



# EasyStove

Hydraulic interface unit for solid fuel systems

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## Installation, Usage and Maintenance Instructions

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Thank you for selecting an EasyStove interface unit. This product is the result of extensive research and experience in heating system design.

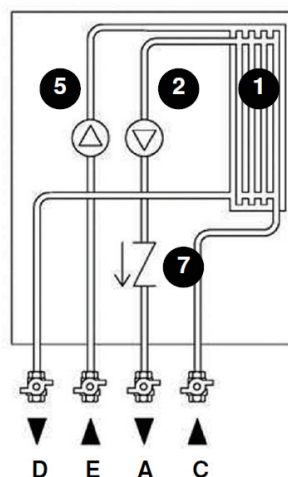


This manual is an integral part of the product and should be retained. Please read it carefully, as it provides important information regarding the installation and maintenance of the product.

The product should only be installed and maintained by a person qualified in the design and installation of heating systems. Failure to properly install or maintain the EasyStove product may lead to injury, death or property damage.

## 01. GENERAL INFORMATION

1	Heat Exchanger
2	Secondary Circuit Pump
5	Stove Circuit Pump
7	Non Return Valve
A	Flow to Secondary System
C	Return from Secondary System
D	Return to Stove
E	Flow from Stove



### WARNING



Carefully read the instructions contained in the manual as they provide important information regarding safe installation and maintenance. The installation and maintenance must be performed in accordance with current standards and according to the manufacturer's instructions.

In the case of failure or malfunction of the appliance, do not attempt to repair it yourself. Please contact RVR Energy Technology Ltd by email at [info@rvr.ie](mailto:info@rvr.ie).

Repairs must be only be carried out by a qualified technicians. Failure to comply with these requirements can compromise the safety of the device.

## 02. OPERATION

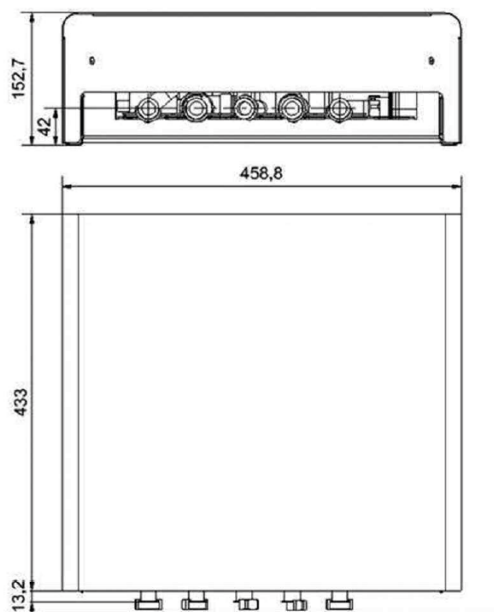
The EasyStove allows the simple and safe integration of a solid fuel stove into a conventional central heating system, allowing the automatic use of heat from the stove when it is available.

The stove circuit is normally an open circuit operating at atmospheric pressure while a modern central heating system may be a sealed system operating at a higher pressure. The EasyStove RC provides hydraulic separation between these circuits via a plate heat exchanger and works equally well in both open and sealed systems.

The EasyStove operates automatically, supplying heat to the heating system when the stove is in operation. The central heating system is fed with hot water from the gas/oil boiler until the solid fuel boiler has reached a suitable operating temperature. When this temperature is reached, the stove supplies heat to the central heating system. If heat is no longer available from the stove, then the stove circuit is switched off.

