

Operating manual

# **Suction stage** for loading and unloading installation

Art. No.: 272 190 000

Translation of the  
original operating manual

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## Important

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**It is essential that you read this manual thoroughly before the initial operation of the device.**

**Warranty claims for malfunctions and damage to the device resulting from an insufficient knowledge of the content of this manual will be deemed null and void.**

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## 1 Safety instructions

This device was manufactured according to the latest technical standards and recognized safety and technical regulations. Nevertheless, the use of this device may result in danger to the operator or third parties and/or damage to the device or other material assets. Therefore, it is essential that you follow the instructions provided in this manual, in particular the safety instructions and the sections marked with warning symbols.

### Warning notices and symbols

In this operating manual, the following symbols are used for especially important points.



**Specific details on the economic use of the device**



**Specific details and/or instructions for damage prevention**



**Details and/or instructions for preventing injury or extensive damage to property**

### Intended usage



Use the device only when it is in perfect working condition and only for its intended purpose while observing all safety precautions and risks and following all instructions in the operation manual. In particular, all malfunctions that could pose a safety hazard must be corrected immediately.



The device and its components are intended for use exclusively with the liquids listed and only for the purpose described. Any other use or additional manner of usage is not intended. The manufacturer cannot be held responsible for any damages resulting from such unintended use. The operator shall bear sole responsibility for such unintended use.

### Organizational measures



This operating manual is to be kept within easy reach at the location where the device is used! Each and every person involved in the installation, implementation, maintenance and the operation of the device must have read and understood the entire operating manual. The nameplate and the warning labels on the device must be observed and kept completely legible at all times.

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## Qualified personnel


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- ! All persons who operate, maintain and install this device must possess the necessary qualifications for these tasks. The scope of responsibility, scope of competence and the monitoring of personnel must be regulated by the operator in a detailed fashion. If these personnel do not possess the required knowledge, they are to be trained and instructed accordingly. In addition, the operator is to ensure that all personnel fully understand the content of this operating manual.

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## *Water protection*


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-  The device has been constructed for use with water contaminants. Observe all regulations and stipulations that apply where the device is used (e.g. Water Resources Law, Regulations Governing Equipment Processing Water Contaminants).

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## Hydraulics


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-  Only personnel with special knowledge and experience in hydraulics are allowed to perform work of any type on the hydraulic parts and mechanisms. All wires, pipes and bolts are to be checked regularly for leaks and any externally visible damage. Any such damage is to be investigated and rectified immediately. Oil spraying out of the equipment may result in injury and fire. Observe all safety precautions for the respective product when handling oils, greases and other chemical substances!

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## Maintenance and repairs


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-  According to legal stipulations, work of any type to be done on equipment that processes water contaminants may only be done by certified specialist agencies. Do not make any changes, extensions and/or modifications to the equipment that could affect safety in any manner without the manufacturer's permission. Replacement parts must conform to the technical specifications defined by the manufacturer. For original parts, this conformity is guaranteed.

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## Electrical energy

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-  Work on electrical equipment may only be done by a certified electrician or trained personnel under the guidance and supervision of a certified electrician, and must be done in accordance with the relevant regulations for electrical equipment. Machine and equipment parts which are being inspected, maintained or repaired must be completely disconnected from all power sources.

## 2 Technical description

### 2.1 Description

The suction stage provides the equipment pump with assistance during fluid intake and helps ensure short suction times during initial operation and/or when the suction column has collapsed.

The suction stage comprises a vacuum pump, a floating switch, a pipe for the admission of the floating pump, a magnet valve, and a control element.

The suction time depends on the volume of air to be displaced (suction pipe length and suction pipe cross-section, pipe friction loss, air pressure, vaporization point, the surrounding temperature, and the viscosity of the medium to be pumped).

### 2.2 Intended usage

The suction stage is only for fuel oil, diesel fuel and biodiesel (RME) with a danger rating of AIII.

The components of the suction stage are **not** explosion-proof!

Operating it with flammable fuels (danger rating AI, AII and B) may cause explosions!

The suction stage may **not** be operated in areas with a risk of explosion!

### 2.3 Technical information

→ see operating manual for vacuum pump.

## 3 Method of operation

The suction stage will only operate when the following two conditions are fulfilled:

1. Equipment pump must be switched on (equipment pump is working).
2. The floating switch registers the signal: No medium in the suction pipe.

Once these two conditions are fulfilled, the suction stage can be started by pressing the button marked "Ein" (On) → Vacuum pump and signal light on, magnet valve open! The suction stage evacuates the suction pipe.

Once the medium has been sucked into the pipe (floating switch registers fluid in the pipe), the suction stage will be switched off automatically (vacuum pump and signal light off, magnet valve closed) and the equipment pump will continue to function on its own.

