

# INSTRUCTION MANUAL

## FLUE KIT INSTALLATION

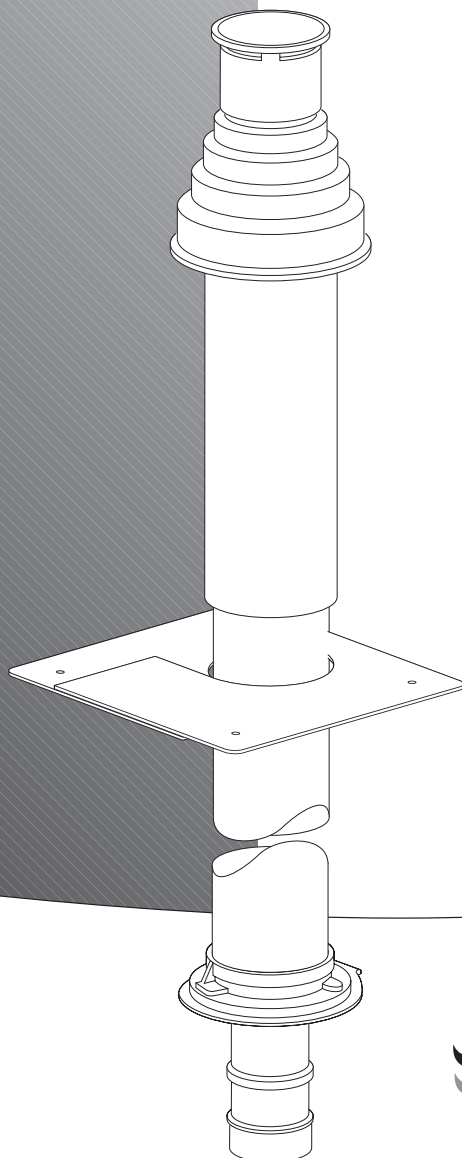
**7 716 191 156** ROOM SEALED FLUE

# 60/100 VERTICAL FLUE

FOR USE WITH WORCESTER APPLIANCES:

Greenstar FS 30CDi Regular, Greenstar FS 42CDi Regular, Greenstar Highflow 440CDi, Greenstar Highflow 550CDi.

DO NOT USE WITH ANY OTHER MODEL OF APPLIANCE.



UK/IE



**WORCESTER, BOSCH GROUP:**

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WEBSITE: [www.worcester-bosch.co.uk](http://www.worcester-bosch.co.uk)

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 CORGI REGISTERED ENGINEER. 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:**

∅ Diameter  
RS Room sealed flue

**SYMBOLS:**

Cutting required



No cutting required

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SAFETY & REGULATIONS

PRODUCT INFORMATION

PRE-INSTALLATION

INSTALLATION

SERVICING & SPARES

**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:** *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.

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.
- 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

