

INSTALLATION & COMMISSIONING  
INSTRUCTIONS

Model: 990 CH

ESSE



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## GENERAL SAFETY INFORMATION

In the UK, the installer has a responsibility under the Health and Safety at Work Act 1974 to provide for the safety of persons carrying out the installation. Attention is drawn to the fact that fire cement is caustic and hands must be washed thoroughly after use. The appliance is heavy (max 450kg) and care must be taken during handling. Although the appliance does not contain asbestos products, it is possible that asbestos may be disturbed in existing installations and every precaution must be taken.

These instructions give a guide for the installation of the appliance but in no way absolve the installer from responsibilities to conform to British Standards, in particular BS8303 and BS6461, relating to the installation of solid fuel appliances. All local regulations including those referring to national and European standards need to be complied when installing this appliance.

Outside of the UK, the installer must comply with all local, national & European standards that apply.

Any adjacent combustible material should be far enough away from the appliance so as not to raise 60°C above the room temperature when the appliance is in operation. If necessary, any adjoining walls should be protected from the effects of heat. Clearances from combustible materials are 20mm from the sides and 40mm from the rear.

It is also recommended that a smoke alarm and appropriate fire safety equipment such as a fire extinguisher and fire blanket are installed in the kitchen as a safety precaution.

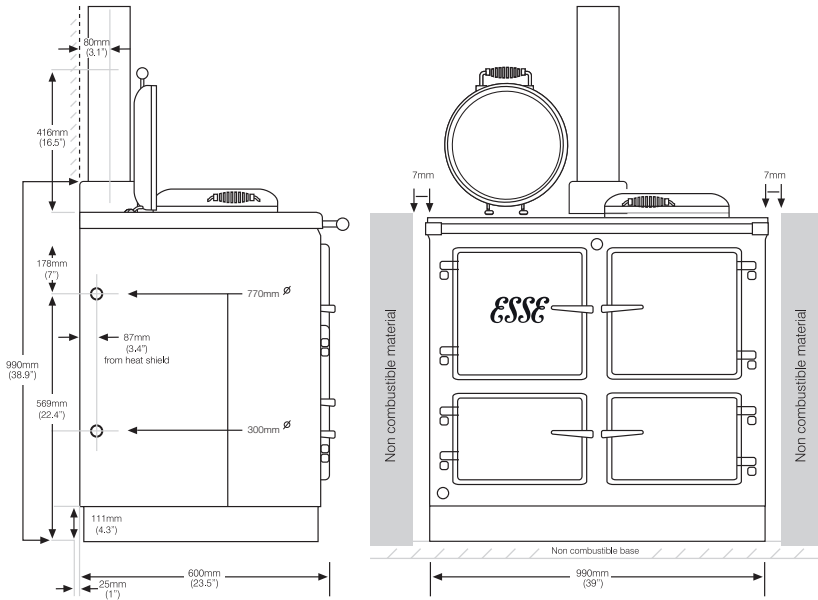
An adequate air supply for combustion and ventilation is required. A purpose provided air vent is necessary. Air openings provided for this purpose must not be restricted.



**WARNING**

This appliance is not suitable for installation in a shared flue system

Fig.1 – Cooker Dimensions Note: All dimensions are in millimetres



## CHIMNEY AND FLUE INFORMATION

The successful operation of the cooking appliance relies on the adequate performance of the chimney to which it is connected. The following chimney guidelines must be followed:

- It should have an internal cross section of no less than 320cm<sup>2</sup> (200mm dia.) If a flue liner is used, it should be 150mm (6") diameter and be made of suitable material for burning solid fuel).
- Voids in the chimney should be avoided, as these will prevent a steady flue draught. The appliance flue pipe should pass beyond the narrowing of the chimney.
- Be terminated at least 1m above roof level so that the chimney does not terminate in a pressure zone.
- If the appliance is installed as a freestanding appliance, it should not support any part of the chimney.
- Be free from cracks, severe bends, voids, and obstructions.
- Be connected to this one appliance only.
- New chimneys must be in accordance with local regulations.
- The chimney must be capped to prevent ingress of rain.
- A flue/chimney access point may also be required so that the state of the chimney can be checked and any fallen soot removed.
- External flues must be insulated to prevent heat loss.
- Do not fit an extractor fan in the same room as the appliance.
- Be a minimum 4.6m high from top of the flue box to the chimney pot.



**NOTE**

The chimney/flue to which this appliance is being connected must be swept and examined for soundness prior to installation. Remedial action should be taken if required, seeking expert advice if necessary. Where the chimney is believed to have served an open fire installation it is possible that a higher flue gas temperature from a closed appliance may loosen deposits that were firmly adhered, with the consequent risk of flue blockage. It is therefore recommended that the chimney be swept a second time within a month of regular use after installation.

