

Unical

PELLEXIA.

COMFORT ENVIRONMENT COMPATIBLE



To valorize the pellet

MODEL	nominal output min/max kW	global output min/max %	pellet reservoir content kg
PELLEXIA 27	8÷27	82,8÷89	150
PELLEXIA 40	13÷39,7	85÷90,3	150

“Comfort environment compatible” means to use alternative energetic resources, sustainable and, at the same time, to increase the housing comfort. Inspiring itself to this principle, Unical, since always advanced in the employment of the biomasses, introduces PELLEXIA: ideal for simplicity, elevated performances and consumptions reduction. PELLEXIA is a range of hot water thermal groups with a nominal output of **27 and 40 kW**, endowed with blown burner and a **reservoir of pellet of 150 kg**, that automatically feed it.

It is produced for heating houses up to and **more than 300 m²**.

- It offers a winner alternative to the running costs of the traditional heating systems
- It assures independence from the non renewable fuels.
- In some country it takes advantages through the fiscal deduction on the purchasing costs, foreseen by the laws in force.

High efficiency

Certified efficiency **90.4%**

Completely automatic

and programmable operation

Remote control

for the boiler operation from any point of the house (optional)

It can be combined with **solar installation**

Simplified cleaning

Perfect combustion thanks to the blown modulating burner, on purpose designed and built.

Maximum safety

with anti-overheating steel coil heat exchanger

Long autonomy

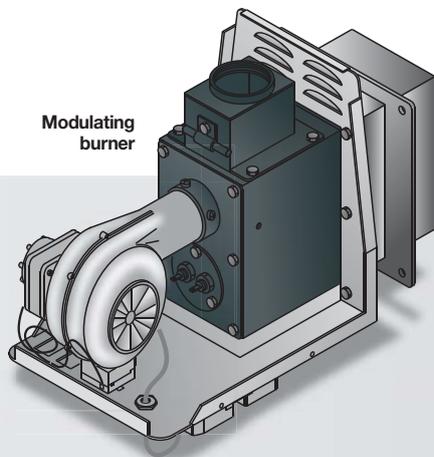
over 23 hours at full capacity and around 6 days in domestic use



The details of Pellexia

The burner

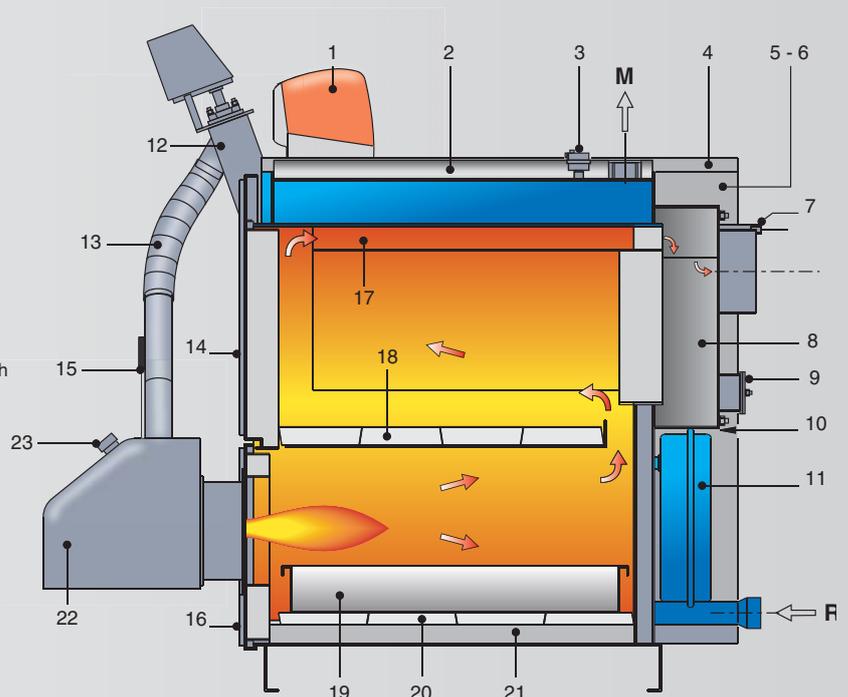
- **Blown air**
- **Horizontal flame**
- **Automatic**
- **Modulating**
8÷27 kW (mod. 27)
13÷39,7 kW (mod. 40)
- **Microprocessor assisted regulation**
- **“Energy saver” Electronic ignition**
It is activated only at the first cold starting or following to a manual or unintentional turning off.