**SERVICING:**

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

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

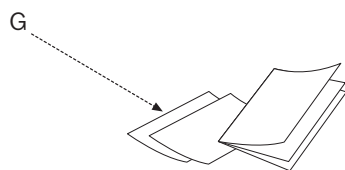
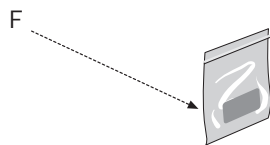
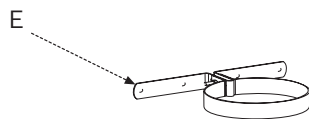
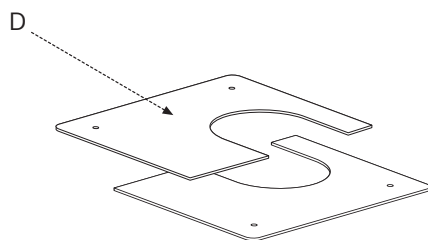
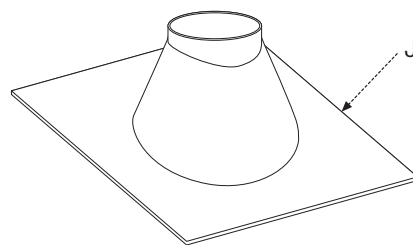
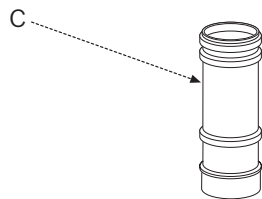
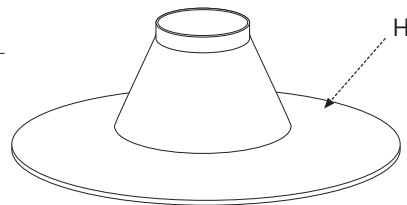
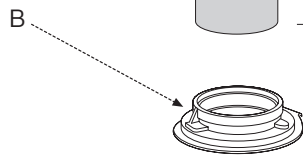
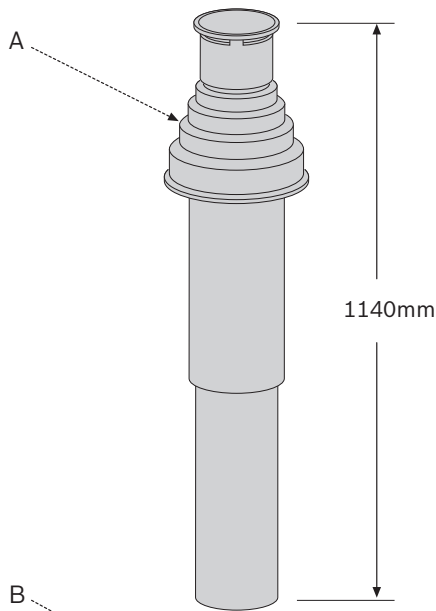
BS5440:2 : Flues and ventilation for gas appliances of rated heating not exceeding 70kW (net) : Air Supply

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.



**Ø60/100 FLUE KIT:**

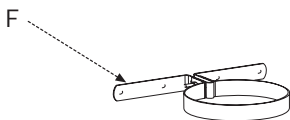
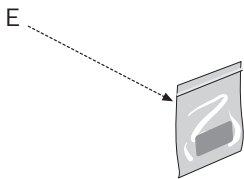
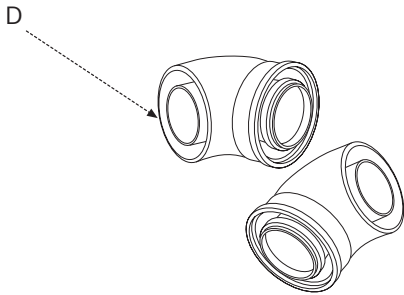
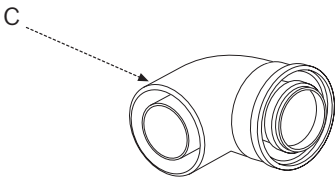
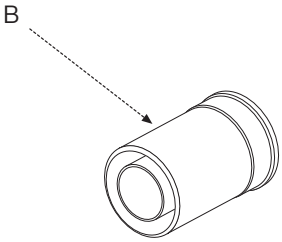
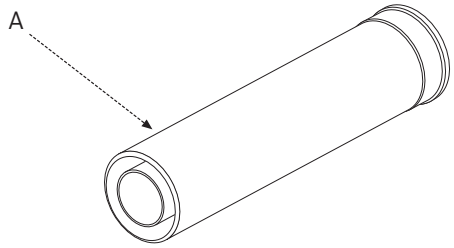
- Part Number: 7 716 191 156 including:
- A FLUE TERMINAL ASSEMBLY.
  - B FLUE CONNECTOR.
  - C FLUE ADAPTOR.
  - D FIRE STOP PLATES.
  - E BRACKET WALL FIXING.
  - F ACCESSORY PACK.
  - G INSTALLATION INSTRUCTIONS & CHECK LIST.

**FLAT ROOF FLASHING:**

- Part Number: 7 716 191 090 including:
- H FLAT ROOF FLASHING (not part of the standard flue kit).

**PITCHED ROOF FLASHING:**

- Part Number: 7 716 191 091 including:
- J PITCHED ROOF FLASHING. (not part of the standard flue kit).



**Ø60/100 990mm EXTENSION KIT:**

Part Number: 7 716 191 083 including:  
 A EXTENSION TUBE ASSEMBLY.  
 E GREASE PACK, CONTAINING 2 No.8. SCREWS & GREASE SACHET.

