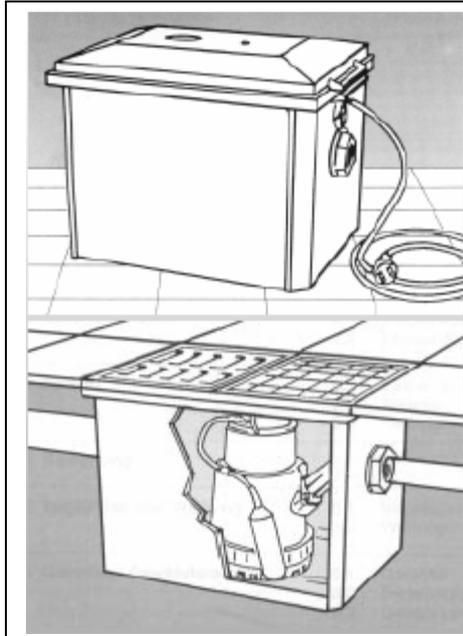


# INSTALLATION AND OPERATING INSTRUCTIONS

## KESSEL – *Minilift*<sup>®</sup> Greywater Pumping System For above or below ground installation



Art.no. 28560

Art.no. 28570

**Art.nos. 28560 / 28570**

### Product advantages

- Compact – easy installation
- Pumping height up to 6.5 meters (21 feet)
- Quick release mechanism for pump removal



Certification no. Z-53.3-387

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

Company - Telephone No.

Edition 06/2003-HG

ID number 010-601

(Subject to technical amendments)

# Table of Contents

<b>1. General</b>	1.1 Purpose	page 3
	1.2 Product description	page 3
	1.2.1 Above floor / free standing installation	page 3
	1.2.2 In the slab (below grade) installation	page 3
<b>2. Applications</b>	2.1 Permanent installations	page 4
	2.2 Removal of pump for use elsewhere	page 4
<b>3. Installation</b>	3.1 Installation in the slab (below grade)	page 5
	3.2 Above floor / free standing installation	page 7
	3.3 Additional inlets	page 9
<b>4. Commissioning</b>	4.1 Product information - data	page 10
	4.2 Tips	page 11
<b>5. Inspection and maintenance</b>		page 12
<b>6. Guarantee</b>		page 13

# 1. General

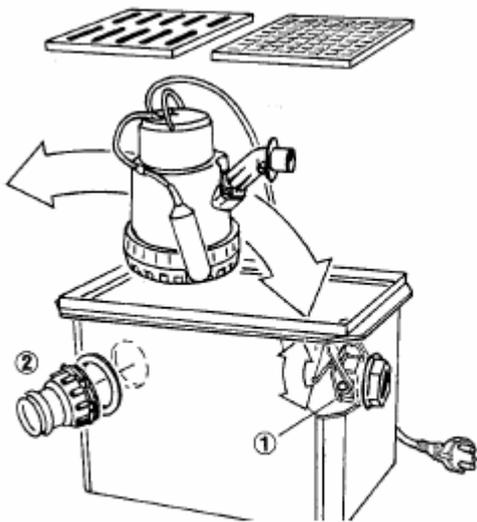
## 1.1 Purpose

The purpose of the *Minilift*<sup>®</sup> is to pump greywater (sewage free wastewater) from below the sewer level or below the backwater level and out of a home, building or area.

## 1.2 Product description

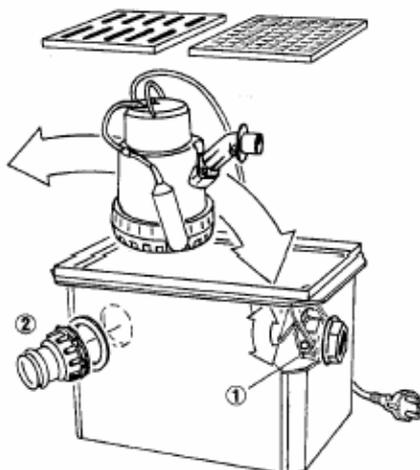
### 1.2.1. Above floor / free standing installation

Due to the *Minilift*<sup>®</sup>'s odor and water tight chamber, it can be and is designed to be installed in a free standing / above grade area. The *Minilift*<sup>®</sup> chamber is ventilated through an integrated activated charcoal filter which keeps any type of odor problems in the room of installation to a minimum. A separate (roof-exiting) ventilation pipe can be connected to the system if desired.



