

PED 97/23/EC Conformity Assessment Services

The PED Pressure Equipment Directive was adopted by the European Parliament and the European Council in May 1997 and from 29 May 2002 has been obligatory throughout the European Union with penalties for non-compliance. The PED specifically covers equipment designed to contain a fluid at a pressure greater than 0.5 bar gauge.

Velosi Certification has been accredited by The United Kingdom Accreditation Service UKAS to provide inspection services as a Type A inspection body. This accreditation covers the 97/23/EC PED.



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Type A
Inspection Body
Accredited to
ISO/IEC 17020

Conformance with the directive is complex as it affects quality control, manufacturing, procurement, inspection etc. Velosi's experience and approach to implementation can simplify the process and lessen the burden on manufacturers. Whether you are a small company or large or whether you produce one off items or series production, Velosi is able to give the same high level of service.

Velosi recognises that, to what extent the PED affects each company, is different and there are many factors that can influence the actual costs. It is essential to understand how they can be kept to a minimum.

Compliance with the PED is achieved by satisfying the requirements of a Conformity Assessment Module dependent on the category of equipment. For categories II and above, which require Notified Body involvement; there are two main routes, QA and non-QA, however only some of the modules allow monitoring of the final assessment, others require unit verification.

Although there are higher initial set-up costs for QA modules, ongoing costs can sometimes be lower. Knowing where the break-even point lies allows the determination of the best route for compliance.

Velosi's experience with a wide range of companies means that we are adept at assisting clients with the analysis of which route to compliance would be most suitable for them.

To assist with the compliance process Velosi has developed the PED-Assistant software, which was originally designed as an aid to our consultants to ensure accuracy and consistency in the field. Consequently, it has been developed by specialists and fully tested using many real products. After a three-year development programme the client-orientated version ensures that even the novice with minimum PED understanding can use this feature packed tool to categorise products quickly and accurately.



PED Summary

The Pressure Equipment Directive (97/23/EC) was adopted by the European Parliament and the European Council in May 1997. It has initially come into force on 29 November 1999 and from 29 May 2002 the pressure equipment directive will be obligatory throughout the European Union.

The Directive arises from the European Community's Programme for the elimination of technical barriers to trade and is formulated under the "New Approach to Technical Harmonisation and Standards". Its purpose is to harmonise national laws of Member States regarding the design, manufacture, testing and conformity assessment of pressure equipment and assemblies of pressure equipment. It therefore aims to ensure the free placing on the market and putting into service of the equipment concerned within the European Union and the European Economic Area.

Formulated under the New Approach the Directive provides for a flexible regulatory environment that does not impose any detailed technical solution. This approach allows European industry to develop new techniques thereby increasing international competitiveness.

The Directive concerns manufacturers of items such as vessels pressurised storage containers, heat exchangers, steam generators, boilers, industrial piping, safety devices and pressure accessories. Such pressure equipment is widely used in the process industries (oil & gas, chemical, pharmaceutical, plastics and rubber and the food and beverage industry), high temperature process industry (glass, paper and board), energy production and in the supply of utilities, heating, air conditioning and gas storage and transportation.

Under the Community regime of the Directive, pressure equipment and assemblies above specified pressure and/or volume thresholds must:

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

Pressure equipment and assemblies below the specified pressure / volume thresholds must:

- be safe;
- be designed and manufactured according to sound engineering practice; and
- bear specified markings (but not the CE marking).

As a Notified Body Velosi meets the requirements defined in article 12 and is appointed by a Member State, either for approval and monitoring of the manufacturers' quality assurance system or for direct product inspection.

In order to determine how the Directive will apply to specific items of pressure equipment a manufacturer needs to classify the equipment into one of four conformity assessment categories: or Categories I to IV. I relates to the lowest, category IV to the highest, hazard category.



CE

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Before putting pressure equipment related to categories I to IV on the market, the equipment has to be subject to the appropriate conformity assessment procedures (modules). According to the category of the equipment, manufacturers will be given a choice of the 'modules' summarised below. Manufacturers may choose either a procedure based on product control or a procedure based on quality systems. Furthermore the modules attributed to a higher hazard category may be used in lower categories. The modules for products in Categories II, III and IV require the involvement of 'notified bodies' such as Velosi, either in the approval and monitoring of the manufacturers' quality system or in direct product inspection.

Module	Conformity Assessment Procedure	Description
A	Internal production control.	This module describes the procedure by which manufacturer ensures and declares that pressure equipment satisfies the requirements of the Directive which apply to it.
A1	Internal production control with monitoring of final assessment.	As above but in addition includes monitoring of final assessment by notified body.
B	EC type - examination.	Describes the part of the procedure where a notified body ascertains and attests that a representative example of the production meets the provisions of the Directive which apply to it.
B1	EC design - examination.	Describes the part of the procedure where a notified body ascertains and attests that the design of an item meets the provisions of the Directive which apply to it.
C1	Monitoring of final assessment.	Describes procedures where the manufacturer, or authorised representative ensures and declares that the pressure equipment is in conformity with the type as described in the EC type examination certificate and satisfies the requirements of the Directive which apply to it.
D	Quality assurance for production, final inspection and testing.	Describes procedures where the manufacturer ensures and declares that the pressure equipment conforms with the type described in the EC type examination certificate or the EC design certificate and satisfies the requirements of the Directive which apply to it.
D1	Quality assurance for production, final inspection and testing.	This module describes the procedure by which manufacturer ensures and declares that pressure equipment satisfies the requirements of the Directive which apply to it.
E	Quality assurance for final inspection and testing.	Describes procedures where the manufacturer ensures and declares that the equipment is in conformity with the type described in the EC type examination certificate and satisfies the requirements of the Directive which apply to it.
E1	Quality assurance for final inspection and testing.	Describes the procedure where the manufacturer ensures and declares that the equipment satisfies the requirements of the Directive that apply to it.
F	Product verification.	Describes the procedure where the manufacturer or authorised representative ensures and declares the pressure equipment is in conformity with the type as described in the EC type examination certificate or the EC design certificate and satisfies the requirements of the Directive.
G	Unit verification.	Describes the procedure where the manufacture ensures and declares the pressure equipment which has been issued with a certificate of conformity for tests carried out satisfies the requirements of the Directive.
H	Full quality assurance	Describes the procedure where the manufacture ensures and declares the pressure equipment satisfies the requirements of the Directive.
H1	Full quality assurance with design examination and monitoring of final assessment.	As above.

Atex (Explosive Atmospheres Directive)

In today's market equipment is often required to be compliant with several Directives. To assist clients with meeting multiple Directives Velosi, in association with TRL has developed a system whereby the conformity processes for the PED and ATEX can be combined so that clients can make a significant saving on assessment time and ensure compliance to both Directives. If a Quality Module is selected it is also possible to combine certification of the Quality Management system to ISO 9000.

The ATEX Directive was in a transition period since 1994 and become mandatory in July 2003 such that any product placed on the European market from 1st July 2003 for use in potentially explosive atmospheres must be compliant with the requirements of the ATEX Directive.

The ATEX Directive requires a manufacturer to ensure that both the product complies and that the systems are in place to ensure continued compliance during normal production.

The Directive principally applies to electrical equipment. However, with the inclusion of non-electrical equipment and equipment for use in dust explosive atmospheres in the ATEX Directive (not included in previous Directives), a whole new set of requirements and standards have been (and are continually) introduced.

