

60/100 HORIZONTAL FLUE

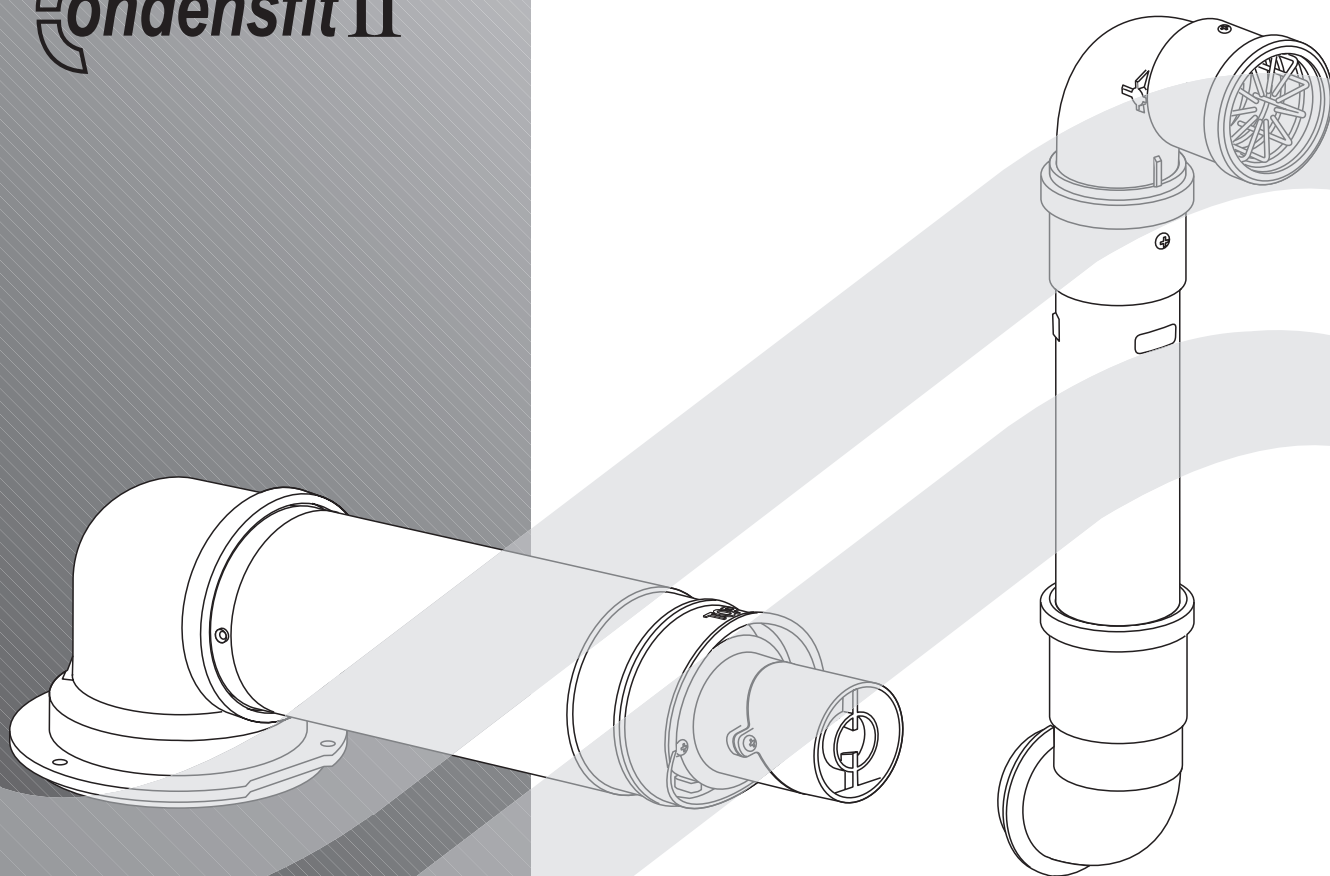
7-716-191-082 ROOM SEALED TELESCOPIC FLUE

7-716-191-086 PLUME MANAGEMENT SYSTEM

FOR USE WITH APPLIANCES: Greenstar Ri series, Greenstar i Junior series, Greenstar i System series, Greenstar Si series, Greenstar Cdi series. British Gas: 430/i, 532/i, 537/i & 542/i.

DO NOT USE WITH ANY OTHER MAKE OR MODEL OF APPLIANCE.

Condensfit II[™]



GB/IE

INSTRUCTION MANUAL FLUE KIT INSTALLATION

 **WORCESTER**
Bosch Group

benchmark

CONTACT INFORMATION

WORCESTER, BOSCH GROUP:

MAIN RECEPTION: 01905 754624
MAIN FAX: 01905 754619
TECHNICAL SUPPORT: 08705 266241
SERVICE: 08457 256206
SPARES: 01905 752571
LITERATURE: 01905 752556
TRAINING: 01905 752526
SALES: 01905 752640
WEBSITE: www.worcester-bosch.co.uk

INSTALLATION INSTRUCTIONS

PLEASE READ THESE INSTRUCTIONS CAREFULLY BEFORE STARTING INSTALLATION.

THESE INSTRUCTIONS ARE APPLICABLE ONLY TO THE PRODUCT(S) STATED ON THE FRONT COVER OF THIS MANUAL.

THE INSTRUCTIONS APPLY IN THE UK & EIRE ONLY AND MUST BE FOLLOWED EXCEPT FOR ANY STATUTORY OBLIGATION.

THIS PRODUCT MUST BE INSTALLED BY A COMPETENT PERSON. FAILURE TO INSTALL CORRECTLY COULD LEAD TO PROSECUTION.

IF YOU ARE IN **ANY DOUBT** CONTACT WORCESTER TECHNICAL SUPPORT.

DISTANCE LEARNING AND TRAINING COURSES ARE AVAILABLE FROM WORCESTER, BOSCH GROUP.

PLEASE LEAVE THESE INSTRUCTIONS WITH THE USER OR AT THE GAS METER AFTER INSTALLATION OR SERVICING.

ABBREVIATIONS:

Ø Diameter
RS Room sealed flue

SAFETY PRECAUTIONS

IF YOU SMELL GAS:

- X** DON'T SMOKE OR STRIKE MATCHES.
- X** DON'T TURN ELECTRICAL SWITCHES ON OR OFF.
- ✓** DO PUT OUT NAKED FLAMES.
- ✓** DO OPEN DOORS AND WINDOWS.
- ✓** DO KEEP PEOPLE AWAY FROM THE AREA AFFECTED.
- ✓** DO TURN OFF THE CONTROL VALVE AT THE METER.
- ✓** DO CALL YOUR GAS COMPANY.

BENCHMARK:

A Benchmark check list is provided by the manufacturer at the rear of the appliance instruction manual for the installer to complete, including their CORGI registration number, to confirm that the boiler has been installed, commissioned and serviced according to the manufacturer's instructions. IMPORTANT: The completed Benchmark check list will be required in the event of any warranty work and may be required by the local Building Control Inspector.

