

Product range

Hybrid drainage system

 **KESSEL**

Hybrid lifting stations & backwater pumping stations

for gravity sloped wastewater pipes



 Made in Germany

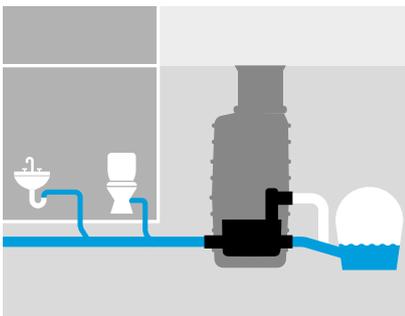
Leading in drainage

Ecolift functional principle

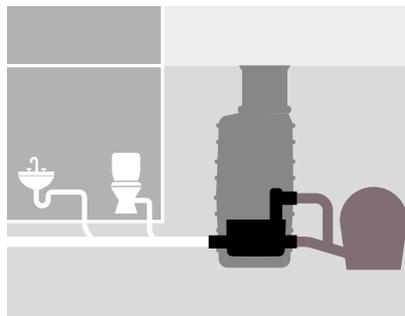
How does a hybrid lifting station work?

A hybrid lifting station combines the safety of a lifting station with the efficiency of drainage via a natural slope. During normal operation, wastewater flows with gravity through the *Ecolift XL* into the public sewer. When flooding occurs backwater flap(s) automatically shut to protect the building. Pump(s) then activate to discharge the building's wastewater into the public sewer when backwater flap(s) are closed.

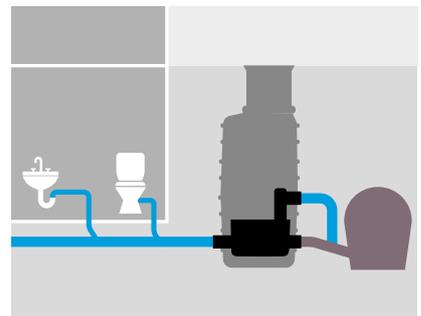




Hybrid lifting stations make use of the natural slope to the sewer.



Motorised flap(s) close to prevent backwater from entering from the surcharged sewer.



The building's wastewater is pumped into the surcharged sewer during times of backwater.



Direct drainage is economical.

A lifting station always pumps wastewater. This is why it constantly consumes energy. A hybrid lifting station is different: It only starts pumping when it is really needed. In addition to the improved eco-balance due to lower power consumption, there is a second major economic advantage: cost reduction due to less required maintenance.



Direct drainage is quiet.

Despite cutting-edge mechanical designs and the latest noise reduction measures – pumps make noise. This can be a nuisance, particularly when the pumps are in continuous operation. A hybrid lifting station can be a real help it only runs when it is needed.



Direct drainage is safe.

Absolute operational safety – even in the event of a power failure. A hybrid lifting station provides this safety, because it even works without electricity. It simply uses the natural slope to dispose of the wastewater even if there is a power outage.

Installation situation

There are three options for installing backwater protection.



Outdoor, underground installation

This is the most practical solution. Products to protect against water ingress are installed in a chamber in the ground in front of the building. This saves space in the basement, noise nuisance can be practically ruled out and the installation is functionally secure and maintenance-friendly.



Exposed installation

This is the simplest solution as it does not require a great deal of structural rework. This means that the installation is quick and that the backwater protection unit is always easily accessible for maintenance and cleaning. Particularly with retrospective installations or in the renovation of older buildings, an exposed installation is often the only alternative.



Floor slab installation

This is the most convenient solution. With floor slab installation, the backwater valve takes up no living space as it is unobtrusively installed in the underfloor. However, it is still accessible for maintenance or repair via the cover with a single step. Ideal for new-builds.

Types of wastewater

In principle, we differentiate between two different types of wastewater. Different backwater protection devices can be considered depending on the type of wastewater being dealt with.



Wastewater with sewage is water with faecal content coming from urinals or toilets to the sewer. This is termed "black water".



Wastewater without sewage is water without faecal content, for example shower water or water from a washing machine. This is termed "grey water".



Protection strategy



Individual protection

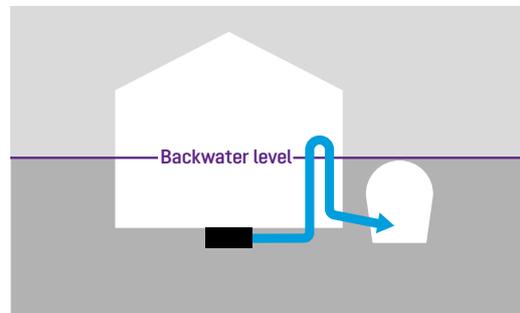
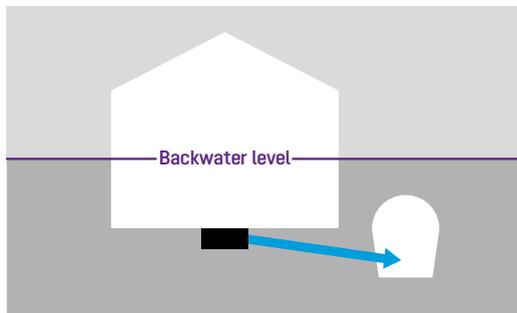
Each drainage location, such as washbasins, showers or washing machines, is protected with its own backwater protection.



Central protection

Backwater valves or lifting stations installed in the main wastewater pipe, protecting all drainage fixtures.

Slope to the main sewer



Slope to the main sewer

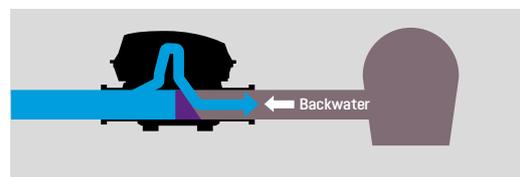
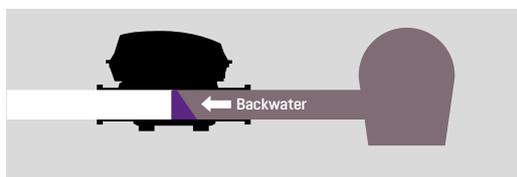
If the sewage pipe lies below the backwater protection, the domestic wastewater will be disposed of via the natural slope. Backwater valves and hybrid lifting stations can be used here.



No slope to the sewage pipe

If the sewage pipe is higher than the backwater protection, the wastewater must be lifted to the sewage pipe with a lifting station via a backwater loop.

Function



Protects in the event of backwater

The backwater flap prevents wastewater from the sewage pipe pushing into the building.



Disposes in the event of backwater

Despite backwater from the sewage and closed backwater flap, domestic wastewater can be disposed of via a pump. This ensures that the drainage system would remain functionally capable.

Hybrid lifting station

Ecolift XL

The powerful solution for commercial applications and multi-family homes.

