
Cable length	10 m Length, 7 x 1.5 mm <sup>2</sup>	Cable length	10 m Length, 7 x 1.5 mm <sup>2</sup>
Protection	IP 68 Ex-protection	Protection	IP 68 Ex-protection

## Professional advantages

- **Variable upper section**  
inclined and height adjustable from 100 to 600 mm
- **Comfort control unit (optional)**  
with mains power ON / OFF switch and multilingual digital display (EN, DE, FR, IT, PL, NL) showing current operational status, settings and logbook 
- **Simple to assemble** with light-weight inspection chamber components and easy connection technique.
- **Quick to mount** with a high level of pre-fabrication (bottom part of inspection chamber with pressure pipe) **and easy connection** using fixed couplings for inlet and pressure pipe and bores with lip gaskets for ventilation and cable piping.
- **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.
- **Fully automated operation** with an electrical control unit with manual, off and automatic mode, optical and audible warning and alarm notification, detailed operation and warning display, integrated pump rotation check, anti-blocking function, variable pump on and pump off settings.
- **Systems with macerator** - permit the realisation of smaller dimensioning of the pressure pipes and longer distances to the sewage system.
- **High pumping volume** thanks to the pump chamber.
- **Additional reserve volume** if the system should fail e.g. in the event of a power cut.
- Further inlets up to Ø 160 can be attached on site, Ø 200 or larger in the factory.
- Suitable for installation in explosion risk areas


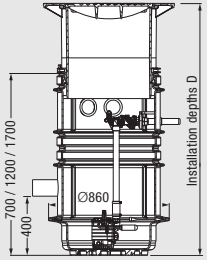







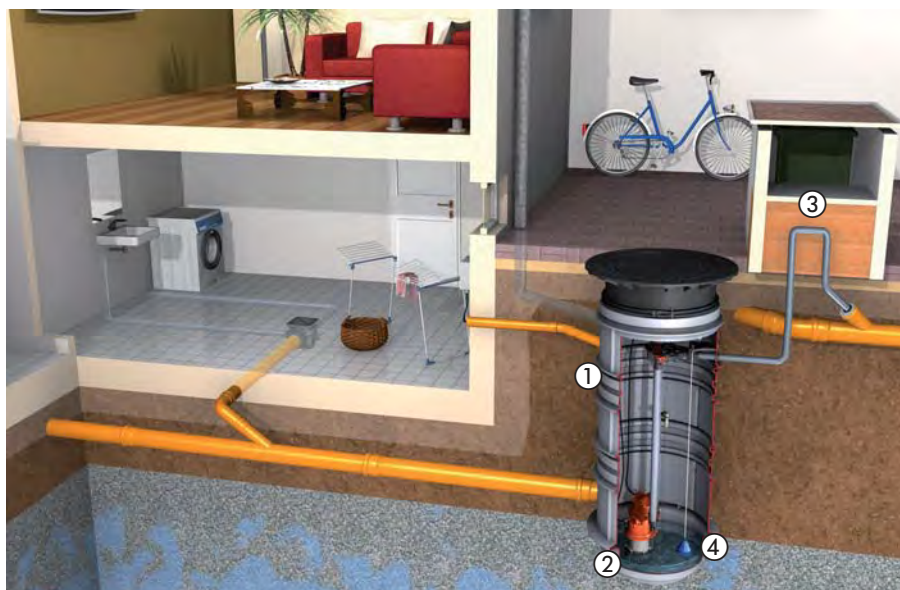
**Aqualift S Ø 600**

**Products**

Illustration and dimensioned drawing	Article description	Pump KTP / GTF	Article # Class B	Article # Class D								
  <table border="1" data-bbox="180 1070 475 1205"> <thead> <tr> <th colspan="2">Installation depths (D):</th> </tr> </thead> <tbody> <tr> <td>D 1</td> <td>800 - 1250 mm</td> </tr> <tr> <td>D 2</td> <td>1300 - 1750 mm</td> </tr> <tr> <td>D 3</td> <td>1800 - 2250 mm</td> </tr> </tbody> </table>	Installation depths (D):		D 1	800 - 1250 mm	D 2	1300 - 1750 mm	D 3	1800 - 2250 mm	<p><b>Pumping station <i>Aqualift S</i> in inspection chamber system Ø 600 in PE-LLD Single station/twin station</b> for wastewater without sewage <b>For underground installation</b></p> <p><b>1</b> <i>KTP 500/GTF 1000</i> float switch controlled removable pump for conductive or non-conductive fluids. Input power (P1): 0.48 /1.18 kW.</p> <p><b>2</b> <i>KTP 500/GTF 1000 Tronic</i> with removable, pressure sensor controlled pump for conductive or non-conductive fluids, with SDS control unit. Input power (P1): 0.48 /1.18 kW.</p> <p><b>3</b> <i>KTP 500/GTF 1000 Duo</i> with removable, pressure sensor controlled twin pumps for conductive or non-conductive fluids, with SDS control unit. Input power (P1): 2 x 0.48 /1.18 kW.</p> <p><input type="checkbox"/> Cover plate class A/B (Version B)</p> <p><input type="checkbox"/> Cover plate class D (Version D)</p> <p><b>Inspection chamber system Ø 600 in PE-LLD</b>, resistant to aggressive media, upper section made of polymer, vertically adjustable, cover class A/B, D in cast iron according to EN 124. <b>Groundwater resistant.</b> Inlet Ø 110 (<i>KTP 500</i>), Ø 160 (<i>GTF 1000</i>), connection for pipe seal for Ø 110 according to EN 1401 and EN 12666-1 - each for ventilation or cable pipe,</p> <p><b>Note:</b> Consider frost free depth of pressure pipe Pressure pipe Ø 40 mm outside diameter for PVC glue connection, with integrated non-return flap, 10 mm max solid size, Current: 230 V ~ 50 Hz. Power cable length: 10 m.</p> <p><b>Handles groundwater depths up to 2000 mm</b></p>	<p><b>1</b> D1: KTP 500 D2: KTP 500 D3: KTP 500</p> <p>D1: GTF 1000 D2: GTF 1000 D3: GTF 1000</p> <p><b>2</b> D1: KTP 500 D2: KTP 500 D3: KTP 500</p> <p>D1: GTF 1000 D2: GTF 1000 D3: GTF 1000</p> <p><b>3</b> D1: KTP 500 D2: KTP 500 D3: KTP 500</p> <p>D1: GTF 1000 D2: GTF 1000 D3: GTF 1000</p>	<p><b>825 810 B</b> <b>825 820 B</b> <b>825 830 B</b></p> <p><b>827 810 B</b> <b>827 820 B</b> <b>827 830 B</b></p> <p><b>825 811 B</b> <b>825 821 B</b> <b>825 831 B</b></p> <p><b>827 811 B</b> <b>827 821 B</b> <b>827 831 B</b></p> <p><b>824 811 B</b> <b>824 821 B</b> <b>824 831 B</b></p> <p><b>826 811 B</b> <b>826 821 B</b> <b>826 831 B</b></p>	<p><b>825 810 D</b> <b>825 820 D</b> <b>825 830 D</b></p> <p><b>827 810 D</b> <b>827 820 D</b> <b>827 830 D</b></p> <p><b>825 811 D</b> <b>825 821 D</b> <b>825 831 D</b></p> <p><b>827 811 D</b> <b>827 821 D</b> <b>827 831 D</b></p> <p><b>824 811 D</b> <b>824 821 D</b> <b>824 831 D</b></p> <p><b>826 811 D</b> <b>826 821 D</b> <b>826 831 D</b></p>
Installation depths (D):												
D 1	800 - 1250 mm											
D 2	1300 - 1750 mm											
D 3	1800 - 2250 mm											
<p> EN 12050-2</p>												

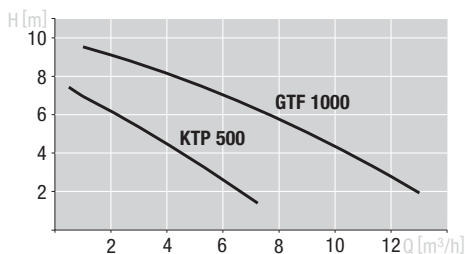
## Pumping stations for wastewater without sewage

### Installation example pumping station *Aqualift S* Ø 600



- ① Pumping station
- ② Pump
- ③ Pressure pipe
- ④ Pressure sensor

The pumping station *Aqualift S* Ø 600 can be used for the draining of wastewater without sewage below the backwater level, as backwater protection for separator systems and for draining basement apartments or driveways. The wastewater flows with natural gradient to the collecting chamber and is pumped by the integrated pumps *KTP 500* / *GTF 1000* to a higher-level sewage channel. The pressure pipe should always be laid frost-free. A control unit takes over the fully automatic pump control from within the building. Float switches or a pressure sensor are available as level sensors.



	<i>KTP 500</i>	<i>GTF 1000</i>
<b>Current type</b>	Alternating current	Alternating current
<b>Voltage</b>	230 V	230 V
<b>Current</b>	2.12 A	4.9 A
<b>Power P1/P2</b>	480 W / 310 W	1180 W / 720 W
<b>RPM</b>	2800 min <sup>-1</sup>	2800 min <sup>-1</sup>
<b>Motor protection</b>	integrated	integrated
<b>Operating mode</b>	S1	S3 - 30 %

### Professional advantages

- Inexpensive complete system
- For draining wastewater without sewage
- For backwater protection connected after a grease separator
- **Simple to assemble** with light-weight inspection chamber components and easy connection technique.
- **Quick to mount** with a high level of pre-fabrication **and easy connection** using fixed couplings for inlet and pressure pipe and bores with lip gaskets for ventilation and cable piping.
- **Variable upper section** inclinable and height adjustable from 100 to 600 mm.
- **Tool-free pump removal**  
The “one-hand snap closure” feature means that no tools are required to remove the pump for cleaning and maintenance. (see *Minilift*)



**Aqualift S Ø 1000**

**Products**

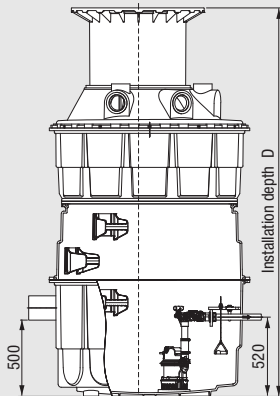
Illustration and dimensioned drawing

Article description

Pump  
KTP / GTF

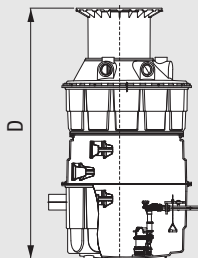
Article #  
Class B

Article #  
Class D



**Installation depths (D):**

<b>D 1</b>	1630 - 2130 mm
<b>D 2</b>	2130 - 2630 mm
<b>D 3</b>	2630 - 3130 mm
<b>D 4</b>	3130 - 3630 mm
<b>D 5</b>	3630 - 4130 mm
<b>D 6</b>	4130 - 4630 mm
<b>D 7</b>	4630 - 5130 mm



**Pumping station Aqualift S**  
**in Komfort inspection chamber system**  
Ø 1000 in PE-HD  
**Single station/twin station**  
for wastewater without sewage / rainwater  
**For underground installation**

**1** **KTP 500/GTF 1000 float switch controlled removable pump for conductive or non-conductive fluids.**  
Input power (P1): 0.48 /1.18 kW.

**2** **KTP 500/GTF 1000 Tronic with removable, pressure sensor controlled pump for conductive or non-conductive fluids, with SDS control unit.** Input power (P1): 0.48 /1.18 kW.

**3** **KTP 500/GTF 1000 Duo with removable, pressure sensor controlled twin pumps for conductive or non-conductive fluids, with SDS control unit.** Input power (P1): 2 x 0.48 /1.18 kW.

**Cover plate class A/B (Version B)**

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

**Inspection chamber system Ø 1000 in PE-HD,** including access steps, water-tight, resistant to aggressive media, upper section made of polymer, continuous height and level adjustment, cover class A/B, D in cast iron according to EN 124. Inlet Ø 110, connection drilling with gasket for Ø 110 according to EN 1401 and EN 12666-1 for ventilation pipes and cable piping respectively, Installation depth from 1.5 to 5 m (see table), Pumping volume approx. 180 liters.

Pressure pipe outlet connection: 1½ inch exterior thread, pressure pipe Ø 40 mm outside diameter for PVC glue connection, with integrated non-return flap, 10 mm max solid size. Current: 230 V ~ 50 Hz. Power cable length: 10 m.

**Handles groundwater depths up to 500 mm**  
(greater groundwater resistance on request)

<b>1</b> <b>D1:</b> KTP 500	<b>865 810 B</b>	<b>865 810 D</b>
<b>D2:</b> KTP 500	<b>865 820 B</b>	<b>865 820 D</b>
<b>D3:</b> KTP 500	<b>865 830 B</b>	<b>865 830 D</b>
<b>D4:</b> KTP 500	<b>865 840 B</b>	<b>865 840 D</b>
<b>D5:</b> KTP 500	<b>865 850 B</b>	<b>865 850 D</b>
<b>D6:</b> KTP 500	<b>865 860 B</b>	<b>865 860 D</b>
<b>D7:</b> KTP 500	<b>865 870 B</b>	<b>865 870 D</b>
<b>D1:</b> GTF 1000	<b>867 810 B</b>	<b>867 810 D</b>
<b>D2:</b> GTF 1000	<b>867 820 B</b>	<b>867 820 D</b>
<b>D3:</b> GTF 1000	<b>867 830 B</b>	<b>867 830 D</b>
<b>D4:</b> GTF 1000	<b>867 840 B</b>	<b>867 840 D</b>
<b>D5:</b> GTF 1000	<b>867 850 B</b>	<b>867 850 D</b>
<b>D6:</b> GTF 1000	<b>867 860 B</b>	<b>867 860 D</b>
<b>D7:</b> GTF 1000	<b>867 870 B</b>	<b>867 870 D</b>
<b>2</b> <b>D1:</b> KTP 500	<b>865 811 B</b>	<b>865 811 D</b>
<b>D2:</b> KTP 500	<b>865 821 B</b>	<b>865 821 D</b>
<b>D3:</b> KTP 500	<b>865 831 B</b>	<b>865 831 D</b>
<b>D4:</b> KTP 500	<b>865 841 B</b>	<b>865 841 D</b>
<b>D5:</b> KTP 500	<b>865 851 B</b>	<b>865 851 D</b>
<b>D6:</b> KTP 500	<b>865 861 B</b>	<b>865 861 D</b>
<b>D7:</b> KTP 500	<b>865 871 B</b>	<b>865 871 D</b>
<b>D1:</b> GTF 1000	<b>867 811 B</b>	<b>867 811 D</b>
<b>D2:</b> GTF 1000	<b>867 821 B</b>	<b>867 821 D</b>
<b>D3:</b> GTF 1000	<b>867 831 B</b>	<b>867 831 D</b>
<b>D4:</b> GTF 1000	<b>867 841 B</b>	<b>867 841 D</b>
<b>D5:</b> GTF 1000	<b>867 851 B</b>	<b>867 851 D</b>
<b>D6:</b> GTF 1000	<b>867 861 B</b>	<b>867 861 D</b>
<b>D7:</b> GTF 1000	<b>867 871 B</b>	<b>867 871 D</b>
<b>3</b> <b>D1:</b> KTP 500	<b>864 811 B</b>	<b>864 811 D</b>
<b>D2:</b> KTP 500	<b>864 821 B</b>	<b>864 821 D</b>
<b>D3:</b> KTP 500	<b>864 831 B</b>	<b>864 831 D</b>
<b>D4:</b> KTP 500	<b>864 841 B</b>	<b>864 841 D</b>
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<b>D7:</b> KTP 500	<b>864 871 B</b>	<b>864 871 D</b>
<b>D1:</b> GTF 1000	<b>866 811 B</b>	<b>866 811 D</b>
<b>D2:</b> GTF 1000	<b>866 821 B</b>	<b>866 821 D</b>
<b>D3:</b> GTF 1000	<b>866 831 B</b>	<b>866 831 D</b>
<b>D4:</b> GTF 1000	<b>866 841 B</b>	<b>866 841 D</b>
<b>D5:</b> GTF 1000	<b>866 851 B</b>	<b>866 851 D</b>
<b>D6:</b> GTF 1000	<b>866 861 B</b>	<b>866 861 D</b>
<b>D7:</b> GTF 1000	<b>866 871 B</b>	<b>866 871 D</b>



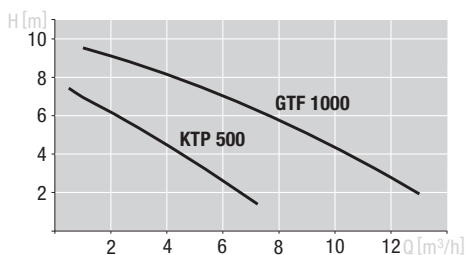
## Pumping stations for wastewater without sewage

### Installation example pumping station *Aqualift S* Ø 1000



- ① Gutter drain  
② Pumping station  
③ Pump  
④ Float switch

Ideal for direct rainwater disposal to the sewage system. The wastewater flows into the gutter drain and then under natural gravity to the *Aqualift S* pumping station and is pumped by the integrated pumps KTP 500 / GTF 1000 into the sewage system. A float switch is used as a level sensor.



	<b>KTP 500</b>	<b>GTF 1000</b>
<b>Current type</b>	Alternating current	Alternating current
<b>Voltage</b>	230 V	230 V
<b>Current</b>	2.12 A	4.9 A
<b>Power P1/P2</b>	480 W / 310 W	1180 W / 720 W
<b>RPM</b>	2800 min <sup>-1</sup>	2800 min <sup>-1</sup>
<b>Motor protection</b>	integrated	integrated
<b>Operating mode</b>	S1	S3 - 30 %

### Professional advantages

- **Variable upper section**  
inclinable and height adjustable  
from 100 to 600 mm
- **Simple to assemble** with light-weight  
inspection chamber components and easy  
connection technique.
- **Quick to mount** with a high level of  
pre-fabrication (bottom part of inspection  
chamber with pressure pipe) **and easy  
connection** using fixed couplings for inlet  
and pressure pipe and bores with lip  
gaskets for ventilation and cable piping.
- **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.





## GTF 1000

## Products

Illustration and dimensioned drawing	Article description	Pressure connection	Article #																
	<p><b>Submersible pump GTF 1000</b> for wastewater without sewage <b>with/without</b> float switch Connection to pressure pipe 1 1/4 inch. Outlet side / vertical, without macerator, cable length 10 m</p> <p><b>1</b> without float switch <b>2</b> with float switch</p> <p>Voltage: 230 V ~ 50 Hz Input power (P1): 1080 W Max. pumping height: 10 m Max. pumping capacity: 11,5 m<sup>3</sup>/h Max. submersible depth: 10 m Max. particle size: 10 mm Pressure connection: 1 1/4 inch side / vertical</p>	<b>1</b> 1 1/4 inch	<b>28 760</b>																
		<b>2</b> 1 1/4 inch	<b>28 860</b>																
			<table border="1"> <thead> <tr> <th colspan="2">GTF 1000</th> </tr> </thead> <tbody> <tr> <td>Current type</td> <td>Alternating current</td> </tr> <tr> <td>Voltage</td> <td>230 V</td> </tr> <tr> <td>Current</td> <td>4.9 A</td> </tr> <tr> <td>Power P1/P2</td> <td>1080 W / 620 W</td> </tr> <tr> <td>RPM</td> <td>2800 min<sup>-1</sup></td> </tr> <tr> <td>Motor protection</td> <td>integrated</td> </tr> <tr> <td>Operating mode</td> <td>S3 - 30 %</td> </tr> </tbody> </table>	GTF 1000		Current type	Alternating current	Voltage	230 V	Current	4.9 A	Power P1/P2	1080 W / 620 W	RPM	2800 min <sup>-1</sup>	Motor protection	integrated	Operating mode	S3 - 30 %
GTF 1000																			
Current type	Alternating current																		
Voltage	230 V																		
Current	4.9 A																		
Power P1/P2	1080 W / 620 W																		
RPM	2800 min <sup>-1</sup>																		
Motor protection	integrated																		
Operating mode	S3 - 30 %																		

## KTP 500

## Products

Illustration and dimensioned drawing	Article description	Pressure connection	Article #																
	<p><b>Submersible pump KTP 500 / KTP 500 TITAN</b> for wastewater without sewage <b>with/without</b> float switch Connection to pressure pipe 1 1/4 inch. Outlet side / vertical, cable length 10 m</p> <p><b>1</b> without float switch <b>2</b> with float switch</p> <p>Voltage: 230 V ~ 50 Hz Input power (P1): 480 W Max. pumping height: 8 m Max. pumping capacity: 8 m<sup>3</sup>/h Max. submersible depth: 10 m Max. particle size: 10 mm Pressure connection: 1 1/4 inch side / vertical</p> <p><b>Special model with titanium shaft</b> Suitable for mechanical and chemical polluted media. Also resistant to chloride-containing media. Not to be used for nitro- and trichloroethylene</p>	<b>KTP 500</b>																	
		<b>1</b> 1 1/4 inch	<b>28 710</b>																
		<b>2</b> 1 1/4 inch	<b>28 810</b>																
		<b>KTP 500 TITAN</b>																	
			<table border="1"> <thead> <tr> <th colspan="2">KTP 500</th> </tr> </thead> <tbody> <tr> <td>Current type</td> <td>Alternating current</td> </tr> <tr> <td>Voltage</td> <td>230 V</td> </tr> <tr> <td>Current</td> <td>2.12 A</td> </tr> <tr> <td>Power P1/P2</td> <td>480 W / 320 W</td> </tr> <tr> <td>RPM</td> <td>2800 min<sup>-1</sup></td> </tr> <tr> <td>Motor protection</td> <td>integrated</td> </tr> <tr> <td>Operating mode</td> <td>S1</td> </tr> </tbody> </table>	KTP 500		Current type	Alternating current	Voltage	230 V	Current	2.12 A	Power P1/P2	480 W / 320 W	RPM	2800 min <sup>-1</sup>	Motor protection	integrated	Operating mode	S1
KTP 500																			
Current type	Alternating current																		
Voltage	230 V																		
Current	2.12 A																		
Power P1/P2	480 W / 320 W																		
RPM	2800 min <sup>-1</sup>																		
Motor protection	integrated																		
Operating mode	S1																		

# Submersible pumps for wastewater with or without sewage



## KTP 300

## Products

Illustration and dimensioned drawing	Article description	Pressure connection	Article #																
	<p><b>Submersible pump KTP 300</b> for wastewater without sewage <b>with/without float switch</b> With backwater flap, pivotable connection, cable length 10 m</p> <p><b>1 without float switch</b> <b>2 with float switch</b></p> <p>Input power (P1): 280 W. Voltage: 230 V ~ 50 Hz. Max. pumping height: 6 m. Max. pumping capacity: 8 m<sup>3</sup>/h. Max. submersible depth: 10 m. max. particle size: 10 mm. Pressure connection: 1 inch side / vertical</p> <p>Removable input basket - reduction in the water level to 8 mm possible.</p>	<b>1</b> 1 inch	<b>28 740</b>																
		<b>2</b> 1 inch	<b>28 840</b>																
			<table border="1"> <thead> <tr> <th colspan="2">KTP 300</th> </tr> </thead> <tbody> <tr> <td>Current type</td> <td>Alternating current</td> </tr> <tr> <td>Voltage</td> <td>230 V</td> </tr> <tr> <td>Current</td> <td>1.9 A</td> </tr> <tr> <td>Power P1/P2</td> <td>280 W / 114 W</td> </tr> <tr> <td>RPM</td> <td>2800 min<sup>-1</sup></td> </tr> <tr> <td>Motor protection</td> <td>integrated</td> </tr> <tr> <td>Plug</td> <td>Schuko</td> </tr> </tbody> </table>	KTP 300		Current type	Alternating current	Voltage	230 V	Current	1.9 A	Power P1/P2	280 W / 114 W	RPM	2800 min <sup>-1</sup>	Motor protection	integrated	Plug	Schuko
KTP 300																			
Current type	Alternating current																		
Voltage	230 V																		
Current	1.9 A																		
Power P1/P2	280 W / 114 W																		
RPM	2800 min <sup>-1</sup>																		
Motor protection	integrated																		
Plug	Schuko																		

## SPZ 1000

## Products

Illustration and dimensioned drawing	Article description	Pressure connection	Article #																
	<p><b>Submersible pump SPZ 1000</b> for wastewater containing raw sewage <b>with/without float switch</b> <b>with macerator.</b> Connection to pressure pipe 1 1/4 inch. Outlet side / vertical, cable length 10 m</p> <p><b>1 without float switch</b> <b>2 with float switch</b></p> <p>Voltage: 230 V ~ 50 Hz Input power (P1): 1080 W Max. pumping height: 10 m Max. pumping capacity: 12 m<sup>3</sup>/h Max. submersible depth: 10 m Pressure connection: 1 1/4 inch side / vertical</p>	<b>1</b> 1 1/4 inch	<b>28 779</b>																
		<b>2</b> 1 1/4 inch	<b>28 778</b>																
			<table border="1"> <thead> <tr> <th colspan="2">SPZ 1000</th> </tr> </thead> <tbody> <tr> <td>Current type</td> <td>Alternating current</td> </tr> <tr> <td>Voltage</td> <td>230 V</td> </tr> <tr> <td>Current</td> <td>4.9 A</td> </tr> <tr> <td>Power P1/P2</td> <td>1080 W / 620 W</td> </tr> <tr> <td>RPM</td> <td>2800 min<sup>-1</sup></td> </tr> <tr> <td>Motor protection</td> <td>integrated</td> </tr> <tr> <td>Operating mode</td> <td>S3 - 30 %</td> </tr> </tbody> </table>	SPZ 1000		Current type	Alternating current	Voltage	230 V	Current	4.9 A	Power P1/P2	1080 W / 620 W	RPM	2800 min <sup>-1</sup>	Motor protection	integrated	Operating mode	S3 - 30 %
SPZ 1000																			
Current type	Alternating current																		
Voltage	230 V																		
Current	4.9 A																		
Power P1/P2	1080 W / 620 W																		
RPM	2800 min <sup>-1</sup>																		
Motor protection	integrated																		
Operating mode	S3 - 30 %																		

# Warning and control units for versatile uses



The warning and control units can be used for a wide range of purposes e.g. as warning devices in household and industrial systems as well as for connection to a remote signal sensor. The warning and control units with potential-free contact can be connected to the building management system (BMS). The electronic sensors react to all conductive fluids and the optical sensors to all conductive and non-conductive fluids.



230 Volt

400 Volt

## Comfort control units

with multi-line digital display

### INTEGRATED SELF-DIAGNOSIS-SYSTEM

With integrated Self-Diagnosis-System and battery buffering continually monitors all electronic functions.

### TeleControl TELEMETRIC SYSTEM

For connection to KESSEL Comfort control units 230 Volt and 400 Volt. Relaying of full text messages to up to three mobile phones. Without SIM card.

### ATEX VERSION

400 Volt control unit available in ATEX versions suitable for installation in potentially explosive atmospheres.

### POTENTIAL-FREE CONTACT

BMS (Building Management System) connection standard with all 400 Volt systems (optional with 230 Volt systems).

### PROBES

Connection possibilities for numerous probes for level measurement, float switches, conductance probes (230 V only), plungers, optical probe (230 V only), level probe (on clamping strip).

### OPERATIONAL PARAMETERS

Operational parameters can easily be custom set by operator - Control unit also for use with pumps from other manufacturers.



**Read-out of the electronic operating log and simple parameter adjustments**

→ store read-out data on USB flash drive → load to PC and transmit by e-mail → read in optimised data again

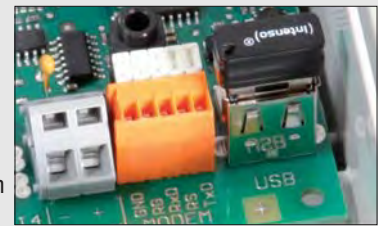
**MENU NAVIGATION**

User-friendly menu navigation in six languages with multi-lingual display.



**ELECTRONIC LOG-BOOK**

Electronic log-book function past history of pump operation is shown on digital control unit display.



**USB-CONNECTION PORT**

Includes internal USB connection port for 230 Volt control units. For read-out of electrical logbook and down / uploading of operational parameters.

USB housing socket optional.



**READY FOR CONNECTION**

230 Volt control unit ready for connection by coded connectors for pumps and pressure sensor - no need for a qualified electrician for connection.









Also suitable for third-party pumps














## 230 V Comfort control unit

## Products

Illustration	Article description	Article # Mono	Article # Duo
<p><b>230 V Comfort control units</b></p>			
<p><b>Mono-/Duo control unit</b></p>			
<p><input type="checkbox"/> <b>extremely versatile sensor system for measuring the level of wastewater with and without sewage.</b> Including plunger for pneumatic level measurement. For greasy wastewater or wastewater at higher temperature only in connection with a small compressor for bubble formation (Art. # 28 048)</p>			
	<p><b>1 with pressure sensor*/without extra alarm probe</b> 10 m pressure hose (can be extended to 15 m)</p>	<p><b>1 28 731 D</b></p>	<p><b>28 746 D</b></p>
	<p><b>2 with pressure sensor*/conductance probe</b> with separate conductance probe for alarm level measurement 10 m pressure hose (can be extended to 15 m) 5 m cable (cannot be extended)</p>	<p><b>2 28 731 DL</b></p>	<p><b>28 746 DL</b></p>
	<p><b>3 with pressure sensor*/float switch</b> with separate float switch for alarm level measurement 10 m pressure hose (can be extended to 15 m, up to 30 m on request) 10 m float switch cable (can be extended to 30 m)</p>	<p><b>3 28 731 DS</b></p>	<p><b>28 746 DS</b></p>
	<p><b>4 with pressure sensor*/optical probe</b> with separate optical probe for alarm level measurement and failure detection of the optical probe via the control unit 10 m pressure hose (can be extended to 15, up to 30 m on request) 5 m cable for optical probe (can be extended to 30 m)</p>	<p><b>4 28 731 DO</b></p>	<p><b>28 746 DO</b></p>
<hr/>			
<p><b>Mono-/Duo control unit</b></p>			
<p><input type="checkbox"/> <b>sensor system for level measurement for wastewater without sewage.</b> With float switches to measure ON 1, ON 2 (only 28 746-S) and OFF levels.</p>			
	<p><b>5 with float switch*/without extra alarm probe</b> 10 m float switch cable (can be extended to 30 m)</p>	<p><b>5 28 731 S</b></p>	<p><b>28 746 S</b></p>
	<p><b>6 with float switch*/float switch</b> with separate float switch for alarm level measurement 10 m float switch cable (can be extended to 30 m)</p>	<p><b>6 28 731 SX</b></p>	<p><b>28 746 SX</b></p>
<p>*air compressor available for pressure switches with over 10 m cable</p>			

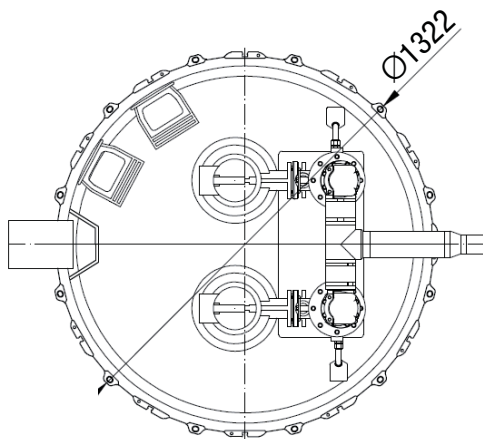
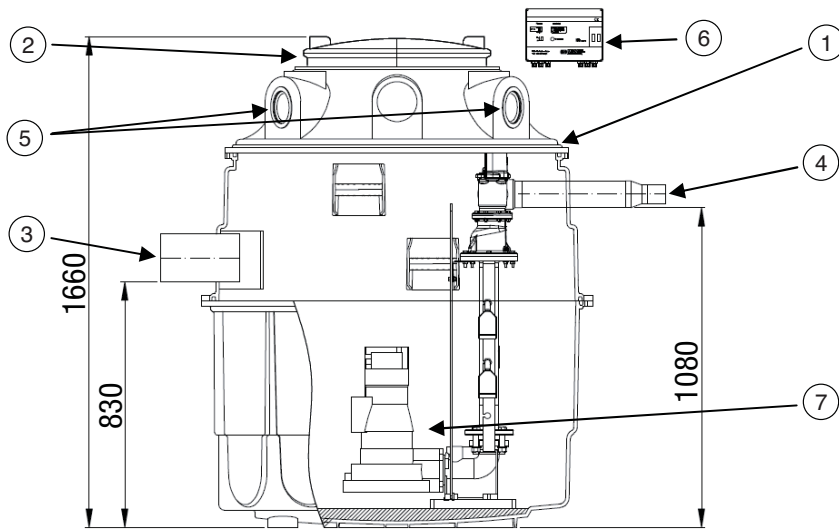
## Warning and control units

230 V Comfort control unit			Products		
Illustration	Article description	Article # Mono	Article # Duo		
     	<b>230 V Comfort control units</b> <b>Mono-/Duo control unit</b> <input type="checkbox"/> <b>Extremely versatile sensor system for measuring the level of wastewater with and without sewage.</b> Including level probe for pneumatic level measurement and failure detection of the level probe via the control unit. For greasy wastewater or wastewater at higher temperature, the use of a small compressor is <b>not</b> necessary.				
	<b>7</b>	<b>7</b> with level probe/without extra alarm probe 10 m level probe cable (can be extended to 30 m)	<b>7</b> 28 731 P	28 746 P	
	<b>8</b>	<b>8</b> with level probe/float switch with float switch for alarm level measurement 10 m level probe cable (can be extended to 30 m) 10 m float switch cable (can be extended to 30 m)	<b>8</b> 28 731 PS	28 746 PS	
		<b>Mono-/Duo control unit</b> <input type="checkbox"/> <b>sensor system for level measurement for wastewater without sewage.</b> Including alarm level measurement. Not suitable for rainwater or non-diluted condensate. Including conductance probes for the measuring of ON 1, ON 2 (28 746-LLF/28746-LLV only), OFF and ALARM level. Switching points cannot be adjusted freely.			
		<b>Mono control unit</b> <b>9</b> with conductance probe/conductance probe Level ON/OFF fixed, alarm level can be adjusted 5 m cable for conductance probe	<b>9</b> 28 731 LL	-	
		<b>Duo control units</b> <b>10</b> with conductance probe/conductance probe ON 1 fixed/ON 2 variable/ALARM with fixed distance to ON 2 5 m cable for conductance probe	<b>10</b> -	28 746 LLF	
		<b>11</b> with conductance probe/conductance probe ON 1 variable/ON 2 fixed/ALARM with fixed distance to ON 2 5 m cable for conductance probe	<b>11</b> -	28 746 LLV	
		<b>Level probe</b> level probe cable 10 m	28 082	28 082	
		<b>Float switch</b> float switch cable 10 m float switch cable 20 m	185-043 185-045	185-043 185-045	
	<b>400 V Comfort control unit</b>			<b>Products</b>	
	Illustration	Article description	Article # Mono	Article # Duo	
	<b>400 V Comfort control unit</b> suitable for max. switching current from - to 2.5 - 4.0 A Mono 4.0 - 6.3 A Mono 6.3 - 10.0 A Mono 2 x 2.5 - 4.0 A Duo 2 x 4.0 - 6.3 A Duo 2 x 6.3 - 10.0 A Duo 2.5 - 4.0 A ATEX version, Mono 4.0 - 6.3 A ATEX version, Mono 2 x 2.5 - 4.0 A ATEX version, Duo 2 x 4.0 - 6.3 A ATEX version, Duo	28 755 28 756 28 781 - - - 28 759 28 761 - -	- - - 28 757 28 758 28 783 - - 28 762 28 763		

Warning units / 230 V Comfort control units / 400 V Comfort control units		Accessories
Illustration	Article description	Article #
	<b>TeleControl telemetric system</b> for connection to KESSEL Comfort control units 230 Volt and 400 Volt. Relaying of full text messages to up to three mobile phones. Without SIM card.	<b>28 792</b>
	<b>TeleControl antenna booster</b> for <i>TeleControl</i> telemetric system incl. 2.5 m cable to improve reception. With magnetic base.	<b>28 793</b>
	<b>Antenna booster extension cable</b> cable length 2.5 m	<b>28 794</b>
	<b>Alarm unit</b> <input type="checkbox"/> with electrode probe <input type="checkbox"/> with optical probe for article numbers: 28 500	<b>20 220</b> <b>20 221</b>
	<b>Connector set</b> for connection to pump/probe cables for connection to the coded connectors from 28 731 / 28 746	<b>80 893</b>
	<b>Audible alarm</b> <input type="checkbox"/> cable length 20 m suitable for all warning- and control units	<b>20 162</b>
	<b>Potential-free contact</b> suitable for all warning- and control units	<b>80 072</b>
	<b>USB housing socket</b> for routing the USB connection to the outside of the housing suitable for 230 Volt Comfort control units Mono/Duo	<b>28 785</b>
	<b>Cable extension set (for motor)</b> 10 m cable length A maximum of two cable extension sets can be connected	<b>80 890</b>
	<b>Cable extension set (for probe)</b> 10 m cable length A maximum of two cable extension sets can be connected	<b>80 889</b>
	<b>Compressor set</b> for use in combination with lifting stations and pumping stations with pressure control: <input type="checkbox"/> prevents soiling, compensates leaks, avoids the formation of condensate in the pressure hose, makes operation of systems possible with pressure hose lengths > 10 m, including T-piece connection, including 10 m pressure hose	<b>28 048</b>

Pumping station *Aqualift F Duo* (TPF 1.3 / TPF 1.9) for free-standing installation

(Illustration shows Art. # 1000-HA 1F and Art. # TPF 13 KE DUO)



1	Komfort chamber system Ø 1000
2	Quick release odor tight access cover
3	Inlet Ø 110 mm
4	Pressure outlet Ø= 63/90 mm
5	Connection seal Ø 110 (cable conduit and ventilation connections)
6	Control unit <i>Duo</i> , level control
7	Twin pumping system with pump type TPF 1.3 KE or TPF 1.9 KE

**Tender text:**

**Pump chamber Ø 1000 with wastewater lifting station *Aqualift F Duo***

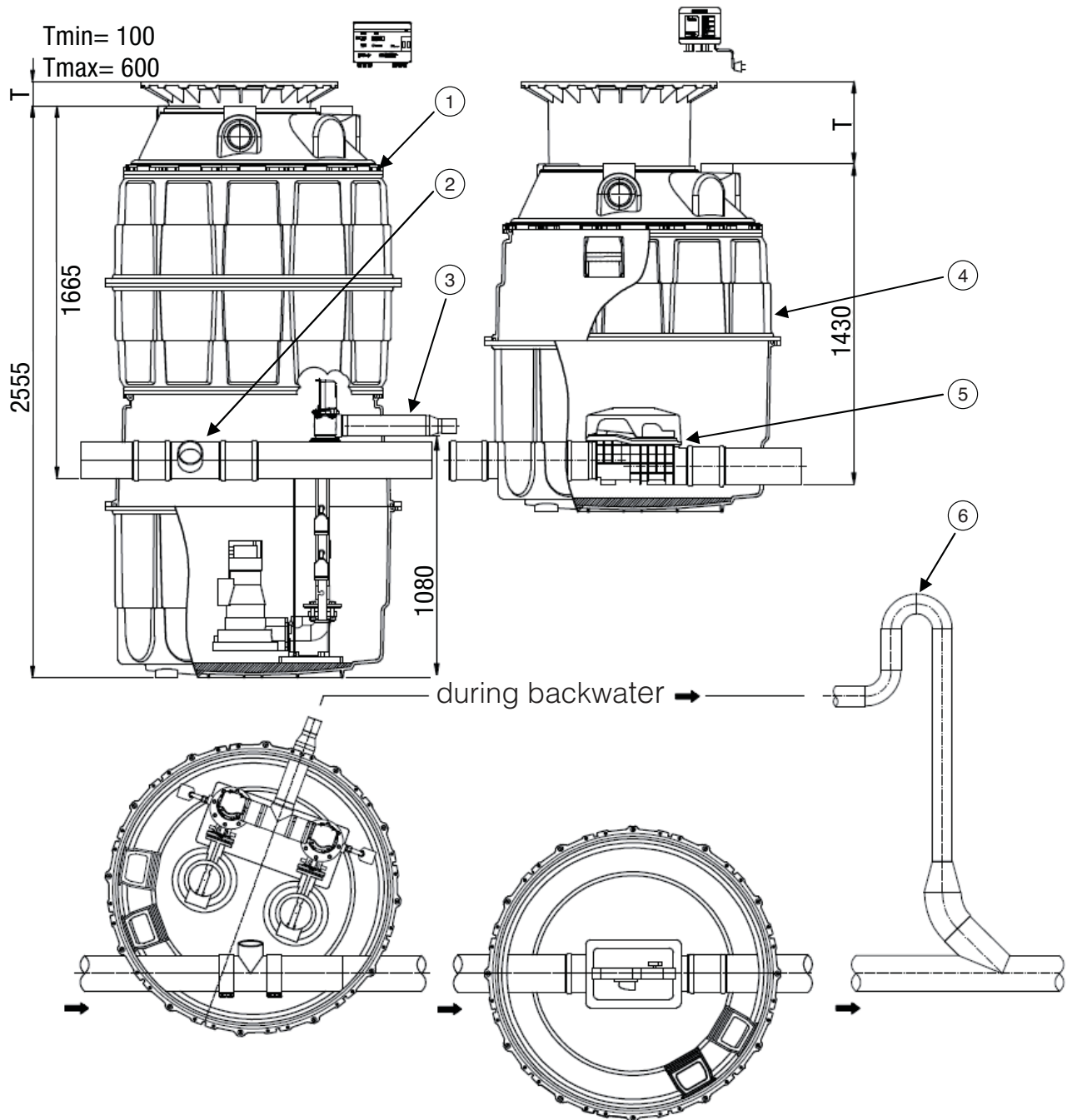
with pump type TPF \_\_\_ KE for free-standing set-up in frost-free rooms, made of polyethylene PE-HD, waterproof, resistant against aggressive wastewater. Cover hood made of plastic, with quick action closure, sealed odour-tight. Inlet muff made of PE-HD, connection for Ø 110 according to EN 1401 and EN 12666-1 one each for ventilation and cable conduit.

- Chamber system: Komfort Ø 1000
- Design height: 1660 mm
- Diameter (Ø): 1322 mm
- Inlet: up to Ø 200
- Type of cover: Cover hood, odour-tight
- Pressure connection: Ø 63/90 mm
- Pumping medium: wastewater with and without sewage
- Pump control: float control



Pumping station *Aqualift F Duo*, with overflow channel and backwater valve *FKA*

(Illustration shows Art. # 864 630B and chamber system *Komfort* Ø 1000 with *Staufix FKA*)



1	Pumping station <i>Aqualift F Duo</i>	4	Chamber system <i>Komfort</i> Ø 1000
2	Channel passage with overflow opening	5	Backwater valve <i>Staufix FKA</i> for wastewater with/without sewage
3	Outlet for pressure pipe	6	Loop via backwater level

### Pumping station *Aqualift F Duo*, with overflow channel and backwater valve *FKA*

#### Function:

- Standard operation:**  
In standard operation, the connected drainage fixtures can drain by means of natural gravity through the open channel to the sewer.
- Backwater protection:**  
If there is any backwater from the sewer, the sensor system in the backwater valve *Staufix FKA* detects backwater in the drain pipe and closes the motor-driven flap, thus securing the building.
- Disposal during the backwater phase**  
Any wastewater from the building which occurs during this phase pours through the overflow opening into the pumping station. When the respective switching level is reached, the wastewater is disposed of by the pumping station into the sewer via the pressure pipe against the pressure of the backwater.
- Standard operation:**  
After backwater the backwater valve *Staufix FKA* automatically re-opens, the connected drainage fixtures can be drained through the open channel again.

#### Tender text:

##### Pumping station *Aqualift F (Duo system)*

for wastewater with or without sewage, for underground installation, made of polyethylene PE-HD with access steps, watertight, resistant against aggressive wastewater. Polymer upper section for continuous height and level compensation, cover plate made of cast iron according to EN 124. Connection hole with sealing gasket Ø 110 in accordance with EN 1401 and EN 12666-1 for ventilation and cable conduits respectively, pump volume approx. 200 l. Pressure pipe pre-assembled with backwater flap, closure valve and 4 float switches for level control. Two submersible pumps in explosion-protected version, with cutting unit for pumping wastewater with and without sewage, flood-proof. Electric control unit for fully automatic pump control, splashwater-proof, for wall mounting in dry, frost-free areas of the building, PTB approval for potentially explosive areas (ATEX), with potential-free contact.

Chamber system: Komfort Ø 1000  
 Standard: EN 752  
 Installation depth: \_\_\_\_\_ - \_\_\_\_\_ mm  
 Inlet depth: \_\_\_\_\_ - \_\_\_\_\_ mm  
 Inlet: passage channel Ø \_\_\_\_\_ with overflow opening  
 Pressure socket: Ø 63 mm / Ø 90 mm  
 Type of cover: unscrewed  
 Load class: B 125 (12.5 t)

##### Pump type: (optional)

Pumping station:	<i>Aqualift F (Duo system)</i>	Pumping station:	<i>Aqualift F (Duo system)</i>
Pump type:	TPF 1.3 KE	Pump type:	TPF 1.9 KE
Standard:	EN 12050-1	Standard :	EN 12050-1
Feed rate:	max. 15 m <sup>3</sup> /h	Feed rate:	max. 20.5 m <sup>3</sup> /h
Pumping height:	max. 17.5 m	Pumping height:	max. 32.0 m
Rated power:	2 x 1.3 kW	Rated power:	2 x 1.9 kW
Input power:	2 x 1.75 kW	Input power:	2 x 2.6 kW
Operating voltage:	400 V DC	Operating voltage:	400 V DC
Rated frequency:	50 Hz	Rated frequency:	50 Hz
Rated current:	3.5 A	Rated current:	4.5 A
Fuse protection:	3 x 16 A slow-blow	Fuse protection:	3 x 16 A slow-blow
Protective rating (pumps):	IP 68 EX-protection	Protective rating (pumps):	IP 68 EX-protection
Protective rating (control unit):	IP 54	Protective rating (control unit):	IP 54
Cable length:	10 m (7 x 1.5 mm <sup>2</sup> )	Cable length:	10 m (7 x 1.5 mm <sup>2</sup> )

### Lifting station *Aqualift F XL* 900 liters **NEW**

**Lifting station *Aqualift F XL* 900 L**  
for free standing installation

**Tank volume: 900 liters**  
**Pump volume: 500 liters**

Twin station with two SPF pumps for wastewater with or without sewage for free-standing installation in frost-free rooms

**Consisting of:**

Two Polyethylene storage chambers, with air pressure level detector, clean-out opening. Spigots for vertical inlet Ø 110 mm/160 mm, ventilation Ø 75 mm and for manual diaphragm pump Ø 32 mm. Horizontal inlet Ø 50 mm to Ø 200 mm by sawing. Pressure sensor controlled twin wastewater pumps with non-chokable impeller to pump wastewater with or without sewage (open channel passage 40 mm). Pump is rated submersible (IP 68), power cable length 10 m.

**Operating mode:**

S1: Continuous duty

S3: 30 % power on duration

Vertical/ horizontal outlet with integrated non-return valve, with/without closure valve (provided loose), with hose section or flange.

Comfort control unit with mains power ON / OFF switch and multilingual digital display (EN, DE, FR, IT, PL, NL) showing current operational status, settings and logbook; control unit is splash proof (IP 54), wall mounted, voltage 230 V or 400 V at 50 Hz. With potential-free/BMS contact (optional on 230 V models).

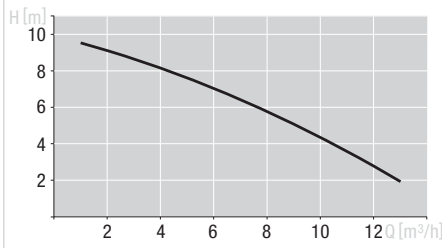


Lifting stations

3

### Pumps for collection tank

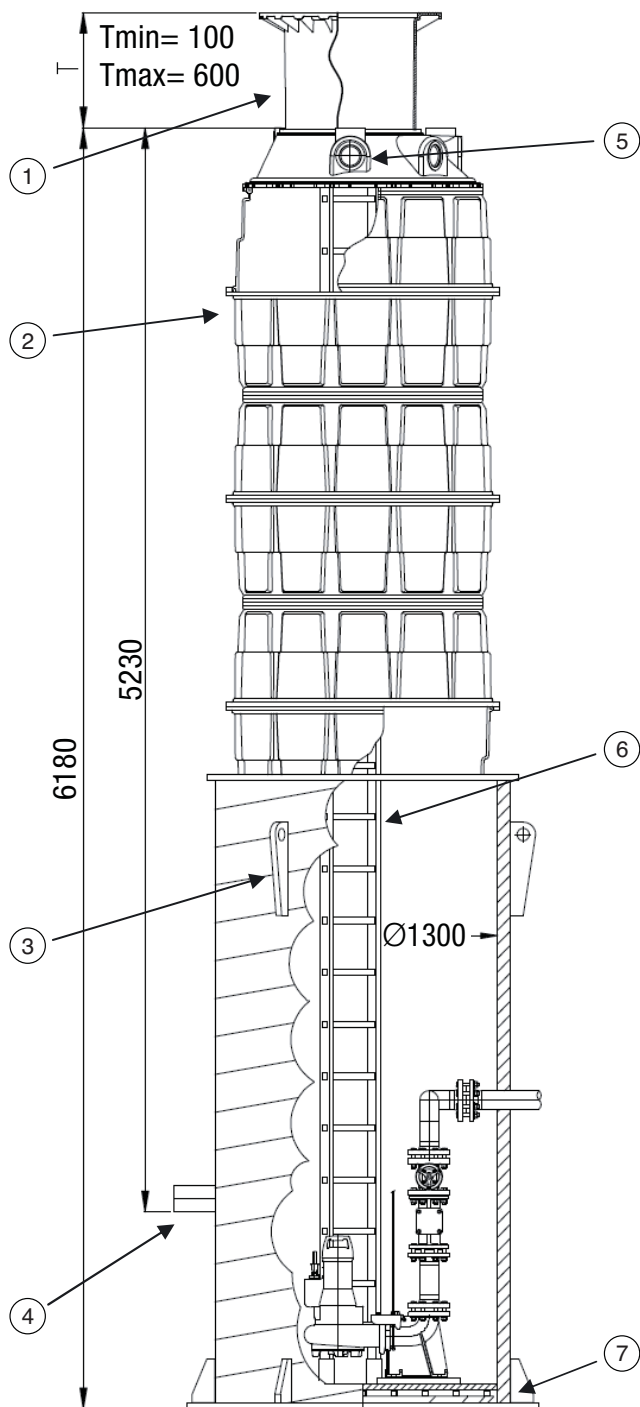
Illustration and dimensioned drawing	Article description	Pump KTP / GTF	Sensor	Article #
<p><b>NEW</b></p> <p>Illustratin shows AQUALI1000D</p> <p>AQUALI1000D</p>	<p><b>Aqualift F Duo pumping system for installation in on-site collection tank</b></p> <p>Twin pump system for sewage free wastewater (rainwater or non-WC wastewater)</p> <p>For installation in existing collection tanks with:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> PE-HD fixing mount for installation and mounting of pumping system</li> <li><input type="checkbox"/> Two removable <i>GTF 1000 / KTP 500</i>, 230V/ 50Hz</li> <li><input type="checkbox"/> Pressure sensor level control for conductive and non conductive liquids</li> <li><input type="checkbox"/> With <i>Aqualift Comfort</i> 230 Volt duo control unit</li> <li><input type="checkbox"/> Pressure piping with non-return flap and closure lever</li> </ul> <p>- Pressure connection: OD40 mm pressure pipe for PVC glue connection</p> <p>- With <i>Comfort</i> control unit for wall mounting in dry, frost protected rooms, splash-proof, fully automated pump level control with optical and audible alarm system, detailed operation and warning status in multiple line digital display. Optional forwarding of alarm and fault message via GSM interface</p>	GTF 1000	Pressure sensor	<b>AQUALI1000D*</b>
		GTF 1000	Floater	<b>AQUALI1000DS*</b>
		KTP 500	Pressure sensor	<b>AQUALI500D*</b>
		KTP 500	Floater	<b>AQUALI500DS*</b>



\* Custom made product (delivery time on request)

Pumping station in re-enforced corrugated chamber Ø 1300

(for installation in groundwater-endangered areas)



1	Upper cover section, vertically adjustable, with cover class B
2	Chamber system Komfort Ø 1000
3	Load and transport connection hooks
4	Inlet up to Ø 200
5	Connection seal Ø 110 (cable conduit and ventilation)
6	Access ladder
7	Corrugated chamber Ø 1300, with re-enforced, ground plate

Tender text:

**KESSEL chamber system Ø 1300** made of polyethylene (PE-HD) as a collecting tank for housing a lifting/pumping station, **for installation in the ground 5.330 - 5.830 mm**, round version, waterproof, resistant to aggressive wastewater, comprising:

- Re-enforced corrugated chamber according to DIN 16961**, Ø 1300, further set-up with Komfort chamber system Ø 1000
- with **re-enforced, ground plate**
- Upper section** made of thermoset 2K (Ø = 630 mm) for continuous height and level compensation
- Cover Cl. B** made of cast iron according to EN 124, with lift-out key
- one PE-HD socket **up to Ø 200** (inlet)
- two connection seals **up to Ø 110** (cable conduit, ventilation/aeration)
- Access ladder made of GRP** (CW= 300 mm, rung spacing 250 mm)
- three load and transport connection hooks

Overall depth of the shaft structure:  
6180 mm + T (T<sub>min</sub>= 100, T<sub>max</sub>= 600)

Please note the following:

- When the system is installed in a groundwater-endangered area, the structure must be anchored **on site** in concrete as buoyancy protection.
- Where drop heights of **more than 5 m** are involved, safety measures must be taken on site.

In accordance with GUV V-36 and BGV D36 §5 Sect. 9 access ladders and iron rungs for entry which have a fall height of more than 5.00 m must be equipped with on-site safety measures to prevent people falling.

On request and at extra charge, the shaft structure can be fitted with a high-quality safety package in the factory, this comprises:

- Climbing protection rail made of stainless steel AISI 316L (1.4571)
- Slide mechanism made of stainless steel AISI 316L (1.4571)
- Safety harness (DIN EN 361)
- Entry aid, for entry / exiting chamber (AISI 316L)



# Drains and channels





## 4 Drains and channels

**Project drains** Page **152 – 161**

**Bathroom / Shower drains** Page **162 – 177**

**Shower channels** Page **180 – 192**

**Wall drains** Page **194 – 198**

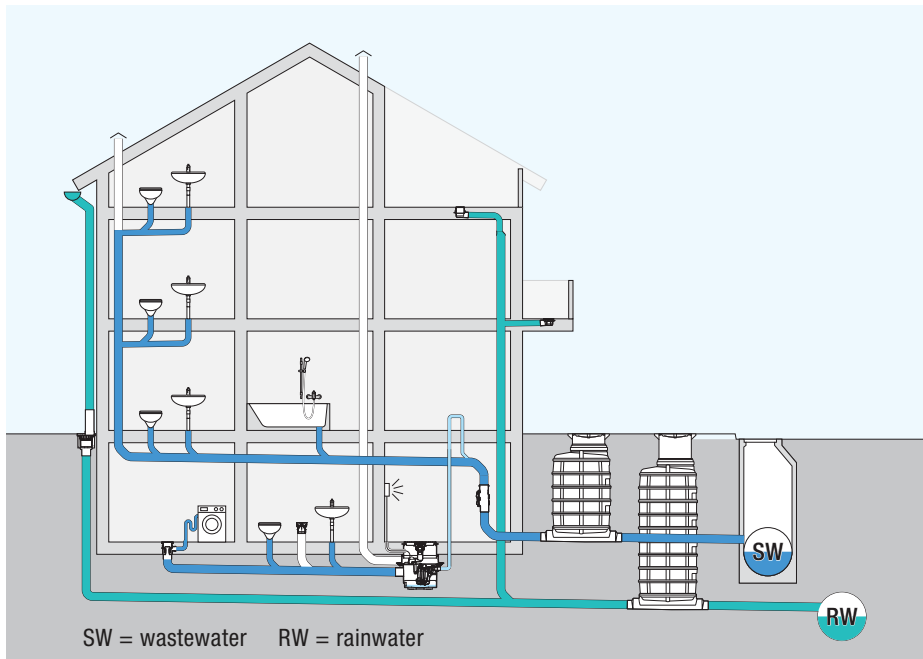
**Basement drains** Page **200 – 208**

**Stainless steel drains and channels** Page **210 – 228**

**Parking deck /  
Balcony / Roof /  
Gutter / Yard drains** Page **230 – 248**



# Drainage: how it works



## Dimensioning

The outlet ( $\varnothing$  in mm) used for floor drains and drain pipes must be selected in such a way that the draining capacity corresponds to the occurrence of wastewater.

Connection values of drainage fixtures and diameters for individual connection pipes are summarised in DIN 1986-100. According to this, the following values can be taken as a basis for floor drains:

Floor drains

- $\varnothing$  50 = 1.0 l/sec.
- $\varnothing$  75 = 1.5 l/sec.
- $\varnothing$  110 = 2.0 l/sec.

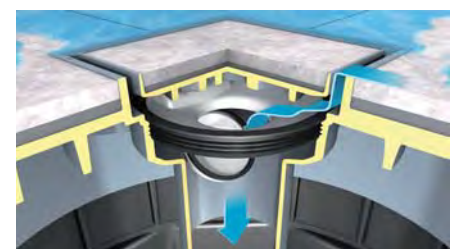
## Odour trap

Odour traps are used to stop foul-smelling gases from the sewage system finding their way inside buildings and must comply with the respective national standards. Generally speaking, the following heights must be observed:

- for sewage drains 50 mm
- for rainwater drains 100 mm

### TIPP

With *Multistop*, KESSEL offers a practical alternative to odour traps with seal water. While standard odour traps in drains frequently dry out due to air conditioning units, underfloor heating or infrequent use, *Multistop* prevents bad odours coming up from the drain without the use of water. A tight sealing flap forms a reliable seal. It only opens up when water makes contact to allow it to flow away without being restricted. After the water has passed, the flap closes. Rodents, foam and bad odors are retained. The water-free odour trap can be integrated in all KESSEL floor drains.



## How it works:

Drains are designed to receive, collect and convey wastewater. These can be bathroom, floor, ceiling, roof or special drains and also include balcony and yard drains. One important aspect is that usually only the outlet side needs to be considered, not the inlet side. The inlet fittings do dispense a certain amount of water, but this is only rarely or never decisive for the dimensioning of drains because the water is collected by most draining points and temporarily stored.

Accordingly, in compliance with EN 1253, section 6.1.4 or DIN 19541 drains must have the following odour trap heights:

- Drains with sealing water replacement - bathroom drains: 50 mm (Euro standard)
- Drains with rainwater - gutter drains: 100 mm

Larger trap heights are necessary for rooms with a slight vacuum or overpressure in order to avoid the water seal to escape and wastewater gases being siphoned into the room. If a sealing water height suitable for the pressures cannot be achieved, the route should pass via a connecting pipe with shut-off function.

When drains are installed outdoors they must be frost-free. The easily accessible cleaning opening required for drains must be achieved using removable odour traps.

# KESSEL - Modular Systems

KESSEL offers a large selection of fully complete bathroom drains and shower channels ready for installation. In the case that you have not found the exact drain to meet your requirements KESSEL offers our modular component system. This system allows you to choose the individual drain body, cover and accessory that you like and 'build your own' bathroom drain or shower channel.

## System 125

### The optimal solution

Floor drain *Practicus*  
with pressure sealing flange



### Individual parts System 125



Upper section in ABS  
with design cover *Oval*  
□ 120 mm  
in stainless steel AISI 304  
Art. # 48 202



Hair filter  
Art. # 48 700



Pressure sealing flange  
in stainless steel AISI 304  
Art. # 48 402



Drain body *Practicus*  
in PP  
Art. # 45 210

= Complete article



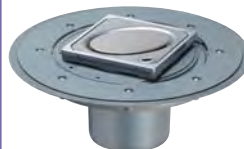
## System 100

### The optimal solution

Bathroom drain *Classic*  
with shallow bed upper section  
and design cover *Oval*



### Individual parts System 100



*Variofix*  
shallow bed upper section  
in ABS  
with design cover *Oval*  
□ 120 mm  
in stainless steel AISI 304  
Art. # 47 905

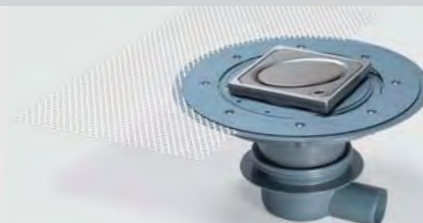


Hair filter  
Art. # 43 700



Drain body *Classic*  
in ABS  
with removable odour trap  
Art. # 40 150

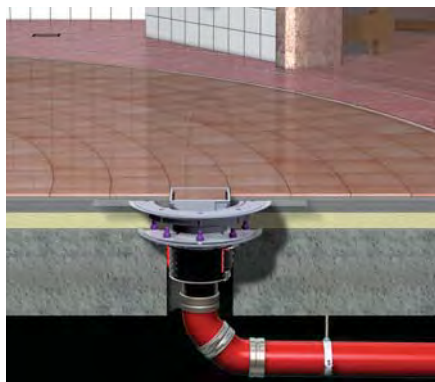
= Complete article





# Different drains for different applications

Every drainage project makes different demands on materials. In the public sector in particular, technical features such as flow rate, fire and sound protection or resistance to aggressive media play a major role. In the private sector on the other hand, the focus is more on the optical appearance. KESSEL supplies drains for all requirements and installation situations.



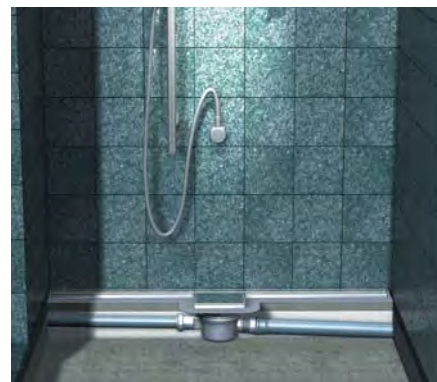
Project drains

Project drains are often used in industrial and public buildings. In most cases, drains are routed through the floor slab and require increased fire and sound protection. The specially developed project drains *Ecoguss* and *Practicus* are ideally suited to meet these requirements.



Bathroom drains,  
shower drains

Bathroom drains can be used in both, the private and commercial sector. Drains can be installed directly in a shower or in the general sanitary area. Surface water which occurs during cleaning work in toilets or changing rooms can be discharged easily via the drain.



Shower channels

Shower channels are installed in both private and commercial premises and reflect the desire for barrier-free bathroom design. Their wide intake area combined with high flow values guarantee that soiled water drains off well and evenly.

Drains for exterior installation

Wastewater which is collected outside also has to be discharged. There is a range of roof, balcony, parking deck, rain and yard drains available in different materials for this purpose. The load classes, which regulate the trafficability of the drain covers, must be taken into consideration.





### Wall drains

Wall drains are the latest trend in shower design. They are particularly suitable for barrier-free bathrooms since the unevenness which can occur through installation of a floor drain is no longer a problem. In addition, the *Scada* wall drain has four high quality drain covers made of stainless steel and optional LED lighting for a high degree of individual freedom in bathroom design.



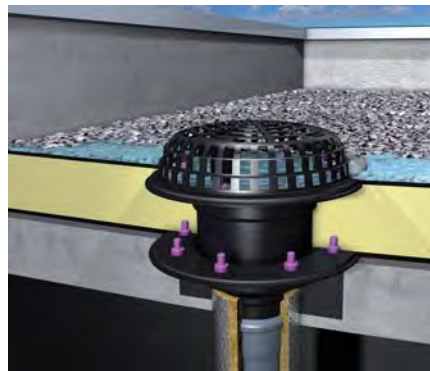
### Basement Drains

Basement drains are used for draining lower level components. They collect surface water and discharge this. In addition, further fixtures that require drainage such as washing machines, sinks or showers can also be connected. Basement drains can be adapted to the requirements of your installation location and are available equipped with backwater valve, pump or volatile liquid trap.