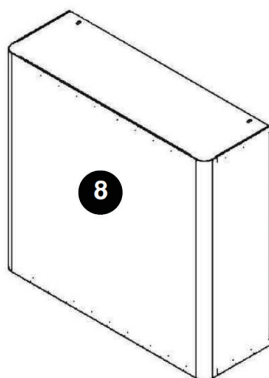
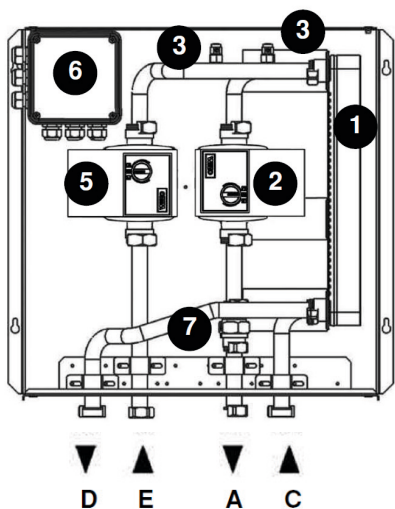
The recommended method of detecting that the stove is in operation is by using a suitable flue thermostat. A flue thermostat is supplied with the EasyStove.

### 03. TECHNICAL INFORMATION



<b>Stove Circuit</b>	
Fluid Type	Water
Max. Temperature	90°C
Max Operating Pressure	6 bar
<b>Secondary Circuit</b>	
Fluid Type	Water
Max Temperature	90°C
<b>Connections</b>	
Material	Brass
Size	3/4"
<b>Casing and Cover</b>	
Material	Galvanised Steel
Colour	RAL9010
<b>Power Supply</b>	
Voltage	230V
Frequency	50Hz
Power	100 W
Protection	IP56
<b>Environmental</b>	
Installation Location	Indoors
Ambient Temperature	5 - 55°C
Ambient Humidity	25 - 85% RH
Weight incl. Cover	11.0 kg

### PRINCIPAL COMPONENTS



1	Heat Exchanger
2	System Pump
3	Air Vent
5	Stove Circuit Pump
6	Electrical Box
7	Non Return Valve
8	Cover

A	Flow to System
C	Return from System
D	Return to Stove
E	Flow from Stove

## HEAT EXCHANGER CHARACTERISTICS

The EasyStove is designed for use with solid fuel stoves with a combustion output\* of up to 20kW (max output to water\* of 14kW)

At Nominal Capacity	Primary Stove Circuit	Secondary Heating Circuit
Flowrate L/h	800	700
Temperature °C IN/OUT	80/65	55/72

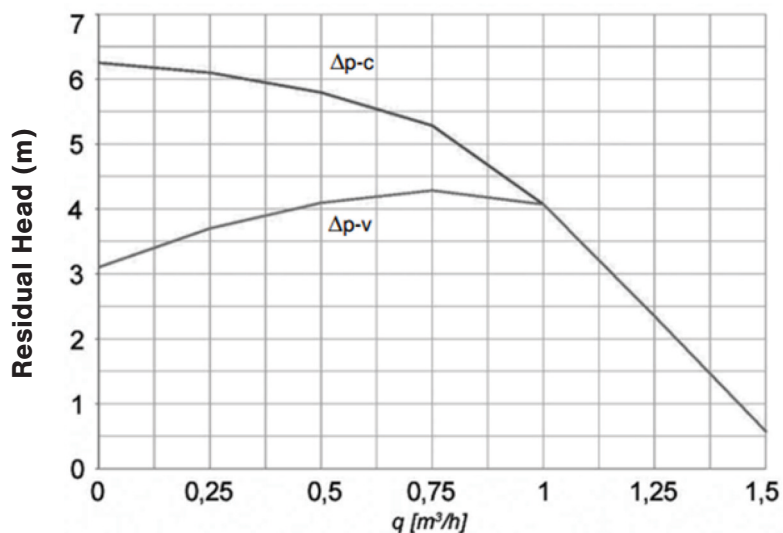
\* The combustion output of the boiler/stove is the amount of heat generated by combustion.

\*\* The output to water is the portion of the stove/boiler output that is transferred to water.

