

GREENSTAR OILFIT

CONVENTIONAL FLEXIBLE FLUE LINER

For use with the following Greenstar oil-fired appliances:

Greenstar Utility 18/25, 32/50, 50/70

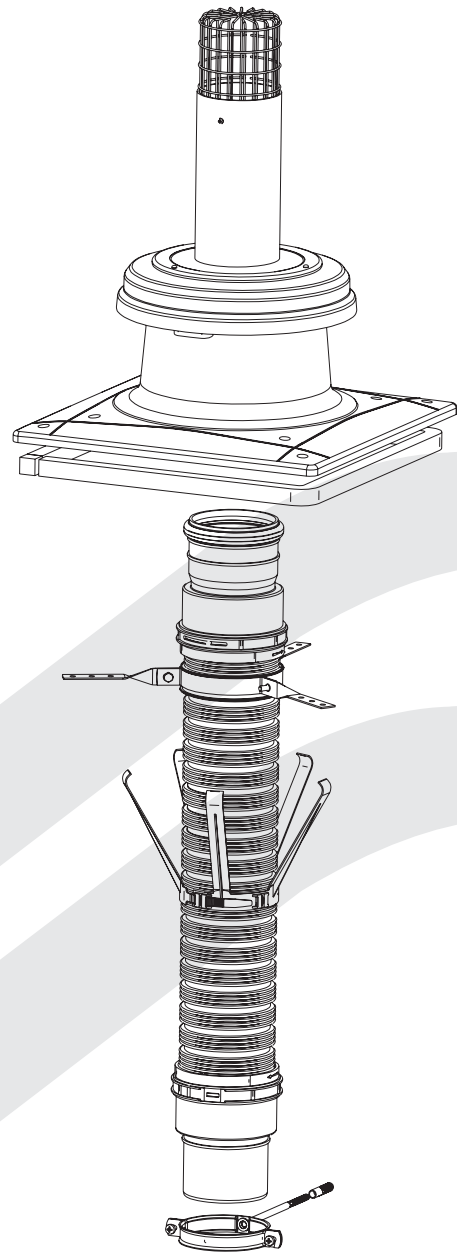
Greenstar Danesmoor 18/25

Greenstar Heatslave 12/18, 18/25, 25/32

Greenstar Camray Kitchen 12/18, 18/25, 25/32

Greenstar Camray Utility 12/18, 18/25, 25/32

Greenstar Camray Utility System 12/18, 18/25, 25/32



GB

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OIL FIRING TECHNICAL ASSOCIATION:

OFTEC 0845 6585080
www.oftec.org

PLEASE READ THESE INSTRUCTIONS CAREFULLY BEFORE STARTING INSTALLATION.

THESE INSTRUCTIONS ARE APPLICABLE TO THE PRODUCT MODEL(S) STATED ON THE FRONT COVER OF THIS MANUAL ONLY AND MUST NOT BE USED WITH ANY OTHER MAKE OR MODEL OF APPLIANCE.

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

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

IF YOU ARE IN ANY DOUBT CONTACT THE WORCESTER TECHNICAL SUPPORT HELPLINE.

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

PLEASE LEAVE THESE INSTRUCTIONS WITH THE USER OR WITH THE APPLIANCE AFTER INSTALLATION OR SERVICING.**ONLY USE STAINLESS STEEL COMPONENTS SUPPLIED BY WORCESTER BOSCH GROUP****MULTIPLE APPLIANCES MUST NOT BE USED IN THE SAME CHIMNEY AS THE WORCESTER BOSCH FLEXIBLE FLUE KIT**

ABBREVIATIONS USED:

Ø - Diameter

CF - Conventional flue

SEDBUK - Seasonal Efficiency for Domestic Boilers in the United Kingdom

OFTEC - Oil Firing Technical Association for the Petroleum Industry

S/S - Stainless Steel

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SAFETY &
REGULATIONS

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PRE-
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INSTALLATION

SAFETY PRECAUTIONS

OIL SMELLS, LEAKS OR FUMES FROM THE APPLIANCE:

- Extinguish any naked flames
- Open windows and doors
- Isolate the electrical supply
- Isolate the fuel supply to the boiler
- Rectify fault.

HEALTH & SAFETY:

The appliance contains no asbestos and no substances have been used in the construction process that contravene the COSHH Regulations (Control of Substances Hazardous to Health Regulations 1988). Where applicable, the CE mark indicates compliance with relative EU Directives.

COMBUSTIBLE AND CORROSIVE MATERIALS:

Do not store or use any combustible materials (paper, thinners, paints etc.) inside or within the vicinity of the appliance and flue system.

The combustion air must be kept clear of chemically aggressive substances which can corrode the appliance and invalidate any warranty.

FITTING & MODIFICATIONS:

Fitting the appliance and any controls to the appliance 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 appliance, flue or associated components and systems could invalidate the warranty. The manufacturer accepts no liability arising from any such actions, excluding statutory rights.

SERVICING:

Advise the user to have the system regularly serviced by a competent, qualified engineer (such as OFTEC registered personnel) using approved spares, to help maintain the economy, safety and reliability of the appliance.

FLUE DESIGNATIONS:

Flexible liner kit: EN14471 - T120 P1 0 W2 R00 050 I E L0

Stainless steel components: EN 1856-1 - T120 P1 W V2 L50045 020

INSTALLATION REGULATIONS

Failure to install appliances correctly could lead to prosecution.

COMPLYING WITH THE BUILDING REGULATIONS:

The boiler and flue form part of the controlled services for the building. It is law that all controlled services for buildings must comply with building regulations. You must be able to satisfy your Local Authority Building Control Body (LABC) that the work carried out concerning the installation and commissioning of the heating appliances has been carried out to a satisfactory standard.

OFTEC operate a competent persons scheme and registered installers are able to certify that their work complies with building regulations.

Under the scheme:

OFTEC must be informed about every installation.

OFTEC will issue a building regulations compliance certificate to the householder and will notify the LABC.

OFTEC provide controlled document forms CD10 and CD11 for use during installation and commissioning respectively.

Other organisations operate self-certification schemes e.g. NAPIT and BESCA Ltd. and it may be possible for installers who are members of these organisations to self-certify their work.

Alternatively you must submit a building control notice to the LABC before installing any boiler.

The LABC will then arrange regular inspection visits during the work to ensure that the installation complies with the regulations.

The appliance must be installed by a competent person. The person installing the appliance should be aware of the Health and Safety at Work Act and take appropriate action to ensure that the regulations are adhered to. In order to give optimum efficiency and trouble free operation the appliance must be commissioned by a qualified OFTEC engineer.

The compliance with a British Standard does not, in itself, confer immunity from legal obligations. In particular the installation of this appliance must be in accordance with the relevant requirements of the following British Standards and regulations in respect of the safe installation of equipment.

BS 5410: part 1: Code of practice for Oil Fired Boilers.

BS EN 14471: Chimneys. System chimneys with plastic flue liners.

BS EN 1856: part 1: Chimneys. Requirements for metal chimneys.

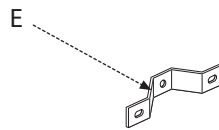
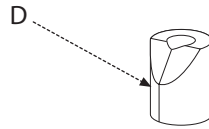
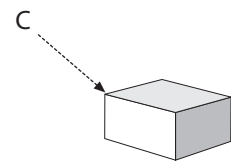
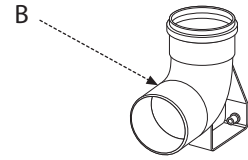
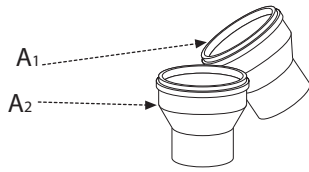
BS EN 1443: Chimneys. General requirements.

The Building Regulations Part J and L1 England and Wales; Part F and Part J Section III Scotland; Part L and Part F Northern Ireland. Local water company bye-laws. The Control of Pollution (Oil) Regulations. OFTEC Standards.

