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5458 035 GB Subject to technical modifications.

Installation instructions
for contractors

VIESMANN

Flue gas system
for Vitocrossal (type CU3), Vitodens and Vitoladens

Safety instructions
Please follow these safety instructions closely to prevent accidents and material losses

Safety instructions explained

Please note
This symbol warns against the risk of material losses and environmental pollution.

Note
Details identified by the word "Note" contain additional information

installation, initial start-up, inspection, maintenance and repairs must only be carried out by a competent person (heating engineer/installation contractor).

Before working on the equipment/heating system, isolate the power supply (e.g. by removing a separate mains fuse or by means of a mains isolator) and safeguard against unauthorised reconnection.

When using gas as a fuel, also close the main shut-off valve and safeguard against unauthorised reopening.

Repairing components which fulfill a safety function can compromise the safe operation of your heating system.

For replacements, use only original spare parts supplied or approved by Viessmann.

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Dispose after installation

General installation instructions

Engineering

Prior to the installation check that the maximum possible flue length in accordance with the technical guide for the respective boiler will not be exceeded.

Flue gas temperature protection

The flues are approved for flue gas temperatures up to 120°C

Measures inside the Viessmann condensing boilers ensure that the maximum permissible flue gas temperature will never be exceeded.

Installation information

- The component overviews for the types of routing also apply to the Vitocrossal 300 and the Vitoladens 300-T.
- Keep flue paths as short as possible with the fewest number of bends possible.
- Check the gaskets in all female connections.
- Use only the special gaskets supplied with the boiler.
- Plug-in fem. connections in the flue must always point in the flow direction.
- Only use the components supplied with the PP flue gas system.
- Twist the pipes slightly whilst pushing them in.
- Inner and outer pipe can be trimmed to the same length.

Required tools/equipment

- Rope for lowering the flue gas system into a duct (length: chimney height plus 3 metres).
- Saw and file for trimming and chamfering the pipe sections.
- Power drill for securing the duct cover and the support rail.

Leak/soundness test

Flue gas system with Building Regulations approval - Routing through a duct

After their installation, flue gas systems routed through a duct must be tested for soundness by a competent person as per the Building regulations.

- Pressurised flues inside buildings that are not surrounded by combustion air (open flue) must be pressure tested.

  To pressure test a flue, air is pumped into the flue that has been sealed at the top and bottom using a flue test device, until a pressure of 200 Pa has built. Whilst maintaining this pressure, the volume of air that escapes through leaks is established.

  Up to a leakage rate of 0,006 litres/ (s x m^2), relative to the internal surface area, is considered as indication that the flue is sound.

- In pressurised flue gas systems that are surrounded by combustion air (balance flue), the soundness can be checked by testing the O_2 content in the combustion air (annular gap test).

  The flue is reckoned to be sufficiently sound if the O_2 content in the combustion air deviates by no more than the following values from the reference value. The reference value results after the self-adjustment of the test equipment:

  – for flues with general Building Regulations approval 0.4% by vol.

  – for other flues 0.2% by vol.

Flue gas systems as technical units with Vitodens and Vitoladens

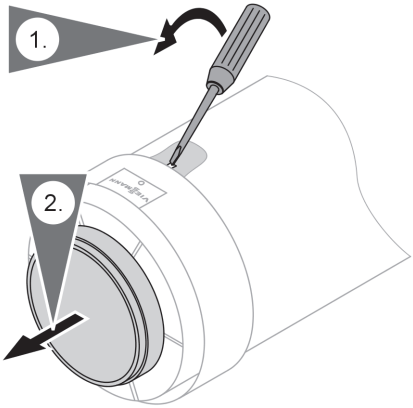
- Balanced flue roof outlet (C_{33x})
- Balanced flue external wall terminal (C_{13x})
- Routing over external walls (C_{53x})
- Separate ventilation and flue gas routing (C_{53x})

We recommend that a simple soundness test is carried out during the commissioning of your system. For this it would be sufficient to check the CO_2 concentration in the combustion air at the annular gap of the balanced flue pipe. The flue pipe is deemed to be sound if the CO_2 concentration in the combustion air is no higher than 0.2% or the O_2 concentration is at least 20.6%.

If higher CO_2 or lower O_2 values are measured, check the flue system for soundness.

Removing the flue pipe from the balanced flue pipe (if required)

System size 60 and 80.



System certification and Building Regulations Approval

Note

This is to confirm that the flue system is approved to Building Regulations and certified to the appropriate EC Gas Equipment Directive.

System Certification

System certification to DVGW-VP 113 and EC Gas Equipment Directive 90/396/EEC in conjunction with PPs flue pipes offered by Skoberne.

Vitodens 100-W	CE-0085 BN
Vitodens 200-W	CE-0085 BR 0432
Vitodens 222-F	CE-0085 BR 0433
Vitodens 343-F / 242-F	CE-0085 BO 0338

Installation requirements

Statutory requirements

The appliance is suitable only for installation in GB and IE and should be installed in accordance with the rules in force. In GB a Gas Safe Registered Installer must carry out the installation. It must be carried out in accordance with the relevant requirements of the:

Gas safety (installation and use) regulations (current issue)

It is in your own interest and safety to ensure that the law is complied with.

In addition to the above regulations, this appliance must be installed in accordance with the current IEE Wiring Regulations for electrical installation (BS 7671), local Building Regulations, the Building Standards (Scotland) (Consolidation) Regulations, bye laws of the local water undertaking and Health and Safety Document NO. 635 'The Electricity at Work regulations 1989'
In Ireland (IE), the installation must be carried out by a Competent Person and installed in accordance with the current edition if I.S.813 "Domestic Gas Installations", The current Building Regulations and references should be made to the current ETCI rules for electrical installation.

It should also be in accordance with the relevant recommendations in the current editions of the following British Standards and Codes of Practice: BS 5449, BS 5546, BS 5440:1, BS 5440:2, BS 6798, BS 7593, BS 6891, IGE/UP/7 and IS 813 for IE.

All Registered installers are required to notify building control when they have installed or exchanged a gas appliance in a residential dwelling, this can be done via Gas Safe.

Gas Safe will then issue either a Building Compliance Certificate (for England and Wales) or a Declaration of Safety (Scotland, Northern Island, Isle of Man or appliances out of the scope of Building Regulations) to the homeowner, which will confirm that the work has been carried out by a competent Gas Safe Registered Installer. This document will be used to form part of the Home Information Pack (HIP).

Please note
Manufacturers instructions must not be taken in any way as overriding statutory obligations.

