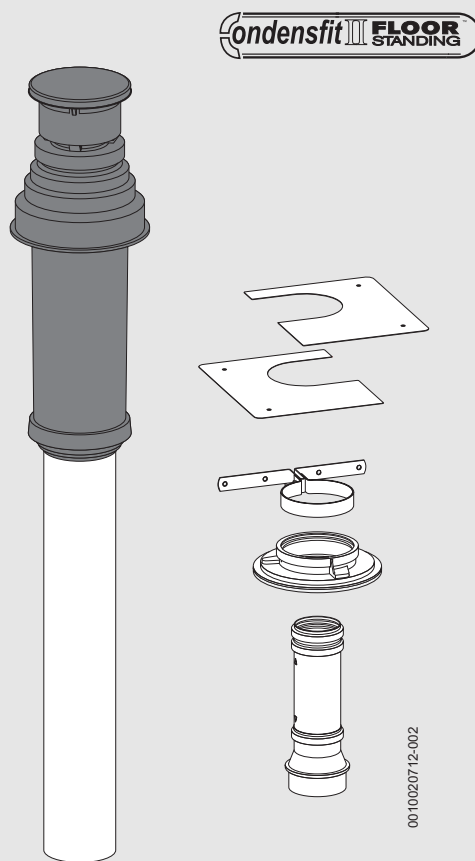


Flue kit installation instructions

8000 F Flue Kit 60/100 Vertical

Greenstar Condensfit II Floor Standing

7724001997



0010020712-002



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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.

⚠ 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

Condensate disposal with the flue system

Extended horizontal flue runs (over the standard flue length) need to allow for proper disposal of condensate through the flue system back to the appliance.

- ▶ All horizontal flue sections must rise by at least 52mm per metre away from the appliance to ensure that the condensate flows back into the appliance for safe disposal via the condensate waste pipe.

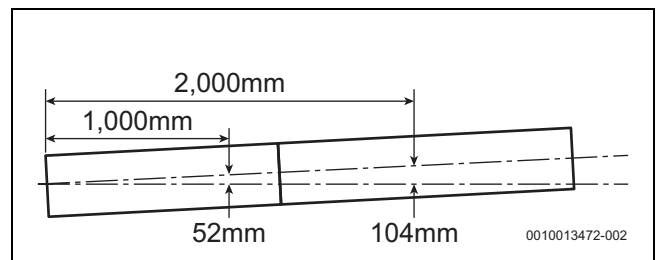


Fig. 1 Slope for condensate disposal

- ▶ Although referred to as 90° elbow they are in fact 93°.
 - They have a built in 3° (52mm per metre) rise from the appliance to help maintain condensate flow back into the appliance for safe disposal.

Flue termination positions

The flue termination positions are covered in the appliance Installation and maintenance instructions as they are part of the appliance installation location considerations.

- Ensure the maximum flue length is not exceeded for the appliance model, maximum lengths are detailed in the appliance Installation and maintenance instructions.

Installation

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

Support

Support the flue at approximately one metre intervals and at a change of direction, use suitable brackets and fittings.

Flue System



Only use the approved Condensifit II floor standing flue system accessories with this flue kit.

Replacing an existing flue

When replacing an existing Condensfit II floor standing flue on an appliance:

- ▶ Ensure it is the correct flue system for the appliance as we have a separate flue system for Wall Hung and 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.

Flue system in voids

Where a flue system is going to be concealed, provision for access must be made for service and inspection:

- ▶ Access points for inspection of the flue system must be sufficiently sized for visual inspection, particularly at any joint in the flue system.
 - The access panels must be no less than 300mm square.
 - Larger access panels can be considered if the whole flue system needs to be viewed.
 - Any access must not contravene any other building regulations or fire regulations. Refer to Building Regulations Approved Documents B, L and E.
- ▶ Flue joints within the void must not be more than 1.5m from the edge of the inspection hatch.
- ▶ Inspection hatches should be located at changes of flue direction.
 - If this is not possible, elbows should be viewable from both directions.

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.

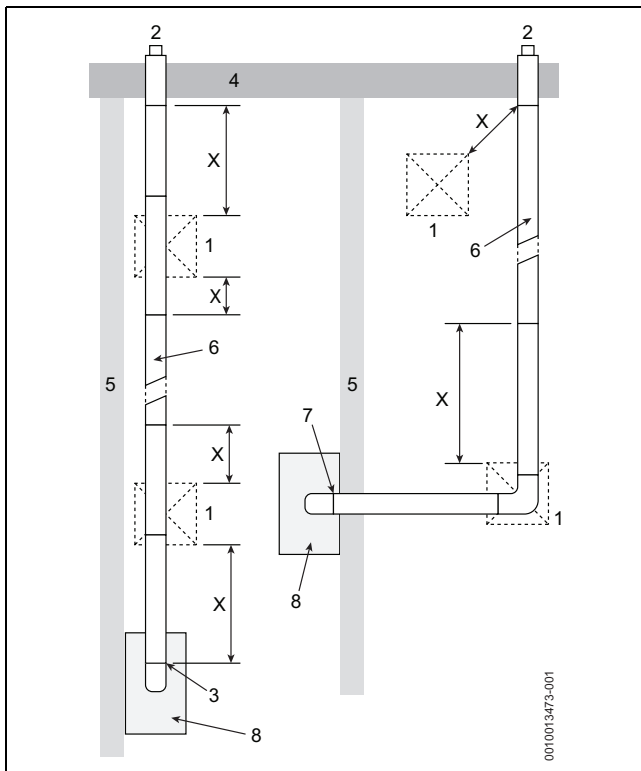


Fig. 2 Flues in voids (example shown as horizontal flue)

- | | |
|-----|--|
| [X] | This dimension must not be more than 1.5 metres (applies to all flue orientations). |
| [1] | Inspection hatch |
| [2] | Flue terminal |
| [3] | Concealed flue connection |
| [4] | External wall |
| [5] | Internal wall |
| [6] | Any intervening joints must be visible within 1.5 metres of the inspection hatch (applies to all flue orientations). |
| [7] | Accessible flue connection |
| [8] | Appliance |

2 Product Information

Intended use

These instructions cover the following flue accessories kits:

- 7 724 001 997, 8000 F Flue Kit 60/100 Vertical

These 60/100mm flue kit accessories are intended for use with Worcester Greenstar floor standing condensing gas appliances.

