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**EEI ASSURANCE**

№DI-138/02.05.2023

Регламент/Regulation (EU) 2015/1187

Product: Pyrolysis solid fuel boiler with manual loading  
Manufacturer: „Mareli Systems” Ltd  
Model: LCG 40, сер. № BG1111225010  
Requested by: „Mareli Systems” Ltd  
Sofia, Lyulin district, bl. 821, ap.1

Stoking principle: manual loading  
Test Fuel: Seasonal beech wood. Test report for the fuel № 10648/31.08.2022  
Test procedure: EN 303 – 5:2012  
Test report no: 039/10.04.2023 г.

**Fixed values:**

F (1)	Deduction regarding temperature controls	3 [%]
CC	Conversion coefficient for electricity consumption	2.5 [-]
BLF	Biomass label factor	1.45 [-]

**Test results:**

$\eta_{k\text{ nominal}}$	Efficiency at nominal heat output	93.07 [%]
$\eta_{k\text{ minimum}}$	Efficiency at minimum heat output	94.52 [%]
M	Test fuel, moisture	11.78 [%]
$GCV_{mf}$	Test fuel, gross calorific value, moisture free	19.66 [MJ/kg]
$H_{iw}$	Test fuel, net heating value, with moisture	15.96 [MJ/kg]
$H_{iwf}$	Test fuel, net heating value, moisture free	17.34 [MJ/kg]
$e_{l\text{ max}}$	Electricity consumption at nominal heat output	0.074 [kW]
$e_{l\text{ min}}$	Electricity consumption at minimum heat output	0.039 [kW]
$P_{SB}$	Electricity consumption in standby mode	0.003 [kW]
$P_n$	Nominal heat output	40.18 [kW]
$P_p$	Minimum heat output	19.76 [kW]

**Calculations**

$\eta_n$	Efficiency at nominal output	85.66 [%]
$\eta_p$	Efficiency at reduced output	87.00 [%]
$\eta_{el,n}$	Electrical efficiency of solid fuel cogeneration boiler	0.00 [%]
$\eta_{son}$	Seasonal space heating energy efficiency in active mode	86.80 [%]
$\eta_s$	Seasonal space heating energy efficiency	83.27 [%]
F(2)	Auxiliary electricity consumption	0.0053 n/a
F(3)	Electrical efficiency of solid fuel cogeneration boilers	0.0000 n/a

**Calculation of the Energy Efficiency index:**

Energy Efficiency: 122.33  
Energy Efficiency class: **A+**  
Energy Efficiency index (EEI) 98 ≤ EEI < 125

Изготвил:

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