

## Fitting Instructions

Assure FGHR

The Assure FGHR unit is approved for use with the following boiler models:-

Baxi Assure Combi

Baxi Assure System

Baxi 600 Combi

Baxi 600 System

Baxi 800 Combi

Baxi 800 System

Baxi Assure 500-2 Combi

Baxi Assure 500-2 System

Baxi 600-2 Combi

Baxi 600-2 System

Baxi 800-2 Combi

Baxi 800-2 System

## Contents

Section	Page
1.0 Introduction	3
2.0 Introduction	4
3.0 Introduction	5
4.0 Introduction	6
5.0 Introduction	11



© Baxi Heating UK Ltd 2023 All rights reserved. No part of this publication may be reproduced or transmitted in any form or by any means, or stored in any retrieval system of any nature (including in any database), in each case whether electronic, mechanical, recording or otherwise, without the prior written permission of the copyright owner, except for permitted fair dealing under Copyrights, Designs and Patents Act 1988.

Applications for the copyright owner's permission to reproduce or make other use of any part of this publication should be made, giving details of the proposed use, to the following address:

The Company Secretary, Baxi Heating UK Limited, Brooks House, Coventry Road, Warwick. CV34 4LL

Full acknowledgement of author and source must be given.

**WARNING:** Any person who does any unauthorised act in relation to a copyright work may be liable to criminal prosecution and civil claims for damages.

## 1.0 Introduction

### 1.1 Description

1. The Assure FGHR is a Passive Flue Gas Heat Recovery Device as listed in the Government's Product Characteristics Database (PCDB).

2. The Assure FGHR uses heat from the flue gases to pre-heat incoming cold mains water; thus reducing gas consumption during the production of Domestic Hot Water.

3. The flue can be to the rear or vertical.

### 1.2 Contents of pack (Fig. 1)

The pack contains:

- i) Assure FGHR
- ii) Wall Frame (incorporates boiler wall bracket)
- iii) Collar - Rear Flue
- vi) Wall Fixing Screws Pack
- v) Template
- vi) Literature
- vii) SAP Label for Boiler
- viii) Inlet & Flow Pipes

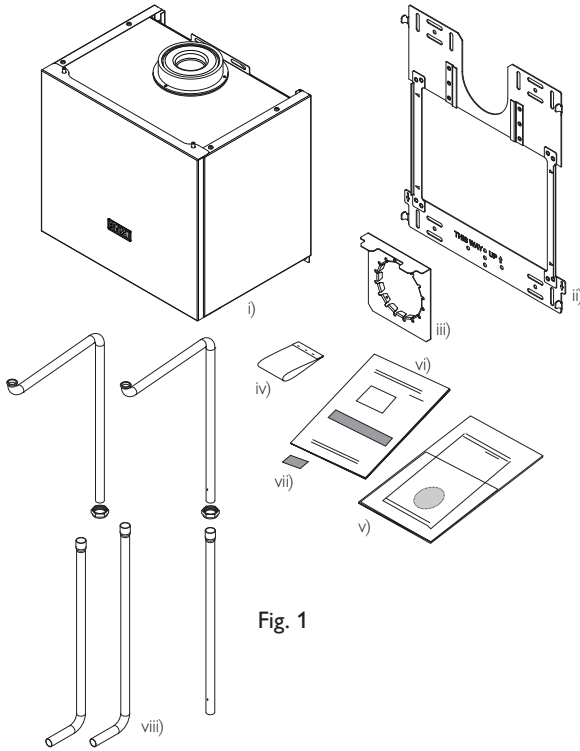


Fig. 1

### 1.3 Flues

1. To ensure full boiler output the following equivalent flue length should not be exceeded:-  
all models - 3 metres

Consult the boiler instructions for details of the equivalent values of any bends.

2. The 60/100 concentric horizontal or vertical flue system (Flue Group A) approved for the boilers listed on p. 2 MUST be used.

3. Flue kits 5118576 (Vertical), 7210434 (Horizontal Direct Rear), 720642701, 720598701 & 720599401 (Horizontal Rear with Elbow - black, brown & white) are compatible.

4. The Assure FGHR MUST NOT be used with the 80/125 flue system or Plume Displacement Kits. Where plumbing may cause a nuisance it is permissible to use Flue Terminal Deflector part no. 5111068 (Black), 720644201 (White) or 720644301 (Brown).

5. If the installation is at a height of more than 18 metres the direct rear flue MUST NOT BE USED. The following 'high rise' flues are compatible with these installations:

7778067 Horizontal Flue 1.8m A/S

7743932 Horizontal Flue 685mm A/S

7778230 Flue Extension 2m A/S

### 1.4 Accessories

In accordance with Water Authority Regulations to prevent backflow into the water supply the following item should be employed and is available as an accessory:

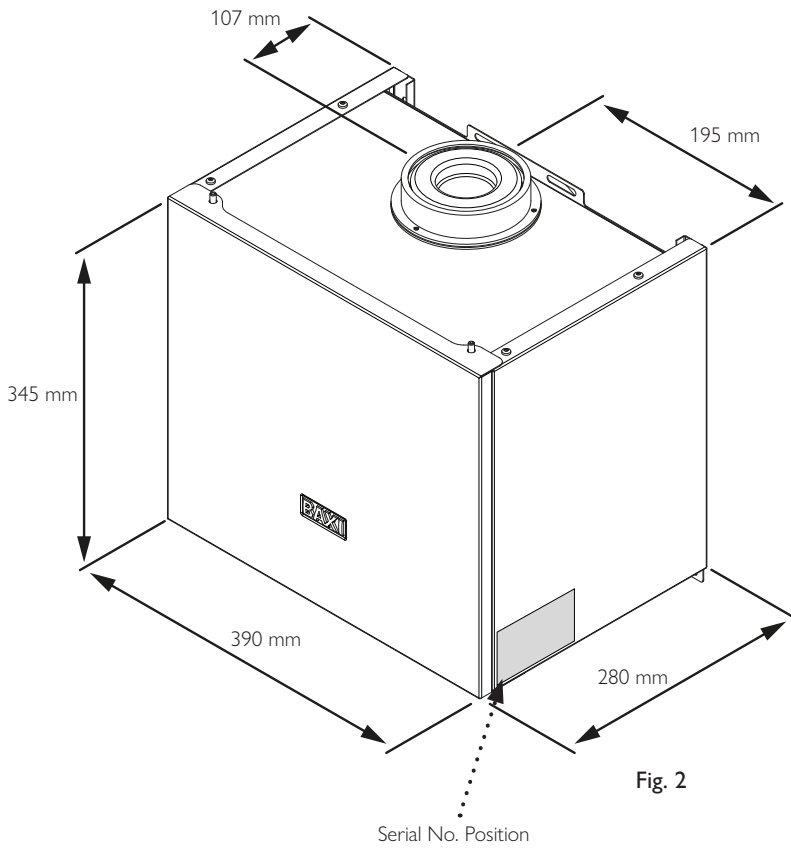
Expansion Vessel & Check Valve Kit      720066401

