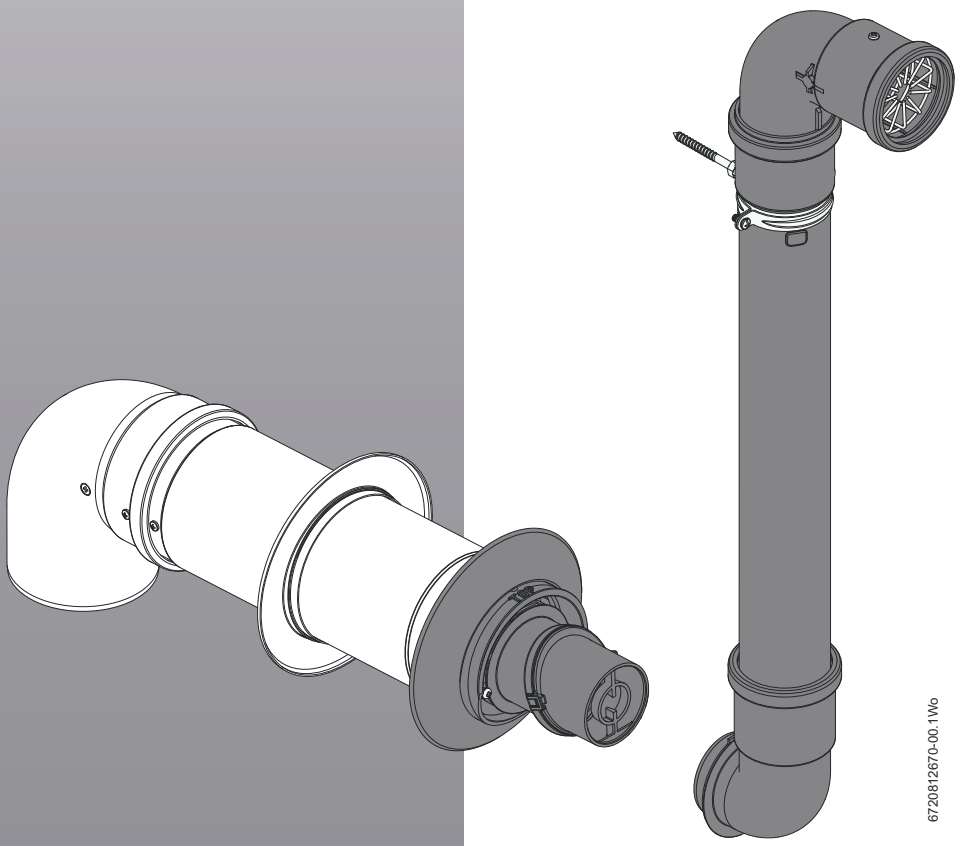
Flue kit installation instructions

7 733 600 048 Room sealed telescopic flue

60/100 Horizontal high level telescopic flue kit

For Worcester Greenstar wall mounted condensing gas appliances including British Gas variants



WORCESTER
Bosch Group

6 720 812 670 (2014/07)

Contents

1 Key to symbols and safety instructions

1.1 Key to symbols

Warnings

Warnings in this document are identified by a warning triangle printed against a grey background. Keywords at the start of a warning indicate the type and seriousness of the ensuing risk if measures to prevent the risk are not taken.

The following keywords are defined and can be used in this document:
- **NOTICE** indicates a situation that could result in damage to property or equipment.
- **CAUTION** indicates a situation that could result in minor to medium injury.
- **WARNING** indicates a situation that could result in severe injury or death.
- **DANGER** indicates a situation that will result in severe injury or death.

Important information

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

Additional symbols

Symbol	Meaning
1.	a numbered step in an action sequence
▸	a step in an action sequence
→	a reference to a related part in the document or to other related documents
(1)	a reference number to identify or refer to a part or item
·	a list entry
–	a list entry (second level)

Table 1 Symbols

Examples of additional symbols used

A numbered step in an action sequence

A sequence of numbered steps or actions carried out in a specific order to complete a task.

1. First action
2. Second action
3. Third action
   etc.

A step in an action sequence

A sequence of defined actions or steps carried out in order to complete a task.

▶ Action
▶ Next action
▶ etc

A reference to a related part in the document or to other related documents.

To refer the reader to a specific figure/table/section within the manual.

→ e.g. figure 1.

A reference number to identify or refer to a part or item.

In a related figure, items or parts identified by a sequential number.

List entries, first and second levels

- A single component/item
- A component/list, made up of multiple parts/items.
  - Sub component or sublist of main component/list.
  - etc.

SYMBOLS USED IN THIS MANUAL

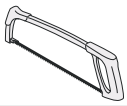
	Cutting required

Table 2 Commonly used symbols

1.2 Requirements

Condensate disposal

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

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

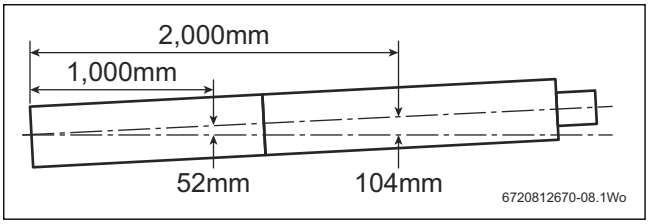


Fig. 1 Slope for condensate disposal

Installation

The flue installation must be fitted and terminated in accordance with BS5440 part 1.

Support

Flues require adequate support throughout their entirety. It is advised to support the flue at every one metre and changes of direction.

Flue system in voids

Where a flue system is not going to be accessible, 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, bends should be viewable from both directions.

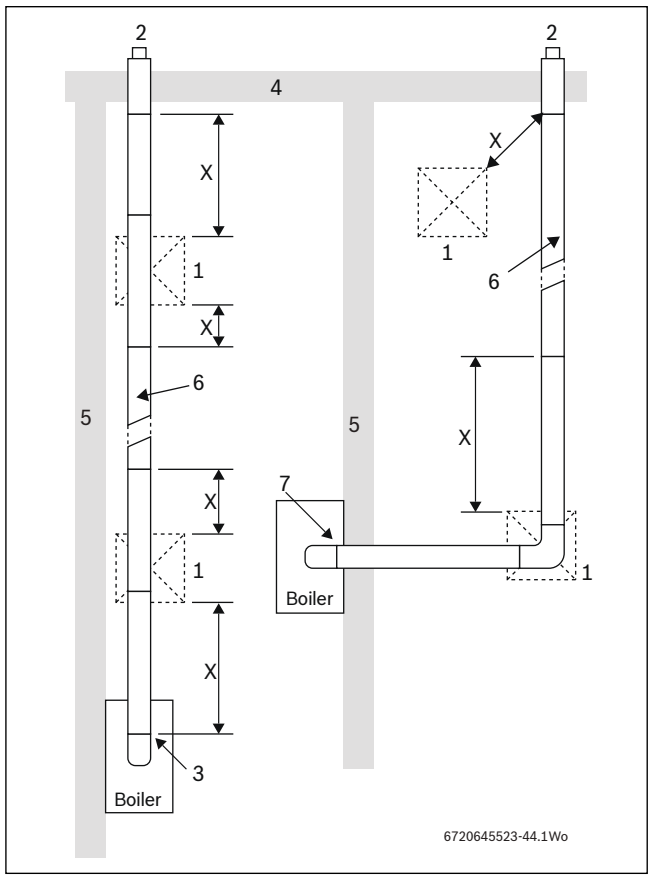


Fig. 2 Flues in voids

[X] This dimension must not be more than 1.5 metres
[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
[7] Accessible flue connection

Annual inspection

When the flue system is inspected under 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 sound 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.

▶ The plume management kit is not damaged (if fitted).

Flue System

Condensfit II

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

2 Product information

This 60/100mm flue kit is intended for use with Worcester Greenstar gas appliances when a horizontal flue discharges at a higher level than the top of the appliance. A high level horizontal flue adaptor (7 716 191 164) is required in addition to this kit to connect to the top of the boiler and provide flue gas sample points.

The kit is also intended for use with the EcoFlo FGHR unit. In this case the vertical adaptor is included with the EcoFlo unit to connect the EcoFlo to the wall hung appliance. For instructions on installing this flue kit with the EcoFlo unit please refer to the EcoFlo installation manual.

The flue elbow has an in-built 3° angle giving the telescopic flue assembly the rise from the appliance to ensure the condensate flows back to the appliance. The flue terminal plume re-direct allows to change the discharge direction of the plume exhaust. The terminal plume re-direct can also be replaced with the plume management system to discharge away from the property to a more suitable location.