Once the suction stage has gone off, it can only be started again manually with the button "Ein" (On). It is not possible to start it automatically.

The suction stage can be turned off at any time by pressing the button marked "Aus" (Off).

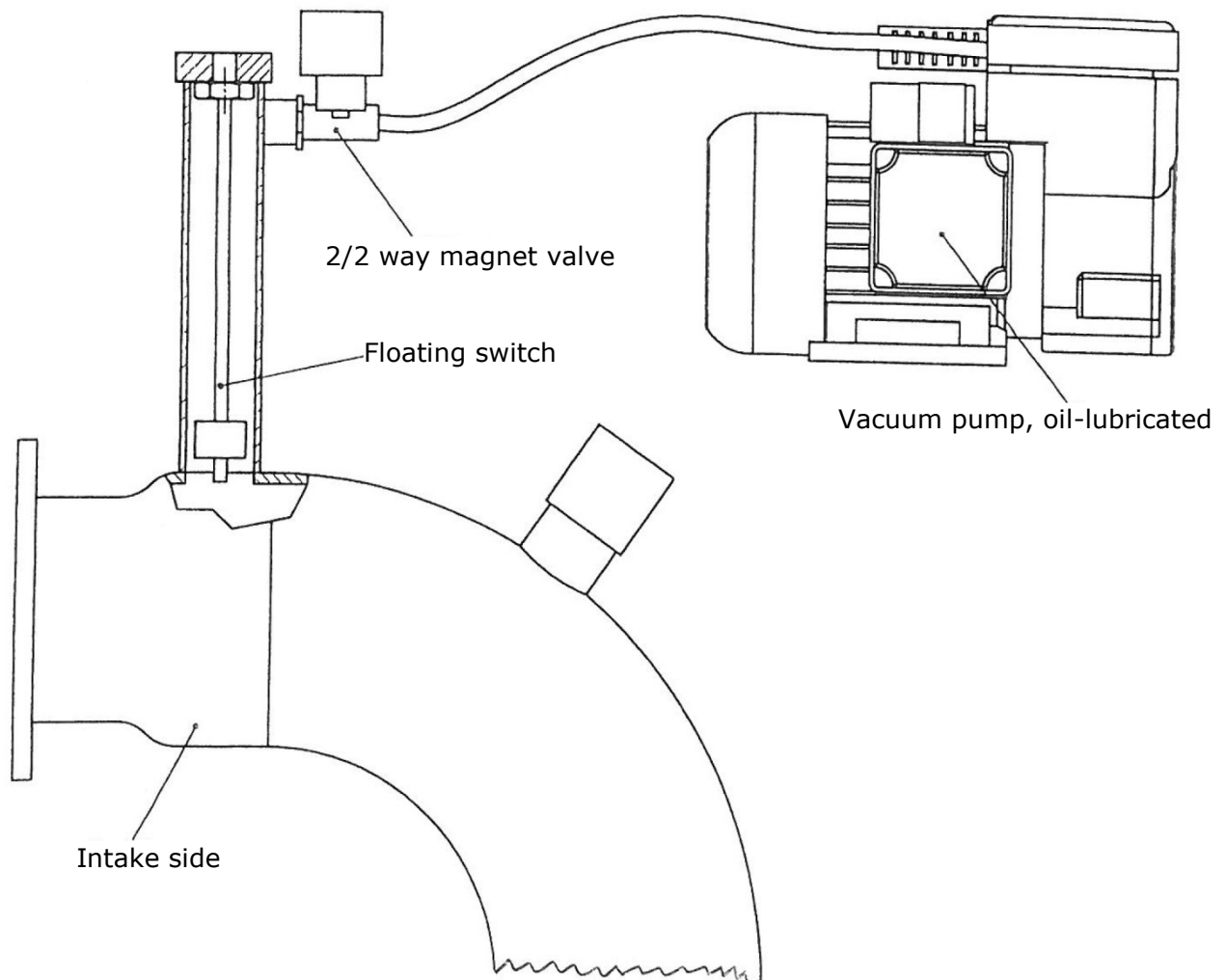
## 4 Assembly tips / Design

The electrical wiring for the components of the suction stage have already been partially connected at the factory (!)

→ See circuit diagram in switch box.

The pipe with the floating switch must be installed at the end of the suction pipe, or directly at the intake of the pump.

The pipe with the floating switch must be installed vertically!