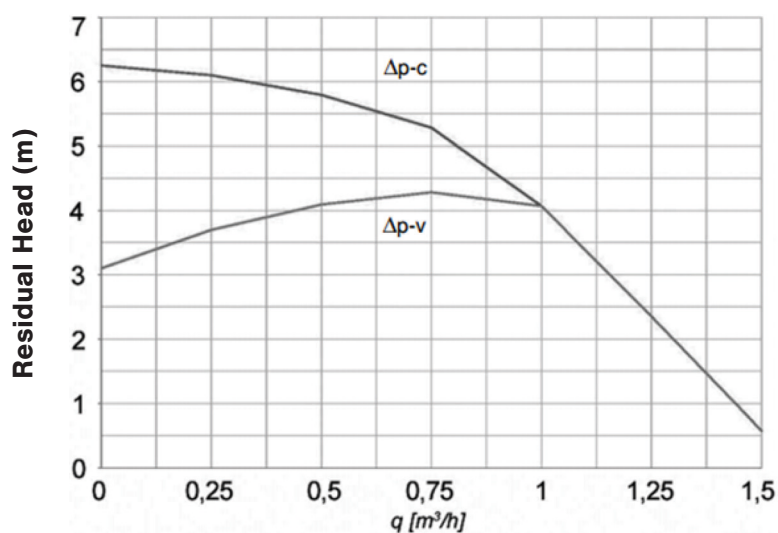
## FLOWRATE VS PRESSURE

$Kvs = 2.5$

Primary Circuit - Connections D - E



Secondary Connections - Connections A - C



## 04. IMPORTANT POINTS

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The water connections are on the bottom of the unit.

The 230V, 50Hz power supply must be protected by a suitable MCB.

A flue thermostat must be mounted on the solid fuel boiler/stove and connected as a volt-free contact to the EasyStove. The ESBE CTF150 model flue thermostat is supplied with the EasyStove.

### SAFETY WARNINGS

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#### **INCORRECT SYSTEM DESIGN HAZARD!**

System design and installation should only be undertaken by skilled and experienced professionals and in accordance with all relevant regulations. These include but are not limited to the Building Regulations, IEE regulations and the instructions provided by manufacturers of stoves and boilers. Incorrect design and installation may lead to unsafe operation resulting in injury, death or property damage.



#### **ELECTRICAL HAZARD!**

The unit contains live equipment. Disconnect the power supply before working on this equipment.



#### **BURN HAZARD!**

The equipment may become very hot in normal operation. Do not touch the equipment while in use.



#### **SCALD HAZARD!**

Hot water heated by solid fuel stoves may become very hot. A suitable control device such as a blending valve should be fitted to the domestic hot water supply to ensure that users are not exposed to scalding hot water.



#### **USAGE WARNING**

This appliance must be used only for the purpose for which it is intended. Any other use is not permitted and may be dangerous.