**Ø60/100 220mm SHORT FLUE EXTENSION:**

B Part Number: 7 716 191 133

**Ø60/100 90° BEND:**

Part Number: 7 716 191 084 including:  
 C 90° BEND ASSEMBLY.  
 E GREASE PACK, CONTAINING 2 No.8. SCREWS & GREASE SACHET.

**Ø60/100 45° BEND:**

Part Number: 7 716 191 085 including:  
 D 45° BEND x2.  
 E GREASE PACK, CONTAINING 2 No.8. SCREWS & GREASE SACHET.

**Ø60/100 BRACKET WALL FIXING KIT:**

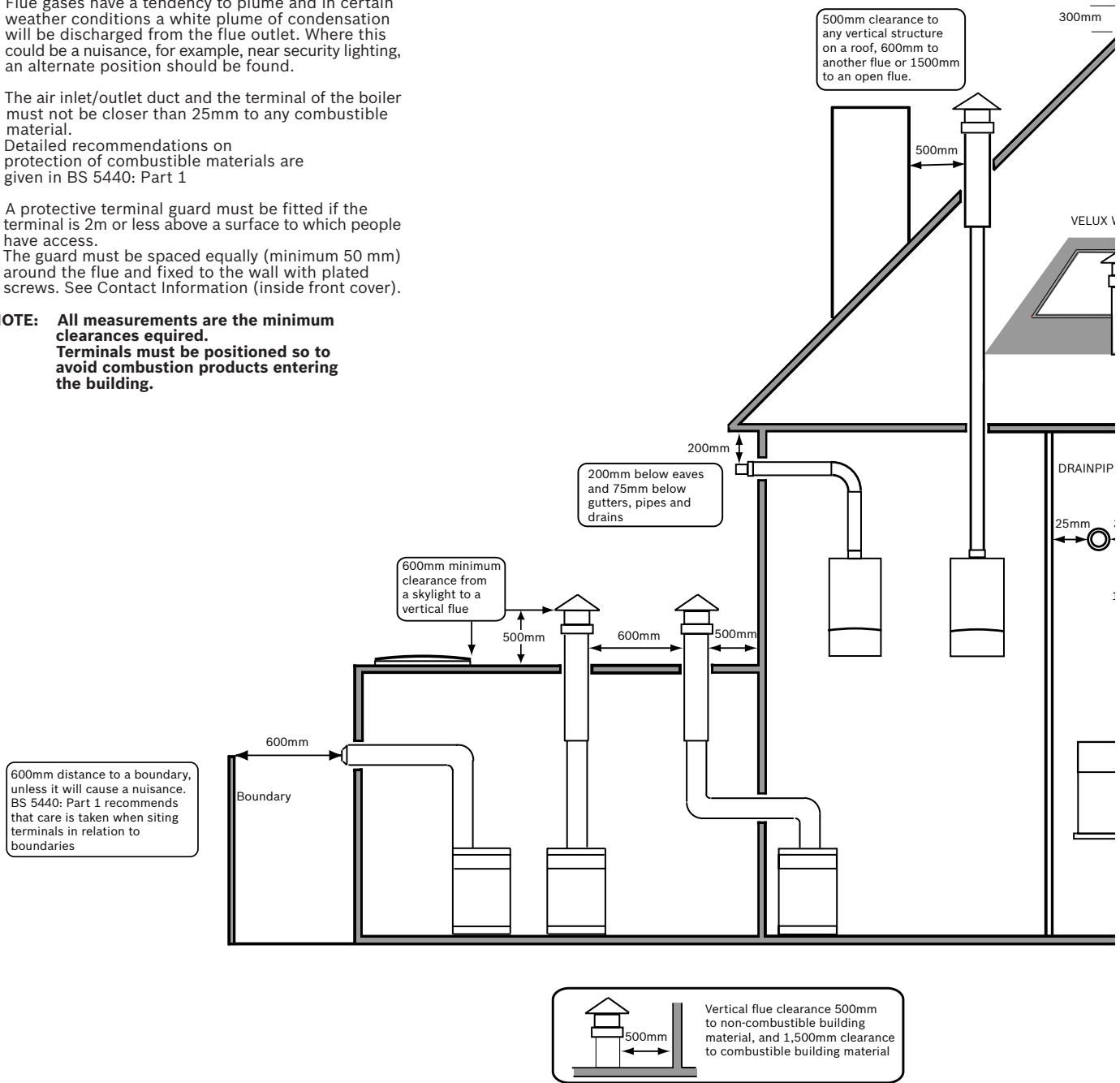
F Part Number: 7 716 191 092

The flue terminal outlet position must follow those stated in the relevant appliance Instruction Manual.