Other accessories:

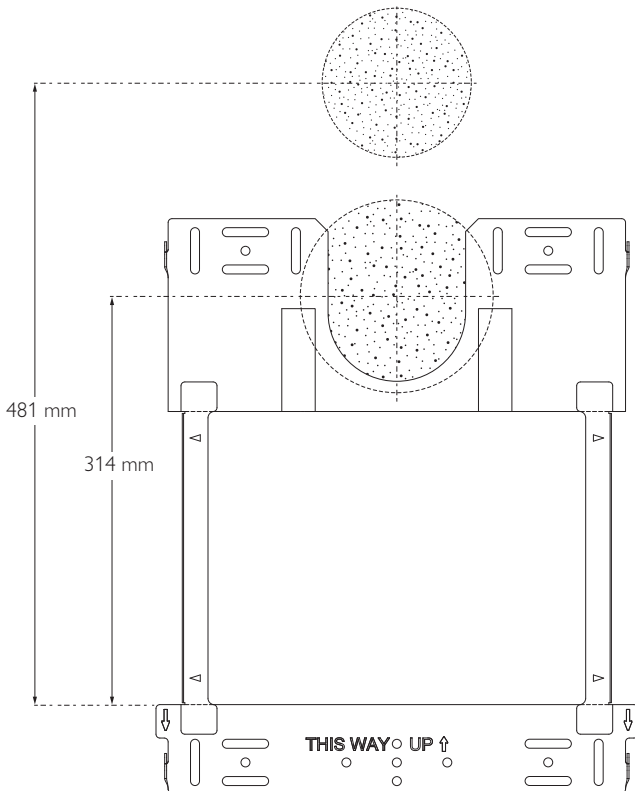
Internal Fitting Kit      7215374

IFOS (In Flue Outdoor Sensor)      7724181

## 2.0 Technical Data



<b>DHW Circuit Pressures</b>		bar
Max Inlet	-	3*
Min Operating	-	0.2
*if required fit a pressure reducing device to achieve this		
<b>DHW Circuit Flow Rates</b>		l/min
Max Flow Rate	-	up to 15*
		(*depending on boiler model)
Min Flow Rate	-	2.5
<b>Connections</b>		stainless steel
Cold Water Mains Inlet	-	15 mm
Pre-heated Mains Outlet	-	15 mm
<b>Dimensions (Fig. 2)</b>		mm
Casing Height	-	345 mm
Casing Width	-	390 mm
Casing Depth	-	280 mm
Flue Centre to Wall	-	107 mm
<b>Weights</b>		kg
Packed Weight	-	14.5 kg
Installation Lift Weight	-	12.0 kg
Weight - Full	-	19.5 kg
<b>Clearances</b>		mm
Above Casing	-	175 mm
Below Casing	-	50 mm
Front (For Inspection)	-	450 mm Min
Front (In Operation)	-	5 mm Min
L.H. Side	-	5 mm
R.H. Side	-	5 mm
<b>General</b>		
DHW H/Exch.	-	Stainless Steel
Flue Connection	-	Stainless Steel
Casing	-	White Paint - Steel
Mains Storage Capacity	-	7.0 litres
Heat Exchanger	-	0.5 litres
Maximum Water Temperature	-	60 °C



Distance from Top Edge of Lower Plate to Flue Hole Positions (rear flue options)

## 3.0 Important Information & Operation

---

### 3.1 Important Information

1. The Assure FGHR must only be fitted with one of the range of boilers specified (see p.2). It must be installed in accordance with these instructions, and by a competent person.
2. The current Gas Safety (Installation & Use) Regulations must be observed, along with all relevant Building Regulations/Standards, Water Regulations/Standards and the B.S. Codes of Practice listed in the boiler instructions.
3. A dedicated wall frame (Section 1.2, item ii) is supplied to mount the Assure FGHR and boiler on - this **MUST** be used and fitted in accordance with these instructions and as shown on the template supplied.
4. When installing direct rear flue 7210434 the collar (Section 1.2, item iii) must also be used and the hole for the flue must be cut Ø150 mm. Also Internal Fitting Kit 7215374 should be acquired and the foam seal from this kit employed.
5. **The Assure FGHR must be fitted on a flat vertical surface.**
6. The Assure FGHR is in effect part of the flue system and should be considered as such.

**IMPORTANT:** These instructions must be read in conjunction with those supplied with the boiler.

---

### 3.2 Operation

1. There are no moving parts in the Assure FGHR and it does not need any electrical supply. It connects to the boiler flue adaptor and is mounted on a special wall frame on which the boiler is also hung.
  2. A gas-to-water heat exchanger extracts heat from the discharged products of combustion (hot flue gases) during boiler operation. This heat is used to pre-heat the incoming cold mains before it is heated for domestic hot water purposes.
  3. In central heating mode the cylinder captures the heat from the hot flue gases which is stored for later use.
  4. Additionally, as the flue gases leaving the Assure FGHR contain considerably less moisture, the amount of plumbing is reduced.
-

## 4.0 Installation

### 4.1 Installation - Pipe Assembly

1. It is essential that the pipes supplied are identified correctly & joined and connected accordingly (Fig. 4):

- Pipe A - DHW Upper Pipe
- Pipe B1 - DHW Lower Pipe (see table 1 for boiler applications)
- Pipe B2 - DHW Lower Pipe (see table 1 for boiler applications)  
Note: Pipe B2 is 13 mm longer than B1
- Pipe C - Mains In Upper Pipe
- Pipe D - Mains In Lower Pipe

