

Flue kit installation instructions

8000 F Flue Kit 80mm Flexible 12m

Greenstar Condensfit II Floor Standing

7724002113

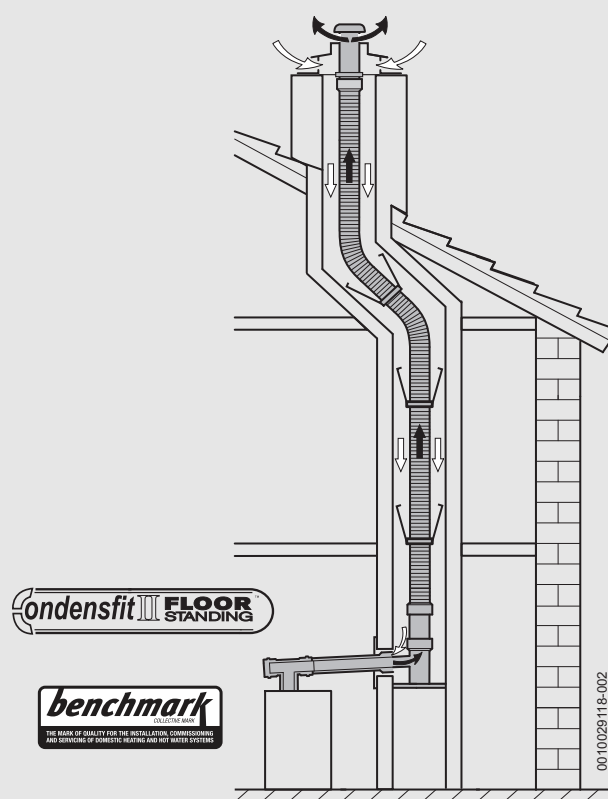


Table of contents

1	Explanation of symbols and safety instructions	3
1.1	Explanation of symbols	3
1.2	General safety instructions	3
1.3	Requirements	4
2	Product information	5
2.1	Appliance Compatibility	5
2.2	RS Flexible flue components (Ø 80mm)	5
2.3	Flue extension components	6
3	Pre-Installation	6
3.1	Chimney requirements	6
3.2	Chimney preparation	6
3.3	Calculating the effective flue length	7
4	Installation	8
4.1	Creating the chimney opening	8
4.2	Installing the flue elbow support	9
4.3	Assembling the flexible flue	10
4.4	Flexible flue liner installation	11
4.5	Installing flue terminal and cowl	12
4.6	Converting the flue outlet	13
4.7	Appliance flue connection	14
4.8	Extensions and elbows	15
4.9	Fitting the horizontal flue	16
5	Inspection and service	17
5.1	Servicing	17

1 Explanation of symbols and safety instructions

1.1 Explanation of symbols

Warnings

In warnings, signal words at the beginning of a warning are used to indicate the type and seriousness of the ensuing risk if measures for minimizing danger are not taken.

The following signal words are defined and can be used in this document:



DANGER

DANGER indicates that severe to life-threatening personal injury will occur.



WARNING

WARNING indicates a hazardous situation which, if not avoided, could result in serious personal injury or danger to life.



CAUTION

CAUTION indicates a hazardous situation which, if not avoided, could result in minor to moderate personal injury.

NOTICE

ATTENTION indicates that material damage may occur.

Important information



The info symbol indicates important information where there is no risk to people or property.

Additional symbols

Symbol	Meaning
▶	a step in an action sequence
→	a reference to a related part in the document
•	a list entry
–	a list entry (second level)

Table 1

1.2 General safety instructions

⚠ Important - These instructions are to be used in conjunction with appliance Installation and maintenance instructions.

Please read these instructions in conjunction with the appliance Installation and maintenance instruction manual carefully before starting installation.

- ▶ Observe all the safety precautions described in the Installation and maintenance instructions for the appliance this accessory is being installed onto.

⚠ Danger to life from poisoning by flue gas

There is a danger to life from escaping flue gas.

- ▶ Ensure that flues and gaskets are not damaged.

⚠ Danger of death from poisoning by flue gas due to inadequate combustion

Danger of death due to flue gas leak. If flues are damaged or leaking, or if you smell flue gas, observe the following rules.

- ▶ Close the fuel infeed.
- ▶ Open doors and windows.
- ▶ If necessary, warn all residents and leave the building.
- ▶ Prevent third parties from entering the building.
- ▶ Rectify any damage to the flue gas pipe immediately.
- ▶ Check the combustion air supply.
- ▶ Do not cover or reduce the size of ventilation openings in doors, windows and walls.
- ▶ Ensure that there is adequate combustion air supply, including for any appliances installed at a later date, e.g. extractor fans, kitchen fans or air conditioning units that discharge air to the outside.
- ▶ Never operate the device if there is insufficient combustion air supply.

⚠ Electrical work

Electrical work must only be carried out by electrical installation contractors.

Before starting electrical work:

- ▶ Isolate all poles of the mains voltage and secure against reconnection.
- ▶ Make sure the main voltage is disconnected.
- ▶ Before touching live parts: Wait at least 5 minutes to discharge the capacitors.
- ▶ Observe the wiring diagrams of other system components as well.

⚠ Packaging

The following points should be observed during unpacking.

- ▶ Check the delivery immediately upon receipt for completeness and possible transport damage.
- ▶ In the event of transport damage, the delivery should only be accepted conditionally.
- ▶ Do not use damaged components for assembly.
- ▶ Carefully unpack the unit.
- ▶ Ensure that all packaging material is removed and that the unit is free from all materials that may prevent the unit from operating correctly.

1.3 Requirements

Installation

The flue installation must be fitted and terminated in accordance with your local regulations.

Support

Flues require adequate support throughout their entire run.

Flue System



Only use the approved Condensfit II Floor Standing flue system accessories with this flue kit.

Replacing an existing flue

When replacing an existing Condensfit II flue on an appliance:

- ▶ Ensure it is the correct flue system for the appliance as we have various flue systems for Floor Standing gas appliances.
- ▶ Ensure the flue installation meets current Building Regulation requirements.
 - Building Regulation requirements may have changed from the original date of installation of the existing flue system.

Annual inspection

When the flue system is inspected during the annual service, the engineer must inspect and confirm that:

- ▶ The flue system is continuous without any breaks.
- ▶ All joints in the flue system are secure and correctly assembled according to the manufacturers instructions.
- ▶ The flue has a fall of 3° (52 millimetres per metre) back to the boiler.
- ▶ The terminal is not damaged or restricted.

2 Product information

2.1 Appliance Compatibility

Room sealed 80mm flexible flue liner

For use with the following Worcester gas-fired floor standing appliances:

- Greenstar 8000 F 35kW Regular
- Greenstar 8000 F 50kW Regular

2.2 RS Flexible flue components (Ø 80mm)

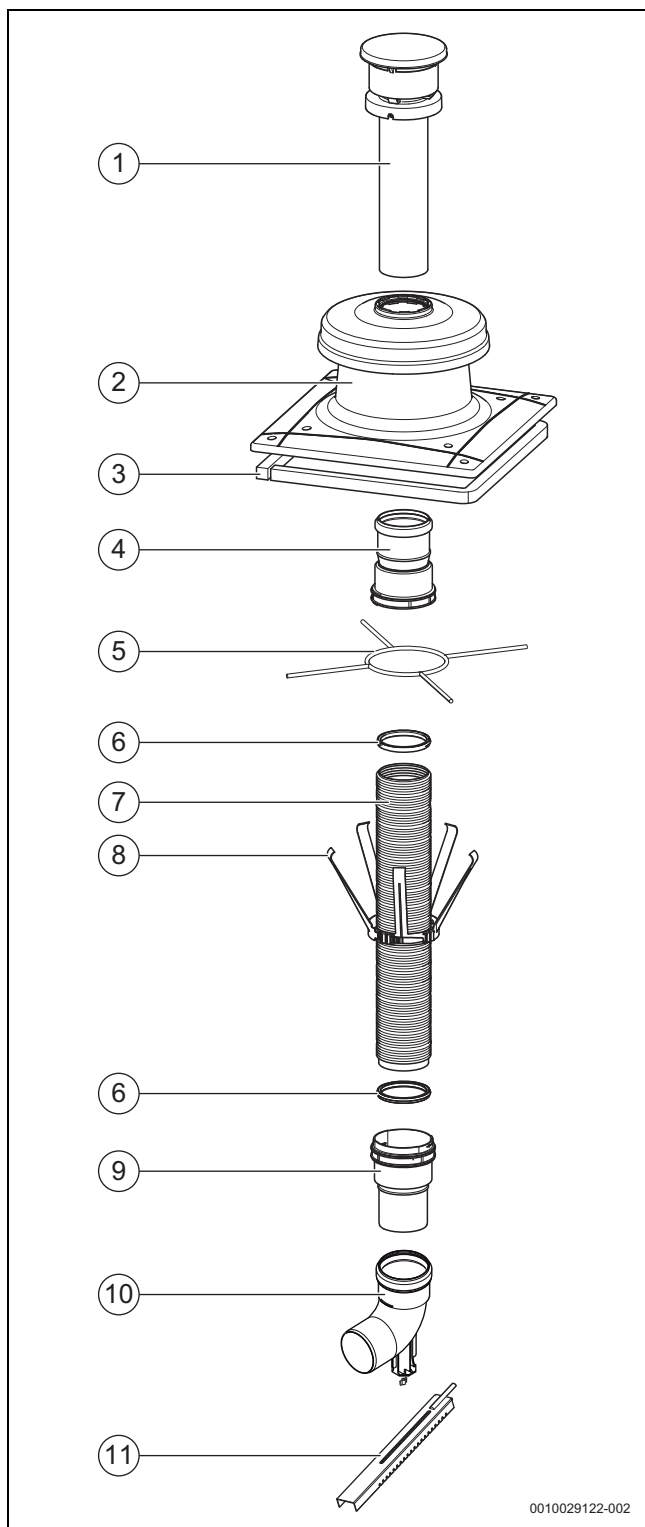


Fig. 1 RS Flexible flue components (80mm)

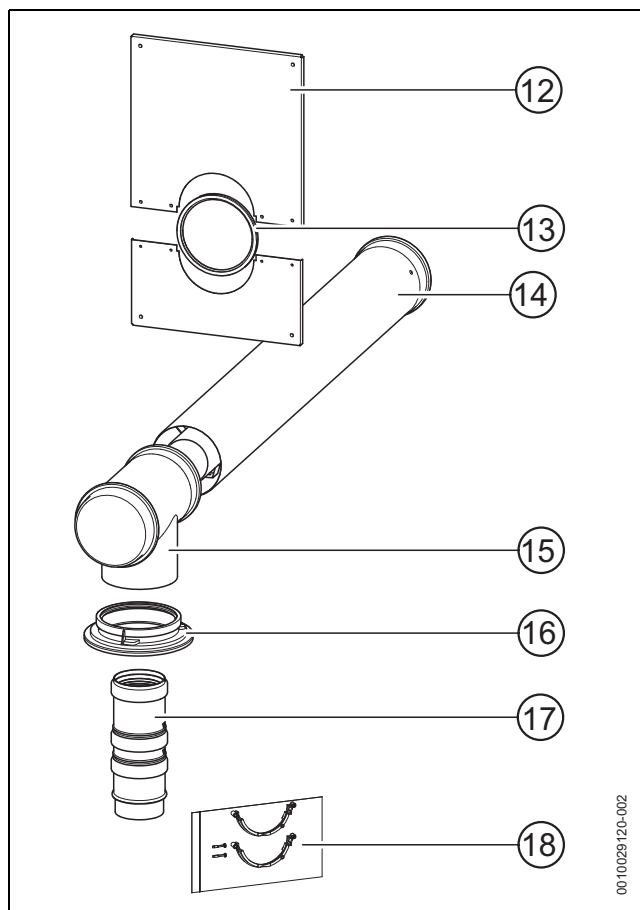


Fig. 2 RS Flexible flue components (80mm)

No.	Description	Quantity
1	Flue terminal	1
2	Chimney cowl	1
3	Self adhesive weather seal	1
4	Terminal end adaptor	1
5	Support bracket	1
6	Seal	2
7	Flexible flue liner	1
8	Centralising spacer	4
9	Flexible to rigid adaptor	1
10	Elbow	1
11	Elbow support	1
12	Flue inspection plates	2
13	Seal for flue inspection plates	1
14	125mm flue extension	1
15	Tee piece	1
16	125mm flue connector	1
17	80/80mm flue adaptor	1
18	Flue retainer clamp - small	1

Table 2 Contents of package

NOTICE

Seals

- Seals [6] locate in two places into recesses at the top and bottom of the flexible flue liner [7]. Refer to figures 12 and 17.

2.3 Flue extension components

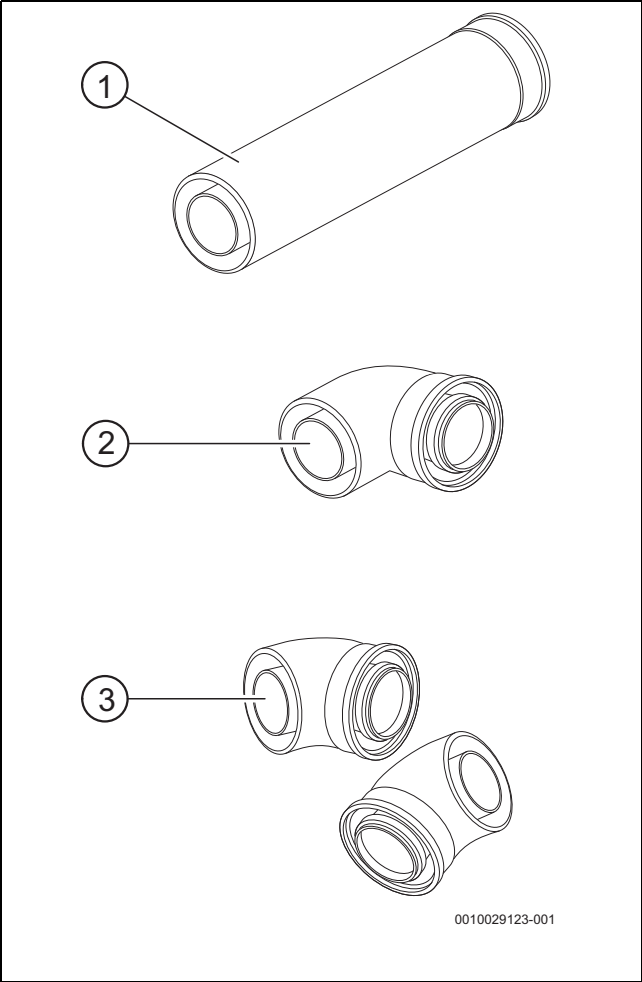


Fig. 3 Extension components

No.	Description	Part Number
1	Ø 80/125 1000mm Extension kit	7 719 003 666
2	Ø 80/125 90° Bend	7 719 003 664
3	Ø 80/125 45° Bends	7 719 003 665

Table 3 Extension components

3 Pre-Installation

NOTICE

Risk of damage to the appliance or flue.

- Read all Pre-Installation sections.
- Ensure all requirements are met before using the appliance or flue installation.



Flue gases have a tendency to plume and in certain weather conditions a white plume of condensation may be discharged from the flue outlet. Where this could cause a nuisance, for example near security lighting, an alternate flue position should be found.



The flue terminal positions must also follow those stated in the relevant appliance installation manual.



For information regarding installation clearances please refer to the appliance installation manual.

3.1 Chimney requirements

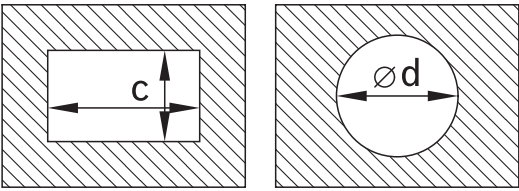
Chimney size

Before starting with the flue installation:

- Ensure the cross section of the chimney complies with table 4 and figure 4.

C _{min}	C _{max}	Ø d _{min}	Ø d _{max}
130mm	300mm	146mm	300mm

Table 4 Chimney sizes



0010029115-001

Fig. 4 Chimney sizes

Fire resistance

The materials used for the construction of the chimney must be fire resistant in compliance with the figures stated in table 5.

Type of building	Fire resistance
single storey	30 minutes
multi storey	90 minutes

Table 5 Fire resistance of chimney material

3.2 Chimney preparation

- The chimney must be swept if it has been previously used for an appliance burning a fuel other than gas.
- It is recommended that the chimney be swept before installation of the flexible flue.
- Any damper or restrictor plate in the chimney must be removed. If it is not possible to remove the sliding damper it must be fixed permanently in the open position.
- Any holes in the chimney must be sealed.
- The existing chimney pot and flaunching must be removed.
- The catchment space (void below the point of flue connection) must be checked to ensure it complies with the flue to be installed.
- All debris must be cleared from the catchment space.
- To avoid debris falling into the air inlet duct, do not install the duct with the open end facing up the chimney.



Only one appliance can be fitted to the flexible flue system.

