



Leading in drainage



Catalogue **3.2**



Made in Germany

www.kessel.com

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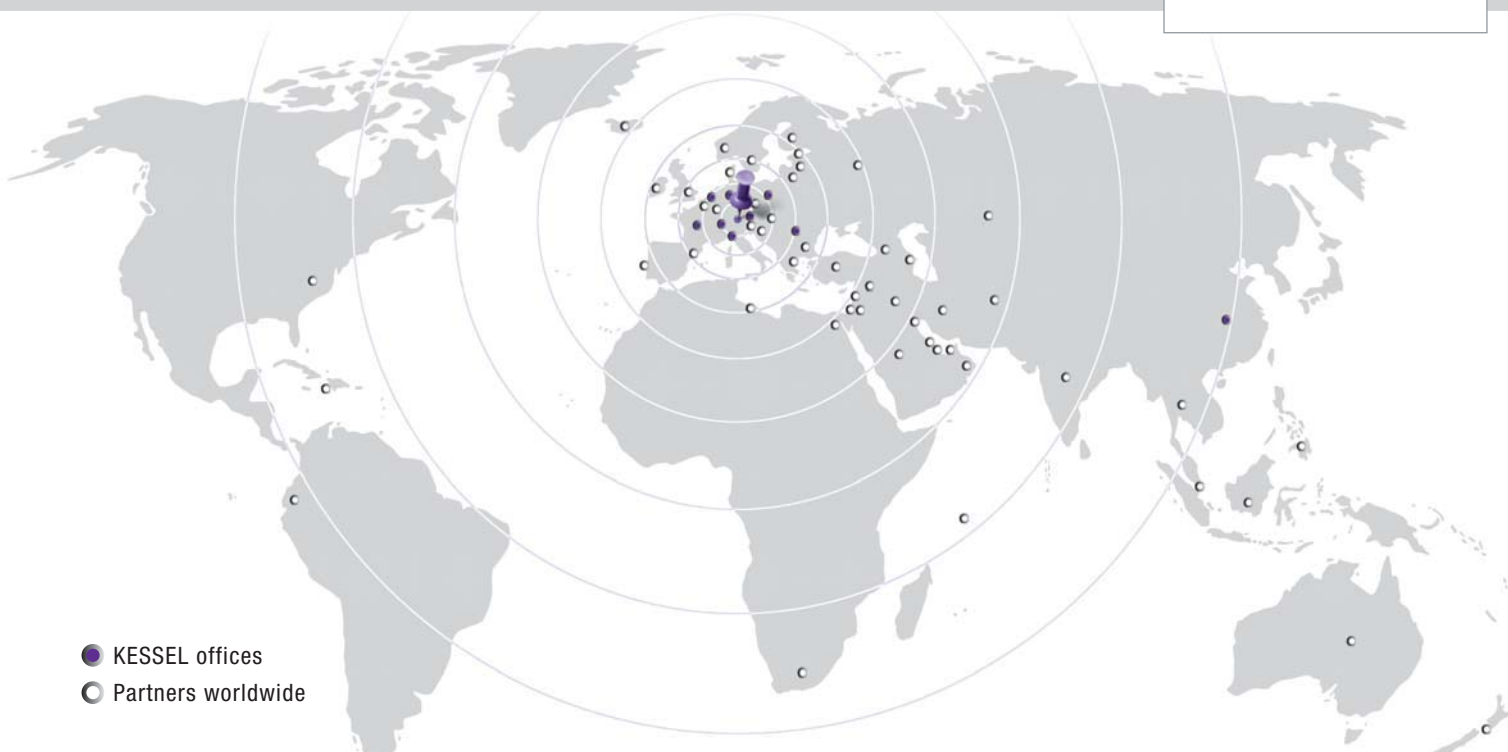
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**KESSEL – Worldwide sales
and distribution**

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.



- KESSEL offices
- Partners worldwide

**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-Consultation and service

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**

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	Fax +49 84 56 27-188

Technical support

Tel. +49 84 56 27-208	or	+49 84 56 27-320
Mail: 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: info@kessel.com	



2007

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



2013

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



2014

New grease separator
EasyClean
with low energy and
low water disposal



2015

Ecolift XL hybrid lifting
stations for industrial
applications



2017

The new **Staufix** back-
water valve. The original
becomes **black**.

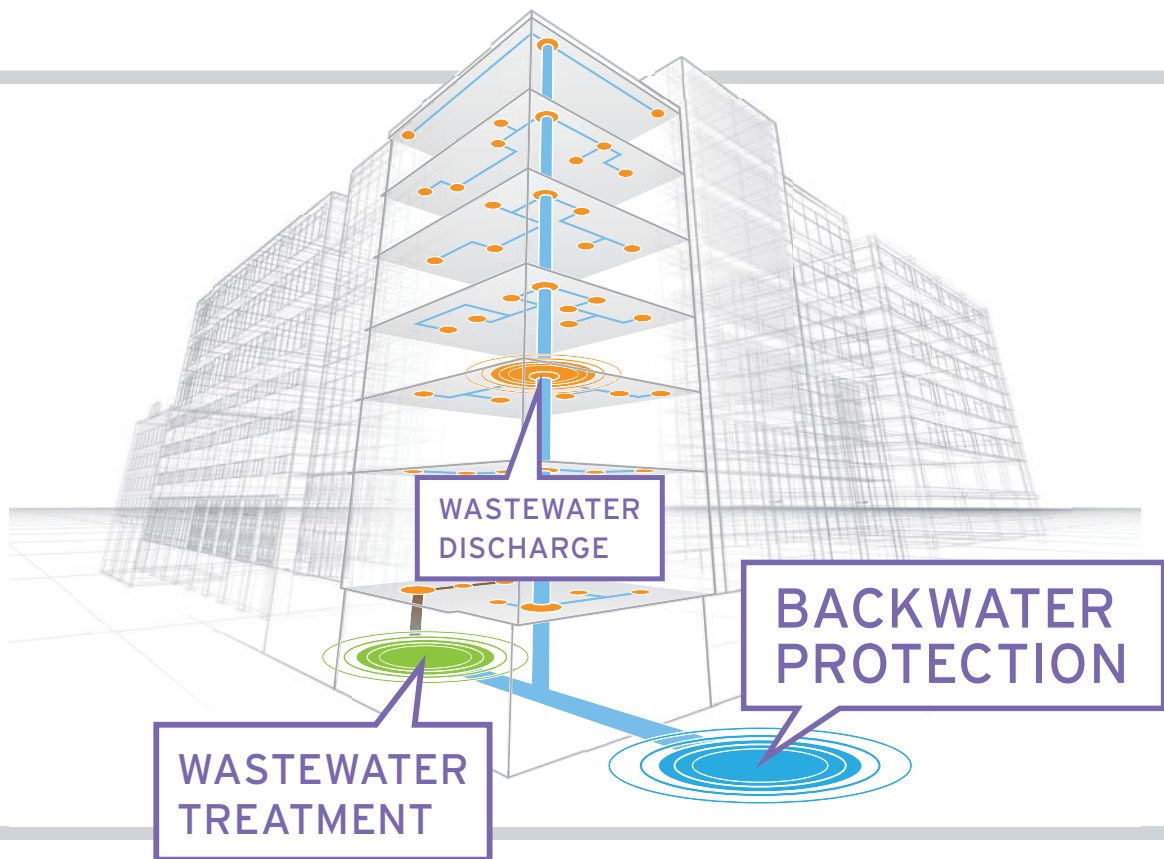


KESSEL-Product Range

Drainage of buildings and properties

The design of water supply and wastewater drainage systems is a critical part in the planning of a modern building. Improperly functioning drainage systems can lead to serious water damage, service interruptions as well as subsequent damage that can be costly to repair. KESSEL stands for professional drainage solutions for buildings.

- WASTEWATER DRAINAGE: the collection and proper discharge of wastewater into sewers
- WASTEWATER TREATMENT: the treatment and proper disposal of wastewater with oil/fuel and grease
- BACKWATER PROTECTION: the reliable protection of property from damaging storms



NEW *Staufix / Staufix Control*
Backwater valve \varnothing 90 - 200
for wastewater



from page 32

NEW *Aqualift F XL / S XL*
Powerful Pumping Stations
for underground installation



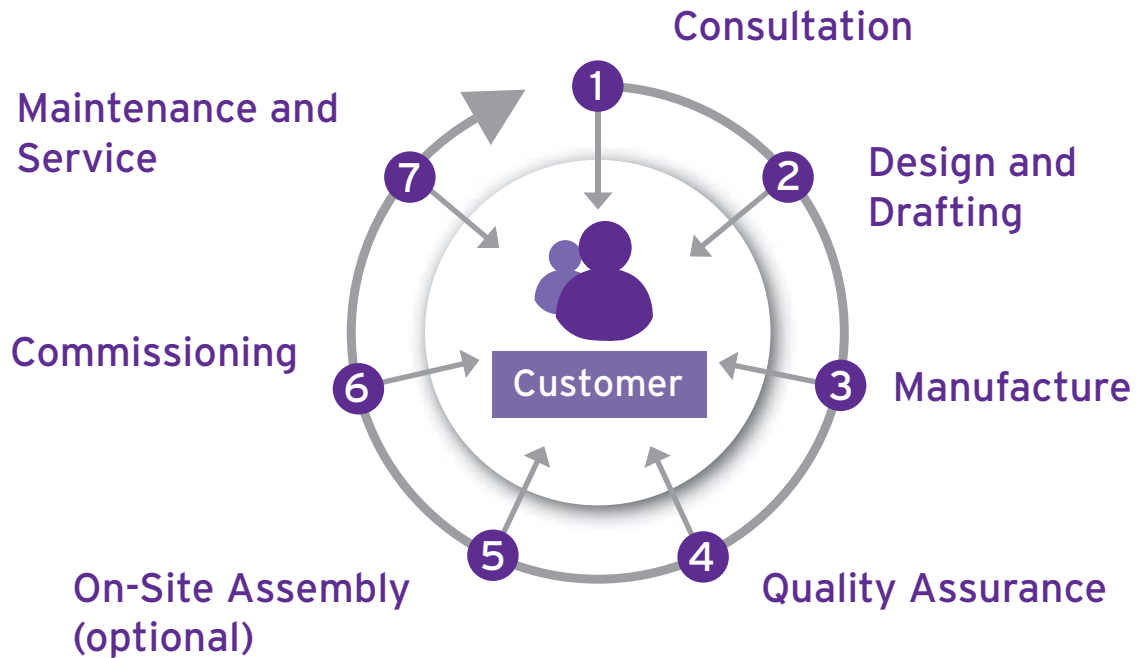
from page 112

KESSEL-Individual Solutions

Custom-made products

KESSEL is the specialist wherever flexibility has to be proved with solutions that are custom-made for special requirements. Thanks to our knowledge and possibilities in the field of polyethylene technology in terms of material, development, design, tooling and various polyethylene treatment methods, we are not only able to manufacture series products, we can also manufacture special solutions in accordance with your project-specific requirements.

Faced regularly with new challenges on account of the wide variety of customer-specific requirements to be fulfilled, a team of specialists has developed in which engineers and technicians work hand in hand. Both broad and in-depth knowledge of draining technology is the key.



NEW *Aqualift F Basic*
Lifting Station
The economic solution for
domestic wastewater disposal



from page 90

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



from page 84

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**



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 usage, and therefore our energy costs and greenhouse gas emissions.

ISO 14001 is environmental 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 basis for setting up an environment management system and specifies the principles according to which KESSEL AG acts.

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.

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 2014/34/EU. 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 watertightness, usability and static safety of these components.

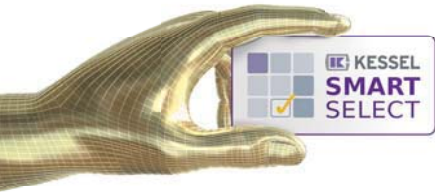


EnOcean

The EnOcean transmitting device – using a miniature energy converter, ultra energy saving device along with reliable operation

KESSEL-Planning made easier

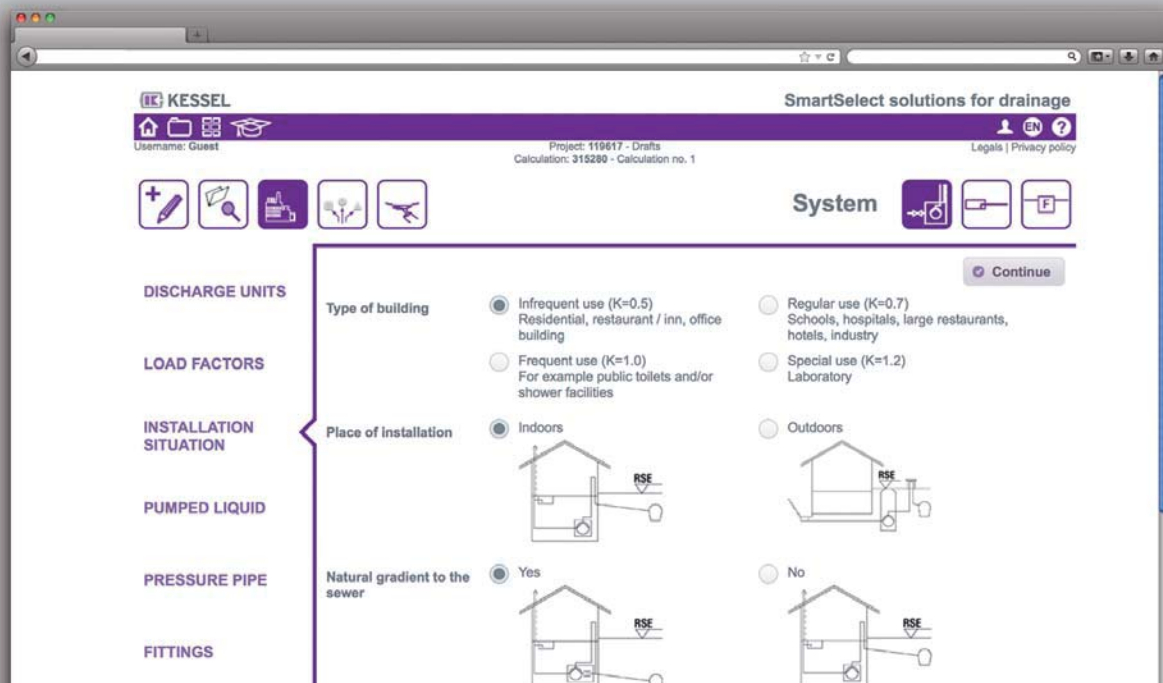
SmartSelect – simply makes planning faster



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 is free and takes only a few minutes!

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



YouTube Channel

A picture is worth a thousand words – and this is why the “KESSEL International” YouTube Channel offers product and installation videos.

These videos provide you with valuable information concerning the installation and operation of our products as well as introducing new products entering the market.

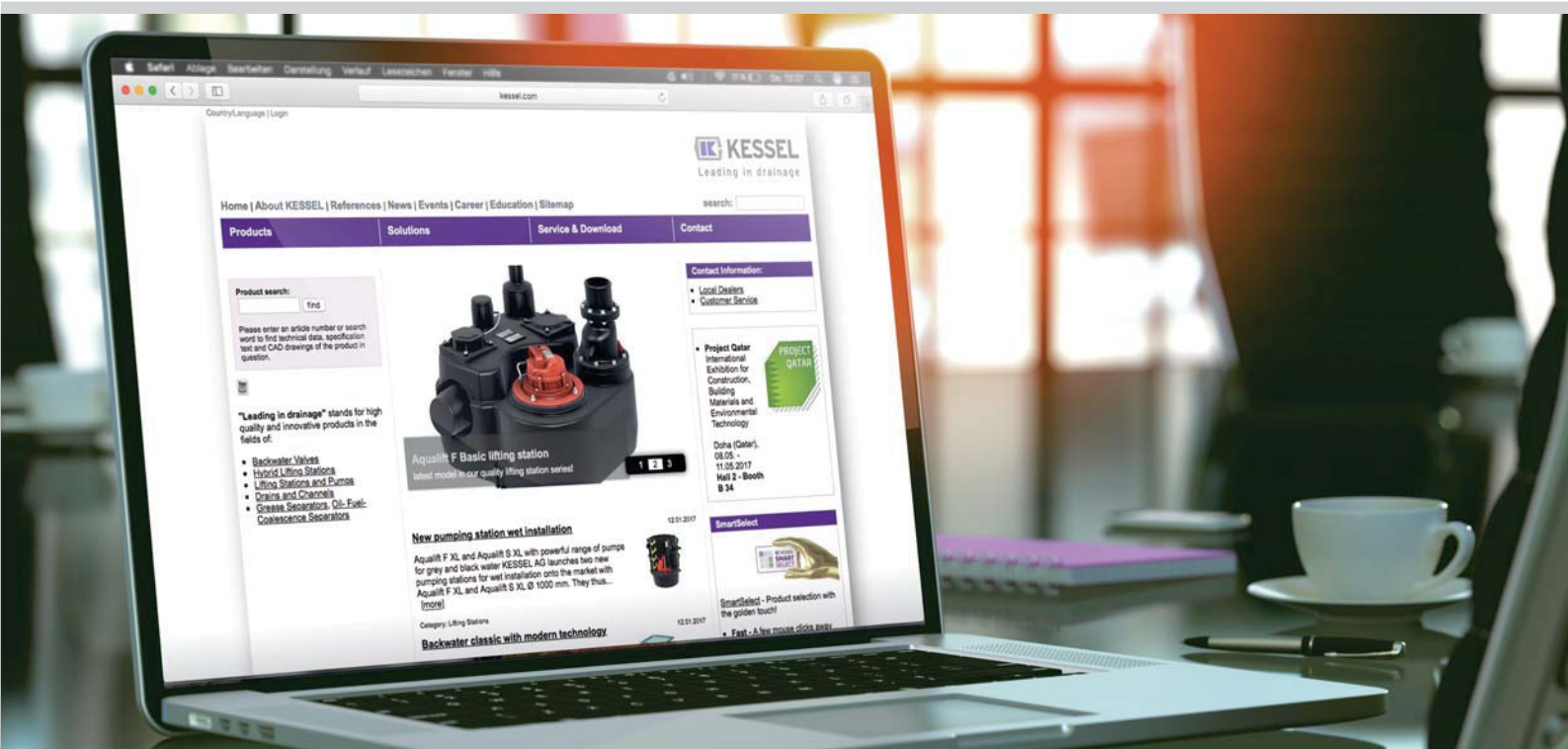


Quick Search Option at www.kessel.com



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 to access the following information: By entering an article number or search word you can find technical data and specifications of a product in question.

- Access CAD product drawings.
- Access specification text
- Access installation and operation manuals
- Access spare parts available
- Access product videos



Installation Videos

Quick and easy: to expand our service package we are now offering videos to help with the installation, commissioning and operation of our products. These videos are geared toward technicians and should be used along with the installation manual to help clear up frequently asked questions.

Use our QR-codes for direct access to videos

By the way, there is a new link between this catalog and the video you are looking for. Just scan in the QR-Code of the product you are interested in and off you go. Give it a try!



KESSEL-Experience drainage technology close up

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.



KESSEL-Education and professional development

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-Experience drainage technology close up

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.



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.

2. Advanced

Webinar

Technical Training for advanced participants

This model includes on-line seminars concerning current topics in the field of drainage. Several 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.

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 at your own premises.

Backwater protection

To stop this happening !



KESSEL-Backwater pumping station **Pumpfix F**
for installation in a concrete slab/floor





1 Backwater protection

Premium backwater valves Page 20 – 37

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

Classic backwater valves Page 38 – 45

with mechanical backwater flaps for protection against backwater.

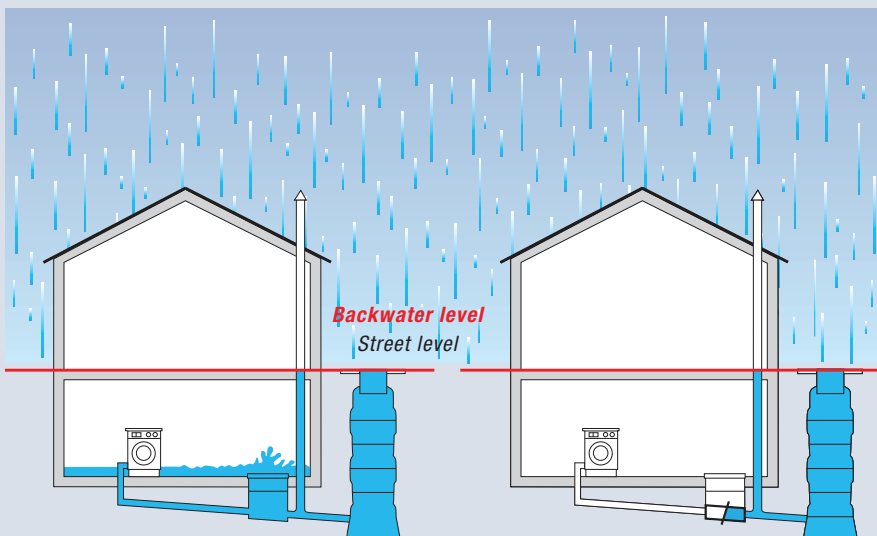
Backwater valves in chamber for underground installation Page 46 – 53

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

Individual Solutions Page 54

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 drain-

nage fixture itself, the position of the sewage channel, type of sewage and the respective regulations.

Black water or grey water?

Black water
wastewater with sewage



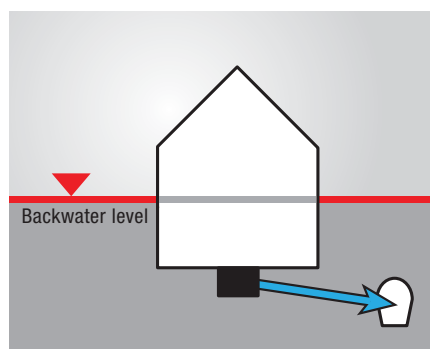
Grey water
wastewater without sewage

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

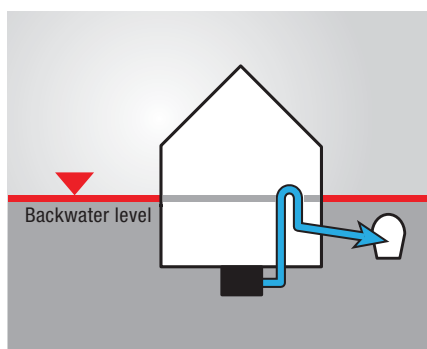
Wastewater with sewage is always involved whenever pipes are connected that transport water from urinals or toilets to the sewer.

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

Gravity or no gravity?



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



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

Installation possibilities



■ *Example for installation in an exposed wastewater pipe*



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



■ *Example for underground installation*

Exposed installation



Ideal for the renovation of old buildings which are in danger of backwater - the low-cost, clean and standard-conform solution for retrofitting backwater units!

To avoid the complete wastewater pipes having to be rerouted in expensive construction work, we recommend installing the central backwater protection unit in the existing exposed wastewater pipe. This guarantees free access to the backwater unit for maintenance work and pipe cleaning.

Installation in a concrete floor



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

The backwater protection unit is installed concealed in the floor. The easy-to-install set with a cover that can be tiled over as required can be used with a wide range of different interior styles and trends - whether the room in question is a music room, home office or sauna and spa.

Covers with a drain function for additional surface draining in an emergency (e.g. if the basement is flooded during heavy rain) provide even more safety. A special sealing set protects the basement from water pressure from below.

Underground installation



Up to now, products protecting against water penetration have mainly been installed inside buildings. In the meantime, however, new methods are available. For this, an inspection chamber is installed in front of the building where the backwater flap is installed.

If wastewater occurrence increases, the correct backwater protection unit can always be retrofitted e.g. when older residential areas are expanded or extensions are built on houses to cope with increased demand. This means clients and the local authorities are always on the safe side.

Equally, pumps and sewage lifting stations which so far have taken up a lot of space in the basement can now be installed in the chamber. Outside the building, they run quietly and reliably, and are easy to service.

Standards and regulations

Which standards must be taken into account?

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

The six product types of EN 13564

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

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

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

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

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

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

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

INFORMATION

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

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

Complete System Solution

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

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

Individual Solutions

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

References

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



www.kessel.com/references



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



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

	<i>Controlfix</i>	<i>SWA</i>	<i>FKA</i>	<i>Pumpfix</i>
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	27	26	24	22

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



Staufix FKA
motorised backwater valve



Staufix SWA
twin flap backwater valve

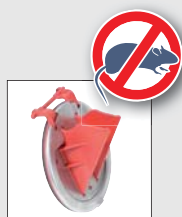
VARIABLE UPPER SECTION
Rotatable, tiltable and height adjustable



Staufix FKA
Art.# 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



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

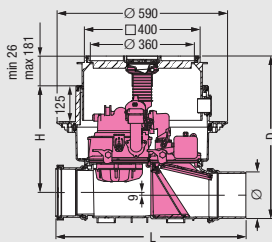
Installation in a concrete slab/floor

Illustration and dimensioned drawing

Article description

Outer diameter
Ø (mm)

Article #



Installation area 750 x 750 mm

Backwater pumping station *Pumpfix F Komfort* for wastewater with or without sewage

made of polymer, with telescopic upper section for continuous height- and level adjustment

For installation in a concrete slab/floor for installation depth (D) from 486 - 640 mm

1 with recessed cover for on-site tiling and drain (X)

2 with black cover and drain (S)

With surface water tight cover plate class A 15 made of polymer and integrated floor drain. Installation kit with choice of cover.

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

- 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



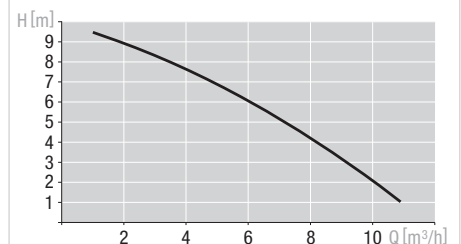
Certification: Z-53.2-388

1 With recessed cover for on-site tiling and drain

- Ø 110 24 100X
- Ø 125 24 125X
- Ø 160 24 150X
- Ø 200* 24 200X

2 With black cover and drain

- Ø 110 24 100S
- Ø 125 24 125S
- Ø 160 24 150S
- Ø 200* 24 200S

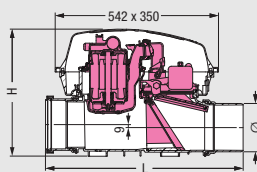


H[m] = Backwater height

Accessories: Page 28 - 31

Pumpfix F Komfort

Installation in an exposed wastewater pipe



Backwater pumping station *Pumpfix F Komfort* for wastewater with or without sewage

made of polymer

For installation in an exposed wastewater pipe.

With protective cover.

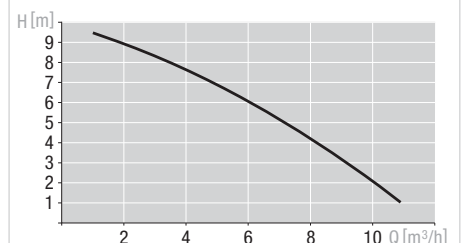
Backwater pumping station according to EN 13564 Type 3 with pump (1kW/230V) and backwater valve, pump activates during backwater, suitable for wastewater with or without sewage. Plug-and-Play control unit with connection option to building management system and alarm, display for operating status and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

- 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



Certification: Z-53.2-388

- Ø 110 24 100
- Ø 125 24 125
- Ø 160 24 150
- Ø 200* 24 200



H[m] = Backwater height

Accessories: Page 28 - 31

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.

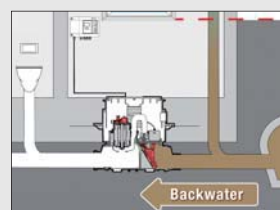


- **Fully open pipe passage** with open backwater flap during normal conditions, flap is automatically closed with motor during backwater

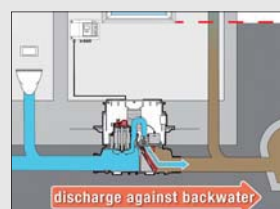
- **Function**



Normal mode:
Water drains
with gravity



Backwater:
Backwater flap
is closed



Disposal:
Pump activates,
wastewater is
discharged



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



Motorised backwater valve for wastewater with or without sewage

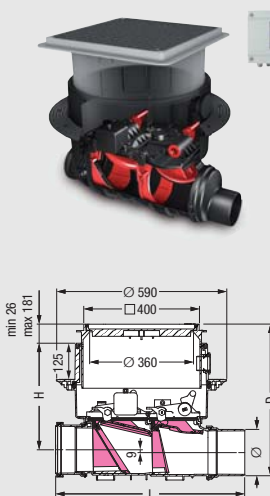


Backwater protection

1

Staufix FKA Komfort

Installation in a concrete slab/floor

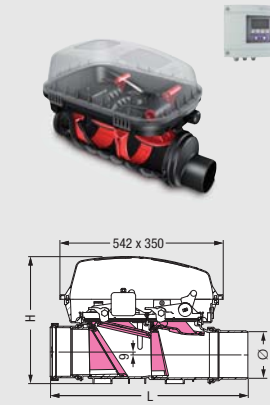
Illustration and dimensioned drawing	Article description	Outer diameter Ø (mm)	Article #
 <p>Installation area 750 x 750 mm</p>	<p>Backwater valve <i>Staufix FKA Komfort</i> for wastewater with or without sewage made of polymer, with telescopic upper section for continuous height- and level adjustment</p> <p>For installation in a concrete slab/floor for installation depth (D) from 486 - 640 mm</p> <p>1 with recessed cover for on-site tiling (X) 2 with black cover (S)</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 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>1 With recessed cover for on-site tiling Ø 110 Ø 125 Ø 160 Ø 200*</p> <p>2 With black cover Ø 110 Ø 125 Ø 160 Ø 200*</p>	<p>84 100X 84 125X 84 150X 84 200X</p> <p>84 100S 84 125S 84 150S 84 200S</p>

 EN 13564 Type 3 F

 Accessories: Page 28 - 31

Staufix FKA Komfort

Installation in an exposed wastewater pipe

	<p>Backwater valve <i>Staufix FKA Komfort</i> for wastewater with or without sewage made of polymer</p> <p>For installation in an exposed wastewater pipe. 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 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>84 100 84 125 84 150 84 200</p>
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 EN 13564 Type 3 F

 Accessories: Page 28 - 31

Motorised backwater valve for wastewater with or without sewage

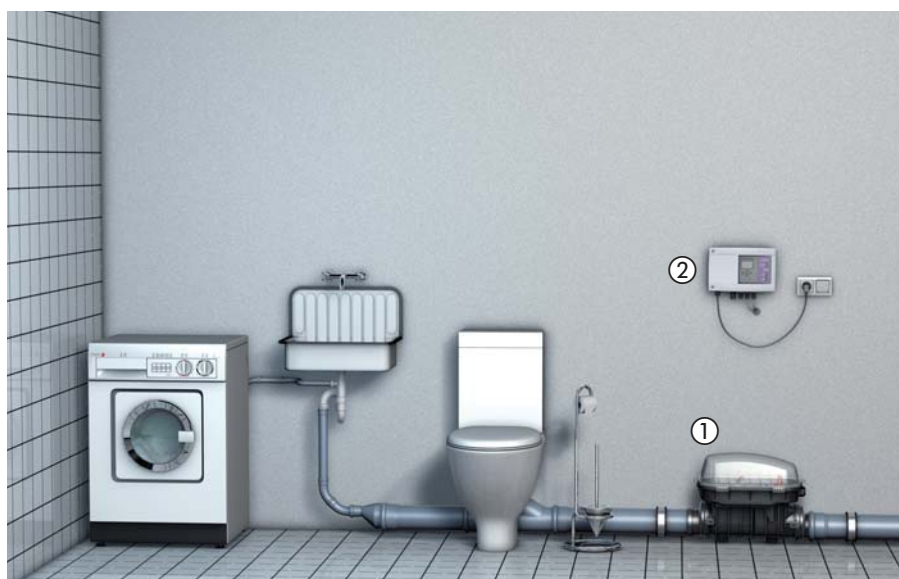
Installation example *Staufix FKA Komfort*



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.



Backwater protection

1

Staufix SWA

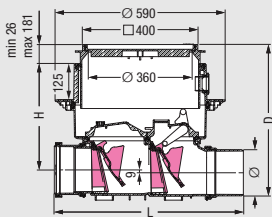
Installation in a concrete slab/floor

Illustration and dimensioned drawing

Article description

Outer diameter
Ø (mm)

Article #



Installation area 750 x 750 mm

Twin flap backwater valve *Staufix SWA* for wastewater

made of polymer, with telescopic upper section
for continuous height- and level adjustment

For installation in a concrete slab/floor for installation depth (D) from 486 - 640 mm

1 with recessed cover for on-site tiling (X)

2 with black cover (S)

With surface water tight cover plate class A 15 made
of polymer. Installation kit with choice of cover.

Backwater flap valve according to EN 13564 Type 2
with two self-closing flaps, one of which can be
locked by hand as an emergency closure.

- 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 With recessed cover for on-site tiling

- Ø 110 73100.10X
- Ø 125 73125.10X
- Ø 160 73150.10X
- Ø 200* 73200.10X

2 With black cover

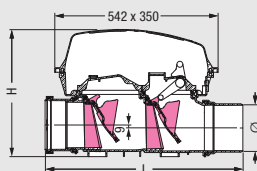
- Ø 110 73100.10S
- Ø 125 73125.10S
- Ø 160 73150.10S
- Ø 200* 73200.10S

EN 13564 Type 2

Accessories: Page 28 - 31

Staufix SWA

Installation in an exposed wastewater pipe



Twin flap backwater valve *Staufix SWA* for wastewater

made of polymer

For installation in an exposed wastewater pipe.

With protective cover.

Backwater flap valve according to EN 13564 Type 2
with two self-closing flaps, one of which can be
locked by hand as an emergency closure.

- 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 73100.10
- Ø 125 73125.10
- Ø 160 73150.10
- Ø 200* 73200.10

EN 13564 Type 2

Accessories: Page 28 - 31



Controlfix

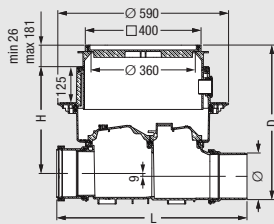
Installation in a concrete slab/floor

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 With recessed cover for on-site tiling

- Ø 110 **80100X**
- Ø 125 **80125X**
- Ø 160 **80150X**
- Ø 200* **80200X**

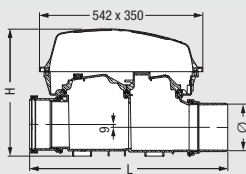
2 With black cover

- Ø 110 **80100S**
- Ø 125 **80125S**
- Ø 160 **80150S**
- Ø 200* **80200S**

+ Accessories: Page 28 - 31

Controlfix

Installation in an exposed wastewater pipe



**Clean out *Controlfix*
for wastewater**





made of polymer

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

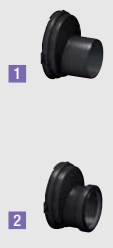

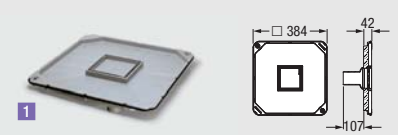



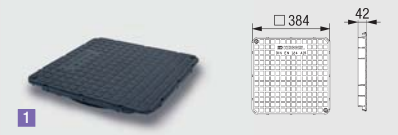

- Ø 110 L: 642 mm H: 422 mm
- Ø 125 L: 645 mm H: 422 mm
- Ø 160 L: 656 mm H: 422 mm
- Ø 200 L: 720 mm H: 422 mm



- Ø 110 **80100**
- Ø 125 **80125**
- Ø 160 **80150**
- Ø 200* **80200**

+ Accessories: Page 28 - 31

Pumpfix F / Staufix FKA / Staufix SWA			Accessories																												
Illustration	Article description	Outer diameter Ø (mm)	Article #																												
For models made on or after Jan 2011  	1 Cable extension for motor 10 m cable length	-	80 890																												
	2 Cable extension for probe 10 m cable length	-	80 889																												
	3 Cable extension for pump 10 m cable length suitable for all versions <i>Pumpfix F, Staufix FKA</i>	-	80 891																												
	Explanation of cable extensions: <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 33%;">Cable length delivered 5 m</th> <th style="width: 33%;">Extension to 15 m</th> <th style="width: 33%;">Extension to 25 m</th> </tr> </thead> <tbody> <tr> <td>Backwater pumping station <i>Pumpfix F Komfort</i></td> <td> <table border="0"> <tr><td>1</td><td>1 x 80 890</td></tr> <tr><td>2</td><td>2 x 80 889</td></tr> <tr><td>3</td><td>1 x 80 891</td></tr> </table> </td> <td> <table border="0"> <tr><td>1</td><td>2 x 80 890</td></tr> <tr><td>2</td><td>4 x 80 889</td></tr> <tr><td>3</td><td>2 x 80 891</td></tr> </table> </td> </tr> <tr> <td>Backwater valve <i>Staufix FKA Komfort / Standard*</i></td> <td> <table border="0"> <tr><td>1</td><td>1 x 80 890</td></tr> <tr><td>2</td><td>1 x 80 889</td></tr> </table> </td> <td> <table border="0"> <tr><td>1</td><td>2 x 80 890</td></tr> <tr><td>2</td><td>2 x 80 889</td></tr> </table> </td> </tr> </tbody> </table>			Cable length delivered 5 m	Extension to 15 m	Extension to 25 m	Backwater pumping station <i>Pumpfix F Komfort</i>	<table border="0"> <tr><td>1</td><td>1 x 80 890</td></tr> <tr><td>2</td><td>2 x 80 889</td></tr> <tr><td>3</td><td>1 x 80 891</td></tr> </table>	1	1 x 80 890	2	2 x 80 889	3	1 x 80 891	<table border="0"> <tr><td>1</td><td>2 x 80 890</td></tr> <tr><td>2</td><td>4 x 80 889</td></tr> <tr><td>3</td><td>2 x 80 891</td></tr> </table>	1	2 x 80 890	2	4 x 80 889	3	2 x 80 891	Backwater valve <i>Staufix FKA Komfort / Standard*</i>	<table border="0"> <tr><td>1</td><td>1 x 80 890</td></tr> <tr><td>2</td><td>1 x 80 889</td></tr> </table>	1	1 x 80 890	2	1 x 80 889	<table border="0"> <tr><td>1</td><td>2 x 80 890</td></tr> <tr><td>2</td><td>2 x 80 889</td></tr> </table>	1	2 x 80 890	2
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For models made on or after Jan 2011 	Optical probe Includes adaptor set 80 892, cable length: 5 m Cable extension set (for probe), 10 m Adaptor set for optical probe installation consisting of: Optical probe connector 90° (black) Optical probe connection 180° (red) Optical probe extension piece for <i>Pumpfix F / Staufix FKA</i> Ø 125/160 (for Jan 2011 models and newer)	-	80 888																												
	Audible alarm Electronic audible alarm (continuous tone) with connection cable 20 m Minimum current consumption 5 - 25 mA, audible tone 4.7 KHz - 90 dB, large voltage range 6 - 24 V DC; Dimension Ø 31 x 15 mm. suitable for all control units with SDS function: <i>Pumpfix F, Staufix FKA</i>	-	20 162																												
	Potential-free contact NEW Clearance code for Staufix FKA and Pumpfix F for Comfort control units from model year 2017	-	80 077																												

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

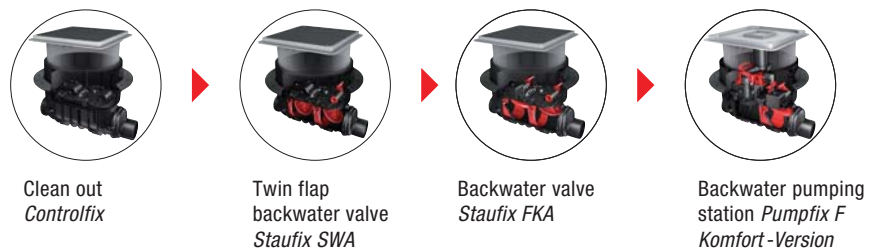
Pumpfix F / Staufix FKA / Staufix SWA / Controlfix			Accessories
Illustration and dimensioned drawing	Article description	Outer diameter Ø (mm)	Article #
	<p>Inlet / Outlet</p> <p>1 Spigot</p> <p>2 Socket</p> <p>Removable inlets / outlets, can be mounted in various dimensions. For use with all versions 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>83 081</p> <p>83 082</p> <p>83 083</p> <p>83 084</p> <p>83 085</p> <p>83 086</p> <p>83 087</p> <p>83 088</p>
<p>For models made on or after Jan 2011</p> 	<p>Protective cover for installation in an exposed wastewater pipe</p>	-	83 031
<p>For models made on or after Jan 2011</p>  	<p>Cover plate, surface water tight Class A 15 With drain Ø 75, includes Multistop odour, foam, rodent and insect stop incl. gasket</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 installation in an concrete floor.</p>	-	<p>83 045</p> <p>83 046</p>
	<p>Multistop odour, foam, rodent and insect stop for article numbers: 83 045 and 83 046</p>	-	43 500
	<p>Hair filter made of polymer for article numbers: 83 045 and 83 046</p>	-	43 700
 	<p>Cover plate, surface water tight Class A 15 made of polymer, incl. gasket Art. # 173-145</p> <p>1 black</p> <p>2 recessed for on-site tiling, grey, for tile thicknesses of 18 mm</p> <p>For installation in an concrete floor.</p>	-	<p>83 050</p> <p>83 052</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 	Conversion kit Pumpfix F With 5 m cable length 1 Pumpfix F Komfort incl. Komfort control unit with recessed cover for on-site tiling and drain, class A 15, incl. <i>Multistop</i> incl. gasket for installation in a concrete slab/floor 2 Pumpfix F Komfort incl. Komfort control unit for installation in an exposed wastewater pipe	Ø 110-200* Ø 110-200*	80 098 80 097
	Conversion kit Staufix FKA Komfort With 5 m cable length incl. Komfort control unit for installation in a concrete slab/floor and in an exposed wastewater pipe	Ø 110-200*	80 093
For models made on or after Jan 2011 	Conversion kit Staufix SWA for installation in a concrete slab/floor and in an exposed wastewater pipe	Ø 110-200*	80 091



Simple retrofitting:

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



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

KESSEL-Product information

The new *Staufix* backwater valve

Backwater protection

1



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



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

The new *Staufix*.

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

NEW! *Staufix* Ø 90 - 200:

Now also for installation in a concrete slab/floor and as a *Staufix Control* version with optical and acoustic warning.

CE EN 13564



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

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

NEW *Staufix Control*

Remote signal transmitter on a wireless basis in the lockable cover with optical and acoustic warning in the event of backwater.

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




enocean alliance

NEW FLEXIBLE INSTALLATION

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



The original becomes black





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

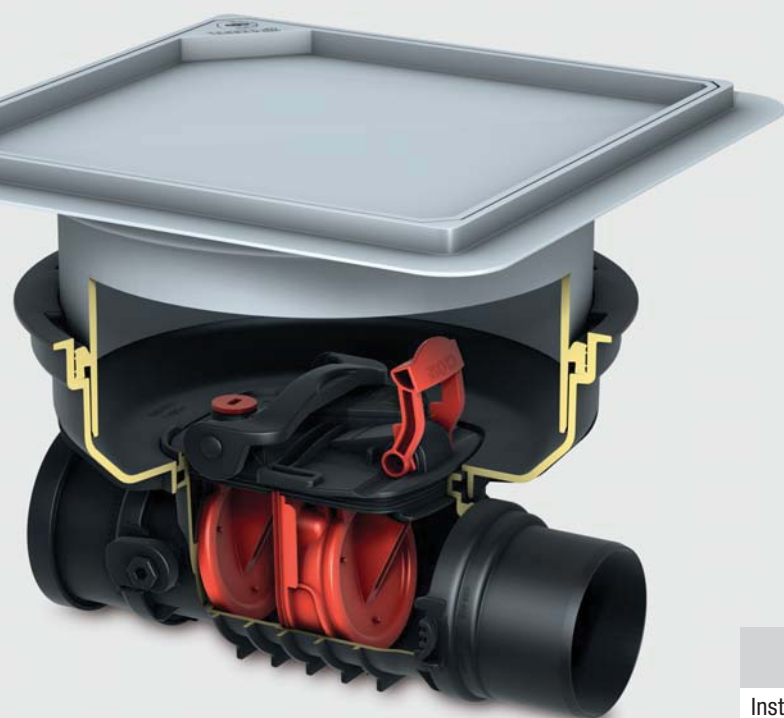
NEW Staufix FOR INSTALLATION IN A CONCRETE FLOOR

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

- black
- grey, tileable

NEW CONNECTIONS

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



SAFETY

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


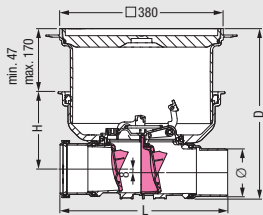






	Article # 700...	Article # 720...	Article # 730...	Article # 770...
Installation in a concrete floor?	✓	✓	✓	✓
Installation in an exposed pipe?	✓	✓	✓	✓
Emergency closure?		✓	✓	✓
Visual and acoustic warning signal during backwater?				✓
Number of flaps		1	2	2
Type		Type 1	Type 2	Type 2
Products see page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

Staufix Control

with visual and acoustic warning


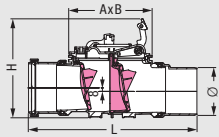



Installation in a concrete slab/floor

Illustration and dimensioned drawing	Article description	Outer diameter Ø (mm)	Article #	
  Installation area 750 x 750 mm	<p>Staufix Control twin flap backwater valve made of polymer, With emergency closure, for wastewater</p> <p><input type="checkbox"/> with visual and acoustic warning in the event of backwater</p> <p>Installation in the concrete slab</p> <p>1 With two polymer flaps, with tileable cover (X), class A 15</p> <p>2 With two polymer flaps, with black cover (S), class A 15</p> <p>3 With tileable cover (XR), class A 15, one polymer flap and one stainless steel flap as rat protection</p> <p>4 With black cover (SR), class A 15, one polymer flap and one stainless steel flap as rat protection</p> <p>Ø 90 L: 389 mm H: 179 mm Ø 110 L: 389 mm H: 179 mm Ø 125 L: 515 mm H: 222 mm Ø 160 L: 526 mm H: 205 mm Ø 200 L: 590 mm H: 185 mm</p> <p>Installation depth (D): Ø 90-110: 287 - 410 mm Ø 125-200: 341 - 464 mm</p> <p>Accessories: Additional audible alarm for further visual and acoustic warning See page 37 for article # 72 222</p>	<p>1 With two polymer flaps, with tileable cover</p> <p>Ø 90 770 090.10X Ø 110 770 100.10X Ø 125 770 125.10X Ø 160 770 150.10X Ø 200* 770 200.10X</p> <p>2 With two polymer flaps, with black cover</p> <p>Ø 90 770 090.10S Ø 110 770 100.10S Ø 125 770 125.10S Ø 160 770 150.10S Ø 200* 770 200.10S</p> <p>3 With tileable cover, one polymer flap and one stainless steel flap as rat protection</p> <p>Ø 90 770 090.10XR Ø 110 770 100.10XR Ø 125 770 125.10XR Ø 160 770 150.10XR Ø 200* 770 200.10XR</p> <p>4 With black cover, one polymer flap and one stainless steel flap as rat protection</p> <p>Ø 90 770 090.10SR Ø 110 770 100.10SR Ø 125 770 125.10SR Ø 160 770 150.10SR Ø 200* 770 200.10SR</p>		
		<p>  EN 13564 Type 2</p>		

Staufix Control

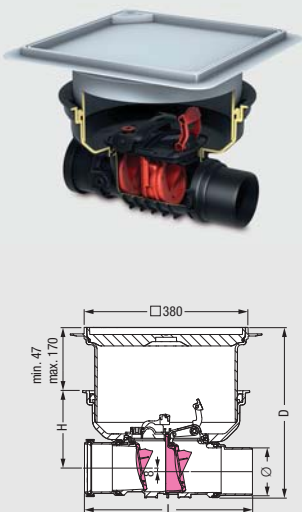

with visual and acoustic warning

Installation in an exposed wastewater pipe

Illustration and dimensioned drawing	Article description	Outer diameter Ø (mm)	Article #	
 	<p>Staufix Control twin flap backwater valve made of polymer, With emergency closure, for wastewater</p> <p><input type="checkbox"/> with visual and acoustic warning in the event of backwater</p> <p>1 With two polymer flaps</p> <p>2 With one polymer flap and one stainless steel flap as rat protection, (R)</p> <p>Ø 90 L: 386 H: 230 Ax B: 193 x 167 mm Ø 110 L: 389 H: 230 Ax B: 193 x 167 mm Ø 125 L: 515 H: 306 Ax B: 263 x 214 mm Ø 160 L: 526 H: 306 Ax B: 263 x 214 mm Ø 200 L: 590 H: 306 Ax B: 263 x 214 mm</p> <p>See page 37 for accessories</p>	<p>1 With two polymer flaps</p> <p>Ø 90 770 090 Ø 110 770 100 Ø 125 770 125 Ø 160 770 150 Ø 200* 770 200</p> <p>2 With one polymer flap and one stainless steel flap as rat protection</p> <p>Ø 90 770 090R Ø 110 770 100R Ø 125 770 125R Ø 160 770 150R Ø 200* 770 200R</p>		
	<p>  EN 13564 Type 2</p>			

Staufix

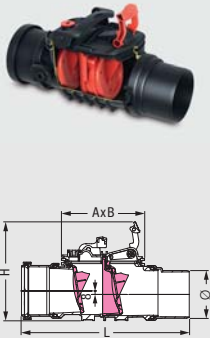

Installation in a concrete slab/floor

Illustration and dimensioned drawing	Article description	Outer diameter Ø (mm)	Article #
 <p>Installation area 750 x 750 mm</p>	<p>Staufix twin flap backwater valve made of polymer, With emergency closure, for wastewater <input type="checkbox"/> can be retrofitted on the <i>Staufix Control</i></p> <p>Installation in the concrete slab</p> <p>1 With two polymer flaps, with tileable cover (X), class A 15</p> <p>2 With two polymer flaps, with black cover (S), class A 15</p> <p>3 With tileable cover (XR), class A 15, one polymer flap and one stainless steel flap as rat protection</p> <p>4 With black cover (SR), class A 15, one polymer flap and one stainless steel flap as rat protection</p> <p>Ø 90 L: 389 mm H: 179 mm Ø 110 L: 389 mm H: 179 mm Ø 125 L: 515 mm H: 222 mm Ø 160 L: 526 mm H: 205 mm Ø 200 L: 590 mm H: 185 mm</p> <p>Installation depth (D) Ø 90-110: 287 - 410 mm Ø 125-200: 341 - 464 mm</p> <p>See page 37 for accessories</p>	<p>1 With two polymer flaps, with tileable cover</p> <p>Ø 90 730 090.10X Ø 110 730 100.10X Ø 125 730 125.10X Ø 160 730 150.10X Ø 200* 730 200.10X</p> <p>2 With two polymer flaps, with black cover</p> <p>Ø 90 730 090.10S Ø 110 730 100.10S Ø 125 730 125.10S Ø 160 730 150.10S Ø 200* 730 200.10S</p> <p>3 With tileable cover, one polymer flap and one stainless steel flap as rat protection</p> <p>Ø 90 730 090.10XR Ø 110 730 100.10XR Ø 125 730 125.10XR Ø 160 730 150.10XR Ø 200* 730 120.10XR</p> <p>4 With black cover, one polymer flap and one stainless steel flap as rat protection</p> <p>Ø 90 730 090.10SR Ø 110 730 100.10SR Ø 125 730 125.10SR Ø 160 730 150.10SR Ø 200* 730 200.10SR</p>	
	<p> EN 13564 Type 2</p>		



Staufix

Installation in an exposed wastewater pipe

Illustration and dimensioned drawing	Article description	Outer diameter Ø (mm)	Article #
	<p>Staufix twin flap backwater valve made of polymer, With emergency closure, for wastewater <input type="checkbox"/> can be retrofitted on the <i>Staufix Control</i></p> <p>Installation in an exposed wastewater pipe</p> <p>1 With two polymer flaps</p> <p>2 With one polymer flap and one stainless steel flap as rat protection, (R)</p> <p>Ø 90 L: 386 H: 230 Ax B: 193 x 167 mm Ø 110 L: 389 H: 230 Ax B: 193 x 167 mm Ø 125 L: 515 H: 306 Ax B: 263 x 214 mm Ø 160 L: 526 H: 306 Ax B: 263 x 214 mm Ø 200 L: 590 H: 306 Ax B: 263 x 214 mm</p> <p>See page 37 for accessories</p>	<p>1 With two polymer flaps</p> <p>Ø 90 730 090 Ø 110 730 100 Ø 125 730 125 Ø 160 730 150 Ø 200* 730 200</p> <p>2 With one polymer flap and one stainless steel flap as rat protection</p> <p>Ø 90 730 090R Ø 110 730 100R Ø 125 730 125R Ø 160 730 150R Ø 200* 730 200R</p>	
	<p> EN 13564 Type 2</p>		

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

Staufix		Clean out	
Illustration and dimensioned drawing	Article description	Outer diameter Ø (mm)	Article #
<p>Installation area 750 x 750 mm</p>	<p>Staufix clean out made of polymer for wastewater</p> <p>Installation in the concrete slab</p> <p>1 With tileable cover (X), class A 15</p> <p>2 With black cover (S), class A 15</p> <p>Ø 90 L: 389 mm H: 179 mm Ø 110 L: 389 mm H: 179 mm Ø 125 L: 515 mm H: 222 mm Ø 160 L: 526 mm H: 205 mm Ø 200 L: 590 mm H: 185 mm</p> <p>Installation depth (D) Ø 90-110: 287 - 410 mm Ø 125-200: 341 - 464 mm</p> <p>Installation area 750 x 750 mm</p>	<p>1 With tileable cover</p> <p>Ø 90 700 090.10X Ø 110 700 100.10X Ø 125 700 125.10X Ø 160 700 150.10X Ø 200* 700 200.10X</p> <p>2 With black cover</p> <p>Ø 90 700 090.10S Ø 110 700 100.10S Ø 125 700 125.10S Ø 160 700 150.10S Ø 200* 700 200.10S</p>	<p>EN 13564 Type 1</p>
	<p>See page 37 for accessories</p>	<p>Staufix clean out made of polymer for wastewater</p> <p>Installation in an exposed wastewater pipe</p> <p>Ø 90 L: 386 H: 230 Ax:B: 193 x 167 mm Ø 110 L: 389 H: 230 Ax:B: 193 x 167 mm Ø 125 L: 515 H: 306 Ax:B: 263 x 214 mm Ø 160 L: 526 H: 306 Ax:B: 263 x 214 mm Ø 200 L: 590 H: 306 Ax:B: 263 x 214 mm</p> <p>See page 37 for accessories</p>	

Installation example *Staufix Control*



① Backwater valve

② Extension section

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

Professional advantages

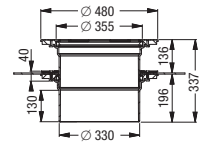
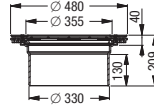
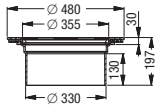
- **Tool-free servicing**
- **Everything made of polymer material - corrosion-free**
- **Backwater flap** made of stainless steel to keep rats and rodents out
- **Perfect for renovation**
Other valves with large drops are difficult to install. *Staufix* offers minimal drop between inlet/outlet (7 mm).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



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



Accessories - *Staufix*



Extension section

for deeper installation with flange
incl. sealing, max. extension: 147 mm
suitable for installation in the concrete slab/floor.

In case of deeper installation ensure maintenance capability!

Art. # **830 070**

Extension section

for deeper installation with flange and counter flange made of stainless steel
for connection to an on-site membrane incl. sealing, max. extension: 147 mm
suitable for installation in the concrete slab/floor.

In case of deeper installation ensure maintenance capability!

Art. # **830 073**

Extension section

with flange for installation in waterproof concrete
incl. sealing set, consisting of:
Counter flange made of stainless steel, incl. screws

Elastomer waterproofing membrane made of NK/SBR \varnothing 700 mm max. extension: 294 mm. Completely assembled.

suitable for installation in the concrete slab/floor.

Art. # **830 075**

Spigot

removable fitting mountable on both sides and in different dimensions

- \varnothing 90 Art. # **83 090**
- \varnothing 100 Art. # **830 200**
- \varnothing 110 Art. # **830 100**

- \varnothing 125 Art. # **83 082**
- \varnothing 160 Art. # **83 083**
- \varnothing 200 Art. # **83 084**



Socket

removable fitting mountable on both sides and in different dimensions

- \varnothing 90 Art. # **83 091**
- \varnothing 100 Art. # **830 202**
- \varnothing 110 Art. # **830 101**

- \varnothing 125 Art. # **83 086**
- \varnothing 160 Art. # **83 087**
- \varnothing 200 Art. # **83 088**



Radio-based audible alarm

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

suitable for the *Staufix Control*

Art. # **72 222**



Radio receiver as switched socket

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

Art. # **72 223**



Rodent protection flap

as rat protection, made of stainless steel

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

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



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 Basic** 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	40	40	40	42

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



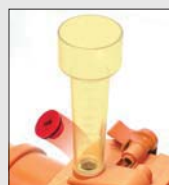
Backwater valves **Staufix** Ø 50 / Ø 75,
Staufix Siphon Ø 50
for wastewater without sewage

Pipe flaps Ø 110 - 1000
for wastewater without sewage

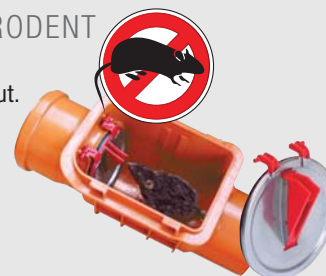
TOOL FREE MAINTENANCE
cover unlocked and removed by hand.



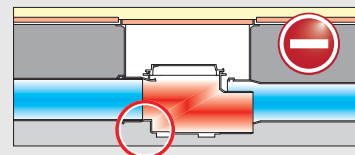
PRESSURE TEST
Quick and easy. Remove plug,
screw on funnel...and test!



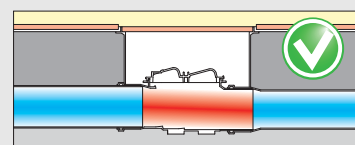
**STAINLESS STEEL RODENT
PROTECTION FLAP**
to keep rats and rodents out.
Also works as a backwater
preventer (available as
accessory).



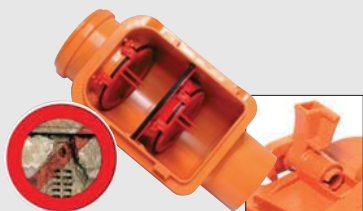
PERFECT FOR RENOVATION
Other valves with large drops are
difficult to install



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

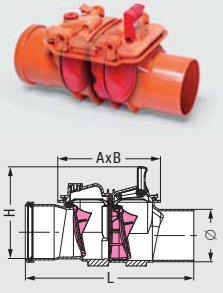
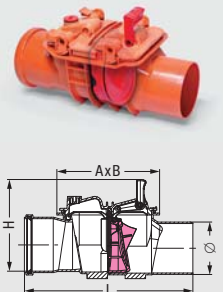
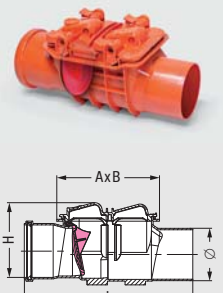
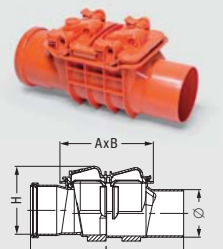


CORROSION-FREE
All ABS construction -
No more metal, no more rust.



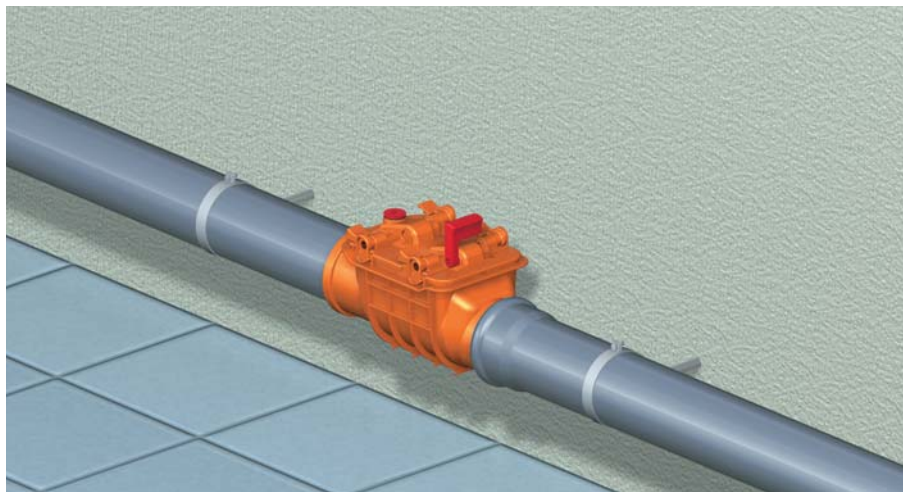
**2-COMPONENT PRODUCTION
TECHNOLOGY**
seals gaskets with valve. No more lost or
improperly installed gaskets.



Staufix Basic		Installation in an exposed wastewater pipe	
Illustration and dimensioned drawing	Article description	Outer diameter Ø (mm)	Article #
 <p>Illustration shows 1</p> <p>Installation area 650 x 300 mm</p>	<p>Twin flap backwater valve <i>Staufix Basic</i> made of polymer, Ø... with emergency closure</p> <p>1 with two polymer flaps</p> <p>2 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>CE EN 13564 Type 2</p>	<p>1 With two polymer flaps</p> <p>Ø 110 73100 Ø 125 73125 Ø 160 73150 Ø 200 73200</p> <p>2 With two polymer flaps and one stainless steel rodent protection flap</p> <p>Ø 110 73100R Ø 125 73125R Ø 160 73150R</p>	
 <p>Illustration shows 1</p> <p>Installation area 650 x 300 mm</p>	<p>Single flap backwater valve <i>Staufix Basic</i> made of polymer, Ø... with emergency closure</p> <p>1 with one polymer flap</p> <p>2 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>CE EN 13564 Type 1</p>	<p>1 With one polymer flap</p> <p>Ø 100 77100 Ø 110 72100 Ø 125 72125 Ø 160 72150 Ø 200 72200</p> <p>2 With one stainless steel rodent protection flap</p> <p>Ø 110 72100R Ø 125 72125R Ø 160 72150R</p>	
 <p>Installation area 650 x 300 mm</p>	<p>Single flap backwater valve <i>Staufix Basic</i> made of polymer, Ø... without emergency closure</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>CE EN 13564 Type 0</p>	<p>Ø 100 76100 Ø 110 71100 Ø 125 71125 Ø 160 71150 Ø 200 71200</p>	
 <p>Installation area 650 x 300 mm</p>	<p>Clean out <i>Staufix Basic</i> 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 70100 Ø 125 70125 Ø 160 70150 Ø 200 70200</p>	

Backwater valves for wastewater

Installation example *Staufix Basic*



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

Professional advantages

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


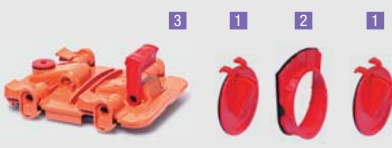





Scan this QR code to directly view the corresponding product video.



Staufix Basic

Accessories

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

Backwater valves for wastewater without sewage



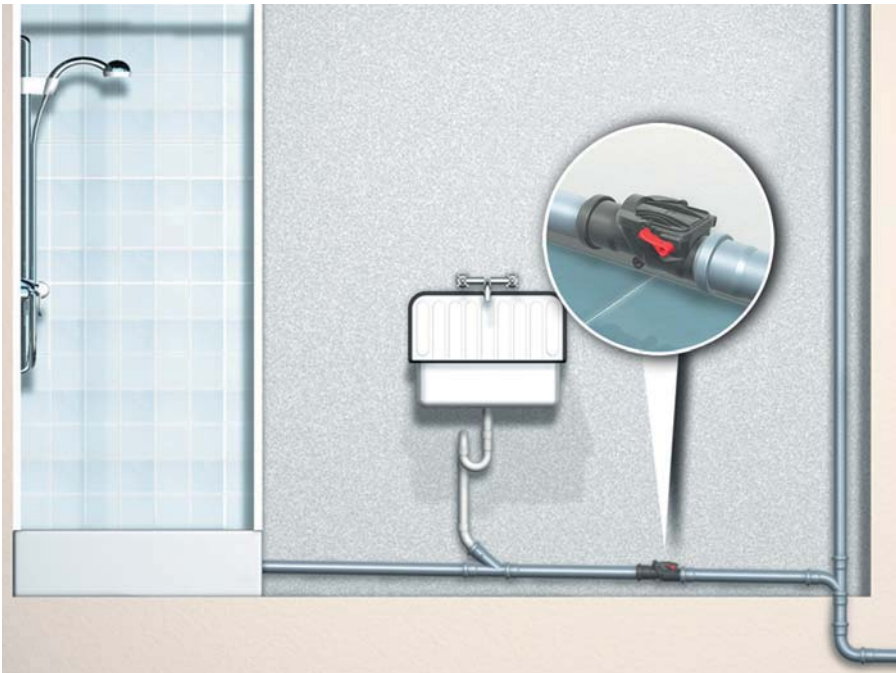
Backwater protection
1

Staufix Ø 50 / Staufix Ø 75 / Staufix Siphon Ø 50

Illustration and dimensioned drawing	Article description	Outer diameter Ø (mm)	Article #
	<p>Twin flap backwater valve Staufix Ø 50 made of polymer for exposed wastewater pipes</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	73050
	<p>Twin flap backwater valve Staufix Ø 75 made of polymer for exposed wastewater pipes</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	73070
	<p>Twin flap backwater valve Staufix Siphon Ø 50 made of polymer for washing stand siphons</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	73051
	<p>Twin flap backwater valve Staufix Siphon Ø 50 made of polymer Model with pipe odour trap and washing machine connection</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	73052
	<p>Twin flap backwater valve Staufix Siphon Ø 50 made of polymer Model with pipe odour trap and inlet funnel, ideal for the emergency overflow of heating systems</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	73053

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

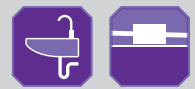


... furnace condensation overflow

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

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

Pipe flaps

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

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

Conversion kit *Pumpfix F*

Motorized backwater valve with pump and Comfort control unit. Discharges wastewater containing raw sewage even during backwater!



Conversion kit *Staufix FKA*

Motorized backwater valve with Comfort control unit for wastewater containing raw sewage.



Conversion kit *Staufix SWA*

Twin flap backwater valve for wastewater.