FITTING & MODIFICATIONS:

Fitting the flue system may only be carried out by a competent engineer in accordance with these instructions and the relevant Installation Regulations.

Flue systems must not be modified in any way other than as described in the fitting instructions.

Painting of the plume management kit is not permitted.

Any misuse or unauthorised modifications to the flue or associated components could invalidate the warranty. The manufacturer accepts no liability arising from any such actions, excluding statutory rights.

- Flue terminals must be positioned to avoid combustion products entering into buildings.
- The flue must be fitted and terminated in accordance with the recommendations of BS5440 : Part 1.
- The flue must not cause an obstruction.
- Discharge from the flue outlet must not be a nuisance.
- Flue gases have a tendency to plume and in certain weather conditions a white plume of condensation will be discharged from the flue outlet which could be regarded as a nuisance, for example, near security lighting.
- There should be no restriction preventing the clearance of combustion products from the terminal.
- The air inlet/outlet duct and the terminal of the boiler must not be closer than 25mm to any combustible material. Detailed recommendations on protection of combustible materials are given in BS 5440:1
- A protective terminal guard must be fitted if the terminal is 2m or less above a surface where people have access. The guard must be spaced equally (minimum 50mm) around the flue and fixed to the wall with plated screws.

SERVICING:

The appliance and flue system should be regularly serviced by a competent, qualified engineer (such as British Gas or CORGI registered personnel) using approved spares, to help maintain the economy, safety and reliability of the appliance.

An annual visual check of the plume management kit must be observed.

INSTALLATION REGULATIONS

Failure to install correctly could lead to prosecution.

The flue system and associated components must be installed only by a competent person in accordance with, and comply to, the current: Gas Safety (Installation & Use) Regulations 1998, Building Regulations, Building Standards (Scotland) (Consolidation), Building Regulations (Northern Ireland), IS 813 (Eire) and any other local requirements.

The relevant Standards should be followed, including:

BS5440:1 : Flues and ventilation for gas appliances of rated heating not exceeding 70kW (net) : Flues

BS5440:2 : Flues and ventilation for gas appliances of rated heating not exceeding 70kW (net) : Air Supply

BS6798 : Installation of gas fired boilers of rated input up to 70kW (net)

Where no specific instruction is given, reference should be made to the relevant codes of Practice.

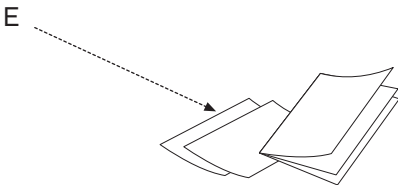
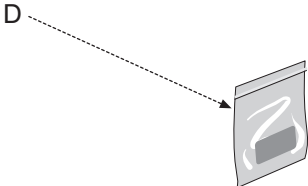
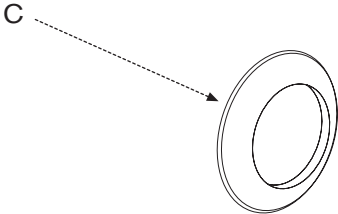
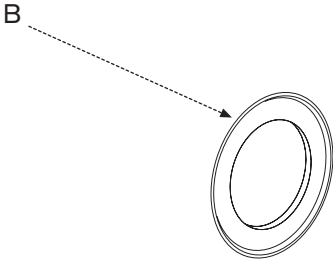
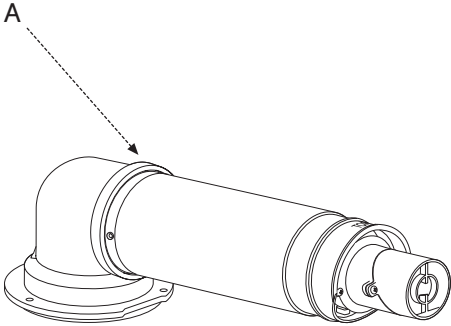
Timber framed buildings:

Where the flue system is to be fitted into a timber framed building the guidelines laid down in BS5440: Part 1 and IGE "Gas Installations in Timber Frame Buildings" should be adhered to.

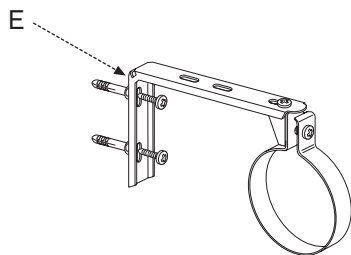
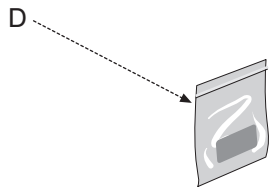
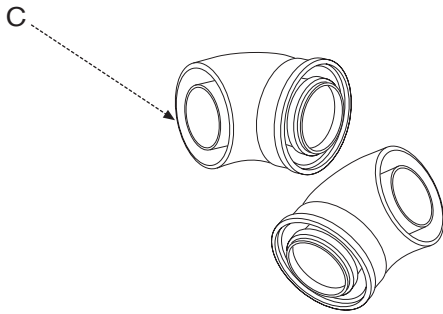
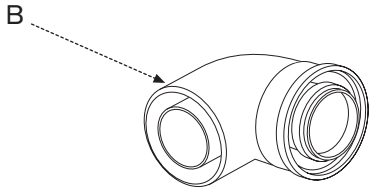
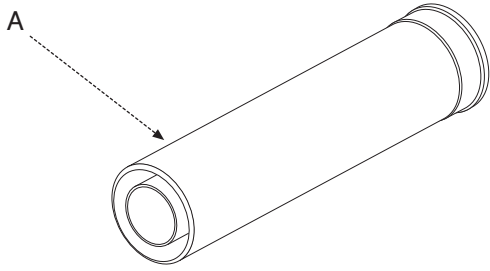
**RS TELESCOPIC FLUE
COMPONENTS**

Ø60/100mm TELESCOPIC FLUE KIT:

- Part Number: 7-716-191-082 including:
- A TELESCOPIC FLUE ASSEMBLY
 - B WALL SEAL INNER
 - C WALL SEAL OUTER
 - D ACCESSORY PACK
 - E INSTALLATION INSTRUCTIONS & CHECK LIST



PRODUCT
INFORMATION



RS FLUE EXTENSION COMPONENTS

Ø60/100mm 1000mm EXTENSION KIT:

Part Number: 7-716-191-083 including:

- A EXTENSION TUBE ASSEMBLY
- D GREASE PACK, CONTAINING 2 No.8 SCREWS & GREASE SACHET

Ø60/100mm 90° BEND:

Part Number: 7-716-191-084 including:

- B 90° BEND ASSEMBLY
- D GREASE PACK, CONTAINING 2 No.8 SCREWS & GREASE SACHET

Ø60/100mm 45° BEND:

Part Number: 7-716-191-085 including:

- C 45° ELBOW x2
- D GREASE PACK, CONTAINING 2 No.8 SCREWS & GREASE SACHET

Ø60/100mm SUPPORT BRACKET KIT:

Part Number: 7-716-191-092 including:

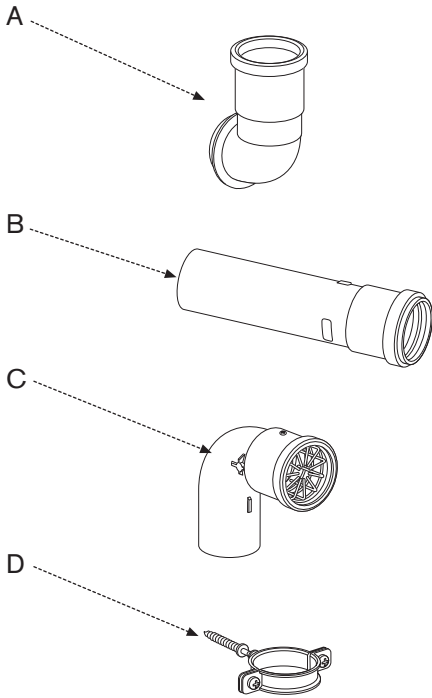
- E WALL BRACKET, SWIVEL BRACKET, CLAMP, FIXING SCREWS AND WALL PLUGS

PLUME MANAGEMENT SYSTEM COMPONENTS

COMPONENTS Ø60mm PLUME MANAGEMENT KIT:

Part Number: 7-716-191-086 including:

- A TERMINAL ELBOW
- B EXTENSION 500mm
- C OUTLET ASSEMBLY
- D CLAMP PACK

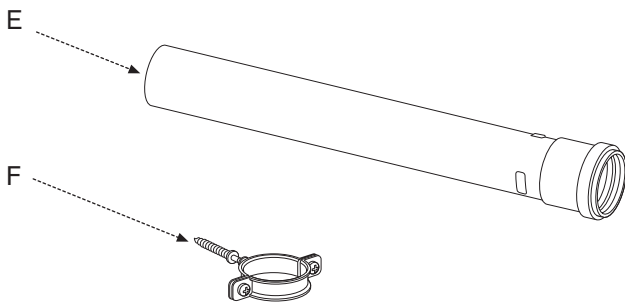


EXTENSION COMPONENTS:

Ø60mm EXTENSION:

Part Number: 7-716-191-087 including:

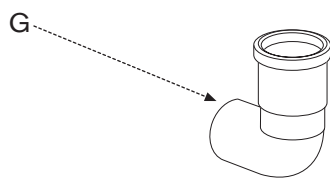
- E EXTENSION 1000mm
- F CLAMP PACK



90° BEND:

Part Number: 7-716-191-088 including:

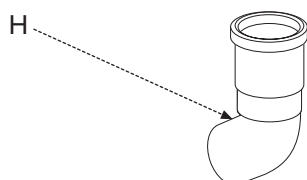
- G 90° BEND

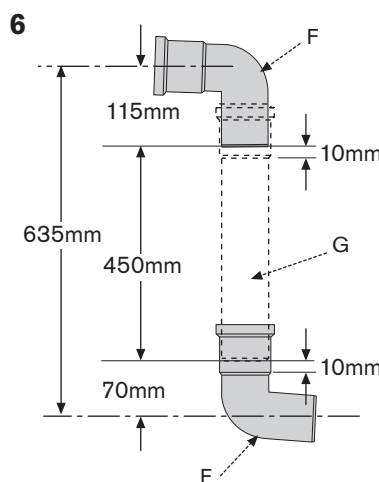
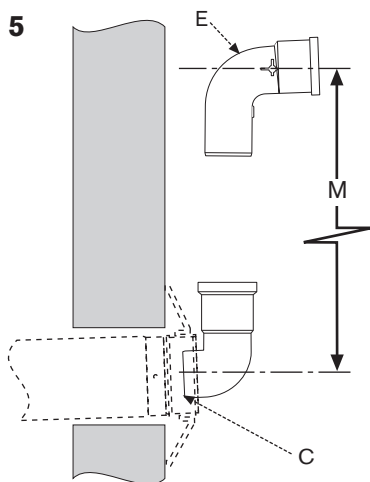
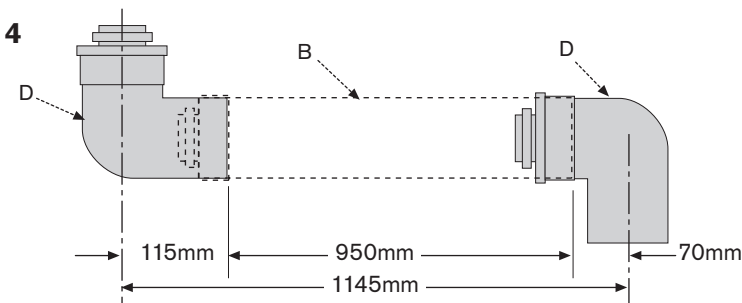
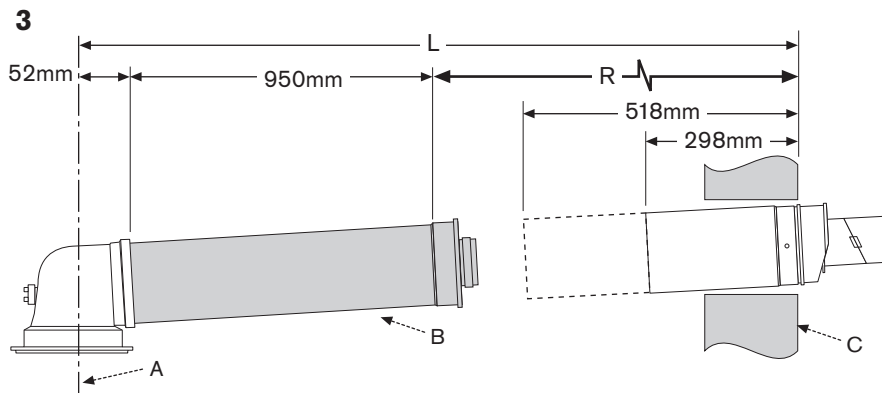
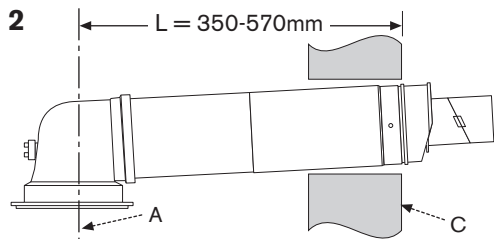
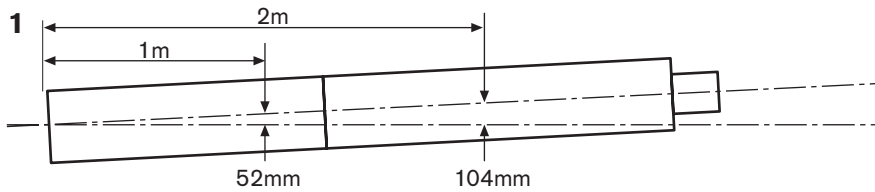


45° BEND:

Part Number: 7-716-191-089 including:

- H 45° BEND x2





FLUE MEASURING

Do not exceed the maximum straight length for a horizontal Ø60/100mm flue or a Ø60mm plume management system as stated in the relevant appliance Instruction Manual or addendum.

