HORN TECALEMIT


Operating manual

# HORNET

## W 80

Item-No.: 108808700, 108888700, 108818701, 108800054

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.Product description

## 2. Technical description

### 2.1 Description

These electric pumps are electrically powered tank pumps for coolant liquids and heating and diesel oils of hazard class A III.

The pumps with integrated siphon protection have a drum thread R 2” and are supplied with a 1,6 m intake hose DN 32, with filter, a 4.0 m discharge hose DN 25 and the approved-design automatic nozzle A2015 with a hose swivel joint.

### 2.2 Appropriate use

The HORNET W 80 is designed for use in industry, workshops, filling stations and similar sites. It can be used for pumping coolant liquids, heating and diesel oil of hazard class AIII.

⚠ **The HORNET W 80 must not be operated with combustible and explosive liquids with hazard material classes AI, AII and B. Liquids of hazard class A III must not be used, if they are heated above their flash point. Operation of the Hornet 50 II in explosion-endangered areas is not permitted. This would constitute a risk of explosion!**

! **The temperature of the liquid to be pumped must be in the range -10°C to +40°C.**

! **The electric pumps are self-priming. Continuous dry running can however lead to damage to the pump vanes!**

! **Operation of the electric pump without a foot filter can result in the destruction of important components of the pump.**

! **The pump has no safety device to prevent automatic restarting after interruption of the power supply.**

## 2.3 Product versions

**Standard versions**

| | |
|---|---|
| Item-No.: 108 808 700 | HORNET W 80 |
| Item-No.: 108 800 054 | HORNET W 80  740 W |

**With meter Z 300**

| | |
|---|---|
| Item-No.: 108 888 700 | HORNET W 80 Z 300 |

**With meter FMT II**

| | |
|---|---|
| Item-No.: 108 818 701 | HORNET W 80 FMT II |

## 2.4 Technical data

| | | |
|---|---|---|
| **Medium temperature** | -10° C to +40° C | |
| **Ambient temperature** | -20° C to +40° C | |
| **Connecting thread** | G 1" / G1 1/4" | |
| **Drum thread** | G 2" / M64x4 | |
| **By-pass valve adjusted** | 2,5 bar | |
| **Nominal pump pressure** | 1,6 bar | |
| **Nominal priming level** | 1,6 m | |
| **Nominal pump capacity** | 80 l/min | |
| **Voltage** | 230 V 50Hz | |
| **Nominal motor capacity** | 0,37 kW | 0,74 kW* |
| **Current max.** | 2,8 A | 3,8 A* |
| **Protection** | IP 54 | |
| **Connecting cable** | 2 m | |
| **Duty cycle:** | 100 % | |
| **Rotation speed** | 1360 $min^{-1}$ | |

For version HORNET W 80  740 W

# 3. Assembly instructions

## 3.1 Place of installation

The installation location should be selected to ensure trouble-free operation. In addition, it must be accessible for maintenance work.

## 3.2 Assembly

- Before fitting check all parts for any packaging material residue.
- Slide foot filter **(2)** until measuring point on to the pipe of suction hose, and mount it with the clamp. Please be sure that the foot filter is mounted tightly (tighten clamp).

**! Operation of the electric pump without a foot filter can result in the destruction of important components of the pump.**

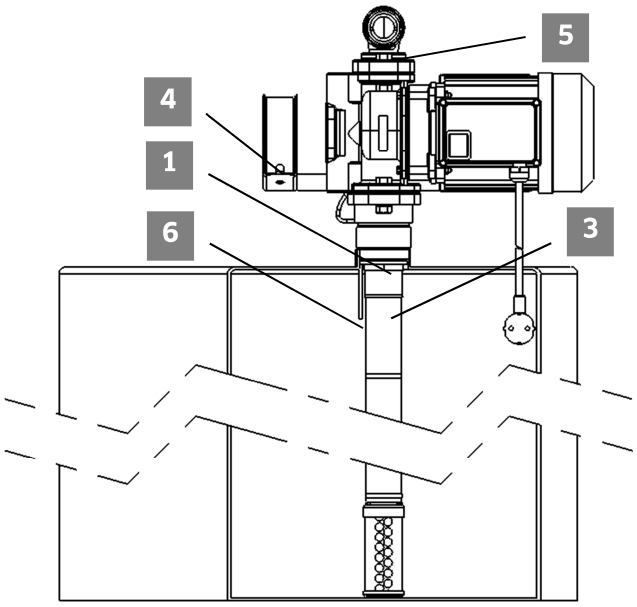
- Screw suction hose with the G 1 1/4" - thread **(3)** into drum swivel joint and tighten
- Screw drum swivel joint with suction hose into the G 2" opening of tank.

