

4 INSTALLING THE APPLIANCE

4.1 UNPACKING THE APPLIANCE

The appliance and standard flue kit is supplied in a single cardboard carton. In addition various optional flue kits are available as described in Section 2.6.

Open the carton in accordance with the packaging details.

Remove the appliance, the terminal flue kit and other components and check the contents against the following list:

Boiler Package:

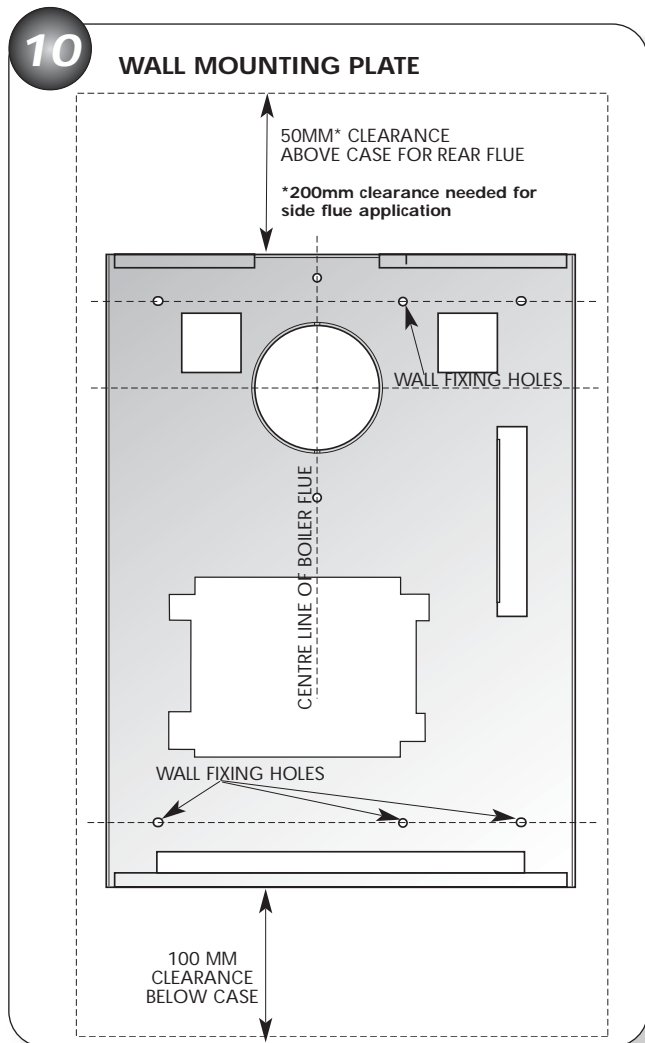
Boiler (assembled, incl. wall plate) Installation and User
Benchmark Logbook. instructions.

Front panel door.

Plastic bag containing: 6 x fixing screws.
6 x wall plugs. Outer wall sealing ring (grey)
Outer wall sealing ring (white) 2 x self tapping screws
2 x hinges. 4 x screws.
Standard flue terminal.

Manual Handling Note: During the appliance installation it will be necessary to employ caution and assistance whilst lifting as the appliance exceeds the recommended weight for a one man lift.

Take care to avoid trip hazards, slippery or wet surfaces.



4.2 PREPARING THE WALL / APPLIANCE

Before installing the appliance ensure that the chosen location is suitable (Section 3.2) and that the requirements for flue position (Section 3.3) and minimum clearances (Section 2.4) are satisfied.

These minimum clearances are essential to provide access for servicing.

- Remove the wall plate from the boiler and use it as a template to mark the wall in the desired position (Fig 10). Ensure that the centre line is level.
- The appliance is supplied ready assembled for rear outlet flue installations. For all other flue options proceed to section 4.2.2

4.2.1 REAR OUTLET FLUE

- Mark the position of the flue exit hole if it is a new installation, or hold the wall plate over the existing flue hole in the wall.
- Mark the position of the six wall plate fixing holes. Drill the holes using a 8mm masonry drill and fit the wall plugs provided.

If outside access to flue is possible:

- Cut a hole through the wall of at least 100mm (4 in) diameter to accept the flue/air duct.
- Accurately measure the wall thickness. The standard flue terminal is suitable for a wall thickness up to 330mm. For a wall thickness in excess of 330mm see section 2.6 for optional extension duct kits.
- Secure the wall mounting plate in position.
- Fit the external sealing ring (grey) to the terminal as shown in Fig 11. Measure from the inside of the external sealing ring, **the wall thickness + 30mm** (Fig 11) and cut the air/flue duct appropriately, ensuring that the cut is square and free of burrs or debris.
- Push the air/flue duct terminal through the wall and the wall plate from the outside.

