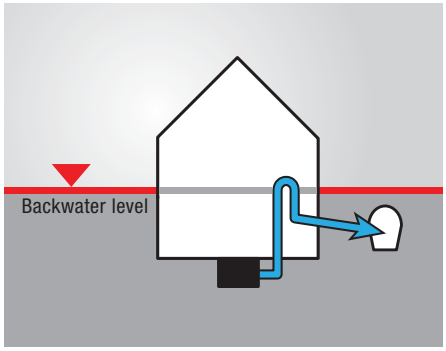
3 Wastewater lifting stations

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

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

For wastewater
with sewage

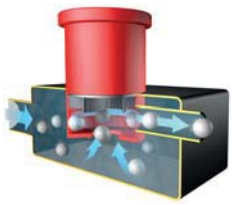
When it comes to draining toilets and urinals, sewage lifting stations must be used. The lifting stations of the ***Aqualift F*** series are available for installation in the interior or exterior of buildings. All lifting stations are also available as twin stations.

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.

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).



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

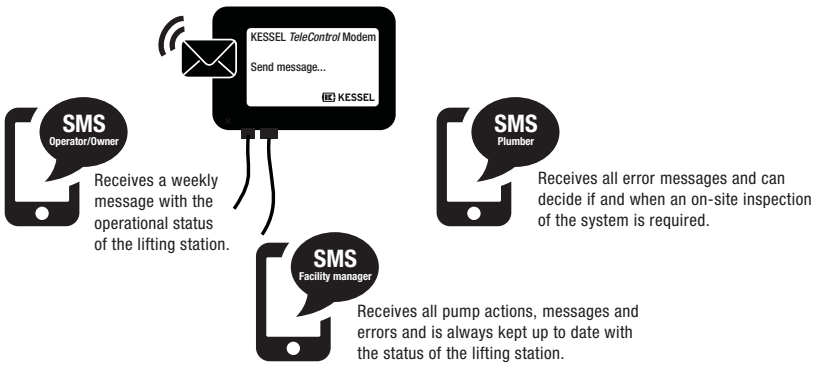
The use of basements to provide further space for accommodation is becoming increasingly important. Frequently, toilets, showers or washing facilities are located in the basement. For such applications, KESSEL supplies lifting stations for installation in concrete floors. These lifting stations simply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

Which standards must be taken into account?

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

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

Selection criteria - lifting stations

FOR WASTEWATER CONTAINING RAW SEWAGE

	Minilift F	*Aqualift F Basic*	*Aqualift F Compact*	*Aqualift F*	*Aqualift F XL*	*Aqualift F*	*Aqualift F XL*
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

	Minilift	*Aqualift S*	*Aqualift S*	*Aqualift S XL*
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.

YouTube

Single- / Twin station
40 liter tank volume

Compact and powerful lifting stations

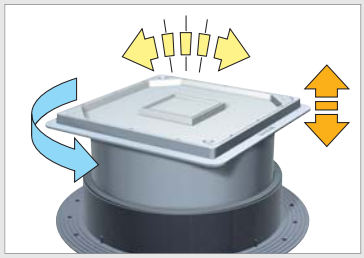
Wastewater lifting stations
Aqualift F Compact
for installation in a concrete floor

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

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.

Single station
40 liter tank volume

Twin station
40 liter tank volume

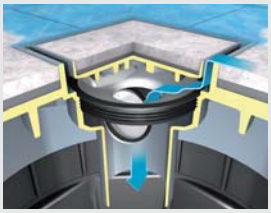
Lifting station
for wastewater disposal from a single toilet

Wastewater lifting stations ***Aqualift F Compact***

for free standing installation

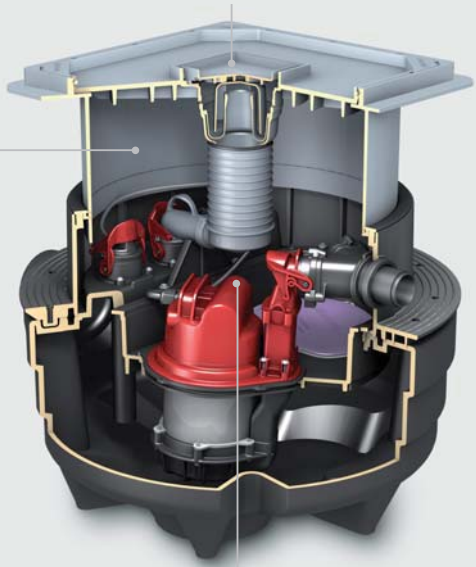
Compact lifting station ***Minilift F***

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.# 28 701-C

MAXIMUM SAFETY THANKS TO CONTROL UNIT WITH SDS

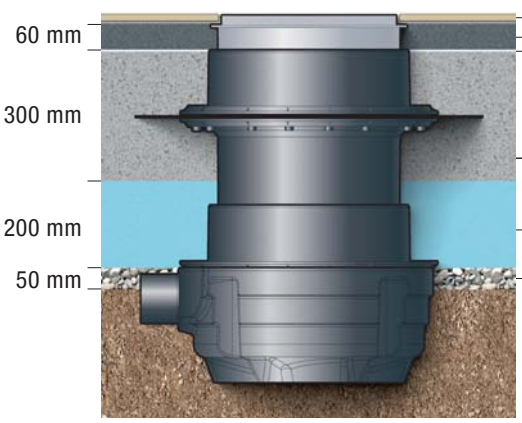
The intelligent control unit with integrated self-diagnosis system SDS and battery buffering continually monitors all electric functions and keeps an electronic operating log which can be read out. If the pump is at a standstill for longer periods, it is automatically activated briefly once a week.

ACCESSORY

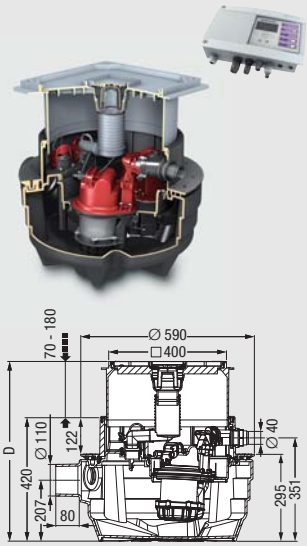
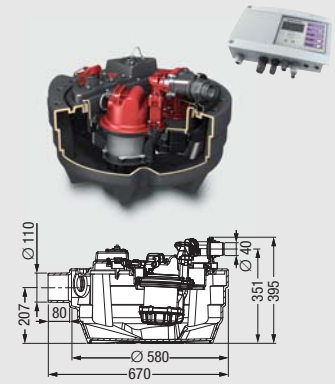
Telemetric system *TeleControl* available as accessory

TOOL FREE PUMP REMOVAL

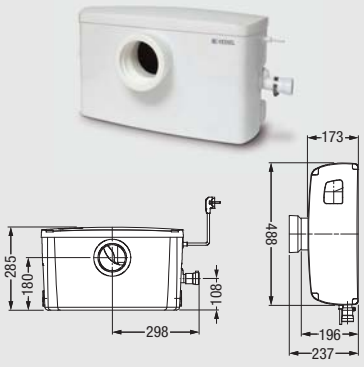
THERMAL INSULATION BELOW THE FLOOR (PERIMETER INSULATION)

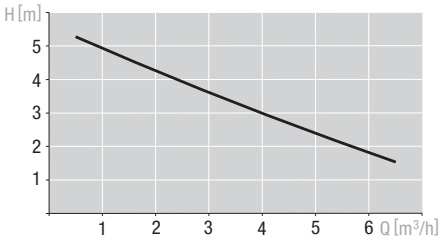


Aqualift F Compact Mono — Installation in a concrete slab/floor or free-standing

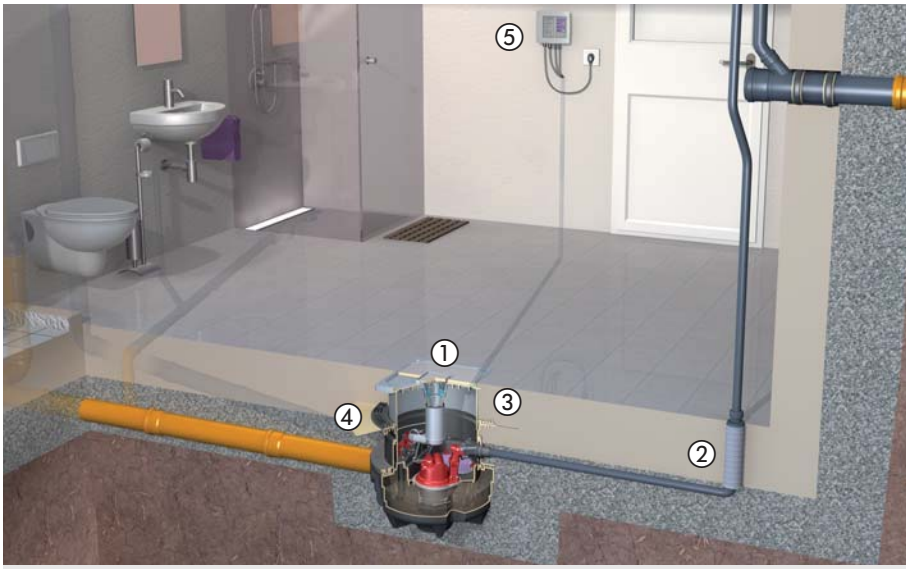
Illustration and dimensioned drawing	Article description	Input power	Voltage	Article #
 Illustration shows 2 Installation area 800 x 800 mm	**Lifting station *Aqualift F Compact Mono / Duo*** **for installation in a concrete slab/floor, with recessed cover for on-site tiling and drain** Installation depth (D) 490 to 600 mm With odour trap, sealing water height 50 mm With lateral inlet Ø 110 **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. 1 ***Aqualift F Compact Mono*** **with one removable pump**, pressure sensor controlled, with integrated backwater flap 2 ***Aqualift F Compact Duo*** **with two removable pumps**, pressure sensor controlled, with integrated backwater flap **With SDS control unit (self-diagnosis system)** for fully automatic pump control, splashwater-protected (IP 54), wall mounted. Pressure connection: 1½ inch outer thread or pressure pipe Ø 40 mm for PVC glued connection or pressure pipe set (accessories Art. # 28040) Pumping height: max. 9.5 m, Q_{max} = 10.9 m³/h Voltage: 230 V ~ 50 Hz. Power cable: 5 m. A ventilation pipe must be provided for on site.	**With recessed cover for on-site tiling**		
		1	1.0 kW	230 V	**28 701-C**
		2	1.0 kW	230 V	**28 704-C**
		With black cover			
		1	1.0 kW	230 V	**28 701S**
		2	1.0 kW	230 V	**28 704S**
 Illustration shows 2 Installation area 700 x 700 mm **Certification no. Z-53.2-484**	**Lifting station *Aqualift F Compact Mono / Duo*** **for free-standing installation** With lateral inlet Ø 110 1 ***Aqualift F Compact Mono*** **with one removable pump**, pressure sensor controlled, with integrated backwater flap 2 ***Aqualift F Compact Duo*** **with two removable pumps**, pressure sensor controlled, with integrated backwater flap **With SDS control unit (self-diagnosis system)** for fully automatic pump control, splashwater-protected (IP 54), wall mounted. Pressure connection: 1½ inch outer thread or pressure pipe Ø 40 mm for PVC glued connection or pressure pipe set (accessories Art. # 28040) Pumping height: max. 9.5 m, Q_{max} = 10.9 m³/h Voltage: 230 V ~ 50 Hz. Power cable: 5 m. A ventilation pipe must be provided for on site. CE **EN 12050-1 (max 2 WC connections)**	1	1.0 kW	230 V	**28 711-C**
		2	1.0 kW	230 V	**28 743-C**

Minilift F — For free-standing installation

Illustration and dimensioned drawing	Article description	Input power	Voltage	Article #
	**Compact lifting station *Minilift F*** **made of polymer** **for free-standing installation** **in frost protected rooms** Plug-and-play sewage lifting station with macerator for wastewater disposal from a single toilet. **For free-standing set-up** With pneumatic level control, with activated carbon filter, with dry room monitoring **EN 12050-3**	-	230 V	**28 520**



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

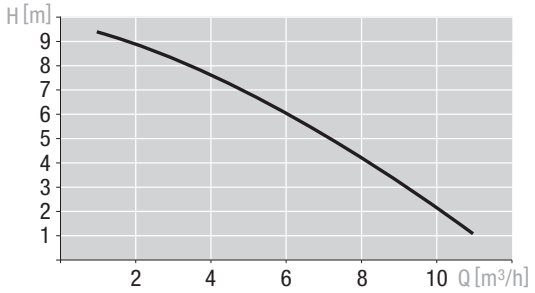
- **Plug & play Comfort control unit** with self-diagnosis system SDS for maximum safety.
- **Integrated drain function** to drain surface water. Continual drainage even in the event of incoming flood water or a pipe burst.
- **Variable upper section** rotatable, tiltable and height adjustable
- **Installation 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.

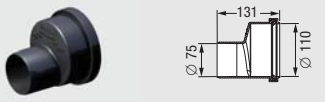
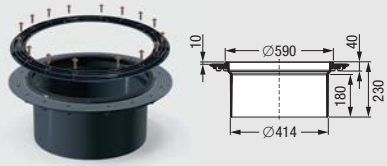
YouTube

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%

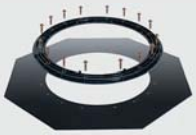
Performance Diagramme



Aqualift F Compact — Accessories

Illustration and dimensioned drawing	Article description	Outer diameter ∅ (mm)	Article #
For models made on or after Jan 2011	**Cover plate, surface water tight** Class A 15 With drain ∅ 75, includes ***Multistop*** odour, foam, rodent and insect stop incl. gasket		
	1 **recessed for on-site tiling, grey,** for tile thicknesses of 18 mm	-	**83 045**
	2 **with integrated grating, black**	-	**83 046**
	for article numbers: 28 701-C, 28 704-C		
	**Hair filter** made of polymer for article numbers: 83 045 and 83 046	-	**43 700**
	**Cover plate, surface water tight** Class A 15 made of polymer, incl. gasket Art. # 173-145		
	☐ **black** Ventilation always required when in use!	-	**83 050**
	☐ **recessed for on-site tiling, grey,** for tile thicknesses of 18 mm Ventilation always required when in use!	-	**83 052**
	for article numbers: 28 701-C, 28 704-C		
	**Upper section** made of polymer, max. extension 180 mm, height adjustable for article numbers: 28 701-C, 28 704-C	-	**83 061**
	**Transition section ∅ 110 / 75** ∅ 110 socket / ∅ 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	∅ 75/110	**27 602**
	**Extension section with centre flange** with elastomer sealing sheet made of NK/SBR ∅ 800 mm, incl. screws for article numbers: 28 701-C, 28 704-C	-	**83 075**
	**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	-	**83 073**
When multiple extension sections are used make sure that access to valve is still possible!			
	**Extension section** made of polymer, max. extension 180 mm, incl. gasket for article numbers: 28 701-C, 28 704-C	-	**83 070**
When multiple extension sections are used make sure that access to valve is still possible!			