The *Minilift*<sup>®</sup> is an excellent choice for below grade renovations which include installations of showers, sinks, washing machines, etc. The newly installed fixtures can simply be plumbed into the *Minilift*<sup>®</sup> which in turn will be connected to the existing building's wastewater piping (above the backwater level). Multiple inlets can be connected to the *Minilift*<sup>®</sup> using the quick-install KESSEL inlet adaptors (Illustration 2). The pump is also equipped with a quick-release lock (Illustration 1) for pump removal and use in other applications.

### 1.2.2. In the slab (below grade) installation

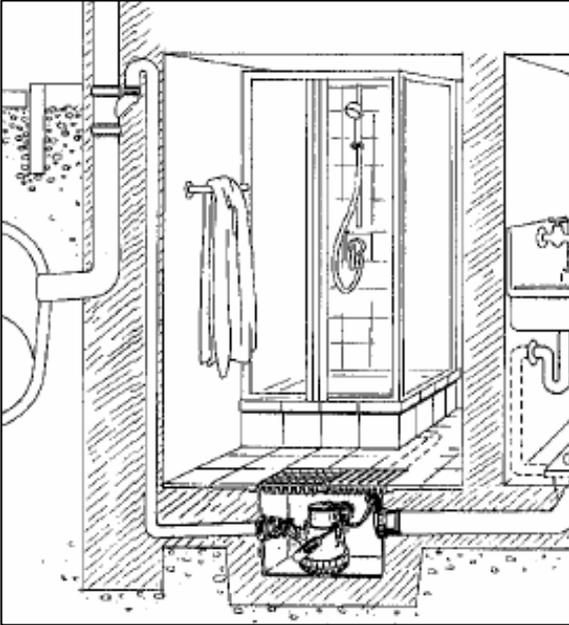


The *Minilift*<sup>®</sup> for in the slab / below grade installations consists of a pumping chamber with cover and inlet grate. Multiple inlets can also be connected to the *Minilift*<sup>®</sup> using the quick-install KESSEL inlet adaptors (Illustration 2) and the pump can be removed using the quick-release lock (Illustration 1).

Deeper installation depths can be accommodated by the use of a KESSEL variable height adjusting section which is available upon request. A separate ventilation pipe can be connected to the system if the inlet grate is removed and replaced with an available sealed cover.

## 2. Applications

### 2.1 Permanent installations



1. When the *Minilift*<sup>®</sup> is permanently installed (as seen in the Illustration) it is important that only greywater is fed into the unit (showers, sinks, washing machines, etc.). Toilets, for example, are not to be plumbed into the *Minilift*<sup>®</sup>.
2. The entire unit is of polymer construction for corrosion resistance. The *Minilift*<sup>®</sup> pump is controlled by a float switch.
3. The *Minilift*<sup>®</sup> is designed for connection to standard household clothes washing machines.
4. The unit is delivered with a 5 meter (16.5 feet) power chord.
5. The *Minilift*<sup>®</sup> can handle continuous wastewater at 50 C (122 deg F) and can handle up to 75 C (167 deg F) for short periods of time.

### 2.2 Removal of pump for use elsewhere



In cases that the *Minilift*<sup>®</sup> pump is temporarily needed for another application, the pump can be quickly and easily removed by unlocking the quick-release lock. If removing the pump be sure not to remove the integrated backflow flap. This flap assembly should remain attached to the Minilift chamber so that no wastewater in the outlet pressure pipe will flow back into the chamber. Also when removing the pump (if pump cable is run through an underground conduit) be sure to tie a string to the power chord plug so that the string will be pulled through the conduit and into the *Minilift*<sup>®</sup> chamber. This will aid in guiding the plug back through the conduit and to the power source when re-installing the pump.