- | | |
|---|--|
| 1. Panel board | 14. Boiler upper door |
| 2. Boiler body insulation in mineral wool | 15. Safety thermostat |
| 3. Automatic airvent | 16. Boiler lower door |
| 4. Casing upper panel | 17. Thermal exchange fins with turbulators |
| 5. Casing side panel | 18. Intermediate refractory stones |
| 6. Pellet hopper | 19. Ashes collecting tray |
| 7. Safety coil heat exchanger | 20. Bottom refractory stones |
| 8. Smoke chamber | 21. Combustion chamber bottom insulation |
| 9. Smoke chamber inspection opening | 22. Burner |
| 10. Pressure transducer | 23. Burner sight glass |
| 11. Expansion vessel | M Central heating flow |
| 12. Pellet feeding screw | R Central heating return |
| 13. Flexible pipe for burner feeding | |

The boiler

- **Large water content (no hydraulic interfaces)**
67 lt (mod. 27), 82 lt (mod. 40)
- **3 real smoke passes**
for a cleaner combustion and low polluting emissions, (CO mg/Nm³ at 10% of O₂):
194/258 for the mod. 27
and 206/290 for the mod. 40)
- **Thermal exchange fins**
with turbulators for the maximum heat transfer to the water $\eta > 89\%$ and up to 90.3%
- **Facilitated cleaning thanks to:**
 - wide access doors
 - removable ash tray
 - inspectable smoke chamber through back cleaning opening.



The pellet reservoir

■ Long autonomy

■ **150 kg of storage**, the best compromise between dimensions and autonomy

The tests in our laboratories have always shown an autonomy, at the **maximum output**, with burner always ON, of **23 hours**.

At the **minimum output** the autonomy time extends **up to 71 hours**. But in the normal domestic use, exceptional cases excepted, our burner works few minutes for every hour of offered comfort, because of important environmental factors, such as the house insulation and the actual heat requirement.

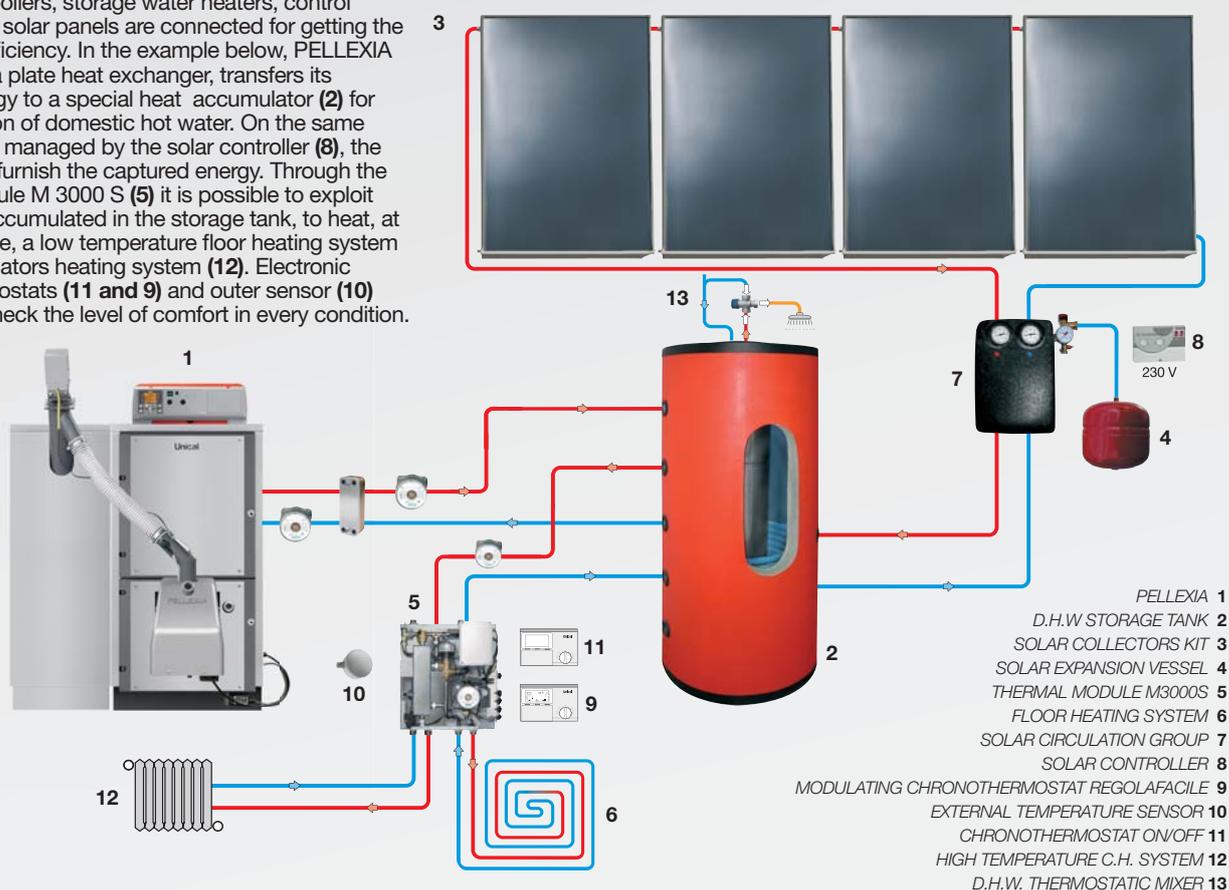
As a consequence the operation autonomy can achieve **ca. 6 days!**

