

“ITEM Consult” LTD

TESTING LABORATORY

"ITEM Consult" Ltd. Sofia 1220, 8 Istoria Slavianobulgarska Blvd

FK 7.8-1.2

Test Report

№ 239 A NA/19.02.2021

1. Object of testing:

Heating appliance (cooker) of biofuel (wood)

Manufacturer: "ISIMETAL ISI CIHAZLARI MAKINA SAN. ve TIC. A.Ş"

Year of manufacture: 2021 г.

Type: Heating cooker wood

„TK 203-7.5 kW"

Trade names:

TK 202

TK 204

STK 205

STK 400

TK 502

YTK 210

TK 203 BY

TK 203 T

TK 301

TK 306

Purpose: Household cooking and heating stoves

2. Applicant:

Request: № CPR 180A/04.02.2021

Company: "ISIMETAL ISI CIHAZLARI MAKINA SAN. ve TIC. A.Ş"

Address: *Yunusemre Mah. Kirkpinar Cad. Ordukaya Sok. No 2-4, YILDIRIM - BURSA/ Türkiye*

Телефон/Phone: +90 224 364 59 55

Факс/Fax: +90 224 364 59 54

3. Type of testing:

Testing of solid fuel stove according to:

BDS ISO 9096:2017 Stationary emission sources. Manual determination of the mass concentration of particulate matter.

ILM 01:2016 Determination of emission values from stationary flue gases during testing of boilers and burners.

4. Periods:

Дата на получаване/ *Date of receipt*: 04.02.2021Дата на изпитване/ *Date of testing*: 12.02.2021

5. Tested sample:

1 pc. - „TK 203-7.5 kW"

Id. number :

6. Place of testing:

ITEM Consult Ltd – Testing laboratory Sofia 1220, 8 Istoria Slavianobulgarska Blvd



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7. Description:

Indoor heating and cooking

8. Technical characteristics:

Nominal heat output :

7.50 kW

Reduced heat output :

not applicable

9. Conditions for conducting the test:

1. Temperature of the environment: 18.50 °C

2. Humidity – no requirement

3. Deviations, additions and exceptions to the test method. Information on specific test conditions – not available.

4. Conditions:

A. Testing on 12.02.2021 – *nominal mode*

- barometric pressure

959 hPa

- flue gas velocity

1.65 m/s

- draft –

12.30 Pa

- flue gas temperature

282.57 °C

- oxygen O₂ –

13.26 %

- chimney diameter -

0.130 m

- area

0.013 m²

- points 1

- diameter of the nozzle

10 mm

Solid fuel – hard beech

Test report for the fuel №15380/12.12.2019

- Net calorific value of the fuel

15.31 MJ/kg

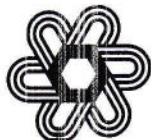
- Moisture

14.71 %

10. Test results at NOMINAL heat output:

№	Indicator	Measurement unit	Test method	Measured value and uncertainty	Value and tolerance of the characteristic
1.	NOx emission at 13% O ₂	mg/Nm ³	ILM 01:2016	172.25±2.62	n/a
1A.	NOx emission at 10% O ₂	mg/Nm ³	ILM 01:2016	236.84±3.65	n/a
2.	OGC emission at 13% O ₂	mg/Nm ³	ILM 01:2016	53.09±3.80	n/a
2A.	OGC emission at 10% O ₂	mg/Nm ³	ILM 01:2016	73.00±4.63	n/a
3.	Dust emission at 13% O ₂	mg/Nm ³	BDS ISO 9096:2017	31.68±1.71	n/a
3A.	Dust emission at 10% O ₂	mg/Nm ³	BDS ISO 9096:2017	43.56±2.24	n/a

12. Measurement equipment



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№	Name, type, manufacturer	Measuring range	Expanded uncertainty U(P)	Calibration certificate; №/date, issued by
1.	Electronic stopwatch, model 696, Hong Kong, 22710	0-600,01 s	0,01 s/24h	№020-IVC/01.02.2019 BIM GD NCM, Sofia
2.	Digital manometer, type Testo 512, TESTOAG – Germany, № AC 463196/311 TESTOAG	0 ÷ 2 hPa 5.1m/s 5.1m/s 5.1m/s	0.040 0.11m/s 0.00m/s 0.08m/s	№0359/20.03.2019 “UNISIST” LTD №11963/14.12.2016, Total Test
3.	Digital barometer, type Testo 511 – №39112944601	300 – 1200 hPa	0,089- 0,092 hPa	№0698/18.05.2019 “UNISIST” LTD
4.	Flowmeter for air LIFETEK55XP-P, № 55057	1-50l/ min	from 0,11 l/ min to 0,31 l/ min	№809/01.07.2018 Higitest LTD
5.	Sterilizer, Diterm, №0911/2016 Digital thermometer, type 4001	80.0 °C 120.0 °C 160.0 °C	0.26 °C 0.25 °C 0.26 °C	№1299/18.10.2019 “UNISIST” LTD
6.	Electronic scale, 80 gr., 0.0001g Type ABS 80-4N, №S.N.WB16AN0052	0.0201 g 1.0000 g 5.0000 g 10.0000 g 20.0000 g 30.0000 g 40.0000 g 50.0001 g 60.0000 g 80.0001 g	0.13 mg 0.14 mg 0.17 mg 0.23 mg 0.40 mg 0.58 mg 0.76 mg 0.92 mg 1.11 mg 1.11 mg	775 DK-197941/1.10.2019 Marie Bentz LTD



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7.	Gas analyzer MRU VARIO Luxx № 063585	O2-10,11 vol % O2 -13,06 vol% O2-21,94 vol%	0,28 vol % 0,37 vol% 0,48 vol%	№ 4 D/ 06.04.2020 LTC "LIPGEI"
		CO-0,1 ppm 0,1 mg/Nm3 CO- 50,7 ppm 63,4 mg/Nm3 CO-101,4 ppm 126,7 mg/Nm3 NO-10,5 ppm 14,1 mg/Nm3 NO-50,9 ppm 68,2 mg/Nm3 NO-102,6 ppm 137,4 mg/Nm3 CO ₂ -5,08 % CO ₂ - 10,23 % CO ₂ -16,79 % C ₃ H ₈ - 9,8 ppm 19,2 mg/Nm3 C ₃ H ₈ - 51,3 ppm 100,5 mg/Nm3 C ₃ H ₈ - 99,2 ppm 194,4 mg/Nm3	0,3 ppm 0,1 mg/Nm3 1,5 ppm 1,9 mg/Nm3 2,9 ppm 3,6 mg/Nm3 0,7 ppm 0,9 mg/Nm3 1,6 ppm 2,1 mg/Nm3 2,9 ppm 3,8 mg/Nm3 0,15 % 0,29 % 0,40 % 0,7 ppm 1,4 mg/Nm3 1,5 ppm 2,9 mg/Nm3 2,6 ppm 5,1 mg/Nm3	
8.	Digital Thermohygrometer Testo-608 H1 № 30115603	30 % RH 60 % RH 15 °C 20 °C 30 °C	1,3 % RH 1,4 % RH 0.14 °C 0.14 °C 0.14 °C	08921/12.06.2020 Total Test LTD

Remarks: 1. The test results relate only to the sample under test.

2. Extracts from the test report can not be reproduced without written consent of the testing laboratory

Date: 19.02.2021

TESTED BY:.....

eng. Y. Minchev

VERIFIED BY:.....

Dipl.eng.N.Evtimov

THE HEAD OF THE LABORATORY:.....

Dipl. eng. Zdravko Zdravkov