2.1 Standard package

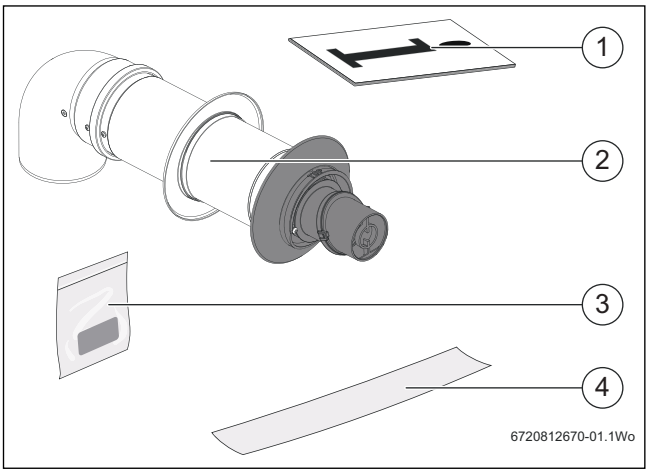


Fig. 3 Standard package contents

[1] Instructions
[2] Telescopic flue assembly
- Inner seal (white)
- Outer seal (black)
- Elbow
- Telescopic flue

[3] Grease pack
- Securing screws x 2
- Sachet of grease

[4] Aluminium tape

2.2 60/100mm flue accessories

1	High level horizontal flue adaptor[1)]	7 719 002 432
2	220mm extension	7 716 191 133
3	1,000mm extension	7 716 191 083
4	2,000mm extension	7 716 191 172
5	90° elbow	7 716 191 084
6	45° elbow (set of 2)	7 716 191 085
7	Support bracket kit	7 716 191 092
8	Support bracket kit pack (set of 6)	7 716 191 173

Table 3

1) High level horizontal flue adaptor is required when connecting the Horizontal high level flue telescopic kit to a Worcester Greenstar wall mounted condensing gas appliance including the British Gas variants.

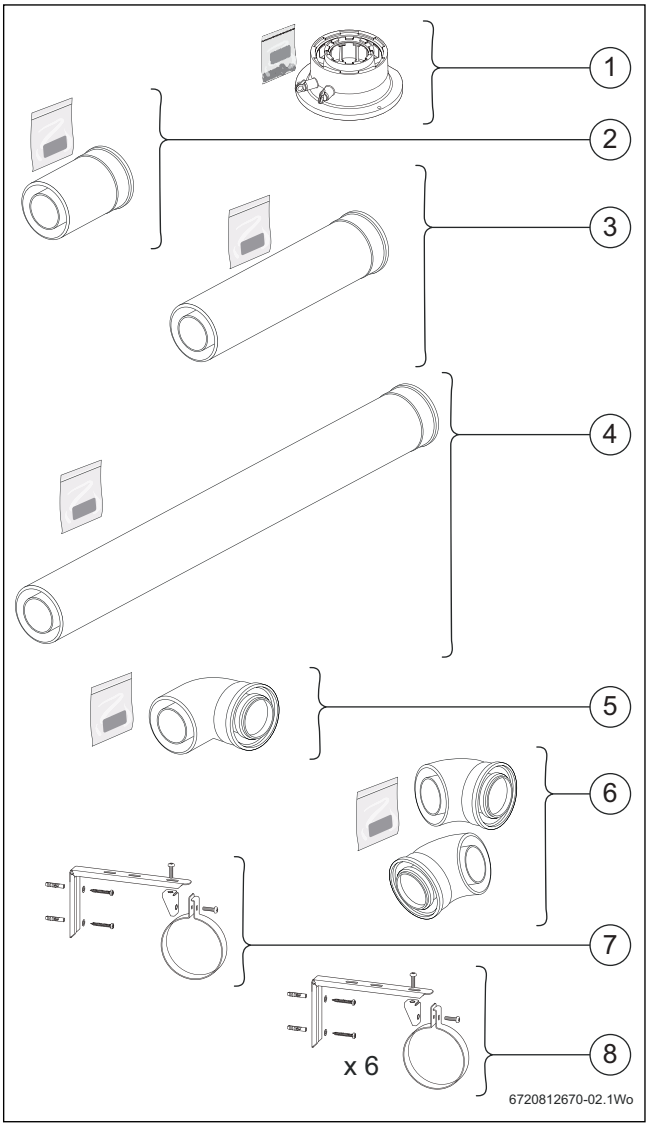


Fig. 4 Accessories

3 Pre - installation

CAUTION:
- Secure all joints and the telescopic flue adjustment tubes with the supplied screw in the appropriate flue kit and accessory
- Any cut 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 ease of connection and to prevent seal damage.

Maximum flue lengths:
- For maximum flue lengths see the Installation, Commissioning and Servicing Instructions for the appliance the flue kit is being installed onto.

3.1 Preparation

EcoFlo FGHR unit flue outlet connection:
- Refer to Installation Instruction for the connection of the horizontal high level telescopic flue kit to the EcoFlo FGHR unit. The EcoFlo FGHR unit comes with a wall mounting template with the appropriate appliance fixings and flue exit details.

Greenstar wall mounted condensing gas appliances flue outlet connection:
- The high level horizontal flue adaptor part number (7 719 002 432) will be required to connect the flue outlet connection to the horizontal high level telescopic flue kit.

3.1.1 Flue outlet position for Greenstar wall mounted condensing gas appliances only (without EcoFlo FGHR)

Once the wall template has been fixed to the wall, the new position for the flue outlet must be measured to correctly mark and drill the hole for the flue exit. The horizontal high level flue telescopic kit when installed with the high level horizontal flue adaptor is 68mm taller than the standard horizontal telescopic flue kits.

Refer to figure 5

- For the new centre line for the 60/100mm flue, on the appliance wall mounting template:
  - Measure above from the existing 60/100mm centre 68mm.
  - Mark the new centre line [1] for the 60/100mm flue exit.
  - Drill hole using a core drill or similar, a 125mm diameter hole is required. However, if using the weather sealing collar by pushing it through from inside the property, then a 150mm diameter hole is required to accommodate this.

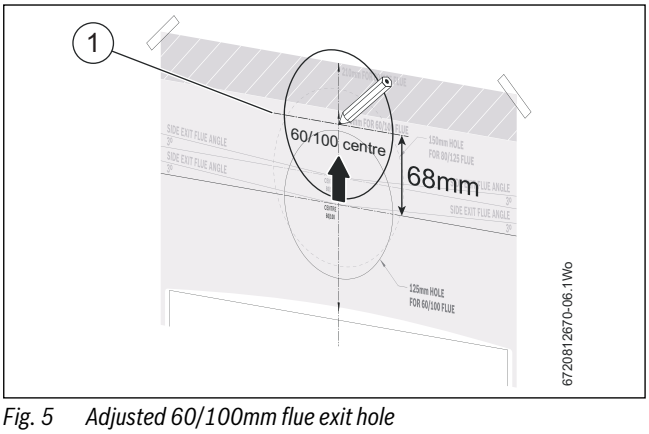


Fig. 5 Adjusted 60/100mm flue exit hole

3.1.2 Flue measuring

NOTICE: Flue and plume management length:
- Do not exceed the maximum straight length for a horizontal 60/100mm flue or a 60mm plume management system (if used) as stated in the relevant Installation, Commissioning & Servicing Instructions manual.

The maximum flue length can be found in the Installation, Commissioning and Servicing Instructions for the appliance.

The telescopic flue assembly allows for adjustment and can reduce the need for cutting extensions for some flue lengths.

- Measure the flue length L from the centre line of the flue turret, along the route of the flue system, to the face of the outside wall.
- Select the required number of extensions and bends to achieve the require flue run.
- If the flue requires cutting:
  - Set the telescopic flue length to 400mm.
  - Secure the joint with the screws and tape provided.
  - Subtract 400mm from the measured flue length L to determine the amount to be cut off an extension.

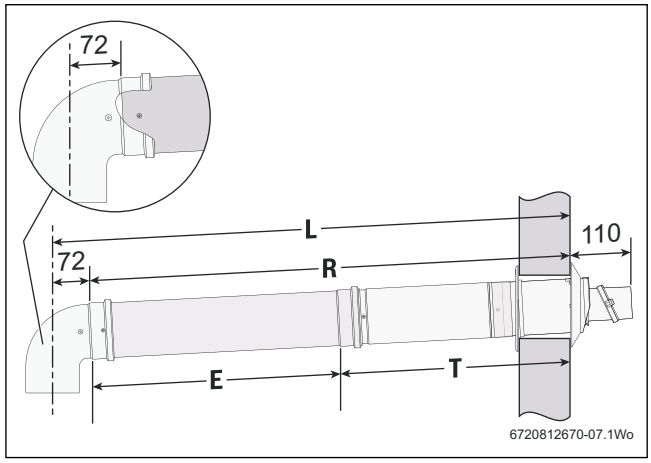


Fig. 6 Flue length determination (extended flue example)

[L] Effective length of the flue system
[R] Actual length of the flue sections (L-72 = R)
[E] Extension flue length
[T] Telescopic flue length

Flue Bends

Effective length
- Each flue bend is rated as a certain straight length of flue, refer to the relevant appliance Installation instructions. The “effective length” of each bend is added to the straight length of flue. Adding bends 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, commissioning and service manual.

