



DESIGN AND ACCESS STATEMENT &
CONSERVATION AREA ASSESSMENT

FOR

A Full Planning Application for 2 x flue terminals at first and second floor levels
to the front elevation of an existing four storey property

AT

18 ENGLAND'S LANE NW3 4TG

29.01.2018

1. Introduction

This Design and Access Statement is in support of a planning application for 2 x flue terminals at first and second floor levels to the front elevation of an existing four storey mid-terrace property .

The current proposal is based on a thorough investigation of the site, considering aspects like overall site conditions, local precedents and residential accommodation requirements.

2. Site Description / Use

This proposal relates to the site located at 18 England's Lane along a mix-use terrace, which falls within the Belsize Conservation Area of the London Borough of Camden. The application site is within close proximity to Chalk Farm and Belsize Park tube stations, Kentish Town West over ground station and local bus routes.

The existing property is a mix-use mid terrace four storey building with commercial at ground floor and three self-contained residential units over first, second and third floor levels accessed at ground floor along England's Lane.

This proposal only relates to the residential units over first and second floor levels, units 18a and 18b respectively. Commercial areas at ground floor level and the self-contained units at third floor level do not form part of this application and will remain un-altered.

The existing area around the site comprises of properties of similar use mix, with some being solely residential and some as commercial at ground floor and residential to the upper levels. Neighbouring properties, along the terrace, are of similar bulk, size and styles and uses.

A number of buildings along the terrace feature front flue terminals, with no adverse impact to the street scene. Neighbouring properties at nos. 16, 4,6, 22 and 24 all feature front flue terminals as seen below:

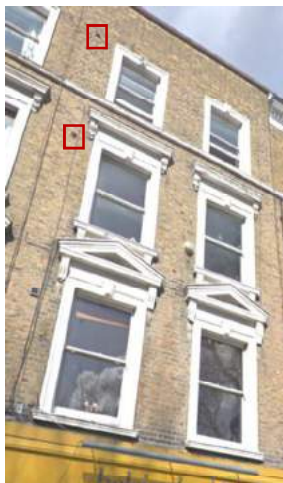


fig. 1: Front flue terminals at second and third floor levels at no.16 England's



fig. 2: Front flue terminals at first and second floor levels at nos. 4 & 6 England's Lane



fig. 3: Front flue terminals at first and second floor levels at nos. 22 & 24 England's Lane

3. Character analysis

The site lies within the Belsize Conservation Area Sub Area 6: England's Lane.

Belsize Conservation Area has a distinct quality and an overall architectural and historic character.

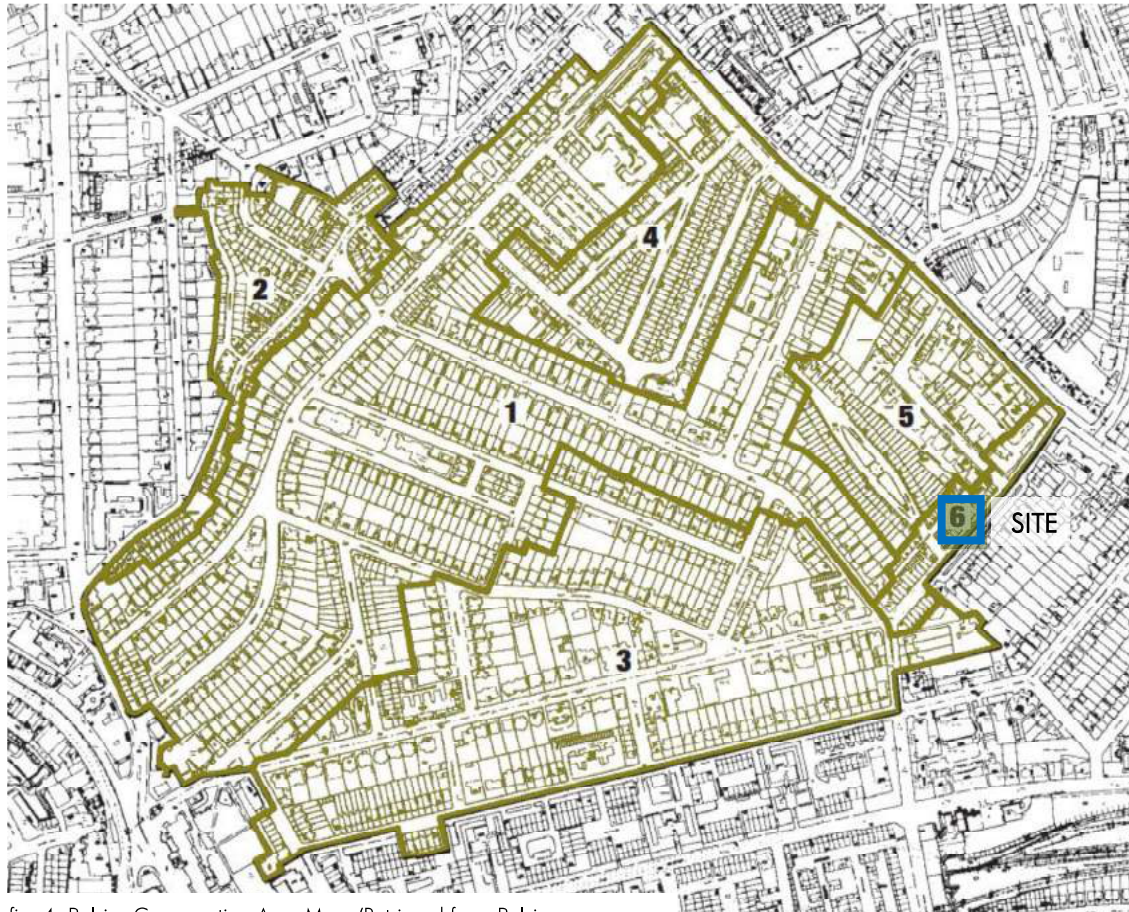


fig. 4: Belsize Conservation Area Map. (Retrieved from Belsize Conservation Area Statement, April 2013)

The site and the terrace it forms part of are considered buildings of positive contribution to the character area.

The proposed minor external addition at first and second floor levels do not fall within the cumulative attrition changes as Listed in the Conservation Area Statement.

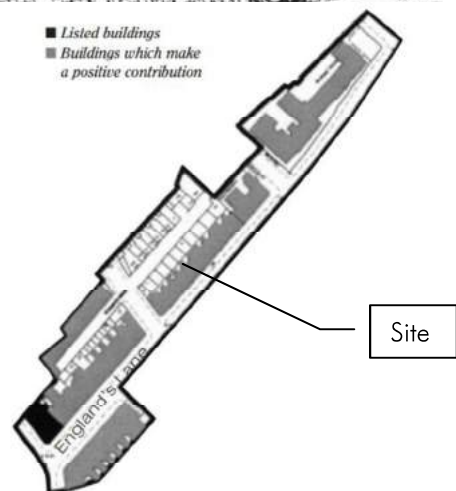


fig. 5: Belsize Conservation Area: Sub Area 6 -England's Lane Listed Buildings and Buildings of Positive Contribution Map. (Retrieved from Belsize Conservation Area Statement, April 2013)

4. Proposal

The proposal includes the addition of 2x flue terminals to the existing residential units at first and second floor levels, units 18a and 18b respectively. The proposed flue terminals will accommodate the installation of new energy efficient boilers to the residential units. As the property is a mid-terrace building, there is no access to the side elevations.

The proposal is necessary to accommodate the existing residential uses at first and second floor levels and the requirements of the end users. The flue terminals are proposed to suit the layouts. The boiler and flues are positioned to the front within the existing kitchen/living areas for efficiency and safety as so they do not crossover to the rear facing bedrooms.