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

Measuring a standard telescopic flue:

- 2 ▶ Measure the flue length (L) from the centre of the boiler flue outlet (A) along the flue route to the outside wall (C).
 - ▶ Where (L=350-570mm) adjust the flue to fit. No flue extensions are required.

Measuring a straight extended flue:

Cutting the flue to an exact measure is not normally required as the telescopic flue terminal allows for adjustment.

- 3 ▶ Measure the flue length (L) from the centre of the boiler flue outlet (A) along the flue route to the outside wall (C), then:
 - ▶ subtract 52mm for the boiler elbow connection.
 - ▶ subtract 950mm for each 1m extension (B).
 - ▶ if the remainder (R) is:
 - ▶ 298-518mm adjust the flue terminal.
 - ▶ 518-950mm cut another extension to the remainder (R - 400mm) and adjust the flue terminal.
 - ▶ under 298mm shorten the previous extension to the remainder (R - 400mm) and adjust the flue terminal. Alternatively, see 'Changing the flue length' to reduce the terminal length by the remainder (R) only.

Addition of flue bends:

- 4 ▶ Connecting flue bends increases the effective pipe length and an allowance must be made for the different connectors. The example shows dimensions for two bends (D) connected to a standard flue extension (B).

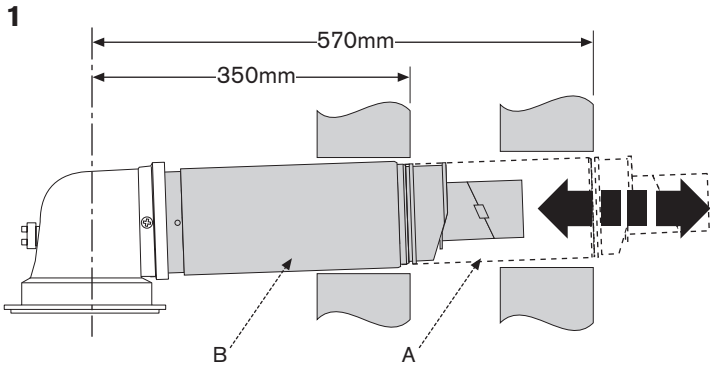
Measuring a plume management system:

- 5 ▶ Measure the plume management flue (M) from the centre of terminal (C), along the required route to the end of the plume outlet (E).
 - ▶ add 1500mm (equivalent length) for each extra 90° bend and 750mm for each extra 45° bend.

Addition of plume management bends:

- 6 ▶ Connecting flue bends increases the pipe length and an allowance must be made for the different connectors. The example shows dimensions for two bends (F) connected to a standard 500mm extension (G).

NOTE: 10mm expansion must be allowed for each connector joint as shown.



Adjusting the standard terminal length:

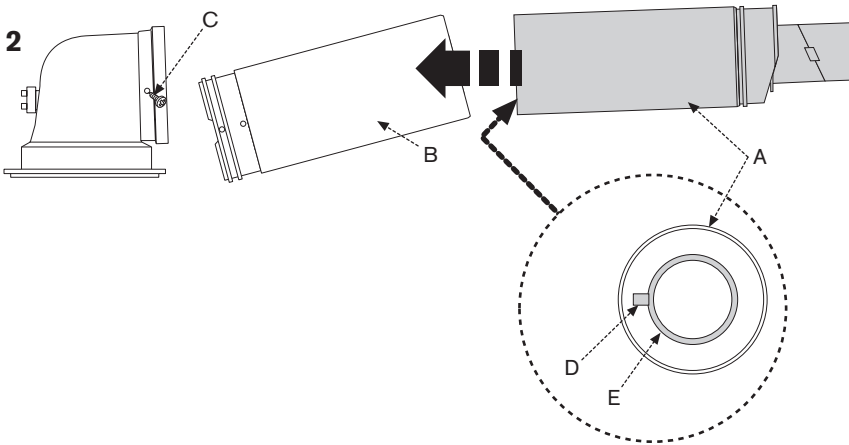
- ▶ Extend tube (A) by withdrawing from tube (B) to achieve the flue length required, 350- 570mm.

Reducing the standard terminal length:

- ▶ Remove securing screws (C) to detach the terminal assembly from the turret.
 - ▶ Slide terminal section (B) from the terminal assembly and discard.
 - ▶ To use terminal (A) without cutting remove the location lug (D) on the inner flue tube (E) and remove any burrs.

To reduce the terminal length further:

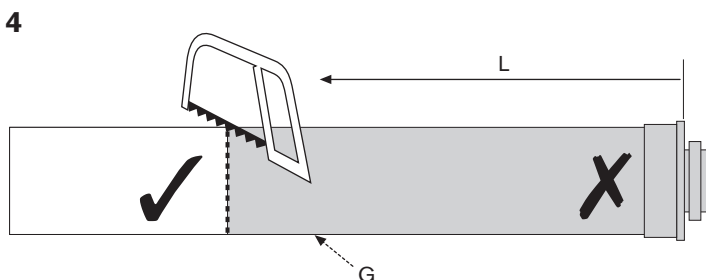
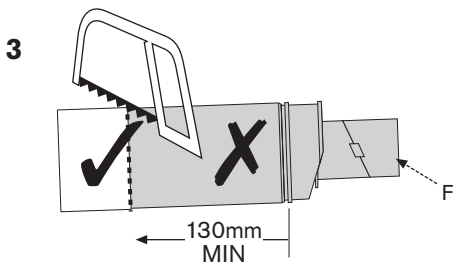
- ▶ Mark the length required for the terminal (F) as shown (min. 130mm) and cut square, taking care not to damage the tubes.
 - ▶ Remove any burrs and chamfer the outer edge of the tubes to assist ease of connection and prevent seal damage.