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

**CONVENTIONAL VERTICAL FLUE
KIT COMPONENTS**

PRODUCT
INFORMATION



100mmØ CF VERTICAL FLUE KIT:

Part Number: 7 716 190 036 including:

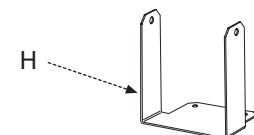
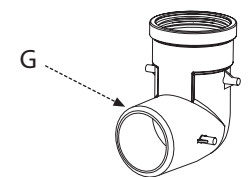
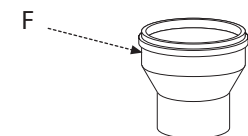
- A1- ADAPTOR 80mmØ to 100mmØ
- A2- ADAPTOR 80mmØ to 103mmØ
(not required for the flexible flue liner installation)

B - ELBOW

C - BOLT AND SOLVENT-FREE GREASE SACHET

D - AIR INLET SILENCER (Camray only)

E - SUPPORT BRACKET



Greenstar Utility 25-32 & 32-70:

130mmØ CF VERTICAL FLUE KIT:

Part Number: 7 716 190 049 including:

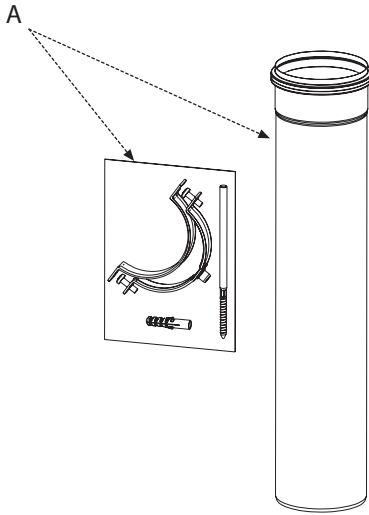
F - ADAPTOR 100mmØ to 130mmØ

G - ELBOW

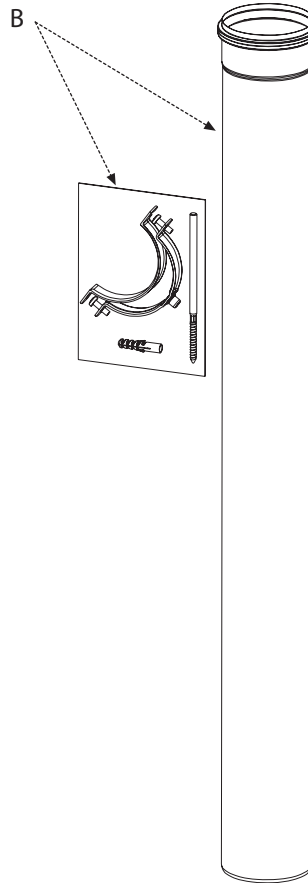
H - ELBOW SUPPORT BRACKET

CONVENTIONAL S/S FLUE
EXTENSION COMPONENTS (100mmØ)

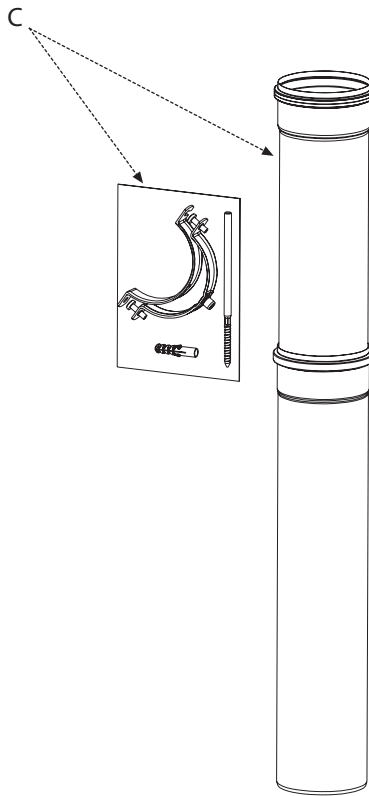
PRODUCT
INFORMATION



**A - 500mm x 100mmØ
S/S EXTENSION KIT:**
Part Number: 7-716-190-067



**B - 1000mm x 100mmØ
S/S EXTENSION KIT:**
Part Number: 7-716-190-066

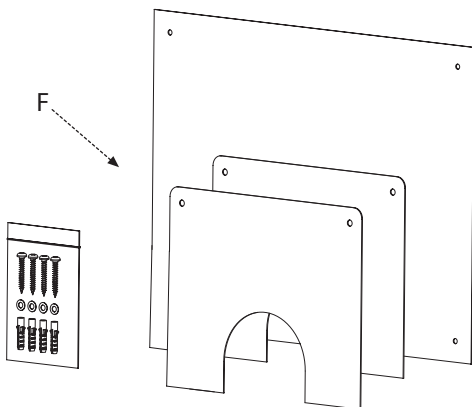
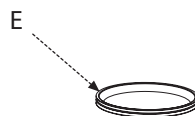
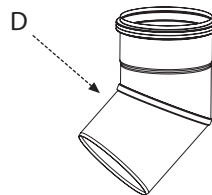


**C - 500-1000mm x 100mmØ
TELESCOPIC S/S EXTENSION KIT:**
Part Number: 7-716-190-068

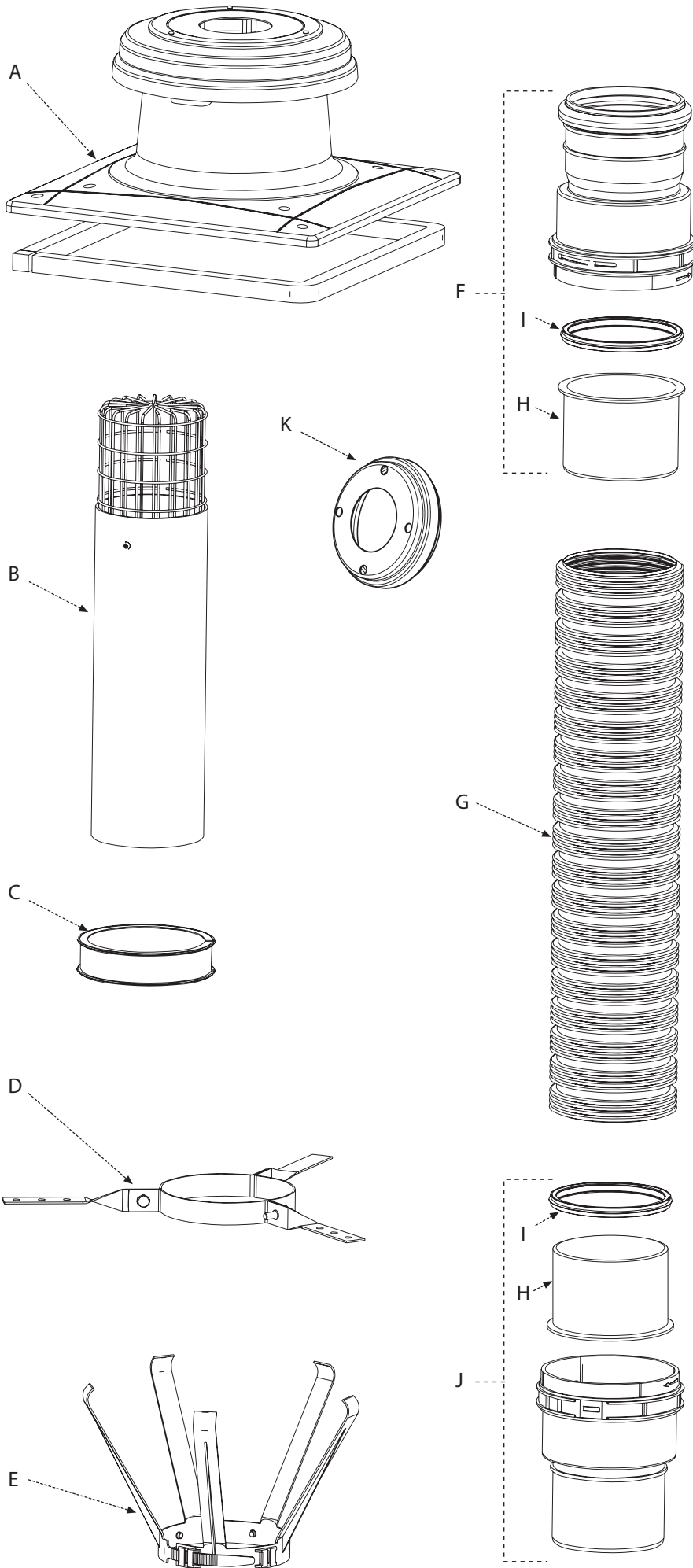
D - 45° x 100mmØ S/S ELBOW:
Part Number: 7-716-190-069