#### **TIP:**

By removing the black suction basket (#15) on the bottom of the pump, the suction height can be reduced. This can often be of help when the distance between the floor and the pump's impeller needs to be as low as possible.

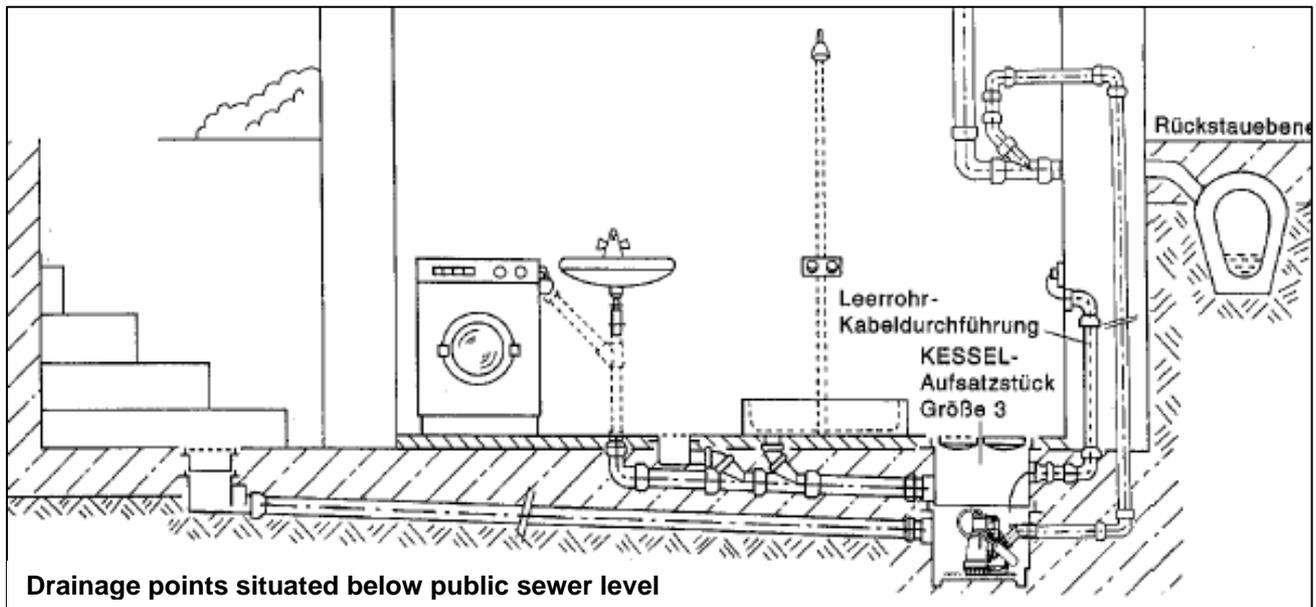
**Caution** – before removing the black suction basket make sure the pump IS NOT connected to a power source.

#### **TIP:**

In cases where the pump is used to pump out swimming pools, small ponds or any area where people or animals may be present – be sure to follow all local and national electrical codes to ensure safety. This type of application must follow VDE 0100 Section 49d requirements.

## 3. Installation

### 3.1 Installation in the slab (below grade)



Before the *Minilift*<sup>®</sup> chamber is installed in the slab or floor area, the following must first be assembled (note all the (#) refer to the illustration on the following page):

1. Place the flat gasket (#8) over the proper portion of the quick release mechanism (#6).
2. Insert the interior rubber seal (#9) inside the other side of the quick release mechanism (#6).
3. Now insert the quick release mechanism from inside the *Minilift*<sup>®</sup> chamber through the pre-drilled hole so that it now sticks out of the exterior side of the chamber.
4. From the exterior of the chamber, screw on the locking nut (#7) onto the threaded portion of the quick release mechanism which will securely fasten the entire fixture.
5. Insert the *Minilift*<sup>®</sup> pump into the chamber and make sure that the base of the pump aligns and securely sits on the guiderails on the base of the chamber. Now move the pump forward so that the outlet of the pump (#4) securely inserts into the quick release mechanism (#6 & #9). Lock the pump in place by closing the locking lever (#5).

