TECHNICAL SUBMISSION

Ecocond 150 High Efficiency Forced Draught Steel Shell & Tube Boiler

General Description:

The Ecocond 150 boiler is one of a range of ten floor standing, three pass, steel shell and tube boilers, with maximum outputs ranging between **110kW to 641.3kW**. Ecocond boilers have a standard working pressure of 5 bar. The boilers can be supplied with matched burners and are suitable for use with fuel oil and bio diesel only. The boiler is calculated to have a **Gross Seasonal Efficiency of 93.7% when operating on gas (G20)**. This meets with the efficiency criteria as set out in the Domestic Building Services Compliance Guide 2013 edition (with 2018 amendments) and the non-domestic Building Services Guide Compliance Guide 2010 edition (with 2013 amendments).

The Ecocond 150 boiler is supplied as a factory assembled stainless steel mono-block, with stainless steel flue tube tabulators. The boiler is supplied with insulation and casing panels for on-site assembly. The combustion chamber door is supplied with the hinges on the right as standard but these can be altered to the left on site if necessary.

The boiler package includes a control panel with control stats that are supplied in a separate carton for site assembly. Installation incorporates plug connectors for easy assembly. The control panel provides two stage control as standard but fully modulating control options are available.

The boiler is very versatile and capable of operating at design condition anywhere between **△t 10 °C and △t 20 °C.**

The boiler mono-block is manufactured from stainless steel and this makes the appliance suitable for use on systems with lower return temperature. An anti-condensation pump to provide back-end protection is recommended for fuels other than natural gas (G20).

Compliance with Standards as appropriate with relevant sections of: Gas Appliance Directive 90/396/EEC & Boiler Efficiency Directive 92/42/EEC.

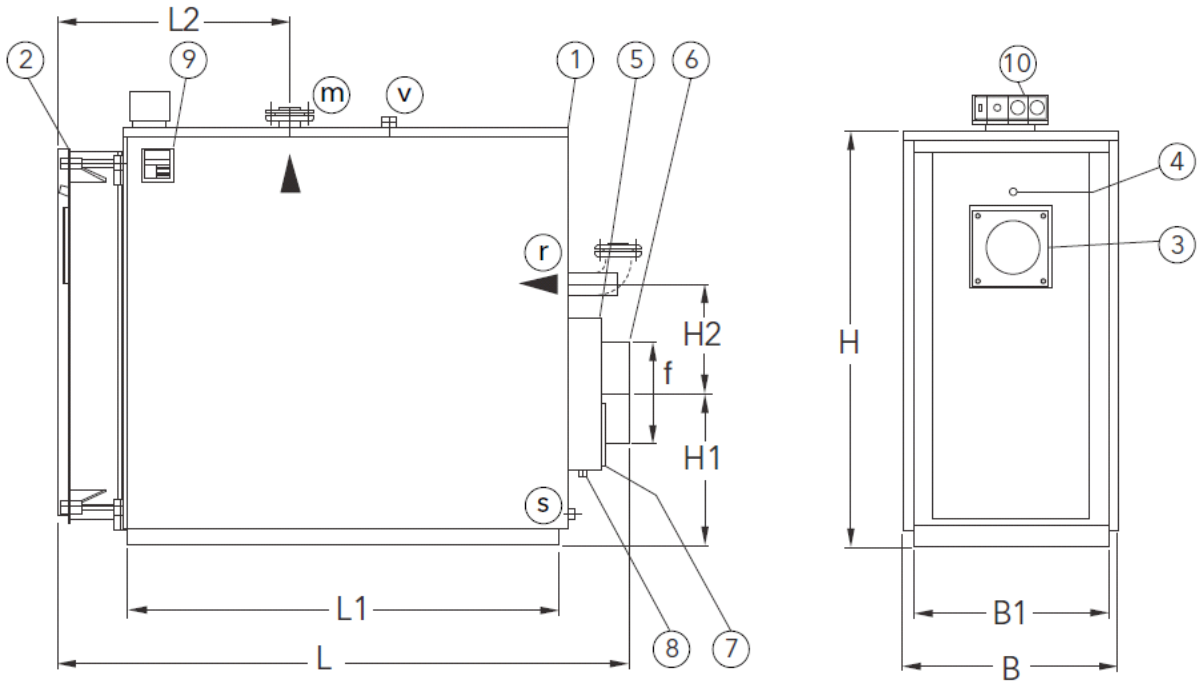
The **boiler carries a** 1 **year guarantee** against faulty manufacture and material defects**.** The warranty period starts from the date the appliance is delivered.

Technical Data:

Boiler Model	Ecocond 150	
Nominal heat output	148	kW
Nominal heat input (Gross)	168.7	kW
Nominal heat input (Net)	152.0	kW
*Gross seasonal efficiency	93.7	%
100% full Load efficiency (Gross)	87.8	%
30% part Load efficiency (Gross)	95.1	%
Maximum NOx level @ 0% O_2	Dictated by Boiler/Package Burner Combination	mg/kWh
Maximum flow temperatures	90	°C
Min return temperatures	15/40	°C
Water content	258	litres
Nominal water flow rate @ △t 10°C	3.52	l/s
Nominal water flow rate @ △t 15°C	2.34	l/s
Nominal water flow rate @ △t 20°C	1.76	l/s
Hydraulic resistance at nominal water flow rate @ △t 10°C	2.24	kPa
Hydraulic resistance at nominal water flow rate @ △t 15°C	1.00	kPa
Hydraulic resistance at nominal water flow rate @ △t 20°C	0.56	kPa
Maximum water pressure (hot)	5	bar
Maximum gas consumption (natural gas)	N/A	m^3/hr
Maximum fuel consumption (35 sec oil)	12.8	kg/hr
Combustion chamber resistance	1.2	mbar
Nominal flue gas mass (natural gas)	N/A	Kg/h
Nominal flue gas mass (35 sec oil)	233.1	Kg/h
Nominal flue gas temp (natural gas)	N/A	°C
Nominal flue gas temp (35 sec oil)	94	°C
Nominal weight (dry)	430	kg
Flow/return connections	2"	mm
Flue connection Ø	200	mm
Drain connection	¾"	
Safety valve connection	1¼"	
Electrical supply 50 Hz (Boiler control only)	230	Volts
Mains connection fuse rating (Boiler only)	6	Amps
Noise level @ 1m	Dictated by Boiler/Burner Combination	dB(A)

* Calculated in accordance with Equation 2 in the Non-domestic Building Services Compliance Guide

Dimensions & Clearances:



Side view

Front view

1. Boiler shell	4. Combustion chamber spy glass	7. Cleaning access	m. Flow connection
2. Combustion chamber door	5. Flue collector	8. Condense drain	r. Return connection
3. Burner mounting plate	6. Flue connection	9. Data badge	v. Safety valve tapping
		10. Control panel	s. Drain

Dimensions mm	**Ecocond 150**
B	660
L	1680
H	1150
B1	620
L1	1260
L2	910
H1	300
H2	200
Connections	
r/m DN	2”
V DN	1¼”
S DN	¾”
Ø mm	200

Clearances mm	**Ecocond 150**
Front	1300
Sides (between boilers)	450
Rear	Flue connection and inspection access
Burner clearance	Consider opening door with Burner attached