E - 100mmØ SPARE SEAL:
Part Number: 8-716-110-299-0

F - 100mmØ Inspection plate pack
Part Number: 7 716 190 074



CONVENTIONAL FLEXIBLE FLUE
LINER KIT COMPONENTS (100mmØ)



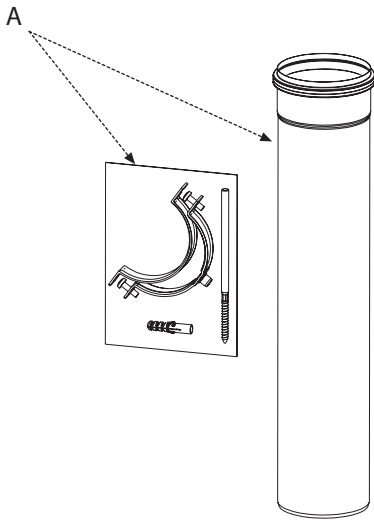
100mmØ FLEXIBLE FLUE LINER KITS:

8 Metre Part Number: 7 716 190 076
12 Metre Part Number: 7 716-190 077
15 Metre Part Number: 7 716 190 078
including:

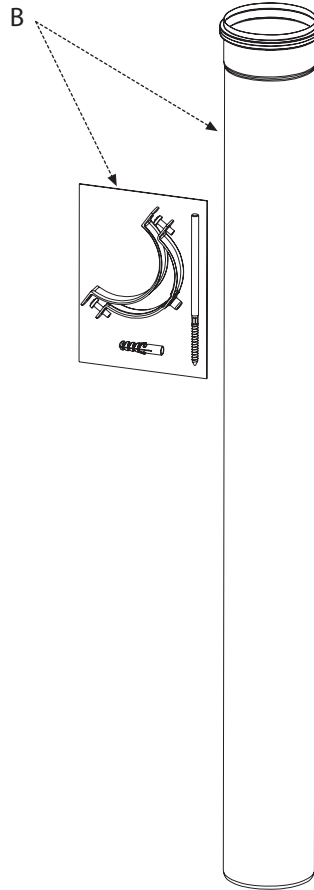
- A** - CHIMNEY COWL
- B** - TERMINAL
- C** - SUPPORT COLLAR
- D** - SUPPORT BRACKET ASSEMBLY
- E** - CENTRALISING SPACER
- F** - FLEXIBLE TO RIGID ADAPTOR KIT
(Kit includes H & I)
- G** - FLEXIBLE LINER (8m, 12m or 15m)
- H** - LINER
- I** - SEAL 100mmØ
Part Number: 8-716-004-269-0
- J** - RIGID TO FLEXIBLE ADAPTOR KIT
(Includes H & I).
- K** - FLUE RESTRICTOR ASSEMBLY

CONVENTIONAL S/S FLUE
EXTENSION COMPONENTS (130mmØ)

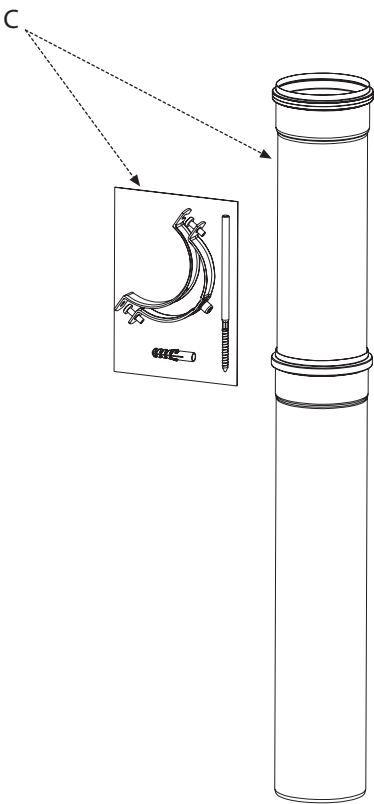
PRODUCT
INFORMATION



**A - 500mm x 130mmØ
S/S EXTENSION KIT:**
Part Number: 7 716 190 071



**B - 1000mm x 130mmØ
S/S EXTENSION KIT:**
Part Number: 7 716 190 070

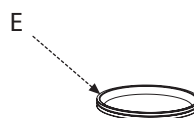
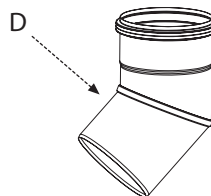
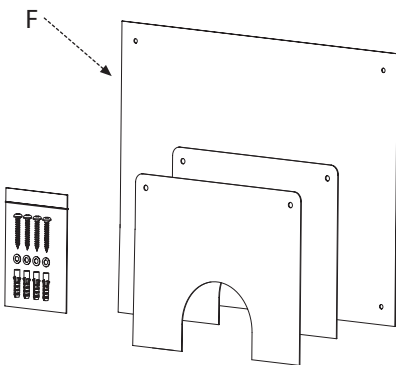


**C - 500-1000mm x 130mmØ
TELESCOPIC S/S EXTENSION
KIT:**
Part Number: 7 716 190 072

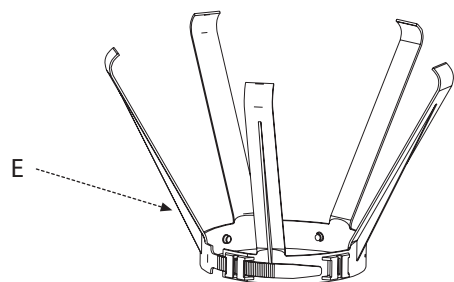
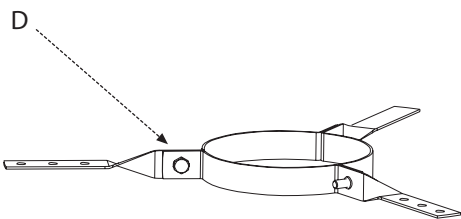
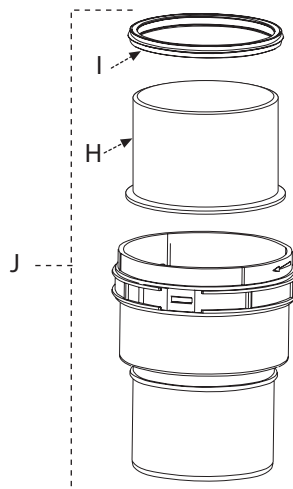
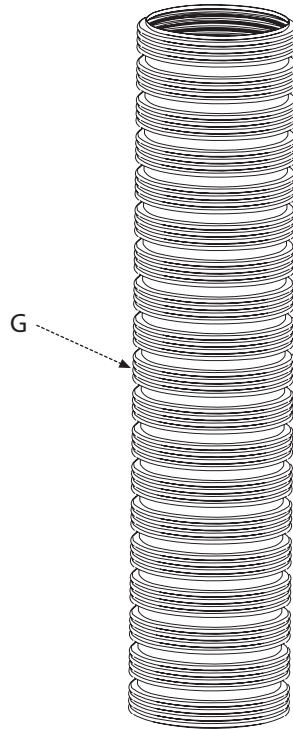
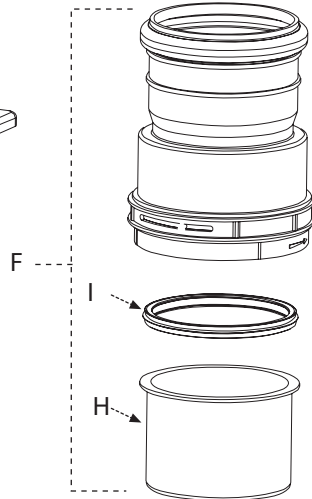
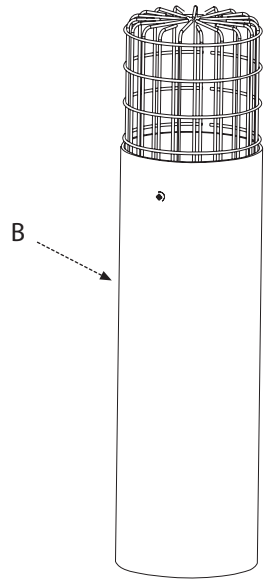
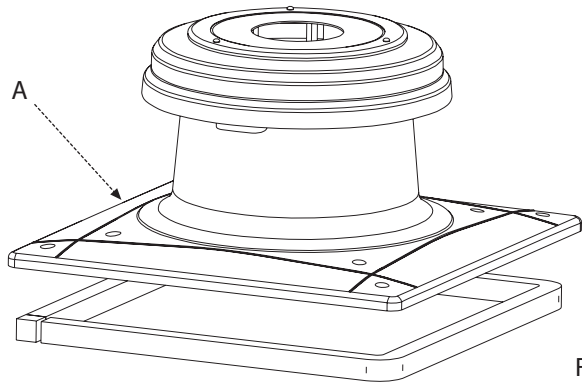
D - 45° x 130mmØ S/S ELBOW:
Part Number: 7 716 190 073