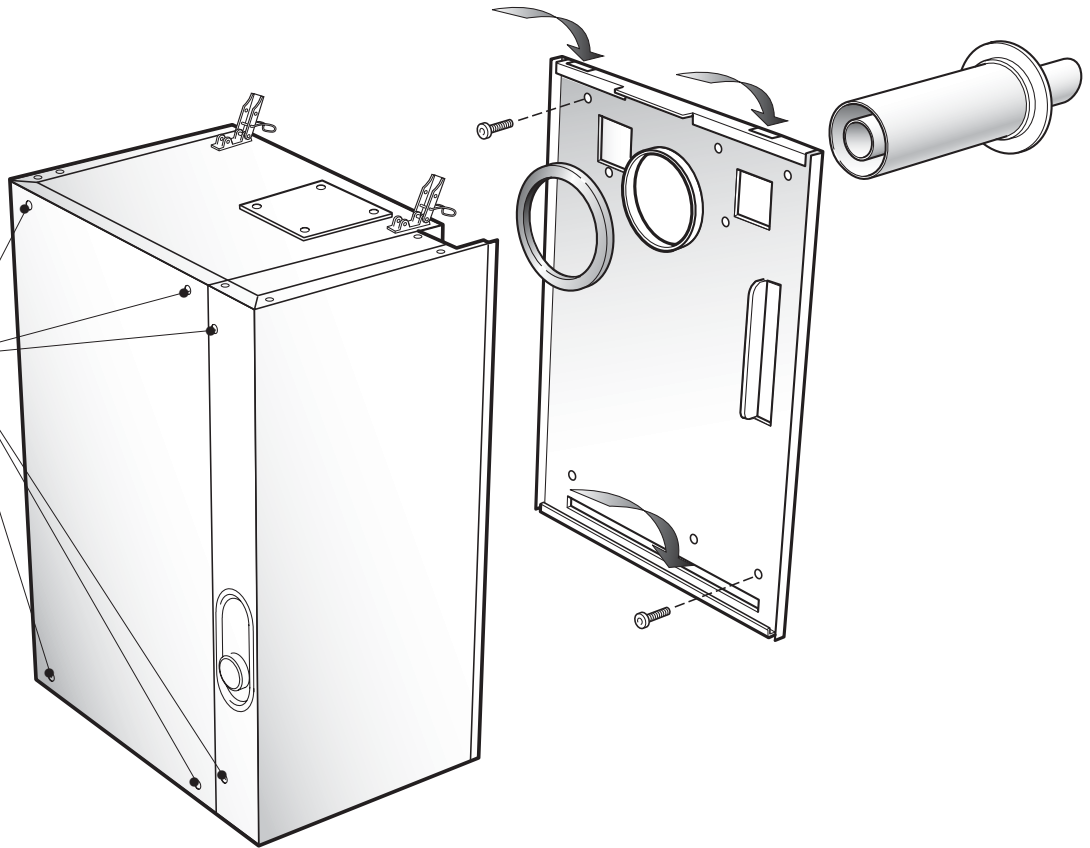
If outside access to flue is NOT possible (eg. second or higher storey):

- The drilled hole should be at least 130mm (5ins) diameter to allow for insertion of a wall liner (available as an optional extra).
- Once the air/flue duct has been cut to length (as above), fit the outer (grey) seal to the air/flue duct. Feed the air/flue duct through the hole from inside of the room and ensure that the seal is seated properly on the outer wall.
- Ensure that a full 30mm protrudes from the inside wall, drill through the air duct and fixing to the wall plate using the 3 self tapping screws provided. **Ensure the terminal is fitted horizontally and the correct way up with the rain shield at the top (see Figure 11)**
- Slide the two 10mm thick silicon sponge flue seals over the protruding 30mm of the air/flue duct.
- Remove both casing panels from the boiler, (six screws). Fig 11
- Lift the boiler into position; the rear bottom edge of the boiler onto the bottom return edge of the wall plate. Push the top of the appliance back ensuring that the fan outlet (Fig12) correctly engages into the flue terminal. Secure the boiler using the two 'over centre' clamps on the top rear of the appliance. Fig 11.

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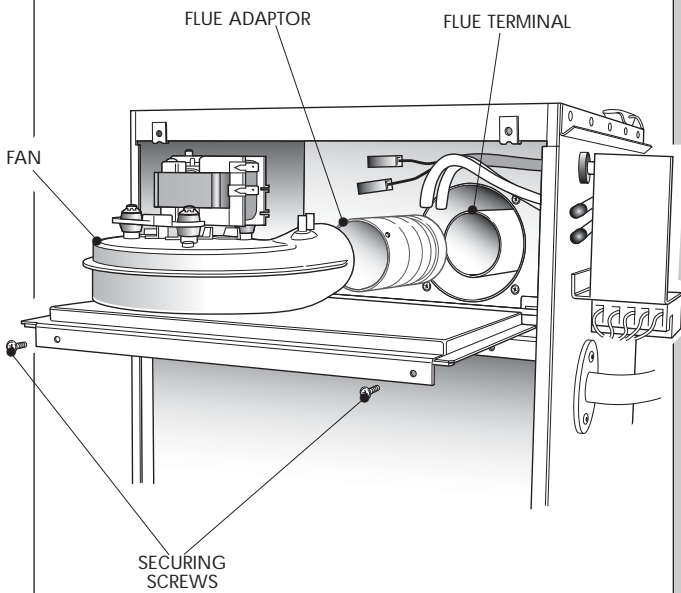
FITTING BOILER ONTO WALLBRACKET

