GC 7000 WP Flue and Ventilation Quick Reference Guide

2024

Air supply and ventilation quick referencing guide for the Worcester Bosch GC 7000 WP – covering **BS5440-1:2023, BS5440-2:2023, BS6644:2011** and **IGEM-UP-10 (Edition4)**.

Ventilation

Air supply and ventilation within a **domestic installation** – quick referencing guide to meet **BS5440-2:2023** (applicable only to single boilers).

With reference to any boiler below 70 kW Input (GC 7000 WP 50 kW & 65 kW condensing boilers only).

Please note: Groups of boilers exceeding 70 kW net are covered by IGEM-UP-10 (Edition 4) and BS6644:2011.

Total rated net input must not exceed 70 kW

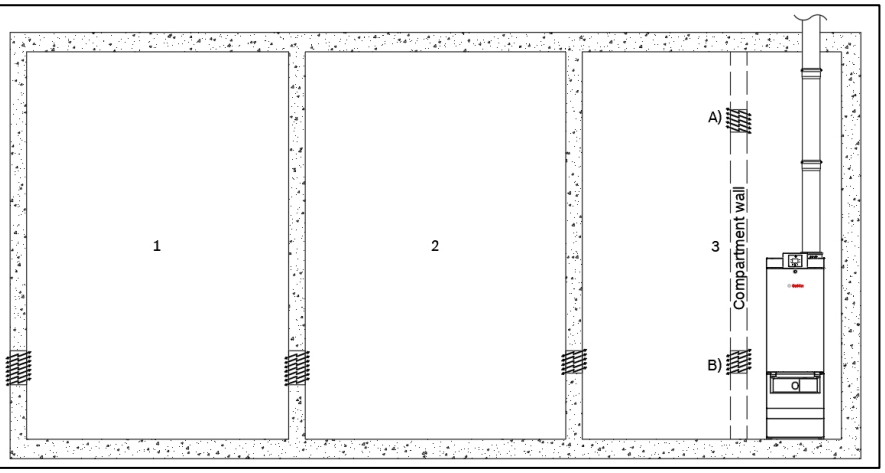
Natural ventilation for open flued appliances installed within a room.

BOILER TYPE	NET HEAT INPUT	VENTILATION ROUTE	ROOM 1	ROOM 2	ROOM 3
GC 7000 WP 50 kW	47.5 kW	Ventilation for room containing appliance	203 cm²	N/A	N/A
		Ventilation through 1 additional room	304 cm²	203 cm²	N/A
		Ventilation through 2 additional rooms	304 cm²	304 cm²	203 cm²
GC 7000 WP 65 kW	64.3 kW	Ventilation for room containing appliance	287 cm²	N/A	N/A
		Ventilation through 1 additional room	430 cm²	287 cm²	N/A
		Ventilation through 2 additional rooms	430 cm²	430 cm²	287 cm²

This example shows an installation where the GC 7000 WP 50 kW boiler is placed within a room adjacent to two additional rooms.
The two adjacent rooms will have the larger ventilation installed.

A) & B) Represents high-level and low-level vent arrangement for an open flue within a compartment. See tables below for vent sizing based on net heat input.

e.g., 47.5 kW x 10cm² = 475cm²
High level ventilation to a room or internal space.



Natural ventilation for open flued appliances installed within an enclosure.

VENTILATION ROUTE / GRILLE LOCATION		VENTILATION TO A ROOM OR INTERNAL SPACE (THE ROOM OR INTERNAL SPACE VENTILATION MUST BE VENTILATED AS DETAILED ABOVE TO THE OUTSIDE AIR)	VENTILATION DIRECT TO OUTSIDE AIR
High level (free area cm² per kW net heat input)	cm²	10	5
Low level (free area cm² per kW net heat input)	cm²	20	10

Natural ventilation for room sealed appliances installed within an enclosure.

VENTILATION ROUTE / GRILLE LOCATION		VENTILATION TO A ROOM OR INTERNAL SPACE	VENTILATION DIRECT TO OUTSIDE AIR
High level (free area cm² per kW net heat input)	cm²	10	5
Low level (free area cm² per kW net heat input)	cm²	10	5

Air Supply and ventilation within a **commercial installation** – quick referencing guide to meet **IGEM-UP-10 (Edition 4)** and **BS6644:2011**.

IGEM-UP-10 (Edition 4) and **BS6644:2011** refers to the installation of an individual boiler or group of boilers that has a total 'net heat input' exceeding 70kW input.

Please note: Summer usage as per IGEM-UP-10 (Edition 4) states the temperature within a plant room, enclosure, or balanced compartment must comply with the figures in the table below when assuming an ambient air temperature of 15ºC.

ASSUMING AMBIENT AIR TEMPERATURE @ 15ºC		
High-level (100mm below ceiling level)	ºC	40
Mid-level (Mid-height from floor level)	ºC	32
Low-level (100mm above floor level)	ºC	25

Open flued gas appliance installed within a plant room (natural ventilation direct to outside air)

SYSTEM TYPE / GRILLE LOCATION (WITH 600MM CLEARANCE FROM ANY OBSTRUCTION)		HEATING & / OR HWS 50% SUMMER USAGE	HEATING & / OR HWS 75% SUMMER USAGE	HEATING & / OR HWS 100% SUMMER USAGE
High level (free area cm² per kW net heat input)	cm²	2	3	4
Low level (free area cm² per kW net heat input)	cm²	4	5	6

Open flued gas appliance installed within an enclosure (natural ventilation direct to outside air)

SYSTEM TYPE / GRILLE LOCATION (WITH 600MM CLEARANCE FROM ANY OBSTRUCTION)		HEATING & / OR HWS 50% SUMMER USAGE	HEATING & / OR HWS 75% SUMMER USAGE	HEATING & / OR HWS 100% SUMMER USAGE
High level (free area cm² per kW net heat input)	cm²	5	6	7
Low level (free area cm² per kW net heat input)	cm²	10	11	12

Room sealed appliance within a ventilated space (natural ventilation direct to outside air)

SYSTEM TYPE / GRILLE LOCATION (WITH 600MM CLEARANCE FROM ANY OBSTRUCTION)		HEATING & / OR HWS 50% SUMMER USAGE	HEATING & / OR HWS 75% SUMMER USAGE	HEATING & / OR HWS 100% SUMMER USAGE
High level (free area cm² per kW net heat input)	cm²	2	3	4
Low level (free area cm² per kW net heat input)	cm²	2	3	4

Room sealed gas appliance installed within an enclosure (natural ventilation direct to outside air)

SYSTEM TYPE / GRILLE LOCATION (WITH 600MM CLEARANCE FROM ANY OBSTRUCTION)		HEATING & / OR HWS 50% SUMMER USAGE	HEATING & / OR HWS 75% SUMMER USAGE	HEATING & / OR HWS 100% SUMMER USAGE
High level (free area cm² per kW net heat input)	cm²	5	6	7
Low level (free area cm² per kW net heat input)	cm²	5	6	7

In addition to the ventilation requirements above, the requirements of DSEAR (IGEM-UP-16, Section 4.9) must be considered when there is a risk of flammable gas building up from confined gas pipework.

Note: this quick reference document is not intended to replace the need to have access to the relevant standards and only relates to GC 7000 WP product range.

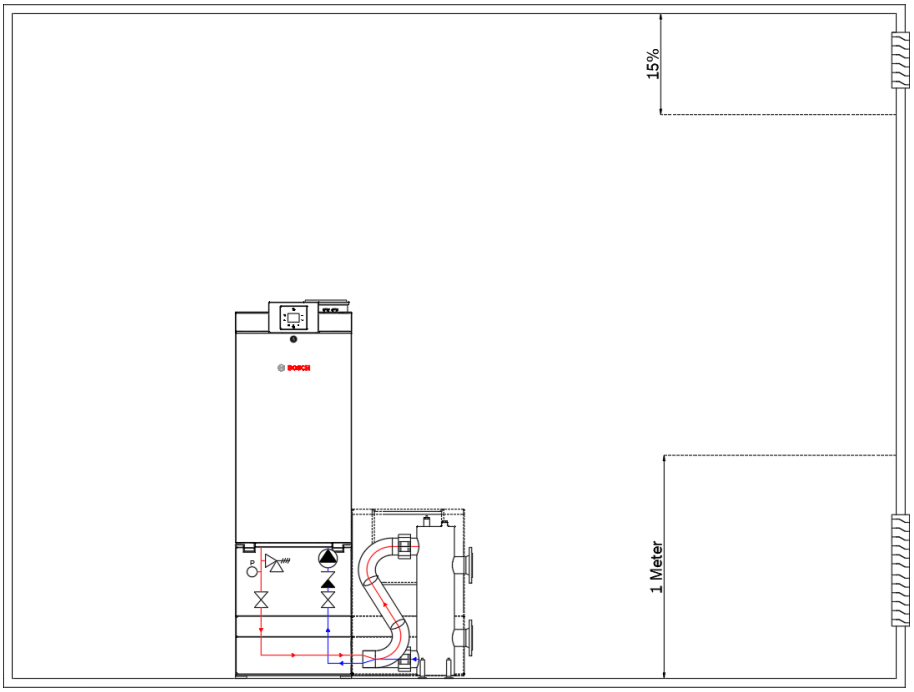
Positioning of ventilation within a **Commercial plant room** – to meet **IGEM-UP-10 (Edition 4)** requirements – **7.2.1.6** refers to high level ventilation (15% from ceiling) and **7.2.1.7** refers to low level ventilation (1m & 250mm from floor).

