# Wastewater lifting plant

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## Sinkamat K1/ K2/ KD1/ KD2

# Operating instructions

**Contents:** page

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**CAUTION Please remove all internal packaging material before installation!**

# 1. General

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## 1.1 Application

This operating instruction is valid for the waste water lifting unit type Sinkamat K1/ KD1/ K2/ KD2.
Non-compliance with the operating instructions - in particular with the safety instructions - as well as non-manufacturer modification or use of non-original spare parts will result in loss of guarantee coverage. The manufacturer accepts no liability for damage or injury resulting from incorrect use of the equipment.
This compact unit can be used for household waste water from had basins, sink, washing machines which are located below the drain level (i.e. in cellar rooms). This unit is designed only to pump household waste water and not harmful material. Sanitary towels, food, long- fibres, sanitary articles and similar subjects are prohibited. It is not allowed to use this unit for sewage water from toilets.
This product may also pass as any other electrical equipment in cause of lacking electrical supply. If you may get any damages thereby, please calculate in accordance to the use an emergency power generator, a second pump and/ or a network independent alarm system. As the manufacturer we will be at your disposal after the buying for near information. In cause of defects or damages please contact the ACO Service department +49 36965-819 444

**Sales**: ACO Haustechnik
Im Gewerbepark 11c
36457 Stadtlengsfeld

**Product variations** Sinkamat K1/ K2/ KD1/ KD2

**Instruction last modified**: 03/2015

## 1.2 Technical data

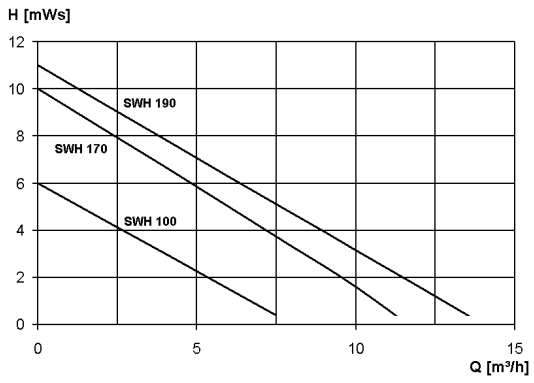
| | K1 | K2 | KD1 | KD2 |
|---|---|---|---|---|
| Add. for | | | water out of water softening installation and condensate | |
| Input power P1 | 300 W | 850 W | 300 W | 850 W |
| Motor power P2 | 130 W | 430 W | 130 W | 430 W |
| Voltage | 230 V 50 Hz | 230 V 50 Hz | 230 V 50 Hz | 230 V 50 Hz |
| Nominal current | 1.3 A | 3.7 A | 1.3 A | 3.7 A |
| Nominal speed | 2800 rpm | 2800 rpm | 2800 rpm | 2800 rpm |
| Max. capacity $Q_{max}$ | 8 $m^3$/h | 14 $m^3$/h | 8 $m^3$/h | 14 $m^3$/h |
| Max. head $H_{max}$ | 6 m | 11 m | 6 m | 11 m |
| Pressure size | G 1 1/4“ FT | G 1 1/4“ FT | G 1 1/4“ FT | G 1 1/4“ FT |
| Temperature | 102 °F (temporary 194 °F) | | | |
| Dimensions L / W / H | 380 / 250 / 300 mm | | | |

**The pumps at series Sinkamat K1/ K2/ KD1/ KD2 are applicable to a liquid temperature of max. 102°F (temporary 194°F).**
The potential free contact is designed for a maximum switch current of 1(2) A /230V.

**Materials**

| | |
|---|---|
| Housing | PP |
| Cover | ABS |
| Pump- housing | PP |
| Impellor | PA 6 |
| Motor shaft | 1.4021 |
| Pressure pipe | PVC |
| Seals | NBR |

**Characteristics**



### 1.3 Areas of application

The Sinkamat K1/ K2/ KD1/ KD2 waste water sets are suitable to handle waste water from hand basins, sinks, washing machines etc. can be used for domestic, industrial and agricultural purposes. Ideal where waste water arises below waist drain level.

**Attention** The Sinkamat K1/ K2/ KD1/ KD2 range is not suitable for sewage water from toilets and fatty water from kitchens. The sewage lifting units of the series Sinkamat K1/ K2/ KD1/ KD2 may not promoting wastewater and greasy wastewater or effluent which contain ingredients attack the materials of the pump or sump can be used.

