

TESTING LABORATORY

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



№ CPR 21 - NB 1837

ПРОТОКОЛ/ TEST REPORTот изпитване на типа на продукт/ *from testing of the type of product*

№ CPR 239/01.03.2021

1. Обект на изпитване/ Object of testing:Отоплителен уред (печка) на биогориво (дърва) / *Biofuel heater (wood)*Производител/ *Manufacturer*: „HOŞSEVEN ISI VE YALITIM SANAYİ TİCARET A.Ş.Barakfakih”Година на производство/ *Year of manufacture*: 2021 г.Тип/ *Type*: Отоплителен уред на твърдо гориво/*Solid fuel heating appliance „5070-L ” № 210002658*Предназначение/ *Purpose*: Отопяване на закрити помещения/ *Heating of closed spaces*Търговски марки/*Trade marks*:

„5070 HCS”

„5071 HCS ”

„5072 HCS”

„5080 HCS”

„5081 HCS”

„5082 HCS ”

„5090 HCS ”

„5091 HCS ”

„5093 HCS ”

2. Заявител/ Applicant:Заявка/ *Request*: CPR180/04.02.2021 г.Фирма/ *Company*: „HOŞSEVEN ISI VE YALITIM SANAYİ TİCARET A.Ş.Barakfakih”Адрес/ *Address*: Barakfakihsanayi bölgesi 10.cd No:2 Kestel/BURSA/TURKEYИмейл/*E-mail*: info@hosseven.com.trТелефон/*Phone*: +90224 384 11 10 (4 hat)Факс/*Fax*: +90224 384 11 14**3. Метод за изпитване/ Test method:**Изпитване на отоплителни уреди за помещения, работещи на твърдо гориво/ *Testing of heating appliances for solid fuel rooms to EN 13240:2006***3.1. Характеристики за изпитване и проверка/ Characteristics for testing and checking**1. Конструкция/ *Construction*2. Безопасност на уреда/ *Safety*3. Технически характеристики/ *Technical characteristics*4. Топлинна мощност (ефективност)/ *Heating output(efficiency)*5. Температури на уреда/ *Temperatures of the appliance*6. Емисии димни газове/ *Flue gas emissions*7. Маркиране/ *Marking***3.2. Представени документи/ Documents submitted**1. Конструктивна документация/ *Construction documentation*2. Използвани материали/ *Materials used*3. Сертификати, лицензи/ *Certificates, licenses*

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- 4. Инструкция за работа/ *Operation instruction*
- 5. Инструкция за безопасност/ *Safety instruction*
- 6. Маркировка на уреда/ *Marking of the appliance*

4. Срокове/ Terms:

Дата на получаване/ *Date of receipt*: 04.02.2021
 Дата на изпитване/ *Date of testing*: 25.02.2021 – 26.02.2021

5. Изпитан образец/ Tested sample:

1 бр. Отоплителен уред на биогориво/ *Heating appliance of biofuel*: „5070-L ” № 210002658

6. Място на изпитване/Place of testing: „ИТЕМ Консулт" ЕООД – Изпитвателна лаборатория ITEM Consult Ltd – Testing laboratory гр. София, 1220, бул. „История Славянобългарска” №8/ *Sofia 1220, Blvd. Istorica Slavianobulgarska № 8*

7. Описание/ Description:

Отоплителна печка, изгаряща дървени късове, предназначена за отопление. Печката е изпълнена от чугуnenи отливки и е със стъкло на вратата. Няма клапа на комина. Регулиране на въздуха за горене - с отваряне на регистър. / *Heating stove burning pieces of wood, designed for heating. The stove is made of cast iron castings and has glass on the door. There is no chimney valve. Combustion air regulation - by opening a register.*

8. Технически характеристики/ Technical Characteristics, declared by the manufacturer:

Номинална топлинна мощност/ <i>Nominal heating output</i> :	10.00 kW
Максимално количество гориво/ <i>Maximum amount of fuel</i> :	2.7 kg/h.
Ефективност/ <i>Efficiency</i> :	
При номинална топлинна мощност/ <i>At nominal heating output</i> :	81.50 %
Размери/ <i>Dimensions</i> :	880x704x308 mm
Маса/ <i>Weight</i> :	100.0 kg
Клас на енергийна ефективност/ <i>Energy efficiency class</i>	A+

9. Използвано гориво/ Fuel used:

Твърдо гориво – дърва – дъб/ <i>Solid fuel – wood – oak</i>	
Протокол от изпитване на горивото/ <i>Test report for the fuel</i> № 10368/29.10.2018	
- Долна калоричност на работно гориво/ <i>Net calorific value of the fuel</i>	15.87 MJ/kg
- Влага/ <i>Moisture</i>	8.49 %

10. Условия за провеждане на изпитването/ Test conditions:

1. Изпитвателен стенд/ *Test stand* - разработен по изискванията на/ *developed by the requirements of A.4 in EN 13240:2006*
2. Околна среда/ *Environment* – съгласно изискванията на стандарта/ *according to the requirements of the standard*
3. Разстояние от стените на стенда до уреда/ *Distance from the walls of the stand to the unit* – посочени от производителя/ *pointed by the manufacturer*
 - A. Странична стена на стенда/ *Side wall on stand* – 300 mm
 - B. Отзад на стенда/ *Back on stand* – 400 mm
 - B. Под на стенда/ *Hearth on stand* – 150 mm

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4. Работни режими зададени от производителя/ *Operating modes, pointed by the manufacturer*

А. Номинален/ *Nominal*: 10.00 kW

Б. Намален/ *Reduced*: неприложим/*not applicable*

5. Изчисляване на стойностите/ *Values calculation*: по формулите посочени в/ *using formulas pointed in A.6.2 of EN 13240:2006*

6. Използвани измервателни уреди/ *Measurement equipment used*: посочени в/ *pointed in p. 13*

Математическите изчисления са направени със стандартни екселски таблици/ *The Mathematical calculation are made using standard excel tables.*

11. Изпитване при номинална мощност/ *Testing at nominal heating output/ (26.02.2021)*