Boiler Position

The following limitations must be observed when siting the boiler:

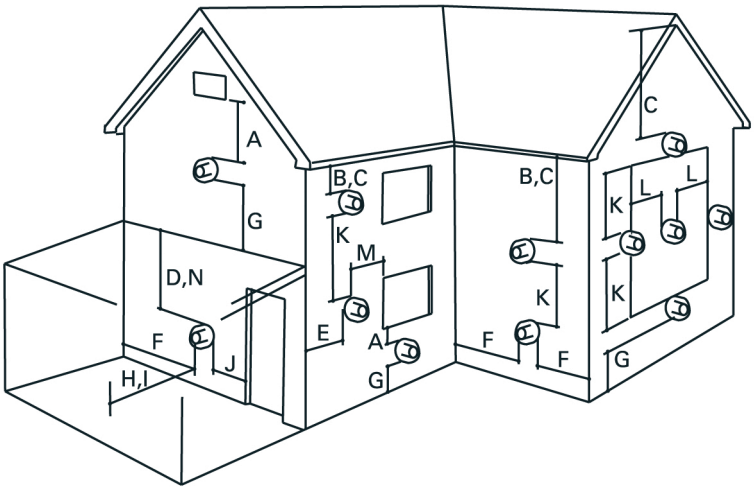
- The boiler is not suitable for external installation. The position selected for the installation should be within the building, unless otherwise protected by a suitable enclosure and must allow adequate space for installation, servicing and operation of the appliance and for air circulation around it.
- The position must allow for a suitable flue system and terminal position. The boiler must be installed on a flat vertical wall capable of supporting the weight of the appliance and any ancillary equipment when full.
- Due consideration should be given to the routing of the condensate drain from the chosen position.
- If the boiler is to be fitted in a timber framed building it should be fitted in accordance with ige/up/7. If in doubt advice must be sought from the Institute of Gas Engineers.

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Flue terminal position

- If the appliance is to be installed in a room containing a bath or shower, any electrical switch or control utilising mains electricity must be so situated that it cannot be touched by a person using the bath or shower. Attention is drawn to the requirements of BS 7671 (the current I.E.E Wiring Regulations) and in Scotland the electrical provisions of the Building Regulations applicable in Scotland.
- A compartment used to enclose the appliance must be designed and constructed specifically for this purpose. An existing cupboard or compartment may be used provided it is modified accordingly. BS 7698:2000 gives details of the essential features of cupboard / compartment design, including airing cupboards. The Vitodens range does not require compartment ventilation.
- Where installation will be in an unusual location, special procedures may be necessary. BS 6798 gives detailed guidance on this aspect.

Flue termination position



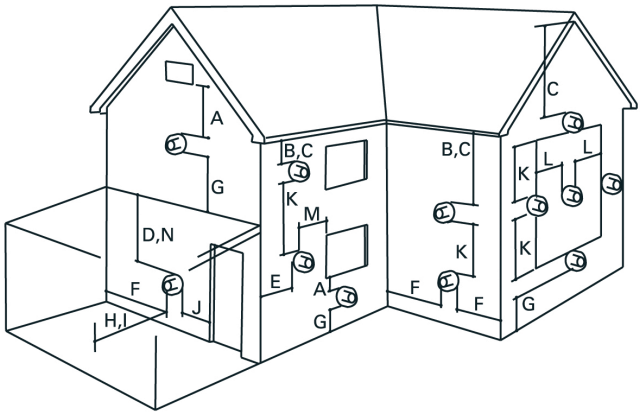
Position	Minimum Spacing
A Directly below an openable window, air vent or any other ventilation opening	300 mm
B Below a gutter, drain or soil pipe	75 mm

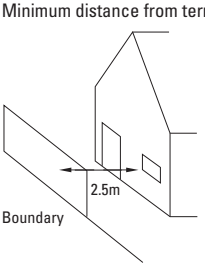
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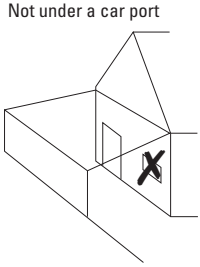
Flue terminal position (cont.)

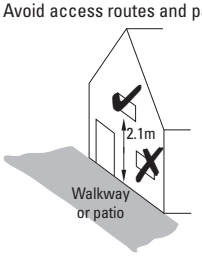
Position	Minimum Spacing
C Below eaves	200 mm
D Below a balcony	200 mm
E From vertical drain or soil pipes	150 mm
F From internal and external corners	300 mm
G Above adjacent ground or balcony level/roof	300 mm
H From a surface facing the terminal	600 mm
I Facing terminals	1200 mm
J From opening door/window in carport into dwelling	1200 mm
K Vertically from a terminal on same wall	1500 mm
L Horizontally from a terminal on same wall	300 mm
M Adjacent to opening	300 mm
N Below carport/roof	not recommended

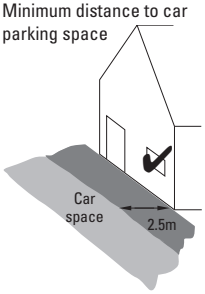
Vertical flue systems











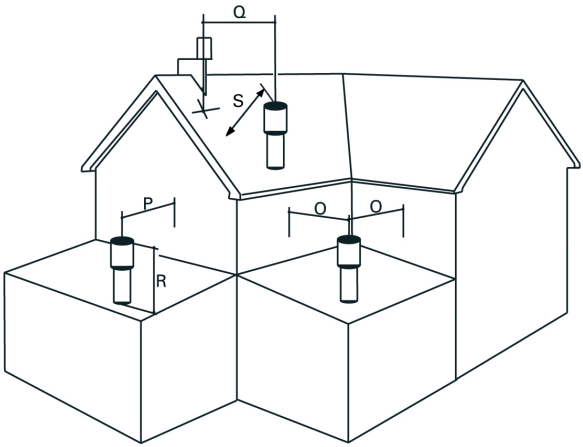
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Flue terminal position (cont.)

Position	Minimum Spacing
O From adjacent wall	300 mm
P From adjacent opening window	1000 mm
Q From another terminal	600 mm
R Minimum height	300 mm
S Minimum distance measured perpendicular to roof covering	400 mm

Flue Terminal Location

Detailed recommendations for flue installation are given in BS 5440:1. The following notes are for general guidance.



- It is important that the position of the terminal allows free passage of air across it at all times.
- It is essential to ensure that products of combustion discharging from the terminal cannot re-enter the building or any other adjacent building, through ventilators, windows, doors, other sources of natural air infiltration or forced ventilation / air conditioning.
- The minimum acceptable dimensions from the terminal to obstruction and ventilation openings are specified above (BS 5440 Part 1).
- If the terminal discharges into a pathway or passageway check that combustion products will not cause nuisance and that the terminal will not obstruct the passageway.
- Where the lowest part of the terminal is fitted within 850 mm of a plastic or painted gutter, or 450 mm of painted eaves, an aluminium shield at least 750 mm long must be fitted to the underside of the painted surface.
- Where the terminal is fitted within 850 mm of a plastic or painted gutter, or 450 mm of painted eaves, an aluminium shield at least 750mm long must be fitted to the underside of the painted surface.
- The air inlet / flue outlet duct must not be closer that 25 mm to combustible material.
- Due to the high efficiency of the boiler the terminal may emit a plume of vapour. This is normal but positions where this would cause a nuisance should be avoided.