E - 130mmØ SEAL:
Part Number: 8 716 110 155 0

F - 130 mmØ Inspection plate pack
Part Number: 7 716 190 075



**CONVENTIONAL FLEXIBLE FLUE
LINER KIT COMPONENTS (130mm Ø)**



130mmØ FLEXIBLE FLUE LINER KITS:

- 8 Metre Part Number: 7 716 190 079
- 12 Metre Part Number: 7 716 190 080
- 15 Metre Part Number: 7 716 190 081

including:

- A** - CHIMNEY COWL
- B** - TERMINAL
- D** - SUPPORT BRACKET ASSEMBLY
- E** - CENTRALISING SPACER
- F** - FLEXIBLE TO RIGID ADAPTOR KIT
(Kit includes H & I)
- G** - FLEXIBLE LINER (8m, 12m or 15m)
- H** - LINER
- I** - SEAL 130mmØ
Part Number: 8 716 114 299 0
- J** - RIGID TO FLEXIBLE ADAPTOR KIT
(Kit includes H & I).

TYPICAL INSTALLATIONS

Open (conventional) flued appliances must not be installed in a bedroom, bathroom or bed sitting room.

Inspection points must be provided for access to check flue system joints.

Before installation commences it must be checked that:

- The chimney is structurally sound and free of obstructions.
- The chimney has been thoroughly swept to remove deposits since it was last used.

This flexible flue pipe is only suitable for lining chimneys that conform to the Building Regulations and it should not be used as a chimney on its own or outside a masonry or flueblock chimney.

All the flexible liner and adaptors must be within the chimney with rigid stainless steel flue pipe connecting to the boiler.

The first 600mm of the stainless steel flue pipe off the boiler must be vertical with no bends or restrictions.

There must be at least a 25mm clearance between the S/S flue pipe and any combustible material.

The data label must be secured onto the chimney or chimney hearth using the plate provided.

If it is not possible to attach the plate to the chimney, the plate can be attached, in a visible position, next to the electricity consumer unit.

Do not attach the data plate or label to the flue system

The terminal should not be modified and an extra cowl or cover must not be fitted, the boiler is designed so that any rain that enters the flue will be directed down to the condensate drain.

Calculating flue length:

Refer to the diagram and chart opposite

$L_{max} = \text{boiler max} - 1 \text{ metre}^*$.

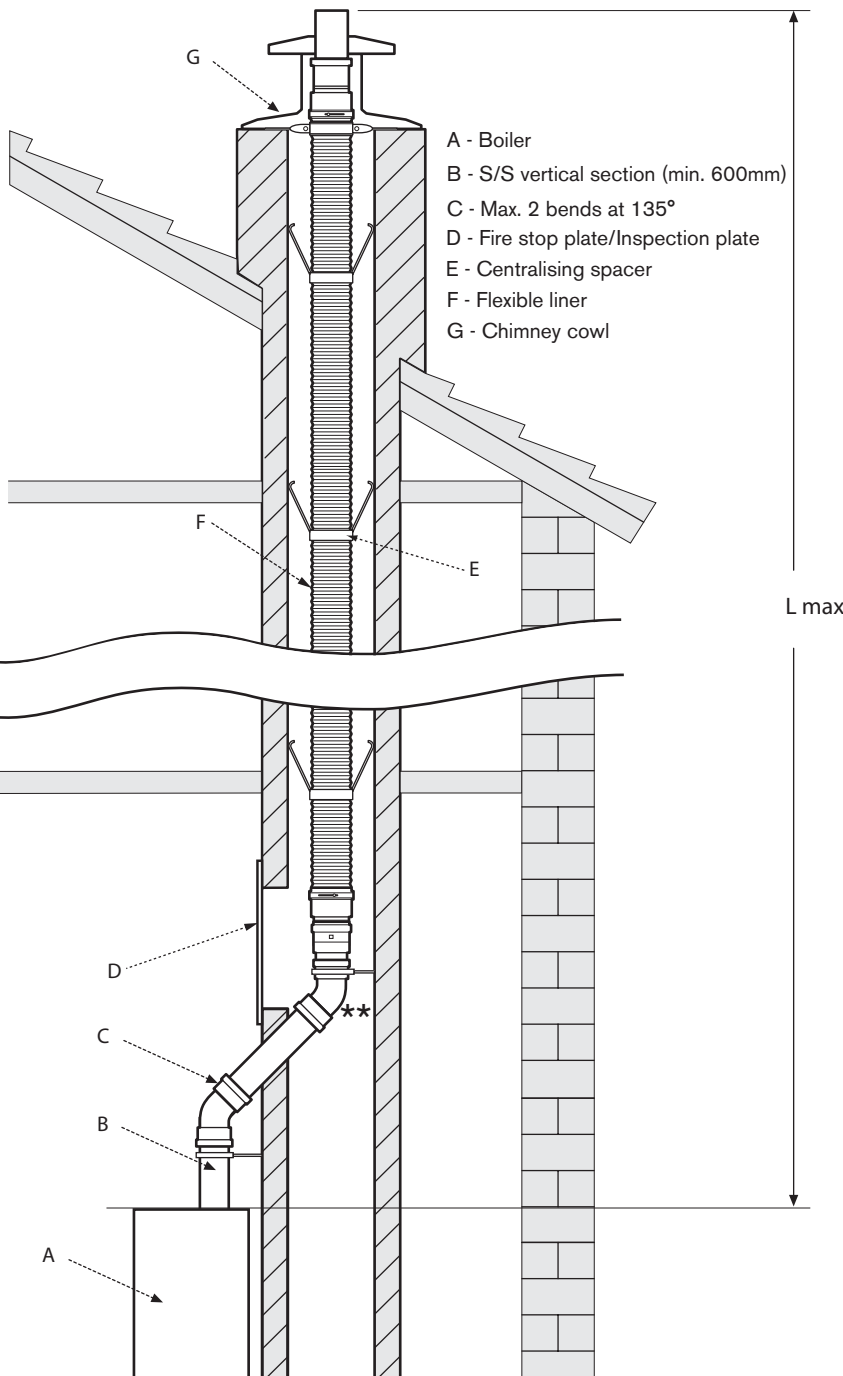
(Each 45° bend has a 0.5 metre equivalent flue length).

* If the chimney has an additional offset, then L will be reduced by an extra metre.

** The top 45° bend may not be required if there is sufficient room in the chimney to turn the flexible liner through 45° within the chimney. The stainless steel section must be adequately supported.

† For 70kW adjust the 1st and 2nd stage oil pump pressure to 125psi

†† Maximum flue length without restrictor is 6 metres



PRE-
INSTALLATION

BOILER VARIANT	MODEL	FLUE DIA. (mm)	MAX FLUE LENGTH (m)	FLUE RESTR. REQUIRED (over 6 m)
Greenstar Camray Kitchen	12/18	100	15	N
	18/25	100	15 ††	Y
	25/32	100	15 ††	Y
Greenstar Camray Utility & Utility System	12/18	100	15	N
	18/25	100	15 ††	Y
	25/32	100	15 ††	Y
Greenstar Danesmoor	18/25	100	15	N
Greenstar Heatslave	12/18	100	15	N
	18/25	100	15	N
	25/32	100	15	N
Greenstar Utility	18/25	100	15	N
	32/50	130	15	N
	50/70	130	15 †	N

TYPICAL INSTALLATIONS

Open (conventional) flued appliances must not be installed in a bedroom, bathroom or bed sitting room.

Inspection points must be provided for access to check flue system joints

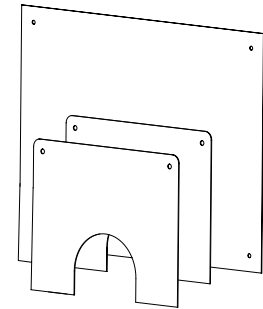
The first 600mm of the stainless steel flue pipe off the boiler must be vertical with no bends or restrictions.