PRE-  
INSTALLATION

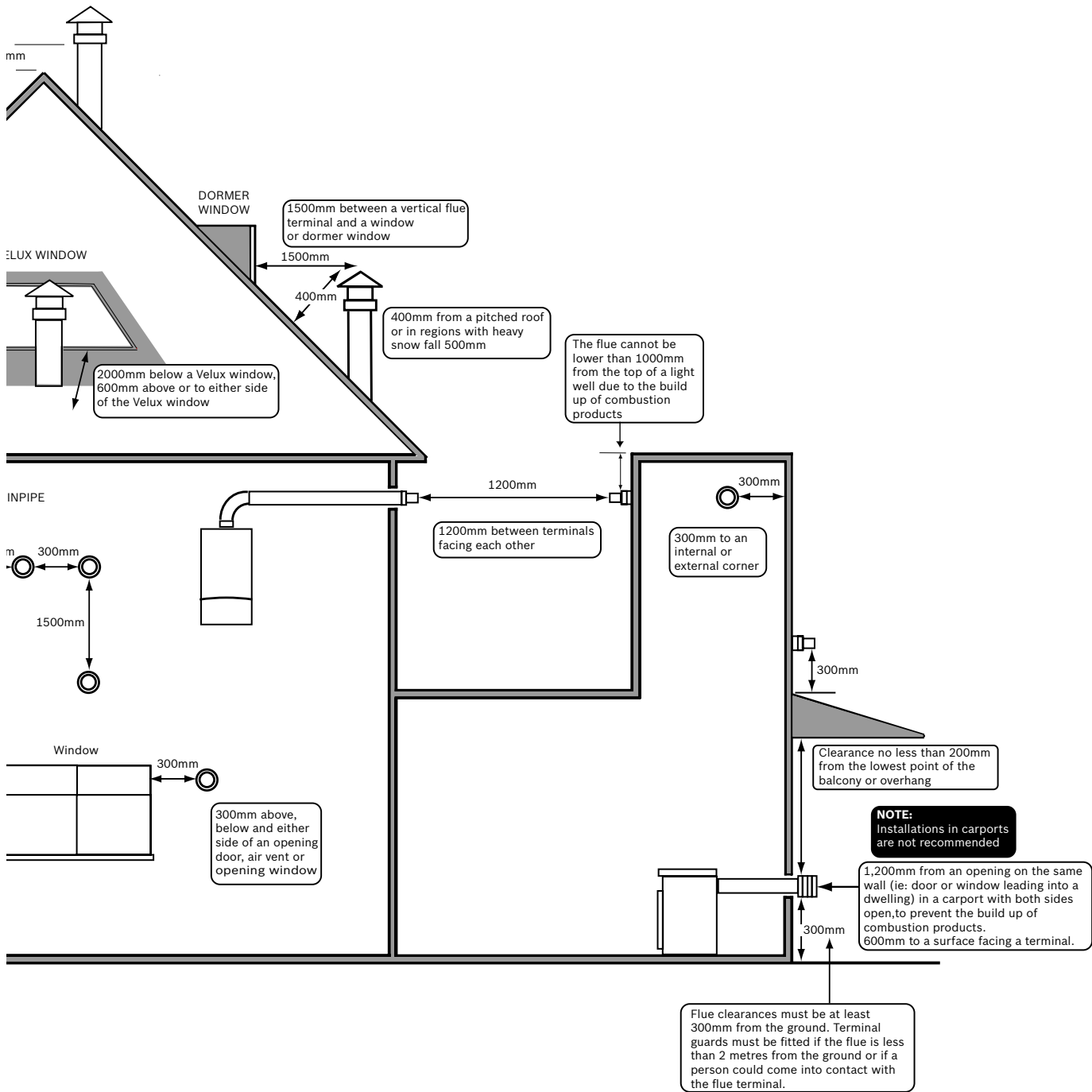
- The flue must be fitted and terminated in accordance with the recommendations of BS5440 : Part 1.
- The flue must not cause an obstruction.
- Discharge and any noise from the flue outlet must not cause a nuisance.
- Flue gases have a tendency to plume and in certain weather conditions a white plume of condensation will be discharged from the flue outlet. Where this could be a nuisance, for example, near security lighting, an alternate position should be found.
- 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: Part 1
- A protective terminal guard must be fitted if the terminal is 2m or less above a surface to which people have access. The guard must be spaced equally (minimum 50 mm) around the flue and fixed to the wall with plated screws. See Contact Information (inside front cover).

