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High pressure water jet machines - Safety requirements - Part 1: Machines

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High pressure water jet machines - Safety requirements - Part 1: Machines

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sécurité - Partie 1: Machines

Hochdruck-Wasserstrahlmaschinen -
Sicherheitsanforderungen - Teil 1: Maschinen

This European Standard was approved by CEN on 18 December 2009.

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Foreword

This document (EN 1829-1:2010) has been prepared by Technical Committee CEN/TC 197 “Pumps”, the secretariat of which is held by AFNOR.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by July 2010, and conflicting national standards shall be withdrawn at the latest by July 2010.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For relationship with EU Directive(s), see informative Annex ZA, which is an integral part of this document.

EN 1829, *High-pressure water jet machines — Safety requirements*, consists of the following parts:

— *Part 1: Machines*

— *Part 2: Hoses, hose lines and connectors*

Compliance with the clauses of Part 1 together with those of Part 2 of EN 1829 provides one means of conforming with the essential health and safety requirements of the Directive concerned.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

Introduction

This European Standard is a type C standard as stated in EN ISO 12100-1.

The machinery concerned and the extent to which hazards, hazardous situations and hazardous events are covered, are indicated in the scope of this document.

When provisions of this type C standard are different from those which are stated in type A or B standards, the provisions of this type C standard take precedence over the provisions of the other standards, for machines that have been designed and built according to the provisions of this type C standard.

1 Scope

This European Standard contains safety-related requirements for high pressure water jet machines with drives of all kinds (e.g. electric motor, internal combustion engine, air and hydraulic) in which pumps are used to generate pressure. This document deals with all significant hazards, hazardous situations and events arising during assembly, erection, operation and servicing relevant to high pressure water jet machines, when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer (see Clause 4). All references to high pressure water jet machines within this document includes machines for one or more of the following industrial applications:

- cleaning;
- surface preparation;
- material removal;
- readjustment of concrete;
- cutting.

This document applies to mobile and fixed high pressure water jet machines, in which the water pressure is generated by a pressure generator/pump and in which the maximum allowable working pressure is more than the upper limit fixed in the scope of EN 60335-2-79.

NOTE 1 35 MPa (350 bar) is currently the upper limit for machines covered by EN 60335-2-79.

NOTE 2 In general the machines in the scope will not be in the scope of the Pressure Equipment Directive 97/23/EC. In some cases, specific parts may be in the scope of that directive, but their application is not dealt with in this document.

This document does not apply to high pressure cleaners which are dealt with in EN 60335-2-54 and EN 60335-2-79.

NOTE 3 EN 60335-2-54 applies to steam cleaners for household use. EN 60335-2-79 applies to high pressure cleaners having a rated pressure not less than 2,5 MPa and not exceeding 35 MPa, as well as steam cleaners and those parts of hot water high pressure cleaners incorporating a steam stage which have a capacity not exceeding 100 l, a rated pressure not exceeding 2,5 MPa and a product of capacity and rated pressure not exceeding 5 MPa·l.

This document does not cover additional hazards due to the incorporation of high pressure water jet machines into other process-technology machines.

This document does not cover specific hazards associated with explosive atmospheres, use on ships or ambient temperatures outside the range 5 °C to 40 °C.

This document does not cover hazards associated with the drives or specific hazards due to any heat generation function. However the hazards due to high temperatures of touchable surfaces are dealt with.

Any hazard due to the nature of liquids used for jetting, other than that due to pressure, is excluded from the scope of this European Standard.

This document is not applicable to high pressure water jet machines which are manufactured before the date of its publication as EN.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

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