Calculating the flue length:

Refer to the diagram and chart opposite.

$L_{max} = \text{boiler max}^*$

**If the chimney has an offset, then L will be reduced by 1m.*

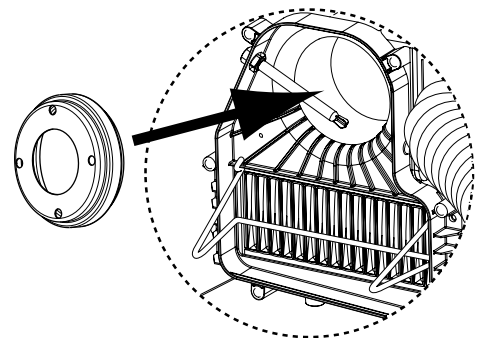


NOTE:

Depending upon the opening situation, a fire stop plate, as shown above, can be used.

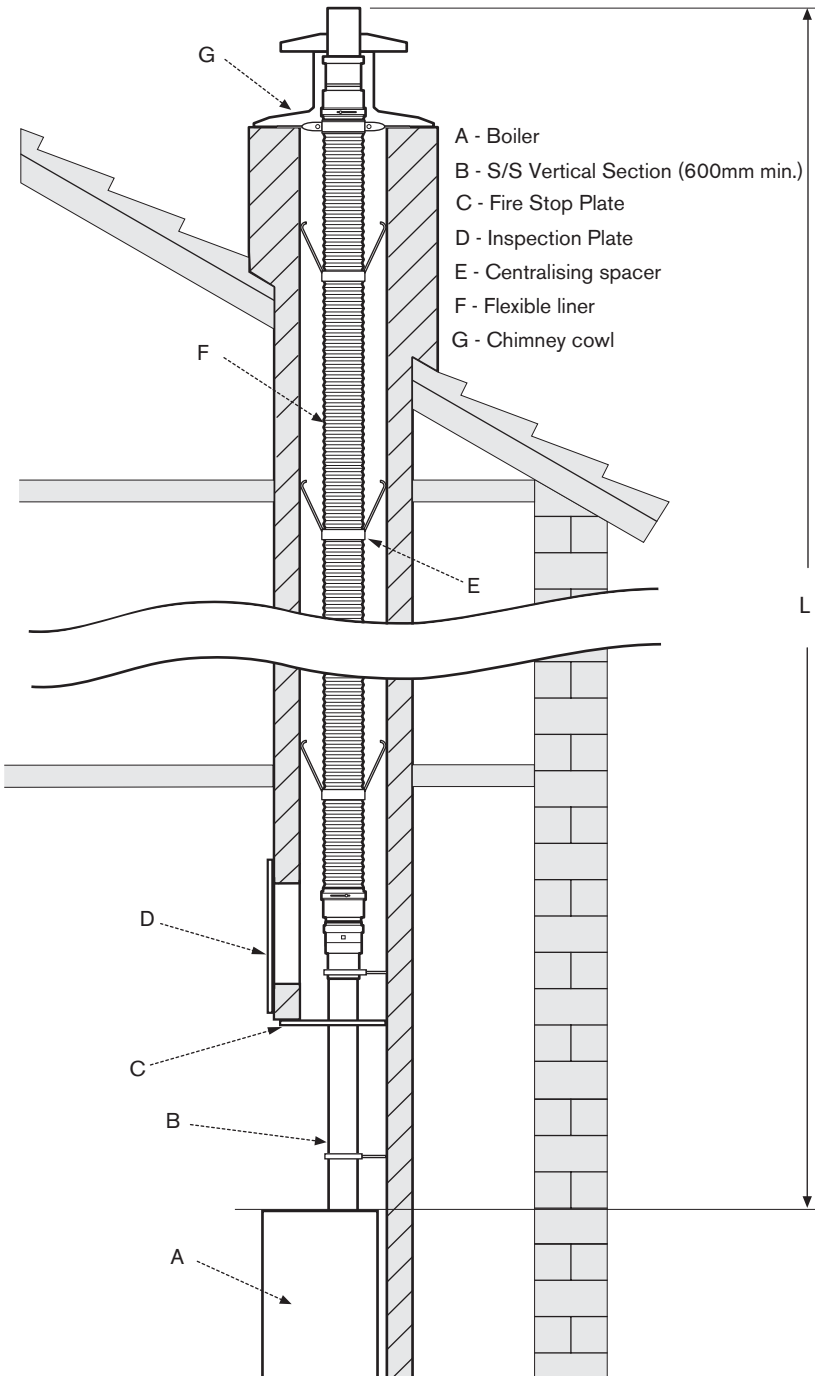
To fit the Flue Restrictor:

- Remove the flue manifold access cover,
- Put in the restrictor in, behind the flue stat pocket
- Push the restrictor firmly onto the protruding stainless steel elbow



† For 70kW adjust the 1st and 2nd stage oil pump pressure to 125psi

†† Maximum flue length without restrictor is 6 metres



BOILER VARIANT	MODEL	FLUE DIA. (mm)	MAX FLUE LENGTH (m)	FLUE RESTR. REQUIRED (over 6 m)
Greenstar Camray Kitchen	12/18	100	15	N
	18/25	100	15††	Y
	25/32	100	15††	Y
Greenstar Camray Utility & Utility System	12/18	100	15	N
	18/25	100	15††	Y
	25/32	100	15††	Y
Greenstar Danesmoor	18/25	100	15	N
Greenstar Heatslave	12/18	100	15	N
	18/25	100	15	N
	25/32	100	15	N
Greenstar Utility	18/25	100	15	N
	32/50	130	15	N
	50/70	130	15†	N

NOTE:

All seals must be greased with the silicone grease provided before assembly.

Any damaged flue components must be replaced, repairs are not allowed.

- 1 Refer to the CF vertical flue kit instructions to assemble the suitable adaptors onto the boiler flue outlet.
- A 130mmØ for the Greenstar Utility 32/50 and 50/70; 100mmØ for all other models.

- 2 Make a suitable entry into the chimney above the boiler large enough to install the flue and allow access to the joints for servicing.

- 3 Assemble the first stainless steel flue section (B) onto the flue adaptor (A).

- 4 Mark the position of the support brackets (C) for the first flue section (B) on the chimney wall.
Drill the chimney wall and fit the support bracket (C) with the wall plug and screw provided.

NOTE:

On some installations it will be necessary to adjust the fixing screw length by shortening the bracket mounting screw thread.