5. Scale & Appearance

The application site and its surrounding/adjoining buildings, along the terrace, consist of 4 storey properties homogenous in scale and appearance.

No external alterations or additions are proposed apart from the proposed addition of 2x flue terminals to the existing residential units at first and second floor levels. The 2x small terminals will not project more than 110mm from the existing front elevation and are minimal in size and match the existing terminals to the adjacent and neighbouring properties.

The proposal will allow for improved energy performance for the proposed dwellings to comply with current Building Regulations requirements and increase the longevity of the building.

All existing external features are to be retained.

Subsequently the proposal will remain sympathetic to the character and appearance of the existing and surrounding buildings and will be of no impact to the site, as a number of surrounding properties feature similar additions with no adverse impact.

6. Summary

The proposed development has been designed to be in keeping with the residential character of the area. The proposed 2 x new flue terminals units are not too dissimilar to those at nos 16, 4, 6, 22 and 24 all featuring front flue terminals.

We trust that you will consider supporting this application as it clearly demonstrates a residential proposal sympathetic to the street scene with no detrimental impact to the surrounding area.

Appendix 1 Wall Hung RSF Gas Fired Condensing Combination Boiler - Product Literature

INSTALLATION COMMISSIONING AND SERVICING INSTRUCTIONS

WALL HUNG RSF GAS FIRED CONDENSING COMBINATION BOILER

Greenstar Si Compact ^{ErP}

FOR SEALED CENTRAL HEATING SYSTEMS AND MAINS FED DOMESTIC HOT WATER



6720848608-00.1W6

These appliances are for use with:
Natural Gas or L.P.G.
(Cat. II 2H3P type C13, C33 & C53)

	Model	GC Number
Natural Gas	25Si Compact ^{ErP}	47-406-73
	30Si Compact ^{ErP}	47-406-75
L.P.G.	25Si Compact ^{ErP}	47-406-74
	30Si Compact ^{ErP}	47-406-76

If you smell gas:

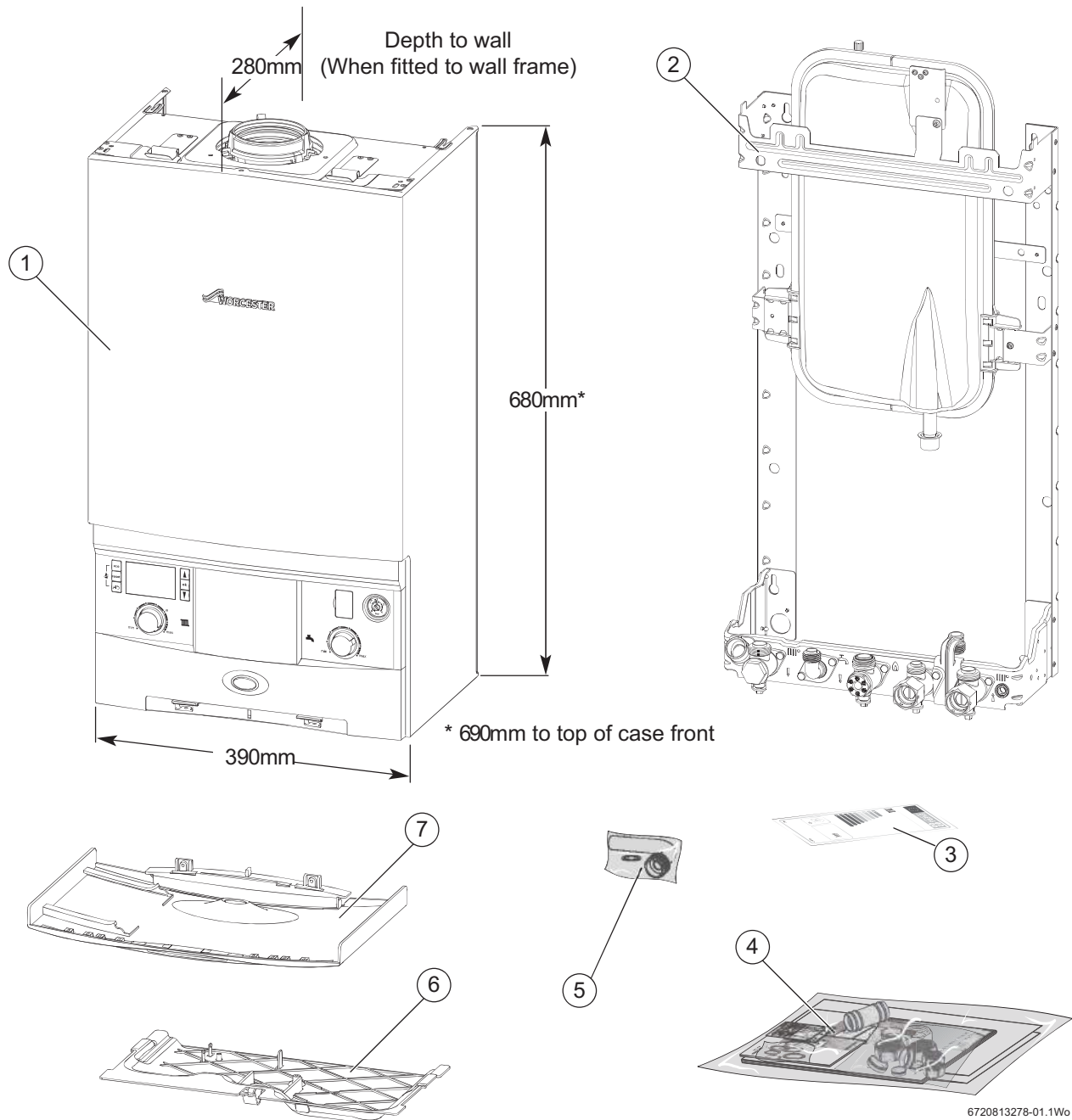
- ▶ Well away from the building: call the National Gas Emergency Service on 0800 111 999.
- ▶ L.P.G. boilers: Call the supplier's number on the side of the gas tank.



**WORCESTER**
Bosch Group

3 APPLIANCE INFORMATION

3.1 APPLIANCE



STANDARD PACKAGE

1. Wall hung gas-fired condensing combi boiler for central heating and domestic hot water
2. Wall mounting frame
3. ErP Label
4. Hardware literature pack:
 - Greenstar Si Compact ^{ErP} Installation, Commissioning and Servicing Instructions
 - User guide
 - Boiler fascia guide
 - Wall mounting template
 - Sealing Pack
 - Condensate connector
5. PRV installer connection elbow
6. Bottom panel
7. Fascia panel