Aqualift F Compact — Accessories

Illustration and dimensioned drawing	Article description	Outer diameter ∅ (mm)	Article #
 Waterproof concrete installation tested by MFPA Leipzig UB 5.1/11-452-1	**Gasket set** **for installation in waterproof concrete** Consisting of: **Counter flange** made of polymer, incl. screws, **elastomer waterproof membrane** in NK/SBR ∅ 800 mm for article numbers: 28 701-C, 28 704-C	-	**83 023**
	**Pressure pipe set** Incl. 5 m pressure pipe hose ∅ 40 for article numbers: 28 701-C, 28 704-C, 28 711-C, 28 743-C	∅ 40	**28 040**
	**Audible alarm** ☐ **20 m cable length** **suitable for all control units**	-	**20 162**
	**Potential-free contact** **for all *Aqualift* 230 V Comfort control units**	-	**80 072**
	**Compressor set** for use in combination with lifting stations and pumping stations with pressure control: ☐ 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. **PE-pressure hose extension (bulk goods)**	- -	**28 048** **680 071**
	**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.	-	**28 016**
 	***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. ***TeleControl* antenna booster** for *TeleControl* telemetric system incl. 2.5 m cable to improve reception. With magnetic base. **Antenna booster extension cable** cable length 2.5 m	- - -	**28 792** **28 793** **28 794**
	1 **Cable extension for probe** 10 m cable length 2 **Cable extension for pump** 10 m cable length	- -	**80 889** **80 891**

Explanation of cable extensions:

	Extension to 15 m	Extension to 25 m
Aqualift F Compact Mono 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 F Compact Duo 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**

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

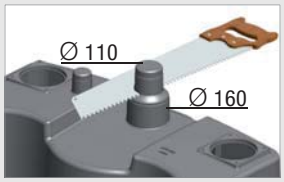
50 / 120 liter tank volume

Lifting stations ***Aqualift F Basic /*** Lifting stations ***Aqualift F***

for single-family homes, apartment blocks or small scale industrial use

INLET CONNECTION

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



PRESSURE SENSOR

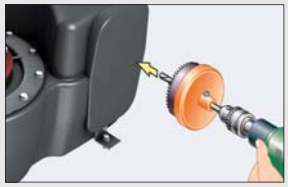
Pressure sensor controlled, multi-vane impellered pump.

ODOUR-TIGHT

100 % odour-tight access cover

ADDITIONAL INLETS

∅ 50 mm to ∅ 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

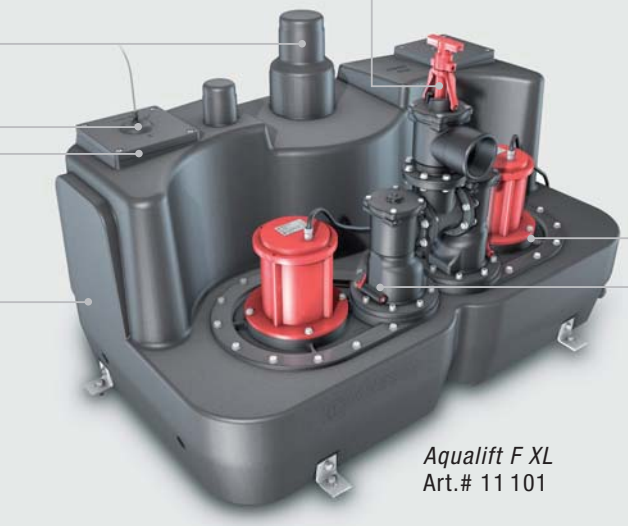
CLOSURE VALVE

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 accesory.



Aqualift F XL
Art.# 11 101

S1-PUMPS

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

TANK BASE

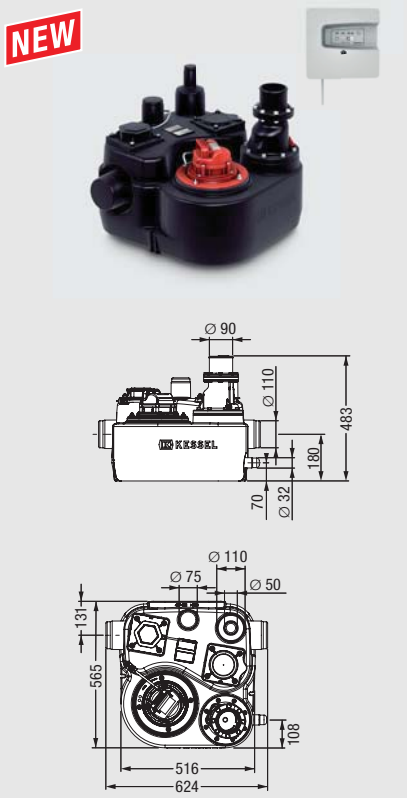
integrated sloped base directs wastewater to pump intake and prevents dirt being deposited.

INTEGRATED NON-RETURN VALVE

COMPACT DIMENSIONED BODIES

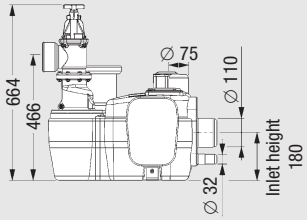
offer large storage capacities but still allow access through 800 mm wide doorways.

Aqualift F Basic — 50 liters

Illustration and dimensioned drawing	Article description	Voltage	SPF	Article #
NEW 	**Lifting station *Aqualift F Basic*** for free-standing installation in frost-free rooms **Tank volume: 50 liters** **Pump volume: 20 liters** Consisting of: **Polyethylene storage chamber** with screwed access opening. With sound-absorbing underlay mat (10 mm thick). Inlet connection from above Ø 50/110 mm. Two additional Ø 110 mm inlet connections at both sides. With Ø 75 mm vent connection. Connection coupling for manual diaphragm pump Ø 32 mm. **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. Including backwater preventer, with plastic spigot pressure outlet Ø 90 mm including elastic hose connection. **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. Total weight approx. 24 kg. CE **EN 12050-1**	230 V	1300-S3	**28 798**

Aqualift F Mono — 50 liters

Illustration shows Art. # 28 646-C



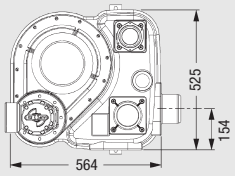


Illustration shows Art. # 28 648-C

Lifting station *Aqualift F Mono*
for free-standing installation in frost-free rooms
Tank volume: 50 liters
Pump volume: 20 liters
Consisting of:
Polyethylene storage chamber with clean-out opening. With sound-absorbing underlay mat (10 mm thick). Connection for inlet Ø 110 and ventilation Ø 75, connection coupling for manual diaphragm pump Ø 32 mm.

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 Ø 110 with hose section.

1 **Without closure valve (vertical pressure outlet)**
2 **With closure valve (horizontal pressure outlet)**

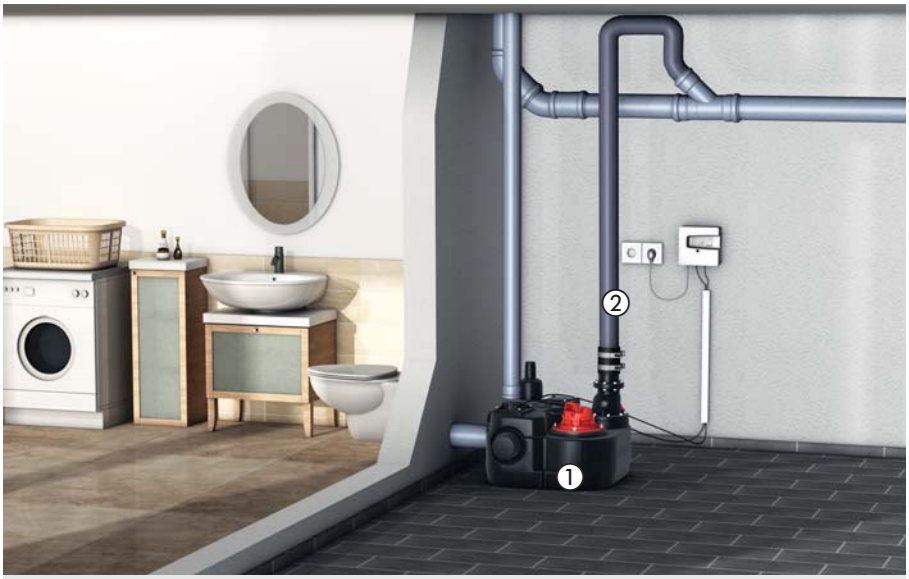
***Comfort* control unit**
with mains power ON / OFF switch and multilingual digital display (EN, DE, FR, IT, PL, NL) showing current operational status, settings and logbook; control unit is splash proof (IP 54), wall mounted, voltage 230 / 400 V at 50 Hz. With potential-free contact.

Total weight approx. 44 kg.

LGAPI Type-tested CE **EN 12050-1**

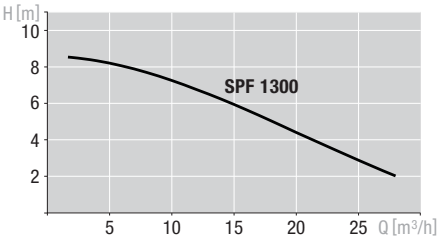
Voltage	SPF	Article #
1 Without closure valve		
230 V	1400-S3	**28 646-C**
400 V	1500-S3	**28 751**
400 V	3000-S3	**28 752**
2 With closure valve		
230 V	1400-S3	**28 648-C**
400 V	1500-S3	**28 753**
400 V	3000-S3	**28 754**

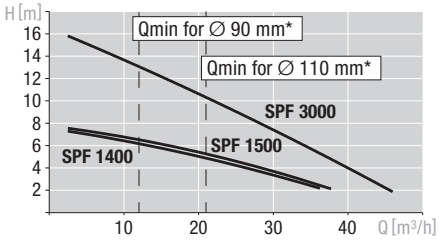
Installation example *Aqualift F Basic*



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 ∅ 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.

230 Volt  400 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 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 mm²	5 m Length, 3 x 1.0 mm²	5 m Length, 7 x 1.5 mm²	5 m Length, 7 x 1.5 mm²
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 m³/h	38 m³/h	40 m³/h	47 m³/h
Pumping height	9.2 m	7 m	8 m	16 m

Aqualift F Duo — 120 liters

Illustration shows Art. # 28 628-C

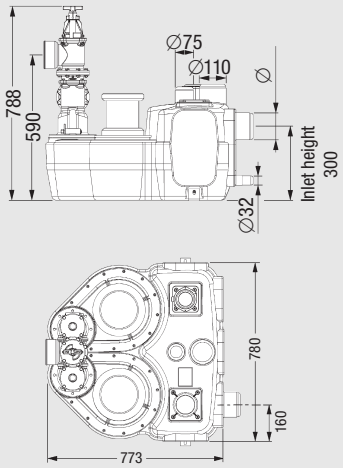


Illustration shows Art. # 28 629-C

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 ∅ 110 and ventilation ∅ 75, connection coupling for manualdiaphragm pump ∅ 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 ∅ 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.

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**

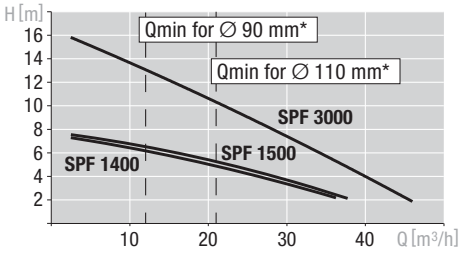
2 With closure valve

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**

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 ∅ 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.

230 Volt  400 Volt 

Comfort control unit

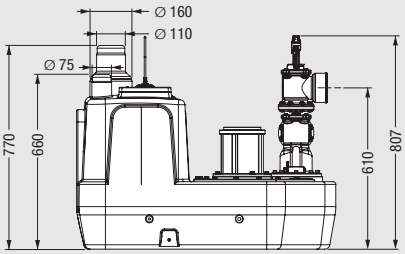
- User friendly navigation in multi-line display
- With self-diagnosis system SDS and memory function for the next service
- Displays current operational status
- Simple setting of parameters relevant for the function
- Operating hours counter
- Optional forwarding of alarm and general fault signals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

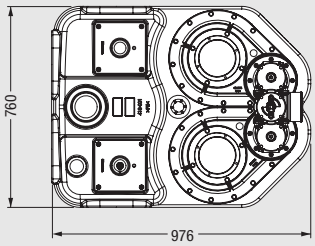
Type	SPF 1400	SPF 1500	SPF 3000
Input Power (P1)	1.6 kW	1.4 kW	3.2 kW
Power (P2)	1.1 kW	1.1 kW	2.7 kW
Voltage	230 V	400 V	400 V
Frequency	50 Hz	50 Hz	50 Hz
Amperage	7.3 A	2.7 A	5.4 A
Fuses	16 A surge-proof	3 x 16 A surge-proof	3 x 16 A surge-proof
Cable connections	5 m Length, 3 x 1.0 mm²	5 m Length, 7 x 1.5 mm²	5 m Length, 7 x 1.5 mm²
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 m³/h	40 m³/h	47 m³/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





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 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 **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 Ø 110)**
3. **with cast iron closure valve**

Twin pump lifting stations:

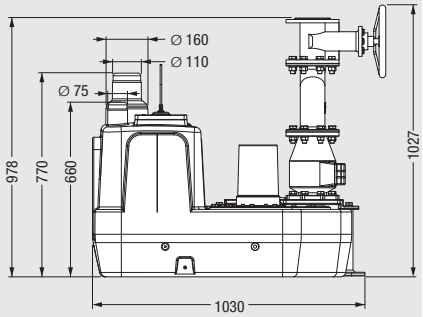
4. **without closure valve (vertical pressure outlet)**
5. **with plastic closure valve (horizontal pressure outlet Ø 110)**
6. **with cast iron closure valve (vertical pressure outlet DN 80)**

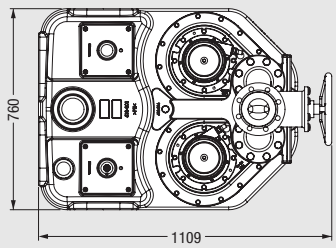
Comfort control unit with mains power ON / OFF switch and multilingual digital display (EN, DE, FR, IT, PL, NL) showing current operational status, settings and logbook; control unit is splash proof (IP 54), wall mounted, voltage 230 V or 400 V at 50 Hz.
With potential-free/BMS contact (optional at 230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

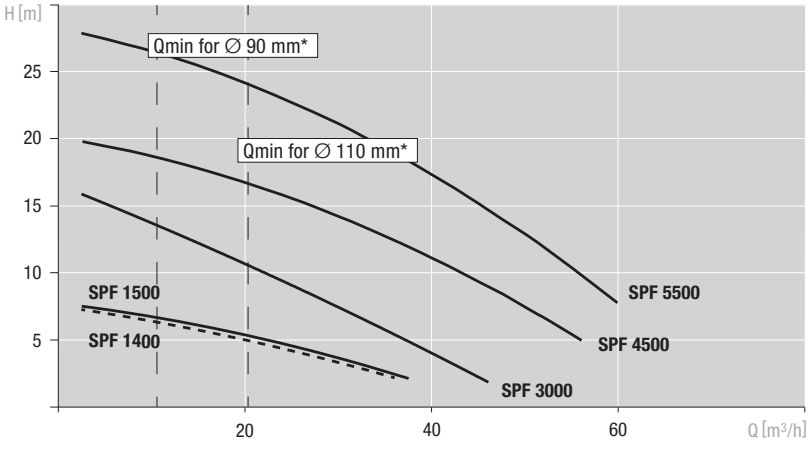
CE **EN 12050-1**

	Voltage	SPF	Article #
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**

Illustration shows Art. # 11 075



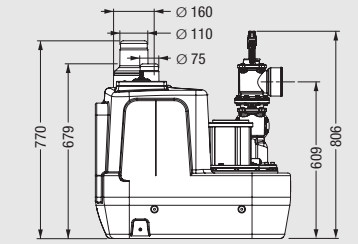




Aqualift F XL — 300 liters

Illustration and dimensioned drawing	Article description	Voltage	SPF	Article #

Illustration shows Art. # 11 101



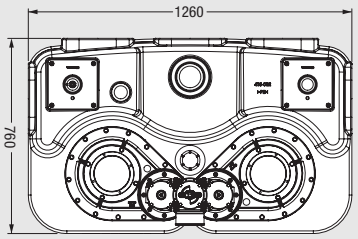
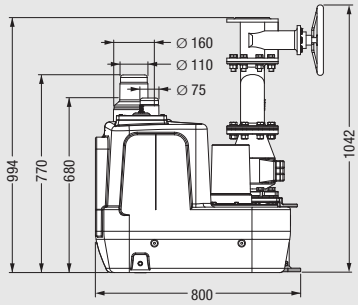
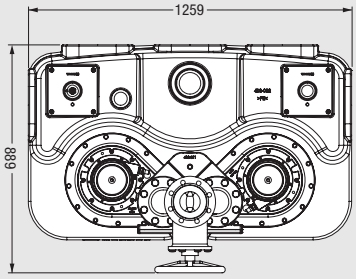


