TECALEMIT

Operating manual

Stationary electric extraction device

Item-No.: 013873013

Translation of the original operating manual

Important!

The operating manual is always to be read before commissioning the equipment. No warranty claim will be granted for faults and damage to the equipment arising from insufficient knowledge of the operating manual.

Copyright

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1 Safety instructions

The device is a state of the art piece of equipment and has been constructed according to recognised safety specifications. It is nevertheless possible that use of the device will present hazards to the operator or to third parties, or may damage the device or other property. It is therefore essential to act in accordance with these safety instructions, and in particular with those sections identified as warnings.

Warning notices and symbols

In the operating manual, the following signs are used for highlighting important information.

Special information for economical use of the equipment.

! Special information or "dos and don'ts" for damage prevention.

⚠ Information or **“dos and don'ts” for the prevention of damage to persons or** equipment.

Appropriate use

! The device may only be used if it is in perfect condition, and then only for its intended purpose, in compliance with all safety regulations, with an awareness of the potential risks, and according to the operating manual. Any faults that may impair the safety must be rectified immediately.

⚠ The device and its components are only to be used for handling the liquids listed and the purpose described. Using the machine for any other purpose would constitute inappropriate use. The manufacturer is not responsible for any loss arising as a result of this, the risk for this is borne only by the operating company.

Organisational measures

! This operating manual should always be kept readily available at the site of operation! Each person concerned with the assembly, commissioning, maintenance and operation of the equipment must have read and understood the entire operating manual. It is essential that the type plate and the warning notices attached to the device are observed, and are maintained in a fully readable condition.

Qualified personnel

! The operating, maintenance and assembly personnel must be appropriately qualified for their work. The areas of responsibility, competences and supervision of the personnel must be precisely regulated by the operating company. If the personnel do not have the required knowledge, they must be trained and instructed. The operating company must also ensure that the contents of the operating manual are properly understood by the personnel.

Waters protection

⚠ The device has been designed to handle water hazardous substances. The regulations on the operating place (e.g. Water Resources Act WHG, = ordinance on installations for handling of substances hazardous to water VAwS) must be adhered to.

Hydraulics

Only persons with special knowledge and experience with hydraulic systems may carry out work on hydraulic parts and equipment. All lines, hoses and screw joints should regularly be checked for leaks and visible external damage. Any damage must be rectified immediately. Any oil spurting out can cause injuries and fire.
The relevant safety regulations for the product must be followed when handling oils, greases or other chemical substances!

Maintenance and Service

According to the regulations of the water resources law only authorized services may work on devices for flammable and/or water endangering substances. During such works, appropriate tools are to be used (avoid sparking). Before any kind of work on the device, all fuel lines are to be completely emptied and aerated.
Do not make any changes. Modifications or additions to the device which may affect the safety cannot be carried out without consent of the manufacturer. Exclusively genuine spare parts made by the manufacturer may be used.

Electric power

Work on the electrical equipment may only be carried out by a qualified electrician or by trained persons under the guidance and supervision of a qualified electrician according to electro-technical guidelines. Machine or system components, on which inspection, maintenance or repair work is to be carried out must be de-energised.

2 Technical description

2.1 Product description

The device is intended for the extraction of used lubricating oils up to hazardous material class A III from engines and gearboxes.

⚠ It must not be used for the extraction of inflammable and explosive liquids of the hazardous material classes AI, AII and B. Liquids of hazardous material class A III must not be extracted, if they are heated above their flash point. This would constitute a risk of explosion!

The extraction device is comprised of the electric suction pump, the control device with motor protection switch, motor contactor and time relay, and a separate illuminated pushbutton.
A filter unit with a vacuum meter and vacuum switch is connected upstream of the pump on the suction side; the pressure side is equipped with a non-return valve.
Extraction from motor car engines takes place directly via the dipstick guide tube with the aid of extraction probes or adaptors. Thanks to a coupling system, adaptors and extraction probes can be exchanged quickly.
The vacuum-based time controller automatically switches the device off after a delay following completion of extraction.

2.2 Appropriate use

⚠ The equipment must not be operated with flammable or explosive liquids with a flash point of below 55 °C (hazard classes AI, AII and B). Liquids with a flash point above 55 °C (hazard class A III) must not be transported if they are heated beyond their flash point.

2.3 Authorized mediums

Instructions of 2.1 are followed.

⚠ All other mediums may not be transported!

⚠ Please be aware of the safety data sheet for your medium.