3.3 Calculating the effective flue length

Appliance variant	Max flue length vertical (L_v max)	Max flue length horizontal (L_h max)
Greenstar 8000 F 35kW	12m	3m
Greenstar 8000 F 50kW	12m	3m

Table 6 Maximum flue length

To calculate the effective flue length:

- Check the flue path and consider the following:
 - the number of 90° and 45° elbows required outside the chimney
 - the number of bends in the flexible flue liner
- Deduct the effective length of each elbow from the maximum horizontal length of 3 metres

80/125mm elbow	Effective length (m)
90°	2m
45°	1m

Table 7 Elbow equivalent lengths

- Deduct the effective lengths of each bend from the maximum vertical flue length (L_v max) of 12 metres

Bends in 80mm flexible liner	Effective length (m)
45°	1.5m

Table 8 Bend equivalent length

Example of effective flue length calculation

The example in figure 5 shows the use of the flexible flue kit without additional extensions or elbows.

Horizontal effective flue length (no extensions or elbows)		$L_h \leq L_h \text{ max}$
L_h (1m)	$L_h \text{ max}$ (3m)	OK

Table 9 Example: Horizontal flue length

Vertical effective flue length (with 2 x 45° bends)		L_v
$L_v \text{ max}$ (12m) - 2 x 45° bends (3m)	=	9m

Table 10 Example: Vertical flue length

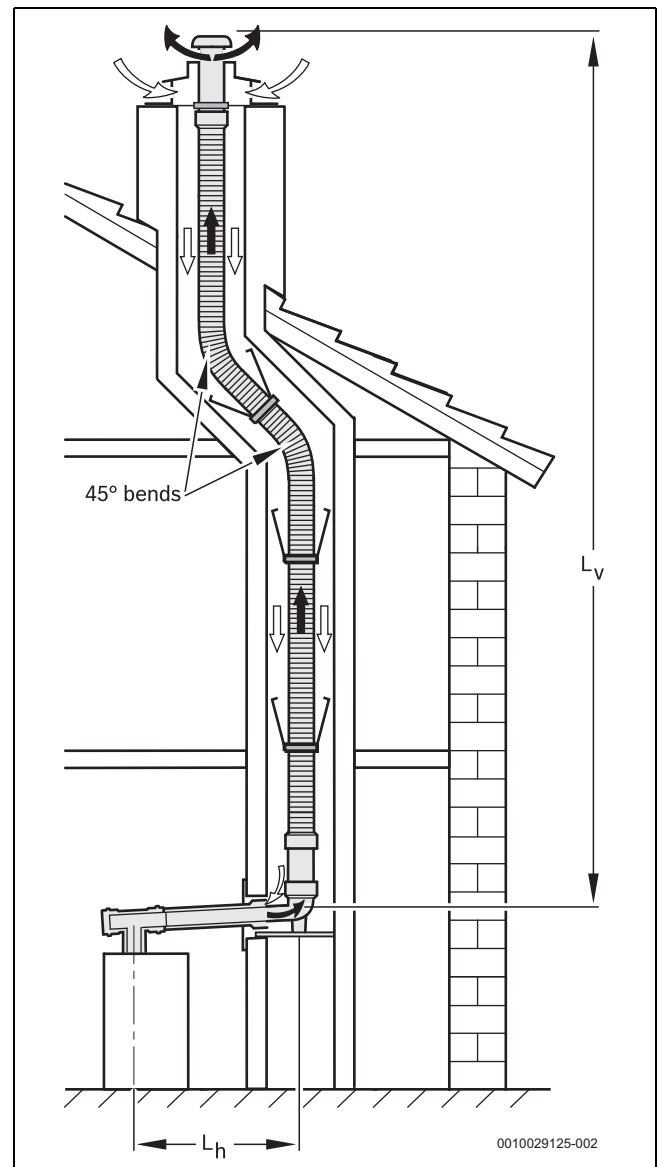


Fig. 5 Maximum flue length

4 Installation

NOTICE

Flue components

- ▶ All seals must be greased with the silicone grease provided before assembly.
- ▶ Any damaged flue components must be replaced, repairs are not allowed.

4.1 Creating the chimney opening

NOTICE

Damage to the appliance

Debris entering the appliance

- ▶ Do not install the flue duct with the open end facing up the chimney



The horizontal flue pipe connecting appliance and flexible liner must rise by at least 52mm for every metre of length. This is to ensure the condensate flows back into the appliance.

- ▶ The lower edge of the chimney opening is higher than the appliance.

As shown in fig. 6, the height **h** is dependant on the distance **d**. For every metre the appliance is away from the chimney wall the height must rise by at least 52mm. The further away the appliance stands from the chimney wall, the higher the lower edge of the chimney hole must be.

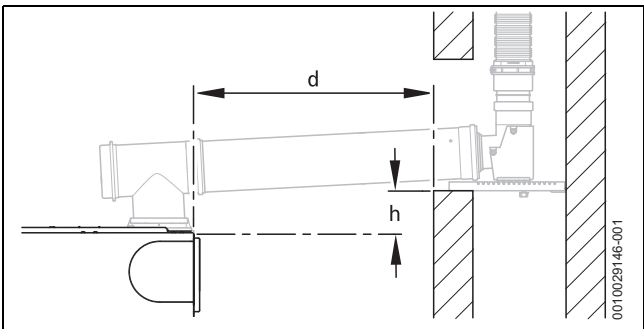


Fig. 6 Positioning the chimney opening

The chimney hole must be large enough to install the flue and allow access to the joints for servicing.

- ▶ Make an opening in the chimney wall according to the measurements shown in table 11.
- ▶ Mark the position of elbow support, ensuring that the mark is centred within the opening made in the chimney wall.
- ▶ Drill a Ø 10mm hole 60mm deep into the chimney wall.

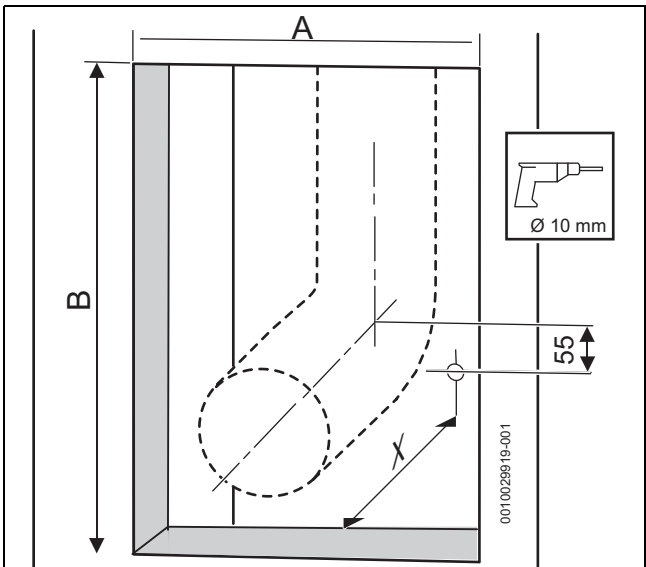


Fig. 7 Chimney opening

	A	B
Minimum mm	150	300
Maximum mm	260	390

Table 11 Chimney opening



X = the depth of the chimney opening

An additional hole is required to secure the support bar.

- ▶ Drill a hole into the ledge of the chimney hole as shown opposite, ensure that the hole is centrally located in the opening.
- ▶ Insert a suitable wall plug.

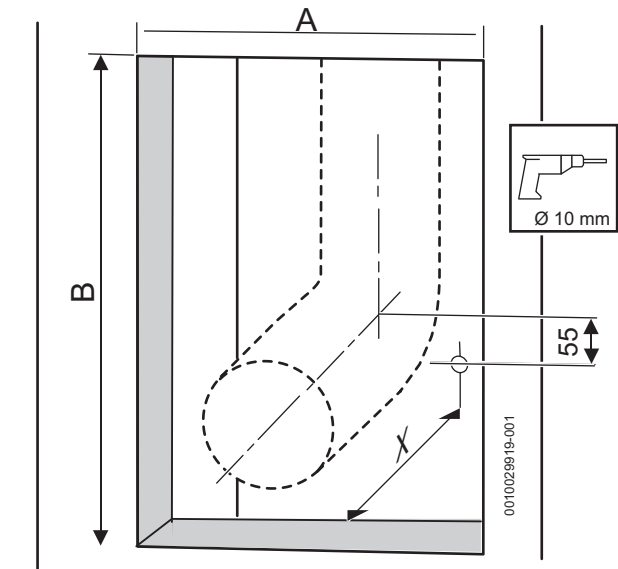


Fig. 8 Drilling security hole

4.2 Installing the flue elbow support

Depending on the depth of the chimney, it may be necessary to cut the support bar.