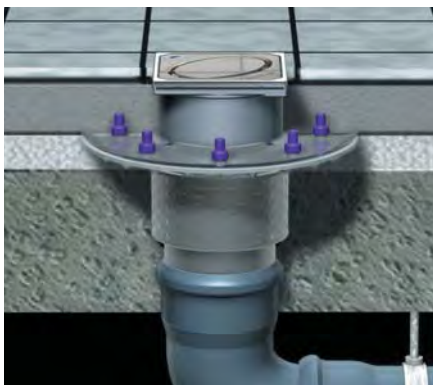
### Stainless steel drains and channels

Quality drains and channels in stainless steel for food processing operations or sanitary areas.



# Waterproofing options

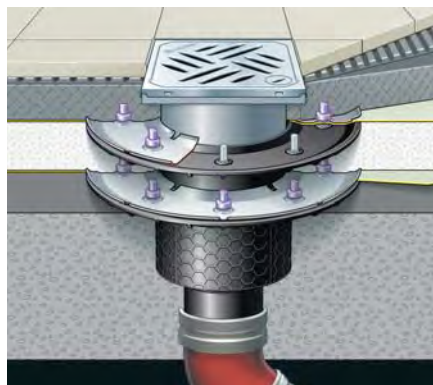
In rooms with a high moisture level, such as bathrooms, spas, washrooms or industrial kitchens in particular, high demands are made on waterproofing. The assumption that ceramic floors are watertight is often a mistake. The resulting decision to do without sealing measures frequently leads to unpredictable consequences such as, cracked joints, frost damage, mould formation or corrosion. For this reason, the EN 1253 standard requires a waterproofing seal to be installed under ceramic and natural stone floors in wet rooms.



Single waterproofing flange

Can be used as waterproofing in all wet and damp rooms.

The sealing strips used that are made of elastomer or synthetic materials and also bitumen sealing strips can be installed loosely, adhered with bitumen or attached using other hot polymer adhesive compounds.



Double waterproofing flanges

This can be used to seal against moisture in all wet and damp rooms.

The elastomer or polymer sealing sheets and bituminous sheeting can be laid loosely, be bonded with bitumen or other polymer hot glue materials.

The upper sealing level serves as a waterproofing layer against seeping water, the lower waterproofing layer protects the floor from moisture rising from below.



Shallow waterproofing flange

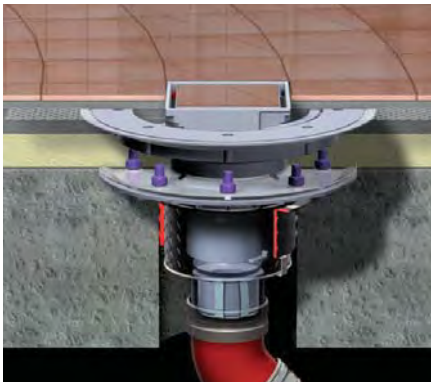
Can be used in wet rooms with non-pressurised water e.g. bathroom, shower, kitchen).

The manufacturers of chemical building products have come up with a safe and economic alternative to sub-screed seals - in the shape of special ready-to-use spreadable sealing materials. These sealing materials (e.g. PCI, Schomburg, Deitermann) form a flexible seal that is watertight and that can also bridge cracks. KESSEL supplies the *Variofix* shallow bed upper section as an optimum solution for very critical details when connecting drainage points in shallow bed constructions. Shallow bed upper section can also be used in combination with epoxy resin seals.





**SmartSelect** makes planning quite simply quicker - visit [smartselect.kessel.com](http://smartselect.kessel.com) for the configurator for alternative waterproofing options.



## Shallow and lower waterproofing flange

Used for waterproofing in all wet and damp rooms with seepage water and non-pressurised water from below.

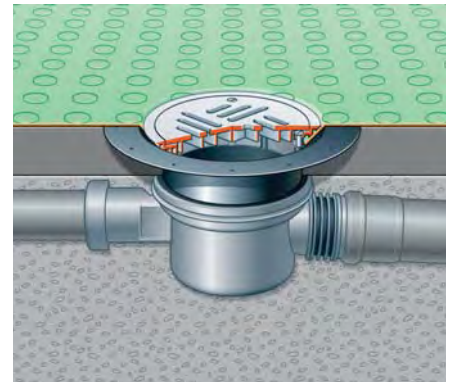
The shallow bed gasket used is applied above the screed with special ready-to-use and spreadable sealing materials in compliance with the ZDB information sheet. This is governed uniformly in the building regulations of all German states. The consequence of this is that structural works, such as bathrooms, need to be protected from moisture penetration. Parts exposed to moisture are usually covered with tiles and slabs. Ceramic materials are resistant to moisture and are water-repellent but they are not waterproof. In this case they are water-permeable which means they require additional sealing.

The second seal must be positioned e.g. on the concrete slab. In this case, a lip seal is used. The lower seal level prevents moisture from rising. Professional installation must comply with the standard DIN 18195-4.



## Waterproofing flange for impermeable concrete

In accordance with EN 206-1 and DIN 1045-2 constructional elements made of impermeable concrete. Impermeable concrete constructional elements are structures which are prepared without an additional outer laminar waterproofing layer and prevent water penetration solely on account of the concrete used and design measures such as joint sealing and crack width restriction. Impermeable concrete construction elements belong to the group of rigid waterproofing layers and adopt both the load-bearing and sealing function in one. Floor slab and outer walls are cast as concrete tanking with a high water penetration resistance in accordance with EN 206-1 and DIN 1045-2.



## Waterproof flooring

Since the floor covering takes over the function of the sealing level in this case, the drain must have a watertight connection to the floor covering using a clamping flange. The clamping flange upper section can be combined with all the drain bodies suitable for the respective system.



# Fire protection

## Fire protection

Floor drains and barrier-free shower systems with non-combustible and combustible drain pipes installed in ceilings present a fire hazard, since the fire can spread to adjacent fire zones through the pipes. Construction measures are required here in particular in order to minimise the risk of any fire spreading.

The German State Building Code defines the required fire resistance period in classes as follows:

Fire resistance class	F30	F60	F90	F120
Fire resistance period (minutes)	> 30	> 60	> 90	> 120

All KESSEL drain systems with a fire protection feature comply with fire resistance class F120. There is no need for preventative fire protection for floor drains:

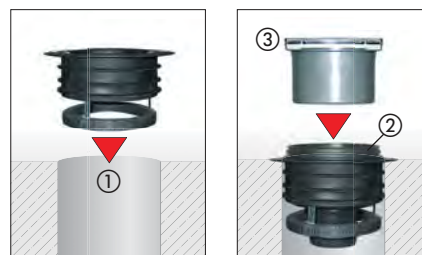
- in single- and two-family homes
- in basements
- with horizontal outlets (under certain conditions).

### How it works

KESSEL offers *Quick-Fit* and *Fire-Kit* for System 125 and for System 200 floor drains with vertical outlets:

#### **Quick-Fit passage seal including fire protection, with approval Z-19.17-1719**

The fire-protection mass provides the necessary fire protection. This is attached by a metal hoop on the lower end of the installation aid. In the event of a fire, the fire protection mass swells up and closes the gap resulting from the melting seal. This guarantees a smoke-tight closure and stops the fire getting through.



- ① Insert **Quick-Fit** in core hole (Ø 160 mm).
- ② Lower the **Ecoguss** (2) drain body with vertical outlet into **Quick-Fit**.
- ③ Fit the upper section.

#### **Fire-Kit fire protection insert (certification no. Z-19.17-1719)**



Fire burns away all exposed plastic pipe. The flames then reach the outlet of the drain body.



The odour trap built into the drain body combines with sealing water to prevent smoke and gas reaching upper levels of the building.



The *Fire-Kit* fire protection insert expands due to the heat and completely seals off the openings in the concrete floor, preventing fire from spreading to the floor above.

# Sound protection / Maintenance and repairs

## Sound protection

Oscillations are induced in a building structure via the contact points of a sanitary object with the building. The structure-borne sound is passed on and emitted from the ceilings and walls in the adjacent rooms as audible airborne sound. Particular care is taken during building planning to ensure noise annoyance caused by floor drains is kept to a minimum.

The Fraunhofer Institute in Stuttgart measured the following noise levels for KESSEL floor/ceiling drains:

Drains	DIN 4109	VDI 4100 SST III
Project drains <i>Ecoguss</i> <i>Practicus</i>	≥ 16 dB (A) ≥ 18 dB (A)	≥ 14 dB (A) ≥ 15 dB (A)
Bathroom drains <i>"The Ultraflat"</i>	≥ 12 dB (A)	≥ 10 dB (A)
Shower channels <i>Linearis Comfort</i> <i>Linearis Compact</i>	≥ 17 dB (A) ≥ 14 dB (A)	≥ 13 dB (A) ≥ 10 dB (A)
<i>Scada</i> wall drains	≥ 17 dB (A)	≥ 14 dB (A)

## Maintenance and repairs in accordance with EN 12056

Installation is never the end of the story of course. Regular and thorough maintenance is a pre-condition for the permanent problem-free use of drains. This is one of the requirements in EN 12056 Part 1. During this test, the draining performance of the individual draining products also has to be observed. Malfunctions can be a sign of changes in the draining system which can then be diagnosed and eliminated in good time. The term malfunctions includes reduced draining performance, louder draining noises, odour traps being drained empty and odour pollution. Drains with removable odour traps have proved their worth in practice. Removal of the unit provides good access, allowing all the functional parts to be checked easily by means of a visual inspection.

**Tipp:** Many KESSEL drains have the integrated locking system *Lock & Lift*. This allows the cover to be opened easily for maintenance, removed and locked again safely. The cleaning time required is reduced by about 70 % compared with covers which are locked in the conventional manner using two screws.



## INFORMATION

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

You can find your personal KESSEL contact on page 3 of this catalog!

### Complete System Solution

In addition to individual stainless steel drains and channels for kitchens or the food processing industry, KESSEL also offers complete separator packages consisting of separator, properly matched lifting station and advantageous accessories. All from one source - KESSEL.

- Lifting and pumping stations for free standing and underground installation see chapter 3 "lifting stations".
- Grease separators for free standing and underground installation see chapter 5 "separators".

### Individual Solutions

Thanks to its knowledge and possibilities, 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](http://www.kessel.com/references)

# Material selection, drains made of PP and ABS

## Overview of resistance values

Drains are offered in a range of different materials. Which material is used depends on the requirements set by the type of wastewater to be discharged. Drains made of polymer are generally characterised by their high impact resistance, light weight and simple design.

PP				ABS			
Medium	Concentration	Temperature in °C	Resistance	Medium	Concentration	Temperature in °C	Resistance
Acetone	100.00 %	23°	+	Acetone	technically pure	23°	-
Formic acid	98.00 %	23°	+	Formic acid	40.00 %	to 50°	+
Ammonium sulphate		to 100°	+	Ammonium sulphate	saturated	to 100°	+
Amyl alcohol		60°	+	Amyl alcohol		23°	+
Petrol/benzene mixture		23°	o	Petrol/benzene mixture	80 to 20	23°	-
Brake fluid		to 60°	+	Brake fluid		23°	-
Bromine		23°	-	Bromine, liquid		23°	-
Butane		to 60°	+	Butane		23°	o
Calcium hypochlorite	12.5 % active Cl	to 60°	+	Calcium hypochlorite	saturated	to 50°	+
Chlorine, liquid		23°	-	Chlorine, liquid		23°	-
Citric acid	saturated	to 100°	+	Citric acid	saturated	to 50°	+
Acetic acid	100.00 %	23°	+	Acetic acid	to 50.00 %	to 50°	+
Hydrofluoric acid	40.00 %	to 60°	+	Hydrofluoric acid	40.00 %	23°	+
Formaldehyde		to 60°	+	Formaldehyde	30.00 %	to 50°	+
Glycerine	100.00 %	to 60°	+	Glycerine		to 50°	+
Magnesium chloride	saturated	to 100°	+	Magnesium chloride	saturated	to 50°	+
Methanol	100.00 %	to 60°	+	Methanol	technically pure	to 20°	+
Lactic acid	10.00 %	to 60°	+	Lactic acid	10.00 %	to 50°	+
Motor oil		23°	+	Motor oil		to 50°	+
Sodium chloride	saturated	to 100°	+	Sodium chloride	saturated	to 50°	+
Sodium thiosulphate	saturated	to 60°	+	Sodium thiosulphate	saturated	to 50°	+
Nitrobenzene	100.00 %	60°	o	Nitrobenzene		23°	-
Perchloroethylene		23°	o	Perchloroethylene		23°	-
Phenol	saturated	to 60°	+	Phenol	10.00 %	50°	o
Propanol	100.00 %	to 60°	+	Propanol		to 50°	+
Nitric acid	50.00 %	23°	o	Nitric acid	30.00 %	23°	+
Hydrochloric acid		to 60°	+	Hydrochloric acid	37.00 %	23°	+
Sulphuric acid	to 10 %	to 100°	+	Sulphuric acid	to 50 %	to 50°	-
Detergent	ready to use	to 60°	+	Detergent	ready to use	23°	+
Nitrogen peroxide	3.00 %	to 100°	+	Nitrogen peroxide	3.00 %	to 50°	+

+ extremely resistant    o moderately resistant    - not for use

# Drains made of *Ecoguss*

## Overview of resistance values

Building drains made of the composite material *Ecoguss* are naturally hygienic and highly resistant to chemicals on account of their smooth and corrosion-free surface. Additional protective coatings are not necessary. Weight approx. 70 % lower than cast iron drains, no electrical grounding necessary and suitable for installation in hot bitumen thanks to high-temperature resistance properties.

<i>Ecoguss</i>			<i>Ecoguss</i>		
Medium	Temperature in °C	Resistance	Medium	Temperature in °C	Resistance
1,1,1-trichloroethane	RT	+	Methanol	RT	+
Acetone	RT	+	Methyl-tert.-butyl ether	RT	+
Formic acid 85 %	RT	+	Lactic acid 90 %	RT	+
Ammoniac 24.5 %	RT	+	Motor oil (150°)	150°	+
Petrol	RT	+	Sodium chloride, saturated	RT	+
Brake fluid (Toyota)	RT	+	Sodium hypochlorite (80°)	80°	o
Butyl alcohol, n-butanol	RT	+	Sodium base liquor 30 %	RT	+
Calcium chloride	RT	+	Sodium base liquor 50 %	RT	+
Calcium base liquor	RT	+	n-butyl acetate	RT	+
25 % chlorine solution	RT	+	n-hexane	RT	+
Diesel	RT	+	Phosphoric acid 40 %	RT	+
Diethyl ether	RT	+	Rapeseed methyl ester	RT	+
Acetic acid 99 %	RT	+	Reference petrol C, ASTM D-471	RT	+
Ethanol	RT	+	Nitric acid 10 %	RT	+
Ethylene glycol	RT	+	Nitric acid 65 %	RT	+
FAM-DIN 51604-A	RT	+	Hydrochloric acid 10 %	RT	+
FAM-DIN 51604-B	RT	+	Hydrochloric acid 37 %	RT	+
FAM-DIN 51604-C	RT	+	Sulphuric acid 10 %	RT	+
Frigene 114 (tetrafluorodichloroethane)	RT	+	Sulphuric acid 37 % (battery acid)	RT	+
Frigene R134 + 5 % Aral Alur EE32	RT	+	Silicone oil	RT	+
Hydraulic fluid	RT	+	Toluol	RT	+
Isopropanol	RT	+	Water 90°C up to 1000 h	90°	+
Potassium chromate 30 %	RT	+	Water, cold	RT	+
Potassium base liquor 45 %	RT	+	Xylene	RT	+
Potassium permanganate 6 % (80°)	RT	o	Zinc chloride solution (50 wt.%)	RT	+
Kerosine	RT	+	Zinc chloride solution 10 %	RT	+
			Citric acid (50 wt.%)	RT	+

+ extremely resistant    o moderately resistant    RT = Room temperature



# The right cover whatever the job

## Load classes for drains, covers and upper sections

Drains, covers and upper sections must be properly selected so that they are able to handle the loads at the installation point. The two standards EN 1253-1 (building drains) and EN 124 (upper sections and covers for traffic areas) are applicable here. In cases of doubt, the higher class must always be chosen.

In accordance with EN 1253-1 – inside buildings		In accordance with EN 124 – outside buildings	
K 3	<b>Class K 3</b> for max. load of 300 kg: Areas without traffic, such as in bathrooms at home, in nursing homes, hotels, schools, swimming baths, public washing and shower facilities, balconies, loggias, patios and green roofs.	A 15	<b>Class A 15</b> for max. load of 1.5 tonnes: Areas that can only be used by pedestrians and cyclists.
L 15	<b>Class L 15</b> for max. load of 1.5 tonnes: Areas driven over by light traffic, without forklift trucks, in industrial buildings.	B 125	<b>Class B 125</b> for max. load of 12.5 tonnes: Pavements, pedestrian areas and comparable areas, parking lots or multi-storey car parks.
M 125	<b>Class M 125</b> for max. load of 12.5 tonnes: Areas driven over by traffic, such as multi-storey car parks, factories and workshops.	C 250	<b>Class C 250</b> for max. load of 25 tonnes: Upper sections in the gutter area which, measured from the edge of the kerb, extended up to max. 0.5 m into the road and max. 0.5 m onto the pavement.
		D 400	<b>Class D 400</b> for max. load of 40 tonnes: Road surfaces (including pedestrian areas), hard shoulders and parking areas which are approved for use by all types of road vehicles.





## Project drains

### Floor / Roof drains *Ecoguss* Page 155 – 161

Drains made of *Ecoguss* guaranteeing the highest level of safety in the building.

### Floor / Roof drains *Practicus* Page 158 – 161

*Practicus* heavy duty drains, designed for use in public, industrial and private buildings.

## Bathroom / Shower drains

### Bathroom drains System 125

*“The Ultraflat”* Page 164 – 169

Minimum installation height for renovation and construction

*“The Vertical”* Page 166 – 169

Compact drain body with vertical outlet makes it ideal for renovations

*Giro* Page 166 – 169

The ones with the special twist

### Bathroom drains System 100

*“The Superflat”* Page 172 – 177

Bathroom drain with flexible outlet and low installation height

*Classic* Page 174 – 177

Our classical products - compact with high performance



**SmartSelect** makes planning quite simply quicker - visit [smartselect.kessel.com](http://smartselect.kessel.com) for the configurator for alternative waterproofing options.

# *Ecoguss* is the future – the days of cast iron are over



***Ecoguss* the new metallic composite material.** Drains made from ***Ecoguss*** combine all the advantages of polymer drains, such as low weight and no corrosion, with the advantages of cast iron drains such as sound insulation and heat resistance.



Floor drains ***Ecoguss***  
 The economic alternative to cast iron drains

#### FIRE PROTECTION

Fire and smoke protection insert *Fire-Kit* and *Quick-Fit* passage seal with fire protection with approval Z-19.17-1719: *Ecoguss* drains with a vertical outlet can be equipped with the fire protection insert *Fire-Kit*, which is compliant with the highest fire resistance class R 120. Only use *Fire-Kit* in combination with an odour trap.



#### SOUND PROTECTION

Measurements carried out by the Fraunhofer Institute in Stuttgart:  
*Ecoguss* floor/ceiling drain  
 -  $\geq 16$  dB(A) according to DIN 4109  
 -  $\geq 14$  dB(A) according to VDI 4100 SST III

#### HYGIENE

Self-cleaning effect due to permanent non-corrosive and smooth surface.

#### ASSEMBLY

*Ecoguss* drains are three times lighter than cast iron despite being just as sturdy, thus making transport and installation much easier. There is no longer any need for complex electrical grounding. The drain body requires a core hole with a diameter of only 160 mm.



Floor drains **Practicus** in PP

Self-cleaning effect thanks to corrosion-free and smooth surface

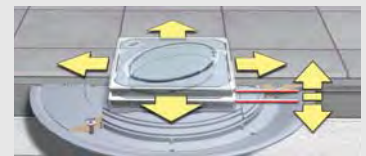
INSTALLATION AID

Cheaper and faster installation for drains with vertical outlet: *Quick-Fit* passage seal for core holes with a diameter of only 160 mm (around 2/3 cost saving). Additional sound decoupling and smoke-tight closure with the version with fire protection with approval Z-19.17-1719.



VARIABLE

Variable upper sections can be twisted, tilted, height-adjusted. In the case of shallow bed upper sections, the covers can also be moved for adaptation to the tile pattern.



PERFECT CONNECTION

Honeycomb structure for perfect integration and stability in concrete.

*Ecoguss*  
Art. # 48 811.63

CONNECTION

Connection to SML pipe in  $\varnothing$  58, 78, 110 and NEW:  $\varnothing$  83.

MODULAR DESIGN

Individual drain composition using the KESSEL modular system.

INSTALLATION EXAMPLE *Ecoguss*





Design the drain you need yourself using our practical matrix order system.

- 1 Select the drain body, lateral or vertical outlet and the diameter...
- 2 Select the matching upper section ...
- 3 The Article # for the matching drain is stated in the respective section.

**Drains System 125**

**Project drains *Ecoguss* with connection flange**

**Matrix order system**

**Drain body**

**Ecoguss with connection flange**  
for connection to SML-pipe, with odour trap 50 mm



Ø	58	78	83	110
B	245	134	134	148
H	120	109	108	92



Ø	58	78	83	110
H	100	110	110	110

Ø 58

Lateral outlet  
Art. # 48 358

Vertical outlet  
Art. # 48 458

Ø 78

Lateral outlet  
Art. # 48 378

Vertical outlet  
Art. # 48 478

Ø 83

Lateral outlet  
Art. # 48 383

Vertical outlet  
Art. # 48 483

Ø 110

Lateral outlet  
Art. # 48 311

Vertical outlet  
Art. # 48 411

**Upper sections**

**Shallow bed upper section in ABS, with mesh fabric**



With slotted cover 138 x 138 mm and rim in stainless steel AISI 304, class L 15, screwed  
Art. # 48 963

**Shallow bed upper section in ABS, with mesh fabric**



With design cover Kessel 120 x 120 mm and rim in stainless steel AISI 304, class L 15, Lock & Lift System  
Art. # 48 904

**Upper section in ABS**



With design cover Kessel 120 x 120 mm, and rim in stainless steel AISI 304, class L 15, Lock & Lift System  
Art. # 48 201

**Complete drain comprising a combination of ... and upper section**

48 358.51	48 358.53	48 358.63	48 358.11
48 458.51	48 458.53	48 458.63	48 458.11
48 378.51	48 378.53	48 378.63	48 378.11
48 478.51	48 478.53	48 478.63	48 478.11
48 383.51	48 383.53	48 383.63	48 383.11
48 483.51	48 483.53	48 483.63	48 483.11
48 411.51	48 411.53	48 411.63	48 411.11
48 311.51	48 311.53	48 311.63	48 311.11



**48 311.53**

For other combinations and accessories see modular system page 160 - 161

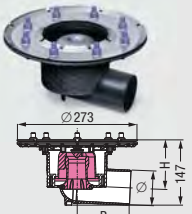
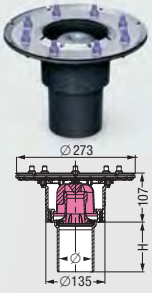

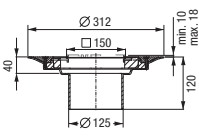

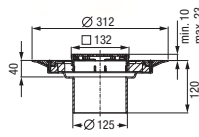

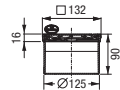

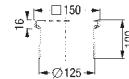
**KESSEL**

EN 1253-1

For other product combinations and accessories, see the modular system at page 160 - 161

Project drains *Ecoguss* with pressure sealing flange

Matrix order system / Products

Drain body	Upper sections																												
<p><b>Ecoguss</b> with pressure sealing flange for connection to SML-pipe, with odour trap 50 mm</p>  <table border="1"> <tr><td>Ø</td><td>58</td><td>78</td><td>83</td><td>110</td></tr> <tr><td>B</td><td>245</td><td>134</td><td>134</td><td>148</td></tr> <tr><td>H</td><td>120</td><td>109</td><td>108</td><td>92</td></tr> </table>  <table border="1"> <tr><td>Ø</td><td>58</td><td>78</td><td>83</td><td>110</td></tr> <tr><td>H</td><td>100</td><td>110</td><td>110</td><td>110</td></tr> </table>	Ø	58	78	83	110	B	245	134	134	148	H	120	109	108	92	Ø	58	78	83	110	H	100	110	110	110	<p><b>Shallow bed upper section in ABS, with mesh fabric</b></p>   <p><b>With slotted cover</b> 138 x 138 mm and rim in stainless steel AISI 304, class L 15, screwed</p> <p>Art. # <b>48 963</b></p>	<p><b>Shallow bed upper section in ABS, with mesh fabric</b></p>   <p><b>With design cover Kessel</b> 120 x 120 mm and rim in stainless steel AISI 304, class L 15, Lock &amp; Lift System</p> <p>Art. # <b>48 904</b></p>	<p><b>Upper section in ABS</b></p>   <p><b>With design cover Kessel</b> 120 x 120 mm, and rim in stainless steel AISI 304, class L 15, Lock &amp; Lift System</p> <p>Art. # <b>48 201</b></p>	<p><b>Upper section in ABS</b></p>   <p><b>With slotted cover</b> 138 x 138 mm in stainless steel AISI 304, class K 3, screwed</p> <p>Art. # <b>48 950</b></p>
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	<b>Complete drain comprising a combination of the drain body and upper section</b>																												
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Lateral outlet Art. # <b>48 758</b>	<b>48 758.51</b>	<b>48 758.53</b>	<b>48 758.63</b>	<b>48 758.11</b>																									
Vertical outlet Art. # <b>48 858</b>	<b>48 858.51</b>	<b>48 858.53</b>	<b>48 858.63</b>	<b>48 858.11</b>																									
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Lateral outlet Art. # <b>48 778</b>	<b>48 778.51</b>	<b>48 778.53</b>	<b>48 778.63</b>	<b>48 778.11</b>																									
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Lateral outlet Art. # <b>48 783</b>	<b>48 783.51</b>	<b>48 783.53</b>	<b>48 783.63</b>	<b>48 783.11</b>																									
Vertical outlet Art. # <b>48 883</b>	<b>48 883.51</b>	<b>48 883.53</b>	<b>48 883.63</b>	<b>48 883.11</b>																									
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Lateral outlet Art. # <b>48 711</b>	<b>48 711.51</b>	<b>48 711.53</b>	<b>48 711.63</b>	<b>48 711.11</b>																									
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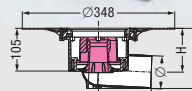

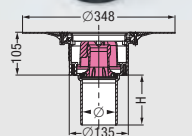

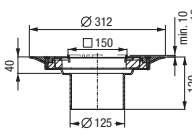

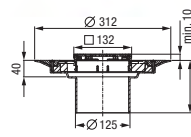

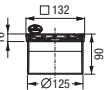

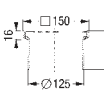
For other combinations and accessories see modular system page 160 - 161



EN 1253-1

Project drains *Ecoguss* with glue flange


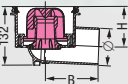

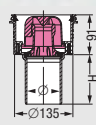

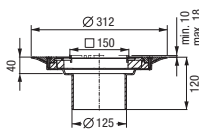

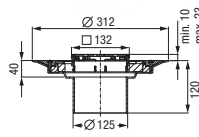

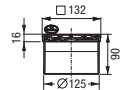

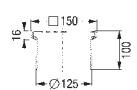
Matrix order system / Products

Drain body	Upper sections																												
<p><b>Ecoguss with glue flange</b> for connection to SML-pipe, with odour trap 50 mm</p>   <table border="1"> <tr> <td>Ø</td> <td>58</td> <td>78</td> <td>83</td> <td>110</td> </tr> <tr> <td>B</td> <td>245</td> <td>134</td> <td>134</td> <td>148</td> </tr> <tr> <td>H</td> <td>120</td> <td>107</td> <td>106</td> <td>90</td> </tr> </table>   <table border="1"> <tr> <td>Ø</td> <td>58</td> <td>78</td> <td>83</td> <td>110</td> </tr> <tr> <td>H</td> <td>100</td> <td>110</td> <td>110</td> <td>110</td> </tr> </table>	Ø	58	78	83	110	B	245	134	134	148	H	120	107	106	90	Ø	58	78	83	110	H	100	110	110	110	<p><b>Shallow bed upper section in ABS, with mesh fabric</b></p>   <p><b>With slotted cover</b> 138 x 138 mm and rim in stainless steel AISI 304, class L 15, screwed</p> <p>Art. # <b>48 963</b></p>	<p><b>Shallow bed upper section in ABS, with mesh fabric</b></p>   <p><b>With design cover Kessel</b> 120 x 120 mm and rim in stainless steel AISI 304, class L 15, <i>Lock &amp; Lift System</i></p> <p>Art. # <b>48 904</b></p>	<p><b>Upper section in ABS</b></p>   <p><b>With design cover Kessel</b> 120 x 120 mm, and rim in stainless steel AISI 304, class L 15, <i>Lock &amp; Lift System</i></p> <p>Art. # <b>48 201</b></p>	<p><b>Upper section in ABS</b></p>   <p><b>With slotted cover</b> 138 x 138 mm in stainless steel AISI 304, class K 3, screwed</p> <p>Art. # <b>48 950</b></p>
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B	245	134	134	148																									
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Lateral outlet Art. # <b>48 558</b>	<b>48 558.51</b>	<b>48 558.53</b>	<b>48 558.63</b>	<b>48 558.11</b>																									
Vertical outlet Art. # <b>48 658</b>	<b>48 658.51</b>	<b>48 658.53</b>	<b>48 658.63</b>	<b>48 658.11</b>																									
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Lateral outlet Art. # <b>48 583</b>	<b>48 583.51</b>	<b>48 583.53</b>	<b>48 583.63</b>	<b>48 583.11</b>																									
Vertical outlet Art. # <b>48 683</b>	<b>48 683.51</b>	<b>48 683.53</b>	<b>48 683.63</b>	<b>48 683.11</b>																									
Ø 110																													
Lateral outlet Art. # <b>48 511</b>	<b>48 511.51</b>	<b>48 511.53</b>	<b>48 511.63</b>	<b>48 511.11</b>																									
Vertical outlet Art. # <b>48 611</b>	<b>48 611.51</b>	<b>48 611.53</b>	<b>48 611.63</b>	<b>48 611.11</b>																									

For other combinations and accessories see modular system page 160 - 161

Project drains *Ecoguss* with connection flange

Matrix order system / Products

Drain body	Upper sections																												
<p><b>Ecoguss with connection flange</b> for connection to SML-pipe, with odour trap 50 mm</p>   <table border="1"> <tr><td>Ø</td><td>58</td><td>78</td><td>83</td><td>110</td></tr> <tr><td>B</td><td>245</td><td>134</td><td>134</td><td>148</td></tr> <tr><td>H</td><td>120</td><td>109</td><td>108</td><td>92</td></tr> </table>   <table border="1"> <tr><td>Ø</td><td>58</td><td>78</td><td>83</td><td>110</td></tr> <tr><td>H</td><td>100</td><td>110</td><td>110</td><td>110</td></tr> </table>	Ø	58	78	83	110	B	245	134	134	148	H	120	109	108	92	Ø	58	78	83	110	H	100	110	110	110	<p><b>Shallow bed upper section in ABS, with mesh fabric</b></p>   <p><b>With slotted cover</b> 138 x 138 mm and rim in stainless steel AISI 304, class L 15, screwed</p> <p>Art. # <b>48 963</b></p>	<p><b>Shallow bed upper section in ABS, with mesh fabric</b></p>   <p><b>With design cover Kessel</b> 120 x 120 mm and rim in stainless steel AISI 304, class L 15, Lock &amp; Lift System</p> <p>Art. # <b>48 904</b></p>	<p><b>Upper section in ABS</b></p>   <p><b>With design cover Kessel</b> 120 x 120 mm, and rim in stainless steel AISI 304, class L 15, Lock &amp; Lift System</p> <p>Art. # <b>48 201</b></p>	<p><b>Upper section in ABS</b></p>   <p><b>With slotted cover</b> 138 x 138 mm in stainless steel AISI 304, class K 3, screwed</p> <p>Art. # <b>48 950</b></p>
	Ø	58	78	83	110																								
B	245	134	134	148																									
H	120	109	108	92																									
Ø	58	78	83	110																									
H	100	110	110	110																									
	▼																												
	<b>Complete drain comprising a combination of the drain body and upper section</b>																												
Ø 58																													
Lateral outlet Art. # <b>48 358</b>	<b>48 358.51</b>	<b>48 358.53</b>	<b>48 358.63</b>	<b>48 358.11</b>																									
Vertical outlet Art. # <b>48 458</b>	<b>48 458.51</b>	<b>48 458.53</b>	<b>48 458.63</b>	<b>48 458.11</b>																									
Ø 78																													
Lateral outlet Art. # <b>48 378</b>	<b>48 378.51</b>	<b>48 378.53</b>	<b>48 378.63</b>	<b>48 378.11</b>																									
Vertical outlet Art. # <b>48 478</b>	<b>48 478.51</b>	<b>48 478.53</b>	<b>48 478.63</b>	<b>48 478.11</b>																									
Ø 83																													
Lateral outlet Art. # <b>48 383</b>	<b>48 383.51</b>	<b>48 383.53</b>	<b>48 383.63</b>	<b>48 383.11</b>																									
Vertical outlet Art. # <b>48 483</b>	<b>48 483.51</b>	<b>48 483.53</b>	<b>48 483.63</b>	<b>48 483.11</b>																									
Ø 110																													
Lateral outlet Art. # <b>48 311</b>	<b>48 311.51</b>	<b>48 311.53</b>	<b>48 311.63</b>	<b>48 311.11</b>																									
Vertical outlet Art. # <b>48 411</b>	<b>48 411.51</b>	<b>48 411.53</b>	<b>48 411.63</b>	<b>48 411.11</b>																									

For other combinations and accessories see modular system page 160 - 161



EN 1253-1



**Project drains *Practicus* with pressure sealing flange** Matrix order system / Products


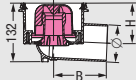

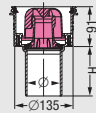

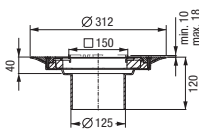

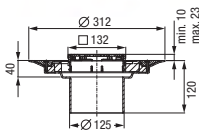

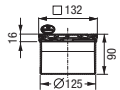

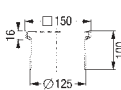
Drain body	Upper sections																							
<p><b>Practicus</b>, in PP with pressure sealing flange with odour trap</p> <table border="1"> <tr> <td>Ø</td> <td>50</td> <td>75</td> <td>110</td> </tr> <tr> <td>B</td> <td>245</td> <td>134</td> <td>148</td> </tr> <tr> <td>H</td> <td>120</td> <td>107</td> <td>90</td> </tr> </table> <table border="1"> <tr> <td>Ø</td> <td>50</td> <td>75</td> <td>110</td> </tr> <tr> <td>H</td> <td>100</td> <td>110</td> <td>110</td> </tr> </table>	Ø	50	75	110	B	245	134	148	H	120	107	90	Ø	50	75	110	H	100	110	110	<p><b>Shallow bed upper section in ABS, with mesh fabric</b></p> <p><b>With slotted cover</b> 138 x 138 mm and rim in stainless steel AISI 304, class L 15, screwed Art. # <b>48 963</b></p>	<p><b>Shallow bed upper section in ABS, with mesh fabric</b></p> <p><b>With design cover Kessel</b> 120 x 120 mm and rim in stainless steel AISI 304, class L 15, Lock &amp; Lift System Art. # <b>48 904</b></p>	<p><b>Upper section in ABS</b></p> <p><b>With design cover Kessel</b> 120 x 120 mm, and rim in stainless steel AISI 304, class L 15, Lock &amp; Lift System Art. # <b>48 201</b></p>	<p><b>Upper section in ABS</b></p> <p><b>With slotted cover</b> 138 x 138 mm in stainless steel AISI 304, class K 3, screwed Art. # <b>48 950</b></p>
Ø	50	75	110																					
B	245	134	148																					
H	120	107	90																					
Ø	50	75	110																					
H	100	110	110																					
Ø 50	<b>Complete drain comprising a combination of the drain body and upper section</b>																							
Lateral outlet Art. # <b>45 159</b>	<b>45 159.51</b>	<b>45 159.53</b>	<b>45 159.63</b>	<b>45 159.11</b>																				
Vertical outlet Art. # <b>45 259</b>	<b>45 259.51</b>	<b>45 259.53</b>	<b>45 259.63</b>	<b>45 259.11</b>																				
Ø 75																								
Lateral outlet Art. # <b>45 179</b>	<b>45 179.51</b>	<b>45 179.53</b>	<b>45 179.63</b>	<b>45 179.11</b>																				
Vertical outlet Art. # <b>45 279</b>	<b>45 279.51</b>	<b>45 279.53</b>	<b>45 279.63</b>	<b>45 279.11</b>																				
Ø 110																								
Lateral outlet Art. # <b>45 119</b>	<b>45 119.51</b>	<b>45 119.53</b>	<b>45 119.63</b>	<b>45 119.11</b>																				
Vertical outlet Art. # <b>45 219</b>	<b>45 219.51</b>	<b>45 219.53</b>	<b>45 219.63</b>	<b>45 219.11</b>																				

For other combinations and accessories see modular system page 160 - 161



Project drains *Practicus* with connection flange

Matrix order system / Products

Drain body	Upper sections																							
<p><b>Practicus</b>, in PP with connection flange with odour trap</p>   <table border="1"> <tr><td>Ø</td><td>50</td><td>75</td><td>110</td></tr> <tr><td>B</td><td>245</td><td>134</td><td>148</td></tr> <tr><td>H</td><td>120</td><td>109</td><td>92</td></tr> </table>   <table border="1"> <tr><td>Ø</td><td>50</td><td>75</td><td>110</td></tr> <tr><td>H</td><td>100</td><td>110</td><td>110</td></tr> </table>	Ø	50	75	110	B	245	134	148	H	120	109	92	Ø	50	75	110	H	100	110	110	<p><b>Shallow bed upper section in ABS, with mesh fabric</b></p>   <p><b>With slotted cover</b> 138 x 138 mm and rim in stainless steel AISI 304, class L 15, screwed</p> <p>Art. # <b>48 963</b></p>	<p><b>Shallow bed upper section in ABS, with mesh fabric</b></p>   <p><b>With design cover Kessel</b> 120 x 120 mm and rim in stainless steel AISI 304, class L 15, Lock &amp; Lift System</p> <p>Art. # <b>48 904</b></p>	<p><b>Upper section in ABS</b></p>   <p><b>With design cover Kessel</b> 120 x 120 mm, and rim in stainless steel AISI 304, class L 15, Lock &amp; Lift System</p> <p>Art. # <b>48 201</b></p>	<p><b>Upper section in ABS</b></p>   <p><b>With slotted cover</b> 138 x 138 mm in stainless steel AISI 304, class K 3, screwed</p> <p>Art. # <b>48 950</b></p>
Ø	50	75	110																					
B	245	134	148																					
H	120	109	92																					
Ø	50	75	110																					
H	100	110	110																					
<p>Complete drain comprising a combination of the drain body and upper section</p>																								
<p>Ø 50</p> <p>Lateral outlet Art. # <b>45 150</b></p> <p>Vertical outlet Art. # <b>45 250</b></p>	<p><b>45 150.51</b></p> <p><b>45 250.51</b></p>	<p><b>45 150.53</b></p> <p><b>45 250.53</b></p>	<p><b>45 150.63</b></p> <p><b>45 250.63</b></p>	<p><b>45 150.11</b></p> <p><b>45 250.11</b></p>																				
<p>Ø 75</p> <p>Lateral outlet Art. # <b>45 170</b></p> <p>Vertical outlet Art. # <b>45 270</b></p>	<p><b>45 170.51</b></p> <p><b>45 270.51</b></p>	<p><b>45 170.53</b></p> <p><b>45 270.53</b></p>	<p><b>45 170.63</b></p> <p><b>45 270.63</b></p>	<p><b>45 170.11</b></p> <p><b>45 270.11</b></p>																				
<p>Ø 110</p> <p>Lateral outlet Art. # <b>45 110</b></p> <p>Vertical outlet Art. # <b>45 210</b></p>	<p><b>45 110.51</b></p> <p><b>45 210.51</b></p>	<p><b>45 110.53</b></p> <p><b>45 210.53</b></p>	<p><b>45 110.63</b></p> <p><b>45 210.63</b></p>	<p><b>45 110.11</b></p> <p><b>45 210.11</b></p>																				



For other combinations and accessories  
see modular system page 160 - 161

**U**  
Upper sections

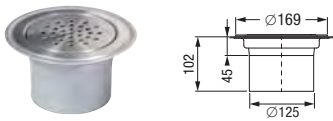
**A**  
Accessories

**D**  
Drain bodies



Upper section for PVC floorings

Variofix shallow bed upper sections

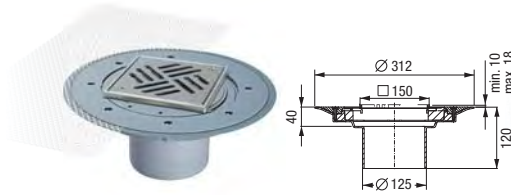


in stainless steel AISI 304

with cover  $\varnothing$  133 mm  
in stainless steel AISI 304,  
class L 15, screwed.  
For use with 1-4 mm PVC / vinyl flooring.

Art. # 59 192

Custom made product (delivery time on request)

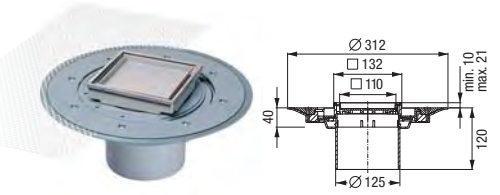


in ABS, incl. mesh fabric

with slotted cover/rim  $\square$  138 mm  
in stainless steel, class L 15,  
screwed.  
For tile thickness of 8-16 mm.

AISI 304 Art. # 48 963

AISI 316L Art. # 48 206

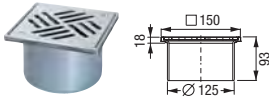


with recessed polymer cover  
for on-site tiling  $\square$  110 mm  
rim in stainless steel,  
class K 3, with locking system

AISI 304 Art. # 48 906

AISI 316L Art. # 48 208

Upper sections

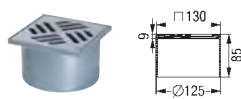


in ABS...

with slotted cover/rim  
 $\square$  138 mm  
in stainless steel  
screwed, class L 15

AISI 304 Art. # 48 951

AISI 316L Art. # 48 205



in ABS...

with slotted cover  
 $\square$  120 mm  
in stainless steel AISI 304  
class K 3

Art. # 48 165



in ABS...

with slotted cover  $\square$  138 mm, class K 3,  
in stainless steel,  
screwed

AISI 304 Art. # 48 950

AISI 316L Art. # 48 209

in ABS,  
black

Art. # 48 193



in ABS, tileable...

$\square$  110 mm, made of polymer, class K 3  
with rim  
in stainless steel

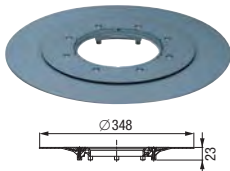
AISI 304 Art. # 48 211

AISI 316L Art. # 48 207

with rim  
in polymer

Art. # 48 210

Accessories

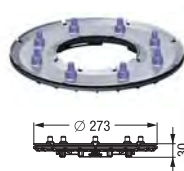


Glue flange with counter flange

in ABS,  $\varnothing$  348 mm  
(also for compound seal)

Art.Nr. 48 410

can be combined with drain bodies  
and extension sections

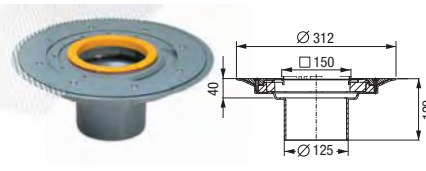


Pressure sealing flange

in stainless steel AISI 304,  $\varnothing$  273 mm,  
with seeping water opening

Art. # 48 402

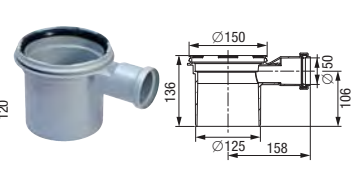
can be combined with drain bodies  
and extension sections



Intermediate section with glue flange

in ABS, for shallow bed gasket  
incl. mesh fabric

Art. # 48 900



Extension section

in PP, with lip seal

without lateral inlet

Art. # 48 987

with lateral inlet  $\varnothing$  50

Art. # 48 989

Mesh fabric  
for Art. # 48 410  
Art. # 046-056

Elastomer waterproof membrane in NBR  
for Art. # 48 402  
Art. # 48 981

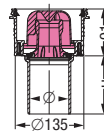
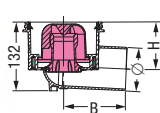
Drain bodies *Ecoguss* and *Practicus*

All drain bodies:  
1.8 l/sec flow rate  
Sealing water height 50 mm



**Ecoguss**

with removable odour trap



Lateral outlet			
$\varnothing$	B	H	Article #
58	245	120	48 358
78	134	109	48 378
83	134	108	48 383
110	148	92	48 311
Vertical outlet			
58	100		48 458
78	110		48 478
83	110		48 483
110	110		48 411

# Modular system with covers in stainless steel AISI 304 / AISI 316L

## Variofix shallow bed upper sections with design cover



in ABS, incl. mesh fabric

design covers □ 120 mm and rim in stainless steel, class K 3 / L 15. For tile thickness of 8-21 mm, with or without Lock & Lift System

			<b>Kessel</b> (Cl. L 15)	<b>Oval</b> (Cl. L 15)	<b>Spot</b> (Cl. K 3)	<b>Cross</b> (Cl. K 3)	<b>Festival</b> (Cl. K 3)	<b>Parade</b> (Cl. K 3)	<b>Slot</b> (Cl. K 3)	<b>Sticks</b> (Cl. K 3)
with <b>Lock &amp; Lift...</b>	<b>AISI 304</b>	Art. #	<b>48 904</b>	<b>48 905</b>	<b>48 621</b>	<b>48 613</b>	<b>48 615</b>	<b>48 624</b>	<b>48 619</b>	<b>48 617</b>
	<b>AISI 316L</b>	Art. #	<b>48 204</b>	-	-	-	-	-	-	-
without <b>Lock &amp; Lift...</b>	<b>AISI 304</b>	Art. #	<b>48 625</b>	<b>48 626</b>	<b>48 620</b>	<b>48 612</b>	<b>48 614</b>	<b>48 623</b>	<b>48 618</b>	<b>48 616</b>

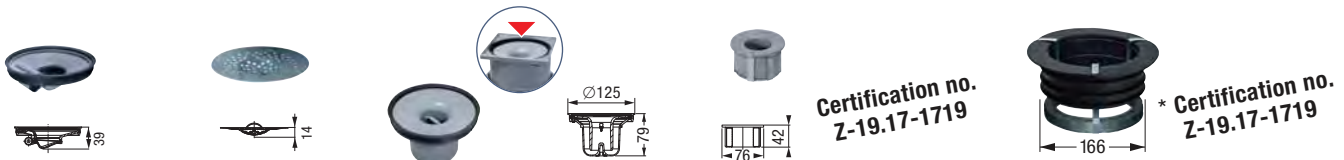
## Upper section with design cover



in ABS

design covers □ 120 mm and rim in stainless steel, class K 3 / L 15 with or without Lock & Lift System

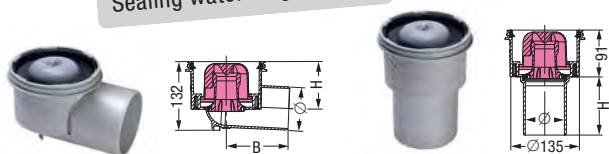
			<b>Kessel</b> (Cl. L 15)	<b>Oval</b> (Cl. L 15)	<b>Spot</b> (Cl. K 3)	<b>Cross</b> (Cl. K 3)	<b>Festival</b> (Cl. K 3)	<b>Parade</b> (Cl. K 3)	<b>Slot</b> (Cl. K 3)	<b>Sticks</b> (Cl. K 3)
with <b>Lock &amp; Lift...</b>	<b>AISI 304</b>	Art. #	<b>48 201</b>	<b>48 202</b>	<b>48 221</b>	<b>48 213</b>	<b>48 215</b>	<b>48 224</b>	<b>48 219</b>	<b>48 217</b>
	<b>AISI 316L</b>	Art. #	<b>48 203</b>	-	-	-	-	-	-	-
without <b>Lock &amp; Lift...</b>	<b>AISI 304</b>	Art. #	<b>48 225</b>	<b>48 226</b>	<b>48 220</b>	<b>48 212</b>	<b>48 214</b>	<b>48 223</b>	<b>48 218</b>	<b>48 216</b>



<b>Multistop</b>	<b>Hair filter</b>	<b>Odour trap</b>	<b>Fire-Kit Fire protection insert</b>	<b>Quick-Fit the passage seal</b>
odour, foam, rodent and insect stop Art. # <b>48 500</b>	made of polymer Art. # <b>48 700</b>	for all upper sections System 125, sealing water height 50 mm according to norm Art. # <b>48 600</b>	Only for <i>Ecoguss / Practicus</i> drains with vertical outlet and odour trap Ø <b>58/78/83</b> Art. # <b>48 099</b> Ø <b>50/75</b> Art. # <b>48 099</b> Ø <b>110</b> Art. # <b>48 100</b>	for core drillings for drain bodies with vertical outlet <b>*with fire protection</b> Art. # <b>48 990</b> (only in combination with <i>Fire-Kit</i> protection insert) <b>without fire protection</b> Art. # <b>48 991</b>

**Sludge trap**  
Art. # **48 168** see page 147

All drain bodies:  
1.8 l/sec flow rate  
Sealing water height 50 mm



**Practicus in PP**  
with removable odour trap

<b>Lateral outlet</b>			
Ø	B	H	Article #
<b>50</b>	245	120	<b>45 150</b>
<b>75</b>	134	109	<b>45 170</b>
<b>110</b>	148	92	<b>45 110</b>
<b>Vertical outlet</b>			
<b>50</b>	100	<b>45 250</b>	
<b>75</b>	110	<b>45 270</b>	
<b>110</b>	110	<b>45 210</b>	



**Insulating body**  
fits all *Ecoguss / Practicus* drain bodies with vertical outlet  
Art. # **48 952**





**SmartSelect** makes planning quite simply quicker - visit [smartselect.kessel.com](http://smartselect.kessel.com) for the configurator for alternative waterproofing options.

# The bathroom drain collection System 125



The bathroom drains **“The Vertical”** and **“The Ultraflat”** are ideal for renovating existing buildings and have numerous advantages thanks to the range of waterproofing layer types for all floor structures.

**New:** drains with shallow bed upper sections and upper sections with covers made of AISI 316L stainless steel for aggressive media.



Bathroom drain **“The Vertical”**  
 compact drain body with vertical outlet  
 makes it ideal for renovations

## INSTALLATION of “The Ultraflat” bathroom drain

### EXTREMELY LOW HEIGHT

Overall installation height with flange including cover 69 mm, up to top edge of flange only 54 mm.



### CAN BE SHORTENED

Upper sections can be shortened up to a minimum installation height.

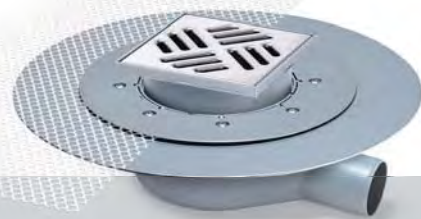
SHALLOW BED WATERPROOFING LAYER \_\_\_\_\_  
 Including mesh fabric for shallow bed waterproofing layer on site.



...for shallow bed sealing



...with connection flange



...with glue flange

### Bathroom drains *"The Ultraflat"*

minimum installation height, ideal for renovation work and new constructions

#### DESIGN COVERS FOR BATHROOM DRAINS

Eight different covers made of stainless steel and one tilable version. Each with or without *Lock & Lift* system.



*"The Ultraflat"*  
Art. # 45 750.20

#### VARIABLE

Variable upper sections can be twisted, tilted, height-adjusted. In the case of shallow bed upper sections, the covers can also be moved for matching to the tile pattern.

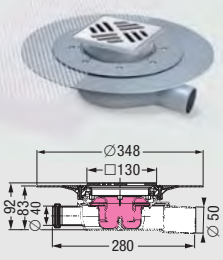
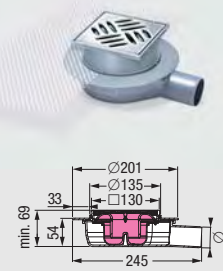
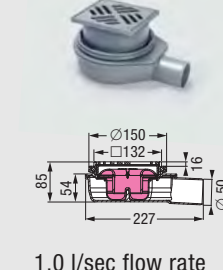
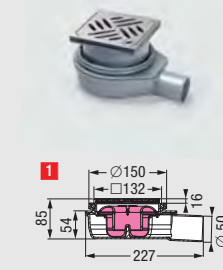


#### SEEPAGE WATER OPENING

For discharging water that has seeped into the floor structure.

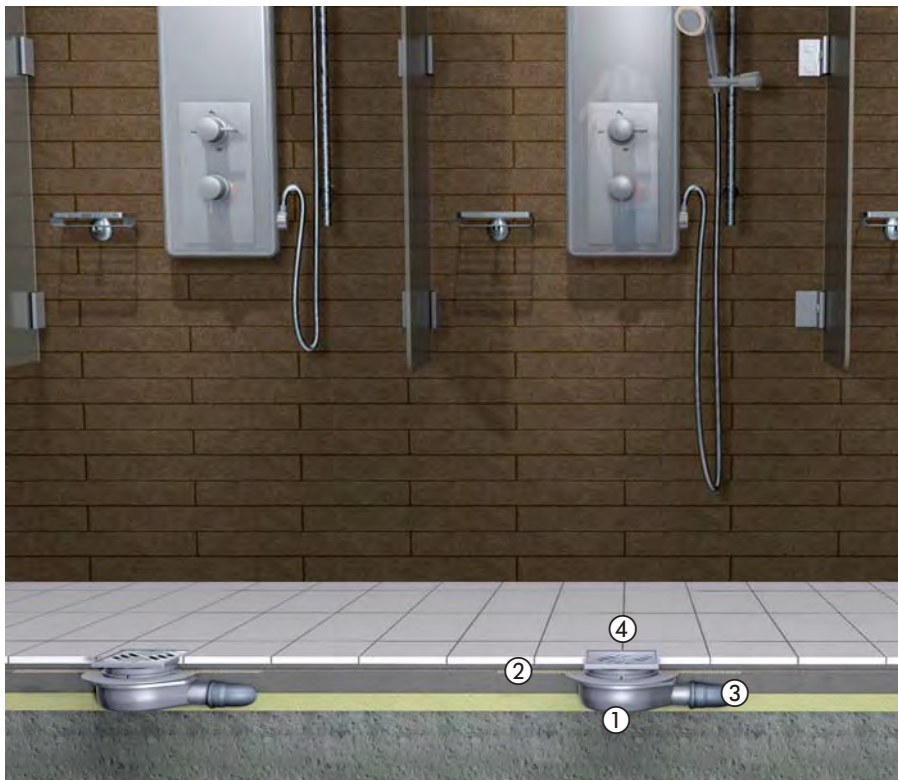
#### *Multistop*

Ideal odour trap for drains that dry out frequently. Can be retrofitted to installed drains.

"The Ultraflat"	Products		
Illustration and dimensioned drawing	Article description	Outer diameter Ø (mm)	Article #
 <p>1.0 l/sec flow rate Installation area 350 x 350 mm</p>	<p><b>Bathroom drain "The Ultraflat"</b> in ABS With lateral outlet and one lateral inlet Ø 40, <b>with removable odour trap, glue flange</b> and mesh fabric for shallow bed seal <b>With upper section in ABS</b></p> <p><input type="checkbox"/> with slotted cover 120 x 120 mm in stainless steel AISI 304, screwed, class K 3 (able to withstand loads up to max. 300 kg).</p> <p>Upper sections can be shortened up to a minimum installation height of 92 mm.</p>	<p>Ø 50</p>	<p><b>45 700.91</b></p>
 <p>Flow rate <b>1</b> Ø 40: 0.6 l/sec <b>2</b> Ø 50: 1 l/sec Installation area 300 x 300 mm</p>	<p><b>Bathroom drain "The Ultraflat"</b> in ABS <b>for shallow bed gasket with lowest installation height</b> sound-absorbing, Ø ... lateral outlet 2.5°</p> <p><b>with removable odour trap, flange</b> and mesh fabric for shallow bed seal <b>With upper section in ABS</b></p> <p><input type="checkbox"/> with slotted cover 120 x 120 mm in stainless steel AISI 304, class K 3 (able to withstand loads up to max. 300 kg).</p> <p>Upper sections can be shortened up to a minimum installation height of 69 mm.</p>	<p><b>1</b> Ø 40 <b>2</b> Ø 50</p>	<p><b>45 740.20</b> <b>45 750.20</b></p>
 <p>1.0 l/sec flow rate Installation area 250 x 300 mm</p>	<p><b>Bathroom drain "The Ultraflat"</b> in ABS sound-absorbing, Ø 50 lateral outlet 2.5°</p> <p><b>with odour trap</b> and lip seal. <b>With upper section in ABS</b></p> <p><input type="checkbox"/> with slotted cover 120 x 120 mm in stainless steel AISI 304, class K 3 (able to withstand loads up to max. 300 kg).</p> <p>Upper sections can be shortened up to a minimum installation height of 69 mm.</p>	<p>Ø 50</p>	<p><b>45 700.20</b></p>
 <p>Flow rate <b>1</b> Ø 50: 1.0 l/sec <b>2</b> Ø 50: 0.9 l/sec Installation area 250 x 300 mm</p>	<p><b>Bathroom drain "The Ultraflat"</b> in ABS sound-absorbing, Ø 50 lateral outlet 2.5°</p> <p><b>With upper section in ABS</b></p> <p><b>1</b> with odour trap, with lip seal. <b>with design cover Kessel 120 x 120 mm and rim in stainless steel AISI 304, with Lock &amp; Lift System, class L 15</b> (able to withstand loads up to max. 1.5 tons).</p> <p>Additional design covers see page 133</p> <p><b>2</b> with <b>Multistop</b>: Odour, foam, rodent and insect stop <b>with cover in stainless steel AISI 304 120 x 120 mm Class K 3</b> (able to withstand loads up to max. 300 kg).</p> <p>Upper sections can be shortened up to a minimum installation height of 85 mm.</p>	<p>Ø 50  Ø 50</p>	<p><b>45 700.63</b>  <b>45 700.71</b></p>



Installation example *"The Ultraflat"*



- ① "The Ultraflat" bathroom drain
- ② Mesh fabric
- ③ Drain pipe
- ④ Cover

Thanks to its minimum overall installation height, *"The Ultraflat"* bathroom drain is particularly suitable for flush-to-floor showers, which are one of the latest trends. Body and upper section together are only 69 millimetres high and are thus also suitable for retrofitting. Connection to the shallow bed waterproofing layer is by means of a mesh fabric on the drain flange. The wastewater collected is routed to the drain pipe via the  $\varnothing$  40 or 50 outlets. The drain looks impressive too: *"The Ultraflat"* can be combined with any of the System 125 upper sections - tilable, slotted cover or one of the award-winning design covers.

Professional advantages

- **Minimum installation height 69 mm** - ideal for renovation work in existing buildings
- Also suitable for flush-to-floor showers thanks to the **high draining** capacity of up to 1 litre per second.
- With **removable odour trap** - full access for maintenance and cleaning
- With slotted cover made of AISI 304 stainless steel - timeless design combined with durable material.
- **Flexible modular system** with a large number of design covers (see page 168 - 169).
- *Multistop* accessory - ideal odour, foam and rodent protection for drains that dry out frequently.
- **Variable upper section** rotatable, tiltable and height adjustable
- Select, plan and visualize your own personalized KESSEL Design shower drainage system using the KESSEL Shower Drain Configurator at



[www.kessel-design.com](http://www.kessel-design.com)





**SmartSelect** makes planning quite simply quicker - visit [smartselect.kessel.com](http://smartselect.kessel.com) for the configurator for alternative waterproofing options.





**"The Vertical"**

Products

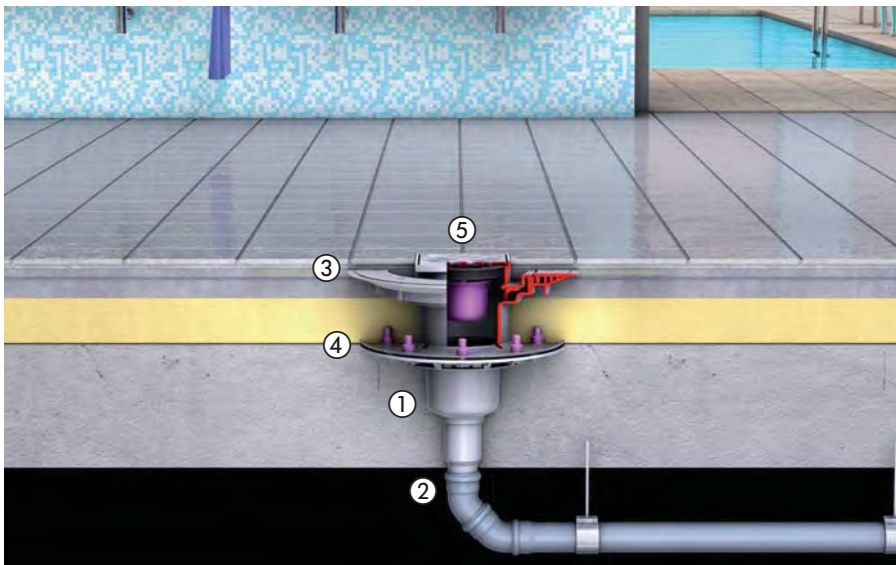
Illustration and dimensioned drawing	Article description	Outer diameter Ø (mm)	Article #
 <p data-bbox="172 1070 475 1126">1.2 l/sec flow rate Installation area 160 x 160 mm</p> 	<p data-bbox="555 309 938 432"><b>Bathroom drain "The Vertical"</b> in ABS With vertical outlet Ø 40/50, <b>with removable odour trap</b> <b>With upper section in ABS</b></p> <p data-bbox="555 443 946 544"><input type="checkbox"/> <b>with slotted cover 120 x 120 mm in stainless steel AISI 304, class K 3</b> (able to withstand loads up to max. 300 kg).</p> <p data-bbox="555 566 930 622">Upper sections can be shortened up to a minimum installation height.</p>	<p data-bbox="1121 309 1209 342">Ø 40/50</p>	<p data-bbox="1345 309 1441 342"><b>45 254.20</b></p>

**Giro**

Products

Illustration and dimensioned drawing	Article description	Outer diameter Ø (mm)	Article #
 <p data-bbox="172 2060 475 2116">1.3 l/sec flow rate Installation area 350 x 250 mm</p> 	<p data-bbox="555 1305 866 1462"><b>Bathroom drain Giro</b> in PP sound-absorbing, Ø 50, flexible outlet, with rotatable lateral inlet Ø 50, <b>with removable odour trap,</b> <b>fixed lip seal</b></p> <p data-bbox="555 1473 826 1507"><b>With upper section in ABS</b></p> <p data-bbox="555 1518 946 1597"><input type="checkbox"/> <b>with slotted cover 120 x 120 mm class K 3</b> (able to withstand loads up to max. 300 kg).</p> <p data-bbox="555 1619 930 1675">Upper sections can be shortened up to a minimum installation height.</p>	<p data-bbox="1137 1305 1193 1339">Ø 50</p>	<p data-bbox="1345 1305 1441 1339"><b>45 101.20</b></p>

### Installation example "The Vertical"

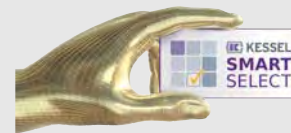


- ① "The Vertical" bathroom drain
- ② Outlet
- ③ Adhesive flange
- ④ Pressure sealing flange
- ⑤ Cover

Thanks to its compact body, "The Vertical" bathroom drain is particularly suitable for renovation work. It has a vertical outlet  $\varnothing$  40 mm which can be cut off and widened to  $\varnothing$  50 mm. The upper sealing level serves as a waterproofing layer against seeping water and is connected by means of an adhesive flange for example. The lower waterproofing layer against water load is connected by means of a pressure sealing flange. The cover is a slotted stainless steel cover - but "The Vertical" drain can also be combined with any other upper section from the System 125 range.

