INSTALLATION, OPERATION AND MAINTENANCE INSTRUCTIONS

KESSEL-rainwater pumping system *Aqadive*® with *Aqatronic* switch unit and *Aqaset* installation kit

Aqadive® with switch unit Aqatronic® S
Aqadive® with switch unit Aqatronic® K
Aqaset installation kit

Art. # 85 601
Art. # 85 801
Art. # 85 602

Product advantages

- **Plug-in compact unit**
- **No pump noises in the house thanks to the pump being set up in the cistern**
- **Tested to DIN 1998**
- **High operational safety**
- **Nationwide service network**

The installation and service of this unit should be carried out by a licensed professional servicer

company - telephone number Date town stamp

Subject to technical amendment

Edition 2010/10

ID-Number 010-201 EN

KESSEL

Dear customer,

we are pleased that you have decided to buy a KESSEL product.
The entire system was subjected to a stringent quality control before it left our factory. Nevertheless, please check immediately whether the system has been delivered to you complete and undamaged. In case of any transport damage, please refer to the instructions in the chapter "Warranty" in this manual.
These installation, operating and maintenance instructions contain important information that has to be observed during assembly, operation, maintenance and repair. Prior to carrying out any work on the system, the operator and the responsible technical personnel must carefully read and heed these instructions.

KESSEL AG

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1. Safety Instructions

The personnel for assembly, operation, maintenance and repair must possess the appropriate qualification for this type of work. The area of responsibility, the authority and the supervision of personnel must be exactly regulated by the operator.
The operational safety of the plant supplied is only guaranteed when it is used in accordance with the regulations. The limits of the technical specifications may not be exceeded on any account.

This plant contains electric charges and controls rotating mechanical plant components.
Non-compliance with the operating instructions may result in considerable damage to property, personal injuries or fatal accidents.

During assembly, operation, maintenance and repair of the plant, the regulations for the prevention of accidents, the pertinent DIN and VDE standards and directives, and the regulations of the local power supply industry must be heeded.

Warning !

The system represents one component in a whole plant. Please therefore also heed the operating instructions for plant as a whole and the individual components. During assembly, maintenance, service and repair work on one of the components, the plant as a whole must always be put out of operation and secured against unintentional restart.

The plant must not be operated in potentially explosive areas.

The switch unit is live and must not be opened. Only qualified electricians may carry out work on electrical facilities. The term qualified electrician is defined in VDE 0105.

The pump housing must not be opened. Work on the pump exceeding the scope of the activities described in the chapter "Service and maintenance" is not permissible.

It must be ensured that the electric cables as well as all other electrical plant components are in a faultless condition. In case of damage, the plant may on no account be put into operation.

Conversions or changes to the plant may only be carried out in agreement with the manufacturer. For safety reasons, use original spare parts and accessories approved by the manufacturer. The use of other parts may void the liability for any consequences arising thereof.

Caution !

The system does not influence the quality of the service water.

In the case of backwater, wastewater from the sewer can be pushed back into the service water network.

In the event of damage, water can leak from the basic unit. Danger of slipping!
The water must be discharged by installing a floor drain, for example.

The service water is not suitable for consumption and personal hygiene.
Signs saying “Caution: Not drinking water” must be attached to all tapping points.

The basic tank can fall off the wall if not secured properly or if installation is faulty.
Risk of injury! Care must be taken that the wall and/or the brackets have a sufficient load bearing capacity.

Ladders or similar must not be leant against the basic tank. Suitable access steps must be provided for work on the system.

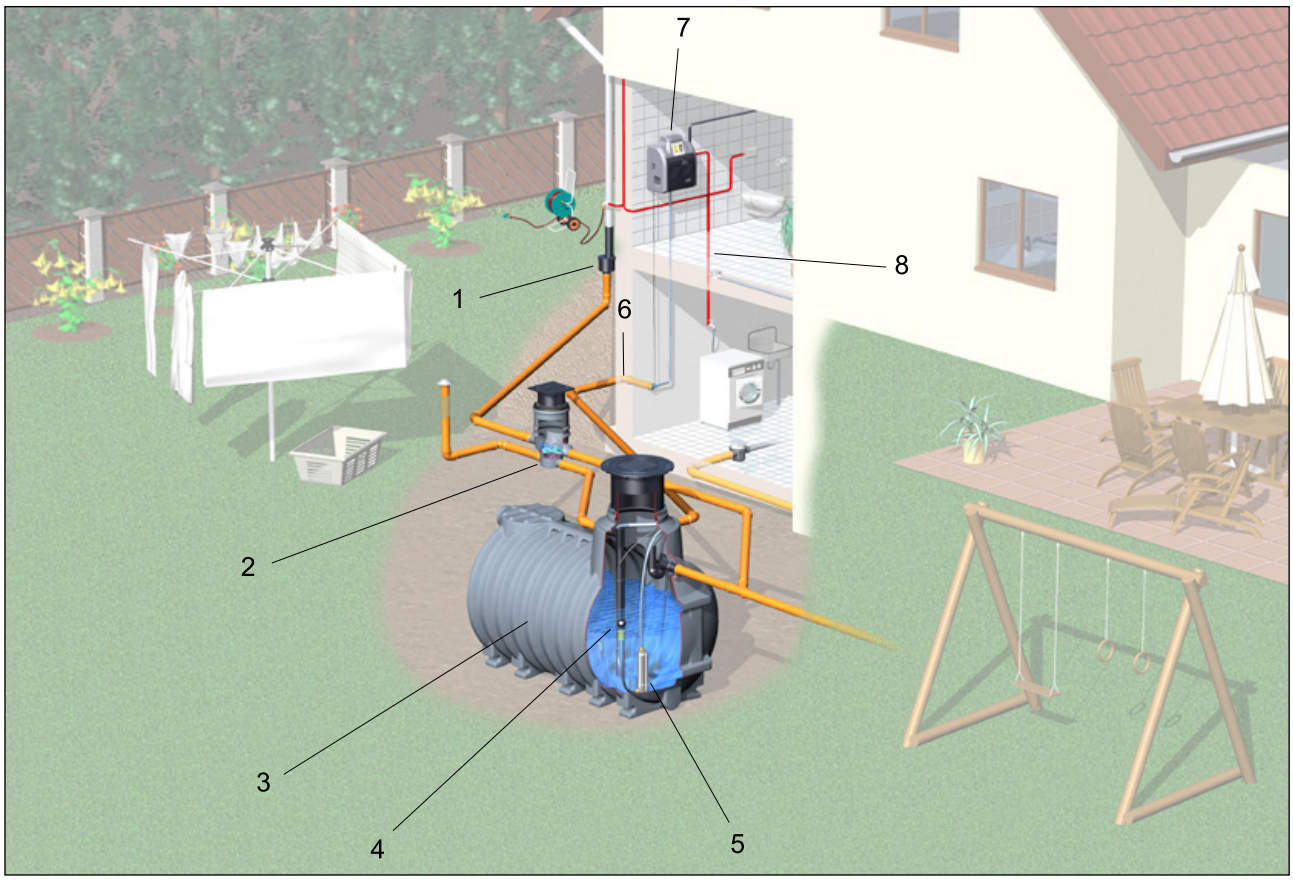
2. General

2.1 Area of application:

The KESSEL rainwater pumping system Aqadive® and Aqaset booster stations. They are used for supplying service water to single family and multi-family homes. The reliable service water supply is guaranteed by the automatic feeding of rainwater from a cistern. Replenishment is through the basic tank or funnel with free outlet (according to DIN 1989, Part 1) direct into the cistern. The service water can be used for watering gardens, flushing toilets, washing clothes and cleaning.