The flue elbow and flue connector have an in-built 3° angle giving the flue assembly the rise from the appliance to ensure the condensate flows back to the appliance.

2.1 Appliance Compatibility

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

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

2.2 Scope of delivery

- 7 724 001 997

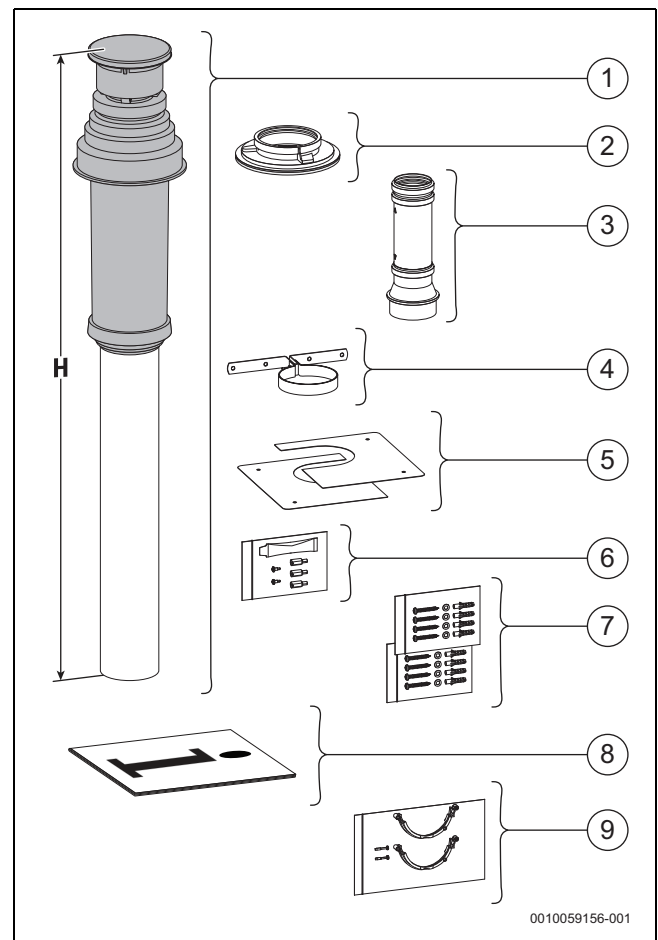


Fig. 3 Scope of delivery

- [1] Vertical flue
 - Overall height [H] 1140mm
- [2] Flue connector
- [3] Flue adaptor
- [4] Support bracket
- [5] Fire stop plates
- [6] Flue connector mounting accessories
- [7] Flue accessory pack
 - Fire stop plates mounting accessories
 - Wall fixing bracket mounting accessories
- [8] Instructions
- [9] Flue retainer clamp - small

2.3 60/100mm flue accessories

1	220mm extension	7 716 191 133
2	1,000mm extension	7 716 191 083
3	2,000mm extension	7 716 191 172
4	90° elbow	7 716 191 084
5	45° elbow (set of 2)	7 716 191 085
6	Support bracket kit	7 716 191 177
7	Support bracket kit (set of 6)	7 716 191 178
8	Pitched Roof flashing	7 716 191 091
9	Flat roof flashing	7 716 191 090

