

ESSE WOODFIRED COOKER

INSTALLATION INSTRUCTIONS

MODEL: W35



GENERAL 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 380kg) 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 **BD6461**, relating to the installation of solid fuel appliances. The installation should also comply with local Building Regulations and Local Authority by laws.

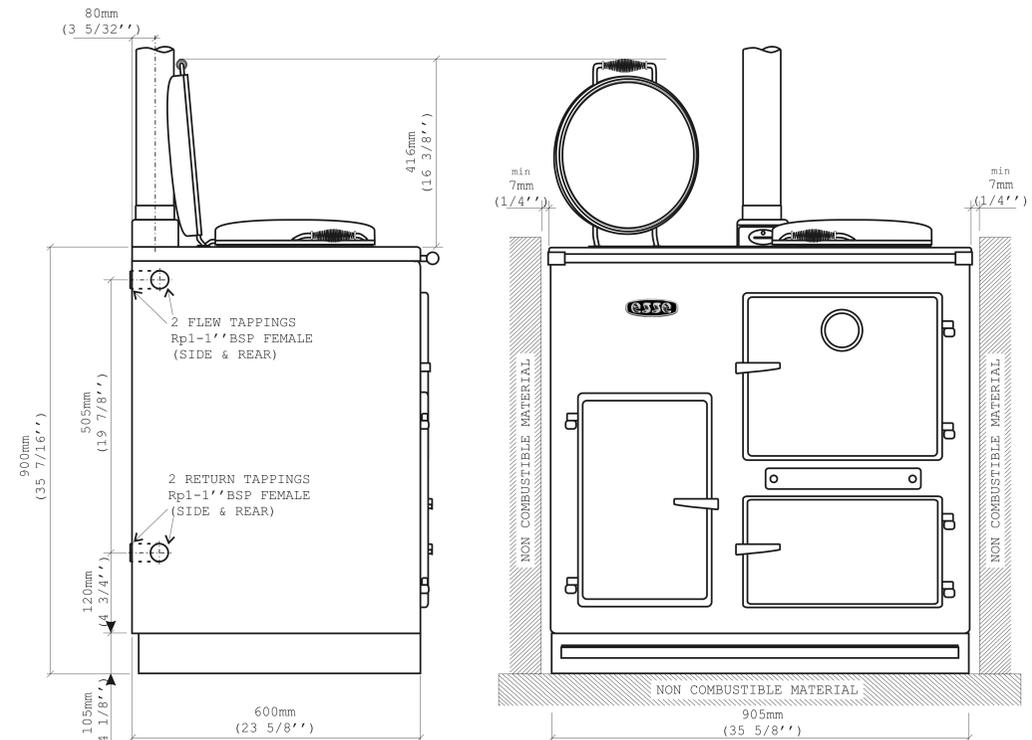
Outside of the UK, the installer must comply with all local, national & European standards that apply.

Any adjacent combustible material should be far enough away from the appliance so as not to rise 65°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.

Note: The illustration below provides essential boiler tapping measurements and will help when selecting the location of the cooker. **When installing a W35 with a Plus2 module, pipe work will need chasing into the wall behind the Plus2.**

An adequate air supply for combustion and ventilation is required of at least 2585mm² (approx 58mm diameter) – refer to building regs document J. Air openings provided for this purpose must not be restricted.



WINTER & SUMMER CONFIGURATIONS

The cooker is factory set in the winter configuration (i.e. 9.7kW – 33.100Btu/h to water). For summer configuration (i.e. 3.7kW – 12.600Btu/h to water), an optional summer configuration kit is available.

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 320cm² (200mm dia). If a flue liner is used, it should be 6'' (150mm) diameter and be made of suitable material for burning wood. The flue diameter is 6'' (150mm).
- 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 connected to this one appliance only.
- Be free from cracks, severe bends, voids, and obstructions.
- 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 hob chimney level to 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 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.

FLUE DRAUGHT

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

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.

FLUE DRAUGHT READING

Two flue draught readings should be taken, one with the appliance at minimum firing rate and one at maximum firing rate. The flue draught test hole must be drilled in the flue pipe as close to the appliance as possible and before any flue draught stabiliser.

Minimum reading: The appliance should be lit and allowed to warm the flue thoroughly. Close the air slider control, 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 15 Pascals [Pa] (0.06'' w.g.).

Maximum reading: The air slider control can now be opened to allow the appliance to burn at maximum rate, and the firebox door open on the first catch. Keep the flue box door closed. Take a flue draught reading.

Ideally, the flue draught readings should range between 15 Pa, (0.06'' in w.g.) and 24 Pa (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 and fuel burns away very quickly.

FLUE STABILISER

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.

POSITIONING

The appliance should be sited on non-combustible material.