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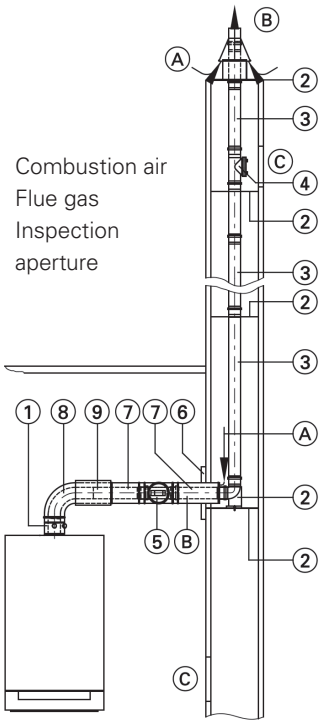
Installation Information

Provide an inspection aperture at the base of the duct for checking the secondary ventilation. The condensate drainage from the flue to the boiler must be ensured through a gradient of at least 3° (approx. 50 mm/m).

Route the flue over the roof (observe the roof clearance perpendicular to the roof inclination 400 mm according to the building regulation.

Rigid flue

Balanced flue operation



① **Boiler flue connection**

② **Standard duct pack**
Comprising:
- Support bend
- Support rail
- Duct cover
- Spacers (3 pce.)

③ **Flue Pipe**
2 m long
1 m long
0.5 m long

Flue bend (for use in corbelled chimneys)
30° or 15°

④ **Inspection piece,** straight

⑤ **Balanced flue inspection piece,** straight

⑥ **Balanced flue wall bezel**

⑦ **Balanced flue pipe**
1 m long
0.5 m long

⑧ **Balanced flue bend**
87° or 2 x 45°
or
Balanced flue inspection tee
or
Balanced flue inspection bend

⑨ **Balanced flue sliding coupling**

Fixing clamp

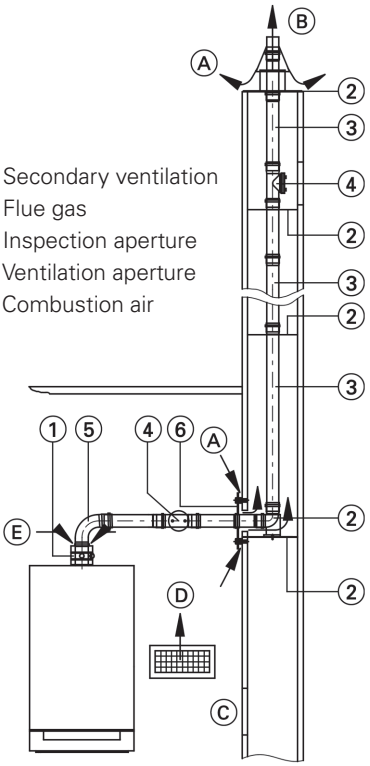
Max. total flue length up to the boiler flue connection (at system temperature 50/30°C)

Vitodens 100-W	Rated output range (kw)		9 26.0	11 30.0	11 35.0				
	max. length (m) - system size 60/100		20	15	15				
Vitodens 200-W	Rated output range	4.8 19.0	6.5 26.0	8.8 30.0	8.8 35.0	17.0 45.0	17.0 60.0	30.0 80.0	30.0 105.0
	max. length (m) - system size 60/100	20	20	15	15	–	–	–	–
	- system size 80/125	–	–	–	–	20	15	–	–
	- system size 100/150	–	–	–	–	–	–	20	20
Vitodens 222-F	Rated output range (kw)	4.8 19.0	6.5 26.0	8.8 30.0	8.8 35.0				
	max. length (m) - system size 60/100	20	20	15	15				
Vitodens 242-F	Rated output range (kw)	4.8 19.0	6.5 26.0						
	max. length (m) - system size 60/100	20	20						

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Routing through a duct (cont.)

Open flue operation



① **Boiler flue connection**

② **Standard duct pack**
Comprising:
- Support bend
- Support rail
- Duct cover
- Spacers (3 pce.)

③ **Flue Pipe**
2 m long
1 m long
0.5 m long

Flue bend (for use in corbelled chimneys)
30° or 15°

④ **Inspection piece,** straight

⑤ **Balanced flue bend**
87° or 2 x 45°
or
Balanced flue inspection tee
87°

⑥ **Ventilation bezel**

Max. total flue length up to the boiler flue connection (at system temperature 50/30°C)

Vitodens 100-W	Rated output range (kw)		9 26.0	11 30.0	11 35.0				
	max. length (m) - system size 60/100		20	15	15				
Vitodens 200-W	Rated output range	4.8 19.0	6.5 26.0	8.8 30.0	8.8 35.0	17.0 45.0	17.0 60.0	30.0 80.0	30.0 105.0
	max. length (m) - system size 60/100	20	20	15	15	–	–	–	–
	- system size 80/125	–	–	–	–	20	15	–	–
	- system size 100/150	–	–	–	–	–	–	20	20
Vitodens 222-F	Rated output range (kw)	4.8 19.0	6.5 26.0	8.8 30.0	8.8 35.0				
	max. length (m) - system size 60/100	20	20	15	15				
Vitodens 242-F	Rated output range (kw)	4.8 19.0	6.5 26.0						
	max. length (m) - system size 60/100	20	20						

Allowed for are 2 bends 87° (incl. support bends).

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Routing through a duct (cont.)

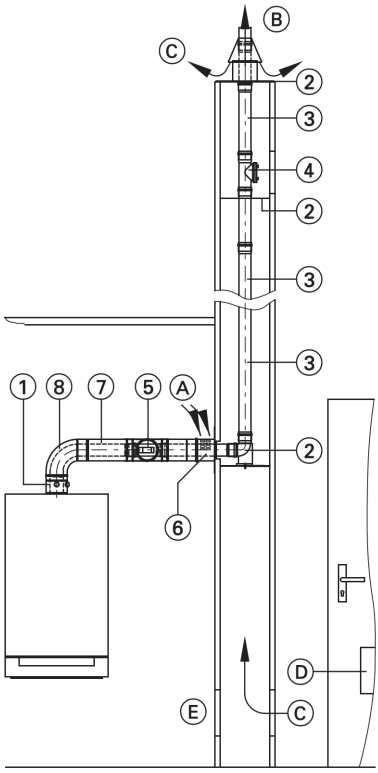
Open flue operation with combustion air supplied via interconnected rooms (only possible for system sizes 60 and 80)

The interconnection piece to the duct is created from a balanced flue system. The combustion air is drawn from the room via an opening immediately by the chimney entry (room interconnection bezel).

An adequate combustion air supply must be safeguarded inside the room as specified by the TRGI '86/96, point 5.5, through an interconnection with adjacent rooms:

- Minimum volume of the interconnected rooms 4 m^3 per kW rated output
- Apertures in connection doors min. 150 cm_2

Routing through a duct (cont.)



Ⓐ Combustion air
Ⓑ Flue gas
Ⓒ Secondary ventilation
Ⓓ Room interconnection aperture
Ⓔ Inspection aperture

① **Boiler flue connection**

② **Standard duct pack**
Comprising:
- Support bend
- Support rail
- Duct cover
- Spacers (3 pce.)