**CAUTION – Make sure that the pump’s power cable does not hinder the proper function / movement of the pump’s float switch.**

6. Assemble the included DN 50 conduit adaptor into the pre-drilled hole (#13)
7. If required, connect any additional inlets to the body of the *Minilift*<sup>®</sup> making sure that these inlets will not affect the function of the pump’s float switch.
8. Place the chamber with pump into the prepared slab or floor opening. Connect the power cable conduit to the DN 50 conduit adaptor. Connect all additional drainage pipe to the prepared inlets.

### 3. Installation

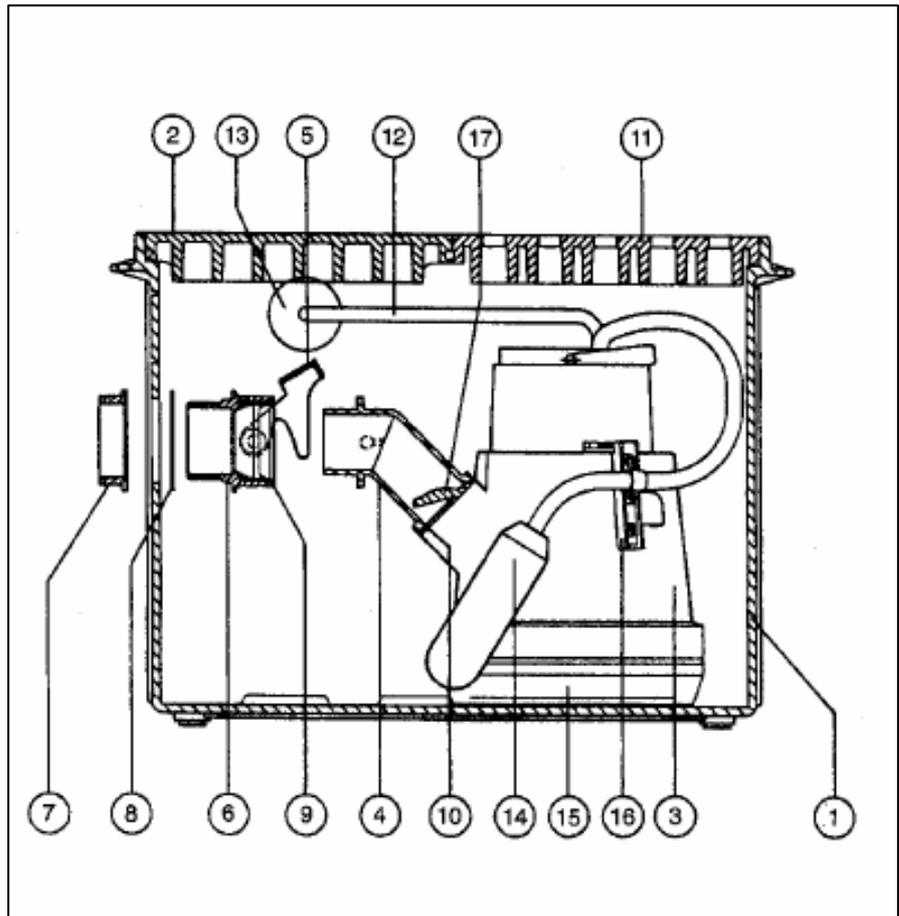
9. making sure that these inlets will not affect the function of the pump's float switch.
10. Insert and glue the outgoing pressure pipe (DN 40) (according to DIN 8063) inside the outlet portion of the *Minilift*<sup>®</sup> (#7 & #6)(glue is supplied). Make sure that the outgoing pressure pipe is securely installed.