# 05. SYSTEM LAYOUT

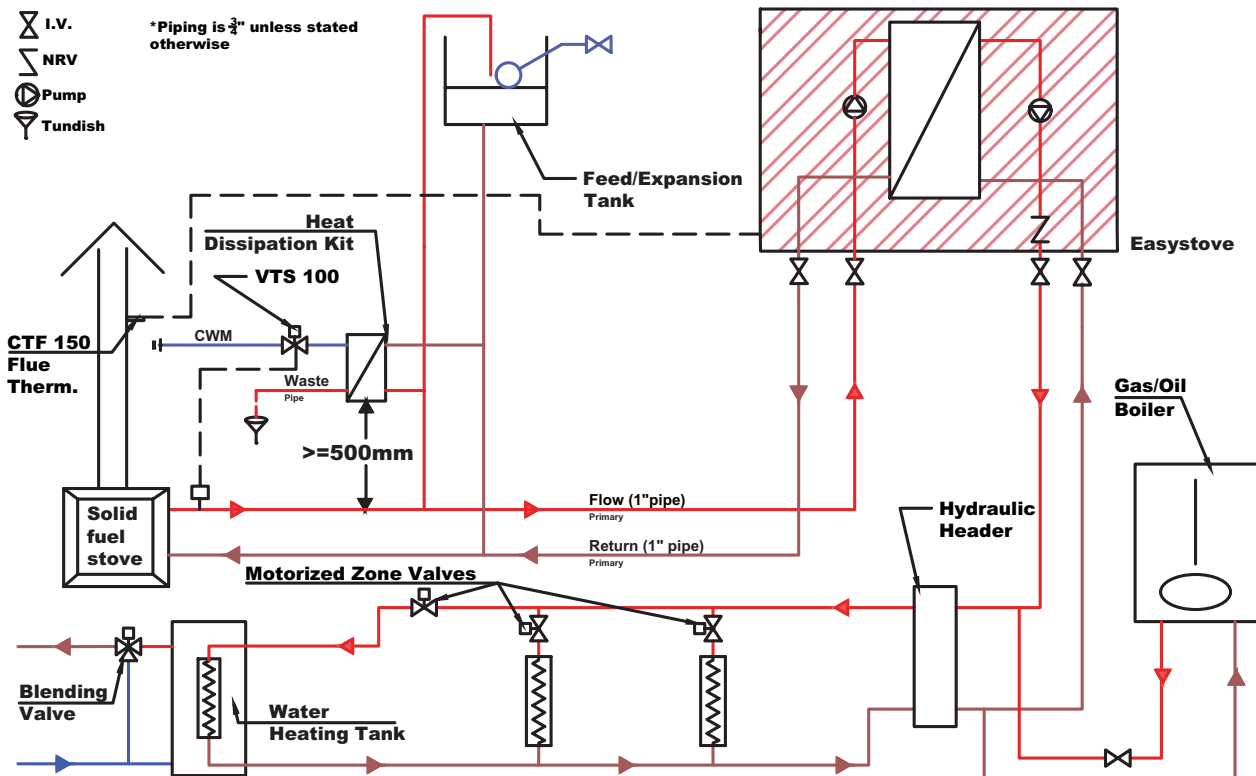
## FUNDAMENTAL REQUIREMENTS

System designers and installers should use their experience, comply with all standards and best practice, and must ensure that the following fundamental requirements are met:

1. The solid fuel circuit should be “open vented” and fitted with a suitable expansion tank and vent pipe.
2. A permanent heat load, capable of operating in the event of power failure, should be available to dissipate heat from the solid fuel system and prevent “pitching” to the expansion tank. The EasyStove Heat Dissipation kit is a good solution for safe heat dissipation.
3. A suitable and approved blending valve must be fitted to the domestic hot water supply to ensure that the possibility of excessively hot water being delivered to water outlets is eliminated. Hot water may become very hot when heated by solid fuel. If this is delivered to water outlets, it may cause scalds and burns.

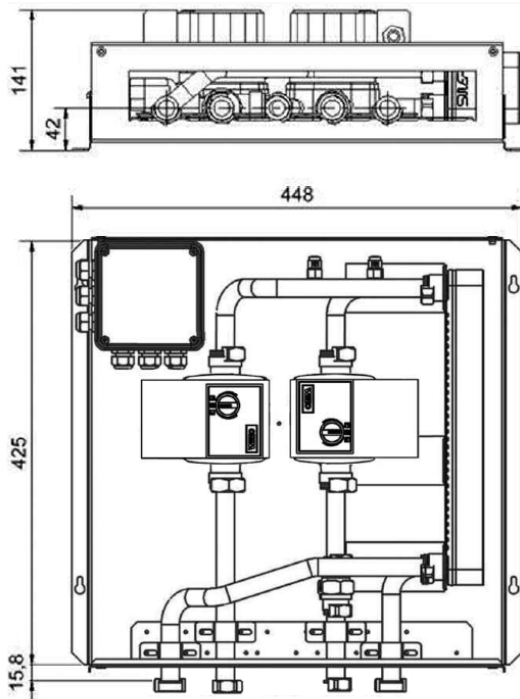
## SUGGESTED SYSTEM LAYOUT

The scheme below will suit many systems. It takes account of the fundamental requirements outlined above. Some stoves and boilers will have a heat dissipation facility but if this is not present, the EasyStove heat dissipation kit should be installed as shown. The heat dissipation kit should be installed on the feed and expansion pipes as indicated. Dimension L should not be less than 500mm and the heat dissipation kit should be at least 800mm below the expansion tank.