2.4 Technical data

Motor	three-phase motor	Motor power	0,55 KW
Rated current	4,2A	Voltage	3/N/PE AC 400V / 50Hz
Duty cycle	100 %	Degree of protection	IP 54
Pump type	External-toothed gear pump	Rated delivery rate	max. 22 litres/minute *
Max. suction pressure	-0,85 bar*	Viscosity range	Max. 2000 mm²/s
Max. delivery pressure	5 bar		
Dimension. (HxWxD)	380x645x210mm	Dirt trap	300 µm
Ambient temperature	0°C to +40°C	Pressure connection	internal thread G 3/4“
Media Temperature	0°C to +60°C	Suction connection	internal thread G 3/4“
		Weight	approx. 20 kg

*depending on viscosity

2.5 Accessories

The following items can be used as accessories depending on the application:

	Item no.
Suction hoses	
Suction hose, Lenght 3,15m	029056231
Suction hose, Lenght 4,50m	029056241
Suction hose, Lenght 6,30m	029056261
Extraction probes / adaptors	
Extraction probe, rigid, ∅ 5 mm, 645 mm long	027027011
Extraction probe, rigid, ∅ 6 mm, 645 mm long	027027021
Extraction probe, flex., ∅ 5,4 mm, 676 mm long	027027051
Extraction probe, flex., ∅ 8 mm, 700 mm long	027027072
Extraction probe, flex., ∅ 5,4 mm, 1186 mm long	027027061
Extraction probe, flex., ∅ 8 mm, 1200 mm long	027027081
Extraction probe, flex., ∅ 10 mm, 680 mm long	027027181
MB/VAG - adaptor	027028011
Probe quiver for wall mounting	027095101
Pressure hose	
Steel-flex tube G ¾"in – R3/4"out 500 mm long	026090511

3 Commissioning

3.1 Assembly

The extraction device is mounted on a mounting panel. Mounting should take place according to the requirements of the particular application:

- In the case of installation in conjunction with a suction hose drum, the connecting line between the extraction device and the hose drum should be kept as short and as straight as possible in order to avoid unnecessary losses of suction power. The bore of this connecting line should not be less that 20 mm.
- The suction side angle connector is provided with the extraction device and can be mounted at the desired angle at the installation site.
- The factory-mounted pressure connector, comprising a pipe and a non-return valve, may not be altered, otherwise trouble-free operation cannot be guaranteed.
- The steel-flex tube, which is available as an accessory, fulfils the requirements of VAwS § 13 (Ordinance on installations for handling water-polluting substances and on specialist companies) and TRbF 231 part 1 (Technical regulations for inflammable liquids - pipelines inside works sites), and can thus be used as a connection to the piping system of the customer.
- The start button is factory-connected to the controller via a 3m long cable and can be mounted at an appropriate operating height.
- The extraction device itself must be connected to the three-phase supply 3/N/PE AC 400V 50Hz in accordance with the attached circuit diagram.

3.2 Checking the rotational direction of the pump

The pumping direction of the pump must be checked before the first extraction process. To do this, briefly press the start button. The pump draws in air and would switch off automatically after approx. 60 seconds if no vacuum is built up.

☛ The rotational direction of the pump must correspond to the affixed direction arrow. This can easily be checked by observing the rotational direction of the motor fan.

If the rotational direction is incorrect, the pump must switched off immediately via the motor protection switch and the motor connection must be altered accordingly.

3.3 Vacuum switch adjustment

The vacuum switch is preset in the factory to 0.4 bar. This setting may only be changed for special applications.

⚠ Adjustments may only be made in a voltage-free condition.

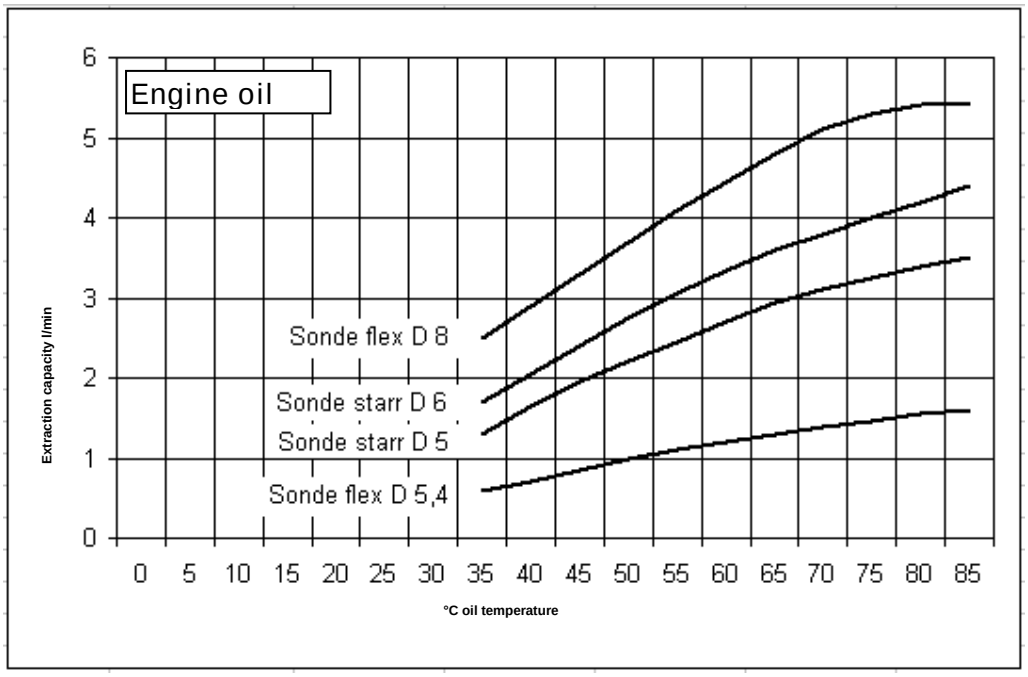
The vacuum setting (switch-off point of the pump) is adjusted via the set screw on the vacuum switch; the vacuum switch cover must be removed to do this. The switching point is adjustable from -0.2 to -0.5 bar with the aid of the scale on the switch button.