Low-level ventilation must be within 1m off the floor for **Natural Gas**, and within 250mm of the floor for **LPG**.

High-level ventilation openings shall be located within 15% of the building height from the ceiling.

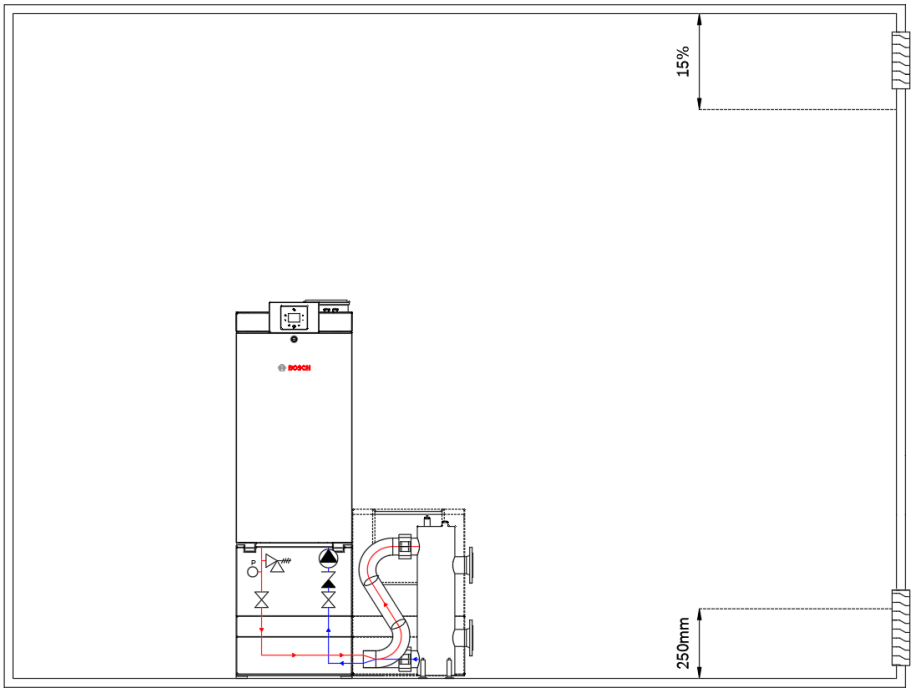
The below image provides a visual representation of a **Natural Gas** appliance and its ventilation requirements.

Figure 1 – Natural Gas Appliance



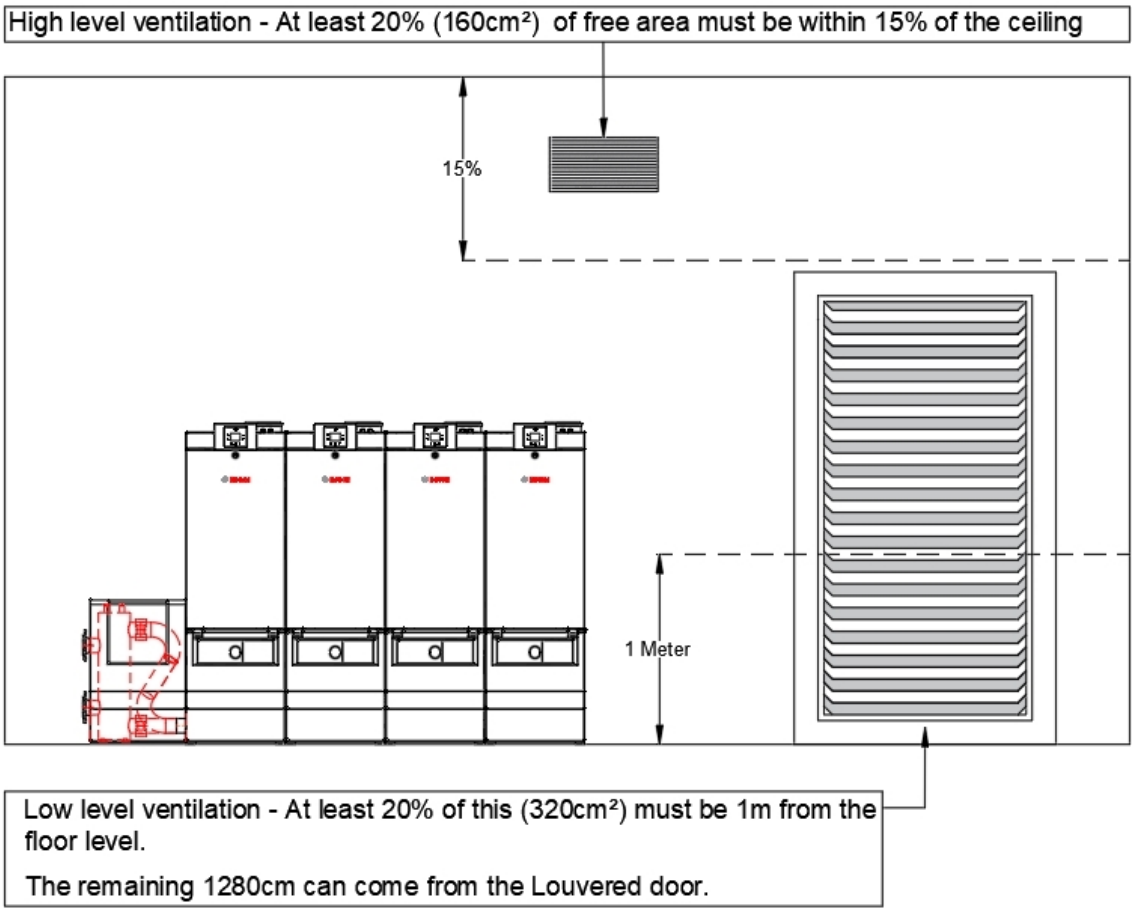
The below image provides a visual representation of an **LPG** appliance and its ventilation requirements.

Figure 2 – LPG Appliance



An example of ventilation distribution for a plant room that has louvered doors and additional high-level ventilation – with reference to **IGEM-UP-10 (Edition 4) – 7.2** – Figure 2.

Figure 3 – Example ventilation calculation



Example: Based on 4 x GC 7000 WP 100kW boilers @ 96.5 kW Net heat input, placed within a boiler room that has a summer usage below 50%

Low level ventilation: 4 x 96.5 kW = 386 kW x 4cm² = 1544cm²

High level ventilation: 4 x 96.5 kW = 386 kW x 2cm² = 772cm²

In the example above the existing louvered door, whilst providing more than the total free area ventilation requirement, does not provide at least 20% of the required high-level ventilation within 15% of the ceiling. Therefore, an additional high-level vent has been added.

At low level, the louvered door provides at least 20% of the low-level ventilation required within 1m of the floor, so no additional low-level ventilation is required.

Air supply and ventilation within a **commercial installation** continued – quick referencing guide to meet **IGEM-UP-10 (Edition 4)** and **BS6644:2011**.

