

Note:

Local Codes or Regulations may require different clearances. The flue terminal must be exposed to the external air and the position must allow the free passage of air across it at all times. In certain weather conditions the terminal may emit a plume of steam. Avoid positioning the terminal where this may cause a nuisance.

5. BOILER LOCATION

The boiler is not suitable for external installation.

The boiler must be installed on a flat vertical wall which is capable of supporting the weight of the boiler.

The boiler may be installed in any room or internal space, although particular attention is drawn to the requirements of the current electrical provisions with respect to the installation of the boiler in a room or internal space containing a bath or shower. Where a room-sealed boiler is installed in a room containing a bath or shower, it must not be possible for a person using the bath or shower to touch any electrical switch or boiler control utilizing line voltage electricity.

The boiler may be installed in a cupboard or compartment, provided it is correctly designed for that purpose.

6. CENTRAL HEATING SYSTEM

The boiler is designed for use in a sealed central heating system.

Refer to section 2: "TECHNICAL DATA" for details of the heating system volume.

The system should be designed to operate with flow temperatures of up to 176°F / 80°C. When designing the system, the pump head, expansion tank size, mean radiator temperature, etc. must all be taken into account. Refer to the pump performance table in section 2.6: "AVAILABLE PUMP HEAD FOR CENTRAL HEATING".

The boiler is supplied with the following components built in:

Pressure relief valve - set to operate at 30.0 psi / 2.1 bar.

WARNING

**The discharge pipe must be routed clear of the boiler to a drain, in such a manner that it can be seen, but cannot cause injury to persons or property.
The pressure relief valve must be manually operated at least once a year.**

- Avoid contact with hot water coming out
- Prevent water damage

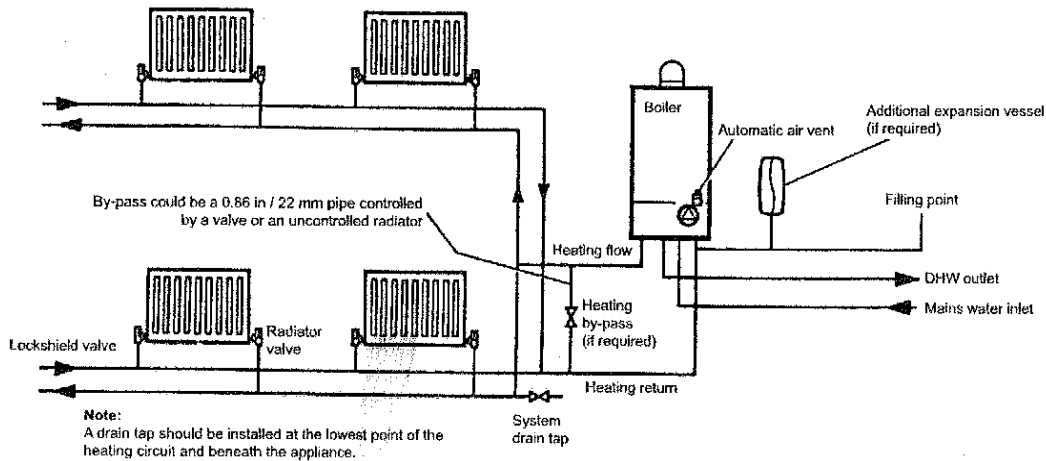
Pressure gauge - to indicate the system pressure to be maintained.

Expansion tank - with a capacity of 2.2 gal (USA) / 10.0 l and pre-charged to a pressure of 7.25 psi / 0.5 bar.

Note:

The expansion tank must be charged to match the pressure of the central heating system upon installation.

By-pass - The boiler incorporates an automatic by-pass. However, where all radiators are fitted with thermostatic radiator valves, an external by-pass must be fitted.