Concentrated power: The *Ecolift XL* is a larger and more powerful version of the *Pumpfix*. This means that the hybrid lifting station is ideally suited to use in commercial buildings and apartment blocks. With a power rating of up to 4.5 kW, the *Ecolift XL* can also reliably pump the wastewater into a flooded sewer. Up to two motor-driven closure systems ensure isolation from the sewage pipe. However, this is only necessary in the event of backwater. In normal operation, the pump does not run at all and the wastewater simply drains to the sewer via gravity.

The *Ecolift XL* can be installed as a free-standing set-up, in an underground engineering chamber or in a concrete floor slab. It is available with various pump power ratings, some for a 230 V connection, some for 400 V. The variants with one motor-driven closure system are suitable for grey water and those with two for black water.



Additional inlet connection

Three areas are available for easy on-site connection of conduit or ventilation pipes

Honeycomb chamber design

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

Groundwater resistant

For installation in up to 3000 mm of groundwater

Integrated closure valve

With safety lock to prevent accidental closure

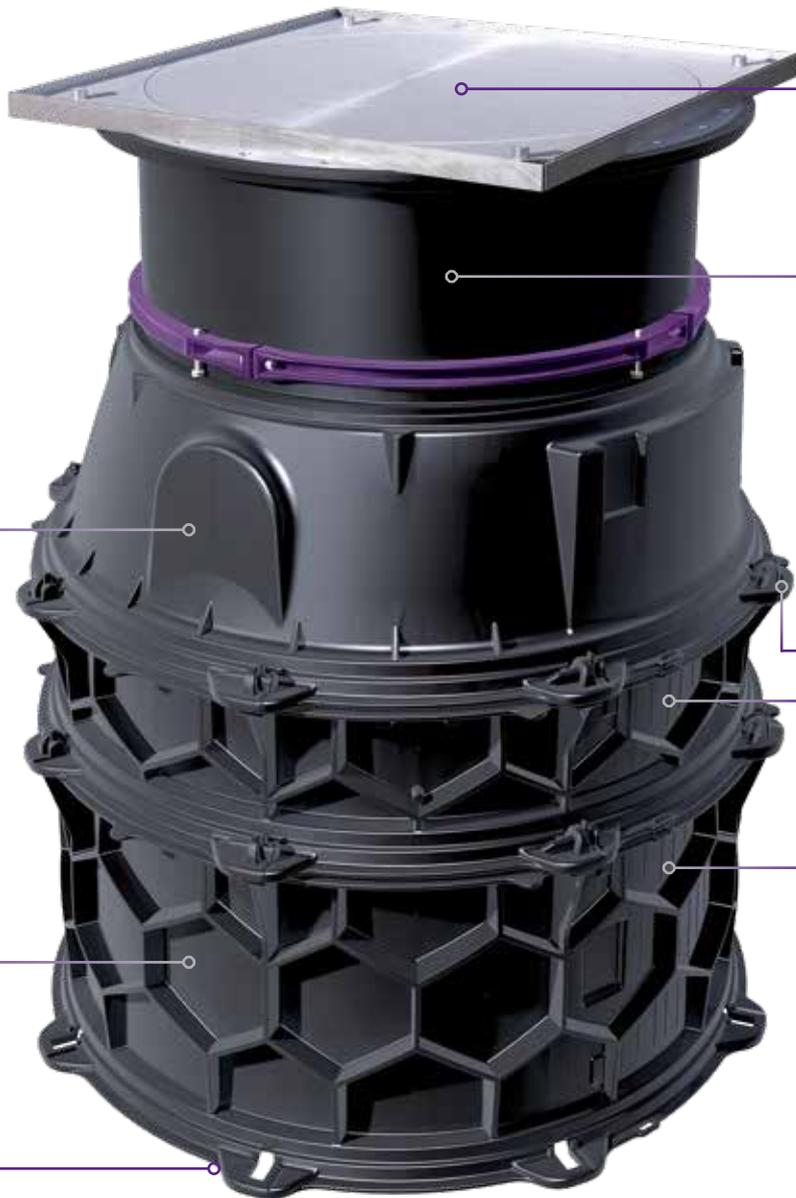
Safety / reliability

Pneumatic level sensing and alarm sensor offer twice the reliability

Sound / vibration decoupling

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





Chamber covers

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

Vertically adjustable upper section

Available with Ø 600 mm or Ø 800 mm diameter with optional waterproofing connection flange

Connection system

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

Modular system

Sectional chamber components available in 250 mm and 500 mm heights



Pressure outlet connection

Quick-release, no tools required

Pressure outlet

Ø 90 mm

Backwater flap closure system

Available with up to two motorized backwater flaps for maximum backwater protection

Hybrid lifting station *Ecolift XL Mono/Duo*

Dry installation, for minimum installation depth



Z-53.2-493 ÖNORM B 2501

Base section made of PE

For installation in a concrete slab or outdoor underground installation in combination with upper section see page 9.

Version:

- backwater lifting station *Ecolift XL Mono/Duo* for connection to Ø 800 mm upper sections
- *Mono* version with one SPF pump or *Duo* version with two SPF pumps
- inlet / outlet Ø 160 mm
- with Comfort Plus control unit 230 V or 400V /50Hz
- 230 V-Versions ready to plug in
- with one or two motor-driven backwater flap(s) for wastewater without or with with sewage

Cable length: 10 m

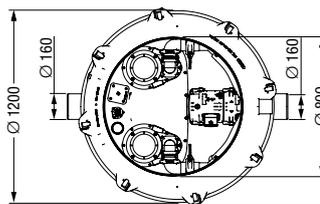
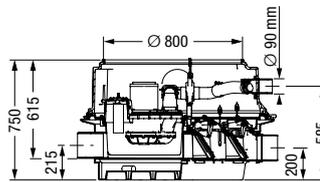
Installation:

Handles groundwater depths up to 3000 mm

Note:

The pressure pipe must be connected to a welded PE pipe; in the case of pump SPF 4500 pressure pipe to be connected to a pressure relief chamber (contact KESSEL for questions).

