S.E.I. GRANT APPROVED

FIREBIRD

BIO-TEC

WOOD GASIFICATION BOILER

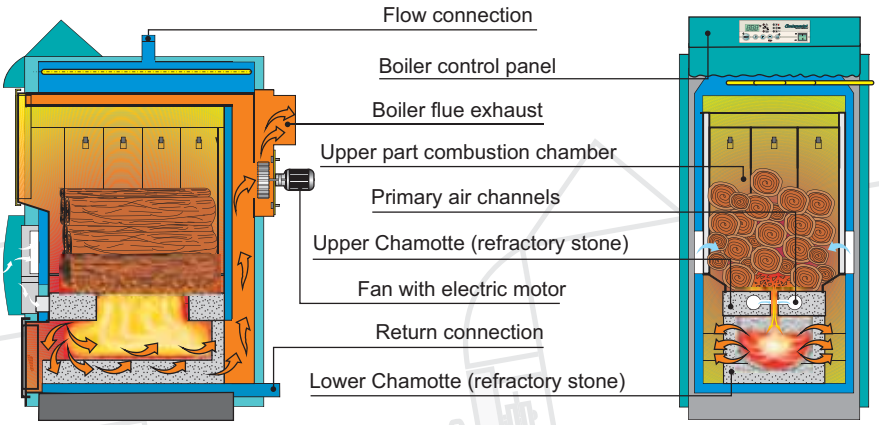
Highly Efficient Carbon-Neutral Heating

Working towards a greener planet

The Firebird **Bio-Tec** wood gasification boiler represents the very latest in high-efficiency wood burning. Built to Firebird exacting standards the **Bio-Tec** boiler can deliver central heating and hot water to domestic homes or small commercial premises with the minimum of effort and cleaning.

HOW DOES IT WORK?

Gasification is achieved in wood burning when gases released from the combusting wood are mixed with a regulated supply of oxygen to create a complete oxidation process. This results in extremely high combustion efficiencies and minimal of ash waste.



WHAT FUEL TYPE?

Wood gasification boilers can only be used to burn Split Logs or Wood Briquettes. Coal, peat, refuse, etc. can not be used in the **Bio-Tec** boiler.

- The best woods to use are hard woods like Ash, Oak & Beech which enable a longer burn time.
- Soft woods like Spruce, etc. burn quicker and create more ash waste.
- Moisture content must be less than 25%; ideally 20% or less

BIO-TEC FEATURES

HIGH EFFICIENCY

Due to the gasification process and unique heat exchanger design the **Bio-Tec** boiler achieves extremely high efficiencies; up to 91% on some models. So even if your wood comes for free you'll be storing and burning a lot less than with a traditional wood-burning boiler, stove or range.

EASY TO LOAD

The large combustion chamber and access door means that logs up to 540 mm in length can be used on standard domestic boilers.

SIMPLE TO START

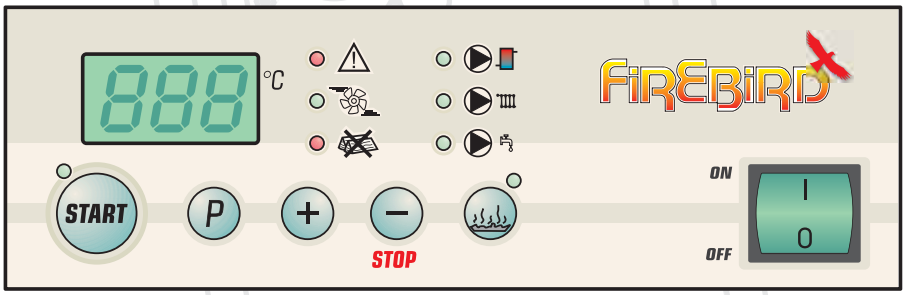
All you'll need to start the **Bio-Tec** boiler is a fire lighter and some light sticks. The Bio-Tec controller manages the rest of the start-up procedure making sure that the fire builds up as quickly and efficiently as possible.

MANAGE THE BOILER TO SUIT YOUR HEATING REQUIREMENTS

The heating demands of your home will vary throughout the year. The **Bio-Tec** boiler is equipped with an advanced controller which regulates the rate of wood combustion. Running at the maximum rated output a full load would take at least five hours to burn. If the heating demand is lower a full load will last much longer. In addition wood in the **Bio-Tec** boiler can glow for up to 12 hours so that no fuel needs to be supplied to keep the fire active overnight. A suitably sized accumulation tank should be installed with the **Bio-Tec** boiler to ensure optimal matching of heat demand and to allow heat energy to be stored for later use.

MODERN, USER-FRIENDLY CONTROLLER

The **Bio-Tec** boiler comes with an easy-to-use controller which manages the complete combustion process and regulates supply to the central heating system and hot water storage tank. An LCD screen on the controller displays key system information.