4.1 VENTING INSTRUCTIONS

4.1.1 Concentric venting

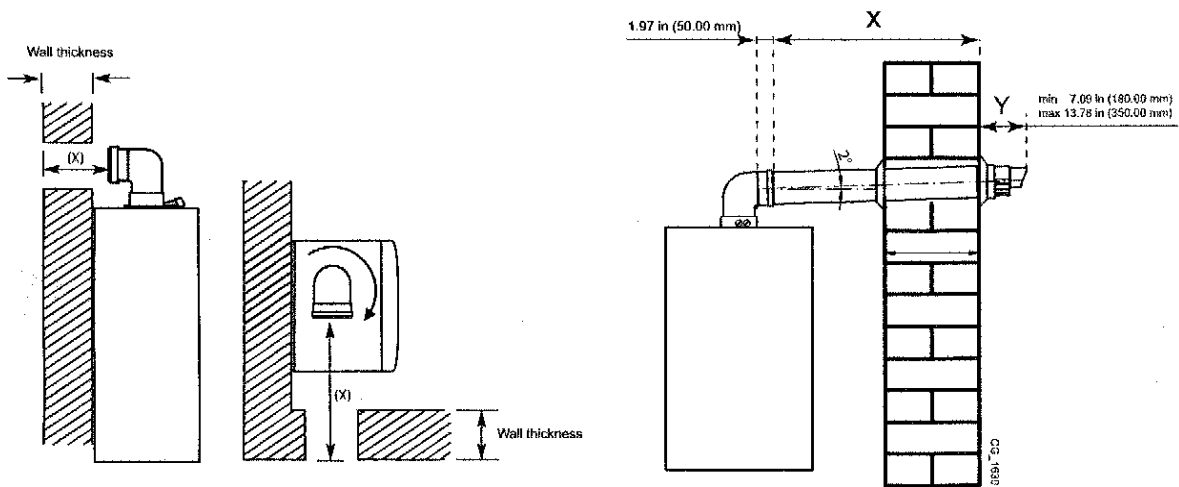
- Examine all components for possible shipping damage, prior to installation.
- This venting system must be free to expand and contract.
- The venting system must be supported in accordance with these instructions.
- The vent system must have unrestricted movement through walls, ceilings and roof penetrations.
- Check for proper joint construction when joining pipe to fittings.
- If venting is penetrating ceilings and floors, the openings must have firestopping provided in joist areas and the installation of firestop spacer assemblies.
- Roof flashing parts are shown in the manual. Standard roof flashing methods must be employed to install roof flashing.
- Wall and roof openings must be framed to provide support and the attachment of termination assemblies.

Please Note:

The manual uses the terms 'vent', 'venting' and 'flue' interchangeably. All references to 'flue' are synonymous with 'vent' or 'venting'.

WARNING

Check all measurements before cutting. Clearance to combustible materials when using a concentric vent system is zero.



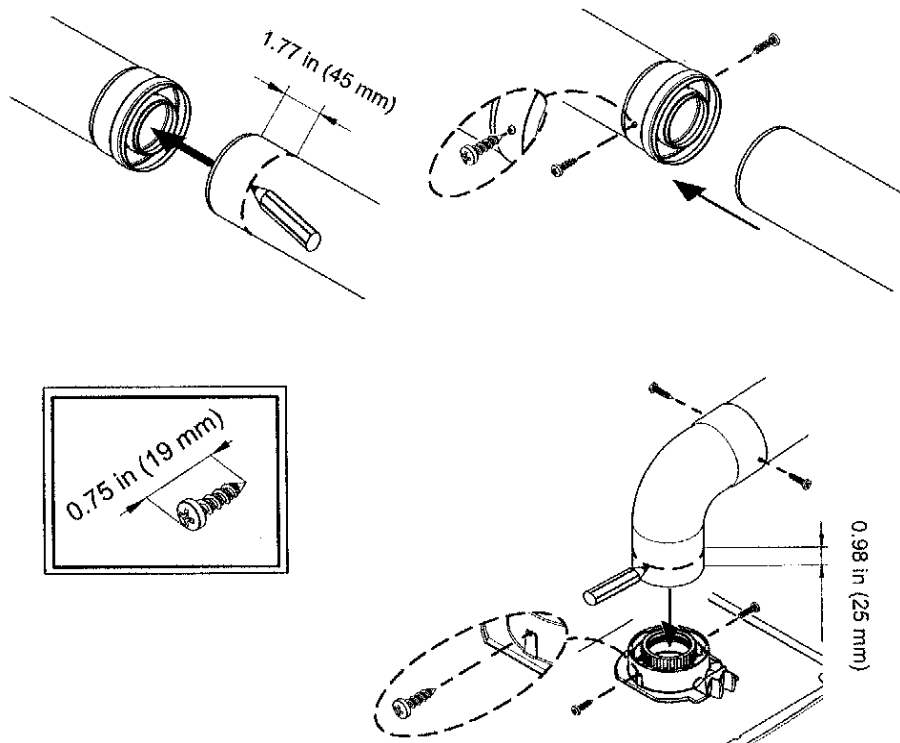
WARNING

All concentric venting must be fastened together using screws.

Note: Dual flue venting is not to be fastened with screws. This procedure only pertains to concentric venting.

Concentric Vent Screw Placement

Two screws must be fastened through the outer intake pipe behind the gaskets at equal distances approx. 180° apart. Please note the screws used must be no larger than No.8 - 1/2 sheet metal screws and must be zinc coated. The length of this screws must be 0.75 in (19.00 mm).



WARNING

Before securing the screws ensure the pipe has been pushed in a minimum of 1 3/4" (45 mm) into the gasketed end of the other pipe.