INSTALLING THE APPLIANCE

FLUE CONNECTION

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 range.)

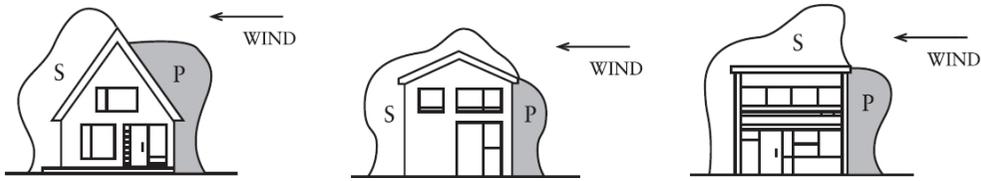
The flue connection is on the top of the appliance, in the centre at the back.

IMPORTANT INSTALLATION NOTES

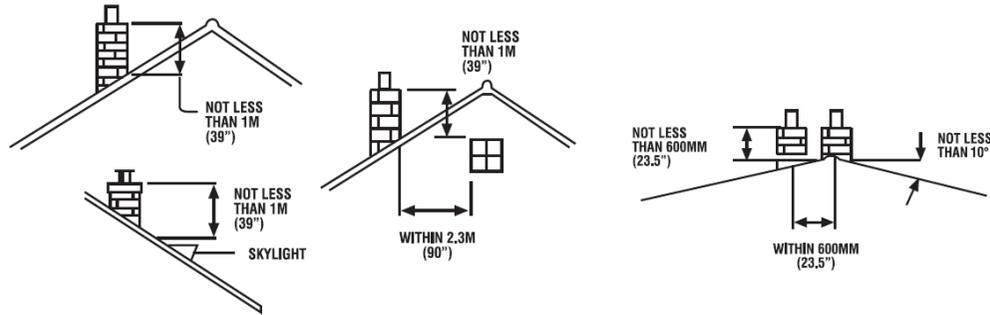
1. The installation must allow access for adequate chimney sweeping and flue cleaning.
2. Avoid using bends greater than 45° to the vertical. All flue pipe sections should be as close to the vertical as possible.
3. All joints in the flue system must be effectively sealed.
4. All flue sockets must face 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 grills 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 castings and main components and that all supplied parts and fittings are correctly fitted.
9. Ensure the appliance is left operational; the heating system correctly balanced and hand over the opening 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.

CHIMNEY AND FLUE

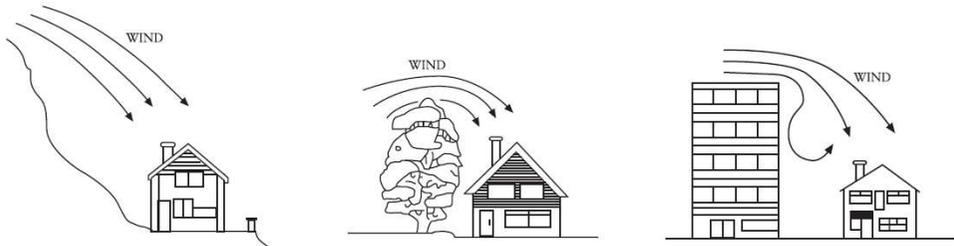
Pressure and suction zones created by wind



The position of chimney outlets



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, COOKING 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 SYSTEMS

The connections will be supplied by your installer.

Water connections: There are two water flow connections and 2 water return connections. One of each on the left hand side of the cooker and one of each at the rear of the cooker. All 4 connections are Rp1 (1" BSP female). 2 – 1" BSP plugs are supplied to blank off any unused connections. The storage cylinder should be 30-gallon nominal capacity insulated to prevent heat loss and as close to the cooker as possible. Follow general notes below, item (B) (6), (7) & (8).

These appliances are not suitable for use with sealed (pressurised) systems.

GENERAL NOTES ON WATER SYSTEM

1. The cooker will produce hot water at different rates depending on how it is operated. See 'Heat output to water' below. A thermostat is fitted.
2. The system must be designed to cope with loads between the maximum and minimum output.
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.

