HORN TECALEMIT

Translation of the original operating manual

TankQuick eco

Item-No.: 013896200, 013896210

Copyright

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.

Service Hotline **+49 1805 900 301**
Reparatur Service **+49 1805 900 302**
(0,14 €/Min: on the German landline network, Mobile telephone max. 0,42 €/Min.)

service@tecalemit.de

Document-No.: 44 1657 101-C
As of: 16.03.2012

Table of content

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 / Appropriate use

The TankQuick eco is a device for transferring fuel out of vehicle tanks into the device's own containers, and for returning it to the empty tank. It was specifically designed to be used in vehicle workshops, at filling stations and similar sites. It can be used for emptying the tanks of vehicles on which repairs are to be carried out, and for emptying tanks that have been wrongly filled.

⚠ **This device is approved for use with potentially explosive liquids and for opera-tion in potentially explosive atmospheres. The permissible type of use is speci-fied by the Ex mark in the declaration of conformity and on the type plate. The device may be operated exclusively with the liquids listed below.**

The device accords with the requirements of the applicable regulations, and in particular with ATEX (RL 94/9/EC). This is certified by the Declaration of Conformity and by the CE mark.

In operation, the pneumatic double-membrane pump sucks the fuel out of the tank, through the suction hose and into the container. The fuel is kept in the container while the work is carried out. After changing over the delivery hoses, fuel is discharged again from the container. The gas displacement device ensures that the gases displaced during filling do not escape to the open air.

The container delivered with the equipment is approved for the transport of the approved liquids and can be exchanged with no great effort.

2.2 Product versions

The TankQuick eco is available in two variants. They differ in the type of suction hose.

013 896 200	- TankQuick eco	Suctions hose 15x9 mm
013 896 210	- TankQuick eco S	Suctions hose 12x8 mm

2.3 Equipment

- Four-wheeled trolley with 2 lockable steering rolls
- 120 litre exchangeable container with level display
- Pump unit with delivery pump, fuel filter, compressed air regulator and starting valve
- Hose system with filler pipe adapter, emptying/refilling hose and gas displacement hose
- Accessories (optional): Adapter set for extraction via the fuel hose

2.4 Technical data

Dimensions	Height	approx. 1096 mm
	Width	approx. 483 mm
	Depth	approx. 680 mm
Empty weight	With container	approx. 35 kg
Noise emission	Emission sound pressure level	71 dB(A) ±1,5 dB(A) ±0,5%
Container	Volume	120l
	Useful volume	110l
Pump unit	Pumping capacity	approx.7,5 l/min
Operating means		Compressed air, oil-free filtered
Compressed air inlet		min 7 bar, max. 10 bar
Permissible ambient temp.	Operation and breaks in work	0°- 40° C
Permissible media temperature		0°- 40° C
Pumping media		Petrol, diesel, E85 (ethanol fuel), others on enquiry

2.5 Accessories

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

	Item-No.
Adapter set for extraction via the fuel line	**020 202 022**
Exchange drum with level display	**013 896 300**
Adapter for Mercedes C-Class	**027 028 021**