Mechanical ventilation for appliances without draught diverters in accordance with **IGEM/UP/10 edition 4 table 2**

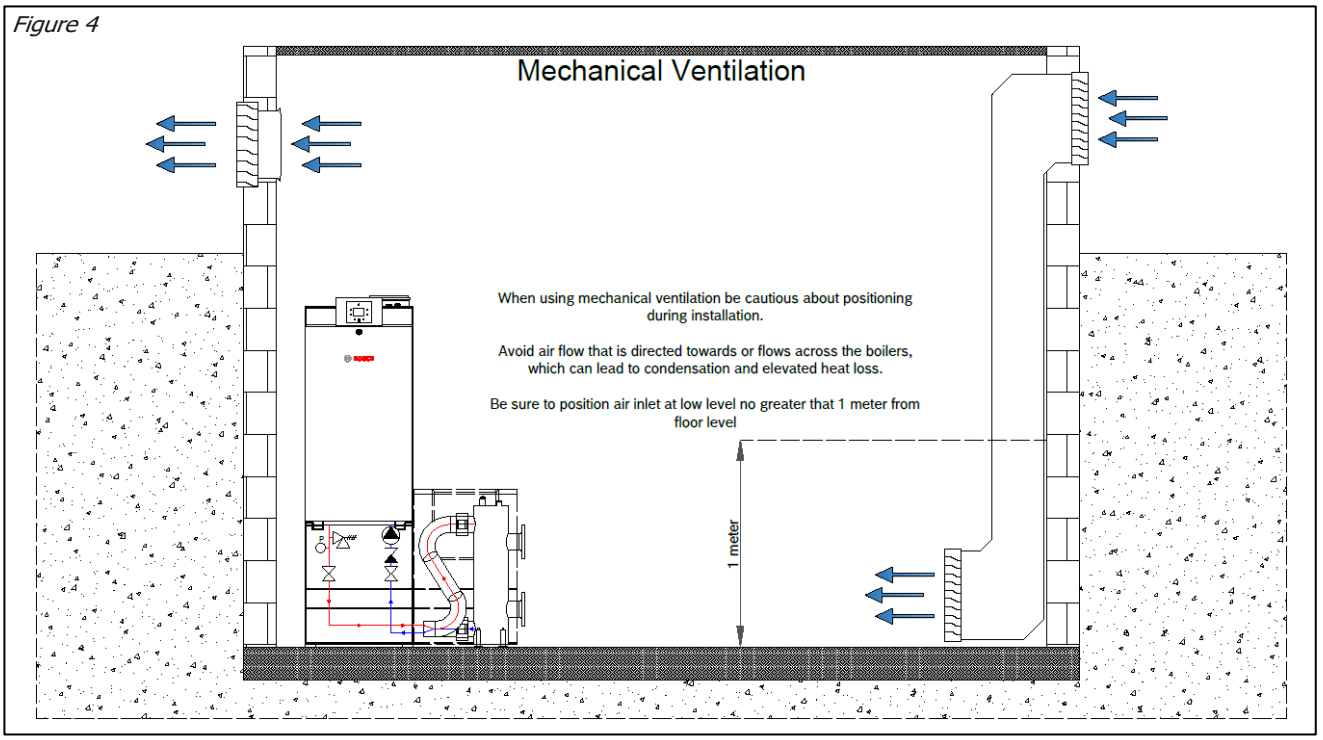
SYSTEM TYPE / GRILLE LOCATION (WITH 600MM CLEARANCE FROM ANY OBSTRUCTION)	CALCULATION	HEATING & / OR HWS 50% SUMMER USAGE	HEATING & / OR HWS 75% SUMMER USAGE	HEATING & / OR HWS 100% SUMMER USAGE
Difference between inlet and extract air	**$m^3 h^{-1}$ x (Net heat input kW)**	**1.35 +/- 0.18**	**1.35 +/- 0.18**	**1.35 +/- 0.18**
Inlet ventilation	**$m^3 h^{-1}$ x (Net heat input kW)**	**2.6**	**3.32**	**3.95**

Example: Based on 4 x GC 7000 WP 100kW boilers @ 96.5 kW Net heat input, placed within a boiler room that has a summer usage below 50%

Inlet ventilation = 2.6 $m^3 h^{-1}$ x 386 (Total net heat input kW) = 1003.6 $m^3 h^{-1}$
Difference between inlet and extract air = 1.35 $m^3 h^{-1}$ x 386 (Total net heat input kW) = 521.1 $m^3 h^{-1}$

Actual extract volume = 1003.6 $m^3 h^{-1}$ - 521.1 $m^3 h^{-1}$ = 584 $m^3 h^{-1}$

Figure 4



Note: Suitable for natural gas installations only

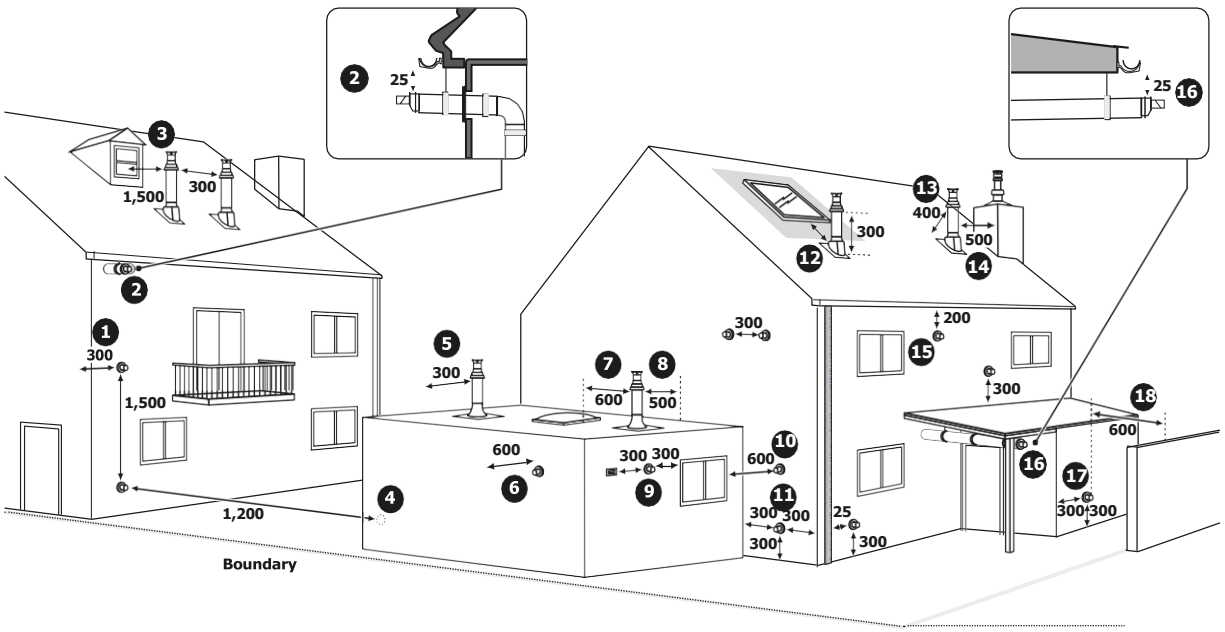
Flue termination

The information in this section is based on net heat input not exceeding 333 kW aggregated. for anything over 333 kW net heat input please refer to vertical open flue termination. *(See page 11)*

Please note: This quick reference document is not intended to replace the need to have access to the relevant standards and only relates to GC 7000 WP.

Flue terminal positions quick referencing guide for boilers below 70 kW net heat input – to meet standard **BS5440-1:2023**. For installations above 70 kW net heat input please refer to Figure 6.

Figure 5 (measurements in mm)



Notice:

- All Measurements are in millimetres.
- All measurements are the **minimum** clearances required.
- Terminals must be positioned as to avoid combustion products entering the building.
- Support the flue at approximate 1-meter intervals and at a change of direction, use suitable brackets and fittings (Ø160mm Flue brackets/wall clamps available)

Table on page 7 is direct reference to *figure 5* above.

IMAGE NO:	DESCRIPTION
1	300mm adjacent to a boundary line
2	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. Any external flue joints MUST be sealed with suitable silicon sealant
3	1,500mm between a vertical flue terminal and a window or dormer window, 300mm between two flue terminals if terminating at same height. If multiple flues terminate at multiple heights, please see fig 12 & 13.
4	1,200mm between terminals facing each other
5	Vertical flue clearance, 300mm adjacent to a boundary line
6	600mm distance to a boundary line unless it causes a nuisance. BS5440: 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, or 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
12	2,000mm below a Velux window, 600mm above or to either side of the Velux window
13	400mm from a pitched roof or in regions with heavy snow fall 500mm
14	500mm clearance to any vertical structure on a roof, 600mm to a room sealed flue or 1,500 to an open flue
15	200mm below eaves and 75mm below gutters, pipes, and drains
16	The dimension below eaves, balconies and car ports can be reduced by 25mm, making sure the flue terminal is extended to clear any overhang. Any 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. 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

Flue terminal positions in accordance with **IGEM-UP-10 (Edition 4)** – minimum required distance.

