

Lithuanian energy institute Laboratory of heat-equipment research and testing, accredited in accordance with **LST EN ISO/IEC 17025:2018**

Location of the conformity assessment body:

Breslaujos str. 3, 44403 Kaunas

Table 1

Materials or products tested	Component, parameter or characteristic to be tested	Reference number of the document specifying test methods, clause (if relevant)	Techniques, methods and/or equipment used (where appropriate)
1. Water meters: – with permanent flow rate $Q_3 \leq 125 \text{ m}^3/\text{h}$, maximum admissible pressure (MAP) $\leq 16 \text{ bar}$, temperature classes T30, T50, T70, T90, T30/70, T30/90 and environmental class B	Performance tests:	LST EN ISO 4064-2 / OIML R 49-2	Hydraulic method Gravimetric or volumetric method
	Static pressure test	7.3 p. / 7.3 p.	
	Determination of intrinsic errors (of indication)	7.4 p. / 7.4 p.	Control method related to influence factors Control method related to influence factors Control method related to influence factors Control method related to influence factors Hydrodynamic pressure measurement Control method related to influence factors Control method related to influence factors Control method related to influence factors Control method related to influence factors
	Water temperature test	7.5 p. / 7.5 p.	
	Overload water temperature test	7.6 p. / 7.6 p.	
	Water pressure test	7.7 p. / 7.7 p.	
	Reverse flow test	7.8 p. / 7.8 p.	
	Pressure loss test	7.9 p. / 7.9 p.	
	Flow disturbance tests	7.10 p. / 7.10 p.	
	Tests of ancillary devices of a water meter	7.13 p./7.13 p.	
	Static magnetic field	8.16 p./8.16 p.	
Performance tests for meters with electronic devices	LST EN ISO 4064-2 / OIML R 49-2 nuo 8.2 iki 8.17 p./ nuo 8.2 iki 8.17 p.		
Tests for initial verification	LST EN ISO 4064-2 / OIML R 49-2 10.1 p./10.1 p.	Gravimetric or volumetric method	
– with permanent flow rate $Q_3 \leq 16 \text{ m}^3/\text{h}$, maximum admissible pressure (MAP) $\leq 16 \text{ bar}$, temperature classes T30, T50, T70, T90, T30/70, T30/90 and environmental class B	Durability tests	LST EN ISO 4064-2/ OIML R 49-2 7.11.2, 7.11.3 p. / 7.11.2, 7.11.3 p.	Method of determining durability

Materials or products tested	Component, parameter or characteristic to be tested	Reference number of the document specifying test methods, clause (if relevant)	Techniques, methods and/or equipment used (where appropriate)
3. Water heating boilers for solid fuel with a nominal heat output of up to 500 kW	Pressure test Heat output	LST EN 303-5 5.4, 5.5 p.	Hydraulic method Direct measurement method
		5.6; 5.7.1-5.7.5 p.; 5.9.1-5.9.2 p. (LST EN 304 A.5; A.6 annexes)	
	Efficiency	5.7.6; 5.9.3.1-5.9.3.6 p.; F.1-F.2 annexes (LST EN 304 6.10 p.; A.8 and A.10 annexes)	Direct balance method
	Electrical consumption Emissions	5.7.7 p.	Direct measurement method
		5.6; 5.8; 5.9.4.1-5.9.4.4 p.; A and F.3 annexes (LST EN 304 A.2-A.3 annexes, LST EN 13284-1, CEN/TS 15883)	Infrared absorption, chemiluminescence and flame ionization detection method
	Waterside resistance	5.10 p., (LST EN 304 6.6 p.)	Pressure difference method
	Surface temperature	5.11 p.	Direct measurement method
	Verification of condensate	5.12 p., D ir E annexes, (LST EN ISO 11885)	Optical emission spectrometry method
	Function check of the temperature controller and safety temperature limiter	5.13 p.	Direct measurement method
	Function test for the rapidly disconnectable firing system	5.14 p.	Direct measurement method
	Function test on the device for dissipating excess heat	5.15 p.	Direct measurement method
	Safety of automatically loaded boilers	5.16.2, 5.16.3, 5.16.4 p.	Direct measurement of parameters
	Test for gas side leakage	5.16.6 p.	Hydraulic method
Check of safety for condensing operation	5.17 p.	Visual control and direct measurement of parameters	
Checks of the safety for boilers with outside combustion air supply	5.18 p.; G annex	Visual control and direct measurement of parameters	
4. Stationary source emissions	Determination of particulate matter concentration	LST EN 13284-1	Gravimetric and isokinetic methods
5. Pellet burners for small heating boilers	Safety tests	LST EN 15270 6.6.1.1 – 6.6.1.10 p.	Visual control and direct measurement of parameters
	Maximum heat input	6.6.2.2 p.	Direct measurement method
	Reduced heat input	6.6.2.3 p.	Direct measurement method
	Testing at start-up phase	6.6.2.4 p.	Visual control and direct measurement of parameters
	Determination of the proportion of unburned fuel in the residue	6.6.3 p.	Gravimetric method
	Excess air ratio	6.6.4 p.	Experimental calculation method
	Electrical consumption	6.6.5 p.	Direct measurement method
Start and ignition test	6.6.6 p.	Visual control	

