

# Operation Manual and Safety Information for users and first-time buyers

in accordance with Annex III Nr.2 of Directive 2014/29/EU of the European Parliament and of the Council

## Intended use

The vessels are only for use in air braking systems and auxiliary systems on motor vehicles and their trailers and are intended to contain only air and are designed mainly for static operation:

- max. 1000 load alternations during service life
- Pressure fluctuations superposed to the mainly static working pressure level shall not exceed 20 % of the max. working pressure
- The working pressure of the vessels may momentarily exceed the maximum permissible working pressure by 10 %.

The vessels are designed for use under a combination of external loads resulting from usual operating conditions in central Europe (temperate climate, streets and slow trips on unmade roads or construction sites).

## Attention:

Usage under frequent internal pressure alternations exceeding 20% of max. operating pressure may significantly reduce service life. In this case there is a risk for fatigue failure of the vessels. When operation under increased mechanical, climatic and/or chemical stresses is expected, the fitness for use must be assessed individually by the user.

Due to the variety of possible applications and installation options for the air tank Frauenthal Automotive is not able to make a final assessment of the safety in operation for each devisable case of application.

If there is uncertainty about the suitability for a specific application, the user is obligated to check and ensure fitness for use before bringing into service.

## Marking

For identification purposes, the vessels are marked with the pressure vessel manufacturer's name, a serial number and the following identification data:

- Type
- Series
- Minimum permissible working temperature (°C)
- Maximum permissible working temperature (°C)
- Volume (litres)
- Maximum permissible working pressure (bar) PS
- Standard: EN 286 – 2 including number and year of norm issue (apply only for air tanks > 50bar \* liter)
- EG-symbol in accordance with Annex III Nr. 1.1 of the European Directive 2014/29/EU  
CE (air tanks > 50bar \* liter ≤ 200bar \* liter) or CE0045 (air tanks > 200bar \* liter)
- Year of manufacture

## Assembly

No welding, heat treatment or any other procedure may be carried out on any part of the vessels. The vessels are to be mounted on the vehicle using straps or the welded brackets fitted on the vessels themselves. For welded brackets all fixation points and elongated holes must be used for fastening.

The vessels are to be mounted in such a way that the drainage valve is at the lowest point of the vessels.

The following rules shall be adhered to for assembly of vessels with welded brackets, that are not customer-specific:

|   | <b>L-Shape Console on Shell</b>  | <b>U-Shape console on Bottom</b>   |
|---|--|--|
| <b>Screw</b>                            | Screw M12–8.8<br>ISO 4017 or ISO 4762  | Screw M10–10.9<br>ISO 4017 or ISO 4762   |
| <b>Nut</b>                              | Nut M12–8.8 ISO 4032 or ISO 4035   | Nut M10–10.9 ISO 4032 or ISO 4035  |
| <b>Washer</b>                           | Washer ISO 7089 or ISO 7090 underneath Screw head and Nut  |  |
| <b>Torque moment</b>                    | Steel air tanks: 96±3 Nm<br>Aluminium air tanks: 75±3 Nm   |  |
| <b>Additional Assembly instructions</b> | For diameter 396 mm the minimum distance between furthest fixation points on one bracket must be min. 215 mm, for diameter 310 mm the minimum distance must be 190 mm.<br><br>Minimum wall thickness of adjacent construction 4,0 mm | Suspension on <u>fixed and floating</u> bearing to enable axial adjustment of the vessel<br><br>Minimum wall thickness of adjacent construction 4,0 mm |

**Attention:**

It is important that the vessels are not subjected to stresses that could impair their safety in use. Particularly the introduction of external loads e.g. from distortion of the adjacent construction or from impeded elongation e.g. through double sided fixed bearing of air tanks with welded U-consoles on their bottoms must be avoided.

Other kinds of fixation of the vessels e.g. fastening on the welded connections or parts assembled therein are not permitted.

The mounting straps must not come into contact with the vessel end welds.

Where accessories are fastened directly to the threaded bosses of the vessels a maximum moment of force of 110 Nmm is permissible. This dimension refers to the effective centre-of-gravity distance of the accessory to the end face of the threaded boss.

In addition, the mounting instructions of the accessory manufacturers must be observed.

Material pairings must be chosen in such a way, that no corrosion can take place between them.

If necessary, these materials should be separated using elastic and solvent-resistant material.

**Operating instructions:**

The interior of the steel vessels is corrosion protected. Until they are mounted on the vehicles, the vessels must be stored in a dry place. From the moment the vessels are delivered, the vehicle manufacturer is responsible for the corrosion protection of the vessels. The final top-coat applied by the vehicle manufacturer must guarantee the corrosion protection of the contact surfaces of the threaded mounting bosses and of the mounting accessories. The interior of the vessels can be inspected through the boss openings. To prevent the build-up of condensate, the vessels must be drained off daily, if the vehicle manufacturer does not specify another drainage interval.

If all the requirements with regard to mounting and drainage are adhered to, the vessels are maintenance-free. To clean the vessels, only alkali-free detergents may be used.

With regard to the commissioning and continuing operation in particular the intervals for periodic inspections, national regulations may have to be observed for the above-mentioned vessels.

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**Manufacturer**

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