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## **INSTALLING THE APPLIANCE**

### **Flue Connection**

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The flue pipe used to connect the appliance to the chimney is 6" (150mm) in diameter. A 5"- 6" adaptor is supplied to connect to the flue box of the cooker. (The flue connection is on the top of the appliance, in the centre at the back.)

### **Important Installation Notes**

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1. The installation must allow access for adequate chimney sweeping and flue cleaning.
2. Avoid using bends greater than 45° to the vertical. All flue pipe sections should be as close to the vertical as possible.
3. All joints in the flue system must be effectively sealed.
4. All flue sockets must face upwards. On completing the installation of the appliance, the chimney, hearth and walls adjacent to the cooker must conform to local or national regulations currently in force. In the United Kingdom, the appropriate sections of the Building Regulations must be conformed to.
5. Air inlet grilles should be positioned so that they are not liable to blockage.
6. An air extraction device shall not be used in the same room as the appliance unless adequate additional ventilation is provided.
7. A flue cleaning door should be fitted to provide access for cleaning the flue and chimney.
8. Check the appliance for soundness of seals between casting and main components and that all supplied parts and fittings are correctly fitted.
9. Ensure the appliance is left operational and hand over the operating instructions and operating tools supplied.
10. Before leaving the installation demonstrate the operation of the appliance to the user. Explain all controls and flue way access for cleaning.

## Placing the cooker

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The 990 can be lifted from the pallet it is delivered on utilising **ESSE** lifting wheels issued to **ESSE** retailers. These allow the cooker to be wheeled into position in the home. Once decoupled from these wheels and on a flat floor, the cooker can be gently moved backwards by removing the kick strip & fitting one set of wheels to the front to lift the cooker, so it can then be pushed back towards the wall using the built in rollers in the base of the cooker at each side at the rear. Push on the front of the top casing but not the towel rail. Do not use the towel rail or the bolster lid handles as a lifting rail as damage will occur.

## Positioning

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The appliance should be sited on non-combustible material.

## FLUE DRAUGHT

The chimney can be checked before the appliance is installed with a smoke pellet. If the chimney doesn't pull the smoke it may suggest the chimney needs attention.

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### NOTE

This test is only a guide as an apparently poor flue may improve once the appliance is installed, lit and the flue is warmed. If, once the appliance is installed there is any doubt that the chimney is providing an adequate draught, a flue draught reading should be taken.

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## Flue Draught Readings

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Two flue draught readings should be taken, one with the appliance at minimum firing rate and one at maximum firing rate. The flue draught should be taken behind the flue box door.

**Minimum reading:** The appliance should be lit and allowed to warm the flue thoroughly. Close the thermostat control and the flue box door and ensure firebox door is fully closed. Allow the burning rate to become steady. The flue draught reading should now be taken; the minimum required is 12 Pascals [Pa] (0.05" w.g.).

**Maximum reading:** The boiler thermostat control can now be opened to allow the appliance to burn at maximum rate. Keep the flue box door closed. Take a flue draught reading.

Ideally, the flue draught readings should range between 12Pa, (0.12mm or 0.05" w.g.) and 24Pa, (2.5mm 0.1" w.g.). Any readings significantly outside this range may indicate the need for remedial action. Low flue draught symptoms: difficult to light and smoke coming into the room. High flue draught means fuel burns away very quickly.

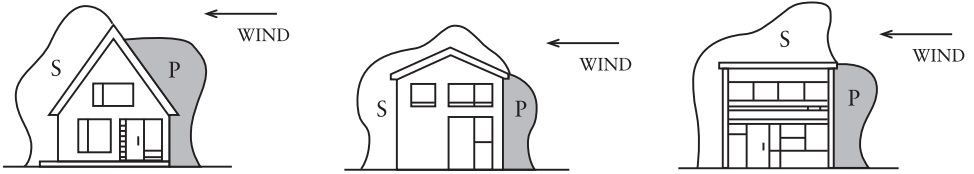
## Flue Stabiliser

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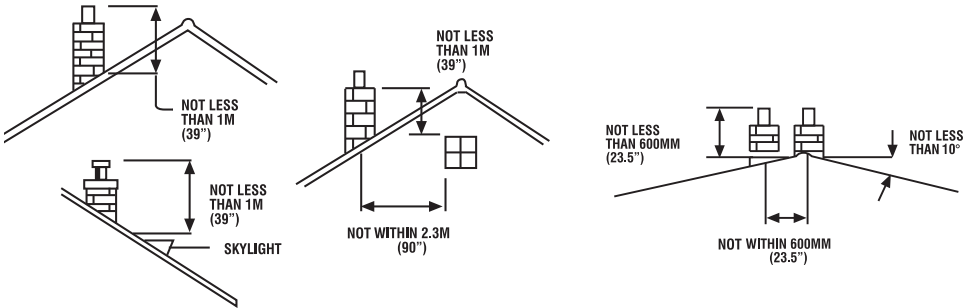
A flue stabiliser can be fitted to reduce the draught through the appliance if the draught is too high. The flue stabiliser should be fitted in the same room as the appliance and be the same size as the flue pipe. (Note: extra ventilation will be required as stated in the Building Regulations.