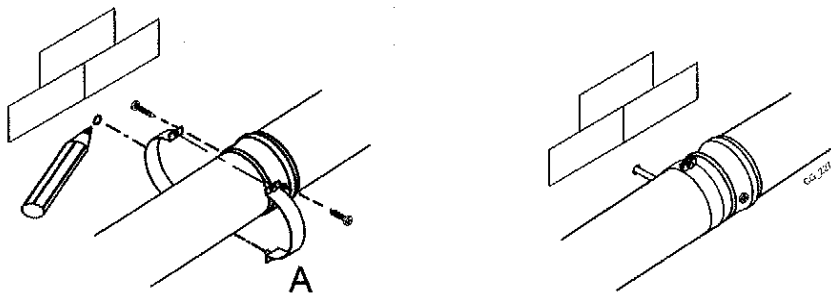
IMPORTANT INFORMATION

To insert the pipes use only silicone grease supplied with the exhaust pipes. The silicone grease has to be used only in the smaller seal of the exhaust pipes. Do not use other types of grease. Do not apply to large seal.

Concentric Vent Support

All venting must be supported every 3.28 ft (1.00 m) using steel strapping or equivalent.

A: steel strapping or equivalent



Note:

Ensure that the vent is sloped towards the boiler of approximately 0.79 in for every 3.28 ft (2.00 cm for every 1.00 m).

For horizontal flues a minor deviation from the horizontal is allowable, provided it results in a downward slope towards the boiler. Vertical flue terminal assembly. Refer to the separate installation instructions supplied with the assembly.

Additional flue components are available as follows:

45° bend	1.64 ft / 0.50 m
90° bend	3.28 ft / 1.00 m

Under no circumstances must the flue length (including allowances for extra bends) exceed 32.80 ft / 10.00 metres.

- Locate the flue elbow on the adaptor at the top of the boiler. Set the elbow to the required orientation (rear, right or left).
- Measure the distance from the outside wall face to the elbow. This dimension will be known as 'X'.
- To dimension 'X' add "Y" + 2 in (50 mm). This is the total dimension of the ducts.
- Taking the air duct, mark the above dimension. Measure the length of waste material, and transfer the dimension to the flue duct.
- Remove the waste from both ducts (flue and air ducts). Ensure that the cut ends are square and free from burrs.
- Insert the flue duct into the air duct and pass them through the hole in the wall

WARNING

- Check all measurements before cutting. Clearance to combustible materials when using a concentric vent system is zero.
- After installing ducts make sure that there is no recirculation of combustion by using a regularly calibrated analyzer.
- Ensure a minimum downward slope of 0.79 in / 2.00 mm for every 3.28 ft / 1.00 m of duct length toward the boiler at least 2°.
- Ensure that the terminal is positioned with the slots to the bottom.

Flue Options

- The boiler can be fitted with flue systems as illustrated.
- The standard flue (horizontal termination) is suitable only for horizontal applications.
- Maximum permissible equivalent flue lengths are:

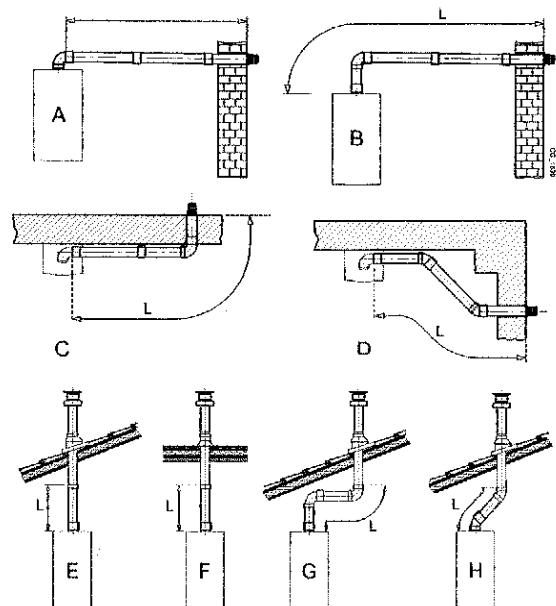
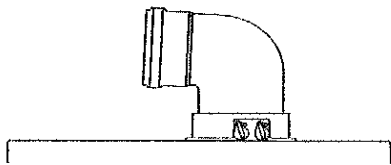
Concentric and vertical flue = 32.80 ft / 10.00 m

- Any additional "in line" bends in the flue system must be taken into consideration.

45° bend	1.64 ft / 0.50 m
90° bend	3.28 ft / 1.00 m

The elbow supplied with the standard flue is not included in any equivalent length calculations

- The illustrations below show examples of maximum equivalent lengths.
- Instructions for guidance and fitting are included in each kit.



A B	$L_{max} = 32.80 / 10.00 \text{ m} - \text{Ø } 60/100 \text{ mm}$
C D	$L_{max} = 29.52 / 9.00 \text{ m} - \text{Ø } 60/100 \text{ mm}$
E F	$L_{max} = 32.80 / 10.00 \text{ m} - \text{Ø } 60/100 \text{ mm}$
G	$L_{max} = 26.24 / 8.00 \text{ m} - \text{Ø } 60/100 \text{ mm}$
H	$L_{max} = 29.52 / 9.00 \text{ m} - \text{Ø } 60/100 \text{ mm}$