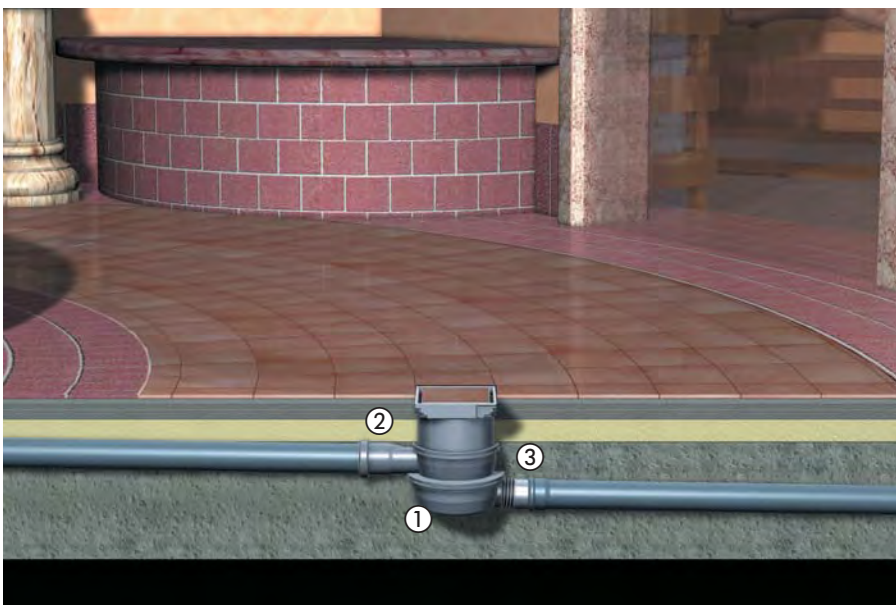
### Professional advantages

- **Compact drain body** - ideal for renovation work.
- Also suitable for flush-to-floor showers thanks to the **high draining** capacity of up to 1 litre per second.
- With **removable odour trap** - full access for maintenance and cleaning
- With slotted cover made of AISI 304 stainless steel - timeless design combined with durable material.
- *Multistop* accessory - ideal odour, foam and rodent protection for drains that dry out frequently.
- **Flexible modular system** with a large number of design covers (see page 168 - 169).



**SmartSelect** makes planning quite simply quicker - visit [smartselect.kessel.com](http://smartselect.kessel.com) for the configurator for alternative waterproofing options.

### Installation example Giro



- ① Giro bathroom drain
- ② Inlet
- ③ Outlet

The *Giro* bathroom drain has an inlet at the side which can be turned through 360 degrees and can thus be used flexibly during drainage planning. It also has a flexible outlet with sound decoupling which has a diameter of 50 mm.

### Professional advantages

- **Variable upper section** rotatable, tiltable and height adjustable
- **Flexible outlet** with sound absorption
- **Sound-absorbing**
- With **removable odour trap** - full access for maintenance and cleaning
- **Sealing system safe to install** The fixed lip seal reliably prevents the upper section from slipping
- Select, plan and visualize your own personalized KESSEL Design shower drainage system using the KESSEL Shower Drain Configurator at

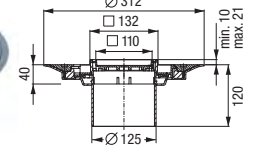
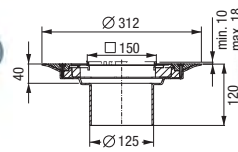
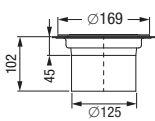


[www.kessel-design.com](http://www.kessel-design.com)

# Bathroom drains "The Ultraflat" and "The Vertical" System 125

## Upper section for PVC floorings

## Variofix shallow bed upper sections



### in stainless steel AISI 304

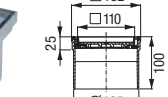
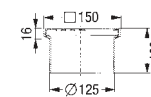
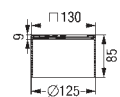
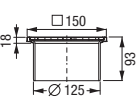
with cover  $\varnothing$  133 mm  
**in stainless steel AISI 304**,  
 class L 15, screwed.  
 For use with 1-4 mm PVC / vinyl flooring.  
**Art. # 59 192**  
 not in combination with drain body "The Ultraflat"  
 Custom made product (delivery time on request)

### in ABS, incl. mesh fabric

with slotted cover/rim  $\square$  138 mm  
**in stainless steel**, class L 15,  
 screwed.  
 For tile thickness of 8-16 mm.  
**AISI 304 Art. # 48 963**  
**AISI 316L Art. # 48 206**

with recessed polymer cover  
 for on-site tiling  $\square$  110 mm  
**rim in stainless steel**,  
 class K 3, with locking system  
**AISI 304 Art. # 48 906**  
**AISI 316L Art. # 48 208**

## Upper sections



### in ABS...

with slotted cover/rim  
 $\square$  138 mm  
**in stainless steel**  
 screwed, class L 15  
**AISI 304 Art. # 48 951**  
**AISI 316L Art. # 48 205**

### in ABS...

with slotted cover  
 $\square$  120 mm  
**in stainless steel AISI 304**  
 class K 3  
**Art. # 48 165**

### in ABS...

with slotted cover  $\square$  138 mm, class K 3,  
**in stainless steel**,  
 screwed  
**AISI 304 Art. # 48 950**  
**AISI 316L Art. # 48 209**

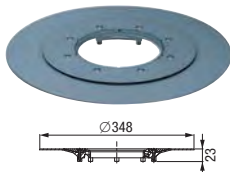
**in ABS,**  
**black**  
**Art. # 48 193**

### in ABS, tileable...

$\square$  110 mm, made of polymer, class K 3  
**with rim**  
**in stainless steel**  
**AISI 304 Art. # 48 211**  
**AISI 316L Art. # 48 207**

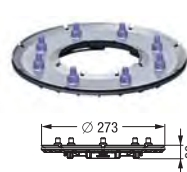
**with rim**  
**in polymer**  
**Art. # 48 210**

## Accessories



### Glue flange with counter flange

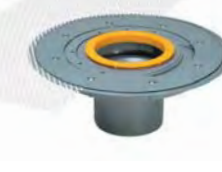
in ABS,  $\varnothing$  348 mm (also for compound seal)  
**Art.Nr. 48 410**  
 can be combined with drain bodies and extension sections



### Pressure sealing flange

in stainless steel AISI 304,  $\varnothing$  273 mm,  
 with seeping water opening  
**Art. # 48 402**

can be combined with drain bodies and extension sections



### Intermediate section with glue flange

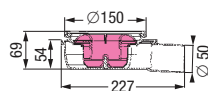
in ABS, for shallow bed gasket  
 incl. mesh fabric  
**Art. # 48 900**

**Mesh fabric** for Art. # 48 410  
**Art. # 046-056**

**Elastomer waterproof membrane** in NBR for Art. # 48 402  
**Art. # 48 981**

## Drain bodies

1.0 l/sec flow rate \*)  
 Sealing water height 30 mm

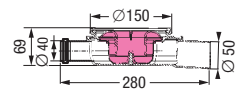


### "The Ultraflat" in ABS

with removable odour trap  
**Lateral outlet  $\varnothing$  50**  
**Art. # 45 700**

**Lateral outlet  $\varnothing$  75**  
**Art. # 45 770**

1.0 l/sec flow rate \*)  
 Sealing water height 30 mm



### "The Ultraflat" in ABS

with removable odour trap  
**with lateral inlet  $\varnothing$  40,**  
**lateral outlet  $\varnothing$  50**  
**Art. # 45 701**

# Modular system with covers in stainless steel AISI 304 / AISI 316L

## Variofix shallow bed upper sections with design cover



in ABS, incl. mesh fabric

design covers □ 120 mm and rim in stainless steel, class K 3 / L 15. For tile thickness of 8-21 mm, with or without Lock & Lift System

			Kessel (Cl. L 15)	Oval (Cl. L 15)	Spot (Cl. K 3)	Cross (Cl. K 3)	Festival (Cl. K 3)	Parade (Cl. K 3)	Slot (Cl. K 3)	Sticks (Cl. K 3)
with Lock & Lift...	AISI 304	Art. #	48 904	48 905	48 621	48 613	48 615	48 624	48 619	48 617
	AISI 316L	Art. #	48 204	-	-	-	-	-	-	-
without Lock & Lift...	AISI 304	Art. #	48 625	48 626	48 620	48 612	48 614	48 623	48 618	48 616

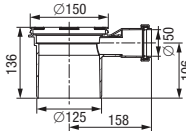
## Upper section with design cover



in ABS

design covers □ 120 mm and rim in stainless steel, class K 3 / L 15 with or without Lock & Lift System

			Kessel (Cl. L 15)	Oval (Cl. L 15)	Spot (Cl. K 3)	Cross (Cl. K 3)	Festival (Cl. K 3)	Parade (Cl. K 3)	Slot (Cl. K 3)	Sticks (Cl. K 3)
with Lock & Lift...	AISI 304	Art. #	48 201	48 202	48 221	48 213	48 215	48 224	48 219	48 217
	AISI 316L	Art. #	48 203	-	-	-	-	-	-	-
without Lock & Lift...	AISI 304	Art. #	48 225	48 226	48 220	48 212	48 214	48 223	48 218	48 216



### Extension section

in PP, with lip seal  
without lateral inlet  
Art. # 48 987  
with lateral inlet Ø 50  
Art. # 48 989

### Multistop

odour, foam, rodent  
and insect stop  
Art. # 48 500

### Hair filter

made of polymer  
Art. # 48 700

### Sludge trap

made of polymer  
Art. # 48 168

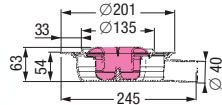
### Odour trap

for all upper sections System 125,  
sealing water height 50 mm  
according to norm  
Art. # 48 600

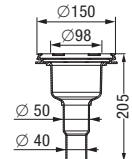
0.6 l/sec flow rate \*)  
Sealing water height 30 mm

1.0 l/sec flow rate \*)  
Sealing water height 30 mm

\*) according to EN 1253-1 - 20 mm threshold



1.2 l/sec flow rate \*)  
Sealing water height 50 mm



### "The Ultraflat" in ABS

with sealing flange for shallow bed gasket,  
with removable odour trap  
Lateral outlet Ø 40,  
Art. # 45 740

Lateral outlet Ø 50,  
Art. # 45 750

### "The Vertical" in ABS

Vertical outlet Ø 50/40  
with removable odour trap  
fits all upper sections System 125  
Art. # 45 254



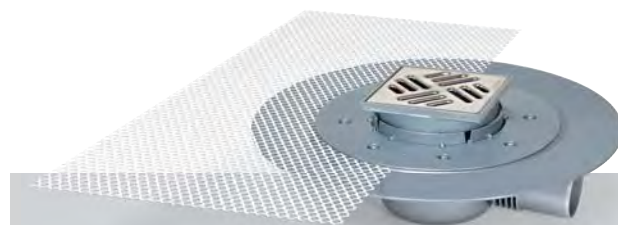


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# The bathroom drain collection System 100



**"The Superflat"** and **Classic** bathroom drains are designed for bathrooms, showers, spa and wellness oases for private, commercial and public use installed in new, converted or renovated buildings.



...with shallow bed gasket

Bathroom drains **"The Superflat"**  
for low installation heights - 95 mm

## ADJUSTABLE

Adjustable upper sections can be twisted, tilted and height-adjusted. In the case of shallow bed upper sections, the covers can also be moved for adaptation to the tile pattern.



## CAN BE SHORTENED

Upper sections can be shortened down to the minimum installation height.

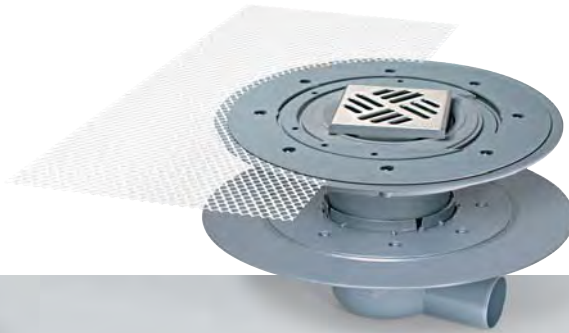


## SAFE INSTALLATION

The fixed lip seal reliably prevents the upper section from slipping.



...with connection flange



...with twin sealing flanges

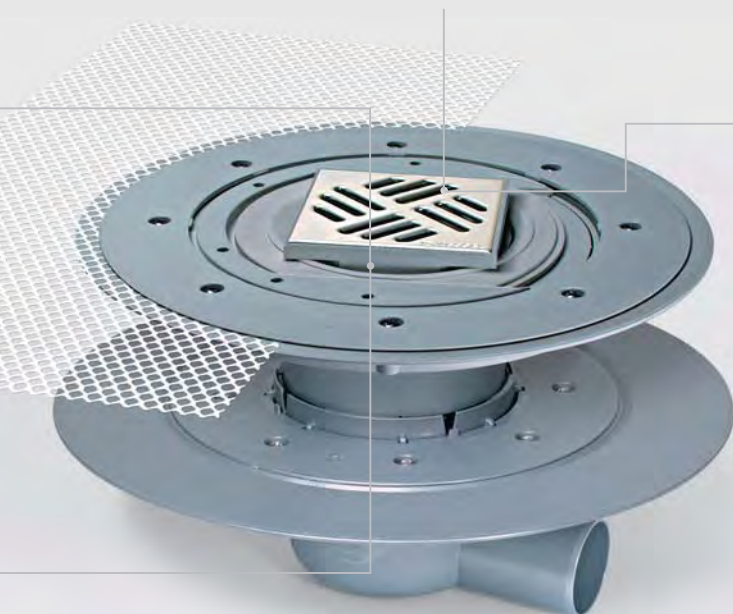


...with glue flange

Bathroom drains **"The Superflat"**  
with additional inlet

Bathroom drains **Classic**  
compact and high performance

HAIR FILTER  
To prevent blockages



*Classic*  
Art. # 40159.50

DESIGN COVERS FOR BATHROOM DRAINS

Eight different covers made of stainless steel and one tileable version. Each with or without Lock & Lift system.



*Kessel*



*Oval*



*Spot*



*Cross*



*Festival*



*Parade*



*Slot*



*Sticks*



*Invisible*

AWARD-WINNING

The award-winning design covers combine aesthetics and technology at the highest level.



**MULTISTOP**

Ideal odour trap for drains that dry out frequently. Can be retrofitted to installed drains.



**"The Superflat"**

Illustration and dimensioned drawing	Article description	Outer diameter Ø (mm)	Article #
 <p>0.8 l/sec flow rate Installation area 260 x 180 mm</p>	<p><b>Bathroom drain "The Superflat"</b> in PP <b>for shallow bed gasket with lowest installation height</b> sound-absorbing, Ø 50 flexible lateral outlet 2.5°, with lateral inlet Ø 40 and fixed lip seal. <b>With removable odour trap, glue flange</b> with mesh fabric for shallow bed sealing <b>With upper section</b> in ABS</p> <p><input type="checkbox"/> with slotted cover 100 x 100 mm in stainless steel AISI 304, class K 3 (able to withstand loads up to max. 300 kg).</p>	<p>Ø 50</p>	<p><b>42 701.91</b></p>
 <p>Illustration shows design cover <i>Oval</i></p> <p>0.8 l/sec flow rate Installation area 260 x 180 mm</p>	<p><b>Bathroom drain "The Superflat"</b> in PP sound-absorbing, Ø 50 flexible lateral outlet 2.5°, with lateral inlet Ø 40 and fixed lip seal. <b>With Variofix shallow bed upper section</b> in ABS, <b>with removable odour trap,</b> with mesh fabric for shallow bed sealing</p> <p><input type="checkbox"/> with design cover <i>Oval</i> 120 x 120 mm and rim in stainless steel AISI 304, for tile thicknesses of 8-21 mm, class L 15 (able to withstand loads up to max. 1.5 to), with <i>Lock &amp; Lift</i> System.</p> <p><input type="checkbox"/> with standard slotted cover 95 x 95 mm in stainless steel AISI 304, for tile thicknesses of 6-14 mm, class K 3 (able to withstand loads up to max. 300 kg).</p>	<p>Ø 50</p> <p>Ø 50</p>	<p><b>42 701.54</b></p> <p><b>42 701.50</b></p>
 <p>0.8 l/sec flow rate Installation area 260 x 180 mm</p>	<p><b>Bathroom drain "The Superflat"</b> in PP sound-absorbing, Ø 50 flexible lateral outlet 2.5°, with lateral inlet Ø 40 and fixed lip seal. <b>With removable odour trap,</b> <b>with glue flange and counter flange</b></p> <p><b>With upper section</b> in ABS</p> <p><input type="checkbox"/> with recessed polymer drain cover for on-site tiling 110 x 110 mm and rim in stainless steel AISI 304, class K 3 (able to withstand loads up to max. 300 kg), with locking system, for tile thickness up to 10 mm.</p>	<p>Ø 50</p>	<p><b>42 701.95</b></p>
 <p>0.8 l/sec flow rate Installation area 260 x 180 mm</p>	<p><b>Bathroom drain "The Superflat"</b> in PP sound-absorbing, Ø 50 flexible lateral outlet 2.5°, with lateral inlet Ø 40 and fixed lip seal. <b>With removable odour trap</b></p> <p><b>With upper section</b> in ABS</p> <p><input type="checkbox"/> with slotted cover 100 x 100 mm in stainless steel AISI 304, min. installation height 90 mm, class K 3 (able to withstand loads up to max. 300 kg).</p>	<p>Ø 50</p>	<p><b>42 701.20</b></p>



Installation example *"The Superflat"*



- |                                  |                   |
|----------------------------------|-------------------|
| ① "The Superflat" bathroom drain | ④ Adhesive flange |
| ② Outlet                         | ⑤ Cover           |
| ③ Inlet                          |                   |

With its installation height of only 95 mm *"The Superflat"* bathroom drain is ideally suitable for both new buildings and renovation work. It has a flexible horizontal outlet  $\varnothing$  50 mm with sound decoupling and a lateral inlet  $\varnothing$  40 mm for the connection of other draining objects. There is an adhesive flange available as an option for humidity sealing. The cover is a slotted stainless steel cover - but *"The Superflat"* drain can also be combined with any other upper section from the System 100 range.

Professional advantages

- **Variable upper section**  
rotatable, tiltable and height adjustable
- **Minimum installation height**
- **Flexible outlet** with sound absorption
- With **removable odour** trap - full access for maintenance and cleaning
- Versions with single or triple inlets.
- **Flexible modular system** with a large number of design covers (see page 176 - 177).
- **Sealing system safe to install**  
The fixed lip seal reliably prevents the upper section from slipping
- Select, plan and visualize your own personalized KESSEL Design shower drainage system using the KESSEL Shower Drain Configurator at



[www.kessel-design.com](http://www.kessel-design.com)

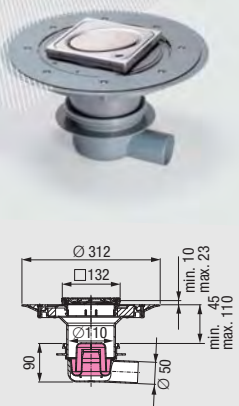

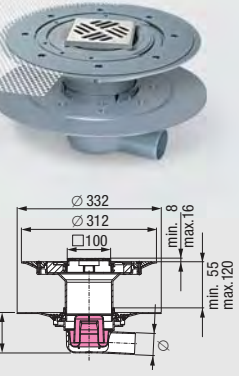

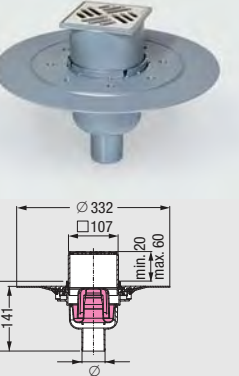



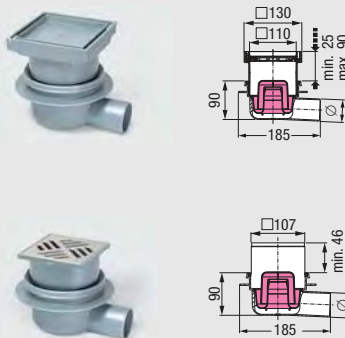

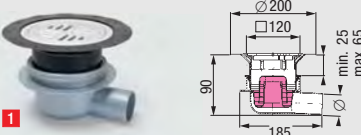

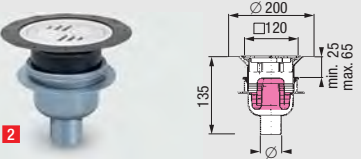
**SmartSelect** makes planning quite simply quicker - visit [smartselect.kessel.com](http://smartselect.kessel.com) for the configurator for alternative waterproofing options.



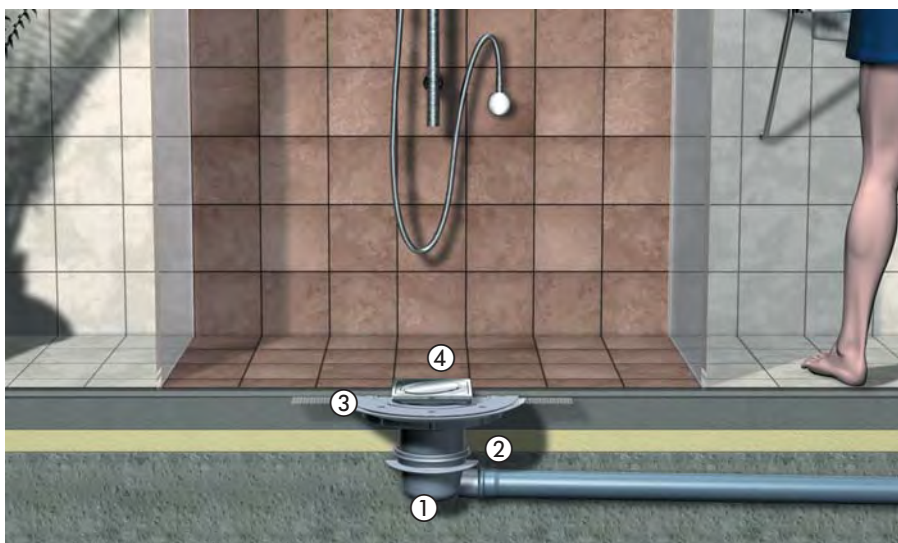
Classic

Products

Illustration and dimensioned drawing	Article description	Outer diameter Ø (mm)	Article #
 <p>Illustration shows design cover <i>Oval</i></p> <p>0.8 l/sec flow rate Installation area 220 x 180 mm</p>	<p><b>Bathroom drain <i>Classic</i> in ABS</b> <b>with removable odour trap,</b> sealing water height 50 mm, with fixed lip seal, <b>With <i>Variofix</i> shallow bed upper section in ABS,</b> with mesh fabric for shallow bed sealing</p> <p><b>Lateral outlet</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> with design cover <i>Oval</i> 120 x 120 mm and rim in stainless steel AISI 304, for tile thicknesses 8-21 mm, with <i>Lock &amp; Lift</i> System, class L 15</li> <li><input type="checkbox"/> with standard slotted cover 95 x 95 mm in stainless steel AISI 304, for tile thicknesses 6-14 mm, class K 3</li> <li><input type="checkbox"/> with slotted cover 138 x 138 mm and rim in stainless steel AISI 304, for tile thicknesses 8-16 mm, class L 15</li> </ul> <p><b>Vertical outlet</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> with design cover <i>Oval</i> 120 x 120 mm and rim in stainless steel AISI 304, for tile thicknesses 8-21 mm, with <i>Lock &amp; Lift</i> System, class L 15</li> <li><input type="checkbox"/> with standard slotted cover 95 x 95 mm in stainless steel AISI 304, for tile thicknesses 6-14 mm, class K 3</li> <li><input type="checkbox"/> with slotted cover 138 x 138 mm and rim in stainless steel AISI 304, for tile thicknesses 8-16 mm, class L 15</li> </ul> <p> EN 1253-1</p>	<ul style="list-style-type: none"> <li>Ø 50</li> <li>Ø 75</li> <li>Ø 50</li> <li>Ø 75</li> <li>Ø 50</li> <li>Ø 75</li> <li>Ø 50</li> <li>Ø 75</li> <li>Ø 50</li> <li>Ø 75</li> <li>Ø 50</li> <li>Ø 75</li> </ul>	<ul style="list-style-type: none"> <li>40 150.54</li> <li>40 170.54</li> <li>40 150.50</li> <li>40 170.50</li> <li>40 150.51</li> <li>40 170.51</li> <li>40 250.54</li> <li>40 270.54</li> <li>40 250.50</li> <li>40 270.50</li> <li>40 250.51</li> <li>40 270.51</li> </ul>
 <p>0.8 l/sec flow rate Installation area 260 x 180 mm</p>	<p><b>Bathroom drain <i>Classic</i> in ABS</b> <b>with removable odour trap,</b> sealing water height 50 mm, with fixed lip seal, <b>With <i>Variofix</i> shallow bed upper section in ABS</b> <b>with glue flange and counter flange,</b> with mesh fabric, with two sealing strips</p> <p><b>Lateral outlet</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> with slotted cover 95 x 95 mm in stainless steel AISI 304, for tile thickness 6-14 mm, class K 3</li> </ul> <p><b>Vertical outlet</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> with slotted cover 95 x 95 mm in stainless steel AISI 304, for tile thickness 6-14 mm, class K 3</li> </ul> <p> EN 1253-1</p>	<ul style="list-style-type: none"> <li>Ø 50</li> <li>Ø 75</li> <li>Ø 50</li> <li>Ø 75</li> </ul>	<ul style="list-style-type: none"> <li>40 159.50</li> <li>40 179.50</li> <li>40 259.50</li> <li>40 279.50</li> </ul>
 <p>0.8 l/sec flow rate Installation area 180 x 180 mm</p>	<p><b>Bathroom drain <i>Classic</i> in ABS</b> <b>with removable odour trap,</b> sealing water height 50 mm, with fixed lip seal, <b>with upper section in ABS</b> <b>with glue flange and counter flange</b></p> <p><b>Lateral outlet</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> with slotted cover 100 x 100 mm in stainless steel AISI 304, class K 3</li> </ul> <p><b>Vertical outlet</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> with slotted cover 100 x 100 mm in stainless steel AISI 304, class K 3</li> </ul> <p> EN 1253-1</p>	<ul style="list-style-type: none"> <li>Ø 50</li> <li>Ø 75</li> <li>Ø 50</li> <li>Ø 75</li> </ul>	<ul style="list-style-type: none"> <li>40 150.90</li> <li>40 170.90</li> <li>40 250.90</li> <li>40 270.90</li> </ul>

Classic		Products	
Illustration and dimensioned drawing	Article description	Outer diameter Ø (mm)	Article #
 <p>0.8 l/sec flow rate Installation area 220 x 180 mm</p>	<p><b>Bathroom drain <i>Classic</i> in ABS with removable odour trap, sealing water height 50 mm, with fixed lip seal</b></p> <p><b>With upper section in ABS</b></p> <p><b>Lateral outlet</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> with recessed polymer drain cover for on-site tiling 110 x 110 mm, class K 3</li> <li><input type="checkbox"/> with slotted cover 100 x 100 mm in stainless steel AISI 304, class K 3</li> </ul> <p><b>Vertical outlet</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> with recessed polymer drain cover for on-site tiling 110 x 110 mm, class K 3</li> <li><input type="checkbox"/> with slotted cover 100 x 100 mm in stainless steel AISI 304, class K 3</li> </ul> <p> EN 1253-1</p>	<p>Ø 50 Ø 75</p> <p>Ø 50 Ø 75</p> <p>Ø 50 Ø 75 Ø 50 Ø 75</p>	<p>40 150.66 40 170.66</p> <p>40 150.20 40 170.20</p> <p>40 250.66 40 270.66 40 250.20 40 270.20</p>
 <p>0.8 l/sec flow rate Installation area 220 x 180 mm</p> <p><b>1</b></p>	<p><b>Bathroom drain <i>Classic</i> in ABS lateral outlet 2.5°/vertical outlet, with removable odour trap, sealing water height 50 mm, with fixed lip seal</b></p> <p><b>1 Lateral outlet</b></p> <p><b>2 Vertical outlet</b></p> <p><b>Upper section with sealing flange for use with 1 - 4 mm vinyl / synthetic flooring</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> with slotted cover made of polymer, grey, class K 3 (able to withstand loads up to max. 300 kg).</li> </ul> <p> EN 1253-1</p>	<p><b>1</b> Ø 50 Ø 75</p> <p><b>2</b> Ø 50 Ø 75</p>	<p>40 150.30 40 170.30</p> <p>40 250.30 40 270.30</p>
 <p>0.8 l/sec flow rate Installation area 180 x 180 mm</p> <p><b>2</b></p>			

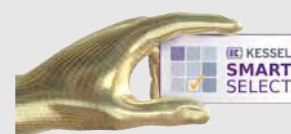
Installation example *Classic*



The *Classic* bathroom drain ① is a compact bathroom drain which is available in many versions. It is available both with a vertical and a horizontal outlet ② in the sizes Ø 50 and Ø 75 mm. There is an adhesive flange ③ available as an option for moisture sealing. The cover is a stainless steel cover in an oval design ④ - but *Classic* bathroom drain can also be combined with any other upper section from the System 100 range.

Professional advantages

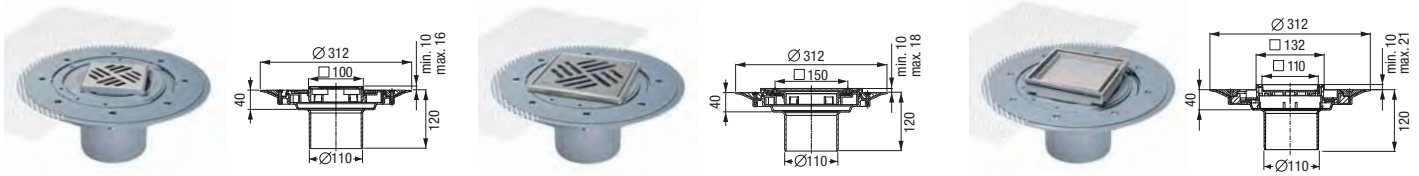
- **Variable upper section**  
rotatable, tiltable and height adjustable
- **Sealing system safe to install**  
The fixed lip seal reliably prevents the upper section from slipping
- With **removable odour trap** - full access for maintenance and cleaning
- **Flexible modular system** with a large number of design covers.



**SmartSelect** makes planning quite simply quicker - visit [smartselect.kessel.com](http://smartselect.kessel.com) for the configurator for alternative waterproofing options.

# Bathroom drains *Classic* and *"The Superflat"* System 100

## Variofix shallow bed upper sections



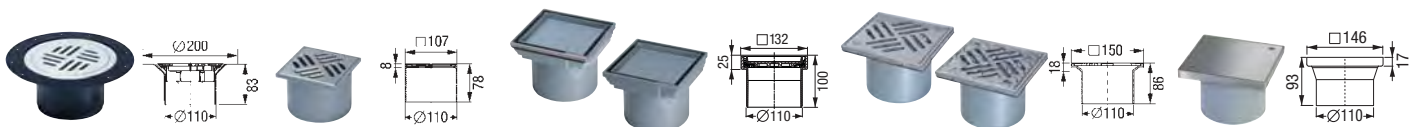
in ABS, vertical and lateral adjustable, incl. mesh fabric

with standard slotted cover □ 95 mm  
in stainless steel AISI 304, class K 3.  
For tile thickness of 6-14 mm  
Art. # 47 901

with slotted cover/rim □ 138 mm  
in stainless steel AISI 304,  
class L 15, screwed.  
For tile thickness of 8-16 mm  
Art. # 47 902

with recessed polymer cover  
for on-site tiling □ 110 mm  
and rim in stainless steel AISI 304,  
class K 3, with locking system  
Art. # 47 906

## Upper sections



in PP...

with sealing flange  
for use with 1 - 4 mm  
vinyl / synthetic flooring,  
slotted cover  
made of polymer,  
Ø 120 mm, class K 3  
Art. # 27 192

in ABS...

with slotted cover  
□ 100 mm  
in stainless steel  
AISI 304, class K 3  
Art. # 27 165

in ABS, tileable...

□ 110 mm, made of polymer,  
class K 3  
with rim  
in stainless steel  
AISI 304  
Art. # 27 211

with rim  
in polymer  
Art. # 27 210

in ABS...

with slotted cover □ 138 mm  
and rim  
in stainless steel AISI 304  
Class L 15  
Art. # 27 176, non-slip  
Class K 3  
Art. # 27 196

in ABS...

with rim and a closed  
cover □ 150 mm  
in stainless steel  
AISI 304, screwed,  
without gasket, class L 15  
Art. # 27 196G

## Accessories



Glue flange

with counter flange  
(also for compound seal)  
Art. # 43 401

Extension section

in PP, with pressure sealing flange  
in stainless steel AISI 304,  
flange width 63 mm  
Art. # 27 198

Extension section

in ABS, with glue flange and  
counter flange  
Art. # 27 199

With glue flange and  
waterproof membrane

pre-mounted in PVC  
1200 x 1200 mm Art. # 43 401.91  
1800 x 2000 mm Art. # 43 401.93

Elastomer waterproof membrane □ 500 mm

in PVC Art. # 43 710  
in EPDM Art. # 43 730



Mesh fabric

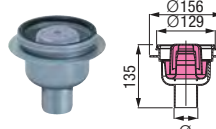
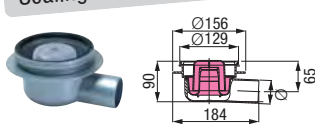
for Art. # 43 401  
Art. # 219-153A

Waterproof membrane in PVC  
without punched-out hole  
1800 x 2000 mm Art. # 43 711  
Glue Art. # 43 719

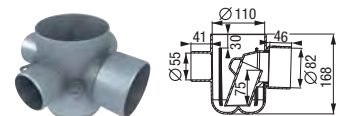
The waterproof membrane in PVC and EPDM are  
not suitable for connections to asphalt sheeting.

## Drain bodies

0.8 l/sec flow rate \*)  
Sealing water height 50 mm



1.8 l/sec flow rate \*)



Bathroom drain *Classic* in ABS

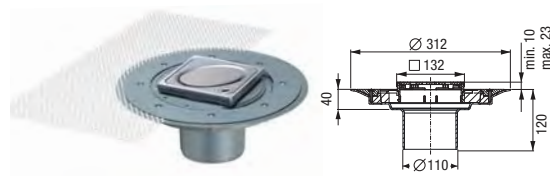
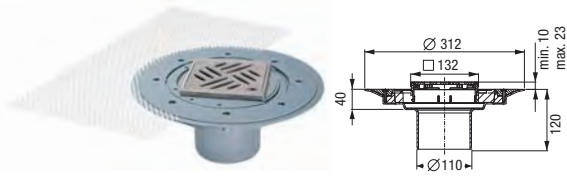
with removable odour trap		
Ø	Lateral outlet	Vertical outlet
50	Art. # 40 150	Art. # 40 250
75	Art. # 40 170	Art. # 40 270

without removable odour trap		
Ø	Lateral outlet	Vertical outlet
50	Art. # 40 151	Art. # 40 251
75	Art. # 40 171	Art. # 40 271

Floordrain ME in ABS

Three lateral inlets Ø 55,  
one lateral outlet Ø 82,  
with removable odour trap  
Glue connection  
according to BS 5255  
Art. # 37 3001

# Modular system with covers in stainless steel AISI 304



in ABS, vertical and lateral adjustable, incl. mesh fabric

with design cover **Kessel** □ 120 mm  
and rim in stainless steel AISI 304, class L 15.  
For tile thickness of 8-21 mm, Lock & Lift System  
Art. # 47904

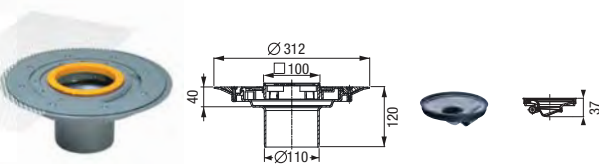
with design cover **Oval** □ 120 mm  
and rim in stainless steel AISI 304, class L 15.  
For tile thickness of 8-21 mm, Lock & Lift System  
Art. # 47905



in ABS

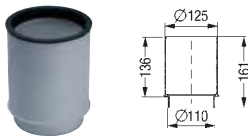
design covers □ 120 mm and rim in stainless steel AISI 304, class K 3 / L 15 with or without Lock & Lift System.

	<b>Kessel</b> (Cl. L 15)	<b>Oval</b> (Cl. L 15)	<b>Spot</b> (Cl. K 3)	<b>Cross</b> (Cl. K 3)	<b>Festival</b> (Cl. K 3)	<b>Parade</b> (Cl. K 3)	<b>Slot</b> (Cl. K 3)	<b>Sticks</b> (Cl. K 3)
with Lock & Lift... Art. #	27201	27202	27221	27213	27215	27224	27219	27217
without Lock & Lift... Art. #	27225	27226	27220	27212	27214	27223	27218	27216



**Intermediate section with glue flange**

in ABS, for shallow bed gasket  
incl. mesh fabric, Art. # 47900

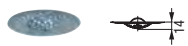


**Extension section**

in ABS, with lip seal  
Art. # 27146

**Multistop**

odour, foam, rodent  
and insect stop  
Art. # 43500



**Hair filter**

made of polymer, Ø 108 mm  
Art. # 43700

**Transition section**

with sealing ring Ø 50  
Ø 50/75 Art. # 27126  
Ø 50/40 Art. # 27118



**Sludge trap**

made of polymer  
Art. # 27168

**Conversion kit, "DIN push-fit connection"**

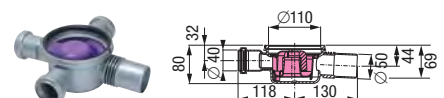
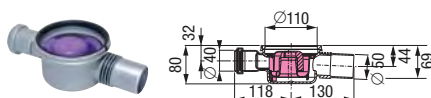
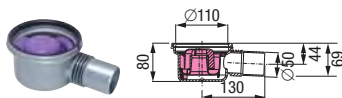
for article: 373001  
Consist of  
3 inlet adapter Ø 50 mm,  
1 outlet adapter Ø 75 mm  
and 1 push-fit connection  
for upper section Ø 110,  
EN 1451-1  
Art. # 373008

**Conversion kit, "DIN glue connection"**

for article: 373001  
Consist of  
3 inlet adapter Ø 50 mm,  
1 outlet adapter Ø 75 mm,  
EN 1451-1  
Art. # 373007

0.8 l/sec flow rate \*)  
Sealing water height 30 mm

\*) according to EN 1253 - 20 mm threshold



**Bathroom drain "The Superflat" in PP**

Lateral outlet Ø 50, with removable odour trap

Without lateral inlet  
Art. # 42700

One lateral inlet Ø 40  
Art. # 42701

Three lateral inlets Ø 40  
Art. # 42703







# Shower channels

## **Shower channels**

### ***Linearis Comfort***

Page **182 – 183**

Variety of different installation options - for an individual bathroom design

## **Shower channels**

### ***Linearis Compact***

Page **184 – 185**

Minimum installation height - ideal for flush-to-floor showers and bathroom renovation!

## **Shower channels**

### ***Linearis Super 60***

Page **186 – 187**

With tileable access cover - full access for maintenance and cleaning!

## **Shower channels**

### ***Linearis***

Extremely narrow channel - elegant appearance!

System 125

Page **186 – 187**

System 100

Page **190 – 192**



**SmartSelect** makes planning quite simply quicker - visit [smartselect.kessel.com](http://smartselect.kessel.com) for the configurator for alternative waterproofing options.

# Shower channels *Linearis*



***Linearis*** shower channels for flush-to-floor installation are leading the modern bathroom design trends. Multiple channel inserts are available including stainless steel, wood-optic for a calm and warm ambience and LED induction technology backlighting.



Variety of different installation options -  
for an individual bathroom design

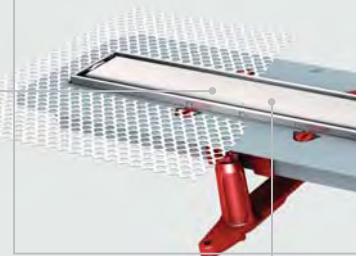
## Shower channels ***Linearis Comfort***

### COMPLETE SHOWER CHANNEL

Ready-to-install complete shower channels with fix mounted drain body with lateral outlet, minimum overall installation height 93 mm. Flange installation height only 86 mm.

### LENGTHS

Five channel lengths: 750, 850, 950, 1050 and 1150 mm.



### SOUND PROTECTION

Measurements carried out by the Fraunhofer Institute in Stuttgart: shower channel ***Linearis Comfort***

- $\geq 17$  dB(A) according to DIN 4109
- $\geq 13$  dB(A) according to VDI 4100 SST III

### INDIVIDUAL

Attractive design covers also available with LED backlighting technology. Stainless steel cover can be turned over and tiled to offer an "invisible" look.





Minimum installation height - ideal for flush-to-floor showers and bathroom renovation!

With tileable access cover - full access for maintenance and cleaning!

Extremely narrow channel - elegant appearance!

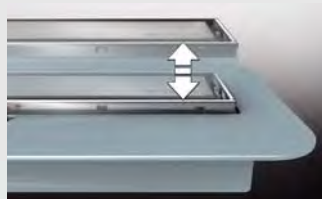
*Linearis Compact*

*Linearis Super60*

*Linearis*

**FLEXIBILITY**

Vertically adjustable frame can be adjusted from 7-22 mm to meet on-site tile thicknesses.



*Linearis Comfort*  
Art. # 45600.83

	<i>Linearis Comfort</i>	<i>Linearis Compact</i>	<i>Linearis Super60</i>	<i>Linearis</i>
<b>Flow rate</b> with 10 mm threshold	1.1 l/sec	0.6 l/sec	1.2 l/sec	0.4 l/sec
<b>Outlet</b>	Ø 50 mm	Ø 50 mm	Ø 50 mm	Ø 50 mm
<b>Installation height</b> Minimum overall installation height	86 mm	80 mm	122 mm	92 mm
Waterproofing options	flange with mesh fabric			
Modular Design	✓	✓	✓	✓
Easy access for service	✓	✓	✓✓	✓✓
Customizable	✓	✓	✓	-
<b>Height adjustable frame</b> to meet on-site tile thicknesses	✓	-	-	-

**INSTALLATION AID**

Included support feet are vertically adjustable.

**CLEANING**

Cleaning and care made easy. Channel rim, odour trap and hair filter can be removed without tools - for ideal shower hygiene.



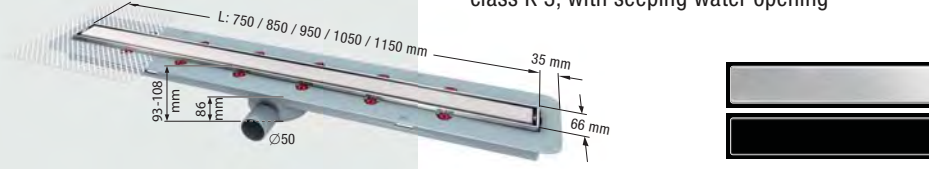
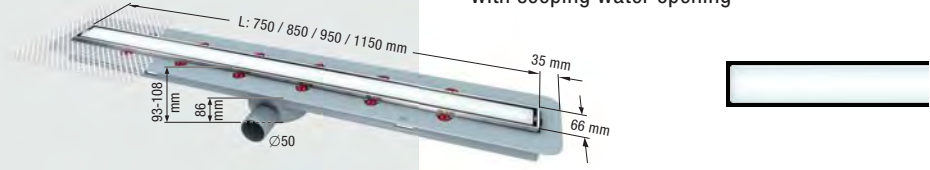


# Shower channels

## Complete channels



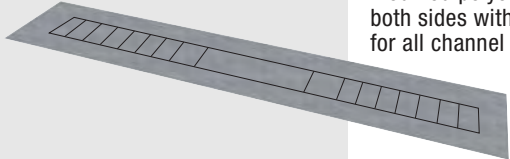
### Linearis Comfort

### Products

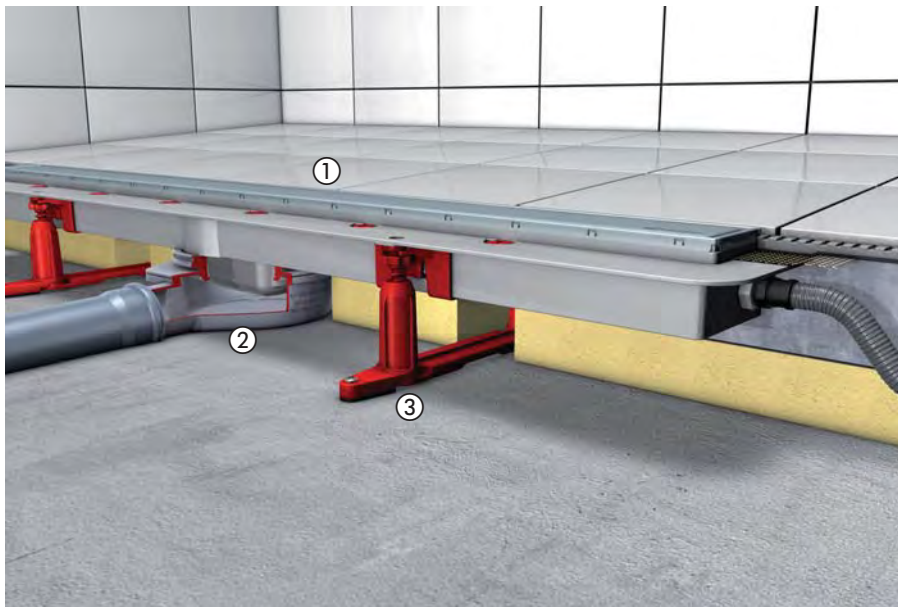
Illustration and dimensioned drawing	Article description	Channel length	Article #
 <p>Installation supports and mesh fabric included</p>	<p><b>Shower channel Linearis Comfort</b>  <b>With drain body</b> in ABS, Ø 50, lateral outlet            With removable odour trap, sealing water height 22 mm  <input type="checkbox"/> <b>cover and rim in stainless steel AISI 304</b>            (Channel cover can be reversed and tiled on site), class K 3, with seeping water opening</p>	750 mm 850 mm 950 mm 1050 mm 1150 mm	<b>45 600.83</b> <b>45 600.84</b> <b>45 600.85</b> <b>45 600.86</b> <b>45 600.87</b>
 <p>Installation supports and mesh fabric included</p>	<p><b>Shower channel Linearis Comfort Light</b>  <b>With drain body</b> in ABS, Ø 50, lateral outlet            With removable odour trap, sealing water height 22 mm  <input type="checkbox"/> <b>cover with maintenance-free induction technology and "white" LED lights</b>            (other colours available upon request), 15 m power cable, handles loads up to 100 kg, with seeping water opening</p>	750 mm 850 mm 950 mm 1150 mm	<b>45 600.83 IC</b> <b>45 600.84 IC</b> <b>45 600.85 IC</b> <b>45 600.87 IC</b>

### Linearis Comfort

### Accessories

Illustration and dimensioned drawing	Article description	Channel length	Article #
 <p>Suitable for all channel lengths from 750 to 1150 mm</p> 	<p><b>Installation aid</b>            Replaces the screed underlining            Including mounting adhesive  <input type="checkbox"/> <b>Linearis Comfort</b>            Suitable for all lengths, can be shortened on-site</p>	-	<b>48 640</b>
	<p><b>Collar seal</b>            As a seal below the ceramic surfaces made of modified polyethylene membrane with fleece on both sides with printed cutting template suitable for all channel lengths            Including mounting adhesive</p>	-	<b>48 638</b>

Installation example *Linearis Comfort*



① Channel cover  
② Drain body  
③ Installation supports

The *Linearis Comfort* shower channel effortlessly combines engineering and design to offer new and creative design concepts for your bathroom. The reversible channel cover can be displayed in the classic stainless steel look or reversed to show the invisible tiled look, also available are custom channel inserts such as wood optic and illuminated versions. The channels are ready-to-install with their welded on drain body, including an odour trap and Ø 50 outlet. *Linearis Comfort* can be installed on the room or wall side of the shower. The flexible installation supports are height-adjustable and can be pivoted away as required for wall-side installation.

Professional advantages

- **Stainless steel cover is reversible and tileable**
- **Vertically adjustable frame**  
Stainless steel channel and rim can be adjusted from 7-22 mm to meet on site tile/granite/marble thicknesses.
- **Installation on room or wall side of shower**  
Feet can be pivoted away as required for wall-side installation.
- **Exemplary hygiene** - smooth, easy-clean surface, self-cleaning effect
- **Channel length:** 750 mm, 850 mm, 950 mm, 1050 mm, 1150 mm.
- **Channel locking mechanism as standard**
- **Flexible modular system** with a large number of design covers.
- **Hair filter and *Multistop*** - odour, foam, rodent and insect stop (**optional**)
- **1.1 l/sec flow rate with 10 mm threshold.**



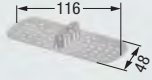
■ Select, plan and visualize your own personalized KESSEL Design shower drainage system using the KESSEL Shower Drain Configurator at



[www.kessel-design.com](http://www.kessel-design.com)

*Linearis Comfort*

Accessories

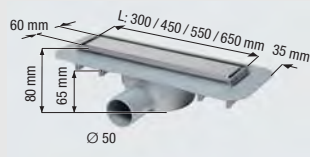

Illustration and dimensioned drawing	Article description	Channel length	Article #
	<b>Odour trap</b> sealing water height 22 mm  only for shower channel <i>Linearis Compact</i> and <i>Linearis Comfort</i>	-	<b>48 603</b>
	<b>Multistop</b> odour, foam, rodent and insect stop	-	<b>48 400</b>
	<b>Hair filter</b>	-	<b>48 800</b>

# Shower channels

## Complete channels

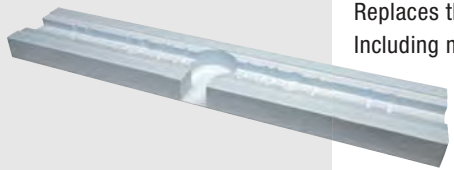

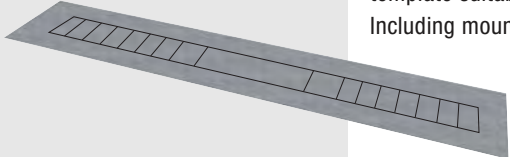
### Linearis Compact

### Products

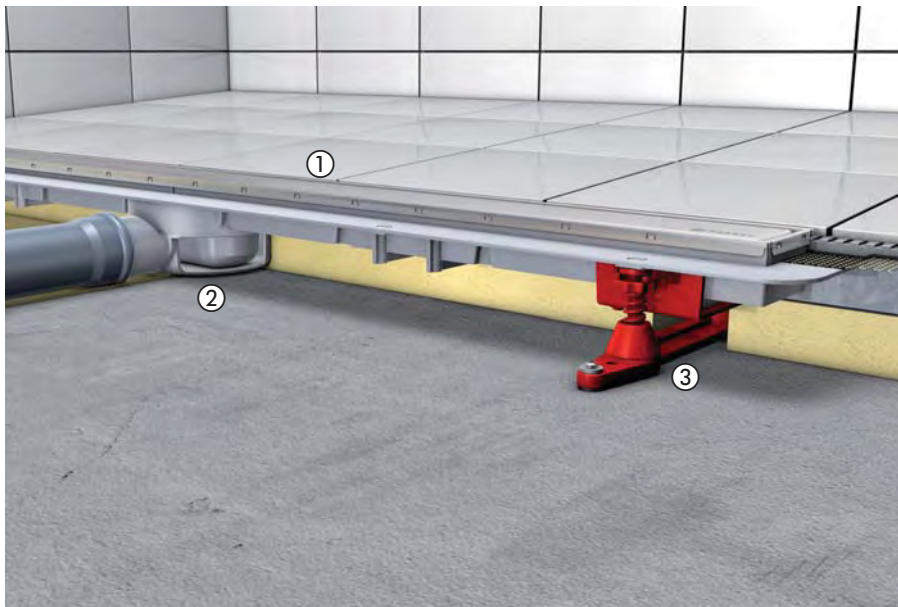
Illustration and dimensioned drawing	Article description	Channel length	Article #
<p><b>Installation depth only 80 mm</b></p>  <p>Channel length from 300 to 650 mm</p>	<p><b>Shower channel <i>Linearis Compact</i></b>  <b>With drain body</b> in ABS, Ø 50, lateral outlet            With removable odour trap,            sealing water height 22 mm</p> <p><input type="checkbox"/> <b>cover and rim in stainless steel AISI 304</b>            (Channel cover can be reversed and tiled on site),            class K 3, seeping water openings prepared</p>	300 mm 450 mm 550 mm 650 mm 750 mm 850 mm 950 mm 1050 mm 1150 mm	<b>45 600.59</b> <b>45 600.60</b> <b>45 600.61</b> <b>45 600.62</b> <b>45 600.63</b> <b>45 600.64</b> <b>45 600.65</b> <b>45 600.66</b> <b>45 600.67</b>
 <p>Channel length from 750 to 1150 mm</p>	<p>0.5 l/sec flow rate without threshold,            0.6 l/sec flow rate with 10 mm threshold</p>		
<p>Installation supports and mesh fabric included</p>			

### Linearis Compact

### Accessories

Illustration and dimensioned drawing	Article description	Channel length	Article #
 <p><b>Example: Installation aid can be shortened on-site</b>            Suitable for all channel lengths from 300 to 1150 mm</p> 	<p><b>Installation aid</b>            Replaces the screed underlining            Including mounting adhesive</p> <p><input type="checkbox"/> <b>Linearis Compact</b>            Suitable for all lengths,            can be shortened on-site</p>	-	<b>48 639</b>
	<p><b>Collar seal</b>            As a seal below the ceramic surfaces            made of modified polyethylene membrane            with fleece on both sides with printed cutting            template suitable for all channel lengths            Including mounting adhesive</p>	-	<b>48 638</b>

Installation example *Linearis Compact*

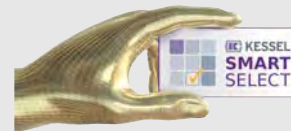


① Channel cover  
② Drain body  
③ Installation supports

Shower channels in a classic, timeless design. Minimalistic impression fits elegantly in a purist bathroom design. The finely finished channel surface in stainless steel can be reversed to offer a recessed side where the bathroom tile or natural stone surface can be installed. The channels are ready-to-install with their welded on drain body, including an odour trap and Ø 50 outlet. *Linearis Compact* can be installed on the room or wall side of the shower. The flexible installation supports can be shortened for wall-side installation.

Professional advantages

- **Stainless steel cover is reversible and tileable**
- **Installation in the room or on the wall**  
The length of the feet can be shortened on the left or right if mounted to the wall.
- **Hygienic design** - single piece body and channel cover
- **Channel length:** 300 mm, 450 mm, 550 mm, 650 mm, 750 mm, 850 mm, 950 mm, 1050 mm, 1150 mm.
- **Flow rate** with counter slope **up to 0.6 l/sec with 10 mm threshold. Flow rate increased to 0.9 l/sec** with use of **Multistop** odour trap.
- **Cover and rim** made of stainless steel.
- **Multistop (optional)** - odour, foam, rodent and insect stop
- **Hair filter (optional)**



**SmartSelect** makes planning quite simply quicker - visit [smartselect.kessel.com](http://smartselect.kessel.com) for the configurator for alternative waterproofing options.

*Linearis Compact*

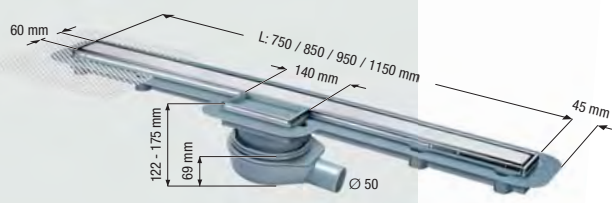
Accessories

Illustration and dimensioned drawing	Article description	Channel length	Article #
<p>Illustration shows ①</p>	<b>Odour trap</b> ① sealing water height 22 mm ② sealing water height 50 mm only for shower channel <i>Linearis Compact</i> and <i>Linearis Comfort</i>	-	48 603 48 602
	<b>Multistop</b> odour, foam, rodent and insect stop	-	48 400
	<b>Hair filter</b>	-	48 800
	<b>Sound protection elements for <i>Linearis Compact</i> installation supports</b> H = 10 mm, 2 pcs.	-	48 630



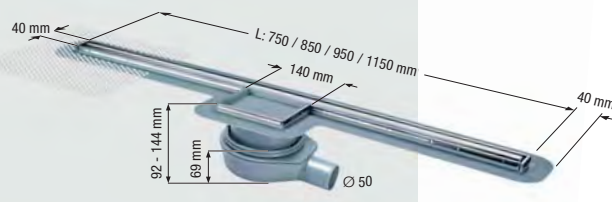
**Linearis Super60**

Products

Illustration and dimensioned drawing	Article description	Channel length	Article #
	<p><b>Shower channel <i>Linearis Super60</i> in ABS with tileable access cover</b>  <b>With bathroom drain body “The Ultraflat”</b>                      in ABS, Ø 50, lateral outlet                      With removable odour trap, sealing water height 30 mm  <input type="checkbox"/> <b>cover and rim in stainless steel AISI 304</b>                      (Channel cover can be reversed and tiled on site), class K 3, with seeping water opening</p>	750 mm	<b>45 700.83</b>
		850 mm	<b>45 700.84</b>
		950 mm	<b>45 700.85</b>
		1150 mm	<b>45 700.87</b>
Installation supports and mesh fabric included	1.1 l/sec flow rate without threshold, 1.2 l/sec flow rate with 10 mm threshold		

**Linearis**

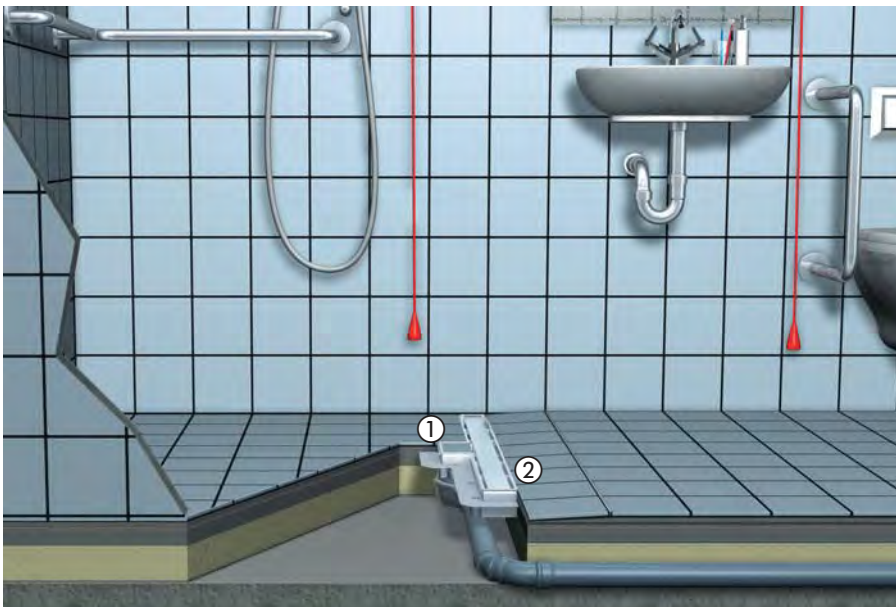
Products

Illustration and dimensioned drawing	Article description	Channel length	Article #
	<p><b>Shower channel <i>Linearis</i> in ABS with tileable access cover</b>  <b>With bathroom drain body “The Ultraflat”</b>                      in ABS, Ø 50, lateral outlet                      With removable odour trap, sealing water height 30 mm  <input type="checkbox"/> <b>cover and rim in stainless steel AISI 304</b>                      class K 3, with seeping water opening</p>	750 mm	<b>45 700.73</b>
		850 mm	<b>45 700.74</b>
		950 mm	<b>45 700.75</b>
		1150 mm	<b>45 700.77</b>
Installation supports and mesh fabric included	0.4 l/sec flow rate with 10 mm threshold		

## Shower channels

### System 125

#### Installation example *Linearis Super60*



- ① Access cover
- ② Stainless steel channel

The *Linearis Super60* shower channels offers a very high flow rate of 72 liters per minute making it perfect for use in higher flow applications. The *Linearis Super60* also allows full service access to the odor trap and drain body via the removable channel and access cover for cleaning and maintenance purposes. The attractive stainless steel channel can also be reversed revealing a recessed area which can be tiled to also offer the “invisible” tiled look. One channel with your choice of two styles - stainless or invisible.

#### Installation example *Linearis*



- ① Access cover
- ② Stainless steel channel

The *Linearis* shower channel features a narrow, elegant stainless steel channel which can be discreetly integrated into the bathroom design. With a flow capacity of 24 liters per minute the *Linearis* shower channel is ideal for mounting against the wall at the back of the shower. For cleaning and maintenance purposes the stainless steel channel and tileable access cover can be removed allowing full access to the odor trap and drain body.

#### Professional advantages

- **Wide channel with high flow rate from 1.1 - 1.2 l/sec**
- **Easy cleaning**  
Access cover for easy cleaning and maintenance
- **Channel cover can be reversed and tiled on site**
- **Channel length:** 750 mm, 850 mm, 950 mm, 1150 mm
- **Also suitable for installation on door side**
- **Flexible modular system** with a large number of components.



**SmartSelect** makes planning quite simply quicker - visit [smartselect.kessel.com](http://smartselect.kessel.com) for the configurator for alternative waterproofing options.

#### Professional advantages

- **Flow rate 0.4 l/sec**
- **Extremely narrow and elegant channel**
- **Easy cleaning**  
Access cover for easy cleaning and maintenance
- **Particularly suitable** for installation on the wall side
- **Channel length:** 750 mm, 850 mm, 950 mm, 1150 mm
- **Flexible modular system** with a large number of components.

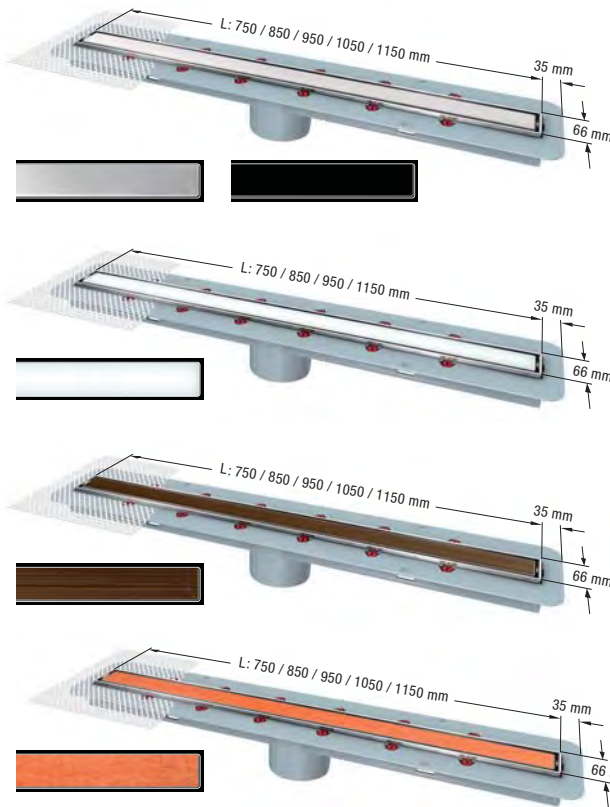


**SmartSelect** makes planning quite simply quicker - visit [smartselect.kessel.com](http://smartselect.kessel.com) for the configurator for alternative waterproofing options.