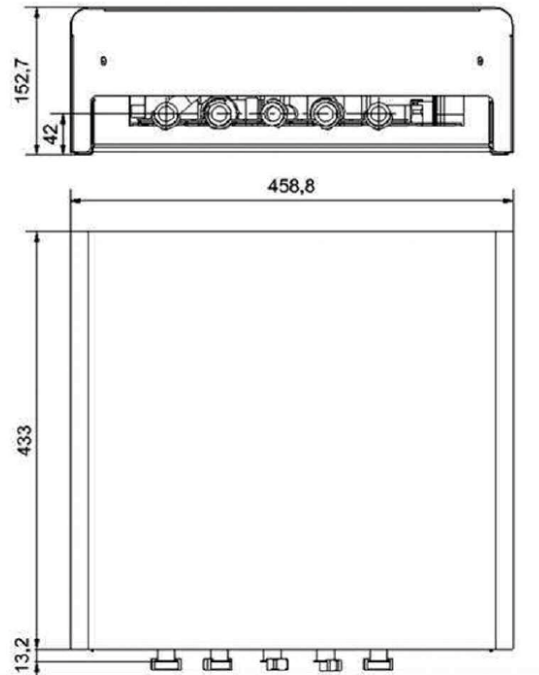


## 07. DIMENSIONS

### WITHOUT COVER



### WITH COVER

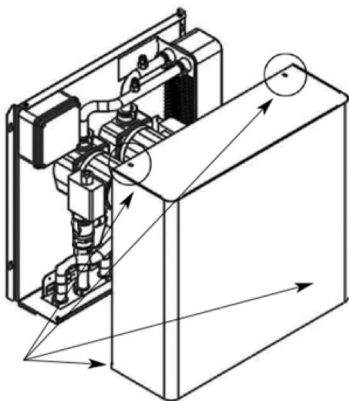


## 06. INSTALLATION

The EasyStove is suitable for mounting indoors and should be protected from frost. It should be mounted on a vertical wall capable of supporting the weight of the unit. Leave adequate space around the unit to facilitate maintenance operations.

### WALL MOUNTING

The EasyStove is normally supplied without a cover. If the unit is equipped with a cover, it should be removed and placed in a safe place. The cover is attached to the frame using four screws, two on the top and two on the bottom.



Installation requires no. 4 screws  $\varnothing$  8mm (not included), suitable for the type of wall. The position must be selected to allow easy connection of the pipes to the appliance.

Once you have chosen the position of the unit, confirm that clearances for service are maintained and that the wall and fixings are robust enough to support the weight of the appliance.



## MOUNTING OF FLUE THERMOSTAT

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Ensure that the flue thermostat is firmly and securely inserted in or bonded to the flue pipe.

## WATER CONNECTION

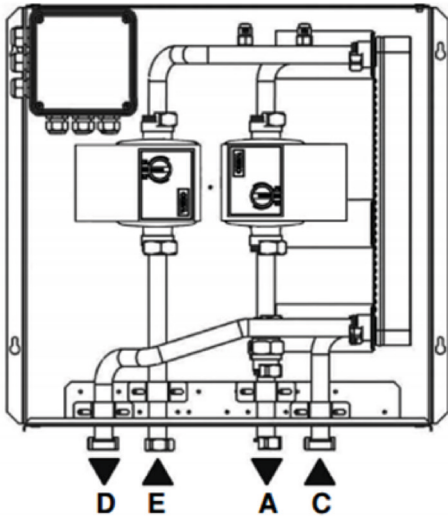
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The water connections are at the bottom of the unit. Where pipe connections are rigid, flexible connections may be used to compensate for mechanical and thermal stresses.



### **IMPORTANT**

Isolation valves should be fitted to all connections to facilitate maintenance operations.



A	Flow to System
C	Return from System
D	Return to Stove
E	Flow from Stove

All water connections are female threaded with a union in accordance with ISO 228/1 G3 / 4 "F.



### **CAUTION**

Take care when tightening the unit connections to avoid distortion of the copper tubes. Do not apply excessive torque and support connections adequately.



### **CAUTION**

All units are pressure tested with water. It is possible that seals have suffered a natural volume reduction due to drying. The installer should check all connections and tighten them if necessary to restore the compression of the gasket. The installer is responsible for ensuring that the entire system is watertight.