Complete chamber
made in one piece \varnothing 1000 mm

Backwater chamber

with three open channel passages



Komfort chamber
modular system \varnothing 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 \varnothing 1000 mm

Komfort chamber
modular system \varnothing 800 / 1000 mm

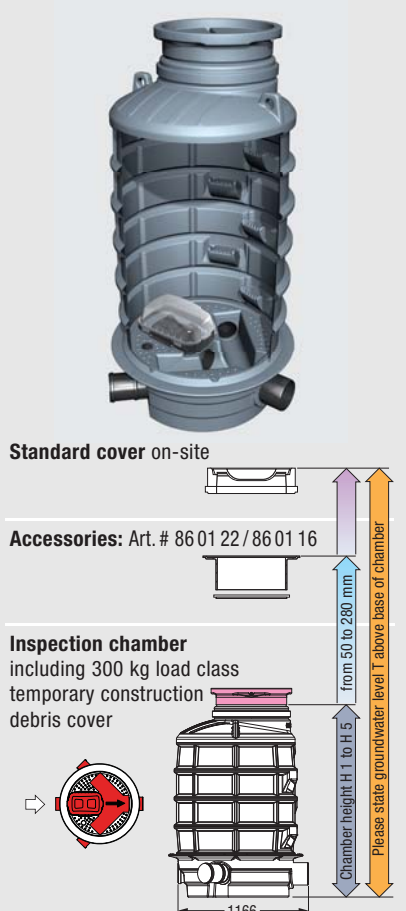



Backwater inspection chambers for wastewater with sewage or wastewater without sewage




Backwater protection

1

Backwater inspection chamber Ø 1000

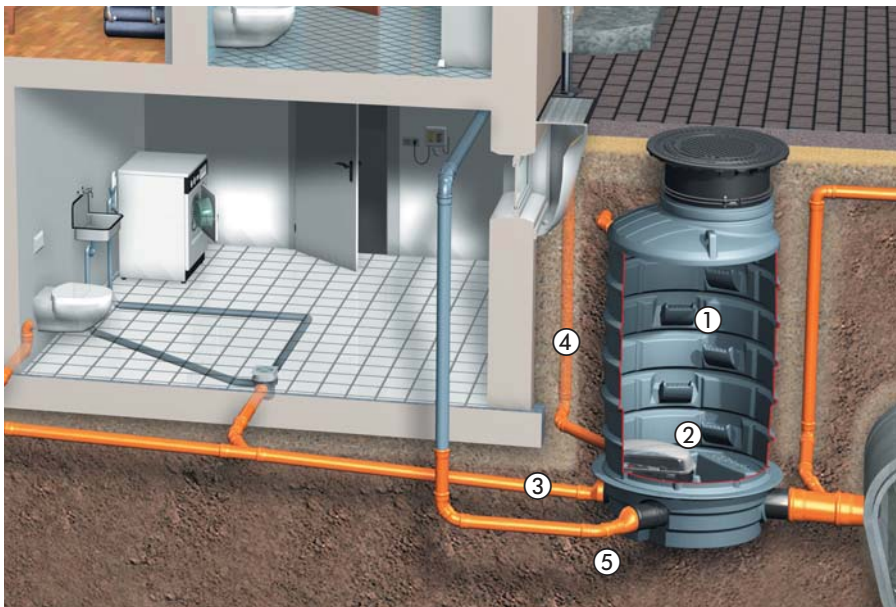
Illustration and dimensioned drawing	Article description	Chamber height	Article #
 <p>Standard cover on-site</p> <p>Accessories: Art. # 86 01 22 / 86 01 16</p> <p>Inspection chamber including 300 kg load class temporary construction debris cover</p> <p>Chamber height H 1 to H 5 Please state groundwater level T above base of chamber</p> <p>1166</p>	<p>Backwater inspection chamber Ø 1000 Polyethylene construction For underground installation Monolithic design, with open continuous channel and clean out, with integrated access steps, watertight, resistant to aggressive wastewater, with telescopic height-adjustable protective cover made of polymer for use during the construction period (can be used as a cover in green areas).</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>Outlet:</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>Handles groundwater depths up to 2000 mm</p> <p>Cable piping gasket set see page 53</p> <p>Further accessories see page 52 - 53</p> <p>Distance from base of chamber to: 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>88 10 05-DN 150 88 15 05-DN 150 88 20 05-DN 150 88 25 05-DN 150 88 30 05-DN 150</p> <p>88 10 05 88 15 05 88 20 05 88 25 05 88 30 05</p>

Conversion kit Accessories

Illustration	Article description	Outer diameter Ø (mm)	Article #
<p>For models made on or after Jan 2011</p> 	<p>Conversion kit <i>Pumpfix F Komfort</i> 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>Cable extension set for pump, motor and probe see page 28</p>	Ø 110-200	80 102
<p>For models made on or after Jan 2011</p> 	<p>Conversion kit <i>Staufix FKA Komfort</i> 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>Cable extension set for motor and probe see page 28</p>	Ø 110-200	80 104
<p>For models made on or after Jan 2011</p> 	<p>Conversion kit <i>Staufix SWA</i> For conversion to the inspection chamber with backwater valve <i>Staufix SWA</i>, for wastewater</p>	Ø 110-200	80 091

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.

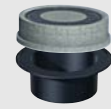
Three standard connections for basement drains, roof drains and basement drainage are included. Cover for garden installation is included in the scope of supply, further upper sections and covers of the classes A/B/D are available.

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


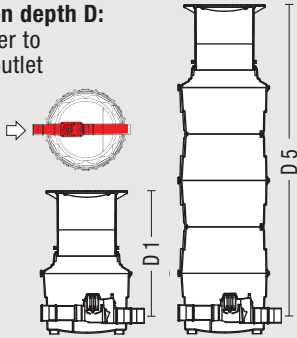
Further accessories starting page 52

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




Backwater inspection chambers for wastewater with sewage or wastewater without sewage

Backwater protection
1

Komfort inspection chamber Ø 800

Illustration and dimensioned drawing	Article description	Outer diameter Ø (mm)	Article # Class B	Article # Class D
 <p>Installation depth D: Top of cover to centre of outlet</p>  <p>Delivery: Inspection chamber in components (bottom parts stackable) for on-site assembly incl. assembly system.</p>	<p>Clean out <i>Controlfix</i> with Komfort inspection chamber Ø 800 Polyethylene construction For underground installation Installation depth (D) from mm to mm</p> <p><input type="checkbox"/> Cover plate class B (Version B) <input type="checkbox"/> Cover plate class D (Version D)</p> <p>Water-tight, resistant to aggressive wastewater. Upper section made of polymer for continuous height and level adjustment. Cover plate class in cast iron according to EN 124, surface water tight, incl. cover removal tool. Continuous pipe Ø with cleaning pipe according to EN 13564. Inlets with flange, outlet with spigot end for PVC pipe according to EN 1401-1 and PE-HD pipe according to EN 12666-1.</p> <p>Conversion center inlet pipe to bottom inlet pipe: 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>Installation depth: D 1: 770 - 1270 mm D 2: 1270 - 1770 mm D 3: 1770 - 2270 mm D 4: 2270 - 2770 mm D 5: 2770 - 3270 mm</p> <p>Handles groundwater depths up to 500 mm</p> <p>Cable piping gasket set see page 53</p> <p>Further accessories see page 52 - 53</p>	<p>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>84 25 01 B 84 25 02 B 84 25 03 B</p> <p>84 25 11 B 84 25 12 B 84 25 13 B</p> <p>84 25 21 B 84 25 22 B 84 25 23 B</p> <p>84 25 31 B 84 25 32 B 84 25 33 B</p> <p>84 25 41 B 84 25 42 B 84 25 43 B</p>	<p>84 25 01 D 84 25 02 D 84 25 03 D</p> <p>84 25 11 D 84 25 12 D 84 25 13 D</p> <p>84 25 21 D 84 25 22 D 84 25 23 D</p> <p>84 25 31 D 84 25 32 D 84 25 33 D</p> <p>84 25 41 D 84 25 42 D 84 25 43 D</p>


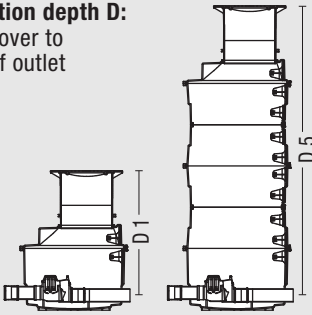
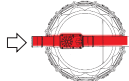

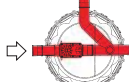

Conversion kit Accessories

Illustration	Article description	Outer diameter Ø (mm)	Article #
<p>For models made on or after Jan 2011</p> 	<p>Conversion kit <i>Pumpfix F Komfort</i> 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>Cable extension set for pump, motor and probe see page 28</p>	Ø 110-200	80 102
<p>For models made on or after Jan 2011</p> 	<p>Conversion kit <i>Staufix FKA Komfort</i> 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>Cable extension set for motor and probe see page 28</p>	Ø 110-200	80 104
<p>For models made on or after Jan 2011</p> 	<p>Conversion kit <i>Staufix SWA</i> For conversion to the inspection chamber with backwater valve <i>Staufix SWA</i>, for wastewater</p>	Ø 110-200	80 091

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 \varnothing 1000

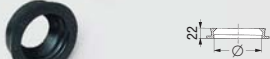



Illustration and dimensioned drawing	Article description	Outer diameter \varnothing (mm)	Article # Class B	Article # Class D
 <p>Installation depth D: Top of cover to centre of outlet</p> 	<p>Clean out <i>Controlfix</i> with Komfort inspection chamber \varnothing 1000 Polyethylene construction For underground installation</p> <p>Installation depth (D) from mm to mm</p> <p><input type="checkbox"/> Cover plate class B (Version B) <input type="checkbox"/> Cover plate class D (Version D)</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>Cover plate class in cast iron according to EN 124, surface water tight, incl. cover removal tool. Continuous pipe \varnothing with cleaning pipe according to EN 13564. Inlets with flange, outlet with spigot end for PVC pipe according to EN 1401-1 and PE-HD pipe according to EN 12666-1.</p> <p>Conversion center inlet pipe to bottom inlet pipe: \varnothing 110: Installation depth D + 55 mm \varnothing 125: Installation depth D + 62.5 mm \varnothing 160: Installation depth D + 80 mm \varnothing 200: on request</p> <p>Installation depth: D 1: 950 - 1450 mm D 2: 1450 - 1950 mm D 3: 1950 - 2450 mm D 4: 2450 - 2950 mm D 5: 2950 - 3450 mm</p>	<p>1 D1: \varnothing 110 \varnothing 125 \varnothing 160</p> <p>D2: \varnothing 110 \varnothing 125 \varnothing 160</p> <p>D3: \varnothing 110 \varnothing 125 \varnothing 160</p> <p>D4: \varnothing 110 \varnothing 125 \varnothing 160</p> <p>D5: \varnothing 110 \varnothing 125 \varnothing 160</p> <p>2 D1: \varnothing 110 \varnothing 125 \varnothing 160</p> <p>D2: \varnothing 110 \varnothing 125 \varnothing 160</p> <p>D3: \varnothing 110 \varnothing 125 \varnothing 160</p> <p>D4: \varnothing 110 \varnothing 125 \varnothing 160</p> <p>D5: \varnothing 110 \varnothing 125 \varnothing 160</p>	<p>86 25 01 B 86 25 02 B 86 25 03 B</p> <p>86 25 11 B 86 25 12 B 86 25 13 B</p> <p>86 25 21 B 86 25 22 B 86 25 23 B</p> <p>86 25 31 B 86 25 32 B 86 25 33 B</p> <p>86 25 41 B 86 25 42 B 86 25 43 B</p> <p>86 27 01 B 86 27 02 B 86 27 03 B</p> <p>86 27 11 B 86 27 12 B 86 27 13 B</p> <p>86 27 21 B 86 27 22 B 86 27 23 B</p> <p>86 27 31 B 86 27 32 B 86 27 33 B</p> <p>86 27 41 B 86 27 42 B 86 27 43 B</p>	<p>86 25 01 D 86 25 02 D 86 25 03 D</p> <p>86 25 11 D 86 25 12 D 86 25 13 D</p> <p>86 25 21 D 86 25 22 D 86 25 23 D</p> <p>86 25 31 D 86 25 32 D 86 25 33 D</p> <p>86 25 41 D 86 25 42 D 86 25 43 D</p> <p>86 27 01 D 86 27 02 D 86 27 03 D</p> <p>86 27 11 D 86 27 12 D 86 27 13 D</p> <p>86 27 21 D 86 27 22 D 86 27 23 D</p> <p>86 27 31 D 86 27 32 D 86 27 33 D</p> <p>86 27 41 D 86 27 42 D 86 27 43 D</p>
	<p>1 Continuous pipe (\varnothing 200 on request):</p>  <p>2 One inlet in flow direction right 90°:</p>  <p>3 One inlet in flow direction left 90°:</p>  <p>4 Two inlets in flow direction left + right 90°:</p>  <p>Handles groundwater depths up to 500 mm</p> <p>Cable piping gasket set see page 53</p> <p>Further accessories see page 52 - 53</p> <p>Further installation depths (\varnothing 1000) up to a max. installation depth of 5 m can be individually created via the accessory parts, on request.</p>	<p>3 D1: \varnothing 110 \varnothing 125 \varnothing 160</p> <p>D2: \varnothing 110 \varnothing 125 \varnothing 160</p> <p>D3: \varnothing 110 \varnothing 125 \varnothing 160</p> <p>D4: \varnothing 110 \varnothing 125 \varnothing 160</p> <p>D5: \varnothing 110 \varnothing 125 \varnothing 160</p> <p>4 D1: \varnothing 110 \varnothing 125 \varnothing 160</p> <p>D2: \varnothing 110 \varnothing 125 \varnothing 160</p> <p>D3: \varnothing 110 \varnothing 125 \varnothing 160</p> <p>D4: \varnothing 110 \varnothing 125 \varnothing 160</p> <p>D5: \varnothing 110 \varnothing 125 \varnothing 160</p>	<p>86 28 01 B 86 28 02 B 86 28 03 B</p> <p>86 28 11 B 86 28 12 B 86 28 13 B</p> <p>86 28 21 B 86 28 22 B 86 28 23 B</p> <p>86 28 31 B 86 28 32 B 86 28 33 B</p> <p>86 28 41 B 86 28 42 B 86 28 43 B</p> <p>86 29 01 B 86 29 02 B 86 29 03 B</p> <p>86 29 11 B 86 29 12 B 86 29 13 B</p> <p>86 29 21 B 86 29 22 B 86 29 23 B</p> <p>86 29 31 B 86 29 32 B 86 29 33 B</p> <p>86 29 41 B 86 29 42 B 86 29 43 B</p>	<p>86 28 01 D 86 28 02 D 86 28 03 D</p> <p>86 28 11 D 86 28 12 D 86 28 13 D</p> <p>86 28 21 D 86 28 22 D 86 28 23 D</p> <p>86 28 31 D 86 28 32 D 86 28 33 D</p> <p>86 28 41 D 86 28 42 D 86 28 43 D</p> <p>86 29 01 D 86 29 02 D 86 29 03 D</p> <p>86 29 11 D 86 29 12 D 86 29 13 D</p> <p>86 29 21 D 86 29 22 D 86 29 23 D</p> <p>86 29 31 D 86 29 32 D 86 29 33 D</p> <p>86 29 41 D 86 29 42 D 86 29 43 D</p>

Backwater inspection chambers

Backwater protection

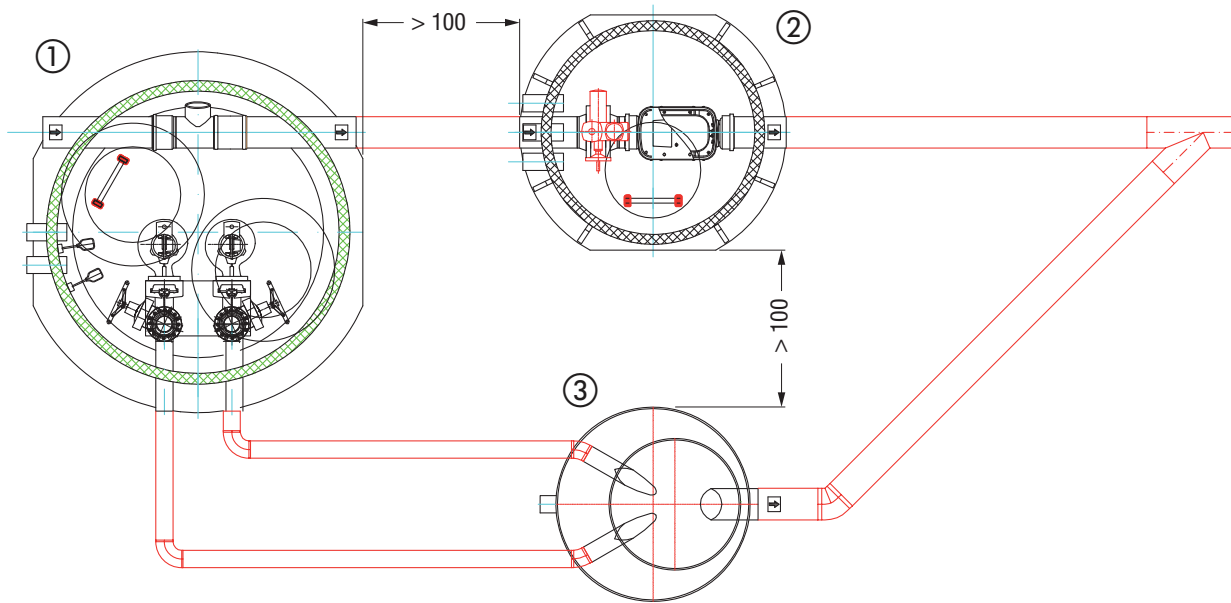
1

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

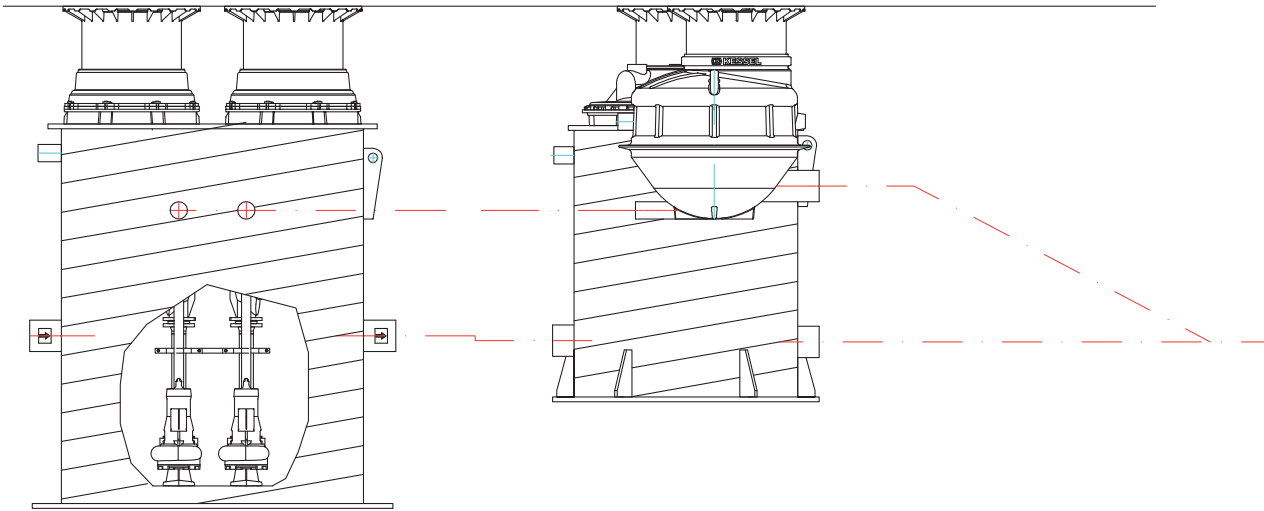
Backwater inspection chamber Ø 1000 / Komfort inspection chamber Ø 800/1000			Accessories
Illustration and dimensioned drawing	Article description	Outer diameter Ø (mm)	Article #
	Hole saw <input type="checkbox"/> Ø 50, 75, 110, 125, 160 <input type="checkbox"/> Ø 200 ¹⁾ <input type="checkbox"/> Ø 250 ¹⁾ ¹⁾ Use a drill with at least 1000 W	- - -	50 100 50 102 50 103
	Pipe sealing gasket (EPDM) Use KESSEL hole saw when drilling,	Ø 110 Ø 125 Ø 160 Ø 200 Ø 250	850 117 850 118 850 119 182-875 182-879
	Cable piping gasket set 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	85 410
	Spreader clamp 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	860 123 860 124
	Thermal insulation for insertion in telescopic upper sections Art.# 860 120, 860 121, 860 122, 860 125	-	860 189
	Access steps with hand rail and sleeve (pre-fitted)	-	860 126
	Embedded step with drilling template. The embedded step can be fitted to the upper section (Art. # 860 120, 860 121, 860 122) in the factory at an additional charge.	-	860 109
	Upper section made of polymer for standard bearing ring / concrete/cast covers, class A/B/D can be assembled with standard concrete rings <input type="checkbox"/> telescopically height adjustable from 50 to 280 mm <input type="checkbox"/> telescopically height adjustable from 50 to 550 mm	- -	860 122 860 125
	Locking and removal key for chamber cover	-	915 595

Hybrid lifting station for sewage free wastewater and rainwater

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

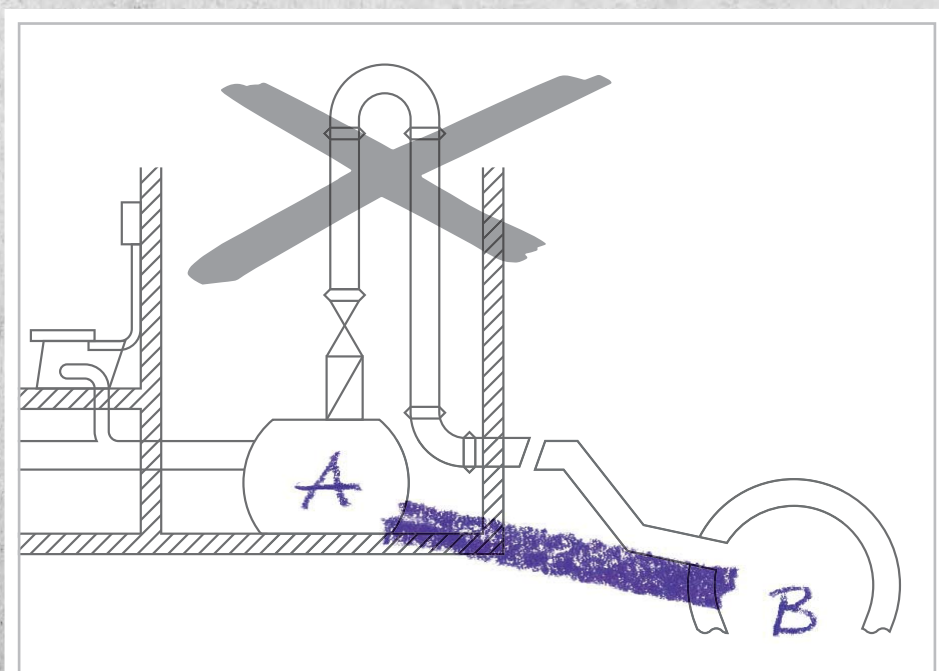


1	Pumping chamber with overflow system
2	Chamber with <i>FKA</i> backwater valve and electrical gate valve
3	Pressure reduction chamber



Hybrid lifting stations

The direct connection



Modern and cost-saving hybrid solution with innovative double function. The hybrid lifting stations use the natural gradient to the sewer for wastewater disposal. Efficient and economical pump use only in the event of backwater or basement flooding. Wastewater is then pumped directly into the flooded sewer.



2 Hybrid lifting stations

Backwater pumping station *Pumpfix F*

Page **60 – 65**

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

Backwater lifting station *Ecolift XL*

Page **66 – 75**

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



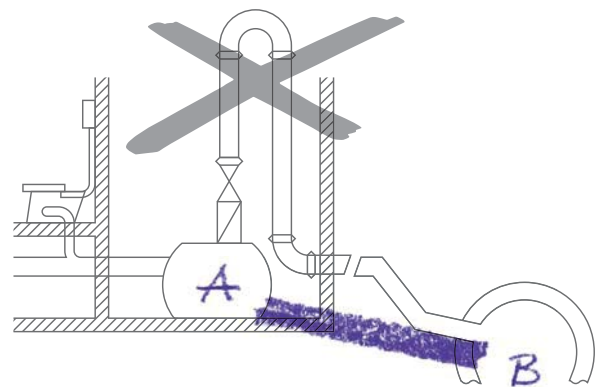
Constant running of a standard lifting station even with gravity sloped drainage. Why?

Hybrid lifting stations

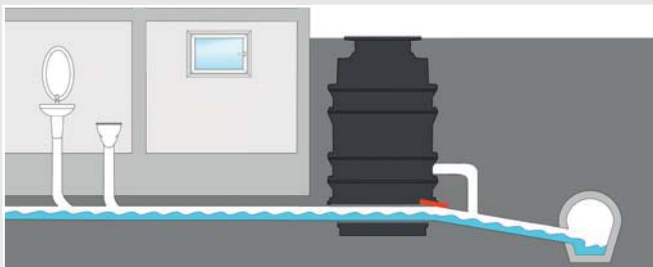
2

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.

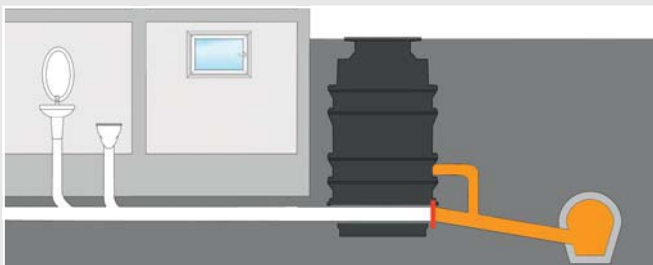


Function



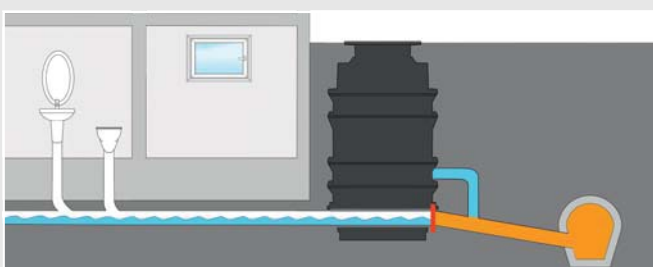
Normal Mode:

- 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

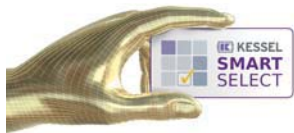


Up to now, products protecting against water penetration have mainly been installed inside buildings. In the meantime, however, new methods are available. For this, an inspection chamber is installed in front of the building where the backwater flaps and pumps are installed.

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



SmartSelect simply makes planning easier - calculation tool for lifting stations at 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.

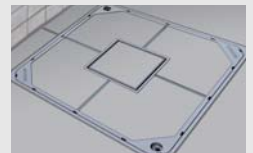
With technical approval: Z-53.2-487

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

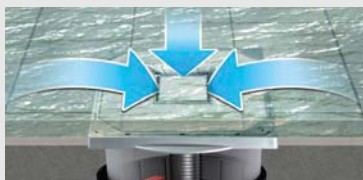


Backwater pumping stations *Pumpfix F*

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

can be connected without a qualified electrician. With self-diagnosis system SDS.

TeleControl telemetric system for relaying full text messages to mobile phones available as accessory.



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



Pumpfix F
Art.# 24 100X

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

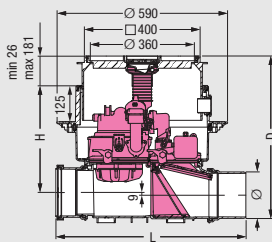
Installation in a concrete slab/floor

Illustration and dimensioned drawing

Article description

 Outer diameter
Ø (mm)

Article #



Installation area 750 x 750 mm

Backwater pumping station *Pumpfix F Komfort* for wastewater with or without sewage

made of polymer, with telescopic upper section for continuous height- and level adjustment

For installation in a concrete slab/floor for installation depth (D) from 486 - 640 mm
1 with recessed cover for on-site tiling and drain (X)
2 with black cover and drain (S)

With surface water tight cover plate class A 15 made of polymer and integrated floor drain. Installation kit with choice of cover.

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

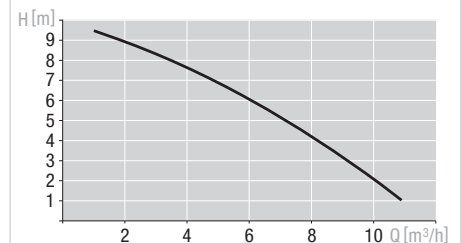
Ø 110	L: 642 mm	H: 394 mm
Ø 125	L: 645 mm	H: 387 mm
Ø 160	L: 656 mm	H: 370 mm
Ø 200	L: 720 mm	H: 348 mm


Certification: Z-53.2-388
1 With recessed cover for on-site tiling and drain

Ø 110	24 100X
Ø 125	24 125X
Ø 160	24 150X
Ø 200*	24 200X

2 With black cover and drain

Ø 110	24 100S
Ø 125	24 125S
Ø 160	24 150S
Ø 200*	24 200S

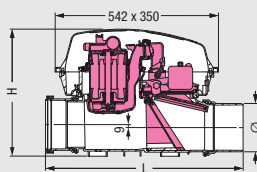


H[m] = Backwater height

Accessories: Page 64 - 65

Pumpfix F Komfort

Installation in an exposed wastewater pipe



Backwater pumping station *Pumpfix F Komfort* for wastewater with or without sewage

made of polymer

For installation in an exposed wastewater pipe.

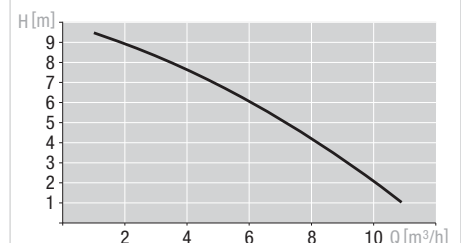
With protective cover.

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

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


Certification: Z-53.2-388

Ø 110	24 100
Ø 125	24 125
Ø 160	24 150
Ø 200*	24 200



H[m] = Backwater height

Accessories: Page 64 - 65

Hybrid Lifting Stations for wastewater with or without sewage

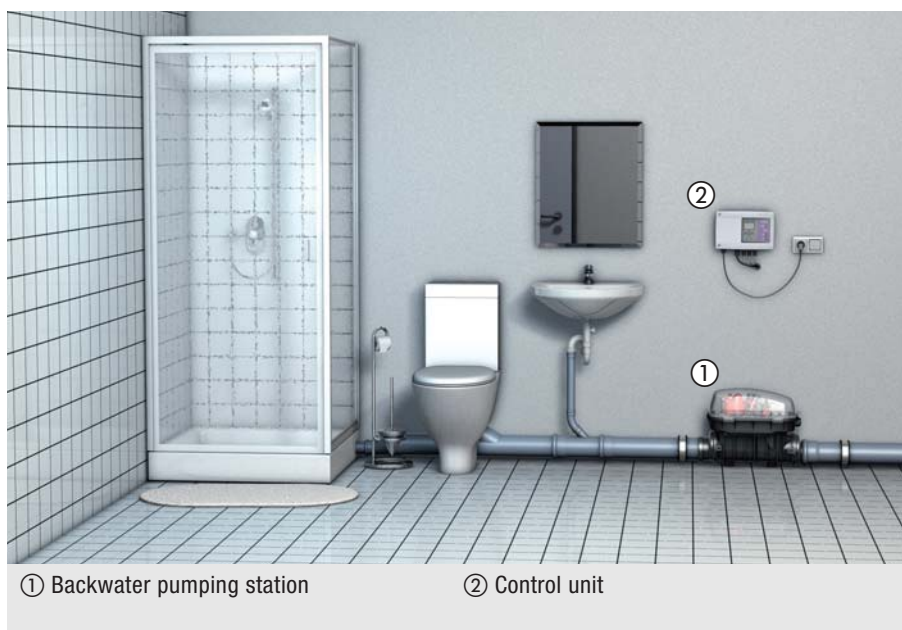
Installation example *Pumpfix F Komfort*



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.

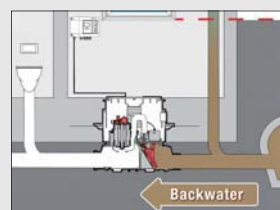


- **Fully open pipe passage** with open backwater flap during normal conditions, flap is automatically closed with motor during backwater

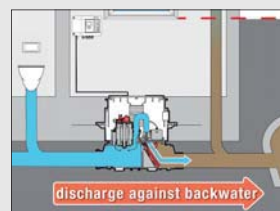
- **Function**



Normal mode:
Water drains with gravity



Backwater:
Backwater flap is closed



Disposal:
Pump activates, wastewater is discharged



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

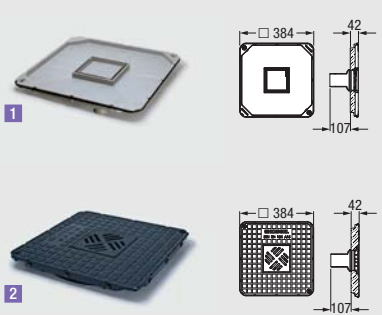

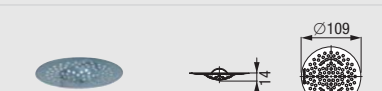





Pumpfix F			Accessories
Illustration and dimensioned drawing	Article description	Outer diameter Ø (mm)	Article #
	<p>Extension section with centre flange with elastomer sealing sheet made of NK/SBR Ø 800 mm, incl. screws for article numbers: 24 100 X/S, 24 125 X/S, 24 150 X/S, 24 200 X/S</p>	-	83 075
 <p>When multiple extension sections are used make sure that access to valve is still possible!</p>	<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 article numbers: 24 100 X/S, 24 125 X/S, 24 150 X/S, 24 200 X/S</p>	-	83 073
 <p>When multiple extension sections are used make sure that access to valve is still possible!</p>	<p>Extension section 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</p>	-	83 070
 <p>Waterproof concrete installation tested by MFPA Leipzig UB 5.1/11-452-1</p>	<p>Gasket set for installation in waterproof concrete consisting of: Counter flange made of polymer, incl. screws, elastomer waterproof membrane 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</p>	-	83 023
	<p>Audible alarm Electronic audible alarm (continuous tone) with connection cable 20 m Minimum current consumption 5 - 25 mA, audible tone 4.7 KHz - 90 dB, large voltage range 6 - 24 V DC; Dimension Ø 31 x 15 mm. suitable for all control units with SDS function</p>	-	20 162
	<p>Potential-free contact Clearance code for Pumpfix F for Comfort control units from model year 2017</p>	-	80 077

NEW

Pumpfix F

Accessories

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

Explanation of cable extensions:

Ecolift / Pumpfix F Komfort Cable length delivered 5 m	Extension to 15 m		Extension to 25 m	
	1	1 x 80 890	1	2 x 80 890
2	2 x 80 889	2	4 x 80 889	
3	1 x 80 891	3	2 x 80 891	



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Dry installation

Hybrid lifting station *Ecolift XL*

For free standing installation - Page 70

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.

SYSTEM ADVANTAGES

Ecolift XL IS QUIET

The pump only operates when absolutely necessary. Conventional systems pump many times a day. The *Ecolift* is put into operation automatically 1x month by the self-diagnosis system SDS in order to ensure that the system is working properly.

Ecolift XL SAVES ENERGY

Wastewater discharging via the main drainage pipe with natural gradient to the sewer, even in the event of a power failure. A huge advantage, particularly in the the case of commercial use, since there is no interruption in operation.

Ecolift XL PROVIDES OPERATIONAL RELIABILITY

Installation effort, ongoing maintenance costs, wear and energy costs are minimised.

Calculation example: Lifting station in a railway station with 20 toilets, 6 urinals, 4 showers and 6 sinks. Free-standing system set-up, maintenance costs incl. travel expenses, average values

	Lifting station	<i>Ecolift XL</i>
Electricity costs	80,00 €/Year	4,00 €/Year
Maintenance costs	4 x 400,00 €/Year	2 x 500,00 €/Year
Wear	200,00 €/Year	100,00 €/Year
Total	1 880,00 €/Year	1 104,00 €/Year
Saving/year		776,00 €/Year
Saving in 5 years		3 880,00 €/Year

COMFORT PLUS CONTROL UNIT FITTED AS STANDARD

Screen with full text display, USB port for read-out is standard feature.

Dry installation



Dry installation



Hybrid lifting station **Ecolift XL**
For minimum installation depth - Page 68

Hybrid lifting station **Ecolift XL**
For installation depths up to 5 m - Page 70

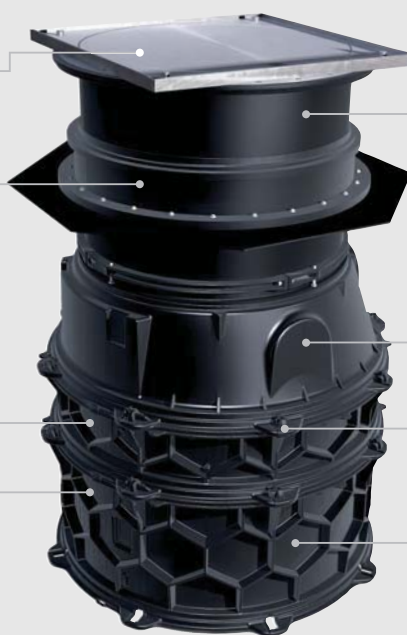
1. ENGINEERING SYSTEM CHAMBER for underground installation or in a concrete slab

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

Upper section Ø 800 mm also available as a version for installation in waterproof concrete with flange and counterflange.

Modular system with sectional chamber components
Height: 250 mm
Height: 500 mm
Infinitely variable chamber depth from 1500 - 5000 mm.

Easy to assembly due to the low weight of the polymer chamber components



Certification Z-42.1-527

Vertically adjustable upper section available with Ø 600 mm or Ø 800 mm diameter with optional waterproofing connection flange

3 spot-drilling areas for cable conduits or ventilation connection

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

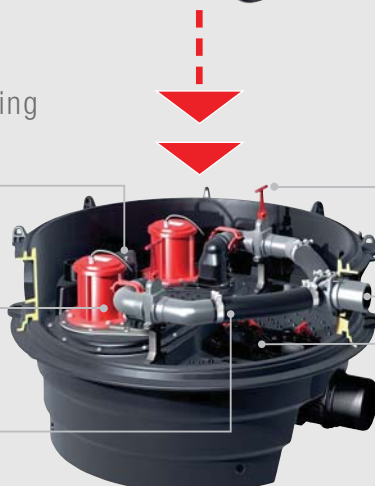
Buoyancy-protected honeycomb structure, ideal for drilling up to Ø 160 mm, engineering chamber handles groundwater depths up to 3000 mm.

2. ENGINEERING SYSTEM BASE in combination with the engineering system chamber

Pneumatic level sensing and alarm sensor offer twice the reliability

Pumps (Mono/Duo) in various capacity classes
- SPF 1500 - 4500: S3 mode
- SPF 1500 - 4500: S1 mode

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



Certification Z-53.2-493

With safety lock to prevent accidental closure

Pressure outlet Ø 90 mm – Fitting with integrated backwater preventer for simple emptying of the pressure pipe.

Up to 2 motor-driven valve systems for maximum safety.



Ecolift XL

For minimum installation depth (680 - 1146 mm)

Hybrid lifting stations

2

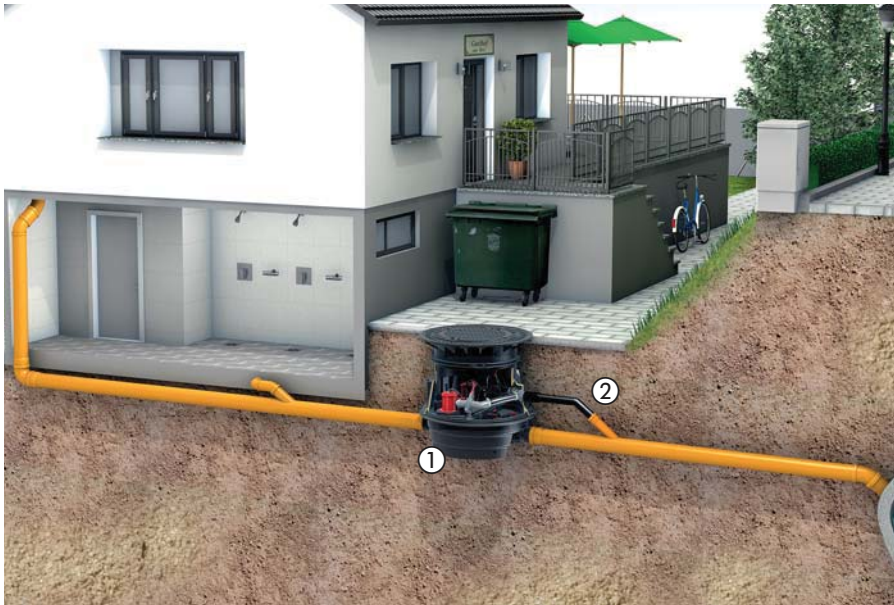
Illustration and dimensioned drawing	Article description	Voltage	Pump SPF	Article #
<p>Dry installation</p>	<p>Engineering system base with welded cone Ø 800 Backwater Lifting Station Ecolift XL Mono / Duo for wastewater with or without sewage For installation in a concrete slab or outdoor underground installation in combination with upper section Handles groundwater depths up to 3000 mm Inlet / outlet Ø 160 mm</p> <p><input type="checkbox"/> Mono version with one SPF pump and Comfort Plus control unit</p> <p>1 with one motor-driven backwater flap for wastewater without sewage</p> <p>2 with two motor-driven backwater flaps for wastewater with sewage</p> <p><input type="checkbox"/> Duo version with two SPF pumps and Comfort Plus control unit</p> <p>3 with one motor-driven backwater flap for wastewater without sewage</p> <p>4 with two motor-driven backwater flaps for wastewater with sewage</p> <p>10 m cable length 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</p> <p>Upper sections / covers required (see below) Cable piping gasket set see page 75</p>	<p>1 230 V 400 V 400 V 400 V</p> <p>2 230 V 400 V 400 V 400 V</p> <p>3 230 V 400 V 400 V 400 V</p> <p>4 230 V 400 V 400 V 400 V</p>	<p>1400-S3 1500-S3 3000-S3 4500-S3</p> <p>1400-S3 1500-S3 3000-S3 4500-S3</p> <p>1400-S1 1500-S1 3000-S1 4500-S1</p> <p>1400-S1 1500-S1 3000-S1 4500-S1</p>	<p>8741044 8741045 8741046 8741047</p> <p>8741048 8741049 8741050 8741051</p> <p>8741064 8741065 8741066 8741067</p> <p>8741072 8741073 8741074 8741075</p>
	<p>Certification: Z-53.2-493</p>			

Illustration	Article description	Version	Article #
	<p>To be ordered separately: Upper section Ø 800 made of polymer, with covers:</p> <p><input type="checkbox"/> made of stainless steel, square, class A/L 15</p> <p>1 - tileable D: min. 65 - max. 314 mm 2 - tileable D: min. 282 - max. 531 mm</p> <p>3 - stainless steel cover D: min. 50 - max. 299 mm 4 - stainless steel cover D: min. 267 - max. 516 mm anti-slip</p> <p><input type="checkbox"/> made of stainless steel, square</p> <p>5 class B D: min. 274 - max. 523 mm 6 class D D: min. 274 - max. 523 mm</p> <p><input type="checkbox"/> made of stainless steel, round</p> <p>7 class K 3 D: min. 65 - max. 314 mm</p>	<p>without waterproof flange with waterproof flange</p> <p>without waterproof flange with waterproof flange</p> <p>without waterproof flange without waterproof flange</p>	<p>8740175 8740176</p> <p>8740177 8740178</p> <p>8740179 8740180</p> <p>8740181</p>

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.

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

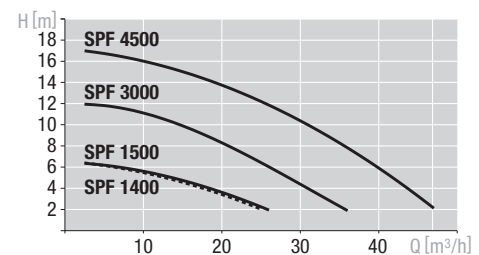


Scan this QR code to directly view the corresponding product video.

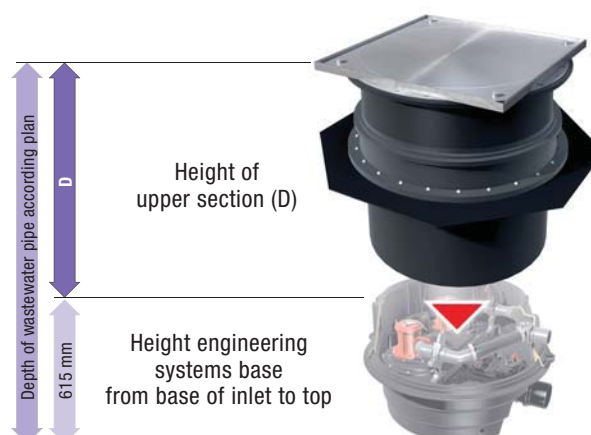


Pump type:

- | | |
|--|--|
| <input type="checkbox"/> SPF 1400-S3 50 % power on duration | <input type="checkbox"/> SPF 3000-S3 50 % power on duration |
| <input type="checkbox"/> SPF 1400-S1 continuous duty (e.g. rainwater) | <input type="checkbox"/> SPF 3000-S1 continuous duty (e.g. rainwater) |
| Pumping capacity: max. 25 m ³ /h | Pumping capacity: max. 36 m ³ /h |
| Pumping height: max. 7 m | Pumping height: max. 12 m |
| <hr/> | <hr/> |
| <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 m ³ /h | Pumping capacity: max. 41 m ³ /h |
| Pumping height: max. 6.5 m | Pumping height: max. 17 m |



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Ecolift XL

For installation depth up to 5 m / for free standing installation

Illustration and dimensioned drawing

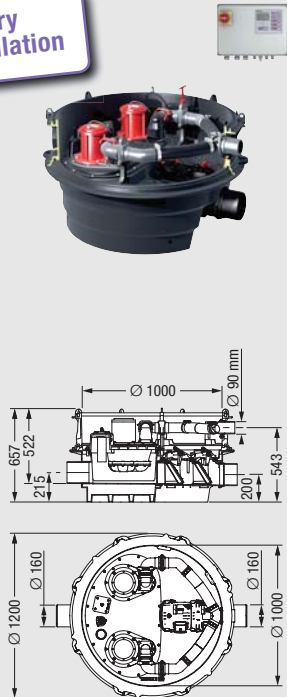
Article description

Voltage

Pump SPF

Article #

Dry installation



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**

1	230 V	1400-S3	874 1006
	400 V	1500-S3	874 1007
	400 V	3000-S3	874 1008
	400 V	4500-S3	874 1009

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

2	230 V	1400-S3	874 1010
	400 V	1500-S3	874 1011
	400 V	3000-S3	874 1012
	400 V	4500-S3	874 1013

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

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

3	230 V	1400-S1	874 1026
	400 V	1500-S1	874 1027
	400 V	3000-S1	874 1028
	400 V	4500-S1	874 1029

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

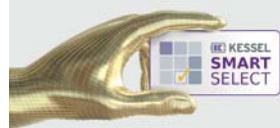
4	230 V	1400-S1	874 1034
	400 V	1500-S1	874 1035
	400 V	3000-S1	874 1036
	400 V	4500-S1	874 1037

10 m cable length

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

Cable piping gasket set see page 75

Certification: Z-53.2-493



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Free standing installation

Underground installation

To be ordered separately: System chamber

- for **underground installation** (see page 72-73)
- for **installation in a concrete slab** (see page 73)

Total installation depth = 522 + D

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



Installation depth of systems chamber (D1 - D11)

Height engineering systems base from base of inlet to top



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

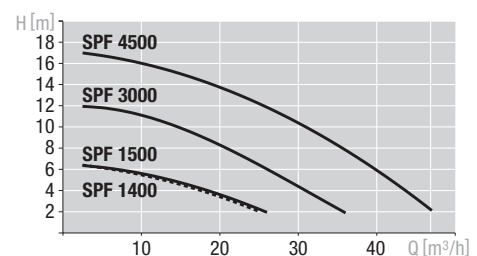
The hybrid lifting station *Ecolift XL* is suitable for applications where significant wastewater occurs. This is the case where grease separators are in use, for example, with large quantities of wastewater usually being pumped out of the kitchen via classic double lifting stations into the sewer. The 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 1400-S3 50 % power on duration | <input type="checkbox"/> SPF 3000-S3 50 % power on duration |
| <input type="checkbox"/> SPF 1400-S1 continuous duty (e.g. rainwater) | <input type="checkbox"/> SPF 3000-S1 continuous duty (e.g. rainwater) |
| Pumping capacity: max. 25 m³/h | Pumping capacity: max. 36 m³/h |
| Pumping height: max. 7 m | Pumping height: max. 12 m |
| <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 |

Hybrid Lifting Stations for wastewater with or without sewage

System chambers Ø 1000

With access opening Ø 600 / Ø 800 mm

Illustration and dimensioned drawing

Article description

Installation depth mm

Article #

For underground installation

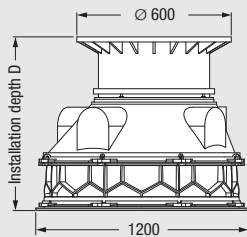


Illustration shows 1 2

Engineering system chamber for combination with the engineering system base *Ecolift XL* made of polyethylene

with access opening Ø 600 mm

Upper section with round cover, made of cast iron

1 Class A/B

2 Class D

1	D 4:	1130 - 1379	874 00 18	
	D 5:	1380 - 1629	874 00 24	
	D 6:	1630 - 1879	874 00 30	
	D 7:	1880 - 2129	874 00 36	
	D 8:	2130 - 2379	874 00 42	
	D 9:	2380 - 2629	874 00 48	
	D 10:	2630 - 2879	874 00 54	
	D 11:	2880 - 3129	874 00 60	
	2	D 4:	1130 - 1379	874 00 19
		D 5:	1380 - 1629	874 00 25
		D 6:	1630 - 1879	874 00 31
D 7:		1880 - 2129	874 00 37	
D 8:		2130 - 2379	874 00 43	
	D 9:	2380 - 2629	874 00 49	
	D 10:	2630 - 2879	874 00 55	
	D 11:	2880 - 3129	874 00 61	

For underground installation

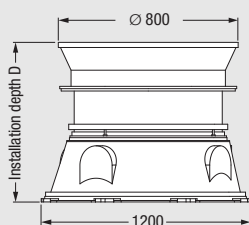


Illustration shows 4 5

with access opening Ø 800 mm

Upper section with round cover, made of stainless steel

3 Klasse K 3

3	D 1:	375 - 624	874 01 22
	D 2:	625 - 874	874 01 23
	D 3:	875 - 1124	874 01 24
	D 4:	1125 - 1374	874 01 25
	D 5:	1375 - 1624	874 01 26
	D 6:	1625 - 1874	874 01 27
	D 7:	1875 - 2124	874 01 28
	D 8:	2125 - 2374	874 01 29
	D 9:	2375 - 2624	874 01 30
	D 10:	2625 - 2874	874 01 31
	D 11:	2875 - 3124	874 01 32

Upper section with square cover, made of stainless steel

4 Klasse B

4	D 1:	620 - 869	874 01 41
	D 2:	870 - 1119	874 01 42
	D 3:	1120 - 1369	874 01 43

5 Klasse D

5	D 1:	620 - 869	874 01 58
	D 2:	870 - 1119	874 01 59
	D 3:	1120 - 1369	874 01 60

Covers surface water tight

Other installation depths
on request

Handles groundwater depths up to 3000 mm

Delivered as individual elements

Removable access aid article # 860 126 on request


In compliance with EN 13598 Part 2

Certification: Z-42.1-527

Hybrid Lifting Stations for wastewater with or without sewage

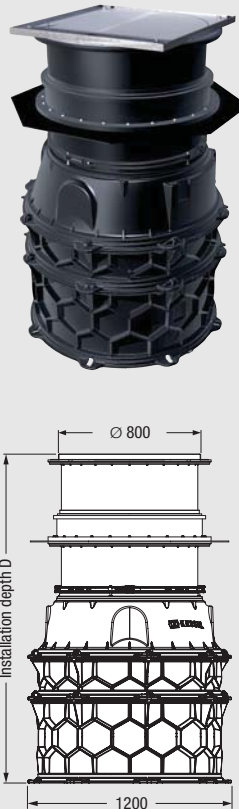
System chambers Ø 1000

With access opening Ø 800 mm


Illustration and dimensioned drawing	Article description	Installation depth mm	Article #
<p>For underground installation</p> 	<p>Engineering system chamber for combination with the engineering system base <i>Ecolift XL</i> made of polyethylene</p> <p><input type="checkbox"/> with access opening Ø 800 mm</p> <hr/> <p>Upper section with square cover, made of stainless steel</p> <p>1 Class A/L 15, not tileable, anti-slip</p> <p>2 Class A/L 15, tileable</p> <p>Covers surface water tight</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>Handles groundwater depths up to 3000 mm Delivered as individual elements Removable access aid article # 860 126 on request</p> <p>In compliance with EN 13598 Part 2 Certification: Z-42.1-527</p>	<p>1 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>2 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>

System chambers Ø 1000

With access opening Ø 800 mm

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

Ecolift XL		Accessories										
Illustration and dimensioned drawing	Article description	Outer diameter Ø (mm)	Article #									
	<p>Extension section for engineering systems chamber, without gasket and connecting wedges, Height = 500 mm</p> <p>Including 2 access steps, installed</p>	-	680 371									
	<p>Extension section for engineering systems chamber, without gasket and connecting wedges, Height = 250 mm</p> <p>Including 1 access step, installed</p>	-	680 370									
	<p>Set of connecting wedges 10 pieces</p>	-	680 373									
	<p>Profiled gasket for extension section</p>	-	680 125									
 	<p>1 Cable extension for motor 10 m cable length</p>	-	80 890									
	<p>2 Cable extension for probe 10 m cable length</p>	-	80 889									
	<p>3 Cable extension for pump 230 V 10 m cable length</p>	-	80 891									
	<p>Cable attachment set for the chamber modules</p>	-	28 076									
<p>Explanation of cable extensions:</p> <table border="1"> <thead> <tr> <th>Extension to ...</th> <th>20 m</th> <th>30 m</th> </tr> </thead> <tbody> <tr> <td>Backwater lifting station <i>Ecolift XL</i> with one motorized valve, Cable length delivered 10 m</td> <td> 1 1 x 80 890 2 2 x 80 889 3 1 x 80 891 </td> <td> 1 2 x 80 890 2 4 x 80 889 3 2 x 80 891 </td> </tr> <tr> <td>Backwater lifting station <i>Ecolift XL</i> with two motorized valves, Cable length delivered 10 m</td> <td> 1 2 x 80 890 2 3 x 80 889 3 2 x 80 891 </td> <td> 1 4 x 80 890 2 6 x 80 889 3 4 x 80 891 </td> </tr> </tbody> </table> <p>Note: 400 V extension on-site through qualified electrician</p>				Extension to ...	20 m	30 m	Backwater lifting station <i>Ecolift XL</i> with one motorized valve, Cable length delivered 10 m	1 1 x 80 890 2 2 x 80 889 3 1 x 80 891	1 2 x 80 890 2 4 x 80 889 3 2 x 80 891	Backwater lifting station <i>Ecolift XL</i> with two motorized valves, Cable length delivered 10 m	1 2 x 80 890 2 3 x 80 889 3 2 x 80 891	1 4 x 80 890 2 6 x 80 889 3 4 x 80 891
Extension to ...	20 m	30 m										
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Backwater lifting station <i>Ecolift XL</i> with two motorized valves, Cable length delivered 10 m	1 2 x 80 890 2 3 x 80 889 3 2 x 80 891	1 4 x 80 890 2 6 x 80 889 3 4 x 80 891										
	<p>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.</p>	-	28 792									
	<p>TeleControl antenna booster incl. 2.5 m cable to improve reception. With magnetic base.</p>	-	28 793									
	<p>Antenna booster extension cable cable length 2.5 m</p>	-	28 794									
	<p>Audible alarm <input type="checkbox"/> 20 m cable length suitable for all control units with SDS function</p>	-	20162									

Ecolift XL		Accessories																					
Illustration and dimensioned drawing	Article description	Outer diameter Ø (mm)	Article #																				
	Kiosk for control unit 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		
	Height over all	Height over ground level	Width / depth																				
	1 1740 mm	870 mm	460/320 mm	for control unit, heating, warning beacon																			
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4 1740 mm	870 mm	1115/320 mm	for control unit, Modem, heating, warning beacon and pressure pipe																				
Pre-wired switch cabinets on request																							
	Warning beacon 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																				
	Thermostat / Hygrostat as an additional module for installation in the outdoor kiosk to reduce condensation	-	97 713																				
	Compressor set 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. 20 m pressure hose	-	28 048																				
	PE-pressure hose extension (bulk goods)	-	680 071																				
	Cable piping gasket set 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>Controlfix</i> with Komfort inspection chamber System Ø 800 and Ø 1000	Ø 110	85 410																				

Wastewater lifting stations

Innovative and highly efficient



KESSEL-Lifting station *Aqualift XL* for free standing installation



3 Wastewater lifting stations

Lifting stations for wastewater containing raw sewage

for free standing installation and for installation in a concrete floor Page **84 – 101**
for underground installation Page **114 – 125**

Lifting stations for wastewater without sewage

Complete range for free-standing installation and for installation in a concrete floor Page **102 – 111**
for underground installation Page **126 – 129**

Submersible pumps Page **134 – 135**

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

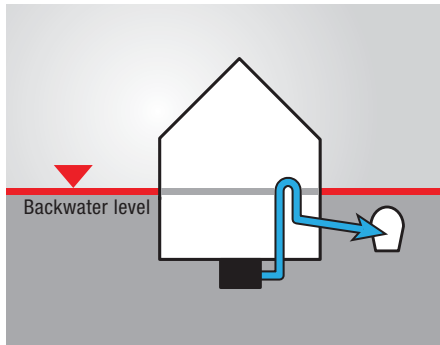
Warning and control units Page **136 – 140**

Convenient monitoring and control of lifting stations and pumps

Individual Solutions Page **141 – 145**

Water flows upwards?

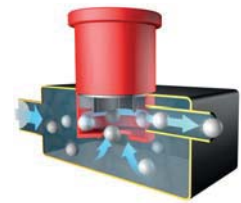
It often happens that wastewater cannot be drained with gravity because the sewer is higher than the drainage point in the basement. In this case a lifting station or pump must be used. Lifting stations pump the wastewater via pressure pipes into the sewer.



■ 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.

Pumping volume: Another important point is the pumping volume of a lifting station. EN 12056-4 requires the pumping volume of the system to be larger than the total volume of the pressure pipe. This means that the wastewater in the pressure line is replaced during every pumping process. And if the backwater preventer is leaking this does not lead to the pump switching on and off all the time.



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.

Macerating, multi-vane or single channel impellers?

The reliable function depends on selecting the appropriate lifting station and also on the technically correct installation of the lifting station. KESSEL offers three types of pumps. Macerator, multi-vane impellered and single-channel impellered pumps. Each of these pumps has special properties.



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



Multi-vane impellered 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.



Single-channel impellered pumps are particularly suitable for wastewater containing short fibres. Their combination of high efficiency and low energy consumption is outstanding and leads to their use with large wastewater volumes in particular.

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

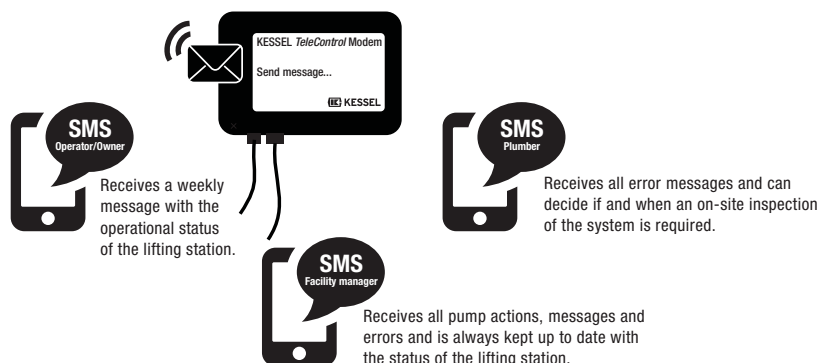
 The use of basements to provide further space for accommodation is becoming increasingly important. Frequently, toilets, showers or washing facilities are located in the basement. For such applications, KESSEL supplies lifting stations for installation in concrete floors. These lifting stations simply 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 5 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

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 Basic</i>	<i>Aqualift F Compact</i>	<i>Aqualift F</i>	<i>Aqualift F XL</i>	<i>Aqualift F</i>	<i>Aqualift F XL</i>
Interior installation	✓	✓	✓	✓	✓		
Exterior installation						✓	✓
Input power	0.3 kW	1.5 kW	1 kW	1.4 - 3 kW	1.4 - 5.7 kW	1 kW	1.3 - 4.5 kW
Max. pumping height	6 m	9.2 m	9 m	16 m	27 m	9 m	23 m
Pressure outlet diameter	28-34 mm	90 mm	40 mm	110 mm	110 mm	40 mm	63/90 mm
Pump impeller	Macerator	Multi-vane	Macerator	Multi-vane	Multi-vane	Macerator	Multi-vane / Macerator / Single channel
Products see page	84	90	84	90-92	94	114	118

FOR WASTEWATER WITHOUT SEWAGE

	<i>Minilift</i>	<i>Aqualift S</i>	<i>Aqualift S</i>	<i>Aqualift S XL</i>
Interior installation	✓	✓		
Exterior installation			✓	✓
Input power	0.3 kW	0.5 kW	0.5 / 1.4 kW	0.5 / 1.4 kW
Max. pumping height	5 m	7 m	9 m	9 m
Pressure outlet diameter	40 mm	40 mm	40 mm	40 mm
Pump impeller	Multi-vane	Multi-vane	Multi-vane	Multi-vane
Products see page	108	104	126	128



SmartSelect simply makes planning easier - calculation tool for lifting stations at smartselect.kessel.com



SmartSelect simply makes planning easier - calculation tool for lifting stations at smartselect.kessel.com



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



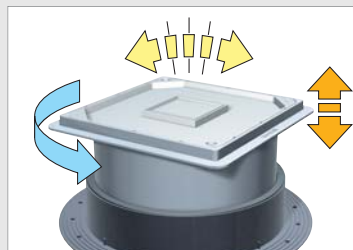
Single- / Twin station
40 liter tank volume

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 tileable cover.

With technical approval: Z-53.2-484



Single station
40 liter tank volume

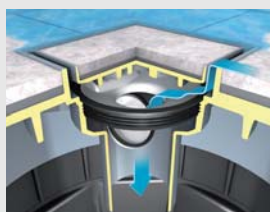
Twin station
40 liter tank volume



Lifting station
for wastewater disposal from a single toilet

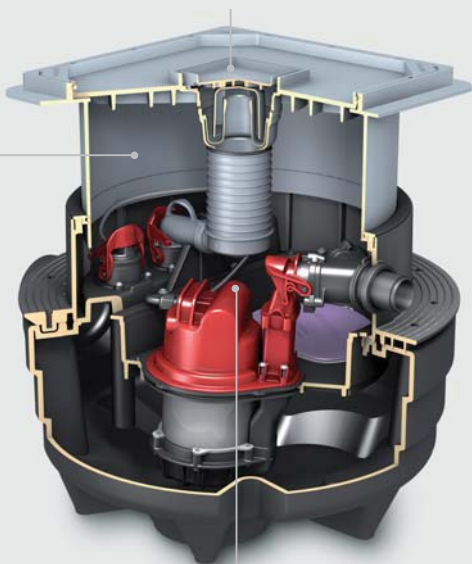
Wastewater lifting stations
Aqualift F Compact
for free standing installation

Compact 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



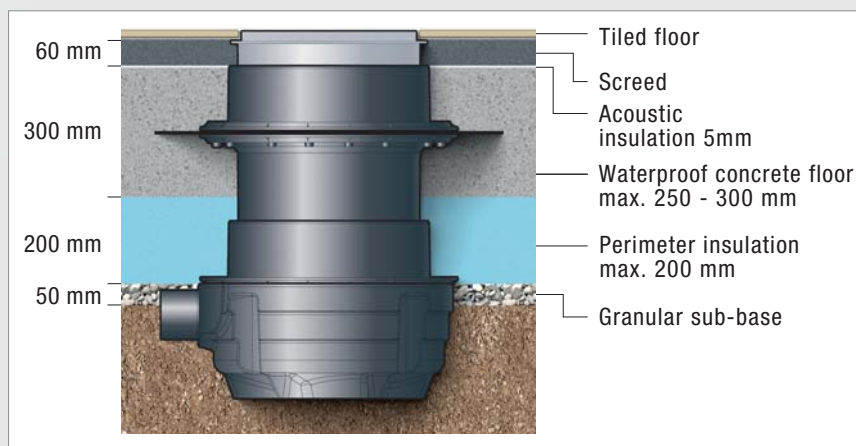
MAXIMUM SAFETY THANKS TO CONTROL UNIT WITH SDS

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 or free-standing

Illustration and dimensioned drawing	Article description	Input power	Voltage	Article #
<p>Illustration shows 2 Installation area 800 x 800 mm</p>	<p>Lifting station Aqualift F Compact Mono / Duo for installation in a concrete slab/floor, with recessed cover for on-site tiling and drain Installation depth (D) 490 to 600 mm With odour trap, sealing water height 50 mm With lateral inlet \varnothing 110</p> <p>With telescopic upper section for free height and level adjustment, recessed cover for on-site tiling, made of polymer class A15, with moisture protective sealing flange.</p> <p>1 Aqualift F Compact Mono with one removable pump, pressure sensor controlled, with integrated backwater flap</p> <p>2 Aqualift F Compact Duo with two removable pumps, pressure sensor controlled, with integrated backwater flap</p> <p>With SDS control unit (self-diagnosis system) for fully automatic pump control, splashwater-protected (IP 54), wall mounted.</p> <p>Pressure connection: 1½ inch outer thread or pressure pipe \varnothing 40 mm for PVC glued connection or pressure pipe set (accessories Art. # 28 040) Pumping height: max. 9.5 m, $Q_{max} = 10.9 \text{ m}^3/\text{h}$ Voltage: 230 V ~ 50 Hz. Power cable: 5 m.</p> <p>A ventilation pipe must be provided for on site.</p>	<p>With recessed cover for on-site tiling</p> <p>1 1.0 kW 230 V 28 701-C</p> <p>2 1.0 kW 230 V 28 704-C</p> <p>With black cover</p> <p>1 1.0 kW 230 V 28 701S</p> <p>2 1.0 kW 230 V 28 704S</p>		
	<p>Illustration shows 2 Installation area 700 x 700 mm Certification no. Z-53.2-484</p>	<p>Lifting station Aqualift F Compact Mono / Duo for free-standing installation With lateral inlet \varnothing 110</p> <p>1 Aqualift F Compact Mono with one removable pump, pressure sensor controlled, with integrated backwater flap</p> <p>2 Aqualift F Compact Duo with two removable pumps, pressure sensor controlled, with integrated backwater flap</p> <p>With SDS control unit (self-diagnosis system) for fully automatic pump control, splashwater-protected (IP 54), wall mounted.</p> <p>Pressure connection: 1½ inch outer thread or pressure pipe \varnothing 40 mm for PVC glued connection or pressure pipe set (accessories Art. # 28 040) Pumping height: max. 9.5 m, $Q_{max} = 10.9 \text{ m}^3/\text{h}$ Voltage: 230 V ~ 50 Hz. Power cable: 5 m.</p> <p>A ventilation pipe must be provided for on site.</p> <p>EN 12050-1 (max 2 WC connections)</p>	<p>1 1.0 kW 230 V 28 711-C</p> <p>2 1.0 kW 230 V 28 743-C</p>	

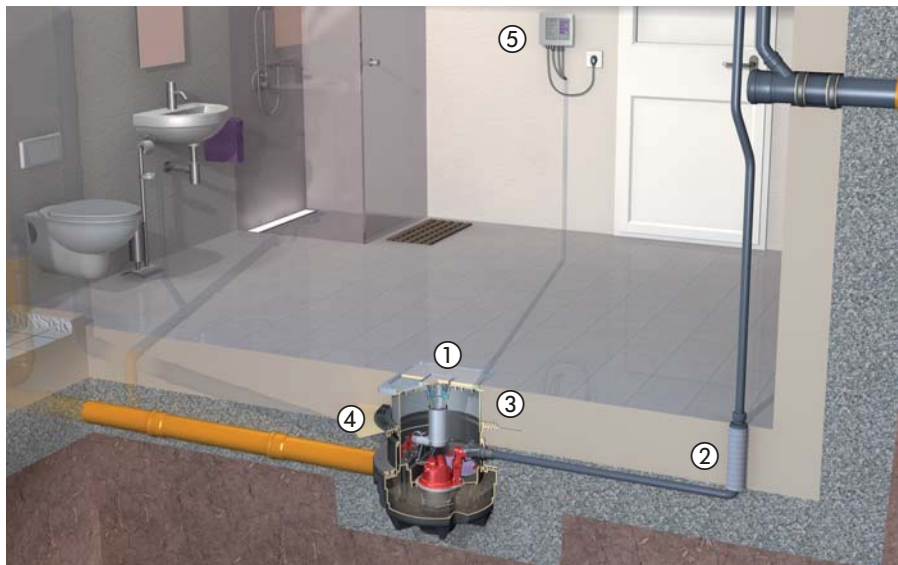
Minilift F

For free-standing installation

	<p>Compact lifting station Minilift F made of polymer for free-standing installation in frost protected rooms</p> <p>Plug-and-play sewage lifting station with macerator for wastewater disposal from a single toilet.</p> <p>For free-standing set-up</p> <p>With pneumatic level control, with activated carbon filter, with dry room monitoring</p> <p>EN 12050-3</p>	<p>- 230 V 28 520</p>	
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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".