11.1. Параметри на заобикалящата среда/ *Parameters of the environment*

EN 13240:2006	Показател/ <i>Indicator</i>	Мерна единица/ <i>Measurement unit</i>	Измерена стойност/ <i>Measured value</i>	Изисквания на стандарта/ <i>Requirement of the standard</i>	Съответствие/ <i>Conformity</i>
A.1.1	Температура на околната среда в помещението/ <i>Ambient room temperature</i>	°C	20.5	да се измери/ <i>to be measured</i>	Изпълнено/ <i>Done</i>
A.1.2	Напречно течение/ <i>Cross-draught</i>	m/s	0.17	≤0.500	Изпълнено/ <i>Done</i>
A.1.3	Външни източници/ <i>External sources</i>	-	Липсват/ <i>Missing</i>	Защита от други източници на топлина/ <i>Protection from other heat sources</i>	Изпълнено/ <i>Done</i>

11.2. Изпитване за безопасност/ *Safety testing*

11.2.1. Тест за температурна безопасност/ *Test for temperature safety*

Твърдо гориво – иглолистна дървесина/ *Solid fuel – coniferous wood*

Протокол от изпитване на горивото/ *Test report for the fuel №10349/22.07.2015*

- Долна калоричност на работно гориво/ *Net calrific value of the fuel* 14.69 MJ/kg

- Влага/ *Moisture* 11.50 %

EN 13240:2006	Показател/ <i>Indicator</i>	Мерна единица/ <i>Measurement unit</i>	Измерена стойност/ <i>Measured value</i>	Изисквания на стандарта/ <i>Requirement of the standard</i>	Съответствие/ <i>Conformity</i>
A.4.9.1	Тяга на димните газове/ <i>Flue gases draught</i>	Pa	16.50	15.00±3.00	Съответства/ <i>Match</i>

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A.4.9.1	Количество гориво/ <i>Amount of fuel</i>	kg/h	3.30	съгласно/ <i>in accordance with the A.4.9.2.2.1/</i>	Съответства/ <i>Match</i>
A.4.9.1	Интервал за презареждане/ <i>Refueling intervals</i>	h	1.12	-	Съответства/ <i>Match</i>
p.5.6.1	Максимална температура на лявата стена на стенда / <i>Max temperature of the left wall of trihedron</i>	° C	78.4	$\leq(t_{ок} + 65K)$	Съответства/ <i>Match</i>
p.5.6.2	Максимална температура на задната стена/ <i>Max temperature of the back wall of trihedron</i>	° C	81.1	$\leq(t_{ок} + 65K)$	Съответства/ <i>Match</i>
p.5.6.3	Максимална температура на пода на измервателния ъгъл/ <i>Max temperature of the floor of the measuring angle</i>	° C	78.7	$\leq(t_{ок} + 65K)$	Съответства/ <i>Match</i>

11.2.2 Изпитване за безопасна температура / Safe temperature test

EN 13240:2006	Показател/ <i>Indicator</i>	Мерна единица/ <i>Measurement unit</i>	Измерена стойност/ <i>Measured value</i>	Изисквания на стандарта/ <i>Requirement of the standard</i>	Съответствие/ <i>Conformity</i>
p.5.1	Температура на близкостоящи запалими материали/ <i>Temperature of standing close combustible materials</i>				
	Максимална температура на лявата стена на измервателния ъгъл/ <i>Max temperature of the left wall of the measuring angle</i>	° C	77.2	$\leq(t_{ок} + 65K)$	Изпълнено/ <i>Done</i>
	Максимална температура на задната стена на измервателния ъгъл/ <i>Max temperature of the back wall of the measuring angle</i>	° C	79.9	$\leq(t_{ок} + 65K)$	Изпълнено/ <i>Done</i>

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	Максимална температура на пода на измервателния ъгъл/ <i>Max temperature of the floor of the measuring angle</i>	° C	76.6	$\leq(t_{ок} + 65K)$	Изпълнено/ <i>Done</i>
т.5.2	Максимална температура на работните органи/ <i>Max temperature of the operating bodies</i>				
	Врата/дръжка/ <i>Door/handle/</i>	° C	46.5	$\leq(t_{ок} + 65K)$	Изпълнено/ <i>Done</i>

11.3. Измерени емисии от горенето/ *Measured emissions of the combustion*

EN 13240:2006	Показател/ <i>Indicator</i>	Мерна единица/ <i>Measurement unit</i>	Измерена стойност/ <i>Measured value</i>	Изисквания на стандарта/ <i>Requirement of the standard</i>	Съответствие/ <i>Conformity</i>
р.6.2	Емисии на CO при 13% O ₂ / <i>CO emissions and 13% O₂</i>	mg/Nm ³ %	597 0.0478	$\leq 1.0 \%$	Изпълнено/ <i>Done</i>

11.4. Измерена температура и тяга на димните газове/ *Measured temperature and draught of flue gases*

БДС EN 13240:2006	Показател/ <i>Indicator</i>	Мерна единица/ <i>Measurement unit</i>	Измерена стойност/ <i>Measured value</i>	Изисквания на стандарта/ <i>Requirement of the standard</i>	Съответствие/ <i>Conformity</i>
р.6.4	Тяга на димните газове/ <i>Flue gases draught</i>	Pa	12.7	Декларирано от производителя/ <i>Declared by the manufacturer</i> 12.00±2.00	Изпълнено/ <i>Done</i>
р.6.1	Температура на димните газове/ <i>Temperature of the flue gases</i>	° C	231.8	да се измери/ <i>to be measured</i>	Изпълнено/ <i>Done</i>

11.5. Измерена топлинна мощност и ефективност/ *Measured heating output and efficiency*

EN 13240:2006	Показател/ <i>Indicator</i>	Мерна единица/ <i>Measurement unit</i>	Измерена стойност/ <i>Measured value</i>	Изисквания на стандарта/ <i>Requirement of the standard</i>	Съответствие/ <i>Conformity</i>
р.6.3	Ефективност/ <i>Efficiency</i>	%	82.03	≥ 50.00	Изпълнено/ <i>Done</i>

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p.6.6	Интервал за презареждане/ <i>Refueling intervals</i>	h	1	≥0.75	Съответства/ <i>Match</i>
p.A.4.7	Количество гориво/ <i>Amount of fuel</i>	kg/h	2.78	съгласно/ <i>in accordance with the A.4.2/</i>	Съответства/ <i>Match</i>
p.A.6.2.2	Обща топлинна мощност/ <i>Nominal Heating output</i>	kW	10.05	≥10.00	Изпълнено/ <i>Done</i>