Please note: For the GC 7000 WP 50 kW & 65 kW boilers, the below figures are only used when multiple units are being cascaded together (refer to IGEM-UP-10), for single installations of the GC 7000 WP 50 kW & 65 kW boilers, please refer to Figure 5 of this document to follow the guidance BS5440-1:2023.

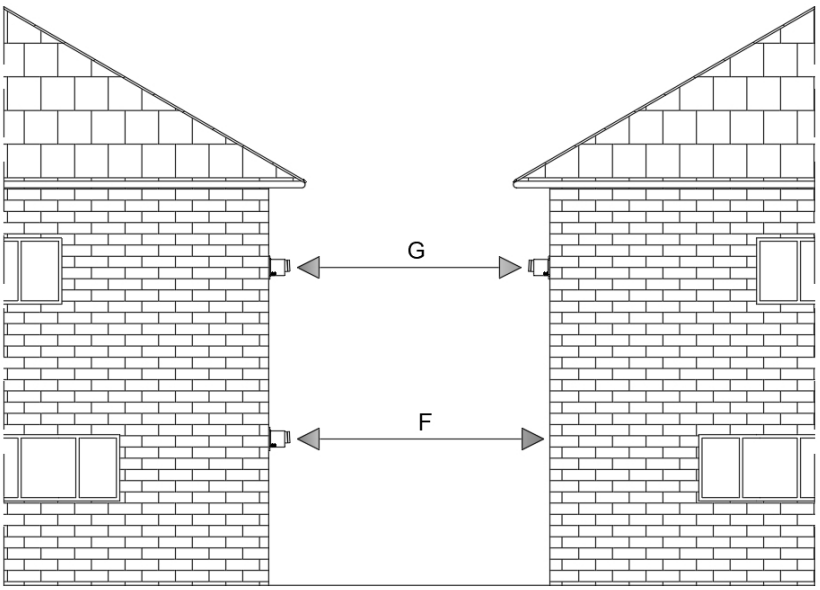
Figure 6:

Reference (See figure 5 & 7)	IGEM Calculation used	Description	Unit	50 kW	65 kW	85 kW	100 kW	125 kW	145 kW
3	N/A	Distance from openings adjacent to or above a vertical terminal (i.e., Windows)	mm	1500	1500	2500	2500	2500	2500
4	Distance G – (IGEM-UP-10, Fig. 12) (Distance G = 19.32 x (net heat input kW) + 647.59)	Horizontal terminal towards an opposing terminal (Ref. Figure 6)	mm	1200	1200	2232	2512	2930	3355
7	N/A	Distance from openings below a Vertical terminal (i.e., Skylight)	mm	600	600	687	792	948	1107
9	Distance Y – (IGEM-UP-10, Fig. 7) (Distance Y = 7.232 x (net heat input kW) + 93.708)	Distance required for flues with openings located nearby.	mm	438	559	687	792	948	1107
18	Distance F – (IGEM-UP-10, Fig. 12) (Distance F = 23.126 x (net heat input kW) - 618.84)	Horizontal terminal to an opposing flat surface (Ref. Figure 6)	mm	600	600	1278	1613	2113	2622

Flue termination – Opposing

'Figure 7' represents flue terminals opposing flue terminations and structures. These are determined by distance 'G' and 'F' from IGEM-UP-10 (Edition 4) Calculations for these distances are detailed in *'figure 6'.*

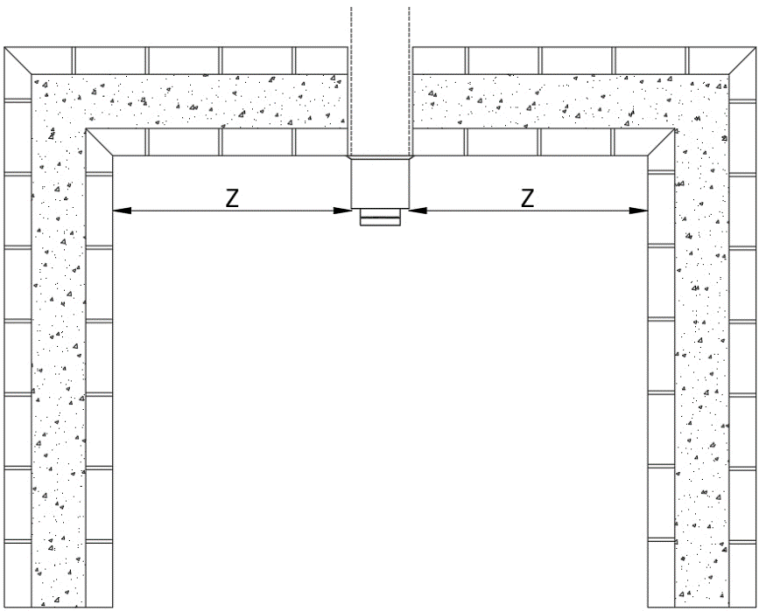
Figure 7



Flue termination – Adjacent

'Figure 8' represents flue terminations adjacent to structures, **Distance 'Z' is calculated the same as Distance 'F'** from *'Figure 6'*

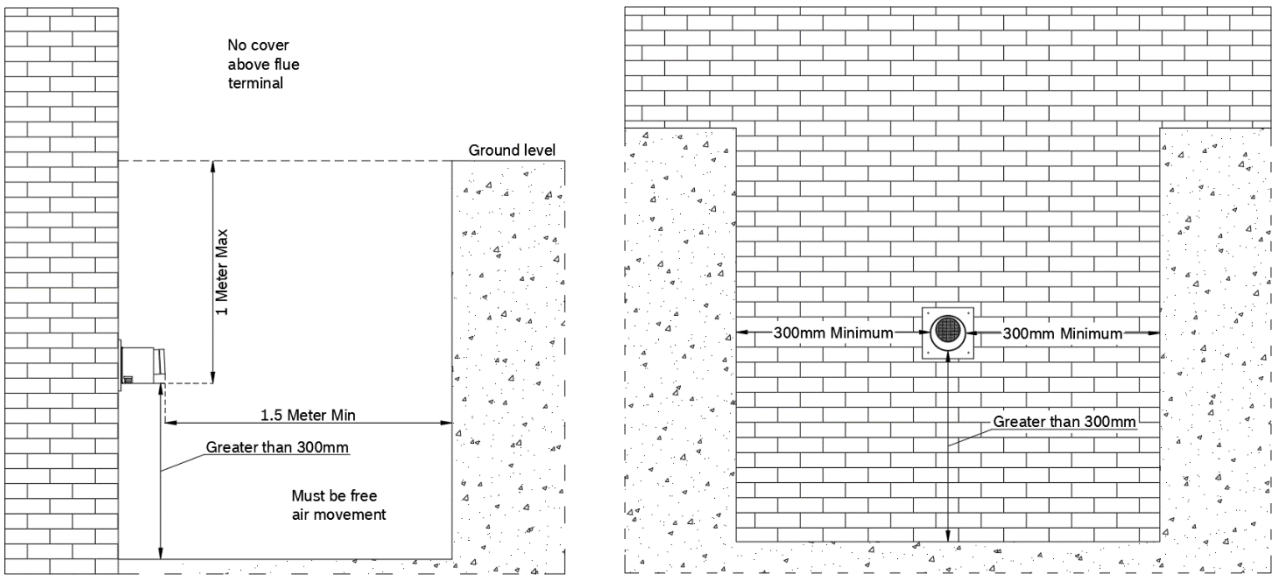
Figure 8



Light wells

This applies only to single appliances under 70 kW input, covered by BS 5440-1:2023. For commercial appliances above 70 kW the risk assessment in 'appendix 9' used for horizontal terminations complying with IGEM/UP/10 Edition 4, does not permit flue terminations within a light well. Therefore, this applies only to single GC 7000 WP 50 kW or 65 kW boilers.