- **Installation:** in combination with upper section Ø 800 page 9
- **Accessories:** pages 13 – 14
- **Installation examples** page 16 – 17



Mono version with one pump

SPF pump	Voltage	Art. no.
----------	---------	----------

With one motor-driven backwater flap for wastewater without sewage

1400-S3	230 V	874 10 44
1500-S3	400 V	874 10 45
3000-S3	400 V	874 10 46
4500-S3	400 V	874 10 47

With two motor-driven backwater flaps for wastewater with sewage

1400-S3	230 V	874 10 48
1500-S3	400 V	874 10 49
3000-S3	400 V	874 10 50
4500-S3	400 V	874 10 51

Duo version with two pumps

SPF pump	Voltage	Art. no.
----------	---------	----------

With one motor-driven backwater flap for wastewater without sewage

1400-S3	230 V	874 10 60
1500-S3	400 V	874 10 61
3000-S3	400 V	874 10 62
4500-S3	400 V	874 10 63

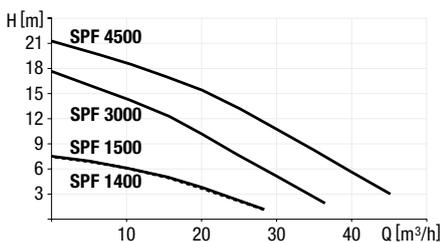
1400-S1	230 V	874 10 64
1500-S1	400 V	874 10 65
3000-S1	400 V	874 10 66
4500-S1	400 V	874 10 67

With two motor-driven backwater flaps for wastewater with sewage

1400-S3	230 V	874 10 68
1500-S3	400 V	874 10 69
3000-S3	400 V	874 10 70
4500-S3	400 V	874 10 71

1400-S1	230 V	874 10 72
1500-S1	400 V	874 10 73
3000-S1	400 V	874 10 74
4500-S1	400 V	874 10 75

Pumping capacity



Pump type	Voltage	Amperage	Input Power (P1)	Power (P2)	Pumping capacity	H [m] = Backwater height
SPF 1400-S1/S3-100/50%*	230 V	7.3 A	1.6 kW	1.1 kW	28 m³/h	7.5 m
SPF 1500-S1/S3-100/50%*	400 V	2.7 A	1.4 kW	1.1 kW	28 m³/h	7.5 m
SPF 3000-S1/S3-100/50%*	400 V	5.4 A	3.3 kW	2.7 kW	36 m³/h	17.5 m
SPF 4500-S1/S3-100/50%*	400 V	7.5 A	4.5 kW	3.7 kW	45 m³/h	21 m

*Definition of S1 and S3-pumps see page 95



Upper section Ø 800

Made of polymer/stainless steel

Compatibility:

For use as upper section for the engineering system base *Ecolift XL Mono/Duo* for the version with minimum installation depth page 84

Version:

with/without waterproof flange

square, tileable, without waterproof flange



Installation depth D in mm (min./max.)

Covers

Art. no.

65 - 314

Class A/L 15

874 01 75

square, tileable, with waterproof flange



282 - 531

Class A/L 15

874 01 76

square, not tileable, without waterproof flange



50 - 299

Class A/L 15

874 01 77

square, not tileable, anti-slip, with waterproof flange

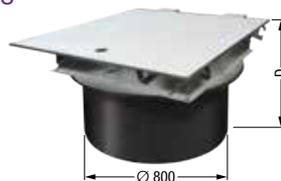


267 - 516

Class A/L 15

874 01 78

square, without waterproof flange



274 - 523

Class B

874 01 79

274 - 523

Class D

874 01 80

round, without waterproof flange



65 - 314

Class K 3

874 01 81

Hybrid lifting station *Ecolift XL Mono/Duo*

Dry installation, free standing or in a concrete slab



Z-53.2-493 ÖNORM B 2501

Base section made of PE

For on the floor installation in frost-free rooms, outdoor underground installation or installation in a concrete floor in combination with an engineering system chamber see pages 11 – 12.

Version:

- backwater lifting station *Ecolift XL Mono/Duo* with welded chamber ring
- *Mono* version with one SPF pump or *Duo* version with two SPF pumps
- inlet / outlet Ø 160 mm
- with Comfort Plus control unit 230 V or 400V /50Hz
- 230 V-Versions ready to plug in
- with one or two motor-driven backwater flap(s) for wastewater without or with with sewage

Cable length: 10 m

Installation:

Handles groundwater depths up to 3000 mm

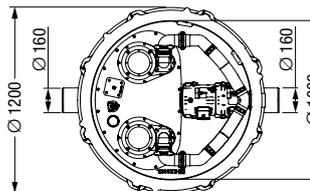
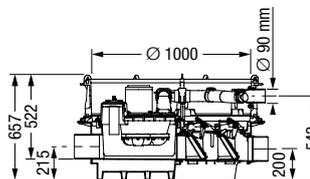
Note:

The pressure pipe must be connected to a welded PE pipe; in the case of pump SPF 4500 pressure pipe to be connected to a pressure relief chamber (contact KESSEL for questions).

➤ **Installation:** in combination with an engineering system chamber Ø 1000 page 11 – 12

➤ **Accessories:** pages 13 – 14

➤ **Installation examples** page 16 – 17



Mono version with one pump

SPF pump	Voltage	Art. no.
----------	---------	----------

With one motor-driven backwater flap for wastewater without sewage

1400-S3	230 V	874 10 06
1500-S3	400 V	874 10 07
3000-S3	400 V	874 10 08
4500-S3	400 V	874 10 09

With two motor-driven backwater flaps for wastewater with sewage

1400-S3	230 V	874 10 10
1500-S3	400 V	874 10 11
3000-S3	400 V	874 10 12
4500-S3	400 V	874 10 13

Duo version with two pumps

SPF pump	Voltage	Art. no.
----------	---------	----------

With one motor-driven backwater flap for wastewater without sewage

1400-S3	230 V	874 10 22
1500-S3	400 V	874 10 23
3000-S3	400 V	874 10 24
4500-S3	400 V	874 10 25

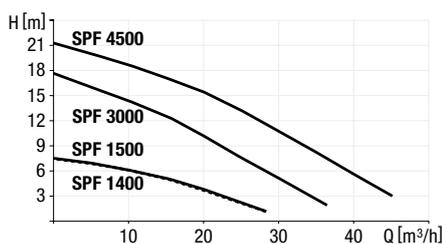
1400-S1	230 V	874 10 26
1500-S1	400 V	874 10 27
3000-S1	400 V	874 10 28
4500-S1	400 V	874 10 29

With two motor-driven backwater flaps for wastewater with sewage

1400-S3	230 V	874 10 30
1500-S3	400 V	874 10 31
3000-S3	400 V	874 10 32
4500-S3	400 V	874 10 33

1400-S1	230 V	874 10 34
1500-S1	400 V	874 10 35
3000-S1	400 V	874 10 36
4500-S1	400 V	874 10 37

Pumping capacity



Pump type

Pump type	Voltage	Amperage	Input Power (P1)	Power (P2)	Pumping capacity	H [m] = Backwater height
SPF 1400-S1/S3-100/50%*	230 V	7.3 A	1.6 kW	1.1 kW	28 m³/h	7.5 m
SPF 1500-S1/S3-100/50%*	400 V	2.7 A	1.4 kW	1.1 kW	28 m³/h	7.5 m
SPF 3000-S1/S3-100/50%*	400 V	5.4 A	3.3 kW	2.7 kW	36 m³/h	17.5 m
SPF 4500-S1/S3-100/50%*	400 V	7.5 A	4.5 kW	3.7 kW	45 m³/h	21 m