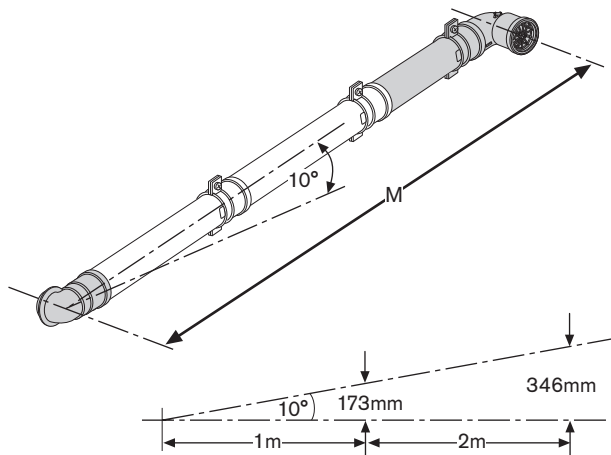
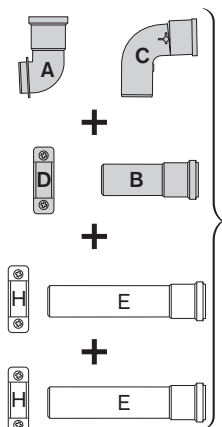
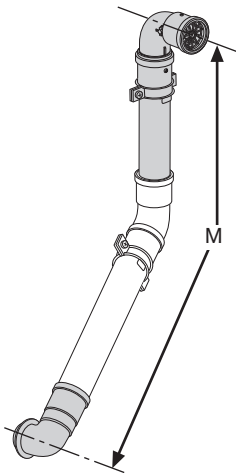
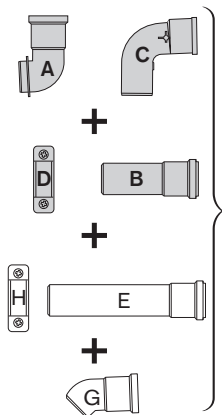
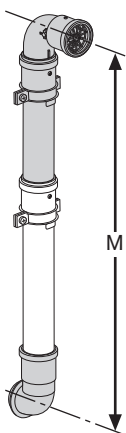
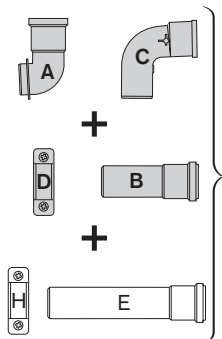
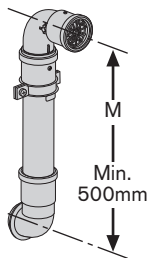
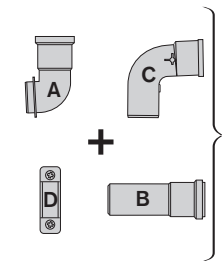
Reducing extended flue tube length:

Only cut straight extension tubes

- ▶ Mark flue extension (G) to the required distance (L) measuring from the socket end and cut square taking care not to damage the tubes.
 - ▶ Remove any burrs and chamfer the outer edge of the tubes to assist ease of connection and prevent seal damage.



PRE-INSTALLATION

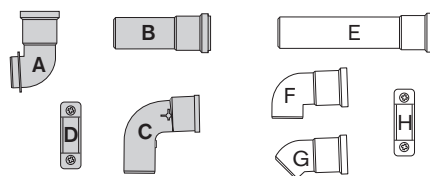


PLUME MANAGEMENT OPTIONS

The diagrams (opposite) show the components required for typical plume management configurations.

IMPORTANT:

All plume management sections must rise away from the terminal by a minimum of 173mm per metre (10°) to allow the condensate to drain back to the boiler.



Plume management kit:

- A TERMINAL ELBOW
- B EXTENSION 500mm
- C OUTLET ASSEMBLY
- D CLAMP

Plume management optional kits:

- E EXTENSION TUBE 1000mm
- F 90° BEND
- G 45° BEND
- H CLAMP

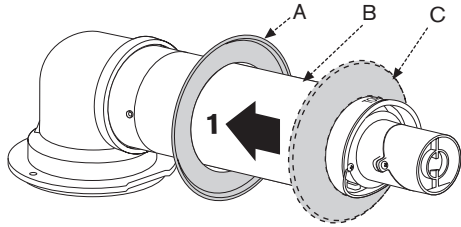
Measure (M) must be a minimum of 500mm and must not exceed the maximum straight length for a horizontal Ø60/100mm flue or a Ø60mm plume management system as stated in the relevant appliance Instruction Manual or addendum.

STANDARD FLUE INSTALLATION

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

Check all the seals are seated properly in the grooves provided and are in good condition.

All flue joints must be sealed to prevent leakage of condensate and flue products.



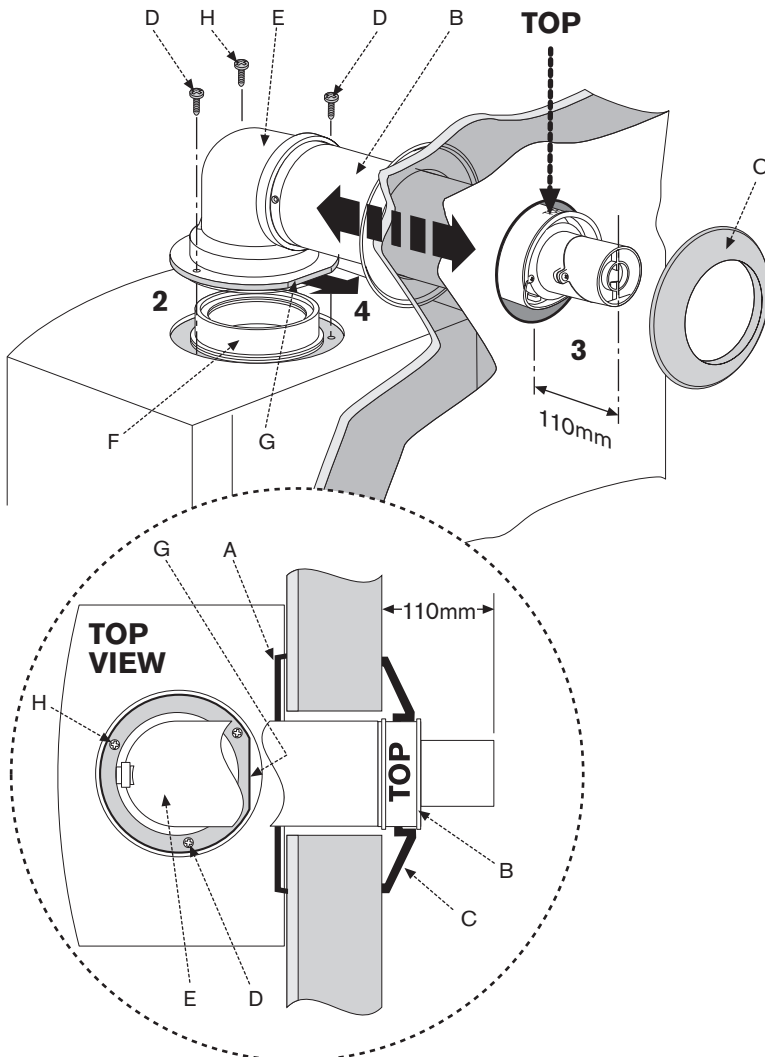
All horizontal flue sections must rise by at least 52mm for each metre away from the boiler to ensure that condensate flows back into the boiler for safe discharge via the condensate waste pipe.

