



CECIMO position on the applicability of the Pressure Equipment Directive (97/23/EC) to machine tools

Summary:

The Pressure Equipment Directive (97/23/EC) was enforced in a mandatory way on 29 May 2002.

This document presents the position generally adopted within CECIMO about the applicability of the PED to machine tools. The main conclusions are:

- A machine tool is not a PED assembly as defined in the text of this directive; and it does not include PED assemblies.
- A machine tool can include PED pressure equipments as defined in the text of this directive.

July 3, 2003
Author: Olivier Chas
Filename: CECIMO PED pp version finale 20030626

cecimo

**EUROPEAN COMMITTEE FOR CO-OPERATION
OF THE MACHINE TOOL INDUSTRIES**

Technical Department
Avenue Louise 66
B-1050 Brussels, Belgium
tel.: ++32-2-502.70.90
fax: ++32-2-502.60.82
e-mail: tech-dep@cecimo.be
<http://www.cecimo.be>

Introduction

CECIMO, the European Committee for Co-operation of the Machine Tool Industries, regroups 15 national associations representing about 1500 companies. These companies employ directly over 150,000 persons and comprise around 85% of Small- or Medium size Enterprises. Their production represented over 50% of the world production of machine tools in 2002.

This document contains the position adopted by the members of CECIMO after thorough analysis on the applicability of the Pressure Equipment Directive (97/23/EC) to metalworking machine tools¹.

The Pressure Equipment Directive (97/23/EC) was enforced in a mandatory way on 29 May 2002. This directive only deals with pressure risks. It solely concerns products put on the market and into service as such, with a maximal allowable pressure greater than 0,5 bar. It does not concern in service inspection.

Position of CECIMO on the applicability of the PED to machine tools

This position is based on guidelines issued by the European Commission. These guidelines are available on the PED website: <http://ped.eurodyn.com/>. In this position paper direct references are made to Guidelines 1/19, 1/26, 3/10 and 3/13; these guidelines can be found in Annex II to V of this document.

For this position paper, the words “pressure equipment” and “assembly” have the meaning as defined in PED directive (see Annex I).

A machine tool can include items of pressure equipment (vessel, piping, valve, safety valve, etc...) connected together.

If the items of pressure equipment are purchased by the machine-tool manufacturer these items of pressure equipment, put separately on the market, shall comply with PED and be CE-marked if necessary.

NOTE: if these items of pressure equipment are manufactured under the responsibility of the machine-tool manufacturer, he is the manufacturer of the pressure equipment and shall consider PED (see also guidelines 1/19 and 1/26).

When these items are connected together by the machine-tool manufacturer, the result is not constituting a PED assembly, because this result is not intended to be put into service as such, but only after integration to the complete machine-tool (see guideline 3/13)

¹ A metalworking machine tool is a power-driven machine, not portable by hand, powered by an external source of energy, designed specifically for metalworking either by cutting, forming, physico-chemical processing, or a combination of these techniques.

NOTE: when such a pressurised system is purchased by the machine-tool manufacturer, it shall not be necessary CE-marked: even if put separately on the market, it is not intended to be put into service as such (see guideline 3/10).

The machine tool in itself is not a PED assembly because it is not a pressurised system (see guideline 3/13)

Neither the power fluid system of a machine tool, nor the machine tool in itself falls under PED. Nevertheless, the pressure hazards are dealt with in the machinery directive and shall be taken into account by the manufacturer: standards EN 982 (*Safety of machinery - Safety requirements for fluid power systems and their components - Hydraulics*) and EN 983 (*Safety of machinery - Safety requirements for fluid power systems and their components - Pneumatics*) are useful references for this issue.

In his instruction for use, the machine-tool manufacturer shall include the appropriate instructions for safe use, maintenance and repair of items of pressure equipment integrated in his machine, based on what is provided by the manufacturer of pressure equipment.

The declaration of conformity of the items of pressure equipment purchased by the machine-tool manufacturer may not be provided with the declaration of conformity of the machinery, but shall be kept in the technical file of the machinery. The declaration of the machinery can mention the 97/23/EC directive, as for example “the items of pressure equipment integrated to this machinery and covered by the 97/23/EC directive are in conformity with this directive; the corresponding declarations of conformity are included in the technical file of the machinery.”

Annex I – Definitions

Text extracted from the PED website <http://ped.eurodyn.com/>.

Article 1

Scope and definitions (See *Guidelines*: [1/3](#), [1/13](#))

...