TO REMOVE FRONT PANELS UNSCREW THE SIX SCREWS



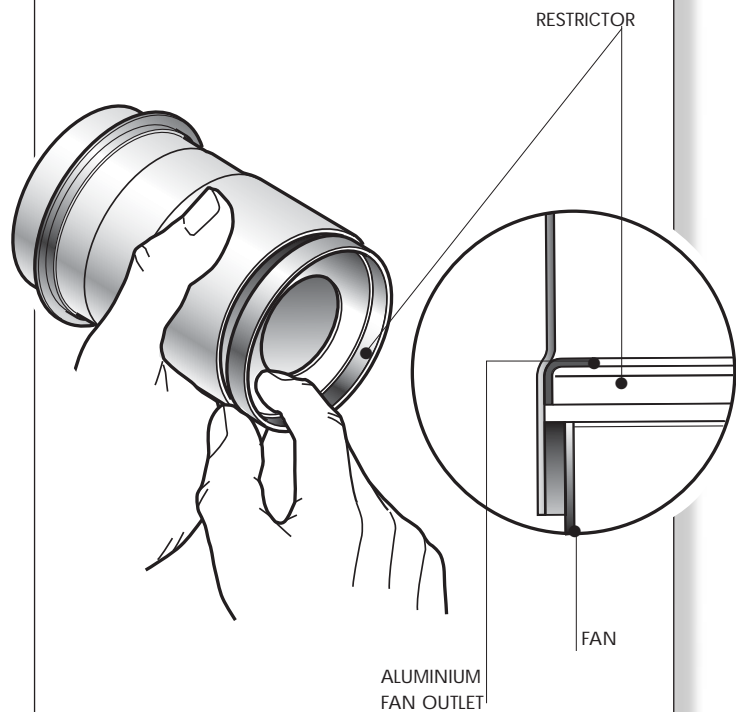
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FITTING THE ADAPTOR TUBE TO FAN



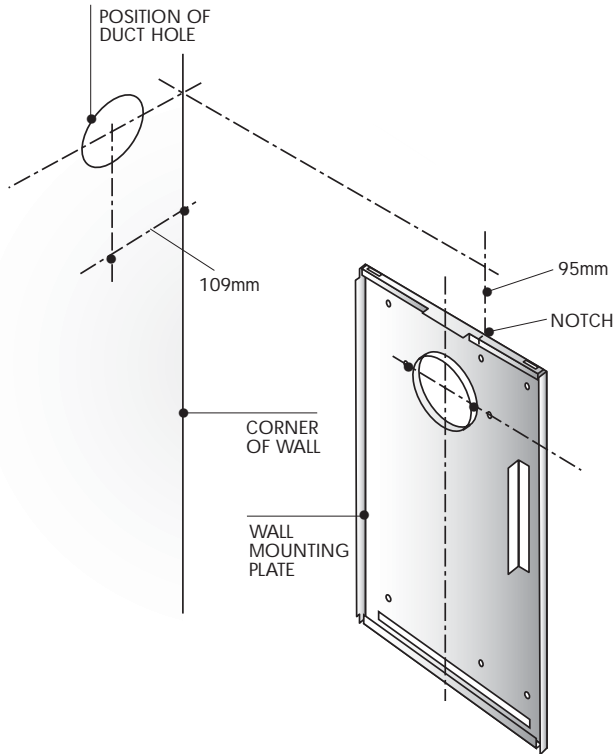
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FITTING THE FLUE RESTRICTOR



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MARKING THE POSITION OF A SIDE FLUE



4.2.2 TOP OUTLET FLUE

- Having chosen the desired location for the boiler, for all top outlet flue connections the appropriate (optional extra) kit(s) as detailed in section 2.6 will be required.
- The centre line for the flue system is slightly off-centre and indicated on the wall plate with a notch. Draw a vertical line from the notch as shown in Fig 14.
- The **Horizontal turret** centre line for side outlet flues is 100mm above the wall plate, extend the line horizontally until reaching the sidewall face, and then draw the position of the air/flue duct hole. Cut a hole through the wall of at least 95mm (4 in) diameter to accept the flue/air duct. Note ~ if access to the hole from outside is not possible the hole should be at least 130mm (5 in) diameter to allow for insertion of the wall liner (available as an optional extra).
- For **Vertical Flue Outlet**, extend the line vertically until reaching the ceiling/roof. The centre line of the flue from the wall is 109 mm. Cut a hole through the ceiling / roof of at least 100mm (4 in) diameter to accept the flue/air duct.
- For **Offset flue** combinations and additional elbows calculate from the dimensional details in section 2.5 And 2.6 Where the flue should be positioned. Make the necessary hole in the wall / ceiling / roof.
- Mark the position of the six wall plate fixing holes. Drill the holes using a 8mm masonry drill and fit the wall plugs provided.
- Secure the wall mounting plate to the wall using the screws provided.