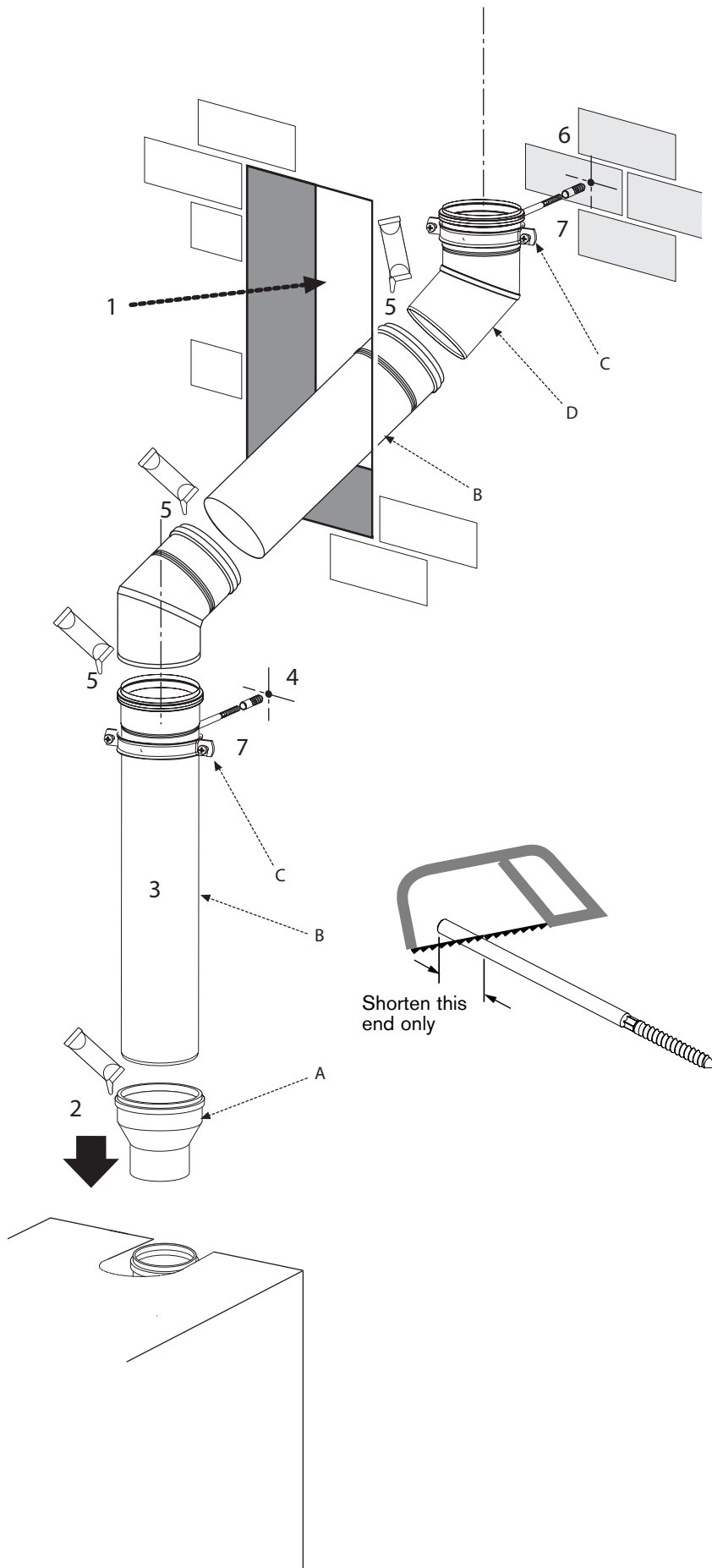
- 5 Grease the seals of the second stainless steel flue section (B) and two 45° flue bends and assemble onto the first flue section (B) as shown in the diagram.

- 6 Mark the position of the support bracket (C) for the 45° flue bend (D) inside the chimney.
Drill the chimney and fit the support bracket (C) with the wall plug and screw provided.

NOTE:

On some installations it will be necessary to adjust the fixing screw length by shortening the bracket mounting screw thread.

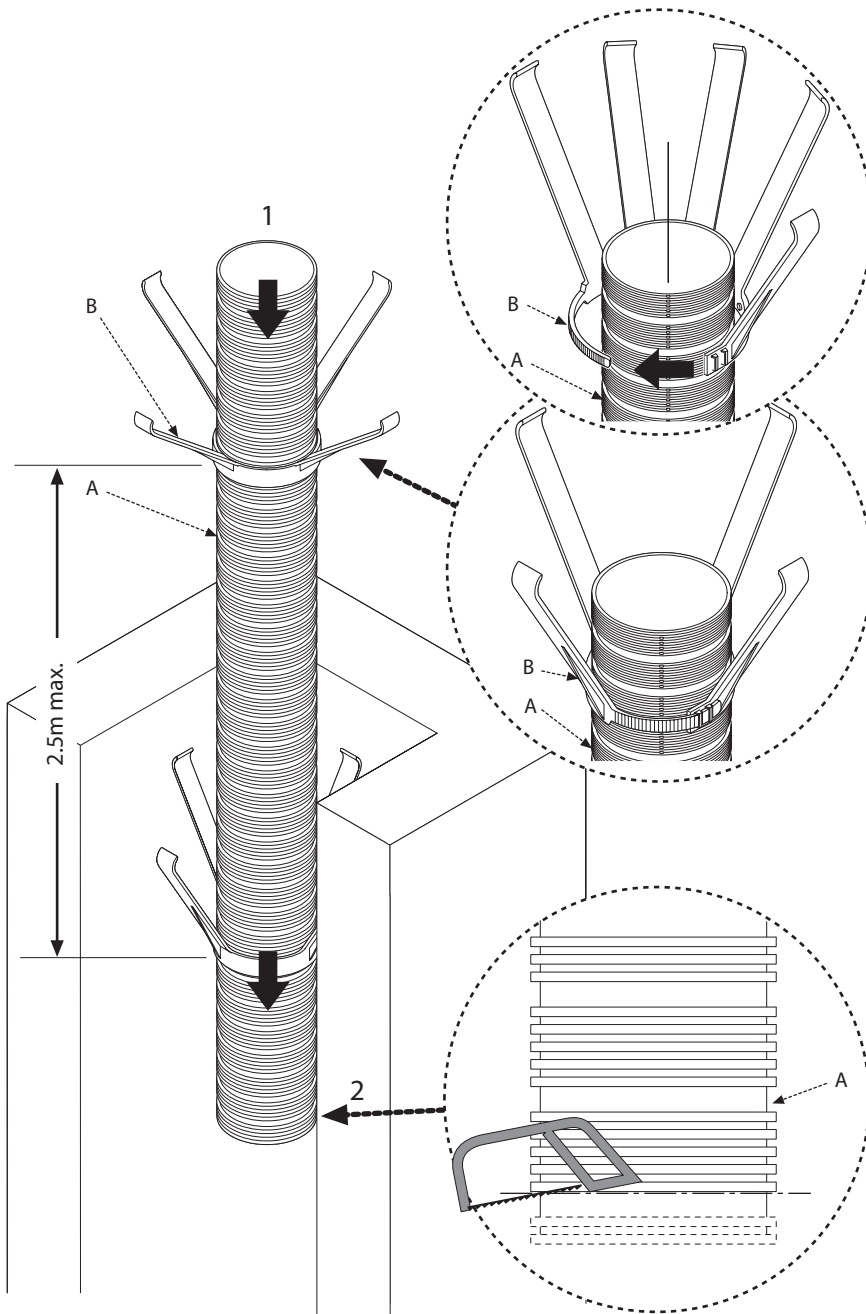
- 7 Fit the stainless steel flue sections and clamp with the support brackets.

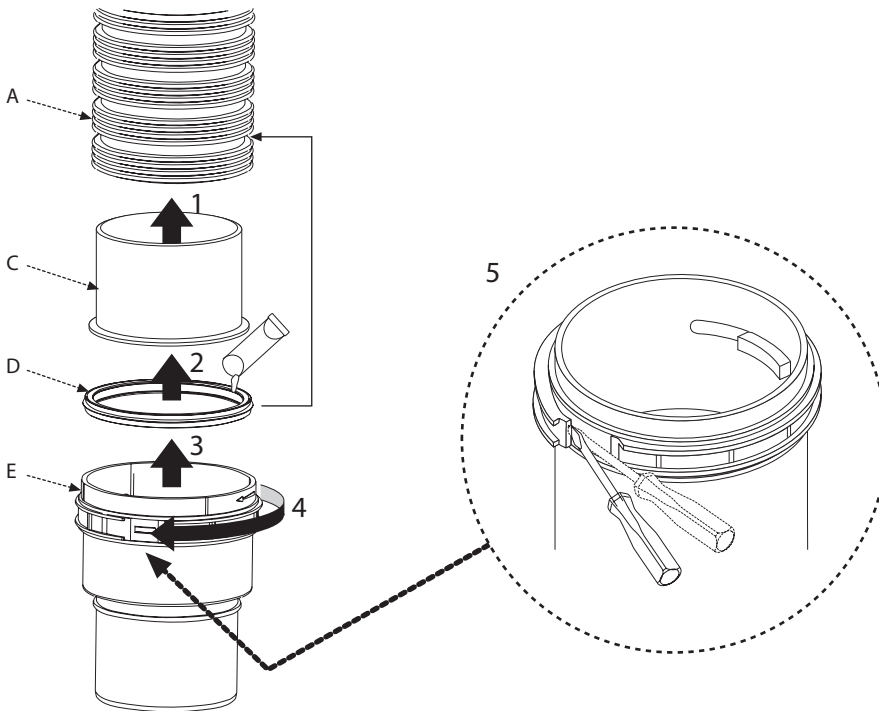


INSTALLATION

FLUE INSTALLATION

- 1 The flexible liner (A) should be fed down the chimney from the top fitting centralising spacers (B) every 2.5m or less, (2.5m is the maximum separation).
- 2 When the flexible liner (A) is in place the bottom of the flexible liner should be cut off tidily at the start of a corrugated section.