*Definition of S1 and S3-pumps see page 95



Engineering system chamber Ø 1000 with access opening Ø 600

for combination with hybrid lifting station *Ecolift XL*

EN 13598 Part 2 Z-42.1-527

Made of polyethylene PE-HD

Installation: For underground installation; handles groundwater depths up to 3000 mm

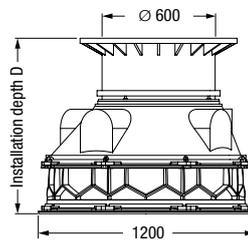
Modular design comprising:

- chamber rings with access steps fitted
- with telescopic height adjustable upper section
- round cover made of cast iron
- includes all sealing gaskets and wedge connectors required for installation

Delivery: As individual elements

Remark: Covers surface water tight

Note: Additional installation depths (on request)



Installation depth D in mm	Class A/B	Class D
	Art. no.	Art. no.
1130 - 1379	874 00 18	874 00 19
1380 - 1629	874 00 24	874 00 25
1630 - 1879	874 00 30	874 00 31
1880 - 2129	874 00 36	874 00 37
2130 - 2379	874 00 42	874 00 43
2380 - 2629	874 00 48	874 00 49
2630 - 2879	874 00 54	874 00 55
2880 - 3129	874 00 60	874 00 61

EN 13598 Part 2 Z-42.1-527

Engineering system chamber Ø 1000 with access opening Ø 800

for combination with hybrid lifting station *Ecolift XL*

EN 13598 Part 2 Z-42.1-527

Made of polyethylene PE-HD

Installation: For installation in the concrete slab; handles groundwater depths up to 3000 mm

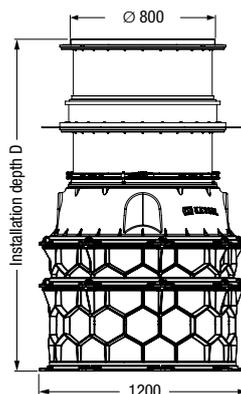
Modular design comprising:

- for waterproof concrete with flange and counter flange
- chamber rings with access steps fitted
- with telescopic height adjustable upper section
- square cover made of stainless steel, class A/L 15
- includes all sealing gaskets and wedge connectors required for installation

Delivery: As individual elements

Remark: Covers surface water tight

Note: Additional installation depths, upper sections and covers class B/D (on request)



Cover tileable

Installation depth D in mm	Art. no.
628 - 877	874 00 03
878 - 1127	874 00 09
1128 - 1377	874 00 15
1378 - 1627	874 00 21
1628 - 1877	874 00 27

Cover not tileable, anti-slip

Installation depth D in mm	Art. no.
613 - 862	874 00 05
863 - 1112	874 00 11
1113 - 1362	874 00 17
1363 - 1612	874 00 23
1613 - 1862	874 00 29

EN 13598 Part 2 Z-42.1-527

Engineering system chamber Ø 1000 with access opening Ø 800

for combination with hybrid lifting station *Ecolift XL*

EN 13598 Part 2 Z-42.1-527

Made of polyethylene PE-HD

Installation: For underground installation; handles groundwater depths up to 3000 mm

Modular design comprising:

- chamber rings with access steps fitted
- with telescopic height adjustable upper section
- covers made of stainless steel
- includes all sealing gaskets and wedge connectors required for installation

Delivery: As individual elements

Remark: Covers surface water tight

Note: Additional installation depths, upper sections and covers class B/D (on request)



Illustration shows Art. no. 874 01 43



Illustration shows Art. no. 874 00 20

Illustration shows Art. no. 874 01 22

Round cover

Installation depth D in mm	Art. no.
Class K 3	
375 - 624	874 01 22
625 - 874	874 01 23
875 - 1124	874 01 24
1125 - 1374	874 01 25
1375 - 1624	874 01 26
1625 - 1874	874 01 27
1875 - 2124	874 01 28
2125 - 2374	874 01 29
2375 - 2624	874 01 30
2625 - 2874	874 01 31
2875 - 3124	874 01 32

Square cover

Installation depth D in mm	Art. no.
Class B	
620 - 869	874 01 41
870 - 1119	874 01 42
1120 - 1369	874 01 43
Class D	
620 - 869	874 01 58
870 - 1119	874 01 59
1120 - 1369	874 01 60

Square cover

Installation depth D in mm	Art. no.
Class A/L 15, not tileable, anti-slip	
396 - 645	874 00 04
646 - 895	874 00 10
896 - 1145	874 00 16
1146 - 1395	874 00 22
1396 - 1645	874 00 28
1646 - 1895	874 00 34
1896 - 2145	874 00 40
2146 - 2395	874 00 46
2396 - 2645	874 00 52
2646 - 2895	874 00 58
2896 - 3145	874 00 64
Class A/L 15, tileable	
411 - 660	874 00 02
661 - 910	874 00 08
911 - 1160	874 00 14
1161 - 1410	874 00 20
1411 - 1660	874 00 26
1661 - 1910	874 00 32
1911 - 2160	874 00 38
2161 - 2410	874 00 44
2411 - 2660	874 00 50
2661 - 2910	874 00 56
2911 - 3160	874 00 62

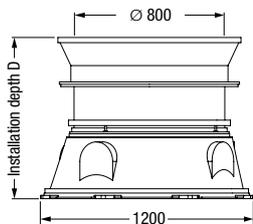


Illustration shows Art. no. 874 01 58

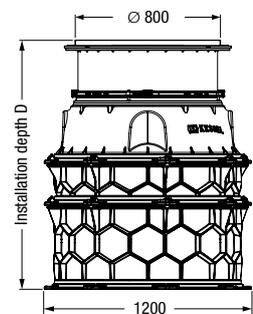


Illustration shows Art. no. 874 00 02

Accessories

Engineering systems base *Ecolift XL*

Extension section

for engineering systems base *Ecolift XL*

			Art. no.
500 mm	Inclusive: 2 access steps, installed Note: Without gasket and connecting wedges		680 371
250 mm	Inclusive: 1 access step, installed Note: Without gasket and connecting wedges		680 370

Cable extensions

for extension from 20 m or 30 m (*Ecolift XL* cable length 10 m)

	Hybrid lifting station <i>Ecolift XL</i> with one motor-driven backwater flap	Hybrid lifting station <i>Ecolift XL</i> with two motor-driven backwater flaps		Art. no.
Cable extension for flap motor(s) (10 m)	Extension to 20 m: 1×80 890 Extension to 30 m: 2×80 890	Extension to 20 m: 2×80 890 Extension to 30 m: 4×80 890		80 890
Cable extension for probe(s) (10 m)	Extension to 20 m: 2×80 889 Extension to 30 m: 4×80 889	Extension to 20 m: 3×80 889 Extension to 30 m: 6×80 889		80 889
Cable extension for pump <i>SPF 1400 S1/S3</i> (10 m)	Extension to 20 m: 1×80 891** Extension to 30 m: 2×80 891**	Extension to 20 m: 2×80 891** Extension to 30 m: 4×80 891**		80 891