3.3 Technical data

DESCRIPTION	Si Compact ErP UNIT	Natural gas		L.P.G	
		25kW	30kW	25kW	30kW
Domestic Hot Water					
Minimum heat input	kW	7.15	7.15	7.15	7.15
Maximum rated heat output	kW	25	30	25	30
Maximum rated heat input	kW	25.5	30.61	25.5	30.61
Maximum mains inlet pressure (standing pressure)	bar	10	10	10	10
Minimum mains inlet pressure (working) for max. flow	bar	1.6	1.6	1.6	1.6
Minimum mains inlet pressure (working) for operation	bar	0.2	0.2	0.2	0.2
Minimum required flow to fire the boiler	l/min.	2	2	2	2
Domestic Hot Water temperature range	°C	40 - 60	40 - 60	40 - 60	40 - 60
¹⁾ Max. Domestic Hot Water flow rate - 40 °C rise ± 15%	l/min.	9.0	11.0	9.0	11.0
Gas flow rate - Max. 10 minutes from lighting					
Natural Gas G20	m ³ /h	2.7	3.24		
Propane Gas (L.P.G.)	kg/h			1.94	2.33
Central Heating					
Maximum rated heat input (net)	kW	24.34	24.34	24.34	24.34
Maximum rated heat output 40/30 °C	kW	25.31	25.31	25.31	25.31
Maximum rated heat output 50/30 °C	kW	25.17	25.17	25.17	25.17
Maximum rated heat output 80/60 °C	kW	24	24	24	24
Maximum flow temperature	°C	82	82	82	82
Maximum flow temperature possible	°C	86	86	86	86
Maximum permissible operating pressure	bar	2.5	2.5	2.5	2.5
Available pump head at 20 °C system temperature rise	m	2.0	2.0	2.0	2.0
Flue					
Flue gas temperature 80/60 °C, rated/min. load	°C	66/64	70/64	68/66	72/66
Flue gas temperature 40/30 °C, rated/min. load	°C	47/36	50/36	49/37	52/37
CO ₂ level at max. rated heat output (after 10 minutes)	%	9.1	9.1	10.6	10.6
CO ₂ level at min. rated heat output (after 10 minutes)	%	8.5	8.5	9.6	9.6
NO _x class		5	5	5	5
NO _x rating	mg/kWh	35	35	46	46
Condensate					
Maximum condensate rate	l/h	2.5	2.5	2.5	2.5
pH value, approx.		4.8	4.8	4.8	4.8
Electrical					
Electrical power supply voltage	a.c. V	230	230	230	230
Frequency	Hz	50	50	50	50
Maximum power consumption - running	W	98	109	98	109
Maximum power consumption - stand-by	W	1	1	1	1
General data					
Appliance protection rating	IP	IP 4D	IP 4D	IP 4D	IP 4D
Appliance protection rating with mechanical or RF mechanical timer or FW100 module fitted	IP	IP20	IP20	IP20	IP20
Appliance protection rating with Sense II control fitted	IP	IP 2D	IP 2D	IP 2D	IP 2D
Permissible ambient operating temperatures	°C	0 - 50	0 - 50	0 - 50	0 - 50
Nominal capacity of appliance	litre	2.2	2.2	2.2	2.2
Total packaged weight	kg	43	43	43	43
Total boiler weight		39.5	39.5	39.5	39.5
Lift weight	kg	32.9	32.9	32.9	32.9
SEDBUK 2005	Band	90.5	90.5	92.6	92.6
SEDBUK 2009	Band	89.8	89.8	90.9	90.9

 Table 5 Si Compact ^{ErP} Technical data

1) Greenstar Si Compact boilers are fitted with a flow regulator set to achieve a 40°C temperature rise. This ensures comfortable bathing during the colder winter months.

3.4 Energy efficiency

The following product data satisfy the requirements of the EU Regulations No. 811/2013 and No. 812/2013 supplementing Directive 2010/30/EU.

Product data	Symbol	Unit	7733600050	7733600052	7733600051	7733600054
Product type	<input type="checkbox"/>	<input type="checkbox"/>	25Si Compact ^{EP} NG	30Si Compact ^{EP} NG	25Si Compact ^{EP} LPG	30Si Compact ^{EP} LPG
Condensing boiler	<input type="checkbox"/>	<input type="checkbox"/>	Yes	Yes	Yes	Yes
Low temperature boiler	<input type="checkbox"/>	<input type="checkbox"/>	No	No	No	No
B1 boiler	<input type="checkbox"/>	<input type="checkbox"/>	No	No	No	No
Cogeneration space heater (CHP)	<input type="checkbox"/>	<input type="checkbox"/>	No	No	No	No
Combination heater	<input type="checkbox"/>	<input type="checkbox"/>	Yes	Yes	Yes	Yes
Rated heat output	P_{rated}	kW	24	24	24	24
Seasonal space heating energy efficiency*	η_s	%	94	94	94	94
Energy efficiency class	<input type="checkbox"/>	<input type="checkbox"/>	A	A	A	A
Useful heat output						
At rated heat output and high temperature regime ¹⁾	P_4	kW	24	24	24	24
At 30% of rated heat output and low temperature regime ²⁾	P_1	kW	8.1	8.1	8.1	8.1
Useful efficiency						
At rated heat output and high temperature regime ¹⁾	η_4	%	88.8	88.8	88.8	88.8
At 30% of rated heat output and low temperature regime ²⁾	η_1	%	99.5	99.5	99.5	99.5
Auxiliary electricity consumption						
At full load	$e_{l,max}$	kW	0.029	0.029	0.029	0.029
At part load	$e_{l,min}$	kW	0.014	0.014	0.014	0.014
In standby mode	P_{SB}	kW	0.001	0.001	0.001	0.001
Other items						
Standby heat loss	P_{stby}	kW	0.078	0.078	0.078	0.078
Ignition burner power consumption	P_{ign}	kW	0	0	0	0
Emissions of nitrogen oxides	NOx	mg/kWh	25	25	25	25
Annual energy consumption	\square_{HE}	kWh	-	-	-	-
Sound power level, indoors	L_{WA}	dB(A)	52	52	52	52
Additional data for combination heaters						
Declared load profile	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> L	<input type="checkbox"/> L	<input type="checkbox"/> L	<input type="checkbox"/> L
Daily electricity consumption	\square_{elec}	kWh	0.139	0.137	0.139	0.137
Annual electricity consumption	AEC	kWh	31	30	31	30
Daily fuel consumption	\square_{fuel}	kWh	20.377	20.891	20.377	20.891
Annual fuel consumption	AFC	GJ	1383	1418	1383	1418
Water heating energy efficiency	η_{wh}	%	86	84	86	84
Water heating energy efficiency class	<input type="checkbox"/>	<input type="checkbox"/>	A	A	A	A

Table 6 Product data for energy consumption according to the EU regulations no. 811/2013 and no. 813/2013

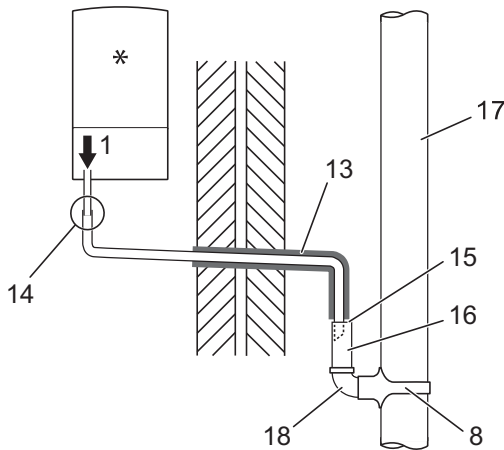
1) High temperature regime means 60 °C return temperature at heater inlet and 80 °C feed temperature at heater outlet.

2) Low temperature means for condensing boilers 30 °C, for low-temperature boilers 37 °C and for other heaters 50 °C return temperature (at heater inlet).

► The use of fittings, elbows etc. should be kept to a minimum and any internal burrs on cut pipe work should be removed so that the internal pipe section is as smooth as possible.

FITTING AN INTERNAL AIR BREAK

- Refer to figure 8 when a rain water down pipe is used to dispose of condensate.
- An air break must be installed in the 43mm pipe work, between the boiler condensate outlet and the drainpipe, outside the property, to avoid flooding during adverse weather conditions.



6720644744-09.3Wo

Fig. 8 Disposal into a rainwater down pipe

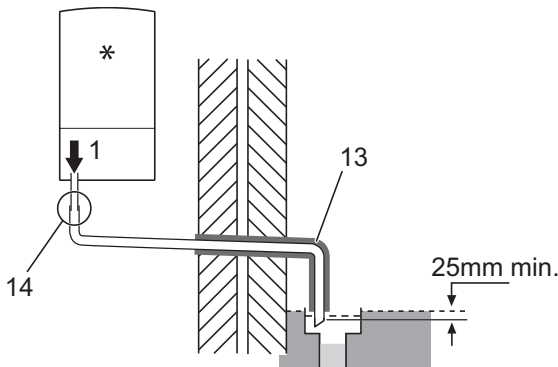


Condensate drainage pipe can be run above or below ground.