90° bends

Figure 7 shows the actual length added by a 90 ° bend when used in either orientation.

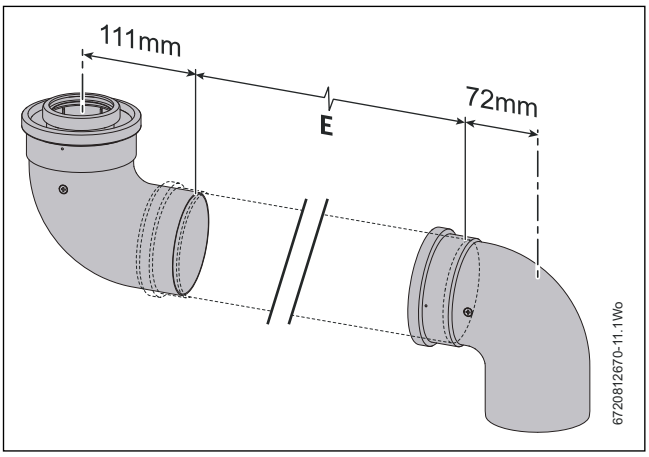


Fig. 7 90° bend offset dimensions

[E] Extension flue length

45° bends

Figure 8 shows the 45° bend offset.

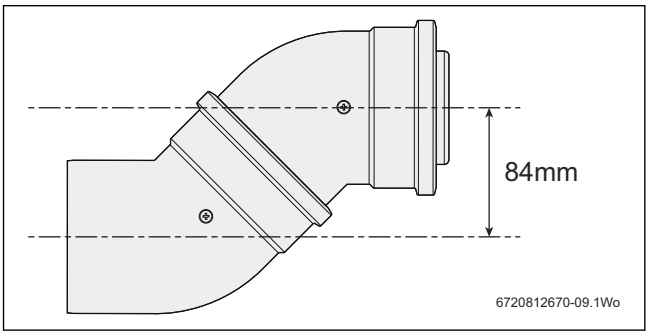


Fig. 8 45° bend offset dimension

3.1.3 Telescopic flue lengths

The telescopic flue can adjust between 383mm and 603mm to accommodate most wall thicknesses, see figure 9. The flue length can be reduced be cutting the terminal assembly section of the telescopic flue see figure 11.

Standard telescopic flue lengths

- ▶ Extend the terminal assembly (inner section) [1] by withdrawing from the sleave section (outer section) [2] to achieve the flue length required, between 383 - 603mm.

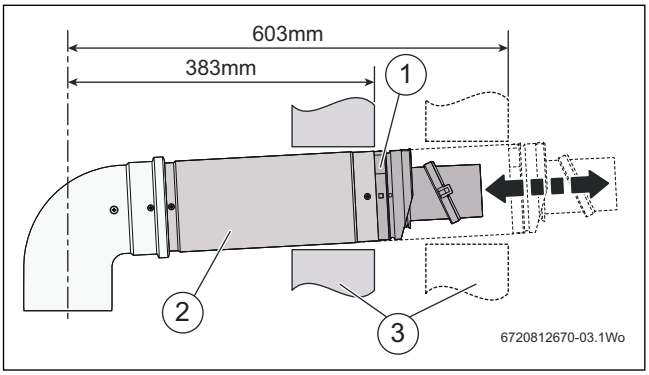


Fig. 9 Standard telescopic flue lengths

Reducing the telescopic flue length

Ensure that the “TOP” label on the terminal assembly is orientated correctly before securing the two parts at the required length. This must be done to allow the correct fit and use of the plume management system.

- ▶ Remove the securing screws [2] located each side, at the end of the elbow [1] and separate the elbow for the telescopic flue.
- ▶ Separate the sleave section[4] from the terminal assembly section [3] and discard the sleave section [4].

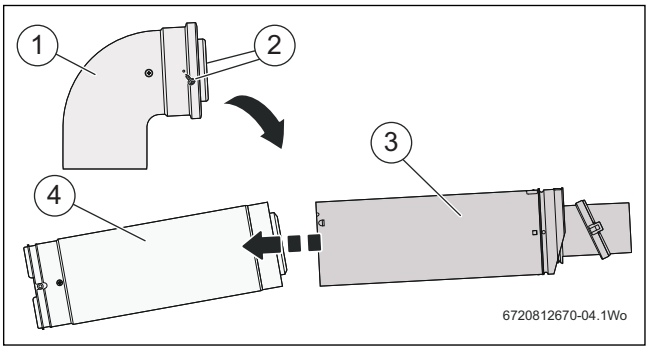


Fig. 10 Separating elbow from telescopic flue

Refer to figure 11

- ▶ To use the terminal assembly section [2] without cutting remove the location lug [1] on the plastic inner tube and remove any burrs.
- ▶ For a shorter length:
  - – Mark the length require from the raised tab [3] on the terminal end down the length of the terminal section, minimum 130mm.
  - – Cut square, taking care not to damage the tubes, remove the unwanted section [4], chamfer the edge of the plastic inner tube and remove any burrs from both tube sections.

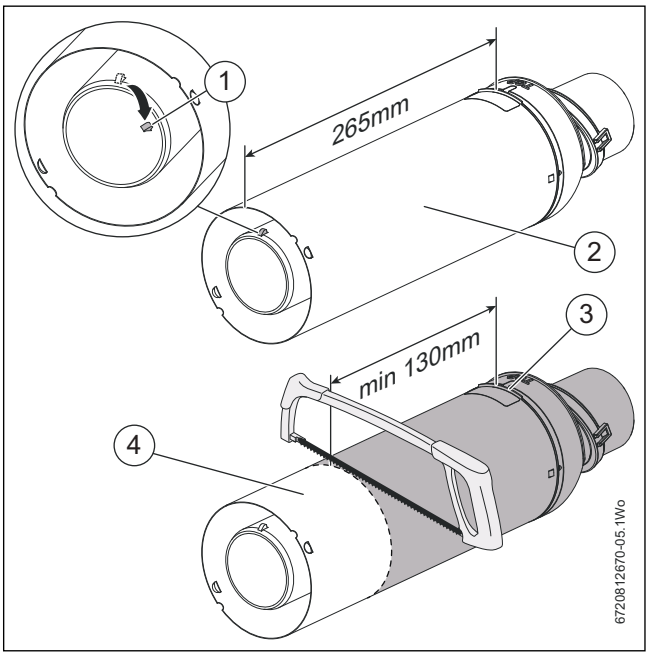


Fig. 11 Shortening the terminal assembly

3.1.4 Reducing extension flue tube length

Short extensions:
- A 220mm short flue extension tube is available, part number 7 716 191 133.

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

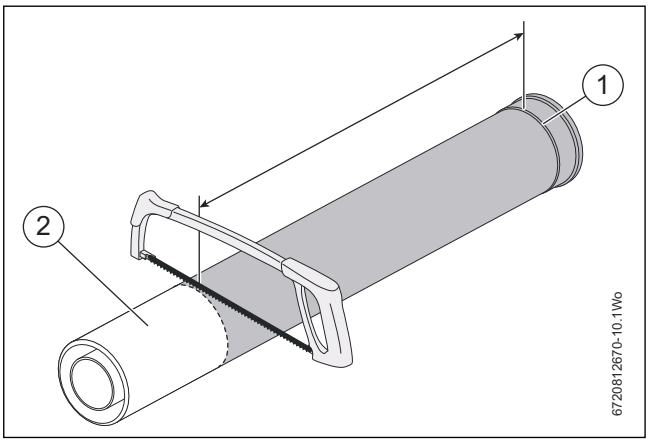


Fig. 12 Cutting an extension tube

4 Installation

- 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.
- When using a 100 mm diameter flue, a 125mm diameter hole through the wall is required.
  However, if installing the flue from inside the property and fitting the weather sealing collar before the flue is pushed through the hole, then a 150 mm diameter hole is required.

4.1 Setting the telescopic flue length

Refer to figure 13
- Set the flue length to the distance required.
- Secure with screws supplied [2].
- Seal the joint with the aluminium tape[1].