## 2. Safety

(from: "VDMA-Standard publication 24 292")

These instructions for use contain general information, which should be noted when setting up, using and servicing the equipment. Installers and / or users must read and understand in detail these instructions prior to installation and servicing. These instructions must always be available at the site of the installation. All safety instructions must be full observed.

### 2.1 Marking of information in the instruction for use

Danger symbol in accordance with DIN 4844 - W9,

for warnings regarding electrical current the following symbol is used

Danger symbol in accordance with DIN 4844 - W8

The word "**Attention**" or "**Caution**" is used to introduce safety instructions whose non-observance may lead to damage to the machine and its functions.

### 2.2 Personal qualification

All personnel involved in the operation, maintenance, inspection and installation of the machine must be fully qualified to carry out the work involved. Personnel responsibilities, competence and supervision must be clearly defined by the operator. If the personnel in question are not already in possession of the requisite know- how, appropriate training and instruction must be provided. If required, the operator may commission the manufacturer/supplier to take care of such training. In addition, the operator is responsible for ensuring that the contents of the operating instructions are fully understood by the responsible personnel.

### 2.3 Dangers arising due to non-compliance with safety advice

Ignoring of safety instructions can lead to danger of personnel and to the environment as well as causing possible damage to the equipment. Non-compliance with safety instructions can lead to the loss of right to claim damages. Non-compliance with safety instructions can lead for example to:

- Breakdown in important functions of the equipment
- Breakdown in prescript methods for maintenance and upkeep
- Danger of injury from electrical, mechanical or chemical sources
- Environmental damage resulting from leaks of environmentally dangerous substances

### 2.4 Safety conscious work

These safety instructions, as well as all national safety requirements and extra internal company precautions or such laid down by the owner of the equipment must be observed.

### 2.5 Safety information for the owner / operator

- Any parts of the machine which could be a possible source of hot or cold burns should be covered.
- Covering for rotating parts (i.e. coupling) should be not removed while the machine is in use.
- Leak out (i.e. sealing of shaft) of dangerous substances (i.e. explosives, poisons, hot liquids) have to be handled in such a way that no danger to persons or the environment may occur. Legal requirements must be observed.
- Danger resulting from electrical current must be prevented. (For more information consult your local electricity board.)

### 2.6 Safety information for maintenance, inspection and fitting

The owner must ensure that all maintenance, inspection and fitting work is carried out by qualified and authorised personnel who are familiar with the operating instructions for equipment. In general all maintenance work must be carried out while the equipment is not in operation. The instructions for turning off the equipment contained in these operating instructions must be observed.

Pumps and units which carry hazardous materials must be decontaminated.

Immediately after completion of the work all safety and protection coverings should be reinstalled and / or switched on.
Please observe all instructions set out in the section on “Installation / commencement of operation” before returning the machine to service.

### 2.7 Non-manufacturer modification and spare part production

Modifications or alterations of the machine are only permitted after consultation with the manufacturer. Original spare parts and accessories authorised by the manufacturer ensure safety. The use of other parts can invalidate any liability of the manufacturer for consequential damage.

### 2.8 Unauthorised usage

The safety of the delivered pump is only guaranteed by usage according to the section 1 – General - of the instructions. The listed maximum ratings as per specification should under no circumstances be exceeded. The improper use of the pump, i.e. pumping of air or explosive media is strictly forbidden.

CAUTION

**Also, this waste water lifting unit, as a fully automatic utensil may need supervision from time to time and ensure if left inactive for long periods that the electrical supply to the pump is switch off. Disconnect the power supply of the utensils which are draining into the waste water unit also. Use an alarm system installation equipment to avoid the unit for flooding.**

## 3. Description

- The pump units are fitted with a robust single– phase electric motor.
- All units have a 1,5 m power supply cable with plug for 230V 50Hz single- phase.
- This waste water lifting unit must be connected to an earthed outlet.
- Do not lower or lift the pump unit by means of the power cable.
- A damaged power cable must be replaced immediately by a qualified electrician. Danger of personal injury by electrical shock if operated with a damaged cable!
- If the pump is connected to an electric installation where an earth-leakage circuit breaker (CB) is used as an additional protection, this circuit breaker must trip out when earth fault current exceeds 30mA.
- The lifting unit must not be dropped in water and is not submersible.