Where the pipe terminates over an open drain or gully, the pipe should terminate below the grating level, but above water level, in order to minimise wind chill at the open end.

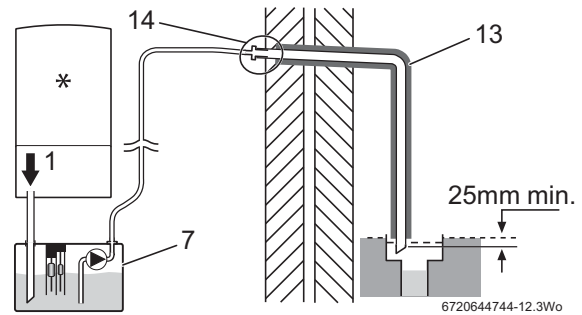
The use of a drain cover (such as those used to prevent blockage by leaves) may offer further protection from wind chill.

Pipe drainage will be improved if the end is cut at 45° as opposed to a straight cut.



6720644744-10.3Wo

Fig. 9 External disposal



6720644744-12.3Wo

Fig. 10 Condensate pump to external disposal

CONDENSATE SOAK AWAY

- The condensate drainage pipe may be run above or below the ground to the soak away. The examples shown on this page run above ground.
- The soak away must use a 100mm Ø plastic tube with two rows of three 12mm holes on 25mm centres and 50mm from the bottom of the tube. The holes must face away from the house.
- The tube must be surrounded by at least 100mm of limestone chippings to a depth of 400mm.



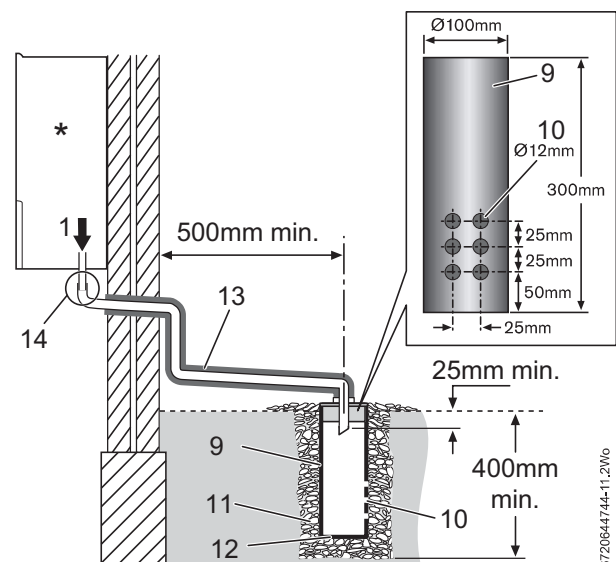
Minimum hole size for the condensate soak away must be 400mm deep by 300mm Ø.

In situations where there are likely to be extremes of temperature or exposure, the use of a proprietary trace-heating system for external pipe work, incorporating an external frost thermostat, should be considered. If such a system is used, the requirement to use 32mm pipe does not apply. However, all other guidance above and the instructions for the trace heating system, should be closely followed.



NOTICE: Unheated internal areas.

- Internal pipe runs in unheated areas such as lofts, basements and garages should be treated as external runs and consideration should be given to using a CondenseSure siphon.



6720644744-11.2Wo

Fig. 11 Soak away

4.8 FLUETERMINAL POSITIONS

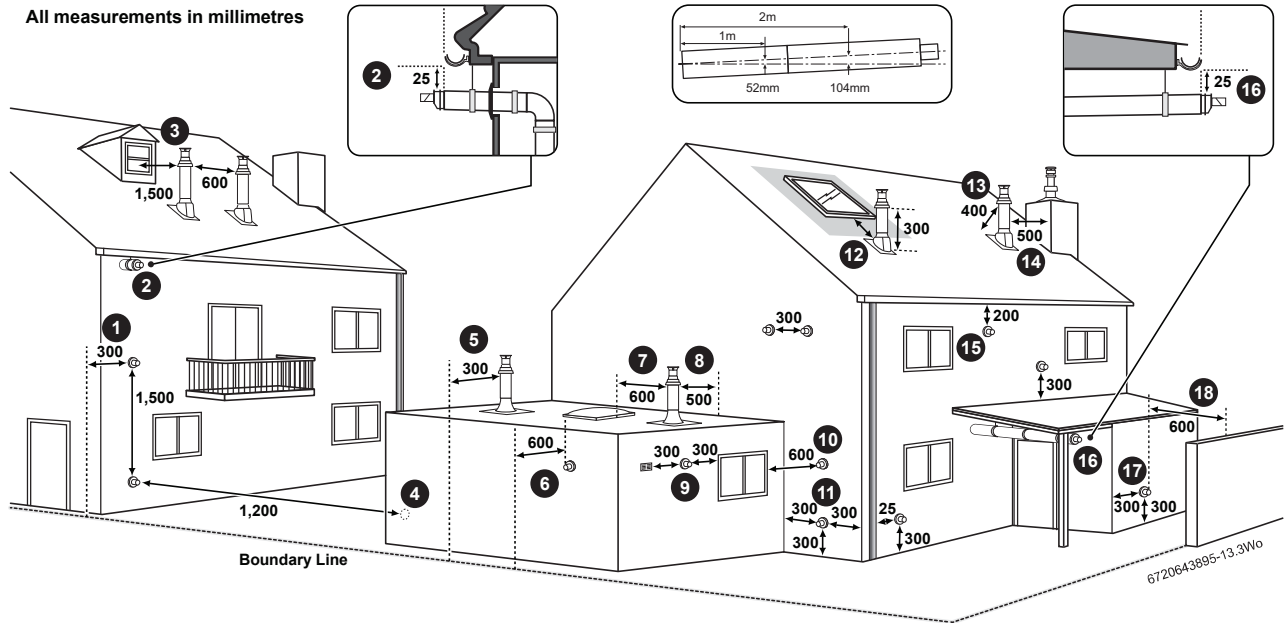



Fig. 17 Flue terminal positions



NOTICE

- ▶ All measurements are the minimum clearances required.
- ▶ Terminals must be positioned so to avoid combustion products entering the building.
- ▶ Support the flue at approximately one metre intervals and at a change of direction, use suitable brackets and fittings. (flue bracket 100mm part number: 7 716 191 177, flue brackets 100mmx6 part number: 7 716 191 178, flue bracket 125mm part number: 7 716 191 179).

Key to illustration

1. 300mm adjacent to a boundary line.
2. The dimension below eaves, gutters, pipes and drains can be reduced to 25mm, as long as the flue terminal is extended to clear any overhang. External flue joints must be sealed with suitable silicon sealant.
3. 1,500mm between a vertical flue terminal and a window or dormer window.
4. 1,200mm between terminals facing each other.
5. Vertical flue clearance, 300mm adjacent to a boundary line unless it will cause a nuisance. BS 5440: Part 1 recommends that care is taken when siting terminal in relation to boundary lines
6. 600mm distance to a boundary line, unless it will cause a nuisance. BS 5440: Part 1 recommends that care is taken when siting terminal in relation to boundary lines.
7. 600mm minimum clearance from a skylight to a vertical flue.
8. Vertical flue clearance, 500mm to non-combustible building material, and 1,500mm clearance to combustible building material.
9. 300mm above, below and either side of an opening door, air vent or opening window.
10. 600mm diagonally to an opening door, air vent or opening window.
11. 300mm to an internal or external corner. This does not apply to building protrusions less than 450mm.
12. 2,000mm below a Velux window, 600mm above or to either side of the Velux window.
13. 400mm from a pitched roof or 500mm in regions with heavy snow fall.
14. 500mm clearance to any vertical structure on a roof, 600mm to room sealed flue or 1,500 to an open flue.
15. 200mm below eaves and 75mm below gutters, pipe and drains.
16. The dimension below eaves, balconies and car ports can be reduced to 25mm, as long as the flue terminal is extended to clear any overhang. External flue joints must be sealed with suitable silicon sealant.
17. Flue clearance must be at least 300mm from the ground. Terminal guards must be fitted if the flue is less than 2 metres from the ground or if a person could come into contact with the flue terminal.
18. 600mm distance to a surface facing a terminal, unless it will cause a nuisance. BS 5440: Part 1 recommends that care is taken when siting terminals in relation to surfaces facing a terminal.