Materials or products tested	Component, parameter or characteristic to be tested	Reference number of the document specifying test methods, clause (if relevant)	Techniques, methods and/or equipment used (where appropriate)
6. Domestic cooking appliances burning gas	Verification of construction characteristics	LST EN 30-1-1 7.2 p.	Visual control and direct measurement of parameters
	Soundness	7.3.1.1 p.	Hydraulic method
	Obtaining the rates	7.3.1.2 p.	Experimental calculation method
	Flame supervision device	7.3.1.3 p.	Visual control
	Safety of operation	7.3.1.4 p.	Visual control
	Limiting temperatures	7.3.1.5 p.	Direct measurement method
	Overheating	7.3.1.6 p.	Direct measurement method
	Total input rate of the appliance	7.3.1.7 p.	Direct measurement method
	Regulator performance	7.3.1.8 p.	Direct measurement method
	Ignition, cross-ignition, flame stability	7.3.2.1 p.	Visual control
	Resistance to draught	7.3.2.2 p.	Visual control
	Resistance to liquid spillage	7.3.2.3 p.	Visual control
	Emissions	7.3.2.4 p.	Infrared absorption method
	Specific tests for oven and grills	7.3.3 p.	Visual control
7. Residential solid fuel burning appliances: - Roomheaters	Fire safety	LST EN 16510-2-1 (LST EN 16510-1); BM-1B-BO06 4.2 p. 4.7.1-4.7.3, 4.7.8, 5.4, 5.7.1, 5.7.2 (A.2.3.2, A.2.3.4, A.2.4, A.4.3, A.4.10.2, A.4.10.5) p.	Visual control and direct measurement of parameters
	Strength and leaktightness of boiler shells	5.9 (A.4.10.6) p.	Hydraulic method
	Surface temperature	4.2, 5.5, 5.6 (5.10, A 2.3.5, A 4.10.4) p.	Direct measurement method
	Safety of the water circuit	(5.7, A.4.10.7) p.	Direct measurement method
	The tightness of the device	(5.9, 5.11, A.4.10.3, A.4.11) p., (C, I annexes)	Visual control and hydraulic method
	Emission of combustion products	4.3-4.6, 4.7.6-4.7.7, A.4.7 (A.2.3.3, A.4.4) p., (D, E, F annexes)	Infrared absorption, chemiluminescence, flame ionization detection and gravimetric methods
	Efficiency	4.8.3, 4.8.6-4.8.8, A.4.7, (A.4.8) p.	Experimental calculation method
	Recovery	(6.6, A.4.9) p.	Visual control and direct measurement method
	Heat output	4.8.1-4.8.2, 4.8.4-4.8.5, A.4.7 (A.2.5, A.4.5-A.4.8) p.	Experimental calculation method
	Electrical consumption	4.8.9-4.8.11 p.	Direct measurement method
- Inset appliances including open fires	Fire safety	LST EN 16510-2-2 (LST EN 16510-1); BM-1B-BO06 4.2 p. 4.6.2-4.6.3, 4.6.8, 5.4, 5.7.1, 5.7.2, A.4.10.5.2, (A.2.3.2, A.2.3.4, A.2.4, A.4.3, A.4.10.5) p.	Visual control and direct measurement method
	Strength and leaktightness of boiler shells	5.9, (A.4.10.6) p.	Hydraulic method