- ▶ Cut the support bar to fit the chimney as in fig. 9
- ▶ Drill a new hole into the support bar.
Ensure it will match with the securing hole in the ledge.

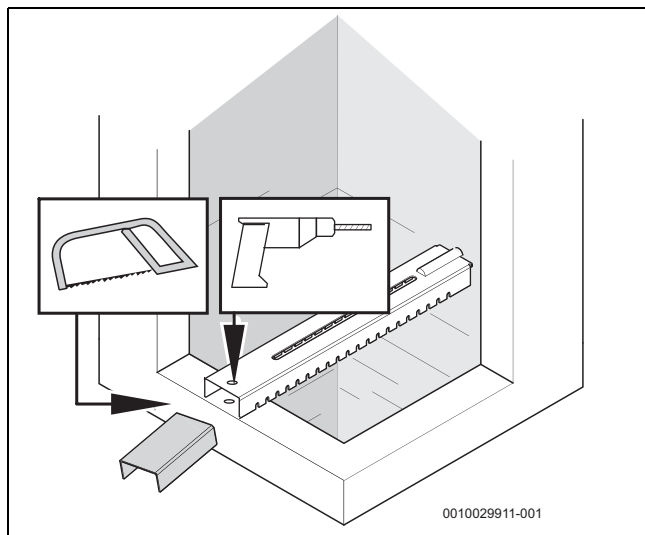


Fig. 9 Cutting the support bar

- ▶ Measure the depth of the chimney X.
- ▶ Position the elbow centrally on the elbow support at half of X as shown in fig. 10
- ▶ Secure with the wing nut.
- ▶ Grease the seal in the elbow.

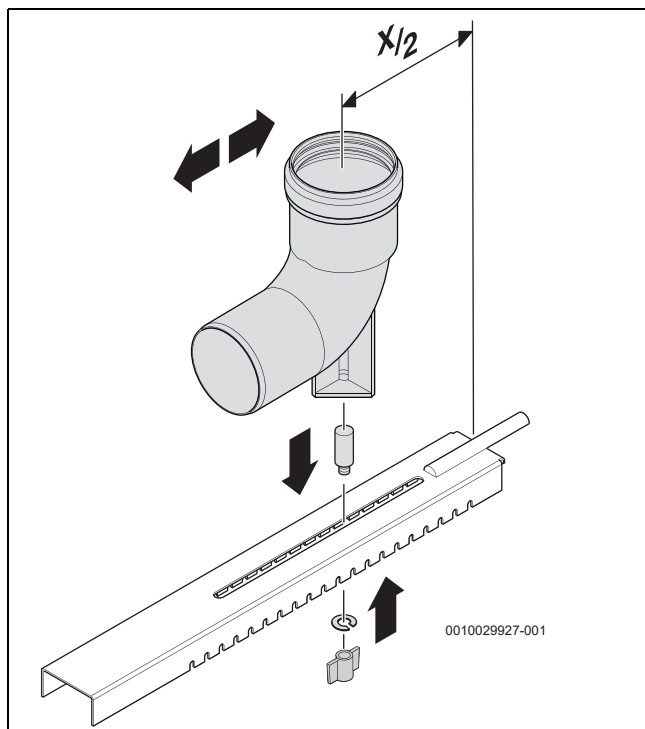


Fig. 10 Fitting the elbow to the support

- ▶ Place the elbow assembly in the chimney.
- ▶ Ensure that the elbow support is horizontal and the elbow centrally positioned with the chimney space.
- ▶ Secure the assembly with a screw as shown in fig. 11

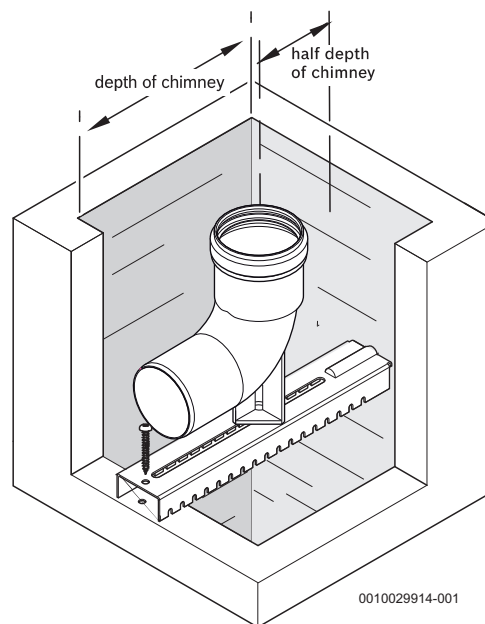


Fig. 11 Place the elbow assembly into the opening

4.3 Assembling the flexible flue

1. Apply silicon grease (3) to the seal (2) and fit the seal into the first recess on the flexible liner (1), make sure that the seal is not twisted and is seated properly.
2. Check that the locking lugs on the adaptor assembly (4) are fully undone. If the adaptor is locked, push the locking tabs outward to release the locking lugs from the adaptor. Push the adaptor (4) onto the flexible liner (1), it may be necessary to pull the locking lugs out to allow the adaptor to be pushed into the flexible liner, until the adaptor “bottoms out”. Ensure that the flexible flue:
 - is pushed fully down
 - is square with the adaptor
3. Push the locking tabs until they click and lock in place.
4. If the adaptor assembly (4) needs to be removed after assembly then the locking tabs can be opened with your finger to allow removal of the flexible liner.

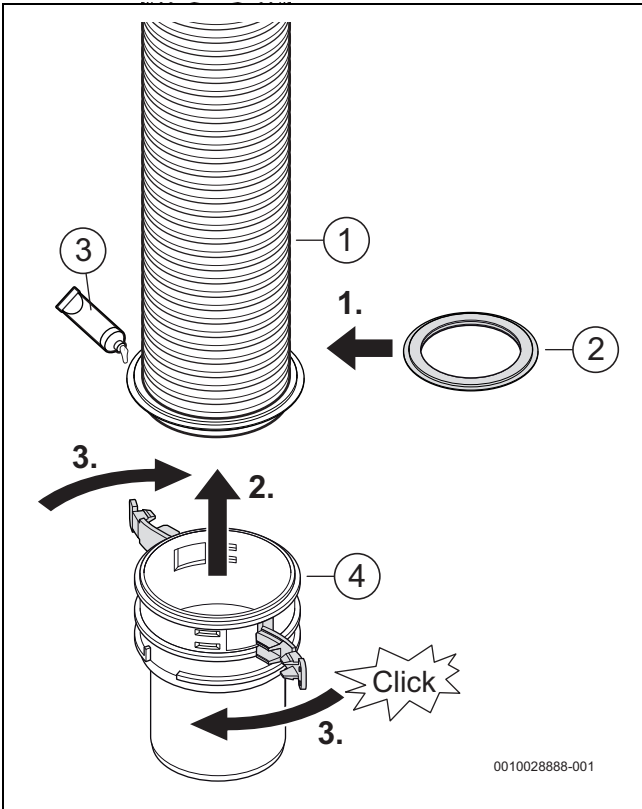


Fig. 12 Fitting the adaptor

- [1] Flexible flue liner
- [2] Seal
- [3] Grease
- [4] Flue adaptor

The centralising spacer must be shortened to fit the 80mm flexible liner. Snap off the centralising spacer at the perforated section marked 80mm to suit the flue.

Secure the centralising spacer around the flexible liner as shown in fig. 14

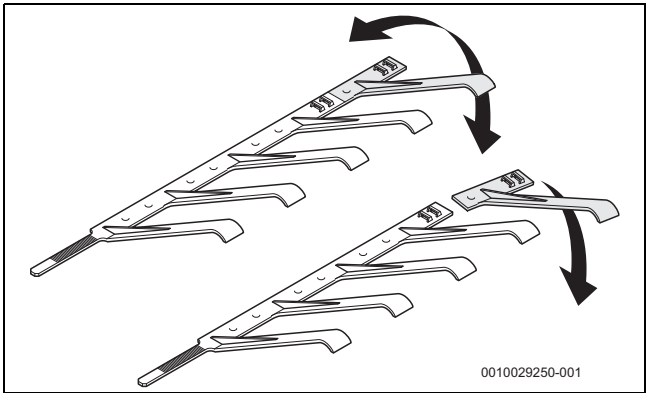


Fig. 13 Flue spacer

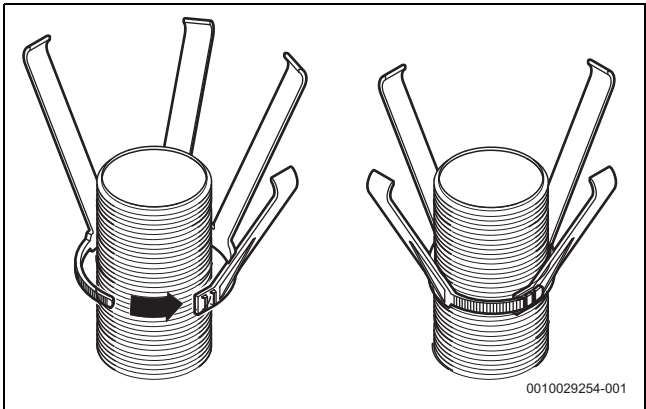


Fig. 14 Fitting spacers

The centralising spacers must be fitted to the flexible liner in certain positions to ensure the liner is centred within the chimney. For a chimney with a bend place the centralising spacers at positions shown in figure 15.