Table 2

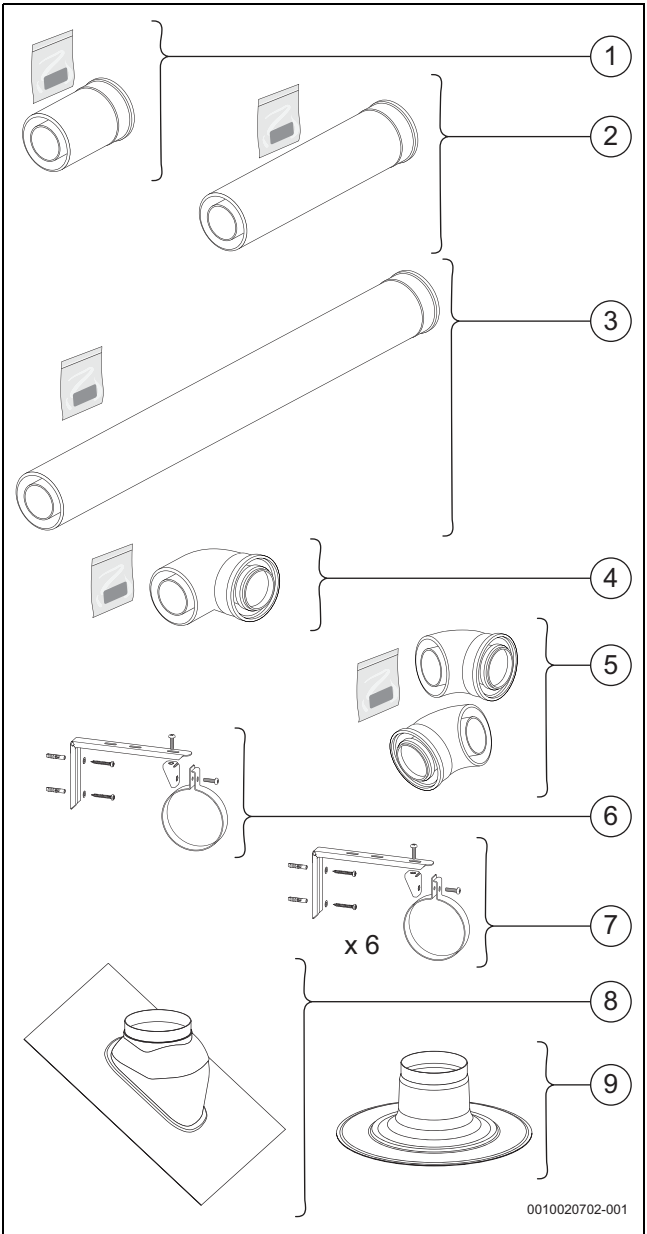


Fig. 4 Accessories

3 Pre-installation



CAUTION

Flue joints and cut sections

- Secure all joints with the screws supplied in the appropriate flue kit and accessory.
The sole purpose of the screws is to ensure that a correctly assembled joint cannot become separated due to external influences. They are not intended to provide any mechanical strength or support.
- A hole must be pre-drilled in the outer flue using a 3mm drill-bit wherever a screw is to be used to secure a joint. The joint may not be properly secured if the outer flue is not pre-drilled. Ensure you do not accidentally drill the plastic inner flue.
- When cutting sections, always take care not to damage the tubes, chamfer the edge of the plastic inner tube and remove any burrs from both tube sections to assist in ease of connection and to prevent seal damage.



Flue joints fixing screws

- Whenever possible, two screws should be fitted, at 180° from each other on the flue connections, however we recognise that some installation may make it difficult to access the joint sufficiently to fit two screws. On these occasions we would deem one screw to be acceptable.
- Where only one screw is used, the screw must be in a visible position for inspection purposes.
- Whenever a flue is identified to have only one screw in each joint, providing the flue is correctly supported and the screw is only being used for its intended purpose to prevent the joint from separating and not for mechanical support, then this would be acceptable.



Maximum flue lengths:

- For maximum flue lengths see the Installation and maintenance instructions manual for the appliance the flue kit is being installed onto.

3.1 Preparation

3.1.1 Flue measuring

NOTICE

Flue length:

- ▶ Do not exceed the maximum straight length for a vertical 60/100mm flue as stated in the relevant appliance Installation and maintenance instructions manual.



The maximum flue length can be found in the Installation and maintenance instructions manual for the appliance.

- ▶ Measure the flue length L from the flue adaptor, along the route of the flue system, to the roof exit [2].
- ▶ Select the required number of extensions and elbows to achieve the required flue run.

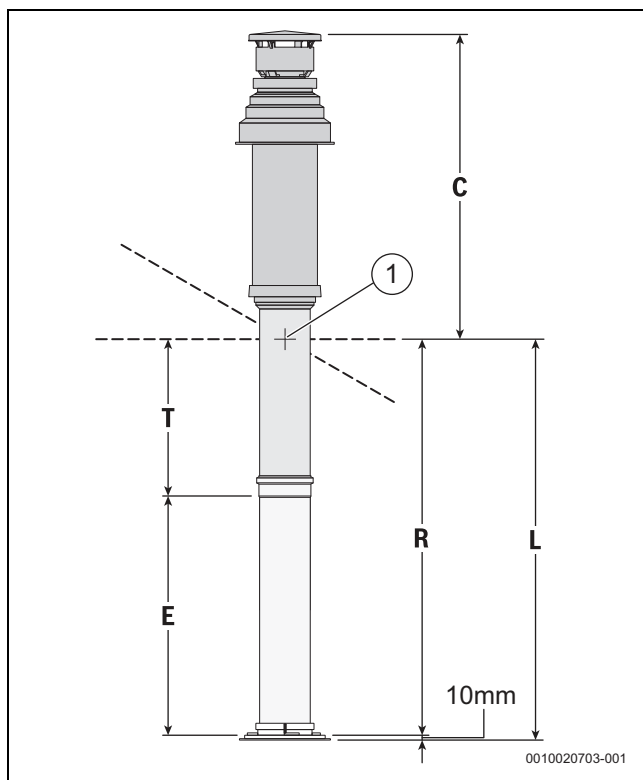


Fig. 5 Flue length determination (extended flue example)

- [1] Roof exit point
- [C] Roof exit clearance distance (→ Section 3.2)
- [L] Effective length of the flue system
- [R] Actual length of the flue sections ($L - 10\text{mm} = R$)
- [E] Extension flue length
- [T] Vertical flue terminal length



Effective length

- ▶ Each flue elbow is rated as a certain straight length of flue, refer to the relevant appliance Installation instructions. The “effective length” of each elbow is added to the straight length of flue. Adding elbows to the flue system reduces the actual flue length available.
- ▶ The effective length of the flue must not exceed that stated in the relevant appliance Installation and maintenance instructions manual.

90° Elbow offset dimensions

Figure 6 shows the offset between 2 x 90° elbows.

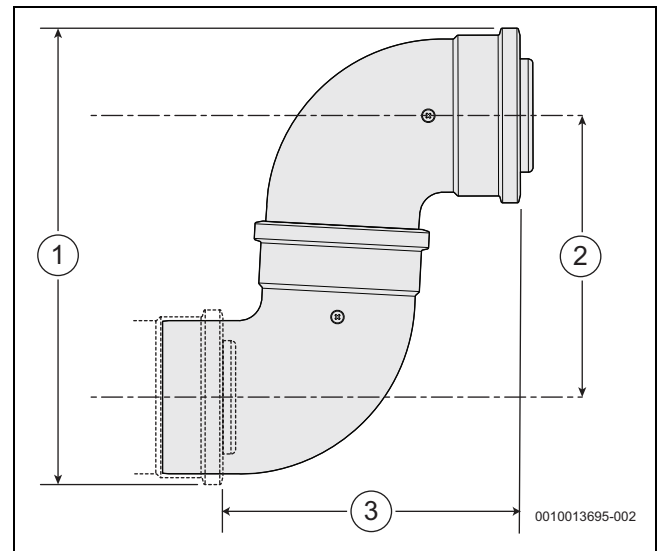


Fig. 6 90° elbows offset

- [1] 299mm
- [2] 185mm
- [3] 190mm

Figure 7 shows the actual length added by a 90° elbow when used with an extension in either orientation.