Materials or products tested	Component, parameter or characteristic to be tested	Reference number of the document specifying test methods, clause (if relevant)	Techniques, methods and/or equipment used (where appropriate)
	Surface temperature	4.1, 5.5, 5.6, A.4.10.4.1.3, A.4.10.4.2.2, A.4.10.201, (5.10, A.2.3.5, A.4.10.4) p.	Direct measurement method
	Safety of the water circuit The tightness of the device	(5.7, A.4.10.7) p. (5.9, 5.11, A.4.10.3, A.4.11) p., (C, I annexes)	Direct measurement method Visual control and hydraulic method
	Emission of combustion products	4.2-4.5, 4.6.6-4.6.7, A.4.7, A.4.8 (A.2.3.3, A.4.4) p., (D, E, F annexes)	Infrared absorption, chemiluminescence, flame ionization detection and gravimetric methods
	Efficiency Recovery	4.7.3, 4.7.6-4.7.8, A.4.7, A.4.8 A.4.9 (6.6) p.	Experimental calculation method Visual control and direct measurement method
	Heat output	4.7.1, 4.7.4, 4.7.2, 4.7.5, A.4.7, A.4.8 (A.2.5, A.4.5, A.4.6) p.	Experimental calculation method
	Electrical consumption Heat accumulation	4.7.9-4.7.11 p. A.4.201 p.	Direct measurement method Direct measurement method
- Cookers		LST EN 16510-2-3 (LST EN 16510-1); BM-1B-BO06 4.2 p.	
	Fire safety	4.6.1-4.6.3, 4.6.8, 5.4, 5.7.1, 5.7.2, (A.2.3.2, A.2.3.4, A.2.4, A.4.3, A.4.10.5) p.	Visual control and direct measurement method
	Strength and leaktightness of boiler shells	5.9, (A.4.10.6) p.	Hydraulic method
	Surface temperature	4.1, 5.5, 5.6 (5.10, A.2.3.5, A.4.10.4) p.	Direct measurement method
	Safety of the water circuit	(5.7, A.4.10.7) p.	Direct measurement method
	The tightness of the device	(5.9, 5.11, A.4.11) p., (C, I annexes)	Visual control and hydraulic method
	Emission of combustion products	4.2-4.5, 4.6.6-4.6.7, A.4.7, (A.2.3.3, A.4.4, A.4.8) p., (D, E, F annexes)	Infrared absorption, chemiluminescence, flame ionization detection and gravimetric methods
	Efficiency Recovery	4.7.3, 4.7.6-4.7.8, A.4.7, (A.4.8) p., (6.6, A.4.9) p.	Experimental calculation method Visual control and direct measurement method
	Heat output	A.4.7.1-4.7.2, 4.7.4-4.7.5, A.4.7, (A.2.5, A.4.5, A.4.6, A.4.8) p.	Experimental calculation method
	Electrical consumption Special tests for cookers	4.7.9-4.7.11 p. A.4.301 p., CA annex	Direct measurement method Visual control and direct measurement method
- Independent boilers nominal heat output up to 50 kW		LST EN 16510-2-4 (LST EN 16510-1); BM-1B-BO06:2023 4.2 p.	
	Fire safety	4.6.1-4.6.3, 4.6.7, 5.4, 5.7.1, 5.7.2, A.4.401, (A.2.3.2, A.2.3.4, A.2.4, A.4.3, A.4.10.5) p.	Visual control and direct measurement method
	Strength and leaktightness of boiler shells	5.9, A.4.402, (A.4.10.6) p.	Hydraulic method

Materials or products tested	Component, parameter or characteristic to be tested	Reference number of the document specifying test methods, clause (if relevant)	Techniques, methods and/or equipment used (where appropriate)
	Surface temperature	4.1, 5.5, 5.6, (5.10, A.2.3.5, A.4.10.4) p.	Direct measurement method
	Safety of the water circuit The tightness of the device	(5.7, A.4.10.7) p. (5.9, 5.11, A.4.10.3, A.4.11) p., (C, I annexes)	Direct measurement method Visual control and hydraulic method
	Emission of combustion products	4.2-4.5, 4.6.5-4.6.6, A.4.7, (A.2.3.3, A.4.4, A.4.8) p., (D, E, F annexes)	Infrared absorption, chemiluminescence, flame ionization detection and gravimetric methods
	Efficiency Recovery	4.7.3, 4.7.6-4.7.8, A.4.7, (A.4.8) p. A.4.9, (6.6) p.	Experimental calculation method Visual control and direct measurement method
	Heat output	A.4.7.1-4.7.2, 4.7.4-4.7.5, A.4.7, (A.2.5, A.4.5, A.4.6, A.4.8) p. 4.7.9-4.7.11 p.	Experimental calculation method
	Electrical consumption	4.7.9-4.7.11 p.	Direct measurement method
- Slow heat release appliances fired by solid fuel	Fire safety	LST EN 15250 4.2.1; 4.2.2; 4.2.3; 4.2.4; 4.2.5; 4.2.6; 4.2.7; 4.2.9; 4.2.11; A.4.6; A.4.7 p.; BM-1B-BO06 4.1 p.	Visual control and direct measurement method
	Emission of combustion products	4.2.8; 4.2.10; A.4.6; A.4.7 p.; BM-1B-BO06 4.1 p.	Infrared absorption, chemiluminescence and flame ionization detection methods
	Surface temperature Heat output	A.4.6; A.4.7 p. A.4.6; A.4.7 p.	Direct measurement method Experimental calculation method
	Thermal storage capacity	A.4.6 p.	Direct measurement method
- Mechanically by wood pellets fed roomheaters, inset appliances and cookers	Fire safety	LST EN 16510-2-6 (LST EN 16510-1); BM-1B-BO06 4.2 p. 4.7.1-4.7.3, 4.7.8, A.4.3, (A.2.3.2, A.2.3.4, A.2.4, A.4.10.2) p. 5.9, 4.10.6 p.	Visual control and direct measurement method Hydraulic method
	Strength and leaktightness of boiler shells		
	Surface temperature	4.2, 5.6, A.4.10.4, (5.10, A.2.3.5) p.	Direct measurement method
	Safety of the water circuit	A.4.10.7, A.4.10.601, (5.7) p.	Direct measurement method
	The tightness of the device	A.4.11, (5.9, 5.11) p. (C, I annexes)	Visual control and hydraulic method
	Emission of combustion products	4.3-4.6, 4.7.6-4.7.7, A.4.7A, A.4.8, (A.2.3.3, A.4.4) p., (D, E, F annexes)	Infrared absorption, chemiluminescence, flame ionization detection and gravimetric methods
	Efficiency	4.8.3, 4.8.6-4.8.8, A.4.7, A.4.8 p	Experimental calculation method
	Heat output	4.8.1-4.8.2, 4.8.4-4.8.5, A.4.7, A.4.8, (A.2.5, A.4.5, A.4.6) p. 4.8.9-4.8.11 p.	Experimental calculation method
Electrical consumption Special tests for cookers	4.8.9-4.8.11 p. A.4.601, A.4.602 p.	Direct measurement method Visual control and direct measurement method	
8. Solid biofuels	Sampling and sample preparation	LST EN ISO 14780 LST EN ISO 18135	Sampling method. Quartering and shredding of samples
	Determination of moisture content	LST EN ISO 18134-1	Gravimetric method