**CAUTION – Before pouring concrete, make sure to protect the solid cover (#2) and grated cover (#11) with a foil or plastic wrap so that these pieces stay clean.**

11. After all conduit and drainage pipe connections have been properly made pour concrete around *Minilift*<sup>®</sup> and secure in place.

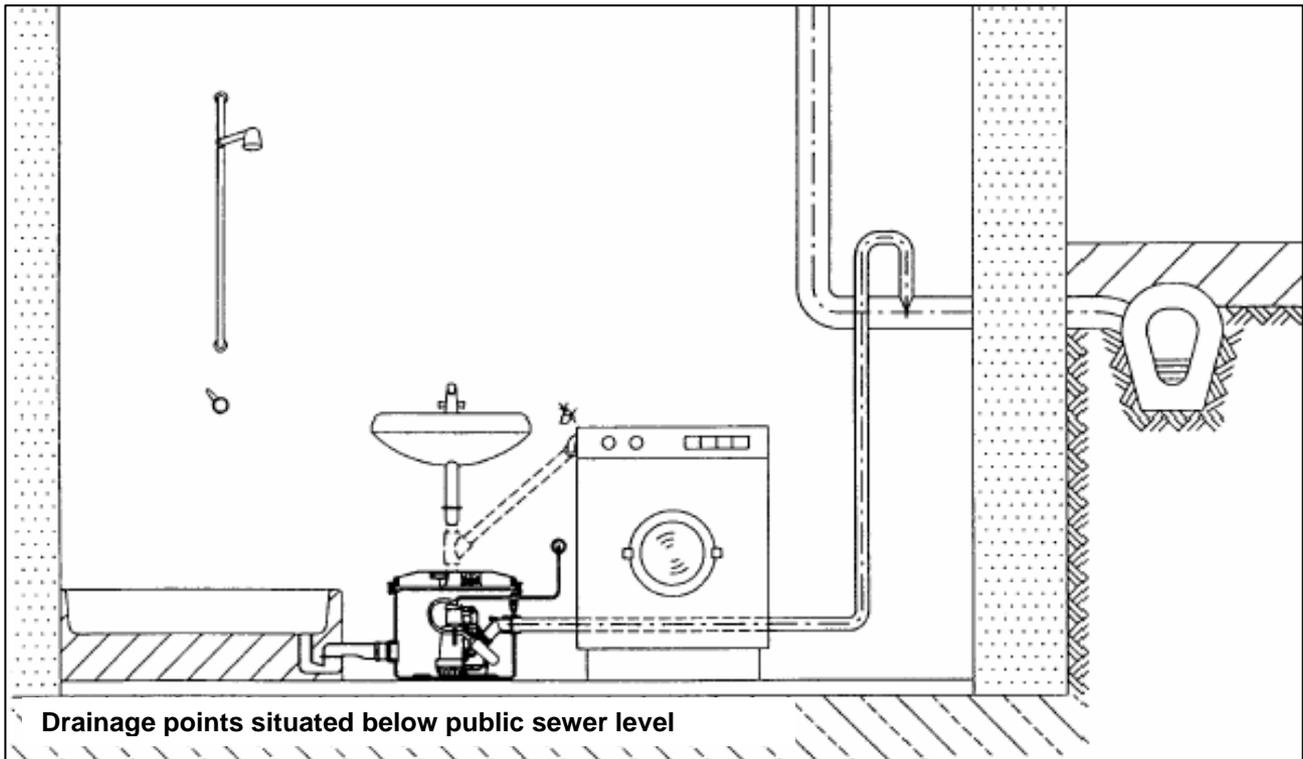
11. If deeper installations are necessary, KESSEL extension section (Article #32500) can be used. Seal between the extension section and the *Minilift*<sup>®</sup> chamber must be made with a standard flexible silicon caulk.