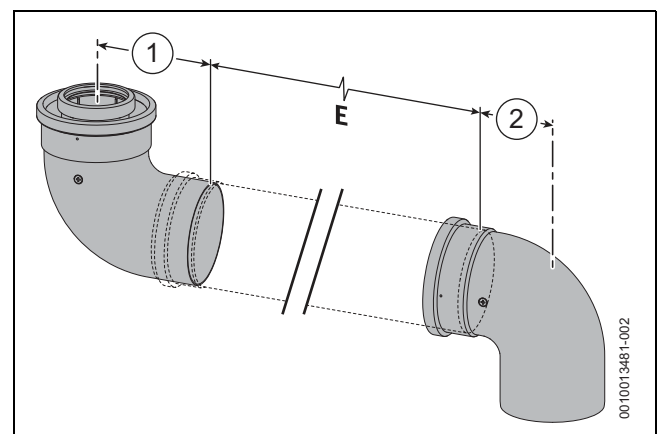


Fig. 7 90° elbow with extension offset dimensions

- [E] Extension flue length
- [1] 112mm
- [2] 73mm

45° Elbows offset dimensions

Figure 8 shows the 45° elbow offset.

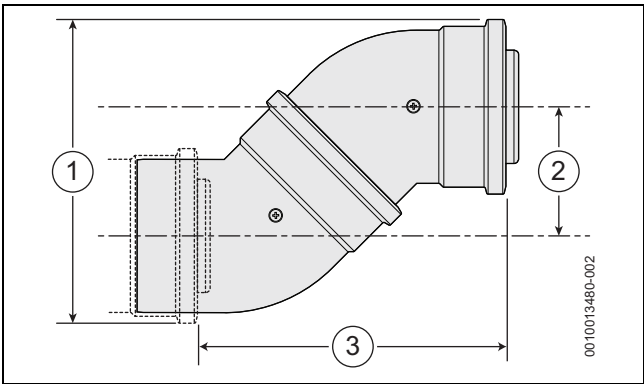


Fig. 8 45° elbows offset dimensions

- [1] 197mm
- [2] 85mm
- [3] 200mm

If using an extension between the 2 x 45° elbows, for offset between centres refer to graphs in elbow instructions manual.

Minimum extension length between elbows

The minimum extension length between two elbows/offsets is 130mm, this allows for a good seal at the connection joints.

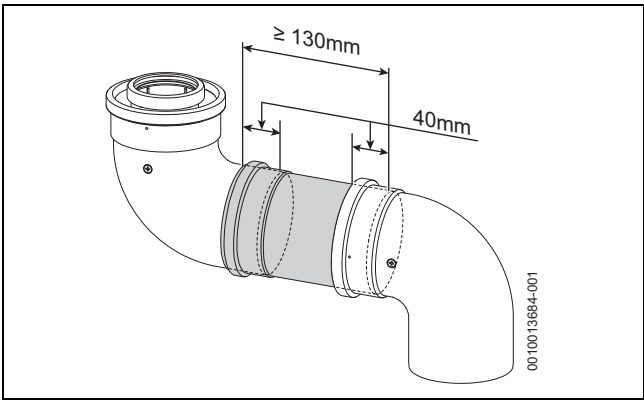


Fig. 9 Example with 90° elbows

3.1.2 Reducing the vertical flue kit length

NOTICE

Damage to flue terminal

Damaging the flue terminal beyond use.

- ▶ Do not cut the Ø 135mm tube [1], only cut the Ø 100mm tube.

To shorten the flue terminal:

- ▶ Mark the length required for the terminal [1] as shown (minimum 650mm) and cut square, taking care not to damage the tubes.
- ▶ Remove and discard the unwanted portion [2] of the flue terminal.
- ▶ Remove any burrs and chamfer the outer edge of the tubes to assist ease of connection and prevent seal damage.

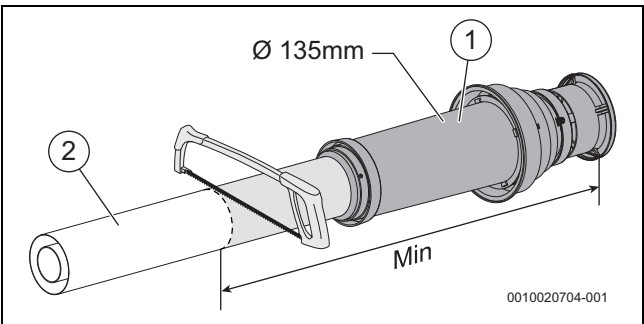


Fig. 10 Reducing vertical flue kit length

Vertical flue connector correct orientation

Figure 11 shows the correct orientation when refitting the vertical flue connector to the vertical flue.

- ▶ Ensure the vertical flue connector [3] is correctly orientated for refitting.
 - The flat edge of the flue connector faces the rear of the appliance.
- ▶ Fit the vertical flue [1] firmly into the vertical flue connector [3] and drill 3mm pilot hole through the outer flue tube of vertical flue [1] and the vertical flue connector [3].
- ▶ Secure with the screws [2] provided with the vertical flue connector [3].