1 Remove the liner (C) and seal (D) from the adaptor assembly (rigid spigot to flexible), then fit the liner (C) into the flexible liner (A).

2 Grease the seal (D) and fit the seal into the first wide recess on the flexible liner (A), make sure that the seal is not twisted and is seated properly.

3 Check that the band on the adaptor assembly (E) is fully undone (rotated against the direction of the moulded arrow. If the band is locked, push the internal locking lugs outward to release the locking tab and then rotate the band. Push the adaptor (E) onto the flexible liner (A), it may be necessary to pull the locking band lugs out to allow the adaptor to push into the flexible liner, until the adaptor "bottoms out" and the moveable band "clicks" into place.

If the band does not click into place, check:

- the adaptor is pushed fully down
- the adaptor is square to the flexible liner
- the lugs are aligned with their slots in the adaptor.

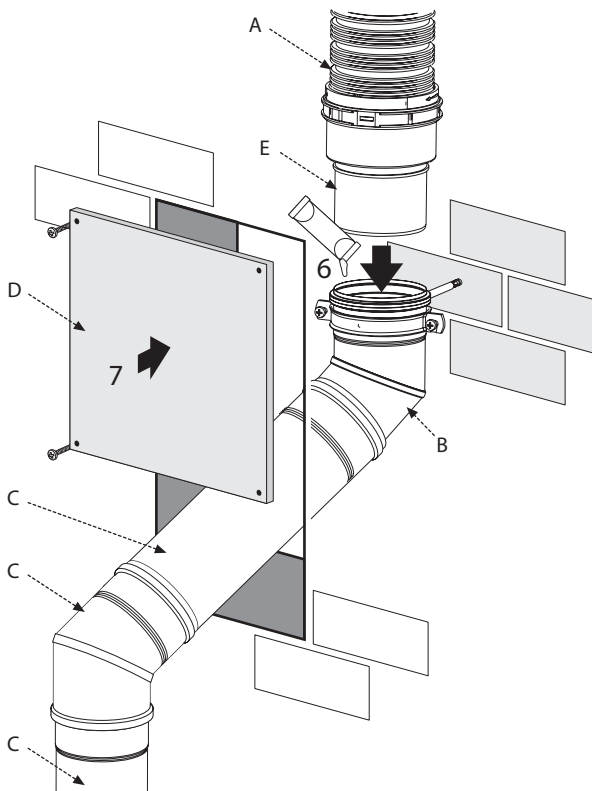
If the band still will not locate, check that the flexible liner is cut correctly.

4 Rotate the band in the direction of the moulded arrow until it locks in place.

5 If an adaptor assembly (E) needs to be removed after assembly then a small flat-bladed screwdriver should be used to lift the locking end of the band before the band is rotated to allow removal.

6 Grease the stainless steel elbow (B) then push adaptor spigot (E) into the elbow.

7 Fit a removable inspection panel (F) to allow inspection of the joints within the chimney. Make good the opening around the stainless steel flue pipe.

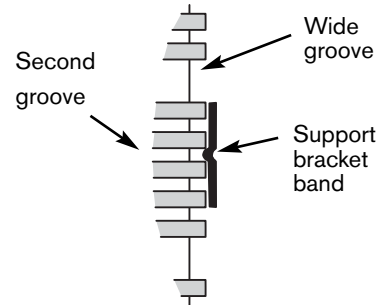
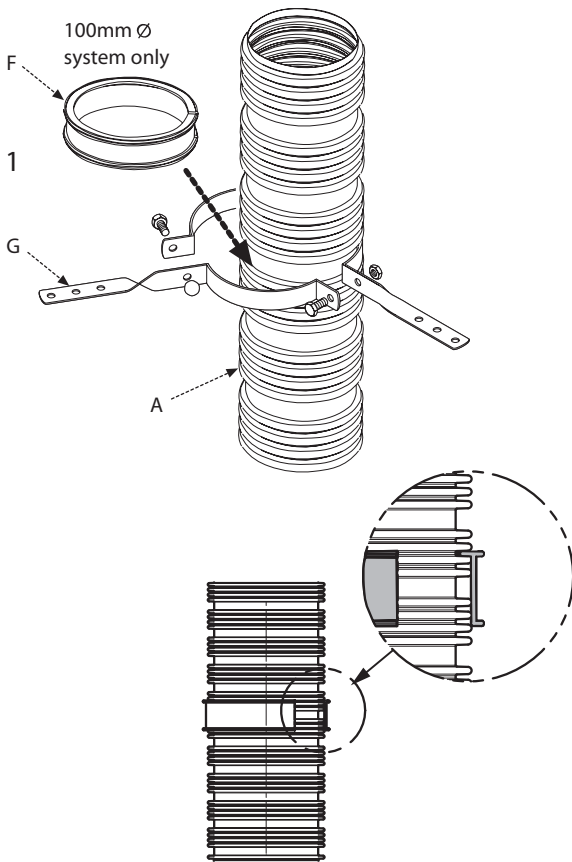


1 100mmØ systems:

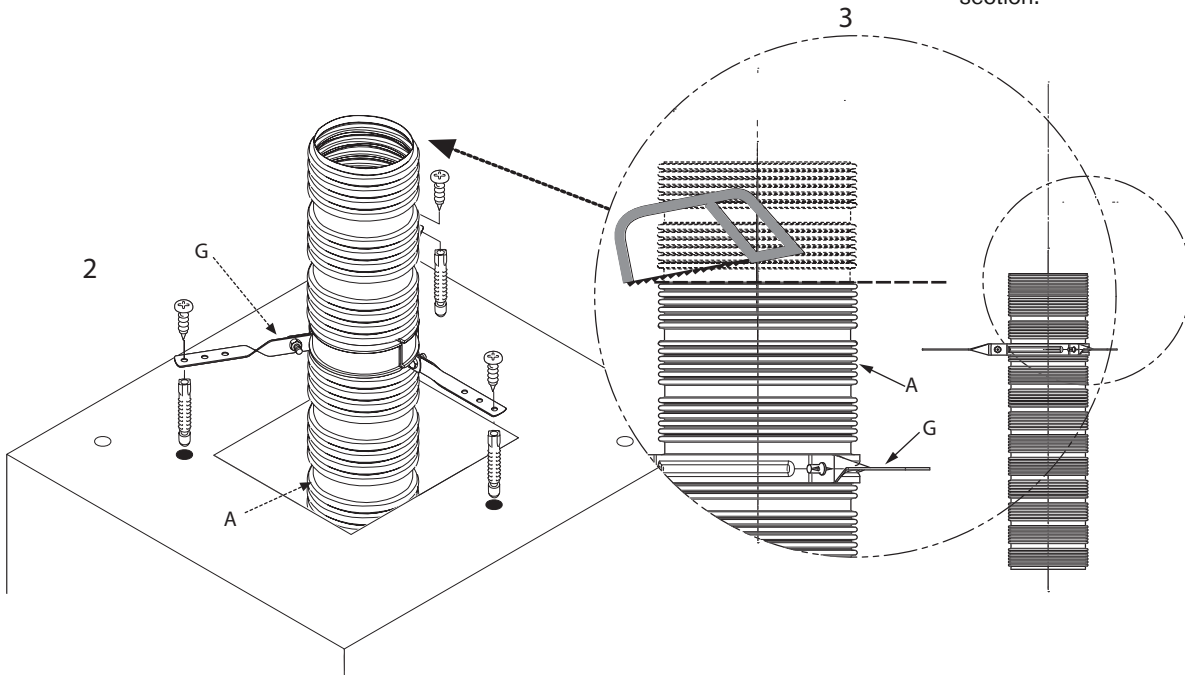
Fit the support collar (F) with the retaining ring at the top, onto the flexible liner (A), with the top of the collar in the middle ring of the corrugated section. Then assemble the support bracket assembly (G) onto the support collar (F).

