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ASSOCIATION EUROPÉENNE DES CONSTRUCTEURS DE
POMPES
EUROPÄISCHE VEREINIGUNG DER
PUMPENHERSTELLER



SECRETARIAT
Standards Commission
Lyoner Straße 18
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Hdg/Be

EUROPUMP-Guideline

EC-Directive Machinery 89/392/EEC of 14. June 1989 on the approximation of the laws of the member states relating to machinery considering the following amending Directives:

91/368/EEC of 20. June 1991 amending Directive 89/392/EEC on the approximation of the laws of the Member States relating to machinery,

93/44/EEC of 14. June 1993 amending Directive 89/392/EEC on the approximation of the laws of the Member States relating to machinery,

CE Marking Directive 93/68/EEC

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The EC-Directive Machinery defines the essential health and safety requirements for machinery and came into force on 1. January 1995. After that date machinery not complying with this Directive shall not be placed on the market. Placing on the market is considered as, for pumps and pump units leaving the factory.

Scope of the EC-Directive Machinery

The EC-Directive Machinery applies among others for all new pump and pump units. The fields of application given in Chapter 1, Article 1 (3) of the EC-Directive Machinery are exempted from the scope e.g.

- pumps and pump units, whose only power source is directly applied manual effort,
- pumps and pump units for medical use used in direct contact with the patients,
- pumps and pump units specially designed or put into service for nuclear purposes which, in the event of failure, may result in an emission of radioactivity,
- pumps and pump units for use on seagoing vessels or mobile offshore units,
- pumps and pump units specially designed for military or police purposes.

Further the EC-Directive Machinery applies for safety components placed on the market separately. Safety components according to the Annex IV B of the Directive comprise:

- Electro-sensitive devices designed specifically to detect persons in order to ensure their safety,
- Logic units which ensure the safety functions of bi-manual controls,
- Automatic movable screens to protect the presses referred to in 9, 10 and 11 (Annex IV A),
- Roll-over protection structures (ROPS),
- Fallings-object protective structures (FOPS).

For the time being for pumps and pump units safety components are not applicable.

Furthermore the EC-Directive Machinery does not apply for individual parts, spare parts and repairs which do not modify the function of the machinery.

The EC-Directive Machinery identifies particularly machinery having high levels of hazard and requires these to be referred to third party assessment. It is the EUROPUMP view that very few pump types will fall into this category and that conformity assessment usually will be made by the manufacturer, or his authorised representative.

Where, for pumps and pump units, the risks are mainly of electrical origin, according to Chapter 1, Article 1 (5) these machinery are excluded from the scope of the EC-Directive Machinery. These machinery shall be exclusively covered by Council Directive 73/23/EEC of 19. February 1973 (Low Voltage Directive). In line with more recent EC opinion it is the EUROPUMP interpretation that the EC-Directive Machinery however does cover the mechanical safety features of such pumps and pump units and that

manufacturers should apply these interpretations. In the case that particular standards for special applications are available, which cover the electrical as well as mechanical risks, the standards shall be followed e.g. EN 60 335-2-41, EN 60 335-2-51.

In certain cases other directives may be applied e.g. 89/336/EEC comprising Electromagnetic Compatibility and if a pump unit incorporates devices for Simple Pressure Vessels the directive 87/404/EEC may additionally be applied, and a CE-marking indicates compliance with these directives.

Safety and health requirements of the EC-Directive Machinery for pumps and pump units

Annex I of the EC-Directive Machinery lays down the essential health and safety requirements relating to the design and construction of machinery and safety components. For pumps and pump units these requirements are set out more specifically in the European Safety Standard prEN 809 "Pumps and pump units for liquids; General safety requirements" which establishes the technical safety requirements for the addressable elements of construction, assembling, proof testing, erection, operation and servicing. This Standard will become a transposed harmonized and conformity to it will give the presumption of conformity to the requirements of the Directive. Further harmonized standards, of importance for the compliance to the EC-Directive Machinery for pumps and pump units for special application (as for submersible pumps, heating circulation pumps, hygienic pumps and high pressure water jet pumps) are in preparation.