2. For the purposes of this Directive: (See *Guidelines*: [3/2](#))

2.1 'Pressure equipment' means vessels, piping, safety accessories and pressure accessories.

Where applicable, pressure equipment includes elements attached to pressurized parts, such as flanges, nozzles, couplings, supports, lifting lugs, etc. (See *Guidelines*: [1/2](#), [1/14](#), [1/22](#))

2.1.1 '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. (See *Guidelines*: [2/4](#))

2.1.2. 'Piping' means piping components intended for the transport of fluids, when connected together for integration into a pressure system. Piping includes in particular a pipe or system of pipes, tubing, fittings, expansion joints, hoses, or other pressure-bearing components as appropriate. Heat exchangers consisting of pipes for the purpose of cooling or heating air shall be considered as piping. (See *Guidelines*: [1/4](#), [1/9](#), [2/4](#), [7/19](#), [1/38](#))

2.1.3. 'Safety accessories' means devices designed to protect pressure equipment against the allowable limits being exceeded. Such devices include: (See *Guidelines*: [1/6](#), [1/25](#), [1/20](#), [2/16](#))

- devices for direct pressure limitation, such as safety valves, bursting disc safety devices, buckling rods, controlled safety pressure relief systems (CSPRS), and
- limiting devices, which either activate the means for correction or provide for shutdown or shutdown and lockout, such as pressure switches or temperature switches or fluid level switches and 'safety related measurement control and regulation (SRMCR)' devices.

2.1.4. 'Pressure accessories' means devices with an operational function and having pressure-bearing housings. (See *Guidelines*: [1/8](#), [1/25](#), [1/15](#), [1/40](#))

2.1.5. 'Assemblies' means several pieces of pressure equipment assembled by a manufacturer to constitute an integrated and functional whole. (See *Guidelines*: [3/8](#), [10/4](#), [3/13](#), [3/14](#))

...

...

Annex II – Guideline 1/19

Text extracted from the PED website <http://ped.eurodyn.com/>.

Scope and Exclusions

| |
|---|
| Guideline 1/19 |
| <p>[Final version as adopted on 24-Mar-00]</p> <p>Pressure equipment directive 97/23/EC Commission's Working Group "Pressure"</p> <p>Guideline related to: Article 1 Paragraph 3.6, Article 1 Paragraph 3.10.</p> <p>Question: Are fluid power components and systems using liquids or gases of group 2 covered by PED ?</p> <p>Answer: For fluid power components and systems using liquids or gases of group 2 according to Article 9.2.2, the following applies:</p> <p>(1) Excluded from PED :</p> <p>(1.1) due to exclusion 3.6 of Article 1 (e.g. machinery directive :</p> <ul style="list-style-type: none">- piping and connecting devices for liquids of group 2 when $DN \leq 200$ whatever the pressure is, and when $DN > 200$ and $PS \geq 500$ bar;- piping and connecting devices for gases of group 2 when $DN \leq 100$ or $PS \leq 3500$ bar;- pressure accessories (e.g. filter housing) no higher than category I;- fluid power actuators, pumps and control valves no higher than category I. <p>(1.2) due to exclusion 3.10 of Article 1 (refer to guideline 1/11):</p> <ul style="list-style-type: none">- fluid power actuators (e.g. motors, cylinders,);- fluid power pumps;- fluid power control valves (distributors). <p>(2) Included in the PED :</p> <ul style="list-style-type: none">- all accumulators (bladder, piston and diaphragm types);- pressure equipment not excluded by (1) above. |
| Accepted by WPG on: 1999-10-25 |
| Accepted by Working Group "pressure" on: 2000-03-24 |

Annex III – Guideline 1/26

Text extracted from the PED website <http://ped.eurodyn.com/>.

Scope and Exclusions

Guideline 1/26

[Final version as adopted on 28-Nov-01]

**Pressure equipment directive 97/23/EC
Commission's Working Group "Pressure"**

Guideline related to: [Article 1 Paragraph 3.6.](#)

Question: Article 1, section 3 states that all "equipment classified as no higher than category I under Article 9 of this Directive and covered by one of the following Directives: [...] are excluded from the scope of this Directive:". From the scope of the Directive related to machinery, 98/37/EC, boilers and pressure vessels are explicitly excluded.

Which rules apply for boilers and pressure vessels classified in category I and installed in a machinery falling under the Directive 98/37/EC?