③ **Flue Pipe**
2 m long
1 m long
0.5 m long

Flue bend (for use in corbelled chimneys)
30° or 15°

④ **Inspection piece,** straight

⑤ **Balanced flue inspection piece,** straight

⑥ **Balanced flue room interconnection bezel**

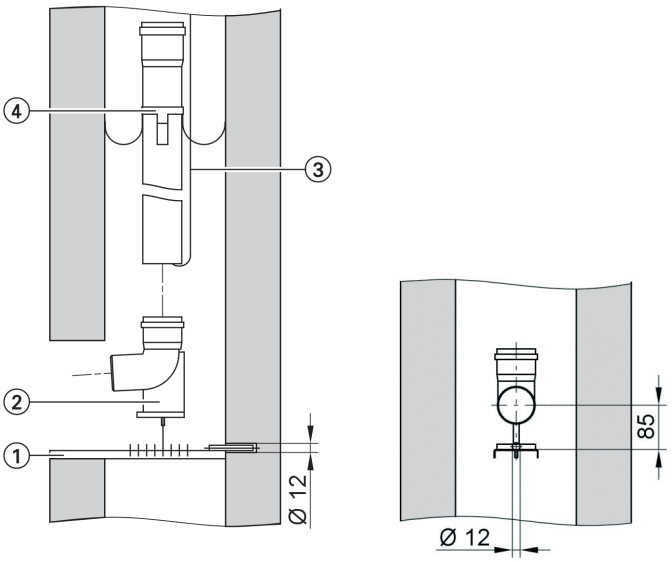
⑦ **Balanced flue pipe**
1 m long
0.5 m long

⑧ **Balanced flue bend**
87° or 2 x 45°
or
Balanced flue inspection tee
or
Balanced flue inspection bend

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Routing through a duct (cont.)

Installation



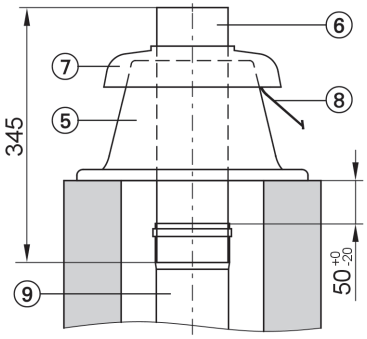
1. Drill a ⌀12 mm hole centrally into the rear duct wall to secure support rail ①.

2. Insert support rail ① into the drilled hole, and secure with screws or mortar on the front duct wall.

3. Position support bend ② and secure with the pin in a hole in the support rail.

4. Secure installation rope ③ externally on the lowest vertical pipe section.

Routing through a duct (cont.)

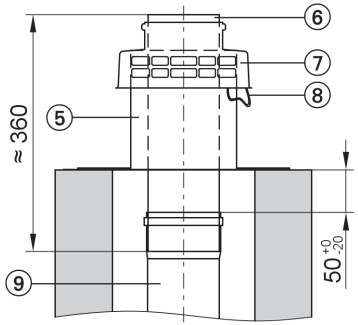


5. Subject to duct size, install a spacer④ every 2 to 5 m and at each profiled piece (e.g. inspection piece or bend). Bent ends facing up

6. Push the pipes into each other whilst slightly turning them (use lubricant), and let the pipe descend into the duct on the end of the rope.

7. Remove the rope and push the lowest pipe into support bend ②.

Duct cover, system size 60 to 100 mm



Duct cover, system size 125 to 200 mm

8. Let the highest pipe section ⑨terminate approx. 50 mm below the top edge of the duct.

9. Secure the lower part of duct cover ⑤.

10. System size 60 to 100 mm:
Push on aluminium terminal pipe ⑥.

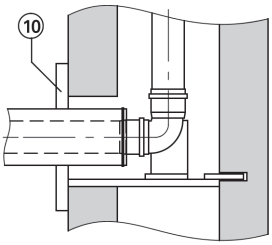
Note

For weight reasons, never trim aluminium terminal pipe ⑥.

System size 125 to 200 mm: Trim the final pipe section ⑥ (without coupling), so that it is as flush with fitted weather collar ⑦ as possible.

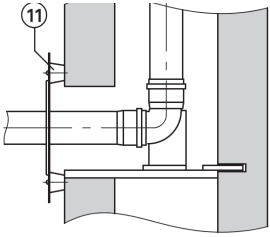
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Routing through a duct (cont.)



11. Push on weather collar ⑦ and secure safety rope ⑧ on the lower part.

12. Only for **balanced** operation: Trim the last ventilation pipe of the connecting line so that it reaches to the internal wall of the duct.



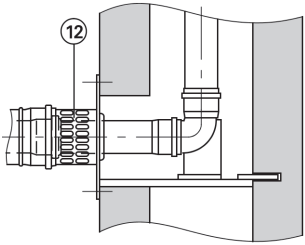
13. **Balanced** flue operation: Push on balanced flue wall bezel ⑩ and push it against the duct opening.

Open flue operation: Push on ventilation bezel ⑪ and push it against the duct opening.

Note

The gap created is designed to provide secondary ventilation for the duct.

An additional ventilation grille is not required.

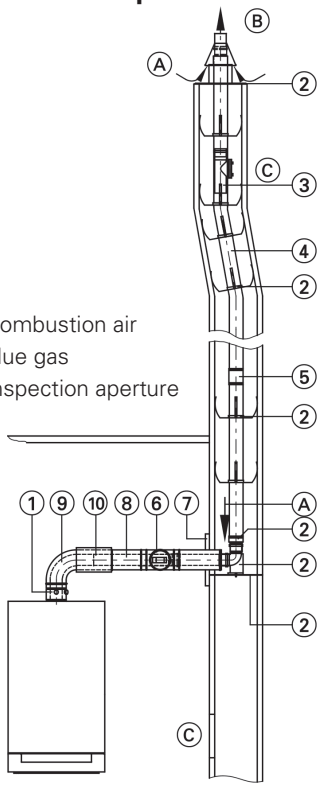


Open flue operation with combustion air supply via interconnected rooms:

Push the flue pipe (suitably trimmed to size) onto the support bend, push on room interconnection bezel ⑫ and secure it on the duct.

Flexible flue

Balanced flue operation



Ⓐ Combustion air
Ⓑ Flue gas
Ⓒ Inspection aperture

① **Boiler flue connection**

② **Standard duct pack**
Comprising:
- Support bend
- Support rail
- Duct cover
- Spacers (3 pce.)