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.

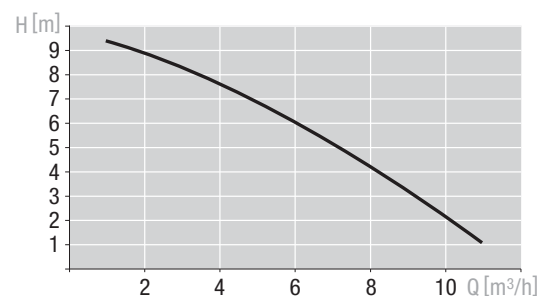


Scan this QR code to directly view the corresponding product video.












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 ⁻¹
Motor protection	integrated
Operating mode	S3 - 30%

Performance Diagramme



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>Cover plate, surface water tight Class A 15 With drain Ø 75, includes Multistop odour, foam, rodent and insect stop incl. gasket</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: 28 701-C, 28 704-C</p>	-	83 045
	<p>Hair filter made of polymer for article numbers: 83 045 and 83 046</p>	-	43 700
	<p>Cover plate, surface water tight Class A 15 made of polymer, incl. gasket Art. # 173-145</p> <p><input type="checkbox"/> black Ventilation always required when in use!</p> <p><input type="checkbox"/> 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>	-	83 050 83 052
	<p>Upper section made of polymer, max. extension 180 mm, height adjustable for article numbers: 28 701-C, 28 704-C</p>	-	83 061
	<p>Transition section Ø 110 / 75 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	27 602
	<p>Extension section with centre flange with elastomer sealing sheet made of NK/SBR Ø 800 mm, incl. screws for article numbers: 28 701-C, 28 704-C</p>	-	83 075
	<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 article numbers: 28 701-C, 28 704-C</p>	-	83 073
<p>When multiple extension sections are used make sure that access to valve is still possible!</p>	<p>Extension section made of polymer, max. extension 180 mm, incl. gasket for article numbers: 28 701-C, 28 704-C</p>	-	83 070

Aqualift F Compact		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>Gasket set for installation in waterproof concrete</p> <p>Consisting of: Counter flange made of polymer, incl. screws, elastomer waterproof membrane in NK/SBR Ø 800 mm for article numbers: 28 701-C, 28 704-C</p>	-	83 023
	 <p>Pressure pipe set 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	28 040
 <p>Audible alarm <input type="checkbox"/> 20 m cable length suitable for all control units</p>	-	20 162	
 <p>Potential-free contact for all Aqualift 230 V Comfort control units</p>	-	80 072	
 <p>Compressor set 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 20 m pressure hose.</p>	-	28 048	
	PE-pressure hose extension (bulk goods)	-	680 071
 <p>Retrofit kit alarm float switch for lifting stations Aqualift F Compact Can be combined with 230 V Comfort control units. Comprises a float switch, float switch bracket and 5 m connection cable.</p>	-	28 016	
 <p>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.</p>	-	28 792	
 <p>TeleControl antenna booster for TeleControl telemetric system incl. 2.5 m cable to improve reception. With magnetic base.</p>	-	28 793	
	Antenna booster extension cable cable length 2.5 m	-	28 794
	<p>1 Cable extension for probe 10 m cable length</p>	-	80 889
	<p>2 Cable extension for pump 10 m cable length</p>	-	80 891
Explanation of cable extensions:			
		Extension to 15 m	Extension to 25 m
<i>Aqualift F Compact Mono</i> Cable length delivered 5 m	1	1 x 80 889	1 2 x 80 889
	2	1 x 80 891	2 2 x 80 891
<i>Aqualift F Compact Duo</i> Cable length delivered 5 m	1	1 x 80 890	1 2 x 80 890
	2	2 x 80 889	2 4 x 80 889



SmartSelect simply makes planning easier - calculation tool for lifting stations at smartselect.kessel.com

Powerful *Aqualift F / 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.



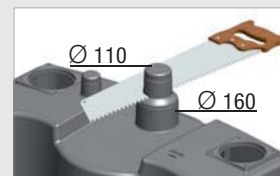
50 liter tank volume

50 / 120 liter tank volume

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

INLET CONNECTION

Size Ø 110 mm or Ø 160 mm selected on-site.



PRESSURE SENSOR

Pressure sensor controlled, multi-vane impeller pump.

ODOUR-TIGHT

100 % odour-tight access cover

ADDITIONAL INLETS

Ø 50 mm to Ø 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

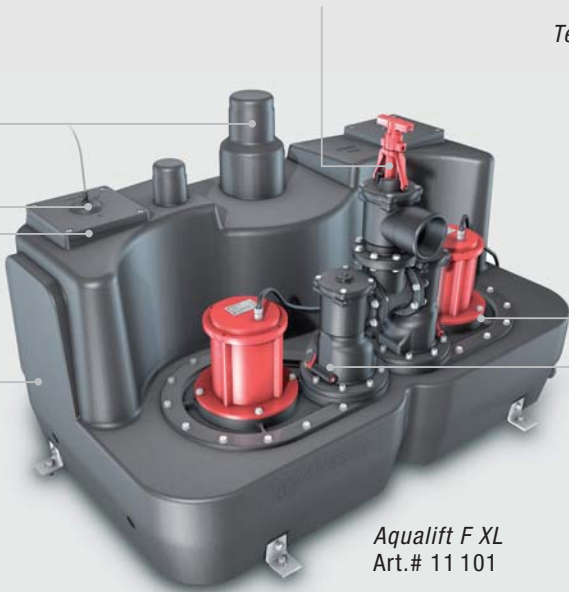
CLOSURE VALVE

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.



Aqualift F XL
Art.# 11 101

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.


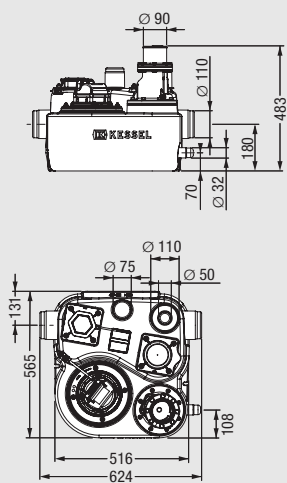

INTEGRATED NON-RETURN VALVE


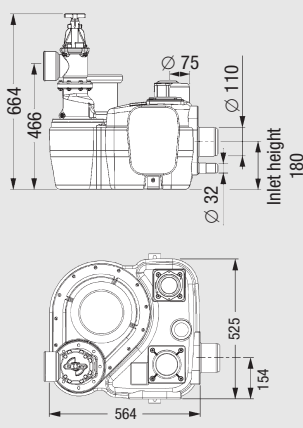

COMPACT DIMENSIONED BODIES

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



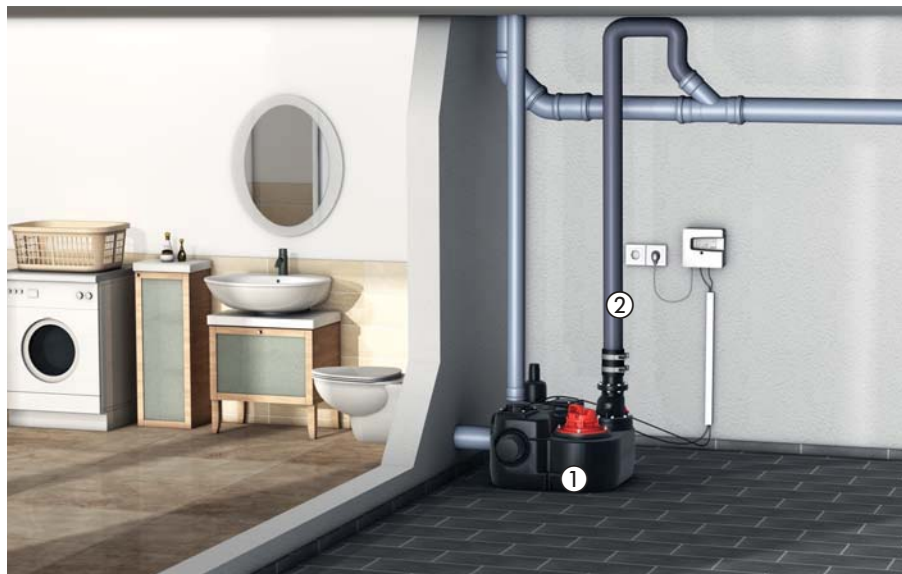


Aqualift F Basic			50 liters	
Illustration and dimensioned drawing	Article description	Voltage	SPF	Article #
 	<p>Lifting station Aqualift F Basic for free-standing installation in frost-free rooms</p> <p>Tank volume: 50 liters Pump volume: 20 liters</p> <p>Consisting of: Polyethylene storage chamber with screwed access opening. With sound-absorbing underlay mat (10 mm thick). Inlet connection from above $\varnothing 50/110$ mm. Two additional $\varnothing 110$ mm inlet connections at both sides. With $\varnothing 75$ mm vent connection. Connection coupling for manual diaphragm pump $\varnothing 32$ mm.</p> <p>SPF 1300 pump for wastewater with or without sewage, float switch controlled (level and alarm) with multi-vane impeller. Open channel passage 40 mm. Pump is rated submersible. Pump cable length 5 m.</p> <p>Including backwater preventer, with plastic spigot pressure outlet $\varnothing 90$ mm including elastic hose connection.</p> <p>Control unit Basic 230 V. With function display, button for manual pump start and to reset alarm. Battery buffered alarms (battery included). With connection option for on-site potential free-contact.</p> <p>Total weight approx. 24 kg.</p>	230 V	1300-S3	28 798
				

Aqualift F Mono			50 liters																			
 <p>Illustration shows Art. # 28 646-C</p>  <p>Illustration shows Art. # 28 648-C</p>	<p>Lifting station Aqualift F Mono for free-standing installation in frost-free rooms</p> <p>Tank volume: 50 liters Pump volume: 20 liters</p> <p>Consisting of: Polyethylene storage chamber with clean-out opening. With sound-absorbing underlay mat (10 mm thick). Connection for inlet $\varnothing 110$ and ventilation $\varnothing 75$, connection coupling for manual diaphragm pump $\varnothing 32$ mm.</p> <p>SPF pump for wastewater with or without sewage, pressure sensor controlled with multi-vane impeller. Open channel passage 40 mm. Pump is rated submersible (IP 68), pump cable length 5 m. Outlet with integrated non-return valve, connection coupling $\varnothing 110$ with hose section.</p> <p>1 Without closure valve (vertical pressure outlet) 2 With closure valve (horizontal pressure outlet)</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>Total weight approx. 44 kg.</p>	<p>1 Without closure valve</p> <table border="1"> <tr> <td>230 V</td> <td>1400-S3</td> <td>28 646-C</td> </tr> <tr> <td>400 V</td> <td>1500-S3</td> <td>28 751</td> </tr> <tr> <td>400 V</td> <td>3000-S3</td> <td>28 752</td> </tr> </table> <p>2 With closure valve</p> <table border="1"> <tr> <td>230 V</td> <td>1400-S3</td> <td>28 648-C</td> </tr> <tr> <td>400 V</td> <td>1500-S3</td> <td>28 753</td> </tr> <tr> <td>400 V</td> <td>3000-S3</td> <td>28 754</td> </tr> </table>	230 V	1400-S3	28 646-C	400 V	1500-S3	28 751	400 V	3000-S3	28 752	230 V	1400-S3	28 648-C	400 V	1500-S3	28 753	400 V	3000-S3	28 754		
230 V	1400-S3	28 646-C																				
400 V	1500-S3	28 751																				
400 V	3000-S3	28 752																				
230 V	1400-S3	28 648-C																				
400 V	1500-S3	28 753																				
400 V	3000-S3	28 754																				
																						

Lifting stations for wastewater with or without sewage

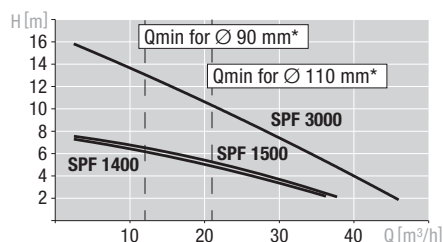
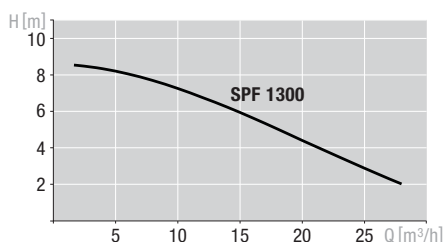
Installation example *Aqualift F Basic*



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

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)

Type	SPF 1300	SPF 1400	SPF 1500	SPF 3000
Input Power (P1)	1.5 kW	1.6 kW	1.4 kW	3.2 kW
Power (P2)	1.0 kW	1.1 kW	1.1 kW	2.7 kW
Voltage	230 V	230 V	400 V	400 V
Frequency	50 Hz	50 Hz	50 Hz	50 Hz
Amperage	6.7 A	7.3 A	2.7 A	5.4 A
Fuses	C 10 A	16 A surge-proof	3 x 16 A surge-proof	3 x 16 A surge-proof
Cable connections	5 m Length, 3 x 1.5 mm ²	5 m Length, 3 x 1.0 mm ²	5 m Length, 7 x 1.5 mm ²	5 m Length, 7 x 1.5 mm ²
Media temperature	40°C	40°C	40°C	40°C
Weight (Pump)	approx. 24 kg	23 kg	24 kg	24 kg
Protection	IP 54	IP 68	IP 68	IP 68
Operating mode	S3 15 % power on duration	S3 50 % power on duration	S3 50 % power on duration	S3 50 % power on duration
Rpm	2.900	1.370	1.415	2.845
Pumping capacity	32 m ³ /h	38 m ³ /h	40 m ³ /h	47 m ³ /h
Pumping height	9.2 m	7 m	8 m	16 m



Aqualift F Duo

120 liters



Illustration shows Art. # 28 628-C

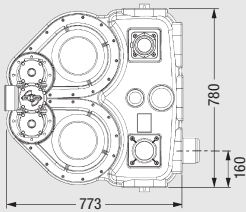
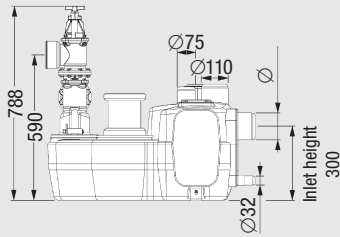


Illustration shows Art. # 28 629-C

Lifting station *Aqualift F Duo*

for free-standing installation in frost-free rooms

Tank volume: 120 liters

Pump volume: 50 liters

Consisting of:

Polyethylene storage chamber with clean-out opening. With sound-absorbing underlay mat (10 mm thick). Connection for inlet \varnothing 110 and ventilation \varnothing 75, connection coupling for manual diaphragm pump \varnothing 32 mm.

SPF pumps for wastewater with or without sewage, pressure sensor controlled with multi-vane impeller. Open channel passage 40 mm. Pumps are rated submersible (IP 68), pump cable length 5 m. Outlet with integrated non-return valve, connection coupling \varnothing 110 with hose section.

1 Without closure valve (vertical pressure outlet)

2 With closure valve (horizontal pressure outlet)

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.

Total weight approx. 84 kg.



CE EN 12050-1

1 Without closure valve

230 V	1400-S3	28 628-C
400 V	1500-S3	28 764
400 V	3000-S3	28 765
230 V	1400-S1	11 605
400 V	1500-S1	11 604
400 V	3000-S1	11 606

2 With closure valve

230 V	1400-S3	28 629-C
400 V	1500-S3	28 766
400 V	3000-S3	28 767
230 V	1400-S1	11 608
400 V	1500-S1	11 607
400 V	3000-S1	11 609

Lifting stations for wastewater with or without sewage

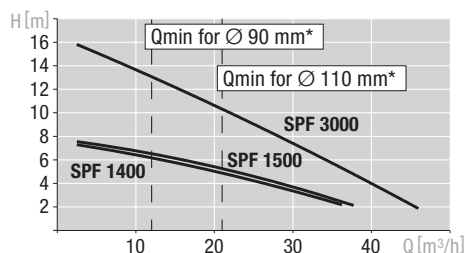
Installation example *Aqualift F*



① Lifting station

② Pressure pipe

The wastewater is pumped by the *Aqualift F Duo* 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 *Aqualift F Duo* lifting stations are particularly suitable for small scale industrial applications, such as downstream from a grease separator.



* according to EN 12056-4

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)

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 ²	5 m Length, 7 x 1.5 mm ²	5 m Length, 7 x 1.5 mm ²
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	S1/S3 - 100/50 % power on duration	S1/S3 - 100/50 % power on duration	S1/S3 - 100/50 % power on duration
Rpm	1.370	1.415	2.845
Pumping capacity	38 m ³ /h	40 m ³ /h	47 m ³ /h
Pumping height	7 m	8 m	16 m



Aqualift F XL

200 liters

Illustration and dimensioned drawing

Article description

Voltage

SPF

Article #



Illustration shows Art. # 11 096

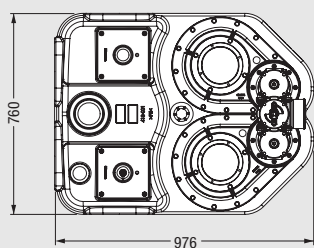
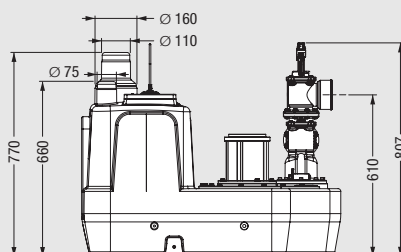
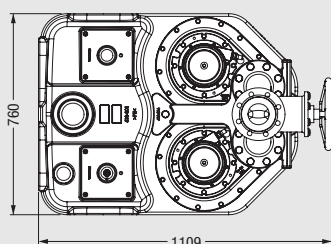
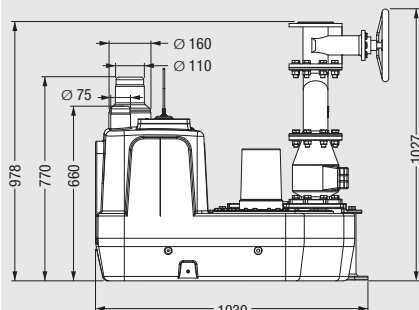


Illustration shows Art. # 11 075



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 multi-vane 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

With sound-absorbing underlay mat (10 mm thick).

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).

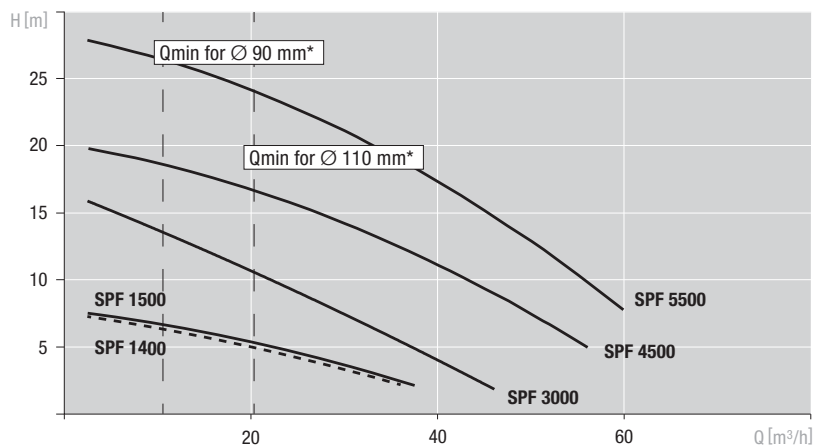
Single pump lifting stations:

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	230 V	1400-S3	11 001
5	230 V	1400-S3	11 003
4	400 V	1500-S1	11 095
5	400 V	1500-S1	11 096
4	400 V	1500-S3	11 019
5	400 V	1500-S3	11 021
4	400 V	3000-S1	11 105
5	400 V	3000-S1	11 106
6	400 V	3000-S1	11 108
4	400 V	3000-S3	11 037
5	400 V	3000-S3	11 039
6	400 V	3000-S3	11 043
4	400 V	4500-S1	11 120
6	400 V	4500-S1	11 121
6	400 V	4500-S3	11 062
4	400 V	5500-S3	11 073
6	400 V	5500-S3	11 075

CE EN 12050-1





Aqualift F XL

300 liters

Illustration and dimensioned drawing

Article description

Voltage

SPF

Article #



Illustration shows Art. # 11 101

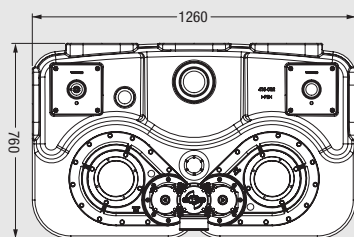
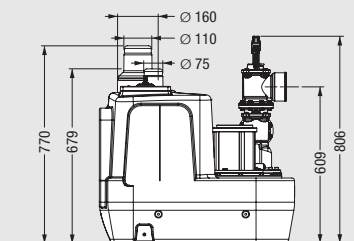
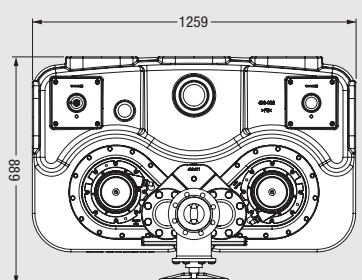
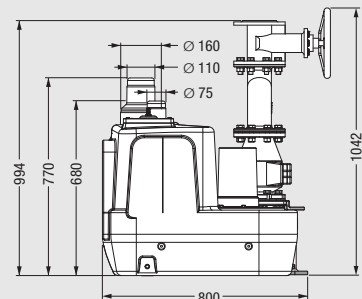


Illustration shows Art. # 11 113



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 multi-vane 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

With sound-absorbing underlay mat (10 mm thick).

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

Twin pump lifting stations:

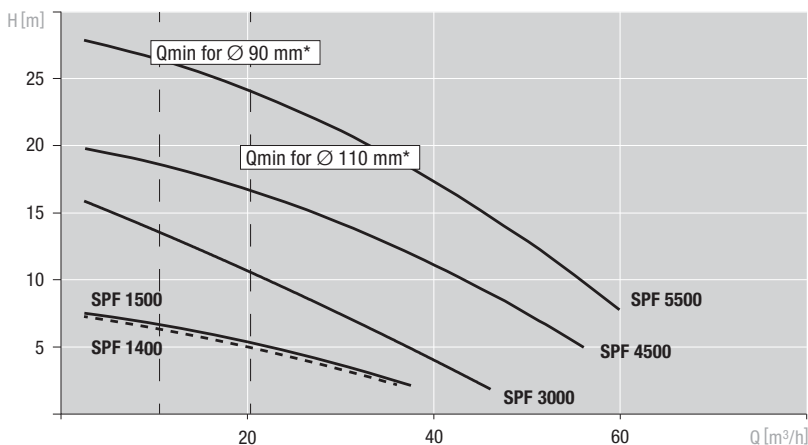
- 1 without closure valve (vertical pressure outlet)
- 2 with plastic closure valve (horizontal pressure outlet \varnothing 110)
- 3 with cast iron closure valve (vertical pressure outlet DN 80)

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

Twin pump lifting stations:

1	230 V	1400-S1	11 090
2	230 V	1400-S1	11 091
1	400 V	1500-S1	11 100
2	400 V	1500-S1	11 101
1	400 V	3000-S1	11 110
2	400 V	3000-S1	11 111
3	400 V	3000-S1	11 113
1	400 V	4500-S1	11 123
3	400 V	4500-S1	11 124
1	400 V	5500-S3	11 078
3	400 V	5500-S3	11 080





Aqualift F XL

450 liters

Illustration and dimensioned drawing

Article description

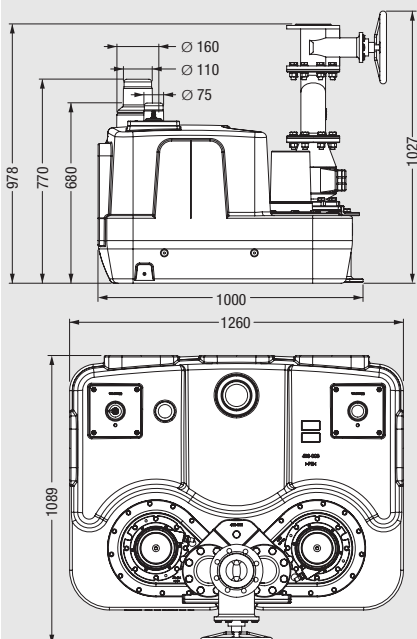
Voltage

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 multi-vane 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

With sound-absorbing underlay mat (10 mm thick).

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

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

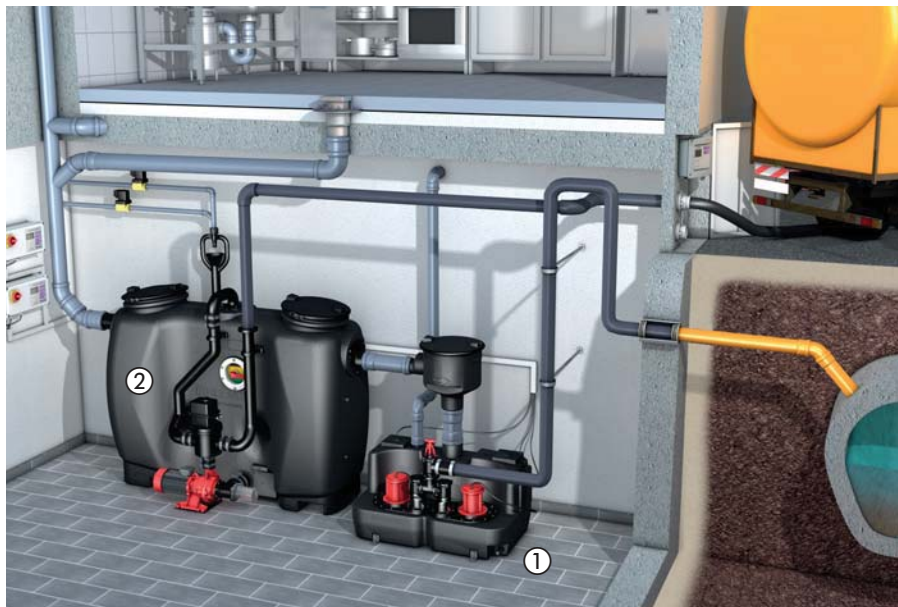
CE EN 12050-1

Twin pump lifting stations:

1	400 V	3000-S1	11 115
2	400 V	3000-S1	11 116
3	400 V	3000-S1	11 118
1	400 V	3000-S3	11 054
2	400 V	3000-S3	11 055
3	400 V	3000-S3	11 057
1	400 V	4500-S1	11 126
3	400 V	4500-S1	11 127
3	400 V	4500-S3	11 070
1	400 V	5500-S3	11 082
3	400 V	5500-S3	11 083

Lifting stations for wastewater with or without sewage

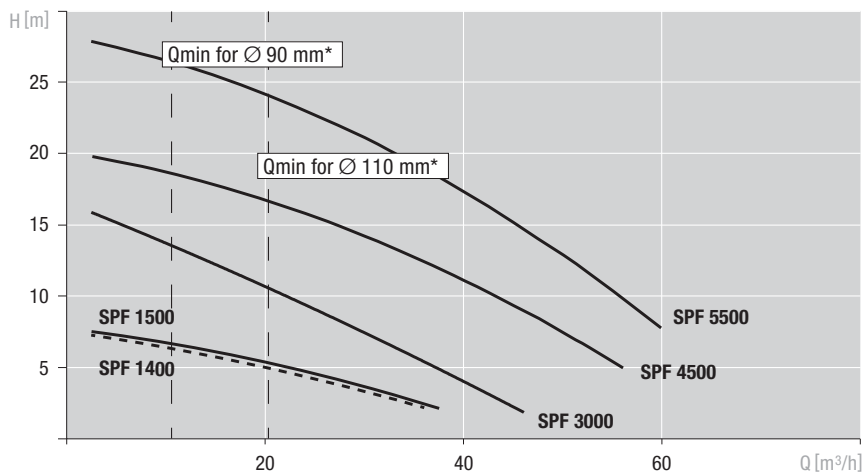
Installation example *Aqualift F XL*



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.

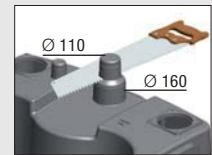


* according to EN 12056-4

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 50 %	S1 / S3 50 %	S3 30 %
Weight	99 kg	98 kg	188 kg	189 kg	211 kg
Pumping capacity	38 m³/h	40 m³/h	47 m³/h	55 m³/h	60 m³/h
Pumping height	7 m	8 m	16 m	20 m	27 m

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










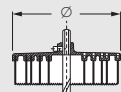
- **Compact dimensioned bodies** offer large storage capacities but still allow access through 800 mm wide doorways.

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






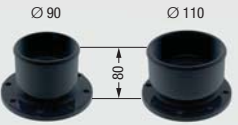
Comfort control unit

- 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 #																												
	Audible alarm <input type="checkbox"/> 20 m cable length suitable for all control units	-	20162																												
	Potential-free contact for all <i>Aqualift</i> 230 V Comfort control units	-	80072																												
	Compressor set 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 20 m pressure hose.	-	28 048																												
	PE-pressure hose extension (bulk goods)	-	680 071																												
	Closure valve for all lifting stations <i>Aqualift F</i>	Ø 110	28 683																												
	Closure valve made of polymer for installation on inlet side (no pressure) for all lifting stations <i>Aqualift F</i>	Ø 110 Ø 160	28 698 28 699																												
	Manual diaphragm pump 1½ inch for manually pumping wastewater. With a ball valve on inlet and outlet side	1½ inch	28 680																												
	Pipe sealing gasket (EPDM) Use KESSEL hole saw when drilling. for lifting stations <i>Aqualift F</i>																														
	<table border="1"> <thead> <tr> <th>Nominal pipe diameters DN in mm</th> <th>Outer pipe diameters Ø in mm</th> <th>Drill size mm</th> <th></th> </tr> </thead> <tbody> <tr> <td>50</td> <td>50</td> <td>60</td> <td>850 114</td> </tr> <tr> <td>70</td> <td>75</td> <td>90</td> <td>850 116</td> </tr> <tr> <td>100</td> <td>110</td> <td>118</td> <td>850 117</td> </tr> <tr> <td>125</td> <td>125</td> <td>134</td> <td>850 118</td> </tr> <tr> <td>150</td> <td>160</td> <td>170</td> <td>850 119</td> </tr> <tr> <td>200</td> <td>200</td> <td>212</td> <td>850 123</td> </tr> </tbody> </table>	Nominal pipe diameters DN in mm	Outer pipe diameters Ø in mm	Drill size mm		50	50	60	850 114	70	75	90	850 116	100	110	118	850 117	125	125	134	850 118	150	160	170	850 119	200	200	212	850 123		
Nominal pipe diameters DN in mm	Outer pipe diameters Ø in mm	Drill size mm																													
50	50	60	850 114																												
70	75	90	850 116																												
100	110	118	850 117																												
125	125	134	850 118																												
150	160	170	850 119																												
200	200	212	850 123																												
	Hole saw for drilling lateral surfaces for inlets and outlets Ø 50, 75, 110, 125 and 160 (Saw blade holder Ø = 190 mm)	-	50 100																												
	Ø 200 (Use a drill with at least 1000 W)	-	50 102																												

Aqualift F XL			Accessories
Illustration	Article description	Outer diameter Ø (mm)	Article #
	<p>Alarm float switch upgrade set for Aqualift F XL lifting station</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>	-	28 014
	<p>Alarm float switch upgrade set for Aqualift F and F Duo lifting stations</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>	-	28 015
	<p>TeleControl telemetric system</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>	-	28 792
	<p>TeleControl antenna booster</p> <p>for TeleControl telemetric system incl. 2.5 m cable to improve reception. With magnetic base.</p>	-	28 793
	<p>Antenna booster extension cable</p> <p>cable length 2.5 m</p>	-	28 794
	<p>Backflow preventer</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	28 021
	<p>Cast iron connection adaptor</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	28 067 28 020

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

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



SmartSelect simply makes planning easier - calculation tool for lifting stations at 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
Ideal for renovation work



Single pump systems
Ideal for renovation work

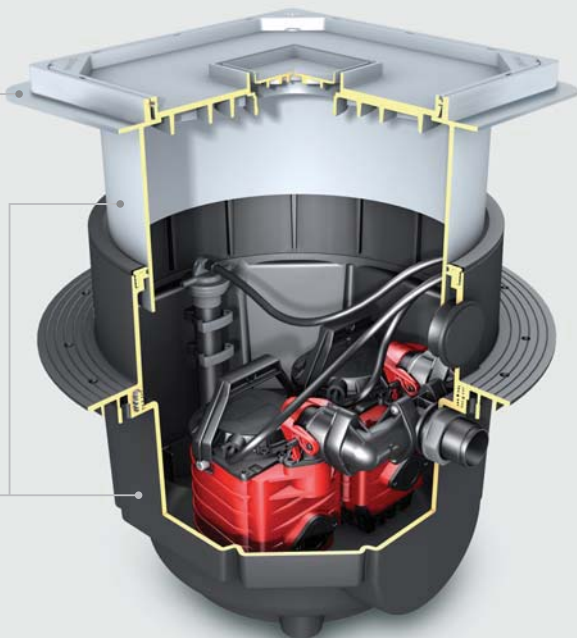


Lifting station **Aqualift S**
for free-standing installation

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 136

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.

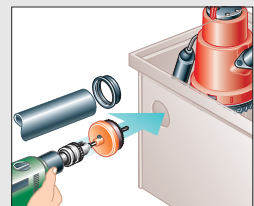
CLEANING AND MAINTENANCE

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



FURTHER INLETS

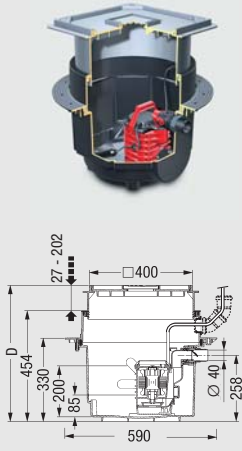


Connection of further inlets \varnothing 50 and \varnothing 75 directly on site.





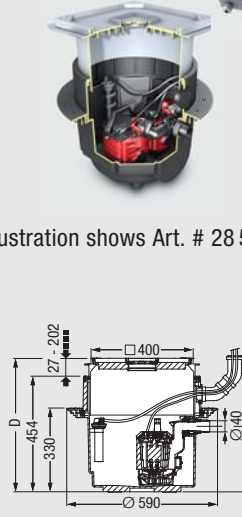


Aqualift S

Installation in a concrete slab/floor

Illustration and dimensioned drawing	Article description	Outer diameter Ø (mm)	Article #
 <p>Installation area 700 x 700 mm</p>	<p>Lifting station Aqualift S for wastewater without sewage, made of polymer</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, class A 15, with integrated drain, with moisture protective sealing flange, with removable, float switch controlled pump and integrated backwater flap.</p> <p>1 with recessed cover for on-site tiling with drain</p> <p>2 with black cover with drain NEW</p> <p>Pressure connection: 1 1/2 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>Optional: Hair filter page 110</p> <p>  EN 12050-2</p>	<p>1 With recessed cover for on-site tiling Ø 40</p> <p>2 With black cover Ø 40</p>	<p>28 500</p> <p>28 500S</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 individual@kessel.de</p> </div>

Aqualift S Tronic / Aqualift S Duo

Installation in a concrete slab/floor

Illustration and dimensioned drawing	Article description		
 <p>Illustration shows Art. # 28 530-C</p> <p>Installation area 700 x 700 mm</p>	<p>Lifting station Aqualift S Tronic / Aqualift S Duo for wastewater without sewage, made of polymer</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, class A 15, with integrated drain, with moisture protective sealing flange, integrated backwater flap.</p> <p>1 with recessed cover for on-site tiling with drain</p> <p>2 with black cover with drain NEW</p> <p>Pressure connection: 1 1/2 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> <p>Aqualift S Tronic with removable, pressure sensor controlled pump, optical alarme probe,</p> <p>Input power: 0.48 kW. Power cable: 5 m. Weight: approx. 19 kg.</p> <p>Aqualift S Duo with two removable, pressure sensor controlled pumps,</p> <p>Input power: 2 x 0.48 kW. Power cable: 5 m. Weight: approx. 26 kg.</p> <p>Comfort control unit 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>Optional: Audible alarm page 111, hair filter page 110</p> <p>  EN 12050-2</p>	<p>1 Ø 40</p> <p>2 Ø 40</p> <p>1 Ø 40</p> <p>2 Ø 40</p>	<p>28 550-C</p> <p>28 550-S</p> <p>28 530-C</p> <p>28 530-S</p>

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.

Professional advantages

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

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)

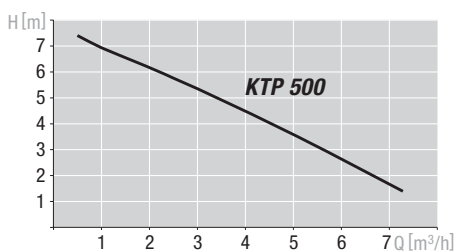


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Type	<i>KTP 500-S1</i>
Current type	Alternating current
Voltage	230 V
Current	2.12 A
Operating mode	S1 - 100% power on duration
Power P1/P2	480 W / 320 W
RPM	2800 min ⁻¹
Motor protection	integrated
Plug	Schuko, 5 m cable



Performance Diagramme





Aqualift S Duo

For free-standing installation

Illustration and dimensioned drawing	Article description	Outer diameter Ø (mm)	Article #
	<p>Lifting station Aqualift S Duo made of polymer for free-standing installation With twin removable, pressure sensor controlled pumps, integrated backwater flap, Inlet Ø 110, ventilation connection Ø 75 (incl. pipe sealing gasket), Comfort control unit 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>28 541-C</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 individual@kessel.de</p> </div>

Lifting stations for wastewater without sewage

Installation example *Aqualift S*

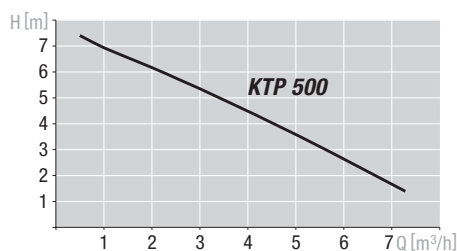


① Lifting station *Aqualift S*

The *Aqualift S* lifting station is particularly suitable for connection to renovation work. 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.

Type	<i>KTP 500-S1</i>
Current type	Alternating current
Voltage	230 V
Current	2.12 A
Operating mode	S1 - 100% power on duration
Power P1/P2	480 W / 320 W
RPM	2800 min ⁻¹
Motor protection	integrated
Plug	Schuko, 5 m cable

Performance Diagramme



Professional advantages

- **Connection of several inlets**
Alongside the standard inlet $\varnothing 110$, further inlets ($\varnothing 50$, $\varnothing 75$) can be connected following scoring using a hole saw (Art. # 50101).
- **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.





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

Illustration and dimensioned drawing	Article description	Outer diameter Ø (mm)	Article #
 <p>Installation area 500 x 400 mm</p>	<p>Lifting station <i>Minilift</i> made of polymer for underground installation 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: 1.6 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: 5px; text-align: center;"> <p>Version with powerful <i>KTP 500</i> pump on request individual@kessel.de</p> </div>

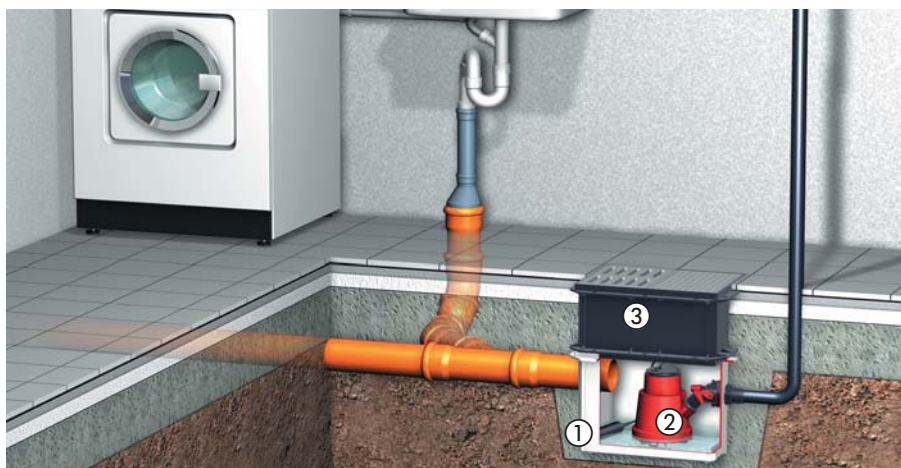
Minilift

For free-standing installation

	<p>Lifting station <i>Minilift</i> made of polymer for free-standing installation 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: 1.6 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: 5px; text-align: center;"> <p>Version with powerful <i>KTP 500</i> or <i>GTF 1000</i> pump on request individual@kessel.de</p> </div>
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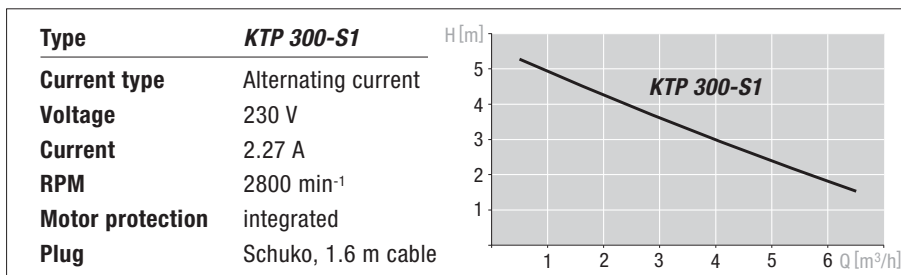
Lifting stations for wastewater without sewage

Installation example *Minilift*

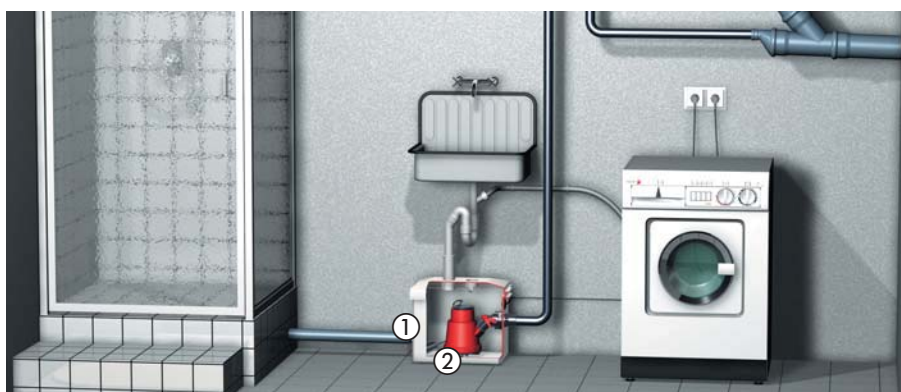


① Lifting station ② Wastewater pump ③ Extension section (Art. # 32 500)

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.

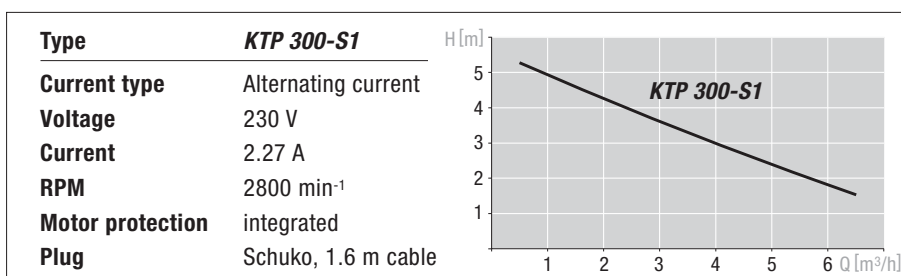


Installation example *Minilift*



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 \varnothing 40 mm. It is also possible using a screw connection 1 1/2 inch to connect the pressure pipe to the lifting station.



Professional advantages

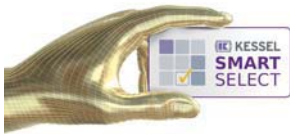
- **Chamber ready to be installed**, recessed installation in the concrete slab/floor possible with extension section (Art. # 32 500).
- **Integrated drain function** to drain surface water. Continual drainage even in the event of incoming flood water or a pipe burst.
- **Tool-free pump removal**
The "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.

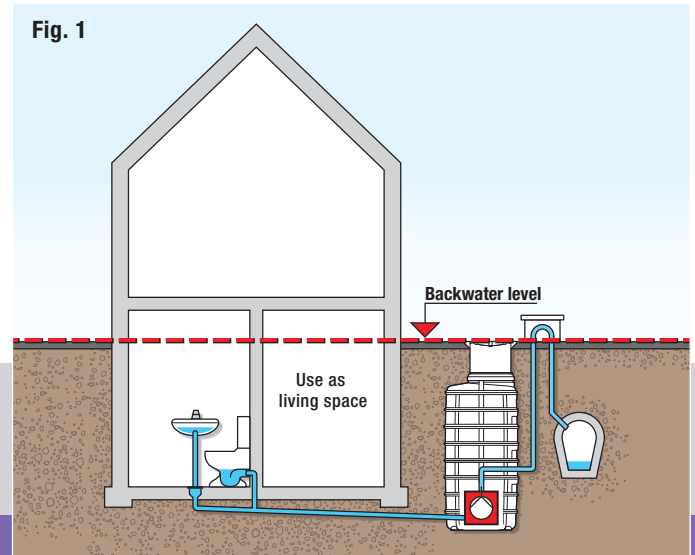
Aqualift S		Accessories	
Illustration and dimensioned drawing	Article description	Outer diameter Ø (mm)	Article #
	<p>Cover plate, surface water tight Class A 15 With drain Ø 75, incl. gasket</p> <p><input type="checkbox"/> recessed for on-site tiling, grey, for tile thicknesses of 18 mm</p> <p>for article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

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>Gasket set for installation in waterproof concrete</p> <p>Consisting of: Counter flange made of polymer, incl. screws, elastomer waterproof membrane in NK/SBR Ø 800 mm</p> <p>for article numbers: 28 500, 28 550-C, 28 530-C</p>	-	83 023									
	<p>Cover plate Class A 15</p> <p><input type="checkbox"/> grey <input type="checkbox"/> black</p> <p>for article numbers: 28 570</p>	-	30 003 W 30 003 S									
	<p>Cover with grating Class A 15</p> <p><input type="checkbox"/> grey <input type="checkbox"/> black</p> <p>for article numbers: 28 570</p>	-	30 001 W 30 001 S									
	<p>Extension section made of polymer</p> <p>Height = 220 mm for deep installation</p> <p>for article numbers: 28 570</p>	-	32 500									
	<p>Alarm</p> <p><input type="checkbox"/> with electrode probe <input type="checkbox"/> with optical probe</p> <p>for article numbers: 28 500</p>	-	20 220 20 221									
	<p>1 Audible alarm <input type="checkbox"/> 20 m cable length</p> <p>2 Potential-free contact</p> <p>for all Aqualift 230 V Comfort control units</p>	-	20 162 80 072									
	<p>Pressure pipe set incl. 5 m pressure pipe hose Ø 40</p> <p>for article numbers: 28 500, 28 550-C, 28 530-C</p>	Ø 40	28 040									
	<p>Hole saw Ø 50, 75, 110 (Saw blade holder Ø = 145 mm)</p> <p>Hole saw Ø 50, 75, 110, 125 and 160 (Saw blade holder Ø = 190 mm)</p>	-	50 101 50 100									
	<p>Pipe sealing gasket (EPDM)</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	850 114 850 116 850 117 850 118 850 119									
	<p>1 Cable extension for probe 10 m cable length</p> <p>2 Cable extension for pump 10 m cable length</p> <p>Explanation of cable extensions:</p> <table border="1"> <thead> <tr> <th></th> <th>Extension to 15 m</th> <th>Extension to 25 m</th> </tr> </thead> <tbody> <tr> <td>Aqualift S Tronic Art. # 28 550-C Cable length delivered 5 m</td> <td>1 1 x 80 889 2 1 x 80 891</td> <td>1 2 x 80 889 2 2 x 80 891</td> </tr> <tr> <td>Aqualift S Art. # 28 530-C and 28 541-C Cable length delivered 5 m</td> <td>1 1 x 80 890 2 2 x 80 889</td> <td>1 2 x 80 890 2 4 x 80 889</td> </tr> </tbody> </table>		Extension to 15 m	Extension to 25 m	Aqualift S Tronic Art. # 28 550-C Cable length delivered 5 m	1 1 x 80 889 2 1 x 80 891	1 2 x 80 889 2 2 x 80 891	Aqualift S Art. # 28 530-C and 28 541-C Cable length delivered 5 m	1 1 x 80 890 2 2 x 80 889	1 2 x 80 890 2 4 x 80 889	-	80 889 80 891
	Extension to 15 m	Extension to 25 m										
Aqualift S Tronic Art. # 28 550-C Cable length delivered 5 m	1 1 x 80 889 2 1 x 80 891	1 2 x 80 889 2 2 x 80 891										
Aqualift S Art. # 28 530-C and 28 541-C Cable length delivered 5 m	1 1 x 80 890 2 2 x 80 889	1 2 x 80 890 2 4 x 80 889										



SmartSelect simply makes planning easier - calculation tool for lifting stations at 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 / 1000 mm

Aqualift F / F XL

for wastewater with or without sewage



Chamber systems Ø 600 / 1000 mm

Aqualift S / S XL

for wastewater without sewage

SELECTION CRITERIA

	<i>Aqualift F</i>	<i>Aqualift F XL</i> (dry-installation)	<i>Aqualift F XL</i>	<i>Aqualift F XL</i>	<i>Aqualift S</i>	<i>Aqualift S XL</i>
Wastewater						
Pump	STZ 1000	SPF 1400 - 4500	STZ 1300 - 3700	GTF 1400 - 4000 GTK 1300 - 3700	KTP 500 GTF 1200	KTP 500 GTF 1200
Power (P2)	0.6 kW	1.1 - 3.7 kW	1.3 - 3.7 kW	1.4 - 4 kW	0.3 / 0.7 kW	0.5 / 1.4 kW
Voltage	230 V	230 / 400 V	400 V	230 / 400 V	230 V	230 V
Pumping height	9 m	7 - 20 m	21 - 35 m	9 - 23 m	8 - 9 m	8 - 9 m
Pressure pipe connection Ø	40 mm	90 mm	63 / 90 mm	63 / 90 mm	40 mm	40 mm
Installation depth	800 - 2250 mm	800 - 5000 mm	705 - 5000 mm	705 - 5000 mm	800 - 2250 mm	705 - 5000 mm
ATEX*	-	-	✓	-	-	-
Products see page	114	118 - 121	122	124	126	128

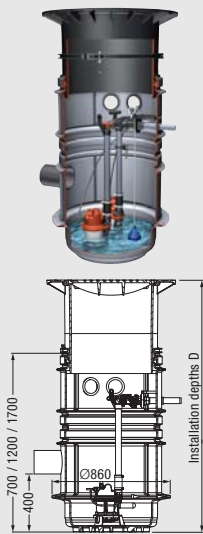
* The product is suitable for installation in potentially explosive atmospheres





Aqualift F Ø 600

Illustration and dimensioned drawing



Installation depths (D):

D 1	800 - 1250 mm
D 2	1300 - 1750 mm
D 3	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 *STZ 1000* float switch controlled,
removeable pump, plug in ready (230 V / 50 Hz)

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

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

**Cover plate in polymer,
load up to 600 kg class A (Version A*)** **NEW**

**Cover plate in cast iron and concrete,
load up to 12,5 t class B (Version B)**

**Cover plate in cast iron,
load up to 40 t class D (Version D)**

Resistant to aggressive media, upper section made
of polymer, vertically adjustable.

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 (version B/D) or Ø 40/63 mm
(version A) 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

Installation
depths

Article #
Class A*

Article #
Class B

Article #
Class D

1 D1: 827 710 A 827 710 B 827 710 D
D2: 827 720 A 827 720 B 827 720 D
D3: 827 730 A 827 730 B 827 730 D

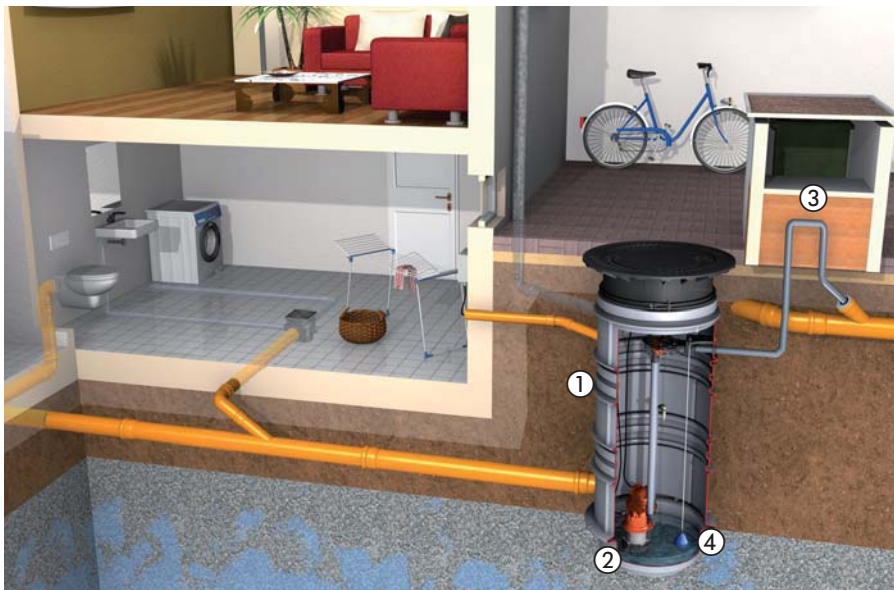
2 D1: 827 711 A 827 711 B 827 711 D
D2: 827 721 A 827 721 B 827 721 D
D3: 827 731 A 827 731 B 827 731 D

3 D1: 826 711 A 826 711 B 826 711 D
D2: 826 721 A 826 721 B 826 721 D
D3: 826 731 A 826 731 B 826 731 D

CE EN 12050 (max 2 WC connections)

Pumping stations for wastewater with or without sewage

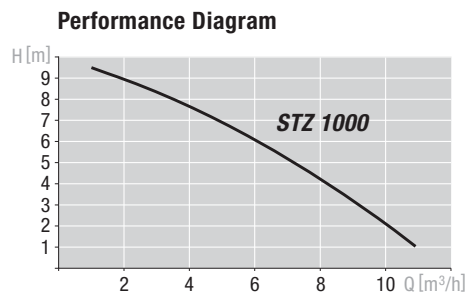
Installation example pumping station *Aqualift F* Ø 600



- 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 *STZ 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>STZ 1000</i>
Current type	Alternating current
Voltage	230 V
Current	4.9 A
Power P1/P2	1080 W / 620 W
RPM	2800 min ⁻¹
Motor protection	integrated
Operating mode	S3 - 30 %
Pumping capacity	11.5 m ³ /h
Pumping height	10 m



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.



SmartSelect simply makes planning easier - calculation tool for lifting stations at smartselect.kessel.com

New pumping stations *Aqualift F XL* and *S XL*

Dry installation



Version for minimum installation depth or combined with system chamber

Pumping station *Aqualift F XL* for installation in a concrete slab or underground installation

MODULAR SYSTEM

SYSTEMS BASE

Version for underground installation or installation in the concrete slab for combination with the new engineering chambers. Large selection of powerful pumps with a high useful volume up to 160 litres.

SYSTEM CHAMBERS

Modular chamber height structure. Buoyancy-protected chamber system with innovative honeycomb structure, resistant to groundwater up to 3000 mm and can be drilled up to \varnothing 160 mm. Vertically adjustable upper sections with 600 and 800 mm access, with large selection of covers, e.g. rectangular cover made of stainless steel, from class K 3 to class D.

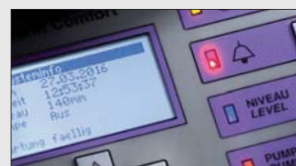
Technical specification in compliance with EN 13598 Part 2.

20-year warranty for PE material.



COMFORT CONTROL UNITS

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.



Modem and control units chapter from page 136



The new pumping stations are ideal for industrial use.

Larger quantities of wastewater can be disposed of outside buildings via the pressure pipe. Use outside of buildings increases the living comfort through a lack of pumping operation noise and further increases the useful space.

The technical chamber complies with the new standard DIN 13598-2.

Wet installation



Version engineering system base with system chamber

NEW



External control cabinets pre-wired on request

Pumping station **Aqualift F XL** and **Aqualift S XL**
for installation in a concrete slab or underground installation

1. ENGINEERING SYSTEM CHAMBER

for underground installation or in a concrete slab

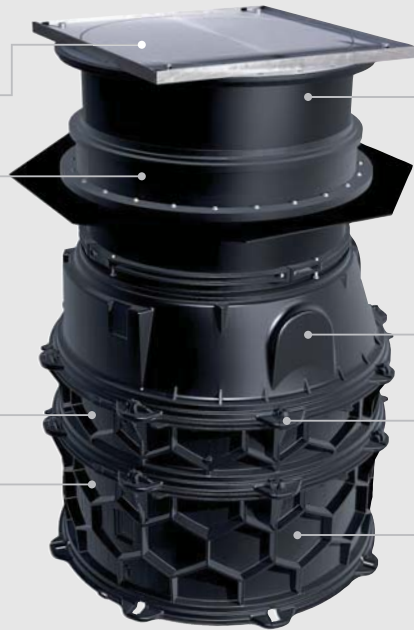
with DIBt approval
Z-42.1-527 and
according to EN 13598-2

Stainless steel or cast iron covers up to Class D

Upper section Ø 800 mm also available as a version for installation in waterproof concrete with flange and counterflange.

Modular system with sectional chamber components
Height: 250 mm
Height: 500 mm

Easy to assembly due to the low weight of the polymer chamber components



Vertically adjustable upper section Ø 600 mm or Ø 800 mm.

3 spot-drilling areas for cable conduits or ventilation connection

Easy and secure connection system for the individual chamber components

Honeycomb chamber design provides additional chamber strength and prevents buoyancy. Additional inlets up to size Ø 160 mm can be installed on-site.

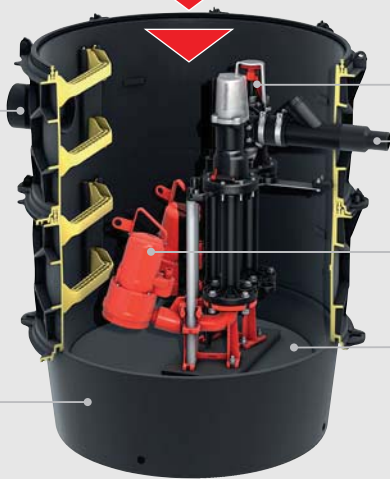
2. ENGINEERING SYSTEM BASE

in combination with the engineering system chamber

Pneumatic level measurement or level probe, variable adjustment of switching heights

With inlet Ø 160 mm

Systems base groundwater resistant up to 3000 mm



Closure valve with safety clip to prevent unintentional closing

Pressure pipe connection Ø 90 / 63 mm – Valve with integrated backflow preventer for easy draining of the pressure pipe

Pumps (Mono/Duo) in various capacity classes from 500 to 4000 W

High pumping volumes from 90 to 350 liters



Aqualift F XL

For minimum installation depth

Illustration and dimensioned drawing

Article description

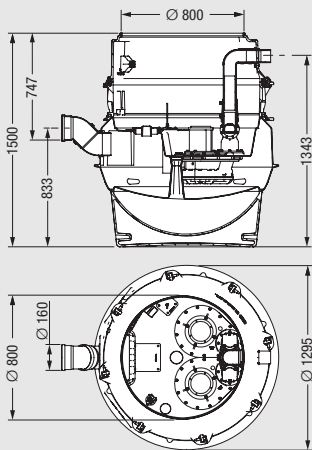
Voltage

Pump SPF

Article #



**Dry
installation**



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 or 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 90 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

1	230 V	1400-S3	874 20 12
	400 V	1500-S3	874 20 13
	400 V	3000-S3	874 20 14
	400 V	4500-S3	874 20 15
2	230 V	1400-S3	874 20 16
	400 V	1500-S3	874 20 17
	400 V	3000-S3	874 20 18
	400 V	4500-S3	874 20 19
	230 V	1400-S1	874 20 20
	400 V	1500-S1	874 20 21
	400 V	3000-S1	874 20 22
	400 V	4500-S1	874 20 23

10 m cable length
 Welded PE pipe is to be used for the pressure pipe
See below for upper sections / covers required
Cable piping gasket set see page 133

Illustration

Article description

Version

Article #



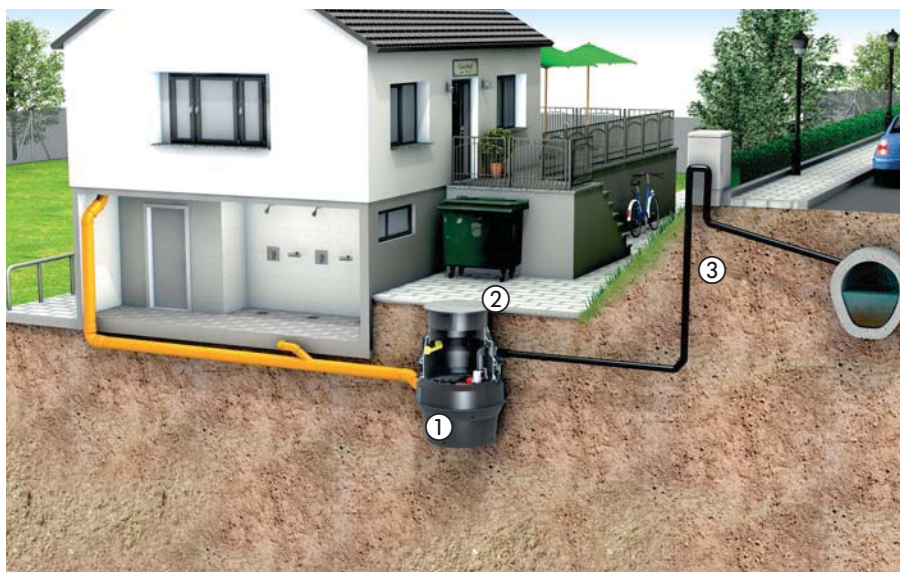
To be ordered separately:
Upper section \varnothing 800 made of polymer, with covers:

- 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 anti-slip D: min. 267 - max. 516 mm
- made of stainless steel, square
 - 5** class B D: min. 274 - max. 523 mm
 - 6** class D D: min. 274 - max. 523 mm
- made of stainless steel, round
 - 7** class K 3 D: min. 65 - max. 314 mm

1	without waterproof flange	874 01 75
	with waterproof flange	874 01 76
3	without waterproof flange	874 01 77
	with waterproof flange	874 01 78
5	without waterproof flange	874 01 79
	without waterproof flange	874 01 80
7		874 01 81

Pumping stations for wastewater with or without sewage

Underground installation outside buildings



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

Aqualift F XL handles 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 liters, the maximum pumping volume is approx. 160 liters. *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:

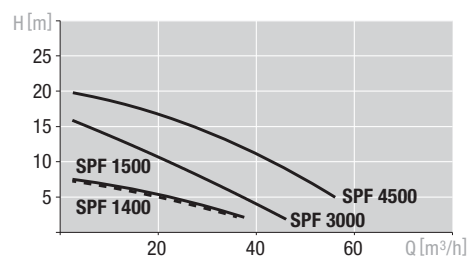
- SPF 1400-S3** 50 %
 - SPF 1400-S1** for continuous duty (e.g. rainwater)
- Pumping capacity: max. 38 m³/h
Pumping height: max. 7 m

- SPF 1500-S3** 50 %
 - SPF 1500-S1** for continuous duty (e.g. rainwater)
- Pumping capacity: max. 40 m³/h
Pumping height: max. 8 m

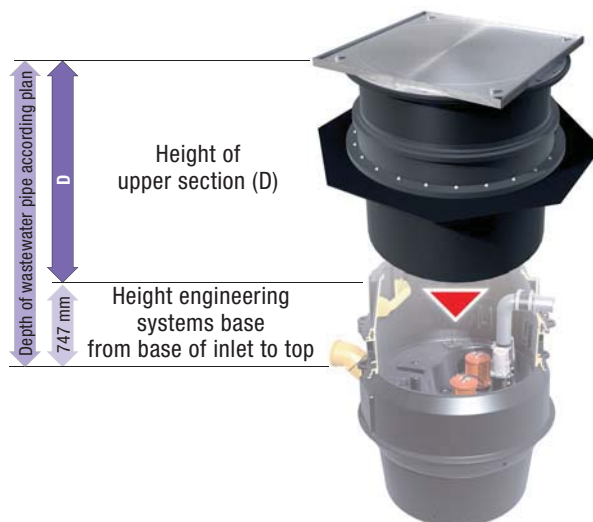
- SPF 3000-S3** 50 %
 - SPF 3000-S1** for continuous duty (e.g. rainwater)
- Pumping capacity: max. 47 m³/h
Pumping height: max. 16 m

- SPF 4500-S3** 50 %
 - SPF 4500-S1** for continuous duty (e.g. rainwater)
- Pumping capacity: max. 55 m³/h
Pumping height: max. 20 m

Performance Diagram



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Aqualift F XL

For installation depth up to 5 m

Illustration and dimensioned drawing

Article description

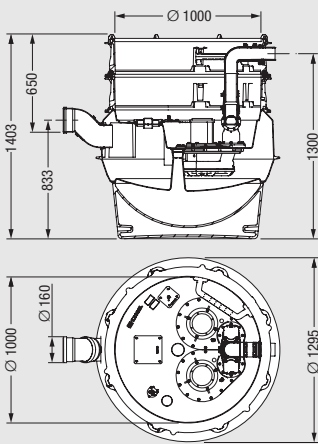
Voltage

Pump SPF

Article #



**Dry
installation**



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 or 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 90 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

1	230 V	1400-S3	874 20 00
	400 V	1500-S3	874 20 01
	400 V	3000-S3	874 20 02
	400 V	4500-S3	874 20 03
2	230 V	1400-S3	874 20 04
	400 V	1500-S3	874 20 05
	400 V	3000-S3	874 20 06
	400 V	4500-S3	874 20 07
	230 V	1400-S1	874 20 08
	400 V	1500-S1	874 20 09
	400 V	3000-S1	874 20 10
	400 V	4500-S1	874 20 11

10 m cable length

Welded PE pipe is to be used for the pressure pipe

See below for details of system chamber required

Cable piping gasket set see page 133



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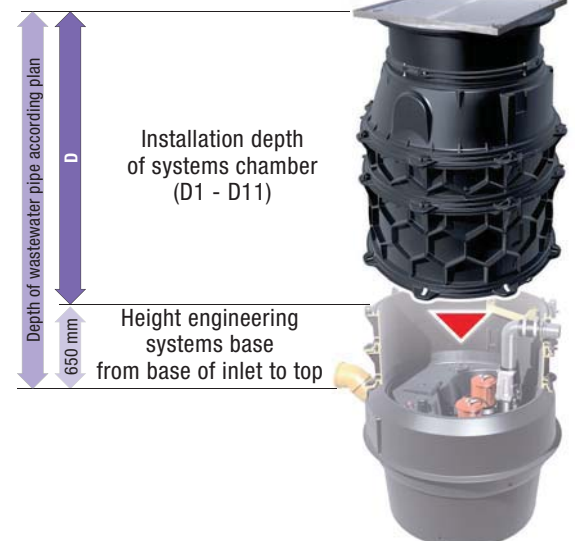
To be ordered separately:

System chambers

- for installation in the ground
 (For order items see page 130-131)
- for installation in a concrete slab
 (For order items see page 131)

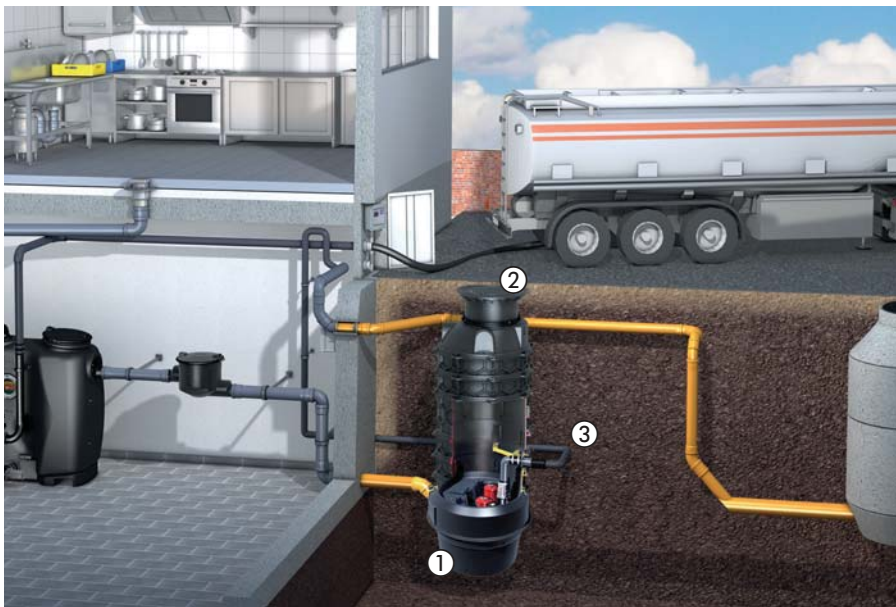
Approval Z-42.1-527

Underground installation



Pumping stations for wastewater with or without sewage

Underground installation outside buildings



- ① Pumping station
② Engineering systems chamber
③ Pressure pipe

Aqualift F XL handles 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 liters, the maximum pumping volume is approx. 160 liters. *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 m³/h
Pumping height: max. 7 m

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

Pumping capacity: max. 40 m³/h
Pumping height: max. 8 m

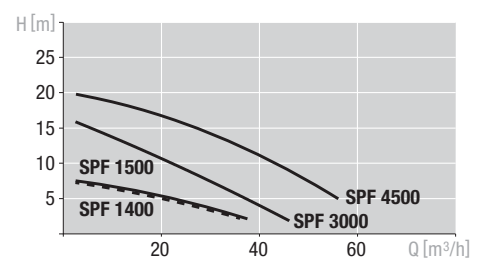
- SPF 3000-S3** 50 %
 SPF 3000-S1 for continuous duty (e.g. rainwater)

Pumping capacity: max. 47 m³/h
Pumping height: max. 16 m

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

Pumping capacity: max. 55 m³/h
Pumping height: max. 20 m

Performance Diagram





Engineering system base *Aqualift F XL Mono / Duo*

With macerator pumps

Illustration and dimensioned drawing

Article description

Pump STZ

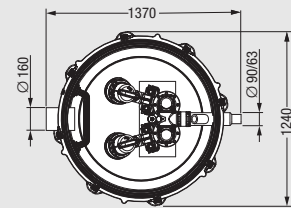
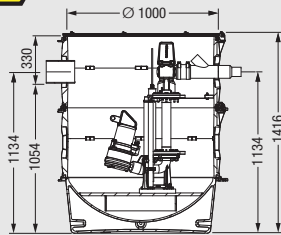
Voltage

Pumping-
volume

Article #

Wet
installation

NEW



Engineering systems base
 with welded on chamber ring
Aqualift F XL Mono / Duo pumping station
ATEX version
 for wastewater with or without sewage

Tank volume approx. 680 liters
Pumping volume approx. 310 liters
**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 mm /
 pressure pipe connection \varnothing 63 / 90 mm.