Documentation

The EC-Directive Machinery requires that the manufacturer, or his authorized representative in the Community, shall have ensured and be able to guarantee that the documentation listed below is and will remain available on his premises for justified inspection purposes by the competent national authorities:

(a) a technical construction file comprising:

- an overall drawing of the machinery together with drawings of the control circuits,

- full detailed drawings, accompanied by any calculation notes, test results, etc. required to check the conformity of the machinery with the essential health and safety requirements,

a list of:

- the essential requirements of this Directive, relevant to the pump or pump unit, standards, and

- other technical specifications, which were used when the machinery was designed,

a description of methods adopted to eliminate hazards presented by the machinery,
if he so desires, any technical report or certificate obtained from a competent body
or laboratory (1),

if he declares conformity with a harmonized standard which provides therefore, any
technical report giving the results of tests carried out at his choice either by himself
or by a competent body or laboratory (1), which confirm conformity

a copy of the instructions for the machinery;

- (b) for series manufacture, the internal quality assurance measures that will be
implemented to ensure that the machinery remains in conformity with the provisions
of the Directive.

This documentation shall be available before placing on the market any type of pump
unit. The documentation need not permanently exist in a material manner but it must be
possible to assemble it and make it available within a period of time commensurate with
its importance. The documentation shall be retained and kept available for the
competent national authorities for at least 10 years following the date of manufacture of
the machinery or of the last unit produced, in the case of series manufacture.

Instructions for use

All machinery must be accompanied by instructions including at least the requirements
according to prEN 809.

The instructions must be drawn up in one of the Community languages by the
manufacturer or his authorized representative established in the Community. On being
put into service, all machinery must be accompanied by a translation of the instructions
in the language or languages of the country in which the machinery is to be used and by
the instructions in the original language. This translation must be done either by the
manufacturer or his authorized representative established in the Community or by the
person introducing the machinery into the language area in question. By way of
derogation from this requirement the maintenance instructions for use by specialized
personnel employed by the manufacturer or his authorized representative established in
the Community may be drawn up in only one Community language understood by that
personnel.

(1) A body or laboratory is presumed competent if it meets the assessment criteria laid down in the relevant
harmonized standards.

In line with more recent EC opinion only the parts of the instructions for use relevant to safety shall be translated into the language or one of the languages of the country in which the machinery is to be used.

Certification procedure

According to the EC-Directive Machinery the manufacturer or his authorized representative established in the Community shall draw up for each pump unit ready for use an EC-Declaration of conformity stating the compliance with the EC-Directive Machinery and all other respective Directives and shall affix to the pump unit the CE-marking.

For pumps not ready for use (e.g. without driving element) or for machinery assigned to be incorporated into machinery or be assembled with other machinery a declaration of incorporation shall be drawn up. In that case no CE-marking shall be affixed.

A simplified figure of the certification procedure for pumps and pump units is given in the Appendix.

Third party certification is usually not required.

EC-Declaration of conformity: The EC-Declaration of conformity must be drawn up for pump units which can function independently and the CE-marking has to be assigned at the pump unit. Drawing up the EC-Declaration of conformity and the assignment of the CE-marking is being done on the manufacturer's responsibility or on his authorized representative established in the Community.

An example for the EC-Declaration of conformity is given in Annex A.

Declaration of incorporation: The declaration of incorporation is foreseen for machinery not ready for use (machinery according to the Directive, no parts), either for machinery which are not self-contained, because they are intended to be assembled with other machinery to constitute machinery, or because important parts for their service are not yet installed.