12. Проверени характеристики/ Checked characteristics

EN 13240:2006	Наименование/ <i>Name</i>	Резултат от изпитването/ Проверката/ <i>Test/ Cheking result</i>	Съответствие/ <i>Conformity</i>
p.4	Изисквания за материали, проектиране и конструкция на уреда/ <i>Requirements of materials, design and construction of the appliance</i>		
p.4.1	Техническа документация/ <i>Technical file</i>	Изпълнено/ <i>Done</i>	Изисква се/ <i>Required</i>
p.4.2	Общи конструктивни изисквания/ <i>General construction requirements</i>	Изпълнено/ <i>Done</i>	Изисква се/ <i>Required</i>
p.4.3	Тръбна наставка или накрайник/ <i>Extension tube or nozzle</i>	Изпълнено/ <i>Done</i>	Изисква се/ <i>Required</i>
p.4.4	Устройство за регулиране на горенето/ <i>Combustion regulating device</i>	Неприложимо/ <i>Not applicable</i>	
p.4.5	Димоходи/ <i>Exhaust pipes</i>	Изпълнено/ <i>Done</i>	Изисква се/ <i>Required</i>
p.4.6	Средства за почистване/ <i>Cleaning devices</i>	Изпълнено/ <i>Done</i>	Изисква се/ <i>Required</i>
p.4.7	Врати на огнището/ <i>Fireplace doors</i>	Изпълнено/ <i>Done</i>	Изисква се/ <i>Required</i>
p.4.8	Подаване на въздух за горене/ <i>Combustion air supplying</i>		
p.4.8.1	Регулиране на първичния входящ въздух/ <i>Regulating of the primary inlet air</i>	Изпълнено/ <i>Done</i>	Изисква се/ <i>Required</i>
p.4.8.2	Регулиране на вторичния входящ въздух/ <i>Secondary intake air regulation</i>	Изпълнено/ <i>Done</i>	Изисква се/ <i>Required</i>
p.4.9	Вградена клапа на димни газове/ <i>Built-in flue gas valve</i>	Неприложимо/ <i>Not applicable</i>	
p.4.10	Реторта (горивна пота)/ <i>Combustion chamber</i>	Изпълнено/ <i>Done</i>	Изисква се/ <i>Required</i>
p.4.11	Пепелник и почистване на пепелта/ <i>Ashtray and ash cleaning</i>	Изпълнено/ <i>Done</i>	Изисква се/ <i>Required</i>
p.4.12	Регулиране на димните газове/ <i>Flue gases regulation</i>	Неприложимо/ <i>Not applicable</i>	Забранено/ <i>forbidden</i>

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			(уредата има вентилатор за въздух/ the appliance has air fan)
p.4.13	Почистване на нагревните повърхнини/ <i>Cleaning of the heating surfaces</i>	Изпълнено/ <i>Done</i>	Изисква се/ <i>Required</i>
p.5	Безопасност на уреда/ <i>Safety of the appliance</i>		
p.5.3	Изпитване за безопасност за изпускане на вредни изгорели газове и изпадане на въглини/ <i>Safety test for releasing of harmful exhaust gases and falling out of charcoal</i>	Изпълнено/ <i>Done</i>	Изисква се/ <i>Required</i>
p.5.5	Мерки за безопасност срещу обратен огън през системата за подаване на гориво/ <i>Safety precautions against back fire in the flue supply system</i>	Изпълнено/ <i>Done</i>	Изисква се/ <i>Required</i>
p.6	Експлоатационни характеристики/ <i>Operating characteristics</i>		
p.6.9	Капацитет на бункера за гориво/ <i>Capacity of the fuel hopper</i>	Неприложимо/ <i>Not applicable</i>	Изисква се/ <i>Required</i>
p.6.10	Операции, извършвани от потребителя/ <i>Operations performed by the user</i>	Изпълнено/ <i>Done</i>	Изисква се/ <i>Required</i>
p.7	Инструкции за уреда/ <i>Appliance instructions</i>		
p.7.2	Инструкция за монтаж/ <i>Installation Instructions</i>	Изпълнено/ <i>Done</i>	Изисква се/ <i>Required</i>
p.7.3	Инструкция за експлоатация/ <i>Operating Instructions</i>	Изпълнено/ <i>Done</i>	Изисква се/ <i>Required</i>
p.8	Маркировка/ <i>Marking</i>	Изпълнено/ <i>Done</i>	Изисква се/ <i>Required</i>

13. Използвани измервателни уреди/ *Measurement equipment*

№	Наименование, тип, Производител/ <i>Name, type, manufacturer</i>	Измерван Показател/ <i>Measured indicator</i>	Обхват на Измерване/ <i>Measuring range</i>	Разширена Неопределеност/ <i>Expanded uncertainty U(P)</i>	Идентификационен №/ <i>Id. №</i>
1.	Везна електронна, тип/ <i>Electronic scale, type</i> B600P	разход гориво/ <i>fuel consumption</i>	0.40 kg 20.0 kg 60.0 kg 100.0 kg 200.0 kg 300.0 kg 400.0 kg 500.0 kg 600.0 kg	(0.04 ÷ 0.05) kg	1311035