Place a centralising spacer at least every 2500mm on the vertical parts of the chimney.

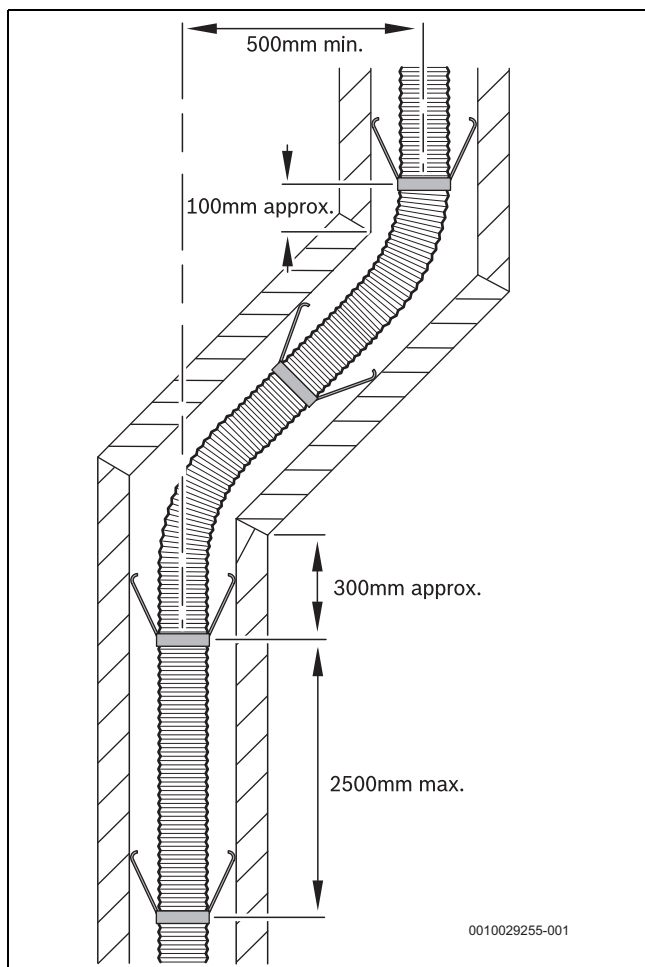


Fig. 15 Positioning spacers

4.4 Flexible flue liner installation



To ease the assembly of the flue components:

- ▶ Grease all seals lightly with the lubricant supplied.
- ▶ Ensure all seals are seated properly and are in good condition.

1. Feed the flexible liner assembly into the chimney from the top.
2. Insert the adaptor into the support elbow.

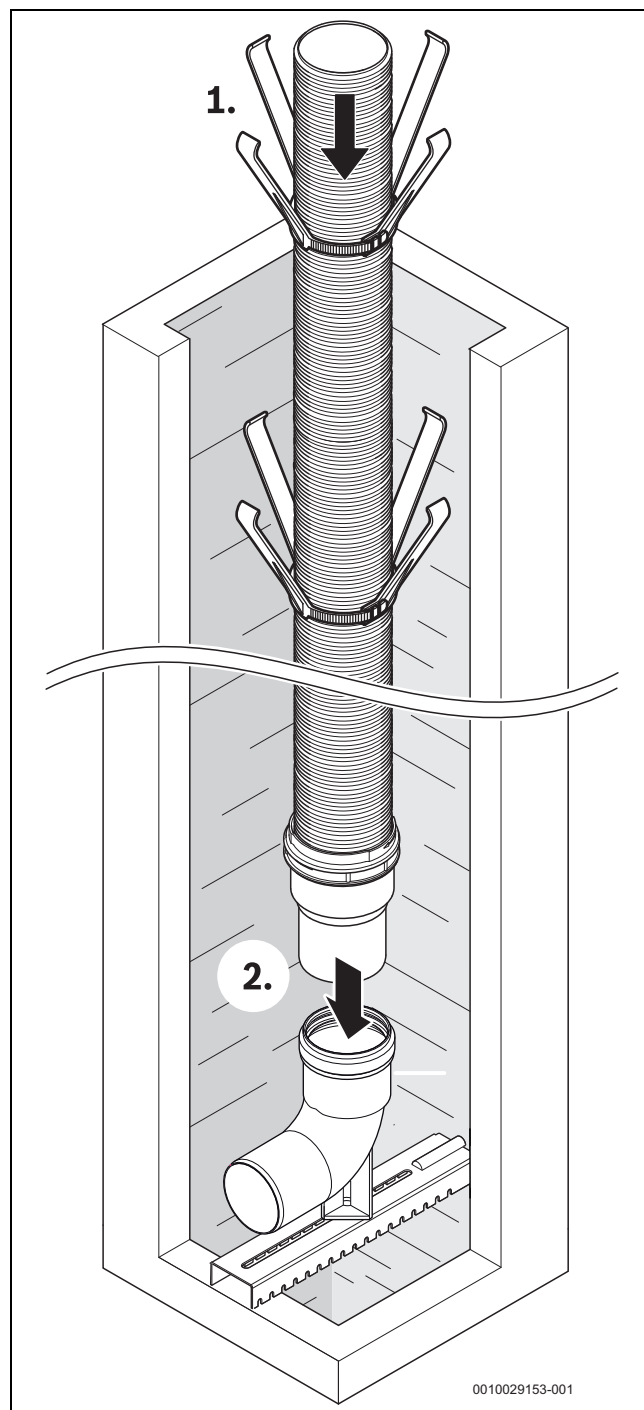


Fig. 16

1. Slide the Chimney support bracket (2) over the flexible flue liner (1).
2. Apply silicon grease (3) to the seal (4) and fit the seal into the first gap from the top of the flexible liner (1), ensure that the seal is not twisted and is seated properly.
3. Check that the locking lugs on the adaptor assembly (5) are fully open.
Push the adaptor (5) onto the flexible liner (1) until the liner bottoms out.
4. Push the locking tabs in until they click into place and are locked.

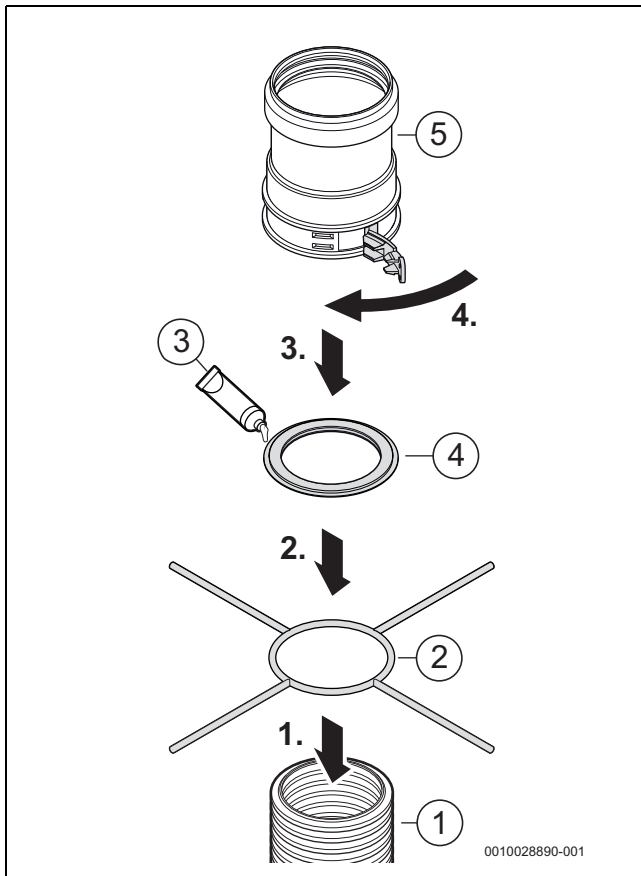


Fig. 17

4.5 Installing flue terminal and cowl



To ease the assembly of the flue components:

- ▶ Grease all seals lightly with the lubricant supplied.
- ▶ Ensure all seals are seated properly and are in good condition.