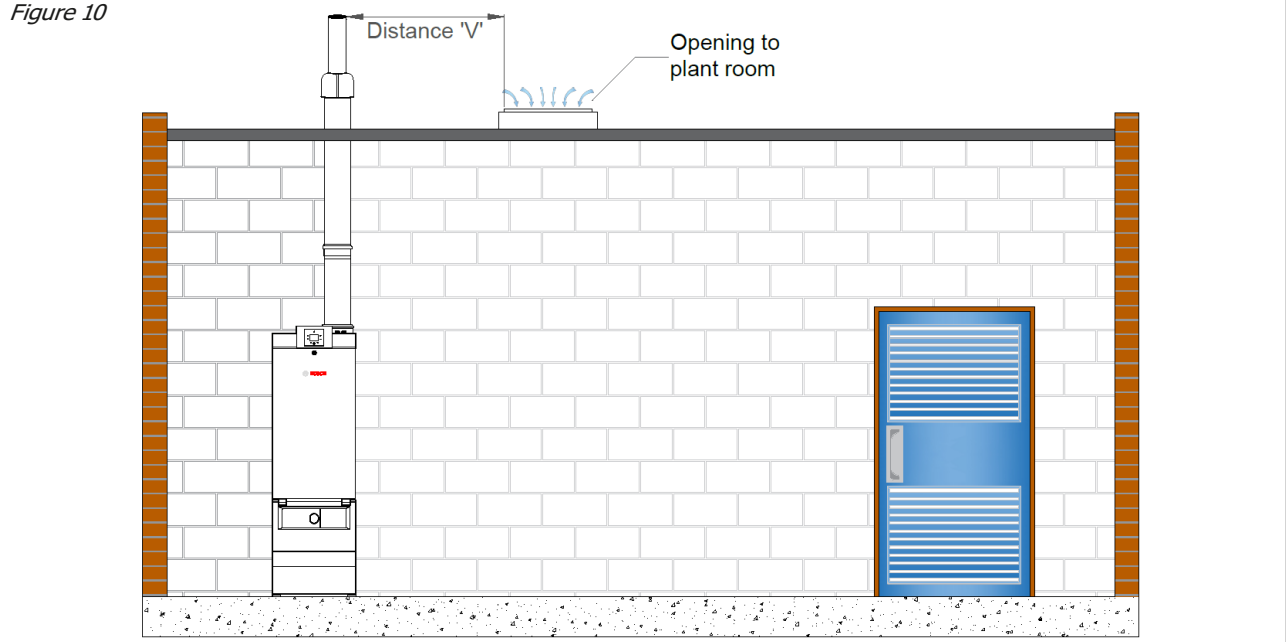
Figure 9



Vertical flue to an opening

This represents guidance for a vertical flue termination next to an opening.

Figure 10



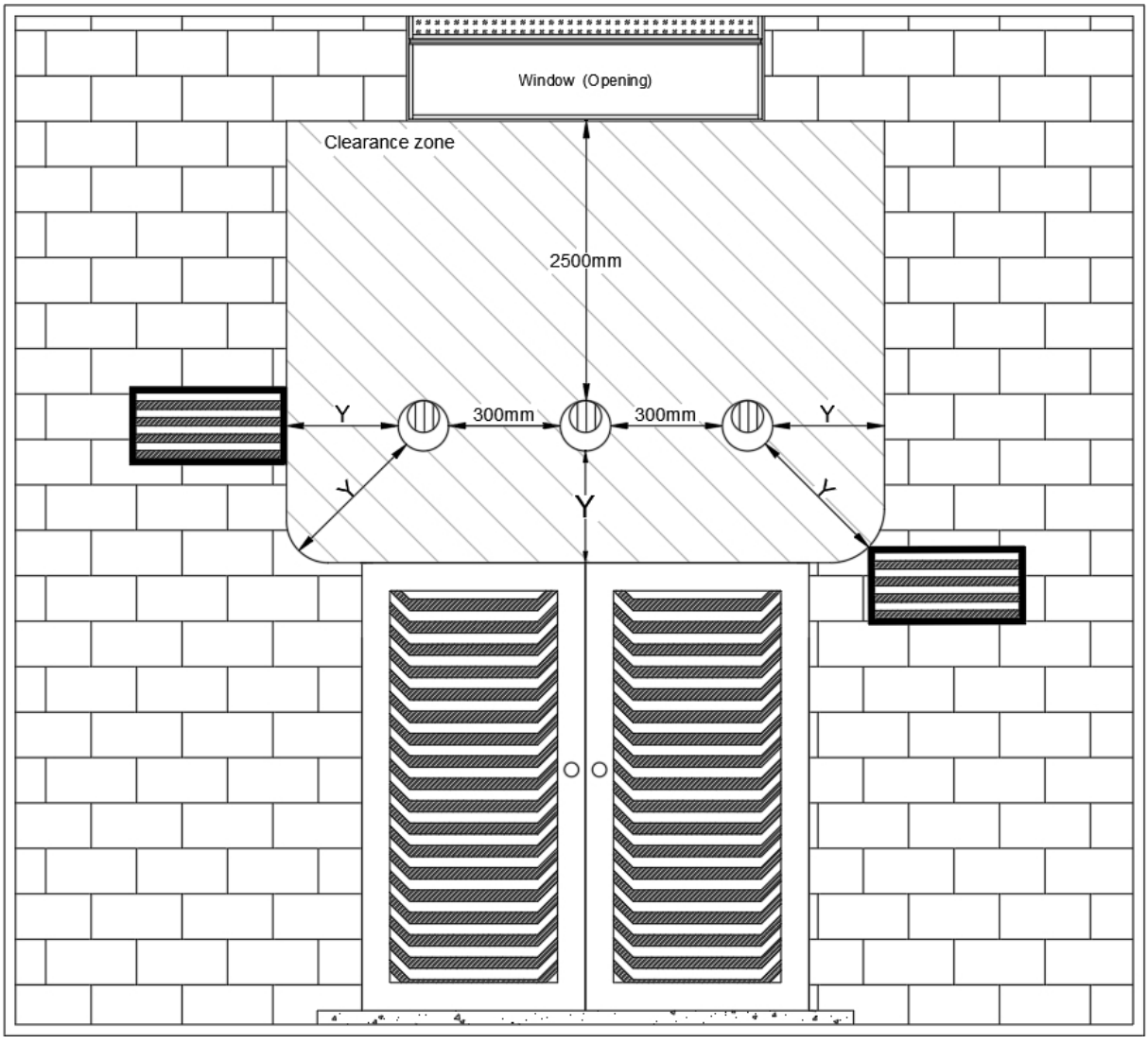
IGEM Calculation used	Description	Unit	50 kW	65 kW	85 kW	100 kW	125 kW	145 kW
Distance V – (IGEM-UP-10, Fig.7) (Distance V = 9.5156 x (net heat input kW) + 833.91	**Fan draught flue to an opening**	**mm**	**1286**	**1446**	**1615**	**1753**	**1958**	**2168**

Horizontal flue terminal distances from openings within a wall.

When multiple horizontal room sealed flues terminate on the same wall a clearance zone will need to be defined. For guidance on this please refer to *'figure 11'* and 'Y' value table below for minimum required clearances.

Please note: If the combined net heat input is above 333 kW, then Horizontal low-level terminals are not permitted, and the guidance of the 'Clean air act' should then be followed. *(See page 13)*
(In accordance with IGEM-UP-10: 3.1.1)

Figure 11



IGEM Calculation used	Description	Unit	50 kW	65 kW	85 kW	100 kW	125 kW	145 kW
Distance Y – (IGEM-UP-10, Fig. 7) (Distance Y = 7.232 x (net heat input kW) + 93.708	**Fan draught room sealed flue to an opening**	**mm**	**438**	**559**	**687**	**792**	**948**	**1107**

Example

3 Flue termination:
Left hand Boiler GC 7000 WP 50 kW, 'Y' = 438mm
Right hand Boiler GC 7000 WP 100 kW 'Y' = 792mm
For clearance below terminals please use 'Y' Value for the highest net input, for this example 'Y' = 792mm (GC7000WP 100 kW)

Plume Management Kit termination clearances

The plume terminal outlet must follow the conditions outlined in Figure 12. When directing the plume discharge outlet please refer to the tables below for minimum distance from an opening. This is to prevent products of combustion from entering the building via an opening and damage to any building fabric.