# Shower channel *Linearis Comfort*, *Linearis Compact*, *Linearis Super60* and *Linearis System 125*

## Shower channel upper section *Linearis Comfort*

1.0 l/sec flow rate  
1.1 l/sec with 10 mm threshold



### *Linearis Comfort* in ABS <sup>1)</sup>

With removable odour trap, sealing water height 50 mm

**cover and rim in stainless steel AISI 304**  
(Channel cover can be reversed and tiled on site),  
class K 3, with seeping water opening,  
installation supports and mesh fabric

Length	Art. #
750 mm	<b>48 928 S</b>
850 mm	<b>48 929 S</b>
950 mm	<b>48 930 S</b>
1050 mm	<b>48 931 S</b>
1150 mm	<b>48 932 S</b>

### *Linearis Comfort Light* in ABS <sup>1)</sup>

With removable odour trap, sealing water height 50 mm

**cover with maintenance-free induction technology and "white" LED lights** (other colours available upon request), 15 m power cable, handles loads up to 100 kg, with seeping water opening, installation supports and mesh fabric

750 mm	<b>48 928 IC</b>
850 mm	<b>48 929 IC</b>
950 mm	<b>48 930 IC</b>
1150 mm	<b>48 932 IC</b>

### *Linearis Comfort "Wengé"* in ABS <sup>1)</sup>

With removable odour trap, sealing water height 50 mm

**Cover in wood look**, handles loads up to 100 kg, with seeping water opening, installation supports and mesh fabric

750 mm	on request
850 mm	on request
950 mm	on request
1050 mm	on request
1150 mm	on request

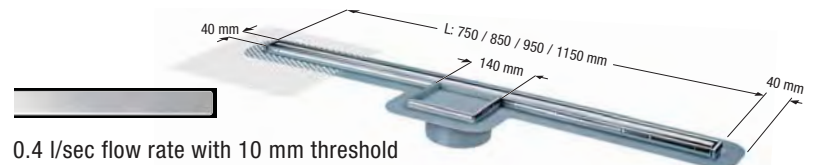
### *Linearis Comfort "Burlwood"* in ABS <sup>1)</sup>

With removable odour trap, sealing water height 50 mm

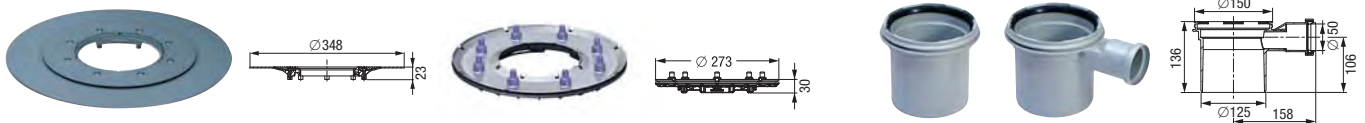
**Cover in wood look**, handles loads up to 100 kg, with seeping water opening, installation supports and mesh fabric

750 mm	on request
850 mm	on request
950 mm	on request
1050 mm	on request
1150 mm	on request

## Shower channel upper section *Linearis*



## Accessories



### Glue flange

with counter flange, Ø 348 mm  
(also for compound seal)  
Art. # 48 410

### Pressure sealing flange

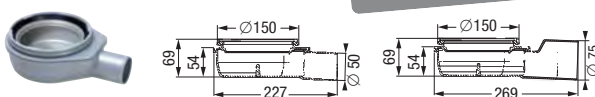
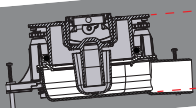
in stainless steel AISI 304, Ø 273 mm,  
with seeping water opening  
Art. # 48 402

### Extension section

in PP, with lip seal  
**without lateral inlet** Art. # 48 987  
**with lateral inlet** Art. # 48 989

## Drain bodies

Total installation height including upper section



### "The Ultraflat" in ABS

with removable odour trap  
**Lateral outlet Ø 50**  
Art. # 45 700

**Lateral outlet Ø 75**  
Art. # 45 700

### "The Ultraflat" in ABS

with removable odour trap  
**with lateral inlet Ø 40,**  
**lateral outlet Ø 50**  
Art. # 45 701



Shower channel upper section *Linearis Compact* and *Linearis Super60*

**NEW**

**Linearis Compact** in ABS

With removable odour trap,  
sealing water height 50 mm

- cover and rim in stainless steel AISI 304 (Channel cover can be reversed and tiled on site), class K 3, seeping water opening prepared, installation supports and mesh fabric

0.5 l/sec flow rate  
0.6 l/sec with 10 mm threshold

Length	Art. #
300 mm	<b>48 970S</b>
450 mm	<b>48 971S</b>
550 mm	<b>48 972S</b>
650 mm	<b>48 973S</b>
750 mm	<b>48 974S</b>
850 mm	<b>48 975S</b>
950 mm	<b>48 976S</b>
1050 mm	<b>48 977S</b>
1150 mm	<b>48 978S</b>

**Linearis Super60** in ABS  
with tileable access cover

- cover and rim in stainless steel AISI 304 (Channel cover can be reversed and tiled on site), class K 3, with seeping water opening, installation supports and mesh fabric

1.1 l/sec flow rate  
1.2 l/sec with 10 mm threshold

750 mm	<b>48 908</b>
850 mm	<b>48 909</b>
950 mm	<b>48 910</b>
1150 mm	<b>48 912</b>

**Linearis** in ABS  
with tileable access cover

- cover and rim in stainless steel AISI 304, class K 3, with seeping water opening, installation supports and mesh fabric

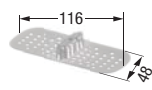
Length	Art. #
750 mm	<b>46 908</b>
850 mm	<b>46 909</b>
950 mm	<b>46 910</b>
1150 mm	<b>46 912</b>

\* Approval pending on the basis of test certificate no. 210006415 MPA Erwitte.



**Multistop**

odour, foam, rodent  
and insect stop  
Art. # **48 400**



**Hair filter**

made of polymer  
Art. # **48 800**



**Fire-Kit Fire protection insert\***

Only for *Ecoguss/Practicus* drains  
with vertical outlet and odour trap

- Ø 58/78/83 Art. # **48 099**
- Ø 50/75 Art. # **48 099**
- Ø 110 Art. # **48 100**



**Quick-Fit the passage seal**

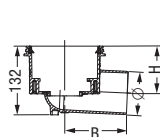
for core drillings for drain bodies  
with vertical outlet

- without fire protection** Art. # **48 991**
- \*with fire protection** Art. # **48 990**  
(only in combination with *Fire-Kit* protection insert)

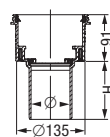
The *Linearis Comfort* and *Compact* shower channels already include an odour trap. For this reason, the odour trap must be removed from all drain bodies during installation.



**Ecoguss** with removable odour trap



Lateral outlet			Vertical outlet		
Ø	B	H	Article #	H	Article #
<b>58</b>	245	120	<b>48 358</b>	100	<b>48 458</b>
<b>78</b>	134	109	<b>48 378</b>	110	<b>48 478</b>
<b>83</b>	134	108	<b>48 383</b>	110	<b>48 483</b>
<b>110</b>	148	92	<b>48 311</b>	110	<b>48 411</b>



**Practicus** in PP with removable odour trap

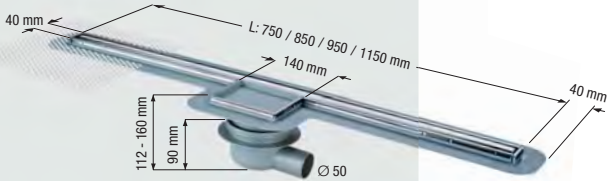
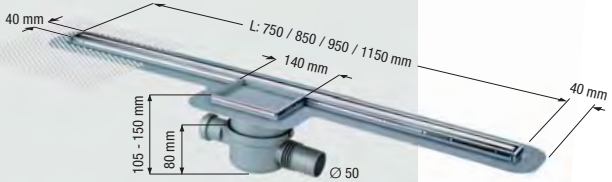


Lateral outlet			Vertical outlet		
Ø	B	H	Article #	H	Article #
<b>50</b>	245	120	<b>45 150</b>	100	<b>45 250</b>
<b>75</b>	134	109	<b>45 170</b>	110	<b>45 270</b>
<b>110</b>	148	92	<b>45 110</b>	110	<b>45 210</b>



Linearis

Products

Illustration and dimensioned drawing	Article description	Channel length	Article #
 <p>Installation supports and mesh fabric included</p>	<p><b>Shower channel <i>Linearis</i></b> in ABS <b>with tileable access cover</b> <b>With bathroom drain body <i>Classic</i></b> in ABS, Ø 50, lateral outlet</p> <p><input type="checkbox"/> <b>cover and rim in stainless steel AISI 304</b>, class K 3, with seeping water opening</p> <p>0.4 l/sec flow rate with 10 mm threshold</p>	<p>750 mm 850 mm 950 mm 1150 mm</p>	<p><b>40 150.83</b> <b>40 150.84</b> <b>40 150.85</b> <b>40 150.87</b></p>
 <p>Installation supports and mesh fabric included</p>	<p><b>Shower channel <i>Linearis</i></b> in ABS <b>with tileable access cover</b> <b>With bathroom drain body "<i>The Superflat</i>"</b> in PP, sound-absorbing, Ø 50, flexible lateral outlet, 1 inlet Ø 40</p> <p><input type="checkbox"/> <b>cover and rim in stainless steel AISI 304</b>, class K 3, with seeping water opening</p> <p>0.4 l/sec flow rate with 10 mm threshold</p>	<p>750 mm 850 mm 950 mm 1150 mm</p>	<p><b>42 701.83</b> <b>42 701.84</b> <b>42 701.85</b> <b>42 701.87</b></p>

### Installation example *Linearis*



- ① Stainless steel channel
- ② Access cover

The *Linearis* shower channel features a narrow, elegant stainless steel channel ① which can be discreetly integrated into the bathroom design. With a flow capacity of 24 liters per minute the *Linearis* shower channel is ideal for mounting against the wall at the back of the shower. For cleaning and maintenance purposes the stainless steel channel and tileable access opening ② can be removed allowing full access to the odor trap and drain body.

### Professional advantages

- **Flow rate 0.4 l/sec**
- **Extremely narrow and elegant channel**
- **Easy cleaning**  
Access cover for easy cleaning and maintenance
- **Particularly suitable** for installation on the wall side
- **Channel length:** 750 mm, 850 mm, 950 mm, 1150 mm
- **Flexible modular system** with a large number of components.

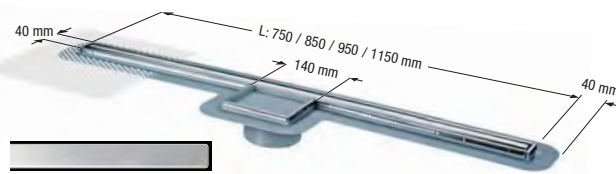


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Shower channel upper section *Linearis* and *Linearis Compact*

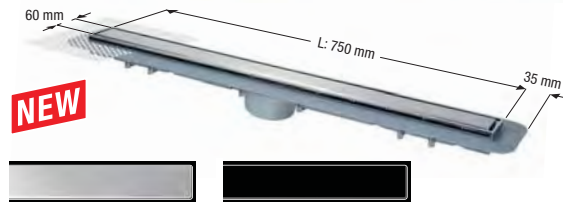
0.4 l/sec flow rate  
with 10 mm threshold

Length	Art. #
750 mm	27 808
850 mm	27 809
950 mm	27 810
1150 mm	27 812



**Linearis** in ABS  
with tileable access cover

- cover and rim in stainless steel AISI 304, class K 3, with seeping water opening, installation supports and mesh fabric



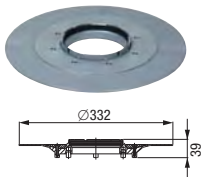
**Linearis Compact** in ABS

With removable odour trap (must be removed from all drain bodies during installation), sealing water height 50 mm

- cover and rim in stainless steel AISI 304 (Channel cover can be reversed and tiled on site), class K 3, seeping water opening prepared, installation supports and mesh fabric

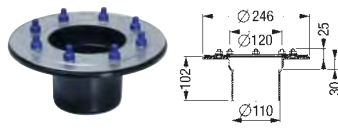
0.6 l/sec flow rate  
with 10 mm threshold

Accessories



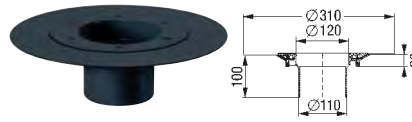
**Glue flange**

with counter flange  
(also for compound seal)  
Art. # 43 401



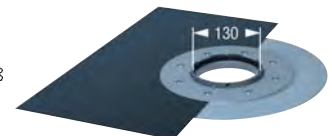
**Extension section**

in PP, with pressure sealing flange in stainless steel AISI 304, flange width 63 mm  
Art. # 27 198



**Extension section**

in ABS, with glue flange and counter flange  
Art. # 27 199



**With glue flange and waterproof membrane**

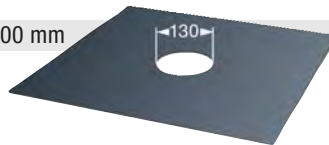
pre-mounted in PVC  
1200 x 1200 mm Art. # 43 401.91  
1800 x 2000 mm Art. # 43 401.93

Waterproof membrane in PVC without punched-out hole  
1800 x 2000 mm Art. # 43 711

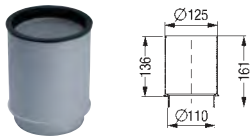
Glue Art. # 43 719

**Elastomer waterproof membrane**  500 mm

in PVC Art. # 43 710  
in EPDM Art. # 43 730



The waterproof membrane in PVC and EPDM are not suitable for connections to asphalt sheeting.



**Extension section**

in ABS, with lip seal  
Art. # 27 146



**Multistop**

odour, foam, rodent and insect stop  
Art. # 43 500



**Hair filter**

made of polymer,  $\varnothing$  108 mm  
Art. # 43 700



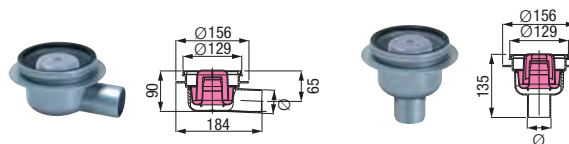
**Transition section**

with sealing ring  $\varnothing$  50  
 $\varnothing$  50/75 Art. # 27 126  
 $\varnothing$  50/40 Art. # 27 118

Drain bodies

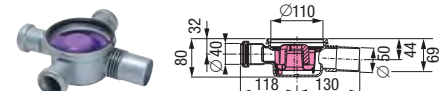
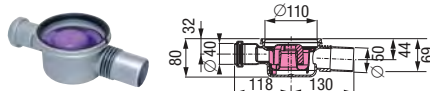
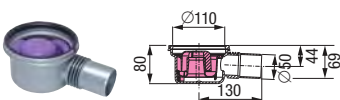
\*) according to EN 1253 - 20 mm threshold

0.8 l/sec flow rate \*)  
Sealing water height 50 mm



**Bathroom drain Classic** in ABS

with removable odour trap			without removable odour trap		
$\varnothing$	Lateral outlet	Vertical outlet	$\varnothing$	Lateral outlet	Vertical outlet
50	Art. # 40 150	Art. # 40 250	50	Art. # 40 151	Art. # 40 251
75	Art. # 40 170	Art. # 40 270	75	Art. # 40 171	Art. # 40 271



**Bathroom drain "The Superflat"** in PP

0.8 l/sec flow rate \*)  
Sealing water height 30 mm

Lateral outlet  $\varnothing$  50, with removable odour trap

Without lateral inlet  
Art. # 42 700

One lateral inlet  $\varnothing$  40  
Art. # 42 701

Three lateral inlets  $\varnothing$  40  
Art. # 42 703



# Wall drains

## Wall drains *Scada*

Page **194 – 198**

New trends for sophisticated  
bathroom drainage systems



# Creative shower drains without barriers



Completely new design options in barrier-free bathrooms - ideal for new buildings and renovation work. There is a choice of four different drain covers all made of stainless steel: two are in a smooth finish for different tile thicknesses, one is an almost invisible cover which can be tiled over, and the fourth is in a three-dimensional wave-look design. The drain covers are also offered with LED backlighting.



## OPTIMISED IN DESIGN AND FUNCTION

### AWARD-WINNING DESIGN

Choice of four drain covers.



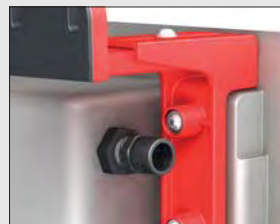
### ONLY FROM KESSEL



Version with LED lights  
for a special atmosphere

With automatic colour changing or selection option  
of specific light colour.

12 Volt low-voltage technology and included cable conduit  
pipe. Factory made conduit connection to drain body.



### MULTIPLE OUTLETS

Maximum flexibility when fitting one of three selectable  
drain connection options. Thus problem-free laying of  
underfloor heating.

### PERFECT ADJUSTMENT

Vertically adjustable installation feet provide easy on-site  
height setting from 80 to 215 mm (from sub-floor to top  
of tiles). Lateral adjustment from wall from 100 to 180 mm  
for drywall or brick and mortar walls.



Wall drain **Scada**  
for brick- and dry-wall

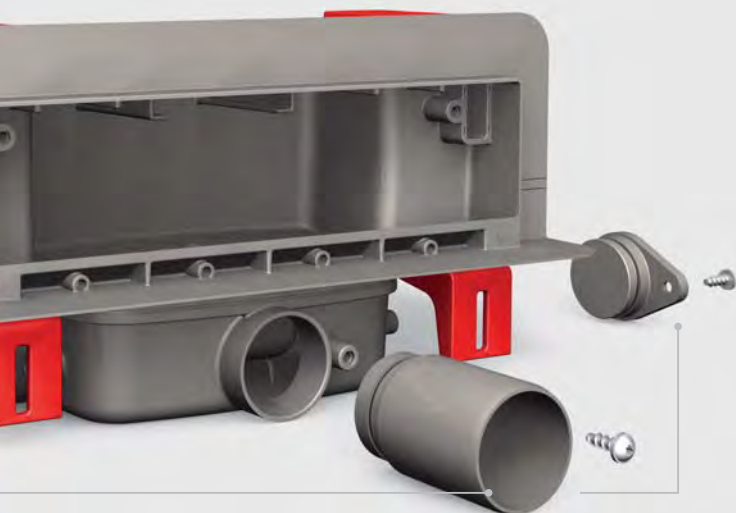


Wall drain **Scada**  
with installation board

### Brick- and dry-wall **INSTALLATION**



**FOR DRY-WALL**  
Dry-wall mount (installation without board), makes the flush connection to dry-walling boards easier.



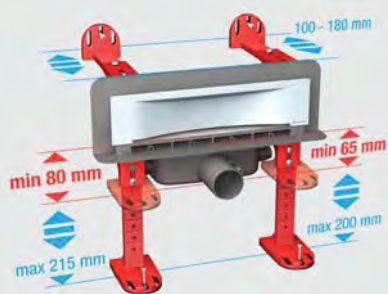
### **INSTALLATION** board and wedge



- ① Installation board with pre-mounted and sealed *Scada* wall drain completely installed, with slope on 3 sides.  
Installation board 900 mm: A = 900 mm, B = 200 mm  
Installation board 1200 mm: A = 1200 mm, B = 200 mm
- ② Wedge as shower board with integrated 3-sided slope.  
Optionally available in two sizes:  
□ 900 x 900 mm □ 1200 x 1200 mm

### **INSTALLATION EVEN EASIER!**

Now with new adjustable cover - can be adjusted horizontally up to 3 mm and vertically up to 4 mm



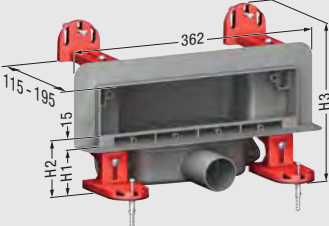




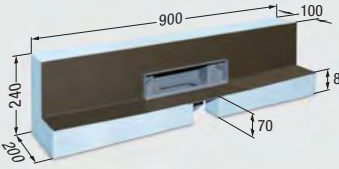
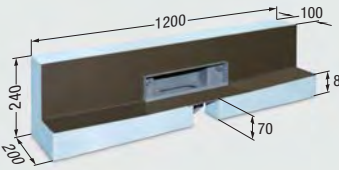
**ONLY 65 MILLIMETRES**  
Smallest installation height up to flange 65 mm.

### **SOUND PROTECTION**

Measurements carried out by the Fraunhofer Institute in Stuttgart:  
wall drain *Scada*  
-  $\geq 17$  dB(A) according to DIN 4109  
-  $\geq 14$  dB(A) according to VDI 4100 SST III

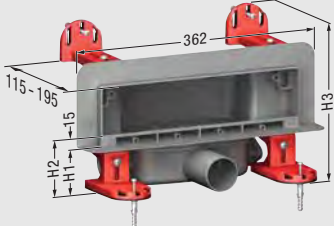






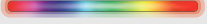
Scada

Matrix order system / Products

Drain body	Covers			
<p><b>Wall drain Scada in ABS</b> For floor drainage indoors With odor trap and flange for alternative sealing</p> <p><b>Drain body in ABS</b> Lateral outlet Ø 50 Connection option at the front, on the left side or right side</p>  <p>H1 = Upper edge flange 65 - 200 mm H2 = Upper edge tile 80 - 215 mm H3 = Overall height 218 - 353 mm (incl. attachment rails)</p>	<p><b>Scada, invisible cover</b> with stainless steel frame</p>  <p><b>Width x height</b> 296 x 61 mm For floor tiles up to 10 mm, can be tiled with wall tiles up to 10 mm</p>	<p><b>Scada, stainless steel cover</b> AISI 304</p>  <p><b>Width x height</b> 312 x 74 mm For floor tiles up to 10 mm</p>	<p><b>Scada, Wave cover, stainless steel cover</b> AISI 304</p>  <p><b>Width x height</b> 312 x 74 mm For floor tiles up to 10 mm</p>	<p><b>Scada, stainless steel cover</b> AISI 304</p>  <p><b>Width x height</b> 312 x 67 mm For floor tiles up to 17 mm</p>
<b>Item comprised of drain body Scada and drain cover</b>				
	48 000.01	48 000.02	48 000.03	48 000.04
<p><b>Drain body in installation board</b> 900 x 200 mm</p>	<b>Item comprised of installation board with the wall drain Scada and drain cover</b>			
	48 001.01	48 001.02	48 001.03	48 001.04
<p><b>Drain body in installation board</b> 1200 x 200 mm</p>	<b>Item comprised of installation board with the wall drain Scada and drain cover</b>			
	48 002.01	48 002.02	48 002.03	48 002.04

Scada with LED lights

Matrix order system / Products

Drain body	Covers			
<p><b>Wall drain Scada</b> in ABS, with LED-backlighting <b>Color of choice</b></p> <p>For floor drainage indoors With odor trap and flange for alternative sealing</p> <p><b>Drain body in ABS</b> Lateral outlet Ø 50 Connection option at the front, on the left side or right side LED cable length: 15 m</p>  <p>H1 = Upper edge flange 65 - 200 mm H2 = Upper edge tile 80 - 215 mm H3 = Overall height 218 - 353 mm (incl. attachment rails)</p>	<p><b>Scada, invisible cover</b> with stainless steel frame</p>  <p><b>Width x height</b> 296 x 61 mm For floor tiles up to 10 mm, can be tiled with wall tiles up to 10 mm</p>	<p><b>Scada, stainless steel cover</b> AISI 304</p>  <p><b>Width x height</b> 312 x 74 mm For floor tiles up to 10 mm</p>	<p><b>Scada, Wave cover, stainless steel cover</b> AISI 304</p>  <p><b>Width x height</b> 312 x 74 mm For floor tiles up to 10 mm</p>	<p><b>Scada, stainless steel cover</b> AISI 304</p>  <p><b>Width x height</b> 312 x 67 mm For floor tiles up to 17 mm</p>
<b>LED drain body</b>	<b>Item comprised of drain body Scada and drain cover</b>			
<p>RGB </p>	48 003.41	48 003.42	48 003.43	48 003.44
<b>Drain body with LED lights in installation board 900 x 200 mm</b>	<b>Item comprised of installation board with the wall drain Scada and drain cover</b>			
<p>RGB </p>	48 004.41	48 004.42	48 004.43	48 004.44
<b>Drain body with LED lights in installation board 1200 x 200 mm</b>	<b>Item comprised of installation board with the wall drain Scada and drain cover</b>			
<p>RGB </p>	48 005.41	48 005.42	48 005.43	48 005.44



Covers



**Scada, invisible cover**

with stainless steel frame AISI 304, 296 x 61 mm, for floor tiles up to 10 mm, can be tiled with wall tiles up to 10 mm  
Art. # 48 011

**Scada cover**

stainless steel cover AISI 304, 312 x 74 mm, for floor tiles up to 10 mm  
Art. # 48 012

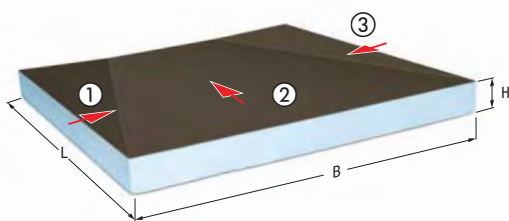
**Scada, Wave cover**

stainless steel cover AISI 304, 312 x 74 mm, for floor tiles up to 10 mm  
Art. # 48 013

**Scada cover**

stainless steel cover AISI 304, 296 x 67 mm, for floor tiles up to 17 mm  
Art. # 48 014

Accessories



**Installation board**

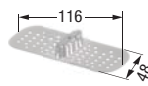
with integrated 3-side slope  
 900 x 900 x 80 mm (L x B x H)  
 Slope: ① 2,4 % ② 0,8 % ③ 2,4 %  
 Art. # 48 051  
 1200 x 1200 x 85 mm (L x B x H)  
 Slope: ① 3,7 % ② 1,1 % ③ 3,7 %  
 Art. # 48 052

**Drywall mount for drain body**

with adhesive  
 Height 300 mm  
 Width 623 mm  
 Art. # 48 063

**Sealing set**

comprising adhesive and sealing tapes  
 Art. # 48 062



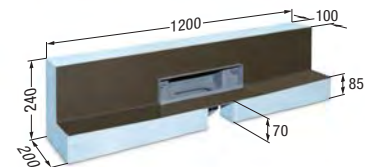
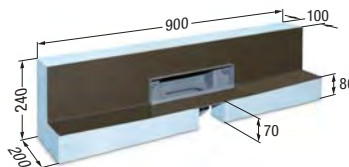
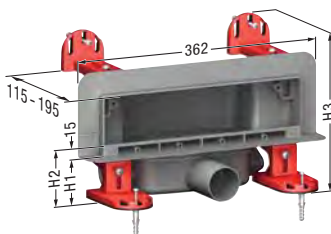
**Multistop**

odour, foam, rodent and insect stop  
 Art. # 48 400

**Hair filter**

made of polymer  
 Art. # 48 800

Drain bodies



**Drain body in ABS**

with anti-odour system and flange, lateral outlet Ø 50  
 Connection option at the front, on the left side or right side  
 without LED lights Art. # 48 000  
 with LED lights Art. # 48 003

**Drain body in ABS**

with installation board 900 x 200 mm and drain cover  
 with anti-odour system and flange, lateral outlet Ø 50  
 Connection option at the front, on the left side or right side  
 without LED lights Art. # 48 001  
 with LED lights Art. # 48 004

**Drain body in ABS**

with installation board 1200 x 200 mm and drain cover  
 with anti-odour system and flange, lateral outlet Ø 50  
 Connection option at the front, on the left side or right side  
 without LED lights Art. # 48 002  
 with LED lights Art. # 48 005

H1 = Upper edge flange 65 - 200 mm  
 H2 = Upper edge tile 80 - 215 mm  
 H3 = Overall height 218 - 353 mm (incl. attachment rails)



# Basement drains

## **Basement drains**

Page **200 – 208**

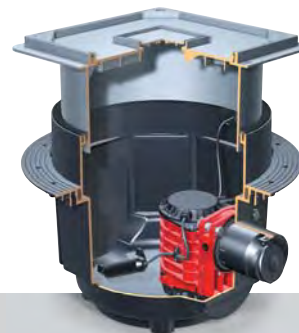
with or without backwater flap  
or pump

## **Volatile liquid traps (heating oil stops)**

Page **205**

must be used wherever volatile  
liquids can escape unexpectedly.

# The basement drain that pumps against backwater



Pumpfix S 28451

Backwater pumping station **Pumpfix S**  
Basement drain with twin flap backwater valve and pump

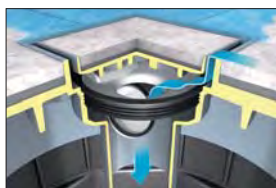
**INSTALLATION** Pumpfix S  
IDEAL FOR NEW BUILDINGS

## INSTALLATION

Telescopic upper section with shallow waterproofing flange, recessed cover for on-site tiling and integrated drain function.

## ADDITIONAL SAFETY

Odour, foam, rodent and insect stop  
*Multistop* available as accessory.



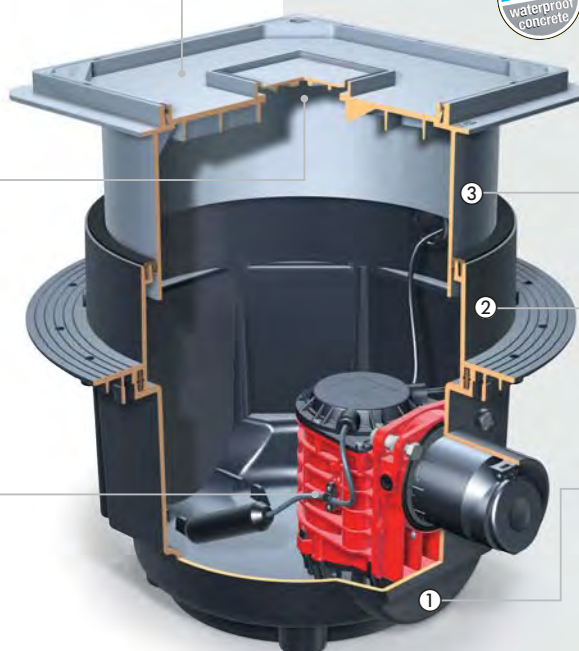
## FLEXIBLE INSTALLATION

New extension section with central flange, counter-flange and elastomer waterproofing sheet optional - as protection against water load for installation in waterproof concrete.



## TECHNOLOGY

Pump with twin flap backwater valve and odour trap. Tool-free pump removal.  
Not to be used as a lifting station!



## CONNECTIONS

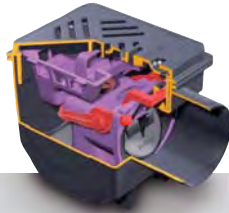
Connection of optional inlets to drain body ① of Ø 110, above the compression flange ② and in the extension section ③ up to Ø 75 mm.

**The innovative and backwater-safe basement drain for both new buildings and renovation work.**

During normal operation, soiled water from sinks, washing machine, shower etc. runs into the sewage system without power consumption. If backwater occurs in the sewer, the pump automatically switches on via a float control. Penetrating surface water is also pumped to the sewer.



**"The Universal"**



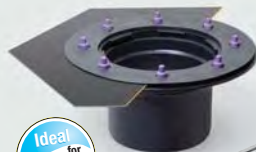
**Drehfix**

Basement drains **"The Universal" / Drehfix**  
Basement drains with backwater flaps

# Basement drains with effective backwater protection

**INSTALLATION "The Universal"**  
IDEAL FOR RENOVATION WORK

Installation in waterproof concrete with extension section with pressure sealing flange and waterproof sheet optional. Also suitable for alternative waterproofing layer.



**FLEXIBLE INSTALLATION**  
Three fixed inlets as standard  
2 x Ø 50 and 1 x Ø 75.



**INSTALLATION Drehfix**  
IDEAL FOR RENOVATION WORK

Minimum installation height with only 30 mm overlap.

**FLEXIBLE INSTALLATION**  
Deeper installation up to 180 mm optional.

**STRAIGHTFORWARD MAINTENANCE**  
Maintenance and cleaning without tools.



**FLEXIBLE INSTALLATION**

Telescopic upper section can be twisted, tilted, height-adjusted.

**STRAIGHTFORWARD MAINTENANCE**

Maintenance and cleaning without tools.



**Secure drains thanks to integrated twin flap backwater valves.**

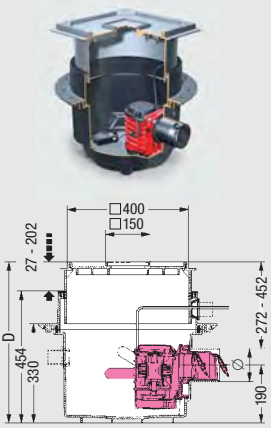

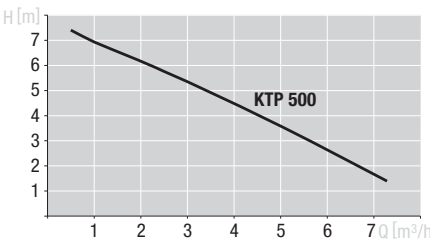
**"The Universal"** model is a versatile basement drain with variable connection options thanks to three inlets. The compact design of the **Drehfix** basement drain makes it popular for renovating older buildings. It fits into the recesses of old cast drains thanks to its small design height.



# Basement drains with / without twin flap backwater valve

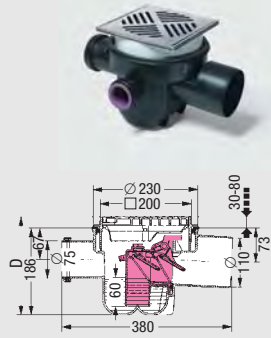

## Pumpfix S

## Products

Illustration and dimensioned drawing	Article description	Outer diameter Ø (mm)	Article #
 <p>1.6 l/sec flow rate Installation area 700 x 700 mm</p>	<p><b>Backwater pumping station <i>Pumpfix S</i></b> made of polymer <b>for wastewater without sewage</b> <b>Lateral outlet 2.5°</b>, <b>for installation in a concrete slab/floor</b> <b>for installation depth (D) from 481 - 656 mm</b> <b>With removable pump, twin flap backwater valve</b> <b>and odour trap.</b></p> <p>Twin flaps, self-closing, one of which can be locked by hand, self activating pump during backwater. With telescopic upper section for height and level adjustments, recessed cover for on-site tiling, class A 15, made of polymer.</p> <p>With moisture protective sealing flange.</p> <p><b>Not for use as a lifting station.</b></p>  <p>EN 1253-1 According to EN 13564 Type 5</p>	<p>Ø 110</p>  <p>H [m] = Backwater height</p>	<p><b>28451</b></p>

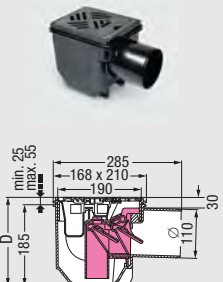
## "The Universal"

## Products

Illustration and dimensioned drawing	Article description	Outer diameter Ø (mm)	Article #
 <p>1.8 l/sec flow rate Installation area 400 x 320 mm</p>	<p><b>Basement drain "The Universal" in PP</b> <b>with odour trap and sludge trap</b></p> <p><b>1 With twin flap backwater valve</b></p> <p><b>2 Without twin flap backwater valve</b></p> <p><input type="checkbox"/> <b>with slotted cover 188 x 188 mm</b> <b>made of polymer, black,</b> <b>class K 3</b> (able to withstand loads up to max. 300 kg). Installation depth (D) 216 - 276 mm</p> <p><input type="checkbox"/> <b>with slotted cover 187 x 187 mm and rim</b> <b>in stainless steel AISI 304, screwed,</b> <b>class L 15</b> (able to withstand loads up to max. 1.5 to). Installation depth (D) 216 - 266 mm</p>  <p>EN 1253-1 According to EN 13564 Type 5</p>	<p><b>1</b> Ø 110</p> <p><b>2</b> Ø 110</p> <p><b>1</b> Ø 110</p> <p><b>2</b> Ø 110</p>	<p><b>27611</b></p> <p><b>29111</b></p> <p><b>27621</b></p> <p><b>29121</b></p>

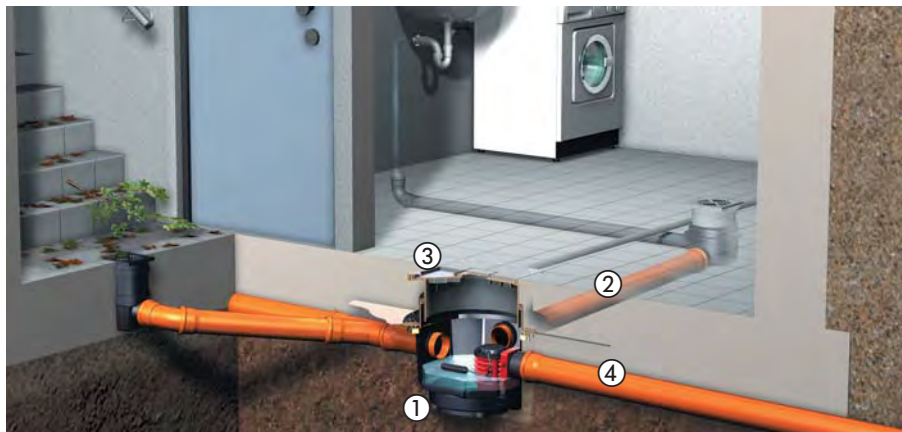
## Drehfix

## Products

Illustration and dimensioned drawing	Article description	Outer diameter Ø (mm)	Article #
 <p>1.8 l/sec flow rate Installation area 320 x 190 mm</p>	<p><b>Basement drain <i>Drehfix</i> in ABS</b></p> <p><b>1 With twin flap backwater valve</b></p> <p><b>2 Without twin flap backwater valve</b></p> <p>with/without removable twin flap backwater valve and emergency closure which can be locked by hand, odour trap and sludge trap and integrated, height adjustable upper section.</p> <p><b>Lateral outlet 2.5°</b>, <b>Installation depth (D) 210 - 240 mm.</b></p> <p><input type="checkbox"/> <b>with slotted cover 150 x 190 mm</b> <b>made of polymer, black,</b> with Easy Entry Function. <b>Class K 3</b> (able to withstand loads up to max. 300 kg).</p> <p>According to EN 13564 Type 5.</p>	<p><b>1</b> Ø 110</p> <p><b>2</b> Ø 110</p>	<p><b>27301</b></p> <p><b>33101</b></p>

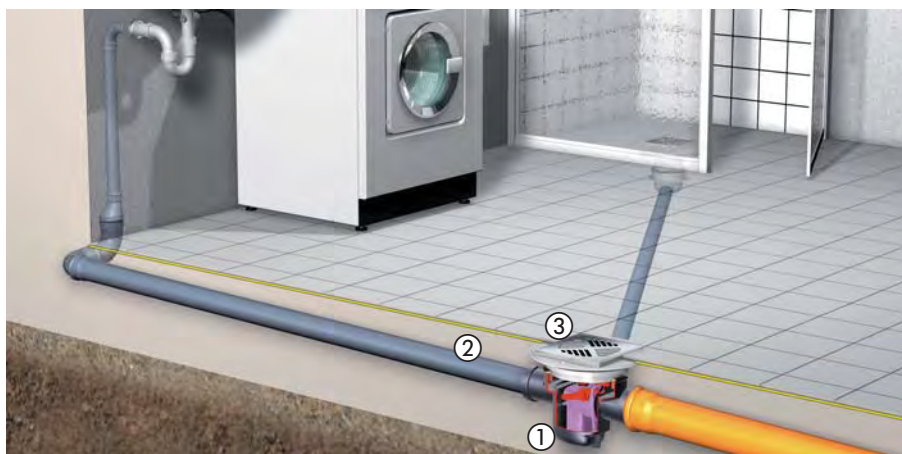
## Basement drains with / without twin flap backwater valve

### Installation example *Pumpfix S*



*Pumpfix S* ① is a basement drain for wastewater without sewage with gravity drainage to the sewer. Further inlets ② such as shower or washing machine can be connected to the drain installed in the concrete slab. Any surface water is drained through the cover ③ and discharged. In the event of backwater, the pump activates and pumps the building's wastewater into the flooded sewer ④.

### Installation example *"The Universal"*



*"The Universal"* is a versatile basement drain ① with a choice of two  $\varnothing 50$  mm inlets and one  $\varnothing 75$  mm ② inlet to protect individual drains against backwater from the sewer. Cover made of plastic or stainless steel ③.

### Installation example *Drehfix*



The *Drehfix* is a compact basement drain ① for protecting individual drains against backwater from the sewer. Thanks to its small design height, *Drehfix* fits into the recess of old cast drains. It provides possibilities for two further inlets ②.

### Professional advantages

- **Vertically adjustable upper section for stepless installation in concrete slabs:** Rotatable, tiltable, vertically adjustable
- **Installation in waterproof concrete.** Gasket set to prevent groundwater infiltration.
- Elegant optical appearance due to recessed cover for on-site tiling
- Perfect for drainage of outdoor basement access steps with additional inlet connections
- **Wastewater discharging even during backwater**

### Professional advantages

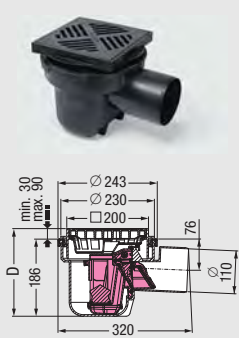
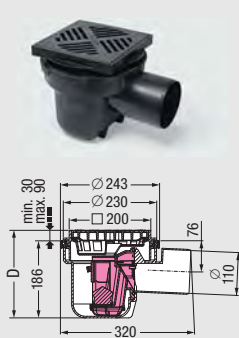

- **Installation in waterproof concrete.** Gasket set to prevent groundwater infiltration.
- **Alternative seal** with shallow bed upper section Art. # 48 968.
- **Hand-lockable emergency closure**
- **Tool-free maintenance:** Fast and simple cleaning with one-hand quick-release fastener.
- **Vertically adjustable upper section for stepless installation in concrete slabs:** Rotatable, tiltable, vertically adjustable
- **Three lateral inlets**  
Three lateral inlets (2 x  $\varnothing 50$  and 1 x  $\varnothing 75$ ) are attached as standard.

### Professional advantages

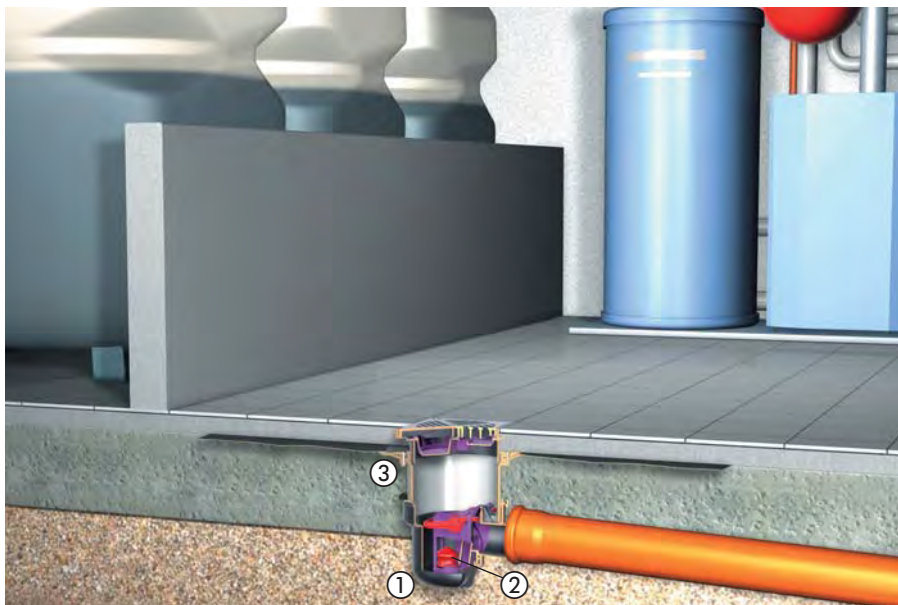
- **With twin flap backwater valve and odour trap**
- **Hand-lockable emergency closure** (Visual control without removing the cover).
- **Stepless installation** with extension section Art. # 38 670.
- **Tool-free maintenance.** Fast and simple cleaning with one-hand quick-release fastener.
- **Height adjustable upper section**

Illustration and dimensioned drawing	Article description	Outer diameter Ø (mm)	Article #
  <p>1.6 l/sec flow rate Installation area 220 x 280 mm</p>	<p><b>Basement drain in PP</b>  <b>Lateral outlet 2.5°</b>,  <b>with removable odour trap and sludge trap.</b>  <b>With upper section in PP</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> with slotted cover 150 x 150 mm made of polymer, black.  <b>Class K 3</b> (able to withstand loads up to max. 300 kg).</li> </ul>	<p>Ø 110</p>	<p><b>36 501</b></p>
  <p>1.8 l/sec flow rate Installation area 220 x 180 mm</p>  <p>1.8 l/sec flow rate Installation area 180 x 180 mm</p>	<p><b>Basement drain in PP</b>  <b>With removable odour trap</b>          With lip seal and protective cover for use during construction.  <b>With upper section in ABS</b>  <b>Lateral outlet 2.5°</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> with slotted cover 138 x 138 mm in ABS, black.  <b>Class K 3</b> (able to withstand loads up to max. 300 kg).</li> </ul> <p><b>Vertical outlet</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> with slotted cover 138 x 138 mm in ABS, black.  <b>Class K 3</b> (able to withstand loads up to max. 300 kg).</li> </ul>   <p>EN 1253</p>	<p>Ø 110</p> <p>Ø 110</p>	<p><b>45 110.40</b></p> <p><b>45 210.40</b></p>
  <p>1.8 l/sec flow rate Installation area 220 x 180 mm</p>  <p>1.8 l/sec flow rate Installation area 180 x 180 mm</p>	<p><b>Basement drain in PP</b>  <b>Without removable odour trap, with sludge trap</b>          With lip seal and protective cover for use during construction.  <b>With upper section in ABS</b>  <b>Lateral outlet 2.5°</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> with slotted cover 138 x 138 mm in ABS, black.  <b>Class K 3</b> (able to withstand loads up to max. 300 kg).</li> </ul> <p><b>Vertical outlet</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> with slotted cover 138 x 138 mm in ABS, black.  <b>Class K 3</b> (able to withstand loads up to max. 300 kg).</li> </ul>	<p>Ø 110</p> <p>Ø 110</p>	<p><b>34 101</b></p> <p><b>34 102</b></p>

# Volatile liquid traps with / without twin flap backwater valve

Volatile liquid traps		Products	
Illustration and dimensioned drawing	Article description	Outer diameter Ø (mm)	Article #
 <p>1.0 l/sec flow rate Installation area 400 x 250 mm</p>	<p><b>Volatile liquid trap</b> made of polymer</p> <p><b>With twin flap backwater valve, with integrated odour trap and sludge trap</b></p> <p><input type="checkbox"/> with slotted cover 188 x 188 mm made of polymer, black, class K 3 (able to withstand loads up to max. 300 kg).</p> <p>Installation depth (D) 216 - 276 mm</p> <p>EN 13564 Type 5 EN 1253-3 and 5</p>	Ø 110	<b>52 101</b>
 <p>1.0 l/sec flow rate Installation area 400 x 250 mm</p>	<p><b>Volatile liquid trap</b> made of polymer</p> <p><b>With integrated odour trap and sludge trap</b></p> <p><input type="checkbox"/> with slotted cover 188 x 188 mm made of polymer, black, class K 3 (able to withstand loads up to max. 300 kg).</p> <p>Installation depth (D) 216 - 276 mm</p> <p>  EN 1253-3 and 5</p>	Ø 110	<b>51 101</b>

## Installation example volatile liquid traps



Volatile liquid traps ① are the ideal drain for the boiler room in the basement. They use an integrated floater ② to guarantee reliable retention of volatile liquids escaping from heating systems and backwater flaps to prevent wastewater penetration from the sewage system. There is a special upper section ③ with extension available as an accessory for installation in waterproof concrete.

## Professional advantages


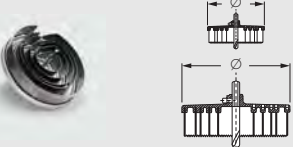


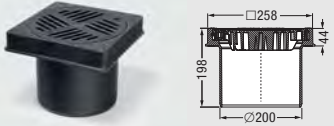
- **Easy installation** with adjustable upper section (vertically and laterally adjustable)
- Sealing gasket between extension section and flange - Article # 27 298 (prevents floor moisture damage)
- **Waterproofing seal - Article # 48 968**
- **Cast iron cover** handles higher loads up to 12.5 tons (load class B) - Article # 48 985
- Upgradable to twin flap backwater valve
- **Quick and easy cleaning** with one-hand locking clasp


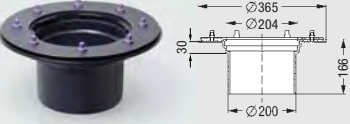


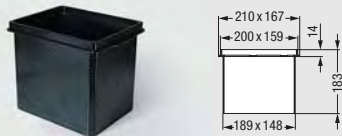


Pumpfix S / "The Universal" / Drehfix / Basement drains

Accessories

Illustration and dimensioned drawing	Article description	Outer diameter Ø (mm)	Article #
<p>For models made on or after Jan 2011</p>  <p>1</p> <p>2</p> <p>Ø105</p> <p>37</p> <p>Ø109</p> <p>4</p>	<p><b>Cover plate, surface water tight with drain Ø 75, class A 15, includes Multistop</b></p> <p>1 recessed for on-site tiling, grey, for tile thicknesses of 18 mm</p> <p>2 with integrated grating, black</p> <p>for article numbers: 28 451</p> <p><b>Multistop</b> odour, foam, rodent and insect stop</p> <p><b>Ventilation always required when in use!</b></p> <p><b>Hair filter</b> made of polymer</p>	<p>-</p> <p>-</p> <p>-</p> <p>-</p>	<p><b>83 045</b></p> <p><b>83 046</b></p> <p><b>43 500</b></p> <p><b>43 700</b></p>
 <p>Ø384</p> <p>42</p> <p>6</p> <p>6</p> <p>6</p> <p>6</p>	<p><b>Cover plate, surface water tight, class A 15 incl. gasket Art. # 173-145</b></p> <p><input type="checkbox"/> <b>black</b> Ventilation always required when in use!</p> <p><input type="checkbox"/> <b>recessed for on-site tiling, grey,</b> for tile thicknesses of 18 mm. Ventilation always required when in use!</p> <p>for article numbers: 28 451</p>	<p>-</p> <p>-</p>	<p><b>83 050</b></p> <p><b>83 052</b></p>
 <p>Ø384</p> <p>42</p> <p>6</p> <p>6</p>	<p><b>Cover plate, class A 15</b></p> <p><input type="checkbox"/> <b>with integrated grating, black</b> class A 15</p> <p>for article numbers: 28 451</p>	<p>-</p>	<p><b>83 053</b></p>
<p><b>NEW</b></p>  <p>Ø458</p> <p>16</p> <p>145,5</p> <p>224</p> <p>max. 191,7</p> <p>390,5</p> <p>Ø414</p>	<p><b>Extension section with centre flange</b> with elastomer sealing sheet made of NK/SBR Ø 800 mm, incl. screws for article numbers: 28 451</p>	<p>-</p>	<p><b>83 075</b></p>
 <p>10</p> <p>Ø590</p> <p>40</p> <p>180</p> <p>230</p> <p>Ø414</p> <p>When multiple extension sections are used make sure that access to valve is still possible!</p>	<p><b>Extension section with flange and counter flange</b> for connection to an on-site sealing sheet made of polymer, incl. screws max. extension 140 mm for article numbers: 28 451</p>	<p>-</p>	<p><b>83 073</b></p>
 <p>Waterproof concrete installation tested by MFPA Leipzig UB 5.1/11-452-1</p>	<p><b>Gasket set for installation in waterproof concrete</b> consisting of: <b>Counter flange</b> made of polymer, incl. screws, <b>elastomer waterproof membrane</b> in NK/SBR Ø 800 mm for article numbers: 28 451</p>	<p>-</p>	<p><b>83 023</b></p>

Pumpfix S / "The Universal" / Drehfix / Basement drains			Accessories
Illustration and dimensioned drawing	Article description	Outer diameter Ø (mm)	Article #
	<p><b>Extension section</b> incl. gasket, max. extension 180 mm for article numbers: 28 451 When multiple extension sections are used make sure that access to valve is still possible !</p> <p><b>Pipe sealing gasket</b> for article numbers: 28 451</p>	-  Ø 50 Ø 75 Ø 110	<b>83070</b>  <b>850 114</b> <b>850 116</b> <b>850 117</b>
	<p><b>Hole saw Ø 50, 75, 110</b> (Saw blade holder Ø = 145 mm)</p> <p><b>Hole saw Ø 50, 75, 110, 125 and 160</b> (Saw blade holder Ø = 190 mm)</p>	- -	<b>50 101</b>  <b>50 100</b>
	<p><b>Transition section Ø 110 / 75</b> Ø 110 socket / Ø 75 spigot can be used as an upper section, incl. gasket for article numbers: 27 611, 27 621, 27 301, 29 111, 29 121, 33 101, 36 501</p>	Ø 75/110	<b>27 602</b>
	<p><b>Variofix shallow bed upper section</b> with slotted cover and rim in stainless steel AISI 304, screwed, class L 15, with mesh fabric for article numbers: 27 611, 27 621, 29 111, 29 121, 51 101, 52 101</p>	-	<b>48968</b>
	<p><b>Upper section with support rim in Ecoguss</b> with round slotted cover in Ecoguss Ø 235 mm, class B 125, with Lock &amp; Lift System for article numbers: 27 611, 27 621, 29 111, 29 121, 51 101, 52 101</p>	-	<b>67 985</b>

"The Universal" / Drehfix / Basement drains			Accessories
Illustration and dimensioned drawing	Article description	Outer diameter Ø (mm)	Article #
	<p><b>Mesh fabric</b> for article numbers: 27 298</p>	-	<b>046-056</b>
	<p><b>Extension section in Ecoguss with pressure sealing flange and counter flange</b> for installation in waterproof concrete H = 166 mm for article numbers: 27 611, 27 621, 29 111, 29 121, 51 101, 52 101</p>	-	<b>48958</b>
	<p><b>Elastomer waterproof membrane in NBR</b> for article numbers: 48 958</p>	-	<b>48982</b>
	<p><b>Extension section</b> H = 175 mm, with lip seal for article numbers: 27 611, 27 621, 29 111, 29 121, 51 101, 52 101</p>	-	<b>48988</b>
	<p><b>Extension section</b> H = 183 mm for article numbers: 27 301, 33 101</p>	-	<b>38 670</b>

## "The Universal" / Drehfix / Basement drains

## Accessories

Illustration and dimensioned drawing	Article description	Outer diameter Ø (mm)	Article #
	<b>Inlet sections</b> incl. flat seal for article numbers: 27 301, 33 101	Ø 50 Ø 75 Ø 110	<b>39005</b> <b>39007</b> <b>39100</b>
	<b>Extension section</b> Can be extended by 80 mm for article numbers: 36 501	-	<b>36 590</b>
	<b>Extension section</b> with lip seal, without lateral inlet for article numbers: 34 101, 34 102, 45 210.40, 45 110.40	-	<b>48 987</b>
	<b>Glue flange</b> with counter flange for article numbers: 34 101, 34 102, 45 210.40, 45 110.40	-	<b>48 410</b>
	<b>Pressure sealing flange</b> for article numbers: 34 101, 34 102, 45 210.40, 45 110.40	-	<b>48 402</b>
	<b>Elastomer waterproof membrane in NBR</b> for article numbers: 48 402	-	<b>48 981</b>
	<b>Multistop</b> odour, foam, rodent and insect stop for article numbers: 34 101, 34 102, 45 210.40, 45 110.40	-	<b>48 500</b>
	<b>Hair filter</b> for article numbers: 34 101, 34 102, 45 210.40, 45 110.40	-	<b>48 700</b>
	<b>Bell-shaped odour trap insert</b> Seal water height 50 mm for article numbers: 34 101, 34 102, 45 210.40, 45 110.40	-	<b>27 169</b>
	<b>Sludge trap</b> for article numbers: 34 101, 34 102, 45 210.40, 45 110.40	-	<b>48 168</b>
	<b>Adapter for retrofitting</b> of 27 603 (twin flap backwater valve) and 27 605 (odour trap insert) for basement drains 27 300, 27 500, 28 650, 28 950 <b>until 12/95</b> and 29 100 <b>until 9/95</b>	-	<b>27 608</b>
	<b>Rodent protection</b> for article numbers: 27 611, 27 621, 27 301, 29 111, 29 121, 33 101, 51 101	-	<b>27 609</b>



# Stainless steel drains and channels

Floor drains *Ferrofix* System 125 Page **212 – 218**

Clean out System 100 Page **214**

Floor drains *Ferrofix* System 200 Page **220 – 225**

Channel drains *Ferrofix* Page **226 – 227**

Slotted channels *Ferrofix* Page **228**





SmartSelect makes planning quite simply quicker - visit [smartselect.kessel.com](http://smartselect.kessel.com) for the configurator for alternative waterproofing options.

# Top-quality drains / channels made of stainless steel



**System 125**  
With connection flange, pressure sealing flange, twin sealing

**System 200**

**Floor drains**  
for all types of sealing gaskets

## FLOOR DRAINS

made of stainless steel AISI 304

### INDIVIDUAL

Comprehensive range of drains for all draining requirements can be combined to meet individual requirements.

### CONNECTIONS

Outlets for SML pipe connection.

### HYGIENE

Easy maintenance and care thanks to removable odour trap in the installed state.

### INSTALLATION

Easy installation thanks to variable upper sections which can be turned, tilted and height-adjusted (Fig. 1).

### ACCESSORIES

Practical accessories with approval Z-19.17-1719: fire and flue gas insert *Fire-Kit* System 125 or 200 and *Quick-Fit* passage seal with or without fire protection (Fig. 2). Only for System 125 drain body with vertical outlet.

Complete range for draining wet rooms and food-processing plants. Our stainless steel range offers practical solution variants for every area of application.

The stainless steel AISI 304 (or AISI 316L on request) complies fully with the requirements for food-processing plants and guarantees perfect functional use. Our grate covers are compliant with DIN 1253-1.





System 125



System 125 or System 200

### Channel drains

Express variant available ex stock

### Channel drains / slotted channels

customised combinations possible

## CHANNEL DRAINS

made of stainless steel AISI 304

### VARIANTS

Complete channels with outlet socket as *Express* version (Fig. 3), channel profiles with adhesive edge for shallow bed waterproofing layers or as a version in a modular system for the customised combination of individual elements.

All slotted grills made of stainless steel, non-slip, class L 15 (Fig. 4).

### DRAIN BODY

Suitable *Ecoguss*, *Practicus* or *Ferrofix* drain bodies available as optional accessories.

### STABLE

With adjustable feet for height levelling.

### ACCESSORIES

Practical accessories with approval Z-19.17-1719: fire and flue gas insert *Fire-Kit* System 125 or 200 and *Quick-Fit* passage seal with or without fire protection (Fig. 2). Only for System 125 drain body with vertical outlet.

## CHANNEL DRAINS / SLOTTED CHANNELS

made of stainless steel AISI 304

### INDIVIDUAL

Modular system for the customised combination of individual elements. There is always a choice of three channel profiles: U-profile, adhesive edge for shallow bed waterproofing layers (Fig. 4) and tile connection bracket (not for shallow bed waterproofing layers). Large selection of grating and covers (Fig. 5).

### DRAIN BODY

Suitable *Ecoguss*, *Practicus* or *Ferrofix* drain bodies available as optional accessories.

### STABLE

With adjustable feet for height levelling.

### ACCESSORIES

Practical accessories with approval Z-19.17-1719: fire and flue gas insert *Fire-Kit* System 125 or 200 and *Quick-Fit* passage seal with or without fire protection (Fig. 2). Only for System 125 drain body with vertical outlet.

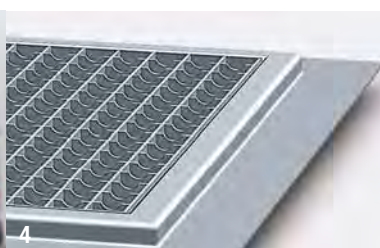
Drains / channels  
in stainless steel

Drains

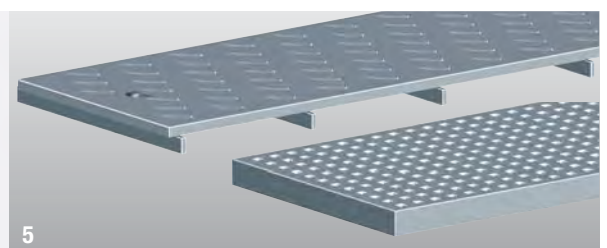
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3




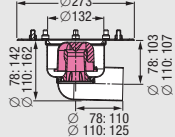

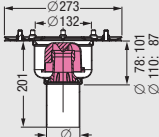

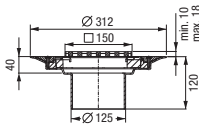

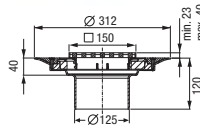

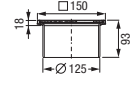

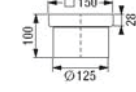
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5

Floor drains *Ferrofix* with pressure sealing flange

Matrix order system / Products

Drain body	Upper sections			
<p><b>Floor drain <i>Ferrofix</i> in stainless steel AISI 304 with pressure sealing flange</b> with odour trap, connection to SML-pipe</p>    	<p><b>Shallow bed upper section in ABS, with mesh fabric</b></p>   <p><b>with slotted cover</b> 138 x 138 mm and rim in stainless steel AISI 304, non-slip, class L 15, screwed</p> <p>Art. # <b>48 907</b></p>	<p><b>Shallow bed upper section in ABS, with mesh fabric</b></p>   <p><b>with anti-slip drain cover</b> 138 x 138 mm and rim in stainless steel AISI 304, non-slip, class L 15</p> <p>Art. # <b>48 965</b></p>	<p><b>Upper section in ABS</b></p>   <p><b>with slotted cover</b> 138 x 138 mm and rim in stainless steel AISI 304, non-slip, class L 15, screwed</p> <p>Art. # <b>48 176</b></p>	<p><b>Upper section in stainless steel AISI 304</b></p>   <p><b>with anti-slip drain cover</b> 138 x 138 mm in stainless steel AISI 304, class L 15 / M 125*</p> <p>* On-site lining work required</p> <p>Art. # <b>54 914</b></p>
Ø 78	<b>Complete drain comprising a combination of the drain body and upper section</b>			
Lateral outlet Art. # <b>54 200</b>	<b>54 200.52</b>	<b>54 200.21</b>	<b>54 200.61</b>	<b>54 200.20</b>
Vertical outlet Art. # <b>54 210</b>	<b>54 210.52</b>	<b>54 210.21</b>	<b>54 210.61</b>	<b>54 210.20</b>
Ø 110	<b>Complete drain comprising a combination of the drain body and upper section</b>			
Lateral outlet Art. # <b>54 220</b>	<b>54 220.52</b>	<b>54 220.21</b>	<b>54 220.61</b>	<b>54 220.20</b>
Vertical outlet Art. # <b>54 230</b>	<b>54 230.52</b>	<b>54 230.21</b>	<b>54 230.61</b>	<b>54 230.20</b>

\* Draining capacity valid for Ø 110 vertical outlet. Other variants 1.8 l/sec.