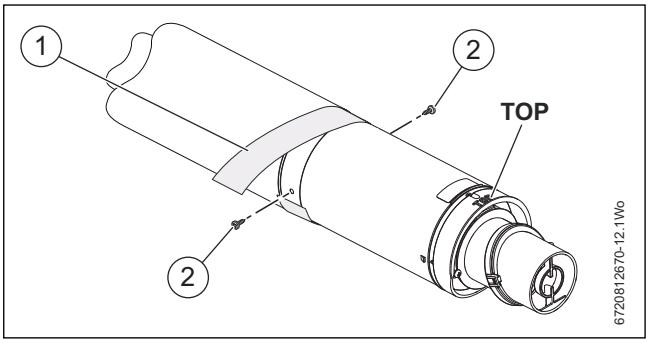


Fig. 13 Setting the telescopic flue length

4.2 Installing the telescopic flue through the wall

- If installing an unmodified horizontal high level telescopic flue kit, slide the inner wall seal [1] onto the terminal.
- If fitting the flue from inside the property, slide on the outer wall seal [2], locating the ridge on the seal with the groove on the terminal.
- Slide the telescopic flue [4] through the flue opening.
- Position terminal [3] through the flue opening in the wall to the outside of the building by the distance shown.
- If fitting the outer seal from outside the building, slide the outer wall seal onto the terminal as shown, locating the ridge on the seal with the groove on the terminal.

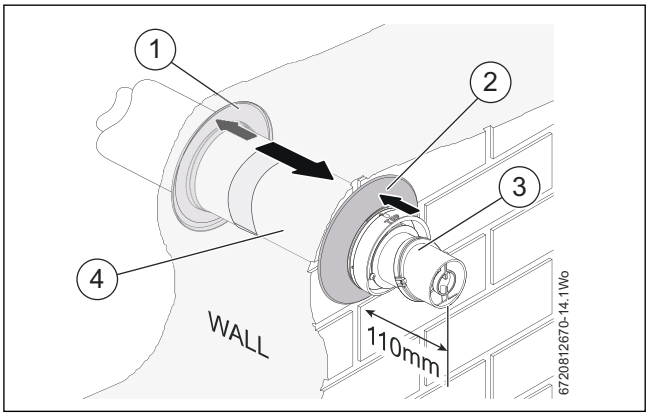


Fig. 14 Telescopic flue through the wall

4.3 Flue adaptor installation for Greenstar wall mounted condensing gas appliances

The turret is fixed by 3 screws to the top of Greenstar wall mounted condensing gas appliance.
- Some models use an additional 3 screws for the appliance flue connector.
  - Refer to relevant Installation, Commissioning and Servicing Instructions.
- Remove the 3 appropriate screws securing the flue outlet to the appliance and discard.
- Align the high level horizontal flue adaptor to the appliance flue outlet with the flat [2] facing to the rear of the appliance.
- Fit to the appliance using the 3 longer screws (1) provided with the high level horizontal flue adaptor.

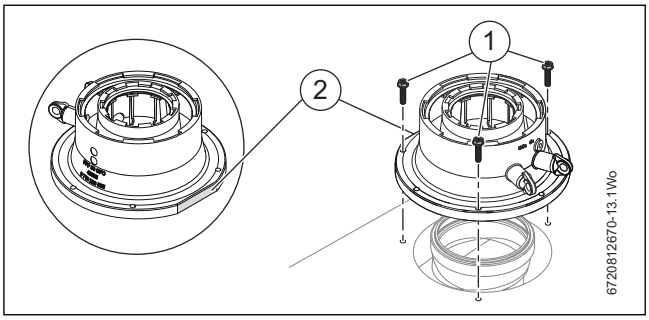


Fig. 15 Adaptor installation

4.4 Flue joint connection examples

CAUTION: Damage to flue system
- Take care when drilling fixing points in the outer flue tube, do not to drill into the inner tube.

Connection to the flue adaptor, Greenstar wall mounted condensing gas appliances

Flue extension and 90° bend (→ figure 16)
- Fit the extension piece [4] into the flue adaptor [5] and secure with the screw provided in the high level horizontal flue adaptor kit.
- Fit the 90° bend [1] firmly into the extension piece [4] use the silicone grease provided with the extension kit..
- Secure the 90° bend [1] into the extension piece [4] with the screws [3] provided with the extension kit.

90° bend (→ figure 16)
- Fit the 90° bend [2] firmly into the flue adaptor [5] and secure with the screw provided.

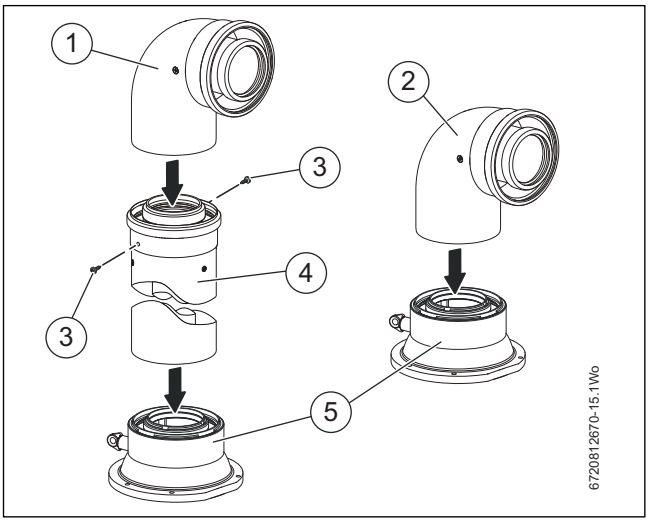


Fig. 16 Connection to the flue adaptor examples

Elbow connections example (90° bend)

Flue extension into a 90° bend (vertical orientation → figure 17)
- Slide the support clamps [3] onto the flue extension.
- Fit the extension piece [4] into the 90° bend 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 holes, 180° apart, though the outer flue tube of the extension and secure with the screws [2] provided.

Flue extension into a 90° bend (horizontal orientation → figure 17)
- Working from the appliance, support the extension flue with elbow using the support clamps [5].
- Slide the support clamps [3] onto the flue extension.
- Fit the extension piece [4] into the 90° bend using the lubricant provided. Working from the appliance, fit the support clamps [3] to their wall brackets to take the weight of the flue.
- Drill two holes, 180° apart, though the outer flue tube of the extension and secure with the screws [2] provided for all assembled joints.

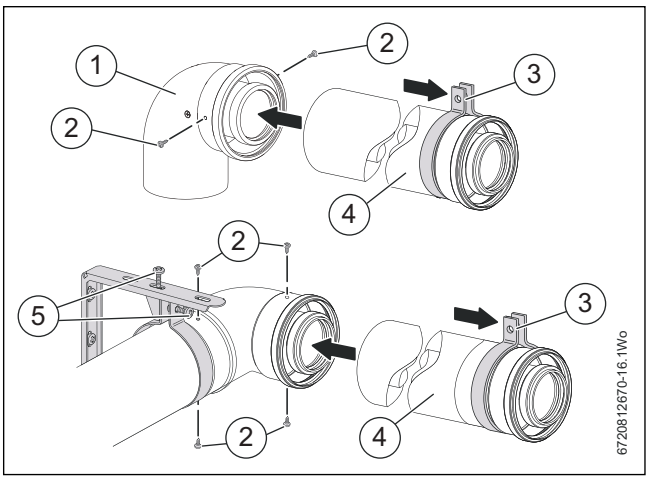


Fig. 17 Elbow connection examples (90° bend)

Extension and telescopic flue connection examples

Extending an extension with an additional extension (→ figure 18)
- Working from the appliance, support the first extension flue 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 using the silicone grease provided as a lubricant.
- Fit the extension [4] into the previous extension using the lubricant provided. Fit the wall bracket and support clamps [3] to take the weight of the flue.
- Drill two holes, 180° apart, though the outer flue tube of the extension and secure with the screws [2] provided.

Telescopic flue into flue extension(→ figure 18)
- Working from the appliance, support the extension flue using the wall bracket and support clamps [1].
- Fit the telescopic flue[5] into the flue extension using the lubricant provided.
  - See section 4.2 for installing the telescopic flue through a wall.
- Drill two holes, 180° apart, though the outer flue tube of the extension and secure with the screws [2] provided.

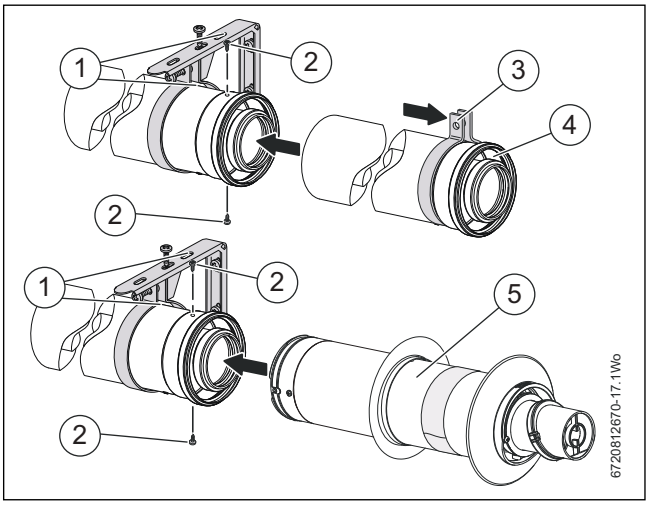


Fig. 18 Extension and telescopic flue connection examples

4.5 Flue terminal plume re-direction

The flue discharge can be re-directed to allow some plume redirection control. Alternatively, a complete plume management system can be fitted to the flue terminal.

