Operating Instructions/Installation Instructions

for

Compressed Gas Cylinders with Multi Valve and Removeable Shroud

Please read these operating instructions carefully to ensure safe operation and keep them in a safe place for future reference.

These installation instructions also apply to the 11/14 kg compressed gas cylinders delivered in the past.

This document is also valid for submission to technical services and monitoring bodies.

Please note that there is no requirement under Section 21 of the German Road Vehicle Registration Regulations (StVZO) to register compressed gas cylinders. They do not need to be entered in Part I of the Vehicle Registration Certificate. (For other countries, please refer to the relevant national regulations)

Contents

Table 1 Dimensions, product and serial no.

Volume litres	Length mm	Weight (with valve) kg	Product no.	Serial no. (manufacturer code)
27.2 l	599	6.60	TF272-MV	see Identification no. documentation for Declaration of Conformity
33.3 l	690	7.60	TF333-MV	see Identification no. documentation for Declaration of Conformity

Description of owner-refillable compressed gas cylinders

Intended use/Use as intended

Permanently installed pressure equipment for owner-refilling, with overfill limitation function (80 %) integrated in the multi valve.

Use as intended is for the containment of fluid (LPG/GPL) of fluid class 1, allowing for the relevant operating conditions, which must be within the specified limits. Extraction of liquid gas takes place during the steam phase, for use with stoves, fridges, heating, etc. The cylinder is designed, built and tested in accordance with DIN EN 13110 in conjunction with AD 2000 and the Pressure Equipment Directive.
The cylinder is approved in accordance with the Pressure Equipment Directive PED 2014/68/EU by TÜV-SÜD Industrie Service and has type certificate no. Z-IS-AN1-KLT-17-09-5010061357-001.

Cylinder specifications

Description:	Pressure equipment in cylinder form with Ø 75mm connection flange
Main dimension:	Ø 300 mm (for lengths, see Table 1)
Nominal wall thicknesses:	3.61 mm/3.21 mm
Test pressure PH:	30 bar
Relevant notified body:	TÜV Süd Industrie Service GmbH (0036)

Details of the identification marking in the cylinder base

The identification markings are based on the requirements of Directive 2014/68/EU as follows:

Manufacturer, type of gas, serial number, year of manufacture, tare mass, operating temperature, volume, pressure and the filling ratio

Layout of other identification marks

The tare weight and year of repeat testing are on the cylinder neck.

Scope of supply

Compressed gas cylinders with fitted multi valve as cylinder kit (for variants, see Table 1)
Declaration of Conformity
Operating instructions
Multilingual sticker for refuelling
Additional sheet with explanation re. triple flange on older ALUGAS models

Design features

Operating conditions

Pressure chamber		
Fluid designation:		LPG
Fluid group:		1
Max. allowable temperature (TS):	°C	65
Min. allowable temperature (TS):	°C	-40
Allowable pressure (PS)	bar	20

Transport and storage

Pressure equipment may only be transported and stored under the following conditions. The valve protection shroud must be screwed in place, the valve must be protected with a locking nut and cover (LPG inlet/outlet), and the valve must be closed. This is to prevent valve damage and contamination.

When the compressed gas cylinders are removed from the cylinder storage area, the *"Technical Rules for Hazardous Substances TRGS 509 regarding the storage of hazardous fluid and solid substances in stationary vessels ..."* must be observed.

Installation (installation requirement)

This installation requirement of ALUGAS is in accordance with applicable German and European legislation. Installation must be performed by a specialist company or a competent person. There is no need to record this in the test/inspection documents specified in Section 21 of the German Road Vehicle Registration Regulations (StVZO)

This installation requirement also applies to the 11/14 kg compressed gas cylinders (so called "refuelling cylinders") delivered in the past. (Operating instructions in other languages can be retrieved using the Data Matrix code, see Image 12, Item a)

Installation instructions, general points:

Only use installation and assembly material that is permitted for the intended use. The cylinder holder for holding the compressed gas cylinders in the vehicle's cylinder compartment must be securely bolted in place. The holder must have been approved by ALUGAS for this purpose (see Illustration 1). The collar lugs are not intended to secure the cylinder or tank connections, but only to attach the collar.
The compressed gas cylinder must be installed in an upright position; vent holes must not be covered by cylinders or covers. If necessary, the shroud can be unscrewed. Please note the information provided under "Transport and storage" when removing the compressed gas cylinder from the cylinder compartment.
A separate holder consisting of two retaining clamps, one at the top and one at the bottom, is needed for each compressed gas cylinder.
No gas-conductive screw connections may be used within the living space.
The gas refuelling hose must be protected against abrasion and vibrations.
The spacings between fixing clamps for the gas lines outside and inside the cylinder compartment must not exceed 50 cm.
For gas lines under the vehicle floor, a protective conduit (Illustration 6) must be used.