③ **Inspection piece,** straight (for installation into the flexible flue (optional))

④ **Flexible flue**

⑤ **Connecting pipe**
for the connection of residual length of the flexible flue

Pipe lowering attachment with 20m rope

⑥ **Balanced flue inspection piece,** straight

⑦ **Wall bezel**

⑧ **Balanced flue pipe**
1 m long
0.5 m long

⑨ **Balanced flue bend**
87° or 2 x 45°
or
Balanced flue inspection tee
or
Balanced flue inspection bend

⑩ **Balanced flue sliding coupling**

Max. total flue length up to the boiler flue connection (at system temperature 50/30°C)

Vitodens 100-W	Rated output range (kw)		9 26.0	11 30.0	11 35.0				
	max. length (m) - system size 60/100		20	15	15				
Vitodens 200-W	Rated output range	4.8 19.0	6.5 26.0	8.8 30.0	8.8 35.0	17.0 45.0	17.0 60.0	30.0 80.0	30.0 105.0
	max. length (m) - system size 60/100	20	20	15	15	–	–	–	–
	- system size 80/125	–	–	–	–	20	15	–	–
	- system size 100/150	–	–	–	–	–	–	20	20
Vitodens 222-F	Rated output range (kw)	4.8 19.0	6.5 26.0	8.8 30.0	8.8 35.0				
	max. length (m) - system size 60/100	20	20	15	15				
Vitodens 242-F	Rated output range (kw)	4.8 19.0	6.5 26.0						
	max. length (m) - system size 60/100	20	20						

Allowed for are 2 bends 87° (incl. support bends).

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Routing through a duct (cont.)

Open flue operation

Connecting line to the duct for open flue operation or balanced flue operation with combustion air supply via interconnected rooms, see "Rigid flue" on page 7.

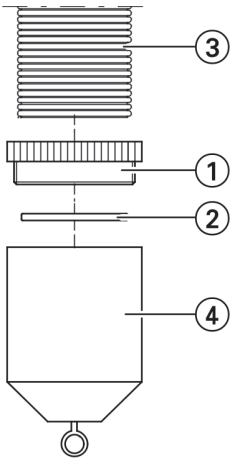
Installation

Fit the support bend and the interconnecting pipe, from page 11.

Fitting the pipe lowering attachment and drawing the flexible flue into the duct

Note

- *The flexible flue must start with a smooth section at the bottom. If necessary, trim off a piece of flue pipe.*
- *Draw in the flue exclusively from top to bottom.*
- *Subject to duct size, insert spacers at a distance of up to 2 m.*
- *Arrange a spacer before and after any deviation and any inspection piece.*
- *The flue must not contact the duct wall.*



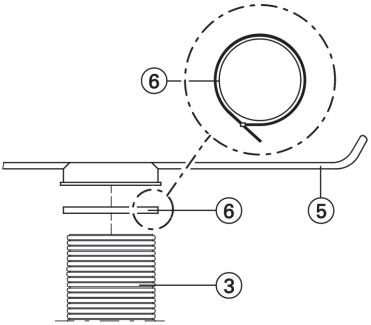
1. Remove union ring ① and retaining ring ② from the adaptor (from the standard duct set).

2. Push union ring ① onto flexible flue ③.

3. Place retaining ring ② into the second groove of flexible flue ③.

4. Fit union ring ① to pipe lowering attachment ④ and fit the rope.

Routing through a duct (cont.)



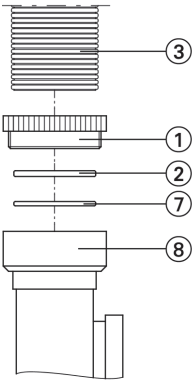
5. Push on spacers ⑤ onto the corrugated area of flue ③ (bent ends towards the flue gas flow).

6. Position line ties ⑥ supplied around the ring of spacers ⑤ and tighten securely.

Fitting an inspection piece

Note

Trim the flexible flue cleanly at right angles.



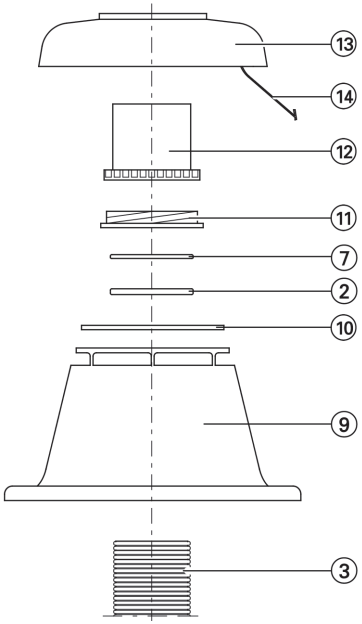
1. Push union ① onto flexible flue ③.

2. Place retaining ring ② into the second groove of flexible flue ③.

3. Position retaining ring ⑦ into the first groove of flexible flue ③.

4. Connect union ring ① with inspection piece ⑧.

Routing through a duct (cont.)



1. Route flexible flue ③ through duct cover ⑨.

2. Position the lower part of duct cover ⑨ onto the duct and secure it there.

3. Position metal supporting ring ⑩ on the lower part of duct cover ⑨.

4. Push threaded ring ⑪ as far as possible onto flexible flue ③.

5. Trim flue ③ flush with the top of threading ring ⑪.

6. Screw terminal pipe ⑫ onto threading ring ⑪.

7. Invert weather hod ⑬ over terminal piece ⑫ and click into place.

8. Hook safety rope ⑭ into the drilled holes of duct cover ⑨.

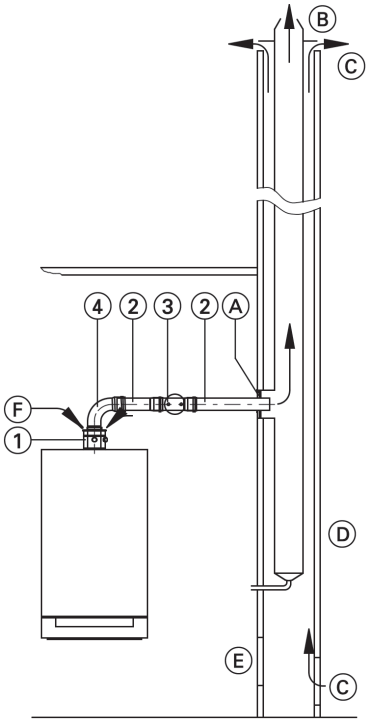
Connection to a moisture-resistant chimney

Condensing boilers can be connected to moisture-resistant chimneys to EN 13384-1, if the chimney manufacturer has verified their suitability on the basis of the specified flue gas values.

For this, local conditions (e.g. heating water return temperature, connecting pipe design, etc) must be taken into consideration.

As transition from the flue to the MR chimney, use a plug-in adaptor, such as that offered by Schiedel or an adaptor by Plewa.

Connection to a moisture-resistant chimney (cont.)