Note:

- ▶ Installations in car ports are not recommended.
- ▶ The flue cannot be lower than 1,000mm from the top of a light well due to the build up of combustion products.
- ▶ Dimensions from a flue terminal to a fanned air inlet to be determined by the ventilation equipment manufacturer.
- ▶ 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.

4.9 FLUE OPTIONS

WARNING: Flue systems

- ▶ Only use Worcester, Bosch approved flue systems, no other manufacturer's flue systems have been approved for use with Worcester appliances.

CAUTION: Non accessible flue systems:

- ▶ Where a flue system is not going to be accessible, provision must be made for service and inspection.
- ▶ Voids containing concealed flues must have at least one inspection hatch no less than 300mm square.
- ▶ Flue joints within the void must not be more than 1.5 metres from the edge of the inspection hatch.
- ▶ Inspection hatches should be located at changes of direction.
- ▶ If this is not possible, bends should be viewable from both directions.

NOTICE: Effective flue lengths:

- ▶ each 90° bend is equivalent to 2 metres of straight flue
- ▶ each 45° bend is equivalent to 1 metre of straight flue

i Plume management kits are available for the 60/100 horizontal flue system, Part number 7 716 191 086. Refer to the manual supplied with the Plume Management kits for complete installation instructions

Part number	Flue	Description
7 716 191 082	60/100	Telescopic horizontal flue assembly
7 716 191 171	60/100	Longer telescopic horizontal flue assembly
7 733 600 048	60/100	Horizontal high level telescopic flue kit
7 719 003 702	80/125	Telescopic horizontal flue assembly
7 719 002 430	60/100	Vertical flue assembly
7 719 002 431	80/125	Vertical flue assembly

Table 9 Flue kit part numbers

4.9.1 Flue lengths

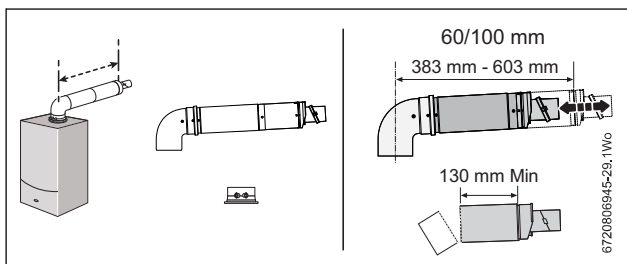
The flue systems have different maximum flue lengths

The Greenstar series has the option of two horizontal 60/100 RSF (telescopic and longer telescopic) and one horizontal 80/125 RSF (telescopic) flue system and two vertical RSF (60/100 or 80/125) flue systems:

Refer to the following example Flue options for the maximum flue lengths.



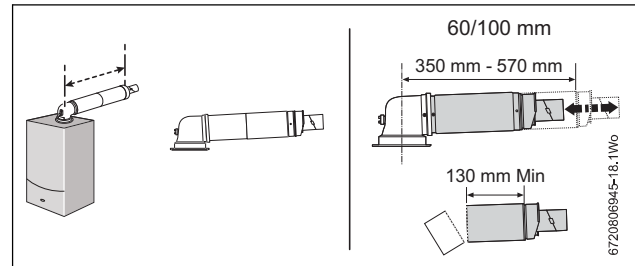
Horizontal high level flue assembly



	Flue length (mm)	
	60/100	80/125
Horizontal high level telescopic flue assembly	202 - 603	N/A

Table 10

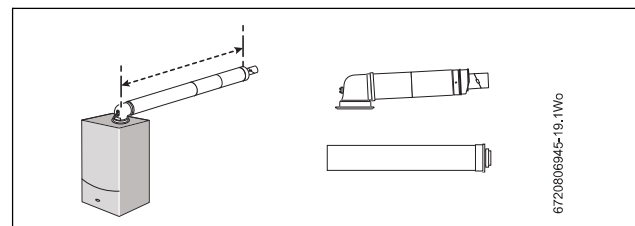
TELESCOPIC HORIZONTAL FLUE ASSEMBLY



	Flue length (mm)	
	60/100	80/125
Telescopic horizontal flue assembly	180 - 570	405 - 600
Longer telescopic horizontal flue assembly	570 - 790	N/A

Table 11

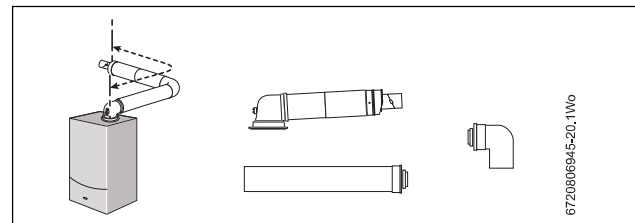
Extended horizontal flue



	Maximum flue length (mm)	
	60/100	80/125
Extended horizontal flue	6,000	15,000

Table 12

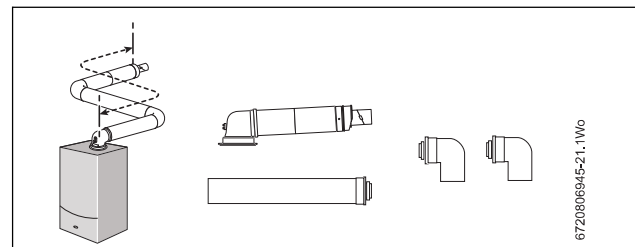
Horizontal flue with additional elbow (1 x 90° bend)



	Maximum flue length (mm)	
	60/100	80/125
Horizontal flue with 1 x 90° bend	4,000	13,000

Table 13

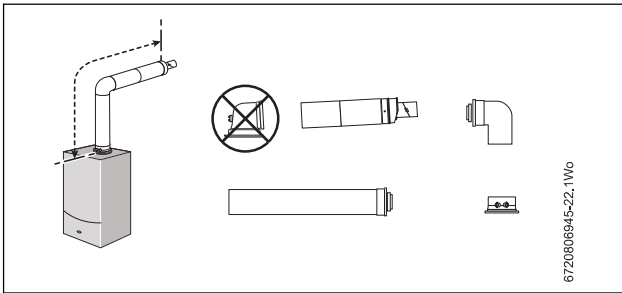
Horizontal flue with additional elbows (2 x 90° bends)



	Maximum flue length (mm)	
	60/100	80/125
Horizontal flue with 2 x 90° bends	2,000	11,000

Table 14

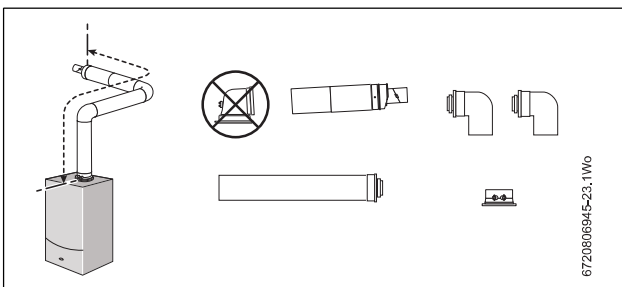
High level horizontal flue



	Maximum flue length (mm)	
	60/100	80/125
High level horizontal flue	6,000	15,000

Table 15

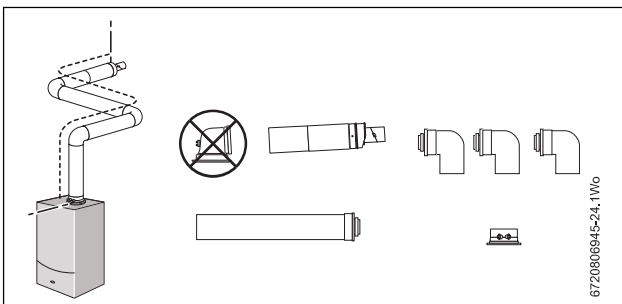
High level horizontal flue with additional elbows