### **NOTE**

Ensure thorough flushing of the system, to eliminate dirt, before commissioning.

## 08. ELECTRICAL CONNECTION

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### **WARNING - ELECTRICAL HAZARD!**

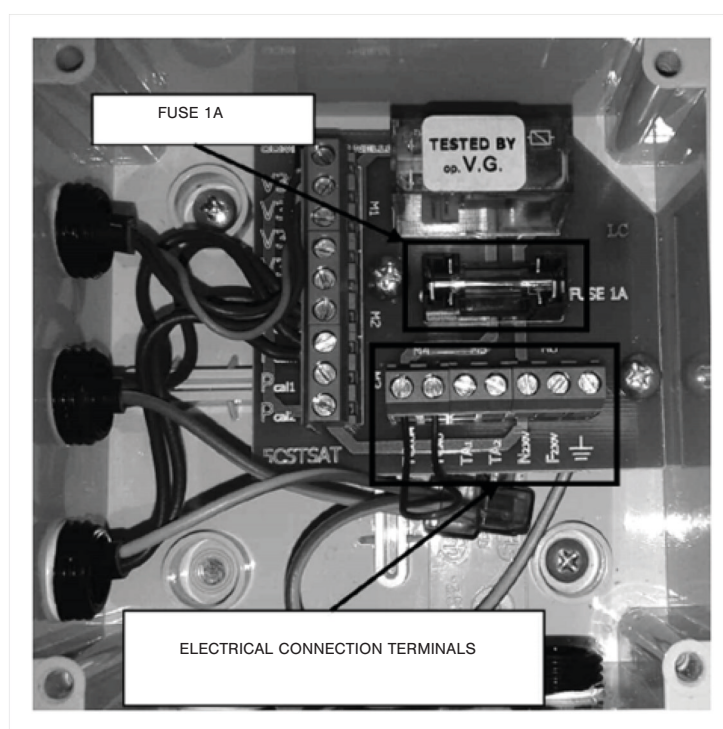
Isolate the power supply before performing any work on the equipment.

**The electrical installation must be carried out by a qualified electrician. The equipment must be installed in accordance with IEE and all other relevant regulations.**

The EasyStove requires a 230 volts, 50Hz, single phase power supply. The power supply must be protected by a suitable MCB.

The EasyStove must be earthed in accordance with the IEE Regulations and local codes.

Observe the proper electrical polarity. The method of connection to the electrical supply must facilitate complete isolation and should preferably be made via a fused isolator having a contact separation of at least 3mm in all poles and supplying the appliance only. The isolator should be located within 1m of the appliance.



### **POWER SUPPLY**

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The cable supplying the appliance must be a heat resistant type with 3 conductors of minimum CSA = 1.5 mm<sup>2</sup>

Conductor colours must comply with IEE requirements:

- Neutral - Blue
- Phase - Brown
- Earth – Green / Yellow

Note: a permanent power supply is required for operation of the appliance.

## CONNECTION TO SOLID FUEL BOILER

A heat resistant cable with 2 x 0.75 mm<sup>2</sup> conductors is required to connect to the flue thermostat of the solid fuel boiler. The thermostat device must be provided with dry contacts(voltage-free) and be connected to the terminals TCcom - TCno.

### Operation:

#### Contact TCcom - TCno closed:

The solid fuel boiler/stove is off or not at temperature.