2.6 Outline drawing

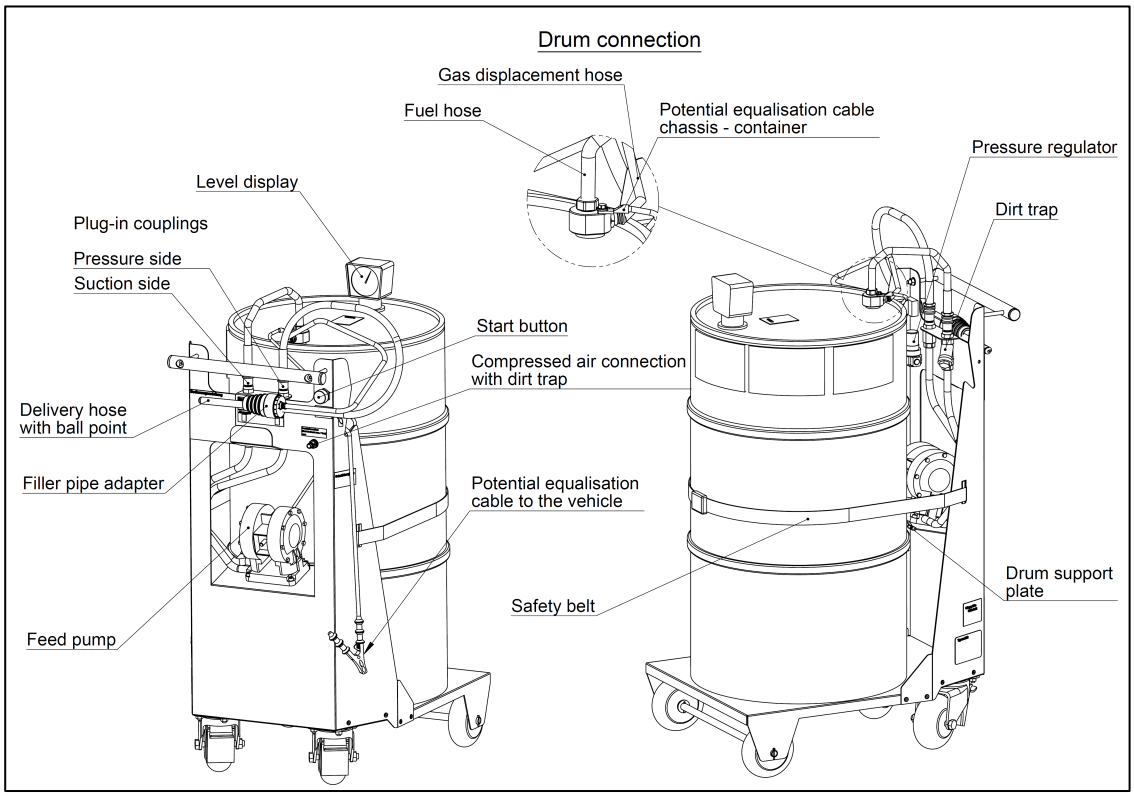


Figure 1

2.7 Functional diagram

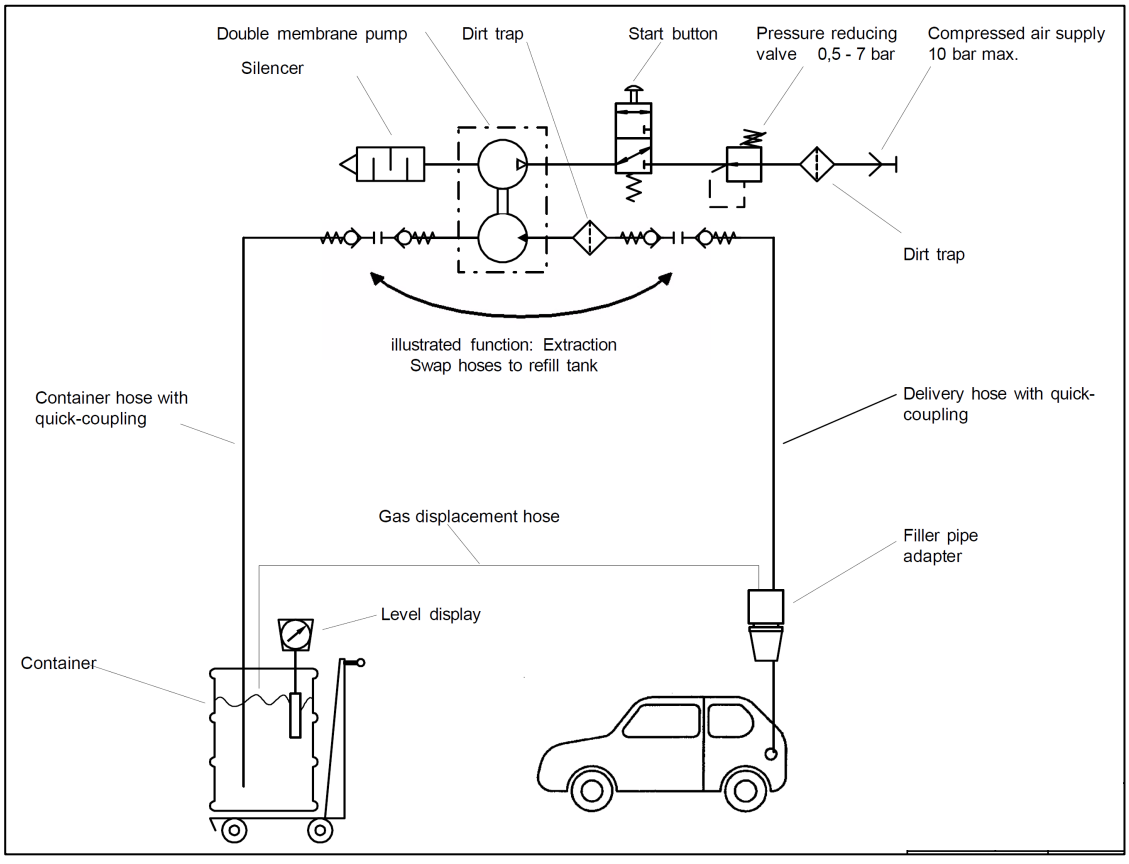


Figure 2

3 Installation

3.1 Place of installation

The TankQuick may only be used at sites such as petrol stations or workshops that have been properly set-up for such work. The place of installation must be chosen in such a way as neither to present danger to persons nor to pollute the environment. The following points must be observed:

- The device must be used in such a way that any spilt fuel is trapped, is noticed, and can be collected. It must therefore only be used and stored on a liquid-tight floor. Spilt drops must be collected immediately.
- In accordance with TRbF 40, the area with a radius of approx. 0.2 m around the equipment is to be classified as Ex-zone 2. The device must therefore only be used in the open air or in well-ventilated rooms. The necessary explosive hazard protection measures must be taken.

⚠ **In particular smoking, naked flames and working with tools that generate sparks are forbidden in the vicinity of the device.**

- When not in use it must only be stored in rooms where people doesn't stay. Ensure good ventilation and that the temperature of the device will not rise.
- In order to disperse any static electric charge, the unit must not be placed on insulating surfaces.
- The place of installation must offer sufficient protection against unauthorised use.
- It must be kept where it is protected from damage by third parties, e.g. not close to the path of vehicles or working areas.