Rotating clockwise	=	increases the vacuum
Rotating anticlockwise	=	decreases the vacuum

4 Operation

The used oil may only be extracted at operating temperature with the engine turned off.
Select the appropriate extraction probe or adaptor and couple it to the suction hose. Insert the extraction probe down to the lowest point of the oil sump or couple the adaptor to the dipstick guide tube and subsequently press the start button. The green lamp in the illuminated pushbutton lights up, the pump starts and builds up a vacuum. The pointer of the vacuum meter indicates a vacuum; the used oil is extracted from the engine. If air is sucked in towards the end of the extraction process, the vacuum falls off and the pointer of the vacuum meter returns to zero. The vacuum switch switches off the pump via the time element after approx. 60 seconds (adjustable from 6-60 seconds). The extraction process is complete. Disconnect the suction hose from the dipstick tube and check whether all the oil has been extracted. Repeat the extraction process if necessary.

The position of the vacuum meter pointer is no indication of the pumping capacity of the pump. The pumping capacity and the vacuum are dependent upon the viscosity and the temperature of the oil, upon the cross-section and the length of the suction hose as well as the extraction probe used. Basically, higher oil temperatures and larger suction cross-sections result in higher pumping capacity (see extraction diagram).



5 What to do if...?

... there is no extraction power and the vacuum meter does not indicate a vacuum.

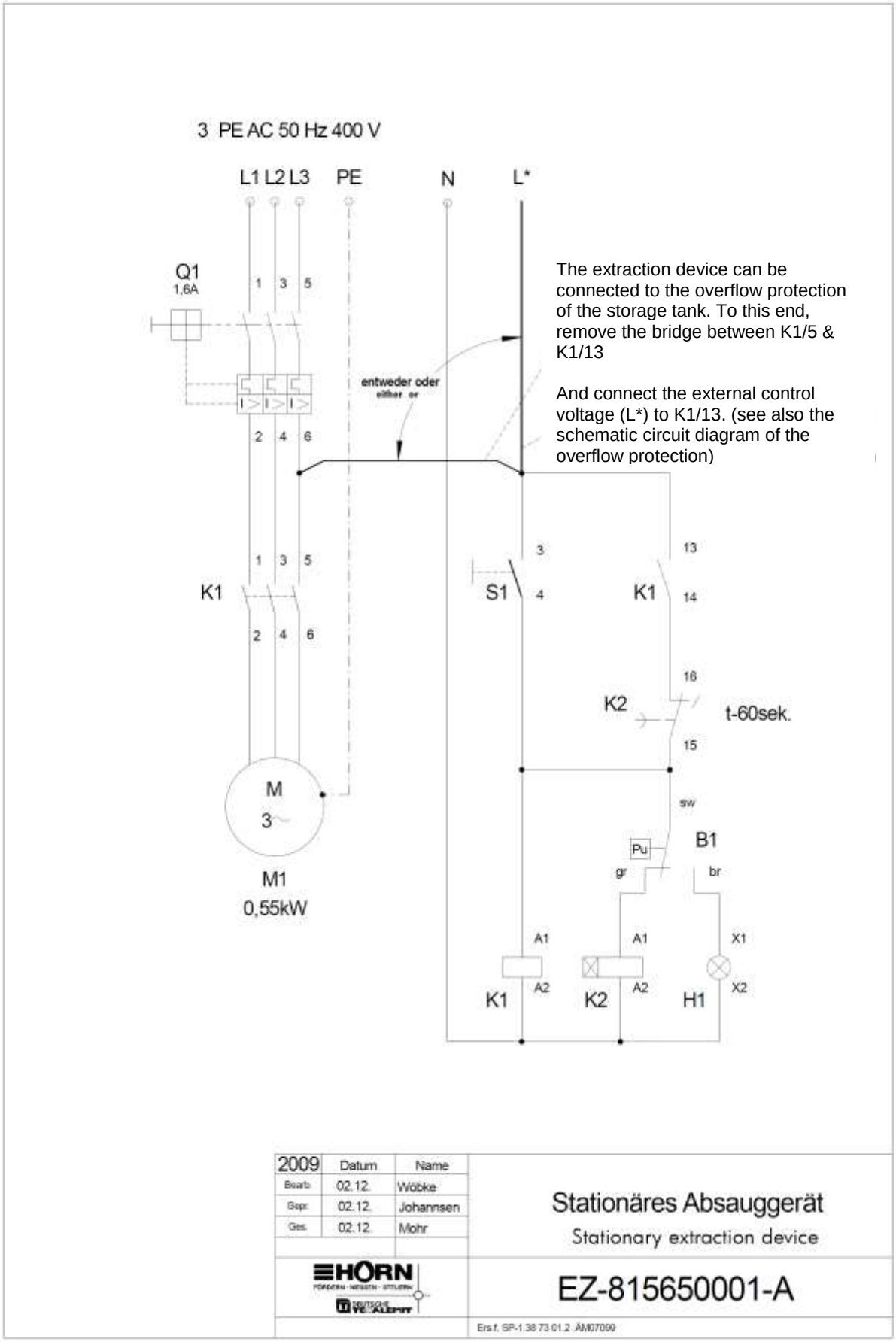
- Check the suction line for leaks and seal it if necessary.
- Replace damaged extraction probes.
- Check the O-rings of the suction coupling for damage and replace them if necessary.
- Check that the suction filter is mounted correctly and that the seal is not damaged.