1	Mono version with Comfort control unit,	1300-S1	400 V	310 liters	874 30 14
	with one STZ pump, 400 V, with hydrostatic sensor	2500-S1	400 V	310 liters	874 30 15
	including backflow preventer closure valve on pressure pipe side	3700-S1	400 V	310 liters	874 30 16
2	Duo version with Comfort control unit,	1300-S1	400 V	300 liters	874 30 17
	with two STZ pumps, 400 V, with hydrostatic sensor	2500-S1	400 V	300 liters	874 30 18
	including backflow preventer and closure valves on pressure pipe side	3700-S1	400 V	300 liters	874 30 19

10 m cable length (30 m on request)

Welded PE pipe is to be used
for the pressure pipe

Accessories:
see page 132-133

Necessary system chambers:
see page 130-131

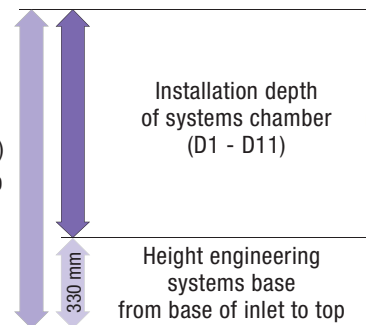
Underground installation

To be ordered separately:

**System chambers
Including upper sections
and covers**

- for installation in the ground
(For order items see page 130-131)
- for installation in a concrete slab
(For order items see page 131)

Approval Z-42.1-527



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easier - calculation tool for lifting
stations at smartselect.kessel.com

Pumping stations for wastewater with sewage

Underground installation outside buildings



① Pumping station
② Engineering systems chamber
③ Pressure pipe

The pumping station *Aqualift F XL* handles large quantities of wastewater containing sewage, and is thus suitable not only for typical residential buildings but also particularly for commercial and industrial use. Due to its macerating pumps the system is explosive proof. The pumping stations have a modular design. Depending on the area of application, they can be combined with different system chambers.

Professional advantages

- Pneumatische niveauregistratie of niveau-sonde, schakelhoogten variabel instelbaar.
- Macerating pumps (Mono/Duo) in various capacity classes from 1.3 kW to 3.7 kW.
- High pumping volume approx. 310 liters
- Closure valve with safety hoop to prevent unintentional closing.
- Pressure pipe connection – Valve with integrated backflow preventer for easy draining of the pressure pipe.
- Tank floor resistant to groundwater depths up to 3000 mm.
- 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.



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



Pump type:

STZ 1300-S1 for continuous duty (e.g. rainwater)

Pumping capacity: max. 20 m³/h
Pumping height: max. 21 m

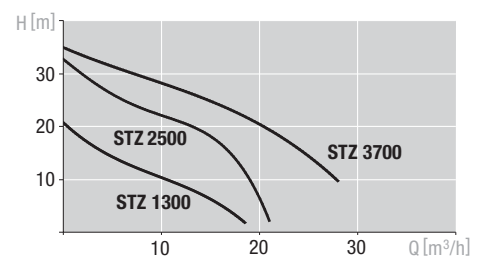
STZ 2500-S1 for continuous duty (e.g. rainwater)

Pumping capacity: max. 21 m³/h
Pumping height: max. 33 m

STZ 3700-S1 for continuous duty (e.g. rainwater)

Pumping capacity: max. 28 m³/h
Pumping height: max. 35 m

Performance Diagram





Aqualift F XL Mono / Duo

With multi-vane impeller

Illustration and dimensioned drawing

Article description

Pump GTF

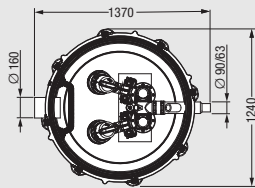
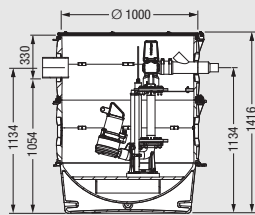
Voltage

Pumping-
volume

Article #

Wet
installation

NEW



Engineering systems base, wet installation

with welded on chamber ring
Aqualift F XL Mono / Duo pumping station

for wastewater with or without sewage
without ATEX requirement.

Tank volume approx. 680 liters

Pumping volume approx. 350 liters

**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 mm /
pressure pipe connection \varnothing 63 / 90 mm.

1 Mono version,
with one GTF pump, 400 V, with float switch

2 Mono version with Comfort control unit,
with one GTF pump, 400 V,
with hydrostatic sensor

3 Duo version with Comfort control unit,
with two GTF pumps, 400 V,
with hydrostatic sensor

including backflow preventer and
closure valves on pressure pipe side

10 m cable length (30 m on request)

The pressure pipe is to
be installed in a welded PE pipe

Accessories: see page 132-133

Necessary system chambers:
see page 130-131

Mono version

1 1400-S1

230 V

340 liters

874 30 32

2 1400-S1

230 V

340 liters

874 30 33

1600-S1

400 V

340 liters

874 30 20

2600-S1

400 V

340 liters

874 30 21

4000-S1

400 V

340 liters

874 30 22

Duo version

3 1400-S1

230 V

340 liters

874 30 34

1600-S1

400 V

340 liters

874 30 23

2600-S1

400 V

340 liters

874 30 24

4000-S1

400 V

340 liters

874 30 25

Aqualift F XL Mono / Duo

With non-clogging pump

Illustration and dimensioned drawing

Article description

Pump GTK

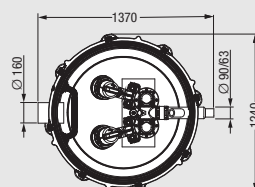
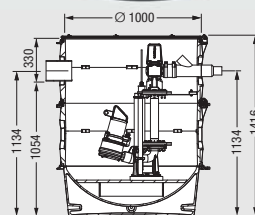
Voltage

Pumping-
volume

Article #

Wet
installation

NEW



Engineering systems base, wet installation

with welded on chamber ring
Aqualift F XL Mono / Duo pumping station

for wastewater with or without sewage
(e.g. downstream from separator systems)
without ATEX requirement.

Tank volume approx. 680 liters

Pumping volume approx. 350 liters

**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 mm /
pressure pipe connection \varnothing 63 / 90 mm.

1 Mono version with Comfort control unit, **1**
with one GTK pump, 400 V,
with hydrostatic sensor

1300-S1

400 V

350 liters

874 30 26

2600-S1

400 V

350 liters

874 30 27

3700-S1

400 V

350 liters

874 30 28

2 Duo version with Comfort control unit, **2**
with two GTK pumps, 400 V,
with hydrostatic sensor

1300-S1

400 V

340 liters

874 30 29

2600-S1

400 V

340 liters

874 30 30

3700-S1

400 V

340 liters

874 30 31

including backflow preventer and
closure valves on pressure pipe side

10 m cable length (30 m on request)

The pressure pipe is to be
installed in a welded PE pipe

Accessories: see page 132-133

Necessary system chambers: s. page 130-131

Pumping stations for wastewater with or without sewage

Underground installation outside buildings



① Pumping station
② Engineering systems chamber
③ Pressure pipe

The pumping station *Aqualift F XL* handles large quantities of wastewater. The non-clogging pump is extremely energy efficient and makes the station particularly suitable for the disposal of large quantities of wastewater. The pumping stations have a modular design. Depending on the area of application, they can be combined with different system chambers.

Professional advantages

- Hydrostatic sensor / floater with variable adjustment of switching heights.
- Multi-vane impeller pumps (Mono/Duo) in various capacity classes from 1.3 kW to 3.7 kW.
- High pumping volume approx. 350 liters
- Closure valve with safety hoop to prevent unintentional closing.
- Pressure pipe connection – Valve with integrated backflow preventer for easy draining of the pressure pipe.
- Chamber resistant to groundwater depths up to 3000 mm.
- 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.



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



Pump type:

- GTF 1400-S3** 50 %

Pumping capacity: max. 24 m³/h
Pumping height: max. 10,5 m

- GTF 1600-S1** for continuous duty (e.g. rainwater)

Pumping capacity: max. 49 m³/h
Pumping height: max. 9,3 m

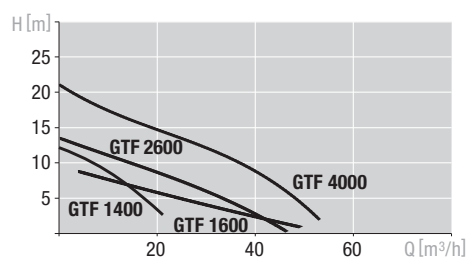
- GTF 2600-S1** for continuous duty (e.g. rainwater)

Pumping capacity: max. 46 m³/h
Pumping height: max. 13,6 m

- GTF 4000-S1** for continuous duty (e.g. rainwater)

Pumping capacity: max. 53 m³/h
Pumping height: max. 18 m

Performance Diagram



Pump type:

- GTK 1300-S1** for continuous duty (e.g. rainwater)

Pumping capacity: max. 57 m³/h
Pumping height: max. 12,4 m

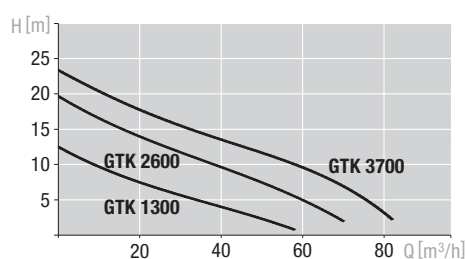
- GTK 2600-S1** for continuous duty (e.g. rainwater)

Pumping capacity: max. 71 m³/h
Pumping height: max. 19,6 m

- GTK 3700-S1** for continuous duty (e.g. rainwater)


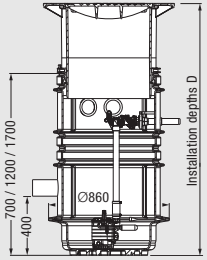

Pumping capacity: max. 82 m³/h
Pumping height: max. 23,5 m

Performance Diagram



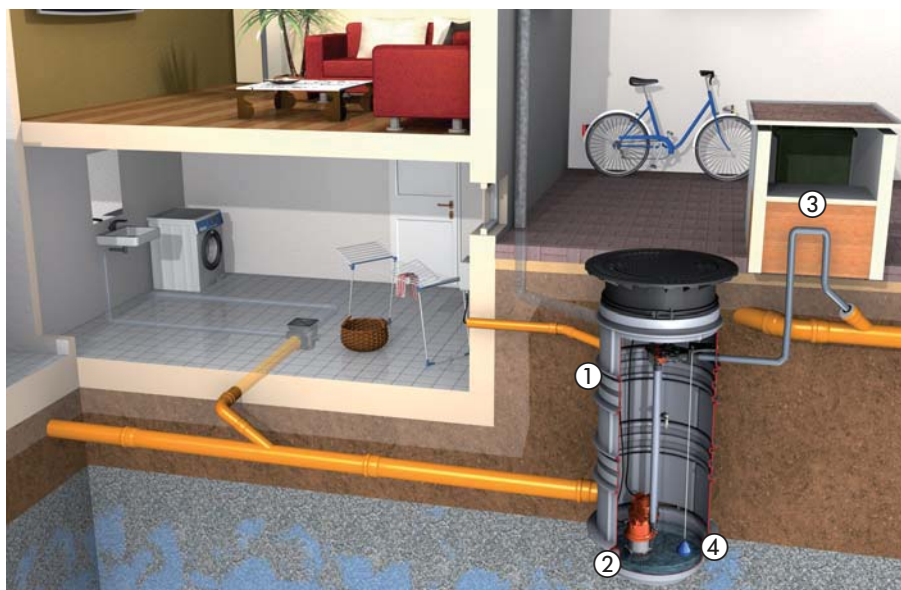


Aqualift S Ø 600

Illustration and dimensioned drawing	Article description	Pump KTP / GTF	Article # Class B	Article # Class D								
  <table border="1"> <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>Pumping station <i>Aqualift S</i> in inspection chamber system Ø 600 in PE-LLD Single station/twin station for wastewater without sewage For underground installation</p> <p>1 <i>KTP 500/GTF 1200 float switch controlled removable pump for conductive or non-conductive fluids.</i> Input power (P1): 0.48 /1.18 kW.</p> <p>2 <i>KTP 500/GTF 1200 Tronic with removable, pressure sensor controlled pump for conductive or non-conductive fluids, with SDS control unit.</i> Input power (P1): 0.48 /1.18 kW.</p> <p>3 <i>KTP 500/GTF 1200 Duo with removable, pressure sensor controlled twin pumps for conductive or non-conductive fluids, with SDS control unit.</i> Input power (P1): 2 x 0.48 /1.18 kW.</p> <p>Cover plate class A/B (Version B) Cover plate class D (Version D)</p> <p>Inspection chamber system Ø 600 in PE-LLD, 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 110 (<i>KTP 500</i>), Ø 160 (<i>GTF 1200</i>), connection for pipe seal for Ø 110 according to EN 1401 and EN 12666-1 - each for ventilation or cable 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, 10 mm max solid size, Current: 230 V ~ 50 Hz. Power cable length: 10 m. Handles groundwater depths up to 2000 mm</p> <p> EN 12050-2</p>	<p>1 D1: KTP 500 D2: KTP 500 D3: KTP 500 D1: GTF 1200 D2: GTF 1200 D3: GTF 1200</p> <p>2 D1: KTP 500 D2: KTP 500 D3: KTP 500 D1: GTF 1200 D2: GTF 1200 D3: GTF 1200</p> <p>3 D1: KTP 500 D2: KTP 500 D3: KTP 500 D1: GTF 1200 D2: GTF 1200 D3: GTF 1200</p>	<p>825 810 B 825 820 B 825 830 B 827 810 B 827 820 B 827 830 B 825 811 B 825 821 B 825 831 B 827 811 B 827 821 B 827 831 B 824 811 B 824 821 B 824 831 B 826 811 B 826 821 B 826 831 B</p>	<p>825 810 D 825 820 D 825 830 D 827 810 D 827 820 D 827 830 D 825 811 D 825 821 D 825 831 D 827 811 D 827 821 D 827 831 D 824 811 D 824 821 D 824 831 D 826 811 D 826 821 D 826 831 D</p>
Installation depths (D):												
D 1	800 - 1250 mm											
D 2	1300 - 1750 mm											
D 3	1800 - 2250 mm											

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

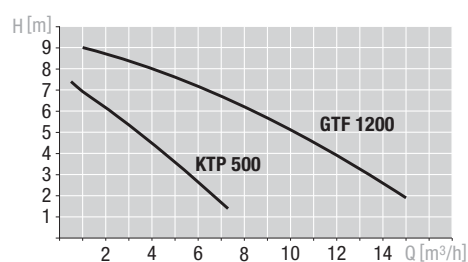
The pumping station *Aqualift S* Ø 600 can be used for the draining of wastewater without sewage below the backwater level, as backwater protection for separator systems and for draining basement apartments or driveways. The wastewater flows with natural gradient to the collecting chamber and is pumped by the integrated pumps *KTP 500* / *GTF 1200* 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.

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*)

Type	<i>KTP 500</i>	<i>GTF 1200</i>
Current type	Alternating current	Alternating current
Voltage	230 V	230 V
Current	2.12 A	4.9 A
Power P1/P2	480 W / 310 W	1180 W / 720 W
RPM	2800 min ⁻¹	2800 min ⁻¹
Motor protection	integrated	integrated
Operating mode	S1	S3 - 50 %
Pumping capacity	max. 8.5 m ³ /h	max. 15.5 m ³ /h
Pumping height	max. 8 m	max. 9 m

Performance Diagram





Aqualift S XL

Illustration and dimensioned drawing

Article description

Pump

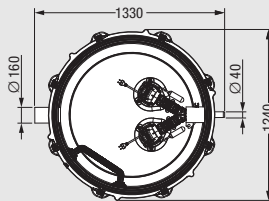
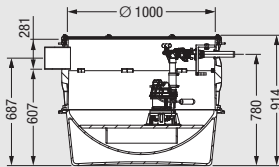
Voltage

Pumping-
volume

Article #

**Wet
installation**

NEW



Engineering systems base, wet installation

with welded on chamber ring
Aqualift S XL Mono / Duo pumping station

for wastewater without sewage

Tank volume approx. 680 liters

Pumping volume approx. 100 liters

**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 mm /
pressure pipe connection \varnothing 40 mm.

**1 Mono version with float switch,
with one pump, 230 V**

1 KTP 500-S1
GTF 1200-S3

230 V
230 V

90 liters
100 liters

874 30 04
874 30 09

**2 Mono version with Comfort control unit,
with one pump, 230 V,
with pressure sensor**

2 KTP 500-S1
GTF 1200-S3

230 V
230 V

90 liters
100 liters

874 30 05
874 30 10

**3 Duo version with Comfort control unit,
with two pumps, 230 V,
with pressure sensor
including backflow preventer and
closure valves on pressure pipe side**

3 KTP 500-S1
GTF 1200-S3

230 V
230 V

90 liters
100 liters

874 30 07
874 30 12

10 m cable length (30 m on request)

Accessories: see page 132-133

Necessary system chambers:
see page 130-131

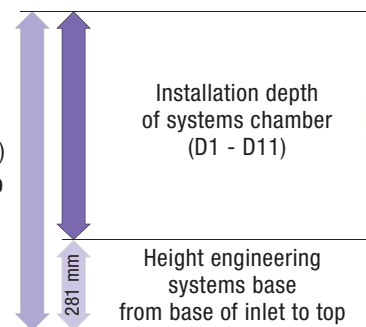
Underground installation

To be ordered separately:

**System chambers
Including upper sections
and covers**

- for installation in the ground**
(For order items see page 130-131)
- for installation in a concrete slab**
(For order items see page 131)

Approval Z-42.1-527



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stations at smartselect.kessel.com



Pumping stations for wastewater without sewage

Underground installation outside buildings



- ① Gutter drain
- ② Pumping station
- ③ Pump
- ④ Pressure sensor

The pumping station *Aqualift S XL* can be used for larger quantities of wastewater without sewage or rainwater, and is thus suitable not only for typical residential buildings but also for particularly for commercial use. The pumping stations have a modular design. Depending on the area of application, they can be combined with different system chambers.

Professional advantages

- Level detection through float switch or submersible pressure sensor.
- Multi-vane impeller pumps (Mono/Duo) from 0.5 kW to 1.2 kW.
- High pumping volume approx. 100 liters
- Pressure pipe connection – Valve with integrated backflow preventer for easy draining of the pressure pipe.
- Tank floor resistant to groundwater depths up to 3000 mm.
- 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.

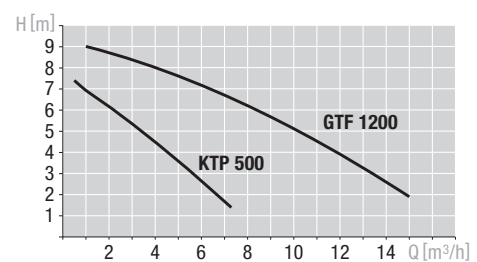


Scan this QR code to directly view the corresponding product video.



Type	KTP 500	GTF 1200
Current type	Alternating current	Alternating current
Voltage	230 V	230 V
Current	2.12 A	4.9 A
Power P1/P2	480 W / 310 W	1180 W / 720 W
RPM	2800 min ⁻¹	2800 min ⁻¹
Motor protection	integrated	integrated
Operating mode	S1	S3 - 50 %
Pumping capacity	max. 8.5 m ³ /h	max. 15.5 m ³ /h
Pumping height	max. 8 m	max. 9 m

Performance Diagram



Pumping stations for wastewater with or without sewage

System chambers Ø 1000

With access opening Ø 600 / Ø 800 mm

Illustration and dimensioned drawing

Article description

Installation depth mm

Article #

For underground installation

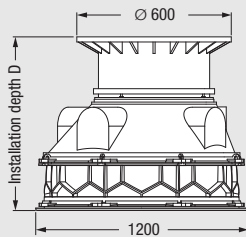


Illustration shows 1 2

Engineering system chamber for combination with engineering system base Aqualift F XL- and Aqualift S XL for underground installation

made of polyethylene

with access opening Ø 600 mm

Upper section with round cover

1 made of cast iron, class A/B

2 made of cast iron, class D

1	D 1:	380 - 629*	874 00 00
	D 2:	630 - 879*	874 00 06
	D 3:	880 - 1129*	874 00 12
	D 4:	1130 - 1379	874 00 18
	D 5:	1380 - 1629	874 00 24
	D 6:	1630 - 1879	874 00 30
	D 7:	1880 - 2129	874 00 36
	D 8:	2130 - 2379	874 00 42
	D 9:	2380 - 2629	874 00 48
	D 10:	2630 - 2879	874 00 54
	D 11:	2880 - 3129	874 00 60
	D 12:	3130 - 3379	874 00 66
	D 13:	3380 - 3629	874 00 72
	D 14:	3630 - 3879	874 00 78
	D 15:	3880 - 4129	874 00 84

2	D 1:	380 - 629*	874 00 01
	D 2:	630 - 879*	874 00 07
	D 3:	880 - 1129*	874 00 13
	D 4:	1130 - 1379	874 00 19
	D 5:	1380 - 1629	874 00 25
	D 6:	1630 - 1879	874 00 31
	D 7:	1880 - 2129	874 00 37
	D 8:	2130 - 2379	874 00 43
	D 9:	2380 - 2629	874 00 49
	D 10:	2630 - 2879	874 00 55
	D 11:	2880 - 3129	874 00 61
	D 12:	3130 - 3379	874 00 67
	D 13:	3380 - 3629	874 00 73
	D 14:	3630 - 3879	874 00 79
	D 15:	3880 - 4129	874 00 85

For underground installation

NEW

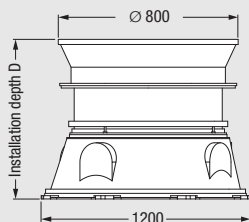


Illustration shows 4 5

with access opening Ø 800 mm

Upper section with round cover

3 made of stainless steel, class K 3

Upper section with square cover,

4 made of stainless steel, class B 15,

5 made of stainless steel, class D 15,

3	D 1:	375 - 624*	874 01 22
	D 2:	625 - 874*	874 01 23
	D 3:	875 - 1124*	874 01 24
	D 4:	1125 - 1374	874 01 25
	D 5:	1375 - 1624	874 01 26
	D 6:	1625 - 1874	874 01 27
	D 7:	1875 - 2124	874 01 28
	D 8:	2125 - 2374	874 01 29
	D 9:	2375 - 2624	874 01 30
	D 10:	2625 - 2874	874 01 31
	D 11:	2875 - 3124	874 01 32
	D 12:	3125 - 3374	874 01 33
	D 13:	3375 - 3624	874 01 34
	D 14:	3625 - 3874	874 01 35
	D 15:	3875 - 4124	874 01 36

4	D 1:	620 - 869*	874 01 41
	D 2:	870 - 1119*	874 01 42
	D 3:	1120 - 1369*	874 01 43

5	D 1:	620 - 869*	874 01 58
	D 2:	870 - 1119*	874 01 59
	D 3:	1120 - 1369*	874 01 60

Covers surface water tight

Handles groundwater depths up to 3000 mm

Delivered as individual elements

Removable access aid article # 860 126 on request

Other installation depths on request

* Installation depth D 1 - D 3 only in combination with pumping station Wet installation

** Installation depth D 12 - D 15 pay attention to maximum installation depth 5000 mm in combination with engineering system base

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

Pumping stations for wastewater with or without sewage

System chambers Ø 1000

With access opening Ø 800 mm









Illustration and dimensioned drawing	Article description	Installation depth mm	Article #
<p>For underground installation</p>	<p>Engineering system chamber for combination with the engineering system base <i>Aqualift F XL-</i> and <i>Aqualift S XL</i> for underground installation made of polyethylene</p> <p><input type="checkbox"/> with access opening Ø 800 mm</p> <p>1 Upper section with square cover, made of stainless steel, class A/L 15, anti-slip</p> <p>2 Upper section with square cover, made of stainless steel, class A/L 15 Cover tileable</p> <p>Covers surface water tight</p> <div style="border: 1px solid black; border-radius: 15px; padding: 5px; text-align: center; margin: 10px 0;"> Upper sections with covers class B / D on request </div> <p>Handles groundwater depths up to 3000 mm Delivered as individual elements Removable access aid article # 860 126 on request</p> <p>In compliance with EN 13598 Part 2 Certification: Z-42.1-527</p>	<p>1</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 D 12: 3146 - 3395 D 13: 3396 - 3645 D 14: 3646 - 3895 D 15: 3896 - 4145</p> <p>2</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 D 12: 3161 - 3410 D 13: 3411 - 3660 D 14: 3661 - 3910 D 15: 3911 - 4160</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 64 874 00 70 874 00 76 874 00 82 874 00 88</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 62 874 00 68 874 00 74 874 00 80 874 00 86</p>


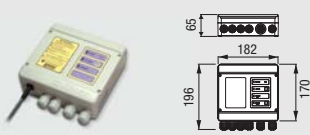




System chambers Ø 1000

With access opening Ø 800 mm

Illustration and dimensioned drawing	Article description	Installation depth mm	Article #
<p>For installation in a concrete slab</p>	<p>Engineering system chamber for combination with the engineering system base <i>Aqualift F XL-</i> and <i>Aqualift S XL</i> for underground installation made of polyethylene</p> <p>Version for waterproof concrete with flange and counter flange</p> <p><input type="checkbox"/> with access opening Ø 800 mm</p> <p>1 Upper section with cover, square made of stainless steel, class A/L 15 Cover tileable</p> <p>2 Upper section with cover, square made of stainless steel, class A/L 15, anti-slip</p> <p>Covers surface water tight</p> <p>Handles groundwater depths up to 3000 mm Delivered as individual elements Removable access aid article # 860 126 on request</p> <p>In compliance with EN 13598 Part 2 Certification: Z-42.1-527</p>	<p>1</p> <p>D 1: 628 - 877 D 2: 878 - 1127 D 3: 1128 - 1377 D 4: 1378 - 1627 D 5: 1628 - 1877</p> <p>2</p> <p>D 1: 613 - 862 D 2: 863 - 1112 D 3: 1113 - 1362 D 4: 1363 - 1612 D 5: 1613 - 1862</p>	<p>874 00 03 874 00 09 874 00 15 874 00 21 874 00 27</p> <p>874 00 05 874 00 11 874 00 17 874 00 23 874 00 29</p>

Upper sections with covers class B / D on request

Aqualift F XL / Aqualift S XL			Accessories																				
Illustration	Article description	Outer diameter Ø (mm)	Article #																				
	Extension section for engineering systems chamber, without gasket and connecting wedges, Height = 500 mm Including 2 access steps , installed	-	680 371																				
	Extension section for engineering systems chamber, without gasket and connecting wedges, Height = 250 mm Including 1 access step , installed	-	680 370																				
	Set of connecting wedges 10 pieces	-	680 373																				
	Profiled gasket	-	680 125																				
	Outdoor switch cabinet for the installation of control units, modems, heating, warning lights outdoors	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		
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																				
Pre-wired switch cabinets on request																							
	Thermostat / hygrostat installation set Heating to reduce condensation in the outdoor switch cabinet	-	97 713																				
	Warning light for the additional optical display of faults, for mounting on the outdoor switch cabinet, with control unit for connection to the control unit	-	97 715																				
	1 Cable extension for probe 10 m cable length	-	80 889																				
	2 Cable extension for pump 10 m cable length	-	80 891																				
	Cable attachment set for the chamber modules	-	28 076																				
Explanation of cable extensions:																							
Cable length delivered 10 m. Extension to ...		20 m	30 m																				
Mono: Pumping station <i>Aqualift F XL</i> dry installation, Lifting station <i>Aqualift F</i> with SPF 1400 and pumping station <i>Aqualift S Duo</i> LW 600 / 1000		1 1 x 80 889 2 1 x 80 891	1 2 x 80 889 2 2 x 80 891																				
Duo: Pumping station <i>Aqualift F XL</i> dry installation, Lifting station <i>Aqualift F</i> with SPF 1400 and pumping station <i>Aqualift S Duo</i> LW 600 / 1000		1 1 x 80 889 2 2 x 80 891	1 2 x 80 889 2 4 x 80 891																				

Aqualift F XL / Aqualift S XL		Accessories	
Illustration and dimensioned drawing	Article description	Outer diameter Ø (mm)	Article #
	<p>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.</p>	-	28 792
	<p>TeleControl antenna booster for TeleControl telemetric system incl. 2.5 m cable to improve reception. With magnetic base.</p>	-	28 793
	<p>Antenna booster extension cable cable length 2.5 m</p>	-	28 794
	<p>Warning device with electrode probe</p>	-	20 220
	<p>Compressor set 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 20 m pressure hose.</p>	-	28 048
	<p>PE-pressure hose extension (bulk goods)</p>	-	680 071
	<p>Optical probe with 3 adaptors 5 m cable length Optional cable extension</p>	-	80 888
	<p>Cable piping gasket set 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</p>	Ø 110	85 410
<p>NEW</p> 	<p>Tension chain Chain made of stainless steel to remove pumps incl. screw hooks and shackles suitable for pumping stations with wet installation</p>	<p>1 - 2 - 3 - 4 -</p>	<p>680 528 680 529 680 530 680 531</p>
	<p>1 Length 2 m</p>		
	<p>2 Length 3 m</p>		
	<p>3 Length 4 m</p>		
	<p>4 Length 5 m</p>		



GTF 1000

Illustration and dimensioned drawing	Article description	Pressure connection	Article #																
	<p>Submersible pump GTF 1000 for wastewater without sewage with/without float switch Connection to pressure pipe 1 1/4 inch. Outlet side / vertical, without macerator, cable length 10 m</p> <p><input type="checkbox"/> without float switch <input type="checkbox"/> 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 m³/h Max. submersible depth: 10 m Max. particle size: 10 mm Pressure connection: 1 1/4 inch side / vertical</p>	1 1/4 inch	28 760																
		1 1/4 inch	28 860																
		<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⁻¹</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 ⁻¹	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 ⁻¹																		
Motor protection	integrated																		
Operating mode	S3 - 30 %																		

KTP 500

Illustration and dimensioned drawing	Article description	Pressure connection	Article #																
	<p>Submersible pump KTP 500 / KTP 500 TITAN for wastewater without sewage with/without float switch Connection to pressure pipe 1 1/4 inch. Outlet side / vertical, cable length 10 m</p> <p>1 without float switch 2 with float switch</p> <p>Voltage: 230 V ~ 50 Hz Input power (P1): 480 W Max. pumping height: 8 m Max. pumping capacity: 8 m³/h Max. submersible depth: 10 m Max. particle size: 10 mm Pressure connection: 1 1/4 inch side / vertical</p> <p>Special model with titanium shaft Suitable for mechanical and chemical polluted media. Also resistant to chloride-containing media. Not to be used for nitro- and trichloroethylene</p>	KTP 500																	
		1 1 1/4 inch	28 710																
		2 1 1/4 inch	28 810																
		KTP 500 TITAN																	
1 1 1/4 inch	28 750																		
2 1 1/4 inch	28 850																		
		<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⁻¹</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 ⁻¹	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 ⁻¹																		
Motor protection	integrated																		
Operating mode	S1																		

Submersible pumps for wastewater with or without sewage



KTP 300

Illustration and dimensioned drawing	Article description	Pressure connection	Article #																		
	<p>Submersible pump KTP 300 for wastewater without sewage with/without float switch</p> <p>With backwater flap, pivotable connection, cable length 10 m</p> <p><input type="checkbox"/> without float switch</p> <p><input type="checkbox"/> with float switch</p> <p>Input power (P1): 280 W. Voltage: 230 V ~ 50 Hz. Max. pumping height: 6 m. Max. pumping capacity: 8 m³/h. Max. submersible depth: 10 m. max. particle size: 10 mm. Pressure connection: 1 inch side / vertical Removable input basket - reduction in the water level to 8 mm possible.</p>	1 inch	28 740																		
		1 inch	28 840																		
		<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⁻¹</td> </tr> <tr> <td>Motor protection</td> <td>integrated</td> </tr> <tr> <td>Plug</td> <td>Schuko</td> </tr> <tr> <td>Operating mode</td> <td>S1</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 ⁻¹	Motor protection	integrated	Plug	Schuko	Operating mode	S1
KTP 300																					
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Power P1/P2	280 W / 114 W																				
RPM	2800 min ⁻¹																				
Motor protection	integrated																				
Plug	Schuko																				
Operating mode	S1																				

STZ 1000



Illustration and dimensioned drawing	Article description	Pressure connection	Article #																
	<p>Submersible pump STZ 1000 for wastewater containing raw sewage with/without float switch with macerator.</p> <p>Connection to pressure pipe 1 1/4 inch. Outlet side / vertical, cable length 10 m</p> <p><input type="checkbox"/> without float switch</p> <p><input type="checkbox"/> with float switch</p> <p>Voltage: 230 V ~ 50 Hz Input power (P1): 1080 W Max. pumping height: 10 m Max. pumping capacity: 12 m³/h Max. submersible depth: 10 m Pressure connection: 1 1/4 inch side / vertical</p>	1 1/4 inch	28 779																
		1 1/4 inch	28 778																
		<table border="1"> <thead> <tr> <th colspan="2">STZ 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⁻¹</td> </tr> <tr> <td>Motor protection</td> <td>integrated</td> </tr> <tr> <td>Operating mode</td> <td>S3 - 30 %</td> </tr> </tbody> </table>		STZ 1000		Current type	Alternating current	Voltage	230 V	Current	4.9 A	Power P1/P2	1080 W / 620 W	RPM	2800 min ⁻¹	Motor protection	integrated	Operating mode	S3 - 30 %
STZ 1000																			
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Current	4.9 A																		
Power P1/P2	1080 W / 620 W																		
RPM	2800 min ⁻¹																		
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


Illustration	Article description	Article # Mono	Article # Duo
230 V Comfort control units			
Mono-/Duo control unit			
<input type="checkbox"/> extremely versatile sensor system for measuring the level of wastewater with and without sewage. 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)			
	1 with pressure sensor*/without extra alarm probe 10 m pressure hose (can be extended to 15 m)	1 28 731 D	28 746 D
	2 with pressure sensor*/conductance probe with separate conductance probe for alarm level measurement 10 m pressure hose (can be extended to 15 m) 5 m cable (cannot be extended)	2 28 731 DL	28 746 DL
	3 with pressure sensor*/float switch 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)	3 28 731 DS	28 746 DS
	4 with pressure sensor*/optical probe 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)	4 28 731 DO	28 746 DO
Mono-/Duo control unit			
<input type="checkbox"/> sensor system for level measurement for wastewater without sewage. With float switches to measure ON 1, ON 2 (only 28 746-S) and OFF levels.			
	5 with float switch*/without extra alarm probe 10 m float switch cable (can be extended to 30 m)	5 28 731 S	28 746 S
	6 with float switch*/float switch with separate float switch for alarm level measurement 10 m float switch cable (can be extended to 30 m)	6 28 731 SX	28 746 SX
*air compressor available for pressure switches with over 10 m cable			

230 V Comfort control unit

Illustration	Article description	Article # Mono	Article # Duo
	230 V Comfort control units		
	Mono-/Duo control unit		
	<input type="checkbox"/> Extremely versatile sensor system for measuring the level of wastewater with and without sewage. 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 not necessary.		
	7 with hydrostatic level sensor/without extra alarm probe 10 m level probe cable (can be extended to 30 m)	7 28 731 P	28 746 P
	8 with hydrostatic level sensor/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)	8 28 731 PS	28 746 PS
	Mono-/Duo control unit		
	<input type="checkbox"/> sensor system for level measurement for wastewater without sewage. 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.		
	Mono control unit		
	9 with conductance probe/conductance probe Level ON/OFF fixed, alarm level can be adjusted 5 m cable for conductance probe	9 28 731 LL	-
	Duo control units		
	10 with conductance probe/conductance probe ON 1 fixed/ON 2 variable/ALARM with fixed distance to ON 2 5 m cable for conductance probe	10 -	28 746 LLF
	11 with conductance probe/conductance probe ON 1 variable/ON 2 fixed/ALARM with fixed distance to ON 2 5 m cable for conductance probe)	11 -	28 746 LLV
	Hydrostatic level sensor level sensor cable 10 m	28 082	28 082
	Float switch float switch cable 10 m float switch cable 20 m	185-043 185-045	185-043 185-045

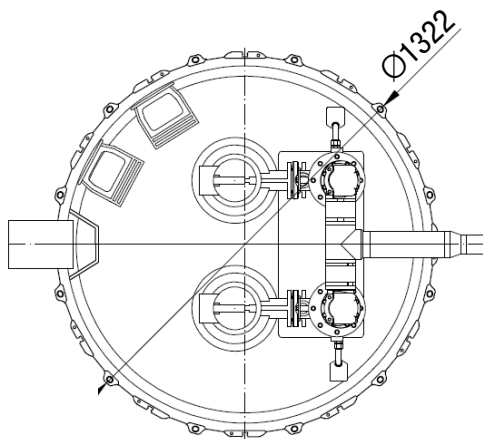
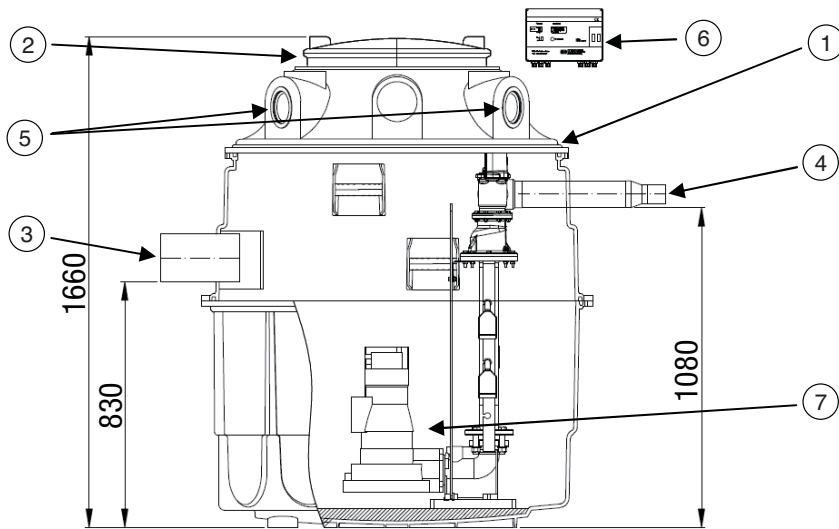
400 V Comfort control unit

Illustration	Article description	Article # Mono	Article # Duo
	400 V Comfort control unit		
	suitable for max. switching current from - to		
	2.5 - 4.0 A Mono	28 755	-
	4.0 - 6.3 A Mono	28 756	-
	6.3 - 10.0 A Mono	28 781	-
	2 x 2.5 - 4.0 A Duo	-	28 757
	2 x 4.0 - 6.3 A Duo	-	28 758
	2 x 6.3 - 10.0 A Duo	-	28 783
	2.5 - 4.0 A ATEX version, Mono	28 759	-
	4.0 - 6.3 A ATEX version, Mono	28 761	-
	2 x 2.5 - 4.0 A ATEX version, Duo	-	28 762
	2 x 4.0 - 6.3 A ATEX version, Duo	-	28 763

Warning units / 230 V Comfort control units / 400 V Comfort control units		Accessories
Illustration	Article description	Article #
	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.	28 792
	TeleControl antenna booster for <i>TeleControl</i> telemetric system incl. 2.5 m cable to improve reception. With magnetic base.	28 793
	Antenna booster extension cable cable length 2.5 m	28 794
	Alarm unit <input type="checkbox"/> with electrode probe <input type="checkbox"/> with optical probe for article numbers: 28 500	20 220 20 221
	Connector set for connection to pump/probe cables for connection to the coded connectors from 28 731 / 28 746	80 893
	Audible alarm <input type="checkbox"/> cable length 20 m suitable for all warning- and control units	20 162
	Potential-free contact for all <i>Aqualift</i> 230 V Comfort control units	80 072
	USB housing socket for routing the USB connection to the outside of the housing suitable for 230 Volt Comfort control units Mono/Duo	28 785
	Cable extension set (for pump) 10 m cable length A maximum of two cable extension sets can be connected	80 891
	Cable extension set (for probe) 10 m cable length A maximum of two cable extension sets can be connected	80 889
	Compressor set 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 20 m pressure hose.	28 048
	PE-pressure hose extension (bulk goods)	680 071

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:

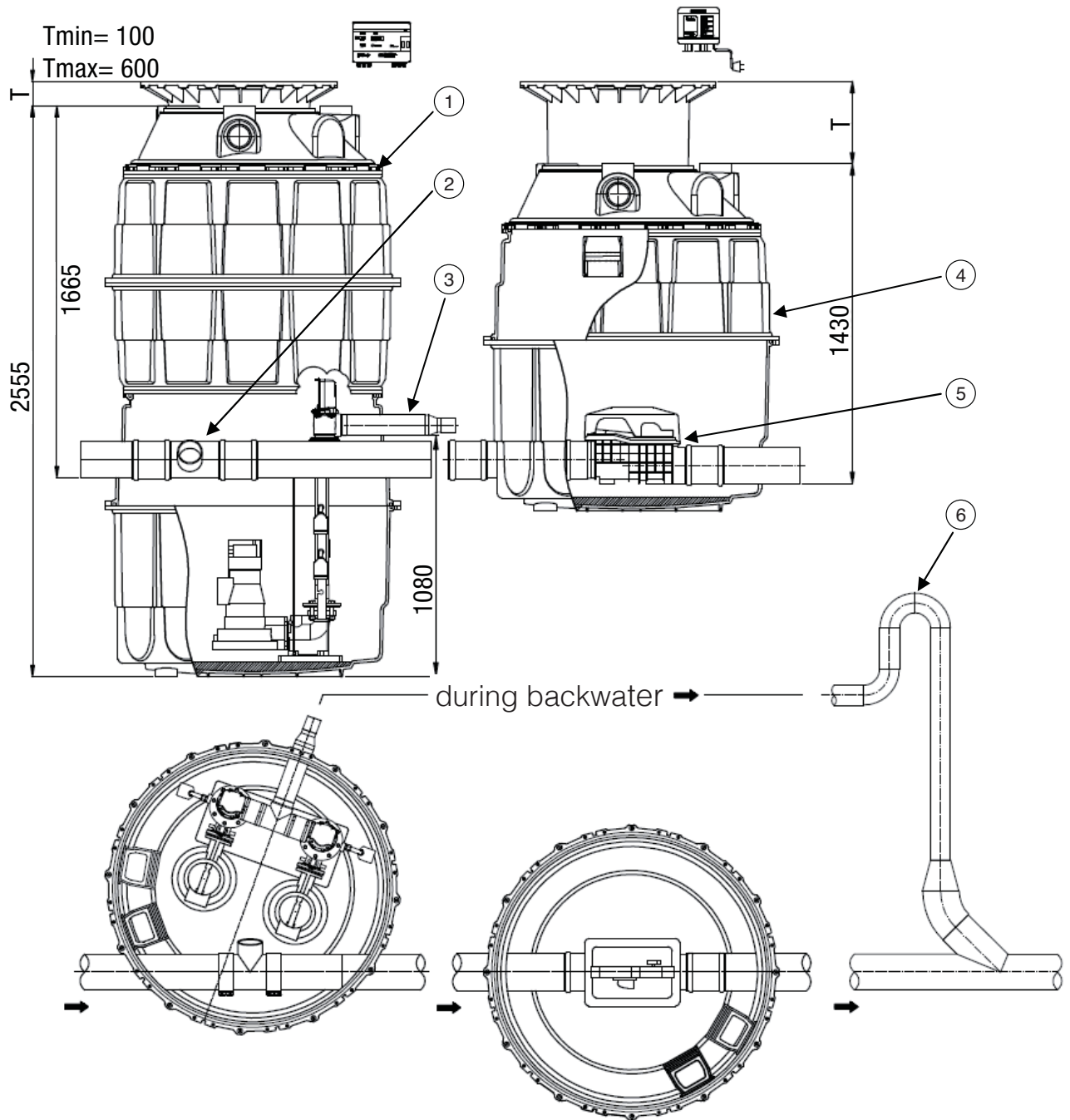
Pump chamber Ø 1000 with wastewater lifting station *Aqualift F Duo*

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 \varnothing 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 \varnothing 1000
 Standard: EN 752
 Installation depth: _____ - _____ mm
 Inlet depth: _____ - _____ mm
 Inlet: passage channel \varnothing _____ with overflow opening
 Pressure socket: \varnothing 63 mm / \varnothing 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 ³ /h	Feed rate:	max. 20.5 m ³ /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 ²)	Cable length:	10 m (7 x 1.5 mm ²)

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 multi-vane 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).

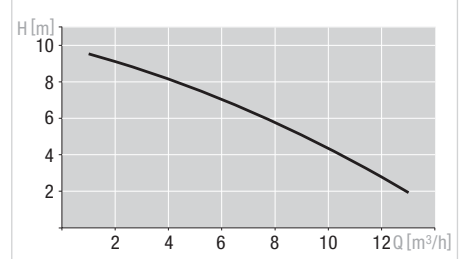


Lifting stations

3

Pumps for collection tank

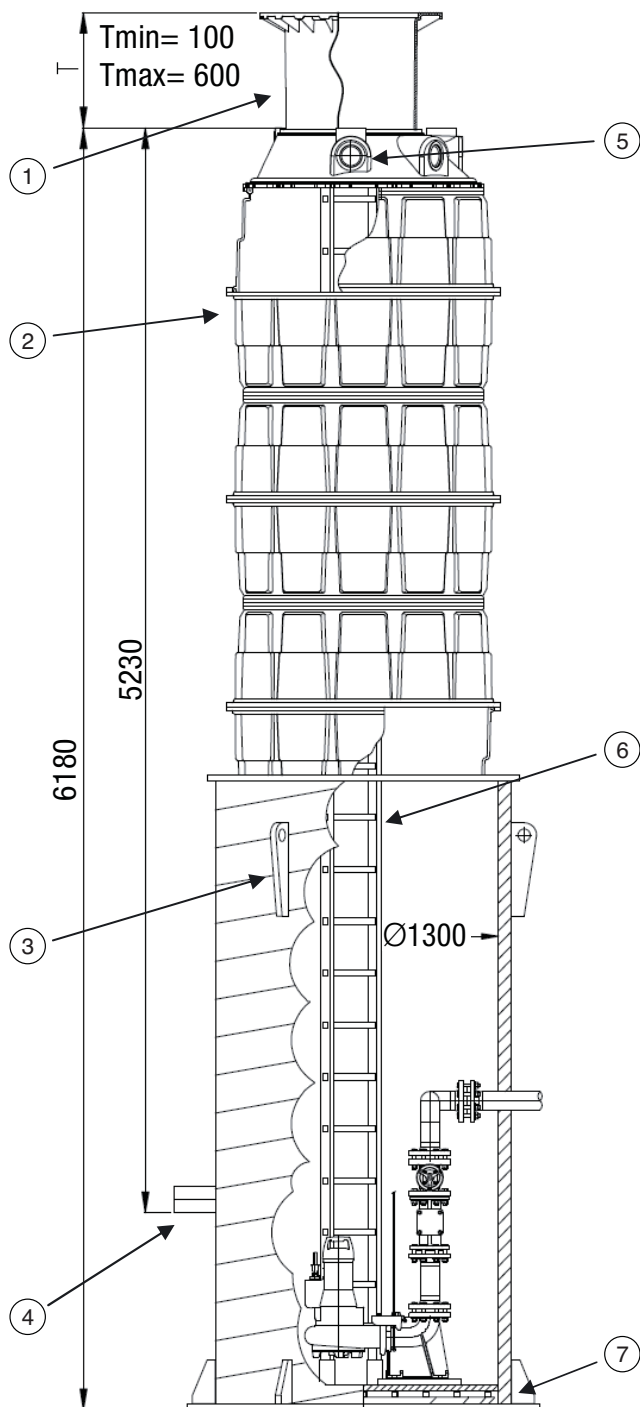
Illustration and dimensioned drawing	Article description	Pump KTP / GTF	Sensor	Article #
<p>NEW</p> <p>Illustratin shows AQUALI1000D</p> <p>AQUALI1000D</p>	<p>Aqualift F Duo pumping system for installation in on-site collection tank</p> <p>Twin pump system for sewage free wastewater (rainwater or non-WC wastewater) For installation in existing collection tanks with:</p> <ul style="list-style-type: none"> <input type="checkbox"/> PE-HD fixing mount for installation and mounting of pumping system <input type="checkbox"/> Two removable <i>GTF 1000 / KTP 500</i>, 230V/ 50Hz <input type="checkbox"/> Pressure sensor level control for conductive and non conductive liquids <input type="checkbox"/> With <i>Aqualift Comfort</i> 230 Volt duo control unit <input type="checkbox"/> Pressure piping with non-return flap and closure lever <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 GTF 1000	Pressure sensor Floater	AQUALI1000D* AQUALI1000DS*
		KTP 500 KTP 500	Pressure sensor Floater	AQUALI500D* AQUALI500DS*



* 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_{min}= 100, T_{max}= 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

Materials for all areas of application



Installation situation *Ecoguss*
project drain with shallow bed waterproofing layer
and fire protection





4 Drains and channels

Project drains Page **160 – 169**

Bathroom / Shower drains Page **170 – 185**

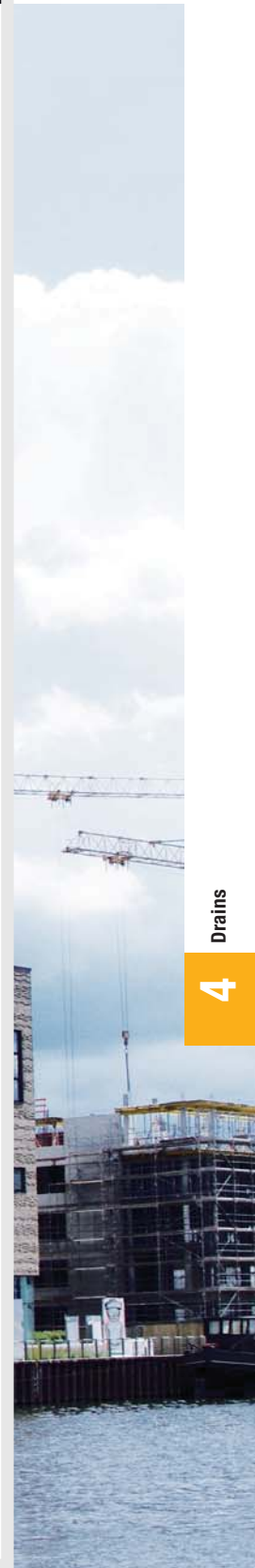
Shower channels Page **188 – 195**

Wall drains Page **198 – 202**

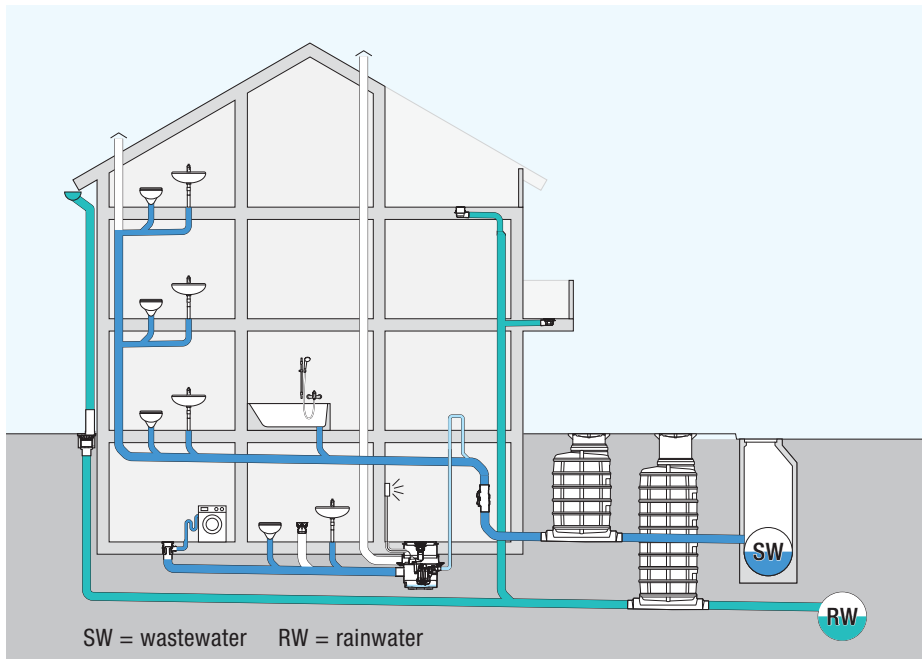
Basement drains Page **204 – 212**

Stainless steel drains and channels Page **214 – 232**

**Parking deck /
Balcony / Roof /
Gutter / Yard drains** Page **234 – 252**



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



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

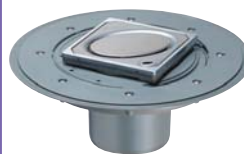
**Floor drain *Practicus*
with pressure sealing flange**



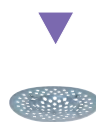
System 100



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



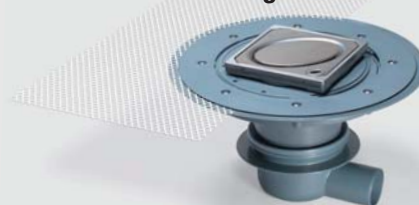
Hair filter
Art. # 43 700



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

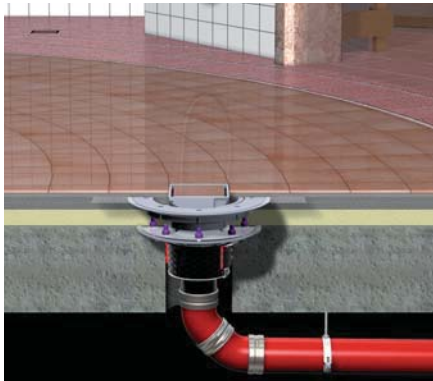
= Complete article

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



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.



Draining wastewater professionally - Everything the specialist needs to know



Wall drains

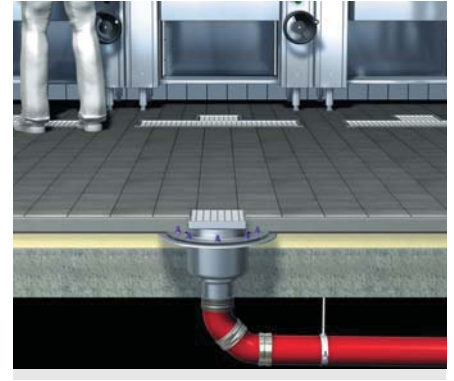
Wall drains are the latest trend in shower design. They are particularly suitable for barrier-free bathrooms since the unevenness which can occur through installation of a floor drain is no longer a problem. In addition, the *Scada* wall drain has four high quality drain covers made of stainless steel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



Basement Drains

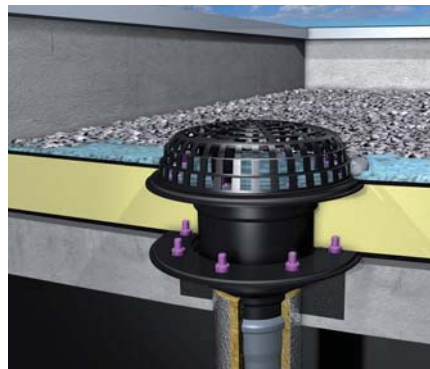
Basement drains are used for draining lower level components. They collect surface water and discharge this. In addition, further fixtures that require drainage such as washing machines, sinks or showers can also be connected.

Basement drains can be adapted to the requirements of your installation location and are available equipped with backwater valve, pump or volatile liquid trap.



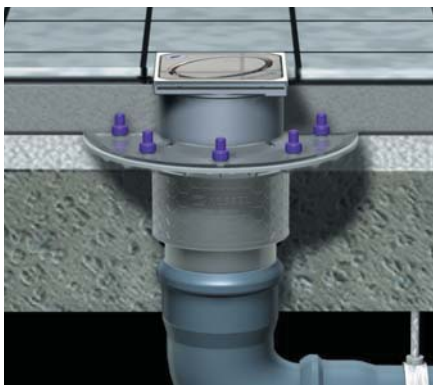
Stainless steel drains
and channels

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



Waterproofing options

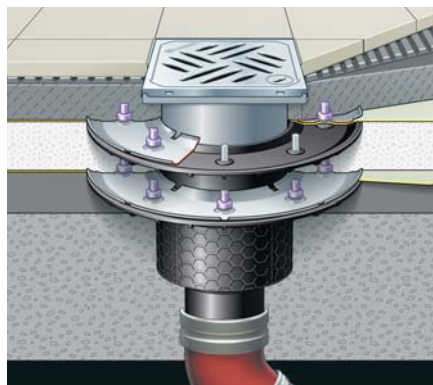
In rooms with a high moisture level, such as bathrooms, spas, washrooms or industrial kitchens in particular, high demands are made on waterproofing. The assumption that ceramic floors are watertight is often a mistake. The resulting decision to do without sealing measures frequently leads to unpredictable 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.

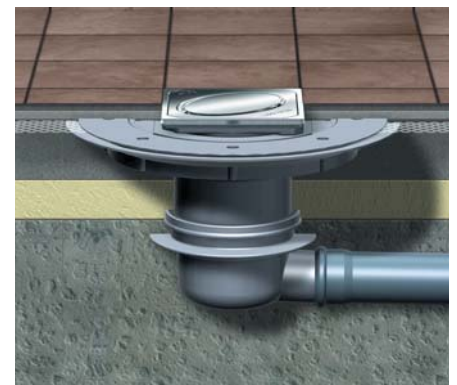


Double waterproofing flanges

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.



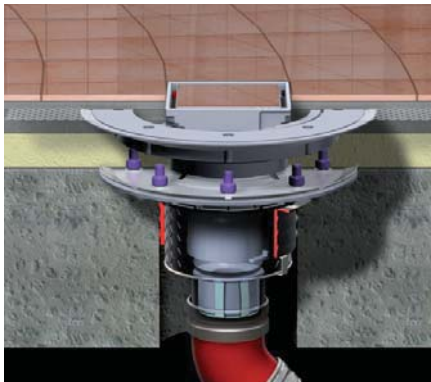
Shallow waterproofing flange

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 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.

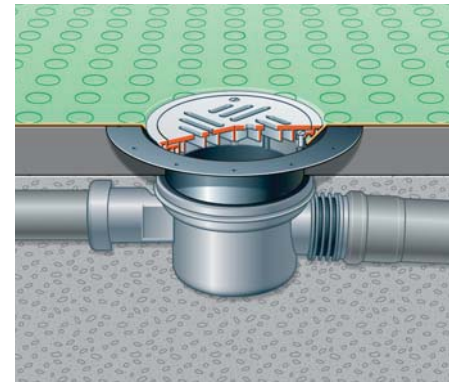
The shallow bed gasket used is applied above the screed with special ready-to-use and spreadable sealing materials in compliance with the ZDB information sheet. This is governed uniformly in the building regulations of all German states. The consequence of this is that structural works, such as bathrooms, 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:

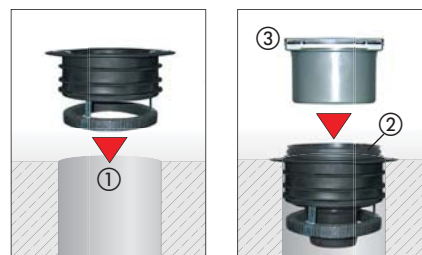
- in single- and two-family homes
- in basements
- with horizontal outlets (under certain conditions).

How it works

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

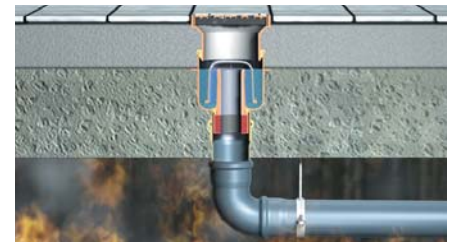
Quick-Fit passage seal including fire protection, with approval Z-19.17-1719

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.

Which standards must be taken into account?

