

ISO 15883-1:2024-10 (E)

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

Contents		Page
Foreword		vi
Introduction		vii
1	Scope	1
2	Normative references	1
3	Terms and definitions	2
4	Performance requirements	10
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
5	Mechanical and process requirements	18
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