# CHIMNEY AND FLUE

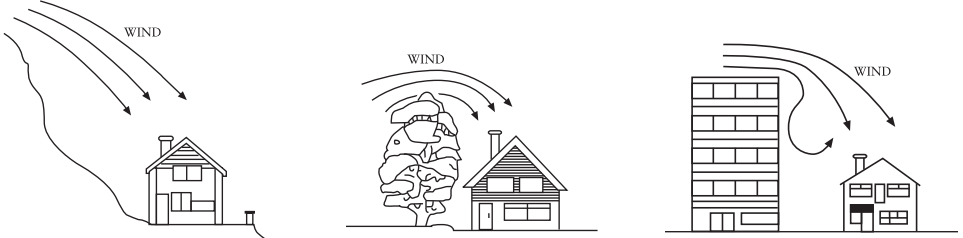
1) Pressure (P) and suction (S) zones created by wind



2) The position of chimney outlets



3) Potential causes of down draught



## LOW FLUE DRAUGHT SYMPTOMS: DIFFICULT TO LIGHT AND SMOKE COMING INTO THE ROOM

CAUSE	REMEDY
Cold chimney	Line the chimney
Chimney too short	Extend the chimney
Down draught	Relocate/extend chimney terminal. Fit an anti down draught cowl.
Chimney diameter too large	Line the chimney
Chimney obstruction	Clear/sweep the chimney
Restricted air supply	Check for competing draughts (other chimneys, extractor hood/fans). Fit an air vent if the room is sealed.

## HIGH FLUE DRAUGHT SYMPTOMS: FIRE DIFFICULT TO CONTROL, FUEL WILL NOT LAST, COOKER TOO HOT, APPLIANCE DAMAGE, CHIMNEY FIRE.

External wind conditions combined with chimney terminal	Fit stabiliser cowl. Fit flue draught stabiliser.
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## HOT WATER SYSTEM

The connections will be supplied by your installer.

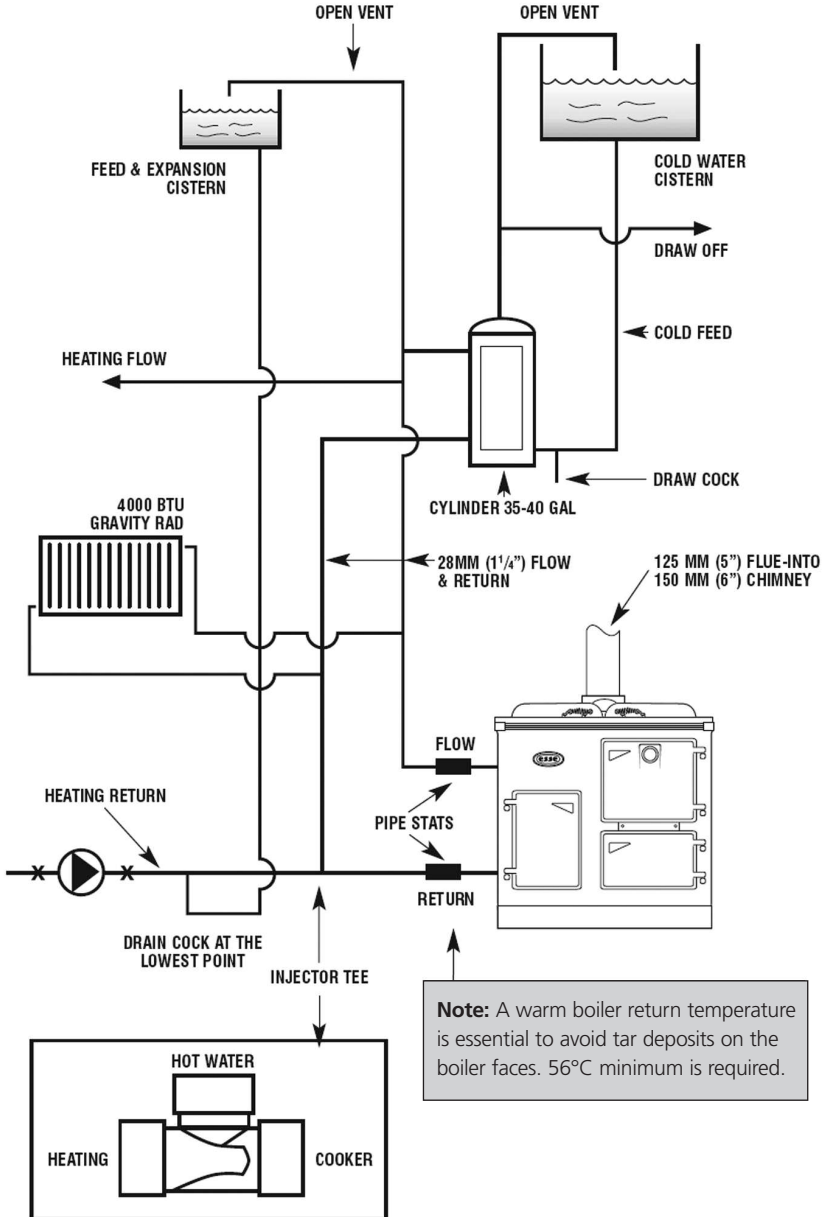
Water connections: There is one water flow connection and one water return connection on the left hand side of the cooker. Connections are Rp1 (1" BSP female). By using 1" BSP/28mm elbows, the pipes can be brought out of the back of the cooker if preferred. The storage cylinder should be 30-gallon minimum capacity insulated to prevent heat loss and as close to the cooker as possible.