■ Ease

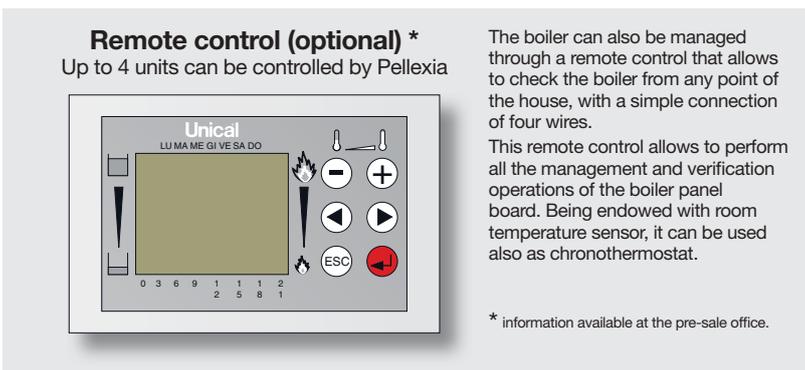
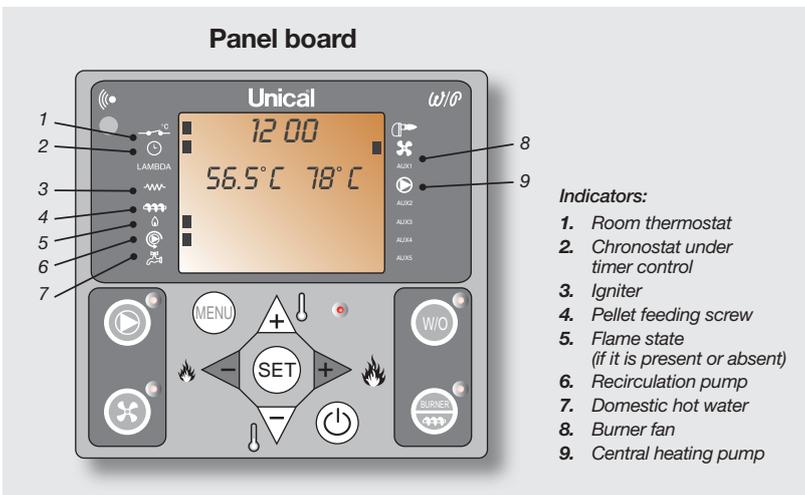
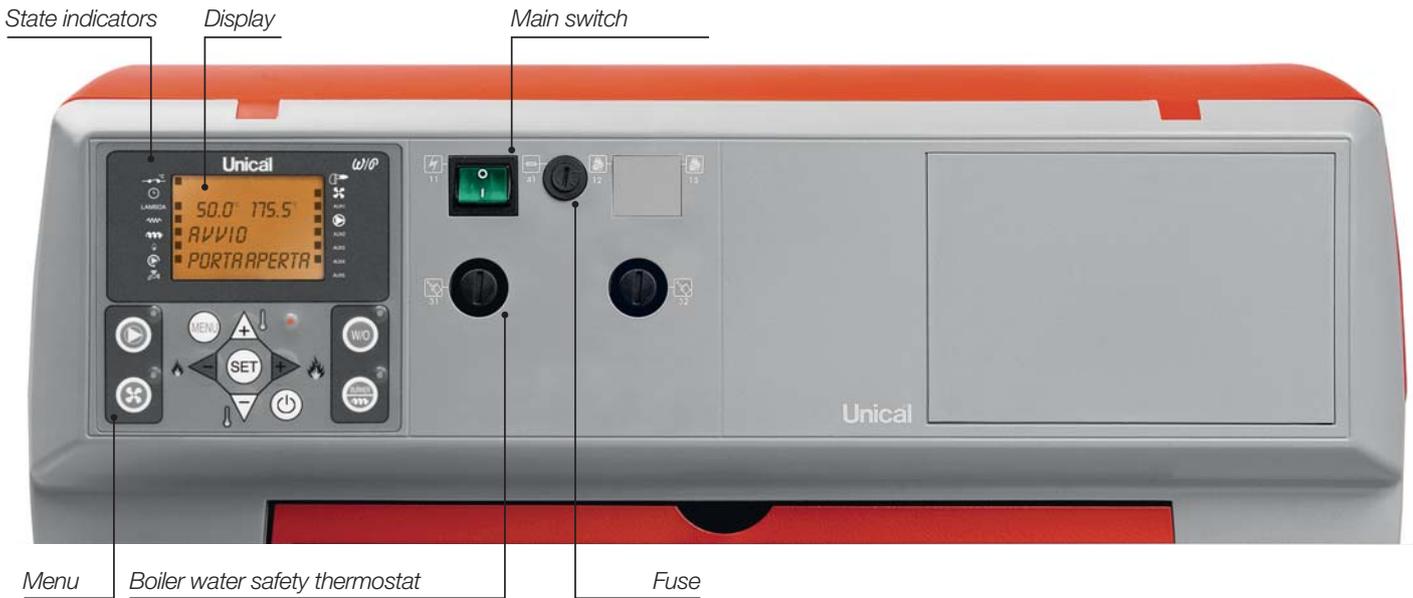
- Pellet loading through the **upper opening** with safety grate
- **Automatic pellet feeding** (feeding screw group)
- Temperature and control **sensors**: hopper pellet level sensor and pellet anti-clogging in the burner
- **Easy mounting**