**400 V extension on-site through qualified electrician

Gaskets / Connection and attachment set

Compatibility see product description

			Outer diameter Ø (mm)	Art. no.
Cable piping gasket set	Compatibility: Control unit 230 V Inclusive: <ol style="list-style-type: none"> 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 		Ø 110	85 410
Set of connecting wedges	Compatibility: Art. no. 680 371 and 680 370 Quantity: 10 pieces			680 373
Profiled gasket	Compatibility: Art. no. 680 371 and 680 370			680 125
Cable attachment set	Compatibility: Engineering systems base Ø 1000			28 076

Accessories

Hybrid lifting station *Ecolift XL*

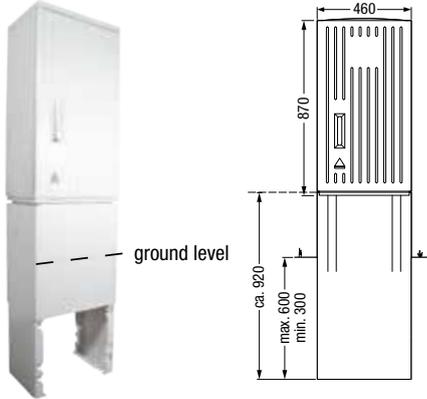
Warning / Alarm / Communication Systems

Compatibility see product description

			Art. no.
TeleControl telemetric system	<p>Compatibility: For connection to KESSEL Comfort control units 230 Volt and 400 Volt</p> <p>Function: Relaying of full text messages to up to three mobile phones</p> <p>Inclusive: With internal antenna (without SIM card)</p>		28 792
Antenna booster with magnetic base	<p>Compatibility: For <i>TeleControl</i> telemetric system to improve the reception</p> <p>Cable length: 2.5 m</p>		28 793
Extension cable	<p>Compatibility: For antenna booster</p> <p>Cable length: 2.5 m</p>		28 794
Audible alarm	<p>Compatibility: For all control units with SDS function</p> <p>Cable length: 20 m</p>		20 162
Warning beacon	<p>Function: For the additional visual display of faults, for installation on the outdoor control cabinet, with switching unit for connection to the control unit</p>		97 715
Installation set Thermostat / Hygrostat	<p>Function: As an additional module for installation in the outdoor kiosk to reduce condensation</p>		97 713
Air compressor	<p>Function: For use in combination with lifting station and pumping stations with pressure control: prevents soiling, avoids the formation of condensate in the pressure hose, makes operation of systems possible with pressure hose lengths > 10 m</p> <p>Inclusive: T-piece connection, 20 m pressure hose</p>		28 048
PE-pressure hose extension (per meter)	<p>Compatibility: For Art. no. 28 048</p>		680 071

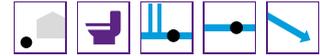
Kiosk for control unit

for installation of control units, modems, heating element, warning beacon outside of buildings

			Height over all in mm	Width / depth in mm	Art. no.
for control unit, heating, warning beacon	<p>Height over ground level: 870 mm</p>		1740	460/320	97 716
for heating and pressure pipe	<p>Height over ground level: 870 mm</p>		1740	590/320	97 714
for control unit, modem, heating, warning beacon	<p>Height over ground level: 870 mm</p>		1740	785/320	97 723
for control unit, modem, heating, warning beacon and pressure pipe	<p>Height over ground level: 870 mm</p>		1740	1115/320	97 724

Hybrid pumping station *Aqualift F Duo*

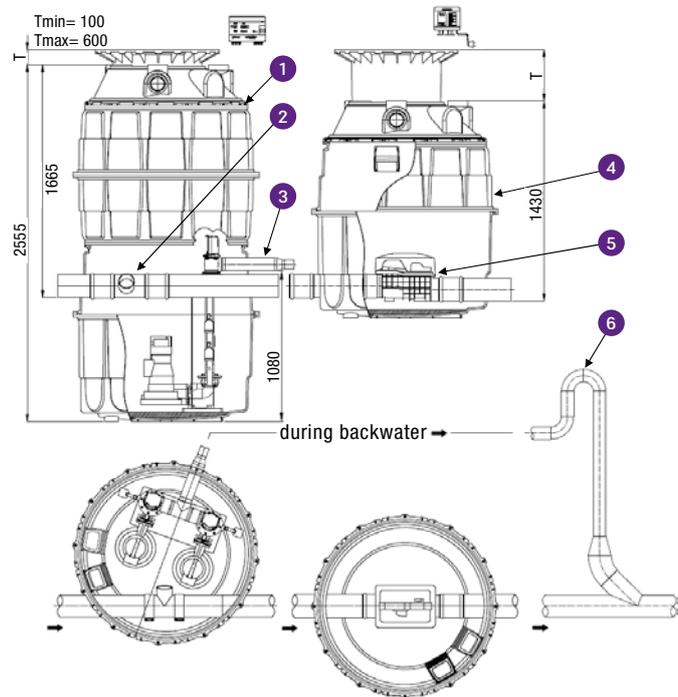
with overflow channel and backwater valve *FKA*



Polyethylene PE-HD

for wastewater with or without sewage, for underground installation, made of polyethylene PE-HD with access steps, watertight, resistant against aggressive wastewater. Polymer upper section for continuous height and level compensation, cover plate made of cast iron according to EN 124. Connection hole with sealing gasket Ø 110 in accordance with EN 1401 and EN 12666-1 for ventilation and cable conduits respectively, pump volume approx. 200 l. Pressure pipe pre-assembled with backwater flap, closure valve and 4 float switches for level control.

Two submersible pumps (available with or with ATEX explosion protection), 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, with potential-free contact.



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

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, protecting 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. After sufficient wastewater is collected the pump(s) activate and discharge the building's wastewater into the flooded sewer.

Standard operation

After backwater the backwater valve *Staufix FKA* automatically re-opens, the connected drainage fixtures can be drained through the open channel again.