- Remove both casing panels from the boiler, (6 screws).
- Lift the boiler into position; the rear bottom edge of the boiler locates onto the bottom return edge of the wall plate. Push the top of the appliance back. Secure the boiler using the two 'over centre' clamps on the top rear of the appliance. (Fig 11)
- Remove the fan assembly from the appliance (Refer to section 7.5).
- Remove the appliance top outlet cover plate and relocate onto the rear of the appliance to blank the rear outlet opening.
- With the fan removed from the fan plate, reposition and secure the fan so that the outlet is directed to the right hand side of the appliance. Refit the fan assembly (Refer to section 7.5).
- Fit and secure the 60mm Ø elbow (Fig 16) and all other relevant boiler components relating to the flue kit(s) option chosen (Full instructions included in the kits).
- Ensure the flue duct restrictor ring is in accordance with the the technical specifications in section 2. and is correctly fitted. (Fig13)

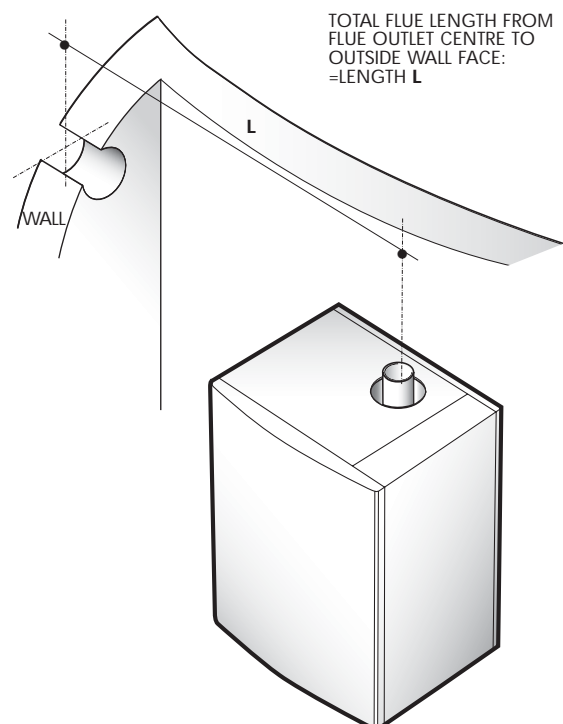
4.3 AIR/FLUE DUCT INSTALLATION (HORIZONTAL)

Note~ If the wall thickness is less than 800mm (31 in) the air/flue duct may be fitted without access to the external wall providing that the optional wall liner is used. (This is necessary to seal any cavity and to allow the sealing ring to pass through from inside but still open and provide an adequate seal). The wall liner has a tube diameter of 130mm with a wall thickness of 0.8mm.

All flue duct lengths in excess of 1.5m (59 in) require at least one support bracket in the middle of the duct. (Available as optional extra Part No: 840516)

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MEASURING THE EXACT FLUE LENGTH

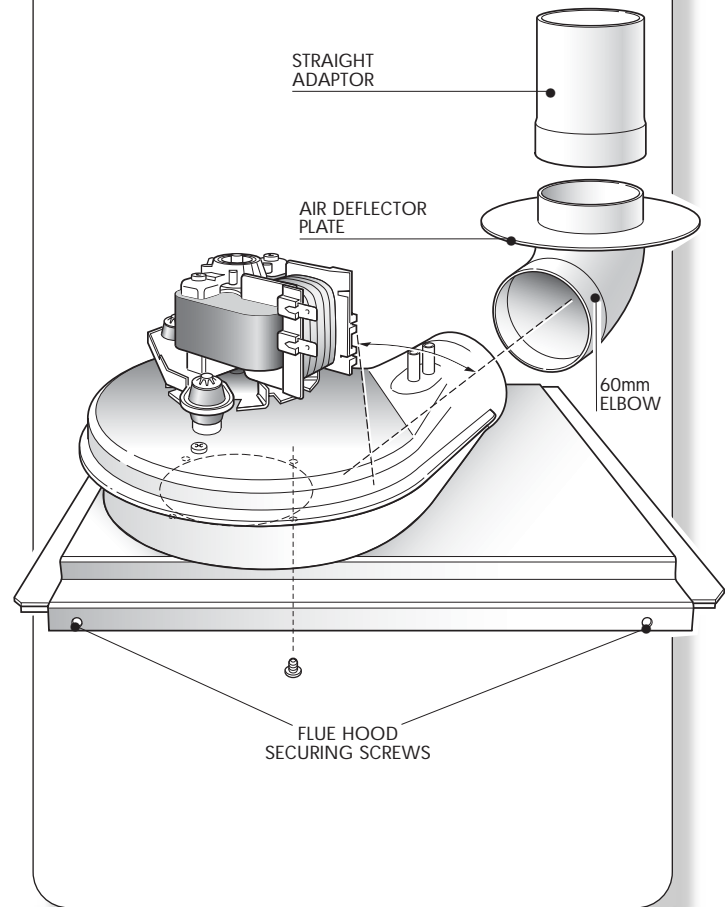


4.3.1 PREPARING THE HORIZONTAL DUCT

- Measure the required horizontal flue length as shown in Fig 15.
- Fit the external sealing ring (grey) to the terminal assembly and assemble the air/flue ducts as shown in Fig 17.
- Achieve the correct flue length using Fig 17 as a guide. Note that the flue length is measured from the inside of the external (grey) sealing ring. In most cases it will be possible to achieve the required flue length without cutting the ducts. Where necessary cut only the plain ends of extension ducts and **NEVER CUT THE SWAGED END**. Ensure all cuts are square and free from burrs and debris.
- The horizontal terminal duct should never need to be cut as it slides into both extension ducts and the standard duct. Ensure at least a 50mm (2 in) overlap.
- Assemble the flue using Fig 17 as a guide. It is important that the steps are carried out in the order stated in Fig 17. Ensure the internal sealing ring (white) is fitted to the system before securing the ducts.
- Prior to fitting the standard flue duct to the flanged elbow, ensure all 'O'-ring seals are correctly located and intact.
- All ducts should be secured by drilling two 3.3mm diameter holes and using the self-tapping screws supplied in the flue kit. **ENSURE THE HORIZONTAL TERMINAL IS FITTED HORIZONTALLY AND THE CORRECT WAY UP WITH THE RAINSHIELD AT THE TOP (SEE FIGURE 17)**