Figure 12

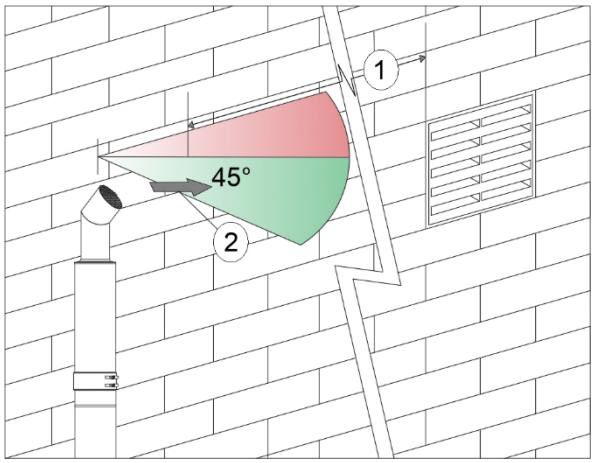
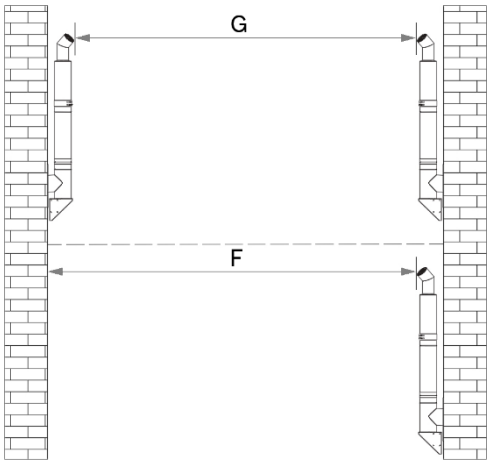


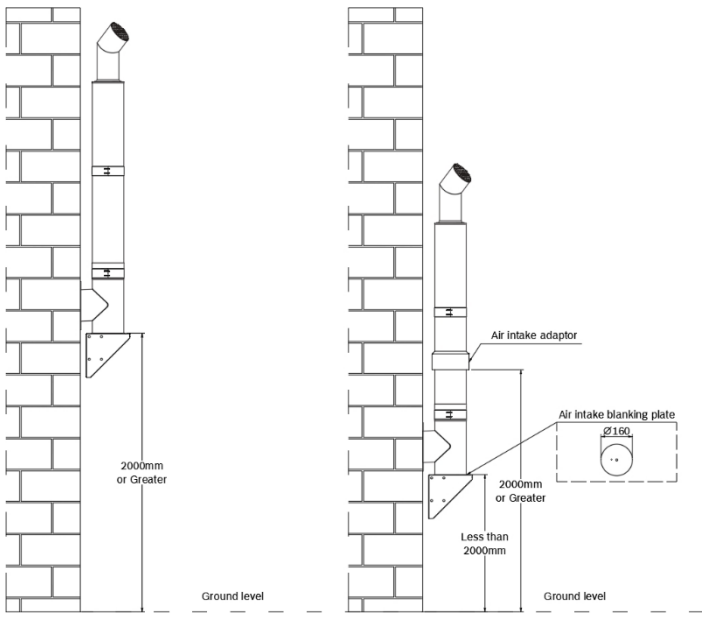
Figure 13



Reference	Description	Unit	50 kW	65 kW	85 kW	100 kW	125 kW	145 kW
1 (Figure 11)	Terminal to Opening	mm	300	300	687	792	948	1107
9 (Figure 6) & (Figure 11)	Terminal below Opening	mm	300	300	2500	2500	2500	2500
G (Figure 13)	Terminal to Terminal	mm	1200	1200	2232	2512	2930	3355
F (Figure 13)	Terminal to Surface	mm	600	600	1278	1613	2113	2622

Please note: When installing the Plume management kit, it is important to check that the Air inlet is at least 2m from ground level if a terminal guard is not used.
If this cannot be achieved then the implementation of an Air inlet adaptor is required (7-738-113-147), the standard air intake will be capped off with the supplied blanking plate, and the air adaptor then placed higher up the termination to achieve the 2m minimum distance from ground level.

Figure 14



Low level terminations – Compliance with the 'Clean Air Act'

IGEM/UP/10 (Edition 4) has given greater guidance on how to treat low level flue terminations up to 333kW input. Essentially this involves three stages to confirm a termination position can be considered.

1. Is the gas input of the appliance or group of appliances within distance 5U from each other, less than 333kW net input? If not, the position cannot be considered, and the flue must terminate above the building with Local Authority approval.
2. Are all the clearance requirements from the flue terminal position to openings, surfaces, boundaries, and internal spaces enclosed by two or more vertical walls, met?
3. Carry out the risk assessment taken from appendix 9 of **IGEM/UP/10** (Edition 4), (see example form below). Does the risk assessment confirm the termination position is acceptable?

Risk Assessment - For low level horizontal flues – to meet IGEM-UP-10 (Edition 4).

Note: Please refer to the below for guidance on where to find the required figures within IGEM/UP/10 (Edition 4).

- *Figure 11B* – page 45 (distance Y from *figure 5* above is used to assess this risk)
- *Figure 12* – page 46 (formula to calculate distance G = 19.32 x Net head input (kW) +647.59)
- 5U the distance for GC 7000 WP appliances can be found on page 12 of this document.

Section 1

Type C (room sealed) appliances with net heat exceeding 70kW and not exceeding 333kW low level flue discharge risk assessment, (including net heat input for groups of appliances).

FLUE POSITIONING		NO	YES
1	Is the proposed flue termination within the distance in figure 12 Line G of a road, path, track, thoroughfare, walkway, property boundary or area which is used for public access other than for maintenance purposes?	N	Y
2	Is the proposed flue termination within the distance in figure 12 Line G to a playground, school yard, seating area, or area where there may be a public gathering?	N	Y
3	If the proposed flue termination enclosed on more than two sides, then does it comply with the requirements of Figure 11B?	N	Y
4	Is the proposed flue termination within the distance in Figure 12 Line G of the proposed terminal position?	N	Y
5	Is the proposed flue position in an area where vehicles could be parked within distances from Figure 12 Line G to the flue?	N	Y
6	Are there shrubs or trees within minimum distances shown on Figure 12 Line G of the proposed terminal position?	N	Y
7	Is the proposed flue termination within a light well?	N	Y
8	Are the products of combustion from the proposed flue position likely to build up under unfavourable atmospheric conditions, due to poor cross flow of air caused by enclosures or adjacent structures?	N	Y
9	Is the flue termination position likely to cause a nuisance to adjoining properties?	N	Y
BUILDING REGULATION'S PART J		**NO**	**YES**
10	Is the proposed flue termination less than 300mm form the boundary of the property, as measured from the side of the terminal to the boundary?	N	Y
CLEAN AIR ACT		**NO**	**YES**
11	Is the total output of individual, or group of flue terminals (if within 5U (see A3.7)), greater than 333kW net heat output?	N	Y

Once the above risk assessment has been complete, the flue termination position is considered as:

If all the answers are NO (N) – flue position is suitable:

If any of the answer is YES (Y) – flue position is unsuitable:

Company name:

Gas safe registration number:

Engineer code: Engineer name:

Job number: Date:

Customer first line of address:

Postcode: Customer name:

Vertical Flue termination

Please note:

When placing multiple flues together on a roof, they **'must not'** protrude through the roof at multiple heights *(figure 12)*, unless the distance between each flue is at a minimum of 1500mm from each other, and at a minimum distance of 500mm from a chimney or obstruction *(figure 13)*.