Illustration shows Art. # 11 113





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 ∅ 110 mm/160 mm, ventilation ∅ 75 mm and for manual diaphragm pump ∅ 32 mm. Horizontal inlet ∅ 50 mm to ∅ 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:

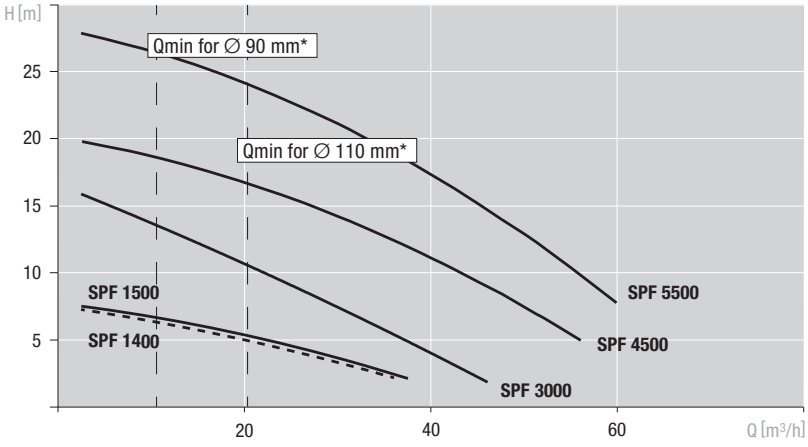
1. **without closure valve (vertical pressure outlet)**
2. **with plastic closure valve (horizontal pressure outlet ∅ 110)**
3. **with cast iron closure valve (vertical pressure outlet DN 80)**

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**

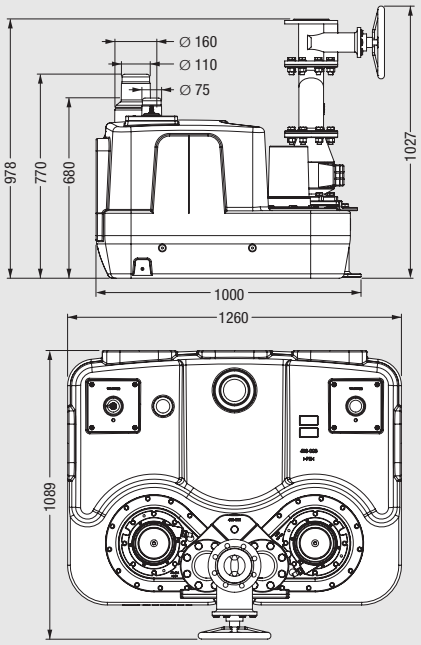
Twin pump lifting stations:

	Voltage	SPF	Article #
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 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 ∅ 110 mm/160 mm, ventilation ∅ 75 mm and for manual diaphragm pump ∅ 32 mm.
Horizontal inlet ∅ 50 mm to ∅ 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 ∅ 110)**
3. **with cast iron closure valve (vertical pressure outlet DN 80)**

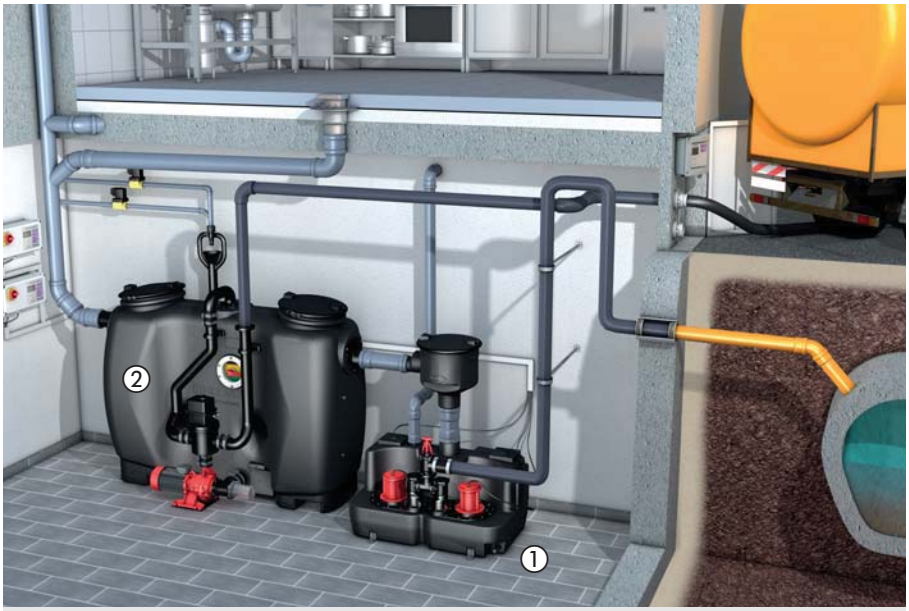
Comfort control unit with mains power ON / OFF switch and multilingual digital display (EN, DE, FR, IT, PL, NL) showing current operational status, settings and logbook; control unit is splash proof (IP 54), wall mounted, voltage 400 V at 50 Hz.
With potential-free/BMS contact.

CE **EN 12050-1**

Twin pump lifting stations:

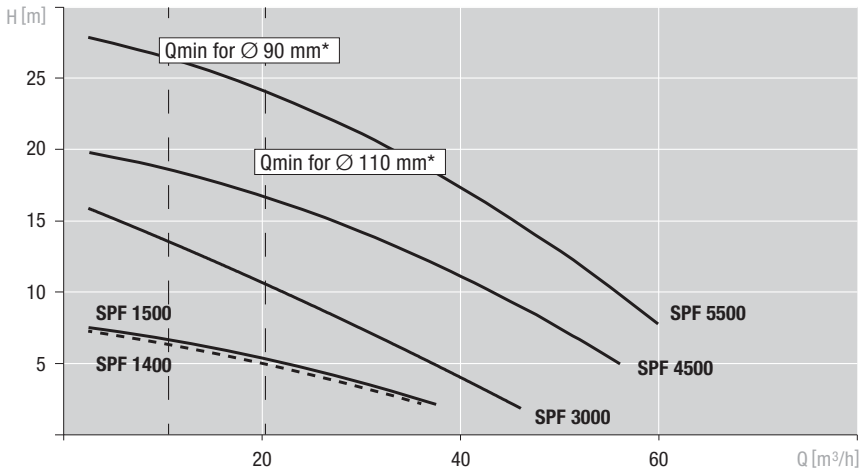
	Voltage	SPF	Article #
1	400 V	3000-S1	**11 115**
2	400 V	3000-S1	**11 116**
3	400 V	3000-S1	**11 118**
1	400 V	3000-S3	**11 054**
2	400 V	3000-S3	**11 055**
3	400 V	3000-S3	**11 057**
1	400 V	4500-S1	**11 126**
3	400 V	4500-S1	**11 127**
3	400 V	4500-S3	**11 070**
1	400 V	5500-S3	**11 082**
3	400 V	5500-S3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

Installation example *Aqualift F XL*



① Lifting station ② Grease separator *EasyClean*

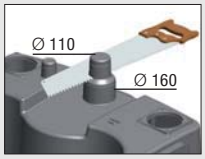
The wastewater is pumped by the *Aqualift F XL* lifting station fully automatically upwards via the backwater loop to the sewage system. A greater pumping capacity if more wastewater occurs is guaranteed by a second pump switching on automatically. Long pump service life thanks to alternating operation. 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

Professional advantages

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



- **Additional inlet connections on-site**
  Inlets from size ∅ 50 mm to ∅ 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.

230 Volt

400 Volt

Comfort control unit

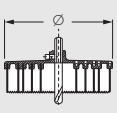
- User friendly navigation in multi-line display
- With self-diagnosis system SDS and memory function for the next service
- Displays current operational status
- Simple setting of parameters relevant for the function
- Operating hours counter
- Optional forwarding of alarm and general fault signals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

Type	SPF 1400	SPF 1500	SPF 3000	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

Aqualift F / Aqualift F XL / Aqualift F Duo XXL — Accessories

Illustration and dimensioned drawing	Article description	Outer diameter ∅ (mm)	Article #
	**Audible alarm** ☐ **20 m cable length** **suitable for all control units**	-	**20162**
	**Potential-free contact** **for all *Aqualift* 230 V Comfort control units**	-	**80072**
	**Compressor set** for use in combination with lifting stations and pumping stations with pressure control: ☐ 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.	-	**28048**
	PE-pressure hose extension (bulk goods)	-	**680071**
 	**Closure valve** for all lifting stations ***Aqualift F***	∅ 110	**28683**
	Closure valve made of polymer for installation on inlet side (no pressure) for all lifting stations ***Aqualift F***	∅ 110 ∅ 160	**28698** **28699**
	**Manual diaphragm pump 1 1/2 inch** for manually pumping wastewater. With a ball valve on inlet and outlet side	1 1/2 inch	**28680**
 	**Pipe sealing gasket** (EPDM) Use KESSEL hole saw when drilling. for lifting stations ***Aqualift F***		

Nominal pipe diameters DN in mm	Outer pipe diameters ∅ in mm	Drill size mm	
50	50	60	**850114**
70	75	90	**850116**
100	110	118	**850117**
125	125	134	**850118**
150	160	170	**850119**
200	200	212	**850123**

 	**Hole saw** for drilling lateral surfaces for inlets and outlets ∅ **50, 75, 110, 125 and 160** (Saw blade holder ∅ = 190 mm)	-	**50100**
	∅ **200** (Use a drill with at least 1000 W)	-	**50102**

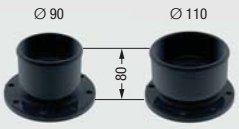
Aqualift F XL — Accessories

Illustration	Article description	Outer diameter ∅ (mm)	Article #
	**Alarm float switch upgrade set for *Aqualift F XL* lifting station** For use with 230 V and 400 V Comfort control units. Consists of float switch, support plate, cover and 5 meter connection cable.	-	**28 014**
	**Alarm float switch upgrade set for *Aqualift F* and *F Duo* lifting stations** For use with 230 V and 400 V Comfort control units. Consists of float switch, support plate, cover and 5 meter connection cable.	-	**28 015**
	***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 *TeleControl* 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**
	**Backflow preventer** in cast iron with DN 80 flange according to DIN 2501; Backflow preventer with flap and flap opening lever	DN 80	**28 021**
	**Cast iron connection adaptor** for connection from *Aqualift F XL* to on-site pressure pipe DN 80 (OD 90 mm) DN 100 (OD 110 mm) For use with PE and SML pressure pipes, with DIN 2501 flange, includes single gasket	∅ 90 ∅ 110	**28 067** **28 020**

Aqualift F XL — Accessories

Illustration	Article description	Outer diameter ∅ (mm)	Article #
	**Flexible pressure pipe connection** Length – 200 mm		
	☐ **for PE and SML pipe connections** For use with KESSEL ***Aqualift F*, *Aqualift F XL*** lifting stations	∅ 90 ∅ 110	**28 662** **28 663**
	☐ **for cast iron pipe connections** For use with KESSEL ***Aqualift F XL*** lifting stations	∅ 100 ∅ 120	**28 664** **28 665**
	**Flange adaptor from DN 80 to DN 100** in cast iron Flange according to DIN 2501 For use with cast iron pressure pipes	-	**28 068**
	**Cast iron connection adaptor** in cast iron For connection from *Aqualift F XL* 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	∅ 98 ∅ 118	**28 069** **28 072**
	**Gate closure valve** in cast iron With DN 80 flange according to DIN 2501, gate closure valve including closure wheel	DN 80	**28 041**
	**Y-Coupling** in cast iron With DN 80 (OD 80 mm) flange according to DIN 2501, Y-coupling for use with *Aqualift F XL* twin pump lifting stations	∅ 80	**28 042**
	**Sealing gasket (rubber)** according to DIN 2501 For pressure pipe connections	DN 80 DN 100	**28 043** **28 044**

Aqualift F XL — Accessories

Illustration	Article description	Outer diameter ∅ (mm)	Article #
	**Closure valve** **in PE** vertical, DN 90, for the pressure pipe of KESSEL lifting stations with plastic fitting	∅ 90	**28 715**
	**Closure valve with flange adaptor** **in PE** vertical, DN 90, for the pressure pipe of KESSEL lifting stations with plastic fitting, with screwed flange adaptor	∅ 90	**28 716**
	**Flange adaptor DN 80** **in PE** from KESSEL fitting to standard flange DN 80	DN 80	**28 714**
	**Connection flange** **in PE** for KESSEL plastic fittings	∅ 90 ∅ 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.

YouTube

The hygienic alternative to a pump sump

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

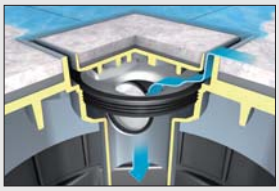
Lifting stations ***Aqualift S***
for installation in a concrete slab/floor

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 ∅ 110, above the compression flange and in the extension section up to ∅ 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

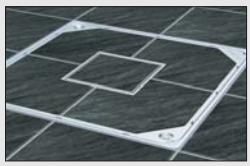
Single pump systems
Ideal for renovation work

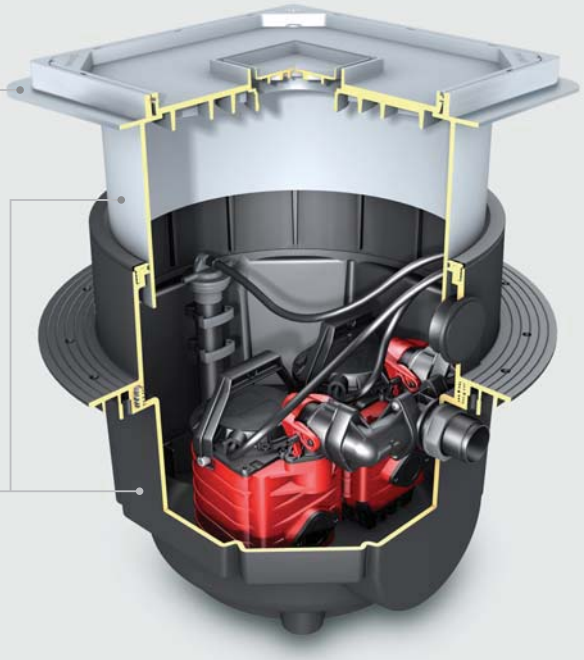
Lifting station ***Aqualift S***
for free-standing installation

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 ∅ 50 and ∅ 75.

Minilift

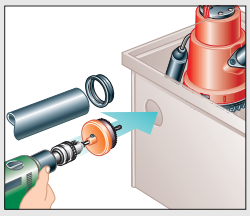
The mobile *Minilift* lifting station for free-standing installation fits under any sink; a washing machine, shower or other inlets can all be connected at the same time.

CLEANING AND MAINTENANCE

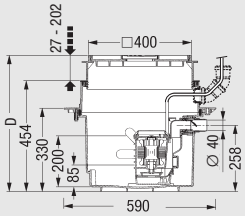
Pump removal without tool thanks to “one-handed snap closure”, also suitable for mobile use.