**NOTE: All measurements are the minimum clearances required. Terminals must be positioned so to avoid combustion products entering the building.**





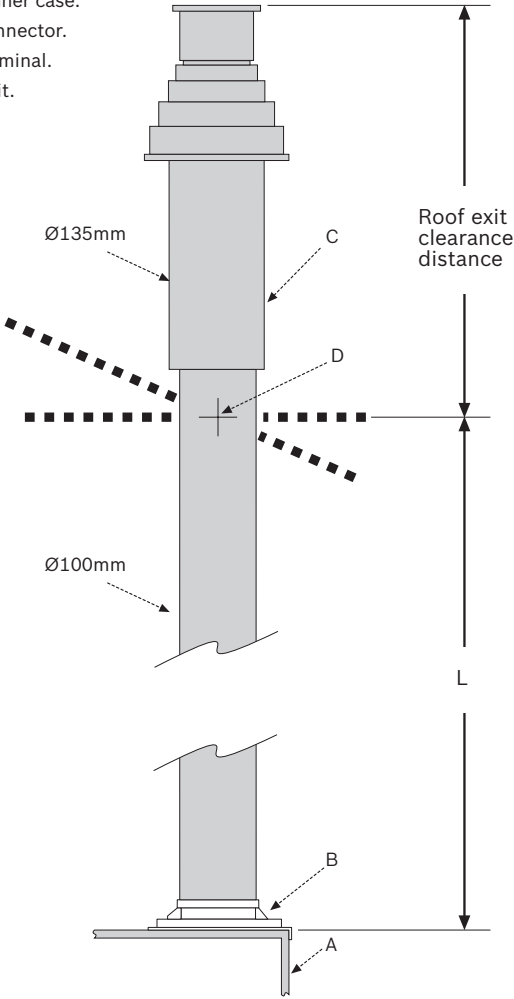
PRE-  
INSTALLATION



8 716 115 089a

PRE-INSTALLATION

- A - Boiler inner case.
- B - Flue connector.
- C - Flue terminal.
- D - Roof exit.



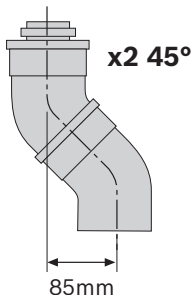
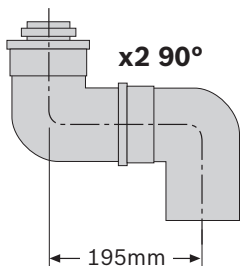
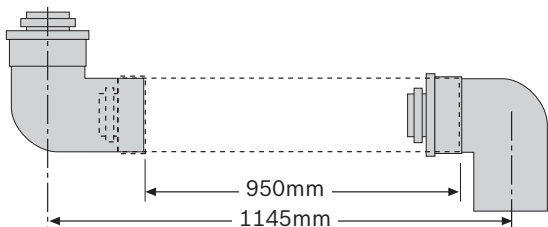
The maximum effective straight flue lengths are stated opposite for the relevant appliance and must not be exceeded.

- 1 ▶ Measure the total straight length (L) from the boiler inner case (A) along the flue route to the roof exit (D).
  - ▶ Add the following to length (L) to check the maximum flue length is not exceeded:
    - ▶ Roof exit clearance distance.
    - ▶ 2000mm for each extra 90° bend.
    - ▶ 1000mm for each extra 45° bend.

**EFFECTIVE MAXIMUM STRAIGHT FLUE LENGTHS for Ø60/100 flue:**

Appliance description	Max. length
Greenstar FS 30CDi Regular	6400mm
Greenstar FS 42CDi Regular	6400mm
Greenstar Highflow 440CDi	6400mm
Greenstar Highflow 550CDi	6400mm

1



**Flue bends:**

- ▶ Connecting flue bends increases the effective pipe length and an allowance must be made for the different connectors. The examples opposite show dimensions for two 90° bends connected to a standard flue extension, two 90° bends connected together and two 45° bends connected together.