Re-directing the flue discharge

NOTICE: Damage to flue or terminal outlet.
Do not rotate the complete flue terminal assembly.

- The flue terminal outlet has built-in stops to limit rotation for horizontal fluing.
  This allows condensate to run back to the boiler for safe disposal.
  Do not attempt to force beyond the limit stops.

- Using a suitable tool release the clip [2] either side, unclip the terminal end [1].
- Rotate the end by 180° and refit the terminal end [1], ensuring to engage the clips [2] to secure.
  If it is required to also angle the plume off the vertical line, the deflector can be rotated 80° either side.
- Loosen the screws securing the entire outlet assembly and rotate by ± 80° to the desired position and re-secure the assembly.

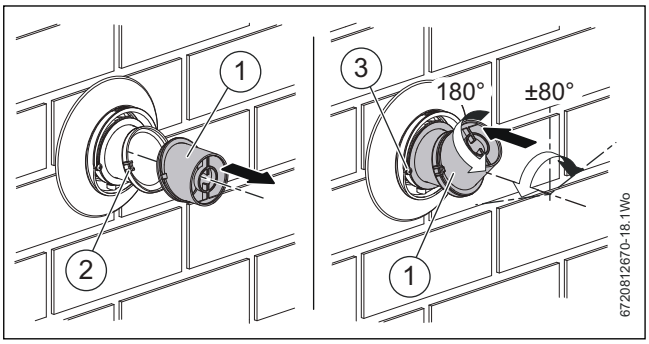


Fig. 19 Plume redirection

NOTICE: Outlet positions

- The flue terminal outlet position must follow those shown in figure 20.
- When redirecting the flue discharge the terminal end must be at least 1,500mm from any opening in the direction of the discharge to prevent combustion products from entering the building as shown

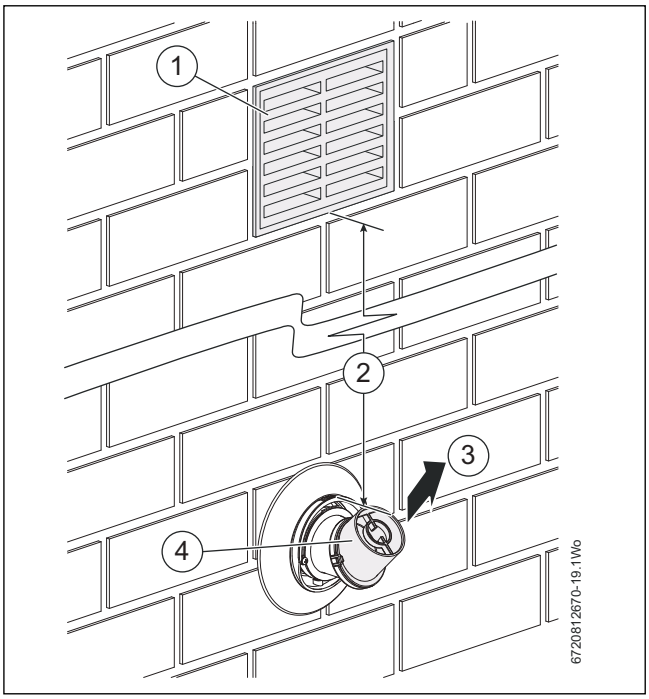


Fig. 20 Plume redirect distance to opening

[1] Opening to building
[2] Minimum 1,500mm from an opening in the building
[3] Flue discharge
[4] Terminal end

5 Plume management system

5.1 Plume management product information

Plume management kit - 7 716 191 086

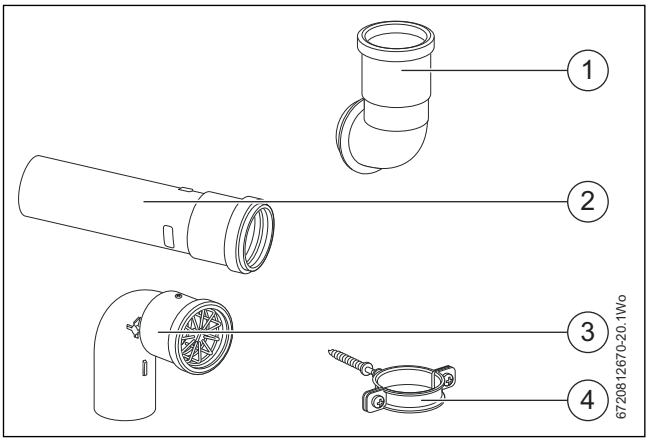


Fig. 21 60mm plume management kit components

[1] Terminal bend
[2] Extension 500mm
[3] Outlet assembly
[4] Clamp pack

Ø 60mm plume management accessories

1	1,000mm extension with support clamp	7 716 191 087
2	90° elbow	7 716 191 088
3	45° elbow (set of 2)	7 716 191 089
4	Terminal guard	7 716 191 176

Table 4

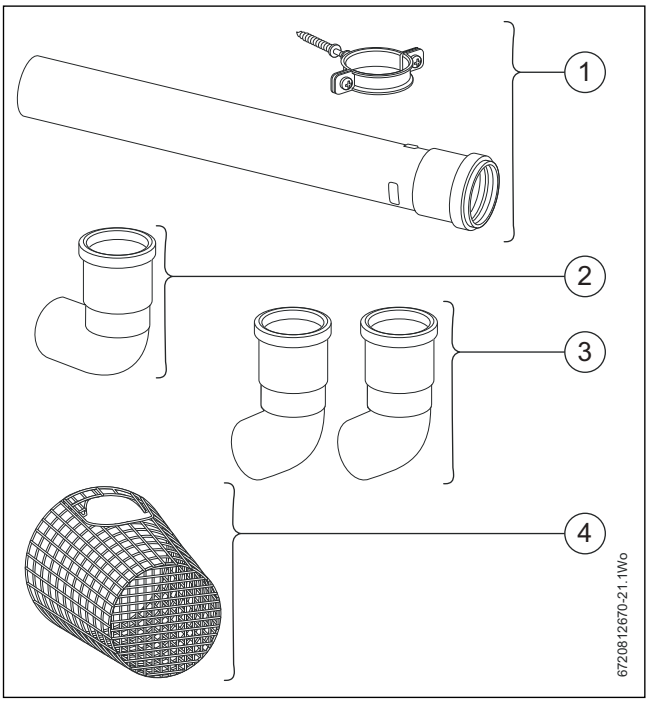


Fig. 22 Plum management accessories

5.2 Plume management options and measurements

NOTICE: Plume management length

- The plume management length must be a minimum of 500mm and must not exceed the maximum straight length for a horizontal Ø 60/100mm flue with a 60mm plume management system as stated in the relevant appliance Installation, Commission and Service instructions.

Horizontal plume management runs

- The initial horizontal run from the terminal elbow must have a minimum 10° fall back, (stop tabs in the elbow prevent less than 10°) to the appliance for proper disposal of condensate.
  Any further horizontal runs can be 3°.

WARNING: Minimum plume management length

The minimum distance of 500mm must be maintained between air inlet and exhaust.

- Do not terminate the plume management inside the shaded area shown in figure 23.

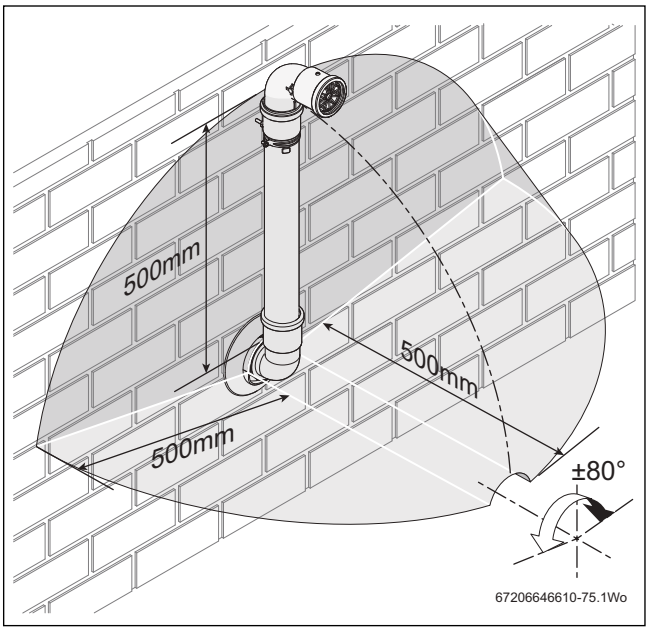


Fig. 23 Terminal exclusion zone

5.3 Example installation options

M	Plume management effective length
1	Terminal bend
2	Extension 500mm
3	Outlet assembly
4	Support clamp
5	1,000mm extension with support clamp
6	45° elbow
7	90° elbow