## 5 Disposal

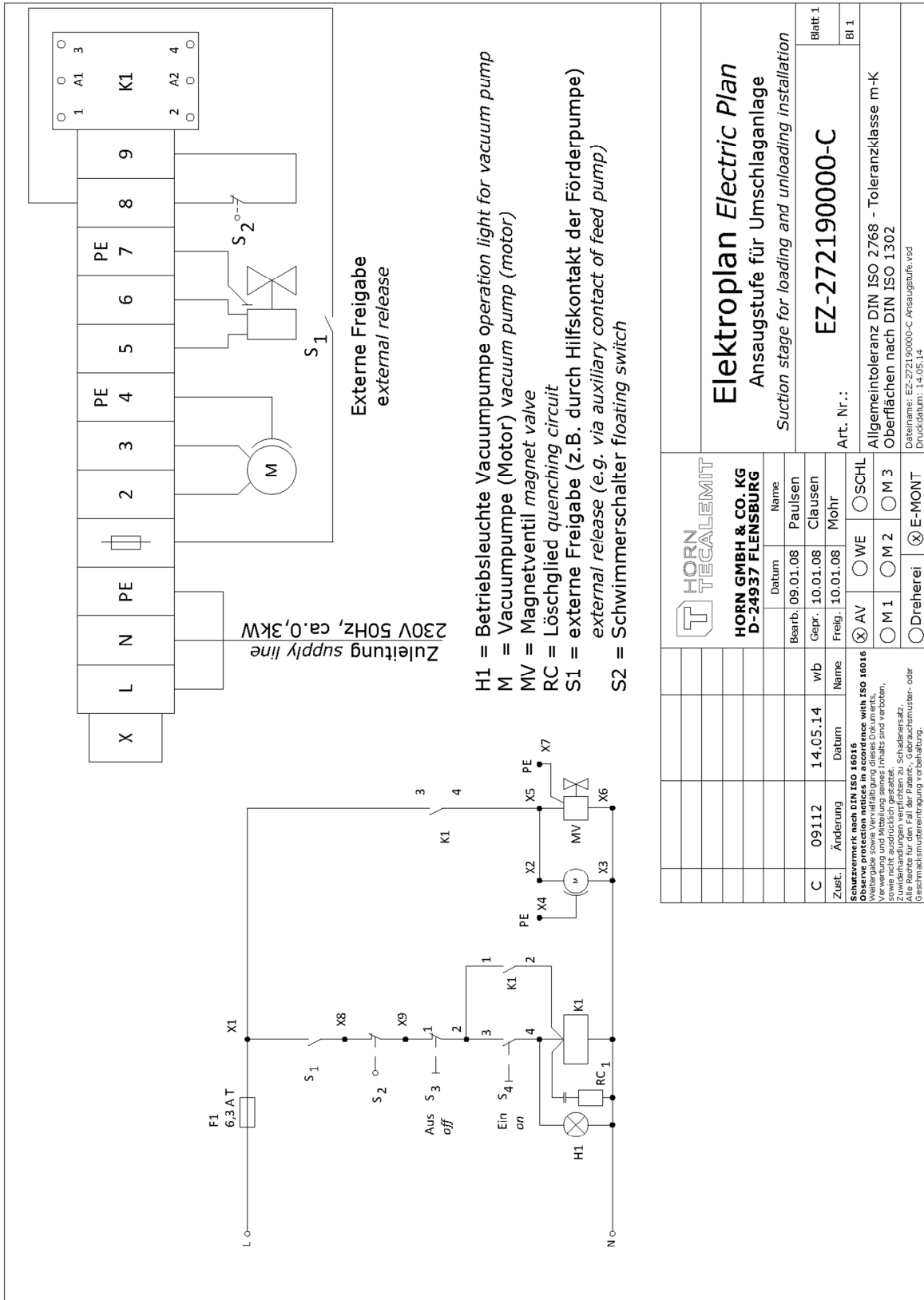
Upon being decommissioned, the device is to be emptied and the fluid disposed of properly. Upon being taken out of service permanently, the device is also to be disposed of properly:



Dispose of metal parts at a utilization facility for metal.  
Bring plastic parts to a recycling center.  
Bring electrical scrap to a recycling center.



**Observe all legal regulations concerning water protection.**



Zuleitung supply line  
230V 50Hz, ca. 0,3kW

Externe Freigabe  
external release

- H1 = Betriebsleuchte Vacuumpumpe operation light for vacuum pump
- M = Vacuumpumpe (Motor) vacuum pump (motor)
- MV = Magnetventil magnet valve
- RC = Löschglied quenching circuit
- S1 = externe Freigabe (z.B. durch Hilfskontakt der Förderpumpe)  
external release (e.g. via auxiliary contact of feed pump)
- S2 = Schwimmerschalter floating switch

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**Elektroplan Electric Plan**  
 Ansaugstufe für Umschlaganlage  
 Suction stage for loading and unloading installation

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Blatt 1  
Bl. 1

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