

# DIN EN 1829-1:2010-05 (E)

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

---

<b>Contents</b>		<b>Page</b>
Foreword .....		4
Introduction .....		5
1	Scope .....	6
2	Normative references .....	6
3	Terms and definitions .....	8
4	List of significant hazards .....	10
4.1	General .....	10
4.2	Hazards from the intended exit of water under high pressure .....	10
4.3	Mechanical hazards .....	10
4.4	Hazards from transportation .....	11
4.5	Electrical hazards .....	11
4.6	Thermal hazards .....	11
4.7	Hazards due to noise .....	11
4.8	Hazards from program controlled high pressure water jet machines .....	11
4.9	Hazards from sudden start-up .....	11
4.10	Hazards from vibration .....	11
5	Safety requirements and/or measures .....	11
5.1	General .....	11
5.2	Requirements for high pressure water jet machine with intended exit of water under high pressure .....	12
5.3	Mechanical requirements .....	12
5.4	Requirements for transport .....	14
5.5	Electrical requirements .....	15
5.6	Requirements for emergency stopping .....	15
5.7	Thermal requirements .....	15
5.8	Noise reduction .....	16
5.9	Requirements for vibration with hand-held spraying devices .....	17
5.10	Requirements for program controlled water jet machines .....	17
5.11	Marking the control devices .....	17
6	Verification of the safety requirements and/or measures .....	17
6.1	General .....	17
6.2	Hydrostatic pressure test .....	17
6.3	Mechanical tests and/or visual inspection .....	18
6.4	Transport devices .....	18
6.5	Electrical tests .....	19
6.6	Testing of emergency stopping .....	19
6.7	Thermal tests .....	19
6.8	Noise measurement .....	19
6.9	Vibration measurement .....	19
6.10	Testing of program controlled water jet machines .....	19
6.11	Verification of markings .....	19
7	Information for use .....	19
7.1	General .....	19
7.2	Marking and Warnings .....	22

<b>7.3</b>	<b>Additional Warnings .....</b>	<b>23</b>
	<b>Annex A (normative) Noise test code .....</b>	<b>25</b>
	<b>Annex ZA (informative) Relationship between this European Standard and the Essential Requirements of EU Directive 2006/42/EC .....</b>	<b>27</b>
	<b>Bibliography .....</b>	<b>28</b>
<b>Figures</b>	<b>Figure 1 -- Spraying device with support - Principle .....</b>	<b>13</b>
	<b>Figure 2 -- Spraying device - Recoil force and torque generation .....</b>	<b>14</b>
	<b>Figure 3 -- General warning sign according to ISO 7010:2003, W001 .....</b>	<b>21</b>
	<b>Figure 4 -- Hazard symbol Dangerous Voltage according to ISO 7010:2003, W012 .....</b>	<b>21</b>
	<b>Figure 5 -- Attention .....</b>	<b>21</b>
	<b>Figure 6 -- Example of an additional warning (taken from EN 60335-2-79:2004) .....</b>	<b>24</b>
	<b>Figure 7 -- Hazard symbol Hot surfaces according to ISO 7010:2003, W017 .....</b>	<b>24</b>
<b>Tables</b>	<b>Table 1 -- Maximum permitted temperatures for unprotected accessible surfaces on high pressure water jet machines during normal operation .....</b>	<b>16</b>