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2.	Везна електронна/ <i>Electronic scale, DE</i> 60K1DL. KERN – Германия/ Germany	маса гориво/ <i>fuel weight</i>	0.05 kg 0.2 kg 5.0 kg 10.0 kg 20.0 kg 30.0 kg 40.0 kg 50.0 kg 60.0 kg	0.004 kg	WD1400 53952
3.	Цифров манометър, тип/ <i>Digital manometer, type</i> Testo 512, TESTO AG – Germany	диференциал но налягане/ <i>differential</i> <i>pressure</i>	0.0 Pa 20.0 Pa 200.0 Pa 9.2 m/s 12.11 m/s 14.2 m/s	0.20 Pa (0.14 m/s ÷ 0.32 m/s)	AC 463196/ 311
4.	Уред за измерване на скорост на движение на въздуха/ <i>Measuring</i> <i>device for air speed</i> Testo 405 V1	движ. въздух/ <i>Air</i> <i>flow</i>	0.21 m/s 4.63 m/s 9.38 m/s	(0.04 m/s ÷ 0.13 m/s)	4151062 2
5.	Термометър цифров, многоканален/ <i>Digital,</i> <i>multichannel</i> <i>thermometer</i> №3819.1.8 Делта инструмент Канал/ <i>Delta instrument</i> <i>Channel 1, сензор/</i> <i>sensor 1</i>	повърхностн а температура/ <i>surface</i> <i>temperature</i>	30.0 °C 70.0 °C 100.0 °C	0.11 °C 0.094 °C 0.11 °C	Канал 1/ <i>Channel</i> <i>1,</i> сензор 1/ <i>Sensor 1</i>
6.	Термометър цифров, многоканален / <i>Digital,</i> <i>multichannel</i> <i>thermometer</i> №3819.1.8 Делта инструмент Канал 2, сензор 2/ <i>Delta</i> <i>instrument Channel 2,</i> <i>sensor 2</i>	повърхн. Температура / <i>surface</i> <i>temperature</i>	30.0 °C 70.0 °C 100.0 °C	0.11 °C 0.094 °C 0.11 °C	Канал 2/ <i>Channel</i> <i>2,</i> сензор 2/ <i>Sensor 2</i>
7.	Ролетка измерителна стоманена клас II/ <i>Steel</i> <i>measuring tape class II</i>	отстояние уреди/ <i>distance</i> <i>appliances</i>	0 -100 mm 0 -500 mm 0 -1000 mm 0-1500 mm 0- 2000 mm 0-2500 mm 0 - 3000 mm	0.6 mm	P - 01
8.	Цифров термометър / <i>Digital thermometer</i> <i>Testo 922</i>	повърхностн а температура/ <i>surface</i> <i>temperature</i>	30 °C 196 °C	(0.33÷0.40) °C	922

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9.	Електронен секундомер / <i>Electronic sequencer,</i> model 696, Hong Kong	Разход на гориво/ <i>Fuel consumption</i>	<i>Deviation for</i> 0.62 s - 24h	0.24 s/24 h	22710
10.	Термометър инфрачервен / <i>Thermometer infrared</i> Testo 830-T2 TestoAG	повърхностна температура/ <i>surface temperature</i>	0.0 °C 148.0 °C	(0.34÷0.35) °C	3071380 5/ 107
11.	Апарат за газов Анализ/ <i>Gas appliance analysis</i> "MRU VARIO Luxx" фабр. № 063585 Германия/ <i>Germany</i>	Димни газове/ <i>Flue gas</i>	O2-10,11 vol % 0,37 vol% O2 -13,06 vol% 0,48 vol% O2-21,94 vol% CO-0,1 ppm 0,1 mg/Nm3 CO- 50,7 ppm 1,9 mg/Nm3 63,4 mg/Nm3 CO-101,4 ppm 3,6 mg/Nm3 126,7 mg/Nm3 NO-10,5 ppm 0,7 ppm 14,1 mg/Nm3 0,9 mg/Nm3 NO-50,9 ppm 1,6 ppm 68,2 mg/Nm3 2,1 mg/Nm3 NO-102,6 ppm 2,9 ppm 137,4 mg/Nm3 3,8 mg/Nm3 CO ₂ -5,08 % 0,15 % CO ₂ - 10,23 % 0,29 % CO ₂ -16,79 % 0,40 % C ₃ H ₈ – 9,8 ppm 0,7 ppm 19,2 mg/Nm3 1,4 mg/Nm3 C ₃ H ₈ – 51,3 ppm 1,5 ppm 2,9 mg/Nm3 100,5 mg/Nm3 2,6 ppm C ₃ H ₈ – 99,2 ppm 5,1 mg/Nm3 194,4 mg/Nm3		063585
	Термометър цифров-Газанализатор/ <i>Digital thermometer-Gas analyzer</i> MRU VARIO Luxx, сонда ТС тип К – ИД №212749/1119 Германия/ <i>Germany</i> обхват 0-1100 °C ср.сп.0,1 °C	Температура димни газове/ <i>Flue gas temperature</i>	49,82 °C 249,65 °C 449,73 °C	0,27 °C 0,60 °C 0,60 °C	

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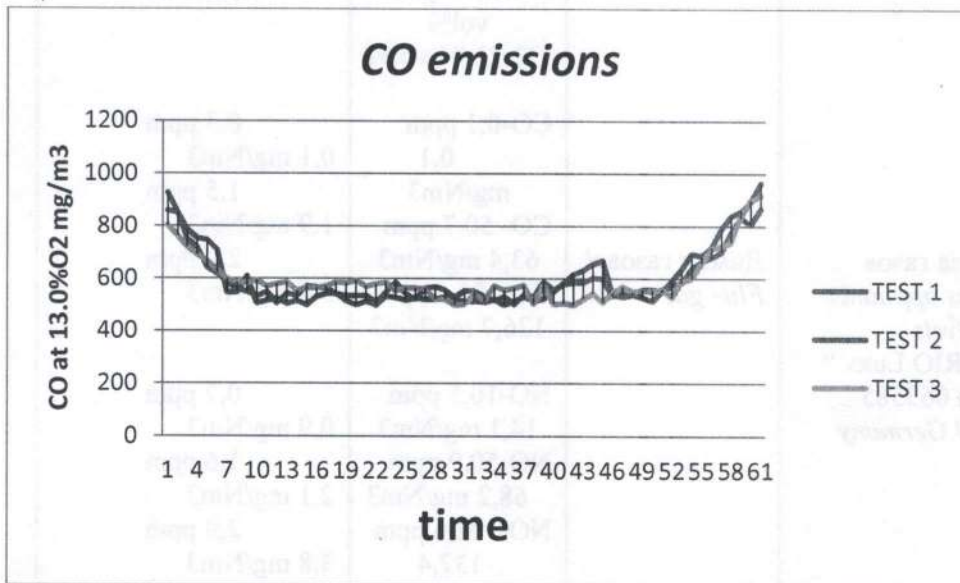