**Reducing the terminal length:**

- ▶ Mark the length required for the terminal as shown (min. 650mm) and cut square, taking care not to damage the tubes.  
**Do not cut the Ø135mm tube (A).**  
 ▶ Remove any burrs and chamfer the outer edge of the tubes to assist ease of connection and prevent seal damage.

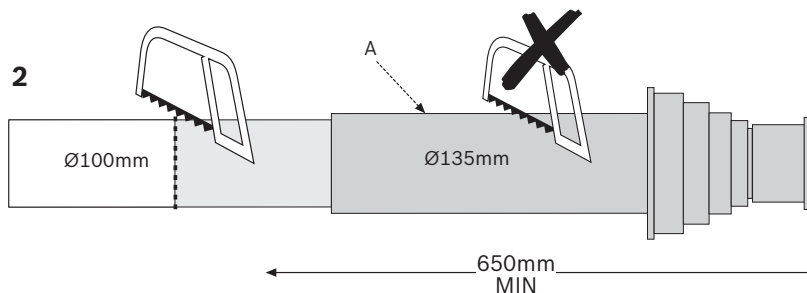
**Reducing extended flue tube length:**

Only cut straight extension tubes:

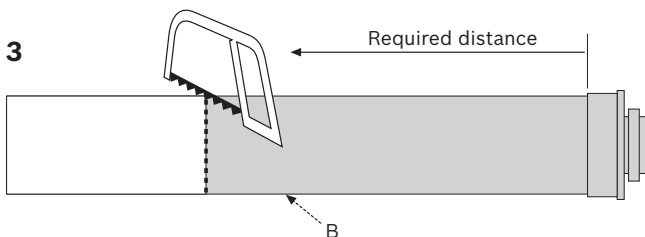
- ▶ Mark flue extension (B) to the required distance measuring from the socket end and cut square taking care not to damage the tubes.  
 ▶ Remove any burrs and chamfer the outer edge of the tubes to assist ease of connection and prevent seal damage.

PRE-INSTALLATION

2



3



## FLUE INSTALLATION

### Convert from rear flue outlet:

The boiler is supplied ready to fit a rear flue outlet. To flue from the top of the boiler, follow the procedure below:

- 1 ▶ Remove the top 'knock-out' panel (A) from the outer casing (B).
- 2 ▶ Remove the flue outlet blanking plate (D) comprising: cover, gasket and screws from the inner casing (C) and refit over the rear flue outlet.