- The equipment is to be installed such that it is protected against influences of the weather and also protected against heating up (e.g. direct sunlight).

3.2 Change of location

When moving the TankQuick, it may be pushed / pulled exclusively by the handle of the trolley. When parking it must always be ensured that the wheel locks are applied securely.

3.3 Compressed Air Supply

☛ **Fault-free operation involving relatively little servicing is only ensured if the supply of compressed air is free from dirt, water condensation and oil.**

The use of a compressed air filter with an automatic condensate drain by the user is to be greatly recommended.

An input pressure of at least 7 bar is necessary in order to reach the max. delivery flow rate.

4 Commissioning

4.1 Specifying the Liquid

Liquid residues will be found even when the container has been emptied. In order to ensure that there is no mixing of sorts, the medium for a device must be specified during commissioning (diesel, petrol or E85).

4.2 Operation with exchange containers

The container supplied with the unit is an open head drum, authorized for dangerous goods transport of the approved medium (UN approval no. UN1A1/X300/2010/DBAM1166-GDH). It can, for example, be changed for single variety use with different mediums. Only replacement drums with a filling level indicator, available as an accessory, may be used.

4.2.1 Emptying the delivery systems

☛ **A small quantity of fuel remains in the delivery system after operation.**

In order to empty the system as completely as possible before exchanging the drum, the extraction procedure should be carried out for approx. 15 sec with the suction hose raised.

