



**Termoplam Ltd.
Testing laboratory**

**Page number: 1
Number of pages: 4**

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TEST REPORT №144/29.01.2020

on the compliance of space heating appliances fired by wood pellets
(pellet fireplaces) VESTA with the requirements of COMMISSION REGULATION (EU)
2015/1185 of 24 April 2015.

I. NAME AND SIGNATURE OF THE TESTED SAMPLE:

Space heating appliances fired by wood pellets (pellet fireplaces) VESTA.

II. NAME AND DESCRIPTION OF THE TESTED SAMPLE:

Space heating appliances fired by wood pellets (pellet fireplaces) VESTA with
rated heating output 15 kW and 21 kW.

III. LEGAL DOCUMENT: COMMISSION REGULATION (EU) 2015/1185 of
April 2015



Picture of the sample

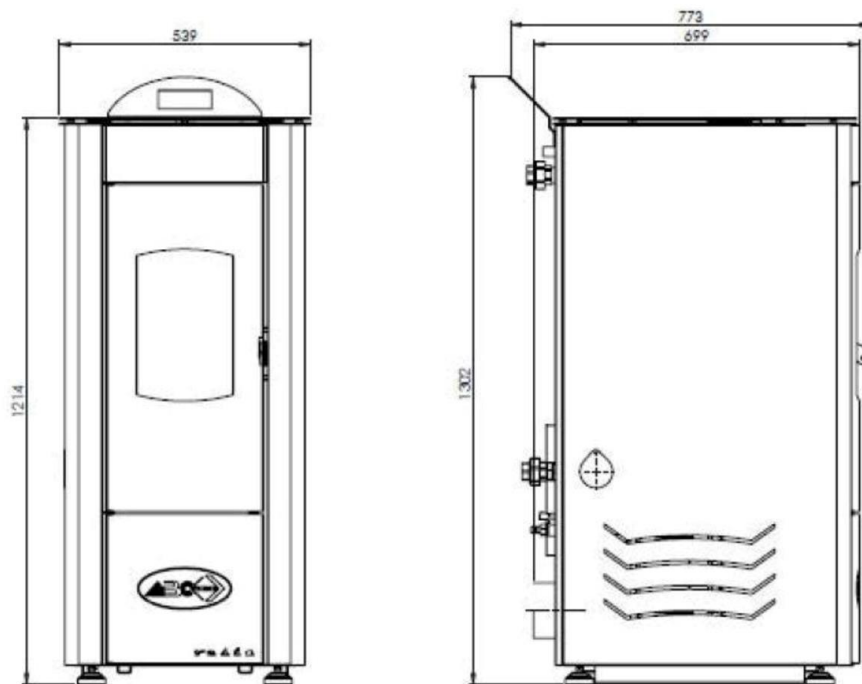
IV. QUANTITY OF THE TESTED SAMPLES: The Space heating appliances fired by wood pellets (pellet fireplaces) VESTA is arbitrarily selected unit of regular production.

V. CUSTOMER:

ABC PROIZVOD d.o.o; Miloša Obrenovića 2; 31000 Užice; R. Serbia.

VI. PURPOSE AND OBJECT OF THE TASK: Evaluation the Space heating appliances fired by wood pellets (pellet fireplaces) VESTA with the requirements of COMMISSION REGULATION (EU) 2015/1185 of 24 April 2015.

VII. TECHNICAL FEATURES:



Scheme (draft of the sample)

VIII. TEST CONDITIONS:

- 8.1. Working condition of the combustion device - according to the requirements for tests at nominal output according to EN 14785:2006.
- 8.2. Processing of results – calculate according to normal physical conditions and at 13% O₂.
- 8.3. Used results of the Test Report № 150T / 06.10.2017 of Laboratory testing and calibration "LIPGEI" Sofia.
- 8.4. Used results of the Test Report № 1935T.3/ 03.02.2020 of Laboratory testing and calibration "LIPGEI" Sofia.
- 8.5. Used results of the Test Report № 1935T.2/ 03.02.2020 of Laboratory testing and calibration "LIPGEI" Sofia.
- 8.6. Used results of the Report № 67/29.09.2017 of "TERMOPLAM" Ltd. Sofia.
- 8.7. Used results of the Report № 50/04.03.2017 of "TERMOPLAM" Ltd. Sofia.

IX. RESULTS AND OBSERVATIONS :

- 9.1. Seasonal space heating emissions:

Results E _s	Model pellet fireplaces		In accordance REGULATION (EU) 2015/1189 [mg/Nm ³]
	VESTA (15 kW) *	VESTA (21 kW) **	
Dust [mg/Nm ³]	21	15	[PM] ¹ ≤ 20
CO [mg/Nm ³]	240	219	[CO] ² ≤ 300
OGC [mg/Nm ³]	48	47	[OGC] ³ ≤ 60
NO _x [mg/Nm ³]	158	154	[NO _x] ⁴ ≤ 200

- 9.1. Dust content of exhaust gases: ≤ [PM] = 20 mg/Nm³ in accordance with point 2 (a) (iii), of Annex II of the REGULATION (EU) 2015/1185.
- 9.2. CO of exhaust gases: ≤ [CO] = 300 mg/Nm³ in accordance with point 2 (c) (iii), of Annex II of the REGULATION (EU) 2015/1185.
- 9.3. OGC of exhaust gases: ≤ [OGC] = 60 mg/Nm³ in accordance with point 2 (b) (ii), of Annex II of the REGULATION (EU) 2015/1185.
- 9.4. NO_x of exhaust gases: ≤ [NO_x] = 200 mg/Nm³ in accordance with point 2 (d) (i), of Annex II of the REGULATION (EU) 2015/1185.

* Results from the Test Report № 150T / 06.10.2017, Test Report № 1935T.3/ 03.02.2020 of Laboratory testing and calibration "LIPGEI" Sofia and Report № 67/29.09.2017 of "TERMOPLAM" Ltd. Sofia.

** Results from the Test Report № 1935T.2/ 03.02.2020 of Laboratory testing and calibration "LIPGEI" Sofia and Report № 50/04.03.2017 of "TERMOPLAM" Ltd. Sofia.

9.2. Seasonal space heating energy efficiency:

Model pellet fireplaces	Results		In accordance REGULATION (EU) 2015/1189. [%]
	η_s %	$\eta_{th,nom}$ %	
VESTA (15 kW)	84.9	90,4*	$[\eta_s]^2 \geq 79$
VESTA (21 kW)	86,4	91.2**	$[\eta_s]^2 \geq 79$

Where:

- η_s % - the seasonal space heating energy efficiency in active mode is calculated as $\eta_{th,nom}$:
- * $\eta_{th,nom} = 90,4$ % is the useful efficiency at nominal heat output, based on NCV. Result from the Report № 67/29.09.2017 of "TERMOPLAM" Ltd. Sofia.
- ** $\eta_{th,nom} = 91,2$ % is the useful efficiency at nominal heat output, based on NCV. Result from the Report № 50/04.03.2017 of "TERMOPLAM" Ltd. Sofia.
- $[\eta_s] \geq 79$ % in accordance with point 1 (a) (iii), of Annex II of the REGULATION (EU) 2015/1185.

X. CONCLUSION:

Space heating appliances fired by wood pellets (pellet fireplaces) VESTA is satisfying and fulfilling the requirements of REGULATION (EU) 2015/1185.

XI. ENCLOSURES:

- 11.1. Picture of residential cooker: 1
- 11.2. Assembly drawing of the sample: 1.



29.01.2020

MANAGER:
(eng. Pl. Iliev)

NOTE:

The test results and conclusions relate only to the tested samples.
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This document is only informative.