FURTHER INLETS

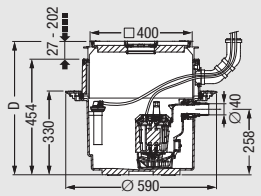
Connection of further inlets ∅ 50 and ∅ 75 directly on site.



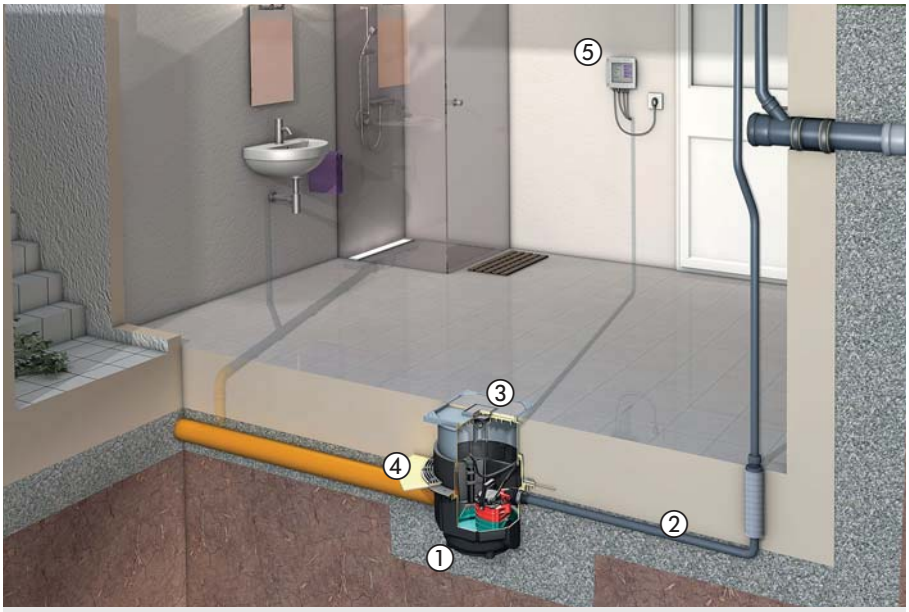
Aqualift S — Installation in a concrete slab/floor

Illustration and dimensioned drawing	Article description	Outer diameter ∅ (mm)	Article #
	**Lifting station *Aqualift S***		
	for wastewater without sewage, made of polymer	1 **With recessed cover for on-site tiling**	
	For installation in a concrete slab/floor, Installation depth (D) 481 mm to 656 mm	∅ 40	**28 500**
	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.	2 **With black cover** ∅ 40	**28 500S**
	1 **with recessed cover for on-site tiling with drain**		
	2 **with black cover with drain** NEW		
	Pressure connection: 1 1/2 inch outer thread, Pressure pipe ∅ 40 mm for PVC glued connection or pressure pipe set. 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	Version with powerful *GTF 1000* pump on request **individual@kessel.de**	
Installation area 700 x 700 mm	**Optional:** Hair filter page 110		
	LGAI Type-tested CE **EN 12050-2**		

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

	**Lifting station *Aqualift S Tronic / Aqualift S Duo***		
	for wastewater without sewage, made of polymer		
	For installation in a concrete slab/floor, Installation depth (D) 481 mm to 656 mm		
	With telescopic upper section for continuous height and level adjustment, class A 15, with integrated drain, with moisture protective sealing flange, integrated backwater flap.		
	1 **with recessed cover for on-site tiling with drain**		
	2 **with black cover with drain** NEW		
Illustration shows Art. # 28 530-C	Pressure connection: 1 1/2 inch outer thread, Pressure pipe ∅ 40 mm for PVC glued connection or pressure pipe set. Max. particle size: 10 mm. max. pumping height: 7 m. Voltage: 230 V ~ 50 Hz.		
	***Aqualift S Tronic* with removable, pressure sensor controlled pump, optical alarme probe,** Input power: 0.48 kW. Power cable: 5 m. Weight: approx. 19 kg.	1 ∅ 40 2 ∅ 40	**28 550-C** **28 550-S**
	***Aqualift S Duo* with two removable, pressure sensor controlled pumps,** Input power: 2 x 0.48 kW. Power cable: 5 m. Weight: approx. 26 kg. **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.	1 ∅ 40 2 ∅ 40	**28 530-C** **28 530-S**
Installation area 700 x 700 mm	**Optional:** Audible alarm page 111, hair filter page 110		
	LGAI Type-tested CE **EN 12050-2**		

Installation example *Aqualift S*

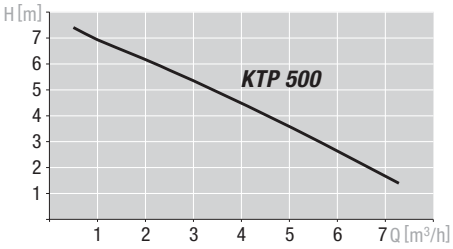


① Lifting station *Aqualift S*
② Pressure pipe set (Art. # 28 040)
③ Integrated drain
④ Gasket set
⑤ Control unit

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.

Type	***KTP 500-S1***
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

- **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.

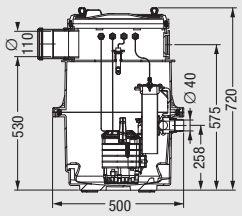
230 Volt 

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)

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

Aqualift S Duo — For free-standing installation

Illustration and dimensioned drawing	Article description	Outer diameter ∅ (mm)	Article #
 	**Lifting station *Aqualift S Duo*** **made of polymer for free-standing installation** **With twin removable, pressure sensor controlled pumps,** integrated backwater flap, Inlet ∅ 110, ventilation connection ∅ 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. Pressure connection: 1½ inch outer thread or pressure pipe ∅ 40 mm for PVC glued connection. Inlet height: 530 mm Total height: 720 mm, ∅ 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 Ideal for connection downstream from small grease separator systems. CE **EN 12050-2**	∅ 40	**28 541-C**

Version with powerful *GTF 1000* pump on request
individual@kessel.de

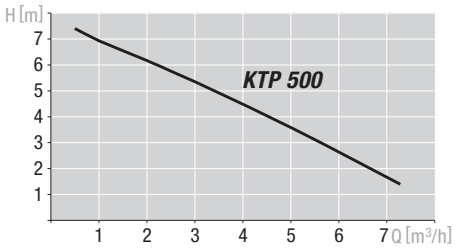
Installation example *Aqualift S*

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	***KTP 500-S1***
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

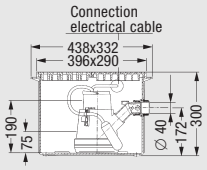
- **Connection of several inlets**
  Alongside the standard inlet ∅ 110, further inlets (∅ 50, ∅ 75) can be connected following scoring using a hole saw (Art. # 50 101).
- **Long pump service life** thanks to alternating operation.
- **Particularly suitable as a lifting station connected downstream from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

230 Volt 

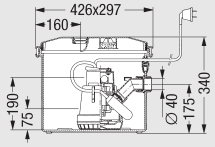
Comfort control unit

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

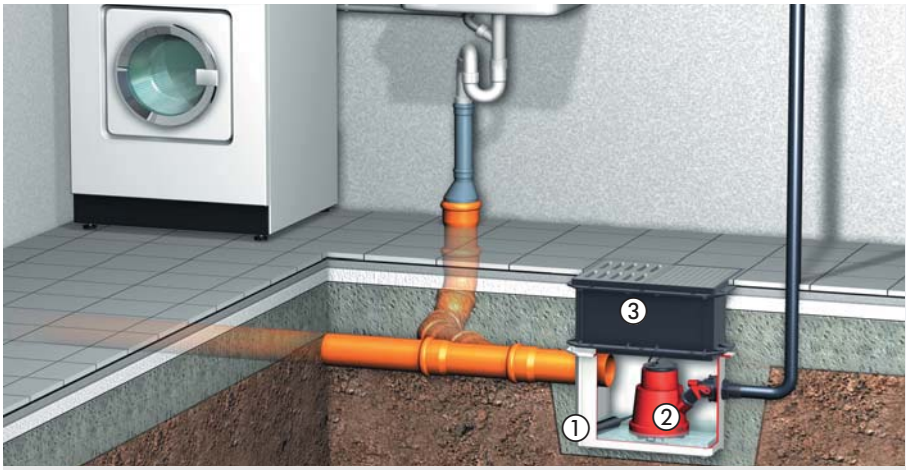
Minilift — Installation in a concrete slab/floor

Illustration and dimensioned drawing	Article description	Outer diameter ∅ (mm)	Article #
  Installation area 500 x 400 mm	**Lifting station *Minilift*** **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 ∅ 40 mm for PVC glued connection or pressure pipe set. 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 CE EN 12050-2	∅ 40 Version with powerful *KTP 500* pump on request **individual@kessel.de**	**28 570**

Minilift — For free-standing installation

 	**Lifting station *Minilift*** **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 ∅ 40 mm for PVC glued connection 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 With activated charcoal filter CE EN 12050-2	∅ 40 Version with powerful *KTP 500* or *GTF 1000* pump on request **individual@kessel.de**	**28 560**

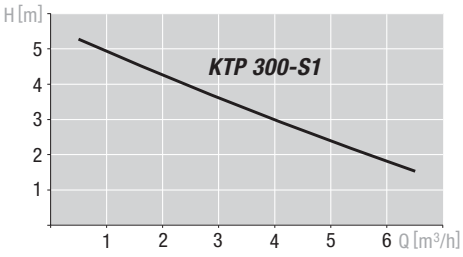
Installation example *Minilift*



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.

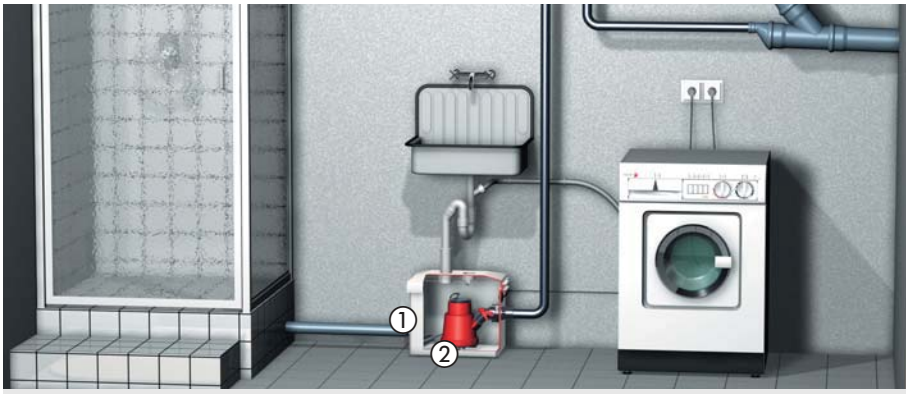
Type	*KTP 300-S1*
Current type	Alternating current
Voltage	230 V
Current	2.27 A
RPM	2800 min^{-1}
Motor protection	integrated
Plug	Schuko, 1.6 m cable



Professional advantages

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

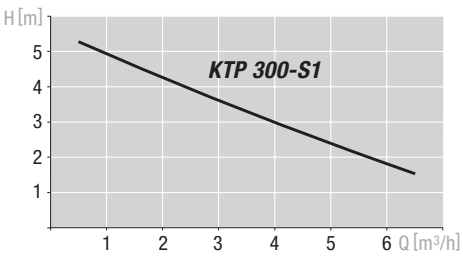
Installation example *Minilift*



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 ∅ 40 mm. It is also possible using a screw connection 11/2 inch to connect the pressure pipe to the lifting station.

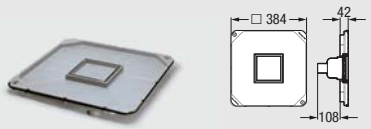
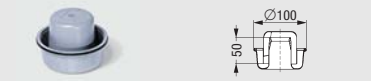
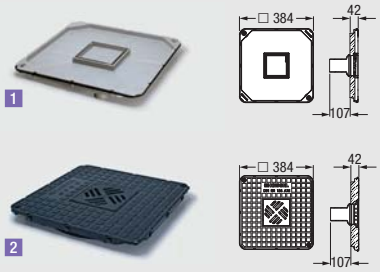
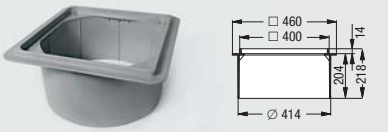
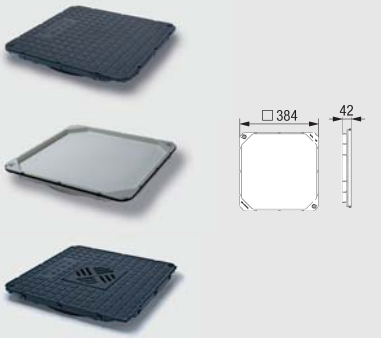
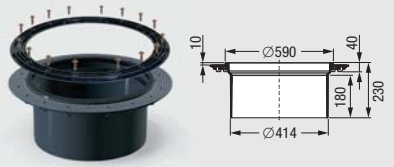
Type	*KTP 300-S1*
Current type	Alternating current
Voltage	230 V
Current	2.27 A
RPM	2800 min^{-1}
Motor protection	integrated
Plug	Schuko, 1.6 m cable



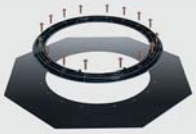
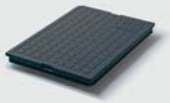
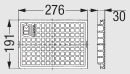
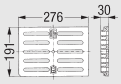
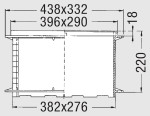
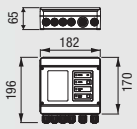
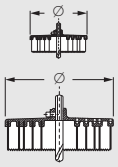
Professional advantages

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

Aqualift S / Minilift — Accessories

Illustration and dimensioned drawing	Article description	Outer diameter ∅ (mm)	Article #
 Waterproof concrete installation tested by MFPA Leipzig UB 5.1/11-452-1	**Gasket set** **for installation in waterproof concrete** Consisting of: **Counter flange** made of polymer, incl. screws, **elastomer waterproof membrane** in NK/SBR ∅ 800 mm for article numbers: 28 500, 28 550-C, 28 530-C	-	**83 023**
 	**Cover plate** Class A 15 ☐ **grey** ☐ **black** for article numbers: 28 570	- -	**30 003 W** **30 003 S**
 	**Cover with grating** Class A 15 ☐ **grey** ☐ **black** for article numbers: 28 570	- -	**30 001 W** **30 001 S**
 	**Extension section** made of polymer Height = 220 mm for deep installation for article numbers: 28 570	-	**32 500**
 	**Alarm** ☐ **with electrode probe** ☐ **with optical probe** for article numbers: 28 500	- -	**20 220** **20 221**
 1  2	1 **Audible alarm** ☐ **20 m cable length** 2 **Potential-free contact** **for all *Aqualift* 230 V Comfort control units**	- -	**20 162** **80 072**
	**Pressure pipe set** incl. 5 m pressure pipe hose ∅ 40 for article numbers: 28 500, 28 550-C, 28 530-C	∅ 40	**28 040**
 	**Hole saw ∅ 50, 75, 110** (Saw blade holder ∅ = 145 mm) **Hole saw ∅ 50, 75, 110, 125 and 160** (Saw blade holder ∅ = 190 mm)	- -	**50 101** **50 100**
 	**Pipe sealing gasket** (EPDM) Use KESSEL hole saw when drilling. for article numbers: 28 500, 28 550-C, 28 530-C, 28 560, 28 541-C	∅ 50 ∅ 75 ∅ 110 ∅ 125 ∅ 160	**850 114** **850 116** **850 117** **850 118** **850 119**
	1 **Cable extension for probe** 10 m cable length 2 **Cable extension for pump** 10 m cable length	- -	**80 889** **80 891**