The Aqadive® and Aqaset systems have been designed for free-standing set-up and may only be used above the backwater level. The room where they are set up must be frost-protected and flood-proof.

You will find more details about the system design in the chapter “Technical data”.

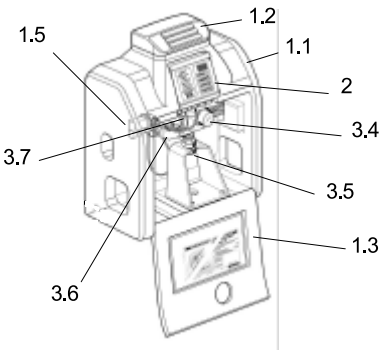


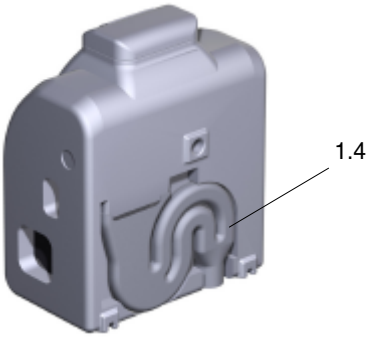
① Drainpipe
② Rainwater filter System 400
③ Rainwater storage tank *Aqabase®*-Comfort
④ Coarse suction filter, floating
⑤ Submersible pump
⑥ Empty conduit seal DN 150
⑦ Rainwater pumping system *Aqadive®* with switch unit A*qatronic® S*
⑧ Service water network

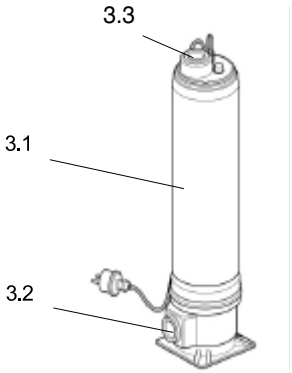
2. General

2.2 System description *Aqadive®*

The KESSEL rainwater pumping system *Aqadive®* with switch unit *Aqatronic® S* or Aqatronic® K is made up of the following assemblies:



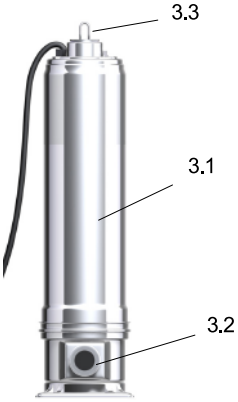


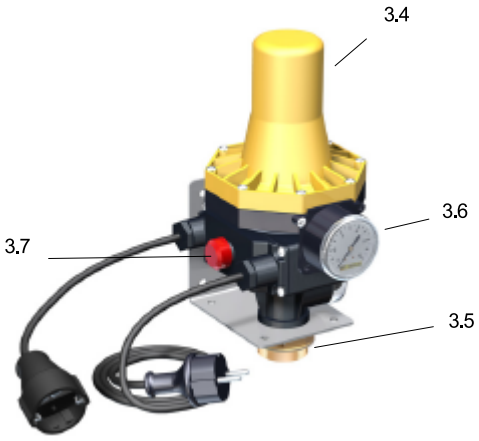


1. (Basic unit)
1.1 Drinking water feeding tank
1.2 Cover
1.3 Installation door
1.4 Emergency overflow
1.5 Solenoid drinking water feeding
2. Control unit
3. (Pump unit)
3.1 Submersible pump
3.2 Suction connection submersible pump
3.3 Pressure connection submersible pump
3.4 Automatic pressure switch
3.5 Inlet automatic pressure switch
3.6 Outlet automatic pressure switch
3.7 “RESET” button

2.3 System description Aqaset

The KESSEL rainwater pumping system Aqaset comprises the following assemblies:





1. (Feeding unit)
1.1 Drinking water feeding funnel
1.2 Solenoid valve
2. (Switch unit)
2.1 Saddle connector
2.2 Floating switch
3 (Pump unit)
3.1 Submersible pump
3.2 Suction connection submersible pump
3.3 Pressure connection submersible pump
3.4 Automatic pressure switch
3.5 Inlet automatic pressure switch
3.6 Outlet automatic pressure switch
3.7 “RESET” button

2. General

2.4 Functional description:
The pump unit comprises a submersible pump and the automatic pressure switch. The maintenance-free automatic pressure switch has an automatic switch on/off function geared towards demand which absorbs any pressure blows, integrated dry-run protection and a backwater flap.

Rainwater mode:
If there is a drop in pressure in the service water network caused by a consumer being switched on, the submersible pump is switched on by the automatic pressure switch. Rainwater is suctioned out of the cistern and fed into the service water network through the outlet of the automatic pressure switch. If the consumer is turned off, the automatic pressure switch switches the pump off after a brief run-on time. This flow-dependent switch-off guarantees constant pressure.

Feeding mode:
If the water level in the cistern falls to below a defined minimum level, a solenoid opens. Drinking water is fed into the cistern via the free inlet until the level has reached a defined switching point.

Then the submersible pump pumps the drinking water from the cistern into the service water network just like in rainwater mode. This means the water supply is guaranteed.

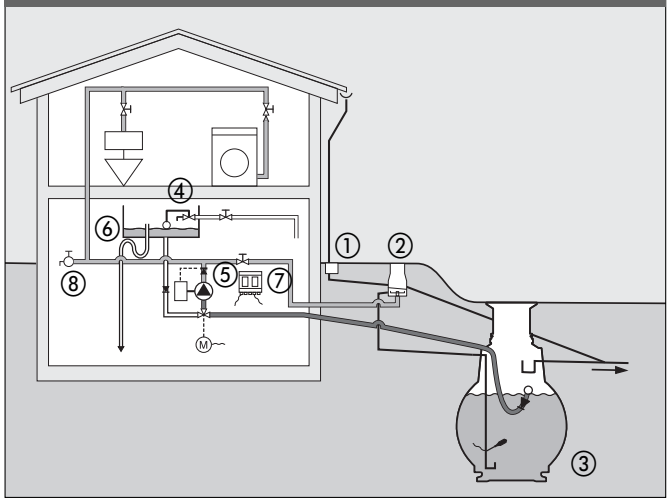
With Aqaset, drinking water feeding takes place directly through the floating switch.

With *Aqadive®*, there are two different switch units available for controlling the fully automatic drinking water feeding.

- ➢ The KESSEL switch unit *Aqatronic® S* controls the drinking water feeding through a floating switch installed in the cistern.
- ➢ With the KESSEL switch unit *Aqatronic® K* the water level in the cistern is determined by an ultrasonic sensor and indicated on a digital display on the switch unit. An optical and acoustic warning is given in the event of backwater from the sewer (when an alarm point is set). Further switching points can be programmed as required.

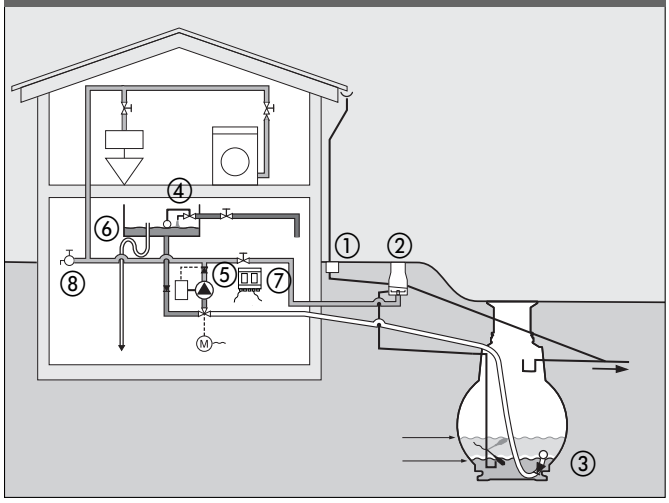
Drinking water feeding can also be activated manually with both switch units.