	Maximum flue length (mm)	
	60/100	80/125
High level horizontal flue with 2 x 90° bends	4,000	13,000

Table 16

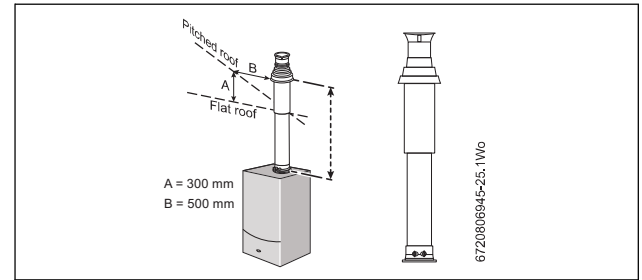
High level horizontal flue with additional elbows



	Maximum flue length (mm)	
	60/100	80/125
High level horizontal flue with 3 x 90° bends	2,000	11,000

Table 17

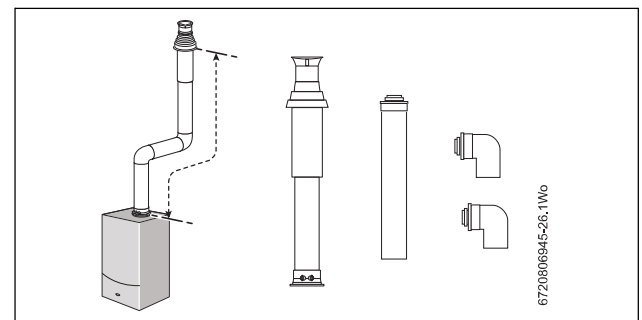
Vertical balanced flue assembly



	Maximum flue length (mm)	
	60/100	80/125
Vertical balanced flue assembly	6,000	15,000

Table 18

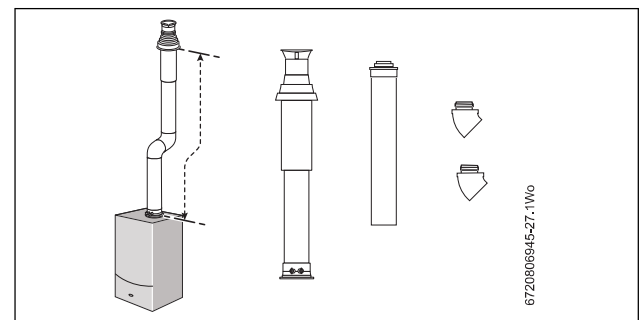
Vertical balanced flue with elbow offset (2 x 90° bends)



	Maximum flue length (mm)	
	60/100	80/125
Vertical balanced flue with 2 x 90° bends	2,000	11,000

Table 19

Vertical balanced flue with elbow offset (2 x 45° bends)



	Maximum flue length (mm)	
	60/100	80/125
Vertical balanced flue with 2 x 45° bends	4,000	13,000

Table 20

Appendix 2 Greenstar Horizontal Flue and Terminal

FLUE KIT INSTALLATION MANUAL



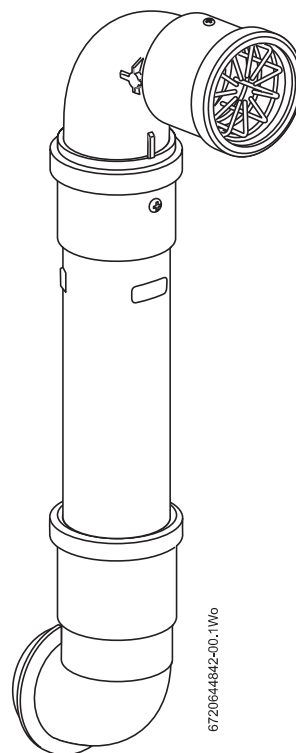
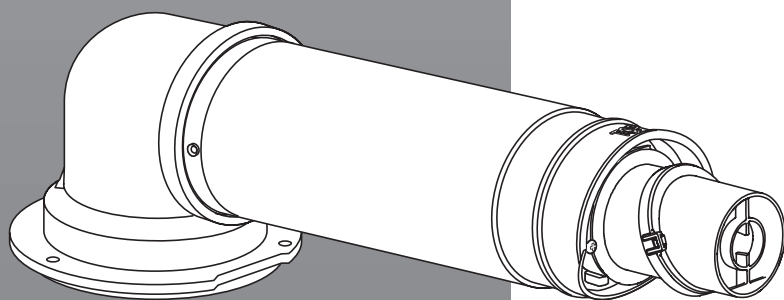
7 716 191 082 ROOM SEALED TELESCOPIC FLUE

7 716 191 171 ROOM SEALED LONGER TELESCOPIC FLUE

7 716 191 086 PLUME MANAGEMENT SYSTEM

GREENSTAR 60/100 HORIZONTAL FLUE

FOR WORCESTER GREENSTAR CDi WALL HUNG, Si, i JUNIOR, i SYSTEM & Ri SERIES
OF GAS APPLIANCES INCLUDING BRITISH GAS VARIANTS



2 PRODUCT INFORMATION

2.1 TELESCOPIC FLUE COMPONENTS

60/100 mm TELESCOPIC FLUE KIT: Part No.: 7 716 191 082	
60/100 mm LONGER TELESCOPIC FLUE KIT: Part No.: 7 716 191 171	
1	TELESCOPIC FLUE ASSEMBLY
2	WALL INNER SEAL
3	WALL OUTER SEAL
4	INSTALLATION MANUAL
5	ALUMINIUM TAPE
6	ACCESSORY PACK

Table 4 Telescopic flue components

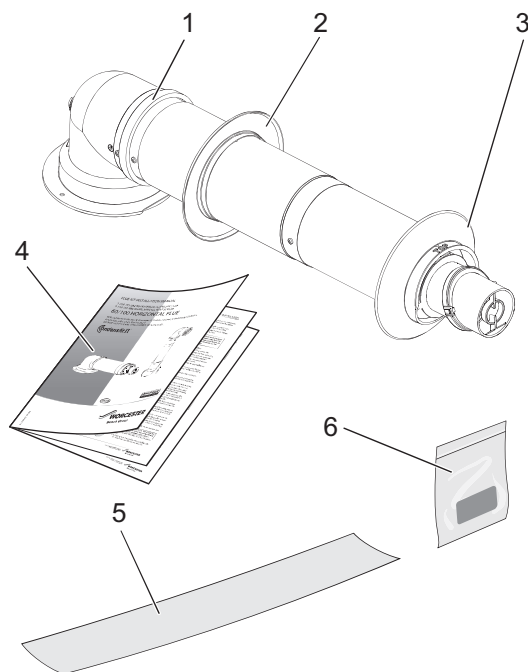


Fig. 1 Telescopic flue components

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2.2 FLUE EXTENSION COMPONENTS