The terminal flue end must be at least 350mm long.

Ensure that the chimney bracket is larger than the chimney opening and rests on the top of the chimney. When fitted, the Chimney cowl will hold the flue in place.

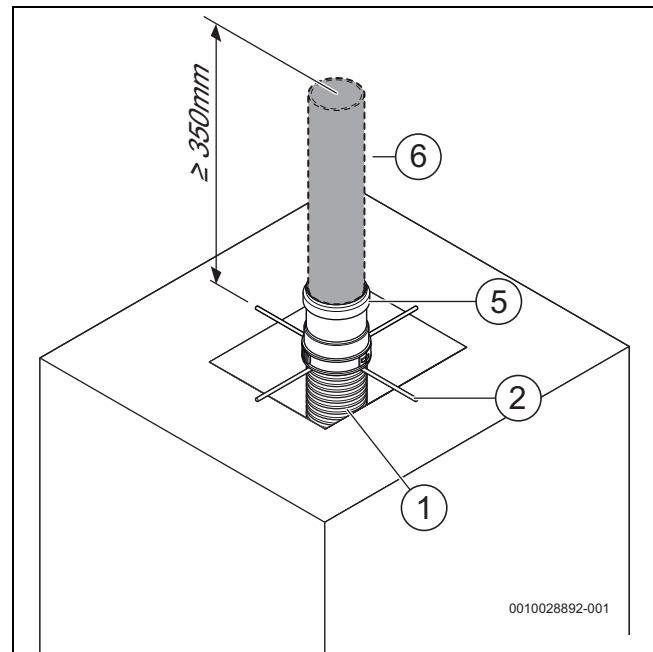


Fig. 18 Terminal flue

- [1] Flexible flue liner
- [2] Chimney bracket
- [5] Flexible to rigid adaptor
- [6] Flue terminal end
- [7] Chimney cowl

1. Apply the lubricant supplied to the seal on the adaptor (5) and fit the flue terminal (6) to the adaptor (5).
2. Fit the Chimney cowl (7) over the terminal end (6).
Mark the cowl securing points.
Turn the cowl to reveal the marked securing points, drill and fit the wall plugs.
Secure the cowl (7) with the screws provided.



If the chimney cowl is too large:

- ▶ Cut the chimney cowl down along the moulded marks and use the inner set of securing points.

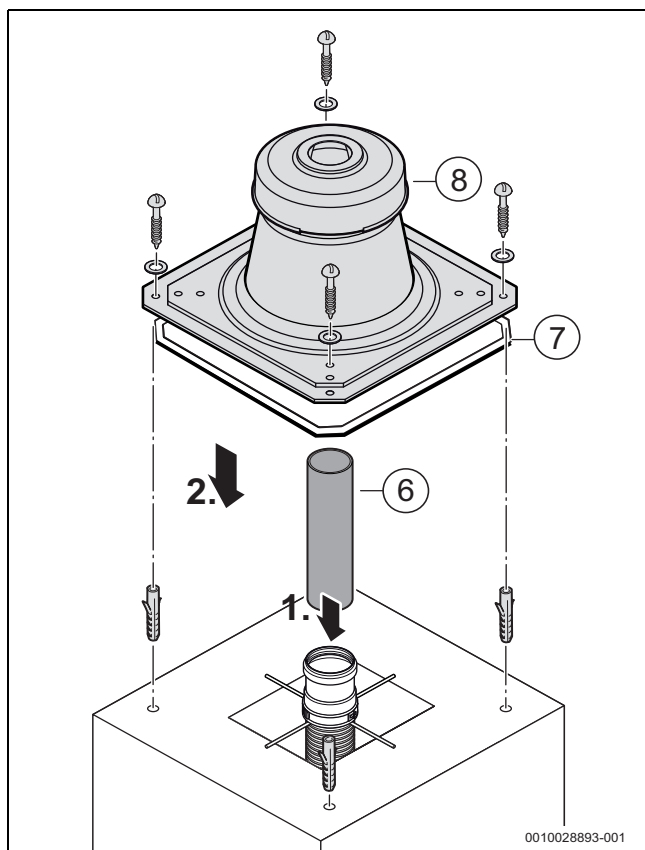


Fig. 19 Chimney cowl

Fit the flue terminal end to the terminal

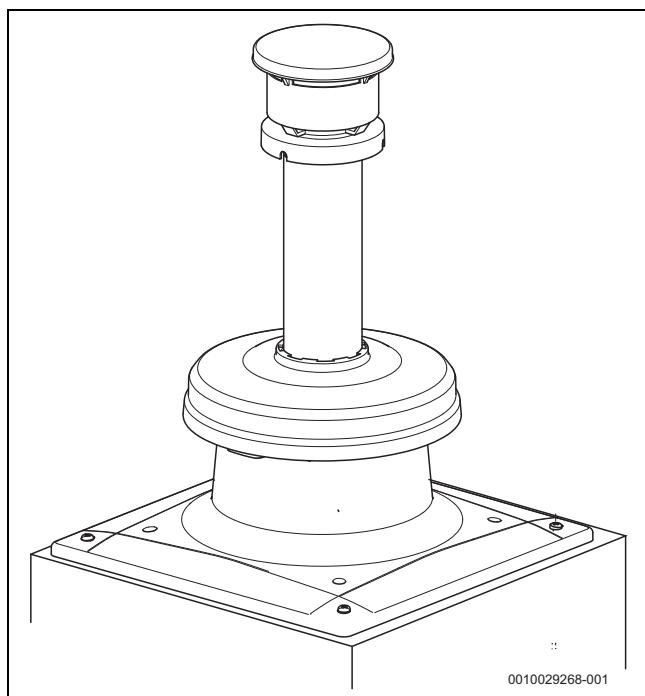


Fig. 20

4.6 Converting the flue outlet

1. Remove the knock-out panel from the top panel.
2. Remove the flue outlet blanking plate, comprising the three screws and the cover plate and gasket.
3. Refit the flue outlet blanking plate to the rear exit outlet.
 - Ensure gasket and cover plate is fitted correctly and secured with the three screws.

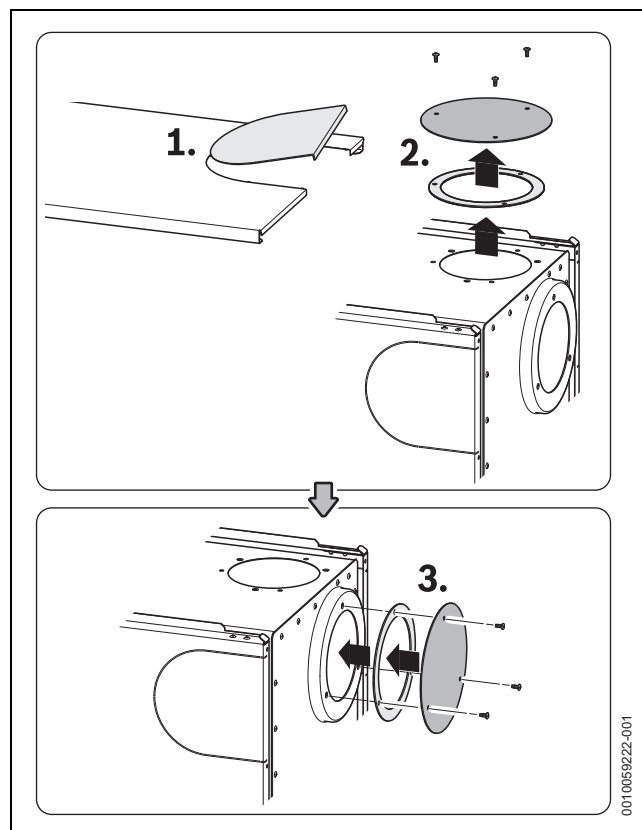


Fig. 21 Preparing the appliance and closing rear flue outlet

4.7 Appliance flue connection

Fitting the flue connector.

Refer to figure 22.