Unical pursues its "green" philosophy with a true quality jump for the intelligent exploitation of the renewable resources, integrated in a sole system: biomass + solar energy. So, boilers, storage water heaters, control systems and solar panels are connected for getting the maximum efficiency. In the example below, PELLEZIA (1), through a plate heat exchanger, transfers its thermal energy to a special heat accumulator (2) for the production of domestic hot water. On the same accumulator, managed by the solar controller (8), the solar panels furnish the captured energy. Through the thermal module M 3000 S (5) it is possible to exploit the energy accumulated in the storage tank, to heat, at the same time, a low temperature floor heating system (6) and a radiators heating system (12). Electronic chronothermostats (11 and 9) and outer sensor (10) constantly check the level of comfort in every condition.

Maximum saving with the integrated systems



Panel board



Safe

- Control of all the hot points of the boiler
- Smoke temperature sensor
- C.H. flow temperature sensor
- C.H. return temperature sensor
- Burner safety thermostat
- Pellet hopper level sensor
- Anticlogging level sensor

Practical and flexible

- Simplified management user menu
- Possibility of complete managements
- Integration with solar installations
- D.H.W. production

Easy

- Sliding messages in 4 languages (such as: "pellet stock at 20% level", "lack of pellet at 10% level", in order to avoid possible annoying ignition problems, "cleaning to be performed", alarm for missed ignition, intervention of safety devices with clear text, for instance: "pellet in exhaustion", "open door.")

Installation and transport

The Pellexia boiler, to facilitate the installation, foresees:

■ **Expansion vessel (10 liters)**

for closed system installations, as allowed by the norms in force

■ **Safety valve (3 bar)**

■ **Pressure transducer**

for monitoring minimum and maximum working pressure

■ **Anti-overheating safety system**

constituted by a built-in coil, plunged directly in the boiler water (combined with a thermal discharge safety valve, not supplied)

■ **Air vent** (std. supplied)

■ **Connectors**

for pre-arrangement/management of C.H. and D.H.W. storage tank loading pump

■ **2 off anti-condensate protection kits (optional)**

they raise the Pellexia performances and preserve the system for long time.

Pellexia is an important thermal group.

