



Air Receiver Legislation

All air receivers placed on the EU market and put into service in the EU are required to comply with specific legislative requirements. The requirements are identified in 2 European Directives;

Simple Pressure Vessels Directive (SPVD) 2014/29/EU: This was introduced in 1987, enforced in 1994 and the latest revision undertaken in 2014. The directive covers the general air receiver market where the construction was, as the name suggests, simple and the vessel was produced in series and that the pressurised media was compressed air or nitrogen at a pressure greater than 0,5 bar.

Construction

The vessel shall be made of:

- either a cylindrical part of circular cross-section closed by outwardly dished and/or flat ends which revolve around the same axis as the cylindrical part
- or two dished ends revolving around the same axis

Materials

The parts and assemblies contributing to the strength of the vessel under pressure shall be made either of non-alloy quality steel or of non-alloy aluminium or non-age hardening aluminium alloys.

Technical

The directive identifies the following specific requirements:

- the maximum working pressure of the vessel shall not exceed 30 bar and the product of that pressure and the capacity of the vessel (PS.V) shall not exceed 10,000 bar/litre
- the minimum working temperature must be no lower than minus 50 °C and the maximum working temperature shall not be higher than 300 °C for steel and 100 °C for aluminium or aluminium alloy vessels

Compliance

The preferred route to compliance is by the use of the harmonised standard EN 286-1 "Simple unfired pressure vessels designed to contain air or nitrogen – Part 1 Pressure vessels for general purposes." The directive does not exclude the use of any other code or standard as the means of compliance.

Pressure Equipment Directive (PED) 2014/68/EU: The directive was introduced in 1997, enforced in 2002 and the latest revision was undertaken in 2014. The directive covers all types of pressure equipment used with any type of media at pressures greater than 0,5 bar identified in 4 areas; Vessels, piping, safety accessories, pressure accessories. There is also a combination of any or all of these identified as 'assemblies'.

Construction

'Vessel' means a housing designed and built to contain fluids under pressure including its direct attachments up to the coupling point connecting it to other equipment. A vessel may be composed of more than one chamber.

Materials

There are no limitations or restrictions on materials provided that their design and construction meets the requirements of the directive. So for air receivers the directive would cover not only standard steel (where this is outside of the scope of SPVD) but also stainless steel, cast iron and aluminium (where this is outside of the scope of SPVD) and any other novel materials.

Technical

The directive identifies fluids as being in one of 2 groups:

- Group 1 comprises dangerous fluids and Group 2 comprises all other fluids not referred to in Group 1. Compressed air and nitrogen falls into Group 2
- Vessels (air receivers), used for compressed air or nitrogen - for fluids in Group 2, with a volume greater than 1 L and a product of PS and V is greater than 50 bar L, or with a pressure PS greater than 1000 bar.

Compliance

The preferred route to compliance is by the use of the harmonised standard EN 13445 'Unfired Pressure Vessels' in six parts. The directive does not exclude the use of any other code or standard as the means of compliance.

More information

Refer to Fact Sheet 851 Air Receiver Selection and Conformity, the BCAS Installation Guide 5th edition and the EU website www.newapproach.org for information on the legislation and standards. You can email specific enquiries to technical@bcas.org.uk