Table 5 Key to example installation options

5.3.1 Standard plume management kit

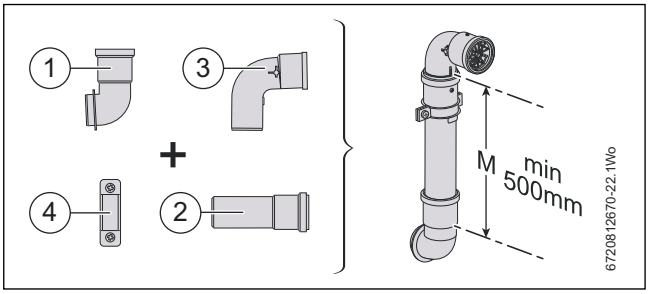


Fig. 24 Standard option

5.3.2 Extended plume management kit example

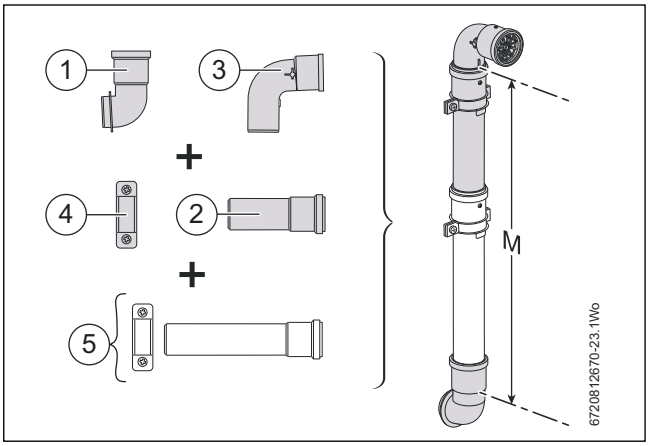


Fig. 25 Extended option

5.3.3 Offset plume management kit example

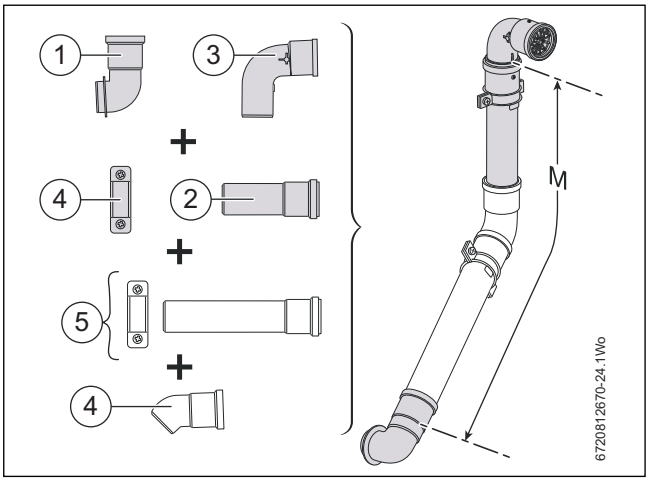


Fig. 26 Offset option

5.3.4 Angled plume management kit example

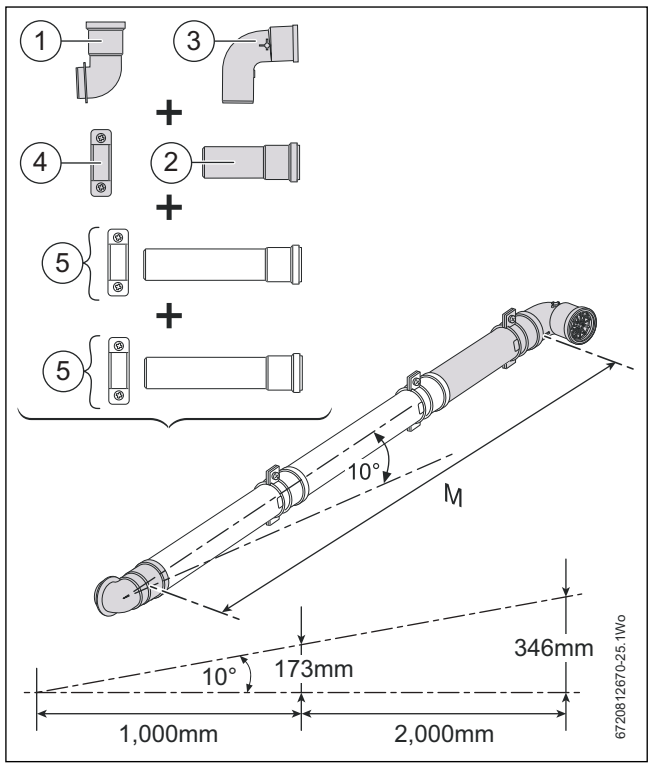


Fig. 27 Angled option

5.3.5 Extended plume management kit under a balcony/ overhang example

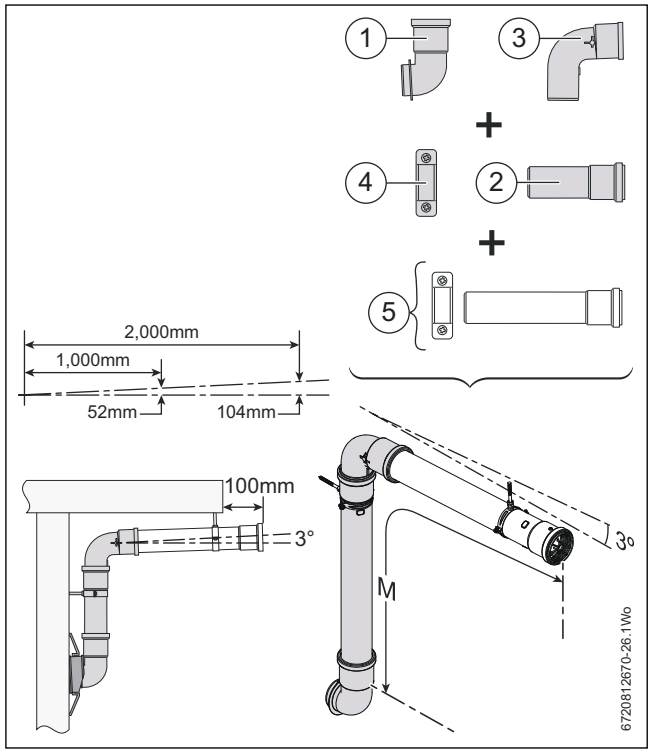


Fig. 28 Extended under a balcony/overhang option

5.4 Determine the plume management system length

The maximum permissible length of the plume management for Worcester Greenstar wall mounted condensing gas appliances is 4,500mm. The primary length of internal Condensfit II flue will be reduced by fitting the plume management kit.

Refer to relevant appliance Installation instructions to determine the appropriate plume length (M) versus the flue length (L).

The flue length is the effective length (L), which includes the effective length of any bends plus the straight flue lengths.

Once the length L is know, find that value in the relevant appliance Installation instruction to determine the maximum plume length (M) allowed.

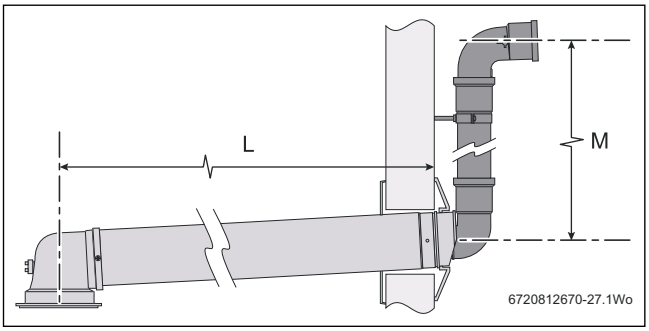


Fig. 29 Effective lengths determination

[L] Effective flue length
[M] Effective plume management length

5.4.1 Plume management length

Plume management length (M) is calculated from the centre of the terminal, along the required route to the centre of the plume outlet.

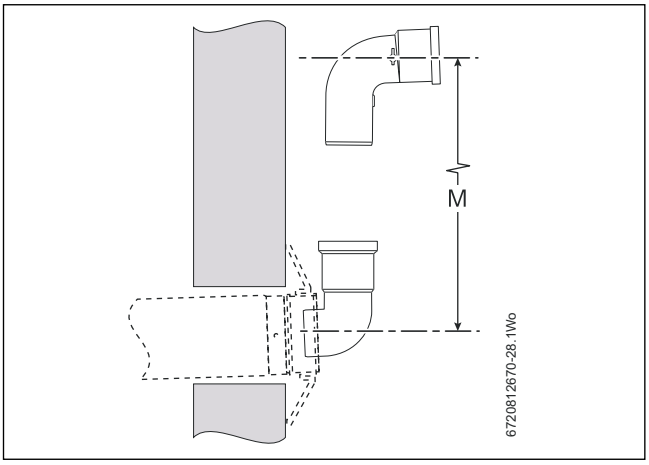


Fig. 30 Plume management length M

5.4.2 Plume management bends

Adding additional bends to the standard plume management kit system reduces the actual plume management length. Each bend has an equivalent straight length and must be factored into the overall effective length.