№ CPR 21 - NB 1837

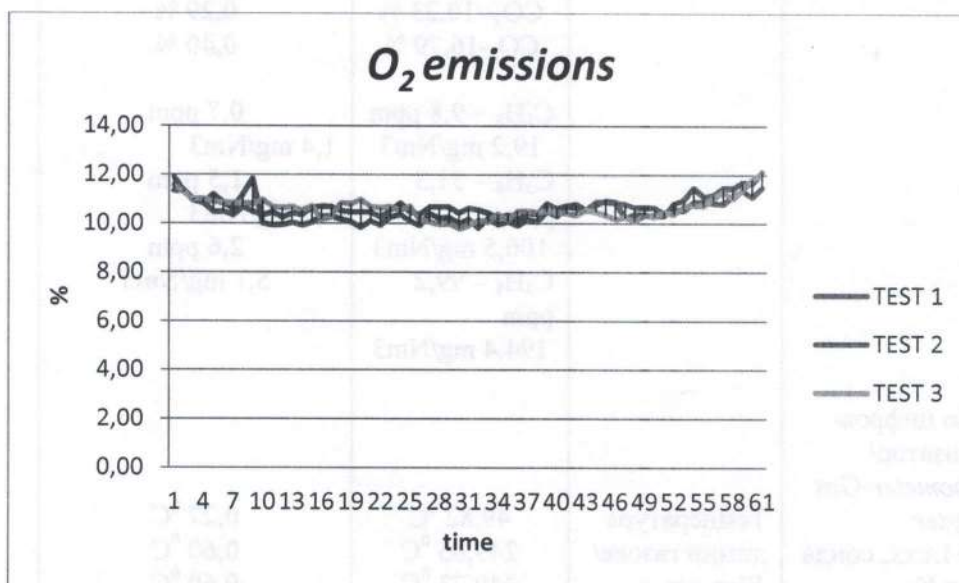
14. Графично представяне на резултатите/ *Graphic presentation of the results*

14.1. Графично представяне на резултатите от изпитването при номинална мощност/ *Graphic presentation of the test results at nominal heating output*

14.1.1. CO емисии/ *CO emissions and 13 % O2:*



14.1.2. O₂ емисии/ *O₂ emissions:*



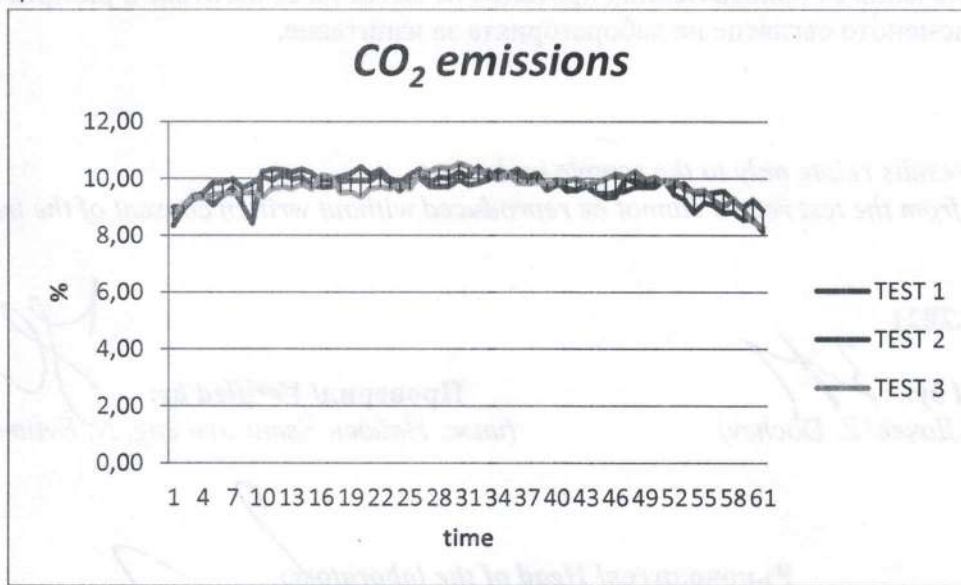
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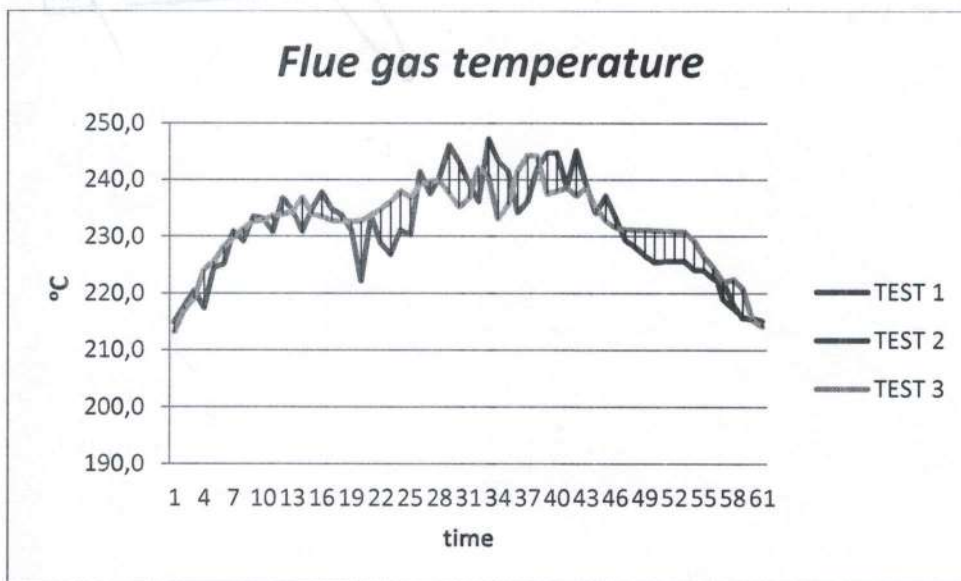


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14.1.3. CO₂ емисии/ CO₂ emissions:



14.1.4. Температура на димни газове/ Flue gas temperature:



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№ CPR 21 - NB 1837

ЗАКЛЮЧЕНИЕ /CONCLUSION


ОТОПЛИТЕЛЕН УРЕД Камина на дърва „5070-L ” № 210002658, **ОТГОВАРЯ НА ИЗИСКВАНИЯТА НА БДС EN 13240:2006 за тестваните/проверените параметри. HEATING APPLIANCE Residential space heating appliance, fired by wood logs „5070-L ” № 210002658, MEET THE REQUIREMENTS OF EN 13240:2006 according to the parameters that have been tested/checked.**

Забележки: 1.Резултатите от изпитванията се отнасят само за изпитвания образец.
2.Извлечения от изпитвателния протокол не могат да се изготвят и разпространяват без писменото съгласие на лабораторията за изпитване.