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

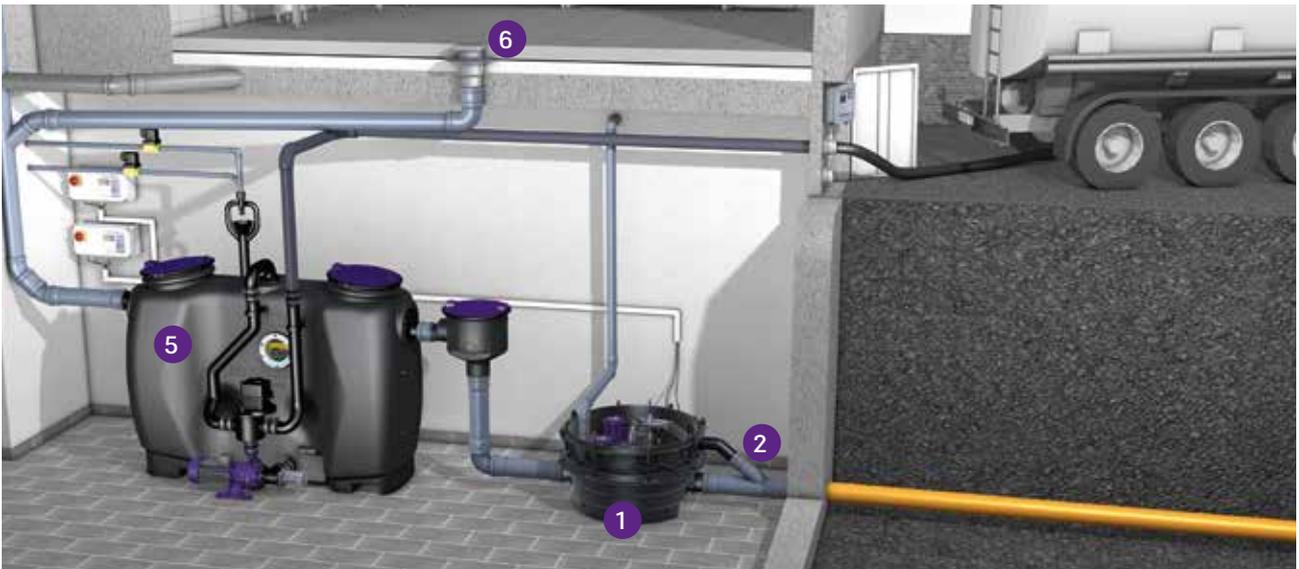
Pumping station	<i>Aqualift F</i> (Duo system)	<i>Aqualift F</i> (Duo system)
Pump type	TPF 1.3 KE	TPF 1.9 KE
Standard	EN 12050-1	EN 12050-1
Feed rate	max. 15 m ³ /h	max. 20.5 m ³ /h
Pumping height	max. 17.5 m	max. 32.0 m
Rated power	2×1.3 kW	2×1.9 kW
Input power	2×1.75 kW	2×2.6 kW
Operating voltage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

**Please enter the desired values

Ecolift XL Installation examples

- 1 Hybrid lifting station
- 2 Pressure pipe
- 3 Engineering chamber
- 4 Pressure relief chamber
- 5 Grease separator
- 6 Floor drain