4.2.2 Changing the drum

In order to change the drum, dismount the drum connection, loosen the safety belt and lift the drum off the trolley.

Place the new drum on the trolley, press it against the support plate and secure it with the belt. Now mount the drum connection with fuel hose, gas displacement hose and potential equalisation cable.

! **Check that the drum is secured after changing the drum and regularly during use!**

4.3 Adjusting the Operating Pressure

The internal operating pressure is limited via the device's own pressure regulator. It is preset in the factory to the max. permissible output pressure of 7 bar and fixed. The max. pumping capacity of the device is reached at this pressure. A higher output pressure is not possible.

However, the operating pressure can be reduced if necessary by turning the adjusting knob on the pressure regulator according to the respective requirement.

5 Operation

5.1 Safety instructions

The device may only be operated by trained personnel and under constant supervision. The following points must be observed:

- Inflammable fuels must only be put into containers that are suitable for this purpose.
- ! The engine and the external heating of the vehicle whose fuel is to be removed or returned must be switched off during operation.
- Suitable fire-fighting equipment must be to hand during operation (e.g. fire extinguishers)

⚠ • Emergency stop In the event of a malfunction or an emergency, operation can be stopped immediately by releasing the start button.

5.2 Removing Fuel

Check the filling level in the container before starting the extraction procedure.

! Avoid overfilling the container.

If overfilling should nevertheless occur, the excess pumping medium is fed back by the gas displacement hose to the vehicle tank and overfilling can be quickly recognised in the transparent gas displacement hose. The extraction procedure must then be stopped immediately.

☛ **Liquid can escape out of the level display if overfilling persists. This collects on the drum lid and can be disposed of afterwards. The level display is to be cleaned and its functional capability checked.**

5.2.1 Extracting fuel via the filler pipe

As a rule the tank contents are extracted via the vehicle filler pipe.

5.2.2 Preparation oft he hose set

The suction hose set can be used as in the delivery condition with the suction hose fed through the extraction adapter; see figure 3.

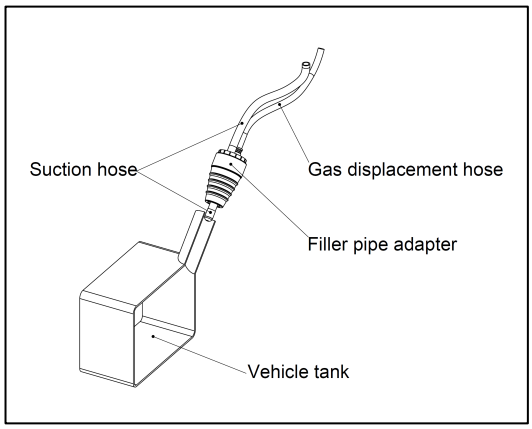


Figure 3

5.2.2.1 Extraction Procedure

1. Move the TankQuick to the vehicle from which the fuel is to be extracted and apply the parking brakes.
2. Attach the fastening clip of the potential equalisation cable to the vehicle.
3. Connect the delivery hoses for the ‘extraction’ operating mode – pay attention to the colour coding of the hoses:

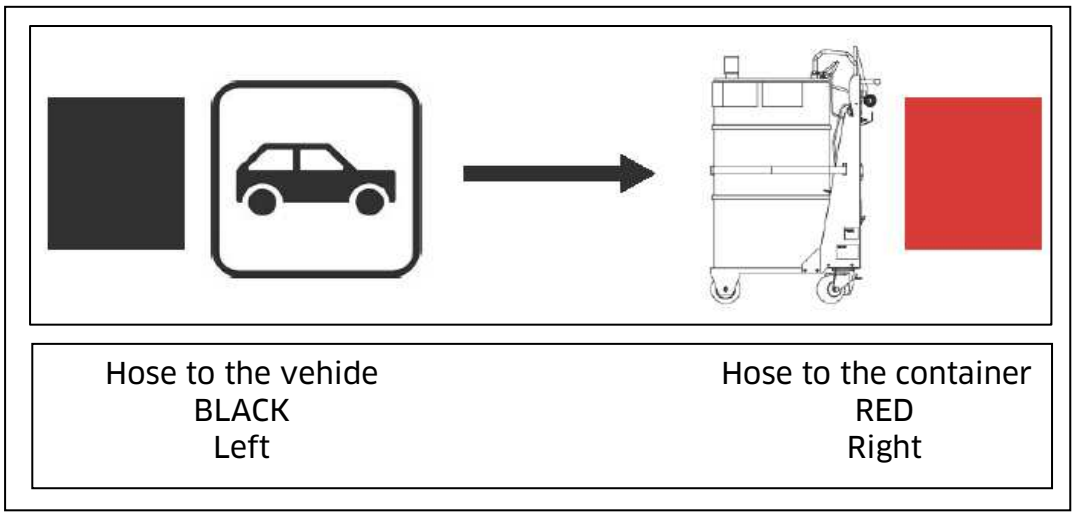


Figure 4

4. Feed the suction/refilling hose into the vehicle tank and mount the filler pipe adapter in the filler pipe.

During operation the filler pipe adapter must extend into the filler pipe and be fixed securely!

5. Connect the compressed air.
6. Press the start button – the contents of the fuel tank are extracted.
   The extraction procedure can be controlled via the pumping noise of the pump. It is possible that the pump may draw in air, even though the vehicle tank has not yet been fully emptied. In this case, the suction hose must either be pushed further into the tank or pulled further out of the tank through the gripper piece in the filler pipe. This should be done slowly and in short steps, since the suction hose must first be refilled with liquid. Only then it is possible to discern the pumping status of the pump.

The tank level must be monitored during the extraction procedure in order to avoid overfilling.

7. After the extraction procedure is finished, allow the pump to run on briefly in order to empty the hoses, then disconnect the device from the compressed air supply.

5.2.3 Extracting fuel via the fuel line

Extraction takes place via a suction hose connected to the vehicle's fuel line. The adapter set, which is available as an accessory, is required for this.

Extraction via the fuel line may take place only with the permission of the respective vehicle manufacturer!

5.2.3.1 Preparation oft the hose set

The suction hose set must be mounted with the adapter set according to figure 5. The assembly instructions for the adapter set are to be followed.

1. Pull the suction hose out of the filler pipe adapter.
2. Fit the sealing plug into the free hole in the filler pipe adapter.
3. Screw the hose adapter into the thread of the ball point.

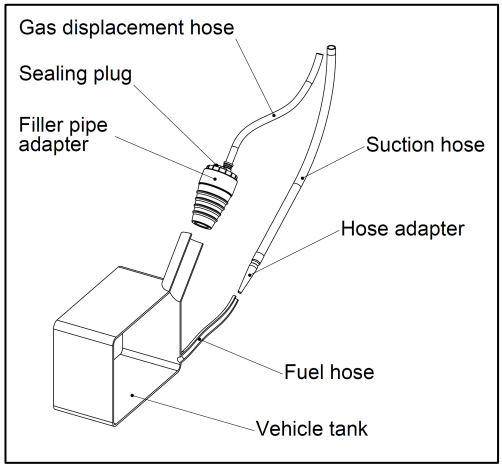


Figure 5

5.2.3.2 Extraction Procedure

1. Move the TankQuick to the vehicle from which the fuel is to be extracted and apply the parking brakes.
2. Attach the fastening clip of the potential equalisation cable to the vehicle.
3. Connect the delivery hoses for the 'extraction' operating mode; see fig. 4.

4. Mount the filler pipe adapter with the gas displacement line in the filler pipe.

During operation the filler pipe adapter must extend into the filler pipe and be fixed securely!

5. Feed the hose adapter with the suction hose into the fuel line.
6. Connect the compressed air.
7. Press the start button – the contents of the fuel tank are extracted.
   The extraction procedure can be controlled via the pumping noise of the pump.

During operation the filler pipe adapter must extend into the filler pipe and be fixed securely!