130mmØ systems:

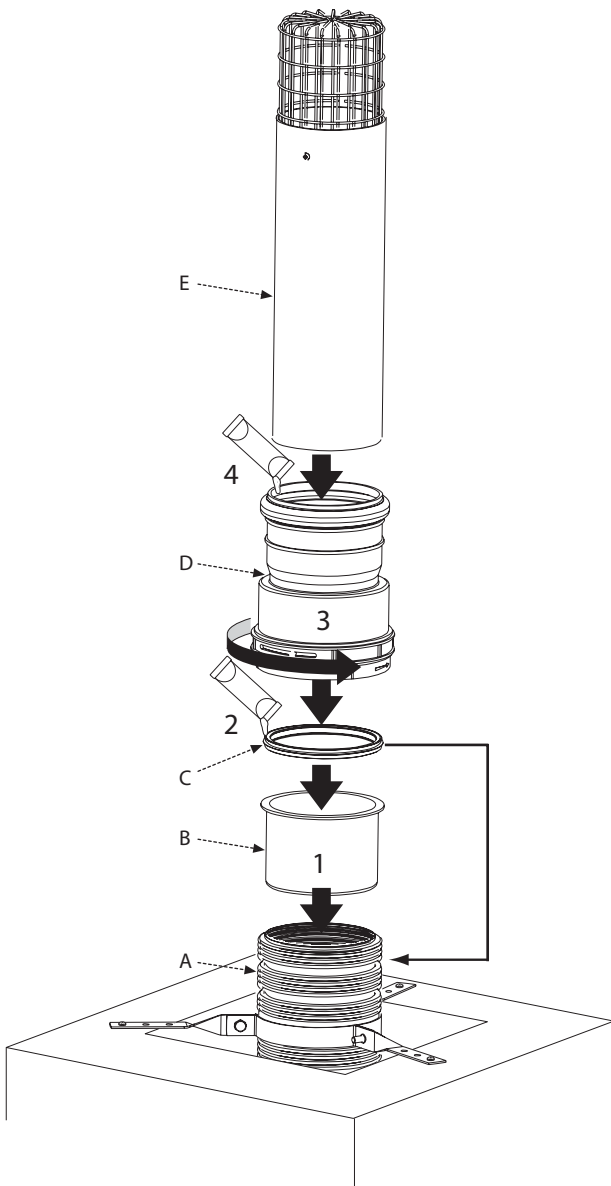
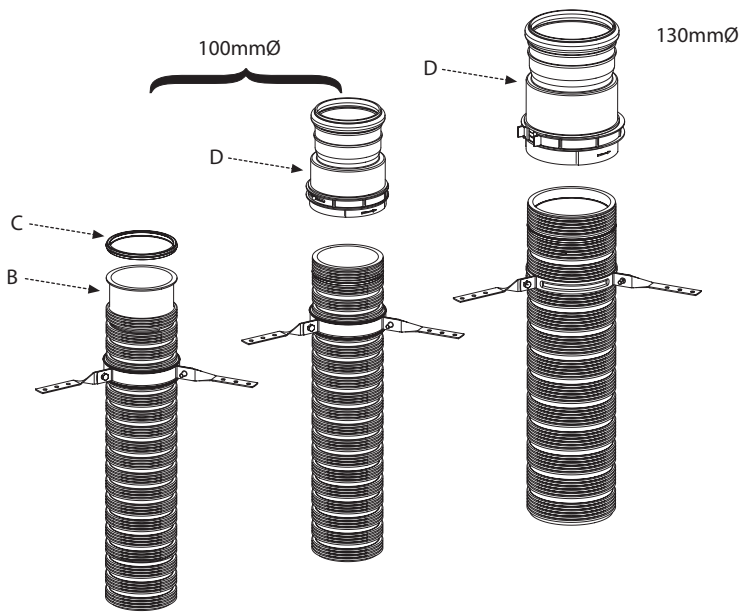
Assemble the support bracket assembly (G) onto the flexible liner (A) locating into the second groove of a corrugated section, with the top of the support bracket top band level with the wide recess.



- 2 Ensure that the flexible flue is in the centre of the chimney. Mark the bracket assembly (G) fixing points, drill the fixing points and secure the support bracket assembly (G) to the chimney.
- 3 Mark the flexible liner three complete corrugated sections above the support collar and cut off at the bottom of the wide recess above the third corrugated section.

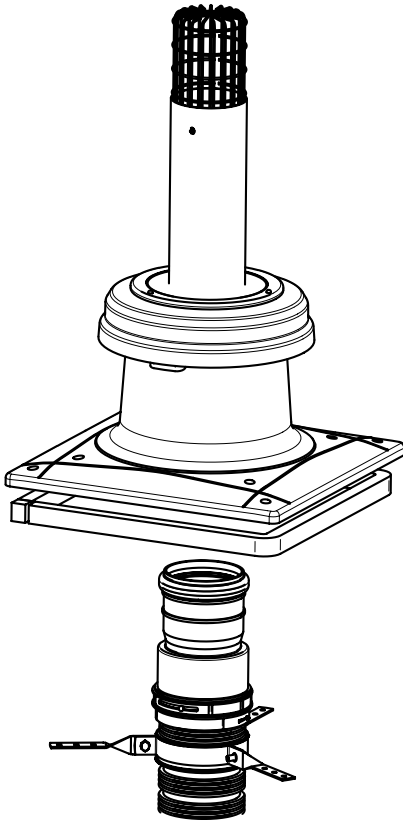


- 1** Remove the liner (B) and seal (C) from the adaptor assembly (D) (flexible to rigid socket), then fit the liner (B) into the flexible liner (A).
- 2** Grease the seal (C) with the silicon grease provided and fit the seal into the first wide recess, from the top, on the flexible liner (A), ensure that the seal is not twisted and is seated properly.
- 3** Check that the band on the adaptor assembly (D) is fully undone (rotated against the direction of the moulded arrow, if the band is locked push the internal locking lug outward to release the locking tab and then rotate the band).
Push the adaptor (D) onto the flexible liner (A) until it bottoms out and the moveable band clicks into place
Rotate the band in the direction of the moulded arrow until it locks in place.
- 4** Grease the adaptor seal and fit the terminal (E) into the adaptor (D).



FLUE INSTALLATION

- 5 Fit the self-adhesive weather seal (F) to the base of the chimney cowl (G).
- 6 Fit the cowl (G) over the terminal (E). Mark the cowl securing points, turn the cowl and drill the marked securing points, then secure the cowl (G) with the wall plugs and screws provided.

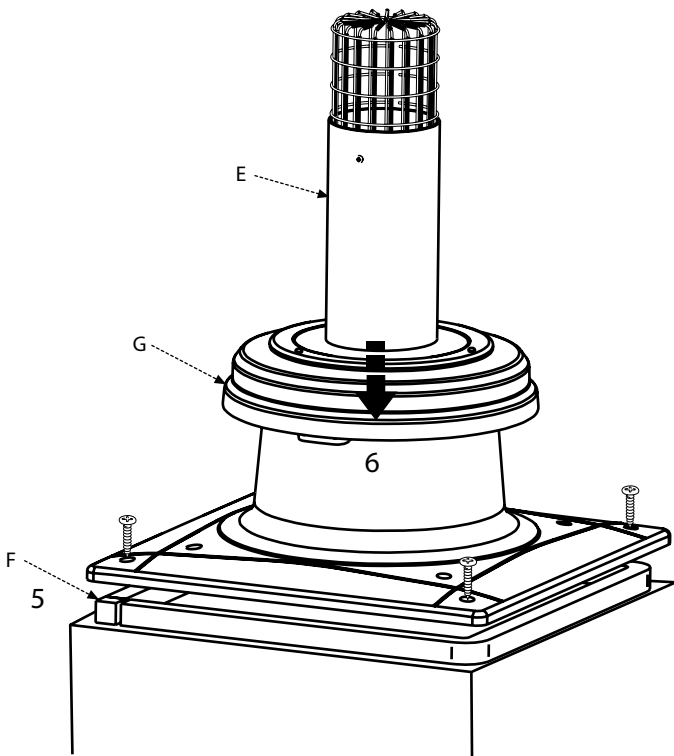


Fill in the details on the chimney plate and fit the chimney plate, either next to the boiler/chimney or next to the electricity consumer unit.

The plate can either be stuck to a flat sound surface or fitted to the mounting plate and screwed in place.

Because the flue operates at a lower temperature on a condensing boiler, compared to that of a conventional boiler, the flue draft will be lower.

Typically the draft will be between 0.5mmwg and 4.4mmwg, measured with a warm flue, but the burner not firing. The actual figure will vary depending upon weather conditions, flue height and position.



INSTRUCTION MANUAL

FLUE DUCT KIT INSTALLATION

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