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# **Instruction Manual**

## **HOMAC1400**

**Safety instructions • Areas of application • Electrical connection • Installation**

**• Servicing • Technical data • Appendix**

# Instruction Manual

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You have purchased a product made by NING BO HOMAC and with it, therefore, also excellent quality and service. Secure this service by carrying out the installation works in accordance with the instructions, so that our product can perform its task to your complete satisfaction. Please remember that damage caused by incorrect installation or handling will adversely affect the guarantee.

**Therefore please adhere to the instructions in this manual!**

As with all electrical devices, this product can also fail to operate due to an interruption in the electricity supply or due to a technical defect. If this could result in damage, a mains-independent alarm system must be installed. Depending on the application, you may also wish to install an emergency power generator, or a second system as a back-up.

## Safety instructions

This instruction manual contains essential information that must be observed during installation, operation and servicing. It is therefore important that the installer and the responsible technician/operator read this instruction manual before the equipment is installed and put into operation. The manual must always be available at the location where the pump or the plant is installed.

Failure to observe the safety instructions can lead to the loss of all indemnity.

## Labelling of instructions

In this instruction manual, safety information is distinctly labelled with particular symbols. Disregarding this information can be dangerous.



General danger to people



Warning of electrical voltage

Danger to equipment and operation

## **ATTENTION!**

### **Qualification and training of personnel**

All personnel involved with the operation, servicing, inspection and installation of the equipment must be suitably qualified for this work and must have studied the instruction manual in depth to ensure that they are sufficiently conversant with its contents. The supervision, competence and areas of responsibility of the personnel must be precisely regulated by the operator. If the personnel do not have the necessary skills, they must be instructed and trained accordingly.

### **Safety-conscious working**

The safety instructions in this instruction manual, the existing national regulations regarding accident prevention, and any internal working, operating and safety regulations must be adhered to.

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## **Safety instructions for the operator/user**

All legal regulations, local directives and safety regulations must be adhered to.

The possibility of danger due to electrical energy must be prevented.

Leakages of dangerous (e.g. explosive, toxic, hot) substances must be discharged such that no danger to people or the environment occurs. Legal regulations must be observed.

## **Safety instructions for installation, inspection and maintenance works**

As a basic principle, works may only be carried out to the equipment when it is shut down. Pumps or plant that convey harmful substances must be decontaminated.

All safety and protection components must be re-fitted and/or made operational immediately after the works have been completed. Their effectiveness must be checked before restarting, taking into account the current regulations and stipulations.

## **Unauthorised modifications, manufacture of spare parts**

The equipment may only be modified or altered in agreement with the manufacturer. The use of original spare parts and accessories approved by the manufacturer is important for safety reasons. The use of other parts can result in liability for consequential damage being rescinded.

## **Unauthorised operating methods**

The operational safety of the supplied equipment is only guaranteed if the equipment is used for its intended purpose. The limiting values given in the "Technical Data" section may not be exceeded under any circumstances.

## **Instructions regarding accident prevention**

Before commencing servicing or maintenance works, cordon off the working area and check that the lifting gear is in perfect condition.

Never work alone. Always wear a hard hat, safety glasses and safety shoes and, if necessary, a suitable safety belt.

Before carrying out welding works or using electrical devices, check to ensure there is no danger of explosion.

People working in wastewater systems must be vaccinated against the pathogens that may be found there. For the sake of your health, be sure to pay meticulous attention to cleanliness wherever you are working.

Make sure that there are no toxic gases in the working area.

Observe the health and safety at work regulations and make sure that a first-aid kit is to hand.

In some cases, the pump and the pumping medium may be hot and could cause burns.

For installations in areas subject to explosion hazards, special regulations apply!

# Application

The HOMAC1400 lifting station is manufactured in accordance with DIN EN 12050-1 and is approved for the disposal of wastewater from toilets and urinals, and domestic wastewater containing the usual impurities (as defined in Part 3 of DIN 1986).

The sewage lifting station can withstand submersion. Submersion depth: 2 m of water; submersion period: 7 days.

The control unit cannot withstand submersion, but is splash-proof in accordance with IP 44.

## Scope of supply

- Sewage lifting station with DN 100 inlet with clamp flange
- Flexible connection with hose clamps for the pressure pipe
- Slip-on socket pipe, DN 80, for ventilation pipe
- Plug-in seals for connection of diaphragm hand pump and inlet at the side
- Fixing materials for tank
- Connection flange for pressure pipe, DN 80
- Non-return valve, DN 80, for the pressure pipe

## Electrical connection



Only qualified electricians may carry out electrical works to the pump or the plug.



Never put the mains plug in water! If water gets into the plug, this can cause malfunctions and damage.

Observe the operating voltage (see the type plate)!