EN
124

Load classes for upper sections and covers for traffic areas

EN
877

Cast iron pipes and fittings

EN
1253-1

Drains for buildings with volatile liquid traps

EN
1451-1

Plastics piping systems

EN
12056

Gravity drainage systems inside buildings

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 5 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

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	+	Rapseed 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	Class K 3 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	Class A 15 for max. load of 1.5 tonnes: Areas that can only be used by pedestrians and cyclists.
L 15	Class L 15 for max. load of 1.5 tonnes: Areas driven over by light traffic, without forklift trucks, in industrial buildings.	B 125	Class B 125 for max. load of 12.5 tonnes: Pavements, pedestrian areas and comparable areas, parking lots or multi-storey car parks.
M 125	Class M 125 for max. load of 12.5 tonnes: Areas driven over by traffic, such as multi-storey car parks, factories and workshops.	C 250	Class C 250 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	Class D 400 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 163 – 169

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

Floor / Roof drains *Practicus* Page 166 – 169

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

Bathroom / Shower drains

Bathroom drains System 125

“The Ultraflat” Page 172 – 177

Minimum installation height for renovation and construction

“The Vertical” Page 174 – 177

Compact drain body with vertical outlet makes it ideal for renovations

Giro Page 174 – 177

The ones with the special twist

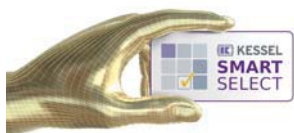
Bathroom drains System 100

“The Superflat” Page 180 – 185

Bathroom drain with flexible outlet and low installation height

Classic Page 182 – 185

Our classical products - compact with high performance



SmartSelect makes planning quite simply quicker - visit 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
 - ≥ 16 dB(A) according to DIN 4109
 - ≥ 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

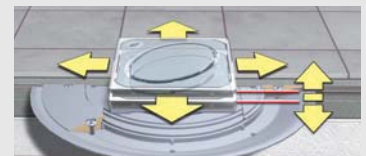
INSTALLATION AID

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

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	48 358.51.53
48 458.51	48 458.53	48 458.51.53
48 378.51	48 378.53	48 378.51.53
48 478.51	48 478.53	48 478.51.53
48 383.51	48 383.53	48 383.51.53
48 483.51	48 483.53	48 483.51.53
48 311.51	48 311.53	48 311.51.53
48 411.51	48 411.53	48 411.51.53
	48 311.63	48 311.11
	48 411.63	48 411.11



48 311.53

* 20 mm threshold / 10 mm threshold


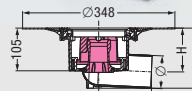

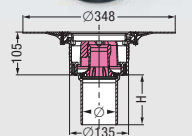
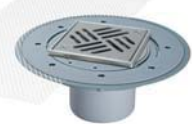
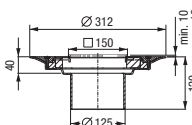

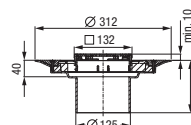

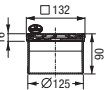

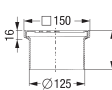
KESSEL

EN 1253-1

For other product combinations and accessories, see the modular system at page 168 - 169

Project drains *Ecoguss* with glue flange

Matrix order system


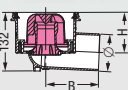

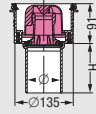

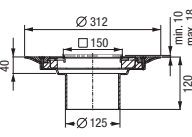

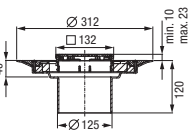

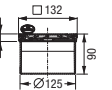

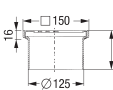
Drain body	Upper sections																												
<p>Ecoguss with glue flange for connection to SML-pipe, with odour trap 50 mm</p>   <table border="1"> <tr><td>Ø</td><td>58</td><td>78</td><td>83</td><td>110</td></tr> <tr><td>B</td><td>245</td><td>134</td><td>134</td><td>148</td></tr> <tr><td>H</td><td>120</td><td>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>Shallow bed upper section in ABS, with mesh fabric</p>   <p>With slotted cover 138 x 138 mm and rim in stainless steel AISI 304, class L 15, screwed</p> <p>Art. # 48 963</p>	<p>Shallow bed upper section in ABS, with mesh fabric</p>   <p>With design cover <i>Kessel</i> 120 x 120 mm and rim in stainless steel AISI 304, class L 15, Lock & Lift System</p> <p>Art. # 48 904</p>	<p>Upper section in ABS</p>   <p>With design cover <i>Kessel</i> 120 x 120 mm, and rim in stainless steel AISI 304, class L 15, Lock & Lift System</p> <p>Art. # 48 201</p>	<p>Upper section in ABS</p>   <p>With slotted cover 138 x 138 mm in stainless steel AISI 304, class K 3, screwed</p> <p>Art. # 48 950</p>
Ø	58	78	83	110																									
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H	120	107	106	90																									
Ø	58	78	83	110																									
H	100	110	110	110																									
<p>Ø 58</p>	<p>Complete drain comprising a combination of the drain body and upper section</p>																												
<p>Lateral outlet Art. # 48 558</p>	<p>48 558.51</p>	<p>48 558.53</p>	<p>48 558.63</p>	<p>48 558.11</p>																									
<p>Vertical outlet Art. # 48 658</p>	<p>48 658.51</p>	<p>48 658.53</p>	<p>48 658.63</p>	<p>48 658.11</p>																									
<p>Ø 78</p>																													
<p>Lateral outlet Art. # 48 578</p>	<p>48 578.51</p>	<p>48 578.53</p>	<p>48 578.63</p>	<p>48 578.11</p>																									
<p>Vertical outlet Art. # 48 678</p>	<p>48 678.51</p>	<p>48 678.53</p>	<p>48 678.63</p>	<p>48 678.11</p>																									
<p>Ø 83</p>																													
<p>Lateral outlet Art. # 48 583</p>	<p>48 583.51</p>	<p>48 583.53</p>	<p>48 583.63</p>	<p>48 583.11</p>																									
<p>Vertical outlet Art. # 48 683</p>	<p>48 683.51</p>	<p>48 683.53</p>	<p>48 683.63</p>	<p>48 683.11</p>																									
<p>Ø 110</p>																													
<p>Lateral outlet Art. # 48 511</p>	<p>48 511.51</p>	<p>48 511.53</p>	<p>48 511.63</p>	<p>48 511.11</p>																									
<p>Vertical outlet Art. # 48 611</p>	<p>48 611.51</p>	<p>48 611.53</p>	<p>48 611.63</p>	<p>48 611.11</p>																									

For other combinations and accessories see modular system page 168 - 169

* 20 mm threshold / 10 mm threshold

Project drains Ecoguss with connection flange

Matrix order system

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

For other combinations and accessories see modular system page 168 - 169



EN 1253-1

* 20 mm threshold / 10 mm threshold

Project drains *Practicus* with pressure sealing flange

Matrix order system

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


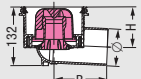

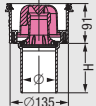

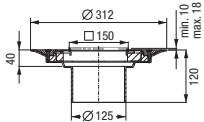

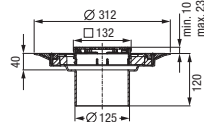

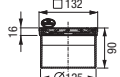

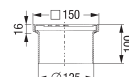
For other combinations and accessories see modular system page 168 - 169



* 20 mm threshold / 10 mm threshold

Project drains *Practicus* with connection flange

Matrix order system

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



For other combinations and accessories see modular system page 168 - 169

* 20 mm threshold / 10 mm threshold

U
Upper sections

A
Accessories

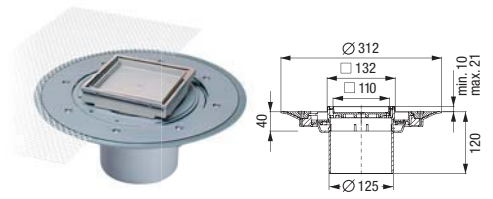
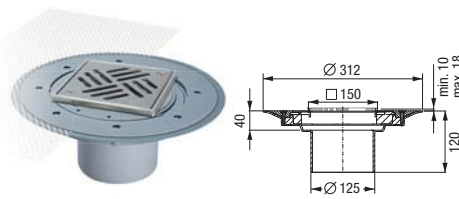
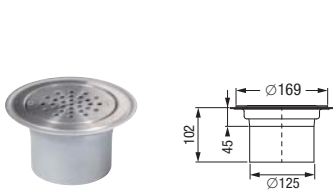
D
Drain bodies



Floor drain *Practicus*
Art. # 45 218.11

Upper section for PVC floorings

Variofix shallow bed upper sections



in stainless steel AISI 304

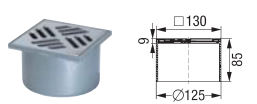
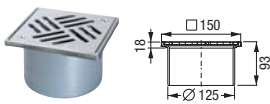
with cover \varnothing 133 mm
in stainless steel AISI 304,
class L 15, screwed.
For use with 1-4 mm PVC / vinyl flooring.
Art. # 59 192
Custom made product (delivery time on request)

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

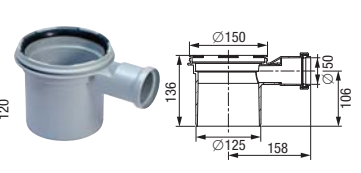
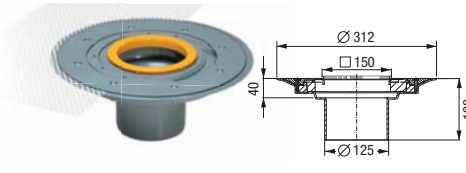
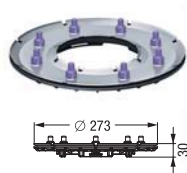
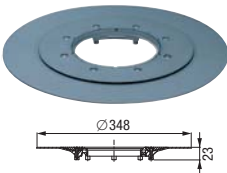
in ABS,
black
Art. # 48 193

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



Waterproofing 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

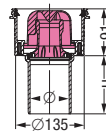
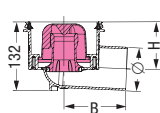
in PP, with lip seal
without lateral inlet
Art. # 48 987
with lateral inlet \varnothing 50
Art. # 48 989

Mesh fabric
for Art. # 48 410
Art. # 680 351

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

Drain bodies *Ecoguss* and *Practicus*

All drain bodies:
1.8 l/sec / 1.1 l/sec* flow rate
Sealing water height 50 mm



Ecoguss

with removable odour trap

* 20 mm threshold / 10 mm threshold

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

			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

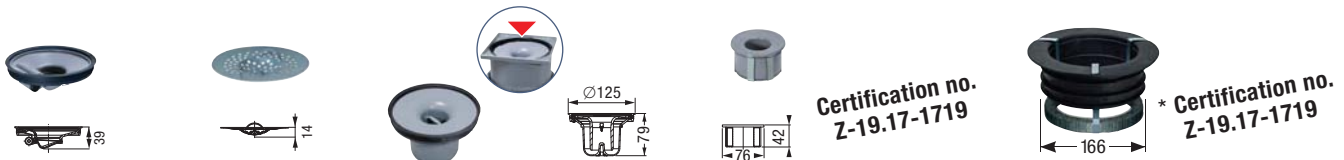
Upper section with design cover



in ABS

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

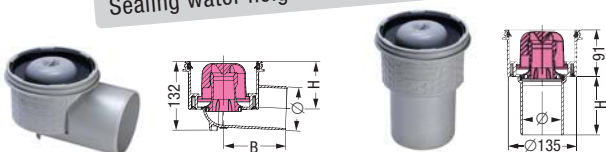
			Kessel (Cl. L 15)	Oval (Cl. L 15)	Spot (Cl. K 3)	Cross (Cl. K 3)	Festival (Cl. K 3)	Parade (Cl. K 3)	Slot (Cl. K 3)	Sticks (Cl. K 3)
with Lock & Lift...	AISI 304	Art. #	48 201	48 202	48 221	48 213	48 215	48 224	48 219	48 217
	AISI 316L	Art. #	48 203	-	-	-	-	-	-	-
without Lock & Lift...	AISI 304	Art.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



Multistop	Hair filter	Odour trap	Fire-Kit Fire protection insert	Quick-Fit the passage seal
odour, foam, rodent and insect stop Art. # 48 500	made of polymer Art. # 48 700	for all upper sections System 125, sealing water height 50 mm according to norm Art. # 48 600 Not in combination with tilable upper sections	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	for core drillings for drain bodies with vertical outlet *with fire protection Art. # 48 990 (only in combination with Fire-Kit protection insert) without fire protection Art. # 48 991

Sludge trap
Art. # 48 168 see page 177

All drain bodies:
1.8 l/sec / 1.1 l/sec* flow rate
Sealing water height 50 mm

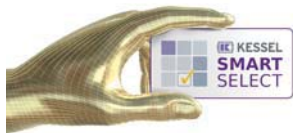


Practicus in PP
with removable odour trap
* 20 mm threshold / 10 mm threshold

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



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



SmartSelect makes planning quite simply quicker - visit 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



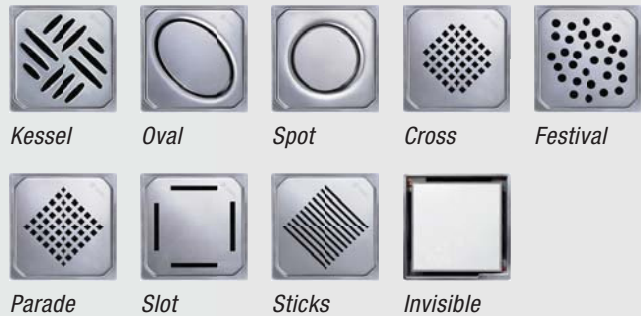
...with glue flange

Bathroom drains *"The Ultraflat"*

minimum installation height, ideal for renovation work and new constructions

DESIGN COVERS FOR BATHROOM DRAINS

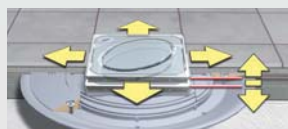
Eight different covers made of stainless steel and one tilable version. Each with or without *Lock & Lift* system.



"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.



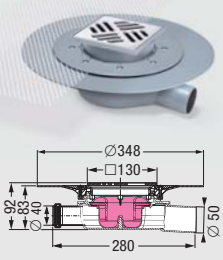
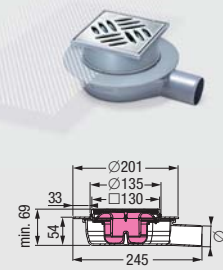
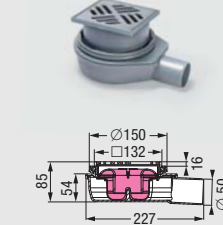
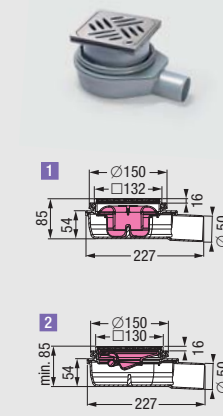
SEEPAGE WATER OPENING

For discharging water that has seeped into the floor structure.

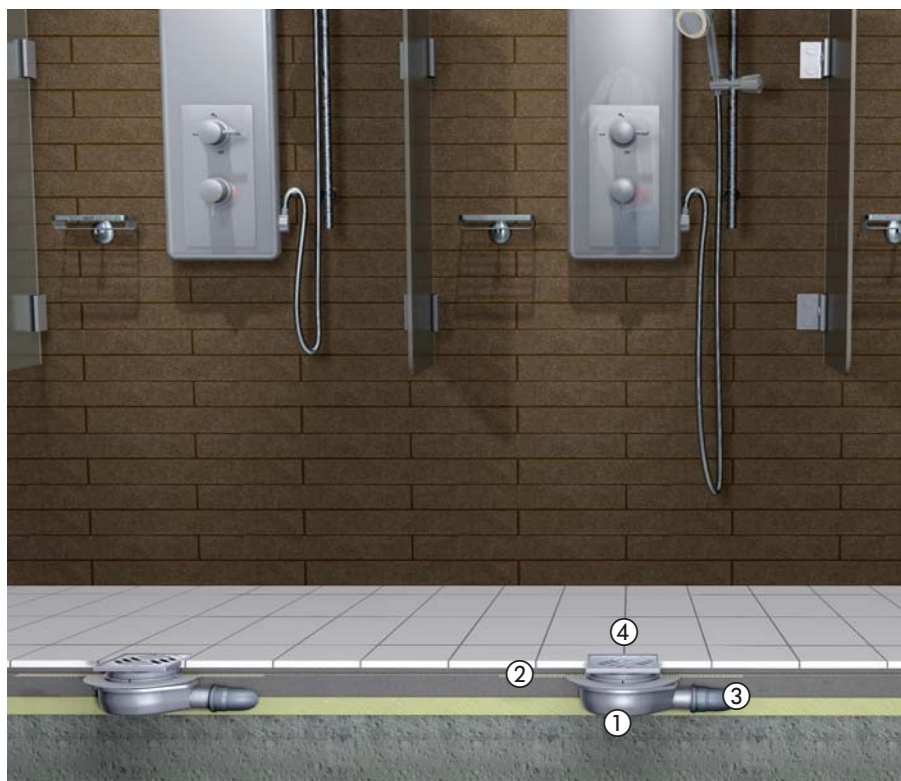
Multistop

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

"The Ultraflat"

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>Bathroom drain "The Ultraflat" in ABS With lateral outlet and one lateral inlet Ø 40, with removable odour trap, glue flange and mesh fabric for shallow bed seal With upper section in ABS</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>45 700.91</p>
 <p>Flow rate 1 Ø 40: 0.6 l/sec 2 Ø 50: 1 l/sec Installation area 300 x 300 mm</p>	<p>Bathroom drain "The Ultraflat" in ABS for shallow bed gasket with lowest installation height sound-absorbing, Ø ... lateral outlet 2.5°</p> <p>with removable odour trap, flange and mesh fabric for shallow bed seal With upper section in ABS</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>1 Ø 40 2 Ø 50</p>	<p>45 740.20 45 750.20</p>
 <p>1.0 l/sec flow rate Installation area 250 x 300 mm</p>	<p>Bathroom drain "The Ultraflat" in ABS sound-absorbing, Ø 50 lateral outlet 2.5°</p> <p>with odour trap and lip seal. With upper section in ABS</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>45 700.20</p>
 <p>Flow rate 1 Ø 50: 1.0 l/sec 2 Ø 50: 0.9 l/sec Installation area 250 x 300 mm</p>	<p>Bathroom drain "The Ultraflat" in ABS sound-absorbing, Ø 50 lateral outlet 2.5°</p> <p>With upper section in ABS</p> <p>1 with odour trap, with lip seal. with design cover Kessel 120 x 120 mm and rim in stainless steel AISI 304, with Lock & Lift System, class L 15 (able to withstand loads up to max. 1.5 tons).</p> <p>Additional design covers see page 133</p> <p>2 with Multistop: Odour, foam, rodent and insect stop with cover in stainless steel AISI 304 120 x 120 mm 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 85 mm.</p>	<p>1 Ø 50 2 Ø 50</p>	<p>45 700.63 45 700.71</p>

Installation example *"The Ultraflat"*



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

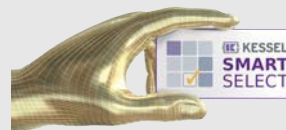
Thanks to its minimum overall installation height, *"The Ultraflat"* bathroom drain is particularly suitable for flush-to-floor showers, which are one of the latest trends. Body and upper section together are only 69 millimetres high and are thus also suitable for retrofitting. Connection to the shallow 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 176 - 177).
- *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

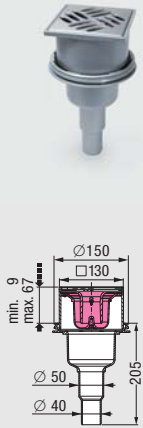




www.kessel-design.com





SmartSelect makes planning quite simply quicker - visit smartselect.kessel.com for the configurator for alternative waterproofing options.

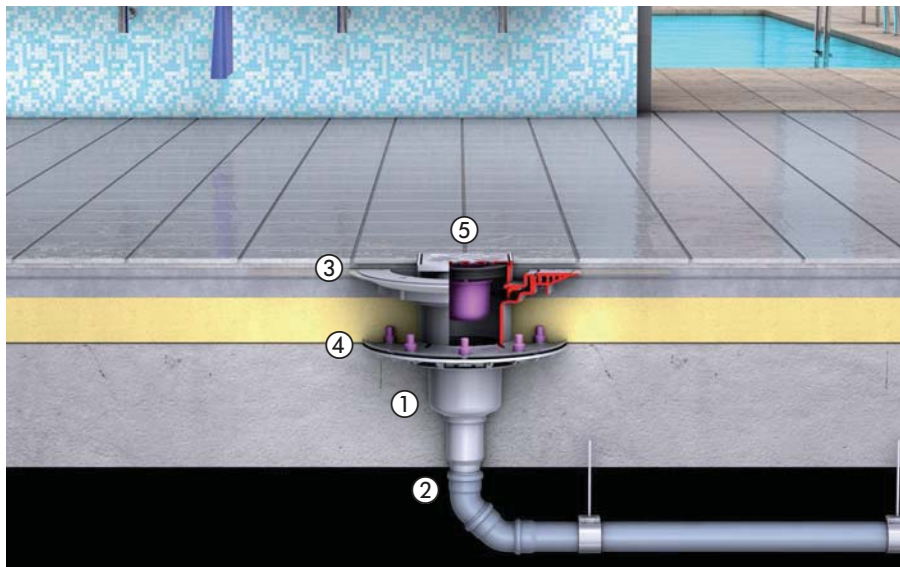
"The Vertical"

Illustration and dimensioned drawing	Article description	Outer diameter Ø (mm)	Article #
 <p>1.2 l/sec flow rate Installation area 160 x 160 mm</p>   <p>EN 1253-1</p>	<p>Bathroom drain "The Vertical" in ABS</p> <p>With vertical outlet Ø 40/50, with removable odour trap</p> <p>With upper section in ABS</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.</p>	<p>Ø 40/50</p>	<p>45 254.20</p>

Giro

Illustration and dimensioned drawing	Article description	Outer diameter Ø (mm)	Article #
 <p>1.3 l/sec flow rate Installation area 350 x 250 mm</p>  <p>EN 1253</p>	<p>Bathroom drain Giro in PP sound-absorbing, Ø 50, flexible outlet, with rotatable lateral inlet Ø 50, with removable odour trap, fixed lip seal</p> <p>With upper section in ABS</p> <p><input type="checkbox"/> with slotted cover 120 x 120 mm 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.</p>	<p>Ø 50</p>	<p>45 101.20</p>

Installation example "The Vertical"

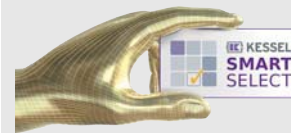


- ① "The Vertical" bathroom drain
- ② Outlet
- ③ Adhesive flange
- ④ Pressure sealing flange
- ⑤ Cover

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 176 - 177).



SmartSelect makes planning quite simply quicker - visit 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

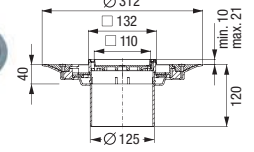
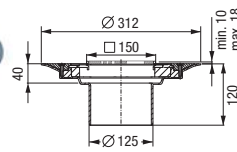
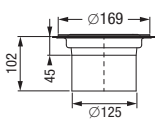


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Bathroom drains "The Ultraflat" and "The Vertical" System 125

Upper section for PVC floorings

Variofix shallow bed upper sections



in stainless steel AISI 304

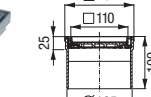
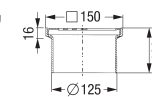
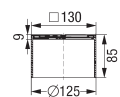
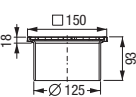
with cover \varnothing 133 mm
in stainless steel AISI 304,
 class L 15, screwed.
 For use with 1-4 mm PVC / vinyl flooring.
 Art. # 59 192
 not in combination with drain body "The Ultraflat"
 Custom made product (delivery time on request)

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

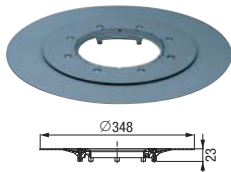
in ABS, tileable...

\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

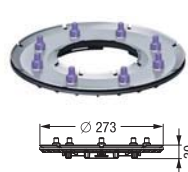
Art. # 48 210

Accessories



Waterproofing flange with counter flange

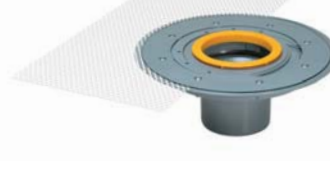
in ABS, \varnothing 348 mm (also for compound seal)
 Art.Nr. 48 410
 can be combined with drain bodies and extension sections



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

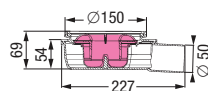
in ABS, for shallow bed gasket
 incl. mesh fabric
 Art. # 48 900

Mesh fabric for Art. # 48 410
 Art. # 680 351

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

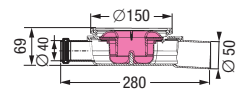


"The Ultraflat" in ABS

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

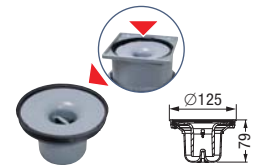
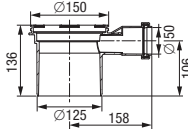
Upper section with design cover



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
Not in combination
with tilable upper sections

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



"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

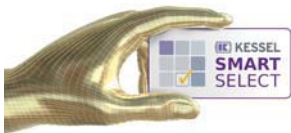
1.2 l/sec flow rate *)
Sealing water height 50 mm



"The Vertical" in ABS

Vertical outlet Ø 50/40
with removable odour trap*
fits all upper sections System 125
Art. # 45 254

* Not in combination with tilable upper sections



SmartSelect makes planning quite simply quicker - visit smartselect.kessel.com for the configurator for alternative waterproofing options.

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.

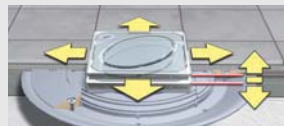


...with shallow bed gasket

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.

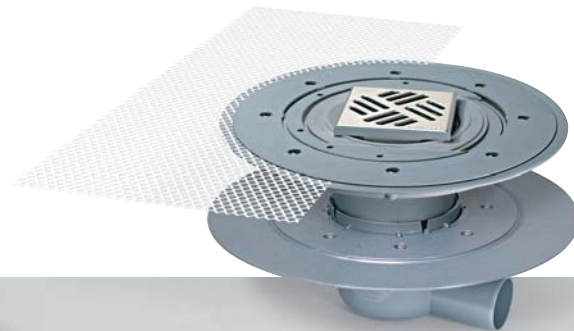


SAFE INSTALLATION

The fixed lip seal reliably prevents the upper section from slipping.



...with connection flange



...with twin sealing flanges

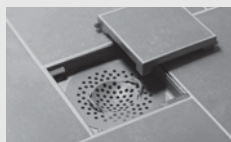


...with glue flange

Bathroom drains **"The Superflat"**
with additional inlet

Bathroom drains **Classic**
compact and high performance

HAIR FILTER
To prevent blockages



Classic
Art. # 40 159.50

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

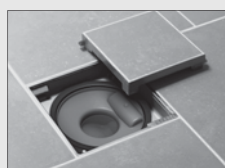
AWARD-WINNING

The award-winning design covers combine aesthetics and technology at the highest level.

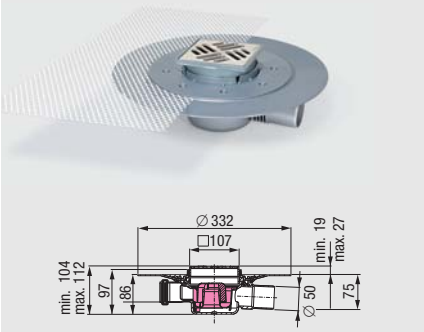
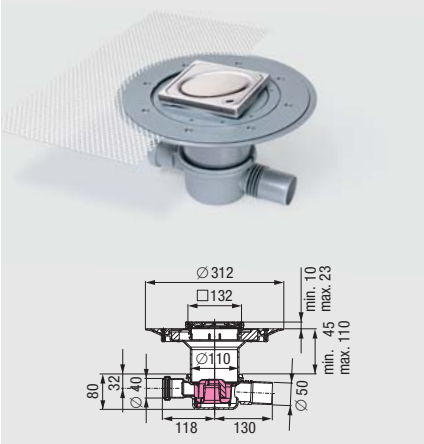
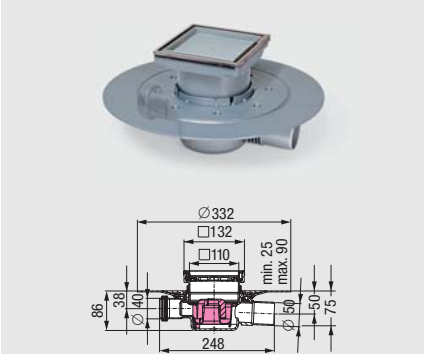
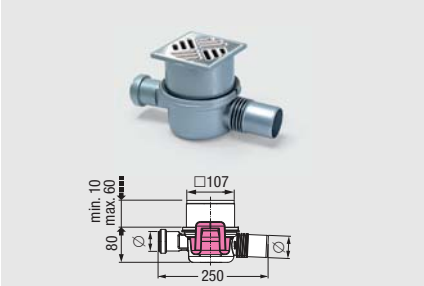


MULTISTOP

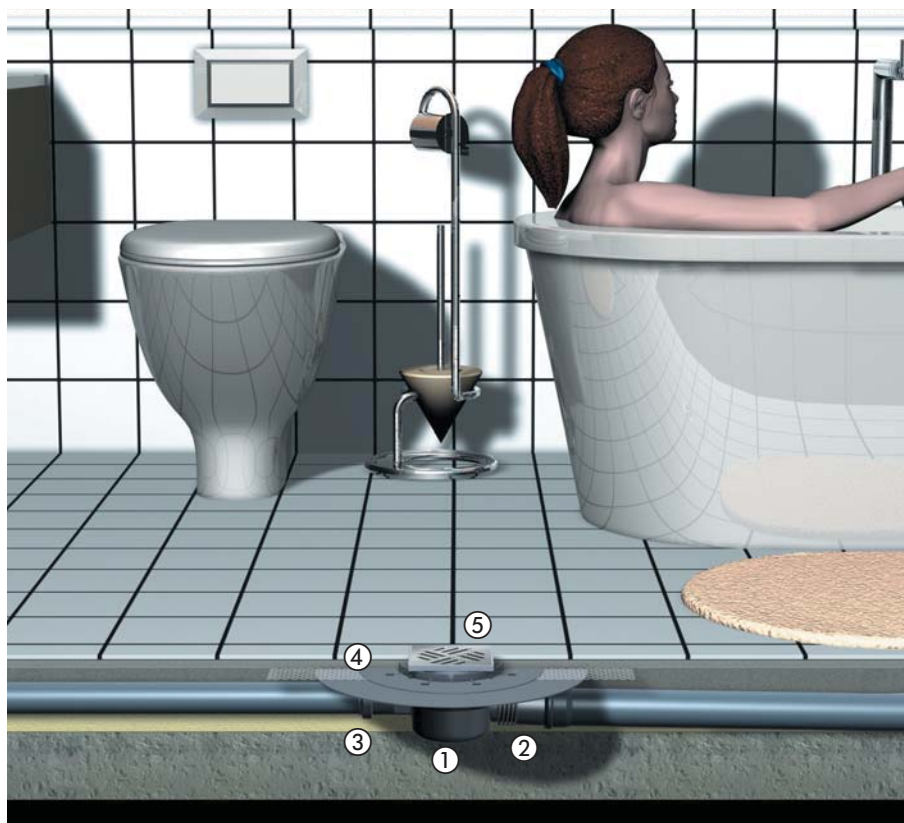
Ideal odour trap for drains that dry out frequently. Can be retrofitted to installed drains.



"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>Bathroom drain "The Superflat" in PP for shallow bed gasket with lowest installation height sound-absorbing, Ø 50 flexible lateral outlet 2.5°, with lateral inlet Ø 40 and fixed lip seal. With removable odour trap, glue flange with mesh fabric for shallow bed sealing With upper section 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>42 701.91</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>Bathroom drain "The Superflat" in PP sound-absorbing, Ø 50 flexible lateral outlet 2.5°, with lateral inlet Ø 40 and fixed lip seal. With Variofix shallow bed upper section in ABS, with removable odour trap, with mesh fabric for shallow bed sealing</p> <p>1 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 & Lift</i> System.</p> <p>2 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>42 701.54</p> <p>42 701.50</p>
 <p>0.8 l/sec flow rate Installation area 260 x 180 mm</p>	<p>Bathroom drain "The Superflat" in PP sound-absorbing, Ø 50 flexible lateral outlet 2.5°, with lateral inlet Ø 40 and fixed lip seal. With removable odour trap, with glue flange and counter flange</p> <p>With upper section 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>42 701.95</p>
 <p>0.8 l/sec flow rate Installation area 260 x 180 mm</p>	<p>Bathroom drain "The Superflat" in PP sound-absorbing, Ø 50 flexible lateral outlet 2.5°, with lateral inlet Ø 40 and fixed lip seal. With removable odour trap</p> <p>With upper section 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>42 701.20</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 drainage fixtures. 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 184 - 185).
- **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

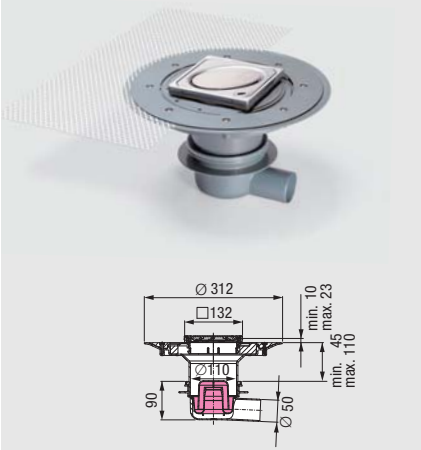

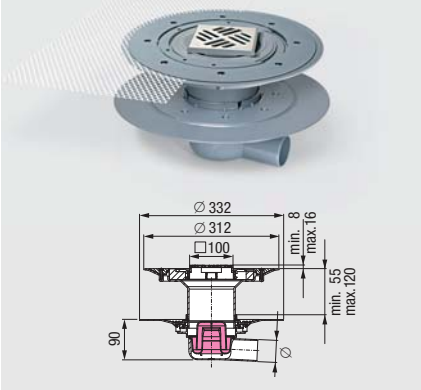

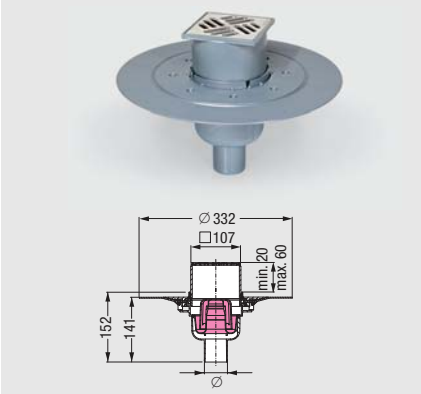



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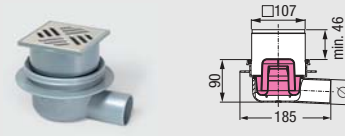

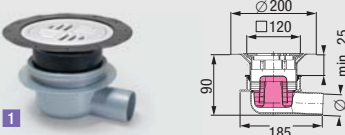
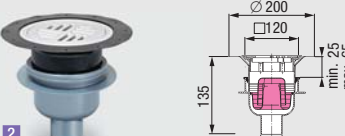



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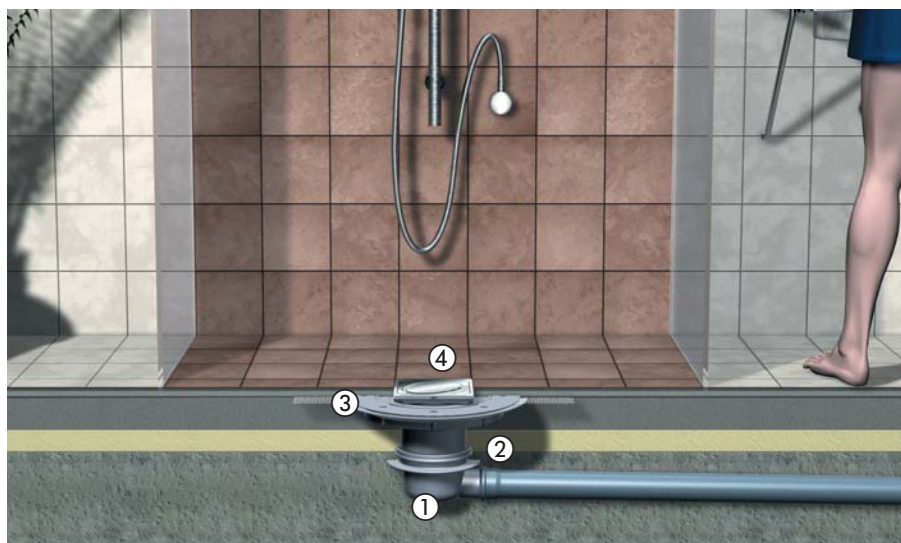
Classic

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>Bathroom drain <i>Classic</i> in ABS with removable odour trap, sealing water height 50 mm, with fixed lip seal, With <i>Variofix</i> shallow bed upper section in ABS, with mesh fabric for shallow bed sealing</p> <p>Lateral outlet</p> <p>1 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 & Lift</i> System, class L 15</p> <p>2 with standard slotted cover 95 x 95 mm in stainless steel AISI 304, for tile thicknesses 6-14 mm, class K 3</p> <p>3 with slotted cover 138 x 138 mm and rim in stainless steel AISI 304, for tile thicknesses 8-16 mm, class L 15</p> <p>Vertical outlet</p> <p>4 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 & Lift</i> System, class L 15</p> <p>5 with standard slotted cover 95 x 95 mm in stainless steel AISI 304, for tile thicknesses 6-14 mm, class K 3</p> <p>6 with slotted cover 138 x 138 mm and rim in stainless steel AISI 304, for tile thicknesses 8-16 mm, class L 15</p> <p> EN 1253-1</p>	<p>1 Ø 50 Ø 75</p> <p>2 Ø 50 Ø 75</p> <p>3 Ø 50 Ø 75</p> <p>4 Ø 50 Ø 75</p> <p>5 Ø 50 Ø 75</p> <p>6 Ø 50 Ø 75</p>	<p>40 150.54 40 170.54</p> <p>40 150.50 40 170.50</p> <p>40 150.51 40 170.51</p> <p>40 250.54 40 270.54</p> <p>40 250.50 40 270.50</p> <p>40 250.51 40 270.51</p>
 <p>0.8 l/sec flow rate Installation area 260 x 180 mm</p>	<p>Bathroom drain <i>Classic</i> in ABS with removable odour trap, sealing water height 50 mm, with fixed lip seal, With <i>Variofix</i> shallow bed upper section in ABS with glue flange and counter flange, with mesh fabric, with two sealing strips</p> <p>Lateral outlet</p> <p>1 with slotted cover 95 x 95 mm in stainless steel AISI 304, for tile thickness 6-14 mm, class K 3</p> <p>Vertical outlet</p> <p>2 with slotted cover 95 x 95 mm in stainless steel AISI 304, for tile thickness 6-14 mm, class K 3</p> <p> EN 1253-1</p>	<p>1 Ø 50 Ø 75</p> <p>2 Ø 50 Ø 75</p>	<p>40 159.50 40 179.50</p> <p>40 259.50 40 279.50</p>
 <p>0.8 l/sec flow rate Installation area 180 x 180 mm</p>	<p>Bathroom drain <i>Classic</i> in ABS with removable odour trap, sealing water height 50 mm, with fixed lip seal, with upper section in ABS with glue flange and counter flange</p> <p>Lateral outlet</p> <p>1 with slotted cover 100 x 100 mm in stainless steel AISI 304, class K 3</p> <p>Vertical outlet</p> <p>2 with slotted cover 100 x 100 mm in stainless steel AISI 304, class K 3</p> <p> EN 1253-1</p>	<p>1 Ø 50 Ø 75</p> <p>2 Ø 50 Ø 75</p>	<p>40 150.90 40 170.90</p> <p>40 250.90 40 270.90</p>

Classic

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>Bathroom drain <i>Classic</i> in ABS with removable odour trap, sealing water height 50 mm, with fixed lip seal</p> <p>With upper section in ABS</p> <p>Lateral outlet</p> <p>1 with recessed polymer drain cover for on-site tiling 110 x 110 mm, class K 3</p> <p>2 with slotted cover 100 x 100 mm in stainless steel AISI 304, class K 3</p> <p>Vertical outlet</p> <p>3 with recessed polymer drain cover for on-site tiling 110 x 110 mm, class K 3</p> <p>4 with slotted cover 100 x 100 mm in stainless steel AISI 304, class K 3</p> <p> EN 1253-1</p>	<p>1 Ø 50 Ø 75</p> <p>2 Ø 50 Ø 75</p> <p>3 Ø 50 Ø 75</p> <p>4 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</p> <p>40 250.20 40 270.20</p>
  <p>0.8 l/sec flow rate Installation area 220 x 180 mm</p>	<p>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</p> <p>1 Lateral outlet</p> <p>2 Vertical outlet</p> <p>Upper section with sealing flange for use with 1 - 4 mm vinyl / synthetic flooring</p> <p><input type="checkbox"/> with slotted cover made of polymer, grey, class K 3 (able to withstand loads up to max. 300 kg).</p> <p> EN 1253-1</p>	<p>1 Ø 50 Ø 75</p> <p>2 Ø 50 Ø 75</p>	<p>40 150.30 40 170.30</p> <p>40 250.30 40 270.30</p>

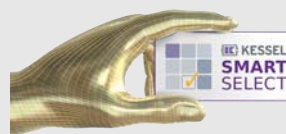
Installation example *Classic*



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

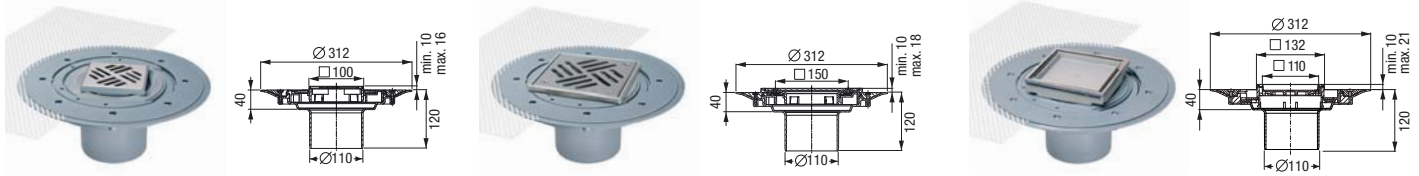
- **Variable upper section**
rotatable, tiltable and height adjustable
- **Sealing system safe to install**
The fixed lip seal reliably prevents the upper section from slipping
- With **removable odour trap** - full access for maintenance and cleaning
- **Flexible modular system** with a large number of design covers.



SmartSelect makes planning quite simply quicker - visit smartselect.kessel.com for the configurator for alternative waterproofing options.

Bathroom drains *Classic* and *"The Superflat"* System 100

Variofix shallow bed upper sections



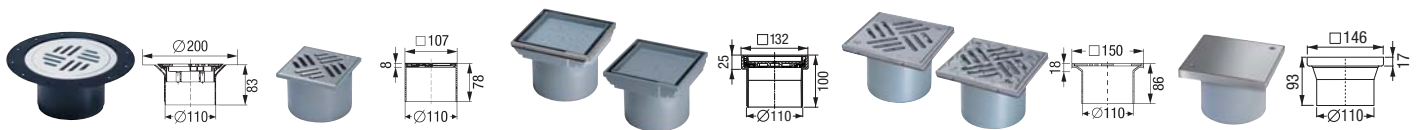
in ABS, vertical and lateral adjustable, incl. mesh fabric

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

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,
with gasket, class L 15
Art. # 27 196G

Accessories



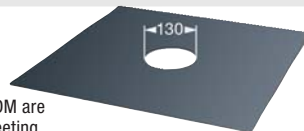
Waterproofing flange
with counter flange
(also for compound seal)
Art. # 43 401

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 waterproofing flange and
waterproof membrane**
pre-mounted in PVC
1200 x 1200 mm Art. # 43 401.91
1800 x 2000 mm Art. # 43 401.93

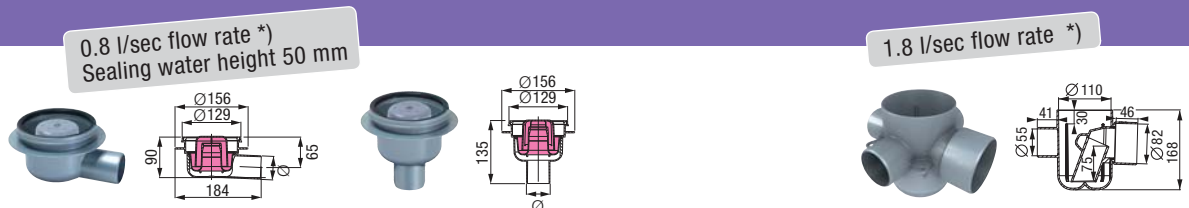
Elastomer waterproof membrane □ 500 mm
in PVC Art. # 43 710
in EPDM Art. # 43 730



Mesh fabric
for Art. # 43 401
Art. # 219-153A

The waterproof membrane in PVC and EPDM are
not suitable for connections to asphalt sheeting.

Drain bodies



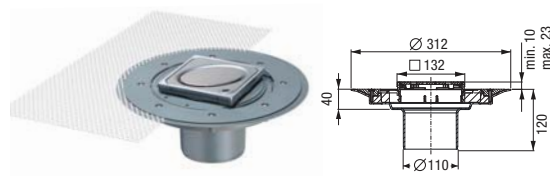
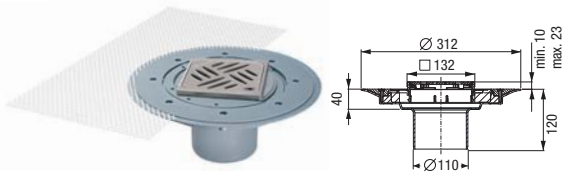
Bathroom drain *Classic* in ABS

with removable odour trap			without removable odour trap		
Ø	Lateral outlet	Vertical outlet	Ø	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

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. # 47 904

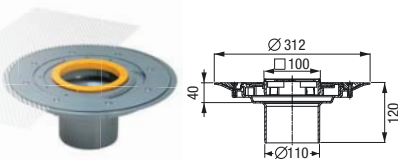
with design cover *Oval* □ 120 mm
and rim in stainless steel AISI 304, class L 15.
For tile thickness of 8-21 mm, *Lock & Lift* System
Art. # 47 905



in ABS

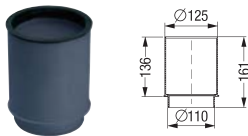
design covers □ 120 mm and rim in stainless steel AISI 304, class K 3 / L 15 with or without *Lock & Lift* System.

	<i>Kessel</i> (Cl. L 15)	<i>Oval</i> (Cl. L 15)	<i>Spot</i> (Cl. K 3)	<i>Cross</i> (Cl. K 3)	<i>Festival</i> (Cl. K 3)	<i>Parade</i> (Cl. K 3)	<i>Slot</i> (Cl. K 3)	<i>Sticks</i> (Cl. K 3)
with <i>Lock & Lift</i> ... Art. #	27 201	27 202	27 221	27 213	27 215	27 224	27 219	27 217
without <i>Lock & Lift</i> ... Art. #	27 225	27 226	27 220	27 212	27 214	27 223	27 218	27 216



Intermediate section with glue flange

in ABS, for shallow bed gasket
incl. mesh fabric, Art. # 47 900



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, Ø 108 mm
Art. # 43 700

Transition section

with sealing ring Ø 50
Ø 50/75 Art. # 27 126
Ø 50/40 Art. # 27 118



Sludge trap

made of polymer
Art. # 27 168



Conversion kit, "DIN push-fit connection"

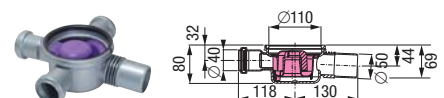
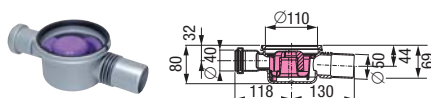
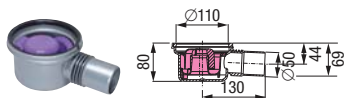
for article: 37 3001
Consist of
3 inlet adapter Ø 50 mm,
1 outlet adapter Ø 75 mm
and 1 push-fit connection
for upper section Ø 110,
EN 1451-1
Art. # 37 3008

Conversion kit, "DIN glue connection"

for article: 37 3001
Consist of
3 inlet adapter Ø 50 mm,
and 1 outlet adapter Ø 75,
EN 1451-1
Art. # 37 3007

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. # 42 700

One lateral inlet Ø 40
Art. # 42 701

Three lateral inlets Ø 40
Art. # 42 703



Shower channels

Shower channels ***Linearis Comfort***

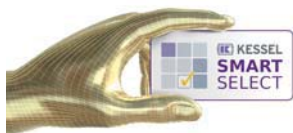
Page **190 – 191**

Variety of different installation options - for an individual bathroom design

Shower channels ***Linearis Compact***

Page **192 – 193**

Minimum installation height - ideal for flush-to-floor showers and bathroom renovation!



SmartSelect makes planning quite simply quicker - visit 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. Shower channel in a classic, timeless stainless steel design. When fitted turned, the rim can be tiled over according to taste, opening up a whole new range of design options.



Variety of different installation options -
for an individual bathroom design

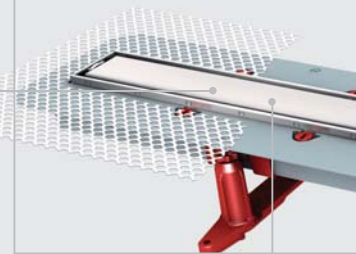
Shower channels *Linearis Comfort*

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*

- ≥ 17 dB(A) according to DIN 4109
- ≥ 13 dB(A) according to VDI 4100 SST III

INDIVIDUAL

Stainless steel cover can be turned over and tiled to offer an "invisible" look.



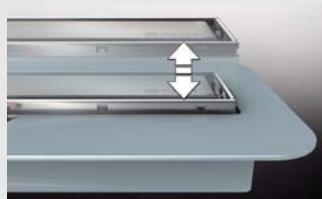


Minimum installation height - ideal for flush-to-floor showers and bathroom renovation!

Linearis Compact

FLEXIBILITY

Vertically adjustable frame can be adjusted from 7-22 mm to meet on-site tile thicknesses.



Linearis Comfort
Art. # 45 600.83

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.

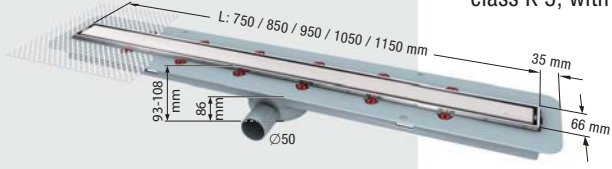


	<i>Linearis Comfort</i>	<i>Linearis Compact</i>
Flow rate with 10 mm threshold	1.1 l/sec	0.6 l/sec
Outlet	Ø 50 mm	Ø 50 mm
Installation height Minimum overall installation height	93 mm	80 mm
Waterproofing options	flange with mesh fabric	
Modular Design	✓	✓
Easy access for service	✓	✓
Customizable	✓	✓
Height adjustable frame to meet on-site tile thicknesses	✓	-

Shower channels



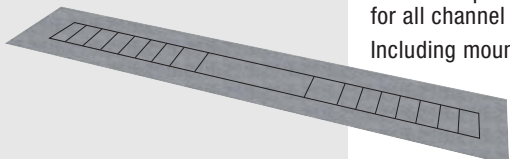
Complete channels

Linearis Comfort

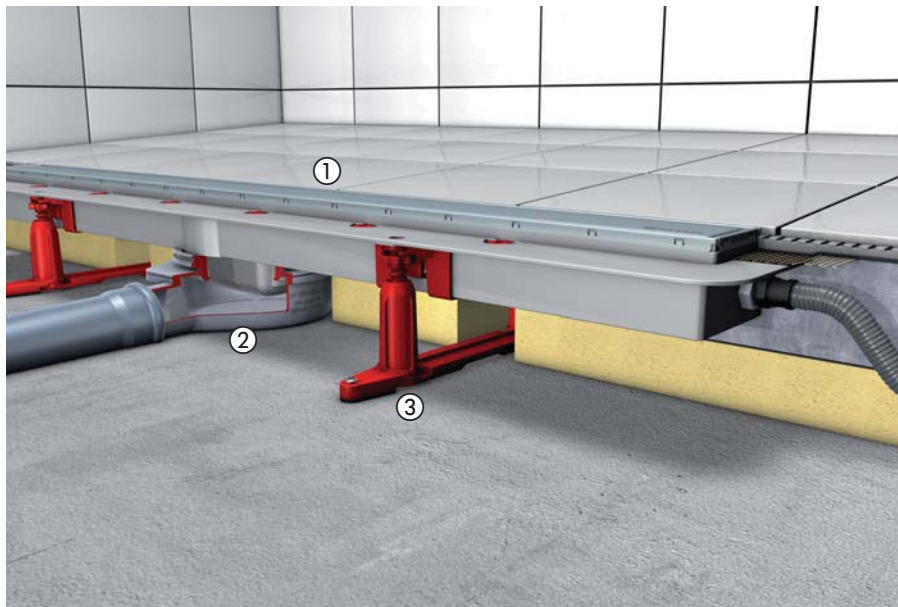
Illustration and dimensioned drawing	Article description	Channel length	Article #
 <p>Installation supports and mesh fabric included</p>	<p>Shower channel <i>Linearis Comfort</i> With drain body in ABS, Ø 50, lateral outlet With removable odour trap, sealing water height 22 mm <input type="checkbox"/> cover and rim in stainless steel AISI 304 (Channel cover can be reversed and tiled on site), class K 3, with seeping water opening</p> <p>1.0 l/sec flow rate without threshold, 1.1 l/sec flow rate with 10 mm threshold</p>	750 mm 850 mm 950 mm 1050 mm 1150 mm	45 600.83 45 600.84 45 600.85 45 600.86 45 600.87

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>Installation aid Replaces the screed underlining Including mounting adhesive</p> <p><input type="checkbox"/> Linearis Comfort Suitable for all lengths, can be shortened on-site</p>	-	48 640
	<p>Collar seal 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>	-	48 638

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**
- **Hair filter and *Multistop*** - odour, foam, rodent and insect stop (optional)
- **1.1 l/sec flow rate with 10 mm threshold.**



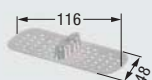
- Select, plan and visualize your own personalized KESSEL Design shower drainage system using the KESSEL Shower Drain Configurator at



www.kessel-design.com

Linearis Comfort

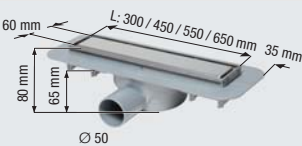

Accessories

Illustration and dimensioned drawing	Article description	Channel length	Article #
	Odour trap sealing water height 22 mm only for shower channel <i>Linearis Compact</i> and <i>Linearis Comfort</i>	-	48 603
	Multistop odour, foam, rodent and insect stop	-	48 400
	Hair filter	-	48 800

Shower channels

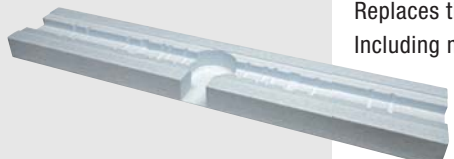

Complete channels

Linearis Compact

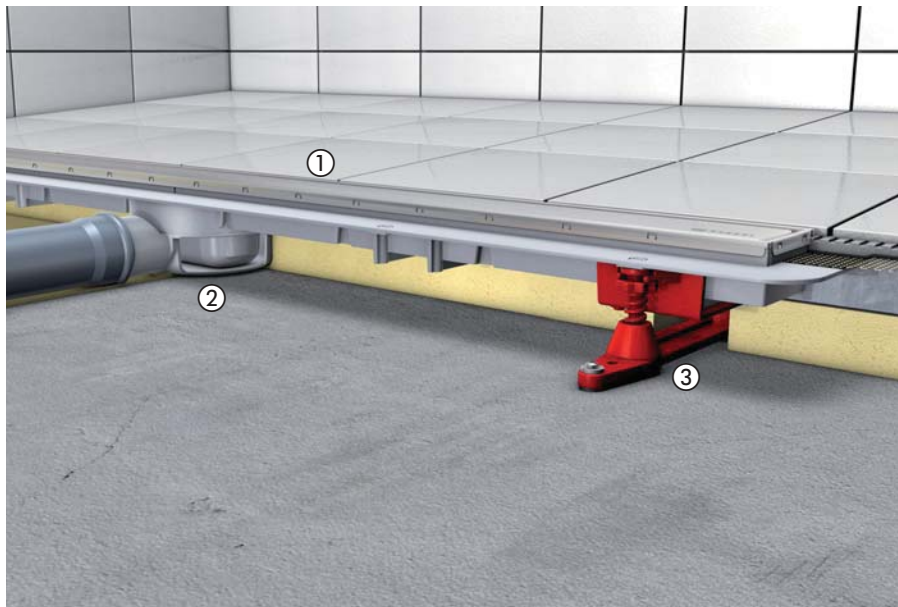
Illustration and dimensioned drawing	Article description	Channel length	Article #
<p>Installation depth only 80 mm</p>  <p>Channel length from 300 to 650 mm</p>	<p>Shower channel <i>Linearis Compact</i> With drain body in ABS, Ø 50, lateral outlet With removable odour trap, sealing water height 22 mm</p> <p><input type="checkbox"/> cover and rim in stainless steel AISI 304 (Channel cover can be reversed and tiled on site), class K 3, seeping water openings prepared</p>	300 mm	45 600.59
		450 mm	45 600.60
 <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>	550 mm	45 600.61
		650 mm	45 600.62
<p>Installation supports and mesh fabric included</p>		750 mm	45 600.63
		850 mm	45 600.64
		950 mm	45 600.65
		1050 mm	45 600.66
		1150 mm	45 600.67

Linearis Compact

Accessories

Illustration and dimensioned drawing	Article description	Channel length	Article #
 <p>Example: Installation aid can be shortened on-site Suitable for all channel lengths from 300 to 1150 mm</p> 	<p>Installation aid Replaces the screed underlining Including mounting adhesive</p> <p><input type="checkbox"/> Linearis Compact Suitable for all lengths, can be shortened on-site</p>	-	48 639

Installation example *Linearis Compact*

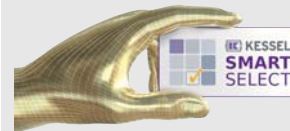


① Channel cover
② Drain body
③ Installation supports

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 for the configurator for alternative waterproofing options.

Linearis Compact

Accessories

Illustration and dimensioned drawing	Article description	Channel length	Article #
<p>Illustration shows ①</p>	Odour trap 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
	Multistop odour, foam, rodent and insect stop	-	48 400
	Hair filter	-	48 800
	Sound protection elements for <i>Linearis Compact</i> installation supports H = 10 mm, 2 pcs.	-	48 630

Shower channel upper section *Linearis Comfort* System 125

Flow rate
1.0 l/sec without threshold
1,1 l/sec with 10 mm threshold



Linearis Comfort in ABS ¹⁾

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),
installation supports and mesh fabric

Length	Art. #
750 mm	48 928 S
850 mm	48 929 S
950 mm	48 930 S
1050 mm	48 931 S
1150 mm	48 932 S

Accessories



Waterproofing flange

with counter flange, \varnothing 348 mm
(also for compound seal)

Art. # **48 410**

Pressure sealing flange

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

Art. # **48 402**

Extension section

in PP, with lip seal

without lateral inlet Art. # **48 987**

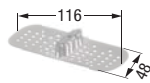
with lateral inlet Art. # **48 989**



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

\varnothing 58/78/83 Art. # **48 099**

\varnothing 50/75 Art. # **48 099**

\varnothing 110 Art. # **48 100**



Quick-Fit the passage seal

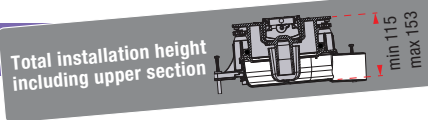
for core drillings for drain bodies
with vertical outlet

without fire protection Art. # **48 991**

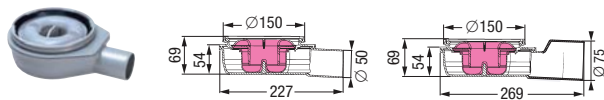
*with fire protection Art. # **48 990**

(only in combination with *Fire-Kit* protection insert)

Drain bodies



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.



"The Ultraflat" in ABS

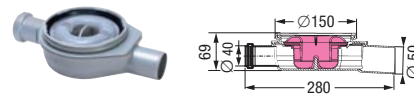
with removable odour trap

Lateral outlet \varnothing 50

Art. # **45 700**

Lateral outlet \varnothing 75

Art. # **45 770**



"The Ultraflat" in ABS

with removable odour trap

with lateral inlet \varnothing 40,

lateral outlet \varnothing 50

Art. # **45 701**



Ecoguss with removable odour trap

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



Practicus in PP with removable odour trap

Lateral outlet				Vertical outlet	
\varnothing	B	H	Article #	H	Article #
50	245	120	45 150	100	45 250
75	134	109	45 170	110	45 270
110	148	92	45 110	110	45 210

Shower channel upper section *Linearis Compact* System 100

0.6 l/sec flow rate
with 10 mm threshold



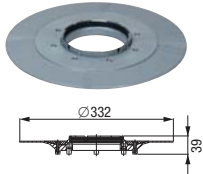
Linearis Compact in ABS

With removable odour trap (must be removed from all drain bodies during installation), sealing water height 50 mm

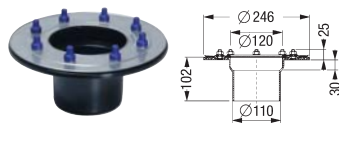
- cover and rim in stainless steel AISI 304** (Channel cover can be reversed and tiled on site), class K 3, seeping water opening prepared, installation supports and mesh fabric

Length	Art. #
750 mm	47 808S

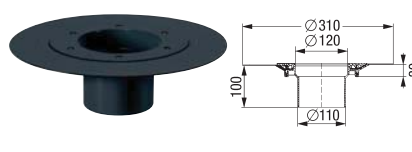
Accessories



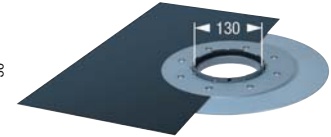
Waterproofing flange with counter flange (also for compound seal)
Art. # **43 401**



Extension section in PP, with pressure sealing flange in stainless steel AISI 304, flange width 63 mm
Art. # **27 198**



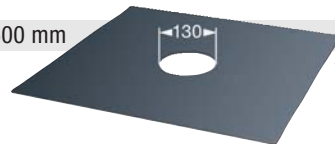
Extension section in ABS, with glue flange and counter flange
Art. # **27 199**



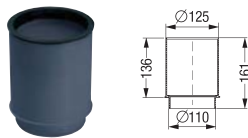
With waterproofing flange and waterproof membrane
pre-mounted in PVC
1200 x 1200 mm Art. # **43 401.91**
1800 x 2000 mm Art. # **43 401.93**

Elastomer waterproof membrane □ 500 mm

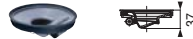
in PVC Art. # **43 710**
in EPDM Art. # **43 730**



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, Ø 108 mm
Art. # **43 700**

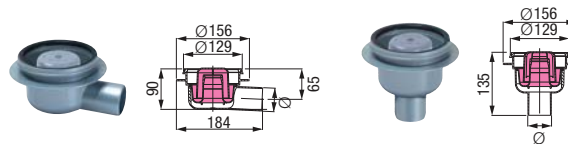


Transition section with sealing ring Ø 50
Ø 50/75 Art. # **27 126**
Ø 50/40 Art. # **27 118**

Drain bodies

*) according to EN 1253 - 20 mm threshold

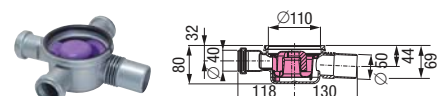
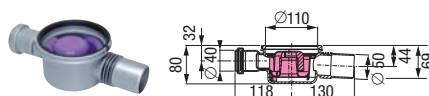
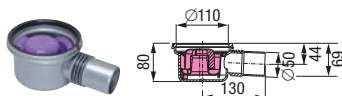
0.8 l/sec flow rate *)
Sealing water height 50 mm



Bathroom drain Classic in ABS

with removable odour trap		
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



Bathroom drain "The Superflat" in PP

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

Lateral outlet Ø 50, with removable odour trap
Without lateral inlet
Art. # **42 700**

One lateral inlet Ø 40
Art. # **42 701**

Three lateral inlets Ø 40
Art. # **42 703**



Wall drains

Wall drains *Scada*

Page **198 – 202**

New trends for sophisticated
bathroom drainage systems



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



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**

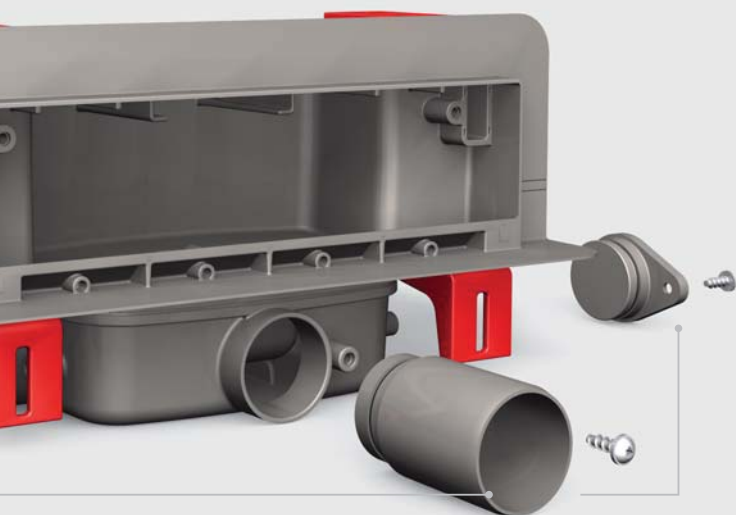


FOR DRY-WALL
Dry-wall mount (installation without board), makes the flush connection to dry-walling boards easier.

INSTALLATION board and wedge

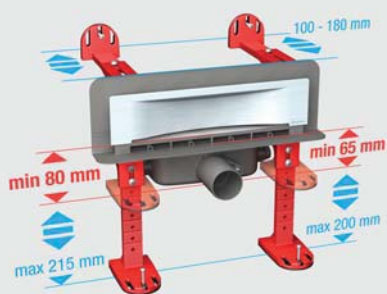


- ① Installation board with pre-mounted and sealed *Scada* wall drain completely installed, with slope on 3 sides.
Installation board 900 mm: A = 900 mm, B = 200 mm
Installation board 1200 mm: A = 1200 mm, B = 200 mm
- ② Wedge as shower board with integrated 3-sided slope.
Optionally available in two 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



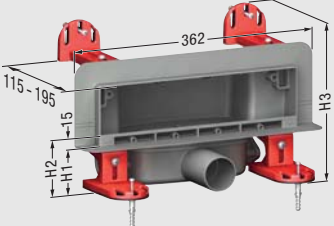




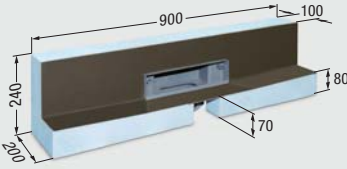
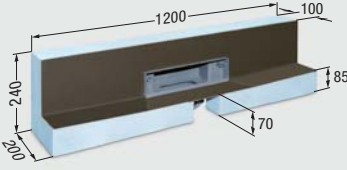
ONLY 65 MILLIMETRES
Smallest installation height up to flange 65 mm.

SOUND PROTECTION

Measurements carried out by the Fraunhofer Institute in Stuttgart:
wall drain *Scada*
- ≥ 17 dB(A) according to DIN 4109
- ≥ 14 dB(A) according to VDI 4100 SST III

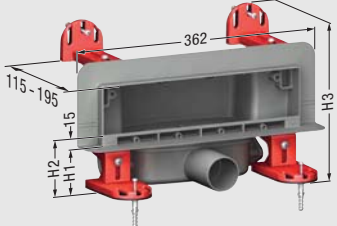







Scada

Matrix order system

Drain body	Covers			
<p>Wall drain Scada in ABS For floor drainage indoors With odor trap and flange for alternative sealing</p> <p>Drain body in ABS 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>Scada, invisible cover with stainless steel frame</p>  <p>Width x height 296 x 61 mm For floor tiles up to 10 mm, can be tiled with wall tiles up to 10 mm</p>	<p>Scada, stainless steel cover AISI 304</p>  <p>Width x height 312 x 74 mm For floor tiles up to 10 mm</p>	<p>Scada, Wave cover, stainless steel cover AISI 304</p>  <p>Width x height 312 x 74 mm For floor tiles up to 10 mm</p>	<p>Scada, stainless steel cover AISI 304</p>  <p>Width x height 312 x 67 mm For floor tiles up to 17 mm</p>
Item comprised of drain body <i>Scada</i> and drain cover				
	▼	▼	▼	▼
	48 000.01	48 000.02	48 000.03	48 000.04
<p>Drain body in installation board 900 x 200 mm</p>	Item comprised of installation board with the wall drain <i>Scada</i> and drain cover			
	▼	▼	▼	▼
	48 001.01	48 001.02	48 001.03	48 001.04
<p>Drain body in installation board 1200 x 200 mm</p>	Item comprised of installation board with the wall drain <i>Scada</i> and drain cover			
	▼	▼	▼	▼
	48 002.01	48 002.02	48 002.03	48 002.04

Scada with LED lights

Matrix order system

Drain body	Covers			
<p>Wall drain <i>Scada</i> in ABS, with LED-backlighting Color of choice</p> <p>For floor drainage indoors With odor trap and flange for alternative sealing</p> <p>Drain body in ABS Lateral outlet \varnothing 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><i>Scada</i>, invisible cover with stainless steel frame</p>  <p>Width x height 296 x 61 mm For floor tiles up to 10 mm, can be tiled with wall tiles up to 10 mm</p>	<p><i>Scada</i>, stainless steel cover AISI 304</p>  <p>Width x height 312 x 74 mm For floor tiles up to 10 mm</p>	<p><i>Scada</i>, Wave cover, stainless steel cover AISI 304</p>  <p>Width x height 312 x 74 mm For floor tiles up to 10 mm</p>	<p><i>Scada</i>, stainless steel cover AISI 304</p>  <p>Width x height 312 x 67 mm For floor tiles up to 17 mm</p>
LED drain body	Item comprised of drain body <i>Scada</i> and drain cover			
<p>RGB</p> 	48 003.41	48 003.42	48 003.43	48 003.44
Drain body with LED lights in installation board 900 x 200 mm	Item comprised of installation board with the wall drain <i>Scada</i> and drain cover			
<p>RGB</p> 	48 004.41	48 004.42	48 004.43	48 004.44
Drain body with LED lights in installation board 1200 x 200 mm	Item comprised of installation board with the wall drain <i>Scada</i> and drain cover			
<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

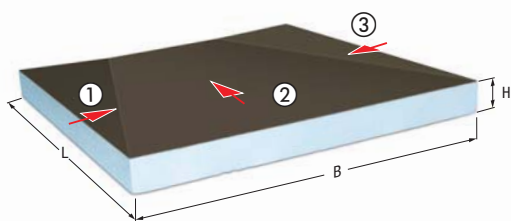
Scada, Wave cover

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

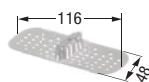
with integrated 3-side slope
 900 x 900 x 80 mm (L x B x H)
 Slope: ① 2,4 % ② 0,8 % ③ 2,4 %
 Art. # 48 051
 1200 x 1200 x 85 mm (L x B x H)
 Slope: ① 3,7 % ② 1,1 % ③ 3,7 %
 Art. # 48 052

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



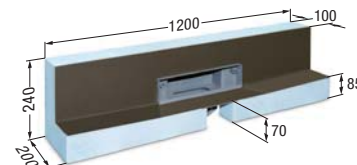
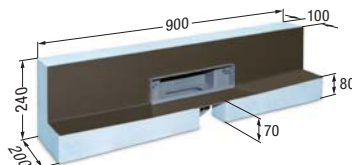
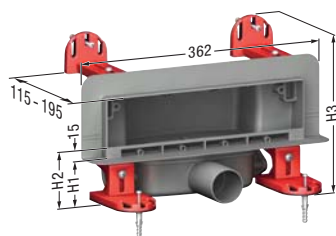
Multistop

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
with or without backwater flap
or pump

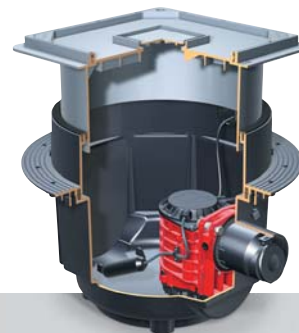
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**Volatile liquid traps
(heating oil stops)**

Page **209**

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.



