

# Non-Domestic Oil Supply Systems



This Information Sheet applies to systems supplying Class C2 and Class D fuel to oil burning equipment of 45kW output and above, typically found in commercial buildings such as village halls, churches and schools.

For guidance on domestic oil supply installations, please refer to the “OFTEC Home Guide to Domestic Oil Supply Pipes”.



## Distillate oil supply systems

As there is considerable variety in the choice of oil supply system, it is important to ensure the type of system used is capable of delivering correctly filtered oil from the storage tank to the burner at specified conditions of pressure, rate of flow and temperature as required by appliance/burner manufacturer.

There are typically three types of supply system: gravity; sub-gravity; and pumped.

In order to generate sufficient head of pressure for the oil to free flow, a gravity supply system requires the storage tank to be raised above the height of the burner. Sub-gravity supply systems rely on mechanical suction to raise the fuel out of the tank via the burner fuel pump or oil lifter.

Suction pipes should be as short as possible with a minimum number of bends to reduce friction losses. Ideally, joints in steel suction pipes should be welded (where future disassembly is not required) to

prevent air ingress or leakage problems. Sub-gravity oil supply pipe sizing charts for both Class C2 and Class D fuels can be found in OFTEC Technical Book 3.

A pumped system circulates oil around a common ring main which incorporates separate supply branches each serving individual locations or appliances. Systems of this type are generally used for installations in large buildings comprising of multiple appliances located in different areas of the building. System components typically include a pressure gauge, pressure relief valve/system and pressure regulating valves.

Oil fired equipment located at the roof level of a building is classified as a rooftop system. These systems can be supplied from a tank at roof top level or directly from a tank at ground level by means of a pumped supply system. Rooftop systems require provision under emergency conditions to dump the oil contained in the system back to a tank at ground level.



## Pressure testing

Upon completion, pipework installations should be pressure tested to prove soundness. Copper or steel pipework should be pressurised to 1 bar and left standing for 15 minutes. No pressure loss should be observed. Where pressure loss is apparent, a repair should be affected and the test repeated, but leaving the pipework pressurised for 30 minutes.

## Fire valves

The installation of a manual reset fire valve(s) is an essential part of the oil supply system and must be one of the following types:

- Dead-Weight/Fusible Link Type;
- Electronic;
- Pneumatic; or
- Remote Acting Phial and Capillary.

The fire valve body should be positioned in an accessible position as close to the tank as possible and preferably within the boundary of the chamber or bund. The sensor should be positioned as per appliance manufacturers instructions.



For multiple appliance oil supply systems, it is necessary that provision is made to enable the automatic isolation of the entire oil supply system except where the supply provides fuel for emergency or safety critical equipment. It is also important that each branch of the oil supply system has provision for its own individual fire protection to enable automatic isolation of each branch. Wherever possible the valve body is to be at least 1m away from the appliance.



## Maintenance

Oil supply pipes, fire valves, filters etc should be inspected and tested for correct operation annually. Regional requirements generally require oil supply systems to be pressure tested every 5 years where there are joints in the system or every 10 years where there are no joints.

## Finding an OFTEC Registered Technician

The OFTEC website enables you to locate your nearest Registered Technicians. OFTEC Registered Technicians are appropriately qualified and insured to work oil fired equipment.

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](http://www.oftec.org)

For more information on this subject or for further information sheets:

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