① **Boiler flue connection**

② **Flue Pipe**
2 m long
1 m long
0.5 m long

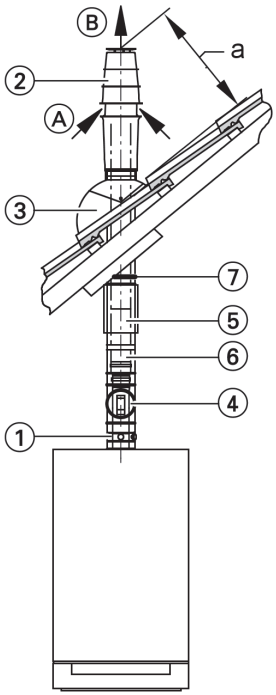
④ **Inspection piece,** straight

⑤ **Flue bend**
87° or 2 x 45°
or
Inspection tee
87°

Ⓐ Plug-in adaptor
Ⓑ Flue gas
Ⓒ Secondary ventilation
Ⓓ MR chimney
Ⓔ Inspection aperture
Ⓕ Ventilation air

Vertical outlet for sloping or flat roofs

When several roof outlets are installed side by side, maintain a minimum clearance of 1.5 m between pipes and between flue terminals and other structural elements. Observe the clearance of the flue outlet above the roof (see fig.). If the rated output is ≥50 kW, an above roof extension is required (see page 28).



Ⓐ Ventilation air
Ⓑ Flue gas

Rated output	kW	≤ 50	≥50
a (min.)	mm	400	1 000

① **Boiler flue connection**

② **Balanced flue roof outlet**

③ **Pipe outlets for Klöber roof tiles** (order the corresponding Klöber tile on site)

or

Universal roof tile

or

Flat roof collar

④ **Balanced flue inspection piece,** straight (optional)

⑤ **Balanced flue sliding coupling (optional)**

Balanced flue bend

87° or 2 x 45°

Balanced flue pipe

1 m long

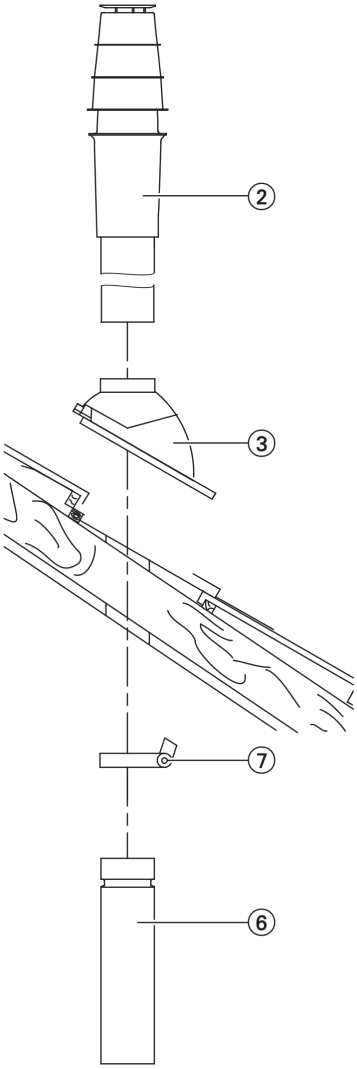
0.5 m long

Fixing clamp

5458 035 GB

Installation

Balanced flue roof outlet



Please note

Ensure the specified minimum lengths above the roof are observed.

Never trim roof outlets outside the roof.

- Install pipe outlets for Klöber roof tiles, universal roof tiles or flat roof collars in accordance with manufacturer's details.
- Integrate the flat roof collar into the roof skin according to the flat roof guidelines.
- Ceiling opening (min. diameter):

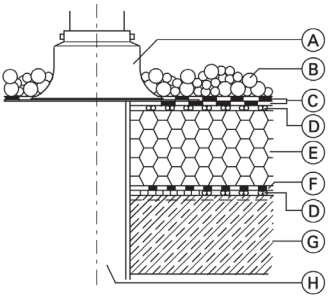
  -105 mm (system size 60)

  -130 mm (system size 80)

  -160 mm (system size 100).
- Secure the roof outlet with a clamp only after the installation has been completed.
- Position the roof outlet from the top onto tiles or the flat roof collar.
- Connect the balanced flue from below.

Vertical outlet for sloping or flat roofs (cont.)

Roof construction according to the flat roof guideline



Ⓐ Flat roof collar
Ⓑ Gravel ballast layer
Ⓒ Insulation membrane
Ⓓ Ventilation membrane
Ⓔ Thermal insulation
Ⓕ Insulation
Ⓖ Ceiling
Ⓗ Flue

Max. total flue length up to the boiler flue connection (at system temperature 50/30°C)

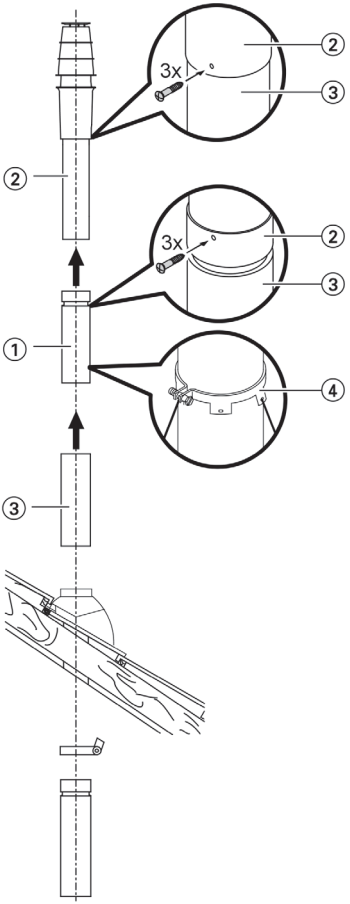
Vitodens 100-W	Rated output range (kw)		9 26.0	11 30.0	11 35.0				
	max. length (m) - system size 60/100		10	10	10				
Vitodens 200-W	Rated output range	4.8 19.0	6.5 26.0	8.8 30.0	8.8 35.0	17.0 45.0	17.0 60.0	30.0 80.0	30.0 105.0
	max. length (m) - system size 60/100	10	10	10	10	–	–	–	–
	- system size 80/125	–	–	–	–	10	6	–	–
	- system size 100/150	–	–	–	–	–	–	15	15
Vitodens 222-F	Rated output range (kw)	4.8 19.0	6.5 26.0	8.8 30.0	8.8 35.0				
	max. length (m) - system size 60/100	10	10	10	10				
Vitodens 242-F	Rated output range (kw)	4.8 19.0	6.5 26.0						
	max. length (m) - system size 60/100	10	10						

Allowed for are 2 bends 87° (incl. support bends).

Vertical outlet for sloping or flat roofs (cont.)

Fit the above-roof extension

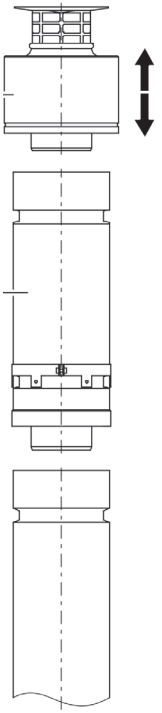
System size 60 and 80



1. Push the internal pipe of above-roof extension ①onto roof outlet ② and secure with 3 screws provided.
2. Push black pipe section ③ onto roof outlet ② and secure with 3 screws provided.
3. Push roof outlet ② with above-roof extension ① onto the balanced flue.
4. Secure the above-roof extension (1000 mm long) with clip ④ provided and with guy ropes.