Answer: The PED applies when they are placed separately on the market.

As boilers and pressure vessels are explicitly excluded from the Machinery Directive 98/37 the PED exclusion of PED 1.3.6 does not apply.

However, when a product which is placed on the market is covered by the machinery directive, the exclusion of article 1 paragraph 3.6 applies to any other item of pressure equipment not higher than category I which is a part of that machine if that item has not been separately placed on the market (i.e. the pressure equipment directive does not apply). In this case, the essential safety requirements of PED are a useful way to obtain the appropriate safety level regarding pressure hazard.

Note: This does not prohibit CE-marked pressure equipment to be included in machinery, or other products.

---- Reservation from France due to linguistic ambiguity (to be resolved)----

Accepted by WPG on: **2001-09-29**

Accepted by Working Group "pressure" on: **2001-11-28**



Annex IV – Guideline 3/10

Text extracted from the PED website <http://ped.eurodyn.com/>.

Assemblies

Guideline 3/10

[Final version as adopted on 18-Oct-01]

**Pressure equipment directive 97/23/EC
Commission's Working Group "Pressure"**

Guideline related to: [Article 3 Paragraph 2.2](#), [Article 14 Paragraph 3](#), [Article 15 Paragraph 2](#).

Question: Is it possible to put assemblies on the market which are not CE-marked?

Answer: Yes, for assemblies referred to in Article 3, paragraph 2.2 :

-If the intention of the manufacturer is to place on the market an assembly not to be put into service as such but to become part of a bigger assembly or installation (see guideline 3/2), the global conformity assessment according to PED does not need to be applied to this assembly, which in this case will not be CE-marked. In this case, conformity assessment according to PED shall have been conducted for each item of pressure equipment.

-However, if the intention of the manufacturer is to place on the market an assembly to be put into service as such, the global conformity assessment procedure described in the directive must be conducted, resulting in the CE-marking of the assembly.

For boilers (Article 3 paragraph 2.1) refer to guidelines 3/1, 3/4 and 3/5.

Note 1: Assemblies the conformity of which has been assessed by a user inspectorate shall not bear the CE-marking.

Note 2: Assemblies in accordance with Article 3 paragraph 3 shall not bear the CE-marking (see guideline 2/18).

Note 3: This does not restrict the integration of CE-marked assemblies into bigger assemblies.

Accepted by WPG on: **2001-08-31**

Accepted by Working Group "pressure" on: **2001-10-18**

Annex V – Guideline 3/13

Text extracted from the PED website <http://ped.eurodyn.com/>.

Assemblies

| Guideline 3/13 |
|--|
| <p>[Final version as adopted on 23-May-02]</p> <p>Pressure equipment directive 97/23/EC Commission's Working Group "Pressure"</p> <p>Guideline related to: Article 1 Paragraph 2.1.5, Article 3 Paragraph 2.2, Article 10 Paragraph 2.</p> <p>Question: When several items of pressure equipment are assembled by a manufacturer to constitute a functional whole, and when one or several of those items are excluded from the PED, is the resulting whole considered as an assembly covered by the PED ? (GL revised 23-May-2002)</p> <p>Answer: The definition 2.1.5 of Article 1 does not prohibit non PED pressure equipment (pressurised equipment excluded by Article 1 paragraph 3) to be included in an assembly covered by the PED. In the case of a PED assembly, the global conformity assessment required by Article 10 paragraph 2 does not include the assessment of non-PED items of pressure equipment.</p> <p>The assessment of</p> <ul style="list-style-type: none">- the integration of the assembly- the protection of the assembly against exceeding the permissible operating limits <p>shall be conducted in the light by the highest category of PED items of pressure equipment included, but it shall also take account of the characteristics of the non-PED items of the assembly.</p> <p>See also guideline 3/12.</p> <p>Note 1 : A hydraulic system of an item of machinery can meet the definition of Article 1 paragraph 2.1.5, but as it is not intended to be put into service as such, it is not covered by Article 3 paragraph 2.2 (see guideline 3/10). On the other hand, a refrigeration system is considered to be a PED assembly even if some of the pieces under pressure are excluded from PED.</p> <p>Note 2 : In the sense of PED, an assembly is a pressurised system ; a machine-tool, an earthmoving machinery, an agricultural tractor, a mobile crane is not, as a whole, a PED assembly.</p> |
| Accepted by WPG on: 2002-04-10 |
| Accepted by Working Group "pressure" on: 2002-05-23 |