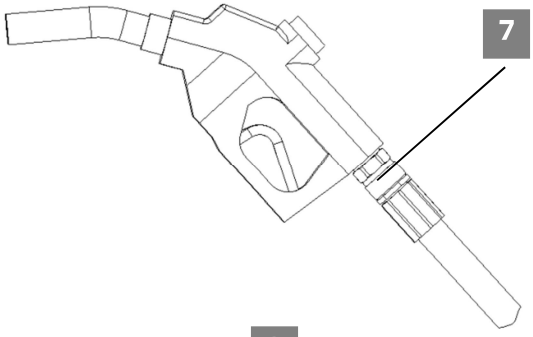
**Caution! The return hose may not penetrate into the filling region of the container.**

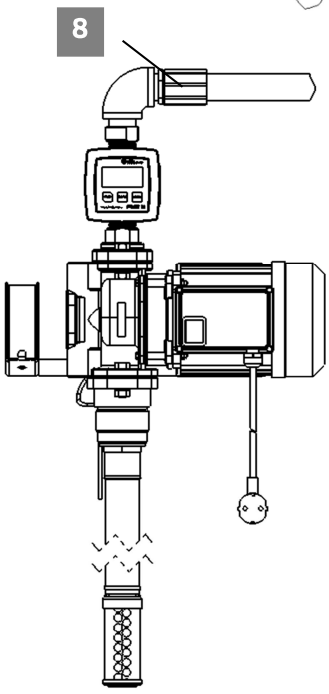
- Place gasket on drum swivel joint and fix pump with the enclosed screws M10 x 35, the spring washers and the hexagonal nuts M10.

**Caution! Delivery liquid escapes from the return hose when the pump is operated!**

- Insert loose end of by-pass hose **(6)** approx. 300 mm via the recess of the drum swivel joint **(1)** into tank.
- Fix holder for automatic nozzle **(4)** with both hexagonal head screws M6x25, the spring washers and the hexagonal nuts M6 on the upper - or lower support of the pump motor.
- Fix discharge hose with external thread G1" in pump-outlet **(5)**. Fix other end of discharge hose into hose swivel joint **(7)** and screw this into the automatic nozzle.
- After mounting, please test the connections for leakages.



## 3.3 Option meter FMT II or meter Z 300

If the supplied equipment includes a meter FMT II or a meter Z 300, a G1" screw coupling of the nozzle should be connected to the meter outlet **(8)**. The other screw coupling is connected to the rotary joint of the automatic nozzle **(7)**. For operation of the meter see the enclosed instructions.

# 4. Operation

## 4.1 Commissioning and re-commissioning

! **Dry running over longer periods (> 1 min) must be avoided at all costs, as damage to the pump vanes could otherwise result.**

- Hold the nozzle in a tank, in the return line of the container or in a collecting vessel. Open the nozzle at the fuel lever.
- Switch the pump on; after about 15 sec delivery of the fluid from the nozzle begins.