Figure 12

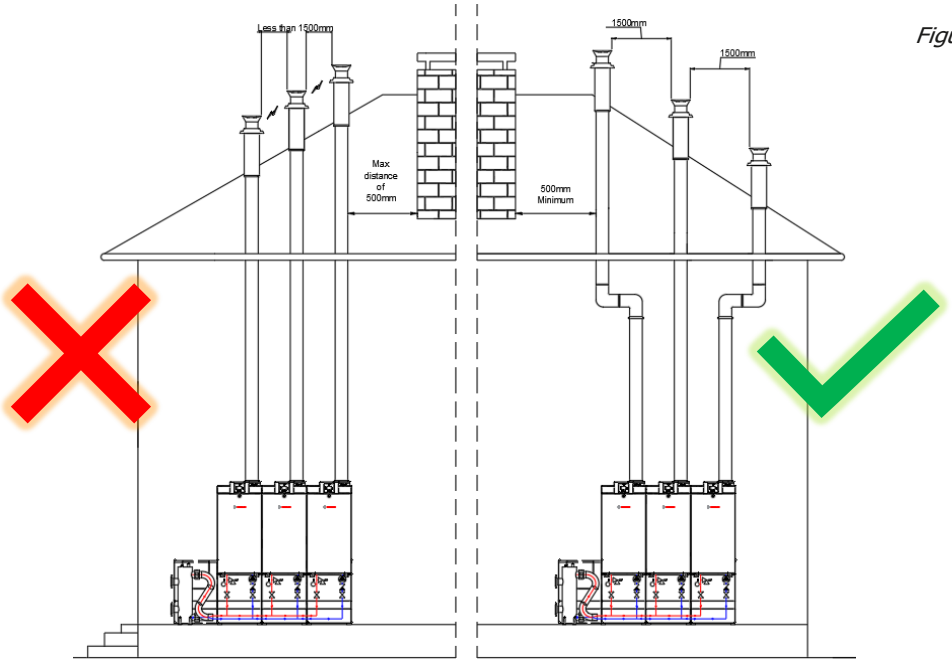
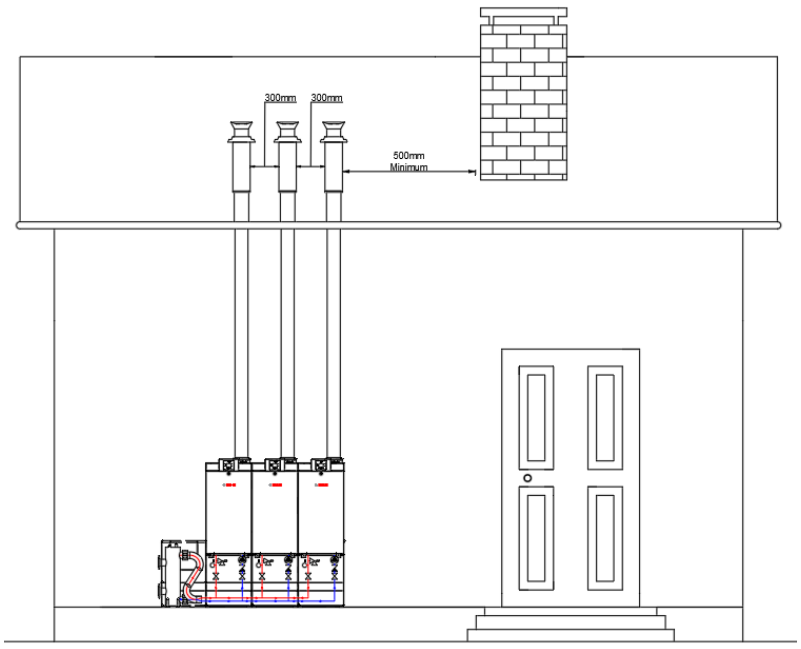


Figure 13

Figure 14 provides a representation of the preferred way to terminate multiple flues on a vertical roof.

Figure 14



Open flue terminations

5U (uncorrected chimney height) calculations for assessing flue height and aggregated groups of flue terminals

Reference	Description	Unit	50 kW	65 kW	85 kW	100 kW	125 kW	145 kW
5U (5 x Uncorrected chimney height)	**For determining if low level flue terminations must be treated as a group**	**mm**	**1221**	**1465**	**1695**	**1869**	**2110**	**2337**

- Where a group of individual flues terminate close to each other and within 5U they must be aggregated, and the value used for the flue height calculation.

Flue termination height above structures (distance X) for appliances up to 333 kW *(Refer to Figure 15)*

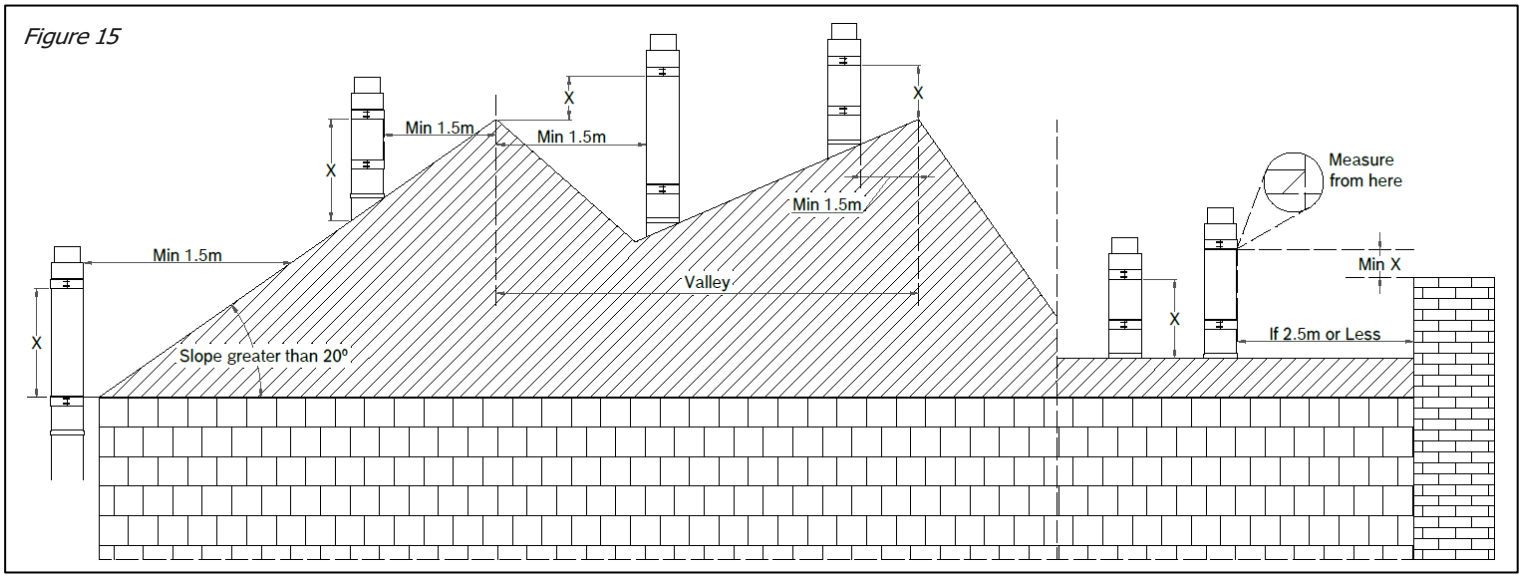
IGEM Calculation used	Description	Unit	50 kW	65 kW	85 kW	100 kW	125 kW	145 kW
Distance X – (IGEM-UP-10, Fig. 8) (Distance X = 1.5225 x (net heat input kW) + 493.43)	**Distance for Flue terminals located on a roof.**	**mm**	**566**	**592**	**619**	**641**	**674**	**707**

- For terminals fitted to a pitched roof the end-piece termination (as shown in Figure 15) should be at least 1.5m from the roof surface when measured horizontally and at least distance 'X' above the roof line (See table above for correct 'X' value calculations).
- For terminals fitted to a flat roof (where there is no general access) the end-piece termination (Base of the grill or terminal position) should be located at least distance 'X' (See table above) above the roof line at the point where it exits the roof (See Figure 14).
- Where the terminal is located within 2.5m of an adjacent structure the terminal should be at least distance 'X' above the structure (See table above for distance 'X' and reference Figure 15).

Terminations for Ridged and flat roof configurations

Please note: Flue diameters specified 170mm or less require a terminal that is designed to minimize the ingress of rain or birds.

Figure 15



Open flue terminations above 333kW net input

When a flue configuration is rated over 333 kW net heat input then according to the 'Clean air act' local authorities must be informed to gain approval of the Chimney height. This is to ensure that flue discharges do not cause nuisance to others or become a health hazard. *(In accordance with IGEM-UP-10: 3.1.1)*

The flue height should be calculated considering the building height, adjacent buildings, adjacent chimneys, and flues. If a taller building is within 5U (see Figure 16) of the flue termination point, the taller building height should be used for the calculation.

This guidance only considers the simple case where a single flue is attached to a building. For more complex situations, refer to IGEM/UP/10 Edition 4.

