



Flues, Chimneys and Ventilation



Safety

Every type of flue and chimney should comply with European and national legislation regarding materials, design and flue termination point. Flues should terminate where the combustion gases will disperse quickly and won't re-enter the property or cause a nuisance to neighbours. Termination below a balcony, car-port or any other area where flue gases might stagnate should also be avoided.

Extra care is needed when selecting a suitable position for a condensing boiler flue termination. When operating at their most efficient, condensing boilers can emit a 'plume' of water vapour from the flue terminal. White in colour, this vapour is harmless, but should be considered when siting the boiler. Where a flue terminal is located less than two metres from ground level or where it could be accessed by people, it must be protected with a terminal guard. Your OFTEC Registered Technician will be able to advise on the most suitable flue system to ensure compliance and reliable operation.

Annual inspection

All oil appliance installations should be serviced at least annually to ensure safety and correct operation. This work should include the checking of flue and ventilation openings, where applicable, to ensure that they are in good condition and not obstructed.

Finding an OFTEC registered technician

The OFTEC website enables you to locate your nearest registered technicians by postcode entry. OFTEC registered technicians are appropriately qualified and insured to work in your home. They can also advise you on energy efficiency. You can also find a list of local registered technicians under the OFTEC logo in the 'Heating Engineers' section of your local pages.

About OFTEC

OFTEC plays a leading role in raising standards within the heating industries of the UK and Republic of Ireland.

Our trade association represents the interests of oil storage, appliance and supply equipment manufacturers and we develop course and assessment material for training providers. We also operate a UKAS accredited competent person registration scheme for over 8,000 technicians involved in the installation and maintenance of oil, solid fuel, and renewable heating equipment and Part P electrical work. Our online shop, OFTEC Direct, supplies a range of technical books, equipment and clothing products for heating technicians.



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In heating systems where fuel is burned, combustion gases are released which have to be safely expelled from the appliance and discharged into fresh air. Regional building regulations provide strict guidance on how this should be done. This home guide is intended to provide general information about the flue, chimney, and ventilation requirements of domestic oil fired boilers, cookers and stoves, up to 45kW output, used in the home. Your local OFTEC registered technician will be able to advise you on the specific requirements for your property.

Flue types

A flue is a specially designed pipe or duct that connects a heating appliance to fresh air and enables combustion gases to escape safely. The method by which combustion gases are conveyed from the appliance are generally categorised as 'balanced flue' or 'open flue'.

Balanced flues are supplied by the appliance manufacturer in kit form, which offers great versatility in siting the termination. These can be low or high level through a wall, or vertical through the roof. Balanced flues also have an advantage that they are designed to carry fresh air for combustion from outside, back to the appliance. Therefore, in the majority of installations there is no need for air vents to be provided for the appliance.

Open flued appliances typically consist of a pipe to carry gases from the appliances, whilst allowing fresh air into the appliance via the casing. This means that, for safe operation, air vents are required in the room where the appliance is installed to re-supply fresh air. Oil boilers that are intended for outdoor installation are open flue designs. These have a small flue termination built into the side or top casing. Air enters the appliance directly via vents in the appliance side casings.

Chimney options

The flues from most oil appliances can terminate via a masonry chimney so long as the chimney meets with the performance requirements of the appliance. Where existing chimneys do not meet these requirements, it may be possible to fit a suitable flexible lining system. Flexible liners should be replaced whenever a new appliance is fitted.

Air supply

In order for fuel to burn, oxygen is required, so it is essential to provide a dedicated air supply path to the appliance. Depending upon where the appliance is located, it may be necessary to



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provide additional ventilation for cooling purposes. Air supplies to appliance should be provided via non-closable openings. The size of opening(s) is based upon the flue type, the appliance output, and where the air supply is taken from.

Balanced flued appliances take air via their flue system, which has been determined by the appliance manufacturer. This benefits the home's heat efficiency because no additional air vents are required, unless the appliance is located within a confined space and requires cooling.

Open flued appliances take their air from the room in which they are located, so adequate ventilation is needed to replace the air that passes through the boiler. This is usually done by installing air vents in the room.

Open flued appliances should not be installed in a bedroom, bathroom or garage. Appliances which are of the room-sealed balanced flue type should be used in these locations. Restrictions apply to extractor fans where they are located within the same room as an open flued appliance. Your OFTEC registered technician can advise on the air supply requirements needed to ensure safe working operation of your appliance.