Its dry weight of around half ton (477 kg for the mod. 27 and 600 kg for the mod. 40) testifies its construction without economy and its high resistance.

It is delivered in 4 parts placed just in one pallet containing:

1. Boiler body

2. Packaging, containing painted parts of the pellet hopper

3. Packaging containing galvanized parts of the pellet hopper

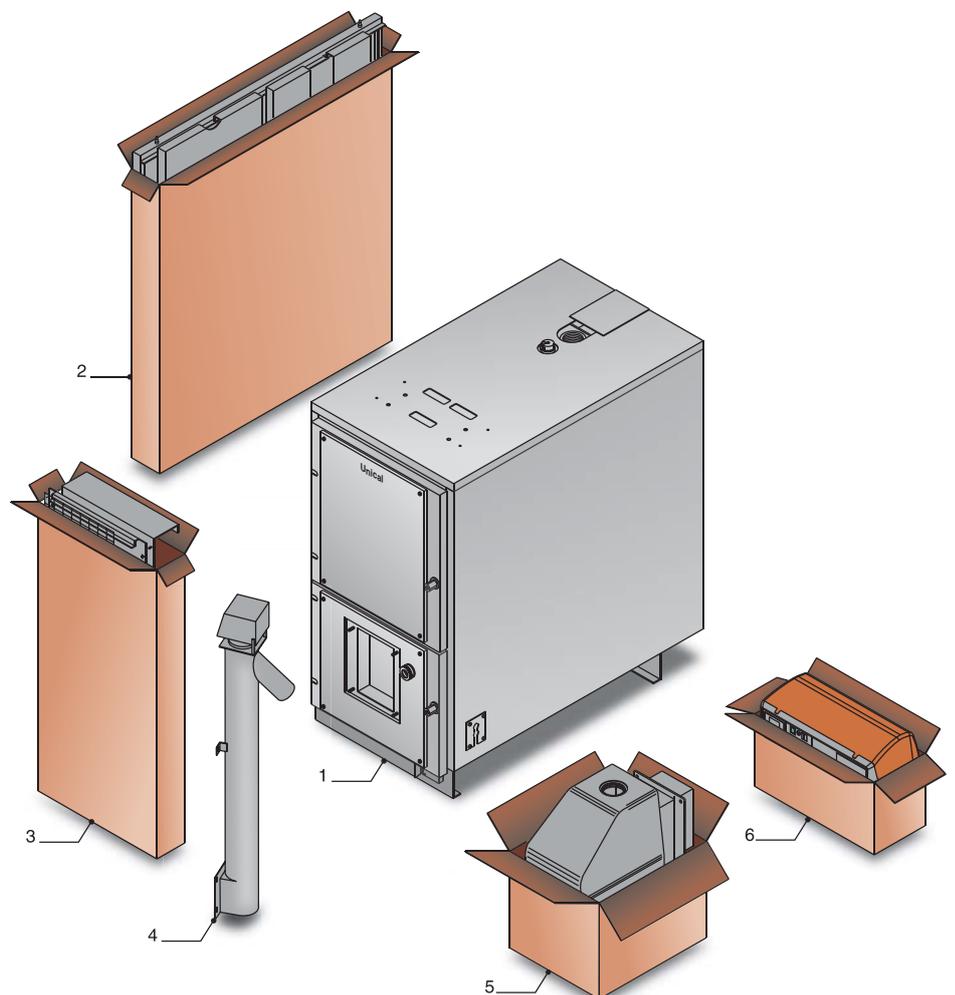
4. Pellet loading screw

5. Pellet burner

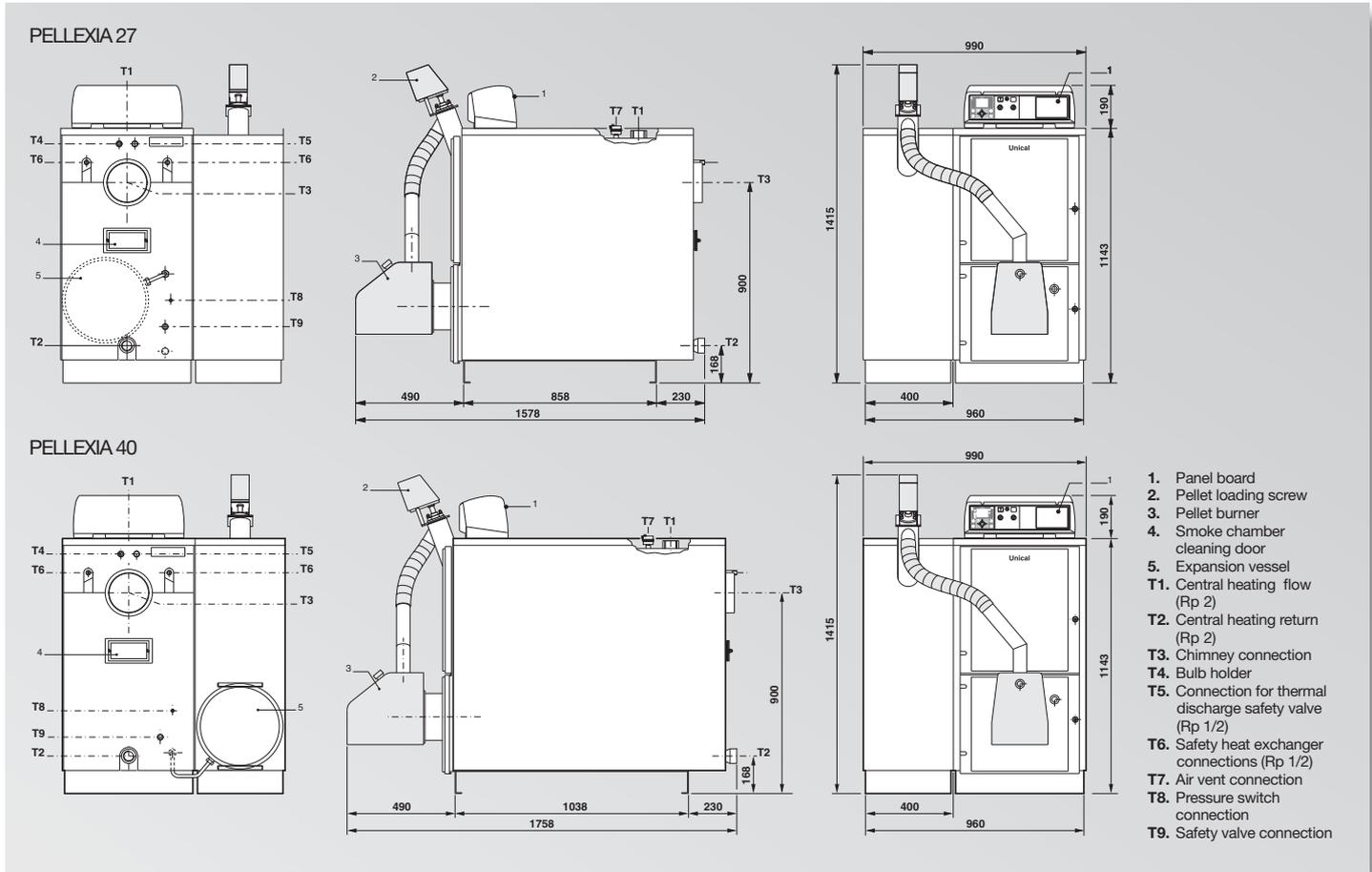
(inside the combustion chamber)

6. Panel board

(inside the combustion chamber)



Dimensions - Technical Data



PELLEXIA		27	40
NOMINAL OUTPUT min/max	kW	8÷27	13÷40
GLOBAL OUTPUT max	%	89	90,3
HOPPER PELLET CONTENT	Kg	150	150
AUTONOMY (at min/max burner capacity)	h	71/23	45,6/15,8
SMOKE TEMPERATURE min/max	°C	111/150	108/160
CO CONTENT at 10% O ₂ at min. output	%	< 0,0206	< 0,0207
CO CONTENT at 10% O ₂ at max. output	%	< 0,0195	< 0,0238
BOILER WATER CONTENT	l	67	82
PELLET CONSUMPTION min/max	kg/h	2,1/6,4	3,2/9,4
DUST EMISSION	mg/Nm ³ at 10% O ₂	8,8	21
CnHm EMISSION min./max.	mg/Nm ³ at 10% O ₂	7/18	1/6
CO min./max.	mg/Nm ³ at 10% O ₂	194/258	206/290
ELECTRIC ABSORPTION	at starting	W	826
	in steady state	W	226
MAX. WORKING PRESSURE	bar	3	3
DRY WEIGHT	kg	477	600
BOILER WEIGHT FILLED WITH WATER & PELLET	kg	694	832