### Flue seals and joints:

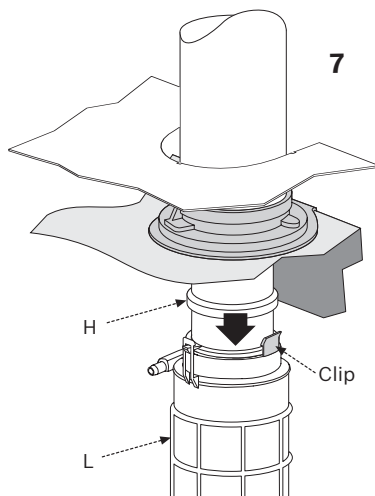
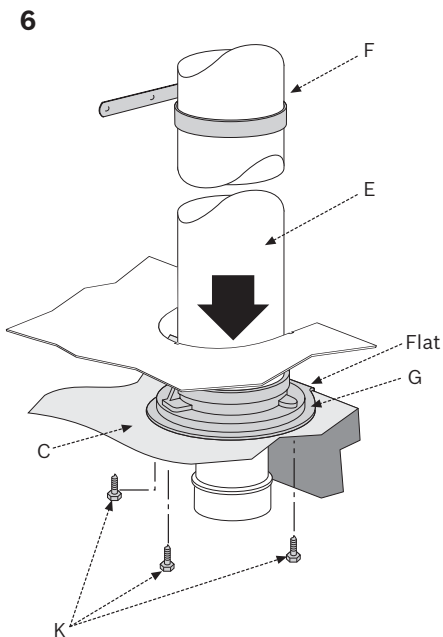
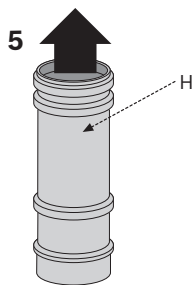
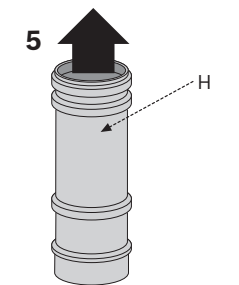
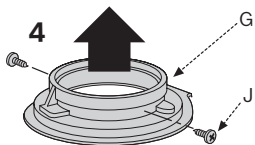
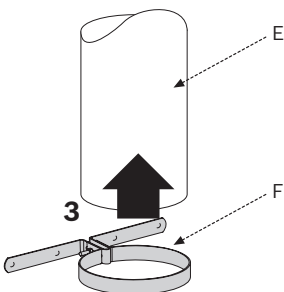
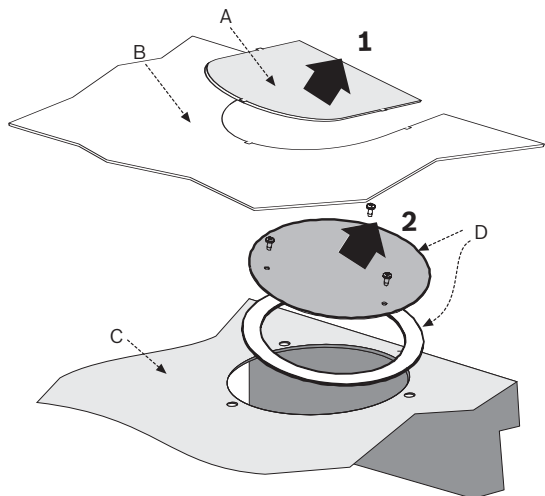
**NOTE:** To ease assembly of the flue components, grease seals lightly with the solvent-free grease supplied.

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

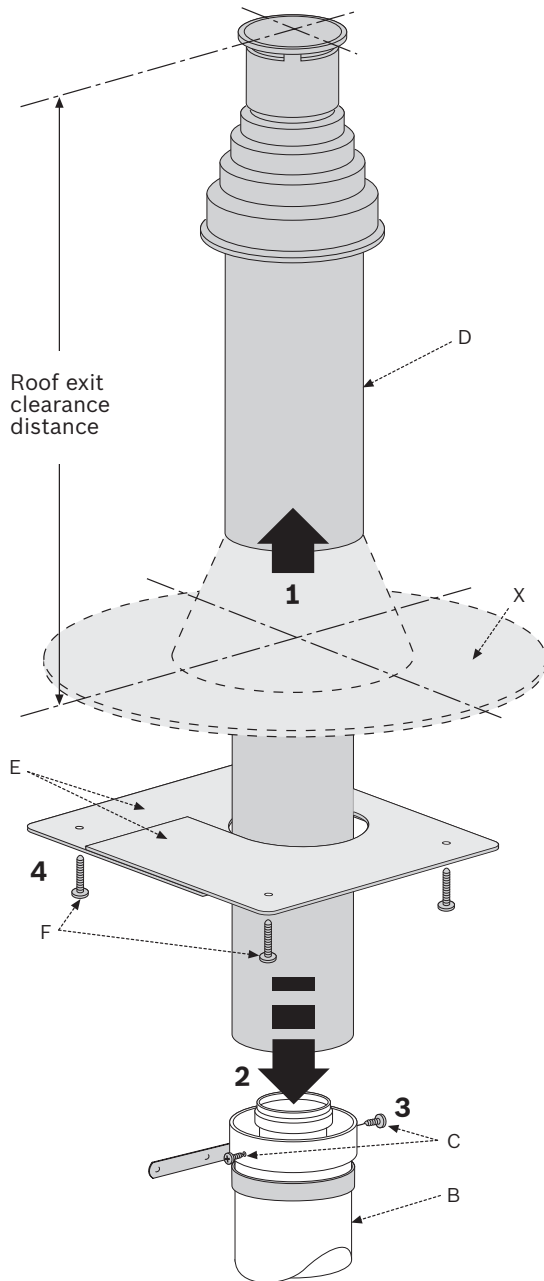
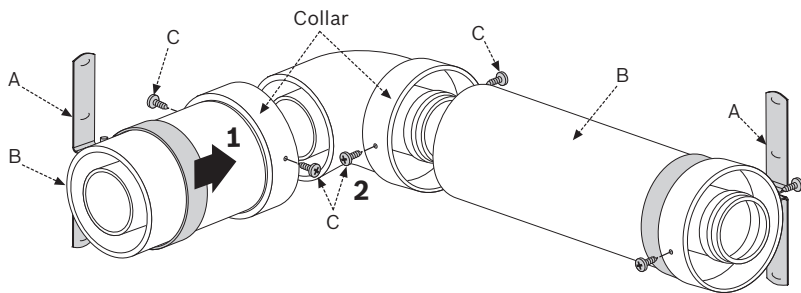
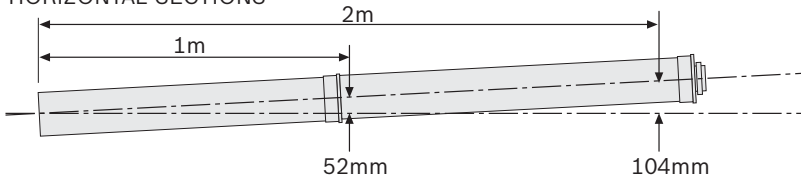
All flue joints must be sealed to prevent leakage of condensate and flue products.