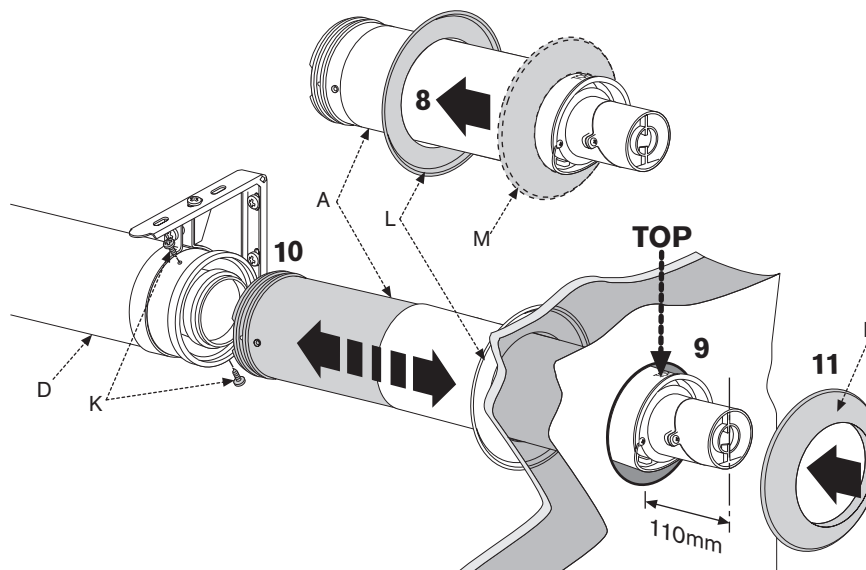
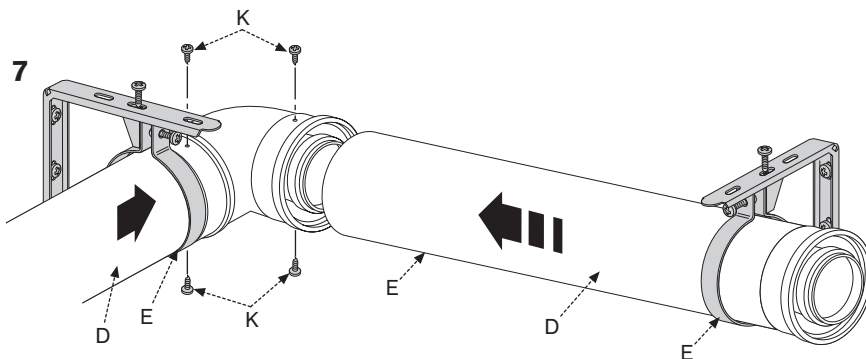
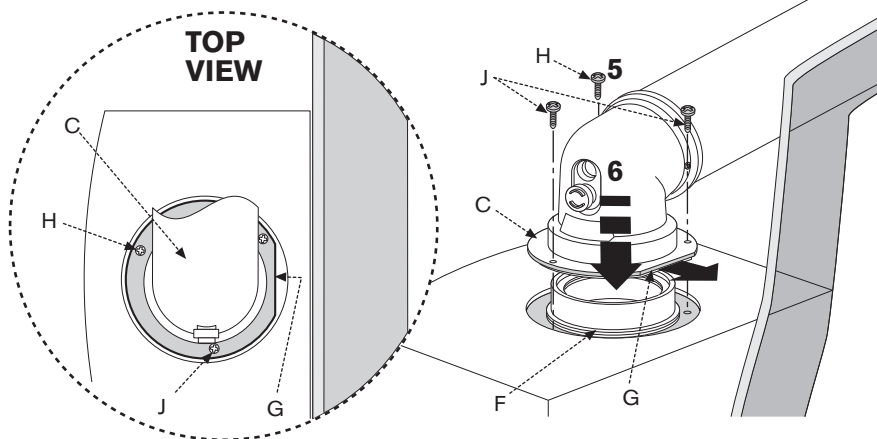
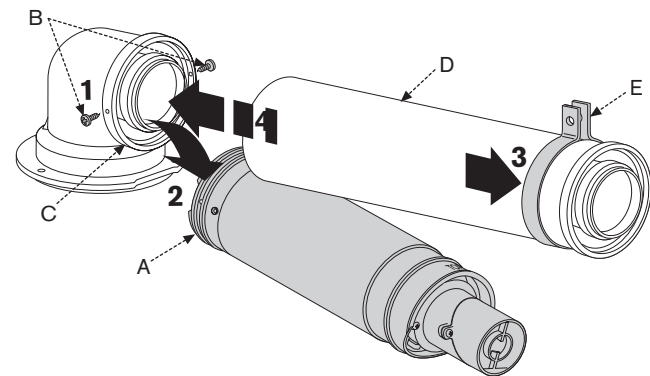
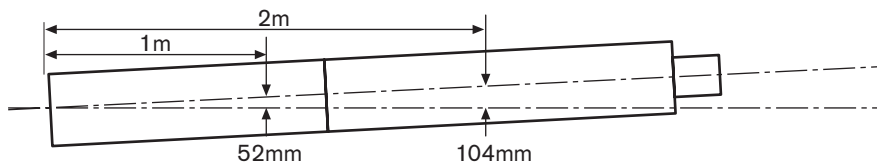
Installing the standard flue:

- 1 ▶ Slide the inner wall seal (A) onto the terminal (B) as shown.
 - ▶ If fitting from inside the building; slide the outer wall seal (C) onto the terminal (B) as shown.
- 2 ▶ Remove the three screws (D, H) around the flue outlet (F) on the boiler. For CDi models see screw pack in boiler.
 - ▶ Check the boiler flue seal is correctly seated.
 - ▶ Apply silicone grease to the boiler flue seal.
- 3 ▶ Position terminal (B) through the flue opening in the wall to the outside of the building by the distance shown.

▶ The flue terminal **MUST** be fitted with the 'TOP' uppermost to allow the correct fit and use of the plume management system.

- 4 ▶ Align the flue elbow (E) to the boiler flue outlet (F) with flat (G) facing to the rear of the boiler.
 - ▶ Push the flue elbow (E) straight down into the boiler flue outlet (F).
 - ▶ For ease of assembly, locate screw (H) first and then fit screws (J) to secure flue elbow (C).
 - ▶ If fitting from the outside of the building; slide the outer wall seal (C) onto the terminal (B) as shown.





EXTENDED FLUE INSTALLATION

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

Check all the seals are seated properly in the grooves provided and are in good condition.

All flue joints must be sealed to prevent leakage of condensate and flue products.