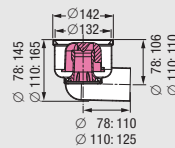

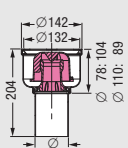

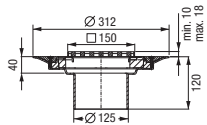

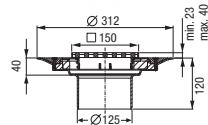

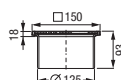

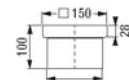


EN 1253

Accessories see page 218

Floor drains *Ferrofix* with connection flange

Matrix order system / Products

Drain body	Upper sections			
<p><b>Floor drain <i>Ferrofix</i> in stainless steel AISI 304 with connection flange</b> with odour trap, connection to SML-pipe</p>    	<p><b>Shallow bed upper section in ABS, with mesh fabric</b></p>   <p><b>with slotted cover</b> 138 x 138 mm and rim in stainless steel AISI 304, non-slip, class L 15, screwed</p> <p>Art. # 48 907</p>	<p><b>Shallow bed upper section in ABS, with mesh fabric</b></p>   <p><b>with anti-slip drain cover</b> 138 x 138 mm and rim in stainless steel AISI 304, non-slip, class L 15</p> <p>Art. # 48 965</p>	<p><b>Upper section in ABS</b></p>   <p><b>with slotted cover</b> 138 x 138 mm and rim in stainless steel AISI 304, non-slip, class L 15, screwed</p> <p>Art. # 48 176</p>	<p><b>Upper section in stainless steel AISI 304</b></p>   <p><b>with anti-slip drain cover</b> 138 x 138 mm in stainless steel AISI 304, class L 15 / M 125*</p> <p>* On-site lining work required</p> <p>Art. # 54 914</p>
<b>Ø 78</b>	<b>Complete drain comprising a combination of the drain body and upper section</b>			
Lateral outlet Art. # 54 400	54 400.52	54 400.21	54 400.61	54 400.20
Vertical outlet Art. # 54 410	54 410.52	54 410.21	54 410.61	54 410.20
<b>Ø 110</b>	<b>Complete drain comprising a combination of the drain body and upper section</b>			
Lateral outlet Art. # 54 420	54 420.52	54 420.21	54 420.61	54 420.20
Vertical outlet Art. # 54 430	54 430.52	54 430.21	54 430.61	54 430.20

\* Draining capacity valid for Ø 110 vertical outlet. Other variants 1.8 l/sec.



EN 1253

Accessories see page 218



Clean out - for direct access to piping

Illustration	Article description	Cover mm incl. rim	Connection Ø	Article #
	<p><b>Upper section</b> in ABS <b>with closed cover</b> <b>made of stainless steel AISI 304,</b> screwed, without gasket, class K 3</p>	150 x 150	110	<b>27 191G</b>
	<p><b>Upper section</b> in ABS <b>with rim and closed cover</b> <b>made of stainless steel AISI 304,</b> screwed, without gasket, class L 15</p>	150 x 150	110	<b>27 196G</b>
	<p><b>Cleaning closure</b> in stainless steel AISI 304 <b>with closed, screw-type cover plate</b> <b>made of stainless steel AISI 304, gastight</b> <b>and a backwater-proof seal up to 0.5 bar,</b> tileable, class L 15</p>	150 x 150	110	<b>27 177-PLF</b>
	<p><b>Upper section</b> in stainless steel AISI 304 <b>with a closed cover</b> <b>made of stainless steel AISI 304,</b> screwed odour-tight, with gasket, <b>with a backwater-proof seal up to 0.5 bar,</b> class L 15</p>	150 x 150	110	<b>27 177-PL</b>
	<p><b>Cleaning closure</b> in stainless steel AISI 304 <b>with glue flange, with closed, screw-type cover</b> <b>plate made of stainless steel AISI 304,</b> screwed odour-tight, with gasket, <b>gastight</b> <b>and a backwater-proof seal up to 0.5 bar,</b> tileable, class L 15</p>	150 x 150	110	<b>27 177-PLF-KF</b>
	<p><b>Upper section</b> in stainless steel AISI 304 <b>with glue flange and a closed cover</b> <b>made of stainless steel AISI 304,</b> screwed odour-tight, with gasket, <b>with a backwater-proof seal up to 0.5 bar,</b> class L 15</p>	150 x 150	110	<b>27 177-PL-KF</b>

Upper sections in ABS with connection flange

Illustration	Article description	Cover mm incl. rim	Connection Ø	Article #
	<b>Upper section in ABS with rim and closed cover made of stainless steel AISI 304, screwed, with gasket, class L 15</b>	150 x 150	125	<b>54 920</b>

Upper sections in stainless steel AISI 304 with connection flange

	<b>Upper section in stainless steel AISI 304 with anti-slip drain cover made of stainless steel AISI 304, class L 15 / M 125 (On-site lining work required)</b>	150 x 150	125	<b>54 914</b>
	<b>Upper section in stainless steel AISI 304 with anti-slip drain cover made of stainless steel AISI 304, class L 15 / M 125 (On-site lining work required)</b>	200 x 200	125	<b>54 916</b>
	<b>Upper section in stainless steel AISI 304 with slotted cover and rim made of stainless steel AISI 304, screwed, class D (On-site lining work required)</b>	200 x 200	125	<b>59 400 *</b>
	<b>Upper section in stainless steel AISI 304 with slotted cover made of stainless steel AISI 304, class K 3</b>	150 x 150	125	<b>48 977</b>
	<b>Upper section in stainless steel AISI 304 with a closed cover made of stainless steel AISI 304, screwed odour-tight, with gasket with a backwater-proof seal up to 0.5 bar, class L 15</b>	150 x 150	125	<b>54 912</b>
	<b>Upper section in stainless steel AISI 304 Cleaning closure closed, screw-type cover plate, gastight and a backwater-proof seal up to 0.5 bar, tileable, class L 15</b>	150 x 150	125	<b>54 910</b>
	<b>Upper section in stainless steel AISI 304 with cover plate and round inlet slot with insertion socket connection Ø 50, as free inlet to the floor drain, class L 15</b>	150 x 150	125	<b>48 435</b>
	<b>Sanitary drain cover in stainless steel AISI 304 with gas and liquid tight cover made of stainless steel AISI 304, cover available with removal threads (for connection of removal tool), class L 15</b>	150 x 150	125	<b>59 011 *</b>
	<b>Sanitary drain cover in stainless steel AISI 304 with gas and liquid tight cover made of stainless steel AISI 304, with a backwater-proof seal up to 0.5 bar, screwed, cover available with removal threads (for connection of removal tool), class L 15</b>	150 x 150	125	<b>59 013 *</b>
	<b>Upper section in stainless steel AISI 304 with round slotted cover made of stainless steel AISI 304, glue flange available upon request, class L 15</b>	Ø 160	125	<b>59 166 *</b>
	<b>Upper section in stainless steel AISI 304 for PVC floorings with cover in stainless steel AISI 304, class L 15, screwed. For use with 1-4 mm PVC / vinyl flooring.</b>	Ø 133	125	<b>59 192 *</b>

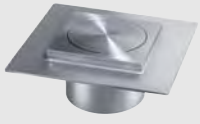
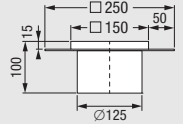

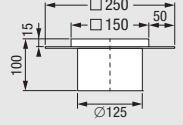

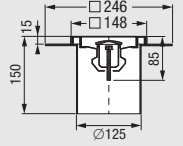

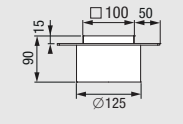
Shallow bed upper sections in ABS

Illustration	Article description	Cover mm incl. rim	Connection Ø	Article #
	<b>Upper section in ABS incl. mesh fabric with slotted cover and rim made of stainless steel AISI 304, non-slip, screwed, class L 15</b>	150 x 150	125	<b>48 907</b>
	<b>Upper section in ABS incl. mesh fabric with slotted cover and rim made of stainless steel AISI 304, non-slip, class L 15</b>	146 x 146	125	<b>48 965</b>
	<b>Upper section in ABS incl. mesh fabric with slotted cover and rim made of stainless steel AISI 304, screwed, class L 15</b>	150 x 150	125	<b>48 963</b>

Upper sections in stainless steel AISI 304 with glue flange

	<b>Upper section in stainless steel AISI 304 with glue flange, with anti-slip drain cover made of stainless steel AISI 304, class L 15 / M 125</b>	150 x 150	125	<b>54 915</b>
	<b>Upper section in stainless steel AISI 304 with glue flange, with anti-slip drain cover made of stainless steel AISI 304, class L 15 / M 125</b>	200 x 200	125	<b>54 917</b>
	<b>Upper section in stainless steel AISI 304 with glue flange, with slotted cover made of stainless steel AISI 304, class K 3</b>	150 x 150	125	<b>54 919</b>
	<b>Upper section in stainless steel AISI 304 with glue flange and a closed cover made of stainless steel AISI 304, screwed odour-tight, with gasket, with a backwater-proof seal up to 0.5 bar, class L 15</b>	150 x 150	125	<b>54 913</b>
	<b>Cleaning closure in stainless steel AISI 304 with glue flange, with closed, screw-type cover plate, gastight and a backwater-proof seal up to 0.5 bar, tileable, class L 15</b>	150 x 150	125	<b>54 911</b>

Upper sections in stainless steel AISI 304 with glue flange

Illustration	Article description	Cover mm incl. rim	Connection Ø	Article #
 	<p><b>Sanitary drain cover</b> in stainless steel AISI 304 with glue flange, with gas and liquid tight cover made of stainless steel AISI 304, class L 15</p>	150 x 150	125	<b>59 012 *</b>
 	<p><b>Sanitary drain cover</b> in stainless steel AISI 304 with glue flange, with gas and liquid tight cover made of stainless steel AISI 304, with a backwater-proof seal up to 0.5 bar, screwed, class L 15</p>	150 x 150	125	<b>59 014 *</b>
 	<p><b>Upper section "Easy Open"</b> in stainless steel AISI 304 with glue flange, with perforated cover made of stainless steel AISI 304, class K 3</p>	150 x 150	125	<b>59 010 *</b>
 	<p><b>Upper section</b> in stainless steel AISI 304 with glue flange, with slotted cover made of stainless steel AISI 304, class K 3</p> <p>Not usable with System 125 sludge trap accessory</p>	100 x 100	125	<b>59 165 *</b>



Floor drains *Ferrofix*

Accessories

Illustration and dimensioned drawing	Article description	Outer diameter Ø (mm)	Article #
<p><b>1</b></p> <p><b>2</b></p>	<p><b>Extension section</b> in PP, with lip seal</p> <p><b>1</b> without lateral inlet</p> <p><b>2</b> with lateral inlet Ø 50</p>	-	48 987
		-	48 989
	<p><b>Sludge basket</b> in stainless steel AISI 304</p>	-	48 636
	<p><b>Sludge basket</b> made of polymer fits all drain bodies <i>Ferrofix</i> System 125</p>	-	48 168
	<p><b>Extension section</b> in stainless steel AISI 304, with pressure sealing flange in stainless steel AISI 304, flange width 70 mm, Ø 273 mm</p>	-	54 187
	<p><b>Extension section</b> in stainless steel AISI 304, with pressure sealing flange in stainless steel AISI 304, side inlet with plug-in sleeve Ø 50/40. flange width 70 mm, Ø 273 mm</p>	-	54 189
	<p><b>Odour trap</b> in stainless steel AISI 304 sealing water height 50 mm</p>	-	54 188
	<p><b>Fire-Kit Fire protection insert</b> can only be retrofitted <b>for vertical drains</b> Only use in combination with an odour trap</p>	Ø 110 Ø 58/78/83	48 100 48 099
<p>Certification no. Z-19.17-1719</p>			
<p><b>1</b></p> <p><b>2</b></p>	<p><b>Quick-Fit the passage seal</b> for core drilling <b>for drain body vertical outlet</b></p> <p><b>1</b> with fire protection (only use in combination with <i>Fire-Kit</i> fire protection insert)</p> <p><b>2</b> without fire protection</p>	-	48 990
		-	48 991
<p><b>1</b> Certification no. Z-19.17-1719</p>			



Floor drains *Ferrofix* with pressure sealing flange

Matrix order system / Products

Drain body	Upper sections			
<p><b>Floor drain <i>Ferrofix</i> in stainless steel AISI 304 with pressure sealing flange</b> with odour trap, connection to SML-pipe</p> <p>1 Lateral outlet</p> <p>2 Vertical outlet</p> <p><b>For low installation height:</b></p> <p><b>Floor drain <i>Ferrofix</i> in stainless steel AISI 304 with pressure sealing flange</b> with odour trap in stainless steel AISI 304, connection to SML-pipe</p> <p>3 Lateral outlet</p>	<p><b>Shallow bed upper section in ABS, with mesh fabric</b></p> <p><b>with slotted cover 200 x 200 mm and rim in stainless steel AISI 304, non-slip, class L 15, screwed</b></p> <p>Art. # <b>48 978</b></p>	<p><b>Shallow bed upper section in ABS, with mesh fabric</b></p> <p><b>with anti-slip drain cover 190 x 190 mm and rim in stainless steel AISI 304, non-slip, class L 15</b></p> <p>Art. # <b>48 969</b></p>	<p><b>Upper section in stainless steel AISI 304</b></p> <p><b>with anti-slip drain cover 190 x 190 mm in stainless steel AISI 304, non-slip, class M 125</b></p> <p>Art. # <b>57 410</b></p>	<p><b>Upper section in stainless steel AISI 304</b></p> <p><b>with slotted cover 190 x 190 mm in stainless steel AISI 304, class M 125</b></p> <p>Art. # <b>57 420</b></p>
Ø 110	Complete drain comprising a combination of the drain body and upper section			
1 Lateral outlet Art. # <b>55 550</b>	▶ <b>55 550.52</b>	▶ <b>55 550.21</b>	▶ <b>55 550.20</b>	▶ <b>55 550.30</b>
2 Vertical outlet Art. # <b>55 600</b>	▶ <b>55 600.52</b>	▶ <b>55 600.21</b>	▶ <b>55 600.20</b>	▶ <b>55 600.30</b>
3 Lateral outlet Art. # <b>142 025</b>	▶ <b>142 025.52</b>	▶ <b>142 025.21</b>	▶ <b>142 025.20</b>	▶ <b>142 025.30</b>

Accessories see page 224

Floor drains *Ferrofix* with glue flange

Matrix order system / Products

Drain body	Upper sections			
<p><b>Floor drain <i>Ferrofix</i> in stainless steel AISI 304 with connection flange</b> with odour trap, connection to SML-pipe</p> <p>1 Lateral outlet</p> <p>2 Vertical outlet</p> <p><b>For low installation height:</b></p> <p><b>Floor drain <i>Ferrofix</i> in stainless steel AISI 304 with connection flange</b> with odour trap in stainless steel AISI 304, connection to SML-pipe</p> <p>3 Lateral outlet</p>	<p><b>Shallow bed upper section in ABS, with mesh fabric</b></p> <p><b>with slotted cover</b> 200 x 200 mm and rim in stainless steel AISI 304, non-slip, class L 15, screwed</p> <p>Art. # 48 978</p>	<p><b>Shallow bed upper section in ABS, with mesh fabric</b></p> <p><b>with anti-slip drain cover</b> 190 x 190 mm and rim in stainless steel AISI 304, non-slip, class L 15</p> <p>Art. # 48 969</p>	<p><b>Upper section in stainless steel AISI 304</b></p> <p><b>with anti-slip drain cover</b> 190 x 190 mm in stainless steel AISI 304, non-slip, class M 125</p> <p>Art. # 57 410</p>	<p><b>Upper section in stainless steel AISI 304</b></p> <p><b>with slotted cover</b> 190 x 190 mm in stainless steel AISI 304, class M 125</p> <p>Art. # 57 420</p>
Ø 110	Complete drain comprising a combination of the drain body and upper section			
1 Lateral outlet Art. # 55 350	55 350.52	55 350.21	55 350.20	55 350.30
2 Vertical outlet Art. # 55 400	55 400.52	55 400.21	55 400.20	55 400.30
3 Lateral outlet Art. # 142 026	142 026.52	142 026.21	142 026.20	142 026.30

Accessories see page 224



Shallow bed upper sections in ABS

Illustration	Article description	Cover mm incl. rim	Connection Ø	Article #
	<b>Upper section</b> in ABS incl. mesh fabric with slotted cover and rim made of stainless steel AISI 304, non-slip, screwed, class L 15	200 x 200	200	<b>48 978</b>
	<b>Upper section</b> in ABS incl. mesh fabric with anti-slip drain cover and rim made of stainless steel AISI 304, non-slip, class L 15	200 x 200	200	<b>48 969</b>

Upper sections in stainless steel AISI 304 with connection flange

	<b>Upper section</b> in stainless steel AISI 304 with anti-slip drain cover made of stainless steel AISI 304, non-slip, class M 125	200 x 200	200	<b>57 410</b>
	<b>Upper section</b> in stainless steel AISI 304 with anti-slip drain cover made of stainless steel AISI 304, non-slip, class M 125 (On-site lining work required)	300 x 300	200	<b>57 415</b>
	<b>Upper section</b> in stainless steel AISI 304 with slotted cover made of stainless steel AISI 304, class M 125	200 x 200	200	<b>57 420</b>
	<b>Upper section</b> in stainless steel AISI 304 with slotted cover made of stainless steel AISI 304, class M 125 (On-site lining work required)	300 x 300	200	<b>57 425</b>
	<b>Upper section</b> in stainless steel AISI 304 with round-slot cover plate made of stainless steel AISI 304, non-slip, class M 125 (On-site lining work required)	300 x 300	200	<b>57 435</b>

Upper sections in stainless steel AISI 304 with glue flange

Illustration	Article description	Cover mm incl. rim	Connection Ø	Article #
	<b>Upper section</b> in stainless steel AISI 304 with glue flange, with anti-slip drain cover made of stainless steel AISI 304, class L 15 / M 125	200 x 200	200	<b>57 410-KF*</b>
	<b>Upper section</b> in stainless steel AISI 304 with glue flange, with anti-slip drain cover made of stainless steel AISI 304, class L 15 / M 125	300 x 300	200	<b>57 415-KF*</b>
	<b>Upper section</b> in stainless steel AISI 304 nach DIN 15999, with glue flange, with slotted cover made of stainless steel AISI 304, telescopic height adjustment up to 50 mm, with welded glue flange made of flat steel 50 x 3 mm, class L 15 / M 125	200 x 200	200	<b>57 420-KF*</b>
	<b>Upper section</b> in stainless steel AISI 304 nach DIN 15999, with glue flange, with slotted cover made of stainless steel AISI 304, telescopic height adjustment up to 50 mm, with welded glue flange made of flat steel 50 x 3 mm, class L 15 / M 125	300 x 300	200	<b>57 425-KF*</b>
	<b>Upper section</b> in stainless steel AISI 304 nach DIN 15999, with glue flange, with round-slot cover plate made of stainless steel AISI 304, telescopic height adjustment up to 50 mm, with welded glue flange made of flat steel 50 x 3 mm, class L 15 / M 125	200 x 200	200	<b>57 430-KF*</b>
	<b>Upper section</b> in stainless steel AISI 304 nach DIN 15999, with glue flange, with round-slot cover plate made of stainless steel AISI 304, telescopic height adjustment up to 50 mm, with welded glue flange made of flat steel 50 x 3 mm, class L 15 / M 125	300 x 300	200	<b>57 435-KF*</b>
	<b>Upper section</b> in stainless steel AISI 304 with glue flange and a closed cover made of stainless steel AISI 304, lateral drain slots, with glue flange made of flat steel 50 x 3 mm, class L 15 / M 125 Safety valve system made of stainless steel	200 x 200	200	<b>48 954-S-V2A-KF*</b>
	<b>Upper section</b> in stainless steel AISI 304 with glue flange made of stainless steel AISI 304, tiltable with glue flange made of flat steel 50 x 3 mm, class K 3 Valve system made of stainless steel	200 x 200	200	<b>48 954-Z-V2A-KF*</b>

Floor drains <i>Ferrofix</i>			Accessories
Illustration and dimensioned drawing	Article description	Outer diameter Ø (mm)	Article #
	<b>Extension section</b> in PP, with lip seal on request also in AISI 304 / AISI 316L	-	<b>48 988</b>
	<b>Extension section</b> in stainless steel AISI 304 <input type="checkbox"/> with pressure sealing flange <input type="checkbox"/> with connection flange	- -	<b>27 185</b> <b>27 186</b>
	<b>Odour trap</b> in stainless steel AISI 304, removable, sealing water height 70 mm	-	<b>27 182</b>
<p><b>Certification no. Z-19.17-1719</b></p>	<b>Fire-Kit 200 Fire protection insert</b> can only be retrofitted <b>for drains with vertical outlet</b> Only use in combination with an odour trap	-	<b>48 200</b>
	<b>Sludge basket</b> in stainless steel AISI 304 <input type="checkbox"/> Height 60 mm (H) <input type="checkbox"/> Height 150 mm (H)	- -	<b>67 302</b> <b>67 301</b>
	<b>Sludge basket</b> in PE-HD	-	<b>67 300</b>
	<b>Special key</b> for safety lock, made of stainless steel V2A, for Art. # 48 954-S-V2A-KF	-	<b>48 954-SL</b>

Drains *Ferrofix* in stainless steel AISI 304

Low profile floor surface applications 15 mm\*

When planning renovations, specialists often face the problem of using products in very shallow floor structures that still meet the sealing requirements.

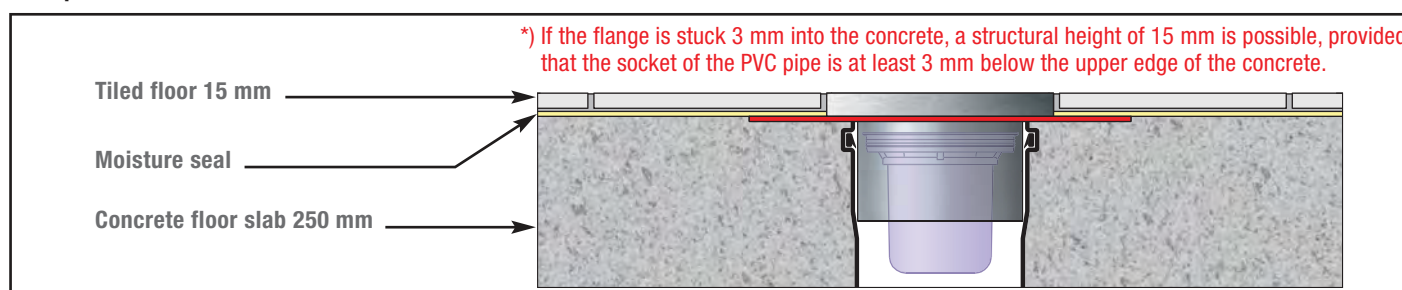
As a customer, describe your installation situation and we will make a *Ferrofix* - that is precisely tailored to your requirements. Just ask us!

A wide range of customised solutions are possible using the *KESSEL Ferrofix* stainless steel drains:

- Floor structures up to a minimum height of 15 mm are possible, even with an adhesive edge for the compound seal
- Materials in various variants can be selected
- Choice of cover forms and sizes



Example:



Stainless steel quick access closable drain cover - hygienic

Custom *Ferrofix* System 125 drain cover manufactured from 1.4301 (AISI 304) stainless steel.  
50 mm wide, 3 mm thick perimeter connection flange  
Center finger access removal hole (photo 1)  
Quick release / quick closure pop up drain plug (photo 2)



Low-profile drain for very low floor structures





Drainage channels *Ferrofix Express*

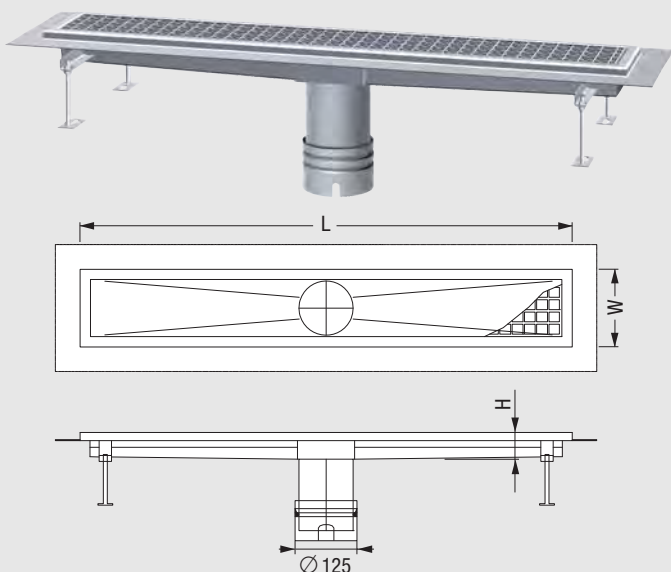
Products

Illustration

Article description

Linear stainless steel channel drains

System 125



Drainage channels *Ferrofix Express* made of stainless steel

Material thickness 2.0 mm - acid-treated in a pickling bath, visible cover sanded, with longitudinal and transverse slopes, feet for height adjustment, with welded distance grates to secure the covers, **including drain pipes in stainless steel.**  
**Channel profile for shallow bed seals**, with adhesive edge 15 mm deep and 30 mm turned down all-round to the outside, with welded mitre joints.

Linear drainage channels:

**Channel lengths (mm)** 1042, 1550, 2058 | 1047, 1555, 2063 | 542, 547  
**Channel widths (mm)** 158 | 300 | 158,300

Square drainage channels:

**Channel lengths (mm)** 500 | 953 | 350, 800, 1000  
**Channel widths (mm)** 500 | 500 | 350, 800, 1000

**Material** 1.4301 (AISI 304)

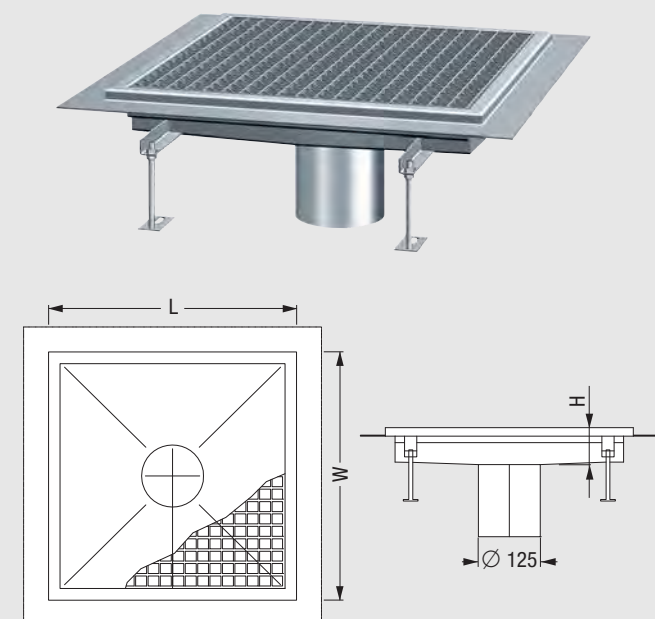
**Channel profile** Adhesive edge for shallow bed seals

With stainless steel cover

Non-slip R11, acid-treated in a pickling bath.  
Mesh width: 23 x 23 mm  
Load class: L 15 (1.5 ton.)

Square/rectangular stainless steel channel drains

System 125



Sludge trap in stainless steel optional:

- **System 125** Art. # **6125SKH** Construction height 90 mm  
Art. # **6125SKN** Construction height 30 mm

On stock :

Dimensions W x L x H	Article #
<b>Linear stainless steel channel drains</b>	
<b>System 125</b>	
158 x 542 x 55 mm	<b>60 15 050</b>
158 x 1042 x 55 mm	<b>60 15 100</b>
158 x 1550 x 58 mm	<b>60 15 150</b>
158 x 2058 x 60 mm	<b>60 15 200</b>
300 x 547 x 58 mm	<b>60 30 050</b>
300 x 1047 x 60 mm	<b>60 30 100</b>
300 x 1555 x 63 mm	<b>60 30 150</b>
300 x 2063 x 65 mm	<b>60 30 200</b>
<b>Square/rectangular stainless steel channel drains</b>	
<b>System 125</b>	
350 x 350 x 60 mm	<b>60 35 035</b>
500 x 500 x 65 mm	<b>60 50 050</b>
500 x 953 x 70 mm	<b>60 50 100</b>
800 x 800 x 60 mm	<b>60 80 080</b>
1000 x 1000 x 65 mm	<b>61 00 100</b>

Matching drain body System 125 optionally as an accessory

Drainage channels *Ferrofix Express*

Accessories



Drain bodies

with removable odour trap  
**Ecoguss** see page 160  
**Practicus** see page 161  
**Ferrofix** see page 212/213

Fire-Kit Fire protection insert

Ø 76 mm,  
only for drains with vertical outlet  
and odour trap  
Art. # **48 100**

Quick-Fit the passage seal

for core drilling, for drain body vertical outlet  
**1** \* with fire protection Art. # **48 990**  
(only use in combination with *Fire-Kit* fire protection insert)  
**2** without fire protection Art. # **48 991**

Certification no.  
Z-19.17-1719

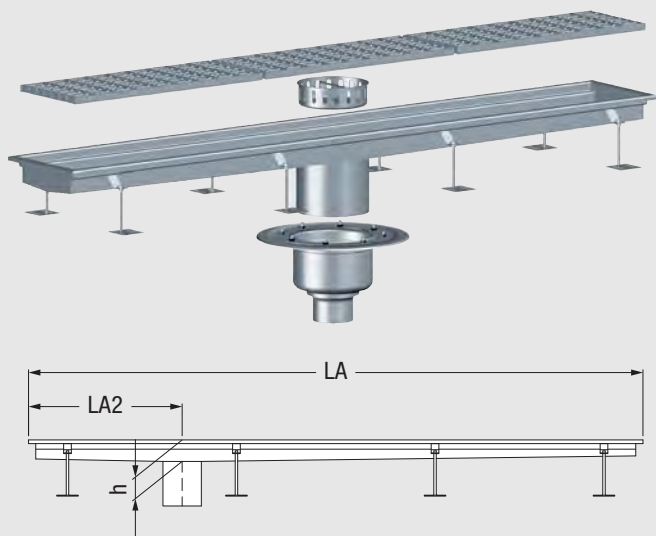
\* Certification no.  
Z-19.17-1719



Box channel *Ferrofix*

Products

Illustration



Article description

**Box channel *Ferrofix* made of stainless steel**

Material thickness 2.0 mm - acid-treated in a pickling bath, visible cover sanded, with longitudinal and transverse slopes, feet for height adjustment, with welded distance grates to secure the covers Including drain pipes in stainless steel

**Channel widths** from 150, 200, 250 etc. to 1000 mm

**Channel lengths** from 400 mm

**Channel shapes**

- straight
- L-shaped
- U-shaped
- T-shaped
- Grating(s)
- Mitre joint(s)

**Channel profiles**

- U-profile
  - Adhesive edge for shallow bed seals (compound seals)
  - Tile connector to protect the tiles from breaking at the edge
- (all profiles also available with hollow-free filling of the visible covers)

**Drain pipes in stainless steel**

- **System 100** (Ø 110 mm)
  - **System 125** (Ø 125 mm)
  - **System 200** (Ø 200 mm)
- (depends on channel width)

**Material** - 1.4301 (AISI 304)

(Material 1.4404 or 1.4571 - AISI 316L - on request)

**Matching drain body and accessories**

- **System 100** on request
- **System 125** see from page 212
- **System 200** see from page 220

**Sludge trap in stainless steel optional:**

- **System 100** Art. # **6100 SKH** construction height 90 mm
  - **System 125** Art. # **6125 SKH** construction height 90 mm
  - **System 200** Art. # **6200 SKN** construction height 55 mm
- All sludge traps also available in special sizes

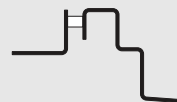
U-profile



Profile adhesive edge



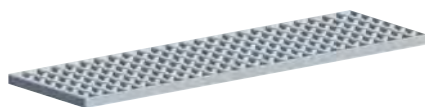
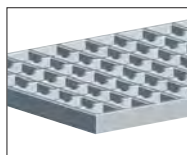
Profile tile connector



Covers

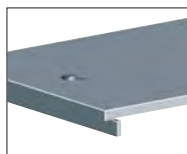
Products

**Cover**  
in stainless steel



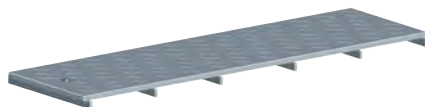
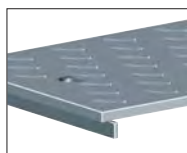
Non-slip R 11, acid-treated in pickling bath  
Mesh width 23 x 23 mm or 30 x 30 mm,  
class L 15 or M 125

**Slab cover**  
in stainless steel



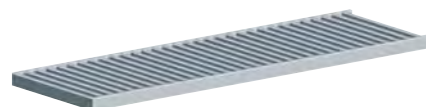
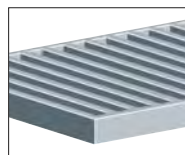
Not anti-slip, glass bead-blasted  
All-round 8 mm inlet  
Material thickness 10 mm, class M 125

**Ribbed plate cover**  
in stainless steel



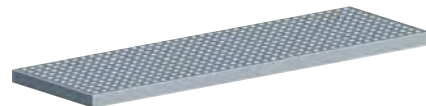
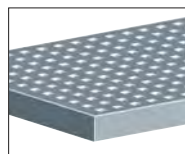
Non-slip R 11, acid-treated in pickling bath  
All-round 8 mm inlet  
Material thickness 10 mm, class M 125

**Rod cover**  
in stainless steel



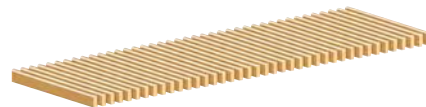
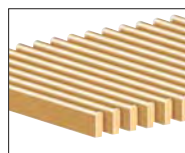
Not anti-slip, acid-treated in pickling bath  
Rod clearance 18 mm, supporting member  
25 x 8 mm, class M 125

**Bathroom cover**  
in stainless steel



Suitable for barefoot area  
Brushed surface, perforation 8 x 8 mm  
Insertion depth 25 mm, thickness 2 mm,  
class K 3

**Bathroom cover**  
made of polymer



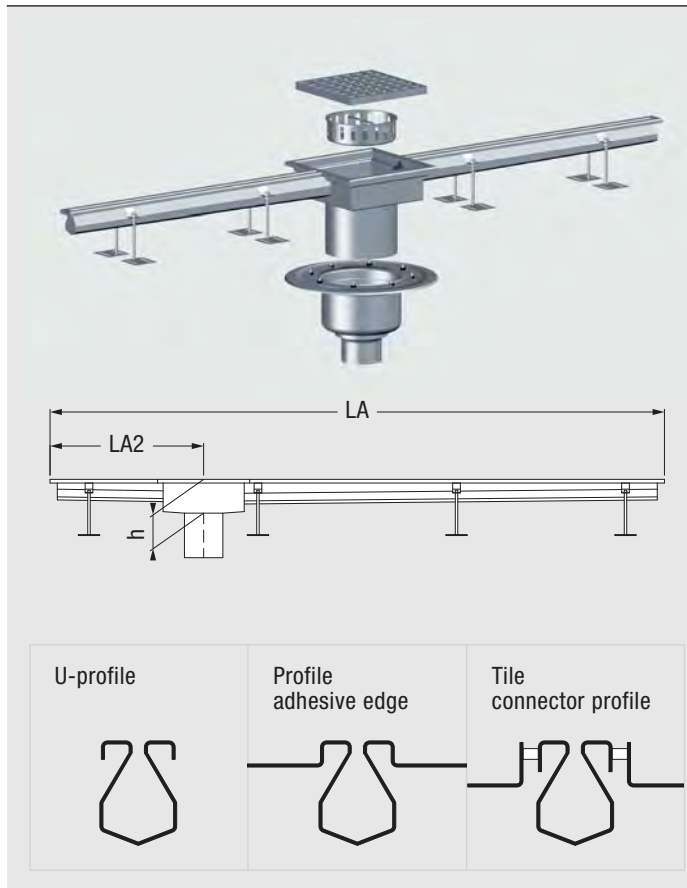
Suitable for barefoot area,  
With rounded or flat upper profile  
Colours white, grey, beige or yellow  
(other RAL colours on request)  
Insertion depth 25 mm, class K 3

Slotted channel *Ferrofix*

Products

Illustration

Article description



**Slotted channel *Ferrofix* made of stainless steel**

Material thickness 2.0 mm - acid-treated in pickling bath, visible covers sanded, with longitudinal and transverse slopes, feet for height adjustment, including gully, drain pipes in stainless steel.

**Channel widths** 60 mm, 48 mm

**Slot widths** 20 mm (standard width), 8 mm (barefoot area)

**Channel lengths** from 600 mm

**Channel shapes and gully**

- straight with gully on the edge of the channel Type 100
- straight with gully in the middle Type 200
- L-shaped with gully in the intersection Type 250
- T-shaped with gully in the intersection Type 300
- Cross-shaped with gully in the intersection Type 400

**Channel profiles**

- U-profile
- Adhesive edge for shallow bed seals (compound seals)
- Tile connector to protect the tiles from breaking at the edge (all profiles also available with hollow-free filling of the visible covers)

**Gully with drain pipes in stainless steel**

- **System 100** (Ø 110 mm) - **System 125** (Ø 125 mm)
- **System 200** (Ø 200 mm) (depends on the gully width)

**Material** - 1.4301 (AISI 304)

(Material 1.4404 or 1.4571 - AISI 316L - on request)

**Matching drain body and accessories**

- **System 100 on request** - **System 125** see page 212, 213, 218
- **System 200** see page 220, 221, 224

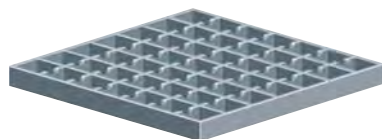
**Sludge trap in stainless steel optional:**

- **System 100** Art. # **6100 SKH** construction height 90 mm
  - **System 125** Art. # **6125 SKH** construction height 90 mm
  - **System 200** Art. # **6200 SKN** construction height 55 mm
- All sludge traps also available in special sizes

Covers

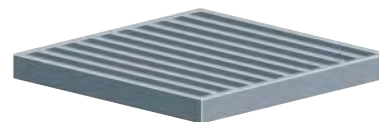
Products

**Cover**  
in stainless steel



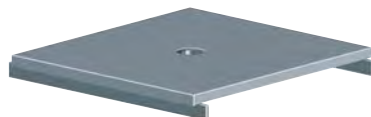
Non-slip R 11, acid-treated in pickling bath  
Mesh width 23 x 23 mm or 30 x 30 mm  
class L 15 or M 125

**Rod cover**  
in stainless steel



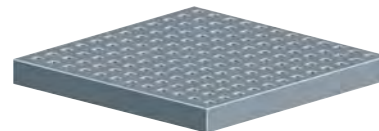
Not anti-slip, acid-treated in pickling bath  
Rod clearance 18 mm, supporting member  
25 x 8 mm, class M 125

**Slab cover**  
in stainless steel



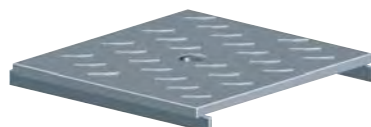
Not anti-slip, glass bead-blasted  
All-round 8 mm inlet  
Material thickness 10 mm, class M 125

**Bathroom cover**  
in stainless steel



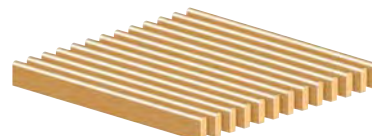
Suitable for barefoot area  
Brushed surface, perforation 8 x 8 mm  
Insertion depth 25 mm, thickness 2 mm,  
class K 3

**Ribbed plate cover**  
in stainless steel



Non-slip R 11, acid-treated in pickling bath  
All-round 8 mm inlet  
Material thickness 10 mm, class M 125

**Bathroom cover**  
made of polymer



Suitable for barefoot area,  
With rounded or flat upper profile  
Colours white, grey, beige or yellow  
(other RAL colours on request) Insertion depth 25 mm, class K 3



# Drains for exterior installation

**Parking deck drains  
System 100/125** Page **232 – 234**

**Balcony drains** Page **235**

**Yard and gutter drains  
System 200/100** Page **236 – 241**

**Yard drains System 400  
and street gullies** Page **242 – 245**

**Roof drains** Page **246 – 248**



# Ecoguss - the new high-tech material



Heavy-duty drains for surface water drainage of car parks, industrial buildings, roofs and driveway / parking areas.



With pressure sealing flange for twin sealing



Single piece pipe connection drain

## Parking deck drains for car parks and industrial buildings

### SYSTEM ADVANTAGES / INSTALLATION

Parking deck drains in *Ecoguss*

#### VARIABLE

Variable upper section rotatable, tiltable and height adjustable for adaption to the ground level.

#### STRAIGHTFORWARD INSTALLATION

Fast and easy installation due to low weight of drain.

#### HIGH SHATTER RESISTANCE

Parking deck drains carry Class B rating (12.5 ton loads).

#### CORROSION FREE

Corrosion free material. Electrical grounding no longer necessary.



#### Fire-Kit

Fire and smoke protection *Fire-Kit* with approval Z-19.17-1719. Optional for drain bodies with vertical outlet.

#### Quick-Fit

*Quick-Fit* the all-round seal for core drillings with approval Z-19.17-1719 with or without fire protection for cheap and fast installation.



Drains for exterior installation

4



With *Ecoguss* upper section

Single piece *Ecoguss* pipe connection drain

Polymer gutter drains

*Ecoguss* roof drains

Polymer roof drains

## Yard and gutter drains

for yard and downspouts drainage

## Flat roof drains

for small and medium roof areas

### SYSTEM ADVANTAGES / INSTALLATION

Yard and gutter drains in *Ecoguss* / polymer

#### VARIABLE

Variable upper section rotatable, tiltable and height adjustable up to 110 mm (yard drain with upper section made of *Ecoguss* or completely made of polymer).



#### FLEXIBLE INSTALLATION

Deeper installation and lateral inlet requirement. In one step the quick and easy solution. With extension section with or without lateral inlet.



#### CLEANING

Optimal pipe access with sludge trap removal.

#### FAST INSTALLATION

Single piece pipe connection drain with round or square support rim.



#### LOCKING AND REMOVAL KEY

Locking and removal key for *Ecoguss* drain covers with *Lock & Lift* System.

### SYSTEM ADVANTAGES / INSTALLATION

#### 1. Yard and gutter drains in *Ecoguss*

##### RELIABILITY

With twin sealing system for waterproof concrete and integrated heating.

##### MATERIAL

High temperature-resistant materials for processing with hot bitumen acc. to DIN 18195.

##### EASY INSTALLATION

Easy installation also upgradable after installation to emergency drainage option



#### 2. Polymer roof drains

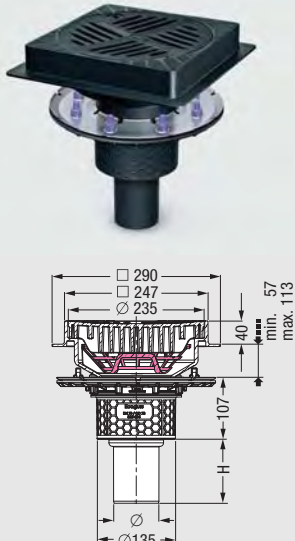


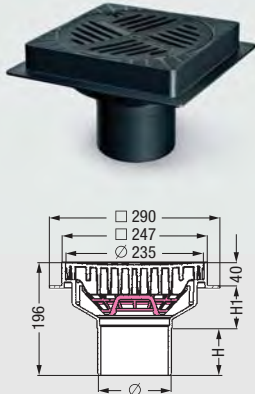
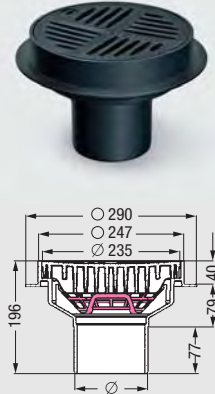
##### COMPACT

Ideal for smaller roof areas, with pressure sealing flange, also available with twin gasket system.



Parking deck drains *Ecoguss*

Products

Illustration and dimensioned drawing	Article description	Outer diameter Ø (mm)	Article #									
 <p>4.5 l/sec flow rate Installation area 300 x 300 mm</p>	<p><b>Parking deck drain <i>Ecoguss</i></b> Vertical outlet, for connection to SML-pipe according to EN 877, with sludge trap</p> <p><input type="checkbox"/> <b>System 125</b></p> <p><b>With pressure sealing flange in stainless steel AISI 304 with square upper section in <i>Ecoguss</i> 247 mm x 247 mm with connection flange and round slotted cover Ø 235 mm, class B 125, with <i>Lock &amp; Lift</i> System</b></p> <p><b>Core drilling only Ø 160 mm with <i>Quick-Fit</i></b></p> <table border="1" data-bbox="558 739 829 795"> <tr> <td>Ø</td> <td>78</td> <td>110</td> </tr> <tr> <td>H</td> <td>110</td> <td>110</td> </tr> </table> <p>  EN 1253-1</p> <p><b>Accessories:</b> <i>Multistop</i> Art. # 48 500, odour trap Art. # 27 169 see page 234</p>	Ø	78	110	H	110	110	<p>Ø 78 Ø 110</p>	<p><b>48 878.01</b> <b>48 811.01</b></p>			
Ø	78	110										
H	110	110										
<p><b>Single piece pipe connection drain</b></p>  <p>4.5 l/sec flow rate Installation area 300 x 300 mm</p>	<p><b>Parking deck drain <i>Ecoguss</i>, square</b> Vertical outlet, for connection to SML-pipe/plastic pipe, with sludge trap</p> <p><b>1 System 100: SML-pipe</b> <b>2 System 125: plastic pipe</b></p> <p><b>with square upper section in <i>Ecoguss</i> with connection flange 247 mm x 247 mm and round slotted cover Ø 235 mm, class B 125, with <i>Lock &amp; Lift</i> System</b></p> <table border="1" data-bbox="558 1288 829 1377"> <tr> <td>Ø</td> <td>110</td> <td>125</td> </tr> <tr> <td>H</td> <td>77</td> <td>83</td> </tr> <tr> <td>H1</td> <td>79</td> <td>73</td> </tr> </table> <p><b>Accessories:</b> <i>Multistop</i> Art. # 48 500 see page 234</p>	Ø	110	125	H	77	83	H1	79	73	<p><b>1</b> Ø 110 <b>2</b> Ø 125</p>	<p><b>48 501</b> <b>48 502</b></p>
Ø	110	125										
H	77	83										
H1	79	73										
<p><b>Single piece pipe connection drain</b></p>  <p>4.5 l/sec flow rate Installation area Ø 300 mm</p>	<p><b>Parking deck drain <i>Ecoguss</i>, round</b> Vertical outlet, for connection to SML-pipe/plastic pipe, with sludge trap</p> <p><b>1 System 100: SML-pipe</b> <b>2 System 125: plastic pipe</b></p> <p><b>with round upper section in <i>Ecoguss</i> with connection flange Ø 247 mm and round slotted cover Ø 235 mm, class B 125, with <i>Lock &amp; Lift</i> System</b></p> <table border="1" data-bbox="558 1848 829 1937"> <tr> <td>Ø</td> <td>110</td> <td>125</td> </tr> <tr> <td>H</td> <td>77</td> <td>83</td> </tr> <tr> <td>H1</td> <td>79</td> <td>73</td> </tr> </table> <p><b>Accessories:</b> <i>Multistop</i> Art. # 48 500 see page 234</p>	Ø	110	125	H	77	83	H1	79	73	<p><b>1</b> Ø 110 <b>2</b> Ø 125</p>	<p><b>48 503</b> <b>48 504</b></p>
Ø	110	125										
H	77	83										
H1	79	73										

Drains Drains for exterior installation

4



Installation example parking deck drains *Ecoguss*



① Upper section  
② Sealing flange  
③ Connection to SML-pipe

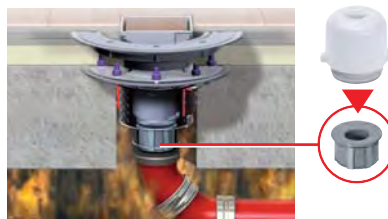
The KESSEL *Ecoguss* drains are especially suitable for installation in garages and car parks. The high strength low weight body and upper section handles traffic loads up to 12.5 metric tons and a stainless steel waterproof sealing flange is available if required. The compact drain bodies are available with various outlet sizes which are designed for connection directly to SML cast iron drainage piping.

No-compromise fire protection

Floor drains are critical when it comes to spreading of fire in a building. *Ecoguss* drains combined with KESSEL fire protection elements meet all the requirements for fire resistance class R 120.

■ **The determining factor is the fire resistance class, not the building material class!**

The *Ecoguss* drains with vertical outlets are designed specifically for use with the KESSEL **Fire-Kit fire protection insert** which offers the highest fire resistance class - R 120. As soon as fire enters the lower portion of the *Ecoguss* drain, the Fire-Kit expands and completely seals the opening to prevent fire and smoke from reaching the above floor.



■ **Quick-Fit** passage seal including fire protection ring for fire resistance class R 120.

Additional security for fire protection is offered by the KESSEL **Quick-Fit passage seal** including fire protection ring. If floor drains are not poured into the concrete floor but inserted later into cored holes in the concrete slab, the space between the cored hole and the exterior of the drain body also needs to be secured against fire. In the case of a fire, the fire protection ring expands and completely seals the opening between the exterior of the drain body and the cored hole - preventing fire and smoke from reaching the above floor.

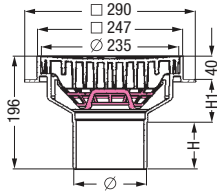


Professional advantages

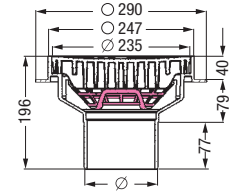
- **Metallic composite material**  
Metallic properties but still non corrosive and non-conductive (**no electrical grounding necessary!**)
- **Honeycomb structure** for perfect concrete bonding
- **High temperature-resistant materials**  
Briefly up to 400°C, for processing with hot bitumen acc. to DIN 18195
- **With SML pipe connection**  
Connection to SML pipe according to EN 877 in Ø 58, 78, 110 and Ø 83!  
No transition pieces any more!
- **Sound insulation**
  - Sound-absorbent material
  - For increased sound insulation to DIN 4109 < 30 dB (A)
- **Variable upper section**  
rotatable, tiltable and height adjustable
- **Chemical resistance**  
Extremely high acid/alkali resistance for chemically-polluted wastewater.
- **High discharge rates**
- **With Lock & Lift System**
  - Thermal insulation insert available – ready to install
- **High shatter resistance and high load resistance**  
Parking deck drains carry class B rating (12.5 ton loads).



Upper section with connection flange



Ø	110	125
H	77	83
H1	79	73



in *Ecoguss*

Can be used as single piece pipe connection drain

with square upper section □ 247 mm and round slotted cover Ø 235 mm, in *Ecoguss*, class B 125, with *Lock & Lift System*, with sludge trap.

System 100: SML-pipe  
System 125: plastic pipe

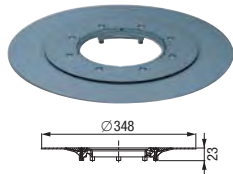
- Ø 110 Art. # 48 501
- Ø 125 Art. # 48 502

with round upper section □ 247 mm and round slotted cover Ø 235 mm, in *Ecoguss*, class B 125, with *Lock & Lift System*, with sludge trap.

System 100: SML-pipe  
System 125: plastic pipe

- Ø 110 Art. # 48 503
- Ø 125 Art. # 48 504

Accessories



Glue flange with counter flange

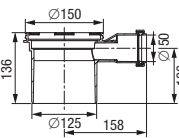
in ABS, Ø 348 mm (also for compound seal)  
Art.Nr. 48 410

can be combined with drain bodies and extension sections



Extension section

in PP, with lip seal  
without lateral inlet Art. # 48 987  
with lateral inlet Art. # 48 989



Multistop

rodent, insect, foam and odour stop  
Art. # 48 500



Hair filter

made of polymer  
Art. # 48 700



Odour trap

Sealing water height 50 mm according to norm  
Art. # 48 600

Certification no. Z-19.17-1719



\* Certification no. Z-19.17-1719



Fire-Kit Fire protection insert

Only for *Ecoguss* drains with vertical outlet and odour trap Art. # 27 169  
Ø 58/78/83 Art. # 48 099  
Ø 110 Art. # 48 100

Bell-shaped odour trap insert

in PP, sealing water height 50 mm  
Art. # 27 169

Quick-Fit the passage seal

the all-round seal for core drillings for *Ecoguss*-drain body, vertical outlet without fire protection Art. # 48 991  
\* with fire protection Art. # 48 990 (only use in combination with *Fire-Kit* fire protection insert)

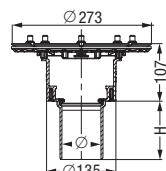
Insulating body

fits all *Ecoguss* drain bodies with vertical outlet  
Art. # 48 952

Drain body *Ecoguss*

4.5 l/sec flow rate  
Sealing water height 50 mm

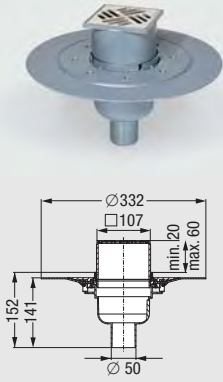
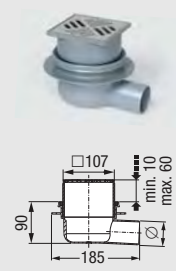
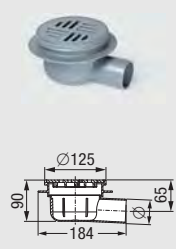
Ø	58	78	83	110
H	100	110	110	110

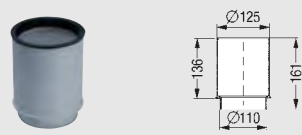



*Ecoguss* without odour trap

Vertical outlet, with pressure sealing flange, high temperature resistant

without odour trap		with odour trap	
Ø	Article #	Ø	Article #
78	48 879	78	48 878
83	48 889	83	48 883
110	48 812	110	48 811

Balcony drains			Products
Illustration and dimensioned drawing	Article description	Outer diameter Ø (mm)	Article #
 <p>0.9 l/sec flow rate Installation area 180 x 180 mm</p>	<p><b>Balcony drain</b> in ABS Frost-proof outlet. <b>With fixed lip seal.</b> <b>With glue flange and counter flange.</b></p> <p><input checked="" type="checkbox"/> <b>Lateral outlet</b></p> <p><input checked="" type="checkbox"/> <b>Vertical outlet</b></p> <p><b>With upper section in ABS with slotted cover 100 x 100 mm in stainless steel AISI 304, class K3 (able to withstand loads up to max. 300 kg).</b></p>	<p><input checked="" type="checkbox"/> Ø 50</p> <p><input checked="" type="checkbox"/> Ø 50</p>	<p><b>40 151.90</b></p> <p><b>40 251.90</b></p>
 <p>0.9 l/sec flow rate Installation area 220 x 180 mm</p>	<p><b>Balcony drain</b> in ABS Frost-proof outlet. <b>With fixed lip seal.</b> <b>With connection flange.</b></p> <p><input type="checkbox"/> <b>Lateral outlet</b></p> <p><b>With upper section in ABS with slotted cover 100 x 100 mm in stainless steel AISI 304, class K3 (able to withstand loads up to max. 300 kg).</b></p>	<p>Ø 50</p> <p>Ø 75</p>	<p><b>40 151.20</b></p> <p><b>40 171.20</b></p>
 <p>0.9 l/sec flow rate Installation area 220 x 180 mm</p>	<p><b>Balcony drain</b> in ABS Frost-proof outlet. <b>With connection flange.</b></p> <p><input type="checkbox"/> <b>Lateral outlet</b></p> <p><b>with inserted cover Ø 125 in synthetic material, class K3 (able to withstand loads up to max. 300 kg)</b></p>	<p>Ø 50</p> <p>Ø 75</p>	<p><b>40 152.71</b></p> <p><b>40 172.71</b></p>

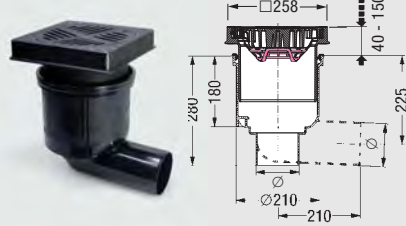
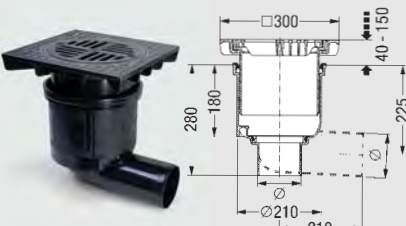
Balcony drains			Accessories
Illustration and dimensioned drawing	Article description	Outer diameter Ø (mm)	Article #
	<p><b>Extension section</b> in ABS, with lip seal</p>	-	<b>27 146</b>
	<p><b>Multistop</b> rodent, insect, foam and odour stop</p>	-	<b>43 500</b>

# Yard drains in *Ecoguss* / polymer

## System 200 / 100

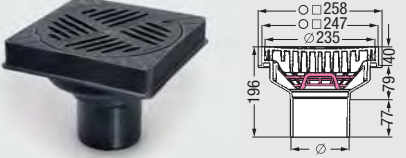
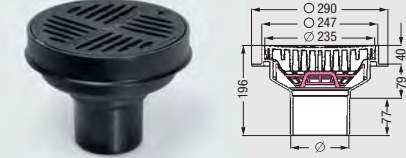
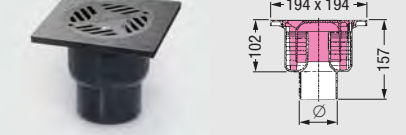
### Yard drains System 200

### Products

Illustration and dimensioned drawing	Article description	Outer diameter Ø (mm)	Article #
 <p>4.5 l/sec flow rate</p>	<p><b>Yard drains <i>Ecoguss</i> 200</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Lateral outlet 2.5°</li> <li><input type="checkbox"/> Vertical outlet</li> </ul> <p>with drain body made of polymer and upper section made of <i>Ecoguss</i>, upper section with square support rim, class B 125, with <i>Lock &amp; Lift</i> System, with sludge trap</p>	<p>Ø 110</p> <p>Ø 110</p>	<p><b>67 923 B</b></p> <p><b>67 922 B</b></p>
 <p>4.5 l/sec flow rate</p>	<p><b>System 200 Yard drain</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Lateral outlet 2.5°</li> <li><input type="checkbox"/> Vertical outlet</li> </ul> <p>with drain body made of polymer, upper section with support rim, lotted cover class ...</p> <p><b>With lip seal and protective cover for use during construction.</b></p> <p>Weight: Class A 15 approx. 4.2 kg.</p> <p><b>Accessories:</b> Sludge trap Art. # 67 300, odour-trap (consider frost free installation depth) Art. # 27 171 see page 240/241</p>	<p>Ø 110</p> <p>Ø 110</p>	<p><b>67 020.30</b></p> <p><b>67 060.30</b></p>

### Yard drains System 100

### Products

Illustration and dimensioned drawing	Article description	Outer diameter Ø (mm)	Article #
 <p>4.5 l/sec flow rate</p>	<p><b>Yard drain <i>Ecoguss</i> pipe connection drain - square</b></p> <p>Vertical outlet</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> upper section with square support rim in <i>Ecoguss</i> and round slotted cover Ø 235 mm, class B 125, with <i>Lock &amp; Lift</i> System, with sludge trap</li> </ul> <p><b>Accessories:</b> <i>Multistop</i> Art. # 43 500 see page 208</p>	<p>Ø 110</p>	<p><b>67 110 B</b></p>
 <p>4.5 l/sec flow rate</p>	<p><b>Yard drain <i>Ecoguss</i> pipe connection drain - round</b></p> <p>Vertical outlet</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> upper section with round support rim in <i>Ecoguss</i> and round slotted cover Ø 235 mm, class B 125, with <i>Lock &amp; Lift</i> System, with sludge trap</li> </ul> <p><b>Accessories:</b> <i>Multistop</i> Art. # 43 500 see page 208</p>	<p>Ø 110</p>	<p><b>67 111 B</b></p>
 <p>1.6 l/sec flow rate</p>	<p><b>Yard drain <i>Alrondo</i></b></p> <p>made of polymer, vertical outlet</p> <p><b>With integrated odour trap.</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> cover plate 200 x 200 mm with round slotted cover Ø 140 mm made of polymer, screwed</li> </ul> <p>Can be driven over by vehicles of up to 2 ton.</p>	<p>Ø 110</p>	<p><b>37 287 S</b></p>

## Yard drains in *Ecoguss* / polymer System 200 / 100

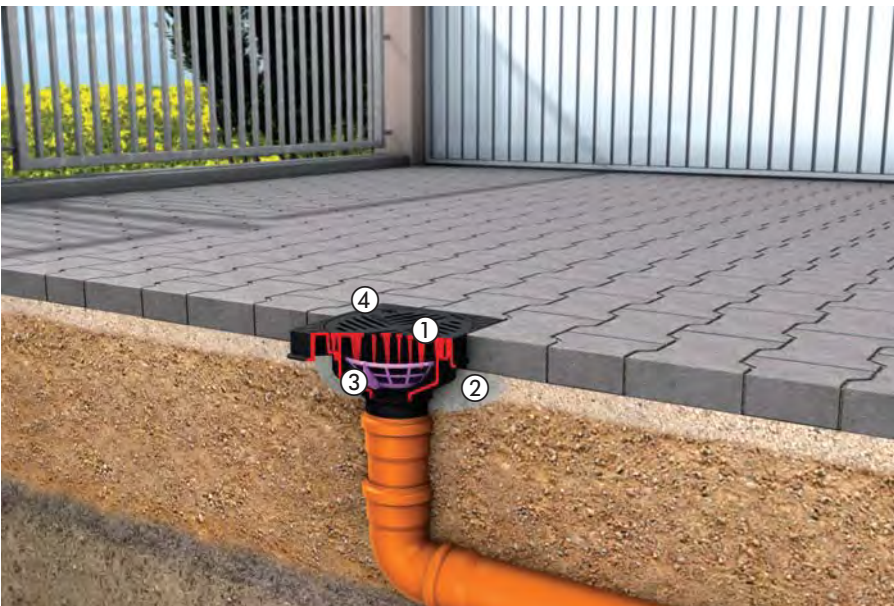
### Installation example yard drains System 200



- ① Upper section and cover
- ② Odour trap (Art. # 27 171)

*Ecoguss* yard drains assure an efficient surface water drainage of outdoor areas. Included is the upper section and cover which handles vehicle traffic loads up to 12.5 metric tons. An optional odour trap can be used to keep unpleasant sewer odours where they belong.

### Installation example yard drains System 100



- ① Upper section and cover
- ② Concrete
- ③ Sludge basket
- ④ Locking system

*Ecoguss* yard drains assure an efficient surface water drainage of outdoor areas. Included is the upper section and cover which handles vehicle traffic loads up to 12.5 metric tons. In the case that upper section and cover are used alone (without being connected to a drain body) it is important that voids are properly filled with concrete to provide the required support. The integrated sludge basket is easily accessible for cleaning via the *Lock & Lift* cover removal and locking system.

### Professional advantages

- **Vertically adjustable upper section** for stepless installation in concrete slabs: rotatable, tiltable and vertically adjustable up to 110 mm
- **Deeper installation and lateral inlet requirement.** In one step the quick and easy solution. With extension section Art. # 67 500 and extension Art. # 67 600 with  $\varnothing$  110 lateral inlet.
- **Frost free installation depth up to 1020 mm** with extension section Art. # 67 500.
- **Locking and removal key** for *Ecoguss* drain covers with *Lock & Lift* System. Art. # 67 007.