Flow route rain water mode



① Rainwater drainage
② Rainwater filter
③ Rainwater feeding with fixtures
④ drinking water feeding

Flow route feeding mode

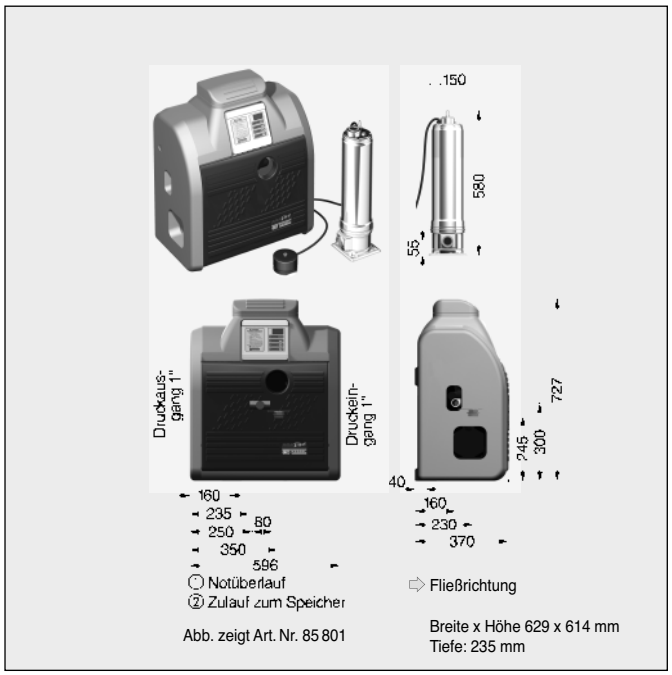


⑤ Pump with automated pressure switch
⑥ Emergency overflow with odour trap
⑦ Switch unit *Aqatronic* S
⑧ Water tap (non drinking)

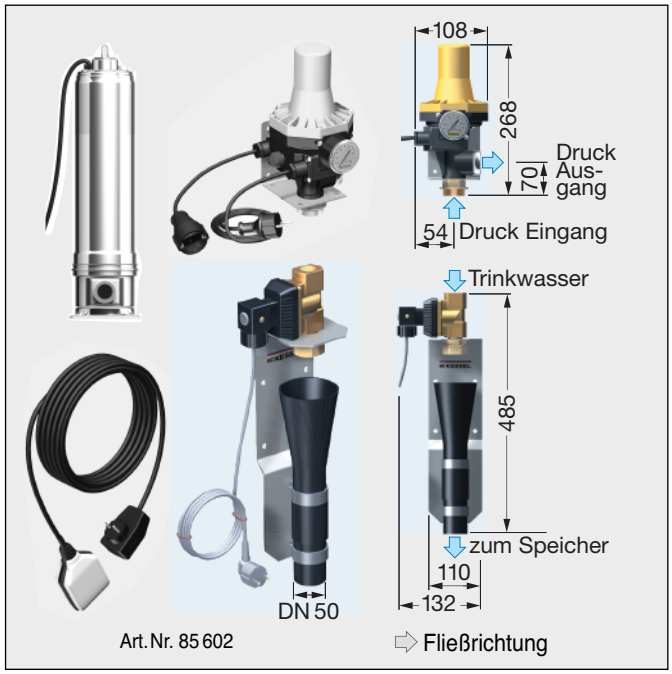
3. Technical Data

3.1 Dimensions and weight

Aqadive®



Aqaset



3.2 Control unit

The technical data can be found in the enclosed original operating manual.

3.3 Solenoid valve

Voltage / Frequency	230 V AC / 50 Hz
Power consumption	21 VA (valve opening) 12 VA / 8 W (operation) closed when currentless
Protective rating	IP 65 -
Permanent operation	possible
Pressure range	0,2 - 16 bar
Cv-value	4,0 m³/h
Inlet/outlet muffs	1/2“ inner thread
Approval	fsuitable for drinking water

3.4 Automatic pressure switch

Voltage / Frequency	230 V AC / 50 Hz
Switching capacity	max. 10 A bzw max. 1,8 kW
Protective rating	IP 55
Mains connection cable	1,4 m
Network connection	0,3 m
Switch-on point	2,4 bar (uppermost tapping point is max. 20 metres above the automatic pressure switch)
Switch-off point	Water consumption <= 0.5 l/min. or during dry run
Pressure difference	min. 0.7 bar (between switch-on and switch-off point)

The pump is put back into operation after dry running by pressing the “RESET” button

Drop in pressure	approx. 0.3 bar with a flow rate of 3 m³/h
Manometer	Display range 0 - 10 bar
Pumping medium	Clear water
Dimensions l x w x h	214 x 128 x 154 mm
Inlet muff	1" Outer thread
Outlet muff	1" inner thread

3.5 Floating switch with saddle connector

Switching capacity DC	min: 40 mA at 8 V; max: 60 mA at 20 V
Switching capacity 230 V AC	min: 15 mA, max: 100 mA
Protective class	I (with earth conductor connection according to VDE 630)
Operating temperature	max. 50 C
Type	Fill (contact = break contact) top => contact broken bottom => contact made
Cable length	20 metres

3. Technical Data

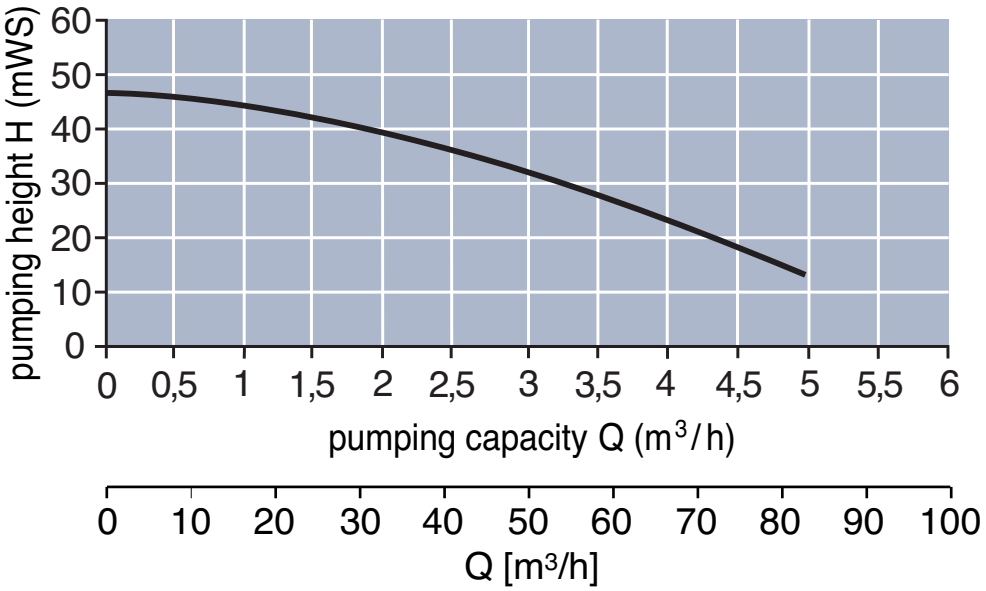
3.6 Multi-stage underwater vertical rotary pump

Voltage / Frequency	230 V AC / 50 Hz	Permanent operation	possible
Power consumption	1000 W	Suction connection	1 1/4" inner thread
Insulation class	F	Pressure connection	1 1/4" inner thread
Speed	2800 min-1	Materials	rust-free
Thermal protection	integrated	Operating temperature	max. 40 °C
Mains connection cable	10 metres	Dimensions lxwxh in mm:	
Pumping medium	Clear water	Weight:	15 kg
		max. submersion depth	20 metres

