

Operating instructions for CAMPKO refillable gas bottles



These operating instructions are generally valid for the CAMPKO 15, CAMPKO 22, CAMPKO 30 and CAMPKO 36 litre models.



Please note the following pictograms:



Please read this section carefully.



Attention / Caution Indicates dangers that can lead to minor physical injury or damage to property.



No fire! When handling gas, sparks and flames can cause fire, explosions, property damage, serious injury or fatal accidents.



Do not smoke! When handling gas, sparks and flames can cause fire, explosions, property damage, serious injury or fatal accidents.



Risk of injury! Use gloves.

Introduction



CAMPKO refillable gas bottles including multifunction valve are designed and approved according to ECE 67R-01 for installation in a vertical position and for the use of LPG (propane/butane). The refillable gas bottle must never be installed horizontally. A gaseous gas withdrawal can only be guaranteed in an upright position. The use of any other medium is not authorised and is prohibited.



The valve body must not be removed from the refillable gas bottle. Damaged refillable gas bottles or valves must be returned to the dealer or manufacturer for inspection before the gas is completely released from the refillable gas bottle. The markings on the refillable gas bottle and the valve body must not be removed or altered.



If no gas regulator with crash sensor (CS) in accordance with EN1949 is installed, the Withdrawal valve must be kept closed while driving. It is strictly forbidden to approach the refillable gas bottle with fire or an open flame. The refillable gas bottle must always be in a vertical position and securely installed in the vehicle during refuelling and removal.

Utilisation:



CAMPKO refillable gas bottles including multifunction valve are designed and approved in accordance with ECE 67R-01 for installation in a vertical position and for the use of LPG (propane/butane). LPG (propane/butane) is extracted from the gas phase and is used to operate LPG systems for combustion purposes to operate gas appliances.



The refillable gas bottle must never be installed horizontally. A gaseous gas withdrawal can only be guaranteed in a vertical position. The use of a medium other than liquid gas (LPG - propane/butane mixture) is not authorised and is prohibited.



It is forbidden to approach the LPG installation with fire or an open flame. The valve body must not be removed from the refillable gas bottle. Damaged refillable gas bottles or valves must be returned to the dealer or manufacturer for inspection before the gas is completely released from the refillable gas bottle. The markings on the refillable gas bottle and the valve body must not be removed or altered.



Ventilation in the gas locker

Permanent ventilation to the outside must be provided for each liquid gas cylinder installation room.

If ventilation is only provided near the floor, the free opening must be at least 2 % of the floor area of the installation room, but at least 10,000 mm². For ventilation in the upper and lower areas, each of the free openings must be 1 % of the floor area of the installation room, but at least 5 000 mm² in each area. In the lower area means in the floor or in the side wall in contact with the floor. The larger dimension of the ventilation opening is at floor level. It must not be possible to completely or partially cover the ventilation openings with a liquid gas bottle or refillable gas bottle. These requirements must be fulfilled by the respective manufacturer for new vehicles before they are placed on the market and must be fulfilled by the fitter for so-called aftermarket conversions or "self-conversions".



Refuelling

Close the Withdrawal valve of the CAMPKO refillable gas bottle before each refuelling process. Turn the handwheel on the valve clockwise to close it hand-tight.

Before filling, check that the CAMPKO refillable gas bottle is firmly connected to the vehicle and is in an upright position. CAMPKO refillable gas bottles may only be filled in an upright position, as otherwise the automatic filling stop mechanism inside the refillable gas bottle cannot function correctly. Only refuel the CAMPKO refillable gas bottle with LPG (propane/butane).



Screw the country-specific LPG gas connector hand-tight onto the filling valve and then screw the tank gun onto the LPG gas connector. Lock the fuelling gun with the LPG gas connector. You will then hear a brief hissing sound as a result of pressure equalisation. Press the button (dead man's switch) on the petrol pump and start the refuelling process. As soon as you stop pressing the button (dead man's switch), the refuelling process stops automatically. If you notice any leaks in the refillable gas bottle or its connections during the refuelling process, stop the refuelling process immediately.