### Professional advantages

- **Multistop** as an odour, foam, rodent and insect protection (Art. # 48 500) available as accessory.
- **Locking and removal key** for *Ecoguss* drain covers with *Lock & Lift* System Art. # 67 007.
- **Compact and low weight** alternative to cast iron drains
- **Single piece pipe connection drain**
- **With sludge trap**

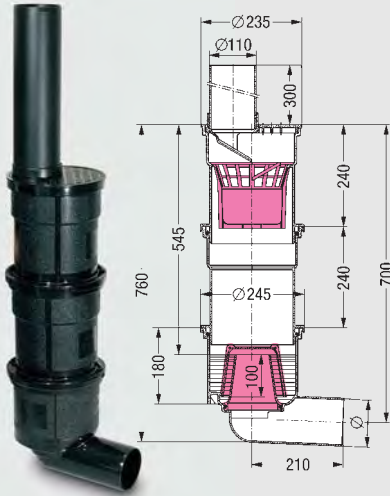
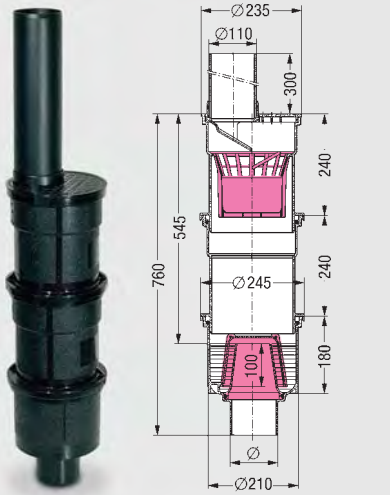
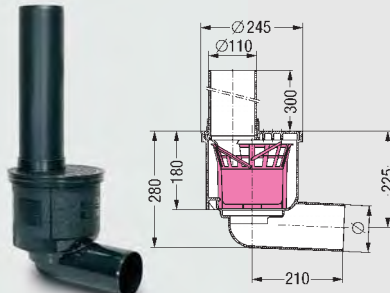
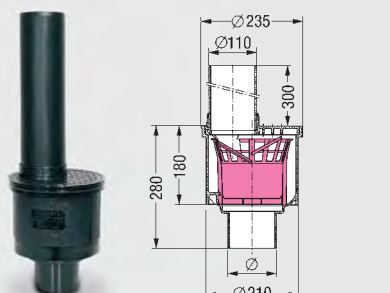


# Gutter drains made of polymer

## System 200

### Gutter drains System 200

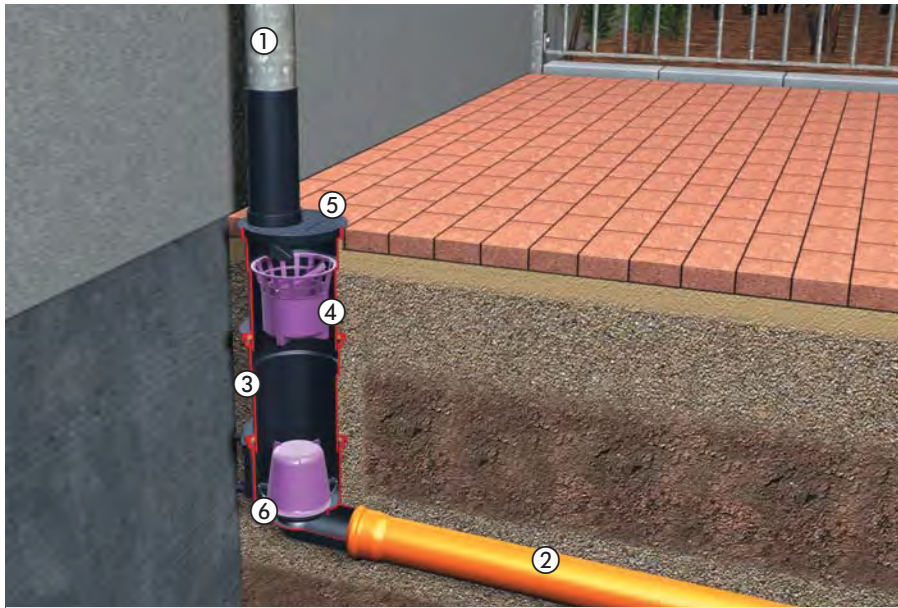
### Products

Illustration and dimensioned drawing	Article description	Outer diameter Ø (mm)	Article #
 <p>2.8 l/sec flow rate</p>	<p><b>Gutter drain</b> made of polymer, lateral outlet 2.5° <b>For frost-free depth 545 mm</b> Rain inlet cover with protective pipe made of polymer. <b>With removable bell-shaped odour trap, two extension sections, sludge trap.</b> With wall securing device.</p>	Ø 110	<b>67 970</b>
 <p>2.8 l/sec flow rate</p>	<p><b>Gutter drain</b> made of polymer, vertical outlet <b>For frost-free depth 545 mm</b> Rain inlet cover with protective pipe made of polymer. <b>With removable bell-shaped odour trap, two extension sections, sludge trap.</b> With wall securing device.</p>	Ø 110	<b>67 960</b>
 <p>4.5 l/sec flow rate</p>	<p><b>Gutter drain</b> made of polymer, lateral outlet 2.5° Rain inlet cover with protective pipe in synthetic material. <b>With sludge trap.</b> With wall securing device.</p>	Ø 110	<b>67 945</b>
 <p>4.5 l/sec flow rate</p>	<p><b>Gutter drain</b> made of polymer, vertical outlet Rain inlet cover with protective pipe in synthetic material. <b>With sludge trap.</b> With wall securing device. Without wall securing device.</p>	Ø 110 Ø 110	<b>67 940</b> <b>67 997</b>

# Gutter drains made of polymer

## System 200

### Installation example gutter drains System 200



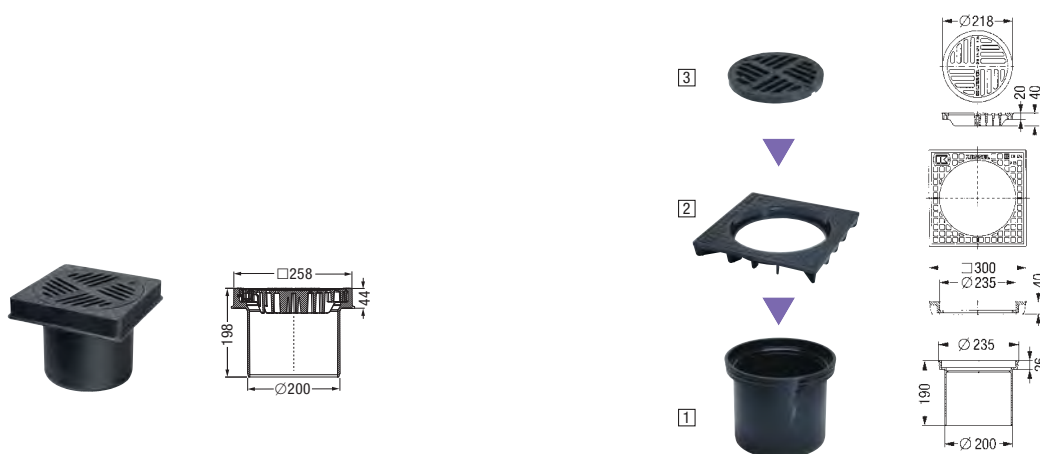
- |                     |                 |
|---------------------|-----------------|
| ① Downspouts        | ④ Sludge basket |
| ② Drainage pipe     | ⑤ Drain cover   |
| ③ Extension section | ⑥ Odour trap    |

Rainwater and gutter drains transfer rainwater from downspouts from buildings into underground drainage piping. Light weight, corrosion free material and solid construction of the polymer material represent a clear alternative to standard concrete drains. Extension sections are available if a deeper installation is required to reach frost free zones. To prevent debris from entering the sewer a sludge basket is included with the system. Removal of the sludge basket for cleaning purposes is quick and simple. In addition, an optional odour trap is available to prevent sewer gases from escaping through the drain.

### Professional advantages

- **Optimal pipe access** with sludge trap removal 
- **Lateral Ø 110 inlet** possible with use of extension section Art. # 67 600.
- **Convenient wall mount system** 
- **Frost free installation depths** with Art. # 67 500 or Art. # 67 600 (with lateral inlet) available as accessory

Upper sections for yard drains



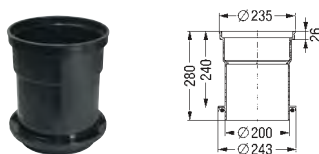
in *Ecoguss*

upper section with support rim  $\square$  250 mm and round slotted cover  $\varnothing$  235 mm, in *Ecoguss*, class B 125, with *Lock & Lift* System, height adjustable from 40 - 150 mm  
Art. # 67 985

in polymer, consists of...

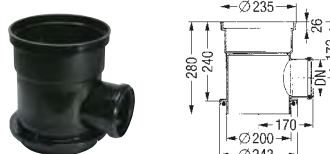
- 1 Upper section height adjustable from 40 - 150 mm  
Art. # 67 400
- 2 Support rim  $\square$  300 mm, class A 15 / L 15  
Art. # 27 180
- 3 Slotted cover  $\varnothing$  218 mm, class A 15 / L 15  
Art. # 27 173

Accessories for yard drains and gutter drains



Extension section

made of polymer, installation height 240 mm  
Art. # 67 500



Extension section

made of polymer, with lateral inlet, installation height 240 mm  
Art. # 67 600



Sludge basket

in PE-HD  
Art. # 67 300



Multistop 200

odour, foam, rodent and insect stop for article 67 985, 67 923B, 67 922B  
Art. # 48 520



Lip seal

Art. # 27 140

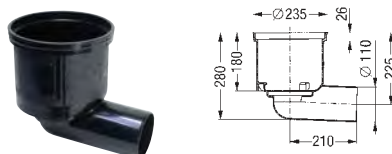


Lip seal

Non-slip mounting  
Art. # 27 141

Drain body for yard drains and gutter drains

4.5 l/sec flow rate



Drain body made of polymer

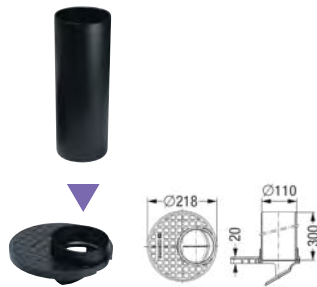
Lateral outlet 2.5°, without odour trap  
 $\varnothing$  110 Art. # 67 000

Upper sections for gutter drains



in polymer

**Cover plate**  $\varnothing$  218 mm  
class A 15 / L 15,  
sealed with respect to surface water,  
Art. # 67 775



in polymer

**Rain inlet cover**  $\varnothing$  218 mm  
with protective pipe  $\varnothing$  110  
Art. # 67 750



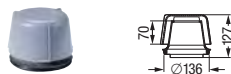
in polymer

**Rain inlet slotted cover**  $\varnothing$  218 mm,  
for additional surface drainage  
with protective pipe  $\varnothing$  110  
Art. # 67 700



**Leaf trap**

in PP  
Art. # 48 300



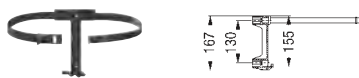
**Bell-shaped odour trap insert**

in PP, removable,  
sealing water height 70 mm  
Art. # 27 170



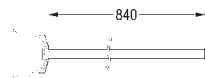
**Bell-shaped odour trap insert**

in PP, removable,  
sealing water height 100 mm  
Art. # 27 171



**Wall securing device**

for gutter drains  
Art. # 67 800



**Lifting mechanism**

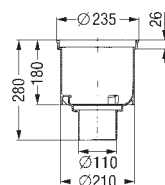
for removing odour trap  
Art. # 850 144



**Locking and removal key**

for *Ecoguss* drain covers  
with *Lock & Lift* System.  
Art. # 67 007

4.5 l/sec flow rate



**Drain body made of polymer**

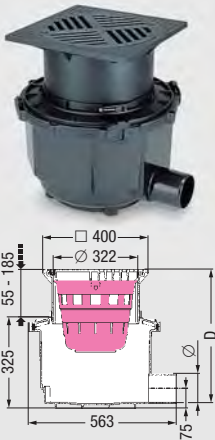

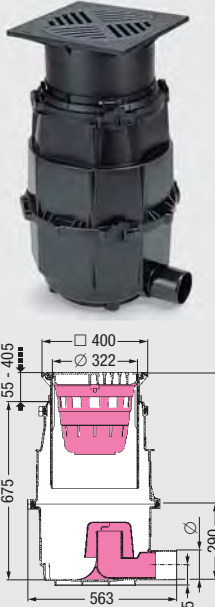

Vertical outlet, without odour trap  
 $\varnothing$  110 Art. # 67 040



# Yard drains in polyethylene System 400

## Yard drains System 400 For higher load classes

## Products

Illustration and dimensioned drawing	Article description	Outer diameter Ø (mm)	Article #
 <p data-bbox="175 761 478 817">4.5 l/sec flow rate Installation area 585 x 535 mm</p>	<p data-bbox="558 313 1037 604"><b>Yard drain System 400</b> in polyethylene, lateral outlet 2.5°, with sludge trap</p> <p data-bbox="558 414 1037 492"><b>For installation depth (D) from 380 to 510 mm,</b> water-tight, resistant to aggressive wastewater. With fuel-resistant gaskets.</p> <p data-bbox="558 504 1037 604"><input type="checkbox"/> Upper section with slotted cover, class A made of polymer class B / D in cast iron according to EN 124 for continuous height and level adjustment.</p> <p data-bbox="558 649 877 728">Weight: Class A approx. 10 kg Class B approx. 12.5 kg Class D approx. 20 kg</p> 	<p data-bbox="1133 313 1197 392">Ø 110 Ø 110 Ø 110</p> <p data-bbox="1133 414 1197 492">Ø 160 Ø 160 Ø 160</p>	<p data-bbox="1340 313 1452 392"><b>851 100 A</b> <b>851 100 B</b> <b>851 100 D</b></p> <p data-bbox="1340 414 1452 492"><b>851 150 A</b> <b>851 150 B</b> <b>851 150 D</b></p>
 <p data-bbox="175 1456 478 1512">4.5 l/sec flow rate Installation area 585 x 535 mm</p>	<p data-bbox="558 840 1037 1131"><b>Yard drain System 400</b> in polyethylene, lateral outlet 2.5°, with odour trap and sludge trap</p> <p data-bbox="558 940 1037 1019"><b>For installation depth (D) from 730 to 1080 mm,</b> water-tight, resistant to aggressive wastewater. With fuel-resistant gaskets.</p> <p data-bbox="558 1030 1037 1131"><input type="checkbox"/> Upper section with slotted cover, class A made of polymer class B / D in cast iron according to EN 124 for continuous height and level adjustment.</p> <p data-bbox="558 1176 877 1254">Weight: Class A approx. 45 kg Class B approx. 47.5 kg Class D approx. 55 kg</p> 	<p data-bbox="1133 840 1197 918">Ø 110 Ø 110 Ø 110</p> <p data-bbox="1133 940 1197 1019">Ø 160 Ø 160 Ø 160</p>	<p data-bbox="1340 840 1452 918"><b>851 102 A</b> <b>851 102 B</b> <b>851 102 D</b></p> <p data-bbox="1340 940 1452 1019"><b>851 152 A</b> <b>851 152 B</b> <b>851 152 D</b></p>

Drains Drains for exterior installation

4

## Yard drains in polyethylene System 400

### Installation example yard drains System 400



- ① System 400 drain
- ② Sludge basket

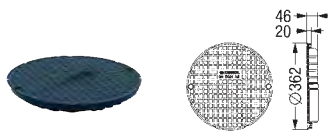
System 400 drains assure an efficient surface water drainage of outdoor areas and with their low weight, corrosion free material and solid construction they represent a clear alternative to standard concrete drains. System 400 drains are available with load class B or D covers meaning they can be used in all traffic areas up to 40.0 metric tons. Extensions sections are available if a deeper installation is required to reach frost free zones. To prevent debris from entering the sewer a sludge basket is included with the system. In addition, an optional odour trap is available to prevent sewer gases from escaping through the drain.

### Professional advantages

- **Variable upper section**  
rotatable, inclinable and height adjustable
- Side inlets up to a nominal width of  $\varnothing$  160 via drilling on the side, can be connected very easily and quickly.
- **Optimum cleaning** of the pipes by removing the odour trap/sludge trap
- Can be adapted to the level of the floor
- Fuel resistant
- Can bear lorries weighing up to 40 ton.

# Yard drains in polyethylene System 400

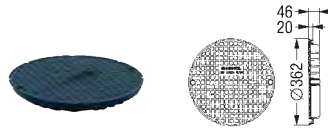
## Covers



**Cover plate in polymer**

**Class A**

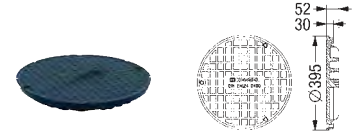
Art. # 850 132



**Cover plate in cast iron**

**Class B**

Art. # 850 131

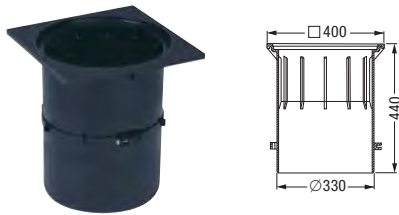


**Cover plate in cast iron**

**Class D**, for article # 850 121

Art. # 850 136

## Upper sections



**Class A, B**

continuously height adjustable,  
with clamping ring

Art. # 850 120

## Accessories



**Extension section in polyethylene**

Art. # 850 101

**Connecting wedges**, 4 pieces

Art. # 850 111



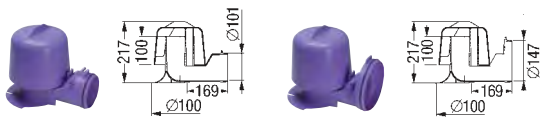
**Transition sections 450**

Art. # 850 102



**Transition sections 360**

Art. # 850 103

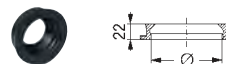


**Odour traps**

Ø 110 Art. # 850 141

Ø 160 Art. # 850 142

only for article # 850 009, 850 010



**Gaskets for pipe conduits**

Ø 50 Art. # 850 114

Ø 75 Art. # 850 116

Ø 110 Art. # 850 117

Ø 125 Art. # 850 118

Ø 160 Art. # 850 119

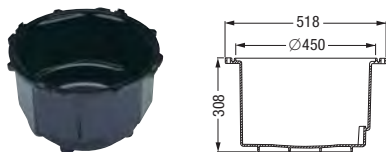


**Pressure sealing flange**

for upper section

Art. # 83 021

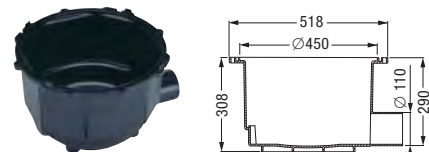
## Drain bodies



**Drain body in polyethylene**

closed

Art. # 850 008

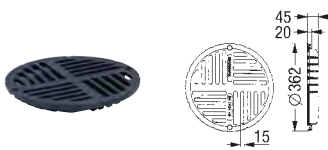


**Drain body in polyethylene**

with outlet

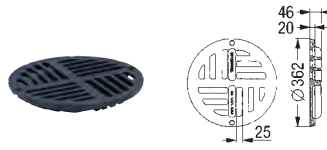
Ø 110 Art. # 850 009

Ø 160 Art. # 850 010



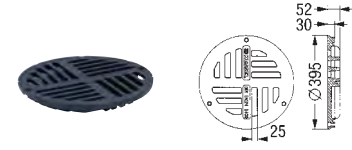
Slotted cover in polymer

**Class A**  
Art. # 850 134



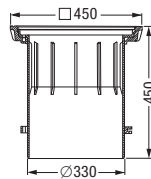
Slotted cover in cast iron

**Class B**  
Art. # 850 135



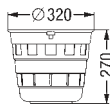
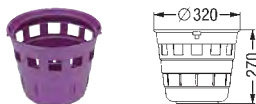
Slotted cover in cast iron

**Class D**, for article # 850 121  
Art. # 850 137



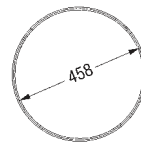
**Class D**

continuously height adjustable,  
with clamping ring  
Art. # 850 121



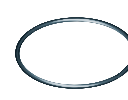
Sludge trap in polymer

Art. # 850 115



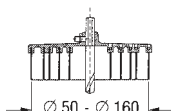
Profiled gasket 450

Art. # 850 113



Profiled gasket 360

Art. # 850 112



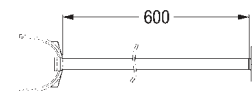
Hole saw

for drilling lateral surfaces for inlets and outlets  
Ø 50, 75, 110, 125 and 160  
(Saw blade holder Ø = 190 mm)  
Art. # 50 100



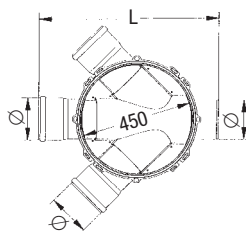
Elastomer waterproof membrane

in NK/SBR  
Art. # 83 022



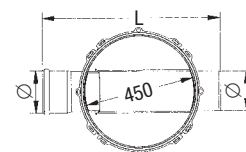
Lifting mechanism

for removing odour trap  
Art. # 850 143



Drain body in polyethylene, open channel passage

Inlet/Outlet Ø 160, L=726 mm, H=259 mm, Art. # 850 001  
Inlet Ø 160/Outlet Ø 200, L=746 mm, H=259 mm, Art. # 850 002  
Inlet/Outlet Ø 200, L=756 mm, H=304 mm, Art. # 850 003  
Inlet Ø 200/Outlet Ø 250, L=771 mm, H=304 mm, Art. # 850 004

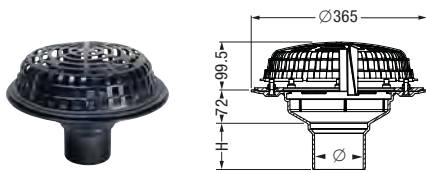


Drain body in polyethylene, open channel passage

Inlet/Outlet Ø 160, L=726 mm, H=259 mm, Art. # 850 005  
Inlet/Outlet Ø 200, L=756 mm, H=306 mm, Art. # 850 006  
Inlet/Outlet Ø 250, L=790 mm, H=344 mm, Art. # 850 007



Flat-roof drains in *Ecoguss*

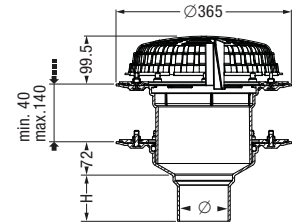


Installation area  $\varnothing$  227 mm

EN 1253/DIN 1986-100



$\varnothing$	75	110	125
H	96.5	93	93



Installation area  $\varnothing$  227 mm

with single seal

with pressure sealing flange in *Ecoguss*  
and pebble trap

without heating

$\varnothing$  75 Art. # 48 370

$\varnothing$  110 Art. # 48 310

$\varnothing$  125 Art. # 48 312

with heating

$\varnothing$  75 Art. # 48 370.03

$\varnothing$  110 Art. # 48 310.03

$\varnothing$  125 Art. # 48 312.03

with double seal for installation in waterproof concrete

upper section in *Ecoguss*  $\varnothing$  200 and pebble trap  
with pressure sealing flange in *Ecoguss* and counter flange

without heating

$\varnothing$  75 Art. # 48 370.01

$\varnothing$  110 Art. # 48 310.01

$\varnothing$  125 Art. # 48 312.01

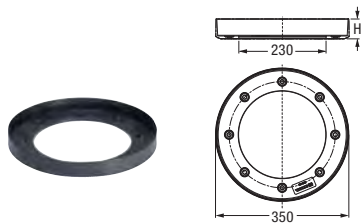
with heating

$\varnothing$  75 Art. # 48 370.02

$\varnothing$  110 Art. # 48 310.02

$\varnothing$  125 Art. # 48 312.02

Accessories



Damming ring in *Ecoguss*

for drainage safety

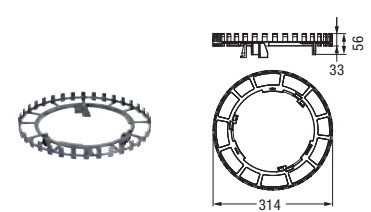
H = 35 mm

$\varnothing$  75 Art. # 48 335

$\varnothing$  110 Art. # 48 335

H = 45 mm

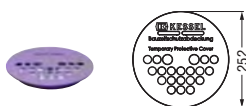
$\varnothing$  125 Art. # 48 345



Spacer ring in *Ecoguss*

to adapt gravel trap to height of gravel

Art. # 48 302



Temporary protective cover

in PP, with drainage function

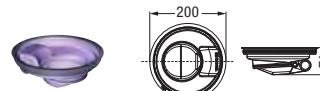
Art. # 45 301



Leaf trap

in PP

Art. # 48 300



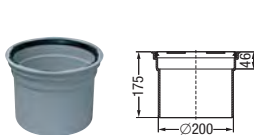
Multistop 200

odour, foam, rodent and insect stop  
Only in combination with *Ecoguss*  
roof drains with twin sealing system  
Art. # 48 520



Upper section

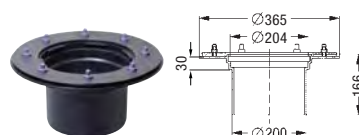
with support rim and slotted cover  
200 x 200 mm  
stainless steel AISI 304, screwed  
Art. # 48 954



Extension section

in PP, with lip seal

Art. # 48 988



Extension section in *Ecoguss*

with pressure sealing flange  
and counter flange

for installation in waterproof  
concrete H = 166 mm

Art. # 48 958



Insulating pieces

flame proof, class A 1  
for flat-roof drain *Ecoguss*

without heating

Art. # 48 352

with heating

Art. # 48 353

Extension section  $\varnothing$  200

Art. # 48 354

Reinforcement plate

in galvanized steel,  
for roof applications

for flat-roof drain *Ecoguss*

Plate size: 600 x 600 mm

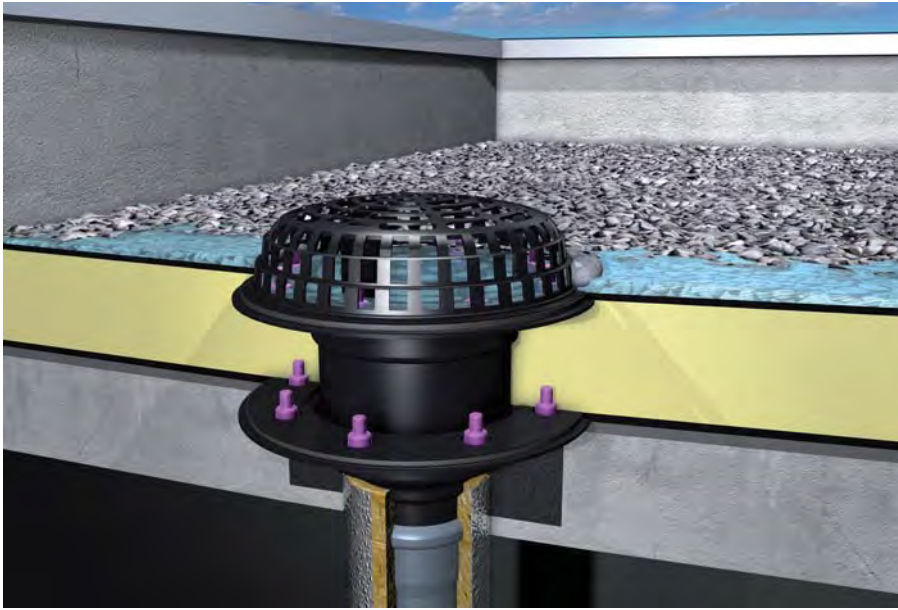
Cut-out: 270 mm

Material thickness: 1.5 mm

Art. # 48 351

# Flat-roof drains in *Ecoguss* System 200

## Installation example *Ecoguss* roof drains



Flat roof drains made of *Ecoguss* are available in the diameters  $\varnothing 75$ ,  $\varnothing 110$  and  $\varnothing 125$  mm. In addition to a practical leaf trap (basket) to prevent blockages, flat roof drains are also available as an option in heated versions to allow proper function during winter.

## Professional advantages

- **Ecoguss the new high-tech material**
- **High flow performance** - exceeds regulatory norm requirements
- **High temperature resistant material** making it ideal for use with hot asphalt / bituminous waterproof membrane installations
- **Easy installation** - also upgradable after installation to emergency drainage option
- Full selection of accessories to meet all installation requirements
- Drain body available in  $\varnothing 75$ ,  $\varnothing 110$  and  $\varnothing 125$
- **Lock & Lift System** - no tools required
- **With integrated heating** - low energy consumption
- **Multistop 200** as an odour, foam, rodent and insect stop. Waterless odour trap.

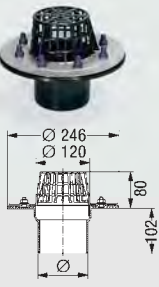
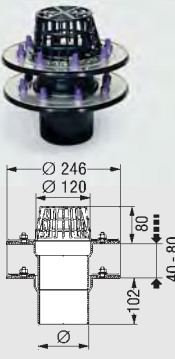
## Installation suggestion with emergency drainage



- Bituminous waterproofing membrane
- 120 mm heating insulation
- Bituminous waterproofing membrane
- Sloped screed layer
- 180 mm thick concrete floor slab

Flat-roof drains

Products

Illustration and dimensioned drawing	Article description	Outer diameter Ø (mm)	Article #
 <p>4.5 l/sec flow rate Installation area 180 x 180 mm</p>	<p><b>Roof drain</b> in PP, vertical outlet</p> <p><input type="checkbox"/> <b>with pressure sealing flange</b> with counter flange in stainless steel AISI 304, with leaf trap.</p>	<p>Ø 110</p>	<p><b>45 950</b></p>
 <p>4.5 l/sec flow rate Installation area 180 x 180 mm</p>	<p><b>Roof drain</b> in PP, vertical outlet</p> <p><input type="checkbox"/> <b>with twin sealing flanges, with pressure sealing flange</b> with counter flange in stainless steel AISI 304, with leaf trap.</p>	<p>Ø 110</p>	<p><b>45 970</b></p>

Installation example flat-roof drains

Professional advantages



- **With practical leaf trap** (basket) to prevent blockages
- **Available as heated version**

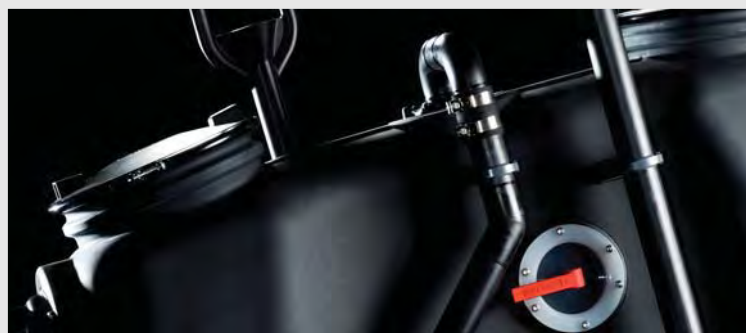
Flat roof drains made of polymer are available in the diameter Ø 110 mm. In addition to a practical leaf trap (basket) to prevent blockages, flat roof drains are also available as an option in heated versions to allow proper function during winter.





# Separators





## 5 Separators

**Grease separators  
for free standing installation** Page **260 – 277**

**Grease separators  
for underground installation** Page **278 – 282**

**Oil-, Fuel- and  
Coalescence separators** Page **284 – 294**

**Sediment separators** Page **295**

**Starch separators** Page **296 – 297**

**Individual Solutions** Page **298**

# Grease separators



Water is one of our most precious resources and is not available in unlimited quantities. For this reason, contaminated wastewater from kitchens must be pretreated and cleaned with the aid of appropriate separator systems before it is discharged to the public sewer system.

KESSEL offers a wide range of innovative polymer separators for different areas of application and wastewater quantities:

## Grease separators

### Grease separators for free-standing installation

Grease separators for disposal via a disposal truck (full disposal) are used wherever medium to large quantities of grease occur. The entire tank contents are emptied at regular intervals.

### Grease separators for underground installation

If indoor space is limited, the grease separator system must be installed outside the building.

### 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 terms of size, shape and features in accordance with project-specific requirements.

## Reasons for installing a grease separation system

Operations from small restaurants to large scale food processing plants disposing fats, oils and grease (FOGs) into public wastewater drainage systems are becoming an increasing concern to industry, government and environmental agencies.

Wastewater travels a long distance from its original source to the wastewater treatment facilities. During this time large amounts of grease and food wastes build up in the drainage pipe systems leading to operational and public effects:

### ...Operational effects

One of the most severe drainage problems in food processing facilities is the build up of grease layers within the drainage system leading to negative effects, such as increased odour emissions, reduced efficiency of the drainage system, additional maintenance costs, pipe blockage or even potential flooding.



Avoiding a pipe blockage



Prevention of corrosion and odour build-up

### ...Public effects

FOGs also affect public wastewater streams by causing sewer blockage and reducing the efficiency of public sewage plants. This leads to additional costs for maintenance and repair.



Effects on wastewater treatment facilities



# For a clean environment

## When to use a grease separator ?

Grease separators should be installed in all locations where greases and oils from plant or animal origin are required to be removed from the wastewater stream. This applies to commercial and industrial applications, for example:

- Butchers, meat and sausage factories
- Pre-prepared meal production
- Slaughterhouses and meat preparation facilities
- Soap / stearin production plants
- Restaurants and fast food shops
- Fish production facilities
- Cooking oil refineries, butter / margarine production
- Frying facilities / nut roasting factories
- Cafeterias in commercial buildings, hospitals, universities, military bases and government agencies

## Polyethylene grease separators – The long term solution

### ...Easy transport

Their low weight allows our grease separators to be transported easily by hand on site. A special base design also allows them to be transported by forklift truck.

### ...Simple and fast installation

With *EasyClean*: The curved shape of the one-piece tank makes it ideal for retrofitting purposes, even where space is tight through narrow staircases and doorways for example.

### ...Fracture resistance

The polyethylene material ensures a high impact strength. This means that soil movements can easily be compensated for where installation is in the ground.

### ...Resistant to aggressive grease

The polyethylene material used is 100 % resistant to aggressive grease. This guarantees a long service life since there is no damage to the material due to corrosion.

## Separator function based on EN 1825

The KESSEL Euro separator based on Euro-Norm EN 1825 (as seen in the illustration below) consists of a grease separation chamber with an integrated sludge trap located at the bottom. Following the separator is a sampling chamber. Wastewater containing fats, oils and grease (FOG) is guided into the separator by a pacifying pipe which allows the wastewater to be slowly and evenly distributed into the separator preventing fast flowing wastewater from disturbing the separation process inside the chamber. The separation of the light material (FOG) and the heavier material (sludge) from the wastewater is all accomplished by the force of gravity. Heavily emulsified greases and oils may not be completely separable with the gravity method.

### What can enter the separator?

Only wastewater containing organic FOG, which are required to be separated from the water, should be allowed into the separator. Under no circumstances should sewage,

rainwater or wastewater containing mineral oils (hydrocarbon based) be allowed to enter the separator.

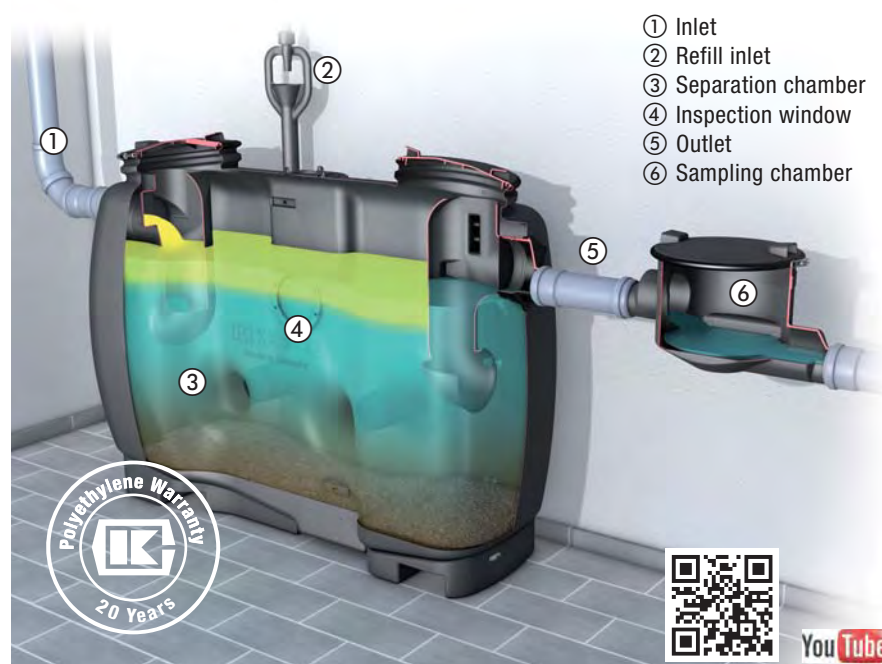
Examples of what should be connected to a separator: floor drains with odour traps, drainage channels, sinks, dishwashing machines and cooking vats.

### Sludge separation chamber

The sludge separator serves to collect sludge / sediment which sinks to the bottom of the chamber due to its density being greater than that of the density of water.

### Grease separation chamber

In the grease separation chamber, organic FOG (being less dense than water) separate from the wastewater and rise to the surface of the chamber. As more wastewater enters the chamber, the layer of separated greases and oils builds from the top down until the grease separation chamber is full and the entire chamber is emptied.





# Installation notes

## Requirements made on the installation location

Before a free-standing separator system can be installed, it must be checked that the planned set-up location is frost-free, has a horizontal, load-bearing floor, that there is sufficient space for set-up, operation, maintenance and control of the separator system and that the room is well vented and aerated. A water connection must be available for filling and cleaning the separator system as well as the respective electric installations required. When separator systems are to be installed underground it must be checked that there are no supply lines or cables within the area to be dug out. It must be remembered that accessibility for maintenance, inspection and disposal must be guaranteed at all times. Grease separator systems should be installed near where the wastewater is produced, but should not be in unventilated rooms or storage areas. To avoid odour pollution, they should not be located near occupied rooms and particularly near windows or ventilation openings. The systems must be easy for disposal vehicles to reach. Special operating conditions or limitations on site can make it necessary to locate the system further away from the points where the wastewater occurs.

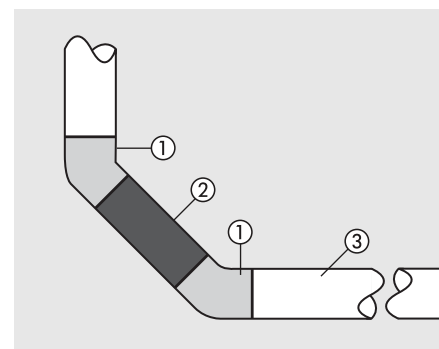
Separator systems should be set up in such a way that frost damage is avoided and all the parts which require regular maintenance are easily accessible at all times. Wherever necessary, separator system covers must be installed in such a way that the extra load on the separator does not exceed its load capacity.

## Connection to the drainage system

Unless any official requirements exist, grease separator systems must be connected to the sewer system as follows: the wastewater must be drained to the grease separator system via gravity. Grease separator systems installed below the backwater level (see EN 752-1) must be equipped with a twin pump lifting station. The supply pipes to the separator systems must have a gradient of at least 2 % (1:50) to prevent grease blockage. If this is not possible for constructional or operational reasons, and/or if longer pipes are necessary, suitable measures must be taken to prevent grease blockage and deposits.

## Inlet piping

Wastewater entering a grease separator from the kitchen must do so in a calm manner in order to not agitate the sludge and grease layers inside the separator. Down pipes from the kitchen should be connected to the horizontal pipe with two 45 degree fittings ① with at least 250 mm between the two fittings ② (no 90 degree fittings should be used). No downward pipes should be connected to the main separator inlet pipe immediately prior to entering the separator. For a separator with a  $\varnothing$  110 mm inlet, no downward connection should be made within 1 meter of the inlet to the grease separator - for a  $\varnothing$  160 mm inlet a 1.5 meter distance should be observed ③ - for a  $\varnothing$  200 mm inlet a 2.0 meter distance should be observed. In the case that the main inlet pipe is laid through cold rooms or underground, equipping this pipe with insulation or a heating system equipped with a thermostat should be considered.



# Clever problem solvers- for smooth disposal

## Disposal pipe

The disposal pipe should be laid on a steady upward slope from the grease separator to the transfer point to the disposal vehicle, 90 degree elbows should be avoided. Disposal pipes should be executed as pressure or intake pipes in the necessary pressure level in accordance with the system features. Tight connections must be used for the individual pipes and fittings. Disposal pipes with a constant diameter should be laid to the transfer point. The intake pipe must have a nominal size of at least  $\varnothing$  65 mm. Pipe material for the disposal pipe should be selected depending on the contents of the wastewater (extremely high solids share), special operating situation (overpressure/underpressure) and resistance properties (fatty acids).

## Shredder-Mix-System

During the separating process in a grease separator, fats oils and greases (FOG) are separated from the wastewater and form a continually growing layer which is retained between the inlet and outlet of the separator. If this layer solidifies, disposal can become a problem.

The KESSEL Shredder-Mix system uses its sturdy pump to mix the contents of the grease separator until grease and sludge are pumpable. Any solid materials such as bones, pieces of plastic, cords, peel etc. is chopped up by a macerating system.

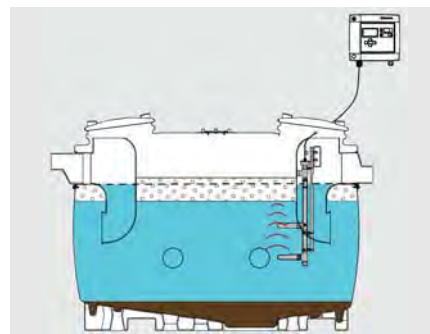
During this process, the homogenised tank contents are injected back into the separator chamber with high kinetic energy. This removes deposits and any soiling clinging to the inside tank walls and cleans the grease separator from the inside.



## SonicControl

*SonicControl* level sensing system with ultra sonic sensor for the measurement, display and monitoring of the grease layer thickness in a grease separator

- Disposal costs are saved by extending the disposal intervals.
- Environment protection  
Disposal of not full separators no longer necessary.
- User-friendly operation thanks to the interactive control unit with digital display and user friendly interface.



YouTube

## The right grease separator is just a few mouse clicks away

In order to simplify the selection process of EN 1825 grease separators, KESSEL now offers the SmartSelect grease separator specification program. This new free of charge on-line program offers the user multiple methods to accurately calculate the size of grease separator required for your specific project. Factors such as type of restaurant, meals served per day and wastewater temperature for example all play an important role when sizing a grease separator and are required when performing the calculation.

SmartSelect is based strictly on EN 1825 regulations and assures the user that the selected grease separator will meet all codes and norms. The resulting calculation sheet can be printed out to be filed with the project documentation or saved on-line in a KESSEL “virtual project library”.



# Always the right product – wastewater treatment



## SELECTION CRITERIA FOR GREASE SEPARATORS

Version	<i>G</i>	<i>D</i>	<i>D+S</i>	<i>D+SP</i>	<i>M+S</i>	<i>PV+S</i>
<b>Odour Reduced Disposal</b> The direct disposal grease separator connection allows the disposal truck to vacuum out the grease separator contents without opening the separator covers.		✓	✓	✓	✓	✓
<b>Odour Free Disposal</b> The integrated Shredder-Mix-System intakes the entire separator contents, shreds it and then uses this homogenized mixture to rinse and clean the interior separator walls.			✓	✓	✓	✓
<b>Control unit</b> The Shredder-Mix-System, designed to homogenize the separator contents, can be started and controlled without needing direct access to the separator.				✓	✓	✓
<b>Disposal Pump</b> In the case that the disposal truck is too high and/or too far from the grease separator to allow disposal via the truck's vacuum system, the separator can be equipped its own disposal pump system.					✓	✓
<b>Fully Automated Operation</b> All of the pre-programmed disposal steps of the separator's contents function fully automatically.						✓
Products see page	270	268	266	264	262	260

Separators

5





### Which standards must be taken into account?

EN  
**1825-1**

#### **Separator systems for greases**

Basic construction, function and testing principles, marking and quality monitoring

EN  
**124**

#### **Drains**

Load classes for upper sections and covers for traffic areas

DIN  
**4040**

#### **Separator systems for greases**

Requirements on the use of separator systems in accordance with EN 1825

### INFORMATION

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

You can find your personal KESSEL contact on page 3 of this catalog!

#### **Complete System Solution**

In addition to individual grease- and oil separators, KESSEL also offers complete separator packages consisting of separator, properly matched lifting station and advantageous accessories. All from one source - KESSEL.

- Lifting and pumping stations for free standing and underground installation see chapter 3 "lifting stations".
- Stainless steel drains and channels for kitchens and food processing plants see chapter 4 "drains and channels made of stainless steel".

#### **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](http://www.kessel.com/references)





**SmartSelect** simply makes planning easier - calculation tool for separators at [smartselect.kessel.com](http://smartselect.kessel.com)

# Grease separators made of polyethylene



The new KESSEL grease separators **EasyClean** bring ease of installation, cleaning performance and energy efficiency up to a new level.

**EasyClean** separators can be retrofitted up to the completely automatic system even while installed, and can thus be adapted to changing requirements.



NS 2, 3, 4, 7, 10

Grease separator **EasyClean** **NEW**  
 for free-standing set-up inside buildings

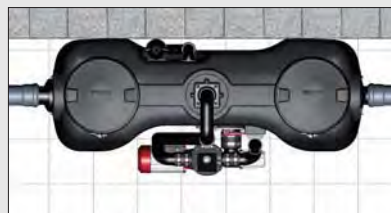
## COMPLETE SYSTEM SOLUTION

In addition to individual grease separators, KESSEL also offers complete separator packages consisting of grease separator, properly matched lifting station and advantageous accessories.



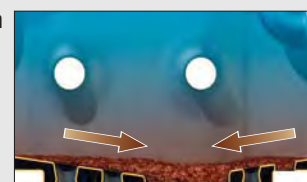
## OPTIMUM USE OF SPACE

Thanks to the refill inlet integrated in the separator. This makes installation directly at the wall possible.



## IMPROVED CLEANING RESULTS

Wedge-shaped bottom for extraction at the lowest point (only 3 litres residual sludge volume).  
 For nominal sizes NS 2 - NS 10.





NS 15 - NS 25



NS 1 - NS 35

Grease separator  
**Euro Auto Mix & Pump (PV+S)**  
according to EN 1825

Grease separator **Euro**  
according to EN 1825 and DIN 4040-100

**SONIC CONTROL**  
for the measurement, display and control of the grease layer thickness in a grease separator.

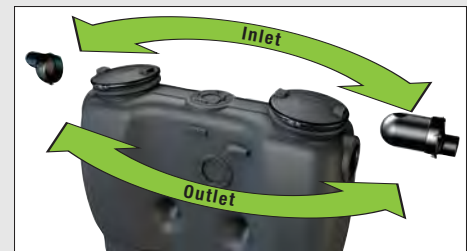


**STRAIGHTFORWARD MAINTENANCE AND INSPECTION**

Sloped arrangement of the tank openings permits better access.

**PLANNING MADE EASY!**

Distinction between versions "in direction of flow right or left" is no longer necessary. Direction of flow can be changed on site by changing inlet and outlet.



**IMPROVED PLACEMENT THANKS TO THE CURVED SHAPE**

Also ideal for retrofitting and renovation work in rooms with very narrow access.



**SHREDDER-MIX-SYSTEM**  
serves to comminute, mix and clean the tank content without odor emission during disposal.


**WARRANTY**  
KESSEL offers a factory extended warranty of 20 years on the polyethylene grease separator tanks.



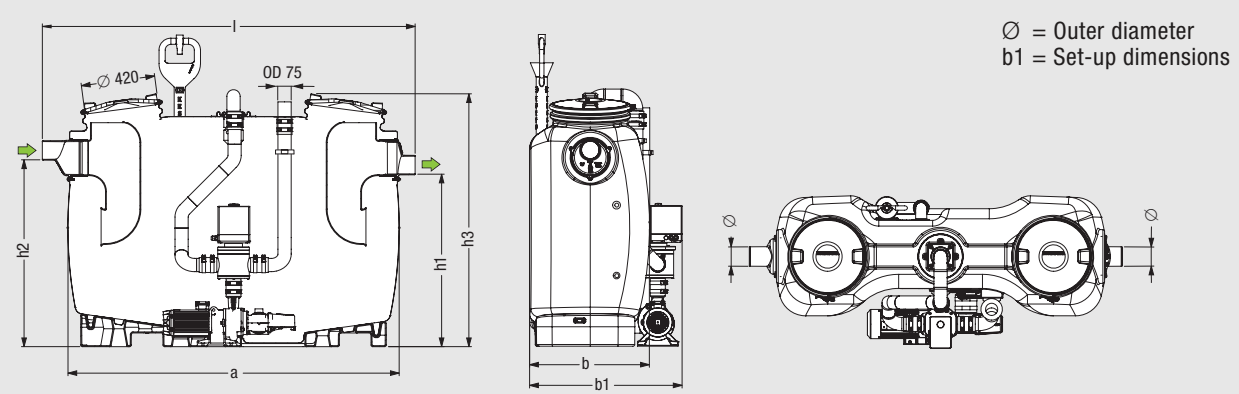
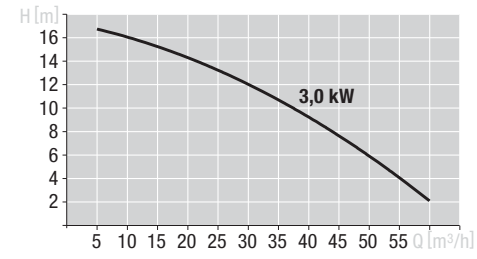
# Grease separators for free-standing installation

## EasyClean Auto Mix & Pump (PV+S)

Products

Illustration	Article description	NS	Weight	Article #
 <p><b>Certification:</b> Z-54.1-474</p> <p><b>Delivery:</b> System completely assembled.</p> <p><b>Accessories:</b> Sampling chamber, lifting stations, remote control, <i>TeleControl</i></p>	<p><b>Grease separator</b> <b>EasyClean Auto Mix &amp; Pump (PV+S) NS ...</b></p> <p>□ according to Euro Norm EN 1825, manufactured from virgin, non-recycled polyethylene, pumping capacity 3.0 kW</p> <p>For free standing installation in frost protected areas, with integrated sludge trap, sloped interior base improves cleaning and reduces disposal time, inlet flow calming system and outlet flow regulation device, inlet and outlet interchangeable, slanted twin access covers with quick release odour tight snap closures, inspection window with interior cleaning arm, PV+S version fully automated odour free disposal, cleaning and refilling system at touch of button, maintenance free macerating motor (stainless steel blades) for separator cleaning and disposal, includes closure valve for easy motor removal, motor floor mount included with installation hardware and anti-vibration matt, actuator valve for automated transfer from cleaning to disposal mode, top mounted water jet(s) for grease layer breakup and water spray nozzles for interior wall cleaning during disposal, with LCD display control unit settable in English, German or French language and mains power safety on/off switch, with BMS connections, twin 1 inch solenoid valves for connection of cold and hot water pipes to separator, 1 inch interior threaded refill inlet with air gap, 75 mm OD PN 10 pressure disposal pipe with integrated fork lift grips at base of separator, low weight - compact design, 100 % corrosion free polyethylene body construction (20 year warranty).</p>	NS 2	160 kg	<b>without <i>SonicControl</i></b>
		NS 3	165 kg	<b>93 002.01/PVS</b>
		NS 4	178 kg	<b>93 003.01/PVS</b>
		NS 7	226 kg	<b>93 004.01/PVS</b>
		NS 10	272 kg	<b>93 007.01/PVS</b>
		NS 10	272 kg	<b>93 010.01/PVS</b>
		NS 2	160 kg	<b>with <i>SonicControl</i></b>
		NS 3	165 kg	<b>93 002.02/PVS</b>
		NS 4	178 kg	<b>93 003.02/PVS</b>
		NS 7	226 kg	<b>93 004.02/PVS</b>
NS 10	272 kg	<b>93 007.02/PVS</b>		
				<b>93 010.02/PVS</b>

Disposal pump performance curve



Technical note see page 274

Nominal size	Ø	a	Installation dimensions				b1	h1	h2	h3	Wastewater contents		Grease storage	Total
			l	x	b	Sludge trap					Separator			
NS 2	110	1500	1735	680	860	985	1055	1435	200 l	400 l	100 l	600 l		
NS 3	110	1500	1735	680	860	985	1055	1435	300 l	300 l	120 l	600 l		
NS 4	110	1880	2115	680	860	985	1055	1435	400 l	400 l	160 l	800 l		
NS 7	160	1910	2145	940	1130	1185	1255	1655	700 l	650 l	280 l	1350 l		
NS 10	160	2590	2820	940	1130	1185	1255	1655	1000 l	900 l	400 l	1900 l		

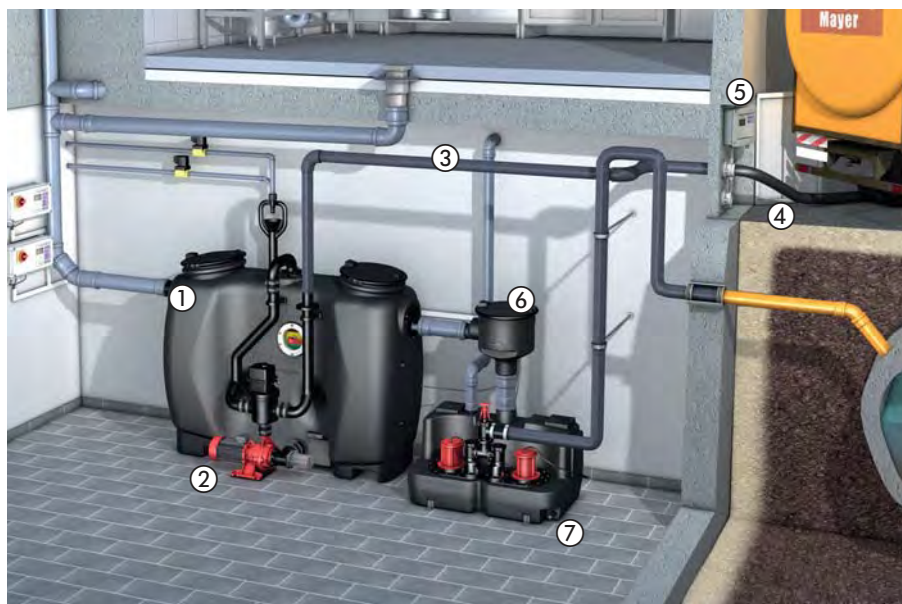
Separators

5



## Grease separators for free-standing installation

### Installation example *EasyClean Auto Mix & Pump (PV+S)*



- |                                 |                                    |
|---------------------------------|------------------------------------|
| ① Grease separator              | ⑤ Remote control system (optional) |
| ② Shredder-Mix-System           | ⑥ Sampling chamber                 |
| ③ Disposal line                 | ⑦ Lifting station                  |
| ④ Connection for disposal truck |                                    |

*EasyClean Auto Mix & Pump (PV+S)* grease separators are designed according to EN 1825-1 and are equipped with a fully automated disposal, self cleaning and refill system. These separators distinguish themselves through their ease of installation and nearly maintenance free characteristics.

The advantage of the *EasyClean Auto Mix & Pump (PV+S)* separators is that a complete disposal can take place through permanently installed disposal lines while the twin covers of the separator remain closed. With this advantage, the disposal truck can hook up to a connection on an exterior wall of the building so that the pump of the separator can pump the separator contents into the waiting disposal truck without any unpleasant odours escaping. After the contents of the separator have been pumped out, the interior of the separator is automatically rinsed and cleaned with warm water in a multi-step automated process. The complete procedure occurs with the press of a button and is also available with a remote control system so that the driver of the disposal vehicle can handle the entire procedure without the necessity of any building personnel being present. According to DIN V 4040-2, the complete contents of the separator should be emptied, the unit cleaned and refilled with clean cold water every fourteen days or at a minimum of once every month.

### Professional advantages

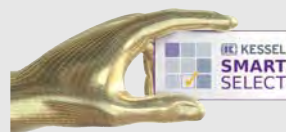
- Program-controlled disposal and rinsing device
- Shredder-Mix-System for homogenisation of the tank contents
- 3.0 kW pump
- Clean and odour-free disposal and cleaning
- Optional remote control
- Complete System Solution

In addition to individual grease separators, KESSEL also offers complete separator packages consisting of grease separator, properly matched lifting station and advantageous accessories. All from one source - KESSEL.

#### ■ Individual Solutions

KESSEL offers a fully staffed Individual Solutions Department with experience in designing and manufacturing drainage products exactly meeting your specifications. For additional information please contact us directly to discuss your requirement. Contact information is found on page 3.

#### ■ Grease separator calculation



**SmartSelect** simply makes planning easier – calculation tool for separators at [smartselect.kessel.com](http://smartselect.kessel.com)



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



### Installation hints

Important is that a sampling chamber is installed after the outlet of the separator. The separator is installed completely level on a flat firm surface in a frost free area. The height of the room in which the separator is installed should allow easy removal and access of the two lids.

In the case that the outlet of the separator is located below the local defined backwater level, a lifting station is to be installed according to EN 12056. In situations where the interruption of separator service is not allowable, a lifting station with double pumps is to be installed.

### Notice

*EasyClean Auto Mix & Pump (PV+S)* separators should be installed in all areas where nuisance odour problems are either undesired or not allowed. The systems allow the user to customize settings to improve disposal performance and also allow the disposal vehicle driver to handle the complete disposal procedure which can also be conducted during off hours.


In cases where the separator is installed in an operation producing large amounts of sludge (ie. slaughterhouses / butchers) it is recommended that the separator be equipped with twin pumps - one pump for the disposal of the sludge and the second pump for the disposal of wastewater and separated grease.



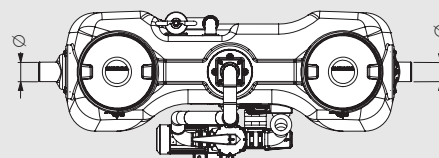
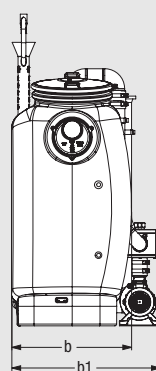
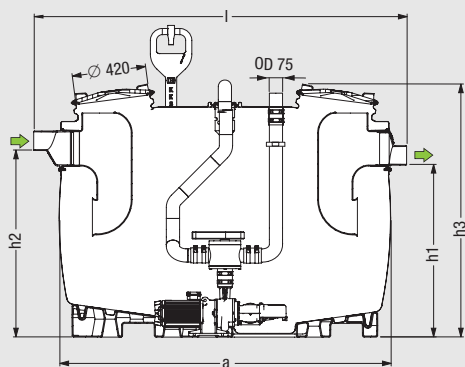
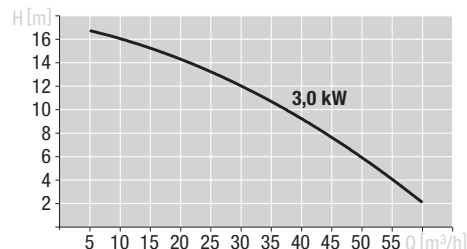
# Grease separators for free-standing installation

## EasyClean Mix & Pump (M+S)

Products

Illustration	Article description	NS	Weight	Article #	
 <p><b>Certification:</b> Z-54.1-474</p> <p><b>Delivery:</b> System completely assembled.</p> <p><b>Accessories:</b> Sampling chamber, lifting stations, TeleControl</p>	<p><b>Grease separator EasyClean Mix &amp; Pump (M+S) NS ...</b></p> <p><input type="checkbox"/> according to Euro Norm EN 1825, manufactured from virgin, non-recycled polyethylene, pumping capacity 3.0 kW</p> <p>For free standing installation in frost protected areas, with integrated sludge trap, sloped interior base improves cleaning and reduces disposal time, inlet flow calming system and outlet flow regulation device, inlet and outlet interchangeable, slanted twin access covers with quick release odour tight snap closures, inspection window with interior cleaning arm, M+S version manually controlled odour free disposal, cleaning and refilling system at touch of button, maintenance free macerating motor (stainless steel blades) for separator cleaning and disposal, includes closure valve for easy motor removal, motor floor mount included with installation hardware and anti-vibration matt, manual hand valve for transfer from cleaning to disposal mode, top mounted water jet(s) for grease layer breakup and water spray nozzles for interior wall cleaning during disposal, with control unit and mains power safety on/off switch, with BMS connections, 1 inch manual hand valve for water refill, 1 inch interior threaded refill inlet with air gap, 75 mm OD PN 10 pressure disposal pipe with integrated fork lift grips at base of separator, low weight - compact design, 100 % corrosion free polyethylene body construction (20 year warranty).</p>	NS 2	155 kg	<b>without SonicControl</b>	
		NS 3	160 kg	<b>93 002.01/MS</b>	
		NS 4	173 kg	<b>93 003.01/MS</b>	
		NS 7	221 kg	<b>93 004.01/MS</b>	
		NS 10	267 kg	<b>93 007.01/MS</b>	
					<b>93 010.01/MS</b>
		NS 2	155 kg	<b>with SonicControl</b>	
		NS 3	160 kg	<b>93 002.02/MS</b>	
		NS 4	173 kg	<b>93 003.02/MS</b>	
		NS 7	221 kg	<b>93 004.02/MS</b>	
NS 10	267 kg	<b>93 007.02/MS</b>			
			<b>93 010.02/MS</b>		

Disposal pump performance curve



∅ = Outer diameter  
b1 = Set-up dimensions

Technical note see page 274

Nominal size	∅	a	Installation dimensions				Wastewater contents				Grease storage	Total
			l	x	b	b1	h1	h2	h3	Sludge trap		
NS 2	110	1500	1735	680	860	985	1055	1435	200 l	400 l	100 l	600 l
NS 3	110	1500	1735	680	860	985	1055	1435	300 l	300 l	120 l	600 l
NS 4	110	1880	2115	680	860	985	1055	1435	400 l	400 l	160 l	800 l
NS 7	160	1910	2145	940	1130	1185	1255	1655	700 l	650 l	280 l	1350 l
NS 10	160	2590	2820	940	1130	1185	1255	1655	1000 l	900 l	400 l	1900 l

Separators

5

## Grease separators for free-standing installation

### Installation example *EasyClean Mix & Pump (M+S)*



- |                                 |                    |
|---------------------------------|--------------------|
| ① Grease separator              | ⑤ Control unit     |
| ② Shredder-Mix-System           | ⑥ Sampling chamber |
| ③ Disposal line                 | ⑦ Lifting station  |
| ④ Connection for disposal truck |                    |

*EasyClean Mix & Pump (M+S)* grease separators are designed according to EN 1825-1 and are equipped with an automated self-cleaning system as well as a pumping disposal system. These separators distinguish themselves through their ease of installation and nearly maintenance free characteristics.

The advantage of the *EasyClean Mix & Pump (M+S)* separators is that disposal can take place through permanently installed disposal lines while the twin covers of the separator remain closed. With this advantage, the disposal truck can hook up to a connection on an exterior wall of the building so that the pump of the separator can pump the separator contents into the waiting disposal truck without any unpleasant odours escaping. After the contents of the separator have been pumped out, the interior of the separator is automatically rinsed and cleaned with warm water in a multi-step process which is manually controlled from the control unit. According to DIN V 4040-2, the complete contents of the separator should be emptied, the unit cleaned and refilled with clean cold water every fourteen days or at a minimum of once every month.

### Professional advantages

- **Manual disposal and rinsing device**
- **Shredder-Mix-System for homogenisation of the tank contents**
- **3.0 kW pump**
- **Clean and odour-free disposal and cleaning**
- **Simple control**
- **Complete System Solution**  
In addition to individual grease separators, KESSEL also offers complete separator packages consisting of grease separator, properly matched lifting station and advantageous accessories. All from one source - KESSEL.
- **Individual Solutions**  
KESSEL offers a fully staffed Individual Solutions Department with experience in designing and manufacturing drainage products exactly meeting your specifications. For additional information please contact us directly to discuss your requirement. Contact information is found on page 3.
- **Grease separator calculation**



**SmartSelect** simply makes planning easier – calculation tool for separators at [smartselect.kessel.com](http://smartselect.kessel.com)



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### Installation hints

Important is that a sampling chamber is installed after the outlet of the separator. The separator is installed completely level on a flat firm surface in a frost free area. The height of the room in which the separator is installed should allow easy removal and access of the two lids. In the case that the outlet of the separator is located below the local defined backwater level, a lifting station is to be installed according to EN 12056. In situations where the interruption of separator service is not allowable, a lifting station with double pumps is to be installed.


### Notice

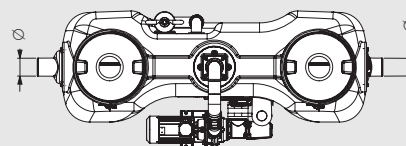
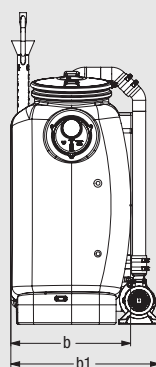
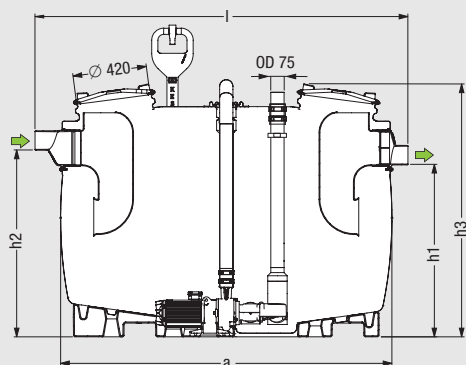
*EasyClean Mix & Pump (M+S)* separators should be installed in all areas where nuisance odour problems are either undesired or not allowed. In cases where the separator is installed in an operation producing large amounts of sludge (ie. slaughterhouses / butchers) it is recommended that the separator be equipped with twin pumps - one pump for the disposal of the sludge and the second pump for the disposal of wastewater and separated grease.