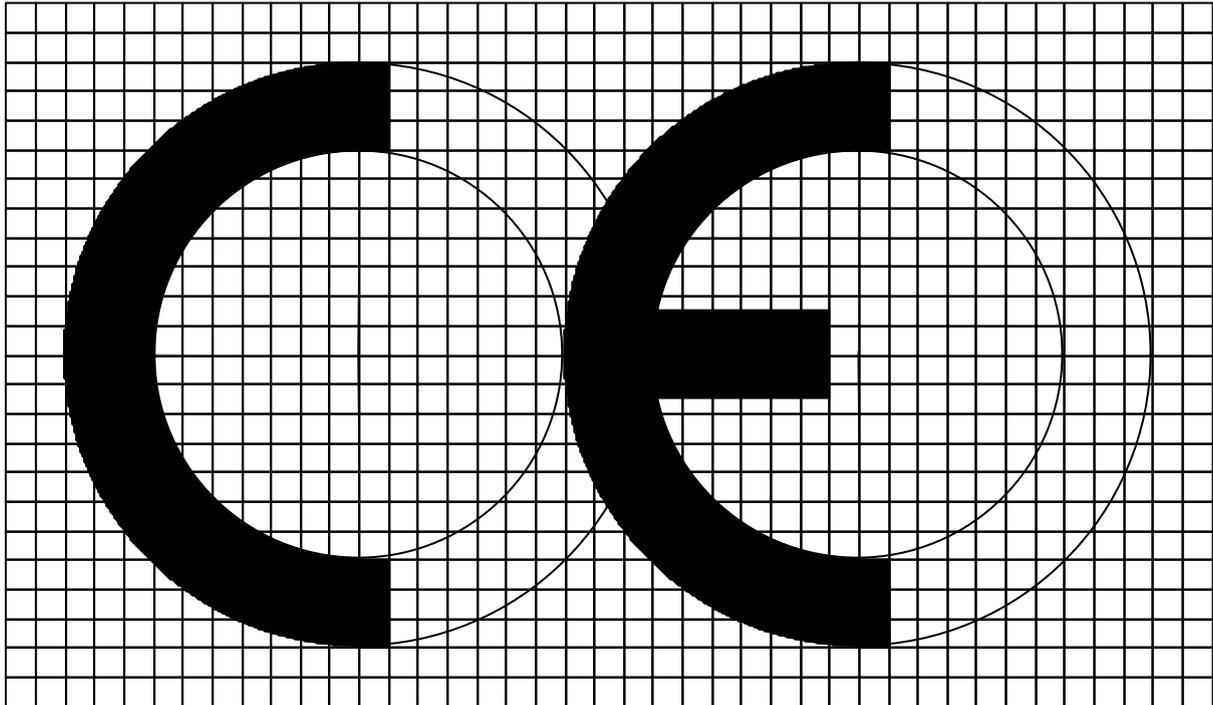
The declaration of incorporation should not be considered as a declaration of conformity without CE-marking.

An essential task of the declaration of incorporation is to enable the placing on the market of an incomplete machine by declaring, that this incomplete machine is intended to be incorporated into machinery or assembled with other machinery to constitute machinery covered by this directive and must not be put into service until the machinery into which it is to be incorporated has been declared to be in conformity with the provisions of the directive. However, EUROPUMP is of the opinion that the manufacturer also confirms with the declaration of incorporation that the incomplete machine meets the requirements of the EC-Directive Machinery as far as possible. This does not result

from the text of the EC-Directive Machinery as mandatory, but should be followed for reasons of product liability. For pumps without driver this declaration of incorporation should be used.

An example for the declaration of incorporation is given in Annex B.

CE-marking: According to the Directive 93/68/EEC in the future the CE-marking consists of the letters "CE" with the following face:



The background-grid should be considered only as an aid and is not part of the CE-marking. If reduction or enlargement of the CE-marking is necessary, the proportions given by the above background-grid shall be followed. The height of the CE-marking should not be less than 5 mm.

The CE-marking is affixed to the machinery or on the respective plate. It shall be affixed to machinery permanently, distinctly and visibly.

The CE-marking comprises the letters CE only with the year in which the marking was affixed shown on the name-plate. However, until 31. December 1996 markings comprising the letters CE and the last two digits of the year in which the marking was fixed may be used.

What is to be done by the Enterprise?

- Prove that the pump complies with all relevant essential safety and health requirements according to Annex I of the EC-Directive Machinery (as well as other EC-Directives with appropriate product requirements) and that the measures taken are documented. For non-independent functioning pumps or incomplete pumps such a documentation is also recommended.

NOTE 1: In order to meet the requirements of the EC-Directive Machinery noise measurements shall be made at the flow established by the pump manufacturer and the documented best efficiency point.

The declaration "At certain installations and operation points on the pump curve the noise level 70 dB, or for the actual pump specified noise level, can be exceeded" should be incorporated in all information and instruction manuals following the product.

The noise level on submersible pumps is measured at a liquid level at the middle of the stator housing or at other level specified as normal liquid level by the manufacturer. The declaration in the previous paragraph is applicable e.g. at dry installation.

NOTE 2: Vibrations produced by pumps or pump units are not subject to requirements of the EC-Directive Machinery as they do not make any safety risk for personnel. The close area around a pump or pump unit is not any normal working place.

NOTE 3: For machinery in stock with distributors on 1. January 1995 the control departments are instructed not to require formal conformity. That means for machinery in stock at the distributors before 1. January 1995 a CE-marking is not required.

Draw up the documentation including a technical file according to Annex V of the EC-Directive Machinery.

- Check that the instructions for use have been drawn up in accordance with Annex I, 1.7.4 together with 1.1.2 and 1.3.1 and translate or arrange the translation of the relevant safety parts of the instructions for use into the language or one of the languages of the country in which the machinery is to be used.

The draft European Standard prEN 809 contains a chapter with minimum informations for pumps and pump units to be given in the instruction for use.