Pumping data

Max. pumping capacity Q (m3/h)	1,4	1,8	2,4	3,6	4,8
Max. pumping capacity Q (l/min)	20	30	40	60	80
Max. pumping height in m	43,3	40,2	36,3	26,1	13,4

Pumping height as a function of pumping capacity



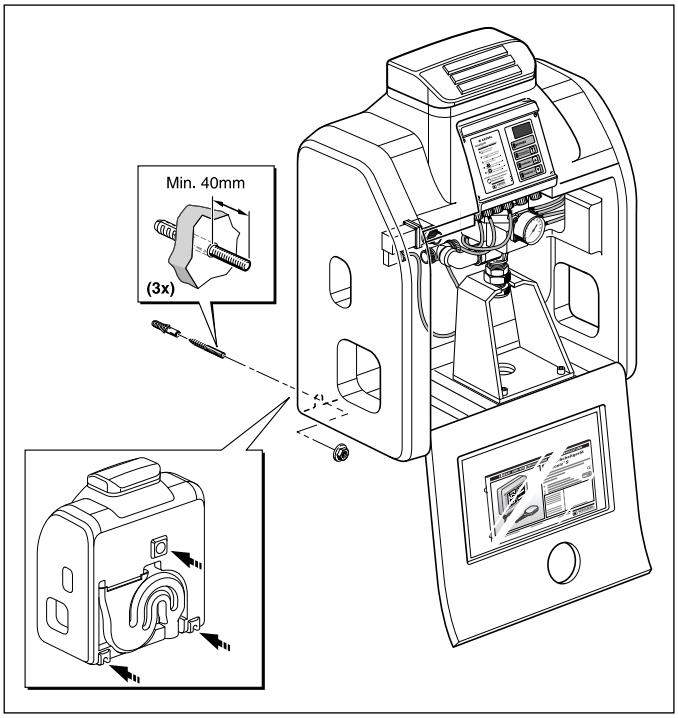
4. Installation and assembly

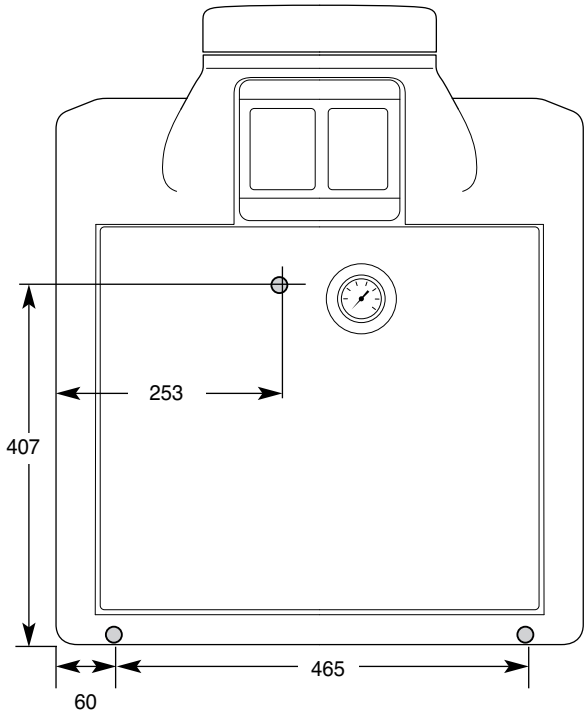
The chapter “Safety instructions” must be heeded!

Take the KESSEL rainwater pumping station out of the packaging and remove the transportation safety devices. The accessories are in the same box.
The KESSEL rainwater pumping station must be installed in dry, frost-free and ventilated rooms.
It can only be set up above the backwater level..

4.1 Mounting *Aqadive*® on the wall

➢ When choosing where to install the Aqadive®, care must be taken that there is about 50 cm space available above the system for setting and servicing work and that the pipe for drinking water feeding can be laid to the cistern at a gradient.
➢ Mark the three bore holes for the attachment as required on the wall and drill them using a drill (Ø = 10 mm). Insert the enclosed dowels and screw in the stay bolts so that they protrude by at least 40 mm.
Set the basic tank with emergency overflow inserted onto the stay bolts, align using a spirit level and tighten the collar nuts.



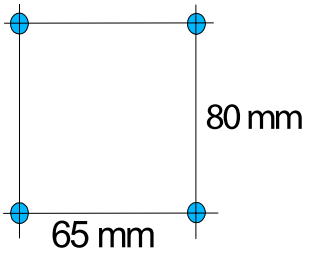


4.2 Aqaset wall mounting

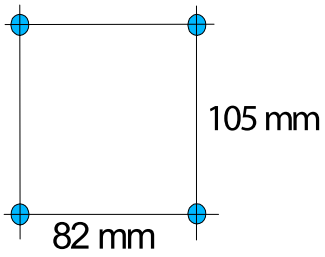
When choosing where to install the Aqadive, care must be taken that there is about 20 cm space available above the system for setting and servicing work and that the pipe for drinking water feeding can be laid to the cistern at a gradient.

Hole patterns

Bracket for automatic pressure switch:



Bracket for drinking water feeding:



Attach both brackets to the wall using suitable hardware and align using the spirit level.

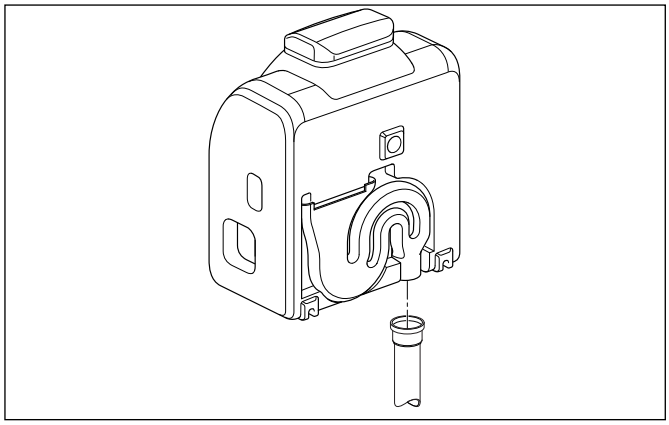
4. Installation and assembly

4.3 Connecting the emergency overflow (only for *Aqadive®*)

In rooms with a floor drain, it suffices to discharge the overflowing water out of the basic unit through the emergency overflow without connection to the sewage system, since no water escapes during normal mode.

If there is no floor drain available, the emergency overflow DN 70 is connected directly to the sewage network.

If any changes are made to the emergency overflow, the DVGW approval is no longer valid. Safety and hygiene are no longer guaranteed.



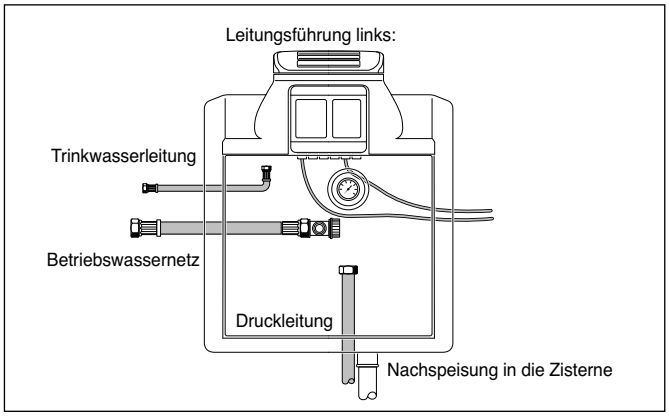
4.4 Drinking water connection

We recommend a 1/2" flexible reinforced hose for connection to the drinking water network. An additional shut-off valve makes all servicing work easier.