# Grease separators for free-standing installation

## EasyClean Auto Mix (D+SP)

## Products

Illustration	Article description	NS	Weight	Article #
 <p><b>Certification:</b> Z-54.1-474</p> <p><b>Delivery:</b> System completely assembled.</p> <p><b>Accessories:</b> Sampling chamber, lifting stations, remote control, <i>TeleControl</i></p>	<p><b>Grease separator</b> <b>EasyClean Auto Mix (D+SP) NS ...</b></p> <p><input type="checkbox"/> according to Euro Norm EN 1825, manufactured from virgin, non-recycled polyethylene, pumping capacity 3.0 kW</p> <p>For free standing installation in frost protected areas, with integrated sludge trap, sloped interior base improves cleaning and reduces disposal time, inlet flow calming system and outlet flow regulation device, inlet and outlet interchangeable, slanted twin access covers with quick release odour tight snap closures, inspection window with interior cleaning arm, <i>D+SP</i> version with simultaneous mixing and cleaning of separator interior - requires disposal truck with vacuum system for separator disposal, disposal is completely odour free, maintenance free macerating motor (stainless steel blades) includes closure valve for easy motor removal, motor floor mount included with installation hardware and anti-vibration matt, top mounted water jet(s) for grease layer breakup and water spray nozzles for interior wall cleaning during disposal, 1 inch interior thread refill inlet with air gap, with LCD display control unit settable in English, German or French language and mains power safety on/off switch, with BMS connections, twin 1 inch solenoid valves for connection of cold and hot water pipes to separator, with remote control offering full separator disposal control from remote location (from disposal truck location), 75 mm OD PN 10 pressure disposal pipe with integrated fork lift grips at base of separator, low weight - compact design, 100 % corrosion free polyethylene body construction (20 year warranty).</p>	NS 2	150 kg	<b>without <i>SonicControl</i></b> <b>93 002.01/DSP</b>
		NS 3	155 kg	<b>93 003.01/DSP</b>
		NS 4	168 kg	<b>93 004.01/DSP</b>
		NS 7	216 kg	<b>93 007.01/DSP</b>
		NS 10	262 kg	<b>93 010.01/DSP</b>
		NS 2	150 kg	<b>with <i>SonicControl</i></b> <b>93 002.02/DSP</b>
		NS 3	155 kg	<b>93 003.02/DSP</b>
		NS 4	168 kg	<b>93 004.02/DSP</b>
		NS 7	216 kg	<b>93 007.02/DSP</b>
		NS 10	262 kg	<b>93 010.02/DSP</b>



Ø = Outer diameter  
b1 = Set-up dimensions

Technical note see page 274

Nominal size	Ø	a	Installation dimensions			b1	h1	h2	h3	Wastewater contents		Grease storage	Total
			l	x	b					Sludge trap	Separator		
NS 2	110	1500	1735	680	860	985	1055	1435	200 l	400 l	100 l	600 l	
NS 3	110	1500	1735	680	860	985	1055	1435	300 l	300 l	120 l	600 l	
NS 4	110	1880	2115	680	860	985	1055	1435	400 l	400 l	160 l	800 l	
NS 7	160	1910	2145	940	1130	1185	1255	1655	700 l	650 l	280 l	1350 l	
NS 10	160	2590	2820	940	1130	1185	1255	1655	1000 l	900 l	400 l	1900 l	



## Grease separators for free-standing installation

### Installation example *EasyClean Auto Mix (D+SP)*



- |                       |                                    |
|-----------------------|------------------------------------|
| ① Grease separator    | ⑤ Connection for disposal truck    |
| ② Shredder-Mix-System | ⑥ Remote control system (optional) |
| ③ Control unit        | ⑦ Sampling chamber                 |
| ④ Disposal line       | ⑧ Lifting station                  |

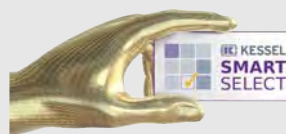
*EasyClean Auto Mix (D+SP)* grease separators are designed according to EN 1825-1 and are equipped with an automatically controlled pump for mixing and cleaning of the separators contents and inner walls. These separators are offered with a modern control unit with digital display. It is possible to automate specific steps of the grease separator disposal process. The *EasyClean Auto Mix (D+SP)* separators distinguish themselves through their ease of installation and nearly maintenance free characteristics.

The advantage of the *EasyClean Auto Mix (D+SP)* separators is that disposal can take place through permanently installed disposal lines while the twin covers of the separator remain closed. With this advantage, the disposal truck hooks up to a connection on an exterior wall of the building and, using its own pump, suctions out the entire contents of the separator without any unpleasant odours escaping.

The Shredder-Mix-System macerates and liquifies its contents and also cleans its interior walls all simultaneously. This prepared wastewater is then suctioned into the waiting disposal vehicle. According to DIN V 4040-2, the complete contents of the separator should be emptied, the unit cleaned and refilled with clean cold water every fourteen days or at a minimum of once every month.

### Professional advantages

- **Fully automatic direct disposal with program-controlled Shredder-Mix-System for homogenisation of the tank contents**
- **Clean and odour-free disposal and cleaning**
- **Simple control**
- **Low-maintenance operation**
- **Complete System Solution**  
In addition to individual grease separators, KESSEL also offers complete separator packages consisting of grease separator, properly matched lifting station and advantageous accessories. All from one source - KESSEL.
- **Individual Solutions**  
KESSEL offers a fully staffed Individual Solutions Department with experience in designing and manufacturing drainage products exactly meeting your specifications. For additional information please contact us directly to discuss your requirement. Contact information is found on page 3.
- **Grease separator calculation**



**SmartSelect** simply makes planning easier – calculation tool for separators at [smartsselect.kessel.com](http://smartsselect.kessel.com)



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



### Installation hints

Important is that a sampling chamber is installed after the outlet of the separator. The separator is installed completely level on a flat firm surface in a frost free area. The height of the room in which the separator is installed should allow easy removal and access of the two lids. In the case that the outlet of the separator is located below the local defined backwater level, a lifting station is to be installed according to EN 12056. In situations where the interruption of separator service is not allowable, a lifting station with double pumps is to be installed.

### Notice

*EasyClean Auto Mix (D+SP)* grease separator is ideal for installations where the presence of strong odours during disposal of the separators contents can not be permitted. The "Shredder-Mix-System" liquifies, macerates and cleans the separators contents all in one step.


In circumstances where large amounts of sludge are expected (i.e. slaughterhouses / meat processing plants), the separator should be equipped with two macerating pumps - one pump for the wastewater and grease, the second pump solely for the sludge.

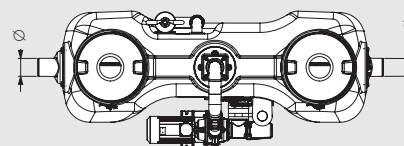
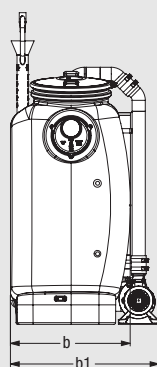
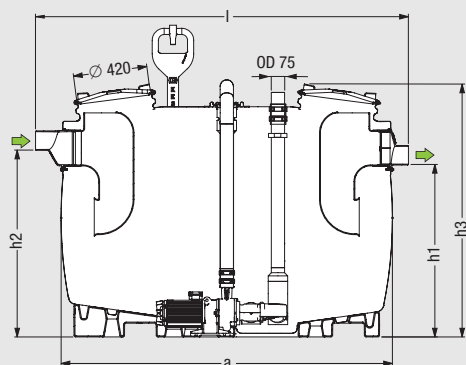


# Grease separators for free-standing installation

## EasyClean Mix (D+S)

## Products

Illustration	Article description	NS	Weight	Article #	
 <p>Illustration shows Art. # 93 004.31/DS</p> <p><b>Certification:</b> Z-54.1-474</p> <p><b>Delivery:</b> System completely assembled.</p> <p><b>Accessories:</b> Sampling chamber, lifting stations</p>	<p><b>Grease separator EasyClean Mix (D+S) NS ...</b></p> <p><input type="checkbox"/> according to Euro Norm EN 1825, manufactured from virgin, non-recycled polyethylene, pumping capacity 3.0 kW</p> <p>For free standing installation in frost protected areas, with integrated sludge trap, sloped interior base improves cleaning and reduces disposal time, inlet flow calming system and outlet flow regulation device, inlet and outlet interchangeable, slanted twin access covers with quick release odour tight snap closures, inspection window with interior cleaning arm, <i>D+S</i> version with simultaneous mixing and cleaning of separator interior - requires disposal truck with vacuum system for separator disposal, disposal is completely odour free, maintenance free macerating motor (stainless steel blades) includes closure valve for easy motor removal, motor floor mount included with installation hardware and anti-vibration matt, top mounted water jet(s) for grease layer breakup and water spray nozzles for interior wall cleaning during disposal, 1 inch interior thread refill inlet with air gap, 1 inch manual hand valve for water refill, with hand held operation controller, 75 mm OD PN 10 pressure disposal pipe with integrated fork lift grips at base of separator, low weight - compact design, 100 % corrosion free polyethylene body construction (20 year warranty).</p>	NS 2	145 kg	<b>without SonicControl</b>	
		NS 3	150 kg	without inspection window	with inspection window
		NS 4	163 kg	<b>93 002.01/DS</b>	<b>93 002.31/DS</b>
		NS 7	211 kg	<b>93 003.01/DS</b>	<b>93 003.31/DS</b>
		NS 10	257 kg	<b>93 004.01/DS</b>	<b>93 004.31/DS</b>
				<b>93 007.01/DS</b>	<b>93 007.31/DS</b>
				<b>93 010.01/DS</b>	<b>93 010.31/DS</b>
				<b>with SonicControl</b>	
				without inspection window	with inspection window
		NS 2	145 kg	<b>93 002.02/DS</b>	<b>93 002.32/DS</b>
		NS 3	150 kg	<b>93 003.02/DS</b>	<b>93 003.32/DS</b>
		NS 4	163 kg	<b>93 004.02/DS</b>	<b>93 004.32/DS</b>
		NS 7	211 kg	<b>93 007.02/DS</b>	<b>93 007.32/DS</b>
		NS 10	257 kg	<b>93 010.02/DS</b>	<b>93 010.32/DS</b>



∅ = Outer diameter  
b1 = Set-up dimensions

Technical note see page 274

Nominal size	∅	a	Installation dimensions			b1	h1	h2	h3	Wastewater contents		Grease storage	Total
			l	x	b					Sludge trap	Separator		
NS 2	110	1500	1735	680	860	985	1055	1435	200 l	400 l	100 l	600 l	
NS 3	110	1500	1735	680	860	985	1055	1435	300 l	300 l	120 l	600 l	
NS 4	110	1880	2115	680	860	985	1055	1435	400 l	400 l	160 l	800 l	
NS 7	160	1910	2145	940	1130	1185	1255	1655	700 l	650 l	280 l	1350 l	
NS 10	160	2590	2820	940	1130	1185	1255	1655	1000 l	900 l	400 l	1900 l	

## Grease separators for free-standing installation

### Installation example *EasyClean Mix (D+S)*



- |                                 |                    |
|---------------------------------|--------------------|
| ① Grease separator              | ⑤ Sampling chamber |
| ② Shredder-Mix-System           | ⑥ Lifting station  |
| ③ Disposal line                 |                    |
| ④ Connection for disposal truck |                    |

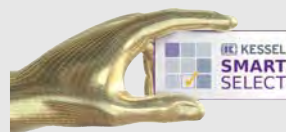
*EasyClean Mix (D+S)* grease separators are designed according to EN 1825-1 and are equipped with a manually controlled pump for mixing and cleaning of the separator's contents and inner walls. These separators distinguish themselves through their ease of installation and nearly maintenance free characteristics.

The advantage of the *EasyClean Mix (D+S)* separators is that disposal can take place through permanently installed disposal lines while the twin covers of the separator remain closed. With this advantage, the disposal truck hooks up to a connection on an exterior wall of the building and, using its own pump, suctions out the entire contents of the separator without any unpleasant odours escaping.

The Shredder-Mix-System macerates and liquifies its contents and also cleans its interior walls all simultaneously. This prepared wastewater is then suctioned into the waiting disposal vehicle. According to DIN V 4040-2, the complete contents of the separator should be emptied, the unit cleaned and refilled with clean cold water every fourteen days or at a minimum of once every month.

### Professional advantages

- **Direct disposal with Shredder-Mix-System for homogenisation of the tank contents**
- **Clean and odour-free disposal and cleaning**
- **Simple control**
- **Low-maintenance operation**
- **Complete System Solution**  
In addition to individual grease separators, KESSEL also offers complete separator packages consisting of grease separator, properly matched lifting station and advantageous accessories. All from one source - KESSEL.
- **Individual Solutions**  
KESSEL offers a fully staffed Individual Solutions Department with experience in designing and manufacturing drainage products exactly meeting your specifications. For additional information please contact us directly to discuss your requirement. Contact information is found on page 3.
- **Grease separator calculation**



**SmartSelect** simply makes planning easier – calculation tool for separators at [smartselect.kessel.com](http://smartselect.kessel.com)



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



### Installation hints

Important is that a sampling chamber is installed after the outlet of the separator. The separator is installed completely level on a flat firm surface in a frost free area. The height of the room in which the separator is installed should allow easy removal and access of the two lids. In the case that the outlet of the separator is located below the local defined backwater level, a lifting station is to be installed according to EN 12056. In situations where the interruption of separator service is not allowable, a lifting station with double pumps is to be installed.

### Notice


*EasyClean Mix (D+S)* grease separator is ideal for installations where the presence of strong odours during disposal of the separator's contents can not be permitted. The "Shredder-Mix-System" liquifies, macerates and cleans the separator's contents all in one step.

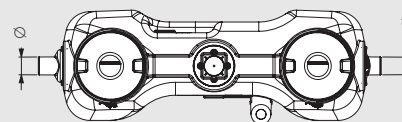
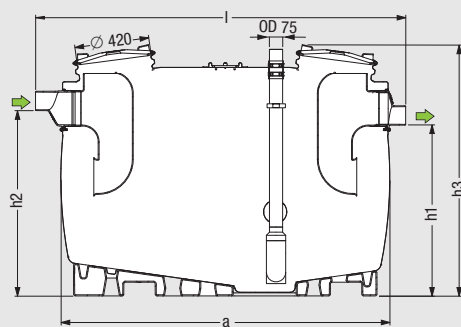
In circumstances where large amounts of sludge are expected (i.e. slaughterhouses / meat processing plants), the separator should be equipped with two macerating pumps - one pump for the wastewater and grease, the second pump solely for the sludge.

# Grease separators for free-standing installation

## EasyClean Standard (D)

## Products

Illustration	Article description	NS	Weight	Article #			
 <p>Illustration shows Art. # 93 004.31/D</p> <p><b>Certification:</b> Z-54.1-474</p> <p><b>Delivery:</b> System completely assembled.</p> <p><b>Accessories:</b> Sampling chamber, lifting stations</p>	<p><b>Grease separator EasyClean Standard (D) NS ...</b></p> <p>□ according to Euro Norm EN 1825, manufactured from virgin, non-recycled polyethylene.</p> <p>For free standing installation in frost protected areas, with integrated sludge trap, sloped interior base improves cleaning and reduces disposal time, inlet flow calming system and outlet flow regulation device, inlet and outlet interchangeable, slanted twin access covers with quick release odour tight snap closures, D version with factory installed pressure pipe suction outlet - requires disposal truck with vacuum system for separator disposal, disposal is completely odour free, 75 mm OD PN 10 pressure disposal pipe with integrated fork lift grips at base of separator, low weight - compact design, 100 % corrosion free polyethylene body construction (20 year warranty).</p>			<b>without SonicControl</b>			
				without accessories	with inspection window		
				NS 2	69 kg	93 002.01/D	93 002.21/D
				NS 3	74 kg	93 003.01/D	93 003.21/D
				NS 4	87 kg	93 004.01/D	93 004.21/D
				NS 7	135 kg	93 007.01/D	93 007.21/D
				NS 10	181 kg	93 010.01/D	93 010.21/D
						with refill inlet	with inspection window and refill inlet
				NS 2	69 kg	93 002.11/D	93 002.31/D
				NS 3	74 kg	93 003.11/D	93 003.31/D
				NS 4	87 kg	93 004.11/D	93 004.31/D
				NS 7	135 kg	93 007.11/D	93 007.31/D
				NS 10	181 kg	93 010.11/D	93 010.31/D
						<b>with SonicControl</b>	
						without accessories	with inspection window
				NS 2	69 kg	93 002.02/D	93 002.22/D
				NS 3	74 kg	93 003.02/D	93 003.22/D
				NS 4	87 kg	93 004.02/D	93 004.22/D
				NS 7	135 kg	93 007.02/D	93 007.22/D
				NS 10	181 kg	93 010.02/D	93 010.22/D
		with refill inlet	with inspection window and refill inlet				
NS 2	69 kg	93 002.12/D	93 002.32/D				
NS 3	74 kg	93 003.12/D	93 003.32/D				
NS 4	87 kg	93 004.12/D	93 004.32/D				
NS 7	135 kg	93 007.12/D	93 007.32/D				
NS 10	181 kg	93 010.12/D	93 010.32/D				



Ø = Outer diameter

Technical note see page 274

Nominal size	Ø	a	Installation dimensions			h1	h2	h3	Wastewater contents		Grease storage	Total
			l	x	b				Sludge trap	Separator		
NS 2	110	1500	1735		680	985	1055	1435	200 l	400 l	100 l	600 l
NS 3	110	1500	1735		680	985	1055	1435	300 l	300 l	120 l	600 l
NS 4	110	1880	2115		680	985	1055	1435	400 l	400 l	160 l	800 l
NS 7	160	1910	2145		940	1185	1255	1655	700 l	650 l	280 l	1350 l
NS 10	160	2590	2820		940	1185	1255	1655	1000 l	900 l	400 l	1900 l

## Grease separators for free-standing installation

### Installation example *EasyClean Standard (D)*



- ① Grease separator
- ② Disposal line
- ③ Connection for disposal truck
- ④ Sampling chamber
- ⑤ Lifting station

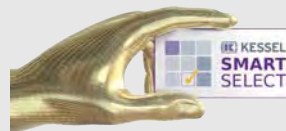
*EasyClean Standard (D)* grease separators are designed according to EN 1825-1. These separators distinguish themselves through their ease of installation and nearly maintenance free characteristics.

The advantage of the *EasyClean Standard (D)* separators is that disposal can take place through permanently installed disposal lines while the twin covers of the separator remain closed. With this advantage, the disposal truck hooks up to a connection on an exterior wall of the building and, using its own pump, suctions out the entire contents of the separator without any unpleasant odours escaping.

According to DIN V 4040-2, the complete contents of the separator should be emptied, the unit cleaned and refilled with clean cold water every fourteen days or at a minimum of once every month.

### Professional advantages

- **With direct disposal connection**
- **Disposal with the tank closed**
- **Low-maintenance operation**
- **Complete System Solution**  
In addition to individual grease separators, KESSEL also offers complete separator packages consisting of grease separator, properly matched lifting station and advantageous accessories. All from one source - KESSEL.
- **Individual Solutions**  
KESSEL offers a fully staffed Individual Solutions Department with experience in designing and manufacturing drainage products exactly meeting your specifications. For additional information please contact us directly to discuss your requirement. Contact information is found on page 3.
- **Grease separator calculation**



**SmartSelect** simply makes planning easier – calculation tool for separators at [smartselect.kessel.com](http://smartselect.kessel.com)



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



### Installation hints

Important is that a sampling chamber is installed after the outlet of the separator. The separator is installed completely level on a flat firm surface in a frost free area. The height of the room in which the separator is installed should allow easy removal and access of the two lids.

In the case that the outlet of the separator is located below the local defined backwater level, a lifting station is to be installed according to EN 12056. In situations where the interruption of separator service is not allowable, a lifting station with double pumps is to be installed.

### Notice


The *EasyClean Standard (D)* separator should be inspected and fully cleaned during every third disposal. In all circumstances where the accessibility of the disposal truck's suction hose to the separator is highly limited or impossible, KESSEL recommends the installation of a *EasyClean Standard (D)* unit. With the installation of the refill equipment, the separator can be refilled after disposal without the need of opening any of the covers and releasing strong and aggressive odours.

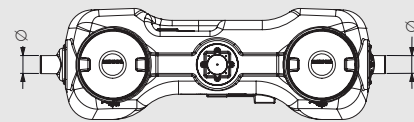
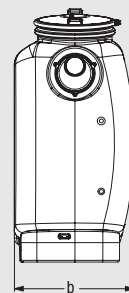
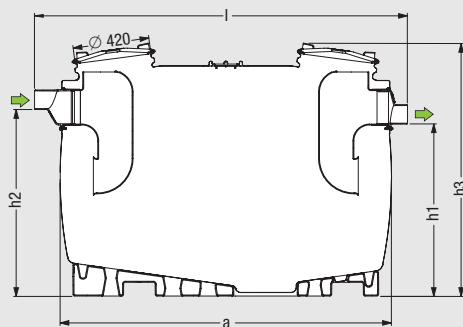


# Grease separators for free-standing installation

## EasyClean Basic (G)

## Products

Illustration	Article description	NS	Weight	Article #				
 <p>Illustration shows Art. # 93 004.31</p> <p><b>Certification: Z-54.1-474</b></p> <p><b>Delivery:</b> System completely assembled.</p> <p><b>Accessories:</b> Sampling chamber, lifting stations. Retrofitting up to Auto Mix &amp; Pump (PV+S) possible.</p>	<p><b>Grease separator EasyClean Basic (G) NS ...</b></p> <p><input type="checkbox"/> according to Euro Norm EN 1825, manufactured from virgin, non-recycled polyethylene.</p> <p>For free standing installation in frost protected areas, with integrated sludge trap, sloped interior base improves cleaning and reduces disposal time, inlet flow calming system and outlet flow regulation device, inlet and outlet interchangeable, slanted twin access covers with quick release odour tight snap closures, G version requires disposal truck with vacuum system for separator disposal, integrated fork lift grips at base of separator, 100% corrosion free polyethylene body construction (20 year warranty).</p>			<b>without SonicControl</b>				
				without accessories	with inspection window			
					NS 2	69 kg	<b>93 002.01</b>	<b>93 002.21</b>
					NS 3	74 kg	<b>93 003.01</b>	<b>93 003.21</b>
					NS 4	87 kg	<b>93 004.01</b>	<b>93 004.21</b>
				with refill inlet	with inspection window and refill inlet			
					NS 7	135 kg	<b>93 007.01</b>	<b>93 007.21</b>
					NS 10	181 kg	<b>93 010.01</b>	<b>93 010.21</b>
					NS 2	69 kg	<b>93 002.11</b>	<b>93 002.31</b>
				without accessories	with inspection window			
					NS 3	74 kg	<b>93 003.11</b>	<b>93 003.31</b>
					NS 4	87 kg	<b>93 004.11</b>	<b>93 004.31</b>
					NS 7	135 kg	<b>93 007.11</b>	<b>93 007.31</b>
				with refill inlet	with inspection window and refill inlet			
					NS 10	181 kg	<b>93 010.11</b>	<b>93 010.31</b>
NS 2	69 kg	<b>93 002.02</b>	<b>93 002.22</b>					
NS 3	74 kg	<b>93 003.02</b>	<b>93 003.22</b>					
without accessories	with inspection window							
	NS 4	87 kg	<b>93 004.02</b>	<b>93 004.22</b>				
	NS 7	135 kg	<b>93 007.02</b>	<b>93 007.22</b>				
	NS 10	181 kg	<b>93 010.02</b>	<b>93 010.22</b>				
with refill inlet	with inspection window and refill inlet							
	NS 2	69 kg	<b>93 002.12</b>	<b>93 002.32</b>				
	NS 3	74 kg	<b>93 003.12</b>	<b>93 003.32</b>				
	NS 4	87 kg	<b>93 004.12</b>	<b>93 004.32</b>				
without accessories	with inspection window and refill inlet							
	NS 7	135 kg	<b>93 007.12</b>	<b>93 007.32</b>				
	NS 10	181 kg	<b>93 010.12</b>	<b>93 010.32</b>				



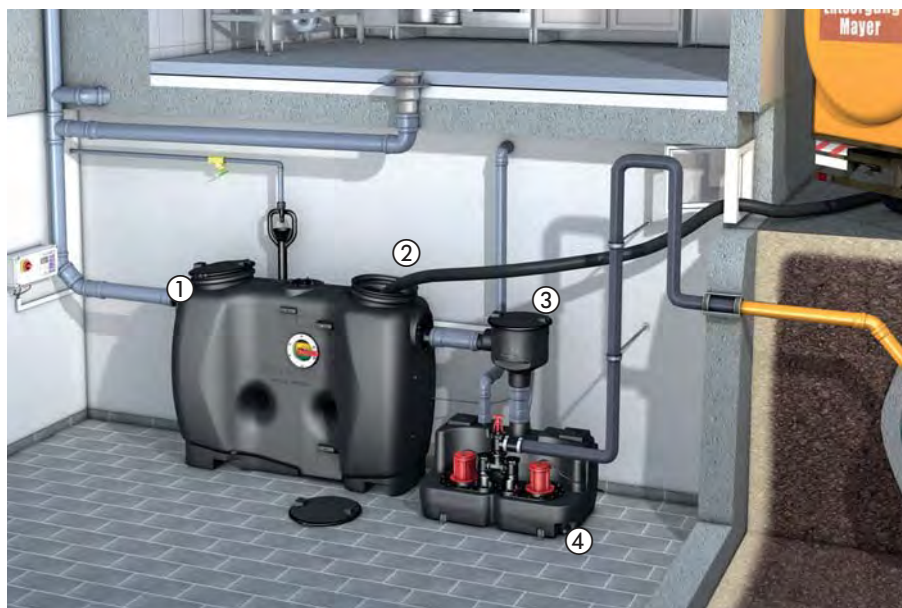
Ø = Outer diameter

Technical note see page 274

Nominal size	Ø	a	Installation dimensions			h1	h2	h3	Wastewater contents		Grease separator	Total
			l	x	b				Sludge trap	Separators		
NS 2	110	1500	1735		680	985	1055	1435	200 l	400 l	100 l	600 l
NS 3	110	1500	1735		680	985	1055	1435	300 l	300 l	120 l	600 l
NS 4	110	1880	2115		680	985	1055	1435	400 l	400 l	160 l	800 l
NS 7	160	1910	2145		940	1185	1255	1655	700 l	650 l	280 l	1350 l
NS 10	160	2590	2820		940	1185	1255	1655	1000 l	900 l	400 l	1900 l

# Grease separators for free-standing installation

## Installation example *EasyClean Basic (G)*



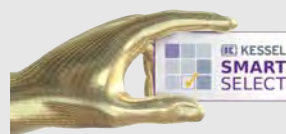
- ① Grease separator                      ③ Sampling chamber  
② Suction hose                            ④ Lifting station

*EasyClean Basic (G)* grease separators are designed according to EN 1825-1. These separators distinguish themselves through their ease of installation and nearly maintenance free characteristics.

According to DIN V 4040-2, the complete contents of the separator should be emptied, the unit cleaned and refilled with clean cold water every fourteen days or at a minimum of every month. To empty the contents of the separator the odour tight covers need to be removed. The suction hose of the disposal truck is then used to empty and rinse the inside of the separator.

## Professional advantages

- **With direct disposal connection**
- **Low-maintenance operation**
- **Complete System Solution**  
In addition to individual grease separators, KESSEL also offers complete separator packages consisting of grease separator, properly matched lifting station and advantageous accessories. All from one source - KESSEL.
- **Individual Solutions**  
Contact us directly to discuss your requirement.
- **Grease separator calculation**



**SmartSelect** simply makes planning easier – calculation tool for separators at [smartselect.kessel.com](http://smartselect.kessel.com)



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



## Installation hints

Important is that a sampling chamber is installed after the outlet of the separator. The separator is installed completely level on a flat firm surface in a frost free area. The height of the room in which the separator is installed should allow easy removal and access of the two lids. In the case that the outlet of the separator is located below the local defined backwater level, a lifting station is to be installed according to EN 12056. In situations where the interruption of separator service is not allowable, a lifting station with double pumps is to be installed.

## Notice

The *EasyClean Basic (G)* separator can be upgraded to a any other version (with permanently installed disposal lines) at any time. It should only be installed in areas where:

- the release of strong and aggressive odours will not pose a problem
- accessing the separator with the disposal hose of the disposal truck will not cause problems or inconveniences.


## Retrofit Sets

<input type="checkbox"/> <b>Standard (D)</b> With direct disposal connection		<b>913 101/D</b>
<input type="checkbox"/> <b>Mix (D+S)</b> 1 NS 2-7 2 NS 10 Pump, refill inlet, 1 manual hand valve and direct disposal connection	1	<b>913 101/DS</b>
	2	<b>913 101/DS10</b>
<input type="checkbox"/> <b>Auto Mix (D+SP)</b> 1 NS 2-7 2 NS 10 Pump, refill inlet, inspection window, 2 solenoid valves, direct disposal connection and control unit	1	<b>913 101/DSP</b>
	2	<b>913 101/DSP10</b>
<input type="checkbox"/> <b>Mix&amp;Pump (M+S)</b> 1 NS 2-7 2 NS 10 Pump, refill inlet, inspection window, 1 manual hand valve, direct disposal connection and control unit	1	<b>913 101/MS</b>
	2	<b>913 101/MS10</b>
<input type="checkbox"/> <b>Auto Mix&amp;Pump (PV+S)</b> 1 NS 2-7 2 NS 10 Pump, refill inlet, inspection window, 2 solenoid valves, direct disposal connection and control unit	1	<b>913 101/PVS</b>
	2	<b>913 101/PVS10</b>

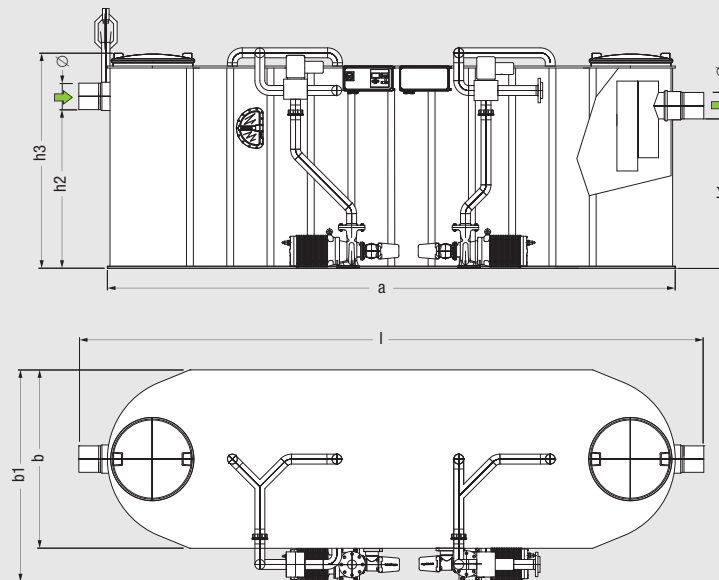
# Grease separators for free-standing installation

## Euro Auto Mix & Pump (PV+S)

Products

Illustration	Article description	NS	Weight	Article #
 <p><b>NEW</b></p> <p><b>Delivered:</b> Completely assembled (pumps to be connected on-site)</p> <p><b>Accessories:</b> Sampling chamber, distribution box, lifting station, SonicControl</p>	<p><b>Grease separator Euro Auto Mix &amp; Pump (PV+S) NS ...</b></p> <p><input type="checkbox"/> according to Euro Norm EN 1825, manufactured from virgin, non-recycled polyethylene</p> <p>For free standing installation in frost protected areas, with integrated sludge trap, polyethylene quick release odor tight covers, with inspection window, with direct disposal hook up pipe on right side for sludge and grease trap disposal, with disposal flange DN 65, PN 10 (DIN 2501), Storz-B-coupling 2.5 inch for disposal truck connection, automated switch over from cleaning to disposal, control unit with panel and 7 digit operational display, manual switch for off-manual-automatic pump operation twin 1 inch solenoid valves, rinse/refill inlet according to DIN 1988, high pressure cleaning/rinsing system with spray jets and flood jets, twin exterior (right) mounted submersible (IP 68) cutting pumps (400 V, 50 Hz, with 4.0 kW &gt;30 cbm/h at 1.0 Bar at standard pumping heights), with control unit, with refill equipment, Ø 160 inlet/outlet fits SML pipe (DIN 19522) and plastic pipe (DIN 19560).</p>	<p>NS 15</p> <p>NS 20</p> <p>NS 25</p>	<p>ca. 390 kg</p> <p>ca. 980 kg</p> <p>ca. 1020 kg</p>	<p><b>93 015.00/P1</b></p> <p><b>93 020.00/P1</b></p> <p><b>93 025.00/P1</b></p>
	<p>Further nominal sizes on request</p>			

Ø = Outer diameter



Nominal size	Ø	a	Installation dimensions				Wastewater contents			Grease separator	Total	
			l	x	b	b1	h1	h2	h3			Sludge trap
NS 15	200	3600	3925	1350	1620	1030	1100	1152	1500 l	1620 l	623 l	3120 l
NS 20	200	4500	4883	1370	1640	1030	1100	1519	2010 l	2090 l	800 l	4100 l
NS 25	200	4600	4923	1370	1640	1180	1250	1619	2500 l	2940 l	1000 l	5400 l

## Grease separators for free-standing installation

### Installation example *Euro Auto Mix & Pump (PV+S)*



- |                                 |                                    |
|---------------------------------|------------------------------------|
| ① Distribution box              | ⑤ Remote control system (optional) |
| ② Grease separator              | ⑥ Sampling chamber                 |
| ③ Disposal line                 | ⑦ Control unit                     |
| ④ Connection for disposal truck | ⑧ Lifting station                  |

*Euro Auto Mix & Pump (PV+S)* grease separators are designed according to EN 1825-1 and are equipped with a fully automated disposal, self-cleaning and refill system. These separators distinguish themselves through their ease of installation and nearly maintenance free characteristics. The advantage of the Auto Mix & Pump separators is that a complete disposal can take place through permanently installed disposal lines while the covers of the separator remain closed. With this advantage, the disposal truck can hook up to a connection on an exterior wall of the building so that the pump of the separator can pump the separator contents into the waiting disposal truck without any unpleasant odors escaping. After the contents of the separator have been pumped out, the interior of the separator is automatically rinsed and cleaned with warm water in a multi-step automated process. The complete procedure occurs with the press of a button and is also available with a remote control system so that the driver of the disposal vehicle can handle the entire procedure without the necessity of any building personnel being present. According to DIN V 4040-2, the complete contents of the separator should be emptied, the unit cleaned and refilled with clean cold water every fourteen days or at a minimum of once every month.

### Installation hints

Important is that a sampling chamber is installed after the outlet of the separator. The separator is installed completely level on a flat firm surface in a frost free area. The height of the room in which the separator is installed should allow easy removal and access of the two lids. In the case that the outlet of the separator is located below the local defined backwater level, a lifting station is to be installed according to EN 12056. In situations where the interruption of separator service is not allowable, a lifting station with double pumps is to be installed.

### Notice

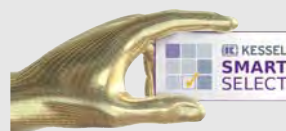
*Euro Auto Mix & Pump (PV+S)* separators should be installed in all areas where nuisance odor problems are either undesired or not allowed. The system allows the user to customize settings to improve disposal performance and also allow the disposal vehicle driver to handle the complete disposal procedure which can also be conducted during off hours. In cases where the separator is installed in an operation producing large amounts of sludge (ie. slaughterhouses / butchers) it is recommended that the separator be equipped with twin pumps - one pump for the disposal of the sludge and the second pump for the disposal of wastewater and separated grease.

### Professional advantages

- **Program-controlled disposal and rinsing device**
- **Shredder-Mix-System for homogenisation of the tank contents**
- **3.0 kW pump**
- **Clean and odour-free disposal and cleaning**
- **On-site grease separator assembly**  
With a team of KESSEL specialists, the grease separators can also be custom assembled on location. This allows larger grease separator to be used in existing buildings with limited access to the room in which the grease separator will be installed.



- **Complete System Solution**  
In addition to individual grease separators, KESSEL also offers complete separator packages consisting of grease separator, properly matched lifting station and advantageous accessories. All from one source - KESSEL.
- **Individual Solutions**  
KESSEL offers a fully staffed Individual Solutions Department with experience in designing and manufacturing drainage products exactly meeting your specifications. For additional information please contact us directly to discuss your requirement. Contact information is found on page 3.
- **Grease separator calculation**



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# Grease separators for free-standing installation

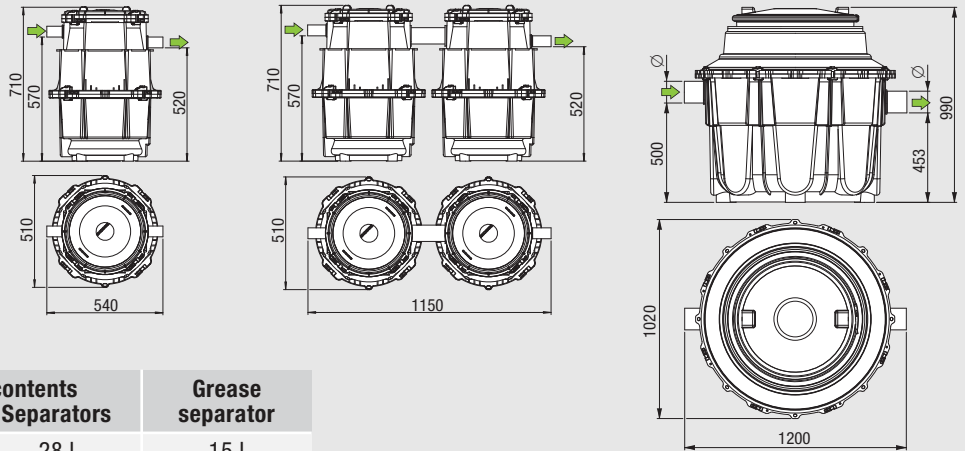
**Euro "G"**

**Products**

Illustration	Article description	NS	Weight	Article #
 Art. # 93 001	<b>Grease separator Euro "G" NS ...</b> <input type="checkbox"/> in accordance with KESSEL standard, made of polyethylene <b>For free-standing installation in frost-protected rooms</b>  <b>Note for the operating company:</b> The separated <b>grease must be skimmed off daily in the case of weekly emptying and cleaning.</b>	NS 0.25	20 kg	<b>93 025</b>
 Art. # 93 050		NS 0.5	45 kg	<b>93 050</b>
 Art. # 93 025		NS 1	65 kg	<b>93 001</b>

**Delivery:**  
System completely assembled.

Ø = Outer diameter



Nominal size	Ø	Wastewater contents		Grease separator
		Sludge trap	Separators	
NS 0.25	50	25 l	28 l	15 l
NS 0.5	50	50 l	42 l	30 l
NS 1	110	100 l	75 l	60 l

Further nominal sizes on request

Separators

5




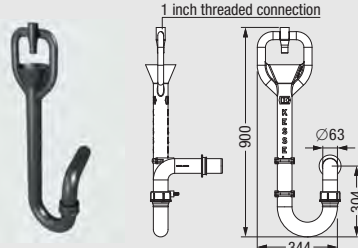
**Technical note:**

Production and weather related influences can lead to deviations from our specifications in the case of free-standing separators. For this reason, please check the height specifications in particular for their actual size before installation. Please adapt the pipework to the actual inlet and outlet dimensions before installing the grease separator. Thermal and mechanical influences must be taken into consideration.



# Grease separators for free-standing installation

Sampling chamber / Polymer distribution box		Accessories	
Illustration and dimensioned drawing	Article description	Outer diameter Ø (mm)	Article #
	<p><b>Sampling chamber Ø 400</b> made of polymer for separation systems</p> <p>For connection to outlet pipe of separator.</p> <p>Inlet and outlet Ø ... available options for synthetic material pipes in: PE-HD (according to EN 1519-1); PVC-HT, PP or AS, drop height 120 mm.</p> <p>Cover sealed odour-tight with snap closure.</p> <p><input type="checkbox"/> <b>Outlet lateral</b></p> <p><input type="checkbox"/> <b>Outlet vertical</b></p>	<p>Ø 110/160</p> <p>Ø 110/160</p>	<p><b>915 871</b></p> <p><b>915 870</b></p>
	<p><b>Sampling chamber Ø 450</b></p> <p>For connection to outlet pipe of separator.</p> <p>Inlet and outlet Ø 200 mm available options for synthetic material pipes in: PE-HD (according to EN 1519-1); PVC-HT, PP or AS, drop height 160 mm.</p> <p>Cover sealed odour-tight with snap closure.</p> <p><input type="checkbox"/> <b>Outlet lateral</b></p>	<p>Ø 200</p>	<p><b>915 863-IS</b></p>
	<p><b>Polymer distribution box for twin (parallel) separator systems</b></p> <p>With inlet and outlet connection for polymer pipes made of: PE-HD (according to DIN 19537); PVC-HT, PP or AS.</p>	<p>Ø 110</p> <p>Ø 160</p> <p>Ø 200</p>	<p><b>915 700-100</b></p> <p><b>915 700-150</b></p> <p><b>915 700-200</b></p>

## Grease separators for free-standing installation

Inspection window / Refill inlet			Accessories
Illustration and dimensioned drawing	Article description	Outer diameter Ø (mm)	Article #
	<p><b>Inspection window</b> for separation systems <i>EasyClean</i> For visual inspection of the thickness of the grease layer, with cleaning device, high-gloss polished inspection glass with centimetre scale.</p>	-	<b>913 109</b>
	<p><b>Refill inlet made of polymer for separation systems</b> according to DIN 1988, for connection to filling and rinsing connection couplings of the separation systems, with two pipe clamps and attachment element together with pipe sealing gasket Ø 63.</p> <p><input type="checkbox"/> <b>Model left 1 inch</b> <input type="checkbox"/> <b>Model right 1 inch</b></p>	- -	<b>915 800</b> <b>915 801</b>

## Grease separators for free-standing installation

SonicControl / TeleControl / RemoteControl			Accessories
Illustration and dimensioned drawing	Article description	Outer diameter Ø (mm)	Article #
	<p><b>SonicControl level sensing system with ultra sonic sensor for grease separator</b> Accurate monitoring and data transfer of grease levels. 230 V - 50 Hz power connection. With battery back up, connection for remote speaker. Installation set with easy assembly and maintenance. For use on above ground or below ground separators. For retrofit use on existing separators. Control unit with optical and audible alarm with potential free contact. Electronic log book with 12 month capacity. Data transfer by telemetry.</p> <p>Voltage: 230 V ~ 50 Hz Protection: IP 54 Plug: Schuko 1.5 m Cable length: 10 m (extendable on-site to 60 meters)</p>	-	<b>917 821</b>
	<p><b>TeleControl telemetric system</b> for connection to KESSEL Comfort control units 230 Volt and 400 Volt. Relaying of full text messages to up to three mobile phones. Without SIM card.</p>	-	<b>28 792</b>
	<p><b>TeleControl antenna booster</b> for TeleControl telemetric system incl. 2.5 m cable to improve reception. With magnetic base.</p>	-	<b>28 793</b>
	<p><b>Antenna booster extension cable</b> cable length 2.5 m</p>	-	<b>28 794</b>
	<p><b>Remote control</b> Fits KESSEL Separation systems for free standing installation, for connection to an isolated ground socket Variant PV+S and D+SP in accordance with DIN 4040 and EN 1825. Cable length 15 m.</p>	-	<b>916 601</b>



# Grease separators for underground installation

**Euro PV+S**

**Products**



Illustration	NS	Weight	Installation depth D in mm	Cover class A/B Article #	Cover class D Article #	
<b>1</b>	NS 1	270 kg	550 to 950	<b>93 001/80B-K-P1</b>	<b>93 001/80D-K-P1</b>	
	NS 2	300 kg	550 to 950	<b>93 002/80B-K-P1</b>	<b>93 002/80D-K-P1</b>	
	NS 4	325 kg	550 to 950	<b>93 004/80B-K-P1</b>	<b>93 004/80D-K-P1</b>	
	<b>2</b>	NS 1	270 kg	800 to 1200	<b>93 001/120B-K-P1</b>	<b>93 001/120D-K-P1</b>
		NS 2	300 kg	800 to 1200	<b>93 002/120B-K-P1</b>	<b>93 002/120D-K-P1</b>
		NS 4	325 kg	800 to 1200	<b>93 004/120B-K-P1</b>	<b>93 004/120D-K-P1</b>
		NS 7	525 kg	715 to 1165	<b>93 007/120B-K-P1</b>	<b>93 007/120D-K-P1</b>
		NS 10	550 kg	715 to 1165	<b>93 010/120B-K-P1</b>	<b>93 010/120D-K-P1</b>

**Certification: Z-54.1-440 (NS 7 / 10)**

**Grease separator Euro PV+S NS ...**

**with program-controlled disposal system and Shredder-Mix system**

- according to EN 1825 and DIN 4040-100, made of polyethylene material, pumping capacity 2.6 kW

**For underground installation**

Upper section made of polymer material, continuous height and level compensation, with cover, class A/B, D according to EN 124 made of cast iron (can be driven over by cars and trucks), sealed odour-tight, incl. removal mechanism.

- 1** for underground installation frost-free depth 800 mm
- 2** for underground installation frost-free depth 1200 mm

**Resistant when installed in the groundwater up to the lower edge of the drain outlet.**

**A load distribution plate must be planned for class D.**

**Delivery:**

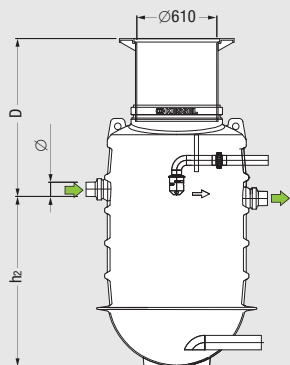
System completely assembled. Further nominal sizes on request. On-site connection pipes (see connection accessories)

**Accessories** see page 281-282:

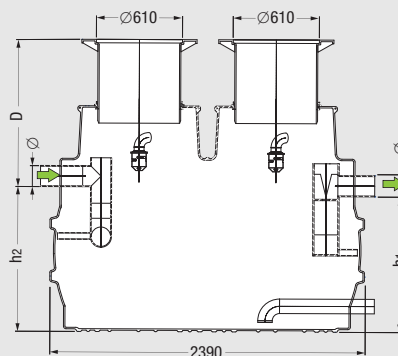
Joining / connection set, disposal chamber Ø 400 sampling chamber, intermediate section, *SonicControl*. Pumping stations see chapter 3 "lifting stations".

Nominal size	Ø	a	b	h	h1	h2	Sludge	Grease	Total (including water)
NS 1	110	1380	1220	1500	690	795	140 l	70 l	370 l
NS 2	110	1380	1220	1750	940	1045	200 l	120 l	570 l
NS 4	110	1380	1220	2000	1210	1295	400 l	160 l	770 l
NS 7	160	2539	1200	1715	1030	1100	700 l	280 l	180 l
NS 10	160	3062	1200	1715	1030	1100	1000 l	400 l	2600 l

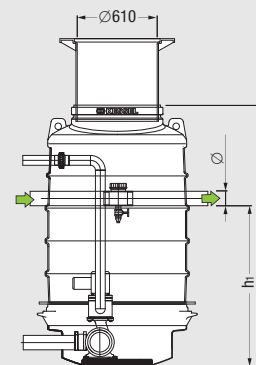
D = Installation depth  
Ø = Outer diameter



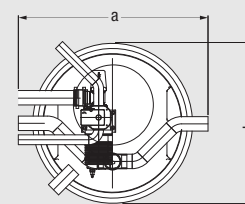
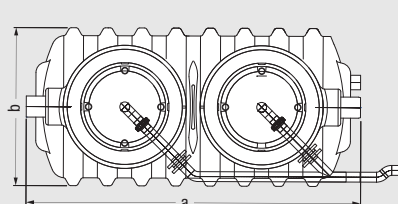
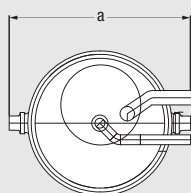
Grease separator NS 1-4



Grease separator NS 7-10




Engineering systems chamber



# Grease separators for underground installation

## Euro G Products

Illustration	NS	Weight	Installation depth D in mm	Cover class A/B Article #	Cover class D Article #
	<b>1</b> NS 1	111 kg	550 to 950	<b>93 001/80 B</b>	<b>93 001/80 D</b>
	NS 2	120 kg	550 to 950	<b>93 002/80 B</b>	<b>93 002/80 D</b>
	NS 4	130 kg	550 to 950	<b>93 004/80 B</b>	<b>93 004/80 D</b>
	<b>2</b> NS 1	111 kg	800 to 1200	<b>93 001/120 B</b>	<b>93 001/120 D</b>
	NS 2	120 kg	800 to 1200	<b>93 002/120 B</b>	<b>93 002/120 D</b>
	NS 4	130 kg	800 to 1200	<b>93 004/120 B</b>	<b>93 004/120 D</b>

**Delivery:**  
System completely assembled.

**Accessories** see page 281-282:  
Sampling chamber, extension section,  
direct disposal, *SonicControl* (NS 2 and NS 4).  
Pumping stations see chapter 3 "lifting stations".

**Certification: Z-54.1-440**  
Change pending

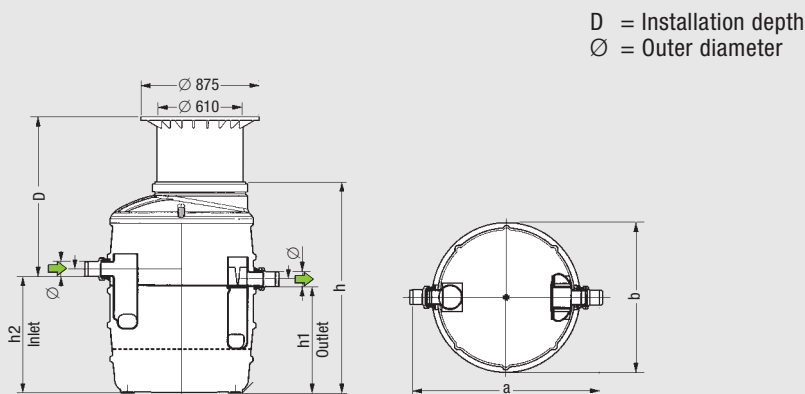
**Grease separator Euro G NS 1/2/4**  
 in accordance with EN 1825 and  
DIN 4040-100, made of polyethylene

**For underground installation**  
Upper section made of polymer,  
infinite height and level adjustment,  
with cover class A/B, D in accordance  
with EN 124 made of cast iron,  
sealed odour-tight, incl. lift-out key.

- 1** for ground installation frost-free depth 800 mm
- 2** for ground installation frost-free depth 1200 mm

**Resistant when installed  
in the groundwater up to 500 mm**  
**A load distribution plate must be  
provided for class D.**


**Further nominal sizes on request**



Nominal size	Ø	a	b	h <sup>1)</sup>	h1	h2	Sludge	Grease	Total (including water)
NS 1	110	1380	1106	1050	540	610	140 l	70 l	370 l
NS 2	110	1380	1106	1300	790	860	200 l	120 l	570 l
NS 4	110	1380	1106	1550	1040	1110	400 l	160 l	770 l

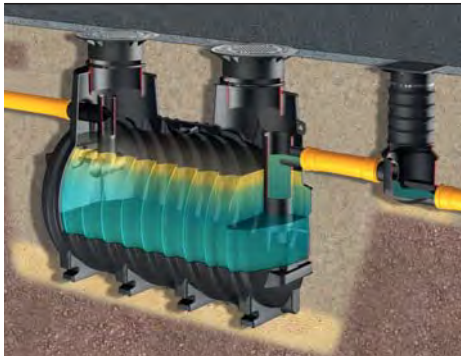
<sup>1)</sup> Specifications apply for type 80. For type 120, h\* = h + 250 mm.

## Direct disposal / disposal chamber Accessories

Illustration	Article description	Illustration	Article #
	<b>Direct disposal for grease separators</b> <input type="checkbox"/> without disposal chamber		
	<input type="checkbox"/> Disposal connection right	<b>1</b>	<b>917 419.00</b>
	<input type="checkbox"/> Disposal connection left	<b>1</b>	<b>917 419.50</b>
	<b>Direct disposal for grease separators</b> <input type="checkbox"/> including disposal chamber Ø 400		
	<input type="checkbox"/> Disposal connection right	<b>1 2</b>	<b>917 420.00</b>
	<input type="checkbox"/> Disposal connection left	<b>1 2</b>	<b>917 420.50</b>
	<b>Disposal chamber Ø 400</b>	<b>2</b>	<b>917 422</b>
	<b>Joint and connection set made of polyethylene</b>	-	<b>917 421</b>

# Grease separators for underground installation

## Euro G Products

Illustration	NS	Weight Class D	Installation depth D in mm	Cover class A/B Article #	Cover class D Article #
	NS 7*	450 kg	745 to 1180	<b>93 007/120 B</b>	<b>93 007/120 D</b>
	NS 10*	480 kg	755 to 1190	<b>93 010/120 B</b>	<b>93 010/120 D</b>
	NS 15*	630 kg	755 to 1190	<b>93 015/120 B</b>	<b>93 015/120 D</b>
	NS 20*	670 kg	750 to 1185	<b>93 020/120 B</b>	<b>93 020/120 D</b>
	NS 25	765 kg	810 to 1245	<b>93 925/120 B</b>	<b>93 925/120 D</b>
	NS 30	765 kg	810 to 1245	<b>93 930/120 B</b>	<b>93 930/120 D</b>
	NS 35	765 kg	660 to 1095	<b>93 935/120 B</b>	<b>93 935/120 D</b>

**Delivery:** System completely assembled.

**Accessories** see page 281-282:  
Sampling chamber, extension section, direct disposal, *SonicControl*.  
Pumping stations see chapter 3 "lifting stations".

\* **Certification: Z-54.1-440** (NS 7 - 20)  
Change pending

### Grease separator Euro G NS 7/10/15/20/25/30/35

in accordance with EN 1825 and DIN 4040-100, made of polyethylene

#### For underground installation

Upper section made of polymer, height and level adjustment, with cover class A/B, D in accordance with EN 124, made of cast iron (can be driven over by cars and trucks), sealed odour-tight, incl. lift-out key.

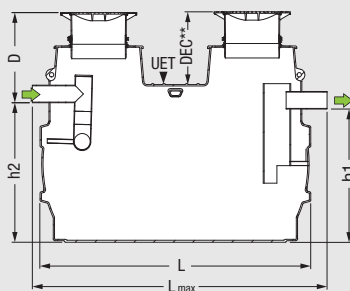
for ground installation:  
frost-free depth

Minimum installation depth achieved by sawing the upper section as required

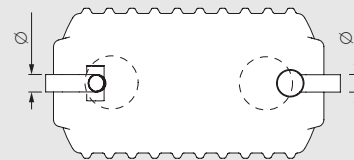
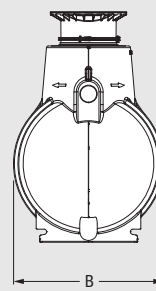
Installation is possible with groundwater up to the upper edge of the tank (UET).

A load distribution plate must be provided for class D.

Further nominal sizes on request



D = Installation depth  
Ø = Outer diameter

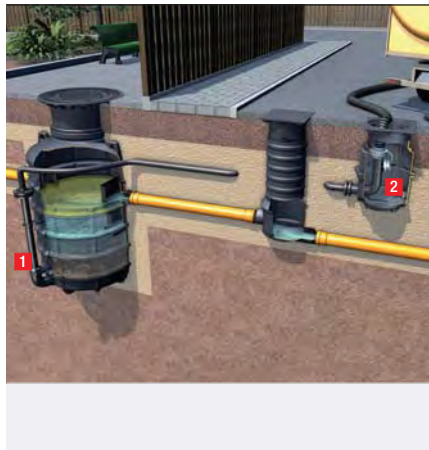


\*\*DEC = Depth of earth coverage

Class D = 700 mm ≤ DEC ≤ 1500 mm  
Class A/B = 700 mm ≤ DEC ≤ 1800 mm

Nominal size	Ø	L	B	h1	h2	Sludge	Grease	Total (incl. water)	D-DEC	Lmax mm
NS 7	160	2390	1200	1030	1100	700 l	1100 l	1800 l	155 mm	2540
NS 10	160	2910	1200	1030	1100	1000 l	1600 l	2600 l	155 mm	3060
NS 15	200	2590	1760	1550	1620	1500 l	2800 l	4300 l	180 mm	2780
NS 20	200	3110	1760	1550	1620	2000 l	3800 l	5800 l	180 mm	3300
NS 25	200	3470	2010	1550	1650	2500 l	5300 l	7800 l	480 mm	
NS 30	250	3470	2010	1550	1650	3000 l	4800 l	7800 l	480 mm	
NS 35	250	3470	2010	1700	1800	3500 l	4800 l	8300 l	330 mm	

## Direct disposal / disposal chamber Accessories

Illustration	Article description	Illustration	Article #
	<b>Direct disposal for grease separators</b> <input type="checkbox"/> without disposal chamber		
	<input type="checkbox"/> Disposal connection right	<b>1</b>	<b>917 419.00</b>
	<input type="checkbox"/> Disposal connection left	<b>1</b>	<b>917 419.50</b>
	<b>Direct disposal for grease separators</b> <input type="checkbox"/> including disposal chamber Ø 400		
	<input type="checkbox"/> Disposal connection right	<b>1 2</b>	<b>917 420.00</b>
	<input type="checkbox"/> Disposal connection left	<b>1 2</b>	<b>917 420.50</b>
	<b>Disposal chamber Ø 400</b>	<b>2</b>	<b>917 422</b>
<b>Joint and connection set</b> made of polyethylene	-	<b>917 421</b>	



#### Technical note:

Weather-related influences or cooling of the tanks during the installation phase (caused by filling with cold water) can lead to deviations in dimensions from the catalogue specifications in the case of cisterns and separators installed in the ground.

Illustration and dimensioned drawing	Article description	Outer diameter Ø (mm)	Suitable for grease separator	Article #
	<p><b>Sampling chamber Ø 1000</b> in polyethylene, <b>for separation systems, for underground installation</b></p> <p>Installation depth (D) 1180 - 1630 mm (Other installation depths available on request)</p> <p>Inlet and outlet Ø ... for synthetic material pipes in: PE-HD (according to EN 12666-1); PVC-KG (according to EN 1401-1); PP or AS.</p> <p>With integrated access steps, with telescopically height-adjustable upper section made of polymer, with cover class A/B, D according to EN 124 in cast iron sealed odour-tight, incl. removal mechanism. Drop height 160 mm.</p> <p><b>1 Cover class A/B</b> <b>2 Cover class D</b></p>	<p><b>1</b> Ø 110 Ø 160 Ø 200</p> <p><b>2</b> Ø 110 Ø 160 Ø 200</p>	<p>NS 1/NS 2/NS 4 NS 7 and NS 10 NS 15, NS 20 and custom-made</p> <p>NS 1/NS 2/NS 4 NS 7 and NS 10 NS 15, NS 20 and custom-made</p>	<p><b>915 10 10 B</b> <b>915 10 15 B</b> <b>915 10 20 B</b></p> <p><b>915 10 10 D</b> <b>915 10 15 D</b> <b>915 10 20 D</b></p>
<p><b>NEW</b></p>	<p><b>Extension section</b> made of polymer,</p> <p><b>1</b> Ø 600 height increase: 442 mm <b>2</b> Ø 800 height increase: 445 mm</p> <p>Available beginning July 2016</p>	<p><b>1</b> - <b>2</b> -</p>	<p>- -</p>	<p><b>917 460</b> <b>917 480</b></p>
	<p><b>Extension section</b> made of polymer <b>for separation systems</b></p> <p>Fits all KESSEL Separation systems for underground installation, extension height 510 mm / 1010 mm; incl. gasket smaller/larger extension sections available on request</p> <p><b>1 Extension height 510 mm</b> <b>2 Extension height 1010 mm</b></p>	<p><b>1</b> - <b>2</b> -</p>	<p>- -</p>	<p><b>917 406</b> <b>917 407</b></p>
	<p><b>Sampling chamber Ø 400</b> in polymer, <b>for separation systems, for underground installation</b></p> <p>Installation depth (D) 400 - 1300 mm (minimum installation depth can be achieved by cutting off)</p> <p>For connection to outlet pipe of separator.</p> <p>Telescopic upper section with clamping ring, cover class A/B/D, sealed odour-tight, without removal mechanism, <b>drop height 120 mm.</b> Drop height 160 mm on request.</p> <p><b>1 Cover class A</b> <b>2 Cover class B</b> <b>3 Cover class D</b></p> <p>Extension by 600 mm with extension section Art. # 915 402</p>	<p><b>1</b> Ø 110/150 Ø 200</p> <p><b>2</b> Ø 110/150 Ø 200</p> <p><b>3</b> Ø 110/150 Ø 200</p>	<p>- - - - -</p>	<p><b>915 880 A</b> <b>915 880 A-200</b></p> <p><b>915 880 B</b> <b>915 880 B-200</b></p> <p><b>915 880 D</b> <b>915 880 D-200</b></p>
	<p><b>Extension section</b></p> <p>For deep installation</p> <p>Extension height max. 600 mm (can be shortened on-site).</p> <p>Check maintenance accessibility when installing in recesses!</p> <p>For sampling chamber Ø 400</p>	<p>-</p>	<p>-</p>	<p><b>915 402</b></p>



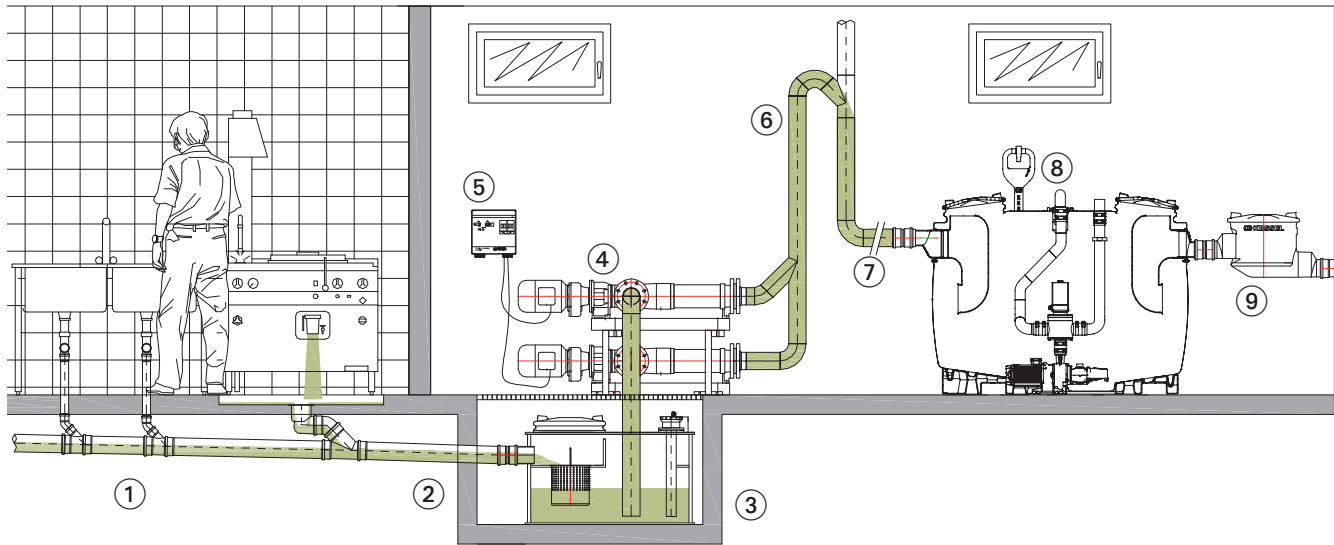
# Grease separators for underground installation

## Grease separator in accordance with EN 1825

## Accessories

Illustration and dimensioned drawing	Article description	Outer diameter Ø (mm)	Article #
	<p><b>SonicControl level sensing system with ultra sonic sensor for grease separator</b> Accurate monitoring and data transfer of grease levels. 230 V - 50 Hz power connection. With battery back up, connection for remote speaker. Installation set with easy assembly and maintenance. For use on above ground or below ground separators. For retrofit use on existing separators. Control unit with optical and audible alarm with potential free contact. Electronic log book with 12 month capacity. Data transfer by telemetry.</p> <p>Voltage: 230 V ~ 50 Hz Protection: IP 54 Plug: Schuko 1.5 m Cable length: 10 m (extendable on-site to 60 meters)</p> <p><b>Accessories</b> Audible alarm Art. # 20 162, 25 m cable extension available upon request. PE-HD Cable access conduit Art. # 917 822</p>	-	<b>917 821</b>
	<p><b>Cable extension set for SonicControl</b></p> <p><input type="checkbox"/> 10 m extension</p> <p><input type="checkbox"/> 20 m extension</p> <p><input type="checkbox"/> 30 m extension</p>	-	<b>917 871</b> <b>917 872</b> <b>917 873</b>
	<p><b>Cable access conduit</b> Required for watertight connection of <i>SonicControl</i> cable into separator chamber (for underground separators a conduit pipe with chase wire should be planned)</p>	-	<b>917 822</b>
	<p><b>TeleControl telemetric system</b> for connection to KESSEL Comfort control units (lifting stations and separators) 230 Volt and 400 Volt. Relaying of full text messages to up to three mobile phones. Without SIM card.</p> <p><b>TeleControl antenna booster</b> for <i>TeleControl</i> telemetric system incl. 2.5 m cable to improve reception. With magnetic base.</p> <p><b>Antenna booster extension cable</b> cable length 2.5 m</p>	-	<b>28 792</b> <b>28 793</b> <b>28 794</b>
	<p><b>Stainless steel access panel</b> For recessed wall installation with Storz-B disposal pipe hook up connection and remote control connection for use with fully automated grease separators. Remote control not included.</p> <p>Dimensions: 640 x 440 x 160 mm (Width x Height x Depth) <b>Model: "Recessed"</b>, 2 doors, lockable</p>	-	<b>917 414</b>
	<p><b>Stainless steel access panel</b> For wall installation with Storz-B disposal pipe hook-up connection and remote control connection for use with fully automated grease separators. Remote control not included.</p> <p>Dimensions: 600 x 400 x 160 mm (Width x Height x Depth) <b>Model: "Wall installation"</b>, 2 doors, lockable</p>	-	<b>917 413</b>

Custom lifting stations upstream from the grease separator



1	Drains in the kitchen
2	Inlet pipe
3	Collecting tank
4	Screw pump double system
5	Control unit
6	Pressure pipe
7	Calmed inlet
8	Grease separator
9	Sampling chamber



Our light liquid separators are resistant to E10 fuel and biodiesel.