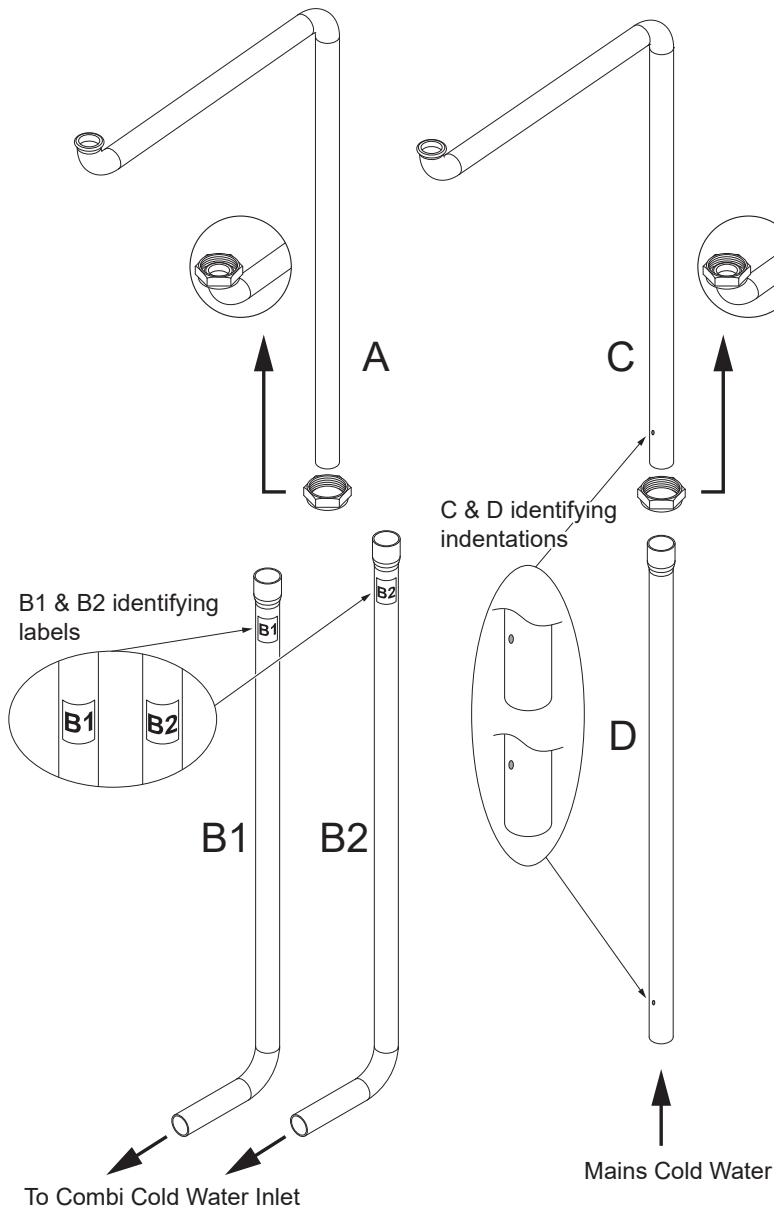
2. Pipes A & C connect to the Assure FGHR unit. Pipe B1 or B2 connects to the cold water inlet. Pipe D connects to mains cold water.

3. Before soldering Pipe A to B1 or B2 and Pipe C to D ensure that the nuts are fitted to A and C.

4. Note the identifying indentations in Pipes C & D - Pipe A must not be connected to Pipe D. Pipes B1 & B2 are identified by a label.

5. Ensure that the horizontal legs of Pipes A & B1 or B2 are offset slightly as illustrated (when viewed from above) before soldering (Fig. 5).

6. An offset of 3° ensures that Pipe B1 or B2 will connect correctly to the cold inlet tap and allow Pipe A to clear the boiler adaptor.

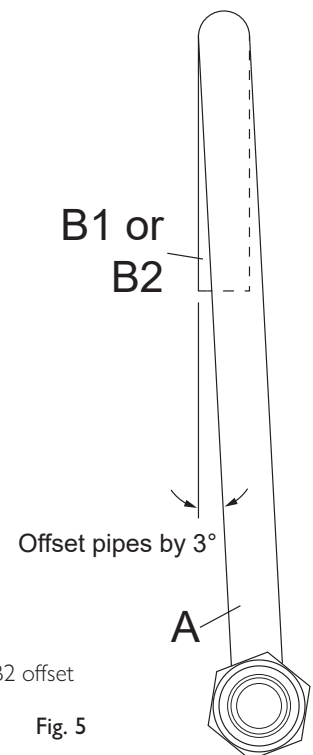


Pipe Identification

Fig. 4

<b>Pipe B1 must be used on:</b>
Baxi Assure Combi
Baxi 600 Combi
Baxi 800 Combi
<b>Pipe B2 must be used on:</b>
Baxi Assure 500-2 Combi
Baxi 600-2 Combi
Baxi 800-2 Combi

Table 1



Pipes A & B1 or B2 offset

Fig. 5

## 4.0 Installation

### 4.1 Installation - Pipe Assembly (cont.)

7. When installing the Assure FGHR in conjunction with a System boiler the lower pipes, B1, B2 & D, may be dispensed with and the upper pipes, A & C, shortened.

8. An example of shortening pipes A & C is shown in Fig. 6. The characteristics of each installation, position of existing pipework etc. will influence how much pipes can be shortened.