- ➢ If water pressure is greater than 4.5 bar or if there are large fluctuations in pressure, a pressure reducer must be installed in the drinking water network.
- ➢ To be able to safely guarantee the function of the solenoid, a fine filter must be installed in the drinking water network on site. No liability will be accepted for functional problems or damage caused by a lack of fine filter.
- ➢ Before initial operation, the drinking water pipe feeding the system must be flushed and cleaned.

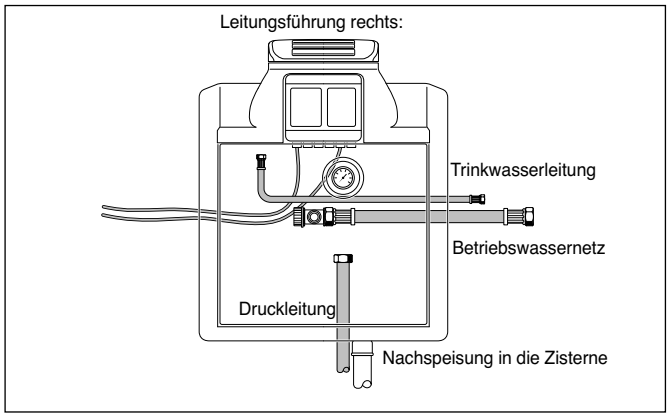
4.5 Connection cistern - basic unit Aqadive® (Aqaset accordingly)

- ➢ We recommend the KESSEL suction fine/coarse filter, floating, art. no. 85050/85051 for suctioning water from the rainwater storage tank. With this suction pipe, the rainwater is suctioned out of the cistern from the cleanest zone, approx. 15 cm underneath the surface of the water. The formation of a sediment layer on the floor of the tank as well as suspended particles such as pollen or soot particles on the surface of the water cannot be completely avoided even if filters are used.



- ➢ If the system is operated with a rigid suction pipe, the suction strainer must be positioned in such a way that no solids can be suctioned in. A distance of 15 - 20 cm to the floor of the tank must be observed. In addition, a backflow preventer must be installed.
- ➢ The submersible pump should be placed on the floor of the rainwater storage tank. The enclosed messenger cable with snap hook is useful during installation and servicing work.
- ➢ The pressure pipe or any service water pipe for filter rinsing must be laid at a frost-free depth to prevent it freezing. The pressure pipe should be at least DN 25.
- ➢ The pipe for drinking water feeding must have at least the diameter DN 50 and is laid at a gradient to the cistern.
- ➢ The mains supply cable for the submersible pump and the cable for the ultrasonic sensor or floating switch must not be damaged by the way they are routed.
- ➢ We recommend always using a KG empty conduit DN 150 when routing all lines (water and cables) in order to make access easier for any servicing and repair work later.

4. Installation and assembly



➢ The backwater-proof KESSEL empty conduit seal (art.-no. 85412) should be used wherever pipes pass from the cistern into a cellar room.

➢ The feeding pipe should not discharge upstream from the rainwater filter. This could result in soiled filters and scaling on the filter fabric.

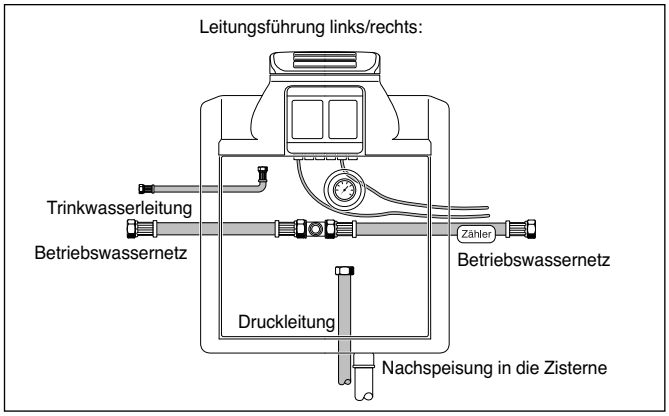
➢ The drinking water should flow into the cistern via the inlet slowdown.

4.6 Connection to service water network

➢ Connect the submersible pump to the service water network. The user can choose how the pipes are to be connected. (left, right, both sides, see illustrations)

➢ We recommend the use of a flexible reinforced hose for connection to the service water network. In addition, the pressure connection should be fitted with a shut-off valve with low flow resistance. This makes later servicing work much easier.

➢ The service water pipes must be clearly marked in accordance with DIN 1989 Part 1.

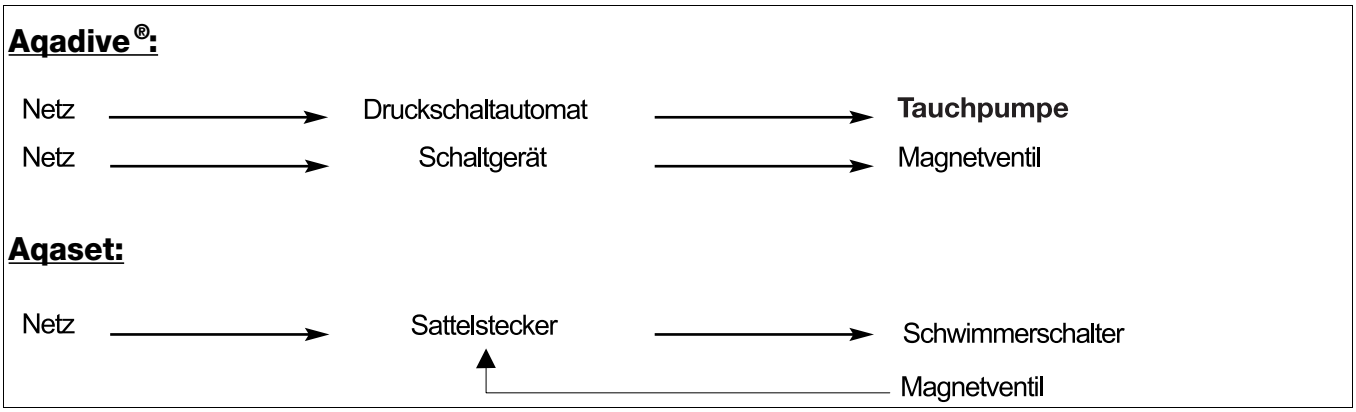


5. Electric connection

Caution!
Connection may only be carried out by a qualified electrician. The relevant currently valid directives, laws and standards must be observed. Please heed the chapter "Safety instructions" and the operating manual for the switch unit used as well.

A double socket with earthed contacts is required for installation of the KESSEL rainwater pumping system Aqabull®. Fuse 16 A slow-blow with residual current breaker 30 mA. Splashwater can escape during servicing work on the system. Depending on the routing of the service water pipes, the double socket must be installed in a protected position at the side and underneath the system.