This appliance is not suitable for use with sealed (pressurised) system.

### General Notes on Water System

1. The cooker will produce hot water at different rates depending on how it is operated. A thermostat is fitted.
2. The system must be designed to cope with loads between the maximum and minimum output. The maximum output is 16.9kw (57799 Btu/h) in winter configuration and 3kw (10260btu/h) in summer configuration. Installation procedure should follow the above, the cylinder being as near the cooker as it is possible to avoid long pipe runs and subsequent heat loss.
3. An indirect storage cylinder is essential for domestic hot water supply, irrespective of whether the water supply is hard or soft. Minimum capacity is 30 gallons. Cylinder should be as close to cooker as possible.
4. The central heating circuit may be gravity circulation, but a pump system is preferred. To allow heat from the boiler to be absorbed should there be a pump stoppage on an accelerated circuit, the primary domestic supply must be gravity operated.
5. Installation as a central heating system alone, i.e. without a domestic supply, is not recommended as the boiler will produce heat when the cooker is in use, irrespective of central heating demand, and primary absorption must be provided.
6. Whichever system is chosen the layout must follow established heating engineering practice. To avoid trapping air in the boiler a 1" BSP connection must be used on the flow trapping, and any reduction in pipe size thereafter being made on a vertical rising pipe. The cooker must be level when fitted and the flow pipe must rise from the boiler. A drain cock must be fitted on the lowest point of the return pipe and a vent to atmosphere at the highest point of each circuit.
7. The cylinder and pipe work should be lagged to avoid heat loss.
8. The static head must not exceed 60 feet of water.
9. The static head must not exceed 2 bar.
10. If the appliance is to be fitted onto an existing water system then it must be power flushed prior to the commissioning of the unit inhibitor re-added. Failure to carry out this operation will seriously affect boiler performance and negate any warranty claim.
11. We strongly recommend that a boiler control unit is fitted in conjunction with this appliance. This will ensure a return water temperature of at least 60°C
12. A pipe thermostat should be fitted on the return to knock the pump off should the water temperature drop below 60°.

# Basic Heating System





## REPLACEMENT PARTS

Flexible Flue Rake	2040-807 S
Hotplate Screw	CENT-118 S
Hotplate Lifting Tool	2040-400 BO
Flue Brush	WN/WD 3" DIA FLUE BRUSH
Cast Iron Shovel	WFCIS
Hotplate Rope	ROPE/CUT.WHT-T/25x1800
Bolster Rope	ROPE/CUT.WHT/8x1800-C
Ashpan	SF 990-024
Solid Fuel Grate	SF 990-032
Oven Rope	ROPE/CUT.GRY/18x1360-G

# Notes

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## TECHNICAL INFORMATION

Nominal heat output	22kW
Combustion air requirements	93.5cm <sup>2</sup>
Weight of appliance	450kg
Minimum chimney draught	12Pa
Maximum Chimney Draught	25Pa

The logo for Esse Engineering Limited, featuring the word 'ESSE' in a large, stylized, black serif font with decorative flourishes.