

flues, chimneys and ventilation

This easy guide applies to flues, chimneys and ventilation required for any domestic oil fired appliance, including boilers, cookers and stoves used in the home.

Flues and Chimneys

A flue is the circular or rectangular tube from which waste gases pass from an appliance to the external atmosphere.

A chimney is a constriction which contains a flue. Masonry chimneys should always be lined with a flexible stainless steel liner. Whenever a new appliance is fitted this steel liner should also be changed. Manufacturers also recommend that a cowl is fitted to chimneys to prevent rain entering.

There are two different types of flue; open and room sealed balanced flue. Open flues are where the products of combustion (flue gases) are expelled via a chimney, and where the appliance draws air for combustion from within the room in which it is located.

Room sealed balanced flues draw air for combustion directly from outside. Balanced flues are arguably more versatile because there is no need for a chimney. With a choice of low level, high level, left, right and vertical discharge, they also increase siting flexibility.

Where the appliance flue gas temperature is less than 250°C, regulations state that single or twin wall flue pipes are acceptable, and your OFTEC Registered Technician can advise on this. Care must be taken so flue pipes do not corrode. Many manufacturers produce stainless steel liners which are specifically designed for use with oil fired appliances that burn kerosene – also known as domestic heating oil.

Where to place your boiler to ensure adequate air supply

In order for fuel to burn, oxygen is needed. Therefore for open flue appliances that take their air supply from the room they are in, a combustion air supply path is required. For boilers with limited air supply, in compartments for example, additional ventilation air will be required.

Adequate combustion and ventilation air supply is vital for the safe working of appliances. Conventional or open flue appliances should not be installed where they can draw their air from a bedroom or bathroom, as this could result in dangerous levels of carbon monoxide being produced. A garage is also not an appropriate place because the air may well be full of car fumes. A balanced flue boiler should be used in these situations.

A boiler can be installed under stairs if the premises has no more than two storeys. However, it must be enclosed in a 30 minute fire compartment (i.e. rated fire resistant for at least 30 minutes) and ventilated from the outside.

In exceptional circumstances, and providing many requirements are met, a boiler can be placed in a loft space. It must use a balanced flue. House insurers and the local Fire Authority must be notified.

Extract fans must have limited extract rates and be placed as far away as possible from open flues serving oil fired appliances, as they could affect the air supply path.





Safety

Every type of flue and chimney should comply with EC Regulations. British Standards require that horizontal balanced flues terminate on a plain flat wall to allow flue gas dispersal and entry of fresh air.

When condensing boilers are operating at their most efficient, a 'plume' of water vapour might be emitted from the flue terminal. White in colour, this vapour is harmless, but should be considered when siting the boiler. Further information on condensing boilers can be found in OFTEC's Easy Guide to Appliances.

Flues for appliances should be suitable for the fuel type that will be used. Your OFTEC Registered Technician can advise on this.

For conventional or open flue systems, flues and chimneys must rise vertically and should not change direction. If this is not possible or practical, there should be no more than four bends and no horizontal runs in the entire flue route.

Once the flue gases have left the system they should disperse without causing nuisance. Flue outlets should not be placed near a window, or where higher parts of the building will affect the pull of the flue.

Where a flue is located less than two metres from ground level or where it could be touched by people, it must be protected with a terminal guard. Flue outlets should not be placed in carports or under balconies which may cause gases to stagnate around the building.

Regulations vary according to where you live. Your OFTEC Registered Technician will be able to advise.

Annual Inspection

To ensure the correct operation of an appliance and safety on persons, ventilation openings providing oxygen to oil fired appliances must be regularly inspected and any obstructions removed. Flue terminals should be inspected to ensure that flue gases can exit properly. Vegetation should be cut back and in the case of balanced flues any leaves and debris should be removed from the air entry duct.

Finding an OFTEC Registered Technician

The OFTEC website enables you to locate your nearest Registered Technicians by postcode or distance. OFTEC Registered Technicians are appropriately qualified and insured to work in your home. They can also advise on energy efficiency for your home.

You can also find a list of local Registered Technicians under the OFTEC logo in the 'Heating Engineers' section of your local pages.

For further information on oil heating and cooking, please see www.oftec.org



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