5.1 5.1 Wiring the components

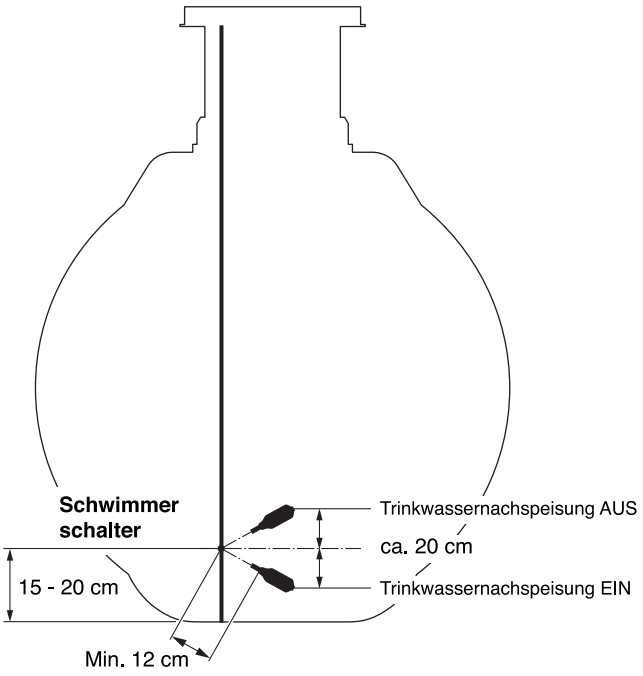


Please see the enclosed original operating manual for instructions on the installation of the ultrasonic sensor (switch unit *Aqatronic® K)* or the floating switch (switch unit *Aqatronic® S*)..

5.2 Installation of floating switch with saddle connector

The floating switch can be mounted in the cistern at the desired height according to individual requirements. The minimum distance from the floating switch to the floor of the tank must be about 15 - 20 cm in order to prevent sediment being suctioned in from the bottom of the cistern.

Note:
If the installation conditions are not clear, we recommend mounting the floating switch on a pole that can be fixed in place and is movable from above. This allows the position of the floating switch to be changed slightly even if the cistern is full.



6. Initial operation

The chapter "Safety instructions" must be heeded!

Caution!

- ➢ Before the system is put into operation, all the parts belonging to the rainwater management system such as trough, drainpipes, gutter drains, rainwater filter, rainwater storage tank and outlet to the sewer/seepage must be cleaned. The original operating manuals must be heeded.
- ➢ All the inlet and outlet pipes must be flushed and pressure tested.
- ➢ The pump must never be put into operation dry!

6.1 Initial operation of the control unit for drinking water feeding

- ➢ The shut-off valve for drinking water must be closed.
- ➢ The switch unit (Aqadive®) or the feed unit (Aqaset) respectively must be put into operation. The original operating manual must be heeded.

6.2 Feeding mode

- ➢ The drinking water shut-off valve must be opened carefully.
- ➢ Manual drinking water feeding must be activated if this has not already happened automatically.
- ➢ The water-tightness of the feeding pipe and safe outlet into the cistern must be checked.
- ➢ If the drinking water feed into the cistern is not splash-free during feeding mode, the brass union nut on the feeding unit must be loosened and the screen insert with seal and the filter sponge must be removed and cleaned.
- ➢ Drinking water feed must be deactivated again after test operation. Otherwise the cistern can overflow and the drinking water will be discharged through the overflow directly into the sewage channel.
- ➢ In the case of automatic drinking water feeding the filling level in the cistern must be checked.

6.3 Pumping mode

- ➢ The inlet pipe and the submersible pump must be filled with water. To do this, connect the end of the inlet pipe on the cistern side to a water connection, e.g. a garden hose, and open at least one consumer so that air can escape. When an inlet pipe with strainer is used, this must be screwed off first.

Fill the whole system by opening the feed valve until water is discharged without bubbles from the opened consumer on the pressure side. Remove the hose, screw the strainer back in place if appropriate.
This way, the system is reliably ventilated and is ready for immediate operation.

- ➢ Insert the mains plug for the automatic pressure switch. The submersible pump starts up immediately.
- ➢ During initial operation, a consumer e.g. water tap must be opened the whole time so that the compete system can be ventilated. If the pump does not start up or stops again after a short time, the red “Reset” button must be pressed. This process must be repeated until no air bubbles escape at the consumer.
  As soon as the system has been completely ventilated, close all consumers. The submersible pump achieves its maximum pressure, the unit switches off automatically.
- ➢ Check whether the floating switch or ultrasonic sensor has been installed and set in the rainwater storage tank according to the instructions in the operating manual for the KESSEL Aqatronic switch unit. The switching point must be chosen in such a way that the system changes to drinking water feeding mode when the water level drops to less than 15 - 20 cm. This prevents the sediment layer being suctioned in.
- ➢ Check all the connections for leaks.
- ➢ The KESSEL rainwater management system is now ready for operation.

7. Service and maintenance

The chapter "Safety instructions" must be heeded!

The KESSEL rainwater pumping system Aqadive® requires almost no servicing.

- ➢ Avoid the submersible pump running dry since the slip ring seal is cooled by liquid.
- ➢ If aggressive media are to be pumped, the pump must be rinsed after use.
- ➢ Empty the pump if there is a danger of frost.
- ➢ If the KESSEL rainwater pump system is to be at a standstill for longer periods, the pump body and automatic pressure switch must be emptied. If the system is not used at all for a longer period, the pump and the automatic pressure switch must be cleaned and stored in a cleaned and well-ventilated place.
- ➢ The free inlet on the KESSEL drinking water feeding unit has to be checked by the operator at regular intervals. This includes checking that the safe distance is maintained between the inlet valve and the overflow when the inlet is completely opened. DIN 1989 Part 1 must be heeded here.
- ➢ Floating switch or ultrasonic sensor must be cleaned at regular intervals.
- ➢ Filter sponge and screen insert in the feeding unit must also be cleaned at regular intervals, at the latest when drinking water feed is no longer splash-free.
- ➢ The inlet and pressure pipes as well as all the connections must be checked for leaks occasionally and sealed if necessary.
- ➢ Fine or coarse filters in the floating suction pipe must be cleaned at regular intervals.
- ➢ Only when the emergency overflow is connected to the sewer. The odour trap of the emergency overflow dries up over time. This must be filled at regular intervals to avoid odour pollution.
- ➢ To reduce the foreign matter entering the feeding tank, the area around the system must be cleaned at regular intervals.

We recommend that you conclude a servicing contract with your installation company.
A draft contract is enclosed with this operating manual.

