



INSTITUTE OF POWER ENGINEERING

Research Institute

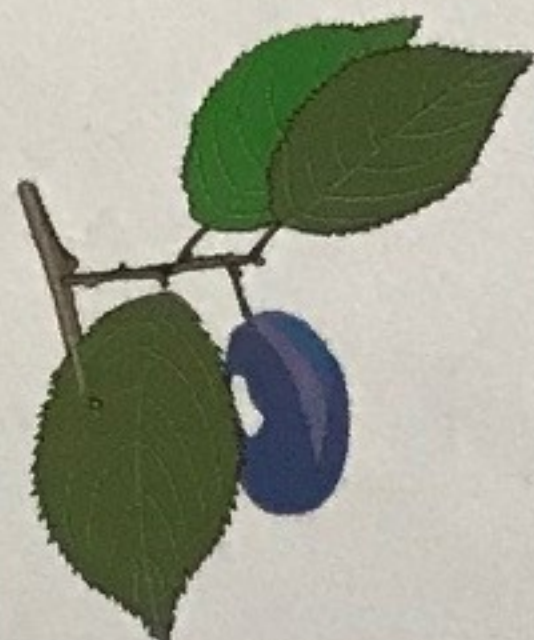
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TESTING LABORATORY OF BOILERS AND HEATING DEVICES



93-231 Łódź, ul. Dostawcza 1, phone 42 64 00 821, fax 42 64 00 828



AN ENVIRONMENT-FRIENDLY DEVICE

CERTIFICATE

No. OS/839/CUE/18

This is to confirm that:

the BIOWARMER 150 type water boiler

with the rated heat output of 150 kW

with an automatic solid fuel feed system, fired with biomass in the form of (B1) type wood chips

manufactured by:

**Zakład Produkcji Kotłów C.O.
T. Sikorski, R. Dams spółka jawna
09-100 Płońsk, ul. Rzemieślnicza 11**

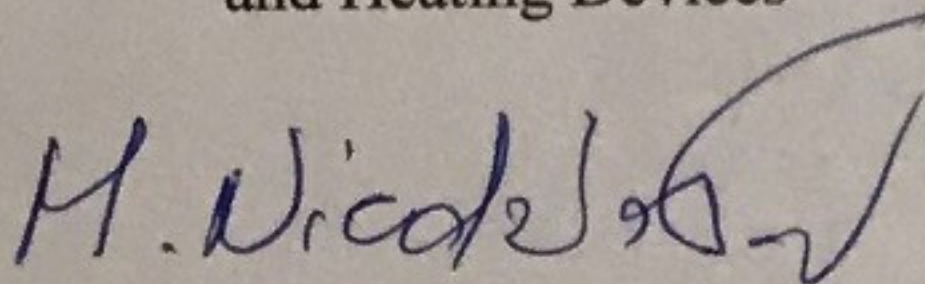
tested in line with the requirements of the PN EN 303-5: 2012 meets the requirements of class 5.

This certificate has been issued on the basis of laboratory tests performed by:
Testing Laboratory of Boilers and Heating Devices in Łódź, ul. Dostawcza 1 - specified in the test report no.
365/18-LG.

The certificate is valid provided that the manufacturer makes no modifications to the manufactured device in comparison to the tested ones, without prior arrangement with the Laboratory which issued the certificate.