The collection is designed for unpressurized operation, that means that waste water is depressurized buffered and then fed into the sewer. The waste water unit at series Sinkamat K1/ K2/ KD1/ KD2 are pumping systems which allowed the automatic delivery waste water from hand basin, sink, washing machines and other equipments. It is not allowed to lift fluids which are contaminated with faeces and fat.
The equipment is ready for plug- in to mains 230V/ 50Hz. The motor is equipped with a thermal overload protection. The motor is starting automatically after cooling down. An integrated check- valve prevents backflow from pressure discharge.
The unit works by means of an in- build level control unit. If the water level in the container rises inadmissibly high, the built-in buzzer is activated by the second float. Simultaneously a potential-free contact is closed or opened which may be used for the retransmission of the malfunction or for the connection of our 'washing machine stop. The contact is designed for a switching current of 2A (1A for inductive load). To connect the electric equipment to the potential free contact, please remove the terminal box cover at the top of the container. Use the cable gland to inlet the cable. For connecting see app.

## 4. Transport and temporarily handling and storing

The waste water unit must not thrown, bump or drop down.

### 4.1. Temporarily storing

Please store the utensil to a place which is cool, dry, dark and free of frost. It should be stored in a horizontal position.

## 5. Installation and commencement of operation

**Before starting any work on the pump/motor make sure that the electric supply has been switched off and that it can not be accidentally switched on.**
**Before installing and starting please check the waste water lifting unit for possible damages (i.e. during transport) to prevent personal injury by electrical shock.**

**Place of installation:**

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Must be free of frost and on level ground.

**Connections:**

Intake connection (optimal 3 pcs.), types Sinkamat K1/ K2/ KD1/ KD2

- Nipple to connect a hose, diameter ¾"(20mm)
- Gasket at the top to the connect pipes, diameter 40mm with a spline end which alleviated the mounting of the intake connecting(scope of delivery)
- **The washing machine connection has to be slipped over the hose nipple!**
- The pipe inlet connection with a diameter of 50mm for shower is located sideward at the container. It is locked with a dummy plug. The inbuilt height amounts 80mm. It is usable from booth sides through turning the box. To connect a shower, make sure that the shower tray is set high enough to create sufficient drop (min. 15 cm).

- Intakes not used have to be sealed and blanked off!

**Connections of pressure pipes:**

There is a back draft damper built in the lifting unit. The pressure pipe has a thread socket G1 ¼" FT at its end. **Care should be taken not to over tighten plastic fittings! Please take care that the screwed connection of the pressure pipe does not block the port for the back draft damper.**. The pressure pipe has to be fitted with a flexible hose at the mounted piping. It is possible to disconnect the pressure piping from the screw joint for maintenance work. Please ensure the non return valve is fitted to the system discharge port.

**Ventilation and odour prevention:**

This lifting unit is designed with active carbon filter assignment and may not need any separate ventilation. Self evident, it is possible to install separate ventilation pipe with a diameter of 40mm. For this case remove the integrated valve- filter (carbon filter, valve insert, ball)-unit.

**Commencement of operation:**

Before starting up check all pipe connections for correct mounting, please. Now plug the Sinkamat K1/ K2/ KD1/ KD2 unit into an electrical outlet and check the function by letting water go into the container. At this point, check the tightness of the intake. After the refloating of the float switch the pump will be switched on automatically. The discharge pipe tightness has to be checked for leaks while pump is operating. The pump will be switched off automatically by the float switch when the water level is at its lowest. Water must not run back from the pressure pipe to the container. If, after switching off the pump to crashing noises of this check valve is located on the pipeline design of the penstock. By installing an additional check valve in a vertical section of the penstock can avoid the flapping noise.

## 6. Maintenance / Service

**Always disconnect from power before servicing!**
**Service and repair at electrical parts of the pump (cable, motor) has to be done by authorised service- companies or producer.**
**In case of very low temperatures and in any case before the first frost the pump must be removed from water. Empty the pump and store it in a place where it is protected from frost**.

The lifting unit has to be cleaned regularly. For checking and cleaning the lifting unit disconnect the pressure pipe and the intakes from the cover. Then detach the clips from the cover. After this the cover with pump has to lift up. The container, the intake strainer, the float switch and the ventilation bore hole at the pump have to be cleaned to avoid malfunction and clogging by solids and by contamination.
In case of using washing machines without strainer the lifting unit has to be cleaned in shorter intervals, and especially the ventilation bore hole and the intake strainer.

Repair service kits and service tools are available on request. You will find a topical overview about our service partners at www.aco-haustechnik.de
We explicitly mention that spare parts and accessories which are not delivered and checked by ACO Haustechnik are not permissible. The built in and use of such products may negatively affect the constructive set properties under these circumstances. For damages which arise by using of non-original spare parts and accessories, ACO Haustechnik will refuse any liability and warranty. For faults which you can not repair by yourself you should contact our customer service or a qualified person.
Please replace the cover with pump into the container and lock them with the both clip closures after the cleaning. The clip closures have to be placed in the cover at first and then down at the container.