Remarks:

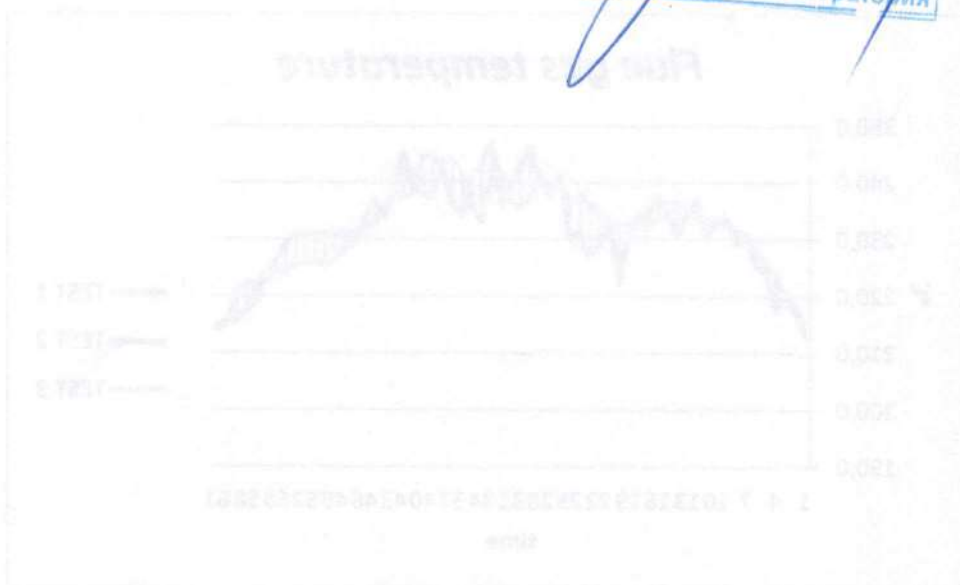
1. The test results relate only to the sample under test.
2. Extracts from the test report cannot be reproduced without written consent of the testing laboratory.

Дата / Date: 01.03.2021

Изпитател/ Tested by: 
(инж.З. Дочев/ Z. Dochev)

Проверил/ Verified by: 
(инж. Найден Евтимов/ eng. N. Evtimov)

Ръководител/ Head of the laboratory:
(инж. Здравко Здравков/ eng. Zdr. Zdravkov)





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FK 7.8-1.2

Test Report

№ 239 NA/01.03.2021

1. Object of testing: Biofuel heater (wood)

Tested appliance: *Biofuel heater (wood)*

Appliance: *Biofuel heater (wood)*

Manufacturer: : „HOŞSEVEN ISI VE YALITIM SANAYİ TİCARET A.Ş.“

Type: „5070-L ” № 210002658

Year of manufacture: 2021

Purpose: *Heating of closed spaces*

Trade marks:

„5070 HCS”

„5071 HCS ”

„5072 HCS”

„5080 HCS”

„5081 HCS”

„5082 HCS ”

„5090 HCS ”

„5091 HCS ”

„5093 HCS ”

2. Applicant:

Application: № CPR180/04.02.2021

Company: „HOŞSEVEN ISI VE YALITIM SANAYİ TİCARET A.Ş.“

Address: Barakfakihsanayi bölgesi 10.cd No:2 Kestel/BURSA/TURKEY

E-mail: info@hosseven.com.tr

Phone: : +90224 384 11 10 (4 hat)

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:

Date of receipt: 04.02.2021

Date of testing: from - 26.02.2021 - 26.02.2021

5. Tested sample:

1 pc. - „5070-L ” № 210002658

6. Place of testing:

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

7. Description:

Indoor Cooking and heating



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FK 7.8-1.2

8. Technical characteristics:

Nominal heat output : 10.00 kW
 Reduced heat output : *not applicable*

9. Conditions for conducting the test:

1. Temperature of the environment: 20.5 °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 26.02.2021 – *nominal mode*

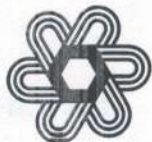
- atmospheric pressure 1010 hPa
- flue gas velocity 2.67 m/s
- draft – 12.70 Pa
- flue gas temperature 231.8 °C
- oxygen O₂ – 10.60 %
- chimney diameter - 0.130 m
- area 0.013 m²
- points 1
- diameter of the nozzle 10 mm

Fuel used:

- Solid fuel – wood-oak
- Test report for the fuel № 10368/29.10.2018
 - *Net calorific value of the fuel* 15.87 MJ/kg
 - *Moisture* 8.49 %

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	86.00±2.78	n/a
1A.	NOx emission at 10% O ₂	mg/Nm ³	ILM 01:2016	118.25±3.82	n/a
2.	OGC emission at 13% O ₂	mg/Nm ³	ILM 01:2016	4.33±0.94	n/a
2A.	OGC emission at 10% O ₂	mg/Nm ³	ILM 01:2016	5.95±1.29	n/a
3.	Dust emission at 13% O ₂	mg/Nm ³	BDS ISO 9096:2017	13.40±0.28	n/a
3A.	Dust emission at 10% O ₂	mg/Nm ³	BDS ISO 9096:2017	18.43±0.39	n/a



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FK 7.8-1.2

11. Measurement equipment

№	Name, type, manufacturer	Measuring range	Expanded uncertainty U(P)	Calibration certificate; №/date, issued by
1.	Electronic stopwatch, model 696, Hong Kong, 22710	0.62 s for 24h	0.24 s/24h	№023-IVC/11.03.2019 BIM GD NCM, Sofia
2.	Digital manometer, type Testo 512, TESTOAG – Germany, № AC 463196/311 TESTOAG	0.0 hPa 20.0 Pa 200.0 Pa 9.2 m/s 12.11 m/s 14.2 m/s	0.20 Pa (0.14 m/s ÷ 0.32 m/s)	№0572/28.04.2020 “UNISIST” LTD
3.	Digital barometer, type Testo 511 – №39112944601	900.0 hPa 1000.0 hPa 1050.0 hPa	(0.085÷0.090) hPa	№1081/18.05.2019 “UNISIST” LTD
4.	Flowmeter for air LIFETEK55XP-P, № 55057	10.22 l/ min 20.12 l/ min 30.44 l/ min	(0.11÷ 0.31) l/ min	№985/07.09.2019 Higitest LTD
5.	Sterilizer, Diterm, №0911/2016 Digital thermometer, type 4001	105.0 °C 160.0 °C	0.50 °C	№1669/23.10.2019 “UNISIST” LTD
6.	Electronic scale, 80 gr., 0.0001g Type ABS 80-4N, №S.N.WB16AN0052	0.02g 1.00 g 5.00 g 10.00g 20.00 g 30.00 g 40.00 g 50.00 g 60.00 g 80.00 g	0.0002 g,	0-2-M-647/ 30.10.2019 KALIBRA BULGARIA OOD