1. Chamber
2. Cover and grate
3. Pump
4. Pump outlet
5. Locking lever
6. Quick release mechanism
7. Locking nut
8. Flat gasket
9. Rubber seal
10. O-ring
11. Grated cover
12. Pump power cable
13. DN 50 hole
14. Float switch
15. Suction basket
16. Float switch adjustment
17. Back flow flap



## 3. Installation

### 3.2 Above floor / free standing installation



1. Place the flat gasket (#8) over the proper portion of the quick release mechanism (#6).
2. Insert the interior rubber seal (#9) inside the other side of the quick release mechanism (#6).
3. Now insert the quick release mechanism from inside the *Minilift*<sup>®</sup> chamber through the pre-drilled hole so that it now sticks out of the exterior side of the chamber.
4. From the exterior of the chamber, screw on the locking nut (#7) onto the threaded portion of the quick release mechanism which will securely fasten the entire fixture.
5. Insert the *Minilift*<sup>®</sup> pump into the chamber and make sure that the base of the pump aligns and securely sits on the guiderails on the base of the chamber. Now move the pump forward so that the outlet of the pump (#4) securely inserts into the quick release mechanism (#6 & #9). Lock the pump in place by closing the locking lever (#5).

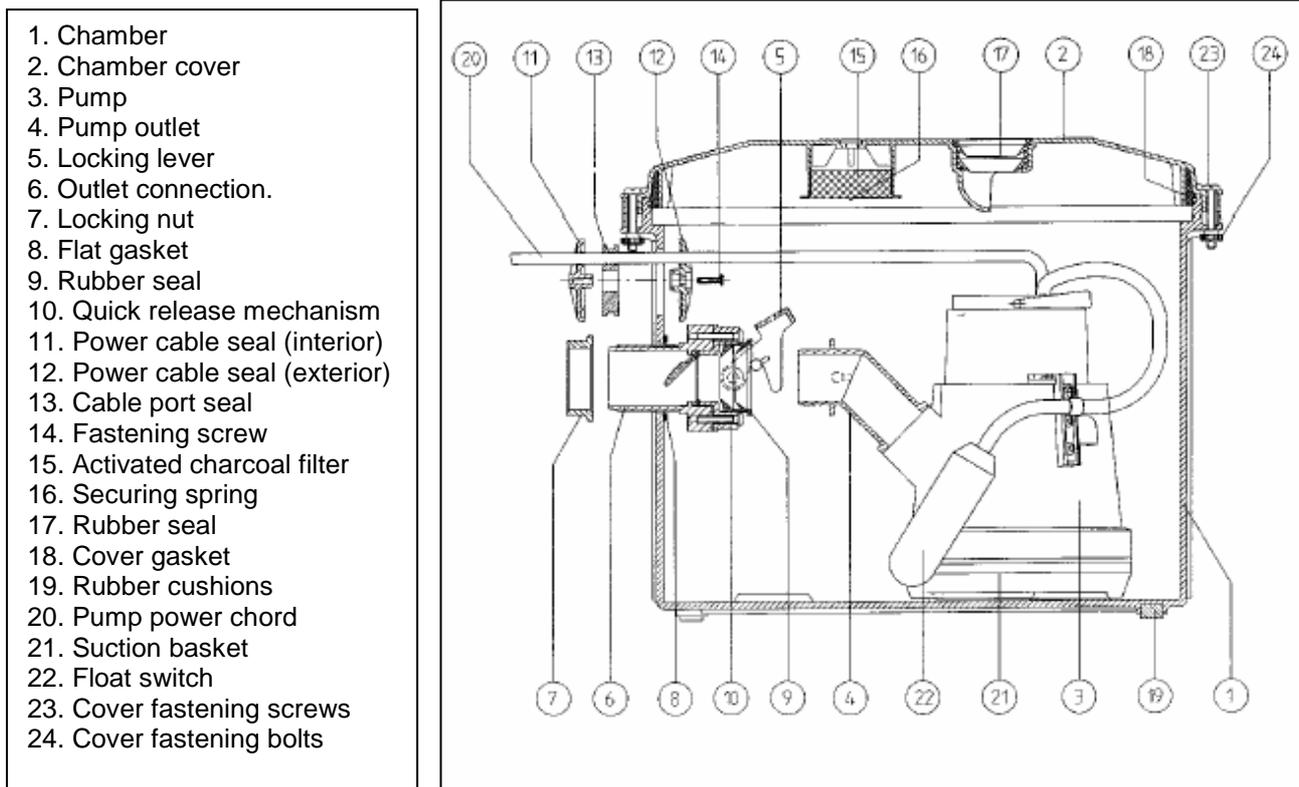
**CAUTION** – Make sure that the pump's power cable does not hinder the proper function / movement of the pump's float switch.