## 7. Warranty

This pump carries a 24 month manufacturer warranty. The warranty period begins with the date of purchase by the end user. Proof of purchase should be retained. Within this period we will remove all kind of shortcoming due to failures of material or assembling. It is up to us either to repair or to replace the pump.
This warranty does not cover damage cause by improper use or wear and tear (mechanical seal). Also, there will be no warranty given in case of unauthorised repair of the pump.
Consequential damages caused by failing of the pump are not covered by the manufacturer.

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## 8. Disposal

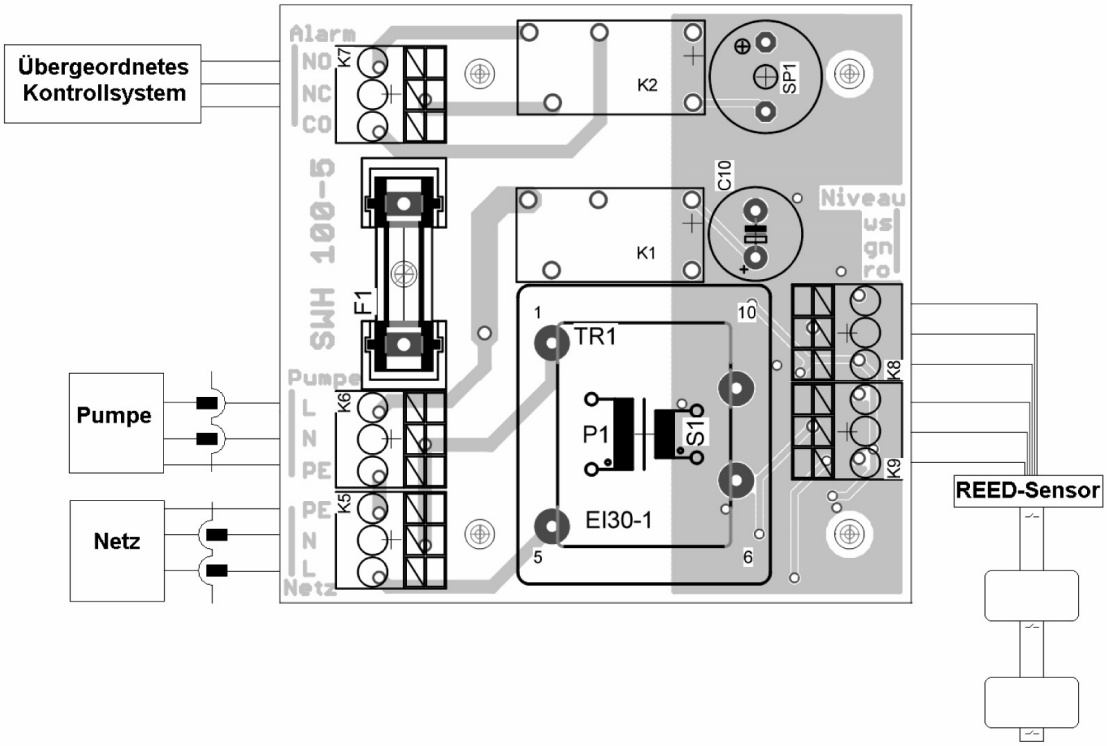
For EU-countries only.
Do not dispose the pump into the domestic waste.
In accordance to the European guideline 2002/96/EG concerning electrical and electronic equipment and implanting into national law used electrical tools have to be collected separately and supplied to an environmentally compatible recycling.

## 9. Technical Modification

… without prior notice.

## 10. Fault, possible reason and recovery

| **Faults** | Possible reasons | **Recovery** |
|---|---|---|
| Motor does not run | Power supply disconnected or wrong | Check the power outlet 230v 50Hz<br>Put in the plug |
| | Impeller blocked | Remove the cover and clean the pump and the tank from impurity<br>In case of recurrence consult the customer service |
| | Pump motor overloaded | If the pump motor does not switch on automatically after cooling down, consult the customer service |
| | Control unit damaged | Consult the customer service |
| | Pump motor damaged | Consult the customer service |
| | | |
| Motor runs, but does not lift | Pressure pipe clogged / hose buckled | Remove clogging / buckling<br>Take a test run. |
| | | |
| | Pump ventilation clogged | Clean the ventilation hole at the pump. |
| | Shutoff valve clogged / closed | Clean / open |
| | Non return valve incorrectly fitted | Correct the direction / check the function |
| Motor runs in short intervals | Non return valve faulty | Replace/clean non return valve |
| Motor runs too loud | Impurity in the tank or in the pump | Consult the customer service |



