

EC Pressure Equipment Directive 97/23/EC

The EC Pressure Equipment Directive (PED) is binding as of 29th May 2002. From this point in time onwards, much pressure equipment is subject to the **CE marking obligation**.

The PED regulates the basic requirements for the design, production and conformity assessment of pressure equipment for fluids (gases, vapours and liquids), including the assemblies consisting of individual components.

This scope initially covers all pressure equipment, that is, vessels, pipes, pressure and safety-relevant accessories with a maximum allowable pressure greater than 0.5 bar.

(The Directive does not cover a number of pressurised products with $P > 0.5$ bar which are predominantly covered by the scope of other EU Directives or technical regulations and are listed in Article 1 of the PED.)

In order to determine how the PED is to be applied to certain items of pressure equipment, the manufacturer must assign the device to one of four conformity assessment procedures, that is, classify it in a category from I to IV. Category I is the lowest, category IV the highest risk category.

For pressure equipment for pressures above 0.5 bar, but below the limit values of category I, no conformity assessment procedure is necessary, such equipment must not be marked with the CE marking. This pressure equipment is covered by the provisions for "Sound Engineering Practice".

In order to determine which category certain pressure equipment comes under, the manufacturer must comply with the following criteria:

Type of pressure equipment:

Vessel/ steam generator/ piping/ accessory

Aggregate condition and dangerous nature of the intended fluid:

Gases Group 1: explosive, combustible, toxic or fire-promoting

Gases Group 2: all others

Liquids Group 1: explosive, combustible, toxic or fire-promoting

Liquids Group 2: all others

Assessment of RECTUS articles

The basis of our assessment is the adoption of Group 1 gases. This group has the most critical reference limits.

The limit values which the equipment in this Directive are subject to are described in **Article 3** "Technical Requirements" of the PED./ There the pressure equipment is classified in 4 groups, depending on their type, and assessed (limit values are only represented here in relation to the most critical assessment according to Group 1 gases).

1.1 Pressure vessels: The limit values are a volume of max. 1 litre and a pressure of max. 200 bar.

1.2 Heated pressure devices for steam or hot water: The limit value is volume of max. 2 litres and a temperature of max. 110°C.

1.3 Piping: The limit value is a max. nominal width of DN 25.

1.4 Safety accessories such as safety valves: classification in Category IV.

Pressure accessories, even if these are part of an assembly: reference criteria in accordance with numbers 1.1 to 1.3 (see PED Annex II No. 3).

For **RECTUS quick connect couplings**, Article 3 No. 1.4 *Pressure accessories* of the PED must be observed. "Pressure accessories" are devices with an operational function and having pressure bearing housings. For the limit values, please refer to Nos. 1.1 to 1.3. The decisive

factor is classification according to volume or nominal size, with the nominal size DN corresponding to the technical design of the couplings and the components of the fittings, that is:

According to No. 1.3 (piping) all nominal sizes smaller than/equal to 25 mm do not come under the CE marking obligation (see PED Article 3. Par. 3) and must not be given a CE marking.

According to Article 3, Par. 3, however, **instructions for use** are required. These can be consulted in the RECTUS Internet at www.rectus.de for all RECTUS standard couplings.

The PED Article 3, Par. 3 states:

*Pressure equipment and/or assemblies below or equal to the limits in sections 1.1 to 1.3 and section 2 (Assemblies) respectively must be designed and manufactured in accordance with the sound engineering practice of a member state in order to ensure safe use. Pressure equipment and/or assemblies must be accompanied by adequate instructions for use and must bear markings to permit identification of the manufacturer or of his authorized representative established within the Community. **Such equipment and/or assemblies must not bear the CE marking referred to in Article 15.***

Pressure-reducing valves are pressure controllers and are thus "pressure accessories" in general as are couplings. **Pressure-reducing valves must not be used as safety valves.** This occurs when the pressure resistance of the assemblies downstream of the pressure-reducing valve is lower than the pressure that can occur before the valve and the downstream system is not otherwise protected.

For **TEMA couplings**, the same requirements apply as described above under "RECTUS Quick Connect Couplings". The series TFF 10000, T 10000, T 15000 and T 20000, which are above NW 25, form an exception. These can **only be used with liquids of Group 2** (series TFF 10000 can also be used with gases of Group 2). If gases of Group 1 or 2 or liquids of Group 1 are to be used, the application of the Pressure Equipment Directive must be examined from case to case for all nominal sizes above 25 mm. The necessary **instructions for use** for all TEMA standard couplings can also be found in the RECTUS Internet at www.rectus.de.

We can accept no warranty for the correctness and completeness of the above summary. The text of the EC Pressure Equipment Directive, which we have provided as an Internet link, has sole authority. Please note that the Directive as well as the German Pressure Equipment Ordinance, which refers to the Directive, may change. We also cannot accept any warranty for the current status of the links provided by us in the Internet.

For further information on the subject of the Pressure Equipment Directive, please refer to the Internet links below:

<http://ped.eurodyn.com/index.html>

http://www.druckgeraete-online.de/seiten/fluid_guide.htm

<http://druckgeraete-online.de/seiten/tabelle>

<http://www.gefahrstoff-info.de>

Official database of the Hazardous Substance List

Database of the European Commission (Directive 67/548/EEC Annex I)

In preparation (planned for the year 2002)02).