- 90° bend is equivalent to 1,500mm.
- 45° bend is equivalent to 750mm.

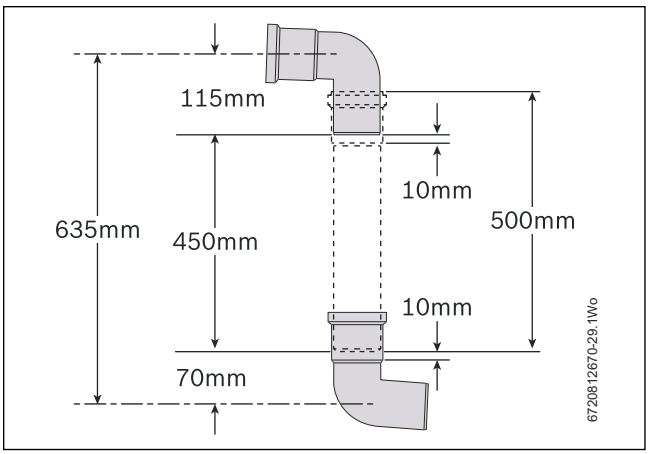


Fig. 31 Plume management 90° bends offset example

5.5 Plume management Installation

To ease assembly of the flue components, lightly grease the seals with the solvent-free grease supplied.

- ▶ Check all the seals are properly seated in the grooves provided and are in good condition.
- ▶ All flue joints must be sealed to prevent leakage of condensate and flue products.

Horizontal plume management runs

- ▶ The initial horizontal run from the terminal elbow must have a minimum 10° fall back, (stop tabs in the elbow prevent less than 10°) to the appliance for proper disposal of condensate.
  Any further horizontal runs can be 3°.

NOTICE: Damage to flue or terminal outlet.
Do not rotate the complete flue terminal assembly.

- ▶ The flue terminal outlet has built-in stops to limit rotation for horizontal fluing.
  This prevents unwanted rain water from entering the appliance.
  Do not attempt to force beyond the limit stops.

5.5.1 Installation examples

The plume extensions include a support clamp and are used to support the plume management system at the joint connection point.
Each support clamp retains one length of Plume management extension. When assembling multiple lengths of plume management, fully engage the extension and then withdraw the tube approximately 10mm to allow for expansion and contraction during operation and expansion due to weather conditions.

Support clamp fitting

- ▶ Mark the position [1] for the wall clamp [2] so that it coincides with the extension tube just below the top fitting (there are tabs [3] that will position the clamp up against the top fitting). Allow for the 10mm expansion gap on all joints.
- ▶ Drill a hole to suit the wall plug and fit the wall plug.
- ▶ Screw in the support clamp into the wall plug to the distance shown in figure 32.

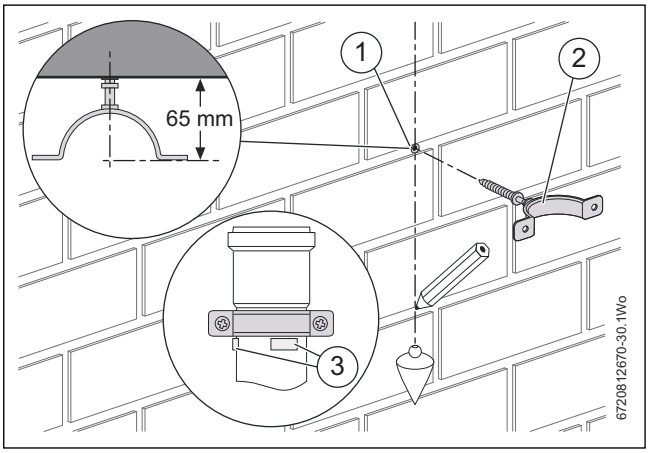


Fig. 32 Support clamp fitting

Terminal bend fitting

- ▶ Remove and retain the retaining screws [2] and discard the terminal end [3].
- ▶ Fit the terminal bend [1] to the terminal outlet and set the rotation of the terminal bend depending on the plume installation option required.
- ▶ Secure the terminal end [1] with the screws [2] removed previously.

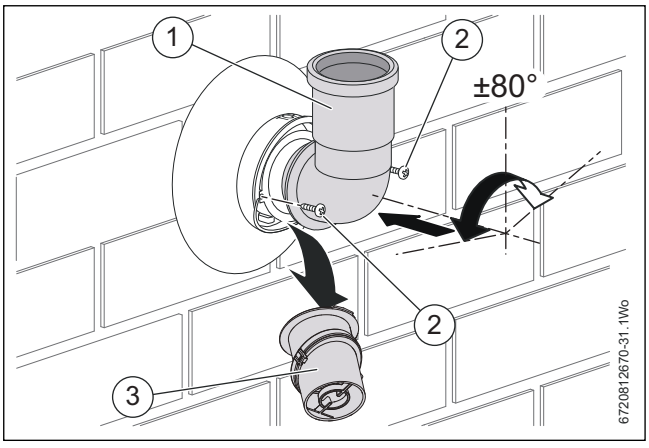


Fig. 33 Plume management terminal bend

Extension fitting

Extension tube (→ figure 34)

- ▶ Push the extension tube [2] fully into the terminal bend [3], then withdraw the tube approximately 10mm to allow for expansion.
- ▶ Secure the extension [2] to the wall with the support clamp and screws provided [1].

Extension tube with additional elbow (45° bend example → figure 34)

- ▶ Push the extension tube [2] fully into the terminal bend [3], then withdraw the tube approximately 10mm to allow for expansion.
- ▶ Secure the extension [2] to the wall with the support clamp and screws provided [1].
- ▶ Push the 45° bend [4] fully into the extension tube [2], then withdraw the tube approximately 10mm to allow for expansion.
- ▶ Further extensions are fitted in the same way as described above.

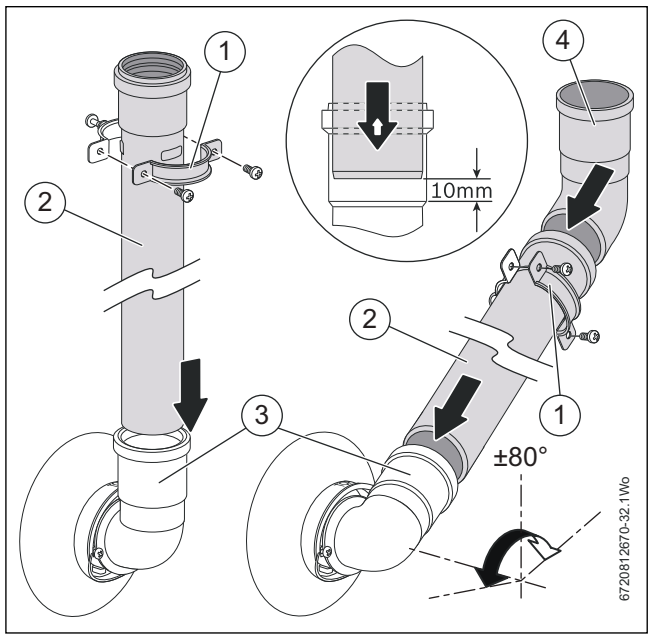


Fig. 34 Plume extension fitting

Discharge elbow fitting

Outlet assembly (vertical orientation→ figure 35)

- ▶ Secure the extension [4] to the wall with the support clamp and screws provided [3].
- ▶ Push the outlet assembly bend [1] fully into the extension tube [4], then withdraw the tube approximately 10mm to allow for expansion.
- ▶ Rotate the outlet assembly [1] to the required direction permitted.
- ▶ Secure the outlet assembly bend [1]to the extension [4] with the self-tapping screw [2] provided.

Outlet assembly (angled orientation→ figure 35)

- ▶ Secure the extension [4] to the wall with the support clamp and screws provided [3].
- ▶ Push the outlet assembly bend [1] fully into the extension tube [4], then withdraw the tube approximately 10mm to allow for expansion.
- ▶ Rotate the outlet assembly bend [1] to the required direction permitted.
- ▶ Secure the outlet assembly bend [1]to the extension [4] with the self-tapping screw [2] provided.