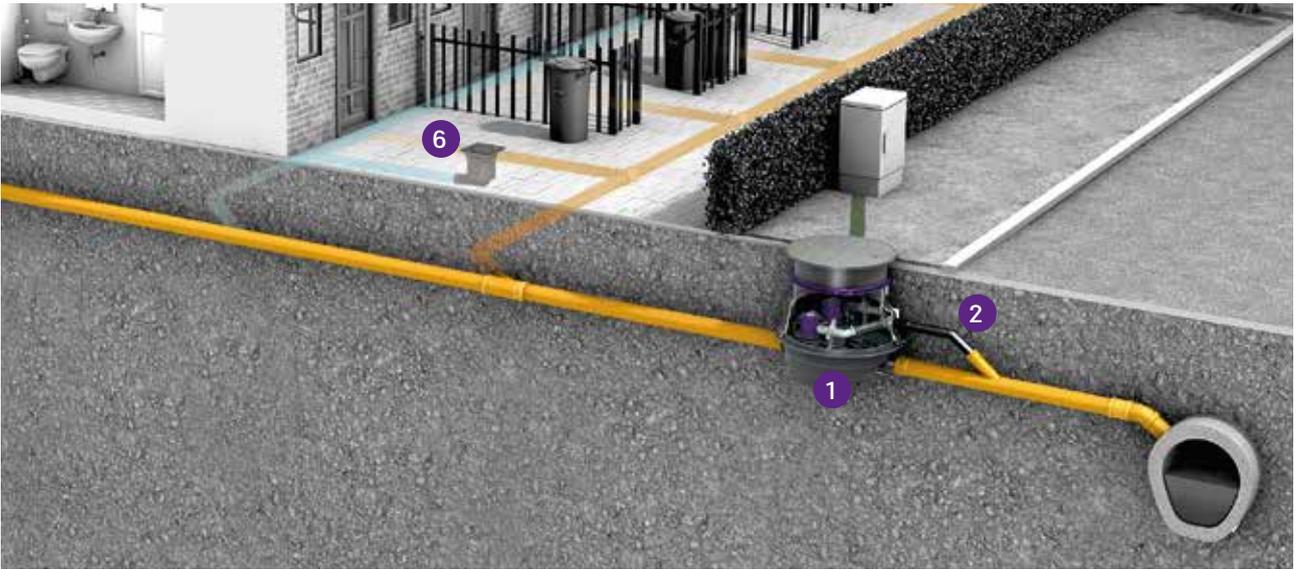
Free standing installation



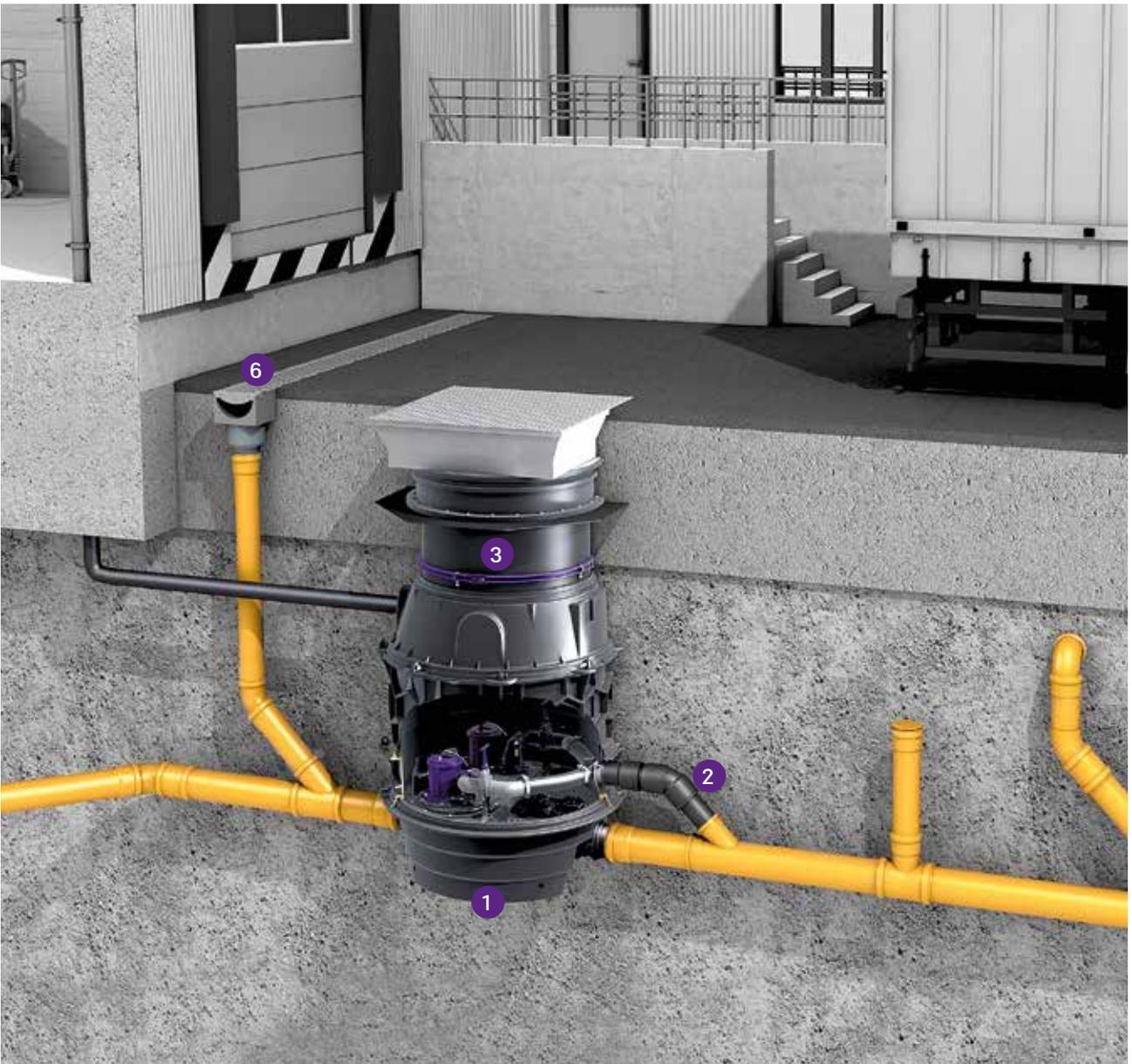
For installation depth up to 5 m



For underground installation outside buildings



For installation in a concrete floor

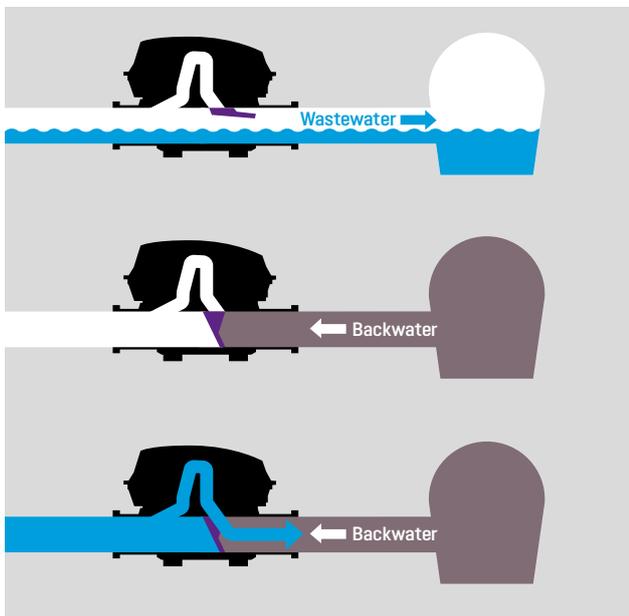


Backwater pumping station *Pumpfix F*

The unique backwater solution.

More than a backwater valve: *Pumpfix F* is the only backwater valve that pumps against the backwater. In normal operation, the backwater pumping station continuously disposes of the wastewater via the slope to the main sewer, making it energy-neutral. In the event of backwater, the backwater flap closes automatically and when wastewater arises this is pumped against the backwater pressure. The integrated cutting system shreds solids meaning the *Pumpfix F* can be used with wastewater containing sewage. It can also drain basement staircases up to 5 m².

Pumpfix F is available in two variants – for installation in an exposed drainage pipe and for floor slab installation, where you can choose between a black cover or tileable cover.



How it works

Pumpfix F is the only backwater valve with hybrid function: In normal operation it uses the natural slope to the sewage pipe. In the event of backwater from the sewage pipe, the pump is automatically switched on in order to reliably pump the building's wastewater into the flooding sewer.

Ventilation

Integrated ventilation eliminates the requirement for costly roof ventilation pipes

Motor

Automatically closes the backwater flap in the event of backwater

Body with only 9 mm gradient

Ideal for renovation work

Installation kit for the floor slab with integrated drainage function

The backwater valve is available for floor slab installation and can also be installed in waterproof concrete by using an extension piece with central flange and an elastomer waterproofing membrane. The integrated drainage function ensures that any surface water, for example due to a pipe break, will be pumped into the sewer even during times of backwater.

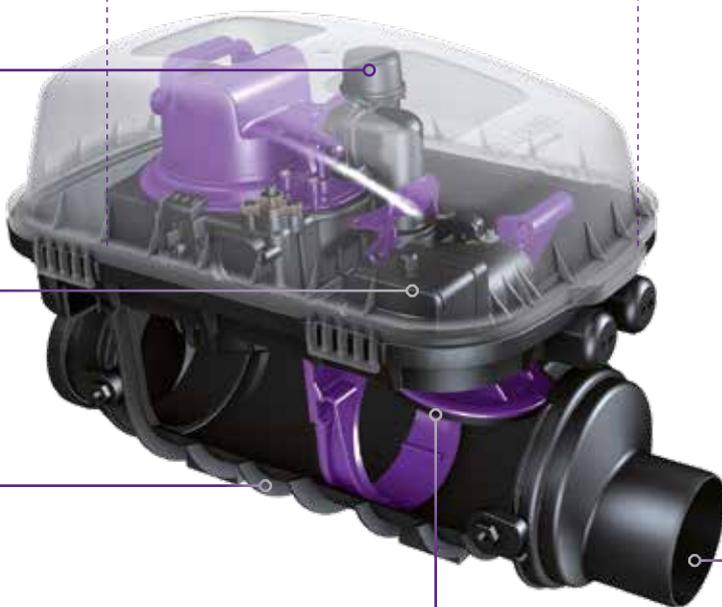


New Comfort version

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



Plug & Play control unit with self-diagnosis system SDS for maximum safety



Motorized Flap

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

Removable inlet / outlet connections – also in Ø 200

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

Backwater pumping station *Pumpfix F*

Installation in a concrete slab/floor



Z-53.2-388

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

For installation depth (D) from 486 – 640 mm, Installation area 750 × 750 mm

With surface water tight polymer cover plate class A 15 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).

Note:

With S1-pump, without macerator, capable for continuous operation: on request

➤ Accessories:

Extension sections for installation in waterproof concrete see page 22 – 23

➤ Installation examples: page 24 – 25



Outer diameter
Ø (mm)

L × H in mm

Art. no.