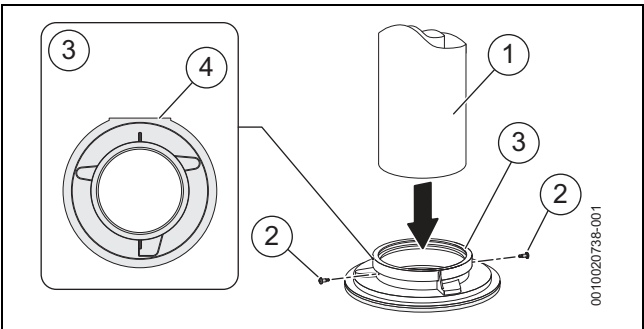


Fig. 11 Vertical flue connector fitting

- [1] Vertical flue
- [2] Securing screws
- [3] Flue connector
- [4] Flat edge of flue connector

3.1.3 Reducing extension flue tube length



Flue extensions:

- Flue extensions are available in 3 sizes, a 220mm, 1,000mm and 2,000mm lengths.

To shorten the flue extension tube:

- Mark the length required on the extension tube, measuring from the socket end [1].
- Cut square, taking care not to damage the tubes, remove the unwanted sections [2], chamfer the edge of the plastic inner tube and remove any burrs from both tube sections.

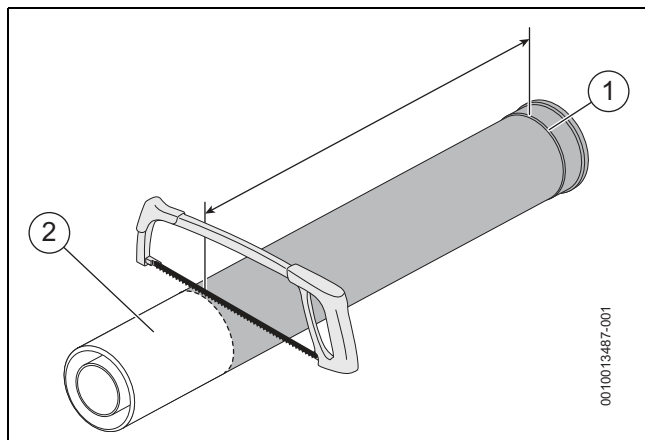


Fig. 12 Cutting an extension tube

3.2 Roof-exit clearances

Flat roof - Exit clearances

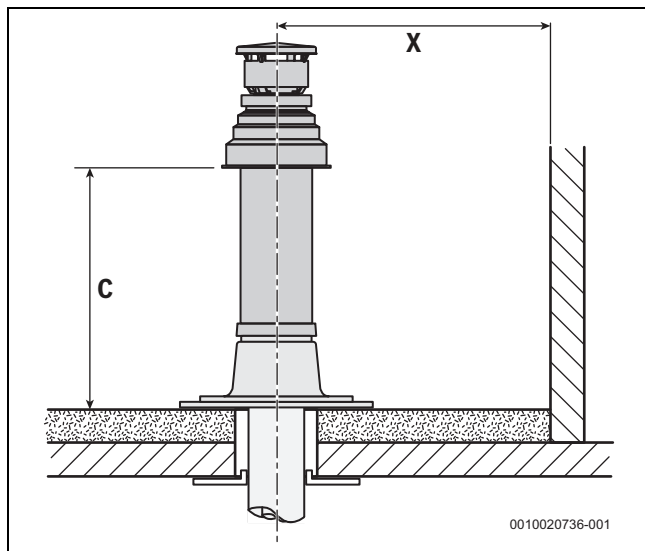


Fig. 13 Flat roof

Description	Value
C Roof-exit clearance	$\geq 300\text{mm}$
X Clearance from vertical flue to a surface	$\geq 500\text{mm}$

Table 3 Flat roof exit clearances

Inclined roof - Exit clearances

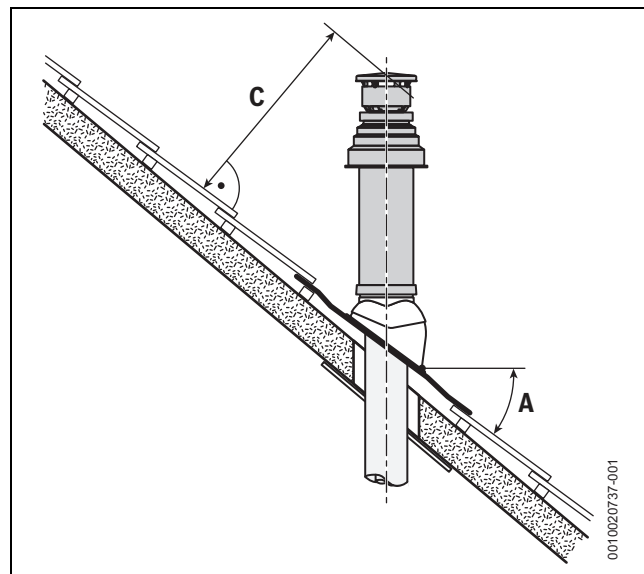


Fig. 14 Inclined roof

Description	Value
A Angle	$\leq 60^\circ$ In areas with frequent heavy snow falls $\leq 50^\circ$
C Roof-exit clearance	$\geq 400\text{mm}$ In areas with frequent heavy snow falls $\geq 500\text{mm}$

Table 4 Inclined roof exit clearances

4 Installation



Flue considerations

- ▶ If extensions are to be added then the complete flue must rise at an angle of 3° or 52mm for every metre of flue length.
- ▶ Flue terminations close to a light source can become dirty due to large numbers of flying insects. Point out to the homeowner that the outlet should be regularly cleaned.



WARNING

Risk of poisoning due to escaping flue gases!

