

# ISO 15883-1:2024-10 (E)

## Washer-disinfectors - Part 1: General requirements, terms and definitions and tests

<b>Contents</b>		<b>Page</b>
Foreword .....		vi
Introduction .....		vii
<b>1</b>	<b>Scope .....</b>	<b>1</b>
<b>2</b>	<b>Normative references .....</b>	<b>1</b>
<b>3</b>	<b>Terms and definitions .....</b>	<b>2</b>
<b>4</b>	<b>Performance requirements .....</b>	<b>10</b>
4.1	General .....	10
4.2	Cleaning .....	14
4.2.1	General .....	14
4.2.2	Pre-wash flushing stage .....	14
4.2.3	Washing stage .....	14
4.2.4	Rinsing stage .....	15
4.3	Disinfection .....	15
4.3.1	Thermal disinfection .....	15
4.3.2	Chemical disinfection .....	15
4.4	Final rinsing .....	16
4.5	Drying .....	17
4.6	Process chemicals .....	17
4.7	Self-disinfection .....	17
<b>5</b>	<b>Mechanical and process requirements .....</b>	<b>18</b>
5.1	Materials, design and manufacture/construction .....	18
5.1.1	Materials .....	18
5.1.2	Design and manufacture/construction .....	19
5.1.3	Load carrier(s) .....	20
5.2	Safety .....	20
5.3	Tanks .....	21
5.4	Loading and unloading doors and their controls .....	22
5.4.1	General .....	22
5.4.2	Control of manually operated doors .....	23
5.4.3	Control of doors of a double-ended WD .....	23
5.4.4	Internal doors and access ports .....	23
5.4.5	Continuous process machine without doors .....	23
5.5	Pipework and fittings .....	24
5.6	Spray systems .....	24
5.7	Dosing systems .....	24
5.8	Load temperature protection .....	25
5.9	Process temperature control limits .....	25
5.10	Switches, gauges and indicating devices .....	26
5.11	Process verification .....	27
5.12	Instrumentation and controls .....	28
5.13	Temperature indicating systems .....	29
5.14	Pressure indicating systems .....	30
5.15	Volume/flow indicating devices .....	30
5.16	Timing equipment .....	31
5.17	Operating cycle indicating equipment .....	31
5.18	Recording systems (if fitted) .....	31

5.18.1	Cycle control recorders .....	31
5.18.2	Process verification system .....	31
5.19	Control systems .....	33
5.20	Override of automatic control .....	34
5.21	Microprocessor control systems .....	34
5.22	Fault indication systems .....	35
5.23	Water supply .....	35
5.24	Venting and drainage systems .....	36
5.25	Drainage .....	36
5.26	Air filters installed within the WD .....	37
5.27	Load handling and supports for use within the WD .....	37
5.28	Trolleys .....	37
5.29	Environment .....	38
6	Testing for conformity .....	38
6.1	General .....	38
6.1.1	Inter-relationship of tests .....	38
6.1.2	Conformity of WD, as supplied, with ISO 15883-1 .....	38
6.1.3	Conformity of WD, as installed, with ISO 15883-1 .....	38
6.1.4	Confirmation of validation .....	40
6.1.5	Requalification .....	40
6.1.6	Routine and periodic tests .....	40
6.2	Instrumentation for testing .....	41
6.2.1	Temperature sensors .....	41
6.2.2	Temperature recording instruments .....	41
6.2.3	Calibration .....	41
6.3	Tests on doors, interlocks and fault indications .....	42
6.3.1	Operating cycle start interlock .....	42
6.3.2	Door locking during operating cycle .....	42
6.3.3	Door interlocks on double-ended WD .....	42
6.3.4	Cycle complete door interlocks .....	43
6.3.5	Fault indication on sensor failure .....	43
6.3.6	Fault indication on service failure .....	43
6.3.7	Failed cycle interlock .....	44
6.3.8	Blocked drain protection .....	44
6.4	Tests on water quality and water volume .....	44
6.4.1	General .....	44
6.4.2	Quality of final rinse water .....	45
6.4.3	Volume of water used per stage .....	45
6.4.4	Quality of water used during testing .....	46
6.5	Tests on pipework .....	46
6.5.1	Estimation of dead volume pipework .....	46
6.5.2	Leakage .....	47
6.5.3	Free draining [chamber, load carrier(s), tanks] .....	47
6.5.4	Pipework flow to discharge point .....	47
6.5.5	Venting .....	47
6.5.6	Load contamination from ductwork of the WD .....	48
6.6	Tests on instrumentation fitted to the WD .....	48
6.6.1	Verification of calibration .....	48
6.6.2	Legibility .....	49
6.7	Tests on load carrier(s) and trolleys .....	49
6.7.1	Load carrier(s) used within the chamber .....	49
6.7.2	Trolleys .....	49
6.8	Thermometric tests .....	50
6.8.1	General .....	50
6.8.2	Load and load carrier(s) temperature test during operating cycle .....	50
6.8.3	Chamber wall temperature test .....	51
6.8.4	Temperature tests on tanks .....	51
6.8.5	Load temperature protection .....	52
6.9	Chemical dosing tests .....	52
6.9.1	Dispensed volume .....	52

6.9.2	Indication of insufficient process chemical for a cycle .....	53
6.10	Tests of cleaning efficacy .....	53
6.10.1	General .....	53
6.10.2	Cleaning type test .....	53
6.10.3	Cleaning performance qualification test .....	54
6.10.4	Routine process monitoring .....	54
6.10.5	Tests for process residuals .....	54
6.11	Tests of air quality .....	55
6.11.1	General .....	55
6.11.2	Procedure .....	55
6.11.3	Results .....	55
6.12	Test of load dryness .....	55
6.12.1	General .....	55
6.12.2	Materials .....	55
6.12.3	Exterior surface drying .....	55
6.12.4	Lumen load drying .....	56
6.13	Test of automatic control .....	56
6.13.1	General .....	56
6.13.2	Procedure .....	56
6.13.3	Results .....	57
7	Documentation .....	57
8	Information to be supplied .....	57
8.1	General .....	57
8.2	Before delivery of the WD and for installation .....	58
8.3	At delivery of the WD .....	59
9	Marking, labelling and packaging .....	60
9.1	Marking and labelling .....	60
9.2	Packaging .....	60
10	Information to be requested from the purchaser by the supplier of the WD .....	60
Annex A (informative)	Test programme .....	62
Annex B (informative)	A0 concept -- Comparative lethality of moist heat processes .....	66
Annex C (normative)	Microbiological recovery medium for estimation of bacterial contamination of water .....	70
Bibliography	.....	71