Installation of compressed gas cylinder with HK flat refuelling connection:

Installation in the vehicle skirting or in the cylinder compartment (only use parts with the appropriate CE marking)

1. Secure the wall holder in the cylinder compartment, if possible, using through bolts. Use large diameter washers and self-locking nuts and seal these with silicon. Depending on the design of holder, make sure the slot in the centre of the holder is at the level of the weld seam of the cylinder. The cylinder should not make any contact with metal parts. This is to prevent damage through abrasion and vibrations.

2. Screw the refuelling hose onto the angle of the overfill protection valve (tighten the joint (Illustration 9) to a torque of 25 Nm, conical seal). On all screw connections, the opposite side must be held suitably in position (counterhold) to prevent damage during installation. Insert the compressed gas cylinder in the holder (where applicable, unscrew the shroud). Where applicable, mark the point on the cylinder compartment floor where the refuelling hose is to penetrate. For refuelling within the cylinder compartment, mark the point for the refuelling connection bracket. Remove the compressed gas cylinder and drill a 3 cm hole for the hose penetration in the case of refuelling outside the cylinder compartment.

Caution! A filling connection in the bottle case is only allowed if this is accessible from the outside; there must be no connection to the living space / rear garage. In order to prevent vapours from entering interior areas / living spaces during refuelling, the tank connection must be attached outside.
Our cylinders are intended exclusively for use with a filling connection on the vehicle; they are not intended for use with so-called “direct fillers” and this is not covered by the warranty.

Please note that the hose must not be subject to abrasion: use the floor grommet (Illustration 4) or rubber protector (Illustration 5).
Install the HK flat refuelling connection at the intended location and connect the refuelling connection so that the cap hangs down when open (visible on Illustration 7). A drilling template is included (tighten the joint (Illustration 9) to a torque of 25 Nm, conical seal).
Now reconnect everything.
The hose below the vehicle floor should be protected against damage from road chippings with a protective hose conduit (available from DIY stores) (Illustration 6).
The hose must be secured every 50 cm with a rubber-coated stainless steel clamp (Illustration 11).
3. Now close the holder (turnbuckle) and mark the screw with sealing wax after tightening it.
4. After installation, use a leak detector spray to check the system for leaks. (NB: The spray must be suitable for gas lines (check the product information of the manufacturer)).

Exemplar illustrations:

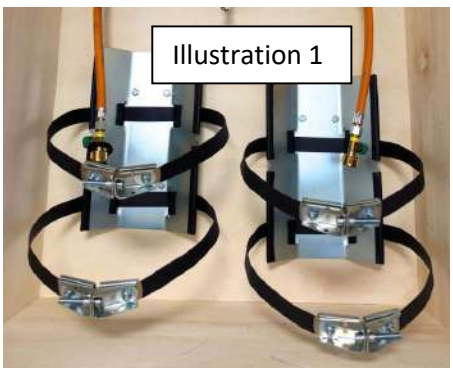
Illustration 1


Illustration 4


Illustration 5


Illustration 6


Illustration 7

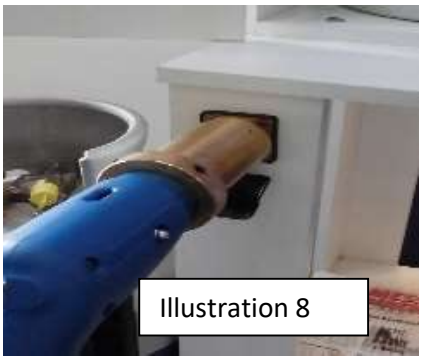
Illustration 8


Illustration 9

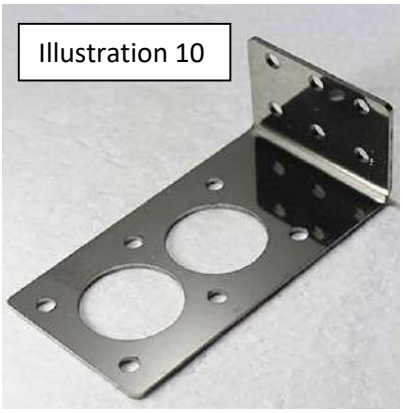
Illustration 10


Illustration 11

Multi valve

Special points to note when using the multi valve

The multi valve is suitable and approved in accordance with Directive 2014/68/EU (“CE”) for installation in pressure devices fitted in an upright position for the use of liquid gas (LPG/GPL). This product is not suitable for any other purpose.

The multi valve is intended for filling the cylinders in the proper manner.