1. Fit the flue connector to the appliance.
 - Ensure the connector's flat section is at the rear edge of the inner casing.
2. Secure the connector from inside the inner casing using three hexagonal bolts

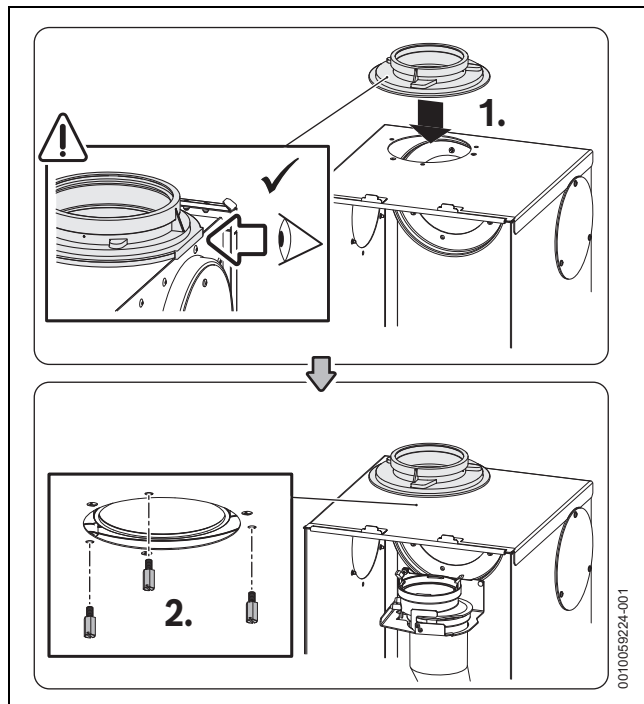


Fig. 22 Fitting the flue connector to the appliance

Fitting the flue adaptor



To ease the assembly of the flue components:

- Grease all seals lightly with silicone grease.
- Ensure all seals are seated properly and are in good condition.

Refer to figure 23.

1. Remove the adaptor clamp, already fitted to the appliance exhaust outlet.
 - Release securing screw and open the clamp utilising the pivot point and remove.
2. Insert the adaptor through the flue outlet hole on top of the appliance.
3. Push the adaptor into the appliance exhaust outlet tube until the retaining clips secure the adaptor.
4. Re-fit the adaptor clamp around the appliance exhaust outlet and adaptor joint.
 - Ensure that the adaptor clamp is fully located over the clips of the appliance exhaust outlet.
 - Secure with screw to retain the clamp but do not over-tighten as this will damage the clamp material.

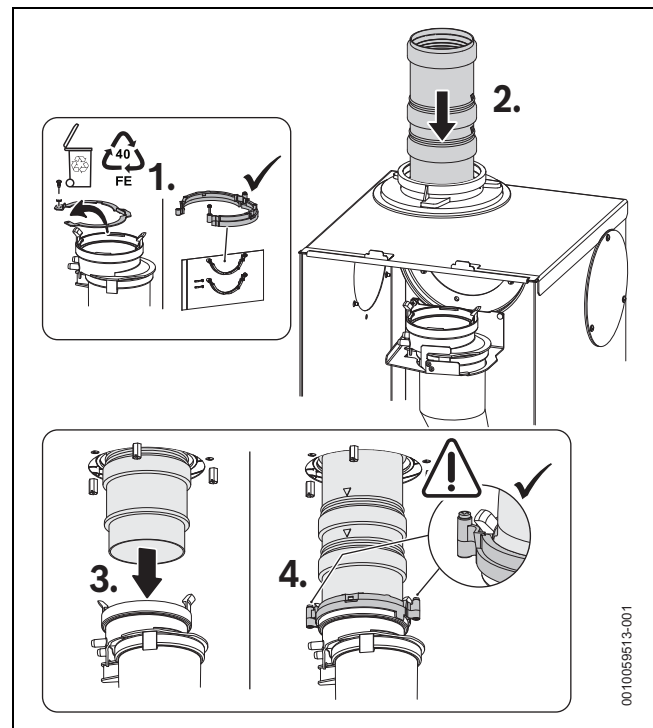


Fig. 23 Flue connection inside the appliance - Greenstar 8000 F Regular

4.8 Extensions and elbows



Connecting flue bends increases the effective flue length and allowance must be made for the different connectors.

The examples opposite show the dimensions for:

- ▶ a 90° elbow and the tee piece connected together
- ▶ two 45° elbows connected together

To calculate the effective flue length:

- ▶ Identify the number of 90° and 45° elbows required.
- ▶ Deduct the effective length of each elbow from the maximum horizontal flue length of 3m.

80/125mm elbow	Effective length (m)
90°	2
45°	1

Table 12 Elbow effective length

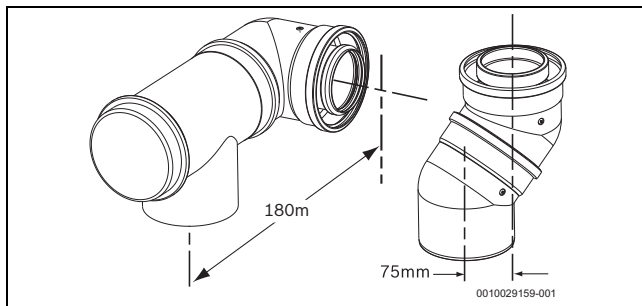


Fig. 24 Elbow measurements

To reduce the length of a flue extension:

- ▶ Mark the flue extension to the required distance, measuring from the socket end as shown in fig. 25.
- ▶ Cut the flue extension square, taking care not to damage the tubes.
- ▶ Remove any burrs and chamfer the outer edges of the tubes to prevent seal damage.



Only straight flue extensions may be cut.

- ▶ Do not modify flue elbows or the tee piece.

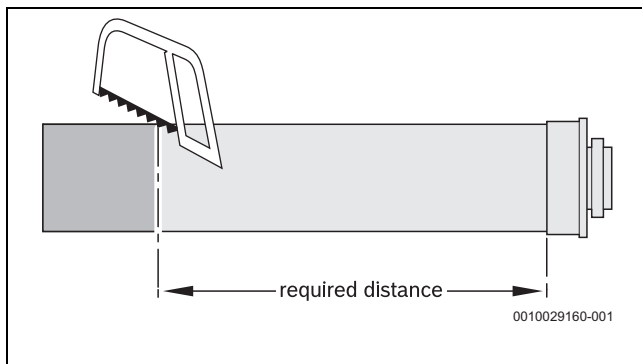


Fig. 25 Cutting the flue extension



The flue pipe must not be closer than 25mm to any combustible material.



The tee piece has a built-in angle of 3°. All horizontal sections of the flue must rise by 3° or at least 52mm for each metre away from the appliance as shown opposite. This is to ensure the condensate flows back into the appliance.

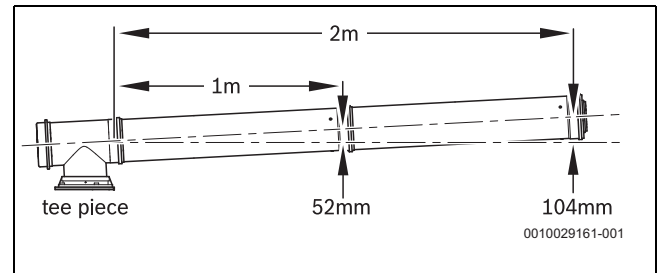


Fig. 26 Horizontal incline

To install flue extensions:

1. Slide a bracket onto each additional straight flue extension. Working from the appliance, fit extensions with brackets as required to support the weight of the flue.
2. Drill two holes (180° apart if possible) through the outer collar of each flue tube and use screws to secure the connection.

NOTICE

Appliance fault

Do not drill into the inner flue tube

- ▶ The appliance might go into lockout due to flue gases mixing with combustion air

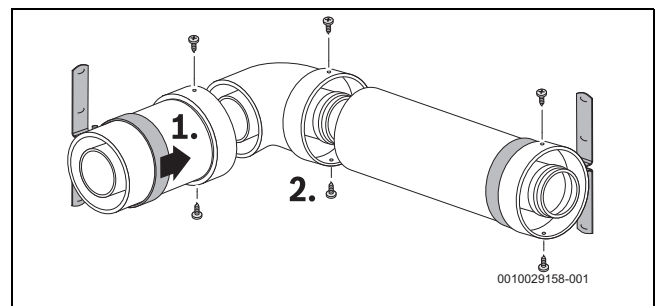


Fig. 27 Assembling extensions and elbow

4.9 Fitting the horizontal flue

NOTICE

Appliance fault

Do not drill into the inner flue tube when securing flue pipe joints.

- The appliance might go into lockout due to flue gases mixing with combustion air.



To ease the assembly of the flue components:

- Grease all seals lightly with silicone grease.
- Ensure all seals are seated properly and are in good condition.