Explanation of cable extensions:

	Extension to 15 m	Extension to 25 m
Aqualift S Tronic Art. # 28 550-C Cable length delivered 5 m	1 x **80 889** 2 x **80 891**	1 x **80 889** 2 x **80 891**
Aqualift S Art. # 28 530-C and 28 541-C Cable length delivered 5 m	1 x **80 890** 2 x **80 889**	1 x **80 890** 4 x **80 889**

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Pumping stations for underground installation

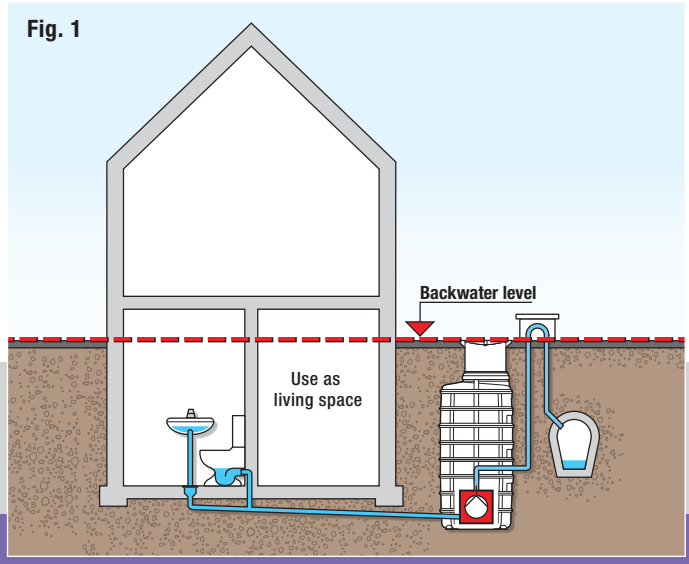


Fig. 1
Lifting station outside the building in the KESSEL system chamber

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 ∅ 1000 mm

Aqualift F XL
for wastewater with or without sewage

Chamber systems ∅ 600 / 1000 mm

Aqualift F / F XL
for wastewater with or without sewage

Chamber systems ∅ 600 / 1000 mm

Aqualift S / S XL
for wastewater without sewage

SELECTION CRITERIA

	Aqualift F	*Aqualift F XL* (dry-installation)	*Aqualift F XL*	*Aqualift F XL*	*Aqualift S*	*Aqualift S XL*
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 ∅	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

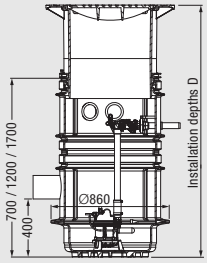
* The product is suitable for installation in potentially explosive atmospheres

2


3


4

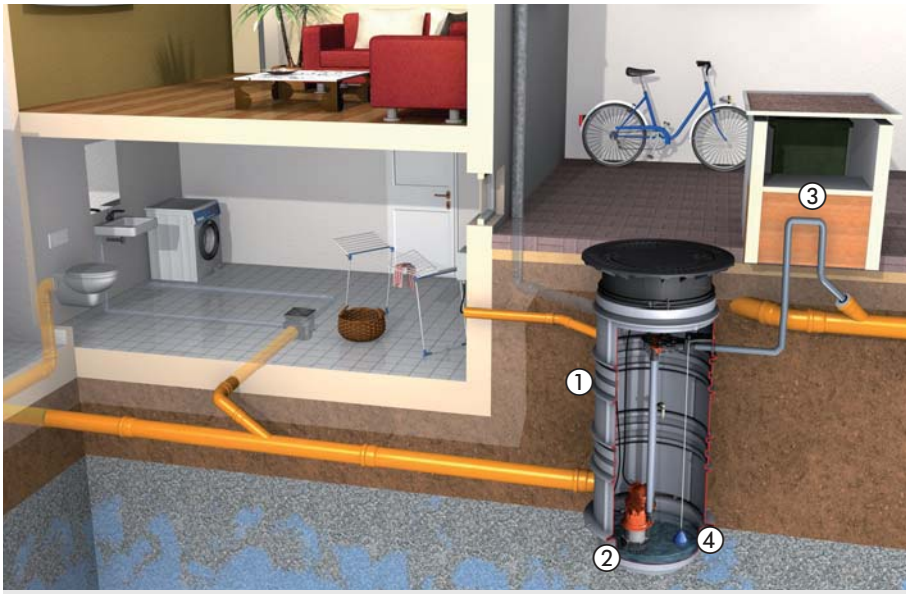
Aqualift F ∅ 600



Installation depths (D):	
D 1	800 - 1250 mm
D 2	1300 - 1750 mm
D 3	1800 - 2250 mm

Illustration and dimensioned drawing	Article description	Installation depths	Article # Class A*	Article # Class B	Article # Class D
	Pumping station *Aqualift F* with macerating / cutting pumps in inspection chamber system ∅ 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)	1 D1: D2: D3:	827 710 A 827 720 A 827 730 A	827 710 B 827 720 B 827 730 B	827 710 D 827 720 D 827 730 D
	2 ***STZ 1000* pressure sensor controlled, removable pump,** IP 54 SDS control unit (230 V / 50 Hz)	2 D1: D2: D3:	827 711 A 827 721 A 827 731 A	827 711 B 827 721 B 827 731 B	827 711 D 827 721 D 827 731 D
	3 ***STZ 1000* pressure sensor controlled, removable twin pumps,** IP 54 SDS control unit (230 V / 50 Hz)	3 D1: D2: D3:	826 711 A 826 721 A 826 731 A	826 711 B 826 721 B 826 731 B	826 711 D 826 721 D 826 731 D
	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 ∅ 160, connection for pipe gasket for ∅ 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 ∅ 40 mm (version B/D) or ∅ 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				
	CE **EN 12050 (max 2 WC connections)**				

Installation example pumping station *Aqualift F* ∅ 600

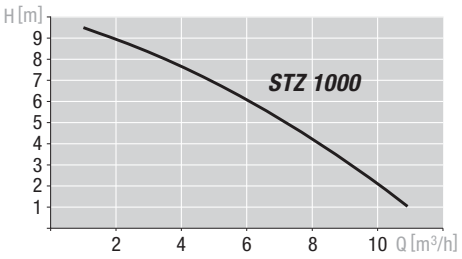


① Pumping station
② Pump
③ Pressure pipe
④ Pressure sensor

The pumping station *Aqualift F* ∅ 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	*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 %
Pumping capacity	11.5 m³/h
Pumping height	10 m

Performance Diagram



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*

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.

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 ∅ 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

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

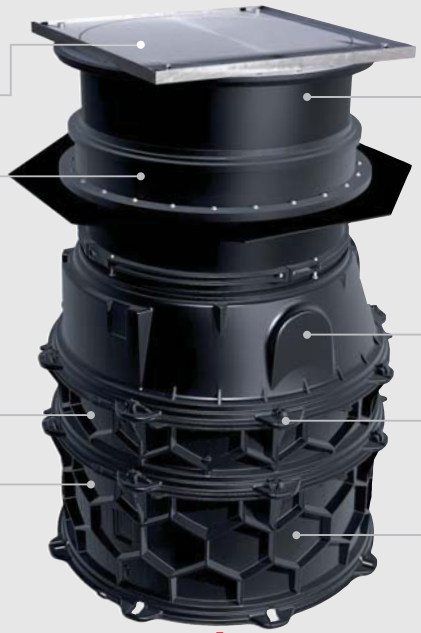
with DIBt approval Z-42.1-527 and according to EN 13598-2

Stainless steel or cast iron covers up to Class D

Upper section ∅ 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 ∅ 600 mm or ∅ 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 ∅ 160 mm can be installed on-site.

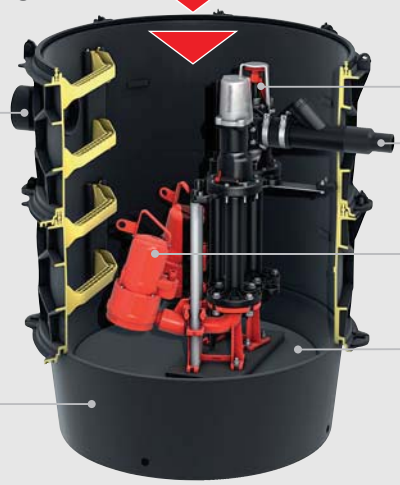
2. ENGINEERING SYSTEM BASE

in combination with the engineering system chamber

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

With inlet ∅ 160 mm

Systems base groundwater resistant up to 3000 mm



Closure valve with safety clip to prevent unintentional closing

Pressure pipe connection ∅ 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

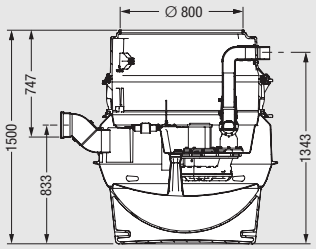
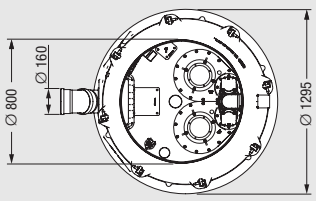
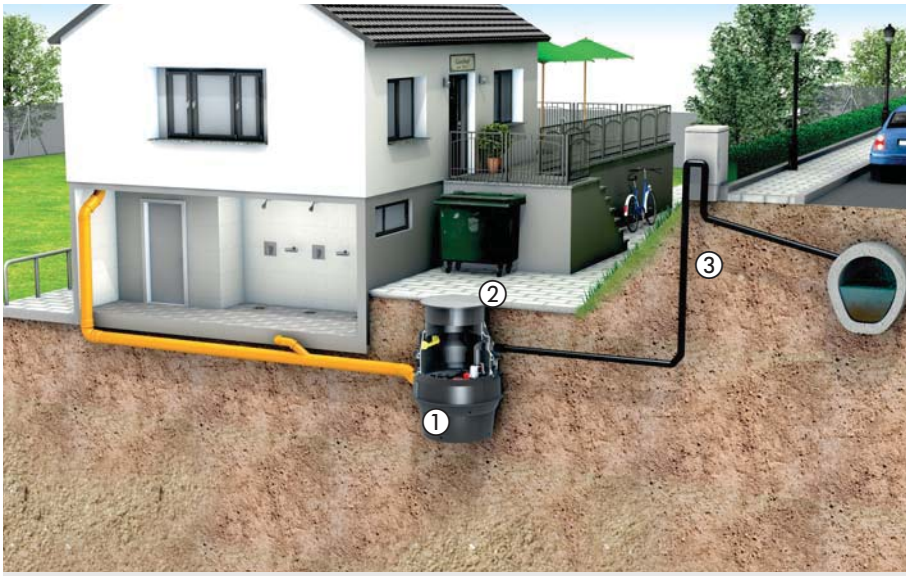
Illustration and dimensioned drawing	Article description		Voltage	Pump SPF	Article #
  Dry installation   **Approval pending**	**Engineering systems base** ☐ **with welded on chamber ring and tapered section ∅ 800 mm for minimum installation depth *Aqualift F XL Mono / Duo* pumping station** for wastewater 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 ∅ 160 mm / pressure pipe connection ∅ 90 mm				
	1 **Mono version** with one SPF pump **with Comfort control unit** including backflow preventer and closure valve on pressure pipe side	1	230 V 400 V 400 V 400 V	1400-S3 1500-S3 3000-S3 4500-S3	**874 20 12** **874 20 13** **874 20 14** **874 20 15**
	2 **Duo version** with two SPF pumps **with Comfort control unit** including backflow preventer and closure valve on pressure pipe side	2	230 V 400 V 400 V 400 V 230 V 400 V 400 V 400 V	1400-S3 1500-S3 3000-S3 4500-S3 1400-S1 1500-S1 3000-S1 4500-S1	**874 20 16** **874 20 17** **874 20 18** **874 20 19** **874 20 20** **874 20 21** **874 20 22** **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 #
1  2  3  4  5 6  7 NEW 	**To be ordered separately:** **Upper section ∅ 800** made of polymer, **with covers:**			
	☐ **made of stainless steel, square**, class A/L 15			
	1 **- tileable**	D: min. 65 - max. 314 mm	1 without waterproof flange	**874 01 75**
	2 **- tileable**	D: min. 282 - max. 531 mm	2 with waterproof flange	**874 01 76**
	3 **- stainless steel cover**	D: min. 50 - max. 299 mm	3 without waterproof flange	**874 01 77**
	4 **- stainless steel cover** anti-slip	D: min. 267 - max. 516 mm	4 with waterproof flange	**874 01 78**
	☐ **made of stainless steel, square**			
	5 **class B**	D: min. 274 - max. 523 mm	5 without waterproof flange	**874 01 79**
	6 **class D**	D: min. 274 - max. 523 mm	6 without waterproof flange	**874 01 80**
	☐ **made of stainless steel, round**			
	7 **class K 3**	D: min. 65 - max. 314 mm		**874 01 81**

Underground installation outside buildings



① Pumping station *Aqualift F XL*
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 ∅ 160
- 2 additional pre-scored areas ∅ 50 x ∅ 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:

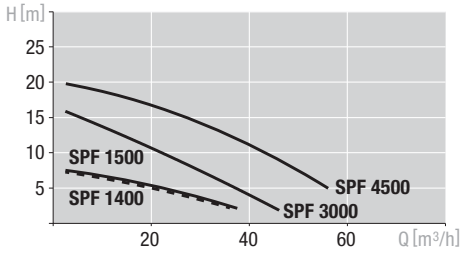
☐ **SPF 1400-S3** 50 %
☐ **SPF 1400-S1** for continuous duty (e.g. rainwater)
Pumping capacity: max. 38 m³/h
Pumping height: max. 7 m

☐ **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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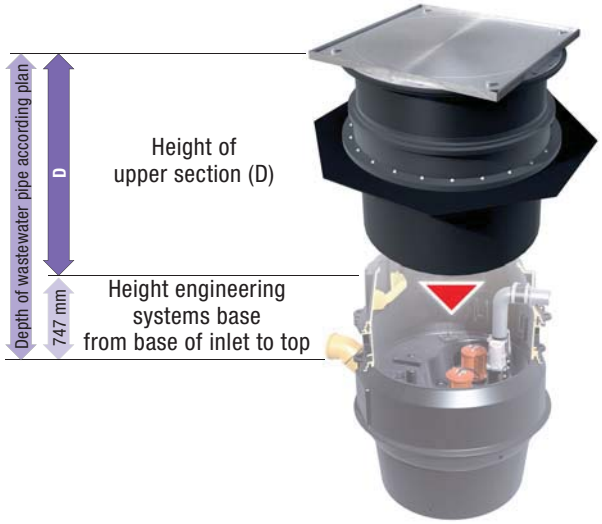
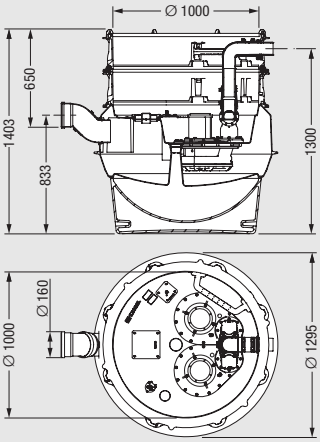


Aqualift F XL — For installation depth up to 5 m

Dry installation



Approval pending

Illustration and dimensioned drawing	Article description		Voltage	Pump SPF	Article #
	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 Ø 160 / discharge outlet Ø 90 mm				
	Mono version with one SPF pump **with Comfort control unit** including backflow preventer 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**
	Duo version with two SPF pumps **with Comfort control unit** including backflow preventer and closure valve on pressure pipe side	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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Underground installation