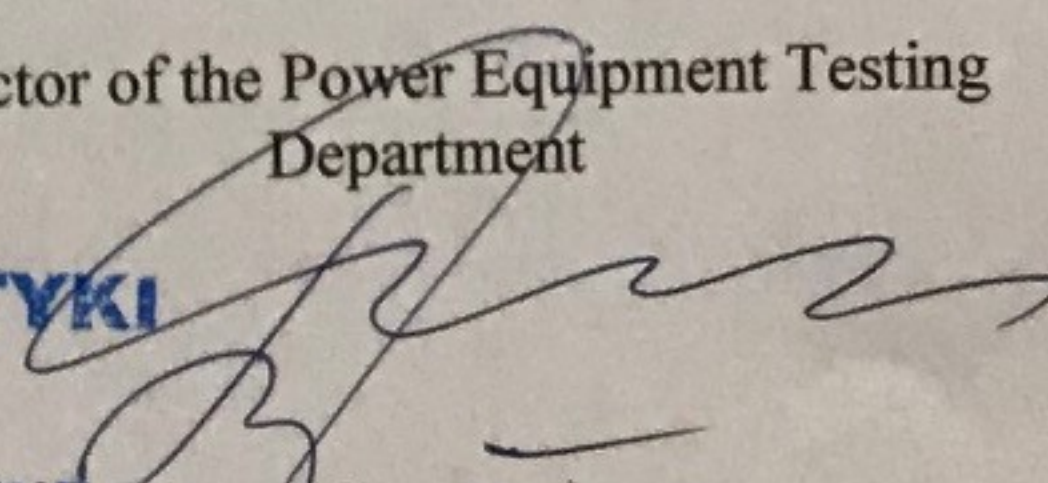
**Certificate validity period
from October 2018 to October 2021**

Testing Laboratory of Boilers
and Heating Devices


(signature)

Director of the Power Equipment Testing
Department

INSTYTUT ENERGETYKI
Instytut Badawczy
Zakład Badań
Urządzeń Energetycznych CUE
93-231 Łódź, ul. Dostawcza 1
tel. 42 640-08-21


(signature)

Łódź; October 30, 2018



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TESTING LABORATORY OF BOILERS AND HEATING DEVICES

93-231 Łódź, ul. Dostawcza 1, phone 42 64 00 821

CERTIFICATE ED/590/19

The **BIOWARMER 150** type water boiler
with the rated output of **150 kW** with an automatic fuel feed system
fired with **biomass in the form of (B1) type wood chips**
manufactured by:

Zakład Produkcji Kotłów C.O.
T. Sikorski, R. Dams spółka jawna
09-100 Płońsk, ul. Rzemieślnicza 11

meets the ecodesign requirements specified in the Commission Regulation (EU) 2015/1189 of 28 April 2015
implementing Directive 2009/125/EC of the European Parliament and of the Council with regard to ecodesign
requirements for solid fuel boilers.

Parameter	Symbol	Value	Unit of measure	Ecodesign requirements
Seasonal space heating energy efficiency	η_s	77	%	≥ 75 for boilers with rated heat output ≤ 20 kW ≥ 77 for boilers with rated heat output > 20 kW

	Parameter		Parameter		Parameter						
	Useful heat output		Useful efficiency		Auxiliary electricity consumption*			Seasonal space heating emissions for preferred fuel			
	at rated heat output	at 30% of rated heat output	at rated heat output	at 30% of rated heat output	at rated heat output	at 30% of rated heat output	in standby mode	particulate matter PM	organic gaseous compounds OGC	carbon monoxide CO	nitrogen oxides NO _x
Symbol	P_n	P_p	η_n	η_p	el_{max}	el_{min}	P_{SB}	$E_{s PM}$	$E_{s OGC}$	$E_{s CO}$	$E_{s NOx}$
Value	139.7	39.8	83.0	82.0	1.500	0.600	0.010	27	13	351	146
Unit of measure	kW	kW	%	%	kW	kW	kW	mg/m ³	mg/m ³	mg/m ³	mg/m ³
	EEI = 114 (A+)				Ecodesign requirements:			≤ 40	≤ 20	≤ 500	≤ 200

* Measurements of electricity consumption were performed by the Testing Laboratory of Boilers, Turbines, Heating Devices, Dedusters and Dust/Gas Emissions.

The certificate has been issued based on the results of laboratory tests specified in the Report no. 365/18-LG.
The tests were performed in accordance with the PN-EN 303-5:2012 standard.

Laboratory Director

H. Nieszkowski
(signature)

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Department Head

[Signature]
(signature)

Łódź, 29.05.2019