Materials or products tested	Component, parameter or characteristic to be tested	Reference number of the document specifying test methods, clause (if relevant)	Techniques, methods and/or equipment used (where appropriate)
	Determination of moisture in general analysis sample	LST EN ISO 18134-3	Gravimetric method
	Determination of calorific value	LST EN ISO 18125 except annex A and annex B	Calorimetric method
	Determination of total content of carbon, hydrogen and nitrogen	LST EN ISO 16948	Gas chromatography method
	Determination of total content of sulfur and chlorine	LST EN ISO 16994, 8.11 chap., annex A	Ion chromatography method
	Determination of major elements	LST EN ISO 16967	Optical emission spectrometry method
	Determination of minor elements (except for Hg)	LST EN ISO 16968	Optical emission spectrometry method
	Determination of ash content	LST EN ISO 18122	Gravimetric method
9. Solid recovered fuels	Sampling and sample preparation	LST EN ISO 21645 LST EN ISO 21646	Sampling method. Quartering and shredding of samples
	Determination of moisture content	LST CEN/TS 15414-1	Gravimetric method
	Determination of moisture in general analysis sample	LST EN ISO 21660-3	Gravimetric method
	Determination of calorific value	LST EN ISO 21654, except annex A and annex B	Calorimetric method
	Determination of total content of carbon, hydrogen and nitrogen	LST EN ISO 21663	Gas chromatography method
	Determination of total content of sulfur and chlorine	LST EN 15408	Ion chromatography method
	Determination of major elements	LST EN 15410	Optical emission spectrometry method
	Determination of minor elements (except for Hg)	LST EN 15411	Optical emission spectrometry method
	Determination of ash content	LST EN ISO 21656	Gravimetric method

* One degree of flexibility is defined and applicable for the whole accreditation scope: application of the updated documents of test methods already covered by accreditation or superseding them.

Actual accreditation scope is published on the website at: <http://www.lei.it>

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Location of the conformity assessment body:

Breslaujos str. 3, 44403 Kaunas

Table 2

Decision	Product family, product/ Intended use	AVCP system*	Technical specification
Regulation (EU) No. 305/2011 of the European Parliament and of the Council, laying down harmonized conditions for the marketing of construction products and repealing Council Directive 89/106/EEC			
99/471/EC	Space heating appliances using solid fuel	3	EN 16510-1:2022 EN 16510-2-1:2022 EN 16510-2-2:2022 EN 16510-2-3:2022 EN 16510-2-4:2022 EN 16510-2-6:2022 EN 15250:2007

* **System for assessment and verification of constancy of performance**

Note. In case of any discrepancies, ambiguities or disputes regarding the subject matter content between the English and Lithuanian versions of the document, the Lithuanian version shall prevail.

The accreditation certificate is signed with a qualified electronic signature as an attachment to the order of the Director of the National Accreditation Bureau, by which it was approved