... there is no extraction power although the vacuum meter indicates a vacuum?

- The extraction probe is dirty or buckled – clean or replace the extraction probe.
- The temperature of the oil to be extracted is too low – extract the oil only at engine operating temperature.
- The filter insert in the dirt trap is dirty or damaged – clean or replace the filter insert

! In case of excessive noise development, further operation is only permitted after elimination of the cause!

6 Wiring diagram



7 Servicing and maintenance

7.1 Cleaning

Clean the extraction device with diesel fuel depending on the level of use, but at least every 12 months. To this end, suck in diesel fuel via the suction hose as in the normal extraction process.
Clean the filter unit on the suction side regularly. The filter unit is fitted with a replaceable filter insert which can also be cleaned if need be. If the filter insert is dirty, it should be cleaned carefully with a brush in white spirit or a cleaning agent; do not use aggressive cleaning agents.
The filter insert can be cleaned up to five times. Subsequently, or in the case of visible damage, the filter insert must be replaced.
Filter insertPart no. 045920631

7.2 Maintenence

According to WHG § 19i, only specialist companies certified to §19l WHG may carry out maintenance work on systems for liquids that are harmful to water. If the user does not satisfy these requirements, the work must be placed in the hands of a recognised specialist company. Deutsche Tecalemit is a recognised specialist company in accordance with WHG § 19l

8 Disposal

The device is to be emptied completely and the liquids properly disposed of in case it is taken out of service.
The equipment is to be disposed of properly when taken permanently out of service:

- Return old metal for recycling.
- Return plastic parts for recycling.
- Return electronic waste for recycling.

The water legal regulations are to be followed.

9 Declaration of conformity

HORN TECALEMIT

Konformitätserklärung
Declaration of Conformity

Hiermit erklären wir, dass die Bauart
We herewith declare that the construction type

Typ: *Type:*	**Elektrisches Absauggerät stationär**
Bezeichnung: *Designation:*	**Elektrisches Ölförderaggregat** ***Electric oil dispensing device***
Artikel-Nr.: *Item No.:*	**013873013**

in der von uns gelieferten Ausführung folgenden einschlägigen Bestimmungen entspricht:
in the form as delivered by us complies with the following applicable regulations:

- Maschinenrichtlinie 2006/42/EG
  Machinery safety 2006/42/EC
- EMV-Richtlinie 2004/108/EG
  EMC directive 2004/108/EC

Angewendete harmonisierte Normen:
Applied harmonised standards:

DIN EN ISO 12100 DIN EN 809

EG-Dokumentationsbevollmächtigter: Jörg Mohr Horn GmbH & Co. KG
EC official agent for documentation: Munketoft 42
24937 Flensburg

29.01.2013
Datum
Date

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