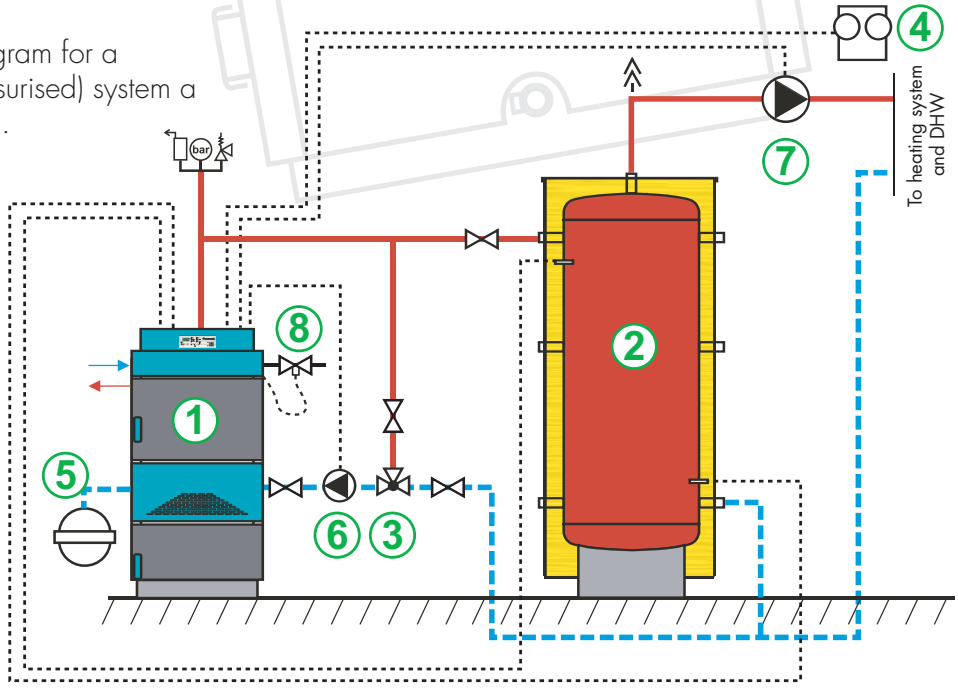
MINIMUM OF CLEANING

In wood gasification most of the wood is combusted so that very little ash remains in the combustion chamber or flue. If the boiler ran at full power continuously it would only need to be cleaned every three to four days. In most cases the boiler will only be fired-up every few days so that cleaning will only be required every few weeks

SYSTEM LAYOUT

Below is a suggested schematic diagram for a **Bio-Tec** boiler. For an unvented (pressurised) system a thermal safety value must be installed.

1 - Bio-Tec Boiler
2 - Accumulation Tank
3 - Three-way Thermostatic Valve
4 - Room Thermostat
5 - Expansion Vessel
6 - Boiler Pump
7 - Circulation Pump
8 - Thermal Safety Valve

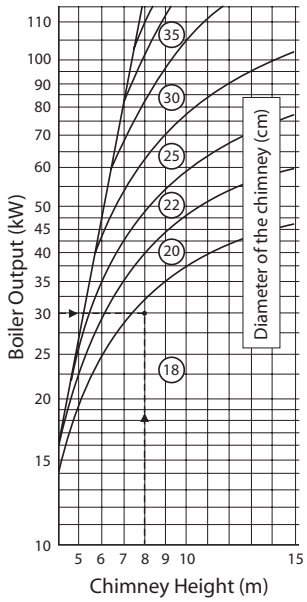


ACCUMULATION TANK

An accumulation tank must be used in conjunction with the **Bio-Tec** boiler. The recommended sizing is a minimum 50 litres of water storage for every 1 kW of rated output. For example a 35kW boiler would require a minimum tank size of 1,750 litre.

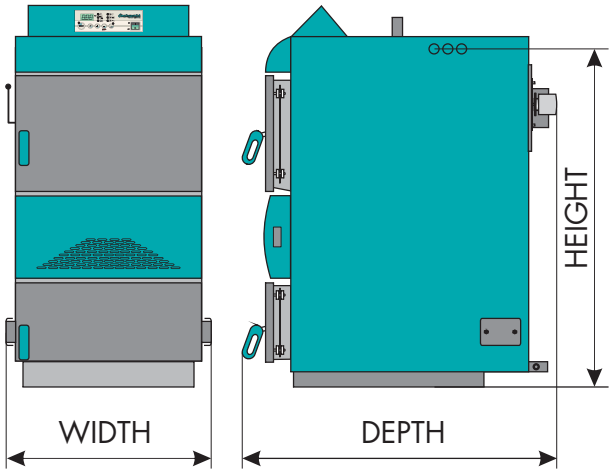
FLUE

Having the right draft and flue construction is critical to the operation of the **Bio-Tec** Boiler. An insulated flue must be used with a minimum inner diameter = 200mm (8"). Flue height must be according to the chart (on right).



TECHNICAL DATA

Bio-Tec Model		35
Rated thermal output	(KW)	35
Boiler water content	(litres)	96
Boiler weight	(kg)	515
Max volume of wood	(litres)	132
Max. length of the log	(mm)	540
Flue diameter	(mm)	160
Depth	(mm)	1235
Height	(mm)	1300
Width	(mm)	685
Min. Accumulator Tank	(litres)	1750



ACCREDITATIONS

The Bio-Tec boiler is CE approved and has been tested in accordance with the European efficiency standard EN 304. **Bio-Tec** boiler is approved under the SEI greener homes scheme in Ireland; SEI Product ID is SEI-WG-5

Greener Homes Scheme

CE

YOUR LOCAL STOCKIST

FOR FURTHER INFORMATION ON ALL FIREBIRD PRODUCTS PLEASE CONTACT:

FIREBIRD (ROI)
Baile Mhic Íre, Co. Chorcaí, Éire.
t: (026) 45253
f: (026) 45309
e: info@firebird.ie
w: www.firebird.ie

FIREBIRD PRODUCTS (N.I.)
Shean, Forkhill, Newry, BT35 9SY.
t: (028) 3088 8330
f: (028) 3088 9096
e: firebirdproducts@hotmail.co.uk
w: www.firebird.ie

FIREBIRD UK
East Central House, Central Ave.,
Lee Mill Ind. Est., Devon PL 21 9 PE.
t: 01 752 691177
f: 01 752 691131
e: sales@firebirduk.co.uk
w: www.firebirduk.co.uk