Flue gases can escape from a damaged flue system.

- ▶ When drilling fixing points in the outer flue tube, take care not to drill into the inner tube.



WARNING

Risk of poisoning due to escaping flue gases!

Flue gases can escape from incorrectly assembled flue system.

- ▶ Ensure all seals are correctly seated.
- ▶ Ensure joints are secured with the screws provided in the flue kit and accessories.
- ▶ Ensure the flue system is adequately supported, approximately one metre intervals and a change of direction.
- ▶ Ensure you carry out a flue integrity check when commissioning the appliance.

Flue adaptor vertical configuration

The connection to the appliance exhaust outlet will depend on the exit point from the appliance for the flue installation.

Refer to figure 15.

- ▶ The flue adaptor is used for the vertical flue installation.

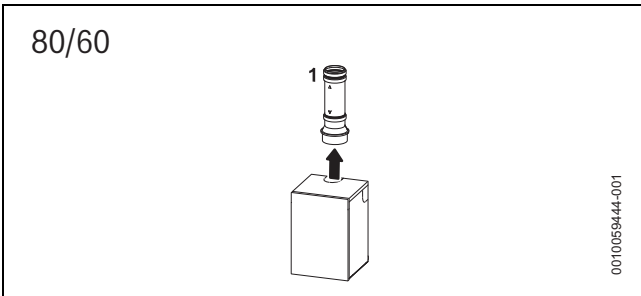


Fig. 15 Flue adaptor vertical configuration

[1] Vertical exit

Unmodified 80/60 flue adaptor

Vertical exit configuration



Vertical flue connector

- ▶ **High level horizontal flue options:**
The vertical flue connector is available separately.
- ▶ **Vertical flue options:**
The vertical flue connector is supplied as part of the vertical flue kit.



Apply silicone lubricant supplied in the flue kit to the seals to aid fitting.

Fitting the flue connector to the appliance.

Refer to figure 16.

- ▶ Slide the vertical flue adaptor [2] over the inner flue tube of the vertical flue section [1].
 - Push the adaptor almost all the way into the flue, leaving enough of the adaptor showing to be able to pull the adaptor down later.
- ▶ Align the holes in the vertical flue connector [3] with the holes in the case and secure from inside the case with the three bolts [4] provided.
- ▶ Fit the vertical flue section [1] into the vertical flue connector [3].
- ▶ Using the two indents, drill two 3mm holes through the connector and into the outer sleeve of the flue and secure with the screws [5] provided.

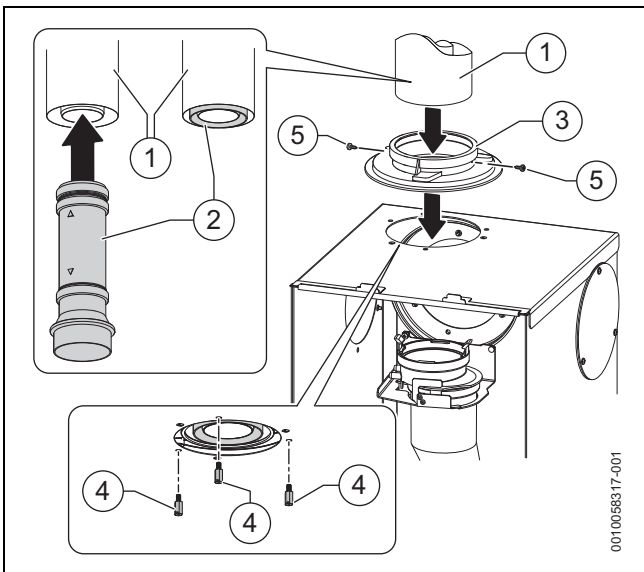


Fig. 16 Top exit flue connection

Fitting the vertical flue adaptor.

Refer to figure 17.

- ▶ Remove the adaptor clamp [M], already fitted to the appliance exhaust outlet.
 - Release securing screw.
 - Open the clamp utilising the pivot point and remove.
 - This component is swapped for vertical exit configurations.
- ▶ Connect the vertical flue adaptor.
 - Slide the flue adaptor [2] down into the appliance exhaust outlet [4].
 - Ensure that the clips either side [3] secure the adaptor into position.
- ▶ Fit the adaptor clamp [S] (supplied in the Vertical flue kit/vertical flue connector) around the appliance exhaust outlet and adaptor joint.
 - Ensure that the adaptor clamp [S] is fully located over the clips [3] of the appliance exhaust outlet [4].
- ▶ Pinch the adaptor clamp [S] halves together to close the clamp and align the screw fittings. Secure with screw [1] to retain the clamp but do not over-tighten as this will damage the clamp material.