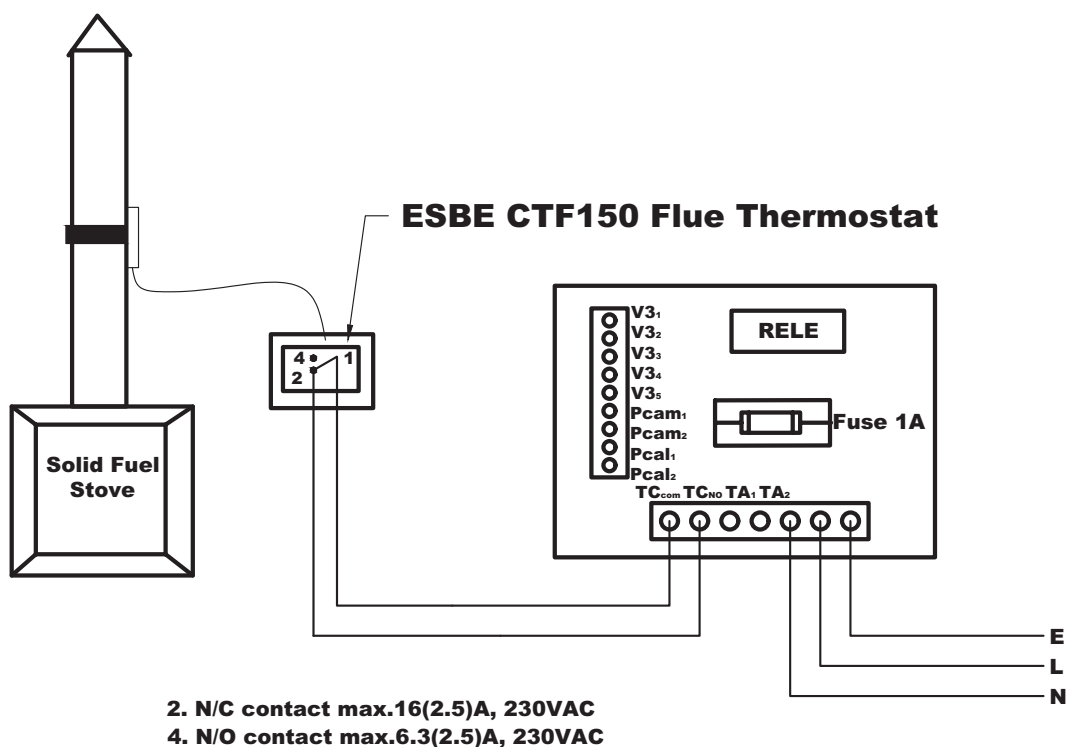
#### Contact TCcom - TCno opened:

The Solid fuel boiler/stove is at operating temperature

### NOTE

On increase of the temperature of the solid fuel boiler/stove, the TCcom -TCno contacts will move from CLOSED to OPEN.

## SCHEMATIC



## 09. COMMISSIONING

Before operating the equipment, ensure that all air is purged from the EasyStove using the appropriate manual air vents and that the pump impeller of the pump is free to rotate. Ensure that all air is purged from the EasyStove Heat Dissipation kit (if used). The presence of air in the primary stove circuit will prevent normal circulation.

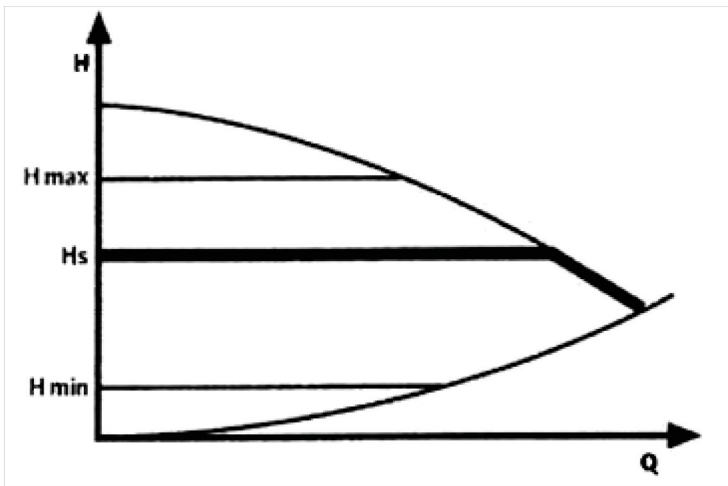
Once the installation is complete and after checking that all of the electrical and hydraulic connections are correct, the unit can be started by switching on the power supply.

### CIRCULATION CONTROL

Set the pump control to match the type of system. In most cases, the  $\Delta p$ -c operating mode is a good choice.