- Decide for each pump/pump unit whether the Declaration of incorporation or the EC-Declaration of conformity has to be drawn up. Prepare the respective declaration including name and address of the manufacturer or his authorized representative established in the Community. Prove whether the regulations, standards and specifications are addressed according to which the pump is built. Assure that the respective declaration for the pump or pump unit accompanies the pump or pump unit in the language of the country in which the machinery is to be used.

Authorise a competent person to sign declaration.

- In the case of EC-Declaration of conformity affix the CE-marking at the pump unit.

Declaration of conformity

as defined by the Directive Machinery 89/392/EEC, Annex II A

Herewith we declare that the supplied pump unit model¹⁾

complies with the following provisions applying to it²⁾:

EC-Directive Machinery as amended by 93/44/EEC, Annex I No.1

Applied harmonized standards, in particular³⁾

EN 809

EN 292 Part 2

EN 292 Part 1

Applied national technical standards and specifications, in particular

Date/signature⁴⁾

Footnotes

- 1) Description of the type of the pump unit/pump installation, at least usual technical designation, product, type, serial number, if necessary additional information as given in Annex I, 1.7.3 concerning intended use
- 2) If necessary other relevant EC-Directive(s) e.g. EC-Directive Low Voltage (73/23/EEC)
- 3) Specific product safety standard EN 809, EN ... (if necessary Draft European Standard prEN ...); by way of substitution also EN 292 Part 1 and Part 2, EN 60 204 Part 1
- 4) Legally binding, including information to the undersigned

Format required

- Manufacturer's sheet with complete address, additional (if necessary) company and address of the authorized representative established in the Community (if necessary also importer into the country where the machinery is to be used - as far as stipulated translator of the instructions)
- Printed or typed
- Original of the manufacturer in one of Community languages as well as translation in the language or languages in which the machinery is to be used (see also Annex I, No. 1.7.4b)

Declaration of incorporation

as defined by the Directive Machinery 89/392/EEC, Annex II B

Herewith we declare that the supplied pump model¹⁾

is intended to be incorporated into machinery²⁾ or assembled with other machinery to constitute machinery²⁾ covered by this directive and must not be put into service until the machinery into which it is to be incorporated has been declared in conformity with the provisions of the directive as amended by 93/44/EEC.

Applied harmonized standards, in particular³⁾

EN 809

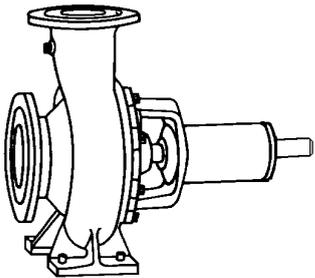
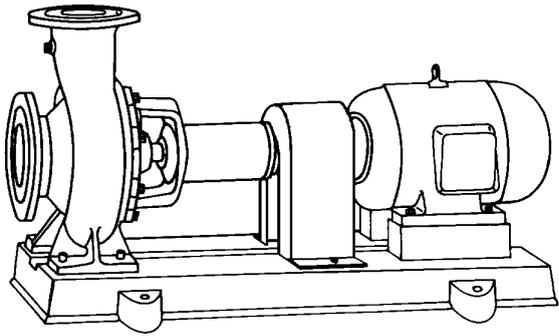
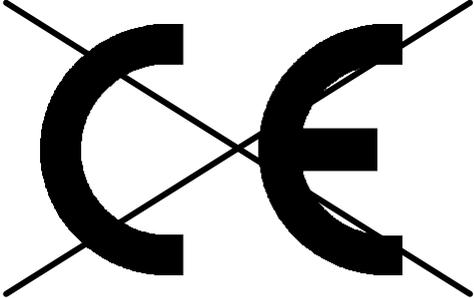
Date/signature⁴⁾

Footnotes

- 1) Description of the pump type, at least usual technical designation, product, type, serial number, if necessary additional information as given in Annex I, 1.7.3 concerning intended use
- 2) Delete what's not applicable
- 3) Specific product safety standard EN 809, EN ... (if necessary Draft European Standard prEN ...); by way of substitution also EN 292 Part 1 and Part 2, EN 60 204 Part 1
- 4) Legally binding, including information to the undersigned

Format required

- Manufacturer's sheet with complete address
- Printed or typed
- EUROPUMP recommendation: Official language of the country in which the machinery is to be used (or special agreement)

Certification procedure	
Example for incomplete machines	Example for complete machines
	
Declaration of incorporation	EC-Declaration of conformity
	
no CE-marking	CE-marking