9. See Figs. 7 & 8 for dimensions that will assist when shortening pipes A & C and routing of system pipework.

**NOTE:** The illustrations in Sections 4.2, 4.3 & 4.4 show the full pipe assemblies.

Pipe Shortening Examples  
System Boiler Applications

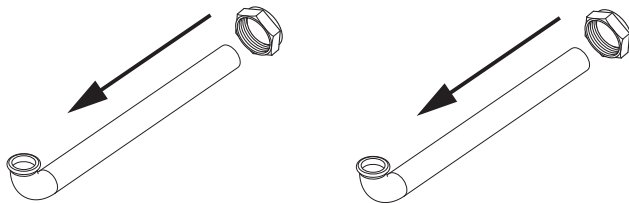
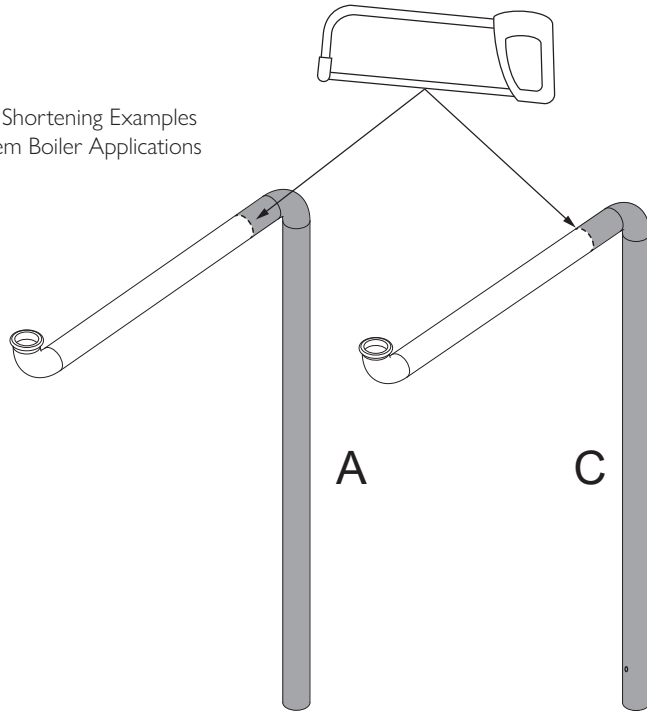
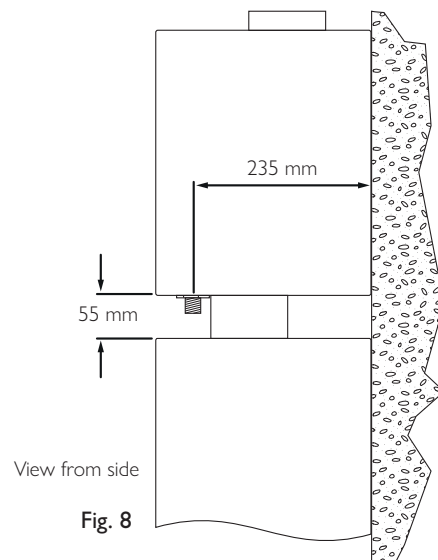
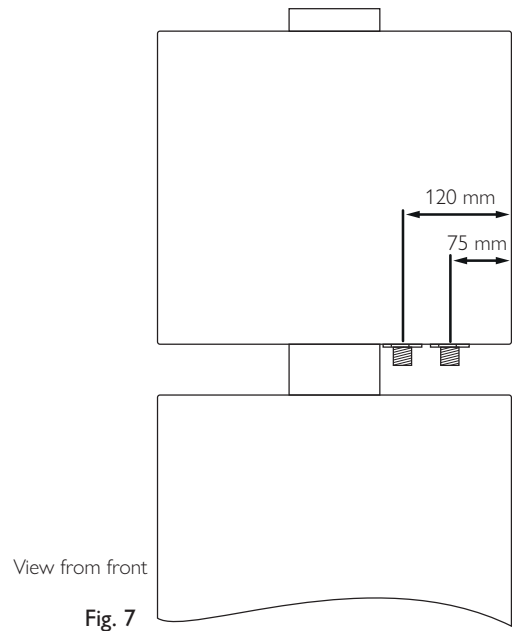
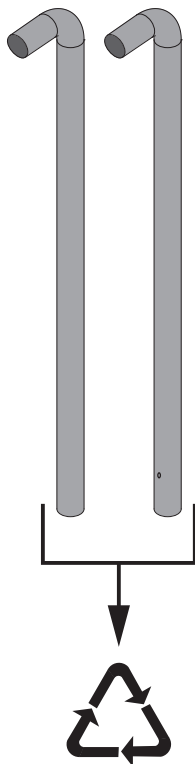


Fig. 6



## 4.0 Installation

### 4.2 Installation - Vertical Flue 5118576

**IMPORTANT:** Follow the Installation & Servicing Instructions supplied with the boiler to the point at which the wall plate is fitted, but do not mark the flue position. **The Assure FGHR must be fitted on a flat vertical surface.**

1. Align the Assure FGHR template on the wall (Fig. 9) and mark the positions of suitable fixing points on the upper and lower plates of the wall frame.
2. Drill & plug the fixing points, secure the frame and hang the boiler on the lower plate (Fig. 10). Prime the boiler trap by pouring 300 ml of clean cold water into the central spigot. **Do not allow any water to spill into the air chamber.**
3. After identifying the FGHR inlet and flow pipes (Fig. 11), manoeuvre them into place behind the boiler.
4. Undo the screws securing the top flue adaptor and remove the adaptor. Retain the screws & adaptor for reuse. Extract the blanking cap and discard, recycling where possible. Refit the adaptor and secure with the screws previously removed (Fig. 12).
5. The Assure FGHR can now be fitted (Figs. 13 & 14). Locate the slots in the rear on the upper plate and flue connection on the underside of the Assure FGHR in the boiler adaptor, taking care to not displace the seals.
6. The flue system can now be installed (Fig. 15). The flue adaptor on top of the Assure FGHR is similar to that on the boiler.
7. Connect the flow & inlet pipes to the fittings on the underside of the FGHR unit ensuring that the sealing washers are in place.
8. Continue with the installation and commissioning of the boiler.