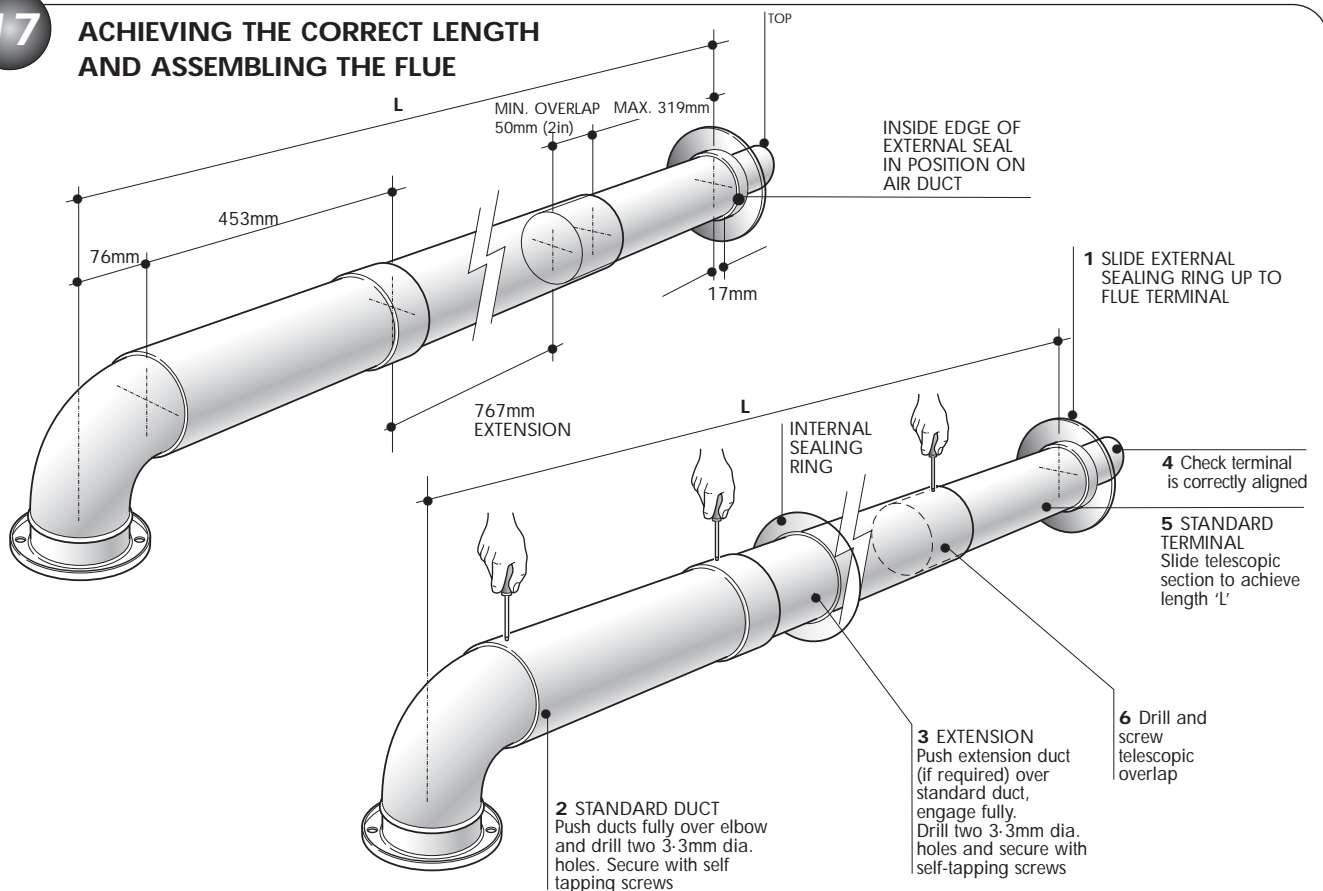
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FIT STRAIGHT AND ELBOW ADAPTOR