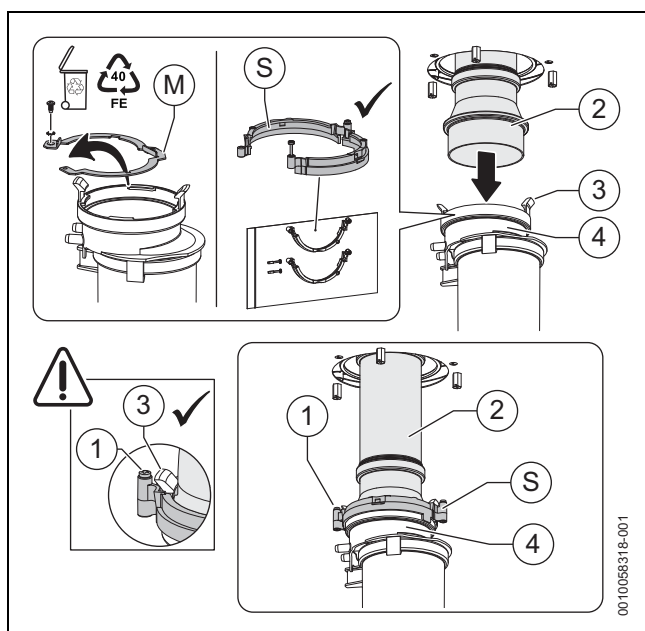


Fig. 17 Vertical flue adaptor fitting to appliance exhaust outlet

4.1 Installing the vertical flue through the roof

Refer to figures 18 and 19

- ▶ Fit the roof flashing [2, not supplied], onto the flue terminal [1].
- ▶ Position the flue terminal [1] through the flue opening in the roof and locate into position.
- ▶ Fix the flue terminal [1] with the supplied support bracket [6].
- or-
- ▶ Connect to the last extension [7], which must be supported with the supplied support bracket [6]
- ▶ Ensure the roof-exit clearance distance is correct (see "Roof-exit clearances", section 3.2) before finishing the weatherproofing of the terminal exit in the roof.
- ▶ Secure the terminal in position.
 - Vertical connector.

Follow the instructions in section "Vertical flue connector correct orientation".
 - Last extension.

Drill two 3mm holes (180° apart if possible) through the outer flue tubes taking care NOT to drill the inner flue tube and fix with screws [5].
- ▶ Mark and drill fixing holes for the both fire stop plates [3].
- ▶ Fix fire stop plates [3] using 4 screws [4] supplied.

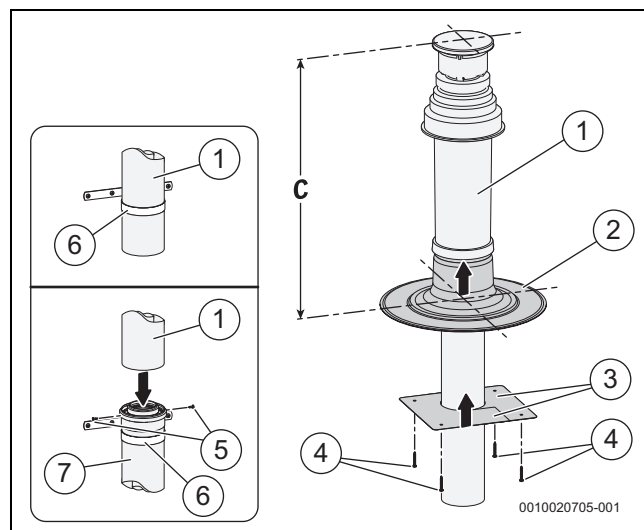


Fig. 18 Flat roof installation example

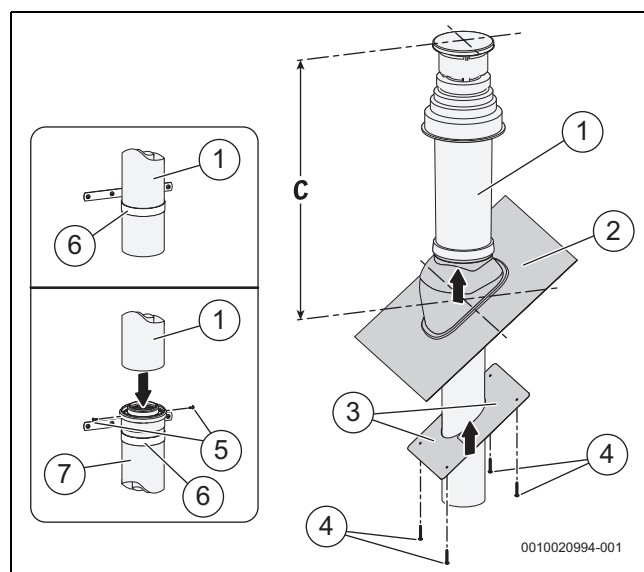


Fig. 19 Inclined roof installation example

Legend: Figures 18 and 19	
[C]	Roof exit clearance
[1]	Flue terminal
[2]	Roof flashing
[3]	Fire stop plates
[4]	Fire stop plates fixings
[5]	Securing screws
[6]	Bracket (supplied with vertical flue kit)
[7]	Extension

Table 5 Legend for figures 18 and 19

4.2 Flue joint connection examples



CAUTION

Damage to flue system!

- ▶ Take care when drilling fixing points in the outer flue tube, do not drill into the inner tube.

Connection to the flue connector with extension example

Vertical flue connector, flue extension and 90° elbow (→ figure 20)

- ▶ Fit the extension piece [3] into the vertical flue connector [7] and drill 3mm hole through the outer flue tube of extension [3] and vertical flue connector [7].
- ▶ Secure with the screws [6] provided with the vertical flue connector [7].
 - The flat edge of the vertical flue connector faces the rear of the appliance.
- ▶ Fit the 90° elbow [1] firmly into the extension piece [3] use the silicone grease provided as a lubricant with the extension kit.
- ▶ Drill two 3mm holes, through the outer flue tube of extension [3] and 90° elbow [1].
- ▶ Secure the 90° elbow [1] into the extension piece [3] with the screws [2] provided with the extension kit.

Vertical flue connector and flue extension (→ figure 20)

- ▶ Ensure the vertical flue adaptor [7] is correctly orientated.
 - The flat edge of the flue connector faces the rear of the appliance.
- ▶ Fit the extension piece [3] firmly into the vertical flue connector [7] and drill 3mm hole through the outer flue tube of extension [3] and the vertical flue connector [7].
- ▶ Secure with the screws [6] provided with the vertical flue connector [7].