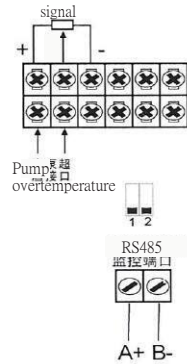
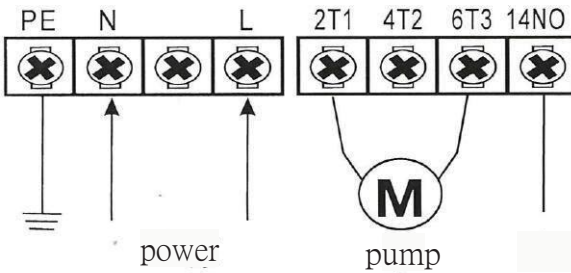
Only connect the pump to sockets that have been installed properly in accordance with the regulations and are fitted with at least a 10 A (delay) fuse. No additional motor protection is required, since the system has an integrated coil thermostat.

Unacceptably high temperatures and long periods of continuous operation cause the thermostat to shut down the motor. After the thermostat has switched off the system, pull out the mains plug before remedying the fault, since the device can switch itself on again automatically if the power is still connected.


### The control unit

The HOMAC1400 has a level controller that switches the pump on and off depending on the level of the water. An integrated alarm system beeps if there is a malfunction, even if this is only temporary. In the connector on the circuit board, there is a potential-free fault indicator contact (5 A/250 V) at terminals A+ and B-, which allows the alarm signal to be relayed if required.

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## Technical data

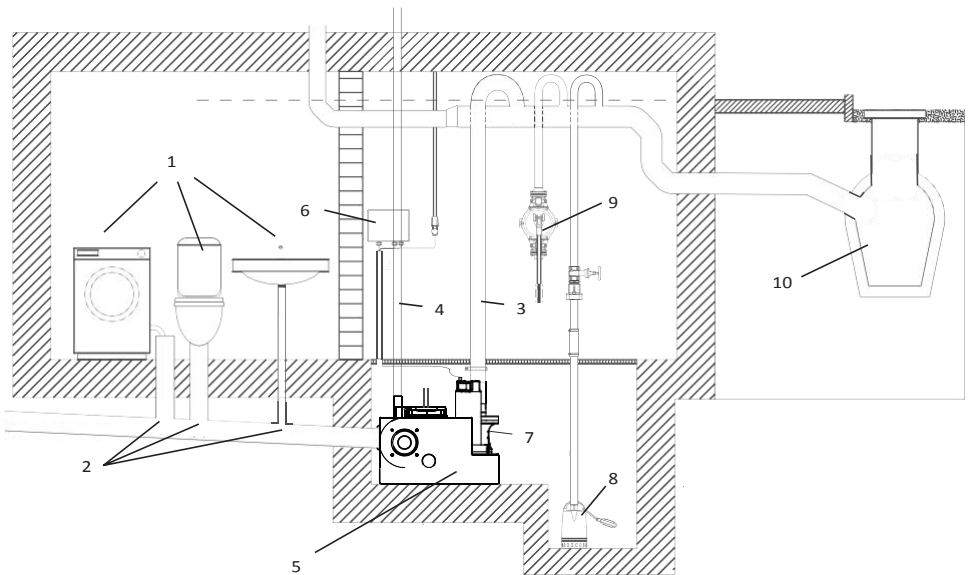
m	[kg]	38
	DN	80
	[mm]	50
P2	[kW]	1.0
U	[V]	1/N/PE ~220
f	[Hz]	50
I	[A]	6.4



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## Performance

H [m]	1	3	5	7	9	11	13
Q [m <sup>3</sup> /h]	37	33	26	20	15	10	1



## Installation

DIN EN 12056-4 states that all lifting units must be installed such that they are buoyancy-proof and free-standing. At least 60 cm free working space must be provided around and above the parts that require access for operation or maintenance.

The ventilation pipe must be vented above roof level, in compliance with DIN 12056. A wastewater sluice valve must be installed on the inlet side, behind the non-return valve. A pump sump must be provided, to facilitate the disposal of water from the pump installation area.

**ATTENTION!** All bolts that are used for fixing individual components to the tank should be tightened with a torque of no more than 6 Nm.

### Assembly

1. Select the DN 100 inlet you wish to use and open this inlet at the markings using a 102 Ø hole saw or a jigsaw. Then deburr the edges.
2. Fix the clamp flange (supplied with the unit) to the inlet with the hexagon screws. Close the inlet valve to prevent water from pouring out during assembly.
3. Take the brackets that are used to fix the unit in place and screw them to the tank. Then take the unit with the clamp flange and push it onto the inlet pipe as far as it will go.
4. Mark the positions of the wall plugs on the floor, then drill the holes and push in the wall plugs.
5. Now the clamp flange can be tightened and the unit can be anchored to the floor using the wood screws and shims.