8. Faults and remedial measure

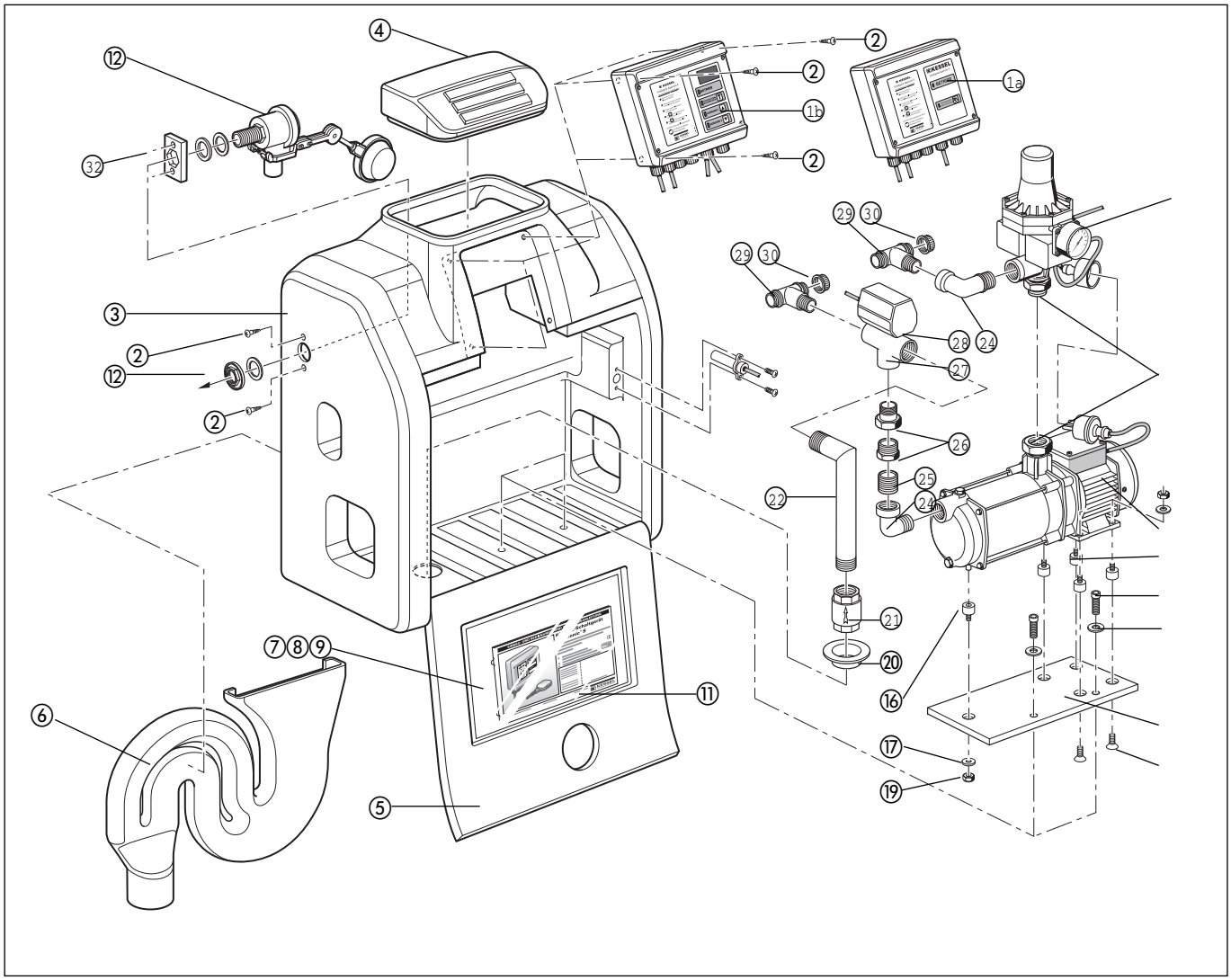
The chapter "Safety instructions" must be heeded!

► **Repairs and maintenance work on the electrical system and the pump unit may only be carried out by a qualified electrician or by the KESSEL Customer Services department.**

Possible faults	Cause	Remedial measure
Motor does not start up	► No mains voltage	► Check whether the mains plug is in the socket or if the socket is live
	► Pump wheel is blocked; the motor has been switched off by the thermal switch	► Have the pump serviced or cleaned by a specialist company
Pump does not suction water in	► Suction valve not in the water	► Attach suction valve underneath the surface of the water
	► Pump wheel without water	► Fill the pump with water or fill up the suction hose
	► Air in the suction pipe	► Check the suction pipe for leaks
	► Suction valve leaking	► Clean the suction valve
	► Strainer blocked	► Clean the strainer
	► max. suction height or length of suction pipe has been exceeded	► Check the suction height, change the location of the pump if necessary (or the length of the suction pipe)
Pump does not switch off	► Possible open tapping point	► Close the tapping point
	► Tapping point leaking	► Seal the tapping point
Insufficient pumping capacity	► Suction height too high	► Check the suction height and change the location if necessary
	► Suction strainer clogged	► Clean the strainer
	► Water level decreasing	► Set the suction valve deeper
	► Pump requires cleaning/ maintenance	► Remove the plug from the mains! Have the pump serviced or cleaned by a specialist company, replace wearing parts if necessary
Thermal switch switches the pump off	► Motor is overstrained on account of excessive friction caused by soiling in the pump housing	► Have the pump serviced or cleaned by a specialist company
		► Prevent foreign matter being suctioned in

9. Spare parts and accessories

9.1 Spare parts



⑴a	210-075	Assembly switch unit t *Aqatronic* S
	210-069	+ Floating switch
⑴b	210-315	Assembly switch unit *Aqatronic* K
⑵	134-025	PT screw
⑶	234-003	Basic tank
⑷	234-002	Cover
⑸	234-005	Installation door
⑹	234-006	Emergency overflow
⑺	010-087	Installation instructions for *Aqabull*®
⑻	010-010	Servicing contract
⑼a	010-104	Installation instructions for *Aqatronic* S
⑼b	010-135	Installation instructions for *Aqatronic* K
⑾	234-010	Zipped pocket
⑿	234-024	Floating switch
⒀	234-007	Pump plate
⒁	017-199	Cylinder head screw
⒂	017-012	Washer
⒃	210-264	Bearing buffer
⒄	017-041	Washer
⒅	017-184	Countersunk screw
⒆	017-046	Nut
⒇	182-565	Pipe duct seal
(21)	210-049	Non-return valve
(22)	234-012	Bent pipe section
(23)	210-056	Pump
(24)	210-094	Bend
(25)	234-011	Pipe nipple
(26)	234-008	Screw attachment
(27)	210-351	3-way valve body
(28)	210-349	Drive for 3-way valve body +
	210-357	Connection cable
(29)	210-072	T-piece
(30)	210-103	Threaded cap with seal
(31)	210-036	Automatic pressure switch
(32)	234-023	Anti-twist protection

9. Spare parts and accessories

9.2 Accessories

	Description	Ø	Art. #	Piece/ Pack	
 Art.# 85 050	**KESSEL-suction fine filter, floating** for suctioning unfiltered rainwater from rainwater storage tanks, floating version with floating ball made of PE, with suction hose (3m long; standard suction hose and connection) and hose fitting, filter body with filter made of stainless steel, mesh width 0.23 mm, all connections 1 inch, with backflow protection device.	-	85 050	1	**Product advantages:** ● Guarantees suctioning of the cleanest water about 15 cm underneath the water surface. ● Protects the pump from suctioning in damaging particle sizes. ● Large flow possible thanks to high-quality non-return valve.
 Art.# 85 051	**KESSEL suction coarse filter, floating** for suctioning rainwater from rainwater storage tanks, floating version with floating ball made of PE, with suction hose (3 m long; standard suction hose and connection and hose fitting, filter body with filter made of stainless steel, mesh width 1.2 mm, all connections 1 inch, with backflow protection device.	-	85 051	1	**Product advantages:** ● Guarantees suctioning of the cleanest water about 15 cm underneath the water surface. ● Large flow possible thanks to high-quality non-return valve.
	**KESSEL empty conduit seal DN 150 made of plastic** With two seals each DN 32/DN 40, one seal DN 50 and one blind plug each DN 40 and DN 50. Suitable for KESSEL rainwater pumping systems Aqabull®/Aqadive® and rainwater filters with/without back-flushing unit	-	85 412	1/-	-
 Art.# 85 020	**KESSEL-level measuring device** for analog indication of the voulme of water in the cistern or tank, with 20 m control lead, pneumatic universal tank content meter for all tank sizes and heights	-	85 020	1	-

9. Spare parts and accessories

	Description	Ø	Art. #	Piece/ Pack	
	**KESSEL leak probe** Optical probe with 5 m cable for monitoring the level of the water in the feeding tank of the KESSEL rainwater pumping system ***Aqabull®*** / ***Aqadive®*** with switch unit ***Aqatronic K***.	-	80 085	1	-
 Art. # 85 073	**KESSEL sticker** **“Not drinking water”** for marking the pipes as non-drinking water pipes. L x W: 26 x 80 mm. **5 pc/box** **KESSEL sign** **“Not drinking water”** for marking the tapping point, L x W: 60 x 120 mm. **2 pc/box** **KESSEL sign “No cross-connection to the drinking water network (heed DIN 1988)”** for attachment near the water meter, L x W: 105 x 148 mm. **1 pc/box**	-	85 073	1 pack	
 Art. Nr. 72 100	**KESSEL- *Staufix®* backwater valve** automatic valve closure with emergency lever DN 100 / 72 100 / - / - DN 125 / 72 125 / - / - DN 150 / 72 150 / - / - DN 200 / 72 200 / - / -				