## Light liquid separator made of polymer with DIBt approval

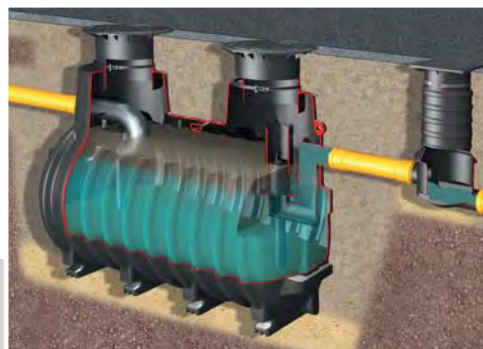
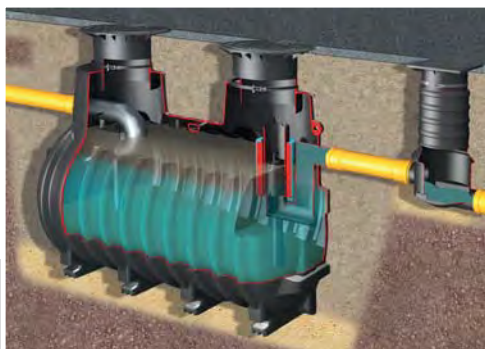


**The renovation free alternative from plastic - with certification.**

The KESSEL oil / fuel and coalescence separators are ideally suited for the everyday uses as well as protecting the environment. The certified structural testing, tank durability and complete watertightness (up to the top of the separator cover) are some of the

many advantages of using polyethylene separators.

The allowable limits are met with low volume sludge traps. Low disposal costs are the advantage. The German Institute for Building Technology (DIBt) has approved these separators for use.



**Coalescence separator**

with DIBt approval

**Oil-/Fuel separator**

with DIBt approval

**INSTALLATION**

The telescopic upper sections allow easy individual installation depths and adaptation to ground levels.

**SAFE**

Water-tight up to the top ground surface thanks to variable upper section with lip seal.

**ODOR TIGHT**

Odor tight covers available in classes A/B or D.



**SAFETY**

Float switch outlet lock prevents oil / fuel from the separator from overflowing out of the separator and into the sewer.



**TRANSPORT**

Low weight tanks as well as integrated fork lift grips allow for easy separator transport and installation



**PRACTICAL**

Automatic measuring devices *SonicControl* offers cm accurate monitoring and notification of oil / fuel or sludge layers as well as a flood / back-up warning.



KESSEL extends the warranty period for tanks beyond the statutory requirement to 20 years. This covers the water-tightness, usability and static safety of these components.





# Oil-/Fuel separator, coalescence separator



Drinking water is one of our most precious resources. Our water is in danger wherever contaminants such as oil and petrol are used, such as at filling stations or during vehicle servicing and cleaning, or where lubricants are used. One single drop of petrol is enough to contaminate 1000 liters of water, which is why environmental damage must be prevented at an early stage. For this reason, soiled waste water is treated and cleaned before it is discharged into the sewage system. These tasks are taken over by light liquid separators.

## Oil- / Fuel separators

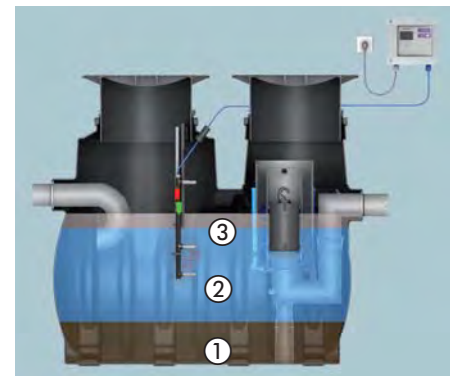
Oil/fuel separators are used to protect bodies of water and sewage systems from pollution through mineral oils. They work on the principle that the lower specific density of insoluble mineral oil products in wastewater makes them float upwards and collect at the surface. The outlet system with self-actuated closure prevents separated materials from flowing out.

## Coalescence separators

Coalescence separators basically work on the same gravity principle as oil/fuel separators. To increase coalescence performance or improve draining values, there is an additional coalescence filter insert in the tank, unlike with oil/fuel separators. This insert is made of high-quality polymers and has two functions. Firstly, it has a positive influence on the flow within the separator, secondly it "filters" the entire wastewater through the coalescence material.

## The principle of gravity in the separator

The separating process is handled in the separator by making use of the principle of gravity (weight and buoyancy). The separator is divided into three zones, the sludge trap ①, the separator chamber ② and the oil trap ③. The sludge trap at the bottom serves to retain sediments such as sand. The oil trap located at the top serves to retain light liquids up to a density of  $0.95 \text{ g/cm}^3$ . In the zone between the sludge trap and the oil trap, the so-called separating chamber, the incoming wastewater is calmed to a major extent due to the increase in flow cross-section and in surface area. Under the influence of the above-mentioned forces the light liquid, water and sludge are separated.



YouTube

## Which standards must be taken into account?

EN  
858

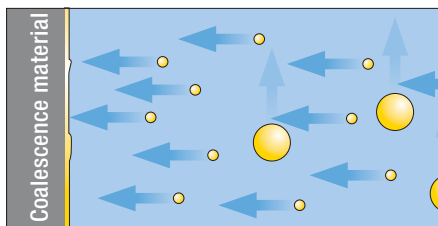
### Separator systems for volatile liquids such as oil and petrol

Basic construction, function and testing principles, marking and quality monitoring, choice of nominal size, installation, operation and maintenance

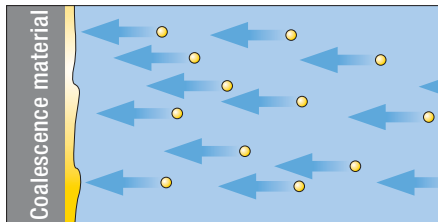
## – Preventing environmental damage

### Increased efficiency using coalescence filter inserts

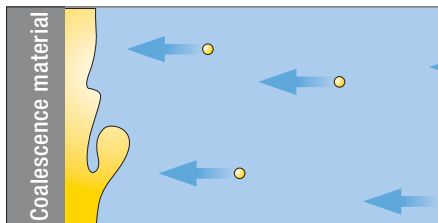
The efficiency of the oil/fuel separators can be increased by using coalescence filters. The finest droplets of oil can be separated out owing to the increased separator efficiency.



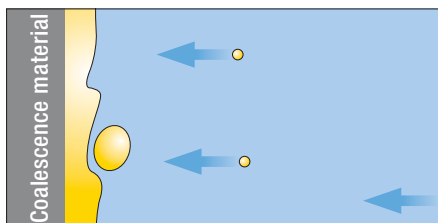
The oil droplets, which are not separated out owing to their different specific gravities with respect to the water, reach the oleophilic coalescence material and combine.



Owing to the coalescence effects, additional oil droplets can be retained. As a result of this, the oil film on the coalescence material continues to increase.



The increased size of the oil film increases the buoyancy. Individual large oil droplets split off.



The oil droplet floats to the surface and is separated out.

### Outlet closure lock - self actuated

Oil/fuel separators and coalescence separators are equipped as standard with a self-actuated closure lock. This self-actuated closure lock prevents light liquid being released into the outlet, when the separator reaches its maximum oil/fuel storage volume. In the KESSEL light liquid separator this safety factor consists of a float inside a guide pipe which in normal operation is filled with water. The float is calibrated to float in water and sink in the light liquid (handles all substances with a specific gravity up to 0.95 g/cm<sup>3</sup>). If the maximum oil storage volume is achieved, the oil flows through lateral openings into the float guide pipe. The float then sinks and completely seals the outlet of the separator.

### Automatic measuring device *SonicControl*

In compliance with the Euro standard EN 858-1, light liquid separators must be equipped with automatic warning devices. The ultrasonic measuring instrument *SonicControl* for light liquid separators is used for reliable and continual measurement of the oil layer, the sludge level and detection of backwater.

***SonicControl* for light liquid separators offers the following advantages:**

- Up to three warning devices in one
  - Monitoring of the oil layer
  - Monitoring of the sludge layer
  - Backwater warning
- Control through control unit
- USB - connection for data memory read-out
- Fast and easy installation
- Suitable for all light liquid separators from KESSEL AG
- Can be retrofitted to existing equipment
- Readout software *SonicControl Viewer* available on request

YouTube



### Low disposal costs thanks to oil/sludge extraction feature


During standard disposal, the hose from the disposal vehicle is held into the light liquid separator and the entire contents are pumped out. However, the quantity of light liquid is significantly lower than the total volume of the separator. Here, the situation is remedied with the oil extraction device. The suction hose is coupled to the oil suction system for disposal of the light liquid. This means that the disposal vehicle can only dispose of the volume that corresponds to the maximum quantity of light liquid. This saves time during disposal, reduces disposal costs and goes easy on the built-in components in the separator.

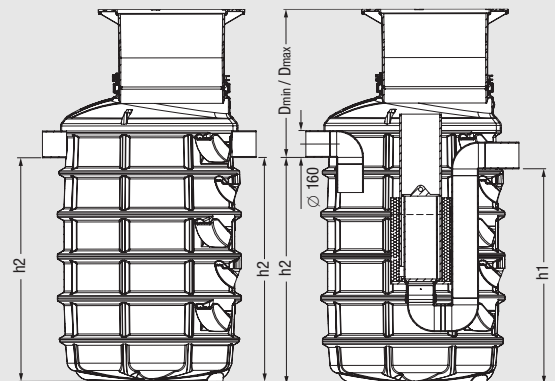
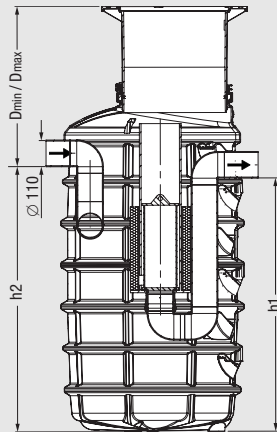
In the same way, the sludge suction system can be used to significantly reduce the disposal quantity too.

# Coalescence separator for underground installation

## Coalescence Separator NS 3 - NS 6

## Products

Illustration	Article description	NS	Sludge trap capacity	Article #	
	<b>Coalescence separator class I Ø 1000</b> <input type="checkbox"/> according to EN 858, made of polyethylene <b>For underground installation, installation depth D from 565 to 1015 mm</b> With integrated sludge trap and self-actuated closure lock, calibrated for light liquid with densities between 0.85 to 0.95 g/cm <sup>3</sup> .	<b>1</b> NS 6 NS 6 NS 3 NS 6 <sup>1)</sup> NS 3 NS 6 <sup>1)</sup>	200 liter 600 liter 800 liter 1000 liter 1600 liter 1800 liter	<b>99 706.02B</b> <b>99 706.06B</b> <b>99 703.04B</b> <b>99 706.10B</b> <b>99 703.10B</b> <b>99 706.18B</b>	
	<b>With removable coalescence filter insert.</b> Completely water tight to top of cover, resistant against aggressive wastewaters. Vertically adjustable polymer upper section, tiltable to 5°, cast iron manhole cover according to EN 124, load class D, with removal key, certified structural test. Inlet and outlet Ø ..... for synthetic material pipes in: PE-HD (according to EN 12666-1); PVC pipe (according to EN 1401-1); PP or AS.	<b>2</b> NS 6 NS 6 NS 3 NS 6 <sup>1)</sup> NS 3 NS 6 <sup>1)</sup>	200 liter 600 liter 800 liter 1000 liter 1600 liter 1800 liter	<b>99 706.02D</b> <b>99 706.06D</b> <b>99 703.04D</b> <b>99 706.10D</b> <b>99 703.10D</b> <b>99 706.18D</b>	
	Choose separator size and article number from table below. Contact KESSEL for separator sizing support if required.				
	<b>1 Cover class A/B</b> <b>2 Cover class D</b>				



**Accessories:**  
see page 292 and 294

**Delivery:**  
Completely assembled.

**Not for installation in high groundwater areas!**

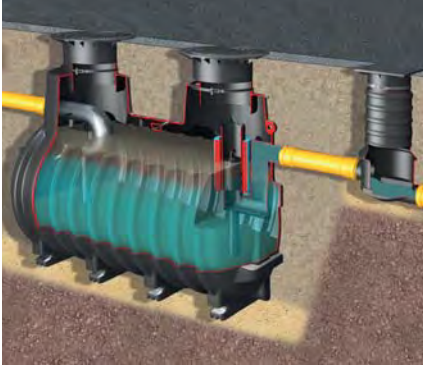
NS	Ø*	Sludge disposal volume in liter	D		Weight in kg	h2 (Inlet bottom) in mm	h1 (Outlet bottom) in mm	Oil storage capacity in liter
			min	max				
NS 6	160	100	560	1090	175	1090	1020	200
NS 6	160	300	560	1090	175	1590	1520	200
NS 3	110	400	545	995	175	1105	1055	200
NS 6 <sup>1)</sup>	160	500	560	1090	305	1090	1020	200
NS 3	110	800	545	995	190	1105	1055	200
NS 6 <sup>1)</sup>	160	800	560	1090	320	1590	1520	200
NS 6	160	100	560	1090	205	1090	1020	200
NS 6	160	300	560	1090	220	1590	1520	200
NS 3	110	400	545	995	205	1105	1055	200
NS 6 <sup>1)</sup>	160	500	560	1090	338	1090	1020	200
NS 3	110	800	545	995	220	1105	1055	200
NS 6 <sup>1)</sup>	160	900	560	1090	353	1590	1520	200

<sup>1)</sup> = Twin-chamber system    \* Ø = Inlet and outlet outer diameter (mm)

# Coalescence separator for underground installation

## Coalescence separator NS 3 - NS 15

## Products

Illustration	Article description	NS	Total volume	Article #
<p>Suitable for filling stations with high-performance filling pumps, E10 and biodiesel fuels</p> 	<p><b>Coalescence separator NS 3 - NS 15, class I</b> <span style="color: red;">❶</span></p> <p>□ according to EN 858, made of polymer</p> <p><b>For underground installation, installation depth D = ..... mm</b></p> <p>With integrated sludge trap and self-actuated closure lock, calibrated for light liquid with densities between 0.85 to 0.95 g/cm<sup>3</sup>.</p> <p><b>With removable coalescence filter.</b></p>	<p>NS 3</p> <p>NS 6</p> <p>NS 6</p> <p>NS 10</p> <p>NS 10</p> <p>NS 10</p> <p>NS 15</p>	<p>1800</p> <p>4300</p> <p>5800</p> <p>2600</p> <p>4300</p> <p>5800</p> <p>5800</p>	<p><b>99 503.10B EX</b></p> <p><b>99 706.30B EX</b></p> <p><b>99 706.80B EX</b></p> <p><b>99 710.15B EX</b></p> <p><b>99 710.30B EX</b></p> <p><b>99 710.80B EX</b></p> <p><b>99 715.80B EX</b></p>
	<p>Upper sections made of polymer, continuous height and level adjustment, tiltable to 5°, with covers according to EN 124 in cast iron, including removal mechanism, private vehicle traffic proof, class B (depth of earth coverage DEC 700 to 1800 mm), traffic proof for heavy duty vehicles, class D (depth of earth coverage DEC 700 to 1500 mm and additional concrete slab provided on-site), certified statics, Inlet and outlet Ø ... for synthetic material pipes in: PE-HD (according to EN 12666-1); PVC pipe (according to EN 1401-1); PP or AS.</p> <p>Choose separator size and article number from table below. Contact KESSEL for separator sizing support if required.</p> <p><span style="color: red;">❶</span> <b>Cover class A/B</b></p> <p><span style="color: red;">❷</span> <b>Cover class D</b></p>	<p><span style="color: red;">❷</span> NS 3</p> <p>NS 6</p> <p>NS 6</p> <p>NS 10</p> <p>NS 10</p> <p>NS 10</p> <p>NS 15</p>	<p>1800</p> <p>4300</p> <p>5800</p> <p>2600</p> <p>4300</p> <p>5800</p> <p>5800</p>	<p><b>99 503.10D EX</b></p> <p><b>99 706.30D EX</b></p> <p><b>99 706.80D EX</b></p> <p><b>99 710.15D EX</b></p> <p><b>99 710.30D EX</b></p> <p><b>99 710.80D EX</b></p> <p><b>99 715.80D EX</b></p>

### Certification no. Z-54.3-454

Change pending

### Accessories:

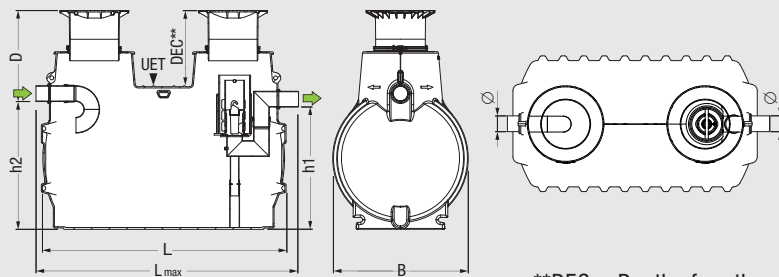
Sampling chamber for underground installation, extension section for deep installation, alarm units for when the maximum oil level is reached and there is a back-up of water (required according to EN 858 Part 1), oil and sludge suction system, pump station, *SonicControl*, *TeleControl*.

Installation is possible with groundwater up to the upper edge of the tank (UET).

A load distribution plate must be planned for class D.

Ø 160: D-DEC = 155 mm

Ø 200: D-DEC = 180 mm



\*\*DEC = Depth of earth coverage  
Class D = 700 mm ≤ DEC ≤ 1500 mm  
Class A/B = 700 mm ≤ DEC ≤ 1800 mm

NS	Ø*	Sludge trap capacity	L	B	D		h2	h1	Oil storage capacity	Excess level	Weight	Lmax mm
					min	max						
NS 3	160	1000 l	2390	1200	840	1240	1110	1070	217 l	80 mm	395 kg	2642
NS 6	200 <sup>2)</sup>	2500 l <sup>1)</sup>	2590	1760	850	1230	1630	1600	271 l	100 mm	535 kg	2940
NS 6	200 <sup>2)</sup>	5000 l	3110	1760	870	1250	1630	1600	356 l	130 mm	610 kg	3460
NS 10	160	1500 l	2910	1200	840	1240	1110	1070	267 l	100 mm	440 kg	3162
NS 10	200 <sup>2)</sup>	2500 l <sup>1)</sup>	2590	1760	850	1230	1630	1600	271 l	100 mm	535 kg	2940
NS 10	200 <sup>2)</sup>	5000 l	3110	1760	870	1250	1630	1600	356 l	130 mm	610 kg	3460
NS 15	200	5000 l	3110	1760	870	1250	1630	1600	356 l	130 mm	610 kg	3460

<sup>1)</sup> Comparable sludge trap total volume in accordance with the dimensioning according to EN 858.

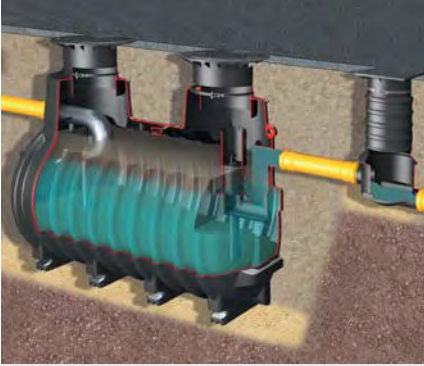
<sup>2)</sup> eccentric reduction inlet/outlet to Ø 160 possible on-site, as a consequence the sampling chamber 915880 A/B/D can be used see page 292.

\* Ø = Inlet and outlet outer diameter (mm)



# Oil-/fuel separator for underground installation

## Oil-/fuel separator NS 3 - NS 20 Products

Illustration	Article description	NS	Total volume	Article #
<p>Suitable for filling stations with high-performance filling pumps, E10 and biodiesel fuels</p> 	<p><b>Oil-/fuel separator NS 3 - NS 20, class II</b></p> <p><input type="checkbox"/> according to EN 858, made of polymer</p> <p><b>For underground installation, installation depth D = ..... mm</b></p> <p>With integrated sludge trap and self-actuated closure lock, calibrated for light liquid with densities between 0.85 to 0.95 g/cm<sup>3</sup>.</p> <p>Upper sections made of polymer, continuous height and level adjustment, tiltable up to 5°, with covers according to EN 124 in cast iron, incl. removal mechanism, private vehicle traffic proof, class B (depth of earth coverage DEC 700 to 1800 mm), traffic proof for heavy duty vehicles, class D (depth of earth coverage DEC 700 to 1500 mm and additional concrete slab provided on-site), certified statics, Inlet and outlet Ø ... for synthetic material pipes in: PE-HD (according to EN 12666-1); PVC pipe (according to EN 1401-1); PP or AS.</p> <p>Choose separator size and article number from table below. Contact KESSEL for separator sizing support if required.</p> <p><b>1</b> Cover class A/B</p> <p><b>2</b> Cover class D</p>	NS 3	1800	<b>99 403.10B EX</b>
		NS 6	4300	<b>99 606.30B EX</b>
		NS 6	5800	<b>99 606.80B EX</b>
		NS 10	2600	<b>99 610.15B EX</b>
		NS 10	4300	<b>99 610.30B EX</b>
		NS 10	5800	<b>99 610.80B EX</b>
		NS 15	5800	<b>99 615.80B EX</b>
		NS 20	5800	<b>99 620.80B EX</b>
		<b>2</b> NS 3	1800	<b>99 403.10D EX</b>
		NS 6	4300	<b>99 606.30D EX</b>
		NS 6	5800	<b>99 606.80D EX</b>
		NS 10	2600	<b>99 610.15D EX</b>
		NS 10	4300	<b>99 610.30D EX</b>
		NS 10	5800	<b>99 610.80D EX</b>
		NS 15	5800	<b>99 615.80D EX</b>
		NS 20	5800	<b>99 620.80D EX</b>

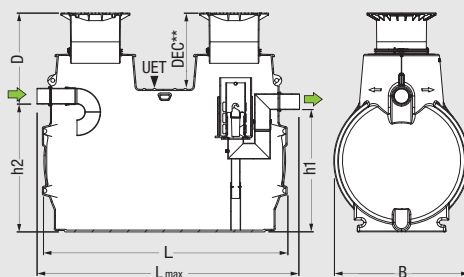
### Certification no. Z-54.2-453

Change pending

### Accessories:

Sampling chamber for underground installation, extension section for deep installation, alarm units for when the maximum oil level is reached and there is a back-up of water (required according to EN 858 Part 1), oil and sludge suction system, coalescence filter insert for retrofitting to the coalescence separator, pump station, *SonicControl*, *TeleControl*.

Installation is possible with groundwater up to the upper edge of the tank (UET).



A load distribution plate must be planned for class D.

Ø 160: D-DEC = 155 mm

Ø 200: D-DEC = 180 mm

\*\*DEC = Depth of earth coverage

Class D = 700 mm ≤ DEC ≤ 1500 mm

Class A/B = 700 mm ≤ DEC ≤ 1800 mm

NS	Ø*	Sludge trap capacity	L	B	D		h2	h1	Oil storage capacity	Excess level	Weight	Lmax mm
					min	max						
NS 3	150	1000 l	2390	1200	840	1240	1110	1070	217 l	80 mm	379 kg	2642
NS 6	200 <sup>2)</sup>	2500 l <sup>1)</sup>	2590	1760	850	1230	1630	1600	271 l	100 mm	519 kg	2940
NS 6	200 <sup>2)</sup>	5000 l	3110	1760	870	1250	1630	1600	356 l	130 mm	594 kg	3460
NS 10	150	1500 l	2910	1200	840	1240	1110	1070	267 l	100 mm	424 kg	3162
NS 10	200 <sup>2)</sup>	2500 l <sup>1)</sup>	2590	1760	850	1230	1630	1600	271 l	100 mm	519 kg	2940
NS 10	200 <sup>2)</sup>	5000 l	3110	1760	870	1250	1630	1600	356 l	130 mm	594 kg	3460
NS 15	200	5000 l	3110	1760	870	1250	1630	1600	356 l	130 mm	594 kg	3460
NS 20	200	4000 l	3110	1760	870	1250	1630	1600	356 l	130 mm	600 kg	3460

<sup>1)</sup> Comparable sludge trap total volume in accordance with the dimensioning according to EN 858-2.

<sup>2)</sup> eccentric reduction inlet/outlet to Ø 160 possible on-site, as a consequence the sampling chamber 915880 A/B/D can be used see page 292.

### Technical note:

Weather-related influences or cooling of the tanks during the installation phase (caused by filling with cold water) can lead to deviations in dimensions from the catalogue specifications in the case of cisterns and separators installed in the ground.

\* Ø = Inlet and outlet outer diameter (mm)

# Oil-/fuel separator for underground installation

## Oil-/fuel separator NS 1.5 according to KESSEL Standard

Products

Illustration and dimensioned drawing	Article description	Ø	Weight	Article #																																	
	<p><b>Oil-/fuel separator NS 1.5, class II, Ø 1000</b>  <b>For underground installation,</b>  <b>installation depth D = ..... mm</b></p> <p>With integrated sludge trap and self-actuated closure lock, calibrated for light liquid with densities between 0.85 to 0.95 g/cm<sup>3</sup>.</p> <p><b>Optional with backwater flap valve according to DIN 13564</b></p> <p>Upper sections made of polymer, continuous height and level adjustment, cover class D. Inlet and outlet Ø 110 for synthetic material pipes in: PE-HD (according to EN 12666-1); PVC pipe (according to EN 1401-1); PP or AS.</p> <p><b>Accessories:</b>            Sampling chamber for underground installation, alarm unit when the maximum oil level is reached and there is a back-up of water (required according to EN 858), pump station. A <i>SonicControl</i> automatic measuring device not for use with this separator.</p>	1000	110 kg	<b>99 601.041D</b>																																	
	<table border="1"> <thead> <tr> <th>NS</th> <th>Ø</th> <th>Sludge trap capacity</th> <th>L</th> <th>B</th> <th colspan="2">D</th> <th>h2</th> <th>h1</th> <th>Oil storage capacity</th> <th>Excess level</th> </tr> <tr> <th></th> <th></th> <th></th> <th></th> <th></th> <th>min</th> <th>max</th> <th></th> <th></th> <th></th> <th></th> </tr> </thead> <tbody> <tr> <td>NS 1.5</td> <td>110</td> <td>360 l</td> <td>1425</td> <td>1300</td> <td>570</td> <td>995</td> <td>630</td> <td>583</td> <td>110 l</td> <td>70</td> </tr> </tbody> </table>	NS	Ø	Sludge trap capacity	L	B	D		h2	h1	Oil storage capacity	Excess level						min	max					NS 1.5	110	360 l	1425	1300	570	995	630	583	110 l	70			
NS	Ø	Sludge trap capacity	L	B	D		h2	h1	Oil storage capacity	Excess level																											
					min	max																															
NS 1.5	110	360 l	1425	1300	570	995	630	583	110 l	70																											
	<p><b>Oil-/fuel separator NS 1.5, class II, Ø 800</b>  <b>For underground installation,</b>  <b>installation depth D = ..... mm</b></p> <p>With integrated sludge trap and self-actuated closure lock, calibrated for light liquid with densities between 0.85 to 0.95 g/cm<sup>3</sup>.</p> <p><b>Optional with backwater flap valve according to DIN 13564</b></p> <p>Upper sections made of polymer, continuous height and level adjustment, cover class B/D. Inlet and outlet Ø 110 for synthetic material pipes in: PE-HD (according to EN 12666-1); PVC pipe (according to EN 1401-1); PP or AS.</p> <p><b>Accessories:</b>            Sampling chamber for underground installation, alarm unit when the maximum oil level is reached and there is a back-up of water (required according to EN 858), pump station. A <i>SonicControl</i> automatic measuring device not for use with this separator.</p>	800 800	74 kg 74 kg	<b>99 601.016B</b> <b>99 601.016D</b>																																	
	<table border="1"> <thead> <tr> <th>NS</th> <th>Ø</th> <th>Sludge trap capacity</th> <th>L</th> <th>B</th> <th colspan="2">D</th> <th>h2</th> <th>h1</th> <th>Oil storage capacity</th> <th>Excess level</th> </tr> <tr> <th></th> <th></th> <th></th> <th></th> <th></th> <th>min</th> <th>max</th> <th></th> <th></th> <th></th> <th></th> </tr> </thead> <tbody> <tr> <td>NS 1.5</td> <td>110</td> <td>130 l</td> <td>1091</td> <td>1012</td> <td>518</td> <td>942</td> <td>508</td> <td>461</td> <td>70.5 l</td> <td>50</td> </tr> </tbody> </table>	NS	Ø	Sludge trap capacity	L	B	D		h2	h1	Oil storage capacity	Excess level						min	max					NS 1.5	110	130 l	1091	1012	518	942	508	461	70.5 l	50			
NS	Ø	Sludge trap capacity	L	B	D		h2	h1	Oil storage capacity	Excess level																											
					min	max																															
NS 1.5	110	130 l	1091	1012	518	942	508	461	70.5 l	50																											
	<p><b>Oil-/fuel separator NS 1.5, class II, Ø 400</b>  <b>For underground installation,</b>  <b>installation depth D = ..... mm</b></p> <p>With integrated sludge trap and self-actuated closure lock, calibrated for light liquid with densities between 0.85 to 0.95 g/cm<sup>3</sup>.</p> <p><b>Optional with backwater flap valve according to DIN 13564</b></p> <p>Upper sections made of polymer, continuous height and level adjustment, cover class B. Inlet and outlet Ø 110 for synthetic material pipes in: PE-HD (according to EN 12666-1); PVC pipe (according to EN 1401-1); PP or AS.</p> <p><b>Accessories:</b>            Sampling chamber for underground installation, pump station. A <i>SonicControl</i> automatic measuring device not for use with this separator.</p>	400	12 kg	<b>99 601.002B</b>																																	
	<table border="1"> <thead> <tr> <th>NS</th> <th>Ø</th> <th>Sludge trap capacity</th> <th>L</th> <th>B</th> <th colspan="2">D</th> <th>h2</th> <th>h1</th> <th>Oil storage capacity</th> <th>Excess level</th> </tr> <tr> <th></th> <th></th> <th></th> <th></th> <th></th> <th>min</th> <th>max</th> <th></th> <th></th> <th></th> <th></th> </tr> </thead> <tbody> <tr> <td>NS 1.5</td> <td>110</td> <td>17 l</td> <td>582</td> <td>520</td> <td>231</td> <td>324</td> <td>389</td> <td>342</td> <td>17.6 l</td> <td>50</td> </tr> </tbody> </table>	NS	Ø	Sludge trap capacity	L	B	D		h2	h1	Oil storage capacity	Excess level						min	max					NS 1.5	110	17 l	582	520	231	324	389	342	17.6 l	50			
NS	Ø	Sludge trap capacity	L	B	D		h2	h1	Oil storage capacity	Excess level																											
					min	max																															
NS 1.5	110	17 l	582	520	231	324	389	342	17.6 l	50																											





# Oil-/fuel separator / Coalescence separator for underground installation

## Oil-/fuel separator / Coalescence separator

## Accessories



Illustration and dimensioned drawing	Article description	Nominal width	Article #
	<p><b>Sampling chamber <math>\varnothing</math> 1000</b> in polyethylene, <b>for separation systems, for underground installation</b></p> <p>Installation depth (D) 1180 - 1630 mm (Other installation depths available on request)</p> <p>Inlet and outlet <math>\varnothing</math> ... for synthetic material pipes in: PE-HD (according to EN 12666-1); PVC (according to EN 1401-1); PP or AS.</p> <p>With integrated access steps, with telescopically height-adjustable upper section made of polymer, with cover class A/B, D according to EN 124 in cast iron sealed odour-tight, incl. removal mechanism. Drop height 160 mm.</p> <p><b>1</b> Cover class A/B <b>2</b> Cover class D</p>	<p><b>1</b> <math>\varnothing</math> 110 <math>\varnothing</math> 160 <math>\varnothing</math> 200</p> <p><b>2</b> <math>\varnothing</math> 110 <math>\varnothing</math> 160 <math>\varnothing</math> 200</p>	<p><b>915 10 10 B</b> <b>915 10 15 B</b> <b>915 10 20 B</b></p> <p><b>915 10 10 D</b> <b>915 10 15 D</b> <b>915 10 20 D</b></p>
<p><b>NEW</b> Available beginning July 2016</p> 	<p><b>Extension section</b> made of polymer,</p> <p><math>\varnothing</math> 600 height increase: 442 mm (<math>\varnothing</math> 800 height increase: 445 mm on request)</p>	-	<b>917 460</b>
	<p><b>Sampling chamber <math>\varnothing</math> 400</b> in polymer, <b>for separation systems, for underground installation</b></p> <p>Installation depth (D) 400 - 1300 mm (minimum installation depth can be achieved by cutting off)</p> <p>For connection to outlet pipe of separator. Telescopic upper section with clamping ring, cover class A/B/D, sealed odour-tight, without removal mechanism, <b>drop height 120 mm.</b> Drop height 160 mm on request.</p> <p><b>1</b> Cover class A <b>2</b> Cover class B <b>3</b> Cover class D</p> <p>Extension by 600 mm with extension section Art. # 915 402</p>	<p><b>1</b> <math>\varnothing</math> 110/150 <math>\varnothing</math> 200</p> <p><b>2</b> <math>\varnothing</math> 110/150 <math>\varnothing</math> 200</p> <p><b>3</b> <math>\varnothing</math> 110/150 <math>\varnothing</math> 200</p>	<p><b>915 880 A</b> <b>915 880 A-200</b></p> <p><b>915 880 B</b> <b>915 880 B-200</b></p> <p><b>915 880 D</b> <b>915 880 D-200</b></p>
	<p><b>Extension section</b></p> <p>For deep installation Extension height max. 600 mm (can be shortened on-site). Check maintenance accessibility when installing in recesses!</p> <p>For sampling chamber <math>\varnothing</math> 400 and <math>\varnothing</math> 450</p>	-	<b>915 402</b>



# Oil-/fuel separator / Coalescence separator for underground installation

Oil-/fuel separator / Coalescence separator			Accessories
Illustration	Article description	Type	Article #
  <p><b>Certification: BVS 11 ATEX E 040 X</b></p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <ul style="list-style-type: none"> <li>- Can be used in explosive areas (Zone 0)</li> <li>- Acc. to RL 94/9/EC designed in ignition protection class "Intrinsic safety"</li> </ul> </div>	<p><b>SonicControl level sensing system with ultra sonic sensor for oil / coalescence separators from NS 3. With ATEX certification</b> <b>Accurate monitoring and data transfer...</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> <b>Type OA</b> of oil layer thickness and back-up / overflow warning</li> <li><input type="checkbox"/> <b>Type O</b> of oil layer thickness</li> <li><input type="checkbox"/> <b>Type S</b> of sludge layer thickness</li> </ul> <p>With power chord, battery buffer system and connection for remote signalling device.</p> <p>Voltage: 230 V ~ 50 Hz; Protection type: IP 54; Plug: Schuko (double pole); Cable length: 30 m with cable duct set</p> <p>The sensor cable can be extended to a total length of 60 m.</p>	<p>Type OA</p> <p>Type O</p> <p>Type S</p>	<p><b>917 826</b></p> <p><b>917 828</b></p> <p><b>917 829</b></p>
	<p><b>Cable extension set <i>SonicControl</i> for oil-, coalescence separators</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> 10 m cable length</li> <li><input type="checkbox"/> 20 m cable length</li> <li><input type="checkbox"/> 30 m cable length</li> </ul>	-	<p><b>917 861</b></p> <p><b>917 862</b></p> <p><b>917 863</b></p>
	<p><b>TeleControl telemetric system</b> for connection to KESSEL Comfort control units 230 Volt and 400 Volt. Relaying of full text messages to up to three mobile phones. Without SIM card.</p>	-	<b>28 792</b>
	<p><b>TeleControl antenna booster</b> for <i>TeleControl</i> telemetric system incl. 2.5 m cable to improve reception. With magnetic base.</p>	-	<b>28 793</b>
	<p><b>Antenna booster extension cable</b> cable length 2.5 m</p>	-	<b>28 794</b>
	<p><b>Cable access conduit</b> Required for watertight connection of <i>SonicControl</i> cable into separator chamber (for underground separators a conduit pipe with chase wire should be planned)</p>	-	<b>917 822</b>



## Oil/fuel separator / Coalescence separator for underground installation

Oil/fuel separator / Coalescence separator			Accessories
Illustration	Article description	Outer diameter Ø (mm)	Article #
	<b>Oil / fuel suction system</b> Intake suction hose (50 cm length) for direct suction of oil / fuel into disposal vehicle. Equipped with Storz B connection coupling.	Ø 160 Ø 200	<b>917 803</b> <b>917 808</b>
	<b>Sludge suction system</b> Intake suction hose (50 cm length) for direct suction of sludge / sediment into disposal vehicle. Equipped with Storz B connection coupling.	Ø 160 Ø 200	<b>917 804</b> <b>917 809</b>

Coalescence separator			Accessories
Illustration	Article description	Outer diameter Ø (mm)	Article #
	<b>Coalescence filter insert</b> for retrofitting the KESSEL Oil/fuel separator NS 3 - NS 15 to coalescence separator	-	<b>917 805</b>
	<b>Coalescence filter</b> for KESSEL coalescence separator class I Ø 1000	-	<b>917 816</b>

# Sediment separators for free installation / for underground installation

## Sediment separators for free-standing installation

Products

Illustration	Article description	NS	Weight	Article #
	<b>Sediment separator NS ...</b> <input type="checkbox"/> <b>For free installation in frost protected areas</b> With removable polymer collection tank(s), polymer inlet cover and outlet odour trap, sealed with odour-tight domed cover. Inlet/outlet $\varnothing$ ..... for plastic adapter DIN 19534.	NS 1	17 kg	<b>97 201/000</b>
		NS 2	50 kg	<b>97 202/000</b>

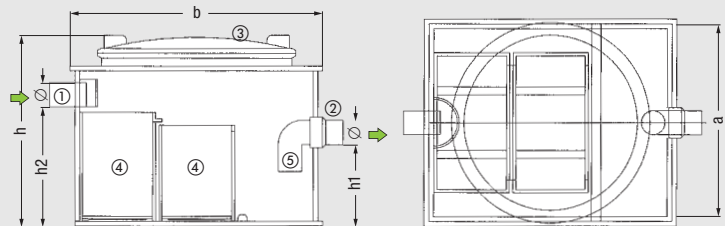
**Delivery:**  
System completely assembled.

**Delivery scope:**  
Tank with domed cover and removable collection tank(s)  
NS 1: 1 collection tank  
NS 2: 2 collection tank

Further nominal sizes on request.

### III. shows NS 2

- ① Inlet
- ② Outlet
- ③ Domed cover
- ④ Collection tank
- ⑤ Odour trap



NS	$\varnothing$	a	b	h	h1	h2	Volume collection tank (in litres)
NS 1	50	400	570	470	195	305	13
NS 2	70	650	800	596	255	373	51

## Sediment separators for underground installation

Products

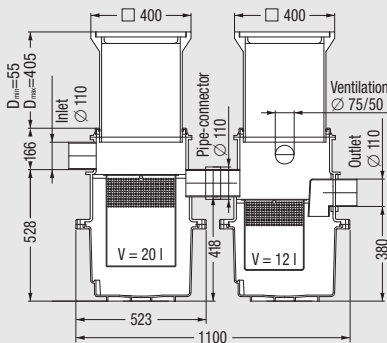
Illustration	Article description	NS	Weight	Article #
	<b>Sediment separator <math>\varnothing</math> 400 NS ...</b> <input type="checkbox"/> according to KESSEL factory standard <b>For underground installation</b> With detachable collection tank (hole diameter 5 mm), outlet odour trap. Vertically adjustable upper section with cover class A/B/D, odour-tight seal. Inlet/outlet $\varnothing$ 110 for plastic adapter DIN 19534.	<b>1</b> NS 1	25 kg	<b>97 201/00A</b>
		NS 2	45 kg	<b>97 202/00A</b>
		<b>2</b> NS 1	25 kg	<b>97 201/00B</b>
		NS 2	45 kg	<b>97 202/00B</b>
		<b>3</b> NS 1	25 kg	<b>97 201/00D</b>
		NS 2	45 kg	<b>97 202/00D</b>

- 1 Cover class A**
- 2 Cover class B**
- 3 Cover class D**

**Delivery:**  
System completely assembled.

**Options:**  
Inlet/outlet  $\varnothing$  = 40, 50, 75 mm  
Stainless steel bucket with hole diameter: 3, 6, 8, 10, 12, 15 mm  
Optional fine filter (mesh width 1.0 mm)

**Delivery scope:**  
NS 1: 1 collection tank (12 l) removable  
NS 2: 1 collection tank (12 l) + 1 collection tank (20 l) both are removable



## PE starch separators for the food industry




**According to DIN 1986-100, starch separators are required wherever wastewater containing starch exists.**

Starch often results from the preparation of potatoes, grains, rice and husked vegetables. It is non dissolvable in water and sinks due to particle size and weight resulting in build-up, encrusting and blockage in wastewater pipes.


Germany does not have a product norm for starch separators and they are not required to be tested.

## Starch separators for free installation / for underground installation

### Starch separators for free-standing installation Products

Illustration	Article description	Article #
	<p><b>Starch separator</b>  <input type="checkbox"/> For free installation  in frost protected areas</p>	<p><b>System design and project planning to your specifications.</b></p>

### Starch separators for underground installation Products

Illustration	Article description	Article #
	<p><b>Starch separator</b>  <input type="checkbox"/> For underground installation</p>	<p><b>System design and project planning to your specifications.</b></p>

**In compliance with DIN 1986-100, all companies that generate waste water containing starch require starch separators.** Starch is created wherever potatoes, wheat or rice pulses are processed. Starch is insoluble in water and due to the particle size and density, it sinks to the bottom of the water, resulting in deposits, encrustation and blockages. There is no product standard in Germany for starch separators; also, they are not subject to mandatory testing.



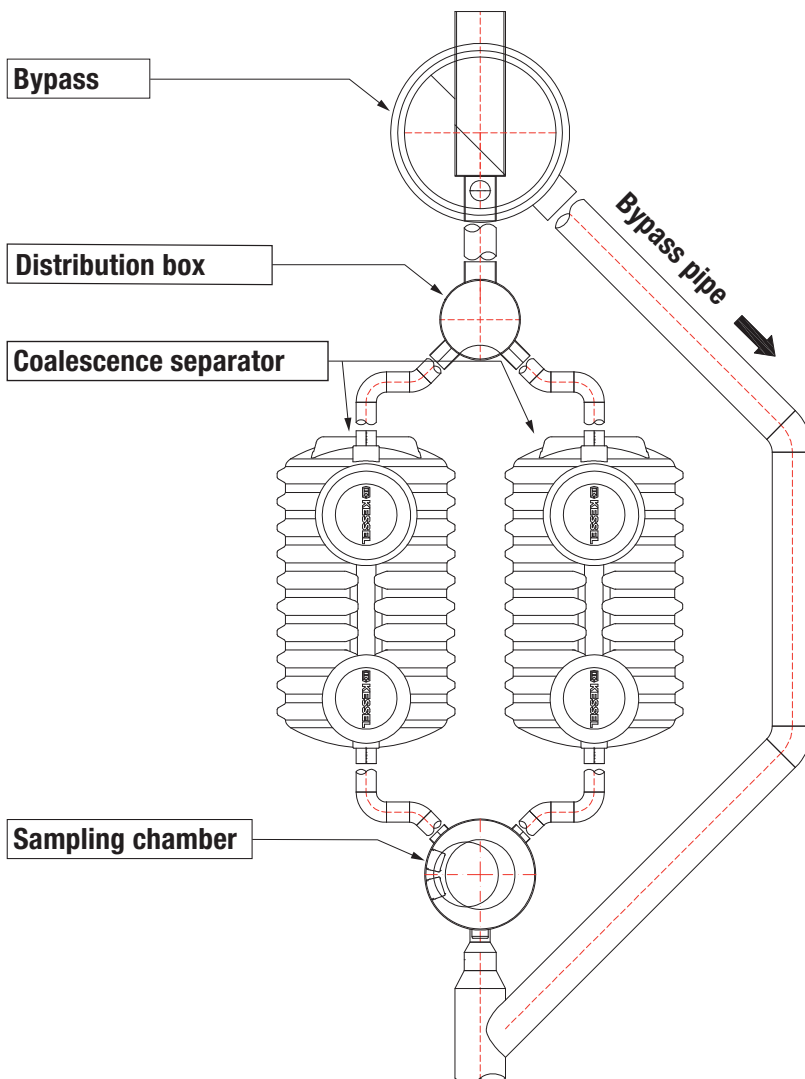
## Coalescence separator Individual Solutions

### Coalescence separator with bypass

EN 858-2 permits bypasses upstream from coalescence separators for cases where it is unlikely that significant contamination will result from light liquid in heavy rain. This means:

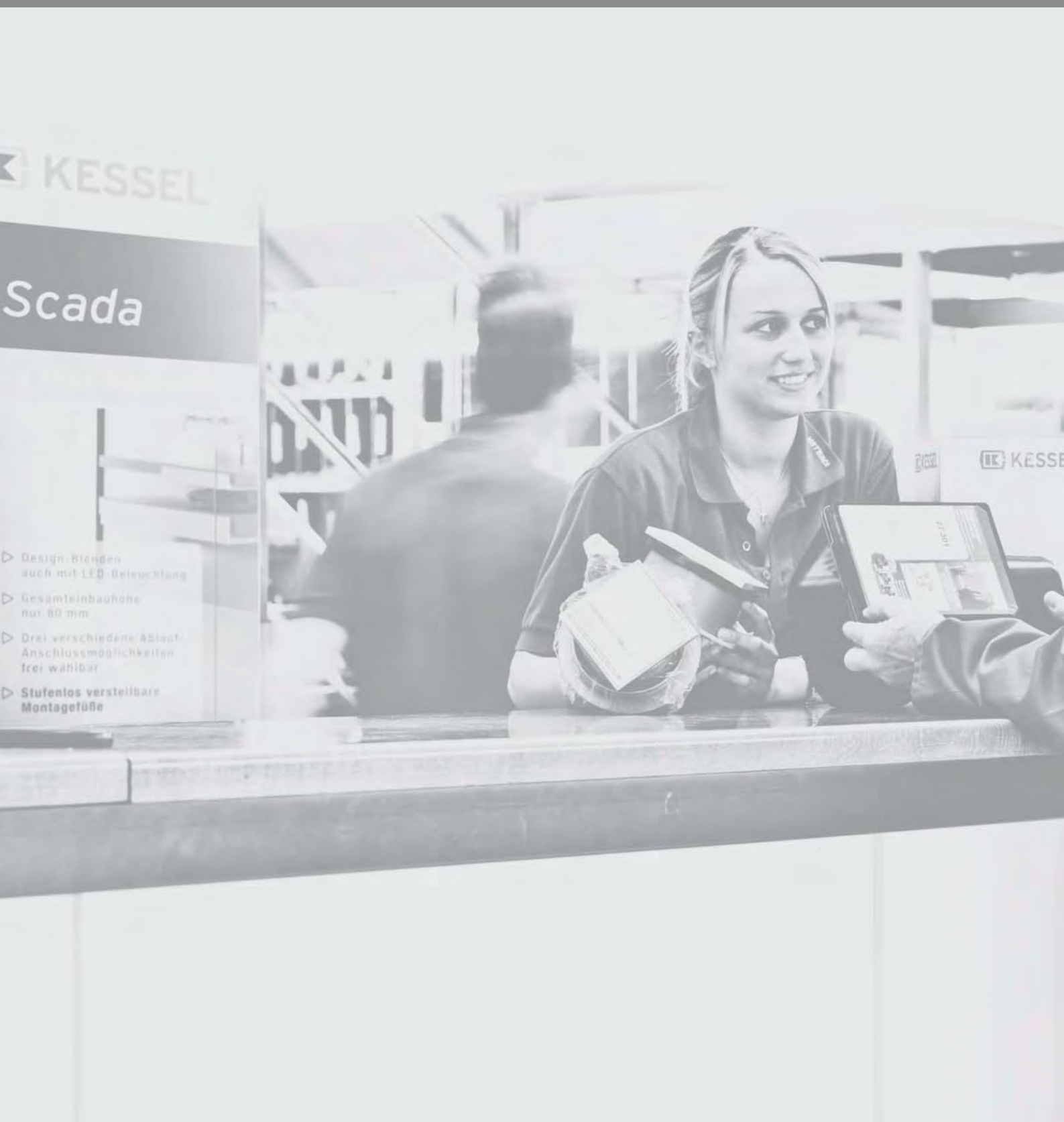
- for the treatment of oil contaminated run-off from car-parks, roads, parking lots or yards.
- not for treating contaminated water (industrial wastewater) from industrial processes.

Separators with bypass include a device which allows the liquid flow which exceeds the maximum permissible flow to be guided past the separator via a bypass.





# Quick-search index



KESSEL

Scada

- ▷ Design-Blenden auch mit LED-Beleuchtung
- ▷ Gesamteinbauhöhe nur 80 mm
- ▷ Drei verschiedene Abtaf-Anschlussmöglichkeiten frei wählbar
- ▷ Stufenlos verstellbare Montagelüße

KESSEL



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# General Terms of Sale

## General

1. All deliveries, services, offers and other contractual performance shall be effected solely on the basis of these terms of business. Future terms of business shall govern the contractual relationship even if they are not expressly agreed. Terms of business or of purchase of the other party to a contract with KESSEL shall not apply, even if KESSEL does not expressly reject them. This shall also apply to all future business relationships.

2. All individual contractual agreements in writing shall take precedence, but these terms of business shall also apply insofar as they are not in contradiction to the individual contractual agreements. KESSEL retains the ownership of and copyright in cost estimates, drawings and other documents. All infringements whatsoever of these rights shall give rise to a liability for damages.

3. KESSEL expressly states that the information contained in the descriptions, documents and illustrations relating to characteristics of the subject matter of the contract are only authoritative in general terms and that they expressly do not represent any warranted characteristics whatsoever. Characteristics are warranted only if KESSEL states this expressly in writing.

## Offer and entering into contract

1. Offers are prepared on the basis of the documents supplied to KESSEL and until the order is firmly placed they remain non-binding and subject to change without notice. The documents supplied are the basis of the offers made by KESSEL. No contract is entered into until KESSEL confirms the order in writing. The same applies to any supplementary agreements or agreements amending the contract.

2. Offers made by KESSEL may be treated as performance specifications only with KESSEL's consent. In this case, the costs incurred by KESSEL as a result of preparing the project shall be reimbursed in a reasonable amount if the order is placed elsewhere.

3. The other contracting party shall review drawings by KESSEL with regard to the possibility of execution of the order, including the technical aspects and the necessary installation measures. KESSEL shall be informed immediately of any discrepancies, failing which KESSEL cannot and shall not take responsibility for any manufacturing defects. KESSEL does not accept cancellations of orders after the contract is entered into.

## Passing of risk

1. The risks attached to the subject of contract shall pass to the buyer at the time when it is shipped. If the shipping is delayed or impossible and KESSEL is not at fault, the risk shall pass to the buyer at the time when it is notified that the products are ready for collection. This shall always apply if collection by the other party to the contract is agreed. If the delay results from the breach of a duty of cooperation of the buyer (for example, failure to collect in good time, refusal to take delivery), KESSEL is entitled, after granting additional time without results, to store the subject of contract at the costs of the buyer. Acceptance is then deemed to have been effected. KESSEL may also take the necessary measures and make the delivery, or withdraw from the part of the contract that has not yet been performed, or demand damages, at its own discretion. This does not affect KESSEL's further rights.

2. If the buyer definitively fails to take delivery of the subject of contract it ordered, KESSEL shall be entitled to damages in the amount of 25% of the contract price; in this case, the buyer reserves the right to show that less damage occurred, and KESSEL may present evidence of greater damage.

## Price and payment

1. Prices shall be ex works and do not include incidental costs such as statutory value-added tax, packaging, customs, insurance etc. The prices are net prices without any deduction.

2. Payment for each delivery or service shall be made in accordance with the agreed conditions; failing this, payment shall be made immediately in cash without deduction, after notification that the consignment is ready for dispatch. Cash discounts or other deductions will not be granted. The payment shall not be deemed to have been made until KESSEL has unrestricted disposal of the amount. Payments shall be made free of charge for KESSEL.

3. KESSEL shall be entitled, notwithstanding provisions of the buyer to the contrary, to set payments off first against the buyer's older debts. If costs and interest have already become payable, KESSEL shall be entitled to set off the payment first against the costs, then against the interest, and then against the principal claim.

4. In the case of default in payment, enterprises, legal persons under public law or special funds under public law will be required to pay default interest in the amount of 8% above the base rate. Other persons will be required to pay the statutory interest rate of 5% above the base rate. KESSEL reserves the right to provide evidence of and demand higher damages.

5. KESSEL shall be entitled to require advance payments or suitable security of up to 100% of the order value. As a general rule, this right is not subject to any conditions whatsoever. If the buyer does not comply with such requests within a stipulated period of time, KESSEL shall be entitled to withdraw from the contract in whole or in part.

6. The buyer is only entitled to use set-off against KESSEL's payment claims or to exercise a right of retention or price reduction, even if it asserts defects or counterclaims, if the counterclaims have been finally and non-appealably established or are undisputed.

7. KESSEL reserves the right, in the case of default in payment, to assert further loss incurred as a result of the default, even if this exceeds the loss of interest receipts referred to under 4. above.

8. If, in the execution of the contract, return shipments are made, these must be agreed with KESSEL in advance. Return shipments for which KESSEL is not responsible must be sent carriage paid. In the case of a return shipment, KESSEL shall be entitled to charge 25% of the value of the goods, but at minimum EUR 15.00 as a processing fee. The buyer shall have the right to show that the cost of processing was less, and KESSEL shall have the right to show that the cost of processing was higher.

## Delivery time

1. Delivery periods shall commence when the contract is entered into, but not before the documents and releases to be supplied by the buyer are provided.

2. The delivery period shall be deemed to have been complied with if the subject of contract has left KESSEL's premises or the buyer has been informed that the subject of contract is ready for dispatch before the delivery period ends. If the buyer exceeds the deadline for collection, KESSEL shall be entitled, after the period ends without results, to impose a final deadline of two weeks, to withdraw from the contract in whole or in part, or to require damages for breach of duty, for delay of performance or instead of performance. The delivery period stated in the confirmation of order is subject to the condition that the buyer has performed its obligations under the contract. If the buyer makes repeat orders or requests changes, the delivery period will be correspondingly extended.

3. In the event of force majeure, such as insurrection, strike or lockout, or the occurrence of other unforeseeable obstructions that are outside KESSEL's sphere of influence, for example stoppages or other events caused by a supplier, the delivery period shall be extended appropriately. This shall also apply if the obstructions occur in the course of an existing delay. If the obstruction lasts longer than three months, the buyer is entitled, after setting a reasonable final deadline, to withdraw from the contract with regard to the part not yet performed.

4. If KESSEL is responsible for non-observance of bindingly agreed periods and dates or is in default, the buyer shall be entitled to compensation for damage resulting from default in the amount of 0.5% for every complete week of default, but up to a maximum total of 5% of the net invoice price of the deliveries and/or services to which the contract relates. Claims exceeding this are excluded, unless the default results at least from gross negligence. KESSEL shall at all times be entitled to part deliveries and part performance.

5. KESSEL gives no guarantee with regard to procurement.

## Retention of title

1. KESSEL retains title of the subject of contract until all claims are satisfied, including all claims for payment of current account balance, which KESSEL may assert on whatsoever legal basis against the buyer at present or in future, including the obligation to cash cheques received by KESSEL. If the value of the securities existing for KESSEL exceeds the claims against the buyer by more than 20%, KESSEL shall at its own discretion release securities at the request of the buyer.

2. During the period of retention of title, the buyer shall neither pledge the subject of contract nor transfer its ownership as security. This applies in particular to the transfer of title to warehouse contents by way of security. The buyer shall use its best efforts to ensure that the secured parties in question are adequately informed of this.

3. As long as the retention of title continues, a sale or other disposal of the subject of contract shall require KESSEL's prior consent in writing. In the event of contravention, the rights against third parties that have accrued to the buyer shall be deemed to have been assigned to KESSEL with effect from the time when the contract was entered into. The assignment shall apply in the same way in the case where the goods subject to retention of title are altered or processed by the buyer or if they are sold to more than one person.

4. In the case of conduct in breach of contract by the buyer, in particular in the case of default in payment or if court insolvency proceedings are commenced or applied for with regard to the buyer's assets, KESSEL shall be entitled to take the subject of contract back and the buyer shall be obliged to return it, excluding any right of retention. In this connection, KESSEL shall have a separate right of termination. The buyer shall then bear the costs arising from the taking back. KESSEL is entitled, without prejudice to the buyer's payment obligation, to sell the subject of contract taken back at the best price by sale by private agreement. After deduction of the costs of KESSEL, the proceeds of sale shall be set off against the debt still outstanding.

5. However, if KESSEL asserts its retention of title, this shall not be deemed a withdrawal from the contract. Withdrawal from the contract shall be declared separately by KESSEL if it is to be effected.

6. If the subject of contract is delivered abroad, the above clause shall apply to the extent that this is permissible under the law in whose jurisdiction the delivered item is situated. If the law prescribes a particular form for reservation of title, or even a registration, the buyer shall make the declarations that are necessary to comply with the formal requirements and for registration. If the foreign law permits reservation of property, it shall be deemed to have been agreed on.

## Warranty

1. If a delivery or service is defective, KESSEL shall, at its own discretion, remove the defect by subsequent improvement or deliver a product that is free of defects. If the subsequent improvement fails twice or if it is not financially justifiable, the buyer shall have the right to withdraw from the contract or to correspondingly reduce its obligation to pay. In the case of obvious defects, the buyer must notify these without delay in writing; in the case of defects that are concealed or not discernible, it must notify them without delay after they become discernible. KESSEL shall be liable for subsequent improvements and subsequent deliveries in the same extent as for the original subject of contract. For replacement deliveries, the warranty period begins to run anew, but only to the extent of the new delivery. A warranty is given only for newly manufactured products.

The warranty period is twenty-four months from the date of delivery to the other party to the contract. Sections 377 and 378 of the German Commercial Code (Handelsgesetzbuch) shall continue to apply.

KESSEL AG gives a twenty-year warranty that is more extensive than the statutory warranty for light liquid separators, grease separators, inspection chambers, septic systems and rainwater cisterns. This relates to impermeability, fitness for use and structural stability.

This is subject to the requirement that the products are professionally installed and are operated in accordance with their intended use, in compliance with the current installation and operation instructions and the applicable statutory provisions.

2. KESSEL expressly states that wear and tear is not a defect. The same applies to defects that result from defective servicing.

## Limitation of liability

KESSEL's liability shall be limited to damage that is caused by KESSEL or one of its agents for whom it is vicariously liable intentionally or with gross negligence. This does not apply to injury to the life, body or health of the buyer.

In other respects, KESSEL's liability is excluded insofar as this is permitted by law.

## Place of performance and place of jurisdiction

1. The place of performance is Lenting. All legal relations between KESSEL and the buyer are governed solely by the law of the Federal Republic of Germany.

2. For entrepreneurs, legal persons under public law or special funds under public law, the exclusive place of jurisdiction for all litigation arising directly or indirectly from the contractual relationship, including summary actions to enforce bills of exchange and cheques, is Ingolstadt.

This agreement on jurisdiction also applies to the case where the buyer has no general place of jurisdiction within Germany or after the contract is entered into moves its domicile, seat or habitual abode outside Germany, or where its domicile, seat or habitual abode is unknown at the time when the action is brought. However, KESSEL shall also be entitled to take legal action against the buyer in any other place of jurisdiction that is applicable to the buyer.

## Assignment of rights and duties

Assignments of rights and duties under contracts between the buyer and KESSEL shall be valid only with the prior consent of KESSEL in writing. Potential claims of KESSEL may therefore be assigned to third parties only with KESSEL's prior consent in writing.

## Provisions on the purchase of consumer goods

KESSEL will recognize recognizes a right of recourse for enterprises pursuant to Section 478 of the German Civil Code where a defect does in fact exist for which KESSEL is responsible and provided that our warranty period has not ended. The other party to the contract must contribute to ensuring that KESSEL is informed in full without delay of possible recourse to KESSEL. At its own discretion, KESSEL shall be entitled, disregarding intermediaries, to settle claims of the consumer or entrepreneur for its own account, whether by subsequent performance, reduction of purchase price or subsequent improvement. Parties to a contract with KESSEL shall submit to or procure for KESSEL without delay all necessary documentation in order that claims of consumers or dealers may be settled as promptly as possible. This does not imply any acknowledgement of a claim on the part of KESSEL.

## Invalidity of a condition

If a provision in these terms or a provision in connection with other agreements should be or become invalid, this shall not affect the validity of the other provisions or of individual agreements. In this case, either party to the contract may require a valid provision to be agreed, insofar as this approaches as closely as possible the business and legal purpose of the invalid provision.

Date of these general terms 01 July 2006  
KESSEL AG, Bahnhofstrasse 31, 85101 Lenting



# KESSEL

Leading in drainage



Everything from a single source - from the initial product idea through development, tool construction and production to sales!

## KESSEL AG

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[www.kessel.com](http://www.kessel.com)

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