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## Confirmation

### Energy Efficiency Index (EEI)

### of solid fuel boilers

Manufacturer	Thermo FLUX D.O.O. Skela b.b., 70101 Jajce Bosna i Hercegovina
Name of the device	„Pelling 25 ECO“
Testing Fuel	Wood pellets (EN plus A1)
Thermal output total kW	25
Partial load kW	8
Test reports for the evaluation <sup>1</sup> :	PL-14023-P-Korrektur from 31.06.2015, PL-11160-P from 28.11.2011 and supplement to PL-11160-P from 09.02.2021 of the Test Laboratory for Combustion Plants at the Institute of Chemical, Environmental & Bioscience Engineering of the Vienna University of Technology.
Appendix	Calculation of EEI (Energy Efficiency Index)

Based on the test reports and according to 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 “ following EEI (Energy Efficiency Index) results:

EEI (Energy Efficiency Index)	120
Energy efficiency class	A+

Vienna, 09.02.2021

Person responsible for testing

Dipl.-Ing. S. Diem

Head of Laboratory



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<sup>1</sup> The test results relate only to the test object at the time of testing.

## Appendix: Calculation of EEI (Energy Efficiency Index) for the boiler „Pelling 25 ECO“

$\eta_n$	84,7	The ratio of the useful heat output and the total energy input of a solid fuel boiler, whereby the total energy input is expressed in terms of GCV (gross calorific value).
$\eta_p$	85,6	The ratio of the useful heat output and the partial energy input of a solid fuel boiler, whereby the partial energy input is expressed in terms of GCV (gross calorific value).
$e_{lmax}$	0,044	Electric power requirement at maximum heat output [kW]
$e_{lmin}$	0,017	Electric power requirement at minimum heat output [kW]
$P_{SB}$	0,002	Standby mode power consumption [kW]
$P_n$	25	Thermal output total [kW]
$P_p$	8	Partial load [kW]
F(1)	3	F(1) accounts for a negative contribution to the energy efficiency index due to adjusted contributions of temperature controls; F(1) = 3.
F(2)	0,011	F(2) accounts for a negative contribution to the energy efficiency index by auxiliary electricity consumption: $F(2) = 2.5 \times (0.15 \times e_{lmax} + 0.85 \times e_{lmin} + 1.3 \times P_{SB}) / (0.15 \times P_n + 0.85 \times P_p)$
F(3)	0	F(3) accounts for a positive contribution to the energy efficiency index by the electrical efficiency of solid fuel cogeneration boilers, not relevant, F(3) = 0.
BLF	1,45	BLF is the biomass label factor, which is 1.45 for biomass boilers.
$\eta_{son}$	85,5	is the seasonal space heating energy efficiency in active mode $\eta_{son} = 0.85 \times \eta_p + 0.15 \times \eta_n$ [%]
$\eta_s$	83	Seasonal space heating energy efficiency, rounded to the nearest integer: $\eta_s = \eta_{son} - F(1) - F(2) + F(3)$
EEI	120	The Energy Efficiency Index (EEI) of solid fuel boilers shall be calculated for the preferred fuel and rounded to the nearest integer as: $EEI = \eta_{son} \times 100 \times BLF - F(1) - F(2) \times 100 + F(3) \times 100$

Energy efficiency class	EEI
A+++	$\geq 150$
A++	$\geq 125$
A+	$\geq 98$
A	$\geq 90$
B	$\geq 82$
C	$\geq 75$
D	$\geq 36$
E	$\geq 34$
F	$\geq 30$
G	$< 30$