To ensure the valve works as intended, the gas used must not contain particles >50/µm.

The multi valve consists of the following elements

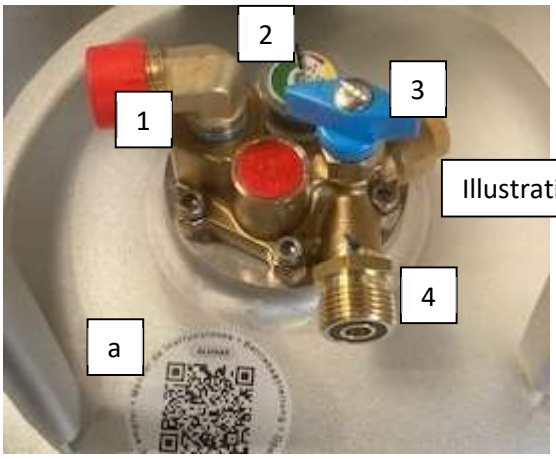

Illustration 12

1	**Filler valve with automatic 80 % overfill protection device and non-return valve**
2	**Direct easy-to-read level gauge**
3	**Manual opening and closing (blue/21.8 and yellow/21.7 thread offtake nozzle)**
4	**Offtake nozzle**

a	**Data Matrix code for loading the operating instructions in another language**

General safety requirements

Anyone using this product must have full knowledge of these instructions and other applicable instructions. Make sure you know the legislation and regulations with respect to safety when handling liquid gas.

The valve must never be bedded in grease (particularly at the connection threads).

The valve must not be removed from the cylinder.

This valve has an approval number, which is intended to certify that:

a) The valve meets the technical requirements
b) The valve is traceable once installed in the cylinder
c) The user of the cylinders is required to report any non-conformances during use to the specialist installer

The valve and cylinder must not be subjected to impacts or other mechanical stresses that might lead to damage.

Damaged valves and compressed gas cylinders must be returned to the manufacturer for checking.

Do not allow a naked flame near the liquid gas installation.

The markings on the valve and cylinder must not be removed or altered.

The offtake valve with manual shut-off **must be closed** during travel.
If an appropriate device has been retrofitted (e.g. a crash sensor), this requirement may be disregarded (please refer to the documentation issued by the relevant manufacturer).

The specialist installer must adhere strictly to the national/international laws and directives on the use of propane/butane gas cylinders and their make-up.

The installer is liable for all accidents and damage, be it material, immaterial, direct or indirect, that are due to improper installation or improper maintenance.

The operating instructions are an integral part of the contract and must be kept for the entire service life of the pressure equipment and carried in the vehicle.

Commissioning

Commissioning can only take place once the compressed gas cylinder has been properly installed and the installation has been certified by the installation firm as meeting the installation conditions and requirements.

Points to note prior to filling for the first time:
Open the offtake valve (handwheel, lever) and allow any residual air to escape. Close the valve again.
A small amount of residual air will remain in the compressed gas cylinder.
Never put more than 21.5 litres into the 11 kg cylinder and more than 26.5 litres into the 14 kg cylinder. On a twin system, you should also never fill up with more gas than specified by the manufacturer. When filling up, keep an eye on the reading displayed on the calibrated counter on the fuel dispenser; where applicable release the deadman's switch.
When you use the cylinder for the **first time**, the residual air in the vessel will interfere with normal operation. Sensitive electronically controlled devices such as e.g. Truma heating will immediately indicate an error. The best way of dealing with this is to allow the stove ring to run for approximately 15 minutes. This will use up the air and all equipment will then work without any problems. This procedure is only needed prior to initial filling of the cylinders or after renewal of a multi valve.

Points to note when filling:
First screw the refuelling adapter into the HK flat refuelling connection so that it is HAND TIGHT. NB: Always check for leaks while refuelling! Now open the refuelling gun nozzle and lock it in place. There will be a moment of pressure equalisation, which can be heard in the form of a brief hissing sound. Now check whether the joints on the refuelling hose are tight (leak detector spray). If everything is tight, you can now refuel. To do this, hold down the button (deadman's switch) on the fuel dispenser column. As soon as you release it, the refuelling process will stop. Now release the lock on the refuelling gun nozzle. NB: Do not worry, there will be a very loud hissing sound, but only briefly! Now unscrew the refuelling gun nozzle again and replace it in the dispenser column.
Follow the user instructions on the relevant dispenser column and never refuel without wearing gloves, otherwise you risk sustaining cold burns!

NB:

Before each refuelling process, always close the offtake valve on the compressed gas cylinder.