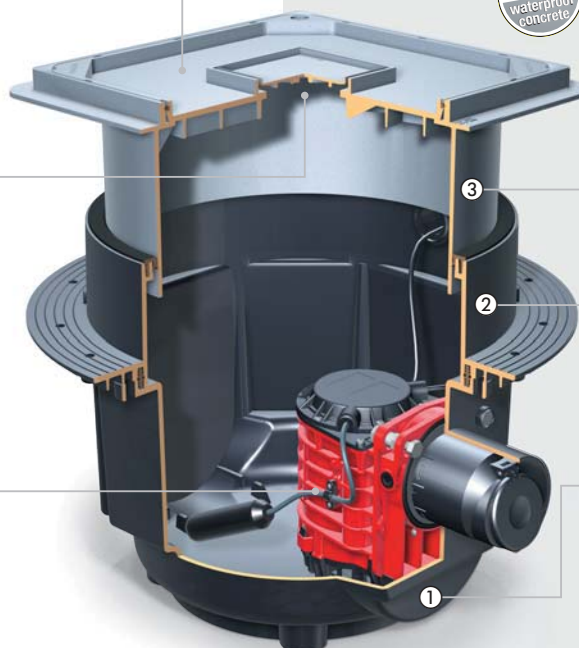
FLEXIBLE INSTALLATION

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

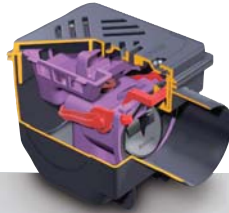
Connection of optional inlets to drain body ① of Ø 110, above the compression flange ② and in the extension section ③ up to Ø 75 mm.

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.

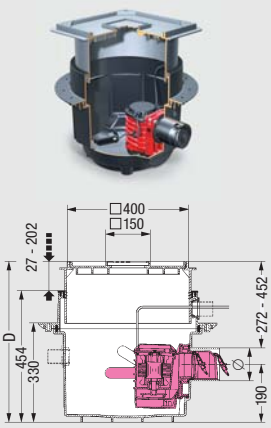



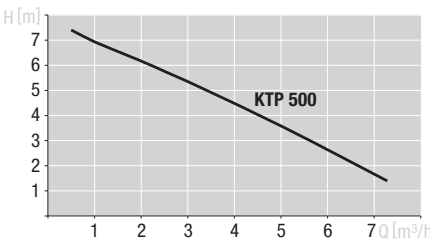


Secure drains thanks to integrated twin flap backwater valves.

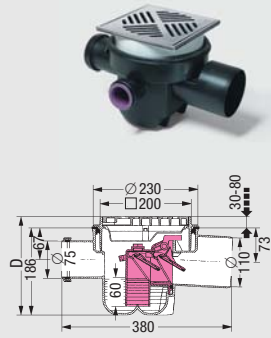



"The Universal" model is a versatile basement drain with variable connection options thanks to three inlets. The compact design of the **Drehfix** basement drain makes it popular for renovating older buildings. It fits into the recesses of old cast drains thanks to its small design height.

Basement drains with / without twin flap backwater valve

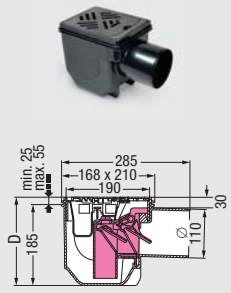
Pumpfix S

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>Backwater pumping station <i>Pumpfix S</i> made of polymer for wastewater without sewage Lateral outlet 2.5°, for installation in a concrete slab/floor for installation depth (D) from 481 - 656 mm With removable pump, twin flap backwater valve and odour trap.</p> <p>Twin flaps, self-closing, one of which can be locked by hand, self activating pump during backwater, cable length 5 m. 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>Not for use as a lifting station.</p> <p>   EN 1253-1 According to EN 13564 Type 5</p>	<p>Ø 110</p>  <p>H [m] = Backwater height</p>	<p>28451</p>

"The Universal"

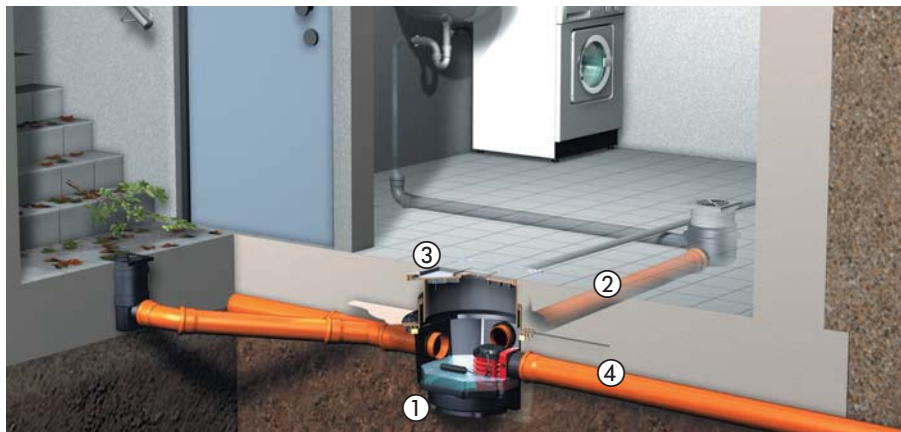
Illustration and dimensioned drawing	Article description	Outer diameter Ø (mm)	Article #
 <p>1.8 l/sec flow rate Installation area 400 x 320 mm</p>	<p>Basement drain "The Universal" in PP with odour trap and sludge trap</p> <p>1 With twin flap backwater valve</p> <p>2 Without twin flap backwater valve</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). Installation depth (D) 216 - 276 mm</p> <p><input type="checkbox"/> with slotted cover 187 x 187 mm and rim in stainless steel AISI 304, screwed, class L 15 (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>1 Ø 110</p> <p>2 Ø 110</p> <p>1 Ø 110</p> <p>2 Ø 110</p>	<p>27611</p> <p>29111</p> <p>27621</p> <p>29121</p>

Drehfix

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>Basement drain <i>Drehfix</i> in ABS</p> <p><input type="checkbox"/> With twin flap backwater valve</p> <p><input type="checkbox"/> Without twin flap backwater valve</p> <p>with/without removeable 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>Lateral outlet 2.5°, Installation depth (D) 210 - 240 mm.</p> <p><input type="checkbox"/> with slotted cover 150 x 190 mm made of polymer, black, with Easy Entry Function. Class K 3 (able to withstand loads up to max. 300 kg).</p> <p>According to EN 13564 Type 5.</p>	<p>Ø 110</p> <p>Ø 110</p>	<p>27301</p> <p>33101</p>

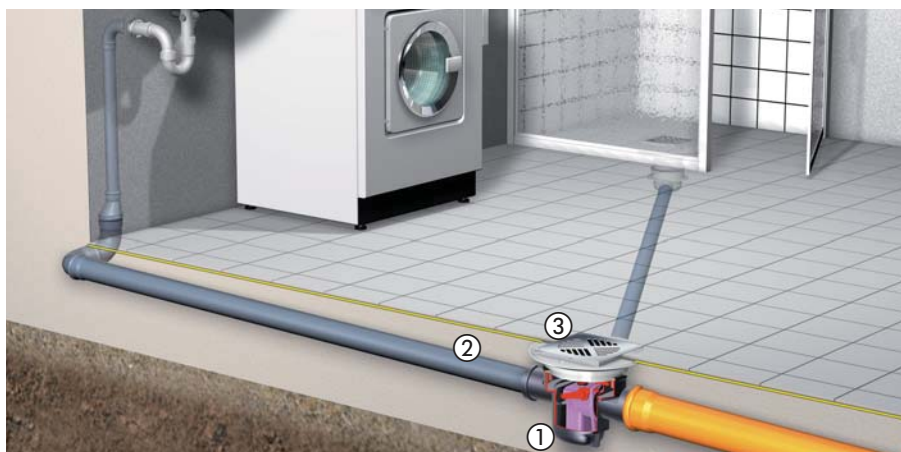
Basement drains with / without twin flap backwater valve

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

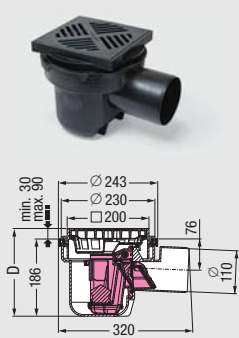
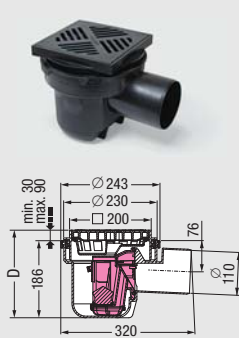


- **With twin flap backwater valve and odour trap**
- **Hand-lockable emergency closure** (Visual control without removing the cover).
- **Stepless installation** with extension section Art. # 38 670.
- **Tool-free maintenance.** Fast and simple cleaning with one-hand quick-release fastener.
- **Height adjustable upper section**

Basement drains

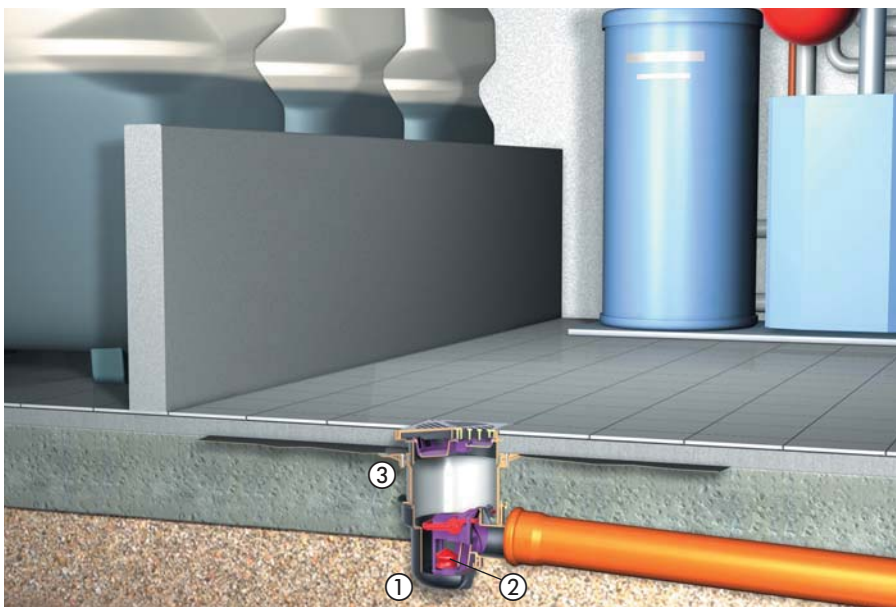
Illustration and dimensioned drawing	Article description	Outer diameter Ø (mm)	Article #
 <p>1.6 l/sec flow rate Installation area 220 x 280 mm</p>	<p>Basement drain in PP Lateral outlet 2.5°, with removable odour trap and sludge trap. With upper section in PP</p> <ul style="list-style-type: none"> <input type="checkbox"/> with slotted cover 150 x 150 mm made of polymer, black. Class K 3 (able to withstand loads up to max. 300 kg). 	<p>Ø 110</p>	<p>36 501</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>Basement drain in PP With removable odour trap With lip seal and protective cover for use during construction. With upper section in ABS</p> <p>Lateral outlet 2.5°</p> <ul style="list-style-type: none"> <input type="checkbox"/> with slotted cover 138 x 138 mm in ABS, black. Class K 3 (able to withstand loads up to max. 300 kg). <p>Vertical outlet</p> <ul style="list-style-type: none"> <input type="checkbox"/> with slotted cover 138 x 138 mm in ABS, black. Class K 3 (able to withstand loads up to max. 300 kg). 	<p>Ø 110</p> <p>Ø 110</p>	<p>45 110.40</p> <p>45 210.40</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>Basement drain in PP Without removable odour trap, with sludge trap With lip seal and protective cover for use during construction. With upper section in ABS</p> <p>Lateral outlet 2.5°</p> <ul style="list-style-type: none"> <input type="checkbox"/> with slotted cover 138 x 138 mm in ABS, black. Class K 3 (able to withstand loads up to max. 300 kg). <p>Vertical outlet</p> <ul style="list-style-type: none"> <input type="checkbox"/> with slotted cover 138 x 138 mm in ABS, black. Class K 3 (able to withstand loads up to max. 300 kg). 	<p>Ø 110</p> <p>Ø 110</p>	<p>34 101</p> <p>34 102</p>



Volatile liquid traps with / without twin flap backwater valve

Volatile liquid traps			
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>Volatile liquid trap made of polymer</p> <p>With twin flap backwater valve, with integrated odour trap and sludge trap</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	52 101
 <p>1.0 l/sec flow rate Installation area 400 x 250 mm</p>	<p>Volatile liquid trap made of polymer</p> <p>With integrated odour trap and sludge trap</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	51 101

Installation example volatile liquid traps


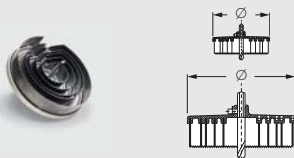







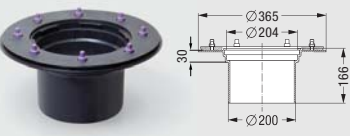


Volatile liquid traps ① are the ideal drain for the boiler room in the basement. They use an integrated floater ② to guarantee reliable retention of volatile liquids escaping from heating systems and backwater flaps to prevent wastewater penetration from the sewage system. There is a special upper section 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

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>Cover plate, surface water tight with drain Ø 75, class A 15, includes <i>Multistop</i></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>Multistop odour, foam, rodent and insect stop</p> <p>Ventilation always required when in use!</p> <p>Hair filter made of polymer</p>	<p>-</p> <p>-</p> <p>-</p> <p>-</p>	<p>83 045</p> <p>83 046</p> <p>43 500</p> <p>43 700</p>
 <p>384</p> <p>42</p> <p>384</p> <p>42</p>	<p>Cover plate, surface water tight, class A 15 incl. gasket Art. # 173-145</p> <p><input type="checkbox"/> black Ventilation always required when in use!</p> <p><input type="checkbox"/> recessed for on-site tiling, grey, 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>83 050</p> <p>83 052</p>
 <p>384</p> <p>42</p>	<p>Cover plate, class A 15</p> <p><input type="checkbox"/> with integrated grating, black class A 15</p> <p>for article numbers: 28 451</p>	<p>-</p>	<p>83 053</p>
 <p>16</p> <p>Ø458</p> <p>145,5</p> <p>224</p> <p>max. 191,7</p> <p>390,5</p> <p>Ø414</p>	<p>Extension section with centre flange with elastomer sealing sheet made of NK/SBR Ø 800 mm, incl. screws for article numbers: 28 451</p>	<p>-</p>	<p>83 075</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>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 article numbers: 28 451</p>	<p>-</p>	<p>83 073</p>
 <p>Waterproof concrete installation tested by MFPA Leipzig UB 5.1/11-452-1</p>	<p>Gasket set for installation in waterproof concrete consisting of: Counter flange made of polymer, incl. screws, elastomer waterproof membrane in NK/SBR Ø 800 mm for article numbers: 28 451</p>	<p>-</p>	<p>83 023</p>

Pumpfix S / "The Universal" / Drehfix / Basement drains			Accessories
Illustration and dimensioned drawing	Article description	Outer diameter Ø (mm)	Article #
	<p>Extension section 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>Pipe sealing gasket for article numbers: 28 451</p>	- Ø 50 Ø 75 Ø 110	83070 850 114 850 116 850 117
	<p>Hole saw Ø 50, 75, 110 (Saw blade holder Ø = 145 mm)</p> <p>Hole saw Ø 50, 75, 110, 125 and 160 (Saw blade holder Ø = 190 mm)</p>	- -	50 101 50 100
	<p>Transition section Ø 110 / 75 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	27 602
	<p>Variofix shallow bed upper section 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>	-	48968
	<p>Upper section with support rim in Ecoguss with round slotted cover in Ecoguss Ø 235 mm, class B 125, with Lock & Lift System for article numbers: 27 611, 27 621, 29 111, 29 121, 51 101, 52 101</p>	-	67 985

"The Universal" / Drehfix / Basement drains			Accessories
Illustration and dimensioned drawing	Article description	Outer diameter Ø (mm)	Article #
	<p>Extension section with pressure sealing flange and counter flange Waterproofing layer against ground moisture H = 150 mm for article numbers: 27 611, 27 621, 29 111, 29 121, 51 101, 52 101</p>	-	27 298
	<p>Mesh fabric for article numbers: 27 298</p>	-	046-056
	<p>Extension section in Ecoguss with pressure sealing flange and counter flange for installation in waterproof concrete H = 166 mm for article numbers: 27 611, 27 621, 29 111, 29 121, 51 101, 52 101</p>	-	48958
	<p>Elastomer waterproof membrane in NBR for article numbers: 48 958</p>	-	48982
	<p>Extension section H = 175 mm, with lip seal for article numbers: 27 611, 27 621, 29 111, 29 121, 51 101, 52 101</p>	-	48988

"The Universal" / Drehfix / Basement drains

Accessories

Illustration and dimensioned drawing	Article description	Outer diameter Ø (mm)	Article #
	Extension section H = 183 mm for article numbers: 27 301, 33 101	-	38 670
	Inlet sections incl. flat seal for article numbers: 27 301, 33 101	Ø 50 Ø 75 Ø 110	39 005 39 007 39 100
	Extension section Can be extended by 80 mm for article numbers: 36 501	-	36 590
	Extension section with lip seal, without lateral inlet for article numbers: 34 101, 34 102, 45 210.40, 45 110.40	-	48 987
	Waterproofing flange with counter flange for article numbers: 34 101, 34 102, 45 210.40, 45 110.40	-	48 410
	Pressure sealing flange for article numbers: 34 101, 34 102, 45 210.40, 45 110.40	-	48 402
	Elastomer waterproof membrane in NBR for article numbers: 48 402	-	48 981
	Multistop odour, foam, rodent and insect stop for article numbers: 34 101, 34 102, 45 210.40, 45 110.40	-	48 500
	Hair filter for article numbers: 34 101, 34 102, 45 210.40, 45 110.40	-	48 700
	Bell-shaped odour trap insert Seal water height 50 mm for article numbers: 34 101, 34 102, 45 210.40, 45 110.40	-	27 169
	Sludge trap for article numbers: 34 101, 34 102, 45 210.40, 45 110.40	-	48 168
	Adapter for retrofitting of 27 603 (twin flap backwater valve) and 27 605 (odour trap insert) for basement drains 27 300, 27 500, 28 650, 28 950 until 12/95 and 29 100 until 9/95	-	27 608
	Rodent protection for article numbers: 27 611, 27 621, 27 301, 29 111, 29 121, 33 101, 51 101	-	27 609



Stainless steel drains and channels

**Clean out
System 100**

Page **216**

**Floor drains *Ferrofix*
System 125**

Page **218 – 223**

**Floor drains *Ferrofix*
System 200**

Page **224 – 229**

Channel drains *Ferrofix*

Page **230 – 231**

Slotted channels *Ferrofix*

Page **232**



SmartSelect makes planning quite simply quicker - visit 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.

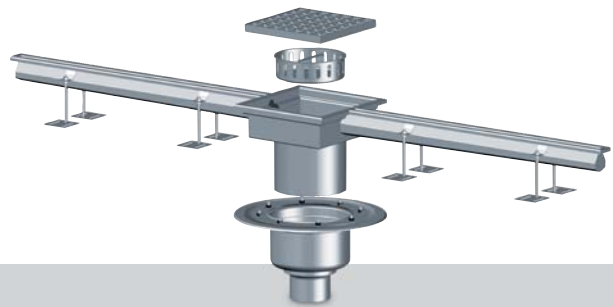
The stainless steel AISI 304 (or AISI 316L on request) complies fully with the requirements for food-processing plants and guarantees perfect functional use. Our grate covers are compliant with DIN 1253-1.



System 125

Channel drains

Express variant available ex stock



System 125 or System 200

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

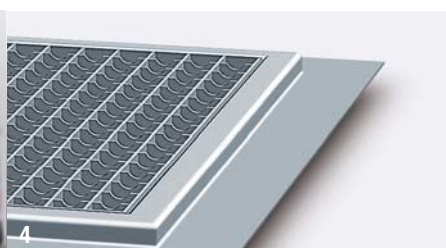
With adjustable feet for height levelling.

ACCESSORIES

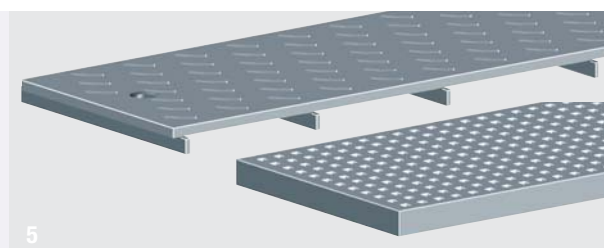
Practical accessories with approval Z-19.17-1719: fire and flue gas insert *Fire-Kit* System 125 or 200 and *Quick-Fit* passage seal with or without fire protection (Fig. 2). Only for System 125 drain body with vertical outlet.



3



4



5


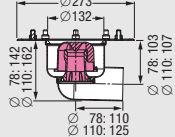

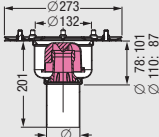

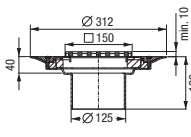

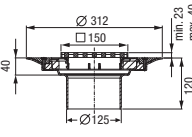

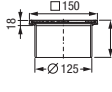

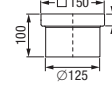
Clean out		For direct access to piping			
Illustration	Article description	Cover mm incl. rim	Connection Ø	Article #	
	Upper section in ABS with closed cover made of stainless steel AISI 304, screwed, with gasket, class K 3	150 x 150	110	27 191G	
	Upper section in ABS with rim and closed cover made of stainless steel AISI 304, screwed, with gasket, class L 15	150 x 150	110	27 196G	
	Cleaning closure in stainless steel AISI 304 with closed, screw-type cover plate made of stainless steel AISI 304, gastight and a backwater-proof seal up to 0.5 bar, tileable, class L 15	150 x 150	110	27 177-PLF	
	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	150 x 150	110	27 177-PL	
	Cleaning closure in stainless steel AISI 304 with glue flange, with closed, screw-type cover plate made of stainless steel AISI 304, screwed odour-tight, with gasket, gastight and a backwater-proof seal up to 0.5 bar, tileable, class L 15	150 x 150	110	27 177-PLF-KF	
	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	150 x 150	110	27 177-PL-KF	

Superflat renovation drains with connection flange or glue flange made of stainless steel AISI 304

Illustration	Article description	Connection Ø	Article #
<p>NEW</p>	<p>Renovation drain made of stainless steel AISI 304 Lateral outlet, with removable odour trap, sealing water height 50 mm</p> <p><input type="checkbox"/> with slotted cover 138 x 138 mm made of stainless steel AISI 304, class L 15</p> <p>Design height only 107 mm</p> <p>Custom made product (delivery time on request)</p>	50	59 305
<p>NEW</p>	<p>Renovation drain made of stainless steel AISI 304 Lateral outlet, with removable odour trap, sealing water height 50 mm</p> <p><input type="checkbox"/> with slotted cover 138 x 138 mm made of stainless steel AISI 304, screwed, class K 3</p> <p>Design height only 100 mm</p> <p>Custom made product (delivery time on request)</p>	50	59 325
<p>NEW</p>	<p>Renovation drain made of stainless steel AISI 304 Lateral outlet, with removable odour trap and glue flange, sealing water height 50 mm</p> <p><input type="checkbox"/> with slotted cover 138 x 138 mm made of stainless steel AISI 304, class L 15</p> <p>Design height only 107 mm</p> <p>Custom made product (delivery time on request)</p>	50	59 315
<p>NEW</p>	<p>Renovation drain made of stainless steel AISI 304 Lateral outlet, with removable odour trap and glue flange, sealing water height 50 mm</p> <p><input type="checkbox"/> with slotted cover 138 x 138 mm made of stainless steel AISI 304, screwed, class K 3</p> <p>Design height only 100 mm</p> <p>Custom made product (delivery time on request)</p>	50	59 335

Floor drains *Ferrofix* with pressure sealing flange

Matrix order system

Drain body	Upper sections			
<p>Floor drain <i>Ferrofix</i> in stainless steel AISI 304 with pressure sealing flange with odour trap, connection to SML-pipe</p>    	<p>Shallow bed upper section in ABS, with mesh fabric</p>   <p>with slotted cover 138 x 138 mm and rim in stainless steel AISI 304, non-slip, class L 15, screwed</p> <p>Art. # 48 907</p>	<p>Shallow bed upper section in ABS, with mesh fabric</p>   <p>with anti-slip drain cover 138 x 138 mm and rim in stainless steel AISI 304, non-slip, class L 15</p> <p>Art. # 48 965</p>	<p>Upper section in ABS</p>   <p>with slotted cover 138 x 138 mm and rim in stainless steel AISI 304, non-slip, class L 15, screwed</p> <p>Art. # 48 176</p>	<p>Upper section in stainless steel AISI 304</p>   <p>with anti-slip drain cover 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>
<p>Ø 78</p>	<p>Complete drain comprising a combination of the drain body and upper section</p>			
<p>Lateral outlet Art. # 54 200</p>	<p>54 200.52</p>	<p>54 200.21</p>	<p>54 200.61</p>	<p>54 200.20</p>
<p>Vertical outlet Art. # 54 210</p>	<p>54 210.52</p>	<p>54 210.21</p>	<p>54 210.61</p>	<p>54 210.20</p>
<p>Ø 110</p>	<p>Complete drain comprising a combination of the drain body and upper section</p>			
<p>Lateral outlet Art. # 54 220</p>	<p>54 220.52</p>	<p>54 220.21</p>	<p>54 220.61</p>	<p>54 220.20</p>
<p>Vertical outlet Art. # 54 230</p>	<p>54 230.52</p>	<p>54 230.21</p>	<p>54 230.61</p>	<p>54 230.20</p>

* Draining capacity valid for Ø 110 vertical outlet. Other variants 1.8 l/sec. 20 mm threshold / 10 mm threshold


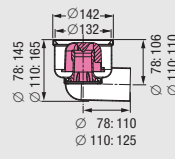

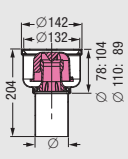
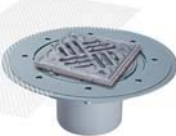
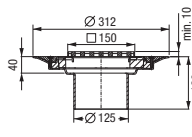

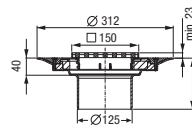

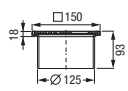

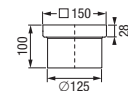


EN 1253

Accessories see page 223

Floor drains *Ferrofix* with connection flange

Matrix order system

Drain body	Upper sections			
<p>Floor drain <i>Ferrofix</i> in stainless steel AISI 304 with connection flange with odour trap, connection to SML-pipe</p>    	<p>Shallow bed upper section in ABS, with mesh fabric</p>   <p>with slotted cover 138 x 138 mm and rim in stainless steel AISI 304, non-slip, class L 15, screwed</p> <p>Art. # 48 907</p>	<p>Shallow bed upper section in ABS, with mesh fabric</p>   <p>with anti-slip drain cover 138 x 138 mm and rim in stainless steel AISI 304, non-slip, class L 15</p> <p>Art. # 48 965</p>	<p>Upper section in ABS</p>   <p>with slotted cover 138 x 138 mm and rim in stainless steel AISI 304, non-slip, class L 15, screwed</p> <p>Art. # 48 176</p>	<p>Upper section in stainless steel AISI 304</p>   <p>with anti-slip drain cover 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>
Ø 78	Complete drain comprising a combination of the drain body and upper section			
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
Ø 110	Complete drain comprising a combination of the drain body and upper section			
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. 20 mm threshold / 10 mm threshold



EN 1253

Accessories see page 223

Upper sections in stainless steel AISI 304

With connection flange

Illustration	Article description	Cover mm incl. rim	Connection Ø	Article #
	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)	150 x 150	125	54 914
	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)	200 x 200	125	54 916
	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)	200 x 200	125	59 400 *
	Upper section in stainless steel AISI 304 with slotted cover made of stainless steel AISI 304 , class K 3	150 x 150	125	48 977
	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	150 x 150	125	54 912
	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	150 x 150	125	54 910
	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	150 x 150	125	48 435
	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	150 x 150	125	59 011 *
	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	150 x 150	125	59 013 *
	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	Ø 160	125	59 166 *
	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.	Ø 133	125	59 192 *

Upper sections in ABS / *Ecoguss* With connection flange

Illustration	Article description	Cover mm incl. rim	Connection Ø	Article #
	Upper section in ABS with rim and closed cover made of stainless steel AISI 304, screwed, with gasket, class L 15	150 x 150	125	54 920
	Upper section in ABS with slotted cover, made of stainless steel AISI 304, screwed, class K 3,	150 x 150	125	48 950
	Upper section in ABS with slotted cover/rim made of stainless steel AISI 304, screwed, class L 15	150 x 150	125	48 951
	Upper section in ABS with slotted cover made of stainless steel AISI 304 class K 3	130 x 130	125	48 165
	Upper section in ABS with design cover <i>Kessel</i> and rim, with <i>Lock & Lift</i>, made of stainless steel AISI 304, class K 3 / L 15	132 x 132	125	48 201
	Parking deck drain <i>Ecoguss</i>, square Vertical outlet, for connection to SML-pipe/ plastic pipe, with sludge trap 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 & Lift</i>-System	247 x 247	125	48 502
	Parking deck drain <i>Ecoguss</i>, round Vertical outlet, for connection to SML-pipe/ plastic pipe, with sludge trap 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 & Lift</i>-System	Ø 247	125	48 504

Shallow bed upper sections in ABS Met aansluitrand

	Upper section in ABS incl. mesh fabric with slotted cover and rim made of stainless steel AISI 304, non-slip, screwed, class L 15	150 x 150	125	48 907
	Upper section in ABS incl. mesh fabric with slotted cover and rim made of stainless steel AISI 304, non-slip, class L 15	150 x 150	125	48 965
	Upper section in ABS incl. mesh fabric with slotted cover and rim made of stainless steel AISI 304, screwed, class L 15	150 x 150	125	48 963

Upper sections in stainless steel AISI 304

With glue flange

Illustration	Article description	Cover mm incl. rim	Connection Ø	Article #
	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	150 x 150	125	54 915
	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	200 x 200	125	54 917
	Upper section in stainless steel AISI 304 with glue flange, with slotted cover made of stainless steel AISI 304, class K 3	150 x 150	125	54 919
	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	150 x 150	125	54 913
	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	150 x 150	125	54 911
	Sanitary drain cover in stainless steel AISI 304 with glue flange, with gas and liquid tight cover made of stainless steel AISI 304, class L 15	150 x 150	125	59 012 *
	Sanitary drain cover 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	150 x 150	125	59 014 *
	Upper section "Easy Open" in stainless steel AISI 304 with glue flange, with perforated cover made of stainless steel AISI 304, class K 3 Product information see page 229	150 x 150	125	59 010 *
	Upper section in stainless steel AISI 304 with glue flange, with slotted cover made of stainless steel AISI 304, class K 3 Not usable with System 125 sludge trap accessory	100 x 100	125	59 165 *

Floor drains <i>Ferrofix</i>		Accessories	
Illustration and dimensioned drawing	Article description	Outer diameter Ø (mm)	Article #
<p>1</p> <p>2</p>	<p>Extension section in PP, with lip seal</p> <p>1 without lateral inlet</p> <p>2 with lateral inlet Ø 50</p>	-	48 987 48 989
	<p>Sludge basket in stainless steel AISI 304</p>	-	48 636
	<p>Sludge basket made of polymer fits all drain bodies <i>Ferrofix</i> System 125</p>	-	48 168
	<p>Extension section 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>Extension section 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>Odour trap in stainless steel AISI 304 sealing water height 50 mm</p>	-	54 188
<p>Certification no. Z-19.17-1719</p>	<p>Fire-Kit Fire protection insert can only be retrofitted for vertical drains Only use in combination with an odour trap</p>	Ø 110 Ø 58/78/83	48 100 48 099
<p>1</p> <p>2</p> <p>1 Certification no. Z-19.17-1719</p>	<p>Quick-Fit the passage seal for core drilling for drain body vertical outlet</p> <p>1 with fire protection (only use in combination with <i>Fire-Kit</i> fire protection insert)</p> <p>2 without fire protection</p>	-	48 990 48 991

Floor drains *Ferrofix* with pressure sealing flange

Matrix order system

Drain body	Upper sections			
<p>Floor drain <i>Ferrofix</i> in stainless steel AISI 304 with pressure sealing flange with odour trap, connection to SML-pipe</p> <p>1 Lateral outlet</p> <p>2 Vertical outlet</p> <p>For low installation height:</p> <p>Floor drain <i>Ferrofix</i> in stainless steel AISI 304 with pressure sealing flange with odour trap in stainless steel AISI 304, connection to SML-pipe</p> <p>3 Lateral outlet</p>	<p>Shallow bed upper section in ABS, with mesh fabric</p> <p>with slotted cover 200 x 200 mm and rim in stainless steel AISI 304, non-slip, class L 15, screwed</p> <p>Art. # 48 978</p>	<p>Shallow bed upper section in ABS, with mesh fabric</p> <p>with anti-slip drain cover 190 x 190 mm and rim in stainless steel AISI 304, non-slip, class L 15</p> <p>Art. # 48 969</p>	<p>Upper section in stainless steel AISI 304</p> <p>with anti-slip drain cover 190 x 190 mm in stainless steel AISI 304, non-slip, class M 125</p> <p>Art. # 57 410</p>	<p>Upper section in stainless steel AISI 304</p> <p>with slotted cover 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. # 55 550	55 550.52	55 550.21	55 550.20	55 550.30
2 Vertical outlet Art. # 55 600	55 600.52	55 600.21	55 600.20	55 600.30
3 Lateral outlet Art. # 142 025	142 025.52	142 025.21	142 025.20	142 025.30

Accessories see page 228

Floor drains *Ferrofix* with glue flange

Matrix order system

Drain body	Upper sections			
<p>Floor drain <i>Ferrofix</i> in stainless steel AISI 304 with connection flange with odour trap, connection to SML-pipe</p> <p>1 Lateral outlet</p> <p>2 Vertical outlet</p> <p>For low installation height:</p> <p>Floor drain <i>Ferrofix</i> in stainless steel AISI 304 with connection flange with odour trap in stainless steel AISI 304, connection to SML-pipe</p> <p>3 Lateral outlet</p>	<p>Shallow bed upper section in ABS, with mesh fabric</p> <p>with slotted cover 200 x 200 mm and rim in stainless steel AISI 304, non-slip, class L 15, screwed</p> <p>Art. # 48 978</p>	<p>Shallow bed upper section in ABS, with mesh fabric</p> <p>with anti-slip drain cover 190 x 190 mm and rim in stainless steel AISI 304, non-slip, class L 15</p> <p>Art. # 48 969</p>	<p>Upper section in stainless steel AISI 304</p> <p>with anti-slip drain cover 190 x 190 mm in stainless steel AISI 304, non-slip, class M 125</p> <p>Art. # 57 410</p>	<p>Upper section in stainless steel AISI 304</p> <p>with slotted cover 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 228

Shallow bed upper sections in ABS


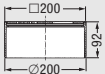

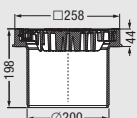

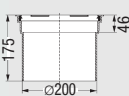

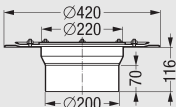








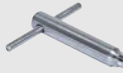
Illustration	Article description	Cover mm incl. rim	Connection Ø	Article #
	Upper section in ABS incl. mesh fabric with slotted cover and rim made of stainless steel AISI 304, non-slip, screwed, class L 15	200 x 200	200	48 978
	Upper section in ABS incl. mesh fabric with anti-slip drain cover and rim made of stainless steel AISI 304, non-slip, class L 15	200 x 200	200	48 969

Upper sections in stainless steel AISI 304

With connection flange

	Upper section 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	57 410
	Upper section 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	57 415
	Upper section in stainless steel AISI 304 with slotted cover made of stainless steel AISI 304, class M 125	200 x 200	200	57 420
	Upper section 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	57 425
	Upper section 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	57 435

Upper sections in stainless steel AISI 304			With glue flange		
Illustration	Article description	Cover mm incl. rim	Connection Ø	Article #	
	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	200 x 200	200	57 410-KF*	
	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	300 x 300	200	57 415-KF*	
	Upper section 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	57 420-KF*	
	Upper section 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	57 425-KF*	
	Upper section 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	57 430-KF*	
	Upper section 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	57 435-KF*	
	Upper section 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	48 954-S-V2A-KF*	
	Upper section 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	48 954-Z-V2A-KF*	

Floor drains <i>Ferrofix</i>			Accessories
Illustration and dimensioned drawing	Article description	Outer diameter Ø (mm)	Article #
 	Variofix with slotted cover and rim in stainless steel AISI 304, screwed, class L 15, with mesh fabric	-	48 968
 	Upper section with support rim in <i>Ecoguss</i> with round slotted cover in <i>Ecoguss</i> Ø 235 mm, class B 125, with <i>Lock & Lift</i> System	-	67 985
 	Extension section in PP, with lip seal on request also in AISI 304 / AISI 316L	-	48 988
 	Extension section in stainless steel AISI 304 <input type="checkbox"/> with pressure sealing flange <input type="checkbox"/> with connection flange	- -	27 185 27 186
 	Odour trap in stainless steel AISI 304, removable, sealing water height 70 mm	-	27 182
  <p>Certification no. Z-19.17-1719</p>	Fire-Kit 200 Fire protection insert can only be retrofitted for drains with vertical outlet Only use in combination with an odour trap	-	48 200
 	Sludge basket in stainless steel AISI 304 <input type="checkbox"/> Height 60 mm (H) <input type="checkbox"/> Height 150 mm (H)	- -	67 302 67 301
 	Sludge basket in PE-HD	-	67 300
	Special key for safety lock, made of stainless steel V2A, for Art. # 48 954-S-V2A-KF	-	48 954-SL

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.

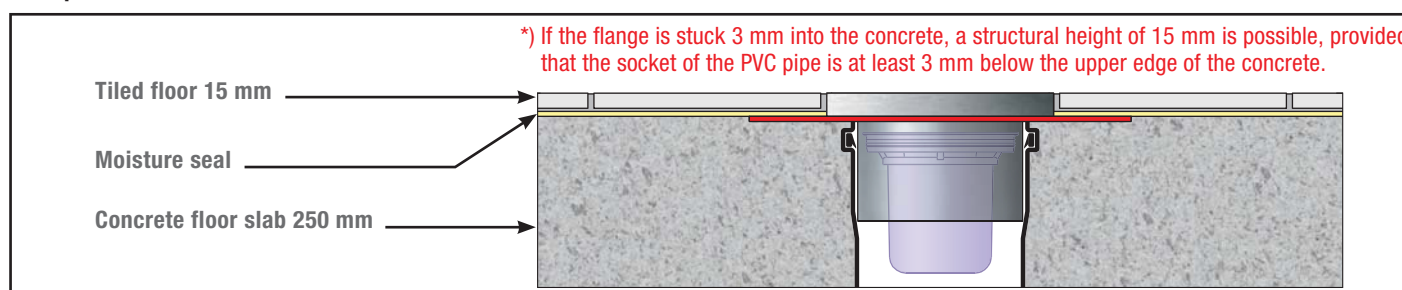
As a customer, describe your installation situation and we will make a *Ferrofix* - that is precisely tailored to your requirements. Just ask us!

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*

Illustration	Article description																																
<p>Linear stainless steel channel drains System 125</p>	<p>Drainage channels <i>Ferrofix Express</i> 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.</p> <p>Linear drainage channels: Channel lengths (mm) 1042, 1550, 2058 1047, 1555, 2063 542, 547 Channel widths (mm) 158 300 158,300</p> <p>Square drainage channels: Channel lengths (mm) 500 953 350, 800, 1000 Channel widths (mm) 500 500 350, 800, 1000</p> <p>Material 1.4301 (AISI 304) Channel profile Adhesive edge for shallow bed seals</p> <p>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.)</p> <p>Sludge trap in stainless steel optional: - System 125 Construction height 90 mm Construction height 30 mm</p> <p>On stock :</p> <table border="1"> <thead> <tr> <th>Dimensions W x L x H</th> <th>Article #</th> </tr> </thead> <tbody> <tr> <td colspan="2">Linear stainless steel channel drains System 125</td> </tr> <tr> <td>158 x 542 x 55 mm</td> <td>60 15 050</td> </tr> <tr> <td>158 x 1042 x 55 mm</td> <td>60 15 100</td> </tr> <tr> <td>158 x 1550 x 58 mm</td> <td>60 15 150</td> </tr> <tr> <td>158 x 2058 x 60 mm</td> <td>60 15 200</td> </tr> <tr> <td>300 x 547 x 58 mm</td> <td>60 30 050</td> </tr> <tr> <td>300 x 1047 x 60 mm</td> <td>60 30 100</td> </tr> <tr> <td>300 x 1555 x 63 mm</td> <td>60 30 150</td> </tr> <tr> <td>300 x 2063 x 65 mm</td> <td>60 30 200</td> </tr> <tr> <td colspan="2">Square/rectangular stainless steel channel drains System 125</td> </tr> <tr> <td>350 x 350 x 60 mm</td> <td>60 35 035</td> </tr> <tr> <td>500 x 500 x 65 mm</td> <td>60 50 050</td> </tr> <tr> <td>500 x 953 x 70 mm</td> <td>60 50 100</td> </tr> <tr> <td>800 x 800 x 60 mm</td> <td>60 80 080</td> </tr> <tr> <td>1000 x 1000 x 65 mm</td> <td>61 00 100</td> </tr> </tbody> </table>	Dimensions W x L x H	Article #	Linear stainless steel channel drains System 125		158 x 542 x 55 mm	60 15 050	158 x 1042 x 55 mm	60 15 100	158 x 1550 x 58 mm	60 15 150	158 x 2058 x 60 mm	60 15 200	300 x 547 x 58 mm	60 30 050	300 x 1047 x 60 mm	60 30 100	300 x 1555 x 63 mm	60 30 150	300 x 2063 x 65 mm	60 30 200	Square/rectangular stainless steel channel drains System 125		350 x 350 x 60 mm	60 35 035	500 x 500 x 65 mm	60 50 050	500 x 953 x 70 mm	60 50 100	800 x 800 x 60 mm	60 80 080	1000 x 1000 x 65 mm	61 00 100
Dimensions W x L x H	Article #																																
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Matching drain body System 125 optionally as an accessory

Drainage channels *Ferrofix Express*

Accessories



Drain bodies

with removable odour trap
Ecoguss see page 168
Practicus see page 169
Ferrofix see page 218/219

Fire-Kit Fire protection insert

Ø 76 mm,
only for drains with vertical outlet
and odour trap
Art. # **48 100**

Certification no.
Z-19.17-1719

* Certification no.
Z-19.17-1719



Quick-Fit the passage seal

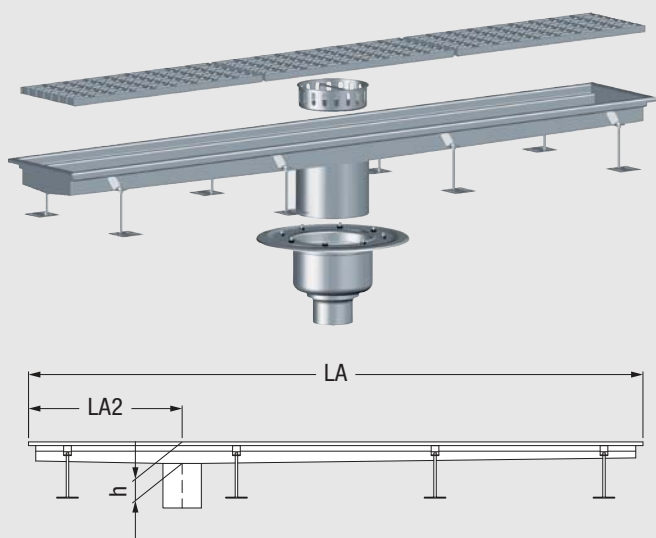
for core drilling, for drain body vertical outlet

- 1 * with fire protection** Art. # **48 990**
(only use in combination with *Fire-Kit* fire protection insert)
- 2 without fire protection** Art. # **48 991**

Box channel *Ferrofix*

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)

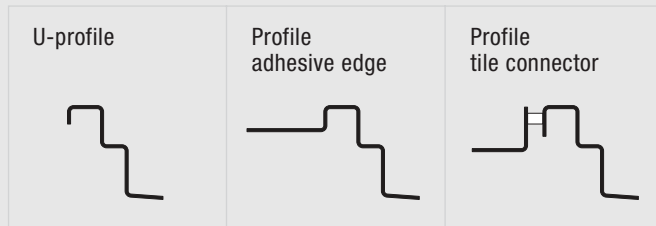
(Material 1.4404 or 1.4571 - AISI 316L - on request)

Matching drain body and accessories

- **System 100** on request
- **System 125** see from page 218
- **System 200** see from page 224

Sludge trap in stainless steel optional:

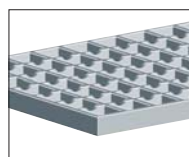
- **System 100** Construction height 90 mm
 - **System 125** Construction height 90 mm
 - **System 200** Construction height 55 mm
- All sludge traps also available in special sizes



Covers

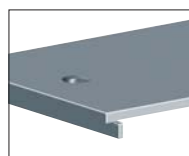
Products

Cover
in stainless steel



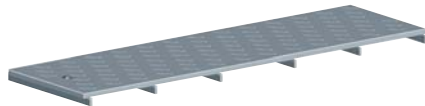
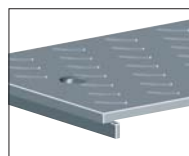
Non-slip R 11, acid-treated in pickling bath
Mesh width 23 x 23 mm or 30 x 30 mm,
class L 15 or M 125

Slab cover
in stainless steel



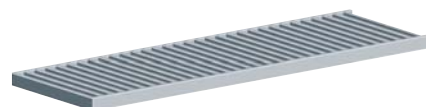
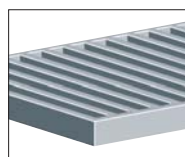
Not anti-slip, glass bead-blasted
All-round 8 mm inlet
Material thickness 10 mm, class M 125

Ribbed plate cover
in stainless steel



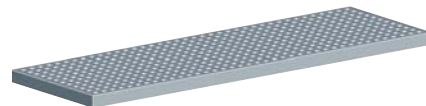
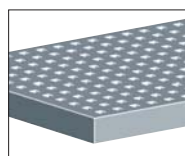
Non-slip R 11, acid-treated in pickling bath
All-round 8 mm inlet
Material thickness 10 mm, class M 125

Rod cover
in stainless steel



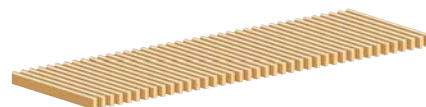
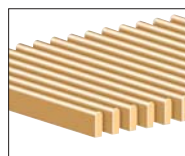
Not anti-slip, acid-treated in pickling bath
Rod clearance 18 mm, supporting member
25 x 8 mm, class M 125

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*

Illustration	Article description
	<p>Slotted channel <i>Ferrofix</i> 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.</p> <p>Channel widths 60 mm, 48 mm Slot widths 20 mm (standard width), 8 mm (barefoot area) Channel lengths from 600 mm</p> <p>Channel shapes and gully</p> <ul style="list-style-type: none"> - 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 <p>Channel profiles</p> <ul style="list-style-type: none"> - 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) <p>Gully with drain pipes in stainless steel</p> <ul style="list-style-type: none"> - System 100 (Ø 110 mm) - System 125 (Ø 125 mm) - System 200 (Ø 200 mm) (depends on the gully width) <p>Material - 1.4301 (AISI 304) (Material 1.4404 or 1.4571 - AISI 316L - on request)</p> <p>Matching drain body and accessories</p> <ul style="list-style-type: none"> - System 100 on request - System 125 see page 218, 219, 223 - System 200 see page 224, 225, 228 <p>Sludge trap in stainless steel optional:</p> <ul style="list-style-type: none"> - System 100 Construction height 90 mm - System 125 Construction height 90 mm - System 200 Construction height 55 mm <p>All sludge traps also available in special sizes</p>

Covers

Products

<p>Cover in stainless steel</p> <p>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</p>	<p>Rod cover in stainless steel</p> <p>Not anti-slip, acid-treated in pickling bath Rod clearance 18 mm, supporting member 25 x 8 mm, class M 125</p>
<p>Slab cover in stainless steel</p> <p>Not anti-slip, glass bead-blasted All-round 8 mm inlet Material thickness 10 mm, class M 125</p>	<p>Bathroom cover in stainless steel</p> <p>Suitable for barefoot area Brushed surface, perforation 8 x 8 mm Insertion depth 25 mm, thickness 2 mm, class K 3</p>
<p>Ribbed plate cover in stainless steel</p> <p>Non-slip R 11, acid-treated in pickling bath All-round 8 mm inlet Material thickness 10 mm, class M 125</p>	<p>Bathroom cover made of polymer</p> <p>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</p>



Drains for exterior installation

**Parking deck drains
System 100/125** Page **236 – 238**

Balcony drains Page **239**

**Yard and gutter drains
System 200/100** Page **240 – 245**

**Yard drains System 400
and street gullies** Page **246 – 249**

Roof drains Page **250 – 252**

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.





With *Ecoguss* upper section

Yard drains for higher load classes up to 40 to.

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*

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>Parking deck drain <i>Ecoguss</i> Vertical outlet, for connection to SML-pipe according to EN 877, with sludge trap</p> <p><input type="checkbox"/> System 125</p> <p>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 (12.5 to), with <i>Lock & Lift</i> System</p> <p>Core drilling only Ø 160 mm with <i>Quick-Fit</i></p> <table border="1"> <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>Accessories: <i>Multistop</i> Art. # 48 500, odour trap Art. # 27 169 see page 238</p>	Ø	78	110	H	110	110	<p>Ø 78 Ø 110</p>	<p>48 878.01 48 811.01</p>			
Ø	78	110										
H	110	110										
<p>Single piece pipe connection drain</p> <p>4.5 l/sec flow rate Installation area 300 x 300 mm</p>	<p>Parking deck drain <i>Ecoguss</i>, square Vertical outlet, for connection to SML-pipe/plastic pipe, with sludge trap</p> <p><input type="checkbox"/> System 100: SML-pipe <input type="checkbox"/> System 125: plastic pipe</p> <p>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 (12.5 to), with <i>Lock & Lift</i> System</p> <table border="1"> <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>Accessories: <i>Multistop</i> Art. # 48 500 see page 238</p>	Ø	110	125	H	77	83	H1	79	73	<p>Ø 110 Ø 125</p>	<p>48 501 48 502</p>
Ø	110	125										
H	77	83										
H1	79	73										
<p>Single piece pipe connection drain</p> <p>4.5 l/sec flow rate Installation area Ø 300 mm</p>	<p>Parking deck drain <i>Ecoguss</i>, round Vertical outlet, for connection to SML-pipe/plastic pipe, with sludge trap</p> <p><input type="checkbox"/> System 100: SML-pipe <input type="checkbox"/> System 125: plastic pipe</p> <p>with round upper section in <i>Ecoguss</i> with connection flange Ø 247 mm and round slotted cover Ø 235 mm, class B 125 (12.5 to), with <i>Lock & Lift</i> System</p> <table border="1"> <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>Accessories: <i>Multistop</i> Art. # 48 500 see page 238</p>	Ø	110	125	H	77	83	H1	79	73	<p>Ø 110 Ø 125</p>	<p>48 503 48 504</p>
Ø	110	125										
H	77	83										
H1	79	73										

Installation example parking deck drains *Ecoguss*



① Upper section
② Sealing flange
③ Connection to SML-pipe

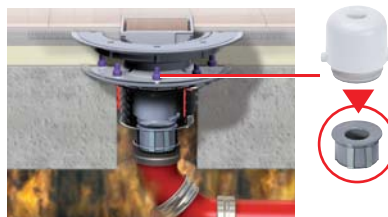
The KESSEL *Ecoguss* drains are especially suitable for installation in garages and car parks. The high strength low weight body and upper section handles traffic loads up to 12.5 metric tons and a stainless steel waterproof sealing flange is available if required. The compact drain bodies are available 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.

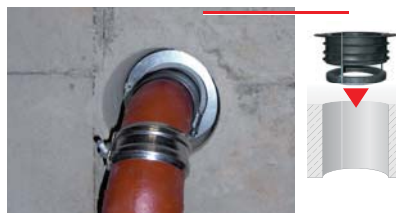
■ **The determining factor is the fire resistance class, not the building material class!**

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.

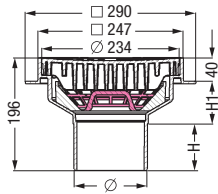
Additional security for fire protection is offered by the KESSEL **Quick-Fit passage seal** including fire protection ring. If floor drains are not poured into the concrete floor but inserted later into cored holes in the concrete slab, the space between the cored hole and the exterior of the drain body 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.



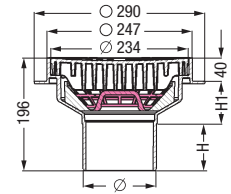
Professional advantages

- **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 (12.5 to), with *Lock & Lift System*, with sludge trap.

with round upper section □ 247 mm and round slotted cover Ø 235 mm, in *Ecoguss*, class B 125 (12.5 to), with *Lock & Lift System*, with sludge trap.

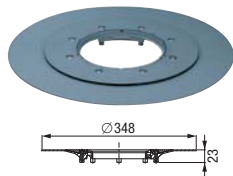
System 100: SML-pipe
System 125: plastic pipe

System 100: SML-pipe
System 125: plastic pipe

Ø 110 Art. # 48 501
Ø 125 Art. # 48 502

Ø 110 Art. # 48 503
Ø 125 Art. # 48 504

Accessories



Glue flange with counter flange

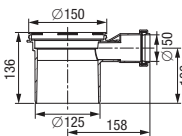
in ABS, Ø 348 mm (also for compound seal)
Art.Nr. 48 410

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



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)

* Certification no. Z-19.17-1719



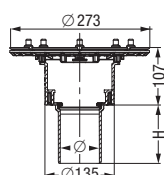
Insulating body

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

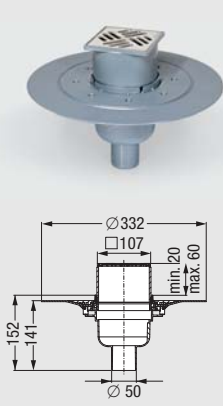
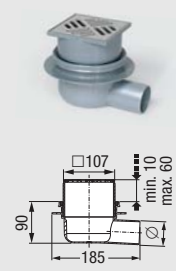
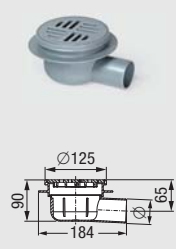
Vertical outlet, with pressure sealing flange, high temperature resistant

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 in ABS



System 100

Balcony drains

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>Balcony drain in ABS Frost-proof outlet. With fixed lip seal. With glue flange and counter flange.</p> <p><input type="checkbox"/> Lateral outlet</p> <p><input type="checkbox"/> Vertical outlet</p> <p>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).</p>	<p>Ø 50</p> <p>Ø 50</p>	<p>40 151.90</p> <p>40 251.90</p>
 <p>0.9 l/sec flow rate Installation area 220 x 180 mm</p>	<p>Balcony drain in ABS Frost-proof outlet. With fixed lip seal. With connection flange.</p> <p><input type="checkbox"/> Lateral outlet</p> <p>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).</p>	<p>Ø 50</p> <p>Ø 75</p>	<p>40 151.20</p> <p>40 171.20</p>
 <p>0.9 l/sec flow rate Installation area 220 x 180 mm</p>	<p>Balcony drain in ABS Frost-proof outlet. With connection flange.</p> <p><input type="checkbox"/> Lateral outlet</p> <p>with inserted cover Ø 125 in synthetic material, class K3 (able to withstand loads up to max. 300 kg)</p>	<p>Ø 50</p> <p>Ø 75</p>	<p>40 152.71</p> <p>40 172.71</p>

Balcony drains

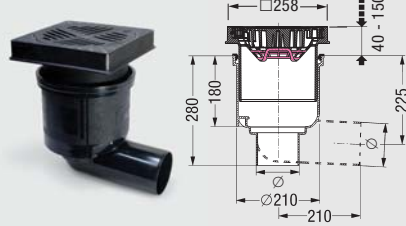
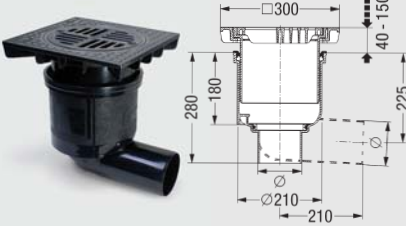
Accessories

Illustration and dimensioned drawing	Article description	Outer diameter Ø (mm)	Article #
	<p>Extension section in ABS, with lip seal</p>	-	27 146
	<p>Multistop rodent, insect, foam and odour stop</p>	-	43 500

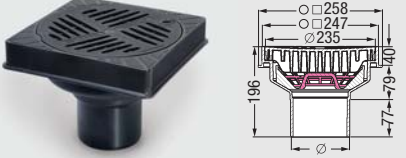
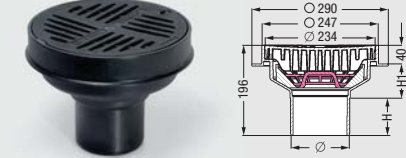

Yard drains in *Ecoguss* / polymer

System 200 / 100

Yard drains System 200

Illustration and dimensioned drawing	Article description	Outer diameter Ø (mm)	Article #
 <p>4.5 l/sec flow rate</p>	<p>Yard drains <i>Ecoguss</i> 200</p> <ul style="list-style-type: none"> <input type="checkbox"/> Lateral outlet 2.5° <input type="checkbox"/> Vertical outlet <p>with drain body made of polymer and upper section made of <i>Ecoguss</i>, upper section with square support rim, class B 125 (12.5 to), with <i>Lock & Lift</i> System, with sludge trap</p>	<p>Ø 110</p> <p>Ø 110</p>	<p>67 923 B</p> <p>67 922 B</p>
 <p>4.5 l/sec flow rate</p>	<p>System 200 Yard drain</p> <ul style="list-style-type: none"> <input type="checkbox"/> Lateral outlet 2.5° <input type="checkbox"/> Vertical outlet <p>with drain body made of polymer, upper section with support rim, slotted cover class ...</p> <p>With lip seal and protective cover for use during construction.</p> <p>Weight: Class A 15 approx. 4.2 kg.</p> <p>Accessories: Sludge trap Art. # 67 300, odour-trap (consider frost free installation depth) Art. # 27 171 see page 244/245</p>	<p>Ø 110</p> <p>Ø 110</p>	<p>67 020.30</p> <p>67 060.30</p>

Yard drains System 100

Illustration and dimensioned drawing	Article description	Outer diameter Ø (mm)	Article #
 <p>4.5 l/sec flow rate</p>	<p>Yard drain <i>Ecoguss</i> pipe connection drain - square</p> <p>Vertical outlet</p> <ul style="list-style-type: none"> <input type="checkbox"/> upper section with square support rim in <i>Ecoguss</i> and round slotted cover Ø 235 mm, class B 125 (12.5 to), with <i>Lock & Lift</i> System, with sludge trap <p>Accessories: <i>Multistop</i> Art. # 48 500 see page 212</p>	<p>Ø 110</p>	<p>67 110 B</p>
 <p>4.5 l/sec flow rate</p>	<p>Yard drain <i>Ecoguss</i> pipe connection drain - round</p> <p>Vertical outlet</p> <ul style="list-style-type: none"> <input type="checkbox"/> upper section with round support rim in <i>Ecoguss</i> and round slotted cover Ø 235 mm, class B 125 (12.5 to), with <i>Lock & Lift</i> System, with sludge trap <p>Accessories: <i>Multistop</i> Art. # 48 500 see page 212</p>	<p>Ø 110</p>	<p>67 111 B</p>
 <p>1.6 l/sec flow rate</p>	<p>Yard drain <i>Alrondo</i></p> <p>made of polymer, vertical outlet</p> <p>With integrated odour trap.</p> <ul style="list-style-type: none"> <input type="checkbox"/> cover plate 200 x 200 mm with round slotted cover Ø 140 mm made of polymer, screwed <p>Can be driven over by vehicles of up to 2 ton.</p>	<p>Ø 110</p>	<p>37 287 S</p>

Yard drains in *Ecoguss* / polymer System 200 / 100

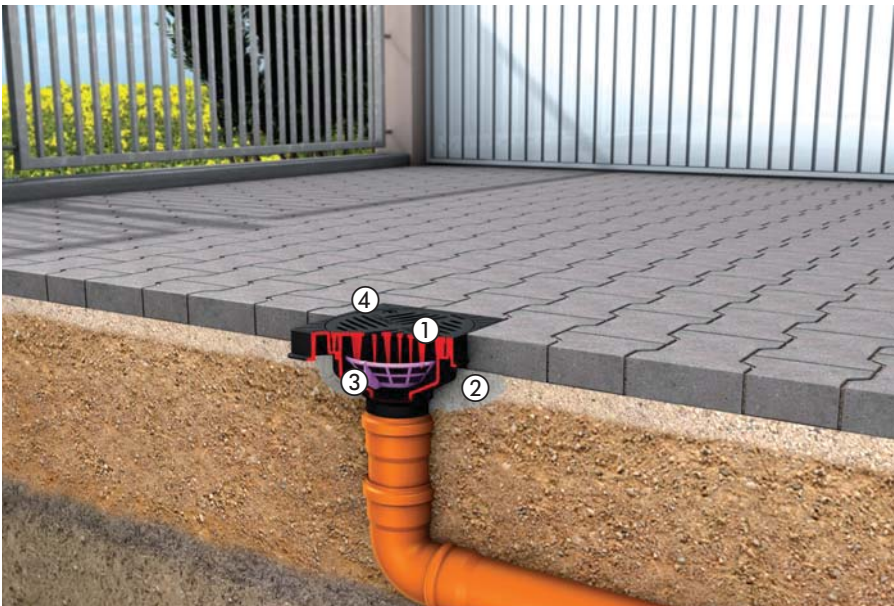
Installation example yard drains System 200



- 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
- ③ Sludge basket
- ② Concrete
- 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.

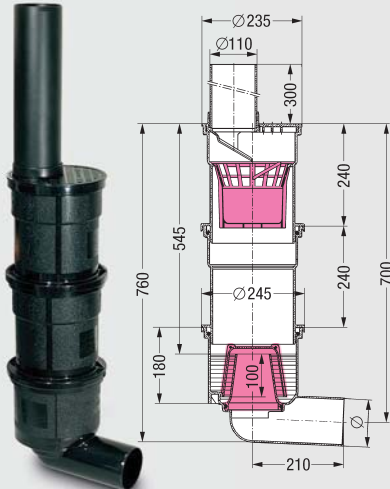
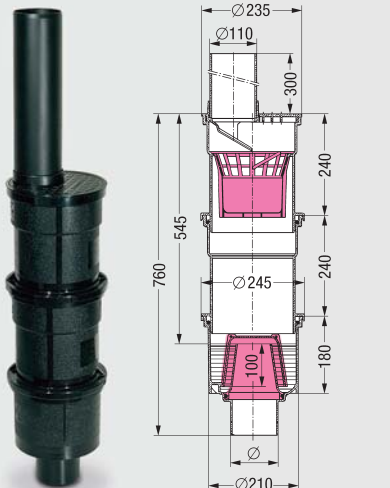
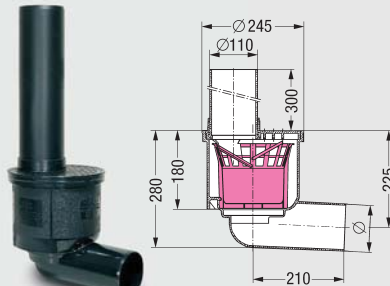
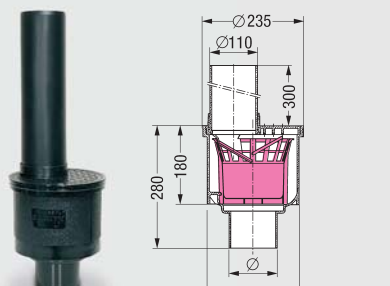
Professional advantages

- **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

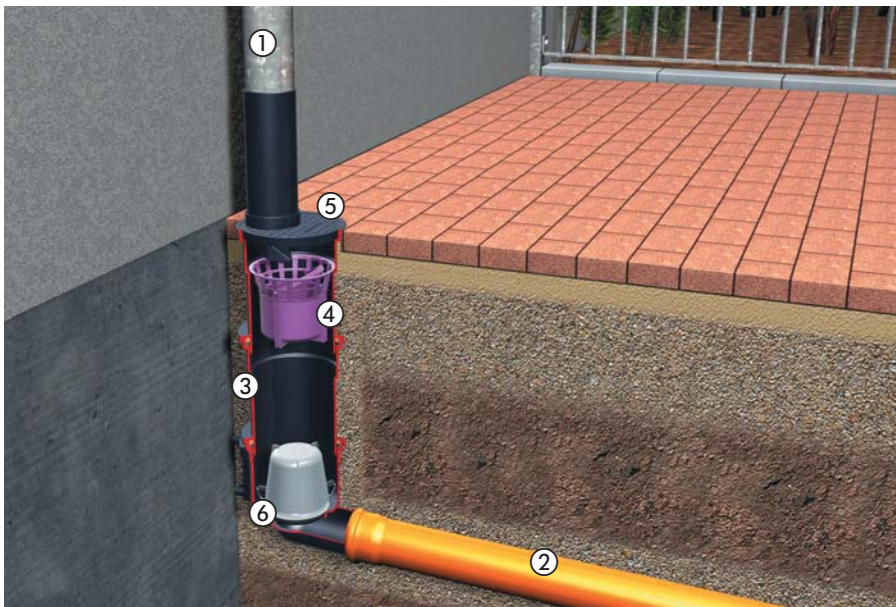
System 200

Gutter drains System 200

Illustration and dimensioned drawing	Article description	Outer diameter Ø (mm)	Article #
 <p>2.8 l/sec flow rate</p>	<p>Gutter drain made of polymer, lateral outlet 2.5° For frost-free depth 545 mm Rain inlet cover with protective pipe made of polymer. With removable bell-shaped odour trap, two extension sections, sludge trap. With wall securing device.</p>	Ø 110	67 970
 <p>2.8 l/sec flow rate</p>	<p>Gutter drain made of polymer, vertical outlet For frost-free depth 545 mm Rain inlet cover with protective pipe made of polymer. With removable bell-shaped odour trap, two extension sections, sludge trap. With wall securing device.</p>	Ø 110	67 960
 <p>4.5 l/sec flow rate</p>	<p>Gutter drain made of polymer, lateral outlet 2.5° Rain inlet cover with protective pipe in synthetic material. With sludge trap. With wall securing device.</p>	Ø 110	67 945
 <p>4.5 l/sec flow rate</p>	<p>Gutter drain made of polymer, vertical outlet Rain inlet cover with protective pipe in synthetic material. With sludge trap. With wall securing device. Without wall securing device.</p>	Ø 110 Ø 110	67 940 67 997

Gutter drains made of polymer System 200



Installation example gutter drains System 200



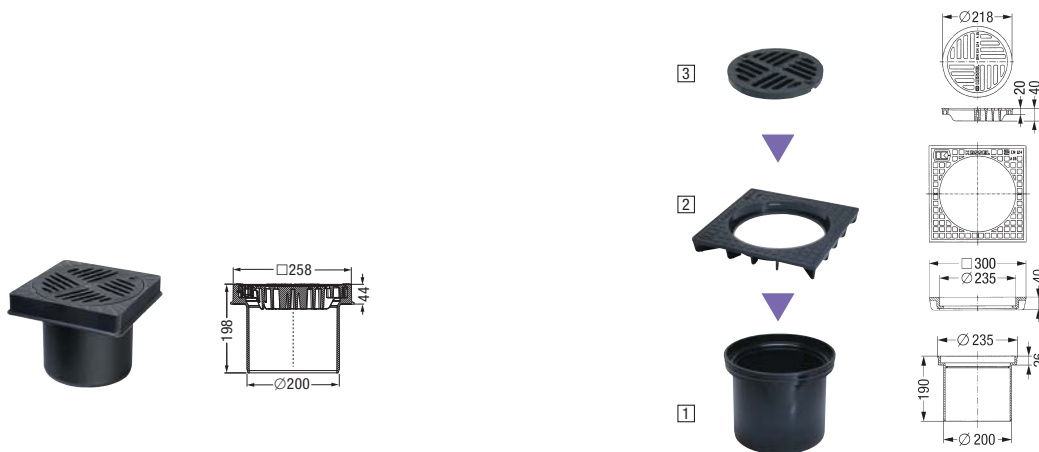
- | | |
|---------------------|-----------------|
| ① Downspouts | ④ Sludge basket |
| ② Drainage pipe | ⑤ Drain cover |
| ③ Extension section | ⑥ Odour trap |

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



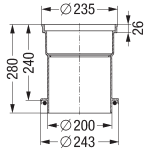
in Ecoguss

upper section with support rim □ 250 mm
and **round slotted cover** Ø 235 mm, in *Ecoguss*,
class B 125 (12.5 to), with *Lock & Lift System*,
height adjustable from 40 - 150 mm
Art. # **67 985**

in polymer, consists of...

