

Operation Manual and Safety Information

for users and first-time buyers

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

The vessels are only for use in air braking systems and auxiliary systems on railway trains and their wagon and are intended to contain only air. The pressure vessels are designed mainly for static operation $N \leq 1000$ load alternations. Pressure fluctuations over the working pressure level may not exceed 20 % of the max. working pressure. The working pressure of the vessel may momentarily exceed the maximum permissible working pressure by 10 %.

For identification purposes, the vessel is 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 - 4: ####: number and year of norm issue
- CE marking in accordance with Annex III Nr. 1.1 of the European Directive 2014/29/EU
- Year of manufacture

No welding, heat treatment or any other procedure may be carried out on any part of the vessels.

For mounting tanks on railway vehicles, the EN 286-4 Appendix F applies. The air tanks are to be mounted with straps or fastening straps. The fastening straps are made from galvanized steel plate with a maximum tensile strength of $R_m \leq 580 \text{ N} / \text{mm}^2$ according to the European standard EN 10025 or from a steel with equivalent properties and dimensions according to EN286-4 appendix F.3.1. Round steel belts are not allowed. The air tanks must not be exposed to tensions that endanger operational safety. Other kind of fastening of pressure vessels are not allowed. 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 are to 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 via elastic and solvent-resistant material. The insulating tapes must remain elastic at operating temperatures, be resistant to creeping, insulate well even with prolonged use and be resistant to moisture. The insulation resistance must not be less than 700kΩ.

The air tanks must be stored dry until they are used on the railway vehicle. From the time of delivery, the vehicle manufacturer is responsible for protecting the tanks against corrosion. The exterior of the tanks which are not protected against -flung up crushed rock, -against the brake dust generated by braking surface protection is mandatory. The final coating at the vehicle manufacturer must ensure corrosion protection on the connecting thread ring flat surfaces and on the fastening elements.

The internal space of the air tank can be inspected through the threaded connections. To prevent the accumulation of condensate draining of air tanks is required daily unless the vehicle manufacturer specifies a different interval. The air tanks are to be installed in such a way that the drain valve is at the lowest position. The container is maintenance-free if the specified conditions for fastening and de-watering are observed. Only alkali-free cleaning agents are to be used to clean the air tanks.

With regard of initial operation and further operation and here in particular the intervals for the periodical tests the National regulations may have to be observed. Annex G of EN-286 Part 4 applies particularly.

Date: 18.06.2026

Rev.: C

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