6. If required, connect any additional inlets to the body of the *Minilift*<sup>®</sup> making sure that these inlets will not affect the function of the pump's float switch.

### 3. Installation

7. Insert and glue the outgoing pressure pipe (DN 40)(according to DIN 8063) inside the outlet portion of the *Minilift*<sup>®</sup> (#7 & #6) (glue is supplied). Make sure that the outgoing pressure pipe is securely installed

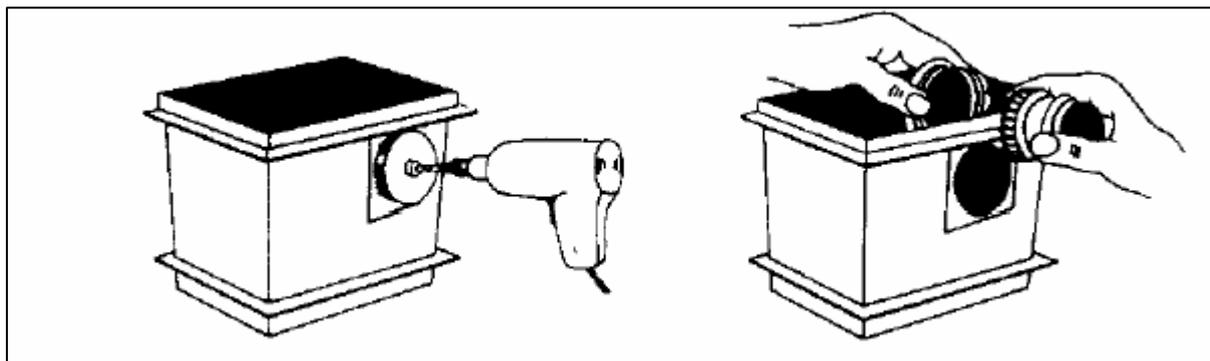
8. The *Minilift*<sup>®</sup> (art.no. 28560) is ventilated through the charcoal filter located on the *Minilift*<sup>®</sup> cover. If desired, a separate ventilation pipe can also be run to the building's main ventilation pipe or directly to the roof.



## 3. Installation

### 3.3 Additional inlets

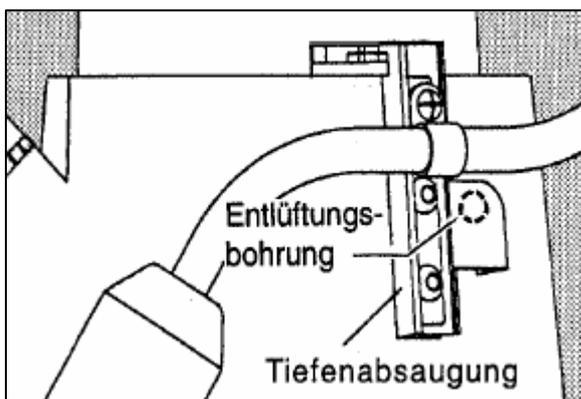
Additional inlets can be connected to the chamber of the *Minilift*<sup>®</sup> by cutting out precision DN 50 holes with the KESSEL drill attachment (Order # 50100). Please make sure that any additional inlets connected to the *Minilift*<sup>®</sup> chamber do not interfere with the functioning of the pump's float switch. Please note that a minimum height of 60 mm should be maintained between the inlet level of all pipes and the bottom of the chamber.