1. Slide the seal from the inspection plate assembly over the flue pipe.

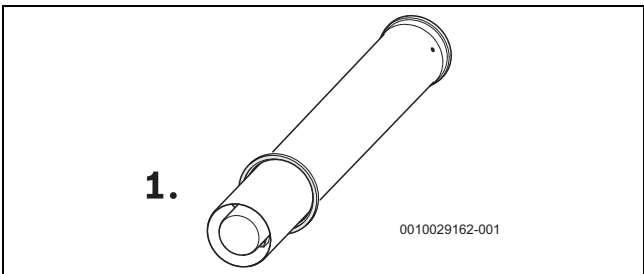


Fig. 28 Slide seal over flue pipe

2. Fit the tee piece to the flue pipe. Secure with two screws.
 - Drill two holes (180° apart if possible) through the outer collar of each flue tube and use screws to secure the connection.
3. Fit the flue pipe to the elbow in the chimney.

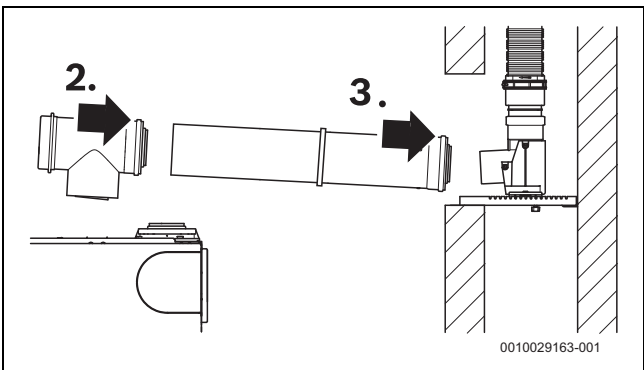


Fig. 29 Connecting tee piece and flue pipe to elbow

4. Connect the tee piece to the appliance flue outlet. Secure the tee piece to the connector with the two screws provided.

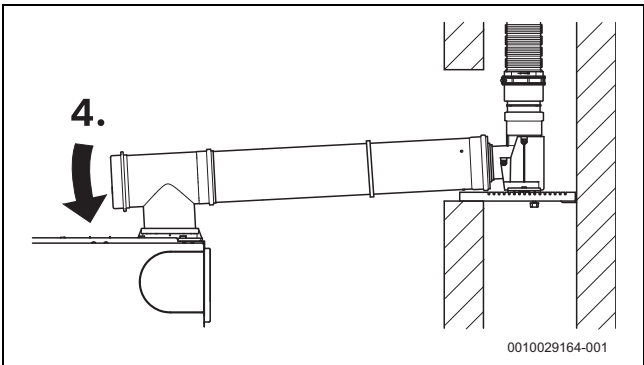


Fig. 30 Connecting tee piece to appliance flue outlet

5. Align the two inspection plates with the seal.
6. Screw the two plates together with four self tapping screws.

7. Check the rubber gasket is seated properly as shown in figure 31.

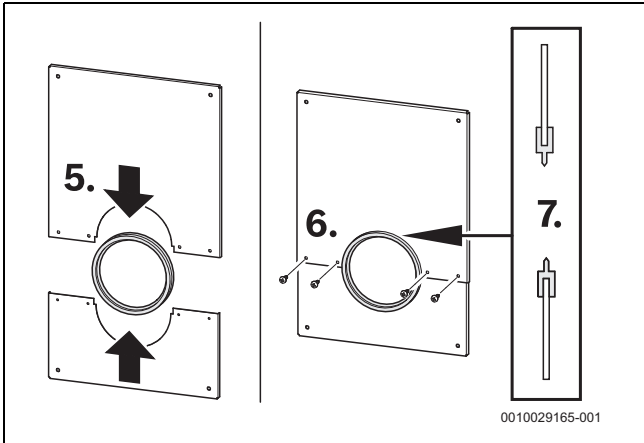


Fig. 31 Assembling flue inspection plates

8. Align the inspection plate over the chimney opening, mark and drill four fixing holes.
9. Fix the inspection plate to the chimney with the screws and wall plugs provided.

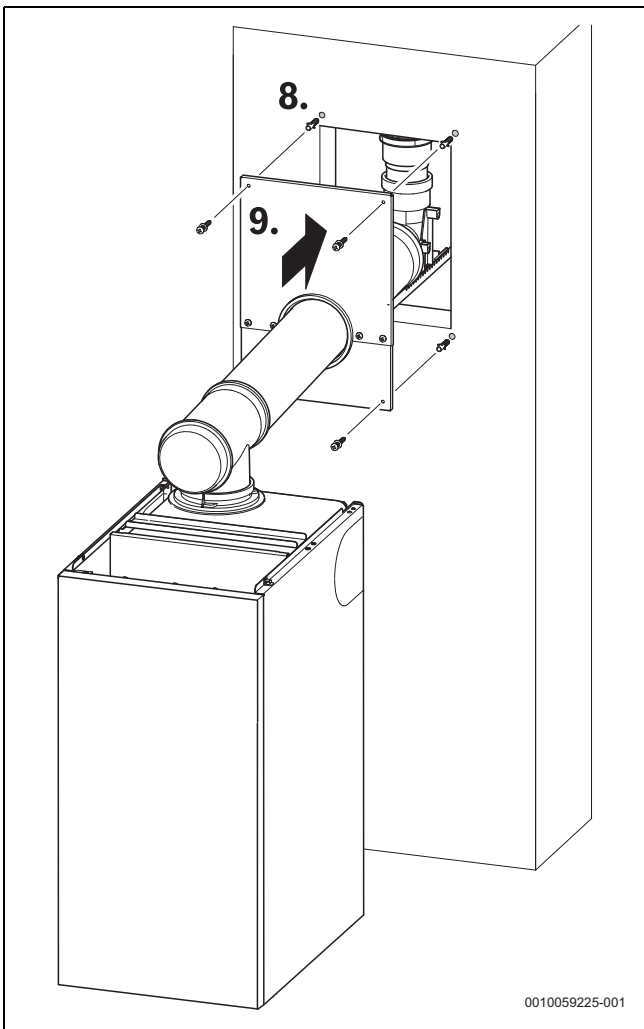


Fig. 32 Fixing inspection plates to chimney

5 Inspection and service

5.1 Servicing



An annual visual check of the flue system must be carried out in addition to the checks stated in the appliance Installation and maintenance Instructions.

To perform the visual checks of the flue system:

1. Rotate and remove the end cover from the tee piece.
2. Unscrew and remove the inner flue end cover
3. Remove the screws that secure the inspection plate and slide the inspection plate away from the chimney.

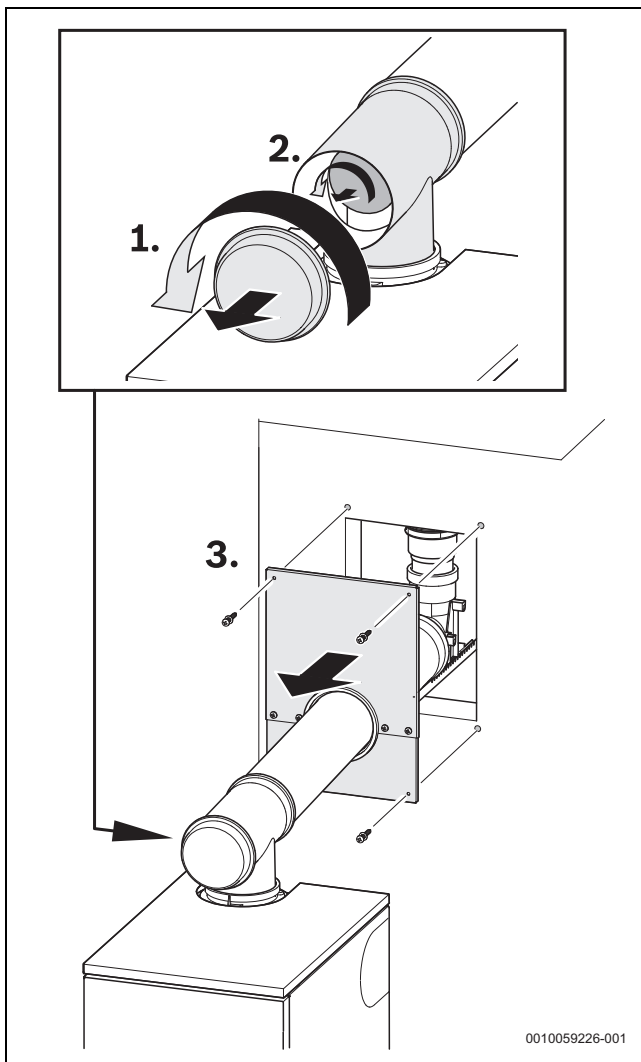


Fig. 33 Visual check

Replace all end covers and the inspection plate after visual inspection of the flue system.





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