Vertical outlet for sloping or flat roofs (cont.)

System size 100



1. Remove top part ① of the roof outlet.

2. Push above-roof extension ② onto the roof outlet.

3. Push top part ① onto above roof extension ②

Note

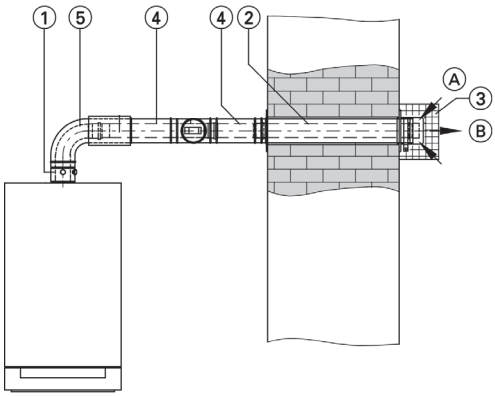
For extensions ≤1 m, secure the roof outlet with guy ropes (can be secured to the above-roof extension).

Horizontal wall terminal

Note

Not for the Vitocrossal or the Vitoladens.

Route the connecting pipe with a slope of at least 3° (approx. 50 mm/m).



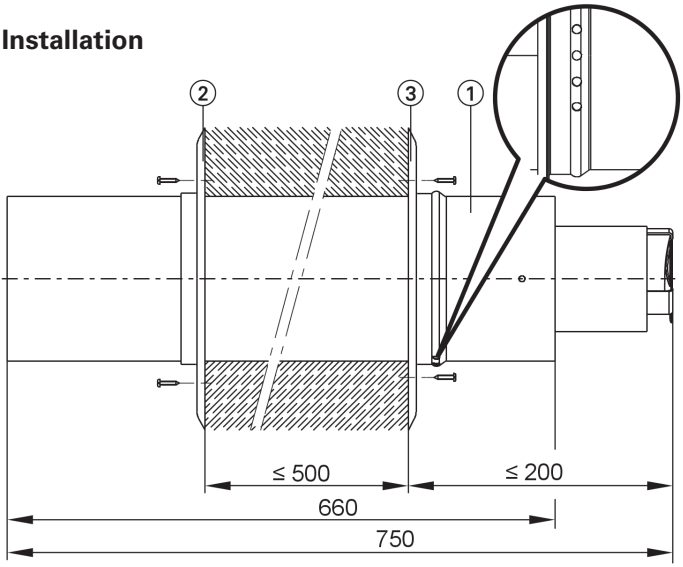
Ⓐ Combustion air Ⓑ Flue gas

① **Boiler flue connection**
② **Balanced flue external wall connection** (incl. wall bezels)
③ **Protective grille**
④ **Balanced flue pipe** 1 m long 0.5 m long
⑤ **Balanced flue bend** 87° or 2 x 45°
Fixing clamp

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Horizontal wall terminal (cont.)

Installation



1. Create a wall outlet (min. diameter):

- 105 mm (system size 60)
- 130 mm (system size 80)

2. Push external wall outlet ① with wall bezel ③ into the opening in the wall (drain holes must be outside the wall).

3. Fit internal rawl plugs for wall bezel ②.

4. Fit external rawl plugs for wall bezel ③.

5. If the external wall outlet terminates near public footpaths up to 2 m above the ground, fit a protective grille.

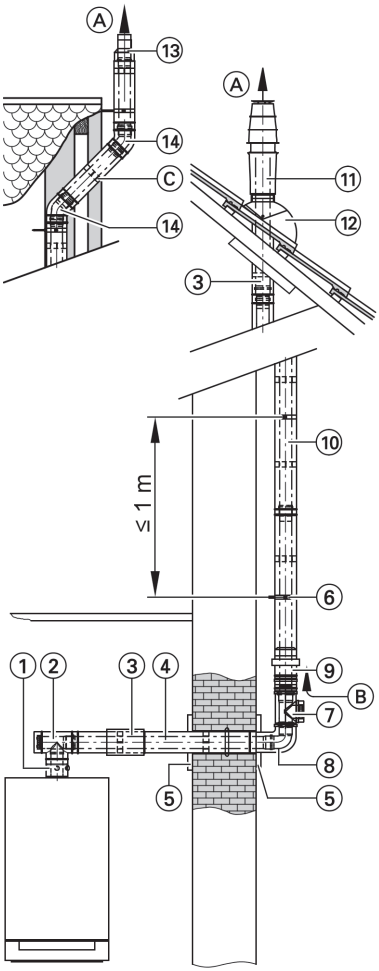
6. Connect the balanced flue interconnecting pipe from the inside and route with a slope of at least 3° (aprox. 50 mm/m) towards the boiler.

Max. total flue length up to the boiler flue connection (at system temperature 50/30°C)

Vitodens 100-W	Rated output range (kw)		9 28.0	11 30.0	11 35.0				
	max. length (m) - system size 60/100		8	8	8				
Vitodens 200-W	Rated output range	4.8 19.0	6.5 26.0	8.8 30.0	8.8 35.0	17.0 45.0	17.0 60.0	30.0 80.0	30.0 105.0
	max. length (m) - system size 60/100	10	10	10	10	–	–	–	–
	- system size 80/125	–	–	–	–	10	10	–	–
	- system size 100/150	–	–	–	–	–	–	10	10
Vitodens 222-F	Rated output range (kw)	4.8 19.0	6.5 26.0	8.8 30.0	8.8 35.0				
	max. length (m) - system size 60/100	10	10	10	10				
Vitodens 242-F	Rated output range (kw)	4.8 19.0	6.5 26.0						
	max. length (m) - system size 60/100	10	10						

Allowed for are 2 bends 87° (incl. support bends).

Routing over an external wall



Ⓐ Flue gas
Ⓑ Combustion air
Ⓒ Step in the external wall routing for a short roof overhang

① **Boiler flue connection**

② **Balanced flue inspection tee, 87°**
or
Balanced flue inspection bend, 87°

③ **Balanced flue sliding coupling (optional)**

④ **Balanced flue pipe**
1.95 m long
1 m long
0.5 m long

⑤ **Wall bezel**

⑥ **Fixing clamp**

⑦ **Balanced flue inspection piece,** straight (optional)

External wall pack
with

⑧ **Balanced flue bend**
87°

⑨ **Balanced flue air intake**

⑩ **Balanced flue pipe**
1.95 m long
1 m long
0.5 m long

⑪ **Balanced flue roof outlet**
(with a high roof overhang above the roof)

⑫ **Universal roof tile**
or
Pipe outlet for Klober roof tiles
(order the corresponding Klober tile on site)

⑬ **External wall terminal**
(for a short roof overhang)

⑭ **Balanced flue bend**
45°

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Routing over an external connection (cont.)