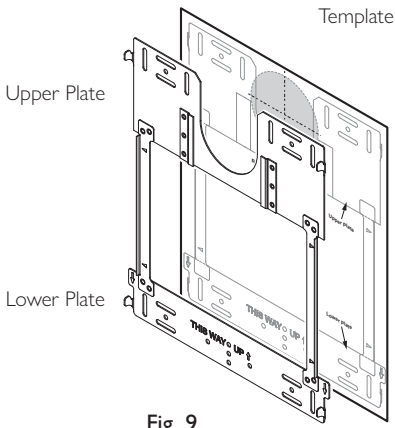


Fig. 9

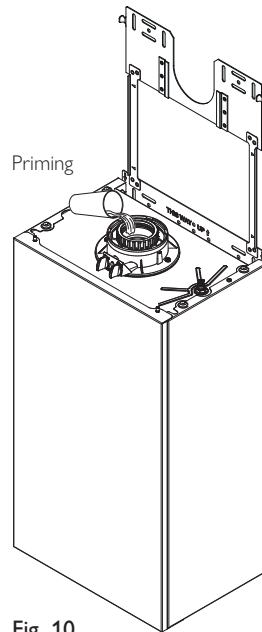


Fig. 10

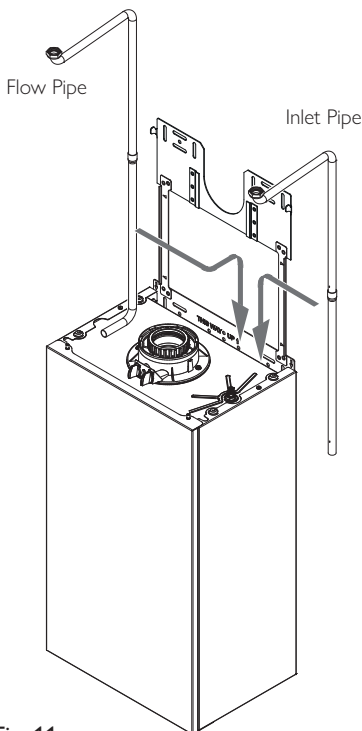


Fig. 11

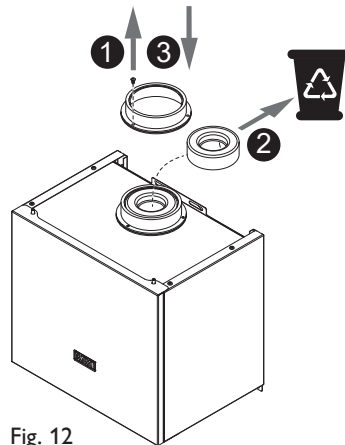


Fig. 12

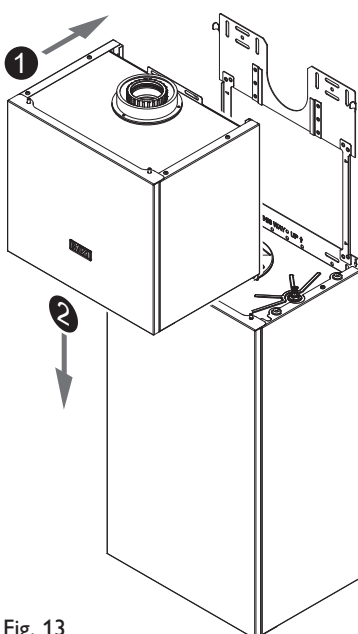


Fig. 13

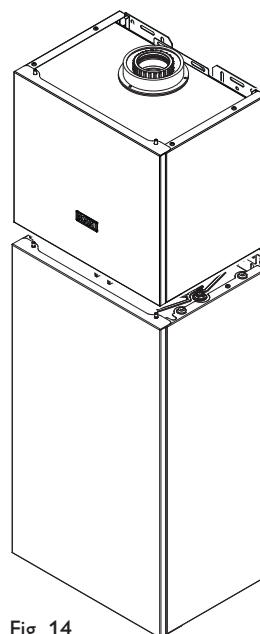


Fig. 14

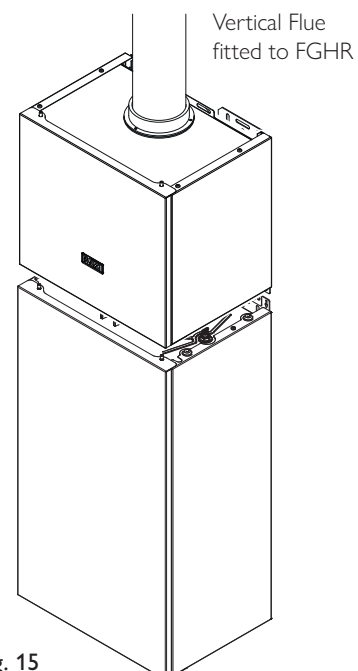


Fig. 15



## 4.0 Installation

### 4.3 Installation - Horizontal Direct Rear Flue 7210434

**IMPORTANT:** Follow the Installation & Servicing Instructions supplied with the boiler to the point at which the wall plate is fitted, but do not mark the flue position. **The Assure FGHR must be fitted on a flat vertical surface.**