60/100mm - 220mm Part No.: 7 716 191 133	
1	Extension tube assembly plus: grease pack - two No. 8 screws & grease sachet
60/100mm - 1000mm Part No.: 7 716 191 083	
2	Extension tube assembly plus: grease pack - two No. 8 screws & grease sachet
60/100mm - 2000mm Part No.: 7 716 191 172	
3	Extension tube assembly plus: grease pack - two No. 8 screws & grease sachet
60/100 High level horizontal flue adapter Part No.: 7 716 191 164	
4	Flue connector, vertical plus: Screw pack
60/100mm 45° bend: Part No.: 7 716 191 085	
5	45° bend x 2 plus: grease pack - two No. 8 screws & grease sachet
60/100mm 90° bend: Part No.: 7 716 191 084	
6	90° bend assembly plus: grease pack - two No. 8 screws & grease sachet
60/100mm Support bracket kit: Part No.: 7 716 191 092	
7	Wall bracket, swivel bracket, clamp, fixing screws and wall plugs (6 in kit)

Table 5 Flue extension components

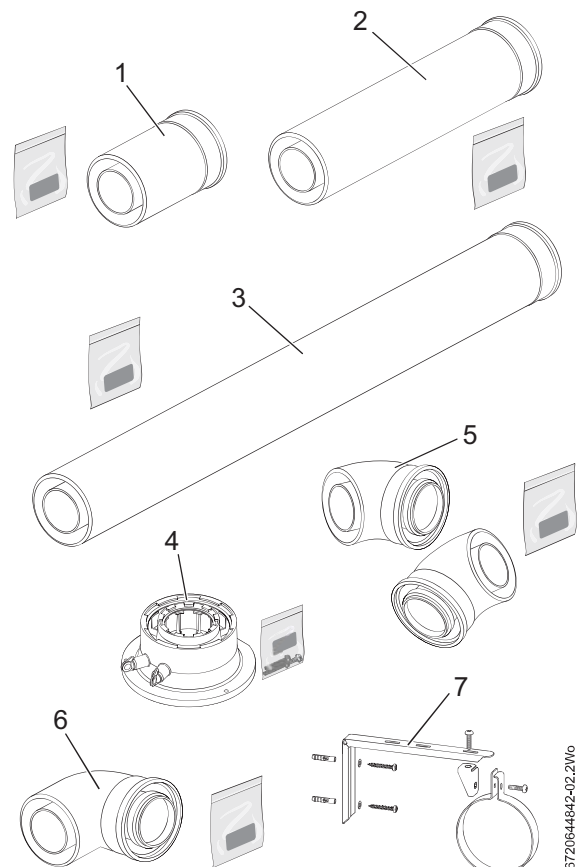


Fig. 2 Flue extension components

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3 PRE-INSTALLATION

3.1 FLUE TERMINAL POSITIONS

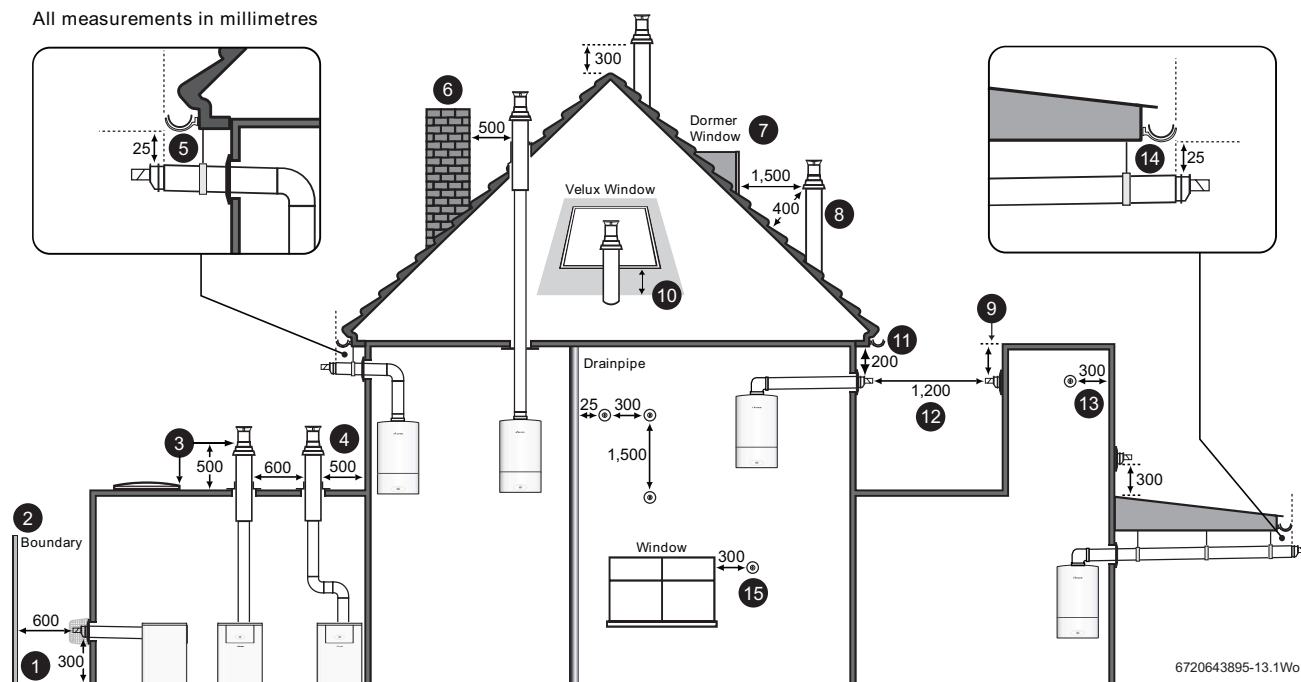


Fig. 3 Flue terminal positions



NOTE:

- B All measurements are the minimum clearances required.
- B Terminals must be positioned so to avoid combustion products entering the building.
- B Support the flue at approximately one metre intervals and at a change of direction, use suitable brackets and fittings (Flue bracket part numbers.: 100mm - 7 716 191 092).

Key to illustration

- | | |
|---|---|
| <ol style="list-style-type: none"> 1. Flue clearance must be at least 300mm from the ground. Terminal guards must be fitted if the flue is less than 2 metres from the ground or if a person could come into contact with the flue terminal. 2. 600mm distance to a boundary, unless it will cause a nuisance. BS 5440: Part 1 recommends that care is taken when siting terminals in relation to boundaries. 3. 600mm minimum clearance from a skylight to a vertical flue. 4. Vertical flue clearance, 500mm to non-combustible building material, and 1,500mm clearance to combustible building material. 5. The dimension below eaves, gutters, pipes and drains can be reduced to 25mm, as long as the flue terminal is extended to clear any overhang. Any external flue joints must be sealed with a suitable silicon sealant. 6. 500mm clearance to any vertical structure on a roof, 600mm to room sealed flue or 1,500mm to an open flue. 7. 1,500mm between a vertical flue terminal and a window or dormer window. | <ol style="list-style-type: none"> 8. 400mm from a pitched roof or in regions with heavy snow fall 500mm. 9. The flue cannot be lower than 1,000mm from the top of a light well due to the build up of combustion products. 10. 2,000mm below a Velux window, 600mm above or to either side of the Velux window. 11. 200mm below eaves and 75 mm below gutters, pipes and drains. 12. 1,200mm between terminals facing each other. 13. 300mm to an internal or external corner. |
|---|---|



Installations in car ports are not recommended.

14. The dimension below eaves, balconies and car ports can be reduced to 25 mm, as long as the flue terminal is extended to clear any overhang. Any external flue joints must be sealed with suitable silicon sealant.
15. 300mm above, below and either side of an opening door, air vent or opening window.

4 INSTALLATION

4.1 TELESCOPIC FLUE INSTALLATION

4.1.1 INSTALLING THE TELESCOPIC FLUE:

B 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.

- B The flue turret of the 100 mm flue has an in-built 3° angle.
- B 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.
- B Drill the hole using a suitable core drill.

1. Referring to figure 13, set the flue length to the distance required, secure with screws.
2. Seal the joint with the aluminium tape.
3. Slide the inner wall seal onto the terminal.
4. If fitting from inside the building; slide the outer wall seal onto the terminal, locating the ridge on the seal with the groove on the terminal.