8. If only air is still being sucked in by the pump, the extraction procedure can be terminated. Allow the pump to run on briefly in order to empty the hoses, then disconnect the device from the compressed air supply.

5.3 Refilling the Vehicle with Fuel

Refilling the vehicle tank with fuel from the container may take place exclusively via the tank filler pipe.

Refilling the tank via the fuel line is not permitted!

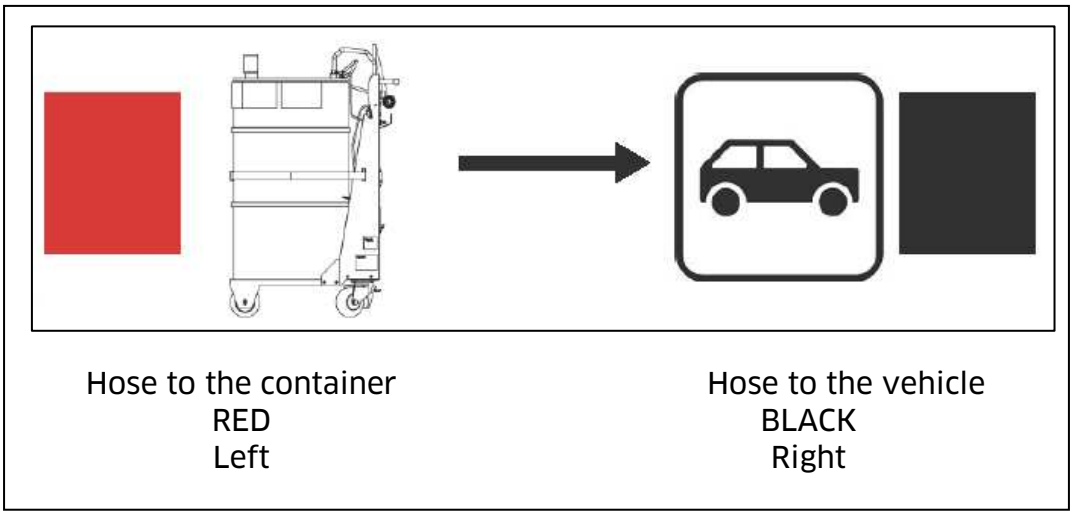
In order to avoid over-filling, only the fuel that was removed from any particular vehicle should be returned to that vehicle.

5.3.1 Preparation oft he hose set

The hose set is to be installed via the filler pipe as for extraction (see chapter 5.2.1).

5.3.2 Refilling

1. Bring the TankQuick to the vehicle that is to be refuelled, and lock the wheels.
2. Attach the fastening clip of the potential equalisation cable to the vehicle.
3. Connect the delivery hoses for the ‘refilling’ operating mode – pay attention to the colour coding of the hoses:



Hose to the container
RED
Left

Hose to the vehicle
BLACK
Right

Figure 6

4. Feed approx. 20 cm of the suction/refilling hose into the vehicle tank and mount the filler pipe adapter in the filler pipe.

During operation the filler pipe adapter must extend into the filler pipe and be fixed securely

5. Make the compressed air connection
6. Press the start button – the container contents are refilled into the tank.
7. To end the refilling procedure, release the start button and disconnect the device from the compressed air supply.

5.4 Breaks in works

The TankQuick is to be placed in special rooms during work breaks; see chapter 3.

The container on the device may be used exclusively for fuels in this particular work step and must accordingly be emptied again after max. 1 day.

If it is to be used for the storage of the extracted fuels, then the container must be removed from the device and placed in a suitable storeroom that complies with the regulations. The regulations applying to storage must be followed.

In order to ensure that the device works perfectly at all times, it should be emptied before breaks in work if at all possible. To do this, carry out the emptying procedure as described in the chapter “Refilling the Vehicle with Fuel” until only air exits from the dispensing hose.

The ambient temperature specified in the chapter “Technical data” must also be maintained during breaks in work.