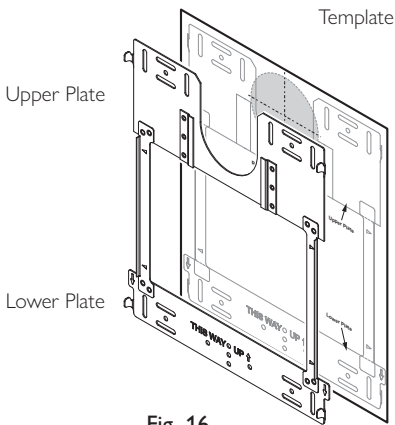


Fig. 16

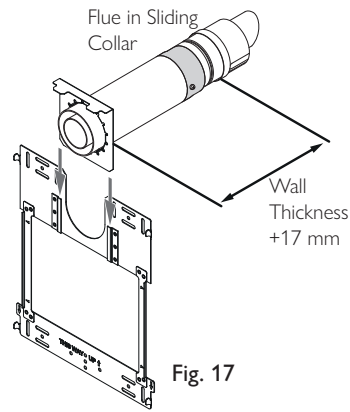


Fig. 17

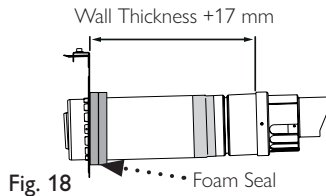


Fig. 18

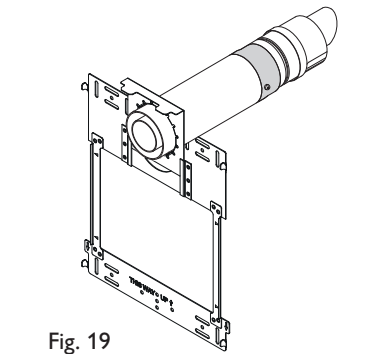


Fig. 19

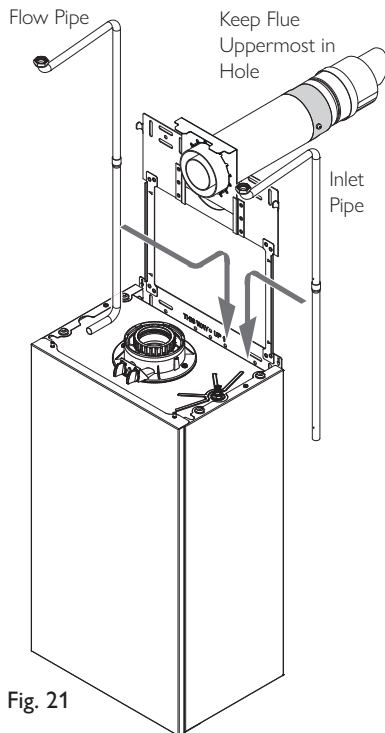


Fig. 21

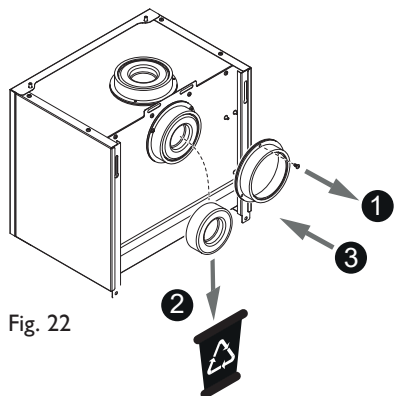


Fig. 22

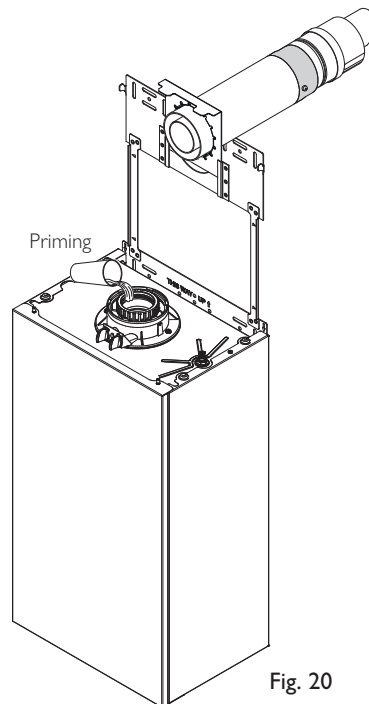


Fig. 20

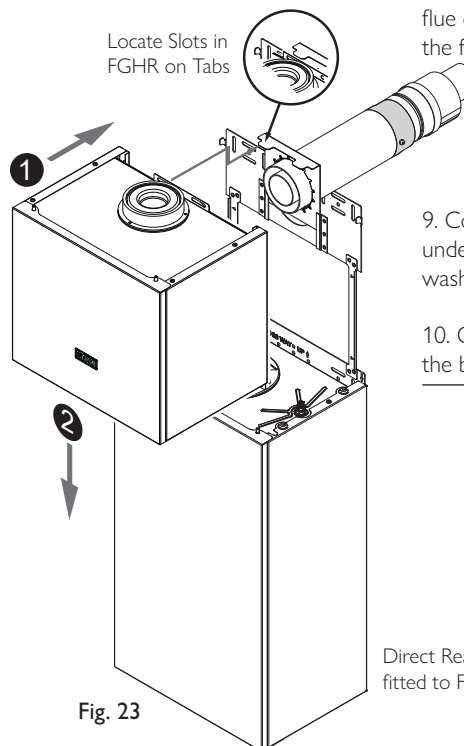


Fig. 23

1. Align the Assure FGHR template on the wall (Fig. 16) and mark the positions of suitable fixing points on the upper and lower plates of the wall frame.

2. Drill & plug the fixing points. Cut the hole for the flue  $\text{\O}150$  mm. Measure the wall thickness and add 17 mm. Adjust the telescopic flue to length after locating and securing it in the sliding collar with the screws supplied. Tape and secure the flue (Fig. 17).

3. Apply the self-adhesive foam from kit 7215374 to the rear face of the sliding collar (Fig. 18). Wrap the foam around the flue twice. Engage the flue & collar in the channels on the frame (Fig. 19).

4. Insert the flue into the  $\text{\O}150$  mm hole and secure the frame assembly to the wall, ensuring the flue is uppermost in the hole by pushing up the sliding collar: Hang the boiler on the lower plate (Fig. 20). Prime the boiler trap by pouring 300 ml of clean cold water into the central spigot. **Do not allow any water to spill into the air chamber.**

5. After identifying the FGHR inlet and flow pipes (Fig. 21), manoeuvre them into place behind the boiler.

6. Undo the screws securing the rear flue adaptor and remove the adaptor. Retain the screws & adaptor for reuse. Extract the blanking cap and discard, recycling where possible. Refit the adaptor and secure with the screws previously removed (Fig. 22).

7. The Assure FGHR can now be fitted (Fig. 23). Locate the slots in the rear of the FGHR on the tabs of the flue collar & upper plate. Lower the FGHR to engage the flue connection on the underside with the boiler adaptor, taking care to not displace the seals.

8. As the FGHR is lowered the flue & collar assembly will slide down the channels to the lowest position.

9. Connect the flow & inlet pipes to the fittings on the underside of the FGHR unit ensuring that the sealing washers are in place.

10. Continue with the installation and commissioning of the boiler.

## 4.0 Installation

### 4.4 Installation - Horizontal Rear Flues with Elbow 720642701, 720598701 & 720599401

**IMPORTANT:** Follow the Installation & Servicing Instructions supplied with the boiler to the point at which the wall plate is fitted, but do not mark the flue position. **The Assure FGHR must be fitted on a flat vertical surface.**

1. Align the Assure FGHR template on the wall (Fig. 24) and mark the positions of suitable fixing points on the upper and lower plates of the wall frame.
2. Drill & plug the fixing points and cut the hole for the flue  $\text{\O}116$  mm. Secure the frame and hang the boiler on the lower plate (Fig. 25). Prime the boiler trap by pouring 300 ml of clean cold water into the central spigot. **Do not allow any water to spill into the air chamber.**
3. After identifying the FGHR inlet and flow pipes (Fig. 26), manoeuvre them into place behind the boiler.
4. Undo the screws securing the top flue adaptor and remove the adaptor. Retain the screws & adaptor for re-use. Extract the blanking cap and discard, recycling where possible. Refit the adaptor and secure with the screws previously removed (Fig. 27).
5. The Assure FGHR can now be fitted (Figs. 28 & 29). Locate the slots in the rear on the upper plate and flue connection on the underside of the Assure FGHR in the boiler adaptor, taking care to not displace the seals.
6. The flue system can now be installed (Fig. 30). Follow the method described in the boiler Installation & Service Manual. The flue adaptor on top of the Assure FGHR is similar to that on the boiler.
7. Connect the flow & inlet pipes to the fittings on the underside of the FGHR unit ensuring that the sealing washers are in place.
8. Continue with the installation and commissioning of the boiler.

