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# ACCREDITATION CERTIFICATE No. LA.01.036

Lithuanian National Accreditation Bureau hereby certifies that

complies with the requirements of

# Lithuanian energy institute Laboratory of heat- LST EN ISO/IEC 17025:2018 equipment research and testing

legal entity: Lietuvos energetikos institutas legal entity code: 111955219

and is competent to perform:

Test of heating boilers, appliances burning gaseous fuels, solid biofuel, solid recovered fuel, water and thermal energy meters (Table 1 of the scope of accreditation)

Assessment and verification of performance of space heating appliances burning solid fuel according to requirements of Regulation (EU) No 305/2011 of European Parliament and of the Council (Table 2 of the scope of accreditation)

The scope of accreditation below is an integral part of this certificate. Locations of the conformity assessment body are specified in the scope of accreditation

Certificate issued / valid since: 2024-05-21

Initial accreditation date: 2001-03-01 Version of: 2024-05-21 Expiry date: 2025-08-05

Deputy Director, acting as Director

TAĎAS JUODELIS

The certificate may be changed, its validity suspended or withdrawn by the decision of the National Accreditation Bureau. Information on the actual data of accreditation certificates may be verified at nab.lrv.lt



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### SCOPE OF ACREDITATION (flexible)\*

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:	Performance tests:	LST EN ISO 4064-2 / OIML R 49-2	
<ul> <li>with permanent flow rate</li> </ul>	Static pressure test	7.3 p. / 7.3 p.	Hydraulic method
Q <sub>3</sub> ≤ 125 m <sup>3</sup> /h, maximum admissible pressure (MAP)	Determination of intrinsic errors (of indication)	7.4 p. / 7.4 p.	Gravimetric or volumetric method
≤ 16 bar, temperature	Water temperature test	7.5 p. / 7.5 p.	Control method related to influence factors
classes T30, T50, T70, T90,	Overload water temperature test	7.6 p. / 7.6 p.	Control method related to influence factors
T30/70, T30/90 and	Water pressure test	7.7 p. / 7.7 p.	Control method related to influence factors
environmental class B	Reverse flow test	7.8 p. / 7.8 p.	Control method related to influence factors
	Pressure loss test	7.9 p. / 7.9 p.	Hydrodynamic pressure measurement
	Flow disturbance tests	7.10 p. / 7.10 p.	Control method related to influence factors
	Tests of ancillary devices of a water meter	7.13 p./7.13 p.	Control method related to influence factors
	Static magnetic field	8.16 p./8.16 p.	Control method related to influence factors
	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.	Control method related to influence factors
	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 $Q_3 \le 16 \text{ m}^3\text{/h}$ , maximum admissible pressure (MAP) $\le 16 \text{ bar}$ , 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

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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)
2. Thermal energy meters		LST EN 1434-4 / OIML R 75-2	
and their sub-assemblies:	Performance tests	7.4. p. / 6.4. p.	Gravimetric or volumetric method. Simulation of temperature difference with thermostats or reference resistors
<ul> <li>complete meters and flow</li> </ul>	Dry heat*	7.5. p. / 6.5. p.	Control method related to influence factors
sensors with maximum	Cold*	7.6. p. / 6.6. p.	Control method related to influence factors
admissible temperature	Static deviation in supply voltage*	7.7. p. / 6.7. p.	Control method related to influence factors
<sub>max</sub> ≤ 130 °C, maximum	Durability test***	7.8.2.1, 7.8.2.2, 7.8.2.3 p. / 6.8.1. p.	Method of determining durability
admissible working pressure	Damp heat cyclic*	7.9.1 p. / 6.9. p.	Control method related to influence factors
$p_{max} \le 25$ bar, permanent	Short time mains voltage reduction*	7.10 p. / 6.10. p.	Control method related to influence factors
flow rate $q_p \le 125 \text{ m}^3/\text{h}$ ,	Fast transients (bursts)*	7.11.1 p. / 6.11.1. p.	Control method related to influence factors
environmental classes A	Surge transients*	7.11.2 p. / 6.11.2. p.	Control method related to influence factors
and C	Electromagnetic fields*	7.12 p. / 6.12. p.	Control method related to influence factors
- calculators	Electromagnetic field specifically caused by wireless equipment*	7.13 p. /	Control method related to influence factors
	Radio frequency amplitude modulated*	7.14 p. /	Control method related to influence factors
	Electrostatic discharge*	7.15 p. / 6.13. p.	Control method related to influence factors
	Static magnetic field	7.16 p. / 6.14. p.	Control method related to influence factors
	Mains frequency magnetic field*	7.17 p. / 6.15. p.	Control method related to influence factors
	Internal pressure***	7.18 p. / 6.16. p.	Hydraulic method
	Pressure loss***	7.19 p. / 6.17. p.	Hydrodynamic pressure measurement
	Electromagnetic emission*	7.20 p. /	Control method related to influence factors
	24 h interruption in the mains power supply voltage **	7.21 p. /	Control method related to influence factors
	Flow disturbances*** *- the tests are applied to flow sensors with electronic devices and for calculators **- the test only applies to calculators **- the test only applies to flow sensors and complete meters	7.22 p. /	Control method related to influence factors
- temperature sensor pair	Performance test	LST EN 1434-4 / OIML R 75-2	
		7.4.4, 7.4.3.2.3.1 p. / 6.4.3 p.	Direct measurement method and calculated method: resistance measurement of temperature sensors in thermostats and conversion to temperature
	Durability test (the high temperature test)	7.8.3 p. / 6.8.2 p.	Method of determining durability
- thermal energy meters		LST EN 1434-5 / OIML R 75-2,	
and their sub-assemblies	Initial verification tests	6 p. (except 6.8 p.) / 7 p.	Gravimetric or volumetric method. Calculation method: Simulation of temperature difference with thermostats or reference resistors