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

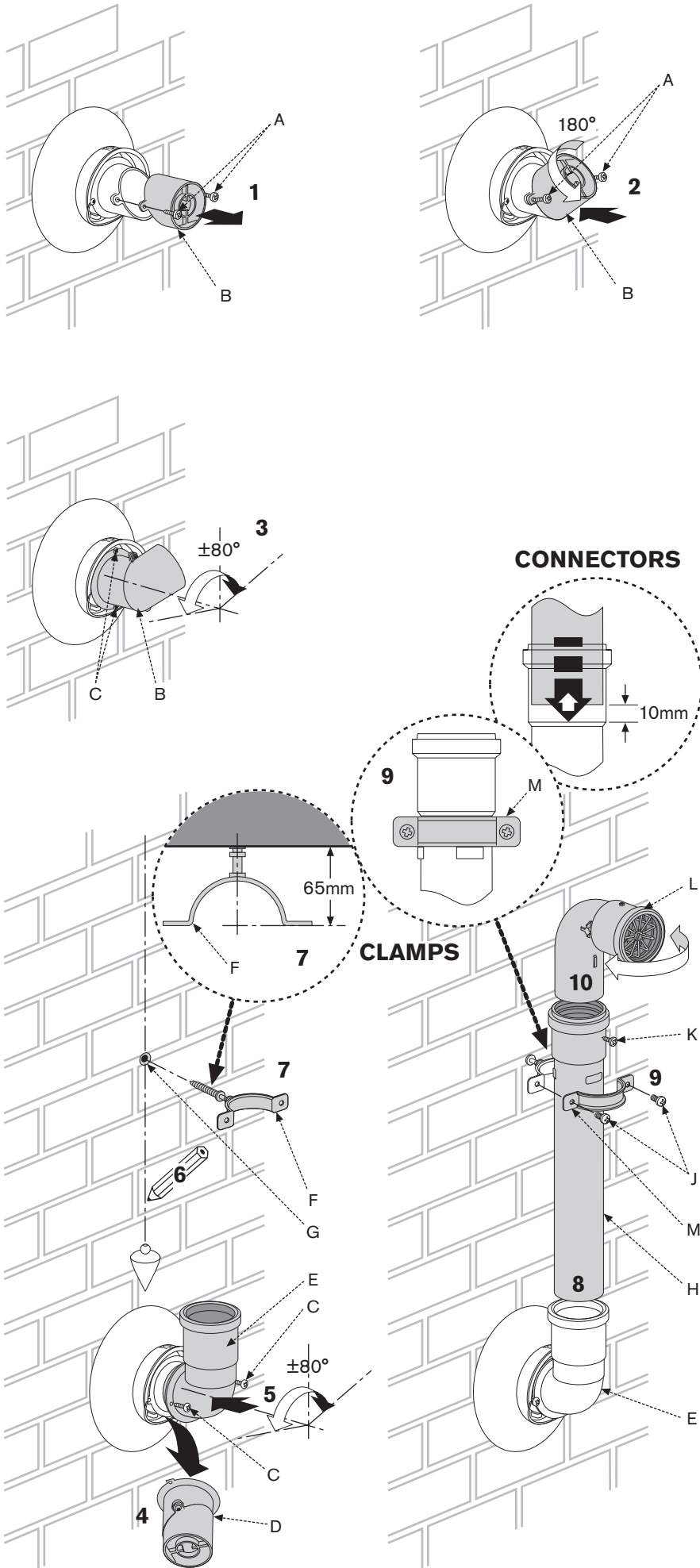
Installing an extended flue:

- 1 ▶ Remove terminal retaining screws (B)
- 2 ▶ Disconnect flue terminal (A) from elbow (C).
- 3 ▶ Slide support clamp (E) (not supplied) onto the flue extension (D) as shown.
- 4 ▶ Push-fit extension (D) as far as possible into elbow (C).
 - ▶ Drill through the elbow screw holes into the outer tube of the extension taking care NOT to drill the inner flue tube.
 - ▶ Refix screws (B) to secure extension (D) to the elbow (C).
- 5 ▶ Remove the three screws (H, J) around the flue outlet (F) on the boiler. For CDi models see screw pack in boiler.
 - ▶ Check the boiler flue seal is correctly seated.
 - ▶ Apply silicone grease to the boiler flue seal.
- 6 ▶ Fit the flue elbow (C) to the boiler flue outlet (F) and rotate to the direction required ensuring flat (G) facing to the rear of the boiler.
 - ▶ For ease of assembly, locate screw (H) first and then fit screws (J) to secure flue elbow (C).
- 7 ▶ Slide a support clamp (E) (not supplied) onto additional flue extensions (D).
 - ▶ Working from the boiler, fit the extension/s with support clamp/s as required, to take the weight of the flue.
 - ▶ Drill two holes (180° apart if possible) through the outer flue tube of each connector taking care NOT to drill the inner flue tube and secure with screws (K) as shown.
- 8 ▶ Slide the inner wall seal (L) onto terminal (A).
 - ▶ If fitting from inside the building; slide the outer wall seal (M) onto terminal (A) as shown.
- 9 ▶ Position terminal (A) through the flue opening in the wall to the outside of the building by the distance shown.
- 10 ▶ Fit terminal (A) into the last extension (D), drill the outer flue tubes and fix with screws (K).
 - ▶ If the terminal has been cut to size, seal joint with aluminium tape.

▶ The flue terminal MUST be fitted with the 'TOP' uppermost to allow the correct fit and use of the plume management system.

- 11 ▶ If fitting from the outside of the building; slide the outer wall seal (M) onto terminal (A).

STANDARD PLUME MANAGEMENT INSTALLATION



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

Check all the seals are seated properly in the grooves provided and are in good condition.

All flue joints must be sealed to prevent leakage of condensate and flue products.

The flue discharge can be redirected allowing some plume management control, alternatively, a complete plume management system can be fitted to the flue terminal.

Redirecting the flue discharge:

- ▶ Remove screws (A) and rotate the terminal end (B) through 180°.

DO NOT rotate the complete flue terminal assembly.

- ▶ Refit the terminal end (B) and secure with screws (A).

- ▶ Loosen screws (C) and rotate the entire outlet assembly to redirect the plume. Retighten screws (C) to secure in the required position.

NOTE: the flue terminal outlet has built-in stops to limit rotation for horizontal fluing to allow condensate to run back into the boiler for safe disposal. Do not attempt to force beyond the limit stops.

Fitting the standard plume management system:

- ▶ Remove screws (C) and discard the complete terminal end (D).

- ▶ Fit the terminal elbow (E) to the terminal outlet and refix screws (C) to secure.

▶ Rotate terminal elbow (E) for angled fluing.

DO NOT rotate the complete flue terminal assembly.

NOTE: the flue terminal outlet has built-in stops to limit rotation for horizontal fluing to allow condensate to run back into the boiler for safe disposal. Do not attempt to force beyond the limit stops.

All plume management sections must rise by at least 173mm per metre (10°) from the terminal to ensure that condensate flows back into the boiler.

- ▶ Mark, drill (protecting elbow (E) from debris) and fit clamp wall plug (G).

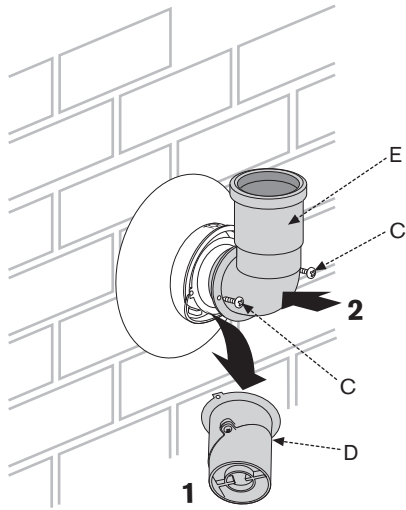
- ▶ Screw clamp (F) into wall plug (G) to the required distance as shown.

- ▶ **Push-fit the extension tube (H) as far as possible into elbow (E), then withdraw 10mm to allow for expansion.**

- ▶ Secure extension (H) to wall with clamp (M) in position shown, using screws (J).

- ▶ Push-fit outlet assembly (L) as far as possible into the extension tube (H).