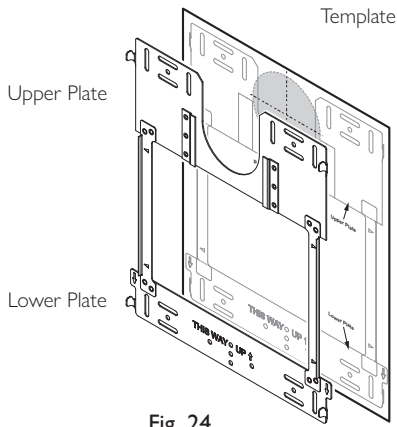


Fig. 24

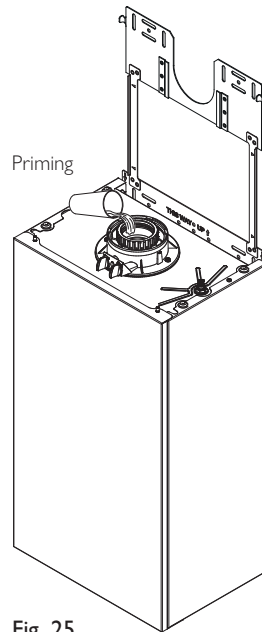


Fig. 25

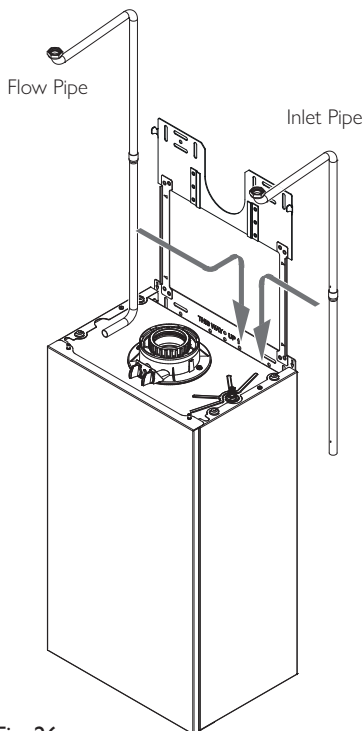


Fig. 26

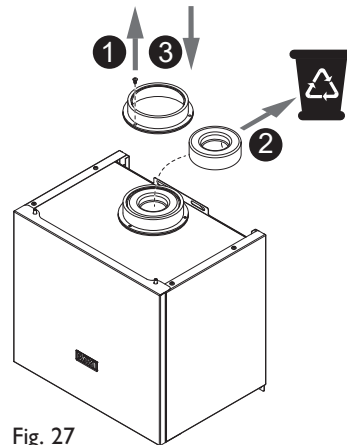


Fig. 27

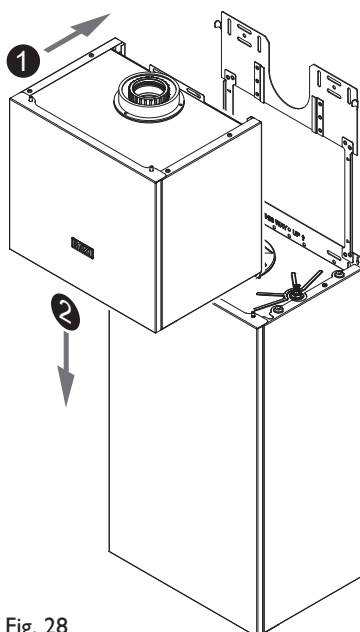


Fig. 28

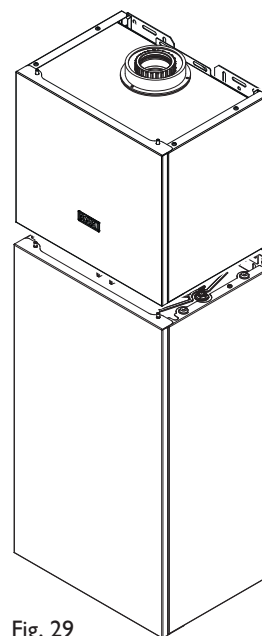


Fig. 29

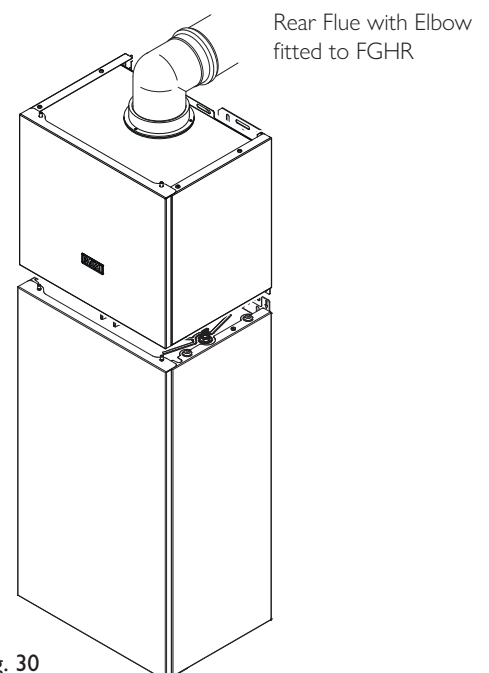


Fig. 30

## 5.0 Completion

### 5.1 Pipework (Figs. 31, 32 & 33)

**NOTE:** To comply with water regulations & byelaws an approved single check valve or some other no less effective backflow prevention device must be fitted at the point of connection between the supply and the device.

1. Certain circumstances require the installation of an expansion vessel on the mains inlet - see the relevant section of the boiler Installation & Servicing Instructions.