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ACHIEVING THE CORRECT LENGTH AND ASSEMBLING THE FLUE



4.3.2 INSTALLING THE HORIZONTAL DUCT FROM INSIDE THE BUILDING

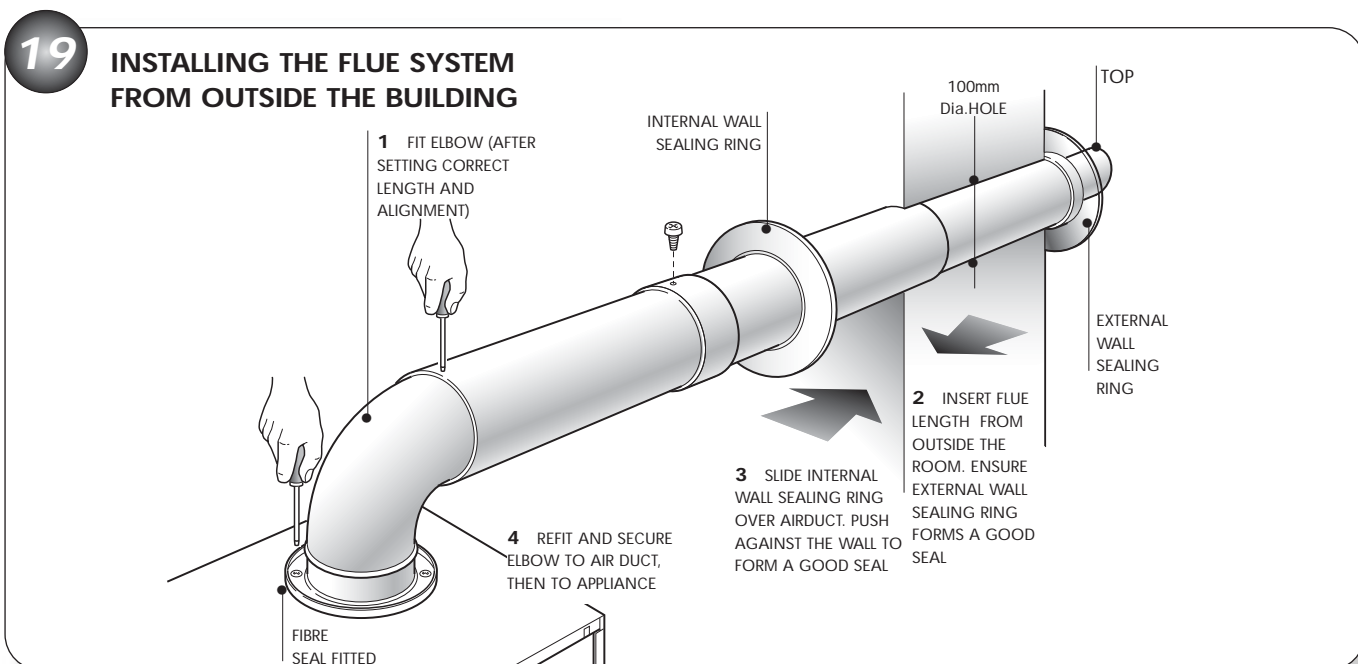
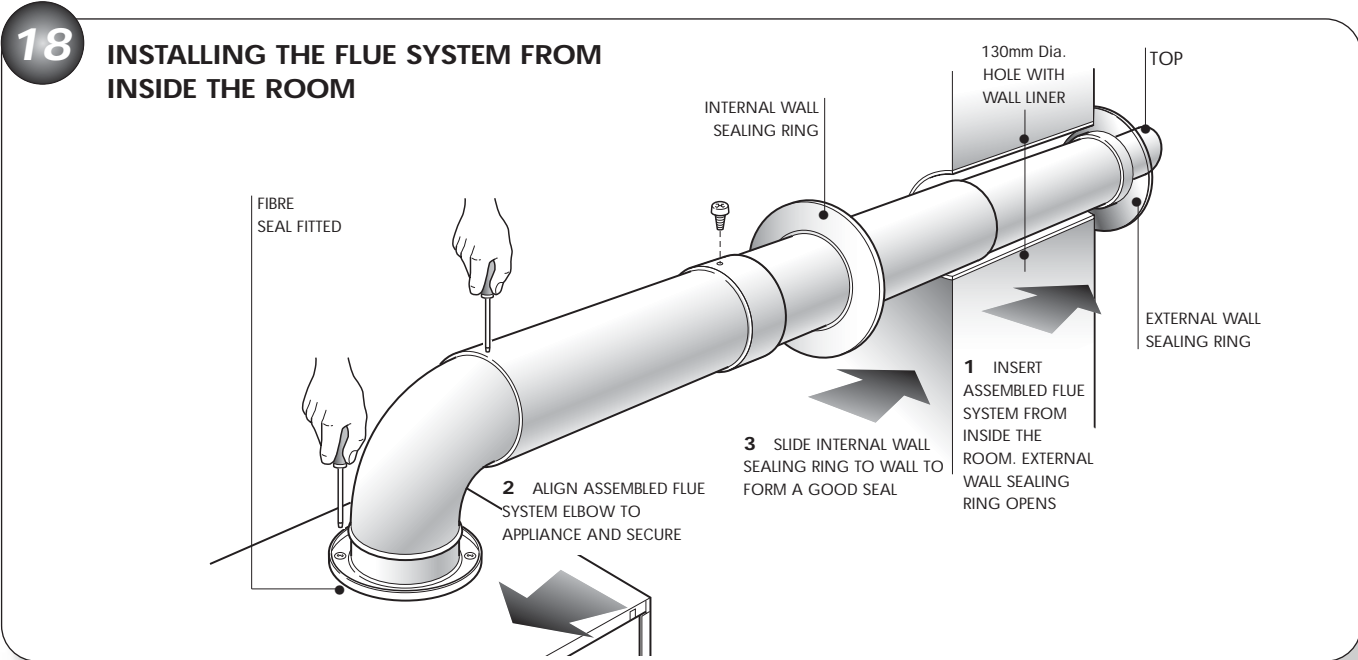
(wall thickness up to 800mm (31 in) only - WALL LINER REQUIRED)