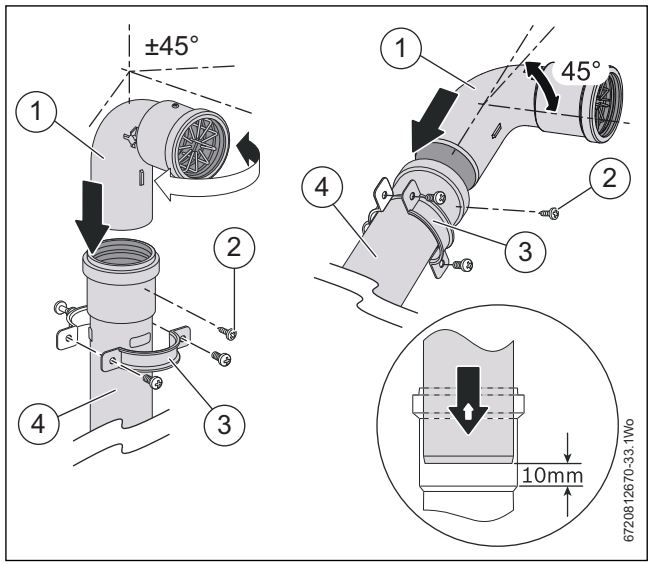


Fig. 35 Fitting the discharge elbow

Under balcony/overhang extension fitting

Refer to figure 36.

- Secure the extension [7] to the wall with the support clamp and screws provided [5].
- Remove the screw [1] from the outlet assembly bend [2] and remove the grill [3].
- Push the outlet assembly bend [2] fully into the extension tube [7], then withdraw the tube approximately 10mm to allow for expansion.
- Mark the support for the extension run under the balcony/overhang, a support clamp is supplied with the extension tube.

The outlet of the extension tube must project at least 100mm passed the balcony/overhang

- Drill a hole to suit the wall plug and fit the wall plug.
- Screw in the support clamp into the balcony/overhang plug to the distance shown in figure 32.
- Push the extension tube [4] fully into the outlet assembly [2], then withdraw the tube approximately 10mm to allow for expansion.
- Secure the extension [4] to the wall with the support clamp and screws provided [5].
- Drill a hole through the plume outlet end secure the grill in place with the screw [1] removed earlier from the outlet assembly bend.

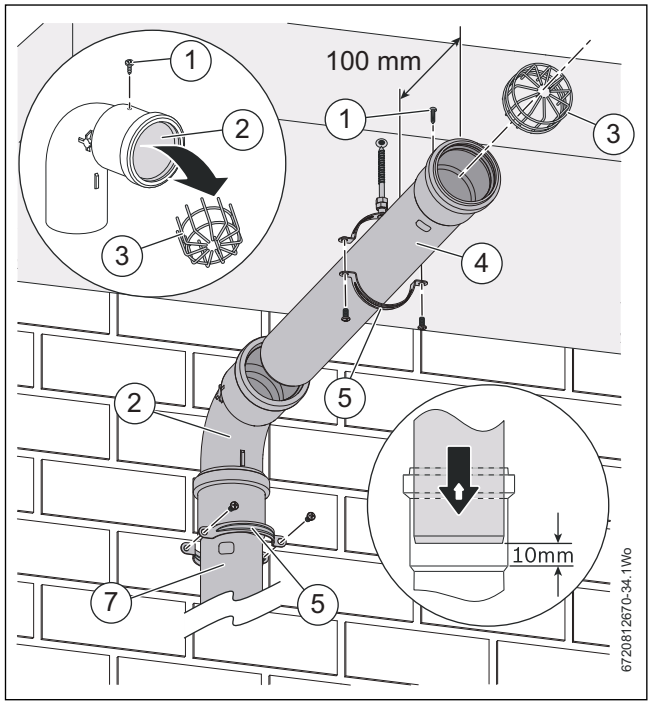


Fig. 36 Fitting extension under balcony/overhang

Terminal guard fitting

A flue terminal guard should be fitted over a terminal, if persons could come into contact with the terminal, or it could be subject to damage and where the terminal is less than 2,000mm from the finished floor level.

NOTICE:

- The terminal end must not be swivelled inside the guard. The terminal end must be mounted at right angles with respect to the wall.

The terminal guard does not have to be fitted over the flue inlet, but is recommended to protect the flue from third party damage.

- Fit the terminal guard centrally over the flue inlet [3] or outlet [4].
- Mount the terminal guard to the wall utilising the three mounting points attached to the guard.
- Fold the gates in the order stated below or the gates will not latch properly.
- Fold the single pronged gate [1] in and latch onto the guard frame.
- Fold the two pronged gate [2] in and latch onto the guard frame.

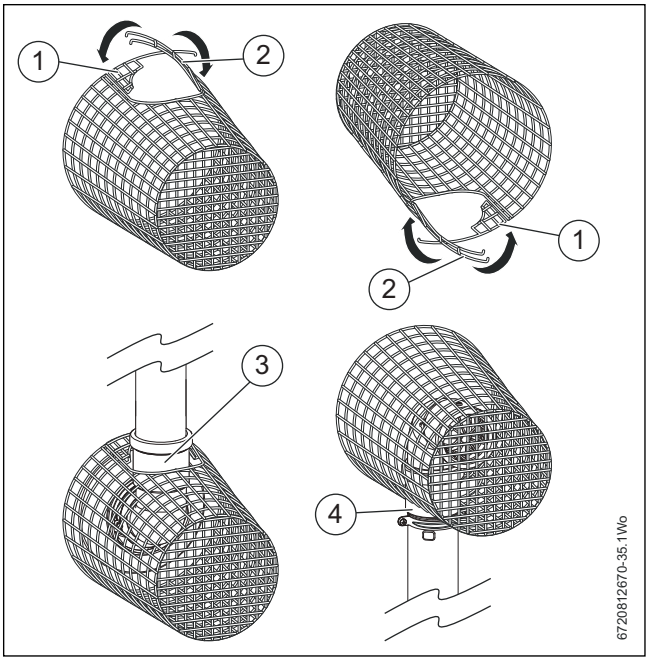


Fig. 37 Fitting terminal guard

5.6 Redirecting the flue discharge

The plume deflector can be adjusted to redirect the flue discharge.

NOTICE: FLUE DISCHARGE

- The Plume terminal outlet position must follow the conditions stated in figure 38. When redirecting the flue discharge the outlet must be at least 1,500mm from and angle at least 45° away from any opening in the direction of the discharge, as shown. This is to prevent combustion products from entering the building.

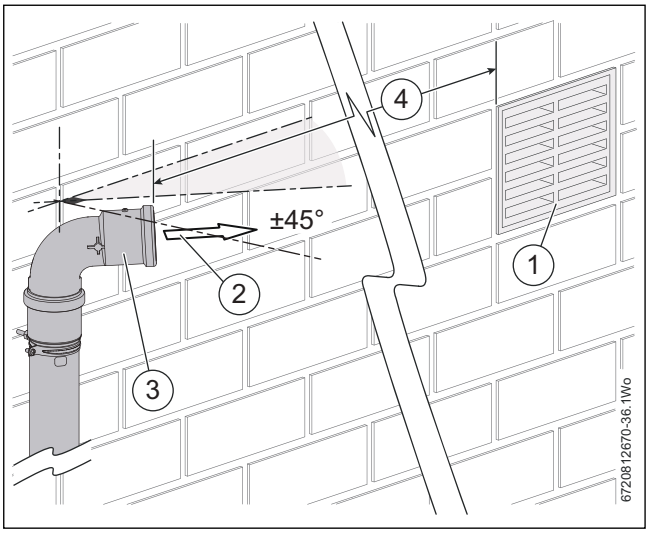


Fig. 38 Plume direction conditions

[1] Opening in the building i.e. air brick, window.
[2] Direction of the flue products, must be more than 45° from the wall or structure.
[3] Plume terminal.
[4] At least 1,500mm from any opening in the building.

6 Service and spares

6.1 Servicing and maintenance

- An annual visual check of the flue system including the plume management kit (if fitted) must be carried out in addition to the checks stated in the appliance Installation, Commissioning and Servicing Instructions.

NOTICE: Painting:

- Do not paint the plume management kit.

6.2 Spare parts

	Terminal outlet assembly 8 716 111 209 0		Wall seal - inner 8 716 111 211 0
	Wall seal - outer 8 716 111 212 0		

Table 6 Parts list

WORCESTER, BOSCH GROUP:

TECHNICAL SUPPORT:	0330 123 3366
APPOINTMENTS:	0330 123 9339
SPARES:	0330 123 9779
LITERATURE:	0330 123 9119
TRAINING:	0330 123 0166
SALES:	0330 123 9669

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Cotswold Way, Warndon, Worcester WR4 9SW.
Tel. 0330 123 9559
Worcester, Bosch Group is a brand name of Bosch Thermotechnology Ltd.
worcester-bosch.co.uk

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