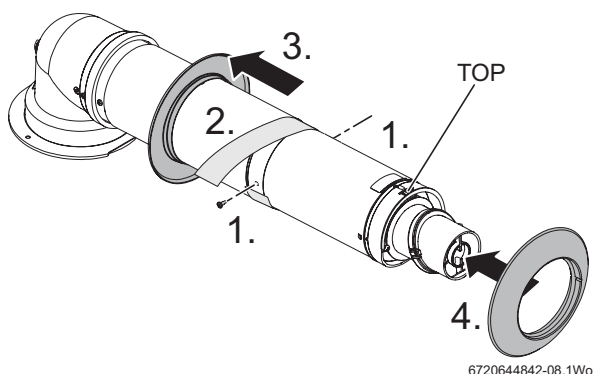


Fig. 13 Telescopic flue

1. Referring to figure 14, remove the three screws securing the flue outlet to the boiler.
2. Check the boiler flue seal is correctly seated and apply silicone grease.
3. Position terminal through the flue opening in the wall to the outside of the building by the distance shown.
4. Align the flue turret to the boiler flue outlet with flat facing to the rear of the boiler. Push the flue turret straight down into the boiler flue outlet.

- B Fit the screws remove in step 1 to secure flue turret.
- B 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.

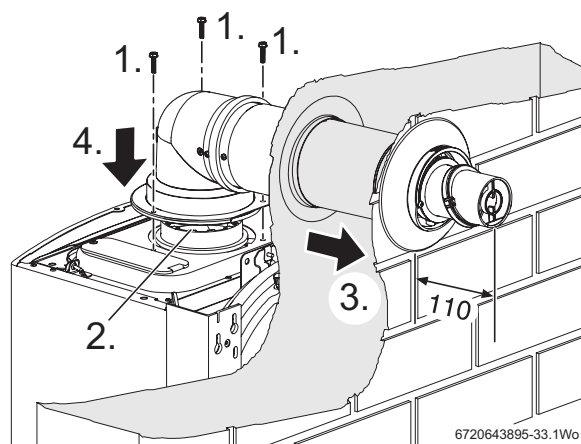


Fig. 14 Telescopic flue installation

4.1.2 INSTALLING A HIGH LEVEL TELESCOPIC FLUE:

1. Referring to figure 15, remove and retain the screws securing the telescopic flue to the turret. Disconnect the flue from the turret and discard the turret.
2. Slide the inner wall seal on to the terminal.
3. Set the telescopic flue to the required length and secure with the screws provided.
4. Seal the joint with the aluminium tape supplied.
5. If fitting the flue from inside the property, slide on the outer wall seal, locating the ridge on the seal with the groove on the terminal.

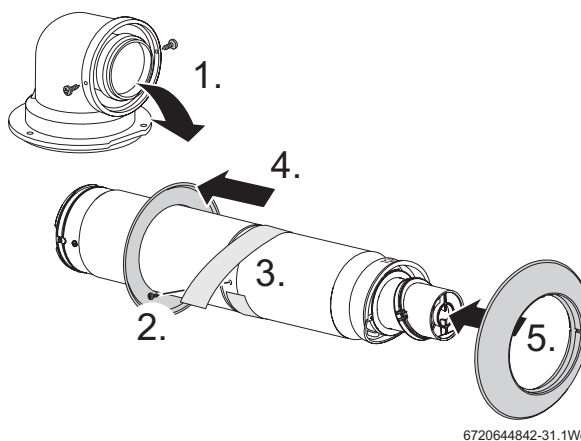


Fig. 15 Preparing the telescopic flue

1. Referring to figure 16, fit the telescopic flue firmly into the 90° bend.
2. Fit the 90° bend firmly into the extension piece.
3. Fit the vertical flue adapter to the end of the extension.

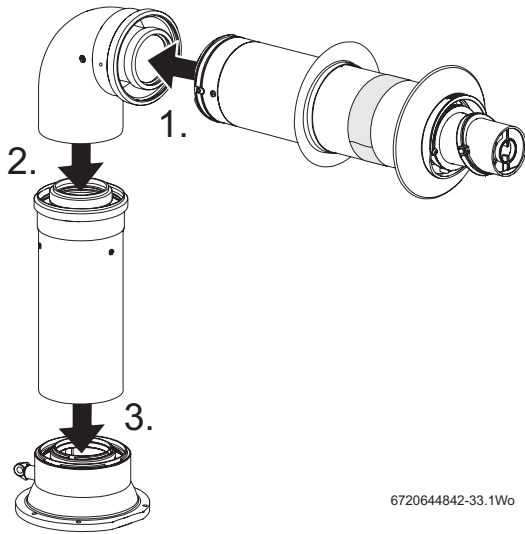


Fig. 16 Assembling the extensions

1. Referring to figure 17, remove and discard the three screws securing the flue outlet in the boiler.
2. Check the boiler flue seal is correctly seated and apply silicone grease.
3. Position terminal through the flue opening in the wall to the outside of the building by the distance shown.
4. Align the vertical flue adapter to the boiler flue outlet with flat facing to the rear of the boiler. Push the adapter straight down into the boiler flue outlet.
5. Secure the telescopic flue bends and extensions with the screws provided.
6. Secure the vertical flue adapter to the boiler with the screws provide in the adapter kit.

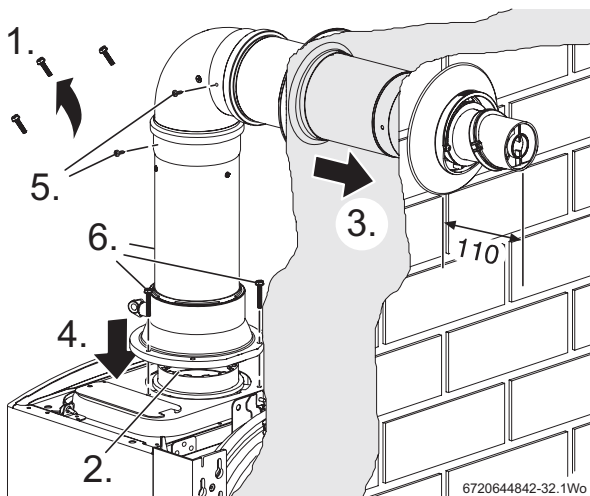


Fig. 17 Fitting the high level horizontal flue

4.1.3 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



NOTE: DO NOT ROTATE THE COMPLETE FLUE TERMINAL ASSEMBLY.

B 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.

1. Using a suitable tool, unclip the end of the terminal.
2. Rotate the end by 180° and refit the terminal end, ensuring to engage the clips to secure.
3. Loosen the screws securing the entire outlet assembly and rotate by $\pm 80^\circ$ to the desired position and re-secure the assembly.

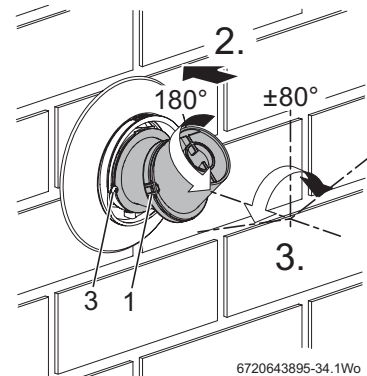
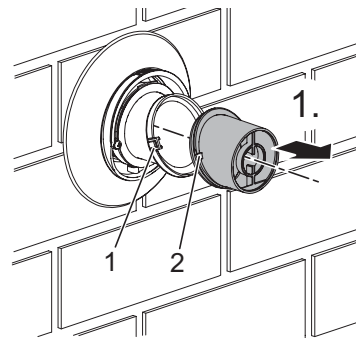


Fig. 18 Plume redirection