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FK 7.8-1.2

7.	Gas analyzer MRU VARIO Luxx № 063585	O ₂ -10,11 vol % O ₂ -13,06 vol% O ₂ -21,94 vol% CO-0,1 ppm 0,1 mg/Nm ³ CO- 50,7 ppm 63,4 mg/Nm ³ CO-101,4 ppm 126,7 mg/Nm ³ NO-10,5 ppm 14,1 mg/Nm ³ NO-50,9 ppm 68,2 mg/Nm ³ NO-102,6 ppm 137,4 mg/Nm ³ CO ₂ -5,08 % CO ₂ - 10,23 % CO ₂ -16,79 % C ₃ H ₈ – 9,8 ppm 19,2 mg/Nm ³ C ₃ H ₈ – 51,3 ppm 100,5 mg/Nm ³ C ₃ H ₈ – 99,2 ppm 194,4 mg/Nm ³	0,28 vol % 0,37 vol% 0,48 vol% 0,3 ppm 0,1 mg/Nm ³ 1,5 ppm 1,9 mg/Nm ³ 2,9 ppm 3,6 mg/Nm ³ 0,7 ppm 0,9 mg/Nm ³ 1,6 ppm 2,1 mg/Nm ³ 2,9 ppm 3,8 mg/Nm ³ 0,15 % 0,29 % 0,40 % 0,7 ppm 1,4 mg/Nm ³ 1,5 ppm 2,9 mg/Nm ³ 2,6 ppm 5,1 mg/Nm ³	№ 4 D/ 06.04.2020 LTC “LIPGEP”
8.	Digital Thermohyrometer Testo-608 H1 № 30115603	15 °C 20 °C 30 °C 30 % RH 60% RH	0.23 °C 1.4% RH	№ 16211/ 29.07.2020 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: 01.03.2021

TESTED BY:

Dipl eng. Z. Dochev

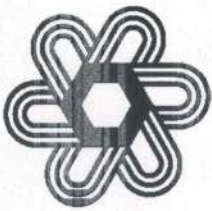
VERIFIED BY:

Dipl.eng.N.Evtimov

THE HEAD OF THE LABORATORY:

Dipl. eng. Zdravko Zdravkov





№ДИ-103/14.04.2021

ASSURANCE Prüfzeugnis

Feuerstättenart: <i>Product type:</i>	Beheizen von geschlossenen Räumen Heating of closed spaces
Typ: <i>Type:</i>	Wohnraumheizgerät von Holzstämmen Residential space heating appliance fired by wood logs
Modelle: <i>Model(s):</i>	5070-L, 5070 HCS, 5071 HCS, 5072 HCS, 5080 HCS, 5081 HCS, 5082 HCS, 5090 HCS, 5091 HCS, 5093 HCS
Hersteller: <i>Manufacturer:</i>	„Hoşseven Isı Yalıtım SAN. TIC. A.Ş” Address: Brakfakih Mahallesi 10.Caddde .№ 2 Kestel/Bursa/Turkey

Dieses Dokument weist auf die Einhaltung der Anforderung der 2. BImSchV in Bezug auf Energieeffizienz und Emissionen hin.

This document indicates compliance with the requirements of the 2nd BImSchV regarding energy efficiency and emissions.

Testergebnisse: Bewertungen und Testergebnisse sind auf Seite 2 angegeben.

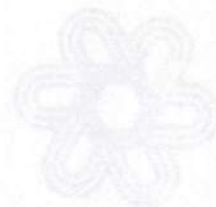
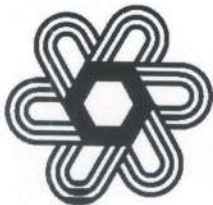
Test Results: Ratings and test results are reported on page 2.

**Dieses Prüfzeugnis basiert auf einem Prüfbericht der "ITEM Consult" Ltd. Sofia 1220,
This Assurance is based on a Test Report issued by bul. Istoria Slavianobulgarska. № 8**

**Für den Nachweis der Einhaltung und von der Norm verlangten Anforderung wird auf dem Prüfbericht
For den verification of compliance with the requirements required by the standard, reference is made to the test report**

**Prüfberichtsnummer: CPR 239/01.03.2021 and Test Report 239 NA/01.03.2021 (issued by
Test Report Reference No ACCREDIA lab. № - CPR 21 – NB 1837**

Wir bestätigen auf Grundlage der Typprüfung nach EN 13240:2006 dass Dnforderungen dn die Emissifnsgrenzwerte und den Mindestwirkungsgrad gemäß 2. Stufe, 1.BImSchV (ab 2015) eingehalten warden.



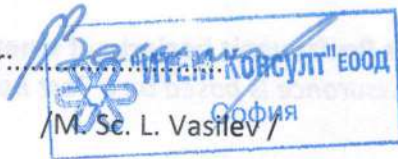
We confirm on the basis of the type test according to EN 13240:2006 that the requirements on the emissions limit values and the efficiency according to the second stage, 1.BImSchV (ab 2015).

	Nennwärmeleistung Nominal heat output	Genzwert Limit	Comply
Nennwärmeleistung: kW <i>Nominal heat output:</i>	10.05	≥ 4	Pass
Wirkungsgrad& % <i>Efficiency:</i>	82.03	≥ 70	Pass
Kohlenmonoxid (CO)* mg/Nm ³ <i>CO emission *</i>	597.5	≤ 1250	Pass
Staub * mg/Nm ³ <i>Dust emission *</i>	13.40	≤ 40	Pass

* bezogen auf 13% O₂/value at 13% O₂

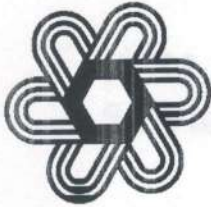
2021-04-14

Manager:.....