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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 equipmen used (where appropriate)
3. Water heating boilers for		LST EN 303-5	
solid fuel with a nominal	Pressure test	5.4, 5.5 p.	Hydraulic method
heat output of up to 500 kW	Heat output	5.6; 5.7.1-5.7.5 p.; 5.9.1-5.9.2 p. (LST EN 304 A.5; A.6 annexes)	Direct measurement method
	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	5.7.7 p.	Direct measurement method
	Emissions	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 an 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
Stationary source     emissions	Determination of particulate matter concentration	LST EN 13284-1	Gravimetric and isokinetic methods
5. Pellet burners for small		LST EN 15270	
heating boilers	Safety tests	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

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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 equipmen used (where appropriate)
6. Domestic cooking		LST EN 30-1-1	
appliances burning gas	Verification of construction characteristics	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:		LST EN 16510-2-1 (LST EN 16510-1); BM-1B-BO06 4.2 p.	
- Roomheaters	Fire safety	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 Recovery	4.8.3, 4.8.6-4.8.8, A.4.7, (A.4.8) p. (6.6, A.4.9) p.	Experimental calculation method Visual control and direct measurement method
	Heat output	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		LST EN 16510-2-2 (LST EN 16510-1); BM-1B-BO06 4.2 p.	
.,	Fire safety	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

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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 equipme 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	(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	4.2-4.5, 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 gravimetri 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	4.7.9-4.7.11 p.	Direct measurement method
	Heat accumulation	A.4.201 p.	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 gravimetri methods
	Efficiency	4.7.3, 4.7.6-4.7.8, 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	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	4.7.9-4.7.11 p.	Direct measurement method
	Special tests for cookers	A.4.301 p., CA annex	Visual control and direct measurement method
- Independent boilers nominal heat output up to 50		LST EN 16510-2-4 (LST EN 16510-1); BM-1B-BO06:2023 4.2 p.	
kW	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

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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 equipmen 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	(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	4.2-4.5, 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	4.7.3, 4.7.6-4.7.8, A.4.7, (A.4.8) p.	Experimental calculation method
	Recovery	A.4.9, (6.6) p.	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	4.7.9-4.7.11 p.	Direct measurement method
- Slow heat release		LST EN 15250	
appliances fired by solid fuel	Fire safety	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	A.4.6; A.4.7 p.	Direct measurement method
	Heat output	A.4.6; A.4.7 p.	Experimental calculation method
	Thermal storage capacity	A.4.6 p.	Direct measurement method
- Mechanically by wood pellets fed roomheaters,		LST EN 16510-2-6 (LST EN 16510-1); BM-1B-BO06 4.2 p.	
inset appliances and cookers	Fire safety	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.	Visual control and direct measurement method
	Strength and leaktightness of boiler shells	5.9,.4.10.6 p.	Hydraulic method
	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.	Experimental calculation method
	Electrical consumption	4.8.9-4.8.11 p.	Direct measurement method
	Special tests for cookers	A.4.601, A.4.602 p.	Visual control and direct measurement method
8. Solod 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

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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 Determination of minor elements (except for Hg)	LST EN ISO 16967 LST EN ISO 16968	Optical emission spectrometry method 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

<sup>\*</sup> 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.lt

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### 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 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		

<sup>\*</sup> 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

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