2. **System boilers** - Ensure that the components of the System Boiler Application kit (7736697 - includes a swept tee) are fitted in accordance with Fig. 33.

**SYSTEM BOILER APPLICATIONS.** It is recommended that the cylinder thermostat is set to 60 °C and that the main heat source is enabled for at least one continuous hour per week for pasteurisation.

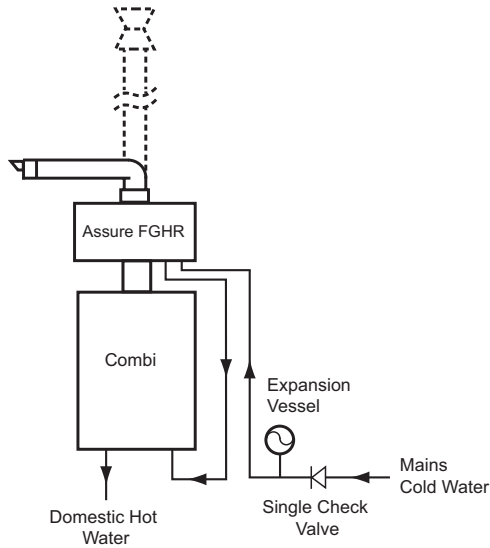


Fig. 31 Combi Boiler Application (schematic diagram)

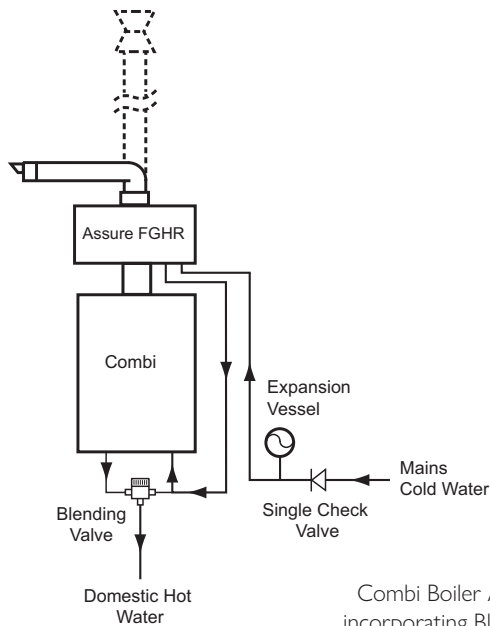


Fig. 32 Combi Boiler Application incorporating Blending Valve (schematic diagram)

### 5.2 Label

1. Apply the SAP label to the boiler (Fig. 34) and continue with the installation and commissioning procedure.

2. The Assure FGHR will operate at full effectiveness after approximately 24 hours operation.

### 5.3 Inspection

1. There are no specific maintenance requirements applicable to the Assure FGHR.

2. It is recommended that every time the boiler is serviced the Assure FGHR is subjected to a visual inspection of its overall condition and that of the flue & pipework connections.

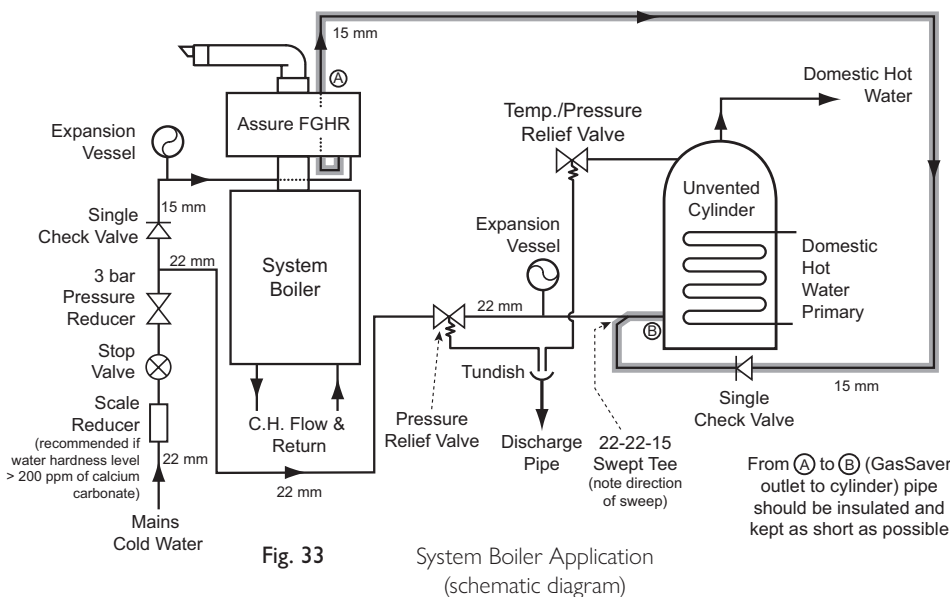


Fig. 33 System Boiler Application (schematic diagram)

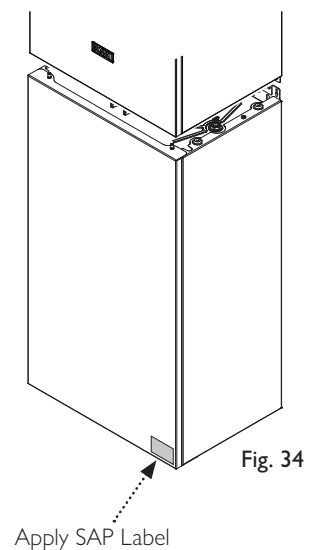


Fig. 34

## Baxi Customer Support



**0344 871 1545**

### Opening hours

Monday - Friday, 8.00am-6.00pm

Weekends and Bank Holidays, 8.30am-2.00pm

Please note calls may be recorded for training and monitoring purposes



**baxi.co.uk**

For full terms and conditions, visit [www.baxi.co.uk/terms](http://www.baxi.co.uk/terms). Failure to adhere to terms and conditions will void your manufacturer's warranty.



Baxi  
Brooks House,  
Coventry Road,  
Warwick, CV34 4LL

e&oe

All descriptions and illustrations provided in this document have been carefully prepared but we reserve the right to make changes and improvements in our products which may affect the accuracy of the information contained in this leaflet. All goods are sold subject to our standard Conditions of Sale which are available on request.

# BAXI