The total flue height = the building height (in metres) + (0.6 x U (the uncorrected chimney height))

Figure 16

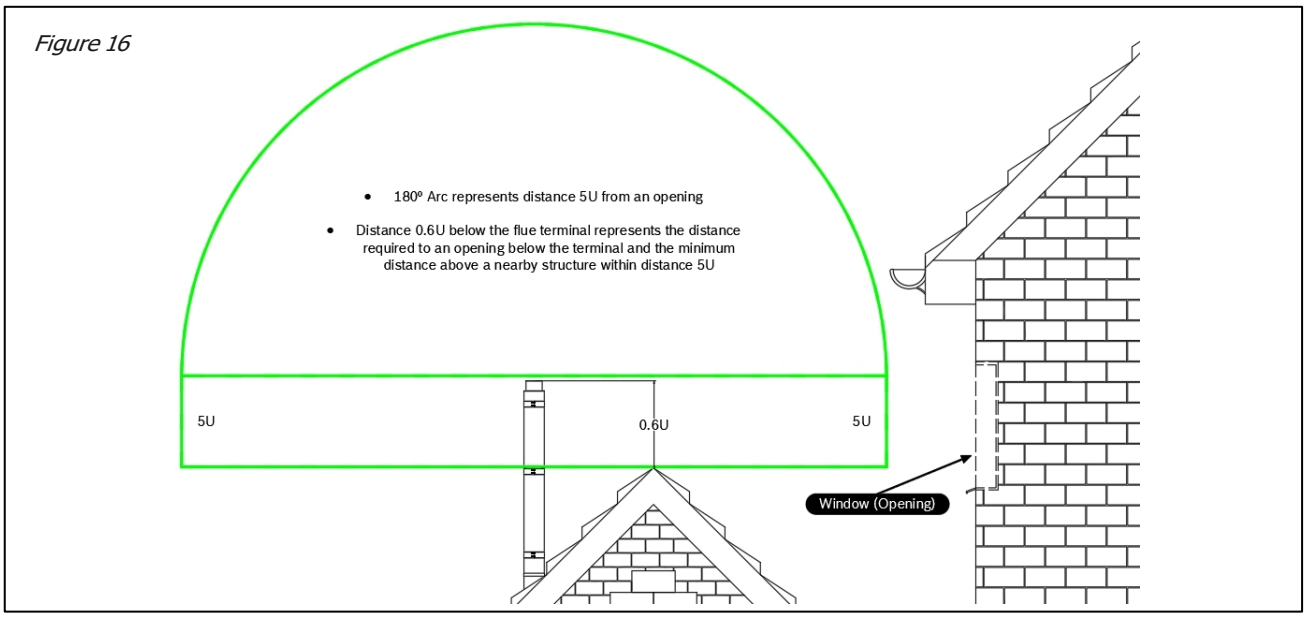
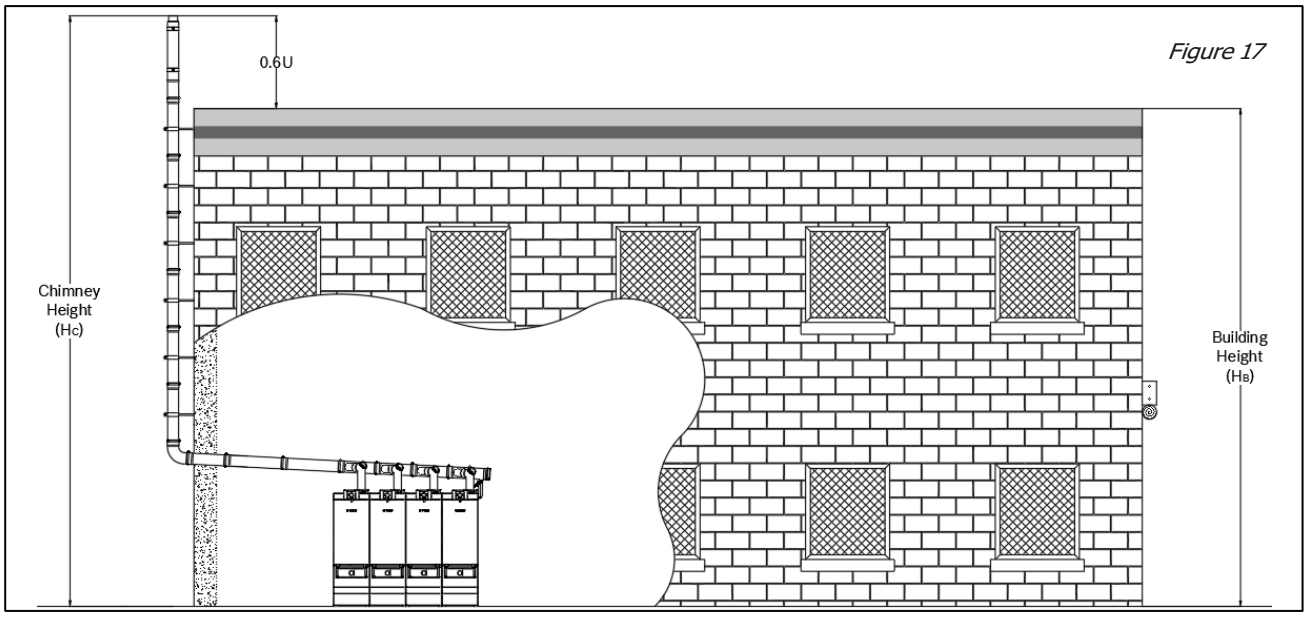


Figure 17



Example (See Figure 17)

4x GC 7000 WP @ 386 kW Net heat input = 0.859U, Building Height = 9m

- Chimney height (H_C) = Building Height (H_B) + 0.6U = 9 + 0.6 x 0.859 (1) = 10m (Round up to the nearest meter)

4x GC 7000 WP @ 560.4 kW Net heat input = 1.074U, Building Height = 15m

- Chimney height (H_C) = Building Height (H_B) + 0.6U = 15 + 0.6 x 1.074 (1.1) = 17.2m (Round up to the nearest meter)

U and 5U (uncorrected chimney height) for boilers in cascade

Boiler Combinations	kW input	U (m)	5U (m)
2 x GC 7000 WP 50kW	95	0.370	1.85
3 x GC 7000 WP 50kW	142.5	0.472	2.36
4 x GC 7000 WP 50kW	190	0.561	2.81
5 x GC 7000 WP 50kW	237.5	0.642	3.21
6 x GC 7000 WP 50kW	285	0.716	3.58
2 x GC 7000 WP 65kW	128.6	0.444	2.22
3 x GC 7000 WP 65kW	192.9	0.566	2.83
4 x GC 7000 WP 65kW	257.2	0.673	3.37
5 x GC 7000 WP 65kW	321.5	0.769	3.85
6 x GC 7000 WP 65kW	385.8	0.858	4.29
1 x GC 7000 WP 85kW	82	0.339	1.69
2 x GC 7000 WP 85kW	164	0.514	2.57
3 x GC 7000 WP 85kW	246	0.655	3.28
4 x GC 7000 WP 85kW	328	0.779	3.89
5 x GC 7000 WP 85kW	410	0.890	4.45
6 x GC 7000 WP 85kW	492	0.993	4.97
1 x GC 7000 WP 100kW	96.5	0.374	1.87
2 x GC 7000 WP 100kW	193	0.567	2.84
3 x GC 7000 WP 100kW	289.5	0.723	3.62
4 x GC 7000 WP 100kW	386	0.859	4.30
5 x GC 7000 WP 100kW	482.5	0.982	4.91
6 x GC 7000 WP 100kW	579	1.095	5.48
1 x GC 7000 WP 125kW	118.1	0.422	2.11
2 x GC 7000 WP 125kW	236.2	0.639	3.20
3 x GC 7000 WP 125kW	354.3	0.816	4.08
4 x GC 7000 WP 125kW	472.4	0.969	4.85
5 x GC 7000 WP 125kW	590.5	1.108	5.54
6 x GC 7000 WP 125kW	708.6	1.236	6.18
1 x GC 7000 WP 145kW	140.1	0.467	2.34
2 x GC 7000 WP 145kW	280.2	0.709	3.54
3 x GC 7000 WP 145kW	420.3	0.904	4.52
4 x GC 7000 WP 145kW	560.4	1.074	5.37
5 x GC 7000 WP 145kW	700.5	1.228	6.14
6 x GC 7000 WP 145kW	840.6	1.370	6.85

CO Detection for cascade flues systems

Bosch has taken the decision to require the mandatory use of CO detection for boiler systems using a cascade flue system where there is more than one appliance. CO detection must result in a boiler shut off and prevent CO exposure.

With our GC 7000 WP range, all Bosch Cascade base flue kits contain a CO detector for on-site wiring into our CC8313 controller or MC400 Cascade controller, where these controllers are not used due to controls from a BMS system it is still a requirement that the BMS has some form of CO detection thus activating a boiler shut off. The detection threshold level should be no higher than 50ppm.

Failure to fit a form of CO detection to a Cascade will result in a failed commissioning.

For more information on CO detection please see technical bulletin: TB 0164 a (07/2022)

Please refer to manufacturer's instructions for more information on flue requirements.