Never fill up with more than 80% of the gross capacity of the refillable gas bottle.

15 L -> 12 L

22 L -> 17.6 L

30 L -> 24 L

36 L -> 28.8 L

With a corresponding 2-refillable gas bottle solution, the added net capacity of the individual gas bottles.

Once the refuelling process is complete, release the lock between the tank gun and LPG gas connector. As a result of a second pressure equalisation, you will hear another hissing sound. The refuelling gun can then be detached from the LPG gas connector and reattached to the petrol pump.

Observe the instructions and safety information displayed at the petrol station.

Structure of CAMPKO refillable gas bottles

Tab. 1 Dimensions and serial no.

Volume litres	Height mm	Unladen weight kg	Unladen weight kg	Homologation
15	385	14	14	67R-01
22	485	15	15	67R-01
30	585	16	16	67R-01
36	685	17	17	67R-01



1 handwheel - the Withdrawal valve can be opened and closed by turning it. No tools are required for this. The handwheel is closed "hand-tight".

2 Tapping connection - the tapping connection is equipped with a country-specific connection and allows the installation of a high-pressure LPG hose, a gas regulator, a gas filter or a rigid line.

3 Filling connection - 3/4"-16 UNF male thread for mounting a filling hose to fill the refillable gas bottle.

4 Full level indicator - the indicator shows whether the refillable gas bottle is completely full. The full level indicator is not a fill level indicator. Due to the vertical design of the refillable gas bottles, the float on multivalves cannot indicate an exact fill level, regardless of what is shown on a fuel gauge or display. For a 100% level indicator, the digital Mopeka sensor must be used.

Zero point" display of the full level indicator:



5 Safety valve - if the gas pressure inside the refillable gas bottle exceeds 27 bar, the safety valve blows off gas in a controlled manner to prevent the refillable gas bottle from bursting.

The bottle collar



The collar can be removed before installing the refillable gas bottle by loosening the three screws. The collar has no influence on the function of the refillable gas bottle and only serves as impact protection for the valve body during transport.

The mounting feet



The refillable gas bottle is firmly attached to the vehicle using the mounting feet.

The design of the refillable gas bottle including the mounting feet fulfils the requirements of EN 1949 paragraph 13.2 - based on the ECE 67R-01 directive - with regard to the absorption of acceleration forces in accordance with EN 12979:2002, Annex B.

The fastening materials with the following specifications must be used.

Fastening materials for mounting feet

Screw M10x30 Class 8.8

Washer 3mm

Nut M10

and CAMPKO stainless steel strap with turnbuckle for gas bottle holder (1.5x30mm strap thickness) R67.01 compliant SKU 111613.

Fill level indicator

CAMPKO refillable gas bottles have been specially adapted in the production process for use with Mopeka level indicators.

The Mopeka level indicator is pushed under the centre of the CAMPKO refillable gas bottle and attached to the bottom of the bottle using magnets.

The Mopeka level indicator uses ultrasound to measure the entire capacity of the refillable gas bottle and transmits the level via Bluetooth to either an app or a permanently installed monitor.

Operating instructions for the Mopeka level sensor can be found at

<https://hybridsupply.de/downloads/manufacturer/mopeka/>

Installation & operation



Assembly accessories such as filling valves or filling hoses must be homologated and approved in accordance with ECE 67R-01 Class 1 without exception.

If no gas regulator with crash sensor (CS) in accordance with EN1949 is installed, the Withdrawal valve must be kept closed while driving. It is strictly forbidden to approach the refillable gas bottle with fire or an open flame. The refillable gas bottle must always be in a vertical position and securely installed in the vehicle during refuelling and removal.

Installation is the responsibility of certified installation companies. An exemplary animation of the installation of CAMPKO refillable gas bottles can be found at:

<https://www.youtube.com/watch?v=t-YOaRfGOe0>

If you have any further questions or problems, please contact a certified installation or service centre. You can find a Europe-wide workshop network at <https://hybrid.supply/contact>