Installation

1. Create a wall outlet (min. diameter):
- 105 mm (system size 60)
- 130 mm (system size 80)
- 160 mm (system size 100).

2. Push external wall bend ⑧ with wall bezel ⑤ from the outside into the hole in the wall.

3. Fit air intake ⑨ as near as possible to external wall bend ⑧.

4. Secure the wall bezel from the inside.

5. Connect the balanced flue interconnecting pipe from the inside and route with a slope of at least 3° (approx. 50 mm/m) towards the boiler.

6. Fit sections with external wall clips at a constant distance from the external wall. Set external wall clips at centres of up to 1 m.

7. **Please note**
Ensure the specified minimum lengths above the roof are observed. Never trim roof outlets outside the roof.

- Use universal tiles or air vent tiles with pipe outlets.
- Set balanced flue sliding coupling ③ below the roof outlet.
- Install pipe outlets for Klöber or universal roof tiles in accordance with manufacturer's details.
- Position the roof outlet from the top onto tiles.
- Connect the external wall line from below.

Max. total flue length up to the boiler flue connection (at system temperature 50/30°C)

Vitodens 100-W	Rated output range (kw)		9 26.0	11 30.0	11 35.0				
	max. length (m) - system size 60/100		20	15	15				
Vitodens 200-W	Rated output range	4.8 19.0	6.5 26.0	8.8 30.0	8.8 35.0	17.0 45.0	17.0 60.0	30.0 80.0	30.0 105.0
	max. length (m) - system size 60/100	20	20	15	15	–	–	–	–
	- system size 80/125	–	–	–	–	20	15	–	–
	- system size 100/150	–	–	–	–	–	–	20	20
Vitodens 222-F	Rated output range (kw)	4.8 19.0	6.5 26.0	8.8 30.0	8.8 35.0				
	max. length (m) - system size 60/100	20	20	15	15				
Vitodens 242-F	Rated output range (kw)	4.8 19.0	6.5 26.0						
	max. length (m) - system size 60/100	20	20						

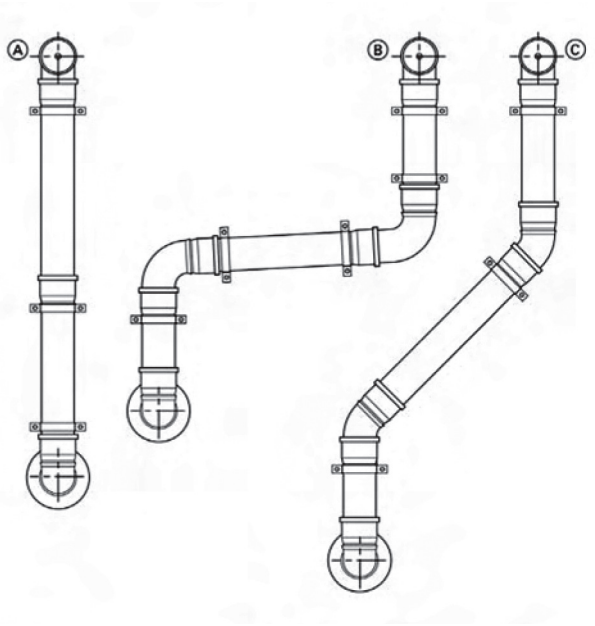
Allowed for are 2 bends 87° (incl. support bends).

Preparing for installation

Plume kit installation instructions

The plume kit enables the relocation of the flue outlet of a standard horizontal flue system to another position and is available as an optional extra, please contact your supplier for further information.

Routing options



Ⓐ Plume kit standard delivery 2m max length

Ⓑ Plume kit standard delivery additional options:

- 2 x 87° bends
- 1 pipe 1m long

Ⓒ Plume kit standard delivery additional options:

- 2 x 45° bends
- 1 pipe 1m long

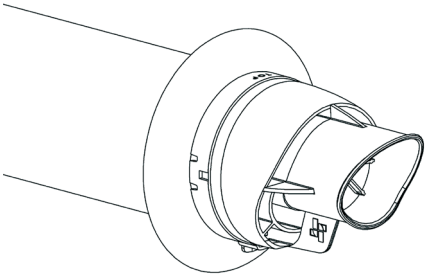
Ensure the max. length of 3m (externally) and 7m (internally) is not exceeded.

The max. length is reduced by 1m when using a further 87° bend or 2x45° bends.

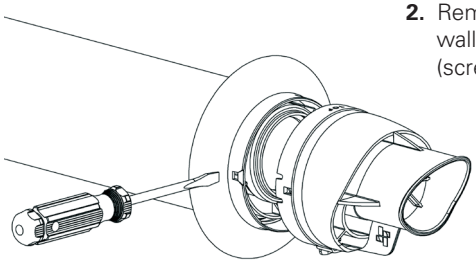
Deduct 3m from the max. possible standard concentric horizontal flue length and add the standard plume kit max length to give max. length of entire flue system. ie. 6m - 3m + 2m = 5m max.

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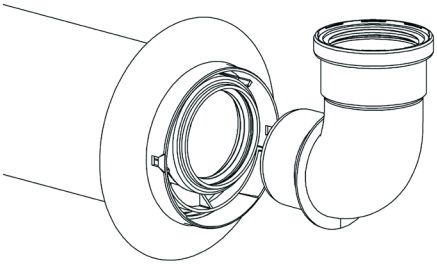
Flue kit installation instructions



1. Start

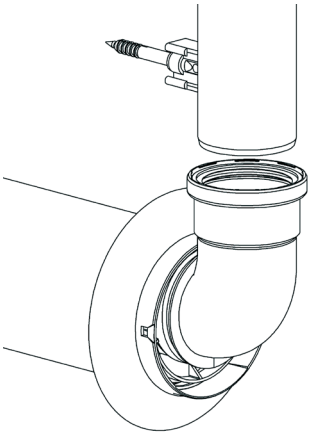


2. Remove the nozzle of the wall terminal with a tool (screwdriver)

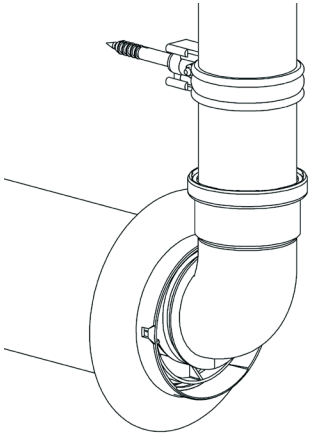


3. Fit the 87° elbow with skirt into the inner flue pipe, twisting it into the correct position.

Flue kit installation instructions

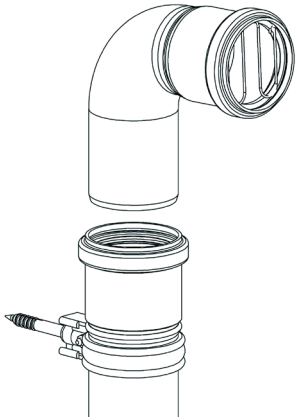


4. Connect the pipe to the bend



5. Fix flue pipe to the wall with clips

6. Continue step 4 and 5 until the desired height is reached



7. Connect the 87° bend with bird mesh to the last pipe

