OBJECTIVES OF DIRECTIVE 2014/68/EU

The European Union Pressure Equipment Directive is intended to protect the environment and users of industrial equipment and be applied alongside the Machinery Directive (98/37/EC), the Low Voltage Directive (2014/35/EU) and the Electromagnetic Compatibility Directive (2014/30/EU). It does not cover the operational function of the equipment.

The Directive covers equipment such as pressurised storage containers, industrial piping, safety devices and pressure accessories. It applies to the design, manufacture and conformity assessment of pressure equipment and assemblies of pressure equipment with a maximum allowable pressure greater than 0.5 bar.

Article 4.3 covers pressure equipment and assemblies of pressure equipment below or equal to the specified pressure and/or volume or nominal size (DN) thresholds.

Classification under categories 1 and higher covers pressure equipment and assemblies of pressure equipment above the specified pressure and/or volume or nominal size (DN) thresholds. They must:

• be safe;
• meet essential requirements covering design, manufacture, inspection and testing;
• satisfy appropriate conformity assessment procedures; and
• carry the CE marking and other information.

EFFECTIVE DATE

The application of and compliance with the Directive is mandatory from 29 May 2002.

EQUIPMENT COVERED

Any equipment or assembly intended to contain gaseous or liquid fluids at a pressure greater than 0.5 bar is covered by the Directive.

Pressure is not a significant design factor for cylinders and control valves and, consequently, they are excluded. These components are built to withstand external mechanical stress (exclusion referred to in Article 1 section 3.10 of the Directive).

CLASSIFICATION (see glossary of terms on the following page)

For equipment above the pressure, DN and internal volume thresholds and for fluids specified in the Directive, ASCO has drawn up technical files covering the following categories.

Article 4.3 PED

Equipment below the specified thresholds is covered by Article 4.3 of the Directive.

It must:
• be designed and manufactured in accordance with the sound engineering practice of a Member State in order to ensure safe use;
• bear specified markings (but not the CE marking).

Solenoid and pressure-operated valves with a nominal diameter equal to or less than DN25 (1” dia.) as well as air service equipment (volume) are covered by Article 4.3.

Categories 1 to 4 (according to ascending level of hazard for products within the scope of the Directive)

Category 1 equipment is subject to in-house conformity assessment procedures.

Category 2 to 4 equipment is subject to a conformity assessment performed by a notified body.

In order to determine which category an item of the equipment falls into, the manufacturer needs to identify:
• the type of equipment - vessel / steam generator / piping etc.
• the state of the intended fluid contents - gaseous or liquid
• the fluid group of the intended contents - Group I or Group II

For the classification of fluids groups the new Directive 2014/68/EU is aligned with the CLP regulation No. 1278/2008 (Classification, Labelling and Packaging).

Group I comprises those fluids classified according to the EC Directive on the classification of dangerous substances as:
• explosive
• extremely flammable
• highly flammable
• flammable (where the maximum allowable temperature is above flashpoint)
• very toxic
• toxic
• oxidising

Group II comprises all other fluids including air, neutral gases, oil, water and steam.

COMPLIANCE

None of our products need to undergo technical modifications. The conformity concerns marking aspects and documents relating to putting the equipment into service.

Conformity assessment activities

For products under Article 4.3 PED:
• Marking of the manufacturer’s name.
• Equipment designed and manufactured taking account of state-of-the-art and current practice at the time of design and manufacture.
• No CE marking is required. Nevertheless, all solenoid valves will bear the CE marking in accordance with other directives (LVD, EMC, ATEX, etc.).
• The General Instructions in 12 languages relating to putting the equipment into service takes account of the essential safety requirements of the Directive.
For products under Category 1
Products with a DN greater than 25 (1” dia.)
• Characteristics of the “fluids under pressure” to be marked according to the definitions of the Directive for PS, TS, DN etc. (see label and glossary of terms).

Example of a label for a series 290, category 1 valve:

**Glossary of Terms**

**PS:**
Maximum allowable pressure (bar).

**V:**
Internal volume of a chamber (applicable to tanks in unblocking systems and to air service equipment).

**DN:**
Nominal size of piping, numerical designation of size (1/8 = DN 6; 1/4 = DN 8; 3/8 = DN 10; 1/2 = DN 15; 3/4 = DN 20; 1 = DN 25; 1 1/4 = DN 32; 1 1/2 = DN 40; 2 = DN 50; 2 1/2 = DN 65).

**TS:**
Maximum allowable temperature (°C).

**Vessel:**
A housing designed and built to contain fluids under pressure including its direct attachments connected to it by permanent joints such as welds, bonds etc.

**Piping:**
Piping components intended for the transport of fluids, when connected together for integration into a pressure system. Piping includes the tubing, fittings, expansion joints and hoses. Note: Heat exchangers are considered as piping.

**Safety accessories:**
Devices designed to protect pressure equipment against the allowable limits being exceeded. Such devices include: safety valves, bursting disc safety devices, controlled safety pressure relief systems, pressure and temperature limiting devices.

**Pressure accessories:**
Devices with an operational function and having pressure-bearing housings. Such devices include: solenoid and pressure-operated valves as well as air service equipment equipped with a bowl (filters and lubricators).

**Information given in the catalogue:**

**Valves**
Pressure operated, bronze or stainless steel body, threaded ports, 3/8 to 2 1/2

**Features**

- The valves satisfy Pressure Equipment Directive 2014/68/EU category 1 (DN > 25) or article 4.3 (DN ≤ 25)

<table>
<thead>
<tr>
<th>Fluids (+)</th>
<th>Temperature range</th>
<th>Disc seal (+)</th>
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<tbody>
<tr>
<td>DN ≤ 50: air and gas group 1 &amp; 2</td>
<td>-10°C to +184°C</td>
<td>PTFE</td>
</tr>
<tr>
<td>DN 65: air and gas group 2</td>
<td>all DN: water, oil, liquids group 1 &amp; 2 and steam</td>
<td></td>
</tr>
</tbody>
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**Materials in contact with fluid**

- Valve body: Bronze stainless steel body: AISI 316L
- Stuffing box housing: Brass Stainless steel body: AISI 316L
- Stem: Stainless steel

**Notes:**
- Ensure that the compatibility of the fluids in contact with the materials is verified
- NC function, entry under the disc, 32 and 50 mm operators