## Appendix

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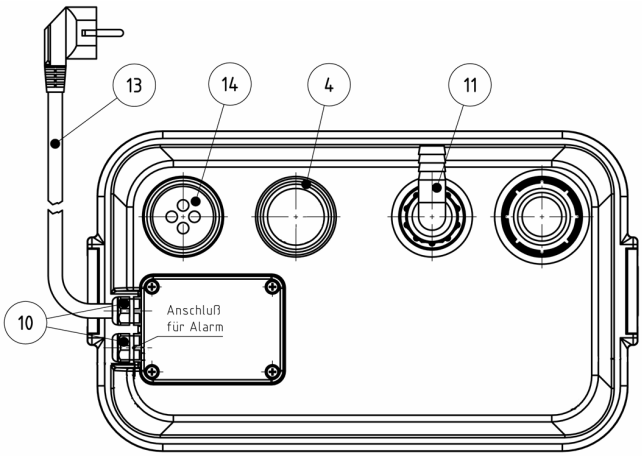
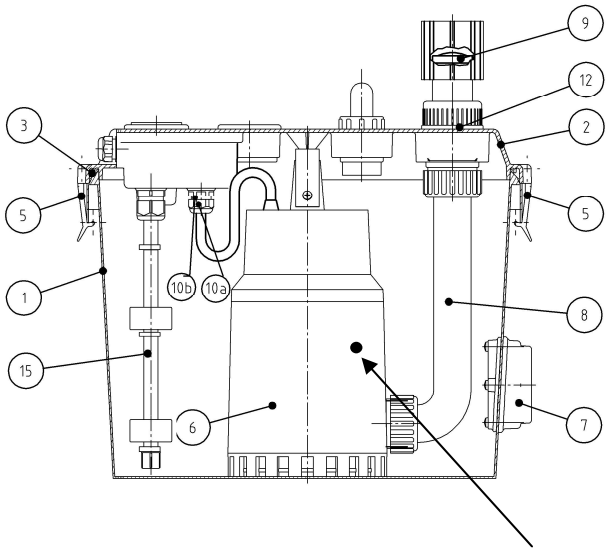
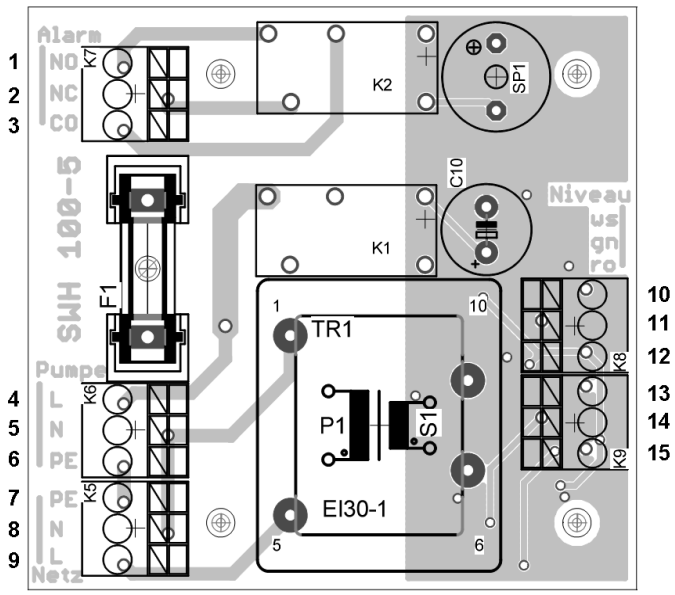
### Spare parts drawing




### Connecting diagram

Fuse 6,3 A T




| clamp | connection |
|---|---|
| 1 | alarm contact (NO) normally open |
| 2 | alarm contact (NC) normally closed |
| 3 | alarm contact (CO) change over |
| 4 | pump (L) |
| 5 | pump (N) |
| 6 | pump (PE) |
| 7 | power (PE) |
| 8 | power (N) |
| 9 | power (L) |
| 10 | level sensor bottem (white) |
| 11 | level sensor bottem (white) |
| 12 | level sensor up (green) |
| 13 | level sensor up (green) |
| 14 | level sensor kt alarm (red) |
| 15 | level sensor kt alarm (red) |