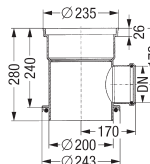
- 1 **Upper section** height adjustable from 40 - 150 mm
Art. # **67 400**
- 2 **Support rim** □ 300 mm, class A 15 / L 15 (1.5 to.)
Art. # **27 180**
- 3 **Slotted cover** Ø 218 mm, class A 15 / L 15 (1.5 to.)
Art. # **27 173**

Accessories for yard drains and gutter drains



Extension section

made of polymer,
installation height 240 mm
Art. # **67 500**



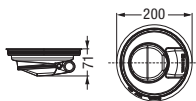
Extension section

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**

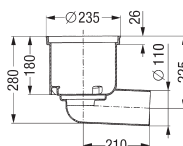


Lip seal

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

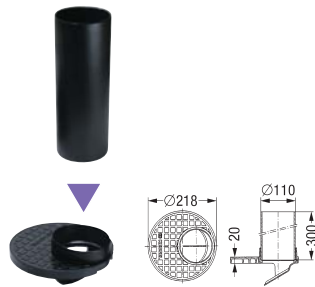
Lateral outlet 2.5°, without odour trap
Ø 110 Art. # **67 000**

Upper sections for gutter drains



in polymer

Cover plate Ø 218 mm
class A 15 / L 15 (1.5 to.),
sealed with respect to surface water,
Art. # 67 775



in polymer

Rain inlet cover Ø 218 mm
with protective pipe Ø 110
Art. # 67 750



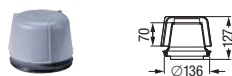
in polymer

Rain inlet slotted cover Ø 218 mm,
for additional surface drainage
with protective pipe Ø 110
Art. # 67 700



Leaf trap

in PP
Art. # 48 300



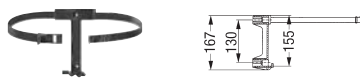
Bell-shaped odour trap insert

in PP, removable,
sealing water height 70 mm
Art. # 27 170



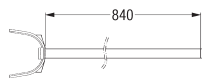
Bell-shaped odour trap insert

in PP, removable,
sealing water height 100 mm
Art. # 27 171



Wall securing device

for gutter drains
Art. # 67 800



Lifting mechanism

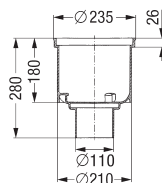
for removing odour trap
Art. # 850 144



Locking and removal key

for *Ecoguss* drain covers
with *Lock & Lift* System.
Art. # 67 007

4.5 l/sec flow rate



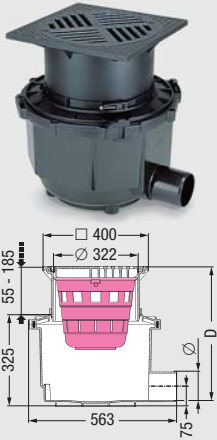

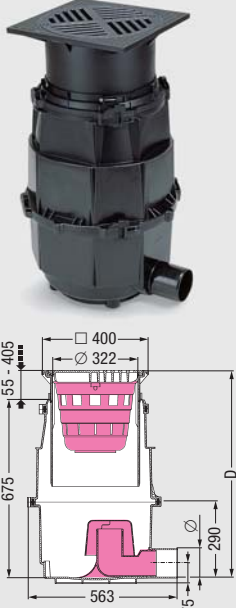

Drain body made of polymer

Vertical outlet, without odour trap
Ø 110 Art. # 67 040

Yard drains in polyethylene

System 400

Yard drains System 400 For higher load classes

Illustration and dimensioned drawing	Article description	Outer diameter Ø (mm)	Article #
 <p>4.5 l/sec flow rate Installation area 585 x 535 mm</p>	<p>Yard drain System 400 in polyethylene, lateral outlet 2.5°, with sludge trap</p> <p>For installation depth (D) from 380 to 510 mm, water-tight, resistant to aggressive wastewater. With fuel-resistant gaskets.</p> <p><input type="checkbox"/> Upper section with slotted cover, class A (1.5 to.) made of polymer class B (12.5 to.) and class D (40 to.) in cast iron according to EN 124 for continuous height and level adjustment.</p> <p>Weight: Class A approx. 10 kg Class B approx. 12.5 kg Class D approx. 20 kg</p> 	<p>Ø 110 Ø 110 Ø 110</p> <p>Ø 160 Ø 160 Ø 160</p>	<p>851 100 A 851 100 B 851 100 D</p> <p>851 150 A 851 150 B 851 150 D</p>
 <p>4.5 l/sec flow rate Installation area 585 x 535 mm</p>	<p>Yard drain System 400 in polyethylene, lateral outlet 2.5°, with odour trap and sludge trap</p> <p>For installation depth (D) from 730 to 1080 mm, water-tight, resistant to aggressive wastewater. With fuel-resistant gaskets.</p> <p><input type="checkbox"/> Upper section with slotted cover, class A (1.5 to.) made of polymer class B (12.5 to.) and class D (40 to.) in cast iron according to EN 124 for continuous height and level adjustment.</p> <p>Weight: Class A approx. 45 kg Class B approx. 47.5 kg Class D approx. 55 kg</p> 	<p>Ø 110 Ø 110 Ø 110</p> <p>Ø 160 Ø 160 Ø 160</p>	<p>851 102 A 851 102 B 851 102 D</p> <p>851 152 A 851 152 B 851 152 D</p>

Yard drains in polyethylene System 400

Installation example yard drains System 400



- ① System 400 drain
- ② Sludge basket

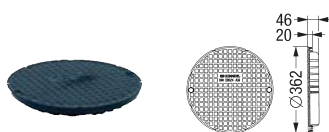
System 400 drains assure an efficient surface water drainage of outdoor areas and with their low weight, corrosion free material and solid construction they represent a clear alternative to standard concrete drains. System 400 drains are available with load class B or D covers meaning they can be used 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.

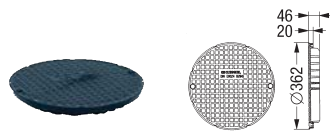
Yard drains in polyethylene System 400

Covers



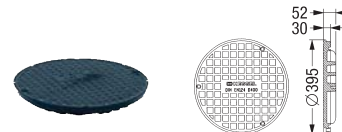
Cover plate in polymer

Class A (1.5 to.)
Art. # 850 132



Cover plate in cast iron

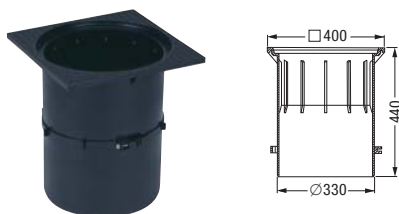
Class B (12.5 to.)
Art. # 850 131



Cover plate in cast iron

Class D (40 to.), for article # 850 121
Art. # 850 136

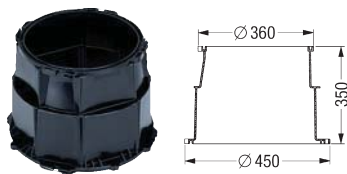
Upper sections



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



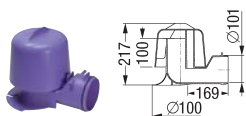
Transition sections 450

Art. # 850 102



Transition sections 360

Art. # 850 103

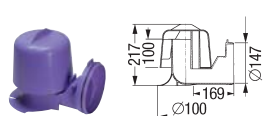


Odour traps

Ø 110 Art. # 850 141

Ø 160 Art. # 850 142

only for article # 850 009, 850 010



Gaskets for pipe conduits

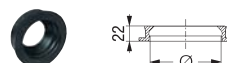
Ø 50 Art. # 850 114

Ø 75 Art. # 850 116

Ø 110 Art. # 850 117

Ø 125 Art. # 850 118

Ø 160 Art. # 850 119

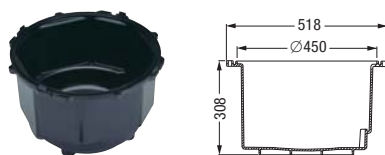


Pressure sealing flange

for upper section

Art. # 83 021

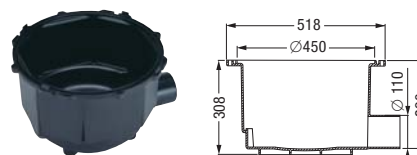
Drain bodies



Drain body in polyethylene

closed

Art. # 850 008

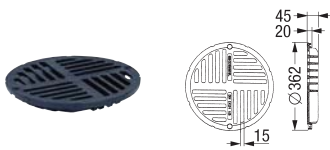


Drain body in polyethylene

with outlet

Ø 110 Art. # 850 009

Ø 160 Art. # 850 010



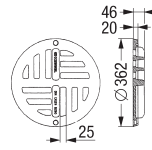
Slotted cover in polymer

Class A (1.5 to.)
Art. # 850 134



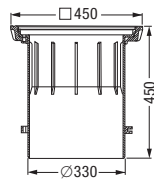
Slotted cover in cast iron

Class B (12.5 to.)
Art. # 850 135



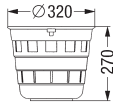
Slotted cover in cast iron

Class D (40 to.), for article # 850 121
Art. # 850 137



Class D

continuously height adjustable,
with clamping ring
Art. # 850 121



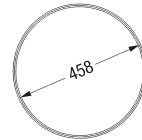
Sludge trap in polymer

Art. # 850 115



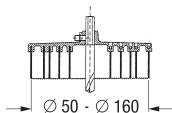
Profiled gasket 450

Art. # 850 113



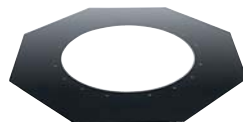
Profiled gasket 360

Art. # 850 112



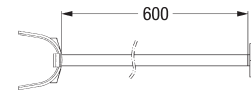
Hole saw

for drilling lateral surfaces for inlets and outlets
Ø 50, 75, 110, 125 and 160
(Saw blade holder Ø = 190 mm)
Art. # 50 100



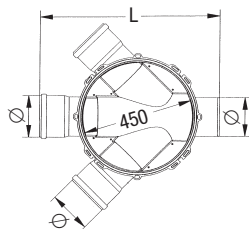
Elastomer waterproof membrane

in NK/SBR
Art. # 83 022



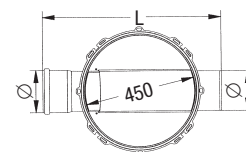
Lifting mechanism

for removing odour trap
Art. # 850 143



Drain body in polyethylene, open channel passage

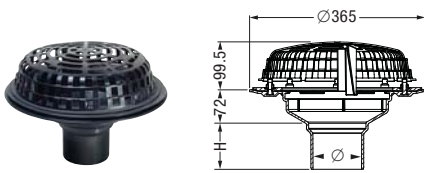
Inlet/Outlet Ø 160, L=726 mm, H=259 mm, Art. # 850 001
Inlet Ø 160/Outlet Ø 200, L=746 mm, H=259 mm, Art. # 850 002
Inlet/Outlet Ø 200, L=756 mm, H=304 mm, Art. # 850 003
Inlet Ø 200/Outlet Ø 250, L=771 mm, H=304 mm, Art. # 850 004



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*

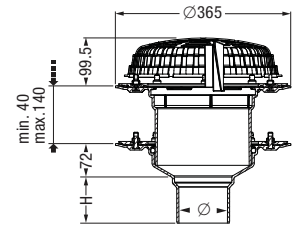


Installation area Ø 227 mm

EN 1253/DIN 1986-100



Ø	75	110	125
H	96.5	93	93



Installation area Ø 227 mm

with single seal

with pressure sealing flange in *Ecoguss*
and pebble trap

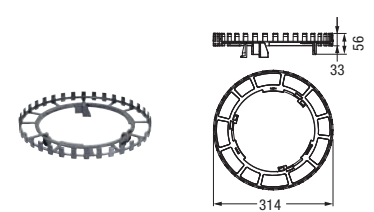
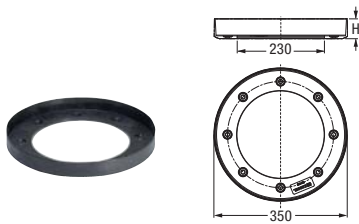
- without heating
- Ø 75 Art. # 48 370
- Ø 110 Art. # 48 310
- Ø 125 Art. # 48 312
- with heating
- Ø 75 Art. # 48 370.03
- Ø 110 Art. # 48 310.03
- Ø 125 Art. # 48 312.03

with double seal for installation in waterproof concrete

upper section in *Ecoguss* Ø 200 and pebble trap
with pressure sealing flange in *Ecoguss* and counter flange

- without heating
- Ø 75 Art. # 48 370.01
- Ø 110 Art. # 48 310.01
- Ø 125 Art. # 48 312.01
- with heating
- Ø 75 Art. # 48 370.02
- Ø 110 Art. # 48 310.02
- Ø 125 Art. # 48 312.02

Accessories



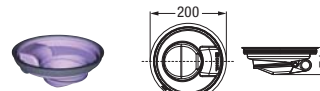
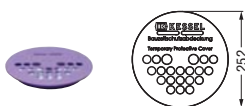
Damming ring in *Ecoguss*

for drainage safety

- H = 35 mm
- Ø 75 Art. # 48 335
- Ø 110 Art. # 48 335
- H = 45 mm
- Ø 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

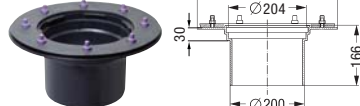
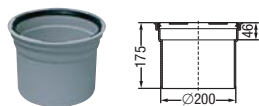
in PP
Art. # 48 300

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 slot-
ted 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 Ø 200
Art. # 48 354

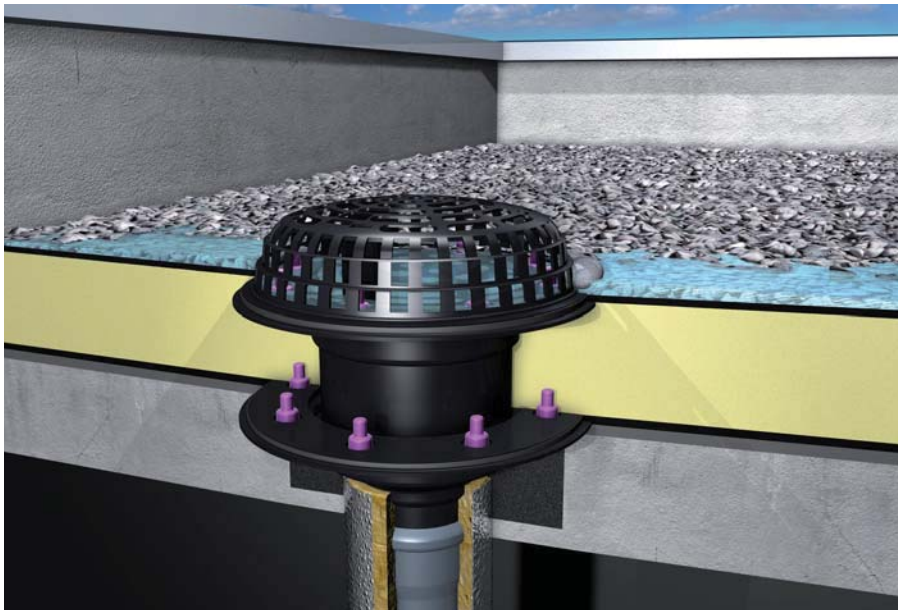
Reinforcement plate

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

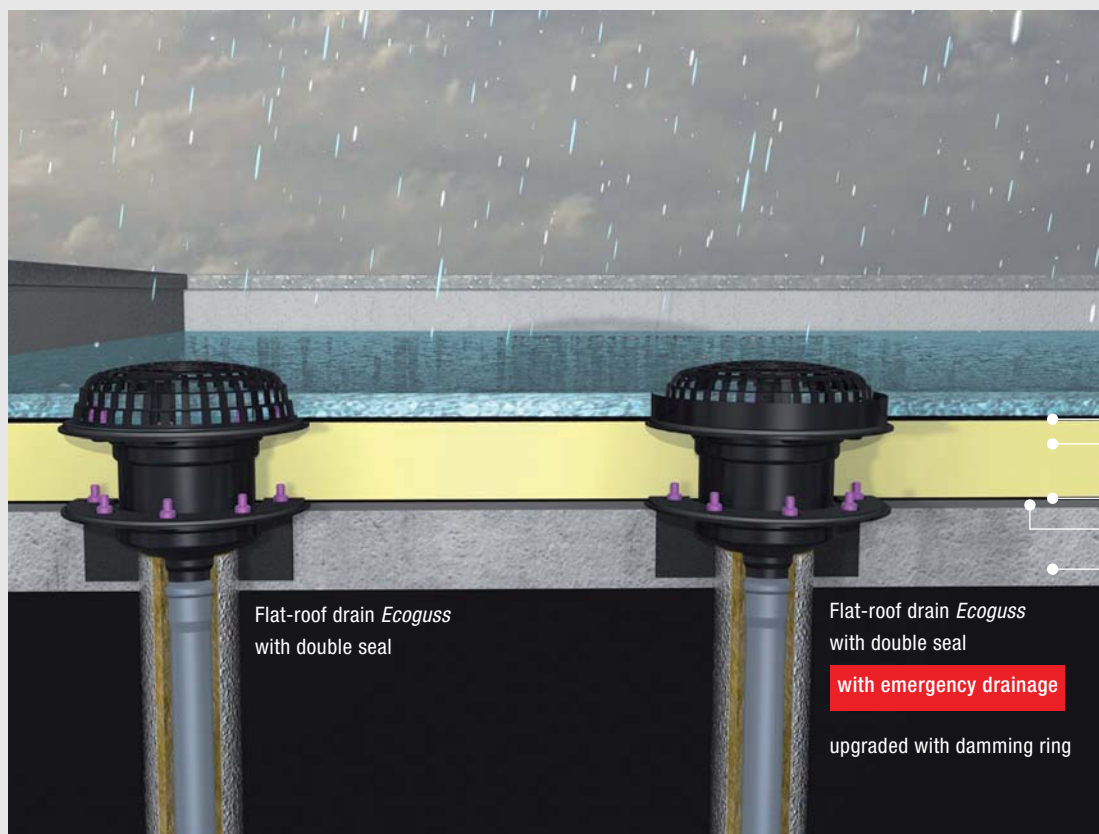


Flat roof drains made of *Ecoguss* are available in the diameters $\varnothing 75$, $\varnothing 110$ and $\varnothing 125$ mm. In addition to a practical leaf trap (basket) to prevent blockages, flat roof drains are also available as an option in heated versions to allow proper function during winter.

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



- Bituminus waterproofing membrane
- 120 mm heating insulation
- Bituminus waterproofing membrane
- Sloped screed layer
- 180 mm thick concrete floor slab

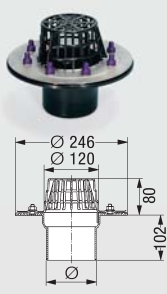
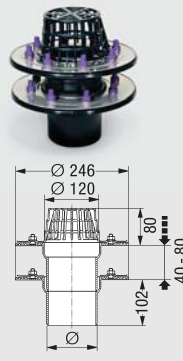
Flat-roof drain *Ecoguss*
with double seal

Flat-roof drain *Ecoguss*
with double seal
with emergency drainage
upgraded with damming ring

Flat-roof drains

System 100

Flat-roof drains

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>Roof drain in PP, vertical outlet</p> <p><input type="checkbox"/> with pressure sealing flange with counter flange in stainless steel AISI 304, with leaf trap.</p>	Ø 110	45 950
 <p>4.5 l/sec flow rate Installation area 180 x 180 mm</p>	<p>Roof drain in PP, vertical outlet</p> <p><input type="checkbox"/> with twin sealing flanges, with pressure sealing flange with counter flange in stainless steel AISI 304, with leaf trap.</p>	Ø 110	45 970

Installation example flat-roof drains



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.

Professional advantages

- **With practical leaf trap** (basket) to prevent blockages
- **Available as heated version**

Just ask us
info@kessel.com

We make everything possible

KESSEL is the specialist wherever flexibility has to be proved with solutions that are tailor-made for special requirements. Thanks to our knowledge and possibilities in the field of polyethylene technology in terms of material, development, design, tooling and various polyethylene treatment methods, we are not only able to manufacture series products, we can also manufacture special solutions in accordance with your project-specific requirements.



Separators

Long-lasting and cheap to maintain



From planning through installation to instructional briefing and commissioning, we support you with your day-to-day dealings with our draining products.



5 Separators

**Grease separators
for free standing installation** Page **264 – 287**

**Grease separators
for underground installation** Page **288 – 293**

**Oil-, Fuel- and
Coalescence separators** Page **296 – 306**

Sediment separators Page **307**

Starch separators Page **308 – 309**

Individual Solutions Page **310**



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.

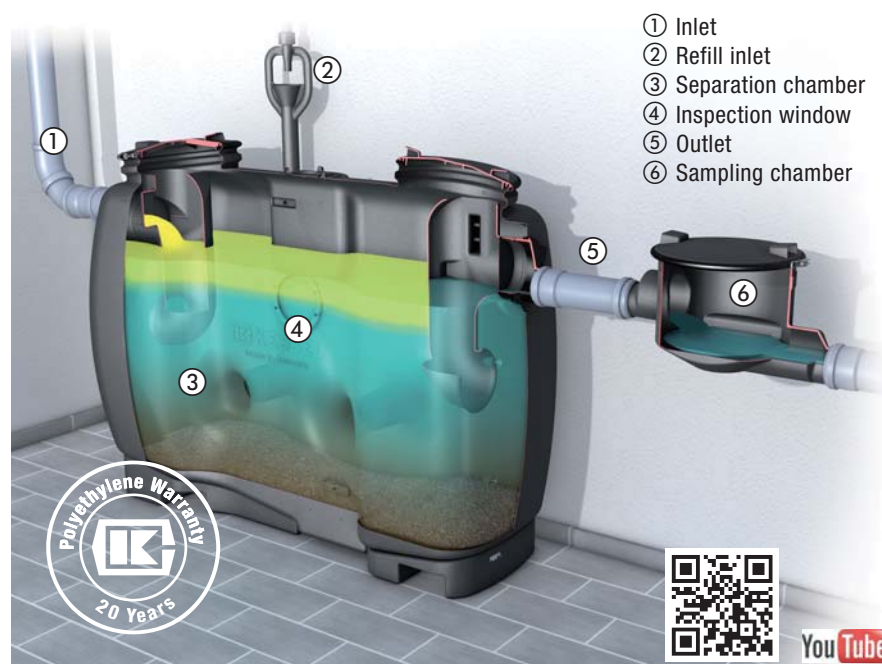
Examples of what should be connected to a separator: floor drains with odour traps, drainage channels, sinks, dishwashing machines and cooking vats.

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.

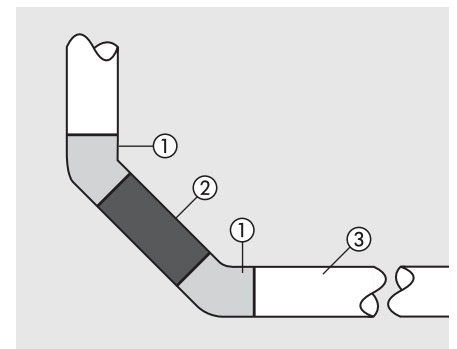
Separator systems should be set up in such a way that frost damage is avoided and all the parts which require regular maintenance are easily accessible at all times. Wherever necessary, separator system covers must be installed in such a way that the extra load on the separator does not exceed its load 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.

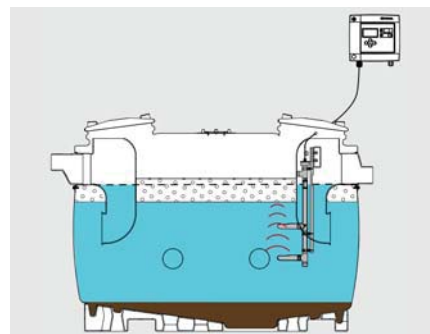
During this process, the homogenised tank contents are injected back into the separator chamber with high kinetic energy. This removes deposits and any soiling clinging to the inside tank walls and cleans the grease separator from the inside.



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.



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>	
Odour Reduced Disposal The direct disposal grease separator connection allows the disposal truck to vacuum out the grease separator contents without opening the separator covers.		✓	✓	✓	✓	✓	
Odour Free Disposal 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.			✓	✓	✓	✓	
Control unit The Shredder-Mix-System, designed to homogenize the separator contents, can be started and controlled without needing direct access to the separator.				✓	✓	✓	
Disposal Pump 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.					✓	✓	
Fully Automated Operation All of the pre-programmed disposal steps of the separator's contents function fully automatically.						✓	
EasyClean NS 2-10	see page	274	272	270	268	266	264
Euro NS 15-30	see page	281	280	279	278	277	276
Euro for underground installation	see page	289	-	-	-	-	288



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 5 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

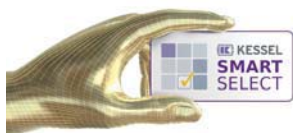
Thanks to the knowledge and possibilities in the field of polyethylene technology KESSEL is not only able to manufacture series products, but also special solutions in accordance with project-specific requirements.

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



SmartSelect simply makes planning easier - calculation tool for separators at 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.

New: Grease separators for free-standing installation in the nominal sizes NS 15, 20, 25, 30 (from page 276).



NS 2 - NS 10

Grease separator **EasyClean**
 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.



DRINKING WATER RINSING

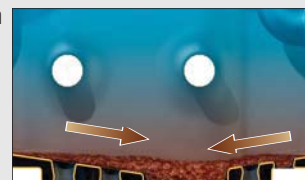
In order to avoid the formation of legionella, standard for Auto Mix & Pump version (PVS).



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 30

Grease separator **Euro** **NEW**
for free-standing set-up inside buildings



NS 1 - NS 35

Grease separator **Euro**
for underground installation

SONIC CONTROL

for the measurement, display and control of the grease layer thickness in a grease separator.

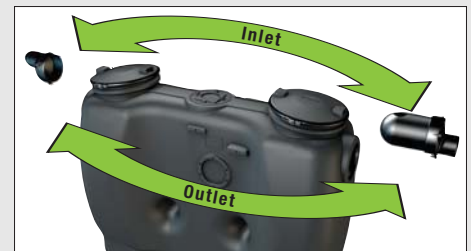


STRAIGHTFORWARD MAINTENANCE AND INSPECTION

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.



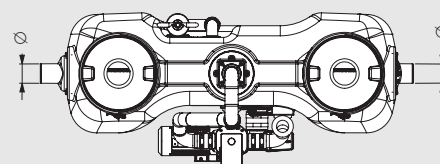
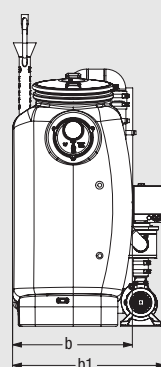
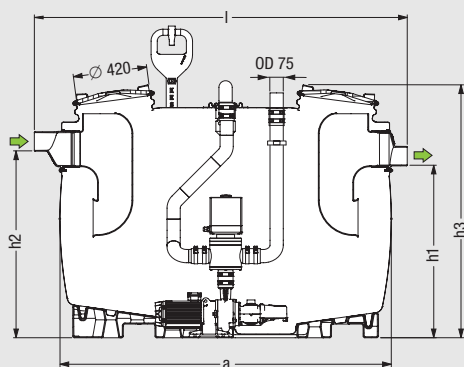
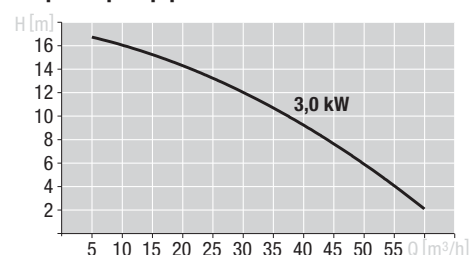
Grease separators for free-standing installation

EasyClean Auto Mix & Pump (PV+S)

NS 2 - 10

Illustration	Article description	NS	Weight	Article #
 <p>Certification: Z-54.1-474</p> <p>Delivery: System completely assembled.</p> <p>Accessories: Sampling chamber, lifting stations, remote control, <i>TeleControl</i></p>	<p>Grease separator EasyClean Auto Mix & Pump (PV+S) NS ...</p> <p>□ according to Euro Norm EN 1825, manufactured from virgin, non-recycled polyethylene, pumping capacity 3.0 kW 5 m cable length</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>PV+S</i> 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, French, Italian, Dutch or Polish 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	without <i>SonicControl</i> 93 002.01/PVS
		NS 3	165 kg	93 003.01/PVS
		NS 4	178 kg	93 004.01/PVS
		NS 7	226 kg	93 007.01/PVS
		NS 10	272 kg	93 010.01/PVS
		NS 2	160 kg	with <i>SonicControl</i> 93 002.02/PVS
		NS 3	165 kg	93 003.02/PVS
		NS 4	178 kg	93 004.02/PVS
		NS 7	226 kg	93 007.02/PVS
		NS 10	272 kg	93 010.02/PVS

Disposal pump performance curve



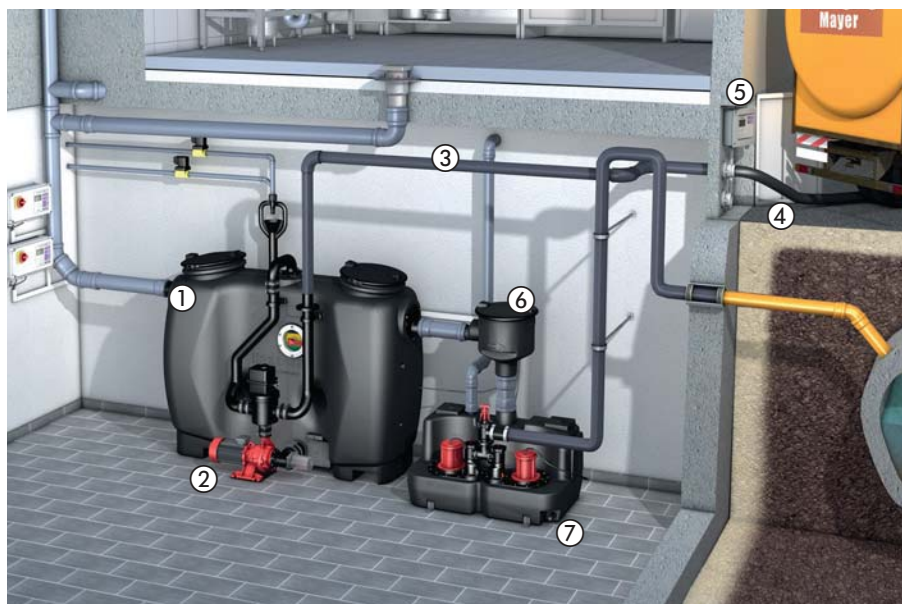
∅ = Outer diameter
b1 = Set-up dimensions

Technical note see page 283

Nominal size	∅	a	Installation dimensions				b1	h1	h2	h3	Sludge	Grease	Total (including water)
			l	x	b								
NS 2	110	1500	1735		680	860	985	1055	1435	200 l	100 l	600 l	
NS 3	110	1500	1735		680	860	985	1055	1435	300 l	120 l	600 l	
NS 4	110	1880	2115		680	860	985	1055	1435	400 l	160 l	800 l	
NS 7	160	1910	2145		940	1130	1185	1255	1655	700 l	280 l	1350 l	
NS 10	160	2590	2820		940	1130	1185	1255	1655	1000 l	400 l	1900 l	

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

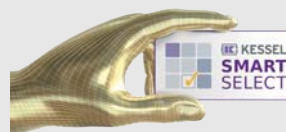
- Program-controlled disposal and rinsing device
- Shredder-Mix-System for homogenisation of the tank contents
- 3.0 kW pump
- Clean and odour-free disposal and cleaning
- Optional remote control
- Complete System Solution

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 5.

■ Grease separator calculation



SmartSelect simply makes planning easier – calculation tool for separators at 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.

Grease separators for free-standing installation

EasyClean Mix & Pump (M+S)

NS 2 - 10



Certification: Z-54.1-474

Delivery:

System completely assembled.

Accessories:

Sampling chamber, lifting stations, TeleControl

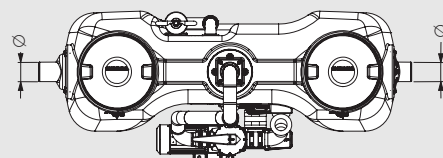
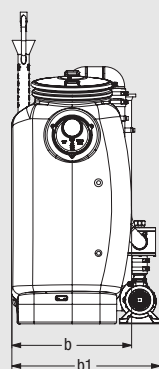
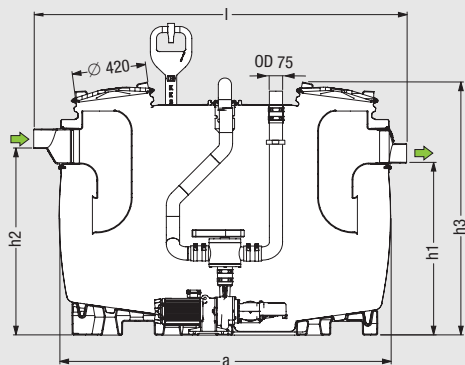
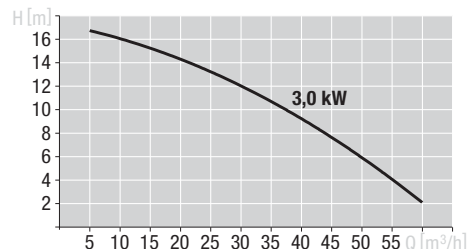
**Grease separator
EasyClean Mix & Pump (M+S) NS ...**

□ according to Euro Norm EN 1825, manufactured from virgin, non-recycled polyethylene, pumping capacity 3.0 kW
5 m cable length

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).

NS	Weight	Article #
without SonicControl		
NS 2	155 kg	93 002.01/MS
NS 3	160 kg	93 003.01/MS
NS 4	173 kg	93 004.01/MS
NS 7	221 kg	93 007.01/MS
NS 10	267 kg	93 010.01/MS
with SonicControl		
NS 2	155 kg	93 002.02/MS
NS 3	160 kg	93 003.02/MS
NS 4	173 kg	93 004.02/MS
NS 7	221 kg	93 007.02/MS
NS 10	267 kg	93 010.02/MS

Disposal pump performance curve



∅ = Outer diameter
b1 = Set-up dimensions

Technical note see page 283

Nominal size	∅	a	Installation dimensions				b1	h1	h2	h3	Sludge	Grease	Total (including water)
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NS 2	110	1500	1735		680	860	985	1055	1435	200 l	100 l	600 l	
NS 3	110	1500	1735		680	860	985	1055	1435	300 l	120 l	600 l	
NS 4	110	1880	2115		680	860	985	1055	1435	400 l	160 l	800 l	
NS 7	160	1910	2145		940	1130	1185	1255	1655	700 l	280 l	1350 l	
NS 10	160	2590	2820		940	1130	1185	1255	1655	1000 l	400 l	1900 l	

Grease separators for free-standing installation

Installation example *EasyClean Mix & Pump (M+S)*



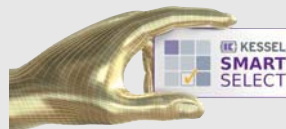
- | | |
|---------------------------------|--------------------|
| ① Grease separator | ⑤ Control unit |
| ② Shredder-Mix-System | ⑥ Sampling chamber |
| ③ Disposal line | ⑦ Lifting station |
| ④ Connection for disposal truck | |

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 5.
- **Grease separator calculation**



SmartSelect simply makes planning easier – calculation tool for separators at 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 & Pump (M+S) separators should be installed in all areas where nuisance odour problems are either undesired or not allowed.

Grease separators for free-standing installation

EasyClean Auto Mix (D+SP)

NS 2 - 10



Certification: Z-54.1-474

Delivery:

System completely assembled.

Accessories:

Sampling chamber, lifting stations, remote control, *TeleControl*

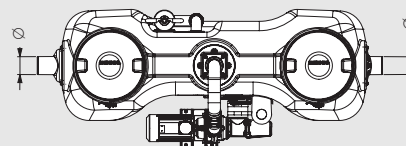
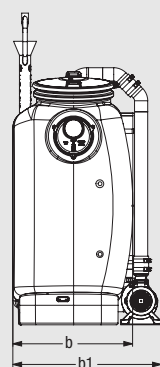
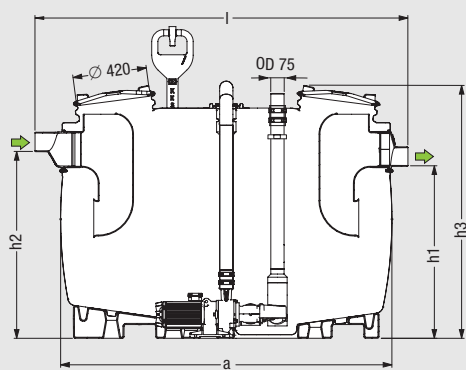
Grease separator

EasyClean Auto Mix (D+SP) NS ...

□ according to Euro Norm EN 1825, manufactured from virgin, non-recycled polyethylene, pumping capacity 3.0 kW
5 m cable length

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, *D+SP* 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).

NS	Weight	Article #
without <i>SonicControl</i>		
NS 2	150 kg	93 002.01/DSP
NS 3	155 kg	93 003.01/DSP
NS 4	168 kg	93 004.01/DSP
NS 7	216 kg	93 007.01/DSP
NS 10	262 kg	93 010.01/DSP
with <i>SonicControl</i>		
NS 2	150 kg	93 002.02/DSP
NS 3	155 kg	93 003.02/DSP
NS 4	168 kg	93 004.02/DSP
NS 7	216 kg	93 007.02/DSP
NS 10	262 kg	93 010.02/DSP



Ø = Outer diameter
b1 = Set-up dimensions

Technical note see page 283

Nominal size	Ø	Installation dimensions				b1	h1	h2	h3	Sludge	Grease	Total (including water)
		a	l	x	b							
NS 2	110	1500	1735		680	860	985	1055	1435	200 l	100 l	600 l
NS 3	110	1500	1735		680	860	985	1055	1435	300 l	120 l	600 l
NS 4	110	1880	2115		680	860	985	1055	1435	400 l	160 l	800 l
NS 7	160	1910	2145		940	1130	1185	1255	1655	700 l	280 l	1350 l
NS 10	160	2590	2820		940	1130	1185	1255	1655	1000 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 |

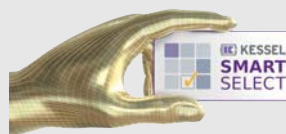
EasyClean Auto Mix (D+SP) grease separators are designed according to EN 1825-1 and are equipped with an automatically controlled pump for mixing and cleaning of the separators contents and inner walls. These separators are offered with a modern control unit with digital display. It is possible to automate 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 5.
- **Grease separator calculation**



SmartSelect simply makes planning easier – calculation tool for separators at 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 (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.

Grease separators for free-standing installation

EasyClean Mix (D+S)

NS 2 - 10



Illustration shows Art. # 93 004.31/DS

Certification: Z-54.1-474

Delivery:
System completely assembled.

Accessories:
Sampling chamber, lifting stations

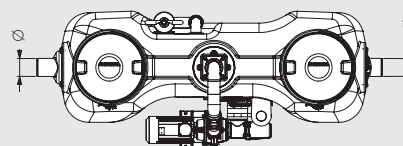
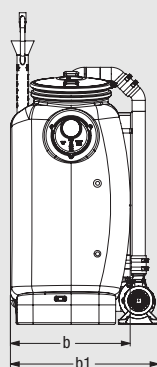
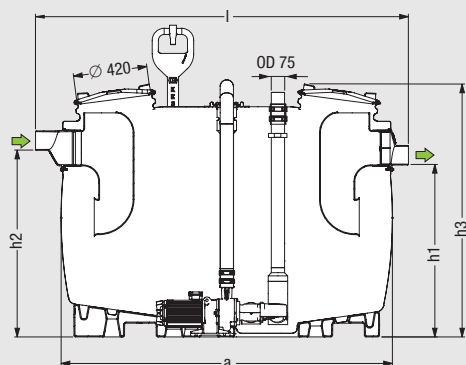
Grease separator EasyClean Mix (D+S) NS ...

according to Euro Norm EN 1825, manufactured from virgin, non-recycled polyethylene, pumping capacity 3.0 kW

5 m cable length

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, D+S 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).

NS	Weight	Article #	
without SonicControl			
		without inspection window	with inspection window
NS 2	145 kg	93 002.01/DS	93 002.31/DS
NS 3	150 kg	93 003.01/DS	93 003.31/DS
NS 4	163 kg	93 004.01/DS	93 004.31/DS
NS 7	211 kg	93 007.01/DS	93 007.31/DS
NS 10	257 kg	93 010.01/DS	93 010.31/DS
with SonicControl			
		without inspection window	with inspection window
NS 2	145 kg	93 002.02/DS	93 002.32/DS
NS 3	150 kg	93 003.02/DS	93 003.32/DS
NS 4	163 kg	93 004.02/DS	93 004.32/DS
NS 7	211 kg	93 007.02/DS	93 007.32/DS
NS 10	257 kg	93 010.02/DS	93 010.32/DS



Ø = Outer diameter
b1 = Set-up dimensions

Technical note see page 283

Nominal size	Ø	a	Installation dimensions				b1	h1	h2	h3	Sludge	Grease	Total (including water)
			l	x	b								
NS 2	110	1500	1735		680	860	985	1055	1435	200 l	100 l	600 l	
NS 3	110	1500	1735		680	860	985	1055	1435	300 l	120 l	600 l	
NS 4	110	1880	2115		680	860	985	1055	1435	400 l	160 l	800 l	
NS 7	160	1910	2145		940	1130	1185	1255	1655	700 l	280 l	1350 l	
NS 10	160	2590	2820		940	1130	1185	1255	1655	1000 l	400 l	1900 l	

Grease separators for free-standing installation

Installation example *EasyClean Mix (D+S)*



- ① Grease separator
- ② Shredder-Mix-System
- ③ Disposal line
- ④ Connection for disposal truck
- ⑤ Sampling chamber
- ⑥ Lifting station

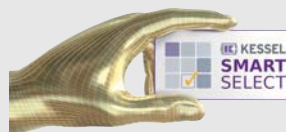
EasyClean Mix (D+S) grease separators are designed according to EN 1825-1 and are equipped with a manually controlled pump for mixing and cleaning of the separator's contents and inner walls. These separators distinguish themselves through their ease of installation and nearly maintenance-free characteristics.

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**
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- **Grease separator calculation**



SmartSelect simply makes planning easier – calculation tool for separators at 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.

Grease separators for free-standing installation

EasyClean Standard (D)

NS 2 - 10



Illustration shows Art. # 93 004.31/D

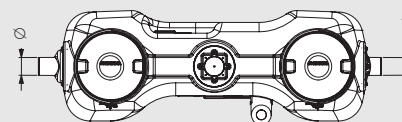
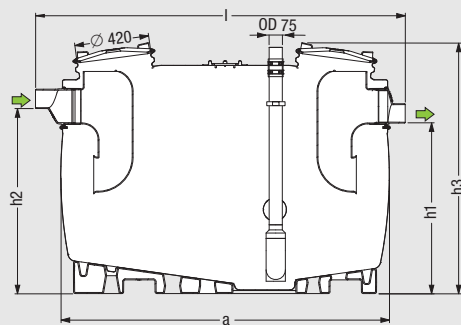
Certification: Z-54.1-474

Delivery:
System completely assembled.

Accessories:
Sampling chamber, lifting stations

**Grease separator
EasyClean Standard (D) NS ...**
 according to Euro Norm EN 1825, manufactured from virgin, non-recycled polyethylene.
 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).

NS	Weight	Article #	
without SonicControl			
		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
with SonicControl			
		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



∅ = Outer diameter

Technical note see page 283

Nominal size	∅	a	Installation dimensions			h1	h2	h3	Sludge	Grease	Total (including water)
			l	x	b						
NS 2	110	1500	1735		680	985	1055	1435	200 l	100 l	600 l
NS 3	110	1500	1735		680	985	1055	1435	300 l	120 l	600 l
NS 4	110	1880	2115		680	985	1055	1435	400 l	160 l	800 l
NS 7	160	1910	2145		940	1185	1255	1655	700 l	280 l	1350 l
NS 10	160	2590	2820		940	1185	1255	1655	1000 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

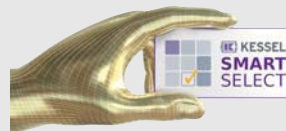
EasyClean Standard (D) grease separators are designed according to EN 1825-1. These separators distinguish themselves through their ease of installation and nearly maintenance free characteristics.

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.
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- **Grease separator calculation**



SmartSelect simply makes planning easier – calculation tool for separators at 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)

NS 2 - 10



Illustration shows Art. # 93 004.31

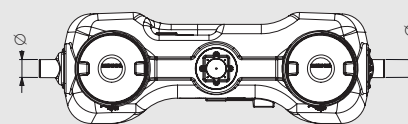
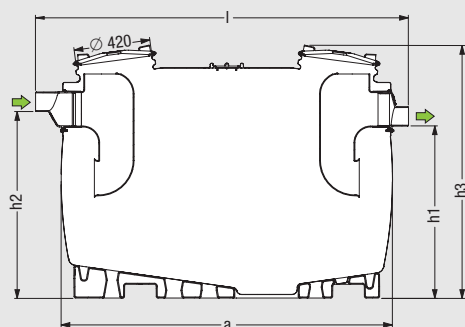
Certification: Z-54.1-474

Delivery:
System completely assembled.

Accessories:
Sampling chamber, lifting stations.
Retrofitting up to Auto Mix & Pump (PV+S) possible.

**Grease separator
EasyClean Basic (G) NS ...**
□ according to Euro Norm EN 1825,
manufactured from virgin,
non-recycled polyethylene.
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).

NS	Weight	Article #	
without SonicControl			
		without accessories	with inspection window
NS 2	69 kg	93 002.01	93 002.21
NS 3	74 kg	93 003.01	93 003.21
NS 4	87 kg	93 004.01	93 004.21
NS 7	135 kg	93 007.01	93 007.21
NS 10	181 kg	93 010.01	93 010.21
		with refill inlet	with inspection window and refill inlet
NS 2	69 kg	93 002.11	93 002.31
NS 3	74 kg	93 003.11	93 003.31
NS 4	87 kg	93 004.11	93 004.31
NS 7	135 kg	93 007.11	93 007.31
NS 10	181 kg	93 010.11	93 010.31
with SonicControl			
		without accessories	with inspection window
NS 2	69 kg	93 002.02	93 002.22
NS 3	74 kg	93 003.02	93 003.22
NS 4	87 kg	93 004.02	93 004.22
NS 7	135 kg	93 007.02	93 007.22
NS 10	181 kg	93 010.02	93 010.22
		with refill inlet	with inspection window and refill inlet
NS 2	69 kg	93 002.12	93 002.32
NS 3	74 kg	93 003.12	93 003.32
NS 4	87 kg	93 004.12	93 004.32
NS 7	135 kg	93 007.12	93 007.32
NS 10	181 kg	93 010.12	93 010.32



Ø = Outer diameter

Technical note see page 283

Nominal size	Ø	a	Installation dimensions			h1	h2	h3	Sludge	Grease	Total (including water)
			l	x	b						
NS 2	110	1500	1735		680	985	1055	1435	200 l	100 l	600 l
NS 3	110	1500	1735		680	985	1055	1435	300 l	120 l	600 l
NS 4	110	1880	2115		680	985	1055	1435	400 l	160 l	800 l
NS 7	160	1910	2145		940	1185	1255	1655	700 l	280 l	1350 l
NS 10	160	2590	2820		940	1185	1255	1655	1000 l	400 l	1900 l

Grease separators for free-standing installation

Installation example *EasyClean Basic (G)*



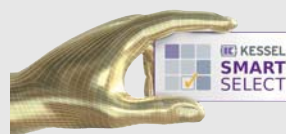
- ① Grease separator ③ Sampling chamber
② Suction hose ④ Lifting station

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



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"/> Standard (D) With direct disposal connection	913 101/D
<input type="checkbox"/> Mix (D+S) 1 NS 2-7 2 NS 10 Pump, refill inlet, 1 manual hand valve and direct disposal connection	1 913 101/DS 2 913 101/DS10
<input type="checkbox"/> Auto Mix (D+SP) 1 NS 2-7 2 NS 10 Pump, refill inlet, inspection window, 2 solenoid valves, direct disposal connection and control unit	1 913 101/DSP 2 913 101/DSP10
<input type="checkbox"/> Mix&Pump (M+S) 1 NS 2-7 2 NS 10 Pump, refill inlet, inspection window, 1 manual hand valve, direct disposal connection and control unit	1 913 101/MS 2 913 101/MS10
<input type="checkbox"/> Auto Mix&Pump (PV+S) 1 NS 2-7 2 NS 10 Pump, refill inlet, inspection window, 2 solenoid valves, direct disposal connection and control unit	1 913 101/PVS 2 913 101/PVS10

Grease separators for free-standing installation

Euro Auto Mix & Pump (PV+S)

NS 15 - 30

NEW



Illustration shows nominal sizes NS 20 - 30 (NS 15 with single pump)

Certification: Z-54.1-473

Delivery:

System completely assembled.

Accessories:

Sampling chamber, lifting station, Remote control system, *TeleControl*, *SonicControl* level sensing system

Grease separator Euro Auto Mix & Pump (PV+S) NS ...

with program-controlled disposal and rinsing device and Shredder-Mix-System, according to Euro Norm EN 1825 and DIN 4040, non-recycled polyethylene, pumping capacity 3.0 kW.

5 m cable length

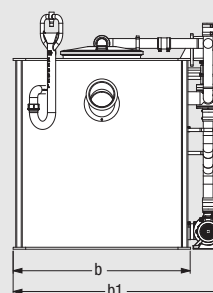
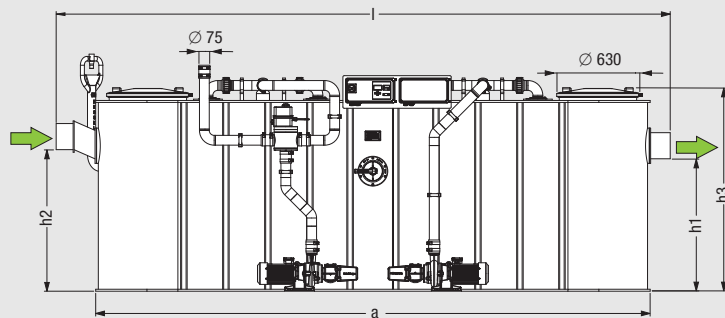
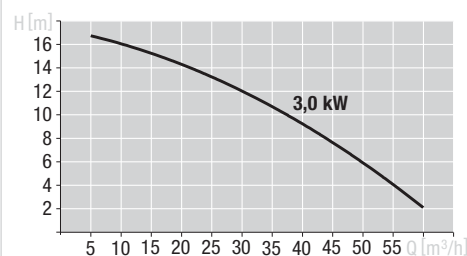
For free-standing installation in frost-protected areas, with integrated sludge trap and sloped surfaces for fast and clean disposal, with two domed covers made of polymer, with quick-release closures, sealed odour-tight, with suction device installed for the joint disposal of contents of sludge trap and grease separator chamber, intake pipe 75 mm OD PN 10 in accordance with DIN 2501, Storz-B coupling R 2 1/2 for connection to the disposal vehicle.

KESSEL disposal system PV+S (program-controlled, fully automated) with switching distribution and actuator valve, mixing and rinsing device via jet and conic nozzles, external pump(s) 3.0 kW (IP55, 400 V, 50 Hz) with integrated chopping mechanism and closure valve, cable length 5m, control unit for actuating the pump(s) with potential-free contact, 2 solenoid valves 1", with refill inlet in accordance with DIN 1988, viewing window with wiper. Inlet and outlet \varnothing 200 mm for the connection to PE-HD pipes according to DIN 19537, HT pipes according to DIN 19560, PP or AS.

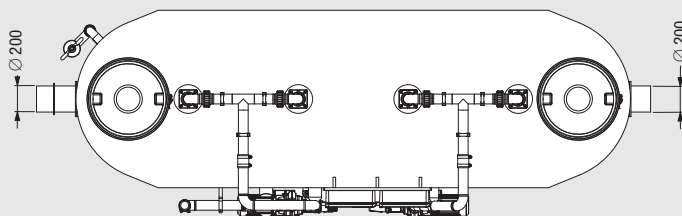
Model type: Right, can be changed to the left-hand model type by replacing the inlet and outlet connecting pipes.

without *SonicControl*

NS 15	93 015.01/PVS
NS 20	93 020.01/PVS
NS 25	93 025.01/PVS
NS 30	93 030.01/PVS



\varnothing = Outer diameter
b1 = Set-up dimensions



Technical note see page 283

Nominal size	\varnothing	a	Installation dimensions				Sludge	Grease	Total (including water)
			l	x	b	b1			
NS 15	200	3300	3560		1350	1620	1500 l	600 l	2600 l
NS 20	200	4250	4510		1350	1620	2000 l	800 l	3370 l
NS 25	200	4500	4760		1350	1620	2500 l	1000 l	3700 l
NS 30	250	4600	4860		1350	1620	3000 l	1200 l	4370 l

Grease separators for free-standing installation

Euro Mix & Pump (M+S)

NS 15 - 30

NEW



Illustration shows nominal sizes NS 20 - 30 (NS 15 with single pump)

Certification: Z-54.1-473

Delivery:

System completely assembled.

Accessories:

Sampling chamber, lifting station, *SonicControl* level sensing system

Grease separator Euro Mix & Pump (M+S) NS ...

with manual disposal and rinsing device and Shredder-Mix-System, according to Euro Norm EN 1825 and DIN 4040, non-recycled polyethylene, pumping capacity 3.0 kW.

5 m cable length

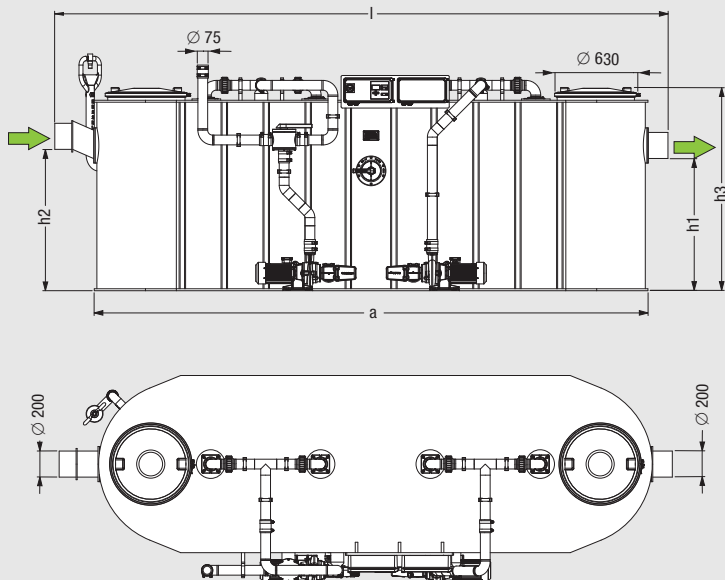
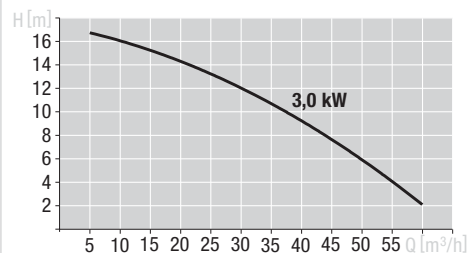
For free-standing installation in frost-protected areas, with integrated sludge trap and sloped surfaces for fast and clean disposal, with two domed covers made of polymer, with quick-release closures, sealed odour-tight, with suction device installed for the joint disposal of contents of sludge trap and grease separator chamber, intake pipe 75 mm OD PN 10 in accordance with DIN 2501, Storz-B coupling R 2 1/2 for connection to the disposal vehicle.

KESSEL disposal system *M+S* (manual operation) with switching distribution, mixing and rinsing device via jet and conic nozzles, external pump(s), with integrated chopping mechanism and closure valve, cable length 5m, control unit for actuating the pump(s), refill inlet in accordance with DIN 1988, viewing window with wiper. Inlet and outlet \varnothing 200 mm for the connection to PE-HD pipes according to DIN 19537, HT pipes according to DIN 19560, PP or AS.

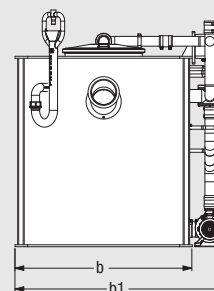
Model type: Right, can be changed to the left-hand model type by replacing the inlet and outlet connecting pipes.

without *SonicControl*

NS 15	93 015.01/MS
NS 20	93 020.01/MS
NS 25	93 025.01/MS
NS 30	93 030.01/MS



\varnothing = Outer diameter
b1 = Set-up dimensions



Technical note see page 283

Nominal size	\varnothing	a	Installation dimensions				b1	h1	h2	h3	Sludge	Grease	Total (including water)
			l	x	b								
NS 15	200	3300	3560		1350	1620	1130	1200	1625	1500 l	600 l	2600 l	
NS 20	200	4250	4510		1350	1620	1030	1100	1525	2000 l	800 l	3370 l	
NS 25	200	4500	4760		1350	1620	1030	1100	1525	2500 l	1000 l	3700 l	
NS 30	250	4600	4860		1350	1620	1170	1240	1625	3000 l	1200 l	4370 l	

Grease separators for free-standing installation

Euro Auto Mix (D+SP)

NS 15 - 30

NEW



Illustration shows nominal sizes NS 20 - 30 (NS 15 with single pump)

Certification: Z-54.1-473

Delivery:
System completely assembled.

Accessories:
Sampling chamber, lifting station,
Remote control system, *TeleControl*

Grease separator Euro Auto Mix (D+SP) NS ...

with direct disposal and Shredder-Mix-System, according to Euro Norm EN 1825 and DIN 4040, non-recycled polyethylene, pumping capacity 3.0 kW.

5 m cable length

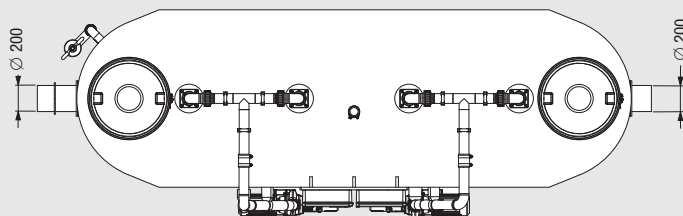
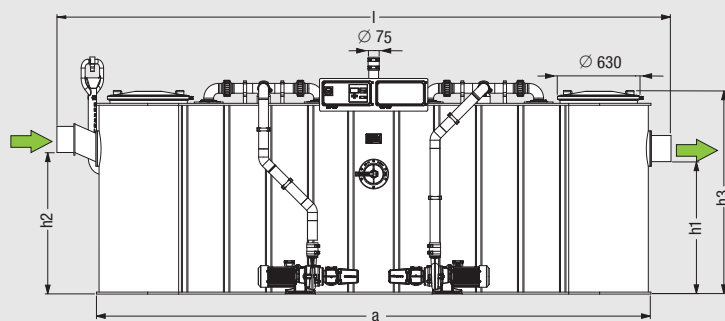
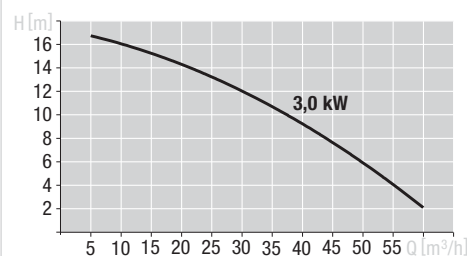
For free-standing installation in frost-protected areas, with integrated sludge trap and sloped surfaces for fast and clean disposal, with two domed covers made of polymer, with quick-release closures, sealed odour-tight, with suction device installed for the joint disposal of contents of sludge trap and grease separator chamber, intake pipe 75 mm OD PN 10 in accordance with DIN 2501, Storz-B coupling R 2 1/2 for connection to the disposal vehicle.

KESSEL Shredder-Mix-System with mixing and rinsing via jet and conic nozzles, external pump(s), with integrated chopping mechanism and closure valve, cable length 5m, control unit for actuating the pump(s) and the solenoid valves, refill inlet in accordance with DIN 1988, R 1 connection. 2 solenoid valves 1", viewing window with wiper, viewing window with wiper. Inlet and outlet \varnothing 200 mm for the connection to PE-HD pipes according to DIN 19537, HT pipes according to DIN 19560, PP or AS.

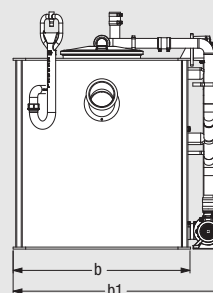
Model type: Right, can be changed to the left-hand model type by replacing the inlet and outlet connecting pipes.

without *SonicControl*

NS 15	93 015.01/DSP
NS 20	93 020.01/DSP
NS 25	93 025.01/DSP
NS 30	93 030.01/DSP



\varnothing = Outer diameter
b1 = Set-up dimensions



Technical note see page 283

Nominal size	\varnothing	a	Installation dimensions				b1	h1	h2	h3	Sludge	Grease	Total (including water)
			l	x	b								
NS 15	200	3300	3560		1350	1620	1130	1200	1625	1500 l	600 l	2600 l	
NS 20	200	4250	4510		1350	1620	1030	1100	1525	2000 l	800 l	3370 l	
NS 25	200	4500	4760		1350	1620	1030	1100	1525	2500 l	1000 l	3700 l	
NS 30	250	4600	4860		1350	1620	1170	1240	1625	3000 l	1200 l	4370 l	

Grease separators for free-standing installation

Euro Mix (D+S)

NS 15 - 30

NEW



Illustration shows nominal sizes NS 20 - 30 (NS 15 with single pump)

Certification: Z-54.1-473

Delivery:
System completely assembled.

Accessories:
Sampling chamber, lifting station

**Grease separator
Euro Mix (D+S) NG ...**

with direct disposal and Shredder-Mix-System, according to Euro Norm EN 1825 and DIN 4040, non-recycled polyethylene, pumping capacity 3.0 kW.

5 m cable length

For free-standing installation in frost-protected areas, with integrated sludge trap and sloped surfaces for fast and clean disposal, with two domed covers made of polymer, with quick-release closures, sealed odour-tight, with suction device installed for the joint disposal of contents of sludge trap and grease separator chamber, intake pipe 75 mm OD PN 10 in accordance with DIN 2501, Storz-B coupling R 2 1/2 for connection to the disposal vehicle.

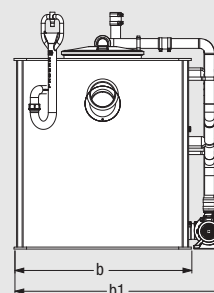
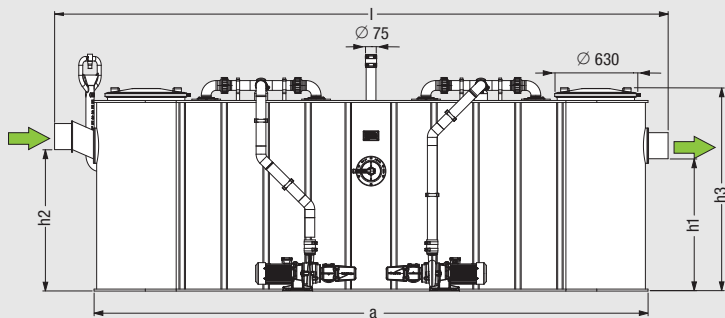
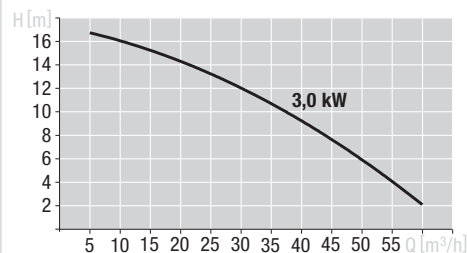
KESSEL Shredder-Mix-System with mixing and rinsing via jet and conic nozzles, external pump(s), with integrated chopping mechanism and closure valve, cable length 5m, switch unit for actuating the pump, refill inlet in accordance with DIN 1988, R 1 connection. Inlet and outlet \varnothing 200 mm for the connection to PE-HD pipes according to DIN 19537, HT pipes according to DIN 19560, PP or AS.

Model type: Right, can be changed to the left-hand model type by replacing the inlet and outlet connecting pipes.

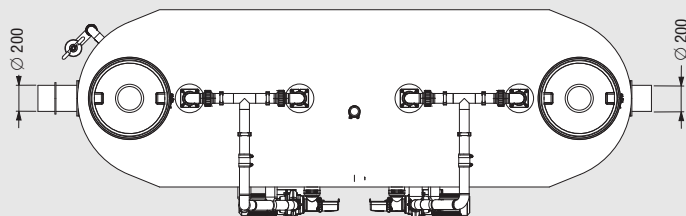
without SonicControl

without inspection window

NS 15	93 015.01/DS
NS 20	93 020.01/DS
NS 25	93 025.01/DS
NS 30	93 030.01/DS



\varnothing = Outer diameter
b1 = Set-up dimensions



Technical note see page 283

Nominal size	\varnothing	a	Installation dimensions				b1	h1	h2	h3	Sludge	Grease	Total (including water)
			l	x	b								
NS 15	200	3300	3560		1350	1620	1130	1200	1625	1500 l	600 l	2600 l	
NS 20	200	4250	4510		1350	1620	1030	1100	1525	2000 l	800 l	3370 l	
NS 25	200	4500	4760		1350	1620	1030	1100	1525	2500 l	1000 l	3700 l	
NS 30	250	4600	4860		1350	1620	1170	1240	1625	3000 l	1200 l	4370 l	

Grease separators for free-standing installation

Euro Standard (D)

NS 15 - 30

NEW



Certification: Z-54.1-473

Delivery:

System completely assembled.

Accessories:

Inspection window and refill inlet,
Sampling chamber, lifting station.

Upgradable to *PV+S* Auto Mix & Pump,
see page 275

**Grease separator
Euro Standard (D) NS ...**

- with direct disposal**
according to Euro Norm EN 1825 and DIN 4040,
non-recycled polyethylene

For free-standing installation in frost-protected areas, with integrated sludge trap and sloped surfaces for fast and clean disposal, with two domed covers made of polymer, with quick-release closures, sealed odour-tight, with suction device installed for the joint disposal of contents of sludge trap and grease separator chamber, intake pipe 75 mm OD PN 10 in accordance with DIN 2501, Storz-B coupling R 2 1/2 for connection to the disposal vehicle.

Inlet and outlet \varnothing 200 mm for the connection to PE-HD pipes according to DIN 19537, HT pipes according to DIN 19560, PP or AS.