6. Connect the ventilation pipe to the slip-on socket pipe, DN 70.
7. Connect the shut-off valve (accessory) to the non-return valve.
8. Screw the connecting flange onto the shut-off valve. Now the pressure pipe can be connected to the flexible connector.

### **Additional inlet, DN 50, vertical**

This inlet can also be used to connect a diaphragm hand pump, for the disposal of wastewater in emergency situations.

Using a hole saw, open the additional inlet by cutting along the pre-cut groove. Deburr the edges.

Put the plug-in seal, 58/50, into place

Push the inlet pipe, with an external diameter of 50 mm, into the tank through the plug-in seal. The distance from the bottom of the tank must be at least 30 mm.

### **Emergency disposal of wastewater**

Fix the diaphragm hand pump to the wall in an easily accessible position. Connect it to the pushed-in pipe and then connect the pressure pipe to the diaphragm hand pump.

### **Additional inlet, DN 50, horizontal**

Using a hole saw, open the additional inlet by cutting along the pre-cut groove. Deburr the edges.

Put the plug-in seal, 58/50, into place.

Push the inlet pipe, with an external diameter of 50 mm, into the tank through the plug-in seal. The distance from the bottom of the tank must be at least 30 mm.

**ATTENTION!** The pipes that connect to the low-level inlets on the side of the unit must be fitted with a bend, as close to the unit as possible. The pipe invert of this bend must be at a height of at least 180 mm above the floor on which the unit is fixed. Air pockets in the connecting pipe can cause run-off problems and the water could back-up. To prevent back-ups, the inlet pipe must be vented at its highest point. The ventilation pipe can be connected into the tank ventilation.

### Test run and functional check

#### 1. Test run

- a. Open the maintenance cover of the tank.
- b. Open the shut-off valves at the inlet and the pressure pipe.
- c. Insert the mains plug into the socket.
- d. Fill the tank up to the switch-on level.
- e. The pump will now switch on and empty the container.

Observe the pumping process through the maintenance opening. Then close the maintenance cover. Check to ensure that the tank, fittings and pipes are watertight, by carrying out several switching runs.

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## 2. Check the alarm system

a. Lift the float of the level controller slowly by hand until it is above the switch-on point and hold it there until the alarm is triggered.

b. Close the maintenance opening again with the cover and seal.

## Operation

The compli sewage lifting station operates fully automatically.

The integrated level controller switches the pump on and off depending on the water level in the tank. A test run of the pump can be started using the rocker switch at the plug. A green LED lights up when the unit is ready for operation.

## Shutting down the unit

Pull the mains plug out of the socket. If it is not possible or not permitted to interrupt the inflow in the case of mains failure, an emergency back-up generator must be provided.

The installation of a diaphragm hand pump is recommended for emptying the tank in the case of mains failure or pump malfunction.

## Inspection

To ensure operational reliability, a test run must be carried out once a month. The pipe connections must be checked for leaks at the same time.

## Servicing



Before carrying out any work, pull out the mains plug and ensure that the power supply to the unit cannot be switched on again by anyone else.



Check the plug and the rubber hose for signs of mechanical and chemical damage. Damaged or kinked pipes or hose must be replaced.



Servicing and maintenance of the sewage lifting station must be carried out at intervals of 6 months, by a qualified technician.

we recommend that the following works be included in the service:

1. Check the connection points for watertightness and inspect the areas surrounding the unit and the fittings.
2. Operate the shut-off valves and check that they move easily. Adjust and grease them if necessary.
3. Clean the pump and the pipes where they connect to the unit; check the impeller and the bearings.
4. Clean the inside of the tank (as necessary, or if especially required); remove any grease, for example.
5. Check the condition of the collecting tank.
6. Flush the system through with water once every 2 years.
7. When all the servicing tasks have been performed, carry out a test run and then put the unit back into operation.

The service must be documented, giving details of the important data and of all the tasks carried out.

# Quick tips for remedying faults

### **If the unit does not work:**

- Check the mains voltage, the fuse and the ground fault circuit interrupter.
- If the mains cable is damaged, it may be repaired only by the manufacturer.
- If the float switch is obstructed, close the inlet shut-off valve, open the maintenance cover and clear the blockage.

### **If the alarm is triggered and the unit does not work:**

- The thermostat in the motor windings may have switched off the system because the pump is obstructed. In this case, close the shut-off valve at the inlet, pull out the mains plug, remove the pump module, and clear the blockage.

### **If the pump performance decreases:**

- Check that the shut-off valve in the pressure pipe is fully open.
- If the pressure pipe is blocked, flush water through the pressure pipe to clear it.
- If the non-return valve is blocked, empty the pressure pipe and clean the non-return valve.
- If the ventilation system is blocked, clean the ventilation hose that leads from the pump tank and check the drilled holes.