- Using Fig 18 as a step-by-step guide, insert the terminal end of the flue system with external sealing ring (grey) through the wall liner ensuring that the terminal is the correct way up.
- Pull the flue system back towards the boiler to seat the external sealing ring against the outside wall.
- Ensure the necessary gasket and 'O'-ring seal(s) are fitted to the flanged elbow and secure to the boiler using the screws provided (Fig 19).
- Use the internal sealing ring (white) to make good the internal wall face and check that the terminal is correctly fitted to the outside wall.
- Ensure all ducts are engaged correctly and secured with the self-tapping screws provided in the kits.

4.3.3 INSTALLING THE HORIZONTAL DUCT FROM OUTSIDE THE BUILDING

(Flue hole diameter 100mm - Wall liner not required)

- Using Fig 19 as a step by step guide secure the turret elbow to the boiler ensuring that the gasket and 'O'-ring seal(s) are correctly fitted.
- From outside the building, insert the flue system with external wall sealing ring (grey) fitted to the terminal through the wall. Ensure the terminal is the correct way up.
- From inside, fit the internal sealing ring (white) and pull the flue system towards the boiler to seat the external sealing ring on the outside wall.
- Fit and secure the flue system to the turret elbow.
- Make good the internal wall using the internal sealing ring, and check that the terminal is correctly fitted to the outside wall.
- Ensure all ducts are engaged correctly and secured with the self-tapping screws provided in the kits.

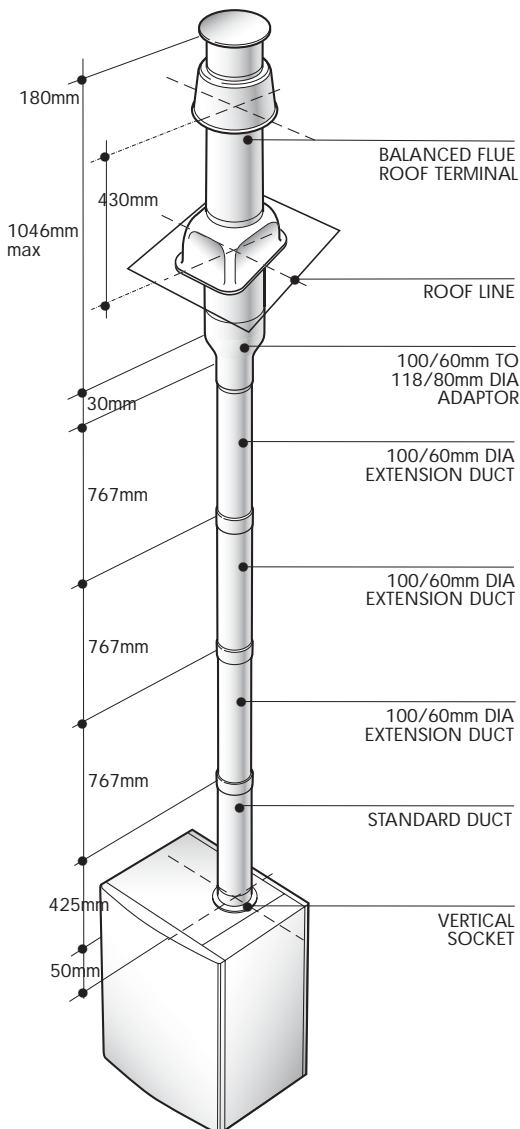


4.3.4 PREPARING AND INSTALLING THE VERTICAL DUCT

- The vertical flue terminal kit (Part No: 988378) contains full assembly details.
- Measure the vertical distance from the top of the appliance to the roof line (Fig 20), and calculate the extension ducts required.
- Starting at the boiler, fit the vertical flue socket with gasket, the standard duct and the required extensions. Ensure all ducts are engaged correctly and secured using the self-tapping screws provided in the kits.
- Fit the vertical flue terminal adaptors.
- Working from outside the building, fit the vertical flue terminal ensuring correct engagement of the inner and outer ducts into the flue adaptors.
- Ensure that the roof flashing and sealing components are secured to the roof.

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FLUE SYSTEM ASSEMBLY AND DIMENSIONS



4.4 GAS CONNECTION

Connect the gas supply to the 1/2 inch BSPF (located at the bottom, right hand side of the appliance) isolation valve using a suitable jointing compound. (Fig 21.)