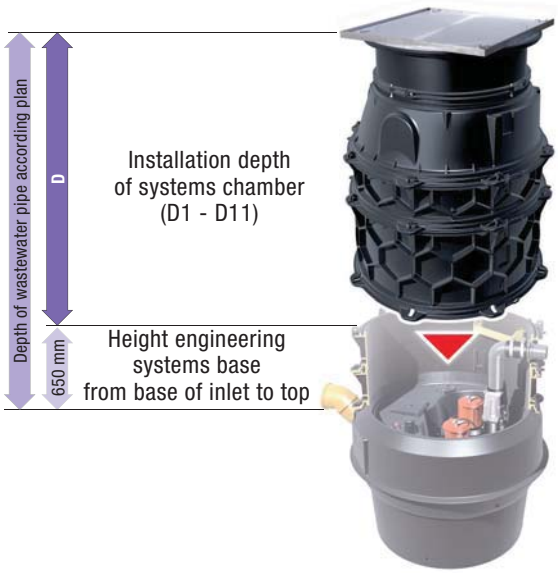
To be ordered separately:

System chambers

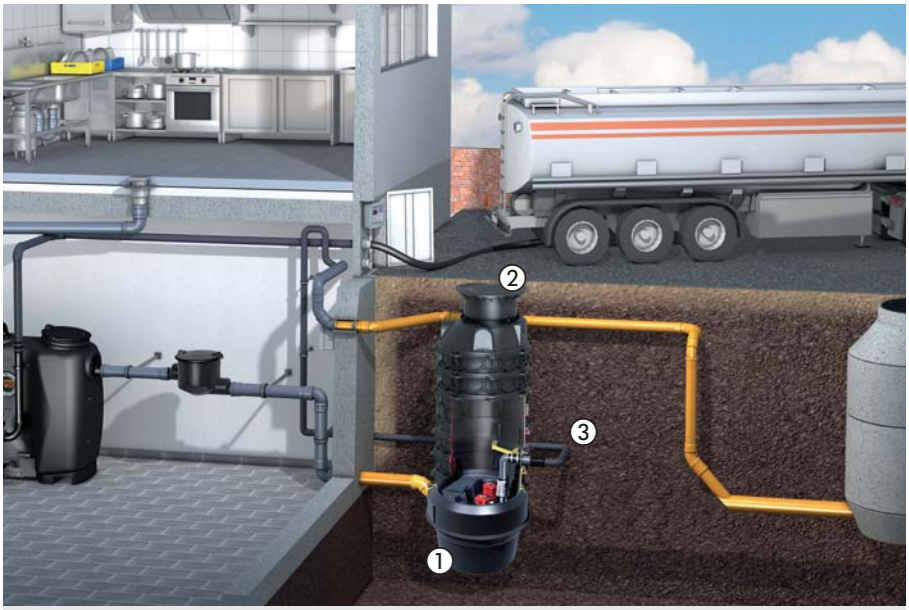
☐ **for installation in the ground**
(For order items see page 130-131)

☐ **for installation in a concrete slab**
(For order items see page 131)

Approval Z-42.1-527



Underground installation 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 ∅ 160
- 2 additional pre-scored areas ∅ 50 x ∅ 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:

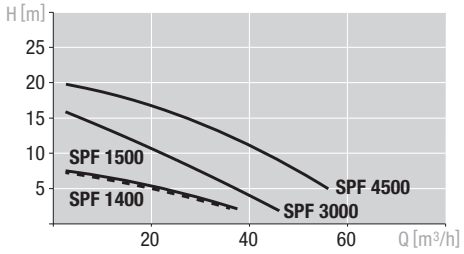
☐ **SPF 1400-S3** 50 %
☐ **SPF 1400-S1** for continuous duty (e.g. rainwater)
Pumping capacity: max. 38 m³/h
Pumping height: max. 7 m

☐ **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

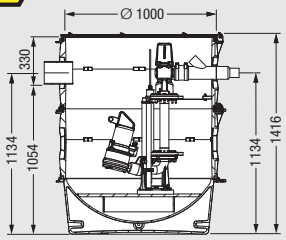
Performance Diagram



Engineering system base *Aqualift F XL Mono / Duo* — With macerator pumps

Wet installation

NEW



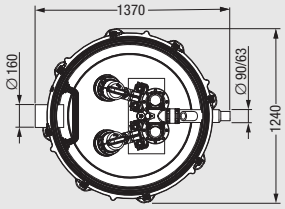


Illustration and dimensioned drawing	Article description	Pump STZ	Voltage	Pumping-volume	Article #
	Engineering systems base ☐ **with welded on chamber ring** ***Aqualift F XL Mono / Duo* pumping station** **ATEX version** for wastewater with or without sewage **Tank volume approx. 680 liters** **Pumping 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 Ø 160 mm / pressure pipe connection Ø 63 / 90 mm.				
	1 **Mono version with Comfort control unit**, with one STZ pump, 400 V, with hydrostatic sensor including backflow preventer closure valve on pressure pipe side	1 1300-S1 2500-S1 3700-S1	400 V 400 V 400 V	310 liters 310 liters 310 liters	**874 30 14** **874 30 15** **874 30 16**
	2 **Duo version with Comfort control unit**, with two STZ pumps, 400 V, with hydrostatic sensor including backflow preventer and closure valves on pressure pipe side	2 1300-S1 2500-S1 3700-S1	400 V 400 V 400 V	300 liters 300 liters 300 liters	**874 30 17** **874 30 18** **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				

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Underground installation

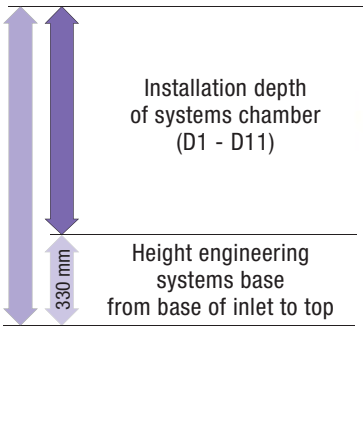
To be ordered separately:

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



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.
YouTube

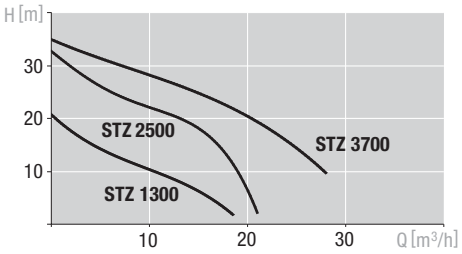
Pump type:

☐ **STZ 1300-S1** for continuous duty (e.g. rainwater)
Pumping capacity: max. 20 m³/h
Pumping height: max. 21 m

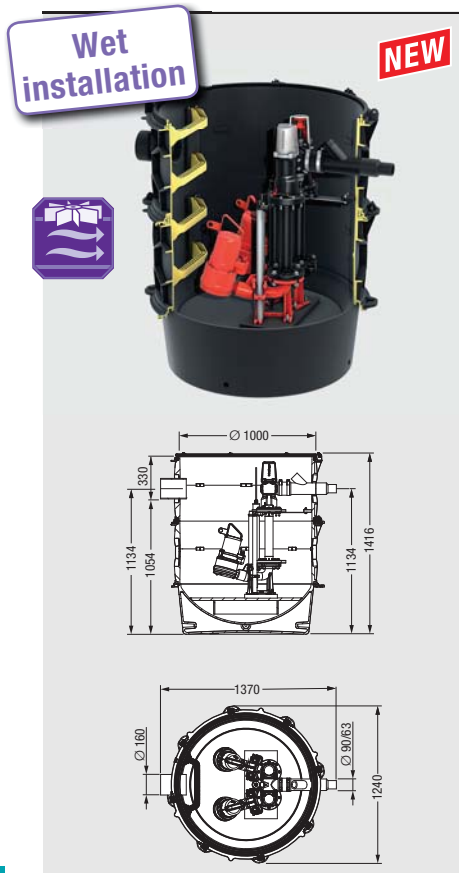
☐ **STZ 2500-S1** for continuous duty (e.g. rainwater)
Pumping capacity: max. 21 m³/h
Pumping height: max. 33 m

☐ **STZ 3700-S1** for continuous duty (e.g. rainwater)
Pumping capacity: max. 28 m³/h
Pumping height: max. 35 m

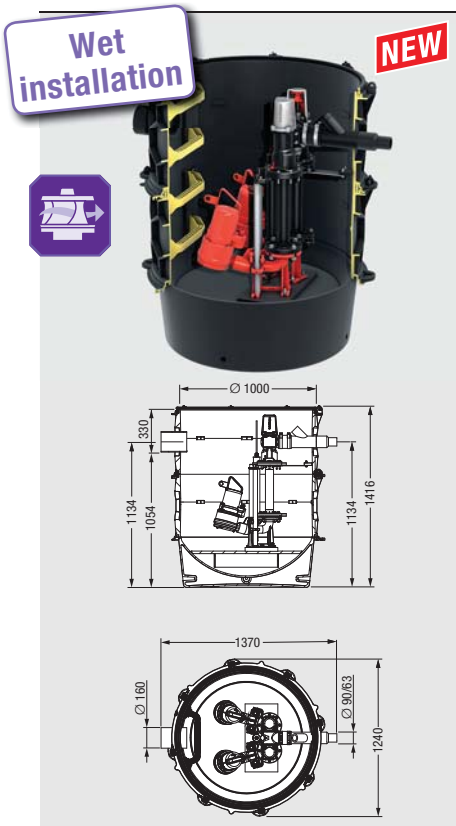
Performance Diagram



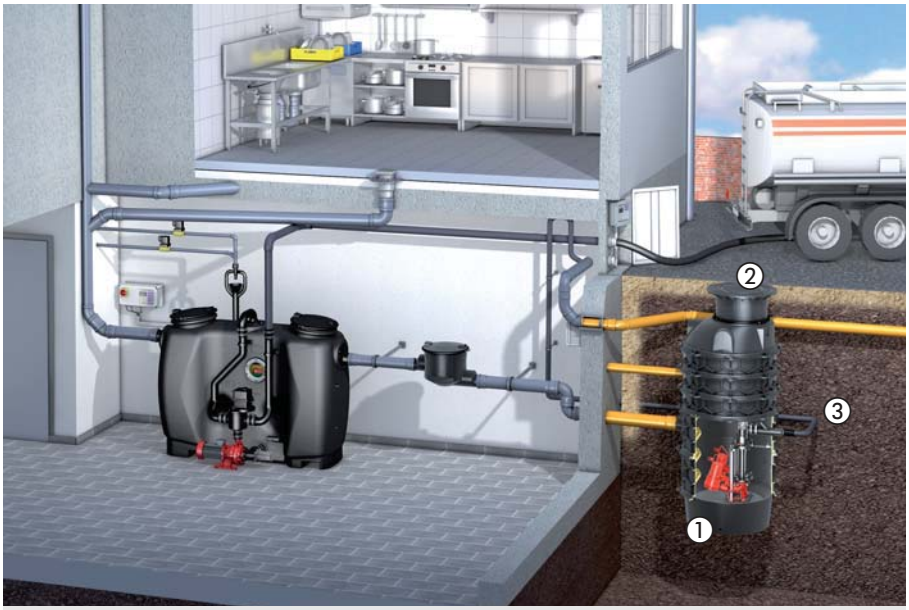
Aqualift F XL Mono / Duo — With multi-vane impeller

Illustration and dimensioned drawing	Article description	Pump GTF	Voltage	Pumping-volume	Article #
	**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 ∅ 160 mm / pressure pipe connection ∅ 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 2 1400-S1 1600-S1 2600-S1 4000-S1 **Duo version** 3 1400-S1 1600-S1 2600-S1 4000-S1	 230 V 400 V 400 V 400 V 230 V 400 V 400 V 400 V	 340 liters 340 liters 340 liters 340 liters 340 liters 340 liters 340 liters 340 liters	 **874 30 32** **874 30 33** **874 30 20** **874 30 21** **874 30 22** **874 30 34** **874 30 23** **874 30 24** **874 30 25**

Aqualift F XL Mono / Duo — With non-clogging pump

Illustration and dimensioned drawing	Article description	Pump GTK	Voltage	Pumping-volume	Article #
	**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 ∅ 160 mm / pressure pipe connection ∅ 63 / 90 mm. 1 **Mono version with Comfort control unit**, with one GTK pump, 400 V, with hydrostatic sensor 2 **Duo version with Comfort control unit**, with two GTK 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:** s. page 130-131	1 1300-S1 2600-S1 3700-S1 2 1300-S1 2600-S1 3700-S1	400 V 400 V 400 V 400 V 400 V 400 V	350 liters 350 liters 350 liters 340 liters 340 liters 340 liters	**874 30 26** **874 30 27** **874 30 28** **874 30 29** **874 30 30** **874 30 31**

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:

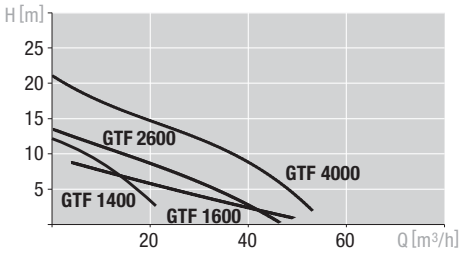
☐ **GTF 1400-S3** 50 %
Pumping capacity: max. 24 m³/h
Pumping height: max. 10,5 m

☐ **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



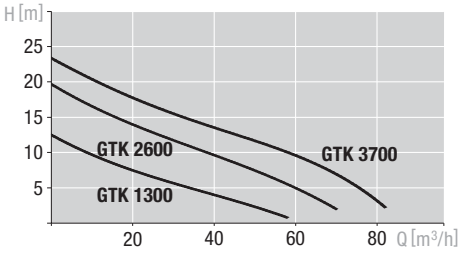
Pump type:

☐ **GTK 1300-S1** for continuous duty (e.g. rainwater)
Pumping capacity: max. 57 m³/h
Pumping height: max. 12,4 m

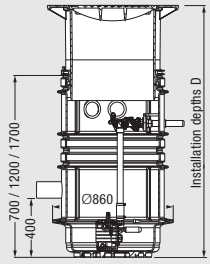
☐ **GTK 2600-S1** for continuous duty (e.g. rainwater)
Pumping capacity: max. 71 m³/h
Pumping height: max. 19,6 m

☐ **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 ∅ 600

Illustration and dimensioned drawing	Article description	Pump KTP / GTF	Article # Class B	Article # Class D
	**Pumping station *Aqualift S* in inspection chamber system ∅ 600** in PE-LLD **Single station/twin station** for wastewater without sewage **For underground installation**			
	1 ***KTP 500/GTF 1200* float switch controlled removable pump for conductive or non-conductive fluids.** Input power (P1): 0.48 /1.18 kW.	1 **D1:** KTP 500	**825 810 B**	**825 810 D**
		D2: KTP 500	**825 820 B**	**825 820 D**
		D3: KTP 500	**825 830 B**	**825 830 D**
		D1: GTF 1200	**827 810 B**	**827 810 D**
		D2: GTF 1200	**827 820 B**	**827 820 D**
		D3: GTF 1200	**827 830 B**	**827 830 D**
	2 ***KTP 500/GTF 1200 Tronic* with removable, pressure sensor controlled pump for conductive or non-conductive fluids, with SDS control unit.** Input power (P1): 0.48 /1.18 kW.	2 **D1:** KTP 500	**825 811 B**	**825 811 D**
		D2: KTP 500	**825 821 B**	**825 821 D**
		D3: KTP 500	**825 831 B**	**825 831 D**
		D1: GTF 1200	**827 811 B**	**827 811 D**
		D2: GTF 1200	**827 821 B**	**827 821 D**
		D3: GTF 1200	**827 831 B**	**827 831 D**
	3 ***KTP 500/GTF 1200 Duo* with removable, pressure sensor controlled twin pumps for conductive or non-conductive fluids, with SDS control unit.** Input power (P1): 2 x 0.48 /1.18 kW.	3 **D1:** KTP 500	**824 811 B**	**824 811 D**
		D2: KTP 500	**824 821 B**	**824 821 D**
		D3: KTP 500	**824 831 B**	**824 831 D**
		D1: GTF 1200	**826 811 B**	**826 811 D**
		D2: GTF 1200	**826 821 B**	**826 821 D**
		D3: GTF 1200	**826 831 B**	**826 831 D**