What do you need to bear in mind when using an ALUGAS "Travel Mate" compressed gas cylinder?
The ALUGAS compressed gas cylinder system is simple and safe.
However, to ensure safety, you must bear in mind a number of things. Failure to do so or to show the necessary care in handling liquid gas or the system itself can result in damage or injury.
Possible leaks!
Vibrations while travelling can lead to screw connections loosening over time, even where these have been very securely tightened. You should check regularly that all gas line and hose connections are fully tightened and gas-tight. A compressed gas cylinder that has not been properly secured can damage the connections to it. You should check regularly that your compressed gas cylinders are still secured in position. Prior to each instance of refuelling, check that the refuelling hose is correctly connected to the ALUGAS compressed gas cylinder.

The correct gas!
In many European countries, liquid gas is simply called LPG or GPL. However, refuelling stations also sometimes have natural gas, called CNG, on offer. **Never put natural gas/CNG** in your refuelling cylinder system. The operating pressure for natural gas is around 200 bar. Your installed gas system will not take this pressure.
NB: Risk of fatal injury!

Fill up correctly!
Make sure that the vehicle and compressed gas cylinders to be refuelled are standing upright when refuelling. Compressed gas cylinders can only be refuelled (and used) when properly secured, as the automatic overfill cut-out mechanism inside the compressed gas cylinder will otherwise fail to work or will not work properly. Overfilling of the compressed gas cylinder might otherwise ensue.
Make sure that the refuelling gun nozzle of the LPG AUTOGAS refuelling station has been removed once refuelling is complete and that you have unscrewed the adapter connection, unless this is permanently connected to the filler nozzle of the vehicle. Always comply with the safety instructions displayed at the LPG AUTOGAS refuelling station. If you require further information, ask the employees of the LPG AUTOGAS refuelling station.

Labelling on the pump

Maintenance

Tested equipment!
Like other pressure vessels, ALUGAS compressed gas cylinders must undergo repetitive testing, to be carried out every 10 years.
Because the ALUGAS Travel Mate compressed gas cylinder no longer has to be replaced, it is the duty of the vehicle operator to initiate this test himself once it falls due. It is best to contact ALUGAS for this.
The obligation to undertake regular testing may also apply to other equipment in the gas system; see the operating instructions supplied by the equipment manufacturer.

Other applicable documents

By virtue of the CE marking, the manufacturer declares that the product satisfies the applicable requirements laid down in Community harmonisation legislation concerning affixing the marking.

The undersigned certify that the details provided concerning installation and use are correct

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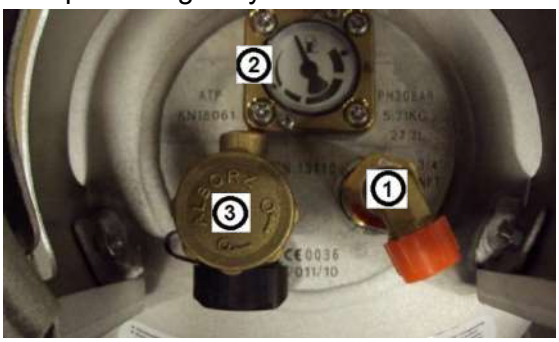
Version: 5.8/2022

Explanation re. the triple flange compressed gas cylinders

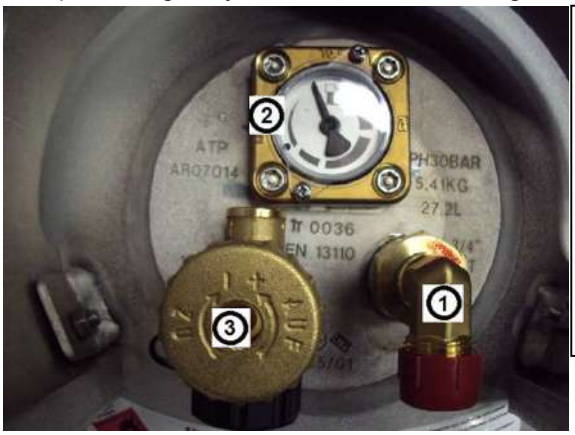
This previous model is equivalent to the model described in these operating instructions.
The sole difference is in the connection flange and the fittings.
The marking is located on the flange as illustrated.

There are two marking variants

Compressed gas cylinders with “CE” marking



Compressed gas cylinders with “Pi” marking



Note:

Cylinders that are Pi marked can be used via Guideline A-33 of Pressure Equipment Directive PED 2014/68/EU without being CE marked.

The fittings consist of the following:

1	**Filler valve with automatic 80 % overfill protection device** (¾” NPT flange thread)
2	**Direct easy-to-read level gauge** (4xM6)
3	**Offtake valve, manual opening and closing** (17E flange thread)