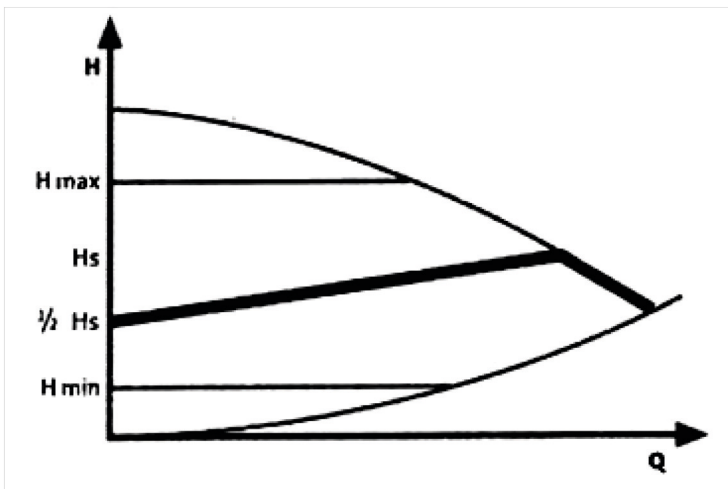
#### Operating mode: $\Delta p$ -c

The electronic control maintains a constant differential pressure generated by the pump at the set-point  $H_s$ .



#### Operating mode: $\Delta p$ -v

The electronic control varies the set-point of the differential pressure to maintaining linear pump operation between  $H_s$  and  $\frac{1}{2}H_s$ .



#### Air Purging Function:

An integrated purging function alternates high and low speed pump operation for 10 minutes after start up.

## 10. MAINTENANCE AND TROUBLESHOOTING



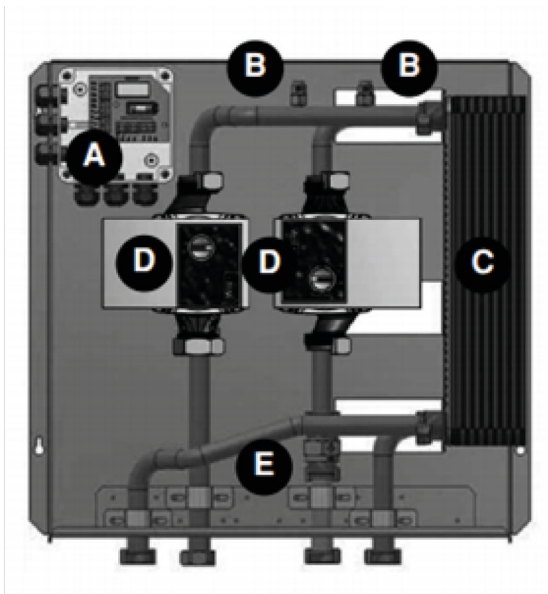
Maintenance and repair work must be performed by experienced technicians only. Disconnect the power supply before carrying out any work on the equipment.

The EasyStove must be inspected annually to ensure correct operation and the absence of leaks. A record of the annual inspection should be preserved.

### Troubleshooting:

Problem	Solution
No Circulation	<ul style="list-style-type: none"><li>• Check that the unit is properly connected</li><li>• Check operation of the circulation pumps</li><li>• Check for obstructions in the system</li><li>• Clean any filters</li></ul>
Heat Exchange does not occur when TCcom - TCno contact is open	<ul style="list-style-type: none"><li>• Check the electrical connections to the unit ensuring that the polarity is correct</li><li>• Check the circulation pumps</li></ul>
The stove boils even though the power is connected to the EasyStove	<ul style="list-style-type: none"><li>• Check that the flue thermostat is installed properly and has a good contact with the flue pipe</li><li>• Check that the Flue Thermostat is set correctly. A temperature of about 150°C is usually satisfactory</li><li>• Check that the normally closed contacts of the flue thermostat are connected</li><li>• Check that the pumps are running and the speed is set correctly</li><li>• Check if the Stove output exceeds the specifications of the EasyStove</li></ul>

## 11. SPARE PART LIST



A	RVCIES
B	RFSFIATO18
C	RFSCAM14S
D	RFCIRCYP
E	RVFN34MF



## Contact us:

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