! **The HORNET W 80 electric pump may only be operated under supervision.**

## 4.2 Normal operation

! **Avoid dry running (>1 min).**

! **With the nozzle closed and the pump filled with medium it may be operated for max. 1 min, since otherwise this can lead to excessive heating and pump vane damage.**

! **After the filling process, the nozzle must be replaced in its nozzle holder.**

! **The discharge hose should not remain lying on the ground in order to prevent damage to it (e.g. by driving over it).**

! **A defective hose can cause contamination.**

! **If any leakage occurs in the pump, the hoses or the nozzle, operation must be stopped immediately and the fault rectified.**

- Switch the pump on.
- Hold the nozzle in filling container or in vehicle tank and press up the fuel lever according to the desired fill quantity or lock with fixing clip. The automatic nozzle A2015 switches off automatically when the tank is full (minimum delivery rate = 19 l/min). If the filling process should be finished before this, release the filling lever or if the lever is locked, briefly pull it up and then release it.
- At the end of delivery, switch the electric pump off and place the nozzle in its holder.

Also see the operating manual for the automatic nozzle A2015.

## 4.3 Meter FMT II (optional)

- The 5-digit display starts automatically when filling starts.
- The display can be reset to 0.00 by pressing the Reset button.
- The meter is factory-calibrated for use with diesel and heating oil.
- However, factors such as temperature and the effective power of the pump can affect the accuracy. In such a case a re-calibration is possible.
- See also operating manual for meter FMT II.

## 4.4 Meter Z 300 (optional)

- The 3-digit display starts automatically when filling starts.
- The volume display can be reset to 000 by rotating the reset knob.
- The total-volume display cannot be reset.
- The meter is factory-calibrated for use with diesel and heating oil. However, factors such as temperature and the effective power of the pump can affect the accuracy. In such a case a re-calibration is possible.
- See also operating manual for meter Z 300.

# 5. Dismantling

If the pump must be removed from the drum or from the tank:

- Remove the mains plug.
- Loosen the fixing screws on the drum screw. Slowly remove the pump from the container (the pumped liquid will drain fully from the hose) and lay it in an oil-tight bath. When doing this, pay attention to the PU-3 hose of the siphon protection.
- Loosen the discharge hose and let the liquid drain into an oil-tight bath.

# 6. Fault display – What to do if...?

**... the pump is switching itself repeatedly on and off?**

– The pump is running dry and is switching itself back on after the pumping chamber has cooled down. Switch off the pump and eliminate the cause of the dry-running.

**... the pump doesn't aspirate the liquid?**

– The tank is empty.

– The suction line and all screw joints on the suction side are to be checked for leaks and resealed if necessary.

**... the pump isn't to be switched on?**

– The mains plug is not plugged in.

– The cable is damaged.

**... the pumping capacity is too low?**

– The foot filter is dirty.

– Very cold or viscous liquids can only be pumped with difficulty, the delivery rate is correspondingly low, possibly the temperature of the liquid is below the specified minimum.

**... the pump switches itself off during operation?**

– The thermal overload protection of the electric motor has been activated. After cooling down it resets itself automatically. The cause of the over heating should be corrected.

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

## 7. Maintenance

The pump is designed to need very little attention and maintenance. Before the start of any maintenance work, remove the mains plug from the socket.

### 7.1 Leak test

The device and the other components of the system are to be checked regularly for leaks and damage and sealed if necessary.

### 7.2 Discharge hose

A discharge hose can be easily changed by simply loosening the screw connections (also see chapter 3 Assembly instructions).

### 7.3 Foot filter

The filter needs to be cleaned regularly. To do this, remove the foot filter from the intake hose, wash it and blow off with compressed air. Then assemble the foot filter as described in the chapter on assembly.

### 7.4 Fuse

In the Hornet W 80 the motor is protected by a thermal cut-out in the motor winding, which resets itself after the motor cools down.

### 7.5 Cleaning the system

In the event of superficial fouling clean the device carefully with suitable materials, use no corrosive cleaning materials. Flush with diesel to clean the interior parts and pipes.

## 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:<br>*Type:* | **HORNET W 80** |
| Bezeichnung:<br>*Designation:* | **Elektrische Förderpumpe**<br>***Electric delivery pump*** |
| Artikel-Nr.:<br>*Item No.:* | **108808700, 108888700, 108818701** |

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
  *Electromagnetic compatibility 2004/108/EC*

Angewendete harmonisierte Normen:
*Applied harmonised standards:*

EN ISO 12100-1, -2 EN 60204-1

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

11.04.2011
Datum
*Date*

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