6 Servicing and maintenance

6.1 Cleaning

Clean the equipment only from the outside with cold or lukewarm water. Do not use aggressive detergents or soap. If a water hose is used, do not direct the water jet onto the components at full pressure. Do not use steam-jet or high-pressure cleaners.

6.2 Container

The container may only be filled with flammable liquids when in perfect condition. It must be regularly checked for damages and corrosion.

⚠ **A damaged container, or one which is not in perfect condition, may not be continued to be used under any circumstances!**

6.3 Dirt trap

The dirt traps in the compressed air and delivery system are to be cleaned at regular intervals, examined for wear and renewed if necessary.

- Dirt trap on the suction side of the pump:
  Undo the plug screw of the dirt trap and pull the sieve insert out in a downward direction.
- Dirt trap in the compressed air supply:
  Unscrew the pin of the compressed air connection from the threaded connection of the pressure regulator. Unscrew the dirt trap from the connecting nozzle of the pressure regulator using a suitable tool (e.g. flat-blade screwdriver). Seal the joint when reassembling.

6.4 Pressure regulator

Proper function and correct adjustment of the air pressure regulator must be checked at regular intervals.

6.5 Delivery system

The delivery system and in particular the delivery hoses are to be examined regularly for damage.

The metal sheathing of the delivery hoses ensures the dissipation of static electric charges.

⚠ **Hoses without sufficient conductivity may not be used.**

The connection of the wire mesh to the integrating parts must therefore be checked regularly; the continuity must be measured if necessary.

6.6 Wheels

The wheels of the TankQuick provide for potential equalisation to earth.

⚠ **Therefore, exclusively spare wheels procured from the manufacturer may be mounted!**

6.7 Type Plate and Warning Signs

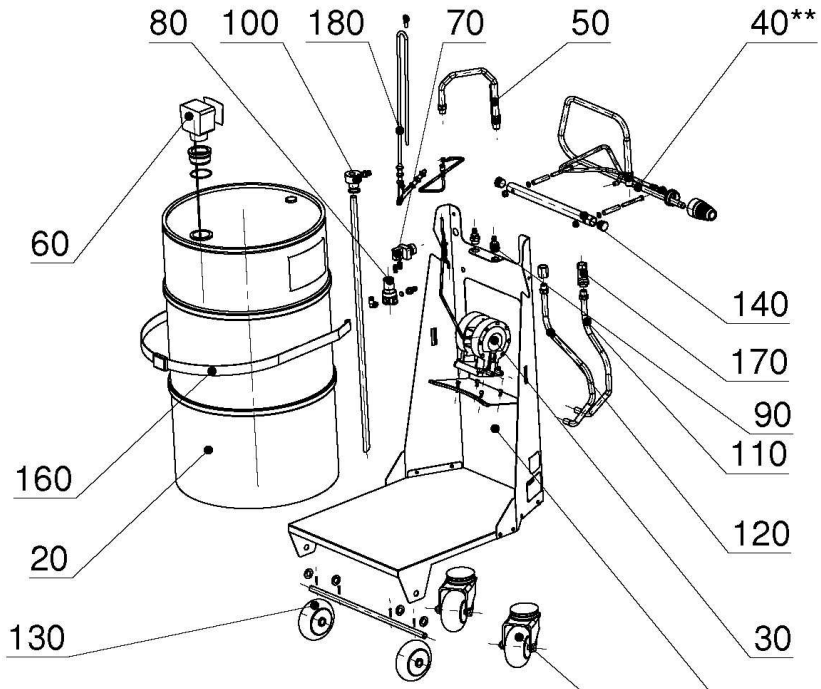
! **The warning signs attached to the device and the type plate must be well legible. Dirty signs must be cleaned, and replaced if necessary.**