DN	100	125	150	200
L	355	390	460	530
H	40+60	148+60	165+60	178+60

L = Length in mm
H = Height in mm

10. Warranty

1. In the case that a KESSEL product is defective, KESSEL has the option of repairing or replacing the product. If the product remains defective after the second attempt to repair or replace the product or it is economically unfeasible to repair or replace the product, the customer has the right to cancel the order / contract or reduce payment accordingly. KESSEL must be notified immediately in writing of defects in a product. In the case that the defect is not visible or difficult to detect, KESSEL must be notified immediately in writing of the defect as soon as it is discovered. If the product is repaired or replaced, the newly repaired or replaced product shall receive a new warranty identical to that which the original (defective) product was granted. The term defective product refers only to the product or part needing repair or replacement and not necessarily to the entire product or unit. KESSEL products are warranted for a period of 24 month. This warranty period begins on the day the product is shipped form KESSEL to its customer. The warranty only applies to newly manufactured products. Additional information can be found in section 377 of the HGB.

   In addition to the standard warranty, KESSEL offers an additional 20 year warranty on the polymer bodies of class I / II fuel separators, grease separators, inspection chambers, wastewater treatment systems and rainwater storage tanks. This additional warranty applies to the watertightness, usability and structural soundness of the product.
   A requirement of this additional warranty is that the product is properly installed and operated in accordance with the valid installation and user's manual as well as the corresponding norms / regulations.

2. Wear and tear on a product will not be considered a defect. Problems with products resulting from improper installation, handling or maintenance will also be considered a defect.

   Note: Only the manufacturer may open sealed components or screw connections. Otherwise, the warranty may become null and void

01.06.2010

EU - KONFORMITÄTSERKLÄRUNG

nach der Maschinenrichtlinie 89/392/EWG, der Niederspannungsrichtlinie 73/23/EWG
und der Richtlinie zur elektromagnetischen Verträglichkeit 89/336/EWG.

Der Hersteller

KESSEL GmbH, D-85101 Lenting

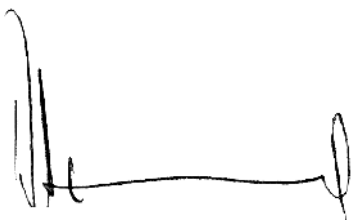
erklärt, daß die Produkte

KESSEL-Regenwasserpumpanlage *Aqaset* und
KESSEL-Regenwasserpumpanlage *Aqadive*®
mit Schaltgerät *Aqatronic*® *S / K*

entwickelt und gefertigt worden sind
in Übereinstimmung mit folgenden Normen:

EN 292
EN 60335-1
EN 60730-1
EN 50081-1
EN 50082-1

Lenting, den 01.02.2001



B. Kessel

G. Vanetta

KESSEL

Notice

11. Important contacts / Info

Separator Type: _____

Day / Hour _____

Project description /Building services supervisor _____

Address _____

Telephone / Fax _____

Builder _____

Address _____

Telephone / Fax _____

Planner _____

Address _____

Telephone / Fax _____

Contracted plumbing company _____

Address _____

Telephone / Fax _____

KESSEL-Commissions no.:

System operator /owner _____

Address _____

Telephone / Fax _____

User _____

Address _____

Telephone / Fax _____

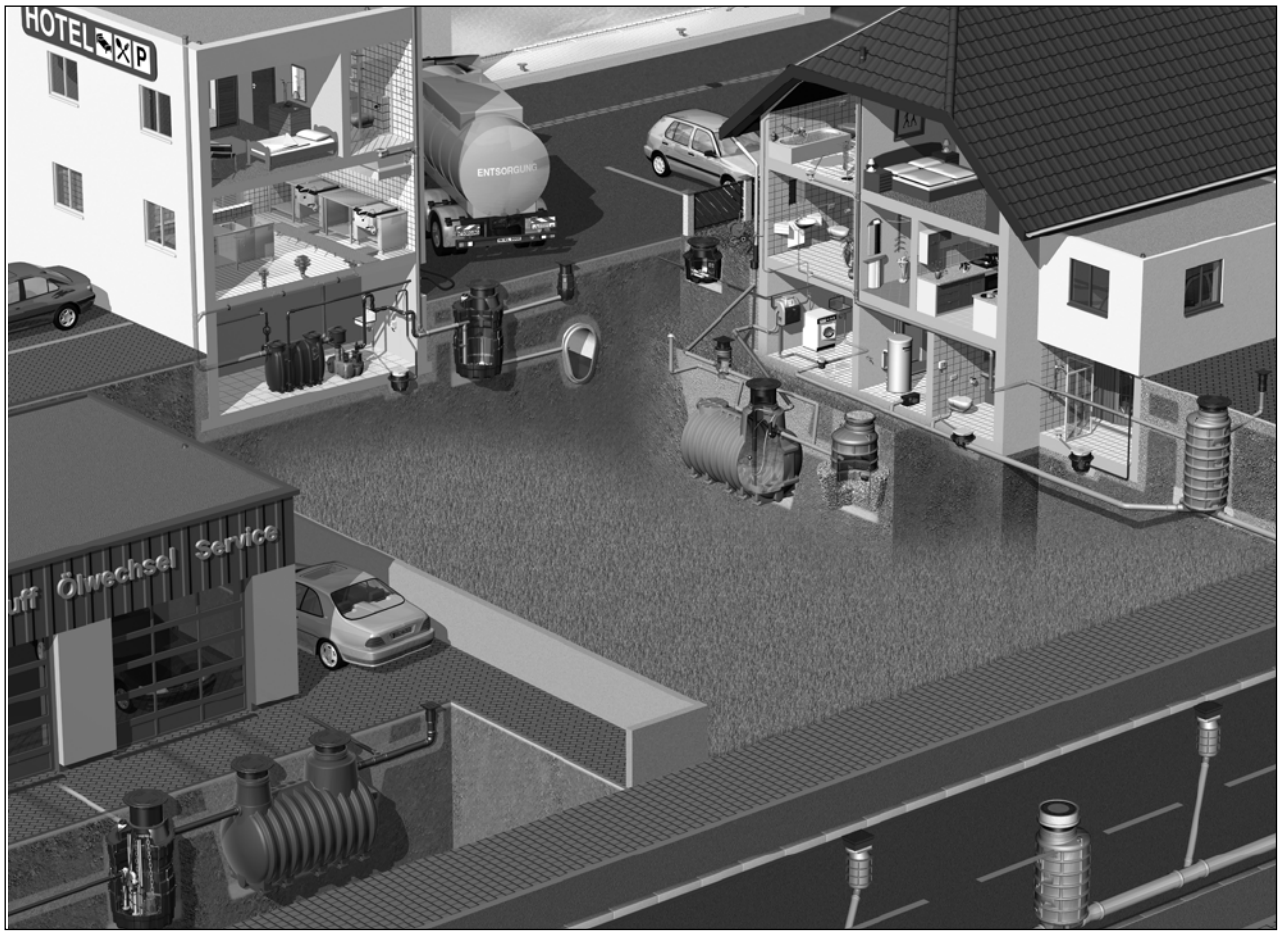
Person of delivery _____

Other remarks _____

The system operator, and those responsible, were present during the commissioning of this system.

_____	_____	_____
Place and date	Signature owner	Signature user

Everything for drainage



- Backwater valves and cleanouts
- Polymer and Ecocast drains
- Volatile liquid traps
- Lifting stations, pumps, warning and control units
- Rainwater management systems

KESSEL