



NSAI
Standards

Irish Standard
I.S. EN 1829-1:2021

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

I.S. EN 1829-1:2021

Incorporating amendments/corrigenda/National Annexes issued since publication:

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NSAI
1 Swift Square,
Northwood, Santry
Dublin 9

T +353 1 807 3800
F +353 1 807 3838
E standards@nsai.ie
W NSAI.ie

Sales:
T +353 1 857 6730
F +353 1 857 6729
W standards.ie

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National Foreword

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EUROPEAN STANDARD

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English Version

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

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CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

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EN 1829-1:2021 (E)

European foreword

This document (EN 1829-1:2021) 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of an identical text or by endorsement, at the latest by July 2021, and conflicting national standards shall be withdrawn at the latest by July 2021.

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

This document supersedes EN 1829-1:2010.

The main changes compared with the previous edition are as follows:

- general revision according to the state of the art;
- revision of the vibration test code requirements;
- deletion of previous normative Annex A on noise test code, which has been replaced by normative annex on emission of vibration;
- addition of informative Annex B on vibration report and informative Annex C on routine testing;
- clarification of hydrostatic pressure testing;
- transfer of Clause 4 on the list of significant hazards to informative Annex D;
- update of Annex ZA in relation to Directive 2006/42/EC.

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

- Part 1: *Machines*
- Part 2: *Hoses, hose lines and connectors*

This document has been prepared under a standardization request given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of Directive 2006/42/EC.

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

According to the CEN-CENELEC Internal Regulations, the national standards organisations 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, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Introduction

This document is a type-C standard as stated in EN ISO 12100:2010. This document is of relevance, in particular, for the following stakeholder groups representing the market players with regard to machinery safety:

- machine manufacturers (small, medium and large enterprises);
- health and safety bodies (regulators, accident prevention organizations, market surveillance etc.).

Others can be affected by the level of machinery safety achieved with the means of the document by the above-mentioned stakeholder groups:

- machine users/employers (small, medium and large enterprises);
- machine users/employees (e.g. trade unions, organizations for people with special needs);
- service providers, e.g. for maintenance (small, medium and large enterprises).

The above-mentioned stakeholder groups have been given the possibility to participate at the drafting process of this document. The machinery concerned and the extent to which hazards, hazardous situations or hazardous events are covered are indicated in the scope of this document. When requirements of this type-C standard are different from those which are stated in type-A or type-B standards, the requirements of this type-C standard take precedence over the requirements of the other standards for machines that have been designed and built according to the requirements of this type-C standard.

EN 1829-1:2021 (E)**1 Scope**

This document 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 Annex ZA). 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.

NOTE 1 List of significant hazards is given in informative Annex D.

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 60335-2-79:2012.

NOTE 2 35 MPa is currently the upper limit for machines covered by EN 60335-2-79:2012.

This document does not cover:

- requirements of the Pressure Equipment Directive 2014/68/EU;

NOTE 3 In some cases, specific parts can be in the scope of that directive, but their application is not dealt with in this document.

- high pressure cleaners which are dealt with in EN 60335-2-54:2008, EN 60335-2-54:2008/A11:2012, EN 60335-2-54:2008/A11:2012/AC:2015, EN 60335-2-54:2008/A1:2015 and EN 60335-2-79:2012;

NOTE 4 EN 60335-2-54:2008, EN 60335-2-54:2008/A11:2012, EN 60335-2-54:2008/A11:2012/AC:2015 and EN 60335-2-54:2008/A1:2015 applies to steam cleaners for household use. EN 60335-2-79:2012 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.

- additional hazards due to the incorporation of high pressure water jet machines into other process-technology machines;
- specific hazards associated with explosive atmospheres, use on ships or ambient temperatures outside the range 5 °C to 40 °C;
- hazard due to the nature of liquids used for jetting, other than that due to pressure;
- 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;

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