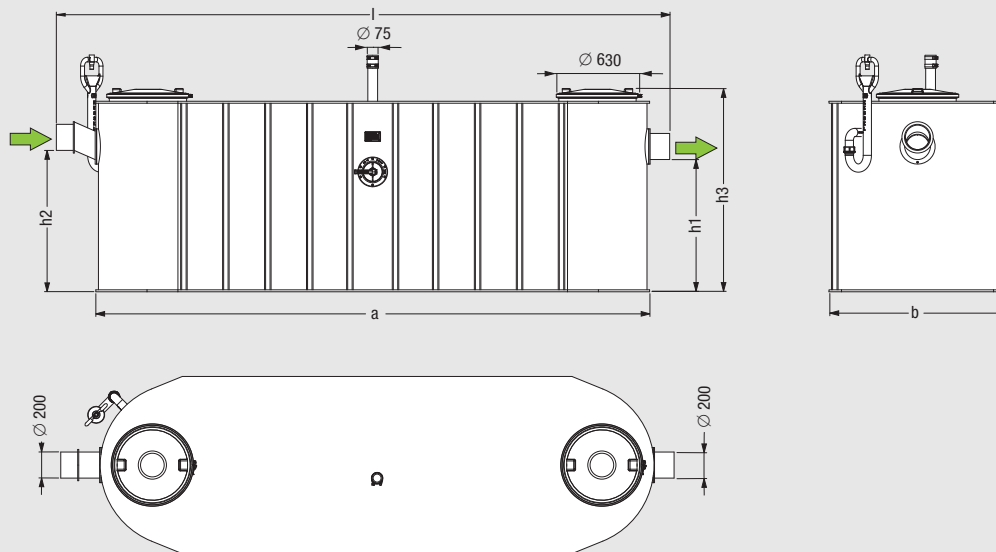
Model type: Right, can be changed to the left-hand model type by replacing the inlet and outlet connecting pipes.

without *SonicControl*

without accessories

NS 15	93 015.01/D
NS 20	93 020.01/D
NS 25	93 025.01/D
NS 30	93 030.01/D

\varnothing = Outer diameter
b1 = Set-up dimensions



Technical note see page 283

Nominal size	\varnothing	a	Installation dimensions			h1	h2	h3	Sludge	Grease	Total (including water)
			l	x	b						
NS 15	200	3300	3560		1350	1130	1200	1625	1500 l	600 l	2600 l
NS 20	200	4250	4510		1350	1030	1100	1525	2000 l	800 l	3370 l
NS 25	200	4500	4760		1350	1030	1100	1525	2500 l	1000 l	3700 l
NS 30	250	4600	4860		1350	1170	1240	1625	3000 l	1200 l	4370 l

Grease separators for free-standing installation

Euro Basic (G)

NS 15 - 30

NEW



**Grease separator
Basic (G) NS ...**

- basic version,** according to Euro Norm EN 1825 and DIN 4040, non-recycled polyethylene

For free-standing installation in frost-protected areas, with integrated sludge trap, two domed covers made of polymer, with quick-release closure, sealed odour-tight.

Inlet and outlet \varnothing 200 mm for the connection to PE-HD pipes according to DIN 19537, HT pipes according to DIN 19560, PP or AS.

Model type: Right, can be changed to the left-hand model type by replacing the inlet and outlet connecting pipes.

Certification: Z-54.1-473

Delivery:
System completely assembled.

Accessories:
Inspection window and refill inlet,
Sampling chamber, lifting station.

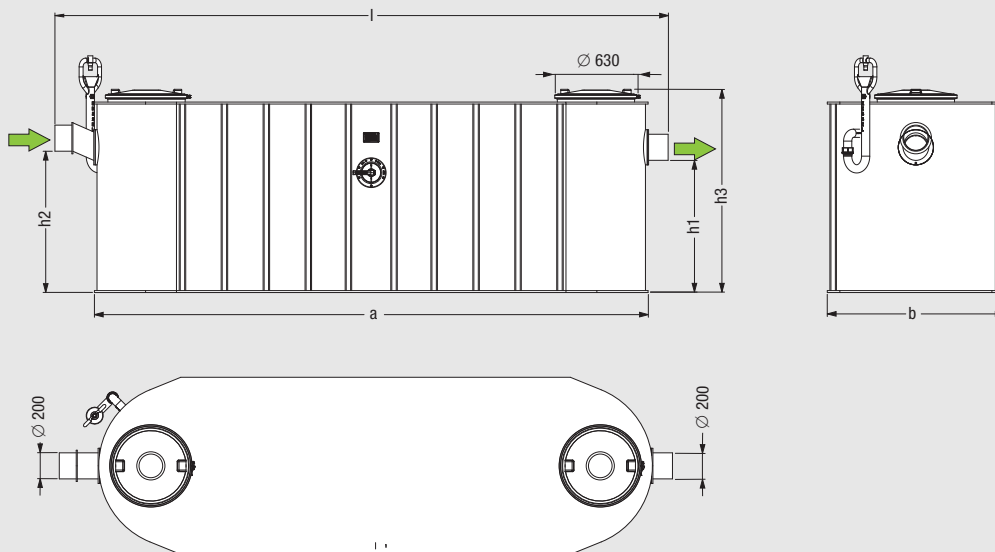
Upgradable to PV+S Auto Mix & Pump, see page 275

without SonicControl

without accessories

NS 15	93 015.01
NS 20	93 020.01
NS 25	93 025.01
NS 30	93 030.01

\varnothing = Outer diameter
b1 = Set-up dimensions

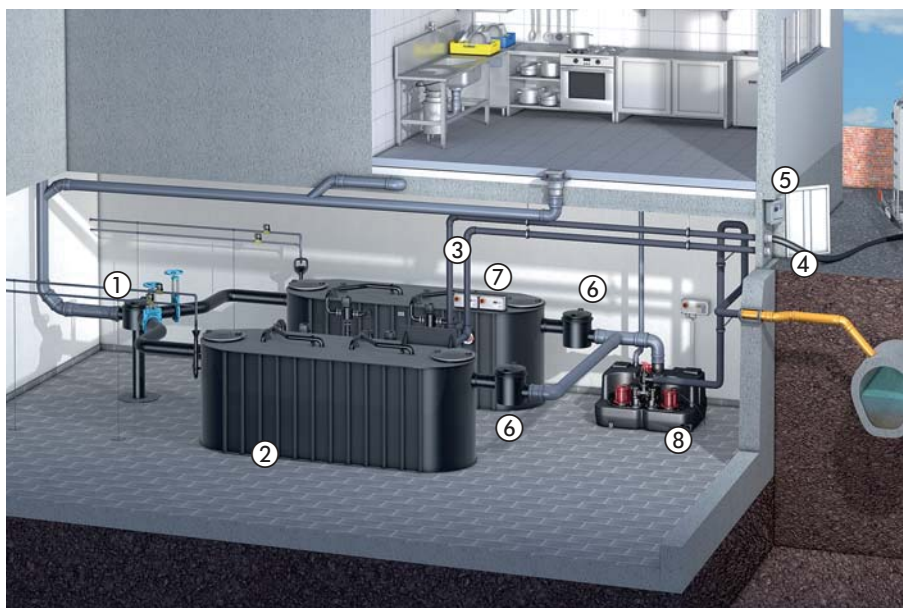


Technical note see page 283

Nominal size	\varnothing	a	Installation dimensions			h1	h2	h3	Sludge	Grease	Total (including water)
			l	x	b						
NS 15	200	3300	3560		1350	1130	1200	1625	1500 l	600 l	2600 l
NS 20	200	4250	4510		1350	1030	1100	1525	2000 l	800 l	3370 l
NS 25	200	4500	4760		1350	1030	1100	1525	2500 l	1000 l	3700 l
NS 30	250	4600	4860		1350	1170	1240	1625	3000 l	1200 l	4370 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 |

Separator systems for grease are classified in nominal sizes. The nominal size (NS) defines the maximum permissible flow in litres per second. For most guest house or hotel applications, nominal sizes between NS 2 and NS 10 are sufficient. Where more wastewater occurs, larger sized grease separators are required. Our Euro series for free-standing installation has been designed for just this field of application and is available in the nominal sizes NS 15 - NS 30. The function of the different grease separator is distinguished primarily on account of the type of disposal. There is a whole range available for you, from the Basic version with manual disposal right through to the Auto Mix & Pump version with automatic disposal and rinsing device!

Installation hints

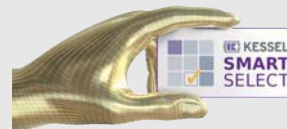
Important is that a sampling chamber is installed after the outlet of the separator. The separator is installed completely level on a flat firm surface in a frost free area. The height of the room in which the separator is installed should allow easy removal and access of the two lids. In the case that 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.

Professional advantages

- **Suitable for large quantities of wastewater NS 15 - NS 30.**
- **Contains numerous variants from the basic version right through to fully automated, program-controlled emptying.**
- **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 5.
- **Grease separator calculation**






SmartSelect simply makes planning easier – calculation tool for separators at smartselect.kessel.com

Grease separators for free-standing installation

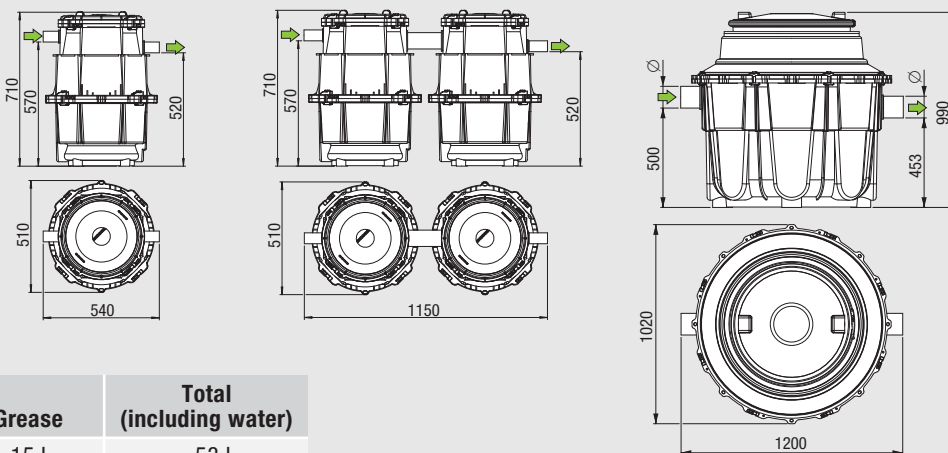
Euro "G" can be split

NS 0,25 - 1

Illustration	Article description	NS	Weight	Article #
 Art. # 93 001	Grease separator Euro "G" NS ... <input type="checkbox"/> in accordance with KESSEL standard, made of polyethylene For free-standing installation in frost-protected rooms Note for the operating company: The separated grease must be skimmed off daily in the case of weekly emptying and cleaning.	NS 0.25	20 kg	93 025
 Art. # 93 050		NS 0.5	45 kg	93 050
 Art. # 93 025		NS 1	65 kg	93 001

Delivery:
System completely assembled.

∅ = Outer diameter



Nominal size	∅	Sludge	Grease	Total (including water)
NS 0.25	50	25 l	15 l	53 l
NS 0.5	50	50 l	30 l	92 l
NS 1	110	100 l	60 l	175 l

Further nominal sizes on request

i 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

Euro G and Euro D divisible

NS 1 - 4

Illustration

Article description

NS

Weight

Article #



Grease separator *Euro G* and *Euro D* divisible NS ...

according to EN 1825, made of polyethylene

For free-standing installation in frost-protected rooms

1 Version *G*

2 Version *D* with direct disposal

With integrated sludge trap, polyethylene quick release odour tight covers.

Accessories see page 286-287:

Sampling chamber, inspection window, *SonicControl*

NS	Weight
1 NS 1	80 kg
NS 2	80 kg
NS 3	130 kg
NS 4	130 kg

Article #
93 001-R2 *
93 002-R2 *
93 003-R2 *
93 004-R2 *

93 001.00/D1-R2 *
93 002.00/D1-R2 *
93 003.00/D1-R2 *
93 004.00/D1-R2 *

Further nominal sizes, variants with disposal device and on-site welding on request
info@kessel.com

Following approval no. Z-54.1-473

Delivery:

System completely assembled. Screw connection can be undone to minimum installation dimensions

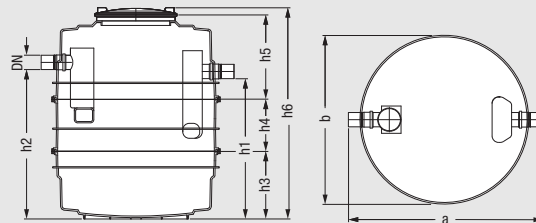


Illustration shows version *G*

Nominal size	∅	a	b	h1	h2	h3	h4	h5	h6	Sludge	Grease	Total (including water)
NS 1	110	1120	1020	780	850	485	200	445	1236	100 l	80 l	330 l
NS 2	110	1120	1020	1020	1090	485	300	545	1386	200 l	100 l	470 l
NS 3	110	1120	1020	1020	1090	485	300	545	1476	300 l	120 l	600 l
NS 4	110	1500	1300	1080	1150	520	400	650	1628	400 l	160 l	960 l




Ideal where access is extremely narrow
Separator can be split into 3 parts for installation opening of max. 66 cm

Grease separators for free-standing installation

Euro G divisible

NS 2 - 4

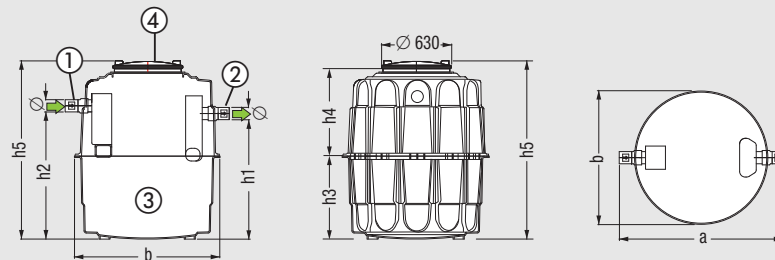
Illustration	Article description	NS	Weight	Article #
	<p>Grease separator Euro G NS 2 - 4 divisible</p> <p><input type="checkbox"/> according to EN 1825, made of polymer</p> <p>For free-standing installation in frost-protected rooms</p> <p>With polyethylene quick release odour tight covers.</p> <p>Inlet and outlet \varnothing 110 for synthetic material pipes in: PE-HD (according to DIN 19537); PP, AS or HT according to DIN 19560.</p>	NS 2	60 kg	93 002-R
		NS 3	60 kg	93 003-R
		NS 4	110 kg	93 004-R

Delivery:

Container screwed (screw connection can be undone to minimum installation dimensions $\triangleright b \times h4$, heaviest single component 25 or 45 kg).

\varnothing = Outer diameter

- ① Inlet
- ② Outlet
- ③ Grease separator
- ④ Cover with quick release



Nominal size	\varnothing	a	b	h1	h2	h3	h4	h5	Sludge	Grease	Total (including water)
NS 1	110	1100	1020	1020	1090	650	690	1395	200 l	100 l	600 l
NS 2	110	1100	1020	1020	1090	650	690	1395	300 l	120 l	600 l
NS 4	110	1400	1300	1090	1160	765	790	1620	400 l	160 l	960 l

Grease separators for free-standing installation

Sampling chamber / Polymer distribution box			Accessories
Illustration and dimensioned drawing	Article description	Outer diameter Ø (mm)	Article #
	<p>Sampling chamber Ø 400 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"/> Outlet lateral</p> <p><input type="checkbox"/> Outlet vertical</p>	<p>Ø 110/160</p> <p>Ø 110/160</p>	<p>915 871</p> <p>915 870</p>
	<p>Sampling chamber Ø 450</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"/> Outlet lateral</p>	<p>Ø 200</p>	<p>915 863-IS</p>
	<p>Polymer distribution box for twin (parallel) separator systems</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>915 700-100</p> <p>915 700-150</p> <p>915 700-200</p>

Grease separators for free-standing installation

Inspection window / Refill inlet			Accessories
Illustration and dimensioned drawing	Article description	Outer diameter Ø (mm)	Article #
	<p>Inspection window 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>	-	913 109
	<p>Refill inlet made of polymer for separation systems 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"/> The version is to be mounted on the left and right</p>	-	915 800
SonicControl / TeleControl / RemoteControl			Accessories
Illustration and dimensioned drawing	Article description	Outer diameter Ø (mm)	Article #
	<p>SonicControl level sensing system with ultra sonic sensor for grease separator 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>	-	917 821
	<p>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.</p>	-	28 792
	<p>TeleControl antenna booster for <i>TeleControl</i> telemetric system incl. 2.5 m cable to improve reception. With magnetic base.</p>	-	28 793
	<p>Antenna booster extension cable cable length 2.5 m</p>	-	28 794
	<p>Remote control Fits KESSEL Separation systems for free standing installation, for connection to an isolated ground socket Variant <i>PV+S</i> and <i>D+SP</i> in accordance with DIN 4040 and EN 1825. Cable length 15 m.</p>	-	916 601

Grease separators for underground installation

Euro PV+S

NS 1 - 10



	NS	Weight	Installation depth D in mm	Cover class A/B Article #	Cover class D Article #
1	NS 1	270 kg	550 to 950	93 001/80B-K-P1	93 001/80D-K-P1
	NS 2	300 kg	550 to 950	93 002/80B-K-P1	93 002/80D-K-P1
	NS 4	325 kg	550 to 950	93 004/80B-K-P1	93 004/80D-K-P1
2	NS 1	270 kg	800 to 1200	93 001/120B-K-P1	93 001/120D-K-P1
	NS 2	300 kg	800 to 1200	93 002/120B-K-P1	93 002/120D-K-P1
	NS 4	325 kg	800 to 1200	93 004/120B-K-P1	93 004/120D-K-P1
	NS 7	525 kg	715 to 1165	93 007/120B-K-P1	93 007/120D-K-P1
	NS 10	550 kg	715 to 1165	93 010/120B-K-P1	93 010/120D-K-P1

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, incl. control unit and remote control

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:

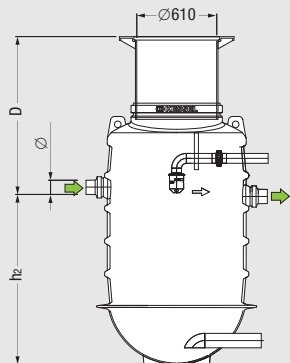
System completely assembled.
Further nominal sizes on request.
On-site connection pipes
(see connection accessories)

Accessories see page 291-293:

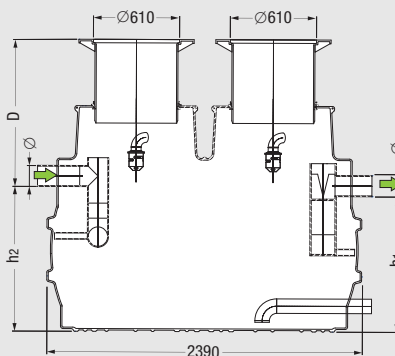
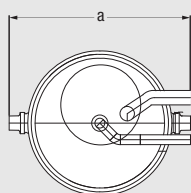
Joining / connection set, disposal chamber Ø 400
sampling chamber, intermediate section,
SonicControl.
Pumping stations see chapter 3 "lifting stations".

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	1800 l
NS 10	160	3062	1200	1715	1030	1100	1000 l	400 l	2600 l

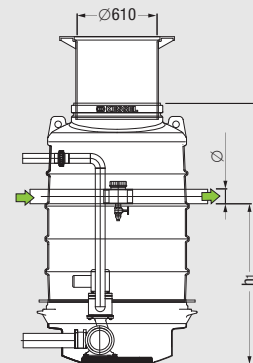
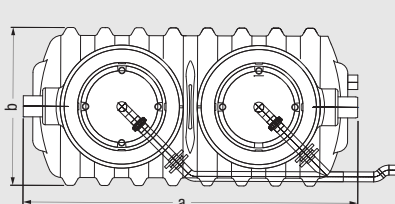
D = Installation depth
Ø = Outer diameter



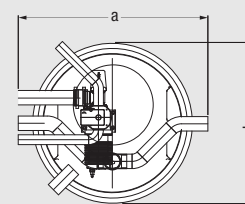
Grease separator NS 1-4



Grease separator NS 7-10




Engineering systems chamber



Grease separators for underground installation

Euro G

NS 1 - 4

Illustration	NS	Weight	Installation depth D in mm	Cover class A/B Article #	Cover class D Article #
	1 NS 1	111 kg	550 to 950	93 001/80 B	93 001/80 D
	NS 2	120 kg	550 to 950	93 002/80 B	93 002/80 D
	NS 4	130 kg	550 to 950	93 004/80 B	93 004/80 D
	2 NS 1	111 kg	800 to 1200	93 001/120 B	93 001/120 D
	NS 2	120 kg	800 to 1200	93 002/120 B	93 002/120 D
	NS 4	130 kg	800 to 1200	93 004/120 B	93 004/120 D

Delivery:
System completely assembled.

Accessories see page 291-293:
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

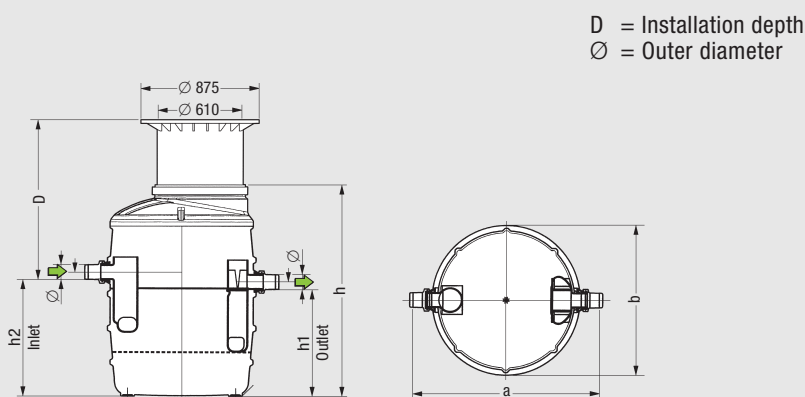
For underground installation
Upper section made of polymer,
infinite height and level adjustment,
with cover class A/B, D in accordance
with EN 124 made of cast iron,
sealed odour-tight, incl. lift-out key.

- 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 ¹⁾	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

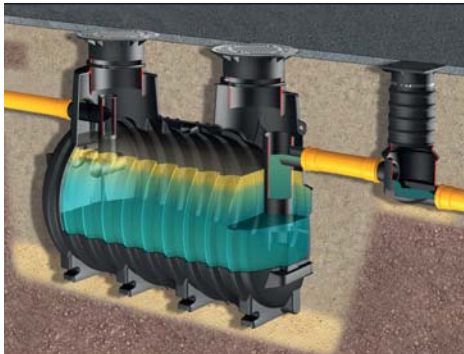
¹⁾ Specifications apply for type 80. For type 120, h* = h + 250 mm.

D = Installation depth
Ø = Outer diameter

Grease separators for underground installation

Euro Basic (G)

NS 7 - 35

Illustration	NS	Installation depth D in mm	Weight class B	Cover class A/B Article #	Weight class D	Cover class D Article #
	NS 7*	740 to 1175	315 kg	93 007/120 B	450 kg	93 007/120 D
	NS 10*	740 to 1175	340 kg	93 010/120 B	480 kg	93 010/120 D
	NS 15*	765 to 1200	435 kg	93 015/120 B	630 kg	93 015/120 D
	NS 20*	765 to 1200	490 kg	93 020/120 B	670 kg	93 020/120 D
	NS 25	800 to 1235	665 kg	93 925/120 B	765 kg	93 925/120 D
	NS 30	800 to 1235	665 kg	93 930/120 B	765 kg	93 930/120 D
	NS 35	650 to 1085	665 kg	93 935/120 B	765 kg	93 935/120 D

Delivery: System completely assembled.

Accessories see page 291-293:
Sampling chamber, extension section, direct disposal, *SonicControl*.
Pumping stations see chapter 3 "lifting stations".

* Certification: Z-54.1-440 (NS 7 - 20)

Grease separator Euro Basic (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.

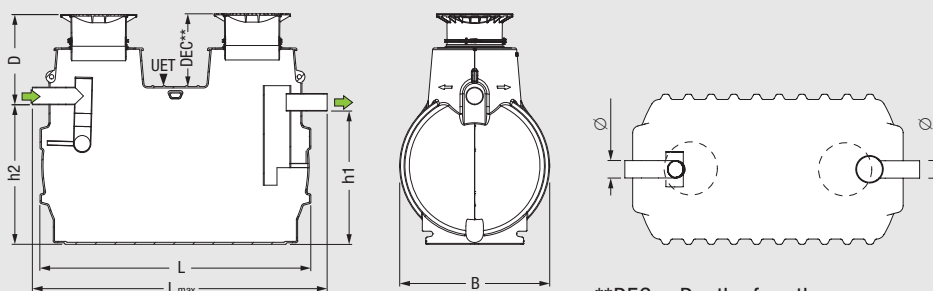
for ground installation: frost-free depth

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	280 l	1800 l	220 mm	2540
NS 10	160	2910	1200	1030	1100	1000 l	400 l	2600 l	220 mm	3060
NS 15	200	2590	1760	1550	1620	1500 l	600 l	4300 l	185 mm	2780
NS 20	200	3110	1760	1550	1620	2000 l	800 l	5800 l	185 mm	3300
NS 25	200	3470	2010	1550	1650	2500 l	2000 l	7800 l	480 mm	3760
NS 30	250	3470	2010	1550	1650	3000 l	2000 l	7800 l	480 mm	3760
NS 35	250	3470	2010	1700	1800	3500 l	2000 l	8300 l	330 mm	3760

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.

Grease separators for underground installation

Direct disposal / disposal chamber			Accessories
Illustration	Article description	NS	Article #
	<p>Direct disposal (A) for grease separators according to EN 1825</p> <p><input type="checkbox"/> without disposal chamber</p> <p>Factory equipment for grease separators installed in the ground with direct disposal connection</p> <p>With flange connection Ø 65, PN 10 (welded collar and loose flange) for the suction pipe on site, with Storz-B coupling R 2 1/2" for disposal vehicle, for nominal sizes NS 1 - NS 35</p> <p><input type="checkbox"/> Disposal connection right</p> <p><input type="checkbox"/> Disposal connection left</p> <p>Delivery: Installed suction device for the joint disposal from sludge trap and separating chamber, tank and direct connection completely assembled, disposal pipe and Storz-B connection on site. Further installation depths, sizes and connections on request</p>	-	917 419.00
	<p><input type="checkbox"/> Disposal connection right</p> <p><input type="checkbox"/> Disposal connection left</p> <p>Delivery: Installed suction device for the joint disposal from sludge trap and separating chamber, tank and direct connection completely assembled, disposal pipe and Storz-B connection on site. Further installation depths, sizes and connections on request</p>	-	917 419.50
	<p>Disposal chamber Ø 400 (B) made of polyethylene, for separator systems according to EN 1825 for installation in the ground, watertight</p> <p>Installation depth (D) 630 mm to 980 mm</p> <p>With telescopic, height-adjustable upper section made of polymer with clamping ring,</p> <p><input type="checkbox"/> with cover class A/B</p> <p><input type="checkbox"/> with cover class D</p> <p>in accordance with EN 124 made of cast iron, sealed odour-tight, incl. lift-out key, with Storz-B coupling R 2 1/2" for disposal vehicle for grease separators <i>PV+S</i>, <i>D+SP</i> and <i>D+S</i></p>	-	917 422 B
	<p><input type="checkbox"/> with cover class A/B</p> <p><input type="checkbox"/> with cover class D</p> <p>in accordance with EN 124 made of cast iron, sealed odour-tight, incl. lift-out key, with Storz-B coupling R 2 1/2" for disposal vehicle for grease separators <i>PV+S</i>, <i>D+SP</i> and <i>D+S</i></p>	-	917 422 D
	<p>Joint and connection set made of polyethylene</p> <p>For connection of the grease separator (NS 1 - NS 4) to the technical chamber for the variants grease separators <i>PV+S</i>, <i>D+SP</i> and <i>D+S</i> in ground installation, incl. Storz-B coupling, pipe clamps</p>	-	917 421
	<p>Direct disposal (A) + (B) for grease separators according to EN 1825</p> <p><input type="checkbox"/> including disposal chamber Ø 400 (B)</p> <p>Factory equipment for grease separators installed in the ground with direct disposal connection</p> <p>With flange connection Ø 65, PN 10 (welded collar and loose flange) for the suction pipe on site, with Storz-B coupling R 2 1/2" for disposal vehicle, with chamber system Ø = 400 mm incl. cover class A/B/D, sealed, Installation depth 630 mm to 980 mm for nominal sizes NS 1 - NS 35</p> <p><input type="checkbox"/> Disposal connection right</p> <p><input type="checkbox"/> Disposal connection left</p> <p>Delivery: Installed suction device for the joint disposal from sludge trap and separating chamber, tank and direct connection completely assembled, disposal pipe on site. Further installation depths, sizes and connections on request</p>	-	917 420.00
	<p><input type="checkbox"/> Disposal connection right</p> <p><input type="checkbox"/> Disposal connection left</p> <p>Delivery: Installed suction device for the joint disposal from sludge trap and separating chamber, tank and direct connection completely assembled, disposal pipe on site. Further installation depths, sizes and connections on request</p>	-	917 420.50

Grease separators for underground installation

Grease separator in accordance with EN 1825

Accessories

Illustration and dimensioned drawing	Article description	Outer diameter Ø (mm)	Suitable for grease separator	Article #
	<p>Sampling chamber Ø 1000 in polyethylene, for separation systems, for underground installation</p> <p>Installation depth (D) 1180 - 1630 mm (Other installation depths available on request) 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>1 Cover class A/B 2 Cover class D</p>	<p>1 Ø 110 Ø 160 Ø 200</p> <p>2 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>915 10 10 B 915 10 15 B 915 10 20 B</p> <p>915 10 10 D 915 10 15 D 915 10 20 D</p>
<p>NEW</p>	<p>Extension section made of polymer, Ø 600 height increase: 500 mm</p>	-	-	917 460
	<p>Sampling chamber Ø 400 in polymer, for separation systems, for underground installation</p> <p>Installation depth (D) 400 - 1300 mm (minimum installation depth can be achieved by cutting off) 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, drop height 120 mm. Drop height 160 mm on request.</p> <p><input type="checkbox"/> Cover class A <input type="checkbox"/> Cover class B <input type="checkbox"/> Cover class D</p> <p>Extension by 600 mm with extension section Art. # 915 402</p>	<p>Ø 110/150 Ø 200</p> <p>Ø 110/150 Ø 200</p> <p>Ø 110/150 Ø 200</p>	- - - -	<p>915 880 A 915 880 A-200</p> <p>915 880 B 915 880 B-200</p> <p>915 880 D 915 880 D-200</p>
	<p>Extension section For deep installation Extension height max. 600 mm (can be shortened on-site). Check maintenance accessibility when installing in recesses! For sampling chamber Ø 400 and Ø 450</p>	-	-	915 402

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>SonicControl level sensing system with ultra sonic sensor for grease separator 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>Accessories Audible alarm Art. # 20 162, 25 m cable extension available upon request. PE-HD Cable access conduit Art. # 917 822</p>	-	917 821
	<p>Cable extension set for SonicControl</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>	-	<p>917 871</p> <p>917 872</p> <p>917 873</p>
	<p>Cable access conduit 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>	-	917 822
	<p>TeleControl telemetric system 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>TeleControl antenna booster for <i>TeleControl</i> telemetric system incl. 2.5 m cable to improve reception. With magnetic base.</p> <p>Antenna booster extension cable cable length 2.5 m</p>	-	<p>28 792</p> <p>28 793</p> <p>28 794</p>
	<p>Stainless steel access panel 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) Model: "Recessed", 2 doors, lockable</p>	-	917 414
	<p>Stainless steel access panel 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) Model: "Wall installation", 2 doors, lockable</p>	-	917 413

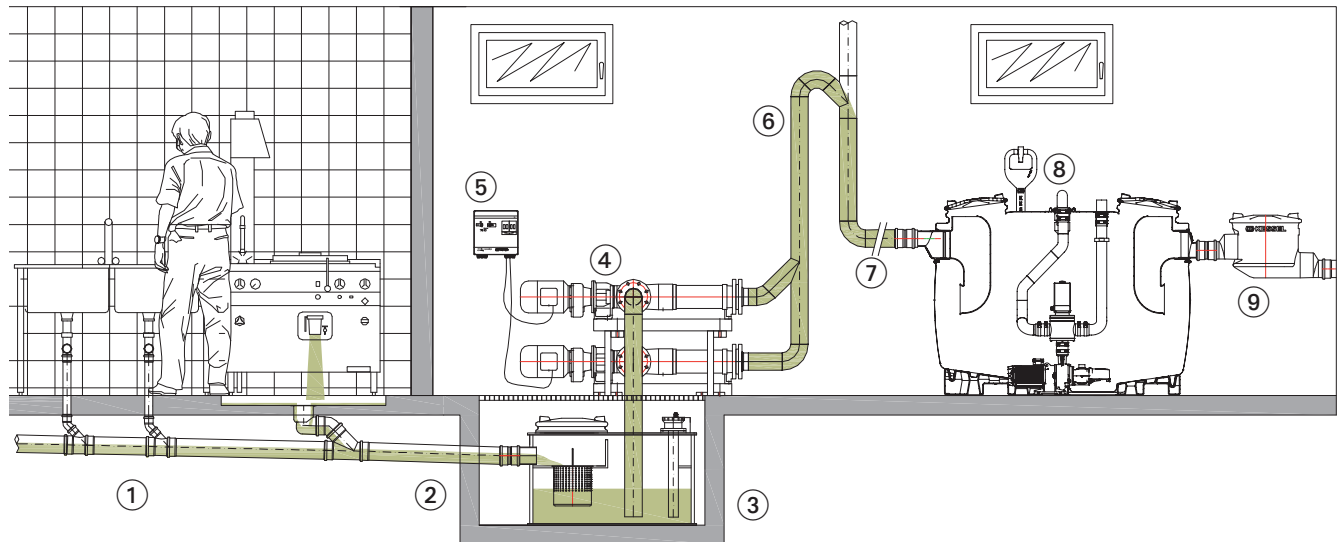
Grease separators Individual Solutions

Custom lifting stations upstream from the grease separator

In the case where the grease separator is located higher than the collected wastewater from the kitchen, the EN 1825 norm requires the use of special lifting stations.

Standard lifting stations with vortex or macerating pumps 'mix' the wastewater as it is pumped. This causes the food waste and grease from the kitchen to fully mix with the wastewater which can negatively effect the efficiency of an EN 1825 grease separator. For this reason, positive displacement pumps (also known as 'screw' pumps) are required for use in these cases. A screw pump 'pushes' the wastewater into the grease separator, without any mixing taking place, allowing for proper grease separator operation.

For additional information concerning Kessel positive displacement pumps, please contact KESSEL directly.

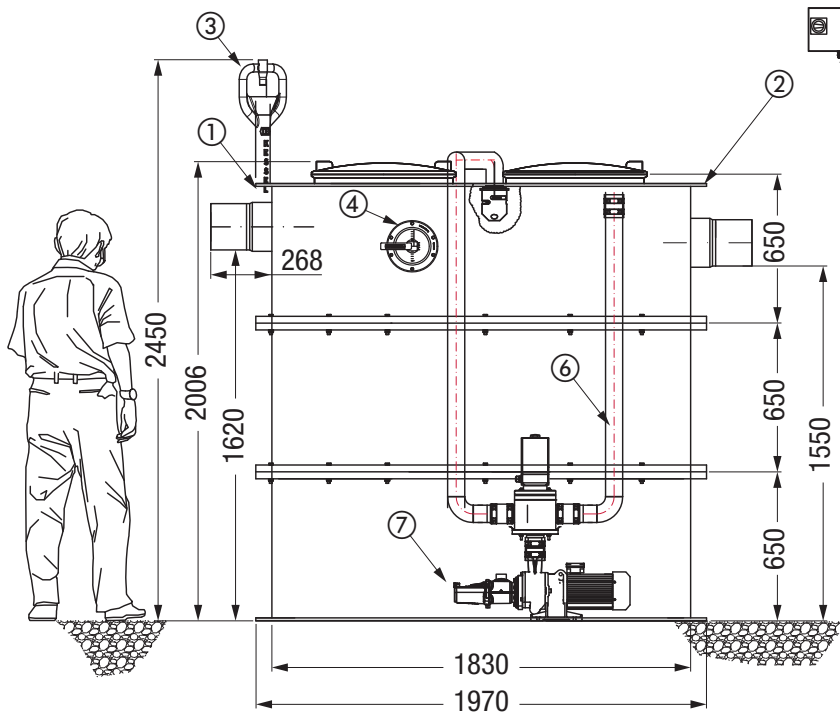


1	Drains in the kitchen
2	Inlet pipe
3	Collecting tank
4	Screw pump double system
5	Control unit
6	Pressure pipe
7	Calmed inlet
8	Grease separator
9	Sampling chamber

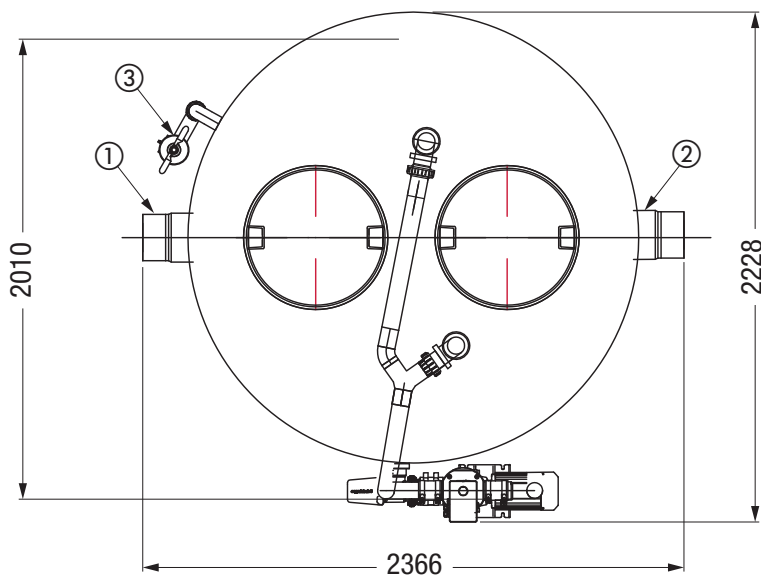
Custom lifting stations for pumping into grease separators **NEW**

For free standing grease separators in the NS 15 and NS 20 range, access into the room of installation or simply the available area for set up of the separator is often limited.

For these applications, KESSEL offers our 'Round' series of above ground grease separators. These separators are available in a component system (as seen in the illustration) so that the separator can be taken apart on-site to reduce its size, brought through the limited access area and then set up again in the room of installation. For sites with full access but limited set up space, we also offer these separators in a monolith (single body) design which takes up less floor space than a rectangular separator.



1	Inlet DN 200 / OD = 200 mm
2	Outlet DN 200 / OD = 200 mm
3	Refill inlet 1"
4	Inspection window
5	Control unit
6	Disposal pipe DN 65, PN 10 with flange connection and Storz-B coupling 2 1/2" (EN 1092)
7	Disposal pump 3.0 kW





Our light liquid separators are resistant to E10 fuel and biodiesel.

Light liquid separator made of polymer with DIBt approval

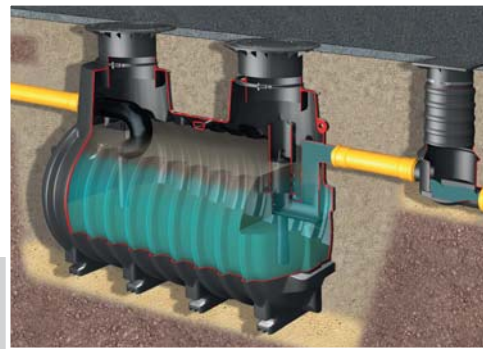
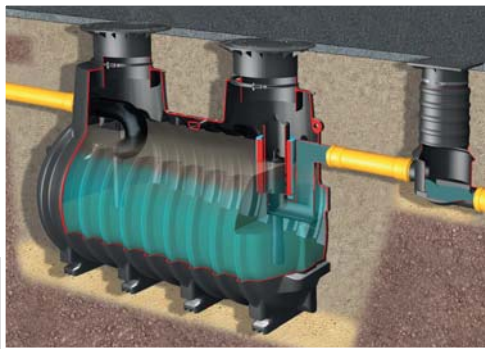


The renovation free alternative from plastic - with certification.

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.

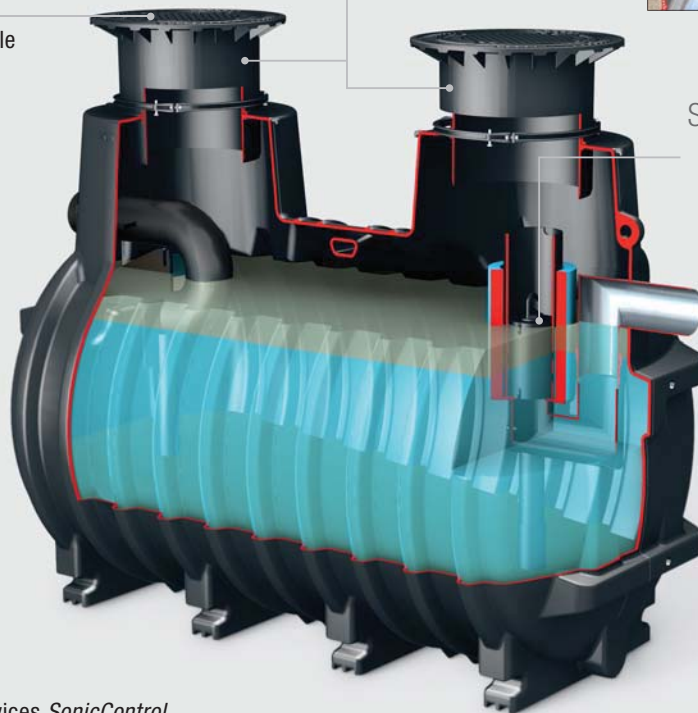
TRANSPORT

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 (Class II)

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.

EN 858 requires that oil-/fuel separators have hydrocarbon outlet concentrations at or below 100 mg/liter.

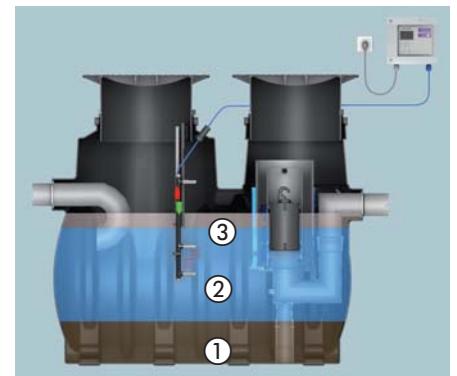
Coalescence separators (Class I)

Coalescence separators work on the same gravity principle as oil/fuel separators. To increase coalescence performance, there is an additional coalescence filter in the tank, unlike with oil/fuel separators. This filter 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.

EN 858 requires that coalescence separators have hydrocarbon outlet concentrations at or below 5 mg/liter.

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 g/cm³. 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

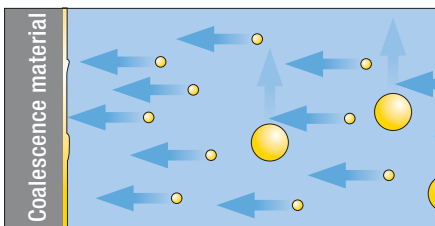
Separator systems for volatile liquids such as oil and petrol

Basic construction, function and testing principles, marking and quality monitoring, choice of nominal size, installation, operation and maintenance

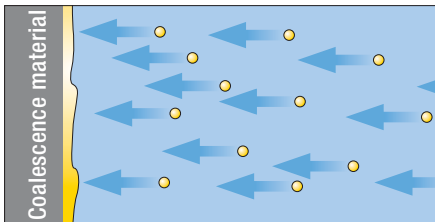
– Preventing environmental damage

Increased efficiency using coalescence filter inserts

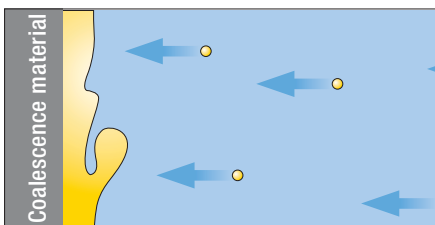
The efficiency of the oil/fuel separators can be increased by using coalescence filters. The finest droplets of oil can be separated out owing to the increased separator efficiency.



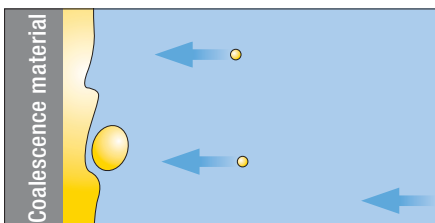
The oil droplets, which are not separated out owing to their different specific gravities with respect to the water, reach the oleophilic coalescence material and combine.



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/cm³). 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



Low disposal costs thanks to oil/sludge extraction feature

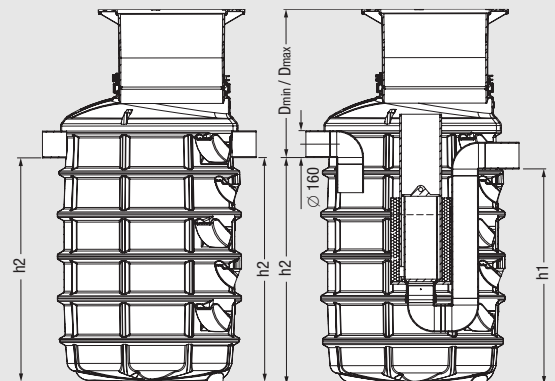
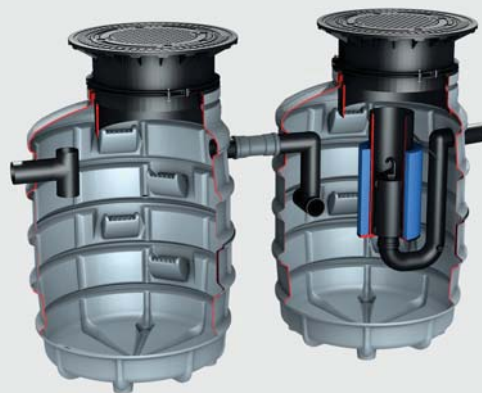
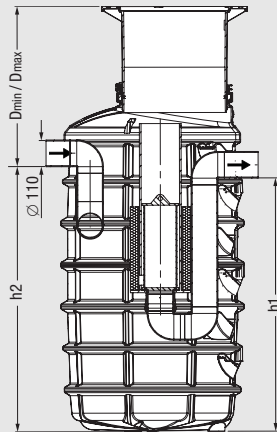
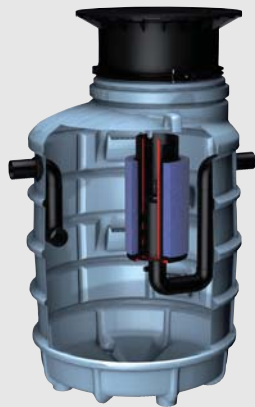
During standard disposal, the hose from the disposal vehicle is held into the light liquid separator and the entire contents are pumped out. However, the quantity of light liquid is significantly lower than the total volume of the separator. Here, the situation is remedied with the oil extraction device. 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



Coalescence separator class I Ø 1000

□ according to EN 858, made of polyethylene

For underground installation, installation depth D from 565 to 1015 mm

With integrated sludge trap and self-actuated closure lock, calibrated for light liquid with densities between 0.85 to 0.95 g/cm³.

With removable coalescence filter insert.

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.

Choose separator size and article number from table below. Contact KESSEL for separator sizing support if required.

1 Cover class A/B

2 Cover class D

NS	Sludge trap capacity	Article #
1 NS 6	200 liter	99 706.02B
NS 6	600 liter	99 706.06B
NS 3	800 liter	99 703.04B
NS 6 ¹⁾	1000 liter	99 706.10B
NS 3	1600 liter	99 703.10B
NS 6 ¹⁾	1800 liter	99 706.18B
2 NS 6	200 liter	99 706.02D
NS 6	600 liter	99 706.06D
NS 3	800 liter	99 703.04D
NS 6 ¹⁾	1000 liter	99 706.10D
NS 3	1600 liter	99 703.10D
NS 6 ¹⁾	1800 liter	99 706.18D

Accessories:
see page 304 and 306

Delivery:
Completely assembled.

Not for installation in high groundwater areas!

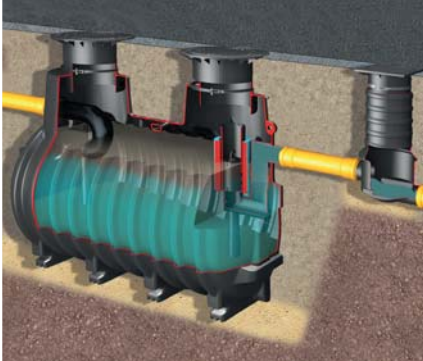
NS	Ø*	Sludge disposal volume in liter	D		Weight in kg	h2 (Inlet bottom) in mm	h1 (Outlet bottom) in mm	Oil storage capacity in liter	Article #
			min	max					
1 NS 6	160	100	560	1090	175	1090	1020	200	99 706.02B
NS 6	160	300	560	1090	175	1590	1520	200	99 706.06B
NS 3	110	400	545	995	175	1105	1055	200	99 703.04B
NS 6 ¹⁾	160	500	560	1090	305	1090	1020	200	99 706.10B
NS 3	110	800	545	995	190	1605	1555	200	99 703.10B
NS 6 ¹⁾	160	800	560	1090	320	1590	1520	200	99 706.18B
2 NS 6	160	100	560	1090	205	1090	1020	200	99 706.02D
NS 6	160	300	560	1090	220	1590	1520	200	99 706.06D
NS 3	110	400	545	995	205	1105	1055	200	99 703.04D
NS 6 ¹⁾	160	500	560	1090	338	1090	1020	200	99 706.10D
NS 3	110	800	545	995	220	1605	1555	200	99 703.10D
NS 6 ¹⁾	160	900	560	1090	353	1590	1520	200	99 706.18D

¹⁾ = Twin-chamber system * Ø = Inlet and outlet outer diameter (mm)

Coalescence separator for underground installation

Coalescence separator

NS 3 - NS 15

Illustration	Article description	NS	Total volume	Article #
<p>Suitable for filling stations with high-performance filling pumps, E10 and biodiesel fuels</p> 	<p>Coalescence separator NS 3 - NS 15, class I ¹</p> <p>□ according to EN 858, made of polymer</p> <p>For underground installation, installation depth D = mm</p> <p>With integrated sludge trap and self-actuated closure lock, calibrated for light liquid with densities between 0.85 to 0.95 g/cm³.</p> <p>With removable coalescence filter.</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>99 503.10B EX</p> <p>99 706.30B EX</p> <p>99 706.80B EX</p> <p>99 710.15B EX</p> <p>99 710.30B EX</p> <p>99 710.80B EX</p> <p>99 715.80B EX</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>1 Cover class A/B</p> <p>2 Cover class D</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>99 503.10D EX</p> <p>99 706.30D EX</p> <p>99 706.80D EX</p> <p>99 710.15D EX</p> <p>99 710.30D EX</p> <p>99 710.80D EX</p> <p>99 715.80D EX</p>

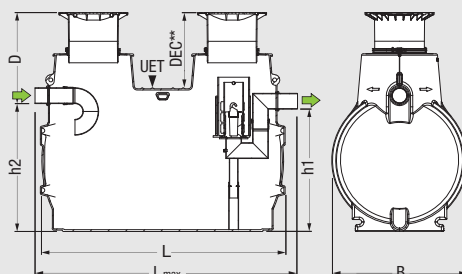
Certification no. Z-54.3-454

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*	capacity	L	B	D		h2	h1	Oil storage capacity	level	Weight	Lmax mm
					min	max						
NS 3	160	1000 l	2390	1200	840	1240	1100	1070	217 l	80 mm	395 kg	2642
NS 6	200 ²⁾	2500 l ¹⁾	2590	1760	850	1230	1630	1600	271 l	100 mm	535 kg	2940
NS 6	200 ²⁾	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 ²⁾	2500 l ¹⁾	2590	1760	850	1230	1630	1600	271 l	100 mm	535 kg	2940
NS 10	200 ²⁾	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

¹⁾ Comparable sludge trap total volume in accordance with the dimensioning according to EN 858.

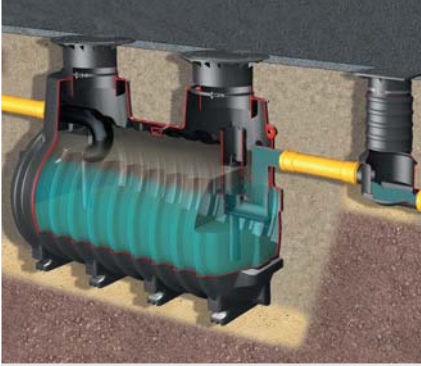
²⁾ eccentric reduction inlet/outlet to Ø 160 possible on-site, as a consequence the sampling chamber 915880 A/B/D can be used see page 304.

* Ø = Inlet and outlet outer diameter (mm)

Oil-/fuel separator for underground installation

Oil-/fuel separator

NS 3 - NS 20

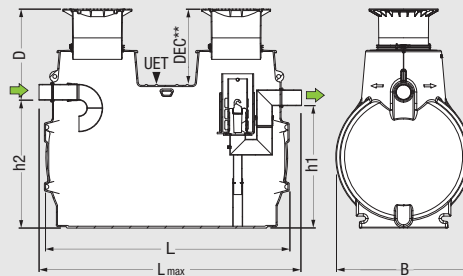
Illustration	Article description	NS	Total volume	Article #
<p>Suitable for filling stations with high-performance filling pumps, E10 and biodiesel fuels</p> 	<p>Oil-/fuel separator NS 3 - NS 20, class II</p> <p><input type="checkbox"/> according to EN 858, made of polymer</p> <p>For underground installation, installation depth D = mm</p> <p>With integrated sludge trap and self-actuated closure lock, calibrated for light liquid with densities between 0.85 to 0.95 g/cm³.</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>1 Cover class A/B</p> <p>2 Cover class D</p>	NS 3	1800	99 403.10B EX
		NS 6	4300	99 606.30B EX
		NS 6	5800	99 606.80B EX
		NS 10	2600	99 610.15B EX
		NS 10	4300	99 610.30B EX
		NS 10	5800	99 610.80B EX
		NS 15	5800	99 615.80B EX
		NS 20	5800	99 620.80B EX
		2 NS 3	1800	99 403.10D EX
		NS 6	4300	99 606.30D EX
		NS 6	5800	99 606.80D EX
		NS 10	2600	99 610.15D EX
		NS 10	4300	99 610.30D EX
		NS 10	5800	99 610.80D EX
		NS 15	5800	99 615.80D EX
		NS 20	5800	99 620.80D EX

Certification no. Z-54.2-453

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*	capacity	D						Oil storage capacity	Excess level	Weight	Lmax mm
			L	B	min	max	h2	h1				
NS 3	150	1000 l	2390	1200	840	1240	1100	1070	217 l	80 mm	379 kg	2642
NS 6	200	2500 l	2590	1760	850	1230	1630	1600	271 l	100 mm	519 kg	2940
NS 6	200	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	2500 l	2590	1760	850	1230	1630	1600	271 l	100 mm	519 kg	2940
NS 10	200	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

1) Comparable sludge trap total volume in accordance with the dimensioning according to EN 858-2.

2) 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 304.

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 according to KESSEL Standard

NS 1.5

Illustration and dimensioned drawing	Article description	Ø	Weight	Article #																																	
	<p>Oil-/fuel separator NS 1.5, class II, Ø 1000 For underground installation, installation depth D = mm</p> <p>With integrated sludge trap and self-actuated closure lock, calibrated for light liquid with densities between 0.85 to 0.95 g/cm³.</p> <p>Optional with backwater flap valve according to DIN 13564</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>Accessories: - Sampling chamber - Alarm unit (upon request); not suitable for <i>SonicControl</i></p>	1000	110 kg	99 601.041D																																	
<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>Oil-/fuel separator NS 1.5, class II, Ø 800 For underground installation, installation depth D = mm</p> <p>With integrated sludge trap and self-actuated closure lock, calibrated for light liquid with densities between 0.85 to 0.95 g/cm³.</p> <p>Optional with backwater flap valve according to DIN 13564</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>Accessories: - Sampling chamber - Alarm unit (upon request); not suitable for <i>SonicControl</i></p>	800 800	74 kg 74 kg	99 601.016B 99 601.016D																																	
<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>Oil-/fuel separator NS 1.5, class II, Ø 400 For underground installation, installation depth D = mm</p> <p>With integrated sludge trap and self-actuated closure lock, calibrated for light liquid with densities between 0.85 to 0.95 g/cm³.</p> <p>Optional with backwater flap valve according to DIN 13564</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>Accessories: - Sampling chamber - Not suitable for <i>SonicControl</i></p>	400	12 kg	99 601.002B																																	
<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>Sampling chamber \varnothing 1000 in polyethylene, for separation systems, for underground installation</p> <p>Installation depth (D) 1180 - 1630 mm (Other installation depths available on request)</p> <p>Inlet and outlet \varnothing ... 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>1 Cover class A/B 2 Cover class D</p>	<p>1 \varnothing 110 \varnothing 160 \varnothing 200</p> <p>2 \varnothing 110 \varnothing 160 \varnothing 200</p>	<p>915 10 10 B 915 10 15 B 915 10 20 B</p> <p>915 10 10 D 915 10 15 D 915 10 20 D</p>
<p>NEW</p> 	<p>Extension section made of polymer,</p> <p>\varnothing 600 height increase: 500 mm</p>	-	917 460
	<p>Sampling chamber \varnothing 400 in polymer, for separation systems, for underground installation</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, drop height 120 mm. Drop height 160 mm on request.</p> <p><input type="checkbox"/> Cover class A</p> <p><input type="checkbox"/> Cover class B</p> <p><input type="checkbox"/> Cover class D</p> <p>Extension by 600 mm with extension section Art. # 915 402</p>	<p>\varnothing 110/150 \varnothing 200</p> <p>\varnothing 110/150 \varnothing 200</p> <p>\varnothing 110/150 \varnothing 200</p>	<p>915 880 A 915 880 A-200</p> <p>915 880 B 915 880 B-200</p> <p>915 880 D 915 880 D-200</p>
	<p>Extension section</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 \varnothing 400 and \varnothing 450</p>	-	915 402

Oil-/fuel separator / Coalescence separator for underground installation

Oil-/fuel separator / Coalescence separator			Accessories
Illustration	Article description	Type	Article #
 <p>Certification: BVS 11 ATEX E 040 X</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>- Can be used in explosive areas (Zone 0) - Acc. to RL 2014/34/EU designed in ignition protection class „Intrinsic safety“</p> </div>	<p>SonicControl level sensing system with ultra sonic sensor for oil / coalescence separators from NS 3. With ATEX certification Accurate monitoring and data transfer...</p> <p><input type="checkbox"/> Type OA of oil layer thickness and back-up / overflow warning</p> <p><input type="checkbox"/> Type O of oil layer thickness</p> <p><input type="checkbox"/> Type A back-up / overflow warning;</p> <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 A</p>	<p>917 826</p> <p>917 828</p> <p>917 830</p>
	<p>Cable extension set <i>SonicControl</i> for oil-, coalescence separators</p> <p><input type="checkbox"/> 10 m cable length</p> <p><input type="checkbox"/> 20 m cable length</p> <p><input type="checkbox"/> 30 m cable length</p>	-	<p>917 861</p> <p>917 862</p> <p>917 863</p>
	<p>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.</p>	-	28 792
	<p>TeleControl antenna booster for <i>TeleControl</i> telemetric system incl. 2.5 m cable to improve reception. With magnetic base.</p>	-	28 793
	<p>Antenna booster extension cable cable length 2.5 m</p>	-	28 794
	<p>Cable access conduit 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>	-	917 822

Oil/fuel separator / Coalescence separator for underground installation

Oil/fuel separator / Coalescence separator			Accessories
Illustration	Article description	Outer diameter Ø (mm)	Article #
	Oil / fuel suction system 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	917 803 917 808
	Sludge suction system 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	917 804 917 809

Coalescence separator			Accessories
Illustration	Article description	Outer diameter Ø (mm)	Article #
	Coalescence filter insert for retrofitting the KESSEL Oil/fuel separator NS 3 - NS 15 to coalescence separator	-	917 805
	Coalescence filter for KESSEL coalescence separator class I Ø 1000	-	917 816



Underground lifting stations for use after oil-/fuel and coalescence separators see chapter 3 “lifting stations”.

Sediment separators for free installation / for underground installation

Sediment separators for free-standing installation

NS 1 - NS 2

Illustration	Article description	NS	Weight	Article #
	Sediment separator NS ... <input type="checkbox"/> For free installation in frost protected areas 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	97 201/000
		NS 2	50 kg	97 202/000

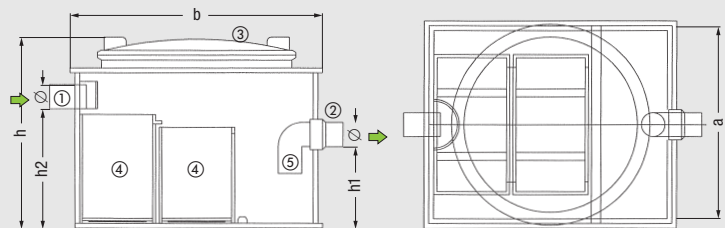
Delivery:
System completely assembled.

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

NS 1 - NS 2

Illustration	Article description	NS	Weight	Article #
	Sediment separator \varnothing 400 NS ... <input type="checkbox"/> according to KESSEL factory standard For underground installation 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.			
	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

Illustration	Article description	Article #
	<p>Starch separator</p> <p><input type="checkbox"/> For free installation in frost protected areas</p>	<p>System design and project planning to your specifications.</p>

Starch separators for underground installation

Illustration	Article description	Article #
	<p>Starch separator</p> <p><input type="checkbox"/> For underground installation</p>	<p>System design and project planning to your specifications.</p>

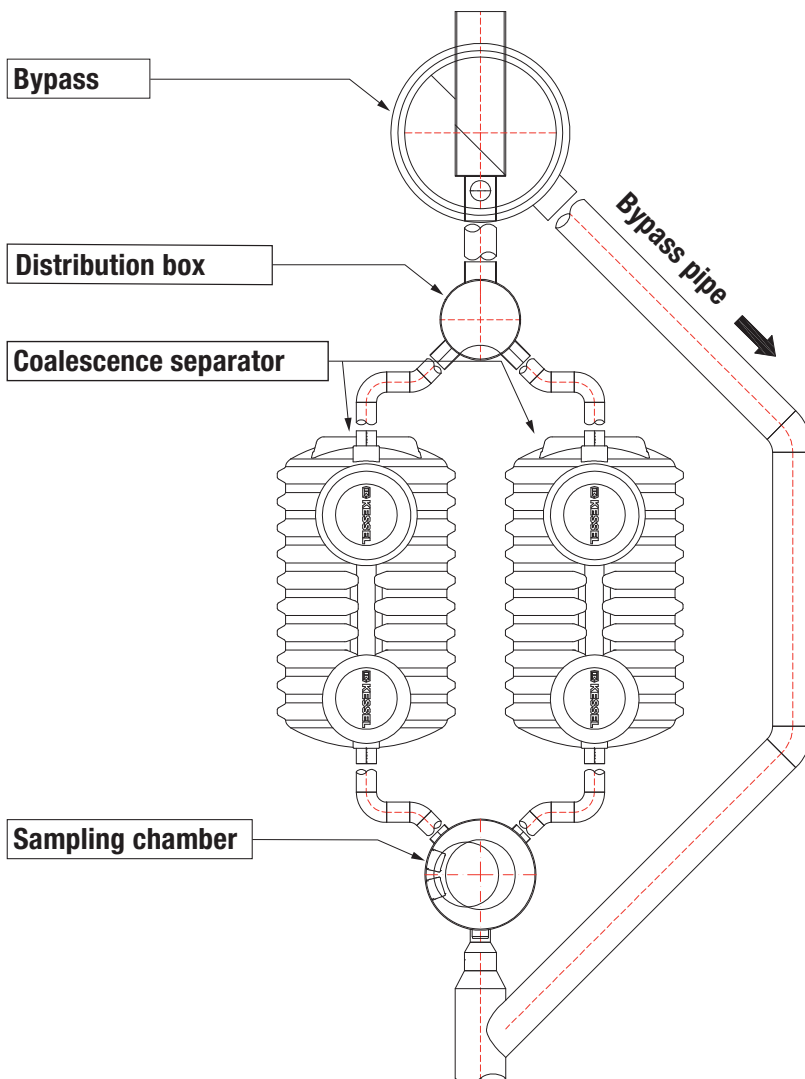
In compliance with DIN 1986-100, all companies that generate waste water containing starch require starch separators. Starch is created wherever potatoes, wheat or rice pulses are processed. Starch is insoluble in water and due to the particle size and density, it sinks to the bottom of the water, resulting 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 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.



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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

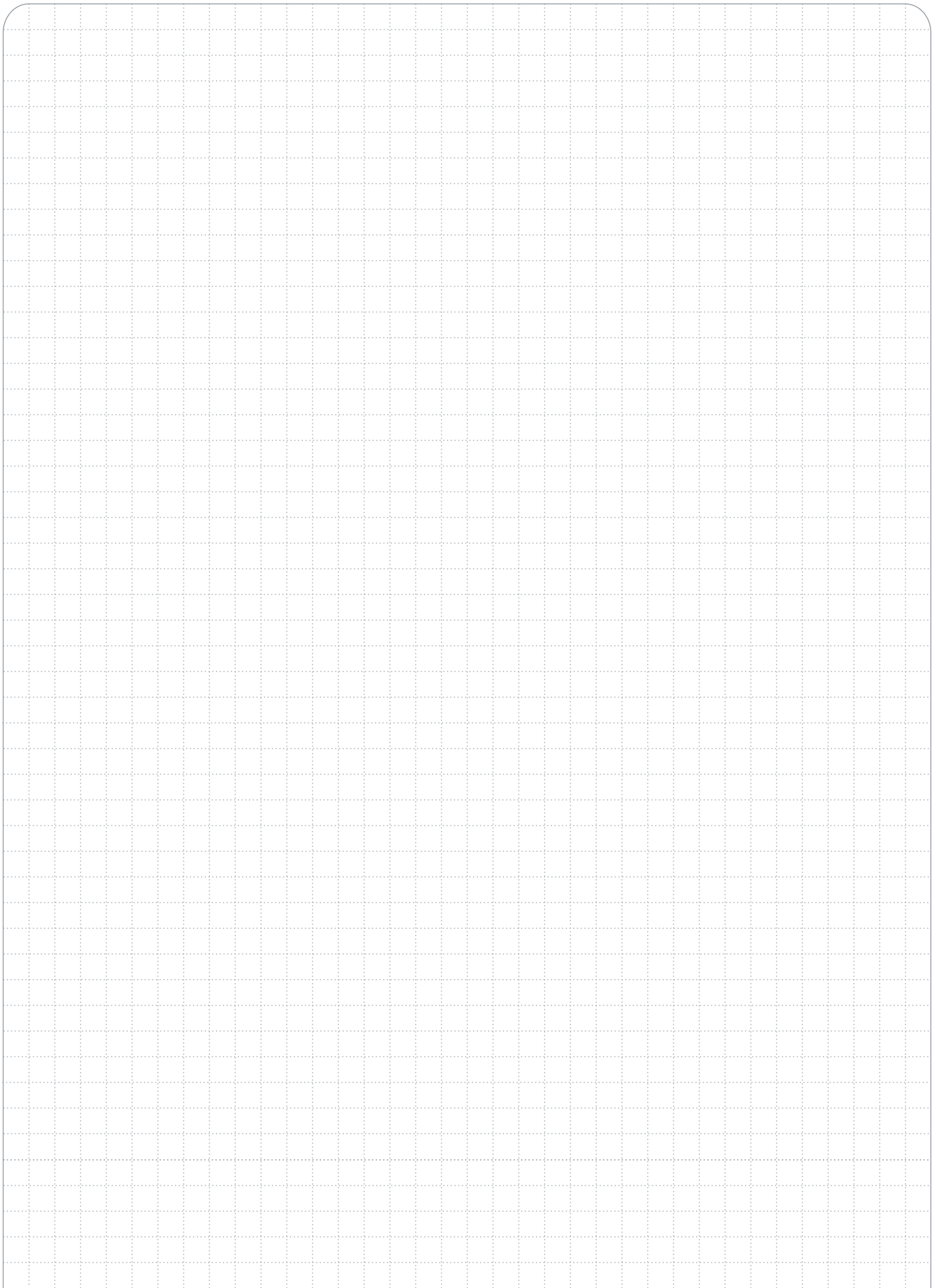
KESSEL will recognize recognizes a right of recourse for enterprises pursuant to Section 478 of the German Civil Code where a defect does in fact exist for which KESSEL is responsible and provided that our warranty period has not ended. The other party to the contract must contribute to ensuring that 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

A large grid of dotted lines for taking notes, consisting of 20 columns and 30 rows of small squares.



A large grid of dotted lines for taking notes, consisting of approximately 30 columns and 40 rows of small squares.

KESSEL

Leading in drainage



Everything from a single source - from the initial product idea through development, tool construction and production to sales!

KESSEL AG

Bahnhofstrasse 31 · 85101 Lenting · Germany

www.kessel.com

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