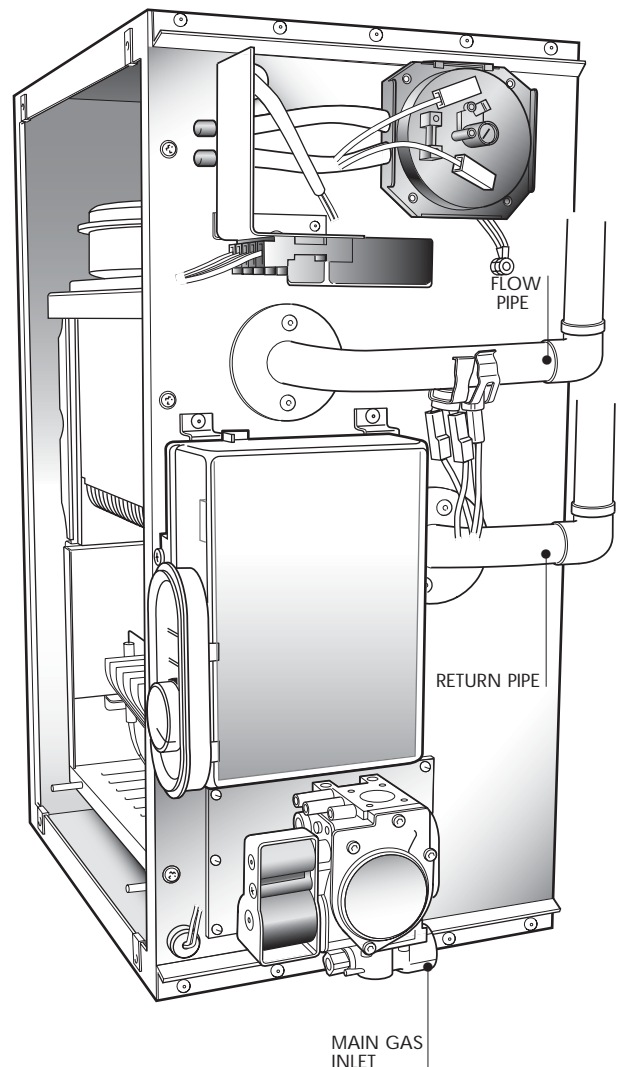
4.5 WATER CONNECTIONS

- Refer to section 3.8 for detailed information.
- The appliance is supplied with two 22mm copper tail ends suitable for compression or soldered fittings. **Use extreme care if soldering joints near to the appliance. If boiler is located in tight space it is recommended to remove the pipes from the boiler.**
- The system **FLOW** must be connected to the **UPPER PIPE**. The system **RETURN** must be connected to the **LOWER PIPE**.

Note: It is recommended to connect Hero 90 to 28mm system pipes.

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PIPEWORK



4.6 WIRING INSTRUCTIONS

This appliance must have a permanent mains supply and be earthed.

Use standard colours for the supply:

Brown = Live (L)

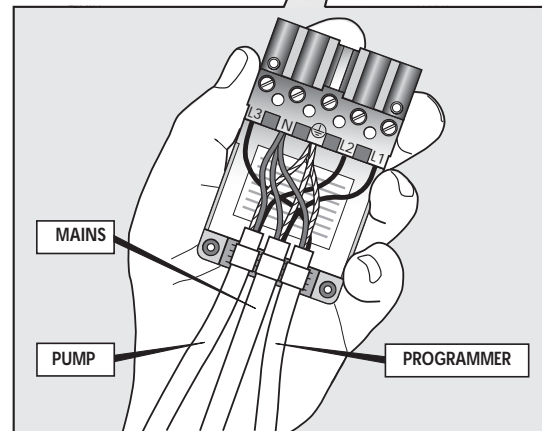
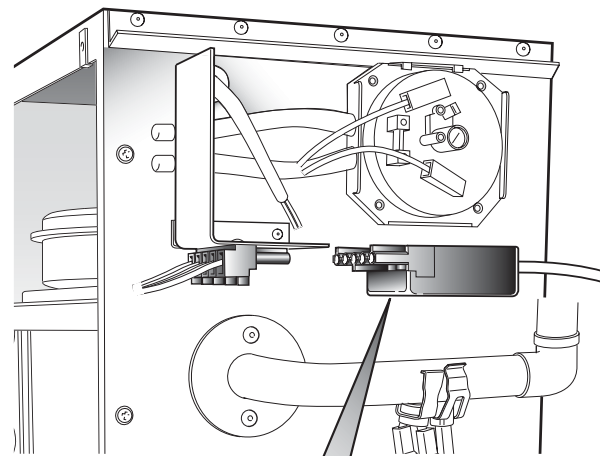
Blue = Neutral (N)

Green/Yellow = Earth (E)

Note- It is highly recommended that this appliance is connected to an external control (timer / programmer) as part of the Approved Code of Practice and guidance Safety and Good Practice Guide 302.

- Remove the mains supply plug from the appliance and connect the electricity supply, the pump supply and appropriate external controls (using suitable cable) as described below and with reference to Fig 22.
- Connect the mains supply Live to terminal L1.
- Connect the pump Live to terminal L2.
- Connect the external control (timer / programmer) Live to terminal L3.
- If not connecting an external control, it is necessary to link a switched live between terminals L1 and L3.
- Ensure all wires are clamped within the plug and that outer insulation is not cut back beyond the clamp.
- Ensure all Earth wires are longer than the Live and Neutral to ensure it will be last to be disconnected should excessive strain be put on cables.

22 ELECTRICAL CONNECTIONS



23 FULLY PUMPED 'S' PLAN