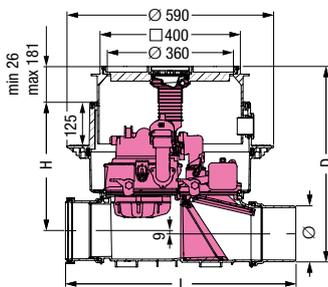
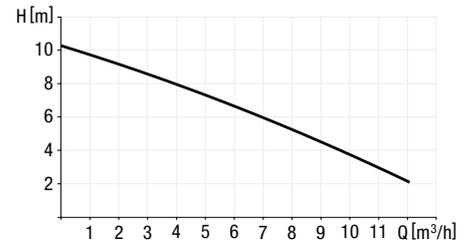
With recessed cover for on-site tiling and drain

Ø 110	642 × 394	24 100X
Ø 125	645 × 387	24 125X
Ø 160	656 × 370	24 150X
Ø 200*	720 × 348	24 200X

With black cover and drain

Ø 110	642 × 394	24 100S
Ø 125	645 × 387	24 125S
Ø 160	656 × 370	24 150S
Ø 200*	720 × 348	24 200S

Pumping capacity



Z-53.2-388

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

Backwater pumping station *Pumpfix F*

Installation in an exposed wastewater pipe



Z-53.2-388

Made of polymer, 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).

Note:

With S1-pump, without macerator, capable for continuous operation: on request

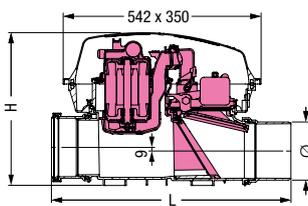
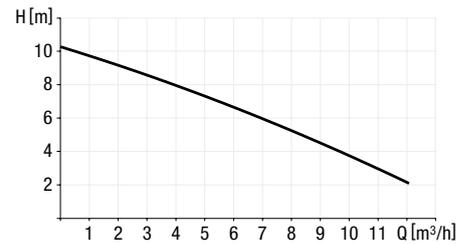
➤ **Accessories:** page 22 – 23

➤ **Installation examples:** page 24 – 25



Outer diameter Ø (mm)	L × H in mm	Art. no.
Ø 110	642 × 422	24 100
Ø 125	645 × 422	24 125
Ø 160	656 × 422	24 150
Ø 200*	720 × 422	24 200

Pumping capacity



Z-53.2-388

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

Accessories

Pumpfix F

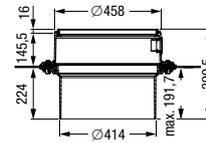
Extension sections

for installation in a concrete floor

Art. no.

with centre flange

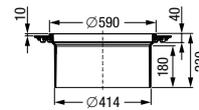
Additional function: For installation in water-proof concrete
Inclusive: Temporary construction debris cover, fully assembled, gasket set (counter flange made of polymer, screwed, elastomer sealing sheet made of NK/SBR Ø 800 mm)
Extension: Max. 360 mm



83 075

with flange and counter flange

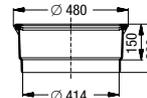
Additional function: For connection to an on-site sealing sheet
Inclusive: Screws
Extension: Max. 140 mm (In case of deeper installation ensure maintenance capability!)



83 073

with gasket

Extension: Max. 180 mm (In case of deeper installation ensure maintenance capability!)



83 070

Cable extensions

for extension from 15 m or 25 m (Pumpfix F supplied with 5 meter cables)

Art. no.

Cable extension for motor (10 m)

Extension to 15 m: 1×80 890
Extension to 25 m: 2×80 890



80 890

Cable extension for probe (10 m)

Extension to 15 m: 2×80 889
Extension to 25 m: 4×80 889



80 889

Cable extension for pump (10 m)

Extension to 15 m: 1×80 891
Extension to 25 m: 2×80 891



80 891

Cover plates

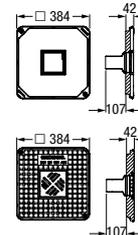
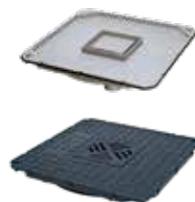
for installation in a concrete floor

Cover

Art. no.

with drain Ø 75

Inclusive: Gasket, *Multistop*
Version recessed for on-site tiling, grey: For tile thicknesses of 18 mm
Version black: With integrated grating



tileable

83 045

black

83 046

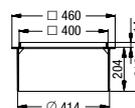
Upper section

for installation in a concrete floor

Art. no.

Size 220 mm

Version: With flange
Extension: Max. 180 mm, height adjustable



83 061

Accessories

Pumpfix F

Hygiene and odour stop

Compatibility see product description

			Art. no.
Multistop	Function: Odour, foam, rodent and insect stop Compatibility: Art. no. 83 045 and 83 046		43 500
Hair filter	Compatibility: Art. no. 83 045 and 83 046		43 700

Spigot and Socket

for backwater valves

			Outer diameter Ø (mm)	Art. no.
Spigot	Function: Removable		Ø 110	83 081
			Ø 125	83 082
			Ø 160	83 083
			Ø 200*	83 084
Socket	Function: Removable		Ø 110	83 085
			Ø 125	83 086
			Ø 160	83 087
			Ø 200*	83 088

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

Control unit accessories

Compatibility see product description

			Art. no.
Audible alarm	Compatibility: For all control units with SDS function Cable length: 20 m		20 162
Access code potential-free contact	Compatibility: For Comfort control units beginning model year 2017		80 077

Pumpfix F Installation examples

- 1 Backwater pumping station
- 2 Control unit
- 3 Gasket set to prevent groundwater infiltration

For installation in an exposed wastewater pipe



For installation in a concrete slab / floor



This is KESSEL.

Since 1963, KESSEL has stood like no other company for innovative and safe draining technology. We have established ourselves as the impulse generator of the branch for decades and are now a premium international supplier.



500+
employees



**103 million
euros**
annual turnover (2018)



92,920 m²
factory space



54
export markets

Alongside continuous quality assurance, environmental protection, energy efficiency as well as health and safety at work are especially important to us – both in production and during the operation of our product solutions at the customer's.

We also set great store by sustainability in our customer relations. For this reason, we offer a unique range of services from consultation and planning through installation and commissioning to regular maintenance.

One thing is certain: we remain with quality, innovation, safety and service at the top among the leaders in technology development to live up to our vision again and again:

KESSEL – Leading in drainage



Made in Germany



The KESSEL plant Lenting (Germany)

Leading in drainage.

No matter whether the task involves discharging water, wastewater treatment or backwater protection: if the best solution is required, there is no option but KESSEL.

Backwater protection

Pump technology

Separator technology



For further information
visit

www.kessel.com

BIM

files available at
www.kessel.com



Rights reserved for technical changes.

KESSEL AG

Bahnhofstraße 31 • 85101 Lenting • Germany

www.kessel.com