/M. Sc. L. Vasilev /

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**ECODESIGN REQUIREMENTS FOR SOLID FUEL LOCAL SPACE HEATERS
ACCORDING TO COMMISSION REGULATION (EU) 2015/1185 IMPLEMENTING
DIRECTIVE 2009/125/EC OF THE EUROPEAN PARLIAMENT AND OF THE
COUNCIL**

№DI-104/14.04.2021

Manufacturer:	„HOŞSEVEN ISI VE YALITIM SANAYİ TİCARET A.Ş.“
Appliance:	Solid fuel /wood / heating stove
Model:	5070-L
Trade marks:	5070 HCS, 5071 HCS, 5072 HCS, 5080 HCS, 5081 HCS, 5082HCS, 5090 HCS, 5091 HCS, 5093 HCS
Stoking mode:	Manual
Indirect heating functionality:	No
Direct heat output:	10.05
Indirect heat output:	-

Fuel	Preferred fuel (only one)	Other suitable fuel (s)	η_s (%)	Emissions at nominal heat output				Emissions at reduced heat output			
				PM	OGC	CO	NO _x	PM	OGC	CO	NO _x
Mg/m ³ at 13% O ₂											
Log wood, moisture content ≤25%	yes	no	72.03	13.40	4.33	597.5	86.00	-	-	-	-
Chipped wood, moisture content 15-35%	no	no									
Chipped wood, moisture content >35%	no	no									
Compressed wood in the form of pellets or briquettes	no	no									
Sawdust, moisture content ≤50%	no	no									
Non-woody biomass	no	no									
Bituminous coal	no	no									
Brown coal (including briquettes)	no	no									
Coke	no	no									
Anthracite	no	no									
Blended fossil fuel briquettes	no	no									
Other fossil fuel	no	no									



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Blended biomass (30-70%) fossil fuel briquettes	no	no							
Other blend of biomass and fossil fuel	no	no							

Characteristics when operating with the preferred fuel only:

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Useful heat output				Useful efficiency			
At rated heat output	P_n	10.05	kW	At rated heat output	η_n	82.03	%
At (30%/50%) of rated heat output if it's applicable	P_p	-	kW	At (30%/50%) of rated output if applicable	η_p	-	%
Auxiliary electricity consumption				Type of heat output/room temperature control			
At rated heat output	$e_{l_{max}}$	-	kW	Single stage heat output, no room temperature control	Yes/no	Yes	
				Two or more manual stages, no room temperature control	Yes/no	No	
				With mechanic thermostat room temperature control	Yes/no	No	
At (30%/50%) of rated output if applicable	$e_{l_{min}}$	-	kW	With electronic room temperature control	Yes/no	No	
In standby mode	P_{SB}	-	kW	With electronic room temperature control plus day timer	Yes/no	No	
Permanent pilot flame power requirement				With electronic room temperature control plus week timer	Yes/no	No	
Pilot flame power /if applicable/	P_{pilot}	N.A.	kW	Other control options			
				Room temperature control with presence detection	Yes/no	No	
				Room temperature control with open window detection	Yes/no	No	
				With distance control option	Yes/no	No	

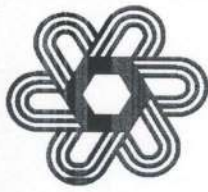
CONCLUSION:

Solid fuel /wood/ heating stove 5070-L Model MEET THE REQUIREMENTS OF Annex II „Ecodesign Requirements” of REGULATION (EU) 2015/1185.

Contact details	Name and address of the manufacturer or its authorised representative
E-mail: info@hosseven.com.tr	HOŞSEVEN ISI VE YALITIM SANAYİ TİCARET A.Ş., Address: Barakfakihsanayi bölgesi 10.cd No:2 Kestel/BURSA/TURKEY
Phone: : +90224 384 11 10 (4 hat)	

Prepared by: 
/M. Vasileva/

Manager: 
/M. Sc. E. Vasilev /
София



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

EEl ASSURANCE

№DI-102/14.04.2021

Регламент/Regulation (EU) 2015/1186

Product: Solid fuel heating appliance / wood /
Manufacturer: „Hoşseven Isı ve Yalıtım A.Ş”
Model: 5070-L
Trade marks: 5070 HCS, 5071 HCS, 5072 HCS, 5080 HCS, 5081 HCS, 5082 HCS, 5090 HCS, 5091 HCS, 5093 HCS
Requested by: „Hoşseven Isı ve Yalıtım A.Ş”
Brakfakih Mahallesi 10.Caddde .№ 2 Kestel/Bursa/Turkey

Stoking principle: Manual
Test Fuel: Wood - oak
Test procedure: EN 13240:2006
Test report no: CPR 239/01.03.2021

Fixed values:

Correction factor accounting for a negative contribution to the energy efficiency index by energy consumption of a permanent pilot flame 0 [%]
CC Conversion coefficient for electricity consumption 2,5 [-]
BLF Biomass label factor 1,45 [-]

Test results:

$\eta_{nominal}$ Calculated efficiency at rated heat output 82,03 [%]
 $\eta_{minimum}$ Calculated efficiency at minimum heat output 0,00 [%]
M Test fuel, moisture 8,49 [%]
GCV_{mf} Test fuel, gross calorific value, moisture free 19,42 [MJ/kg]
NCV Test fuel, net heating value, with moisture 15,87 [MJ/kg]
NCV_{lwf} Test fuel, net heating value, moisture free 17,34 [MJ/kg]
e_{l,max} Electric power requirement at nominal heat output' 0 [kW]
e_{l,min} Electric power requirement at minimum heat output' 0 [kW]
e_{l,SB} Electric power requirement in standby mode' 0 [kW]
P_{nom} Nominal heat output 10,05 [kW]
P_{min} Minimum heat output 0,00 [kW]

Calculations

$\eta_{th, nom}$ Useful efficiency, at either nominal heat output 82,03 [%]
 $\eta_{th, min}$ Efficiency at reduced output 0,00 [%]
 $\eta_{el, n}$ Electrical efficiency of solid fuel cogeneration boiler 0,00 [%]
 η_{son} Seasonal space heating energy efficiency in active mode 82,03 [%]
 η_s Seasonal space heating energy efficiency 72,03 [%]
F(2) Correction factor accounting positive contribution to the EEI of controls of indoor heating comfort, which values cannot be summed 0,0 [%]
F(3) Correction factor accounting positive contribution to EEI of the controls for indoor heating comfort 0,0 [%]
F(4) Correction factor accounting for a negative contribution to the EEI by auxiliary electricity consumption 0,0000 [%]

Calculation of the Energy Efficiency index:

Energy Efficiency: 108,94
Energy Efficiency class: A+
Energy Efficiency index (EEI): 107 ≤ EEI < 130

Изготвил:

M. Василева

Manager:.....

/M. Sc. L. Vasilev /