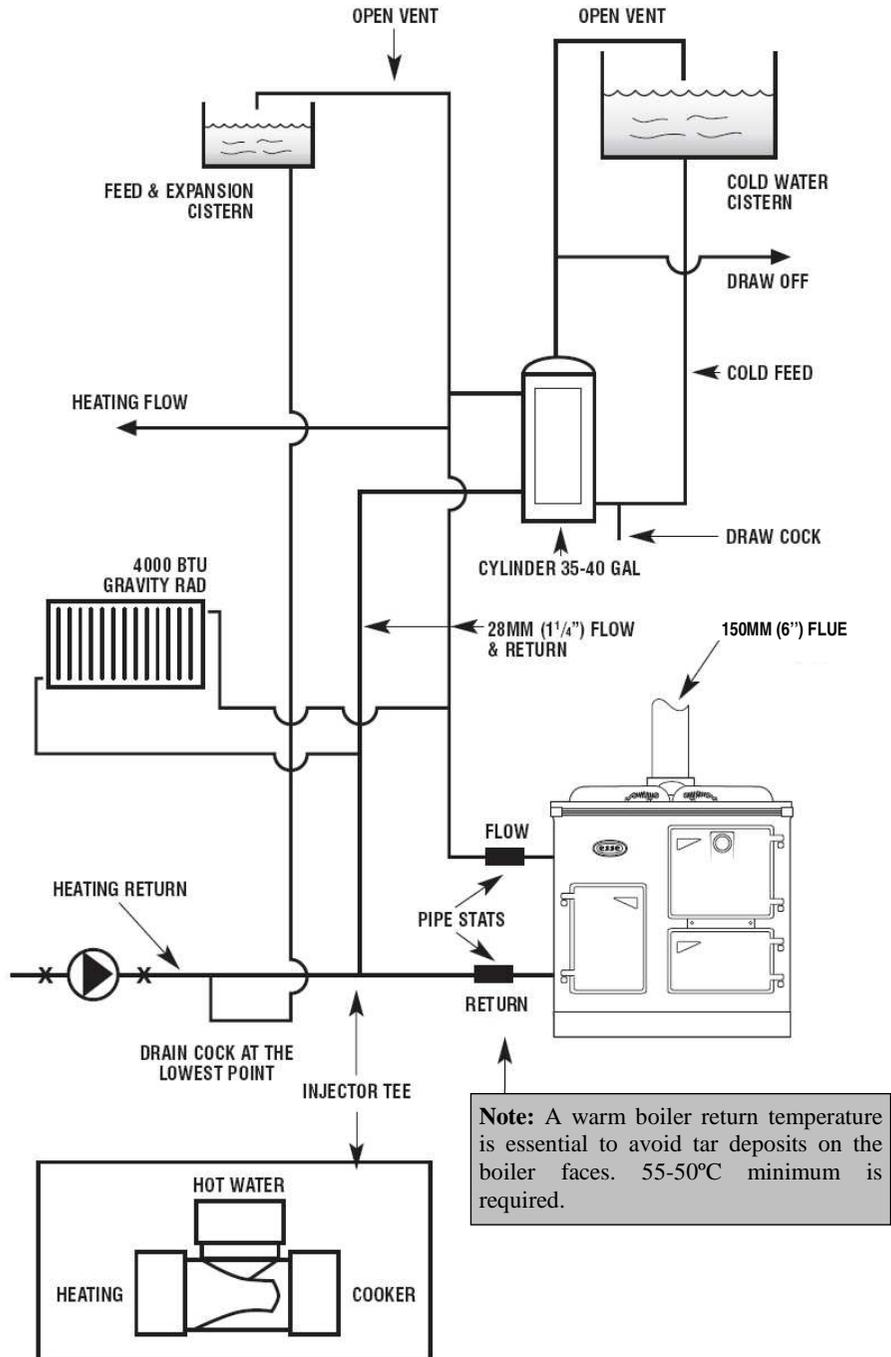
HEAT OUTPUT TO WATER

The maximum output is 9.7kW (33.100Btu/l) in winter configuration and 3.7kW (12.600Btu/l) 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.

POWER FLUSH. WATER SYSTEMS

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.

Typical DHW Gravity System



INFORMATION FOR USE WHEN ORDERING SPARES:

Model: _____
 Serial Number: _____
 Colour: _____

TECHNICAL INFORMATION

Weight of appliance	kg	370kg
Minimum chimney draught	Pa	15Pa
This appliance is not suitable for installation in a shared flue system		
Winter configuration (thermostat and primary air slider open)		
Nominal heat output (total)	kW	13.9kW
Nominal heat output (to water)	kW	9.7kW
Nominal heat output (to space)	kW	4.2kW
Mean flue gas temperature	°C	276
Flue gas mass flow	g/s	15.8
Summer configuration (thermostat and primary air slider closed, summer fabrics fitted)		
Nominal heat output (total)	kW	5.3kW
Nominal heat output (to water)	kW	3.7kW
Nominal heat output (to space)	kW	1.6kW
Mean flue gas temperature	°C	176
Flue gas mass flow	g/s	8.8

Performance guidelines based on a flue draught of 15Pa and using seasoned hardwood with a moisture control of less than 20%.

ADDITIONAL SERVICING PARTS

1. Combuster (shown below)
2. Brick Linings (winter)



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