Installation depths (D):	
D 1	800 - 1250 mm
D 2	1300 - 1750 mm
D 3	1800 - 2250 mm

Cover plate class A/B (Version B)

Cover plate class D (Version D)

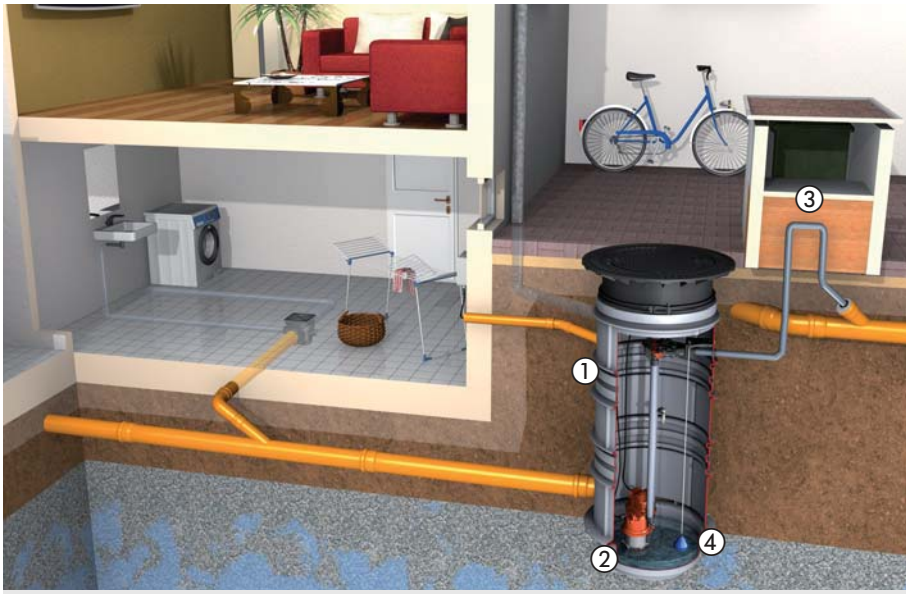
Inspection chamber system ∅ 600 in PE-LLD, resistant to aggressive media, upper section made of polymer, vertically adjustable, cover class A/B, D in cast iron according to EN 124.
Groundwater resistant.
Inlet ∅ 110 (*KTP 500*), ∅ 160 (*GTF 1200*), connection for pipe seal for ∅ 110 according to EN 1401 and EN 12666-1 - each for ventilation or cable pipe,

Note: Consider frost free depth of pressure pipe
Pressure pipe ∅ 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

CE **EN 12050-2**

Installation example pumping station *Aqualift S* ∅ 600



① Pumping station
② Pump
③ Pressure pipe
④ Pressure sensor

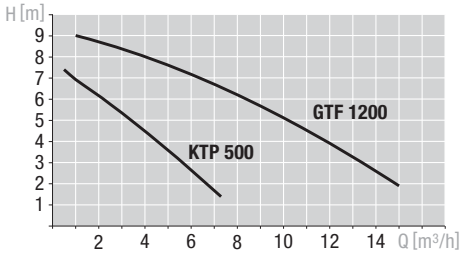
The pumping station *Aqualift S* ∅ 600 can be used for the draining of wastewater without sewage below the backwater level, as backwater protection for separator systems and for draining basement apartments or driveways. The wastewater flows with natural gradient to the collecting chamber and is pumped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

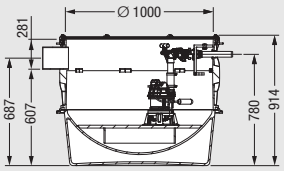
Performance Diagram



Aqualift S XL

Wet installation

NEW



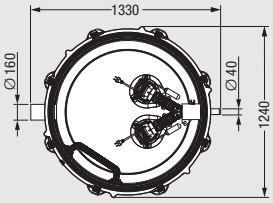


Illustration and dimensioned drawing	Article description	Pump	Voltage	Pumping-volume	Article #
	Engineering systems base, wet installation ☐ **with welded on chamber ring** ***Aqualift S XL Mono / Duo* pumping station** for wastewater without sewage **Tank volume approx. 680 liters** **Pumping volume 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 ∅ 160 mm / pressure pipe connection ∅ 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				

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

Underground installation

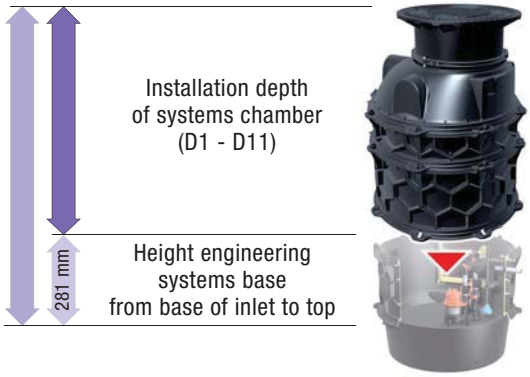
To be ordered separately:

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



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.

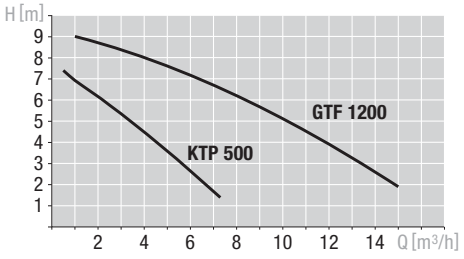
Professional advantages

- 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.

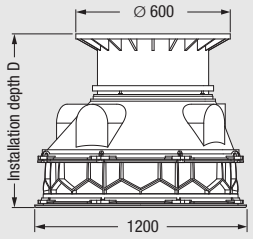
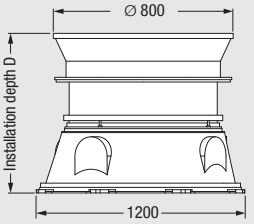
Scan this QR code to directly view the corresponding product video.
YouTube

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



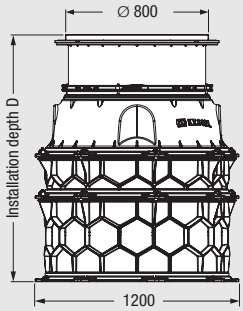
System chambers ∅ 1000 — With access opening ∅ 600 / ∅ 800 mm

Illustration and dimensioned drawing	Article description	Installation depth mm	Article #
For underground installation	**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 ∅ 600 mm**		
	Upper section with round cover		
	1 made of cast iron, class A/B	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 made of cast iron, class D**	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**
Illustration shows 1 2		**D 15:** 3880 - 4129	**874 00 85**
For underground installation	☐ **with access opening ∅ 800 mm**	3 **D 1:** 375 - 624*	**874 01 22**
NEW	**Upper section with round cover**	**D 2:** 625 - 874*	**874 01 23**
	**3 made of stainless steel, class K 3**	**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**
	Upper section with square cover,	**D 10:** 2625 - 2874	**874 01 31**
	4 made of stainless steel, class B 15,	**D 11:** 2875 - 3124	**874 01 32**
		D 12: 3125 - 3374	**874 01 33**
	5 made of stainless steel, class D 15,	**D 13:** 3375 - 3624	**874 01 34**
		D 14: 3625 - 3874	**874 01 35**
		D 15: 3875 - 4124	**874 01 36**
	Covers surface water tight	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**
	**Handles groundwater depths up to 3000 mm**		
	Delivered as individual elements		
	Removable access aid article # 860 126 on request		
Illustration shows 4 5	Other installation depths on request		
	In compliance with EN 13598 Part 2		
	Certification: Z-42.1-527		

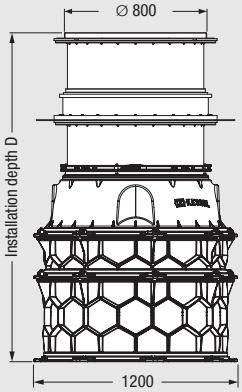
* **Installation depth D 1 - D 3**
only in combination with pumping station
Wet installation

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

System chambers ∅ 1000 — With access opening ∅ 800 mm

Illustration and dimensioned drawing	Article description	Installation depth mm	Article #
For underground installation	**Engineering system chamber for combination with the engineering system base *Aqualift F XL*- and *Aqualift S XL* for underground installation**	1 **D 1:** 396 - 645	**874 00 04**
	made of polyethylene	**D 2:** 646 - 895	**874 00 10**
		D 3: 896 - 1145	**874 00 16**
	☐ **with access opening ∅ 800 mm**	**D 4:** 1146 - 1395	**874 00 22**
	1 **Upper section with square cover, made of stainless steel, class A/L 15,** anti-slip	**D 5:** 1396 - 1645	**874 00 28**
		D 6: 1646 - 1895	**874 00 34**
	2 **Upper section with square cover, made of stainless steel, class A/L 15**	**D 7:** 1896 - 2145	**874 00 40**
		D 8: 2146 - 2395	**874 00 46**
	Cover tileable	**D 9:** 2396 - 2645	**874 00 52**
		D 10: 2646 - 2895	**874 00 58**
		D 11: 2896 - 3145	**874 00 64**
		D 12: 3146 - 3395	**874 00 70**
		D 13: 3396 - 3645	**874 00 76**
		D 14: 3646 - 3895	**874 00 82**
		D 15: 3896 - 4145	**874 00 88**
	**Covers surface water tight**	2 **D 1:** 411 - 660	**874 00 02**
		D 2: 661 - 910	**874 00 08**
	Upper sections with covers class B / D on request	**D 3:** 911 - 1160	**874 00 14**
		D 4: 1161 - 1410	**874 00 20**
		D 5: 1411 - 1660	**874 00 26**
		D 6: 1661 - 1910	**874 00 32**
	Handles groundwater depths up to 3000 mm	**D 7:** 1911 - 2160	**874 00 38**
	Delivered as individual elements	**D 8:** 2161 - 2410	**874 00 44**
	Removable access aid article # 860 126 on request	**D 9:** 2411 - 2660	**874 00 50**
		D 10: 2661 - 2910	**874 00 56**
		D 11: 2911 - 3160	**874 00 62**
		D 12: 3161 - 3410	**874 00 68**
		D 13: 3411 - 3660	**874 00 74**
	In compliance with EN 13598 Part 2	**D 14:** 3661 - 3910	**874 00 80**
	Certification: Z-42.1-527	**D 15:** 3911 - 4160	**874 00 86**

System chambers ∅ 1000 — With access opening ∅ 800 mm

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

Aqualift F XL / Aqualift S XL — Accessories

Illustration	Article description	Outer diameter ∅ (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**

ground level

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

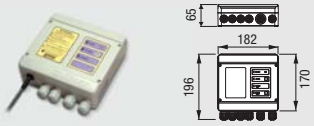
Pre-wired switch cabinets on request

	**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**

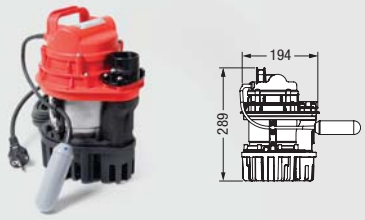
Explanation of cable extensions:

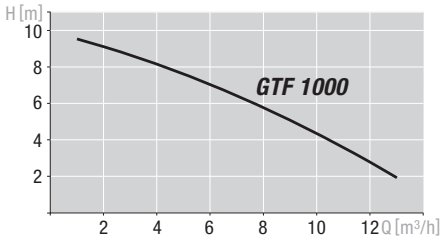
Cable length delivered 10 m. **Extension to ...**	**20 m**	**30 m**
Mono: Pumping station *Aqualift F XL* dry installation, Lifting station *Aqualift F* with SPF 1400 and pumping station *Aqualift S Duo* LW 600 / 1000	1 x **80 889** 2 x **80 891**	1 x **80 889** 2 x **80 891**
Duo: Pumping station *Aqualift F XL* dry installation, Lifting station *Aqualift F* with SPF 1400 and pumping station *Aqualift S Duo* LW 600 / 1000	1 x **80 889** 2 x **80 891**	1 x **80 889** 4 x **80 891**

Aqualift F XL / Aqualift S XL — Accessories

Illustration and dimensioned drawing	Article description	Outer diameter ∅ (mm)	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 *TeleControl* 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**
	**Warning device** with electrode probe	-	**20 220**
	**Compressor set** for use in combination with lifting stations and pumping stations with pressure control: ☐ 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**
	**Optical probe** with 3 adaptors 5 m cable length Optional cable extension	-	**80 888**
	**Cable piping gasket set** ①Pipe sealing gasket ②PVC-collar plug ③Twin flange ∅ 110 ④HT-collar plug ⑤Cable connections ⑥Retaining clip with screws	∅ 110	**85 410**
NEW 	**Tension chain** Chain made of stainless steel to remove pumps incl. screw hooks and shackles suitable for pumping stations with wet installation 1 Length 2 m 2 Length 3 m 3 Length 4 m 4 Length 5 m	1 - 2 - 3 - 4 -	**680 528** **680 529** **680 530** **680 531**

GTF 1000

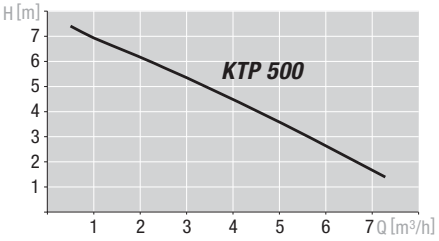
Illustration and dimensioned drawing	Article description	Pressure connection	Article #
	**Submersible pump *GTF 1000*** for wastewater without sewage **with/without** float switch Connection to pressure pipe 1¼ inch. Outlet side / vertical, without macerator, cable length 10 m ☐ **without float switch** ☐ **with float switch** 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: 1¼ inch side / vertical	1¼ inch 1¼ inch	**28 760** **28 860**



	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 %

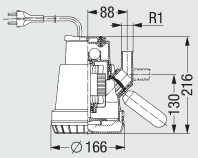
KTP 500

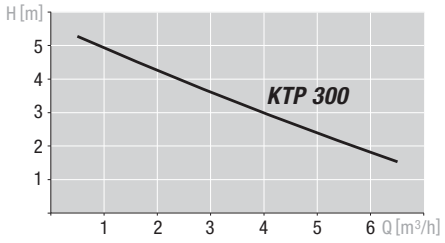
Illustration and dimensioned drawing	Article description	Pressure connection	Article #
	**Submersible pump *KTP 500 / KTP 500 TITAN*** for wastewater without sewage **with/without** float switch Connection to pressure pipe 1¼ inch. Outlet side / vertical, cable length 10 m 1 **without float switch** 2 **with float switch** 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: 1¼ inch side / vertical **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	***KTP 500*** 1 1¼ inch 2 1¼ inch ***KTP 500 TITAN*** 1 1¼ inch 2 1¼ inch	 **28 710** **28 810** **28 750** **28 850**



	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

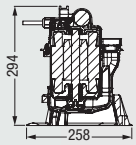
KTP 300

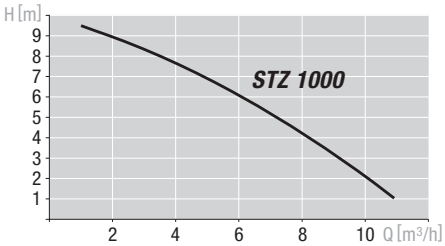
Illustration and dimensioned drawing	Article description	Pressure connection	Article #
 	**Submersible pump *KTP 300*** for wastewater without sewage **with/without** float switch With backwater flap, pivotable connection, cable length 10 m ☐ **without float switch** ☐ **with float switch** Input power (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.	1 inch 1 inch	**28 740** **28 840**