### Connecting to the boiler:

- 3 ▶ Slide a bracket (F) over the flue tube (E).
- 4 ▶ Secure connector (G) to the outer flue tube (E) using two screws (J).
- 5 ▶ Partly slide adaptor (H) into the inner flue tube.
- 6 ▶ Support the weight of flue (E) and position connector (G) with the flat section over the rear edge of the inner casing (C).
  - ▶ Align connector (G) to the three holes in the boiler inner casing (C) and secure with hexagon bolts (K).
  - ▶ Fix bracket (F) to the wall with the screws and wall plugs supplied.
- 7 ▶ Align the adaptor (H) to the boiler flue outlet tube (L) and push together until secured by the retaining clips, ensuring a good seal is made.



## HORIZONTAL SECTIONS



## FLUE INSTALLATION

### Installing an extended flue:

**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.**

- ▶ Slide a bracket (A), not supplied, onto each additional straight flue extension (B).  
▶ Working from the boiler, fit extension/s with bracket/s as required, to support the weight of the flue.
- ▶ Drill two holes (180° apart if possible) through the outer flue tubes of each extension taking care NOT to drill the inner flue tube and secure with screws (C) as shown.

### Installing the flue terminal:

- ▶ Fit roof flashing (X), not supplied, onto flue terminal (D).
- ▶ Position the terminal assembly (D) through the flue opening in the roof and connect to the last extension (B).  
▶ Ensure the roof exit clearance distance is correct (see 'Roof Exit Clearances') before finishing the weatherproofing of the terminal exit in the roof.
- ▶ Secure the last extension (B) to terminal (D).  
▶ Drill two holes (180° apart if possible) through the outer flue tubes taking care NOT to drill the inner flue tube and fix with screws (C).
- ▶ Mark and drill fixing holes for the both fire stop plates (E).  
▶ Fix fire stop plates (E) using 4 screws (F) supplied.

INSTALLATION

**SERVICING & MAINTENANCE:**

An annual visual check of the flue system must be observed.

**SPARE PARTS:**

**Ø60/100 vertical flue:**

1 Flue Connector:

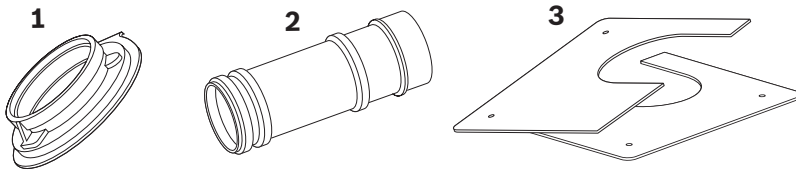
Part No. 8 718 680 948 0

2 Flue adaptor:

Part No. 8 718 680 382 0

3 Fire stop plates:

Part No. 8 718 006 907 0





Dedicated to heating comfort

Worcester, Bosch Group

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