DIN EN 1829-1:2021-04 (E)

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

Contents

Page

European foreword 4

Introduction 5

1 Scope 6

2 Normative references 7

3 Terms and definitions 8

4 Safety requirements and/or measures 11
4.1 General 11
4.2 Requirements for high pressure water jet machine with intended exit of water under high pressure 12
4.2.1 Replacement inserts 12
4.2.2 Safety devices to prevent excessive pressure 12
4.2.3 Pressure indicator 13
4.3 Mechanical requirements 13
4.3.1 Common requirements 13
4.3.2 Spraying devices 13
4.3.3 High pressure lines 15
4.3.4 Requirements for mobile machines 15
4.4 Requirements for transport 15
4.5 Electrical requirements 15
4.6 Requirements for emergency stopping 15
4.7 Thermal requirements 16
4.8 Noise reduction 16
4.8.1 Noise reduction at source by design 16
4.8.2 Noise reduction by protective measures 17
4.9 Requirements for vibration with hand-held spraying devices 17
4.10 Requirements for program controlled water jet machines 17
4.11 Marking the control devices 17

5 Verification of the safety requirements and/or measures 17
5.1 General 17
5.2 Hydrostatic pressure test 18
5.2.1 General 18
5.2.2 Testing of safety devices for preventing excessive pressure 18
5.2.3 Pressure indicator 18
5.2.4 Hydrostatic pressure test of spraying devices 18
5.3 Mechanical tests and/or visual inspection 18
5.3.1 General 18
5.3.2 Testing the stability of the high pressure water jet machine 19
5.4 Transport devices 19
5.5 Electrical tests 19
5.6 Testing of emergency stopping 19
5.7 Thermal tests 19
5.8 Vibration measurement 19
5.9 Testing of program controlled high pressure water jet machines 19
5.10 Verification of markings 19

6 Information for use 20

6.1 General 20
6.2 Marking and Warnings 22
6.2.1 General 22
6.2.2 Marking of the machine unit 22
6.2.3 Marking the safety devices 23
6.2.4 Marking the spraying devices 23
6.2.5 Marking of pipelines 24
6.3 Additional warnings 24

Annex A(normative) Emission of vibration 26

Annex B(informative) Vibration report 39

Annex C(informative) Routine tests 41

Annex D(informative) List of significant hazards 42

Annex ZA(informative) Relationship between this European Standard and the essential requirements of Directive 2006/42/EC aimed to be covered 44

Bibliography 46