	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

STZ 1000

Illustration and dimensioned drawing	Article description	Pressure connection	Article #
 	**Submersible pump *STZ 1000*** **for wastewater containing raw sewage** **with/without** float switch **with** macerator. Connection to pressure pipe 1¼ inch. Outlet side / vertical, cable length 10 m ☐ **without float switch** ☐ **with float switch** 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: 1¼ inch side / vertical	1¼ inch 1¼ inch	**28 779** **28 778**



	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 %

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

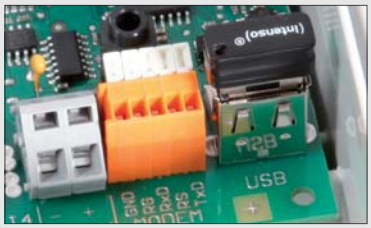
➞ store read-out data on USB flash drive ➞ load to PC and transmit by e-mail ➞ read in optimised data again

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** ☐ **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 	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 	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 	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 	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 ☐ **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 	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 	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		

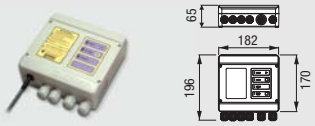
230 V Comfort control unit

Illustration	Article description	Article # Mono	Article # Duo
	**230 V Comfort control units**		
	Mono-/Duo control unit		
	☐ **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 	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**
8 	**Mono-/Duo control unit**		
	☐ **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.		
9 10 11 	**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	**185-043**	**185-043**
	float switch cable 20 m	**185-045**	**185-045**

400 V Comfort control unit

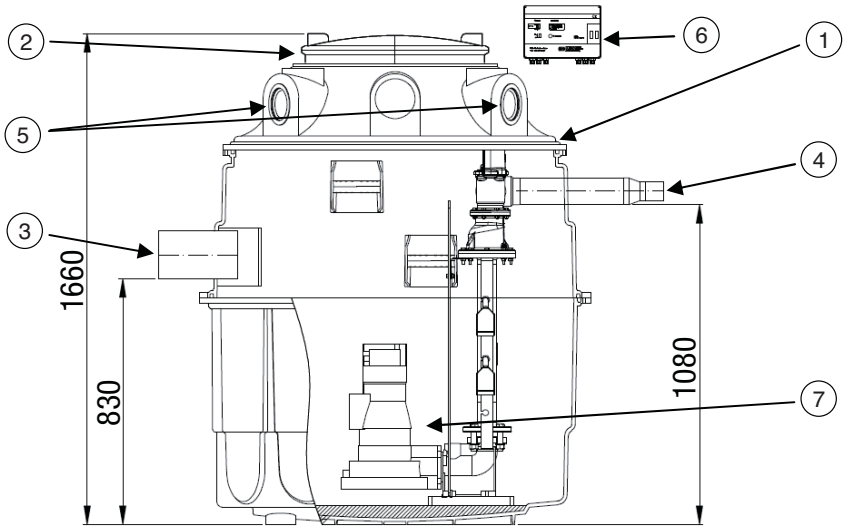
Illustration	Article description	Article # Mono	Article # Duo
	**400 V Comfort control unit**		
	suitable for max. switching current from - to		
	2.5 - 4.0 A Mono	**28 755**	-
	4.0 - 6.3 A Mono	**28 756**	-
	6.3 - 10.0 A Mono	**28 781**	-
	2 x 2.5 - 4.0 A Duo	-	**28 757**
	2 x 4.0 - 6.3 A Duo	-	**28 758**
	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**

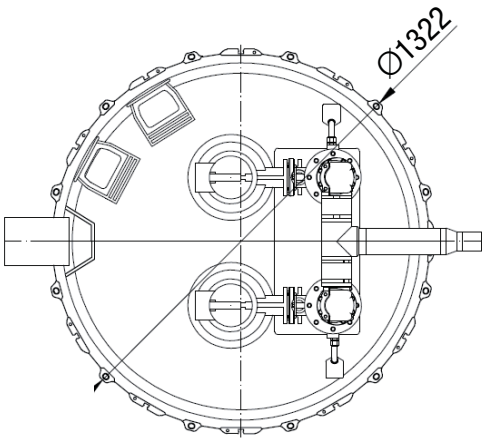
Warning units / 230 V Comfort control units / 400 V Comfort control units — Accessories

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 *TeleControl* 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** ☐ **with electrode probe** ☐ **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** ☐ **cable length 20 m** suitable for all warning- and control units	**20 162**
	**Potential-free contact** for all *Aqualift* 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: ☐ 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. **PE-pressure hose extension (bulk goods)**	**28 048** **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 ∅ 1000
2	Quick release odor tight access cover
3	Inlet ∅ 110 mm
4	Pressure outlet ∅= 63/90 mm
5	Connection seal ∅ 110 (cable conduit and ventilation connections)
6	Control unit *Duo*, level control
7	Twin pumping system with pump type TPF 1.3 KE or TPF 1.9 KE

Tender text:

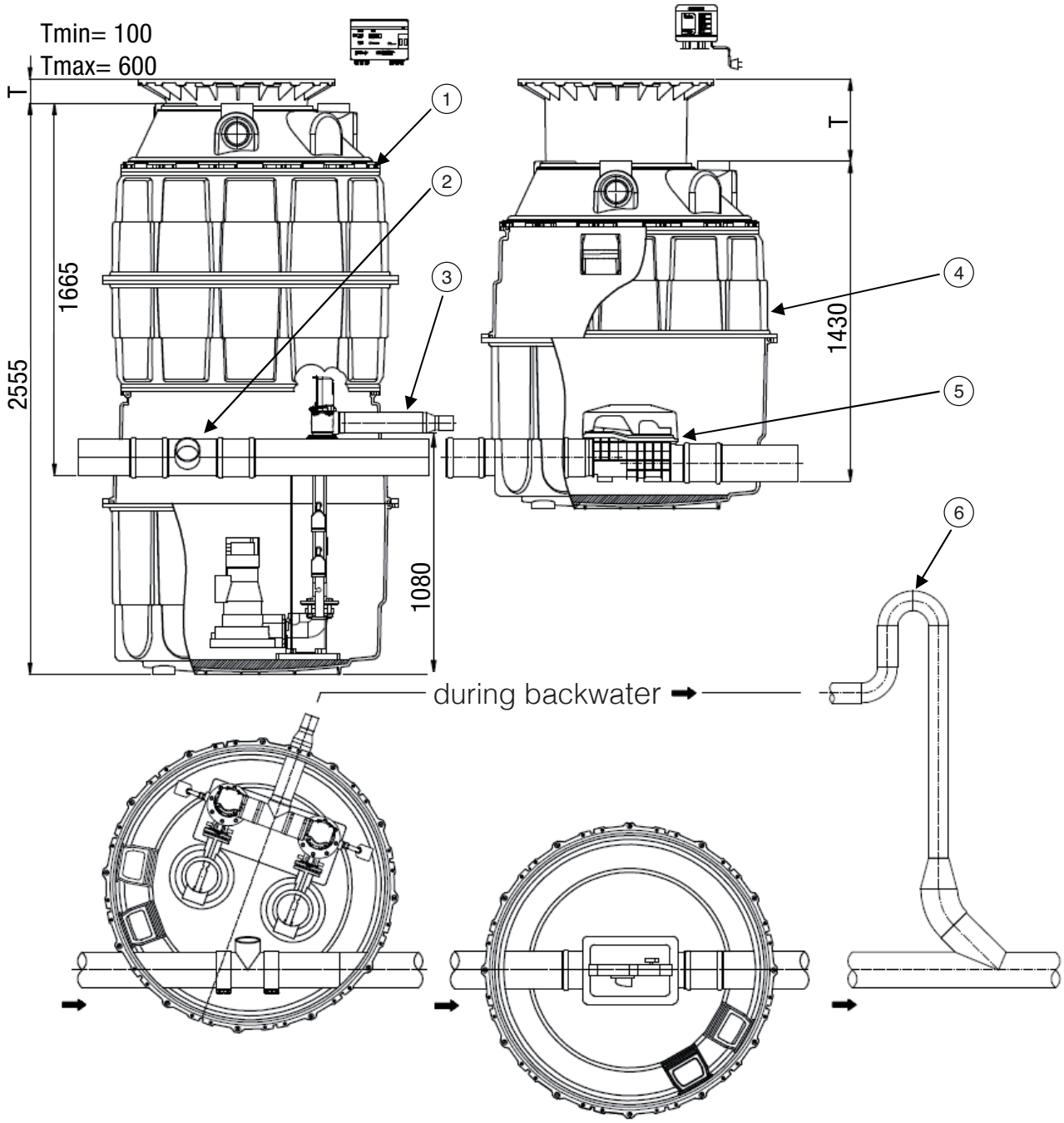
Pump chamber ∅ 1000 with wastewater lifting station *Aqualift F Duo*

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 ∅ 110 according to EN 1401
and EN 12666-1 one each for ventilation and cable conduit.

Chamber system:	Komfort ∅ 1000
Design height:	1660 mm
Diameter (∅):	1322 mm
Inlet:	up to ∅ 200
Type of cover:	Cover hood, odour-tight
Pressure connection:	∅ 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 ∅ 1000 with *Staufix FKA*)



1	Pumping station *Aqualift F Duo*	4	Chamber system Komfort ∅ 1000
2	Channel passage with overflow opening	5	Backwater valve *Staufix FKA* 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 ∅ 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 ∅ 1000
Standard:	EN 752
Installation depth:	_____ - _____ mm
Inlet depth:	_____ - _____ mm
Inlet:	passage channel ∅ ____ with overflow opening
Pressure socket:	∅ 63 mm / ∅ 90 mm
Type of cover:	unscrewed
Load class:	B 125 (12.5 t)

Pump type: (optional)

Pumping station:	*Aqualift F* (Duo system)	Pumping station:	*Aqualift F* (Duo system)
Pump type:	TPF 1.3 KE	Pump type:	TPF 1.9 KE
Standard:	EN 12050-1	Standard :	EN 12050-1
Feed rate:	max. 15 m³/h	Feed rate:	max. 20.5 m³/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 mm²)	Cable length:	10 m (7 x 1.5 mm²)

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

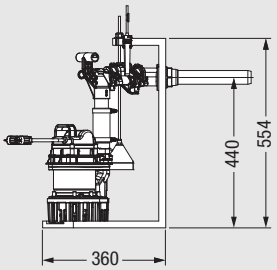
Consisting of:

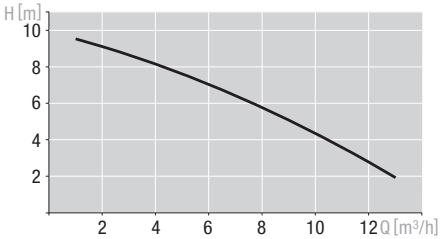
Two Polyethylene storage chambers, with air pressure level detector, clean-out opening. Spigots for vertical inlet ∅ 110 mm/160 mm, ventilation ∅ 75 mm and for manual diaphragm pump ∅ 32 mm. Horizontal inlet ∅ 50 mm to ∅ 200 mm by sawing. Pressure sensor controlled twin wastewater pumps with multi-vane 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: Continous 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).

Pumps for collection tank

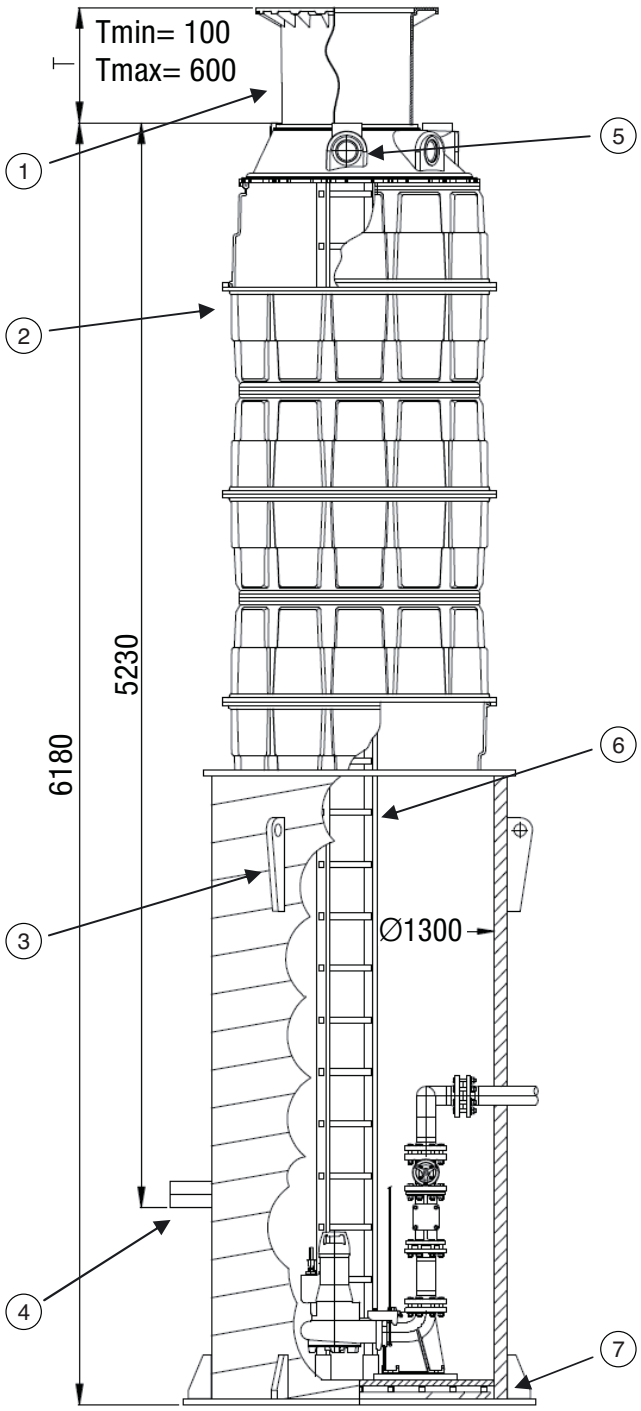
Illustration and dimensioned drawing	Article description	Pump KTP / GTF	Sensor	Article #
NEW  Illustratin shows AQUALI1000D  AQUALI1000D	***Aqualift F Duo* pumping system** **for installation in on-site collection tank** Twin pump system for sewage free wastewater (rainwater or non-WC wastewater) For installation in existing collection tanks with: ☐ PE-HD fixing mount for installation and mounting of pumping system ☐ Two removable *GTF 1000 / KTP 500*, 230V/ 50Hz ☐ Pressure sensor level control for conductive and non conductive liquids ☐ With *Aqualift Comfort* 230 Volt duo control unit ☐ Pressure piping with non-return flap and closure lever - Pressure connection: OD40 mm pressure pipe for PVC glue connection - With Comfort 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	GTF 1000 GTF 1000 KTP 500 KTP 500	Pressure sensor Floater Pressure sensor Floater	**AQUALI1000D*** **AQUALI1000DS*** **AQUALI500D*** **AQUALI500DS***



* Custom made product (delivery time on request)

Pumping station in re-enforced corrugated chamber ∅ 1300

(for installation in groundwater-endangered areas)



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

Tender text:

KESSEL chamber system ∅ 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,** ∅ 1300, further set-up with Komfort chamber system ∅ 1000
- ☐ with **re-enforced, ground plate**
- ☐ **Upper section** made of thermoset 2K (∅ = 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 ∅ 200** (inlet)
- ☐ two connection seals **up to ∅ 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 (Tmin= 100, Tmax= 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)