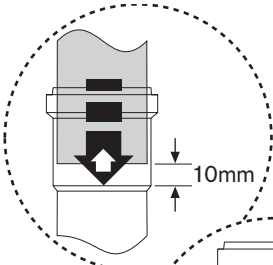
▶ Rotate the outlet assembly (L) to the direction required and secure to the extension (H) with self-tapping screw (K) supplied.



1

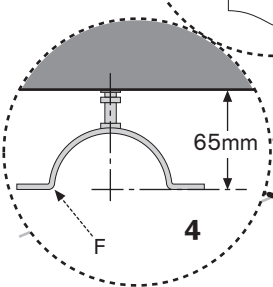
E
C
2
C
D

CONNECTORS

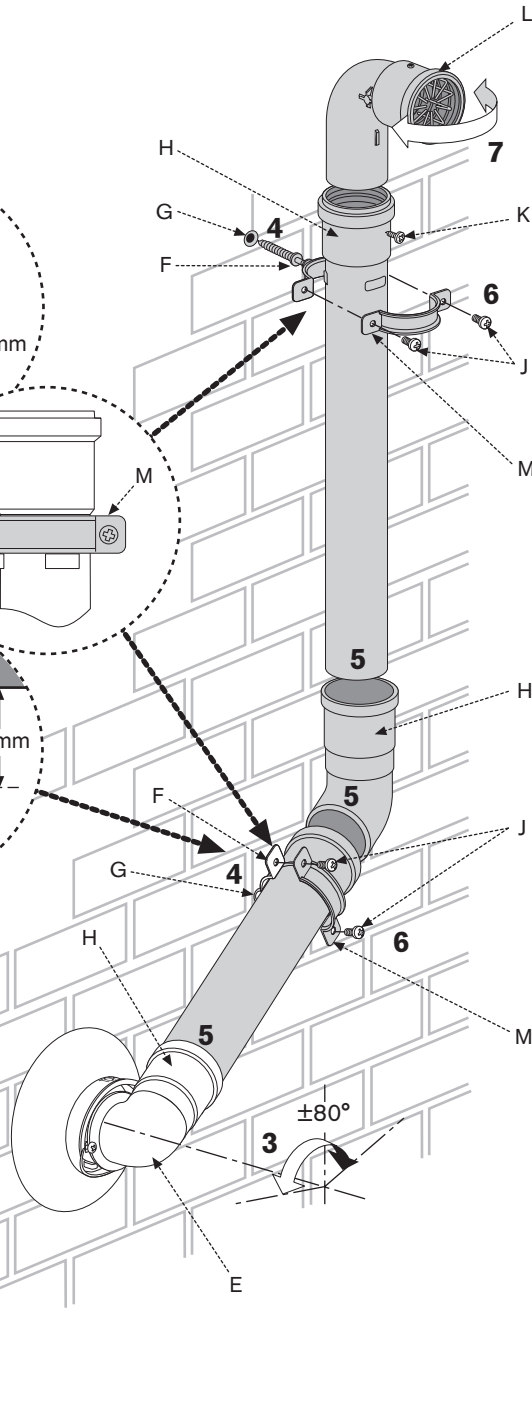


6

CLAMPS



4



H
G
F
4
K
6
J
M
5
H
5
H
F
G
4
H
5
M
E
3
±80°

EXTENDED PLUME
MANAGEMENT INSTALLATION

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

Check all the seals are seated properly in the grooves provided and are in good condition.

All flue joints must be sealed to prevent leakage of condensate and flue products.

- 1 ▶ Remove screws (C) and discard the complete terminal end (D).
- 2 ▶ Fit the terminal elbow (E) to the terminal outlet and secure reusing screws (C).
- 3 ▶ Rotate terminal elbow (E) for angled fluing.

DO NOT rotate the complete flue terminal assembly.

NOTE: the terminal elbow (E) has built-in stops to limit rotation for horizontal fluing to allow condensate to run back into the boiler for safe disposal. Do not force the elbow beyond its limit stops.

All plume management sections must rise by at least 173mm per metre (10°) from the terminal to ensure that condensate flows back into the boiler.

- 4 ▶ Mark, drill (protecting elbow (E) from debris) and fit clamp wall plugs (G).
- ▶ Screw clamps (F) into wall plugs (G) to the required distance as shown.

Work from the terminal elbow (C) connecting and clamping to support the weight of the extensions.

- 5 ▶ Push-fit the extension tubes/bends as far as possible into the connectors (H), then withdraw each one by 10mm to allow for expansion.
- 6 ▶ Align extension clamps (M) in position as shown and secure with screws (J).
- 7 ▶ Push-fit outlet assembly (L) as far as possible into the extension tube connector (H).
- ▶ Rotate the outlet assembly (L) to the direction required and secure to the extension with self-tapping screw (K) supplied.

SERVICING & MAINTENANCE:

An annual visual check of the plume management kit must be observed.

Painting of the plume management kit is not permitted.

SPARE PARTS:

Ø60/100mm Telescopic horizontal flue:

1 Collar - flue elbow:

Part No. 8-716-111-254-0

2 Air sample point plug - flue elbow:

Part No. 8-716-111-253-0

3 Flue sample point cap with seal - flue elbow:

Part No. 8-716-111-252-0

4 Terminal outlet assembly:

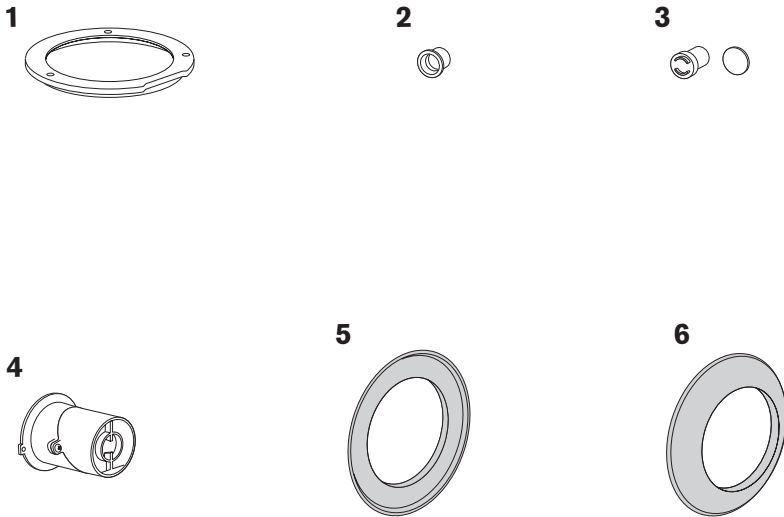
Part No. 8-716-111-209-0

5 Wall seal inner:

Part No. 8-716-111-211-0

6 Wall seal outer:

Part No. 8-716-111-212-0



INSTRUCTION MANUAL

FLUE KIT INSTALLATION

www.worcester-bosch.co.uk

Worcester, Bosch Group

Cotswold Way, Warndon, Worcester WR4 9SW

Part Number: 8-716-111-256b (05.06)

Worcester, Bosch Group is a trading name of BBT Thermotechnology UK Ltd.