## 4. Commissioning

Commissioning the *Minilift*<sup>®</sup> takes place simply by plugging in the pump's power chord after all installation procedures have been properly completed as stated in this manual. It is, however, important that the float switch is inspected to make sure that it has free movement and does not risk becoming jammed or tangled with an inlet pipe or the pump's power chord.

The float switch can be adjusted in order to specify the wastewater height which will cause the pump to turn on. For decreasing the wastewater height which will cause the pump to activate, unscrew the float switch cable attachment as seen in the diagram and shorten the distance between the cable fastening clamp and the float switch. To increase the wastewater height which will cause the pump to activate, lengthen the distance between the cable fastening clamp and the float switch

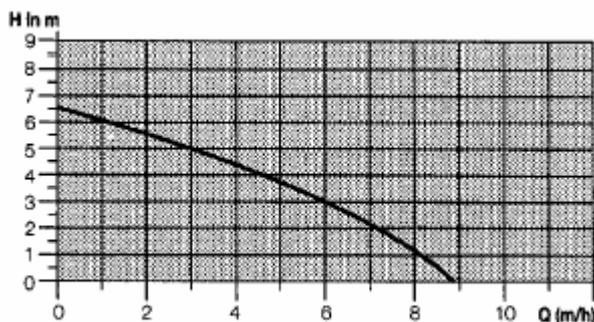


Entlüftungsbohrung = ventilation hole

Tiefenabsaugung = low height suction

### 4.1 Product information – data

Power curve



#### Technical Information:

Free passage thru impeller – max. 10 mm

Continuous wastewater pumping at 50°C (122°F)

Short term wastewater pumping at 75°C (167°F)

Power	Voltage	Current
P1 = 0.3 kW	230V ~/50 Hz	1.6 A
Revolutions	Weight	Power cable length
2800 U/min <sup>-1</sup>	7.3 kg	5 m

## 4. Commissioning

### 4.2 Tips

- Installation should meet the requirement of all local and national codes and standards.
- The outlet pressure pipe of the *Minilift*<sup>®</sup> should be plumbed above the locally defined backwater level and then into the building's main wastewater line.
- Before the *Minilift*<sup>®</sup> is placed into operation it should be inspected to certify that it is in compliance with all local and national electrical codes and standards.
- The plug of the *Minilift*<sup>®</sup> power chord (when plugged in or not) should be protected from moisture, water or any other fluid!
- The *Minilift*<sup>®</sup> must not be used to pump corrosive, flammable or explosive fluids!

## 5. Inspection and Maintenance

### 5.1 Inspection

According to DIN 1986, Part 31, the *Minilift*<sup>®</sup> unit is to be visually inspected for proper function and watertightness on a monthly basis.

### 5.2 Maintenance

According to DIN 1986, Pat 31, the *Minilift*<sup>®</sup> unit is to be maintained by a trained tradesman at the following intervals:

- *Minilift*<sup>®</sup> units installed in commercial areas should be maintained on a quarterly basis.
- *Minilift*<sup>®</sup> units installed in multiple family homes or apartment buildings should be maintained on a semi-annual basis.
- *Minilift*<sup>®</sup> units installed in single family homes should be maintained on an annual basis.

## 6. Guarantee

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 months. This warranty period begins on the day the product is shipped from KESSEL to its customer. The warranty only applies to newly manufactured products. Additional information can be found in section 377 and 378 of the HGB.

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 not be considered a defect.

01.01.2002

# Everything for drainage



- Backwater valves and cleanouts
- Polymer and cast iron drains
- Volatile liquid traps
- Lifting stations, pumps, warning and control units
- Rainwater management systems
- Grease separators
- Oil/fuel and coalescence separators
- Inspection chambers
- Custom projects for industrial applications