6.8 Troubleshooting

Fault	Possible cause	Action
Pump does not start	Compressed air not connected	Connect the compressed air supply and check the input pressure
	Start button not pressed	The start button must be kept pressed during operation
	Operating pressure too low – incorrect setting of the pressure regulator	The pressure regulator is set to an output pressure of < 2 bar; readjust according to chapter 4.3
Low or no pumping capacity	Wrong pumping direction	Connect the delivery hoses according to the desired mode of operation (chapter 5)
	Difficult operating conditions	The pumping capacity is limited when extracting through winding filler pipes and with small suction hose cross-sections.
	Operating pressure too low – input pressure of the compressed air supply too low	Check the input pressure of the compressed air supply, the input pressure must exceed the desired operating pressure.
	Operating pressure too low – incorrect setting of the pressure regulator	Adjust the internal operating pressure in accordance with chapter 4.3
	Leak in the compressed air system	Examine the compressed air system for leaks, clean and replace damaged parts if necessary
	Dirt trap in the compressed air system is dirty	Remove the dirt trap from the pressure regulator and clean it (chapter 6.3)
	Silencer on the pump is dirty	Clean the silencer
	Dirt trap in the delivery system is dirty	Remove the sieve from the dirt trap and clean it (chapter 6.3)
	Suction line kinked or damaged	Check the fuel suction/refilling line for possible damage
	Service life of the wearing parts of the pump exceeded	Return the pump for overhaul

7 Spare parts

The following spare parts available:



**Version 013 896 200:
Item-No..816578002

**Version 013 896 210:
Item-No..816578003

	Item-No.
10/ Drum support plate	**516 570 001**
20/ Container 120 l	**816 578 001**
30/ Feed pump	**432 202 700**
40**/ Delivery hose with ball point TankQuick eco	**816 578 002**
40**/ Delivery hose with ball point TankQuick eco s	**816 578 003**
50/ Fuel hose	**816 578 004**
60/ Level display	**816 578 005**
70/ 3/2 Valve with button	**816 578 006**
80/ Pressure regulator	**816 578 007**
90/ plug in coupling 3/8“	**422 322 400**
100/ suction/fill tube	**816 578 009**
110/ Suction hose.	**816 578 010**
120/ Pressure hose	**816 578 011**
130/ leading axle	**816 578 012**
140/ handle bar.	**816 578 013**
150/ ESD-wheels	**491 102 900**
160/ Safety belt	**492 000 800**
170/ Dirt trap ½“	**409 001 500**
180/ Potential equalisation cable to the vehicle	**813 740 012**

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

Konformitätserklärung
Declaration of Confirmity

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

Bezeichnung: *Designation:*	**Kraftstoff Umfüllgerät** ***Fuel refilling device***
Typ: *Type:*	**TankQuick eco / eco S**
Artikel-Nr.: *Item No.:*	**013896200, 013896210**

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
- ATEX-Richtlinie 94/9/EG
  ATEX-directive 94/9/EC

Angewendete harmonisierte Normen:
Applied harmonised standards:

EN ISO 12100-1, -2 EN 1127-1 EN 13463-1 EN 13463-5

Kennzeichnung des Geräts gemäß EN 13463-1: Ⓔx II 2G c IIA T3
Labeling of the device according to EN 13463-1:

Die technischen Unterlagen nach 94/9/EG, Anhang VIII, Absatz 3, wurden bei einer benannten Stelle hinterlegt:
The technical documents provided in 94/9/EC, Annex VIII, paragraph 3, have been deposed at a notified body:

Benannte Stelle / *Notified body*: IBExU Archivnr. / *Archive no.*: 170/05

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

17.06.2010 .i.V.....
Datum Dipl.-Ing. Jörg Mohr
Date Entwicklungsleiter / *Manager R&D*

HORN GmbH & Co. KG
Munketoft 42
D – 24937 Flensburg

Postfach 1853
D – 24908 Flensburg

Telefon: +49 (0) 461/ 8696-0
Telefax: +49 (0) 461/ 8696-66

Geschäftsführer:
Torsten H. Kutschinski
Jürgen Abromeit

HORN GmbH & Co. KG
Munketoft 42
24937 Flensburg

T +49 461-8696-0
F +49 461-8696-66

www.tecalemit.de
info@tecalemit.de