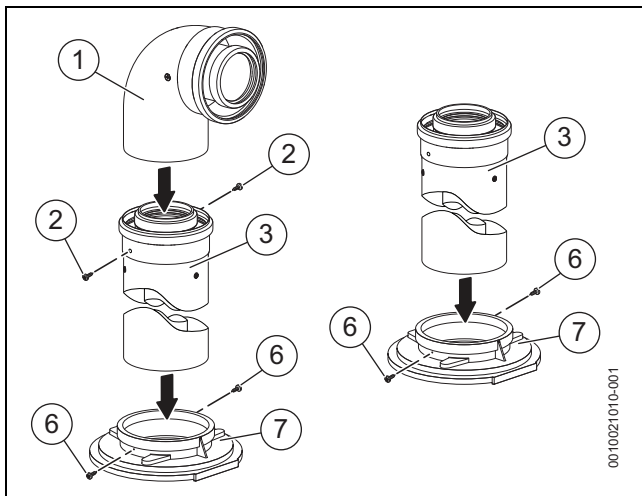


Fig. 20 Connection to the flue adaptor examples

Elbow connections example (90° elbow)

Flue extension into a 90° elbow (vertical orientation → figure 21)

- ▶ Slide the support clamps [3] onto the flue extension.
- ▶ Fit the extension piece [4] into the 90° elbow [1] using the silicone grease provided as a lubricant. Working from the appliance, secure the support clamps [3] to its wall bracket to take the weight of the flue.
- ▶ Drill two 3mm holes, 180° apart, through the outer flue tube of the extension and secure with the screws [2] provided.

Flue extension into a 90° elbow (horizontal orientation → figure 21)

- ▶ Working from the appliance, support the flue extension with elbow using the support clamps [3].
- ▶ Slide the support clamps [3] onto the flue extension.
- ▶ Fit the extension piece [4] into the 90° elbow [1] using the silicone grease provided as a lubricant. Working from the appliance, fit the support clamps [3] to their wall brackets using the screws provided [5] to take the weight of the flue.
- ▶ Drill two 3mm holes, 180° apart, through the outer flue tube of the extension and secure with the screws [2] provided for all assembled joints.

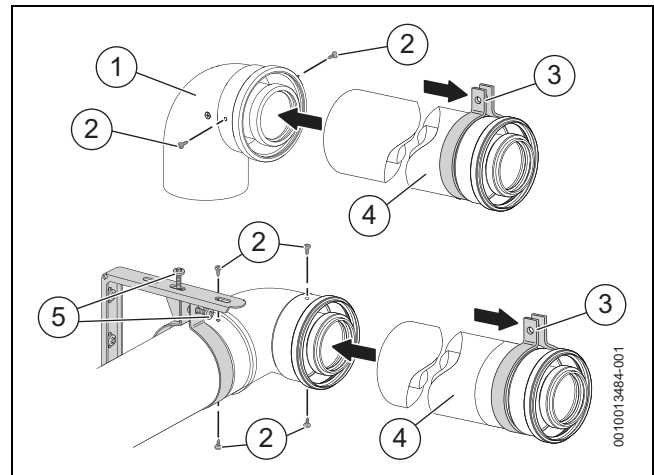


Fig. 21 Elbow connection examples (90° elbow)

Extension and vertical flue connection examples

Additional extensions (→ figure 22)

- ▶ Working from the appliance, support the first flue extension using the wall brackets and support clamps [1]. Drill and secure using the two screws provided.
- ▶ Slide the support clamps [3] onto the next flue extension.
- ▶ Fit the extension [4] into the previous extension using the silicone grease lubricant provided. Fit the wall bracket and support clamps [1] to take the weight of the flue.
- ▶ Drill two 3mm holes, 180° apart, through the outer flue tube of the extension and secure with the screws [2] provided.

Vertical flue into flue extension (→ figure 22)

- ▶ Working from the appliance, support the flue extension using the wall bracket and support clamps [1].
- ▶ Fit the vertical flue [5] into the flue extension using the lubricant provided.
- ▶ See section 4.1 "Installing the vertical flue through the roof" for installing the vertical flue through a wall.
- ▶ Drill two holes, 180° apart, through the outer flue tube of the extension and secure with the screws [2] provided.

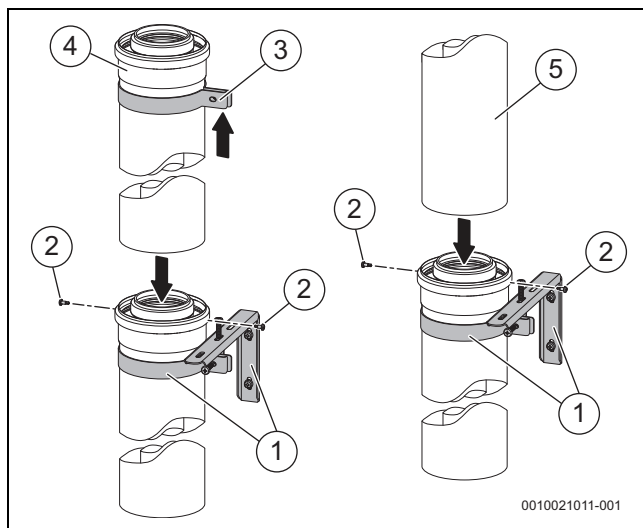


Fig. 22 Extension and vertical flue connection examples

5 Inspection and maintenance

- ▶ 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.





TECHNICAL SUPPORT: 0330 123 3366
RENEWABLE SUPPORT: 0330 123 9229
CONTROLS AND CONNECTIVITY TEAM: 0330 123 3641
APPOINTMENTS: 0330 123 9339
SPARES: 0330 123 9779
LITERATURE: 0330 123 9119
TRAINING: 0330 123 0166
SALES: 0330 123 9669

Bosch Thermotechnology Ltd.
Cotswold Way, Warndon
Worcester WR4 9SW
United Kingdom
Tel. 0330 123 9559
worcester-bosch.co.uk

