WOOD ENERGY SOLUTIONS

# E-Compact 50kW Gasification Boiler

FUELS: PARTED WOOD  STRAW BRIQUETTE 

The E-Compact 50kW Log Gasification boiler is a device which fully utilises the principle of wood pyrolysis, where during the burning of wood at a high temperature wood gas is being produced which is then transferred, by extraction fan to a gasification chamber. Using this method allows for efficient use of the entire energy stored in seasoned timber.


## How the log gasification process works:

Wood is put into the gasification/feed chamber (1) and as the fire lights, the bottom logs begin to burn and release heat - the first stage of the process. As the chamber begins to heat up volatile gases are emitted, a downdraft gasification process pushes the gas to another chamber where it is combusted – the second stage. The wood gases are drawn through the cast iron burner (4) and into the combustion chamber (6) where it mixes with super pre-heated secondary air introduced at the air intake point (5) and combustion takes place.

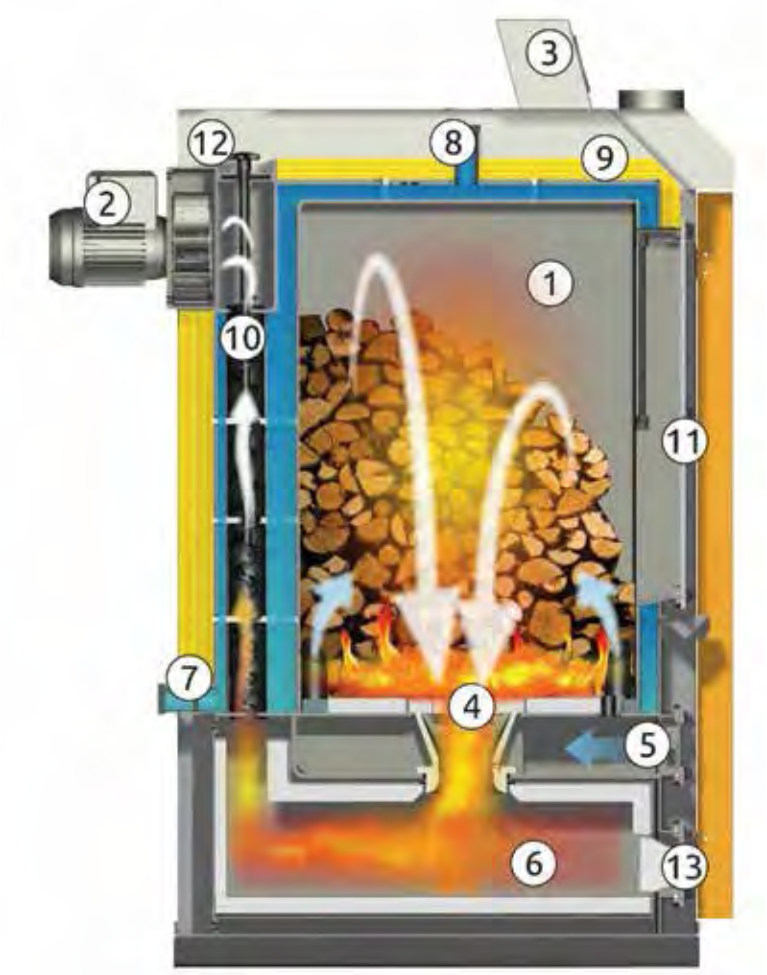
This boiler has a large loading chamber with a capacity of between 220 and 400L and can fit large timber logs of up to 80cm long. The extraction fan assists in the ignition of the boiler and enables the correct burning process to take place within the boiler and regulates the power of the boiler. The gasification chamber is fabricated using high class concrete which enables the boiler to achieve optimal combustion temperatures. A manual cleaning system for the heat exchanger tubes allows for easy, regular cleaning.

When the boiler is fully loaded with timber and connected to a buffer tank it can provide up to 72 hours of continuous burning!

# TECHNICAL SPECIFICATION

| PARAMETER | EC-COMPACT 25 | EC-COMPACT 50 |
|---|---|---|
| Power of the boiler [kW] | 25-30 | 50 |
| Boiler efficiency [%] | 90% | 90% |
| Boiler height [mm] | 1540 | 1650 |
| Boiler width [mm] | 730 | 850 |
| Boiler depth [mm] | 1200 | 1300 |
| Exhaust duct diameter [mm] | 150 | 180 |
| Loading chamber volume [$dm^3$] | 220 | 360 |
| Loading chamber capacity [kg] | 80 | 130 |
| Water capacity [l] | 120 | 134 |
| Threaded joints [in] | 5/4” | 5/4” |
| Weight of the boiler [kg] | 500 | 690 |
| Maximum timber logs length [cm] | 50 | 70 |
| Maximum operating time on a single load [h] | 72 | 72 |
| Required exhaust current [Pa] | 15-20 | 15-20 |
| Minimal chimney height [m] | 5 | 5 |
| Required chimney cross-section [$cm^2$] | 250 | 400 |
| Acceptable working temperature [$^oC$] | 84 | 84 |
| Maximal working pressure [MPa] | 0,2 | 0,2 |
| Test pressure [bar] | 5 | 5 |
| Power supply [V] | 230 | 230 |

Producer reserves the right to changes in the production technology without the need to inform the recipient.




## DETAILS:

- Energy saving
- Ecological
- Easy to use
- Burner made of special heat resistant steel
- innovative cleaning system
- 2 years warranty
- Extended operating time

1. Gasification Chamber
2. Exhasut Extractor Turbine
3. Controller
4. Cast Iron Burner
5. Air Intake to Combustion Chamber
6. Combustion Chamber
7. Water Inlet Joint
8. Water Outlet Joint
9. Insulation
10. Heat Exchanger with Furnace Flue
11. Loading Door
12. Manual Cleaning System
13. Ash Pit Door